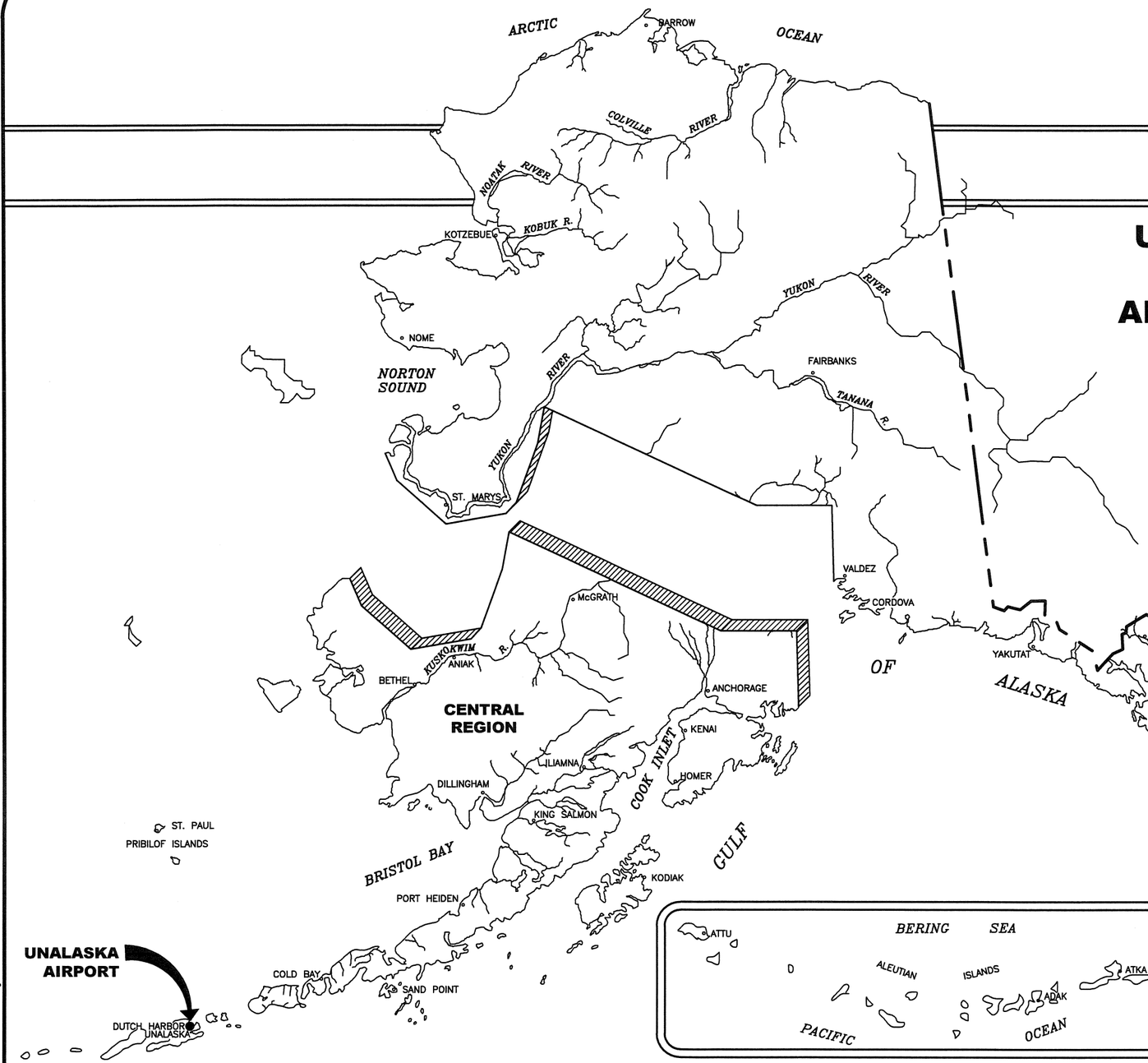
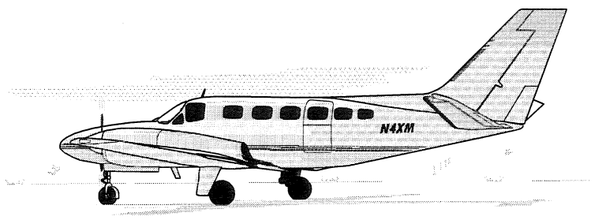


CONSTRUCTION PLANS FOR

UNALASKA AIRPORT

UNALASKA AIRPORT IMPROVEMENTS 2012
NO. 53443
AIRPORT IMPROVEMENT PROGRAM A.I.P. No.
3-02-0082-XXX-2012



PRE-PS&E REVIEW
JANUARY 2012

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

CONCUR	**DATE**
K. KIM RICE, P.E.	DIRECTOR OF CONSTRUCTION AND OPERATIONS
APPROVED	**DATE**
KENNETH M. MORTON, P.E.	REGIONAL PRECONSTRUCTION ENGINEER
APPROVED	**DATE**
HARVEY M. DOUTHIT, P.E.	DESIGN SECTION CHIEF
APPROVED	**DATE**
WOLFGANG E. JUNGE, P.E.	PROJECT MANAGER

UNALASKA AIRPORT

UNALASKA AIRPORT IMPROVEMENTS 2012
NO. 53443
AIP NO. 3-02-0082-XXX-2012

SHEET 1 OF 54

Designed By:
Checked By:
Drawn By:

Date Plotted:
Plot Ratio and Layout:
Filter:

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Date Revised: 1/13/2012, 1:58 PM
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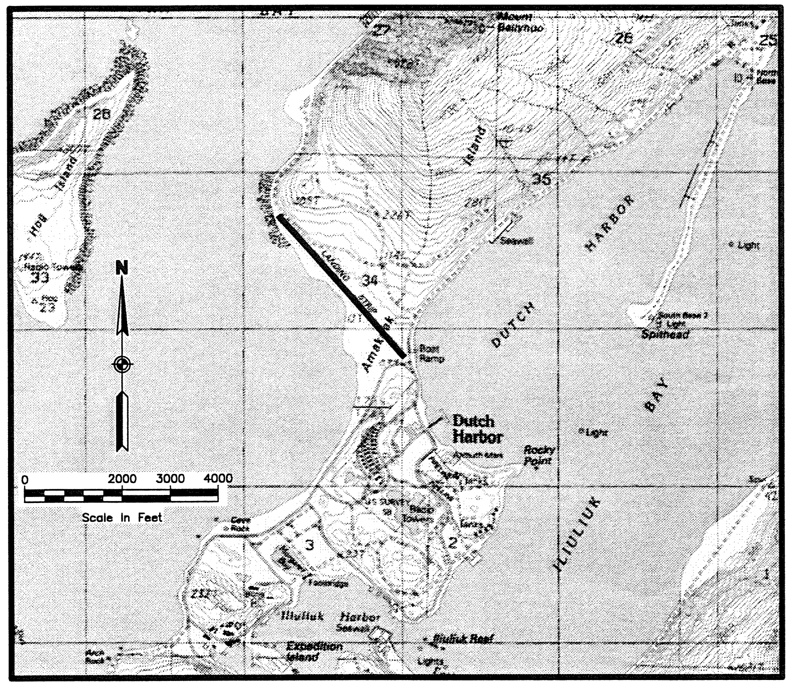
Drawn By:
Checked By:



VICINITY MAP

T. 72 S., R. 118 W., SEC. 34
SEWARD MERIDIAN
USGS UNALASKA (C–2), ALASKA

LEGEND

PROPOSED	EXISTING	DESCRIPTION
		AIRPORT PROPERTY BOUNDARY
		RUNWAY/TAXIWAY CENTERLINE
		GRAVEL EDGE
		EDGE OF PAVEMENT / SHOULDER
		EDGE OF STRUCTURAL PAVEMENT
		EDGE OF DRAINAGE DITCH
		SHORELINE
		CONCRETE
58	58	CONTOUR LINES
		FENCE
		DITCH OR SWALE FLOW LINE
	F	UNDERGROUND FUEL LINE
	UGE	UNDERGROUND ELECTRICAL LINE
	W	UNDERGROUND WATER LINE
	T	UNDERGROUND COMMUNICATION LINE
	S	UNDERGROUND SANITARY SEWER LINE
		UNDERGROUND STORM DRAIN LINE
		CULVERT
		STORM DRAIN INLET
	FI	CATCH BASIN MANHOLE
	SD	STORM DRAIN MANHOLE
	E	ELECTRICAL MANHOLE
		ELECTRICAL PEDESTAL
		ELECTRICAL CAN (BASE ONLY)
		LIGHTING (T/W R/W)
	C	COMMUNICATION MANHOLE
	C	COMMUNICATION PEDESTAL
	V	COMMUNICATION VAULT
	FO CABLE	FIBER OPTIC CABLE MARKER
		SIGN
		WIND CONE

LEGEND NOTES:

1. SEE SHEET C04 FOR SURVEY CONTROL LEGEND.
2. SEE SHEET E01 FOR LEGEND OF PROPOSED ELECTRICAL ITEMS.

ABBREVIATIONS

AIP	AIRPORT IMPROVEMENT PROJECT
AOA	AIRCRAFT OPERATIONS AREA
APPROX	APPROXIMATE/APPROXIMATELY
ARFF	AIRPORT RESCUE AND FIRE FIGHTING
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
BMP	BEST MANAGEMENT PRACTICE
BRL	BUILDING RESTRICTION LINE
℄	CENTERLINE
CABC	CRUSHED AGGREGATE BASE COURSE
CBMH	CATCH BASIN MANHOLE
CMP	CORRUGATED METAL PIPE
CPEP	CORRUGATED POLYETHYLENE PIPE
CS	CONTINGENT SUM
CY	CUBIC YARD
DIA	DIAMETER
DOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
ESCP	EROSION AND SEDIMENT CONTROL PLAN
FAA	FEDERAL AVIATION ADMINISTRATION
FOD	FOREIGN OBJECTS AND DEBRIS
FT	FOOT/FEET
HMA	HOT MIX ASPHALT
INV	INVERT ELEVATION
LF	LINEAR FOOT
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MHHW	MEAN HIGHER HIGH WATER
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
N	NORTH
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NOTAM	NOTICE TO AIRMEN
NTP	NOTICE TO PROCEED
NTS	NOT TO SCALE
OFA	OBJECT FREE AREA
OFF	OFFSET
OFZ	OJECT FREE ZONE
PAPI	PRECISION APPROACH PATH INDICATOR
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PS&E	PLANS, SPECIFICATIONS, AND ESTIMATE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RAP	RECYCLED ASPHALT PAVEMENT
RP	RADIUS POINT
RSA	RUNWAY SAFETY AREA
RT	RIGHT
RW	RUNWAY
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SREB	SNOW REMOVAL EQUIPMENT BUILDING
STA	STATION
SY	SQUARE YARD
TW	TAXIWAY
TYP	TYPICAL
VASI	VISUAL APPROACH SLOPE INDICATOR
VC	VERTICAL CURVE

ABBREVIATIONS NOTES:

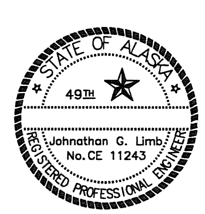
1. SEE SHEET E01 FOR ELECTRICAL ABBREVIATIONS.

SHEET INDEX

SHEET INDEX

ALASKA DOT&PF STANDARD DRAWINGS

D–01.02	CULVERT PIPE AND ARCH INSTALLATION DETAILS
D–04.21	PIPE AND ARCH TABLES
D–06.10	CULVERT END SECTIONS
D–20.03	MANHOLE, FRAME, AND COVER
D–22.01	STORM DRAIN MANHOLE FRAME AND GRATE DETAILS
D–35.00	48" STORM DRAIN MANHOLE
D–36.00	72" STORM DRAIN MANHOLE
G–00.01	STANDARD GUARDRAIL HARDWARE
G–04.065	STEEL POST W–BEAM GUARDRAIL
G–10.01	BEAM GUARDRAIL POST INSTALLATION
G–13.00	W–BEAM GUARDRAIL DOWNSTREAM END ANCHOR
G–20.10	WIDENING FOR GUARDRAIL END TERMINAL
G–25.20W	WOOD POST CONTROLLED RELEASE TERMINAL ANCHORS
G–28.00	LONGSPAN W–BEAM GUARDRAIL
I–81.00	SUPERELEVATION TRANSITION
S–00.10	SIGN FRAMING AND POST SPACING
S–01.00	BRACING FOR SIGNS MOUNTED ON SINGLE POST
S–05.01	POST MOUNTED SIGN OFFSET AND HEIGHT
S–30.03	LIGHT SIGN STRUCTURE POST EMBEDMENT
T–21.02	PAVEMENT MARKING APPLICATIONS



PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
VICINITY MAP, LEGEND, AND SHEET INDEX

DATE: JANUARY 13, 2012
SHEET: C02 OF 54
AS–BUILT SHEET:

ESTIMATED QUANTITIES

Item No	Pay Item	Pay Unit	Quantity
D–701a(1)	Corrugated Polyethylene Pipe, Type S, 24–Inch	Linear Foot	1,455
D–701a(2)	Corrugated Polyethylene Pipe, Type S, 30–Inch	Linear Foot	715
D–701a(3)	Corrugated Polyethylene Pipe, Type SP, 30–Inch	Linear Foot	300
D–751e	Storm Drain Manhole, Type I	Each	6
D–751f	Storm Drain Manhole, Type II	Each	4
D–751j	Adjust Existing Manhole	Each	1
F–162a(1)	4–foot Chain–Link Fence	Linear Foot	605
F–162a(2)	8–foot Chain–Link Fence	Linear Foot	580
F–162c	20–foot Double Swing Gate	Each	1
F–162k	Remove Fence	Linear Foot	860
F–170a	Steel Bollard	Each	4
G–100a	Mobilization and Demobilization	Lump Sum	All Required
G–115a	Worker Meals and Lodging, or Per Diem	Lump Sum	All Required
G–130a	Field Office	Lump Sum	All Required
G–130b	Field Laboratory	Lump Sum	All Required
G–130g	Nuclear Testing Equipment Storage Shed	Each	1
G–131a	Engineering Transportation (Truck)	Each	3
G–135a	Construction Surveying By The Contractor	Lump Sum	All Required
G–135b	Extra Three Person Survey Party	Hour	60
G–150a	Equipment Rental, Dozer (Minimum 70 HP)	Hour	60
G–200a	Contractor Quality Control Program	Lump Sum	All Required
G–300a	CPM Scheduling	Lump Sum	All Required
G–700a	Airport Flagger	Contingent Sum	All Required
G–705a	Watering for Dust Control	M–gal	1,000
G–710a	Highway Traffic Maintenance	Lump Sum	All Required
G–710b	Highway Flagger	Contingent Sum	All Required
G–710c	Highway Traffic Price Adjustment	Contingent Sum	All Required
G–710d	Highway Traffic Control	Contingent Sum	All Required
L–100b	Regulator, L–828	Each	1
L–100c	Medium Intensity Runway Edge and Threshold Light, L–861 and L–861E	Each	70
L–100e	Taxiway Edge Light, L–861T	Each	27
L–100h	Remove Runway and Taxiway Light	Each	87
L–100k	Flush Runway Edge Light, L–850C	Each	3
L–100n	Airport Sign, Type L–858	Each	7
L–100q	Handhole, L–867, Size B	Each	12
L–100r	Temporary Runway Lighting System	Lump Sum	All Required
L–100ap	Spare Parts	Lump Sum	All Required
L–107a	8–foot Lighted Wind Cone, in place	Each	3
L–108a	Underground Cable #8 AWG, copper, 5kV FAA Type "C", L–824	Linear Foot	12,400
L–108c	#6 Bare Copper Ground Conductor	Linear Foot	11,300
L–108e	Underground Cable, #8 AWG, copper, 600V, Type "C", L–824	Linear Foot	12,400
L–108g	Ground Rod	Each	11
L–110a	2–inch Rigid Steel Conduit	Linear Foot	990
L–110g	2–inch PE Conduit	Linear Foot	13,040
L–132a(1)	Install Approach Lighting Aids, VASI, RW 13	Lump Sum	All Required
L–132a(2)	Install Approach Lighting Aids, VASI, RW 31	Lump Sum	All Required
L–132c	Relocate Approach Lighting Aids, REIL, RW 13	Lump Sum	All Required
L–165a	Flashing Beacon System	Lump Sum	All Required
P–152a	Unclassified Excavation	Cubic Yard	16,759
P–152h(2)	Borrow measured in Final Position	Cubic Yard	40,648
P–152h(4a)	Borrow, 8–inch plus, measured in Final Position	Cubic Yard	61,500
P–152h(4b)	Borrow, 3–inch minus, measured in Final Position	Cubic Yard	5,000
P–154b	Subbase Course	Ton	13,410
P–157a	Erosion, Sediment and Pollution Control Administration	Lump Sum	All Required
P–157b	Temporary Erosion, Sediment and Pollution Control	Contingent Sum	All Required
P–157f	Withholding	Contingent Sum	All Required
P–157g	SWPPP Manager	Lump Sum	All Required
P–161b	Recycled Asphalt Pavement	Cubic Yard	4,737
P–162a	Pavement Cold Planing	Square Yard	79,000
P–165a	Removal of Structures	Lump Sum	All Required
P–170e	Soil Testing Program	Contingent Sum	All Required
P–170f	"Hot" Material Offsite Transportation and Disposal	Contingent Sum	All Required
P–170g	Supplemental Laboratory Test	Contingent Sum	All Required
P–170i	Utility Trench Plugs	Contingent Sum	All Required
P–171b	Temporary Contaminated Soil Stockpile Area	Contingent Sum	All Required
P–172a	Fuel–Contaminated Soil Remediation	Contingent Sum	All Required
P–181a	Concrete Armor Unit	Each	951
P–181b	Existing Dolo Salvage	Lump Sum	All Required
P–185a(1)	Primary Armor Stone – Class PA–1200 lb	Ton	9,403
P–185a(2)	Filter Stone – Class F–120 lb	Ton	4,289
P–185b(1)	Underlayer Stone – Class UL–2400 lb	Ton	24,000
P–185h	Recovered Underlayer Stone	Cubic Yard	3,900
P–401a	Hot Mix Asphalt Type II, Class A	Ton	14,095
P–401b	Hot Mix Asphalt Price Adjustment	Contingent Sum	All Required
P–401c	Asphalt Cement, PG 52–28	Ton	846
P–603a	Tack Coat, STE–1	Ton	30
P–620c	Runway and Taxiway Painting	Lump Sum	All Required
P–620e	Painted Marking Removal	Square Foot	70,000
P–620g	Temporary Runway and Taxiway Painting	Lump Sum	All Required
P–620h	Roadway Painting	Lump Sum	All Required
P–630a	Pavement Grooving	Square Yard	50,000
P–661a	Standard Sign	Square Foot	7
P–661d	Relocate Standard Sign	Each	7
P–670a	Hazard Marker Barrier, Plastic	Each	15
P–671a(1)	Runway Closure Marker, Temporary Illuminated Panel	Each	2
P–671a(2)	Runway Closure Marker, Vinyl	Each	4
P–675a	W–Beam Guardrail	Linear Foot	413
P–675f	Remove and Dispose of Guardrail	Linear Foot	300
P–675i	Controlled Release Terminal (CRT)	Each	2
T–901a	Seeding	Acre	4.46
T–905a	Topsoiling	Square Yard	21,590
U–100a	12" Class 52 Ductile Iron Pipe	Linear Foot	23
U–100b	16" Class 52 Ductile Iron Pipe	Linear Foot	793
U–100c	20" Class 52 Ductile Iron Pipe	Linear Foot	235
U–100d	20" Butterfly Valve and Valve Box	Each	2
U–100e	16" Butterfly Valve and Valve Box	Each	1
U–100f	12" Gate Valve and Valve Box	Each	1
U–100g	Single Pumper Hydrant Assembly	Each	1
U–100h	Double Pumper Hydrant Assembly	Each	1
U–100i	Remove and Salvage Hydrant Assembly	Each	1
U–100j	Connect to Existing Combination Air/Vacuum Relief Vault	Lump Sum	All Required
U–100k	Connect to Existing Waterline	Each	3
U–200a	6" Class 52 Ductile Iron Pipe	Linear Foot	771
U–200b	4' Diameter Manhole	Each	1
U–200c	Drop Connection	Each	1
U–200d	Cleanout Manhole	Each	1
U–200e	Connect to Existing Sewer Line	Each	1
U–400a	Telephone System	Lump Sum	All Required
U–500c	Electrical Line Relocation	Lump Sum	All Required

ESTIMATING FACTORS

No.	Item	Factor
G–705a	Watering for Dust Control	25 GAL/SY
P–401a	Hot Mix Asphalt	152 LBS/CF
P–401c	Asphalt Cement	6% OF P–401a
P–603a	Tack Coat	1 LBS/SY

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Drawn By:
Checked By:

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STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathan G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
ESTIMATED QUANTITIES

DATE: JANUARY 13, 2012
SHEET: C03 OF 54
AS–BUILT SHEET:

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Drawn By:	JMG
Checked By:	

Date Revised:	1/13/2012, 1:46 PM
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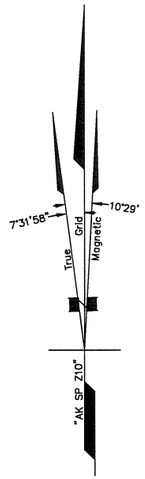

Declination is 10°29' E. per NOAA September 30, 2011.
Convergence is 7°31'58" at Point #551 (DUT E)

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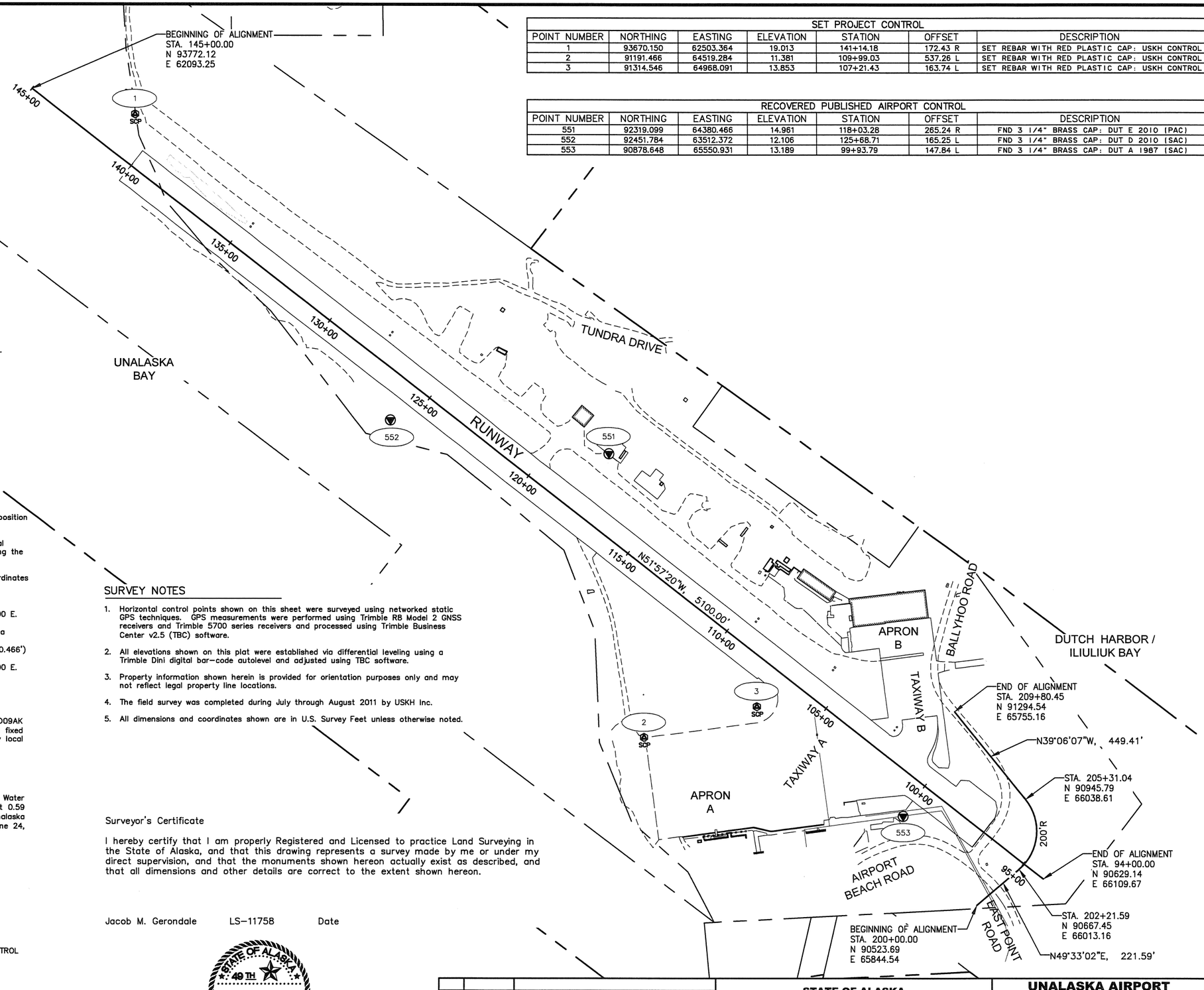
SCALE IN FEET



SET PROJECT CONTROL

POINT NUMBER	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
1	93670.150	62503.364	19.013	141+14.18	172.43 R	SET REBAR WITH RED PLASTIC CAP: USKH CONTROL
2	91191.466	64519.284	11.381	109+99.03	537.26 L	SET REBAR WITH RED PLASTIC CAP: USKH CONTROL
3	91314.546	64968.091	13.853	107+21.43	163.74 L	SET REBAR WITH RED PLASTIC CAP: USKH CONTROL

RECOVERED PUBLISHED AIRPORT CONTROL

POINT NUMBER	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
551	92319.099	64380.466	14.961	118+03.28	265.24 R	FND 3 1/4" BRASS CAP: DUT E 2010 (PAC)
552	92451.784	63512.372	12.106	125+68.71	165.25 L	FND 3 1/4" BRASS CAP: DUT D 2010 (SAC)
553	90878.648	65550.931	13.189	99+93.79	147.84 L	FND 3 1/4" BRASS CAP: DUT A 1987 (SAC)

HORIZONTAL CONTROL

The Geodetic Basis is NAD83(2007) holding the published position of the PACS (DUT E, PID: DM3564) fixed.

The Horizontal Coordinate System for this survey is a Local Ground System related to Alaska State Plane Zone 10 using the following conversion parameters;

To convert NAD83(2007) Alaska State Plane, Zone 10 coordinates to the local ground system perform the following;
1)Scale about the PACS (DUT E) (N=1,192,319.099', E=5,314,380.466') by 0.9999823846.
2)Translate resulting coordinates by −1100000 N, −5250000 E.

To convert local ground coordinates to NAD83(2007) Alaska State Plane, Zone 10 perform the following;
1)Scale about the PACS (DUT E) (N=92,319.099', E=64,380.466') by 1.0000176157.
2)Translate resulting coordinates by +1100000 N, +5250000 E.

VERTICAL CONTROL

The Vertical Datum is GPS derived NAVD88 using GEOID09AK holding the NGS published elevation at the PACS (DUT E) fixed as 14.96. Note this does not correlate directly with any local tide based datums (see Tidal Datum Reference).

TIDAL DATUM REFERENCE

To convert NAVD88 elevations to 2001 Mean Lower Low Water (MLLW) based on Unalaska Tidal Station 9462620 subtract 0.59 from elevations. This conversion value is based on "Unalaska Tidal Data Report" prepared by R&M Consultants dated June 24, 2010 and provided by DOT&PF.

SURVEY NOTES

1. Horizontal control points shown on this sheet were surveyed using networked static GPS techniques. GPS measurements were performed using Trimble R8 Model 2 GNSS receivers and Trimble 5700 series receivers and processed using Trimble Business Center v2.5 (TBC) software.
2. All elevations shown on this plat were established via differential leveling using a Trimble Dini digital bar-code autolevel and adjusted using TBC software.
3. Property information shown herein is provided for orientation purposes only and may not reflect legal property line locations.
4. The field survey was completed during July through August 2011 by USKH Inc.
5. All dimensions and coordinates shown are in U.S. Survey Feet unless otherwise noted.

SYMBOLS LEGEND

- SCP — SET PROJECT CONTROL
- ▼ — RECOVERED PUBLISHED AIRPORT CONTROL
- (XX) — POINT IDENTIFIER

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.

Jacob M. Gerondale LS-11758 Date

STATE OF ALASKA 49TH
Jacob M. Gerondale
LS-11758
REGISTERED PROFESSIONAL LAND SURVEYOR

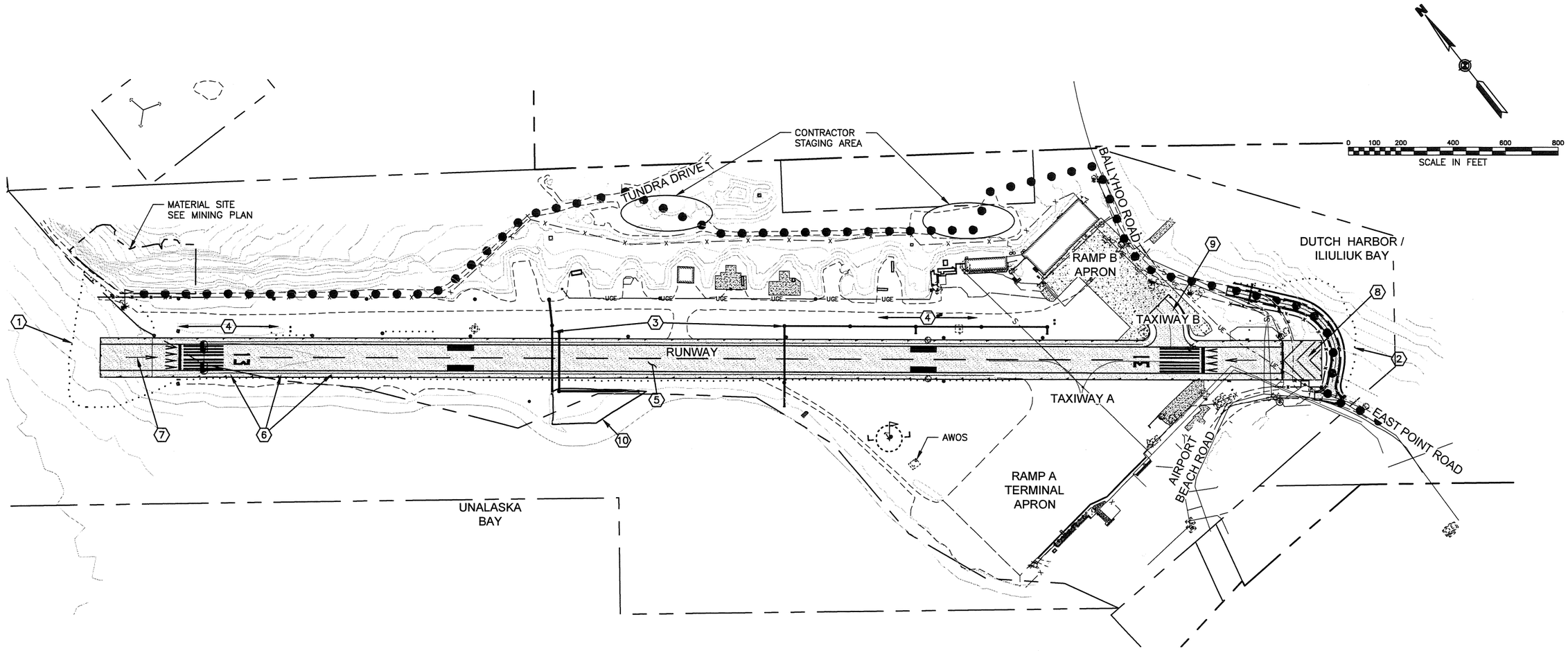
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SURVEY CONTROL

DATE: JANUARY 13, 2012
SHEET: C04 OF 54
AS-BUILT SHEET:



NOTE:

1. EXISTING RUNWAY 12 / 30 WILL BE REDESIGNATED TO RUNWAY 13 / 31 UPON PROJECT COMPLETION. ALL EMORY MARKINGS WILL REFLECT THE EXISTING DESIGNATION AS RUNWAY 12 / 30. ALL REFERENCES TO RUNWAY ENDS SHOULD BE INTERPRETED AS SUCH.

LEGEND:

● ● ● ● HAUL ROUTE

PROJECT TASKS:

1. CONSTRUCT EMBANKMENT ON RUNWAY 12 END.
2. CONSTRUCT EMBANKMENT ON RUNWAY 30 END, AND RELOCATE BALLYHOO ROAD WITH ASSOCIATED UTILITIES AND INSTALL NEW AIRPORT FENCING.
3. REPLACE EXISTING CMP CULVERTS AND CONSTRUCT STORM DRAIN.
4. IMPROVE AIRPORT DRAINAGE ALONG RUNWAY.
5. REHABILITATE RUNWAY 12–30 PAVEMENTS AND TRANSITIONS INTO TERMINAL APRON.
6. RECONSTRUCT RUNWAY LIGHTING.
7. EXTEND RUNWAY 12 END.
8. CONSTRUCT RUNWAY 30 BLAST PAD.
9. REHABILITATE TAXIWAY B.
10. CONSTRUCT VEGETATED TREATMENT AREA

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathon G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
PROJECT LAYOUT PLAN

DATE: JANUARY 13, 2012
SHEET: C05 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:
Date Revised: 1/13/2012, 1:46 PM
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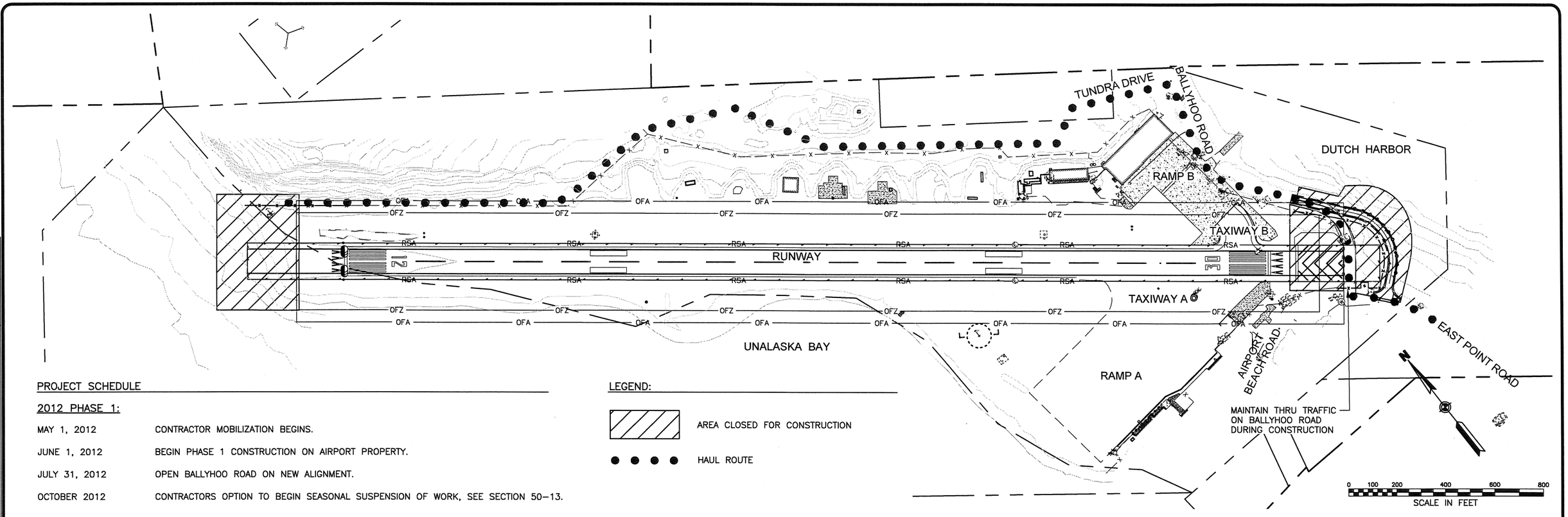

PROJECT SCHEDULE

2012 PHASE 1:

MAY 1, 2012	CONTRACTOR MOBILIZATION BEGINS.
JUNE 1, 2012	BEGIN PHASE 1 CONSTRUCTION ON AIRPORT PROPERTY.
JULY 31, 2012	OPEN BALLYHOO ROAD ON NEW ALIGNMENT.
OCTOBER 2012	CONTRACTORS OPTION TO BEGIN SEASONAL SUSPENSION OF WORK, SEE SECTION 50–13.

2013 PHASE 2:

MARCH 2013	NOTIFY ENGINEER, AIRPORT MANAGEMENT OF RESTART DATE.
JUNE 30, 2013	COMPLETE PAVING AND TEMPORARY MARKINGS ON RW 12 END, SHIFT RW 12 THRESHOLD.
JULY 31, 2013	COMPLETE PAVING AND TEMPORARY MARKINGS ON RW 30 END.
AUGUST 15, 2013	COMPLETE PAVING, SIGNAGE AND MARKINGS ON BALLYHOO ROAD, END PHASE 2.
OCTOBER 2013	CONTRACTORS OPTION TO BEGIN SEASONAL SUSPENSION OF WORK, SEE SECTION 50–13.

2014 PHASE 3:

MARCH, 2014	NOTIFY ENGINEER, AIRPORT MANAGER OF RESTART DATE.
APRIL 1, 2014	CONFIRM WITH LOCAL FAA MAINTENANCE THROUGH THE ENGINEER REGARDING IMPENDING RW CHANGE. SCHEDULE DEACTIVATION OF EXISTING NAVAIDS. BEGIN COORDINATION WITH AIRPORT MANAGEMENT, TENANTS, AND OPERATORS REGARDING HALF WIDTH CLOSURE AND SCHEDULE.
MAY 1, 2014	BEGIN HALF WIDTH RUNWAY CLOSURE, SOUTH SIDE OF RW.
JUNE 15, 2014	END PHASE 3A, BEGIN HALF WIDTH RUNWAY CLOSURE, NORTH SIDE OF RW.
JULY 30, 2014	END PHASE 3B, OPEN RW TO FULL WIDTH OPERATIONS. COMPLETE FINAL MARKINGS FOR NEW RW DESIGNATION.
SEPTEMBER, 2014	PROJECT ACCEPTANCE / FINAL DEMOBILIZATION

THE PROJECT SCHEDULE ABOVE IS A LIST OF MINIMUM PROJECT MILESTONES. THE DATES MAY BE ADJUSTED AND SUBMITTED FOR APPROVAL. ADDITIONAL MILESTONES MAY BE ADDED AT THE CONTRACTOR'S OPTION, OR AS OTHERWISE DIRECTED.

CONSTRUCTION OF ANY PHASE CAN BE STARTED UPON COMPLETION OF THE PREVIOUS PHASE, OR AS OTHERWISE APPROVED BY THE ENGINEER.

LEGEND:

AREA CLOSED FOR CONSTRUCTION

HAUL ROUTE

PHASING PLANS GENERAL:

THE FOLLOWING PHASING PLANS ARE ACCEPTABLE CONSTRUCTION SEQUENCES. SOME TASKS LISTED IN THE NOTES MAY REQUIRE CONCURRENT WORK TO BE ACCOMPLISHED. TASKS LISTED ARE INTENDED AS A GENERAL CONCEPT OF WORK TO BE PERFORMED UNDER EACH PHASE AND DON'T REPRESENT A COMPREHENSIVE OR SEQUENTIAL LIST OF ALL THE WORK REQUIRED. THE CONTRACTOR MAY MODIFY A PHASING PLAN AND SUBMIT AN ALTERNATE PHASING PLAN WITH A COORDINATED SAFETY PLAN FOR APPROVAL. ALL WORK MUST BE ACCOMPLISHED ACCORDING TO THE LIMITATIONS IN THE SAFETY PLAN, APPLICABLE SPECIAL PROVISIONS, ENVIRONMENTAL COMMITMENTS, AND PERMIT CONDITIONS.

PHASE 1 NOTES:

1. COORDINATE WITH AIRPORT MANAGEMENT, ALL AIRPORT OPERATORS, AIRPORT MAINTENANCE AND ARFF, AT LEAST 30 DAYS PRIOR TO BEGINNING WORK.
2. CONSTRUCT THE RSA EMBANKMENT ON THE RW 12 END.
3. CONSTRUCT THE RSA, AND ROADWAY EMBANKMENT ON THE RW 30 END.
4. MAINTAIN AIRPORT SECURITY. PLACE TEMPORARY FENCE AS REQUIRED, AND APPROVED. SUBMIT TEMPORARY FENCING LAYOUT AS PART OF THE SAFETY PLAN FOR THIS PHASE.
5. RECONSTRUCT BALLYHOO ROAD ON NEW ALIGNMENT, AND OPEN TO TRAFFIC. RELOCATE FLASHER SIGNS & GATE SYSTEM CONDUITS TO NEW BALLYHOO ROAD ALIGNMENT.
6. SUBMIT ROADWAY TRAFFIC CONTROL PLAN AS REQUIRED.
7. RELOCATE UTILITIES ON BALLYHOO ROAD.
8. CONSTRUCT NEW AIRPORT FENCE.

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
CONSTRUCTION PLAN PHASE 1, NO IMPACT TO AIR, GROUND OPERATIONS

DATE: JANUARY 13, 2012
SHEET: C06 OF 54
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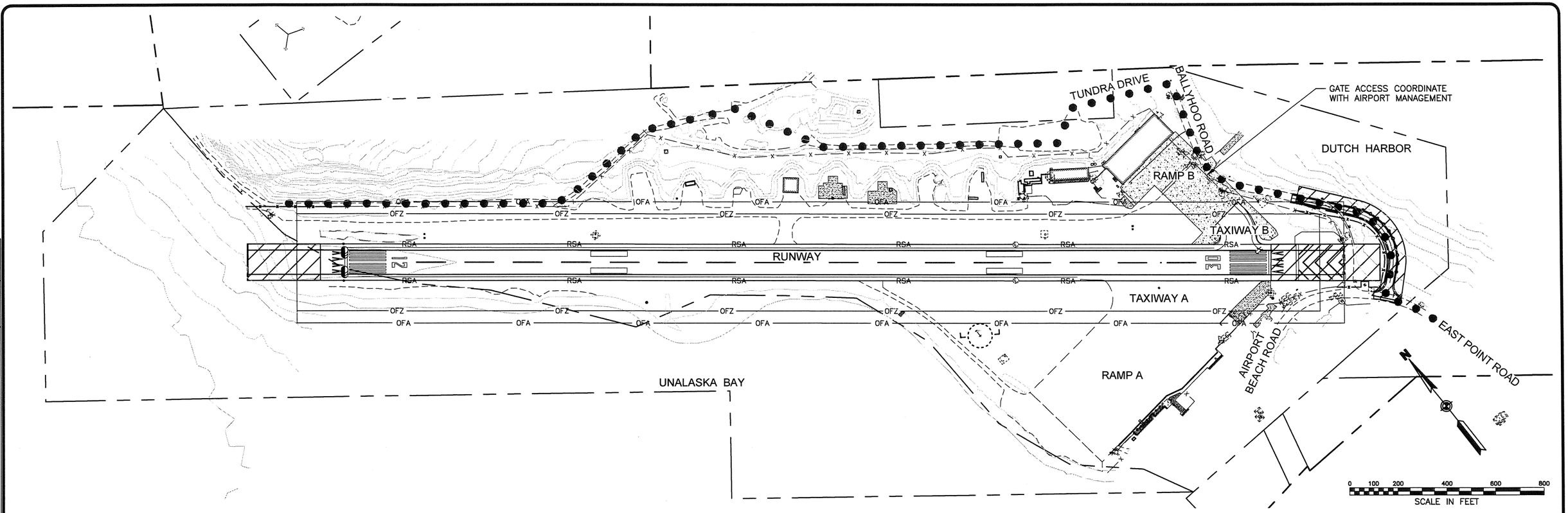

LEGEND:

AREA CLOSED FOR CONSTRUCTION

HAUL ROUTE

PHASE 2 NOTES:

1. COORDINATE WITH AIRPORT MANAGEMENT, ALL AIRPORT OPERATORS, AIRPORT MAINTENANCE AND ARFF, AT LEAST 30 DAYS PRIOR TO BEGINNING WORK. SUBMIT HIGHWAY TRAFFIC CONTROL PLAN AS REQUIRED.
2. CONSTRUCT NEW PAVEMENT FOR RW 12 EXTENSION, AND NEW RW 30 BLAST PAD. INSTALL TEMPORARY THRESHOLD LIGHTS AS REQUIRED TO ALLOW PAVEMENT CONSTRUCTION. INSTALL NEW RUNWAY LIGHTING FOR RUNWAY EXTENSIONS, BUT DO NOT ENERGIZE NEW RW 12 EXTENSION LIGHTING. REPLACE LIGHTING REGULATOR.
3. RELOCATE RW 12 REILS. DO NOT PUT RELOCATED REILS INTO SERVICE UNTIL THRESHOLD SHIFT UNDER THIS PHASE.
4. RELOCATE RW 12 THRESHOLD TO STATION 139+00. INSTALL NEW RW 12 MARKINGS, PUT NEW RW 12 LIGHTING AND REILS IN SERVICE.
5. CONSTRUCT AND MAINTAIN TEMPORARY AIRPORT MARKINGS AS REQUIRED. REMOVE TEMPORARY MARKINGS WHEN THEY ARE NO LONGER IN USE.
6. ENSURE THAT THE RUNWAY, TAXIWAY, AND APRON SURFACES ARE PROPERLY MARKED AND LIGHTED PRIOR TO OPENING FOR AIRCRAFT OPERATIONS.
7. PAVE BALLYHOO ROAD, AND PLACE ROADWAY MARKINGS. MAINTAIN AT LEAST A SINGLE LANE OF THROUGH TRAFFIC ON BALLYHOO ROAD DURING PAVING.

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathan G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

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A.I.P. No. 3-02-0082-XXX-2012
CONSTRUCTION PLAN PHASE 2, EXTENDED RUNWAY AND ROADWAY PAVING

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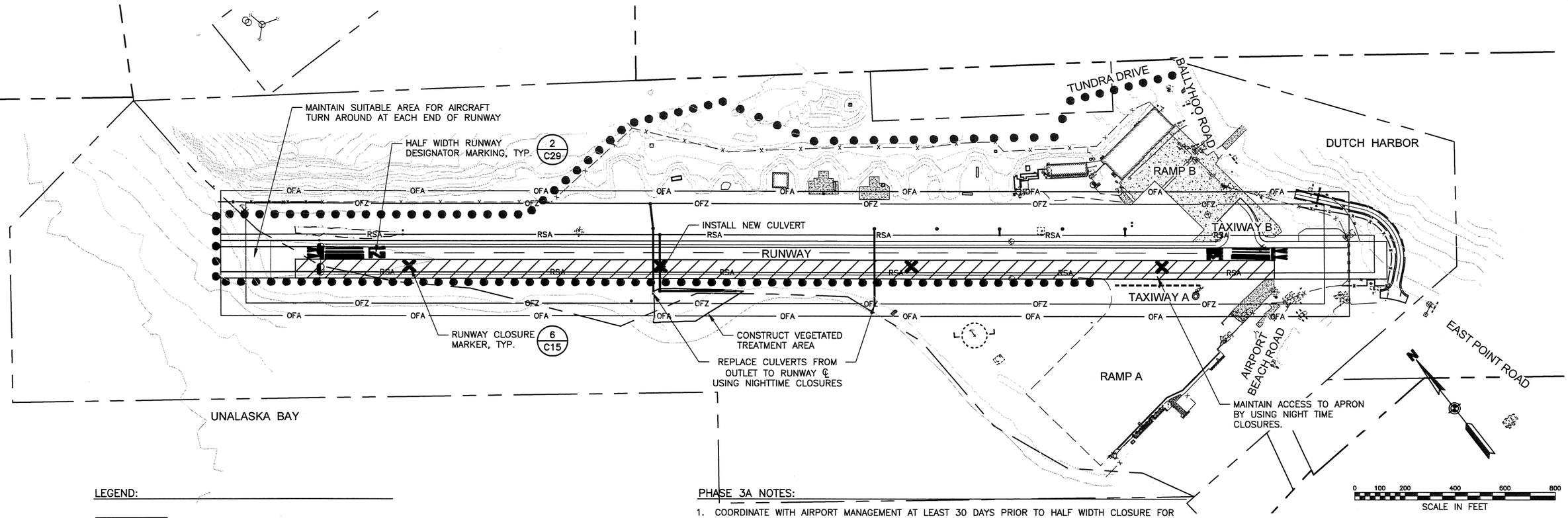

LEGEND:

AREA CLOSED FOR CONSTRUCTION

HAZARD MARKER BARRIER – SEE DETAIL 3 C15

HAUL ROUTE

PHASE 3A NOTES:

1. COORDINATE WITH AIRPORT MANAGEMENT AT LEAST 30 DAYS PRIOR TO HALF WIDTH CLOSURE FOR PROPER AND TIMELY ISSUANCE OF NOTAMS. COORDINATE WITH AIRPORT TENANTS AND OPERATORS TO ENSURE THEY ARE AWARE OF AREAS THAT WILL BE CLOSED TO AIRCRAFT OPERATIONS OR MOVEMENT.

2. BEGIN CONVERTING RUNWAY FOR HALF WIDTH CLOSURE ON THE SOUTH SIDE AFTER LAST SCHEDULED DEPARTURE FOR THE DAY. PLACE TEMPORARY RW EDGE LIGHTING DURING NIGHT TIME CLOSURE TO ALLOW HALF WIDTH OPERATIONS. SEE HALF WIDTH SECTION DETAIL. 4 C15

3. PLACE TEMPORARY MARKINGS FOR HALF WIDTH RUNWAY. SEE SAFETY PLAN FOR TEMPORARY MARKING PLANS. MINIMUM RW MARKINGS FOR HALF WIDTH RUNWAY INCLUDE:
   - LANDING DESIGNATOR (RW NUMBERS)
   - RW CENTERLINE
   - THRESHOLD BAR
   - THRESHOLD STRIPES

4. EXISTING THRESHOLD MARKINGS (LONGITUDINAL STRIPES) MAY REMAIN ON THE ACTIVE HALF OF THE RUNWAY.

5. REMOVE OR MASK ALL MARKINGS ON THE CLOSED PORTION OF THE RUNWAY WITHIN 24 HOURS OF HALF WIDTH CLOSURE. REMOVE ALL MASKED MARKINGS WITHIN 96 HOURS OF HALF WIDTH CLOSURE. MASKING MAY INCLUDE BLACK PAINT, FABRIC TARPS, WOOD OR PLASTIC PANELS SUITABLY ANCHORED TO WITHSTAND PROPELLER WASH, AND HIGH WINDS, OR OTHER METHODS AS APPROVED.

6. RECONSTRUCT / OVERLAY RW 12 / 30 LEFT OF CENTERLINE (SOUTH HALF, OR TW A SIDE) USING HALF WIDTH CLOSURE.

7. REPLACE RW LIGHTING ON CLOSED PORTION OF RW AND ON TAXIWAY A.

8. CONSTRUCT TRANSITIONAL PAVEMENT TO MATCH RAMP A BY USING PARTIAL CLOSURES OF THE RAMP AND TW A, OR NIGHT TIME CLOSURE OF THE RUNWAY.

9. PREPARE TEMPORARY LIGHTING AND MARKINGS FOR CHANGE OF HALF WIDTH CLOSURE TO NORTH SIDE OF RUNWAY.

STATE OF ALASKA 49TH
Zane W. Shanklin
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REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH
R. Johnathan G. Limb
No. CE 11243
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
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UNALASKA, ALASKA
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CONSTRUCTION PLAN PHASE 3A, RW SOUTH SIDE

DATE: JANUARY 13, 2012
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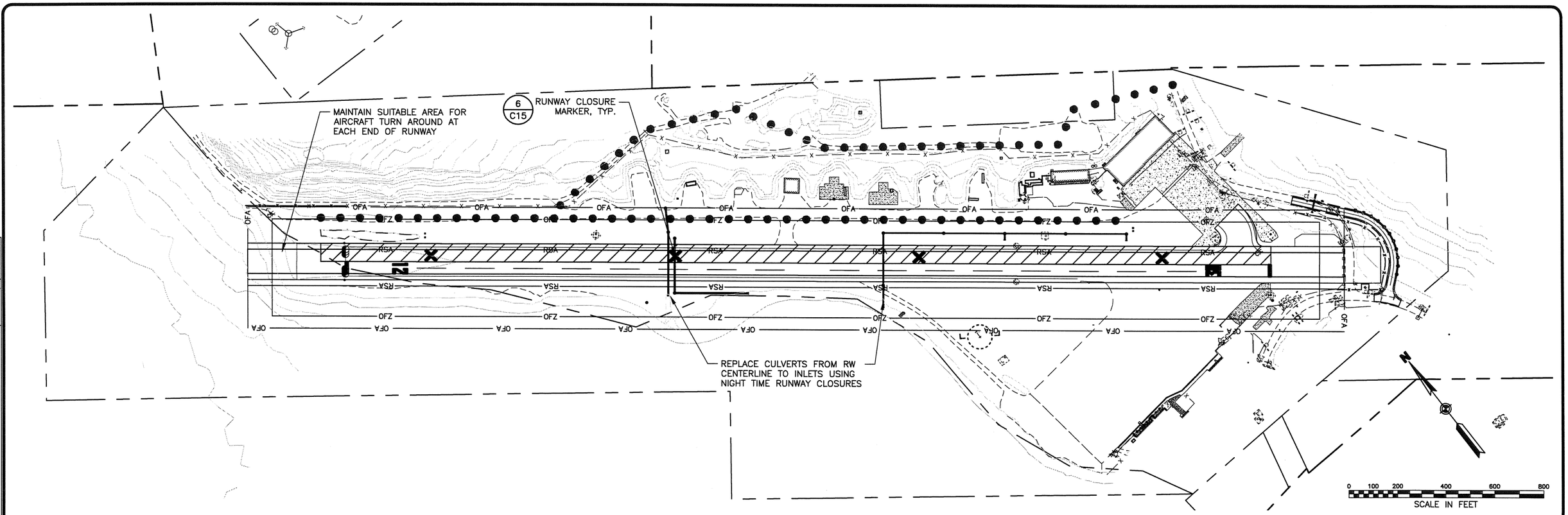

LEGEND:

AREA CLOSED FOR CONSTRUCTION

HAUL ROUTE

PHASE 3B NOTES:

1. COORDINATE WITH AIRPORT MANAGEMENT AT LEAST 30 DAYS PRIOR TO HALF WIDTH CHANGE OVER FOR PROPER AND TIMELY ISSUANCE OF NOTAMS. COORDINATE WITH AIRPORT TENANTS AND OPERATORS TO ENSURE THEY ARE AWARE OF AREAS THAT WILL BE CLOSED TO AIRCRAFT OPERATIONS OR MOVEMENT.
2. BEGIN CONVERTING RUNWAY AFTER LAST SCHEDULED DEPARTURE FOR THE DAY. PLACE TEMPORARY RW EDGE LIGHTING DURING NIGHT TIME CLOSURE. SEE HALF WIDTH SECTION DETAIL.
3. PLACE TEMPORARY MARKINGS FOR HALF WIDTH RUNWAY. SEE MARKING PLANS. MINIMUM RW MARKINGS FOR HALF WIDTH RUNWAY INCLUDE:
   - LANDING DESIGNATOR (RW NUMBERS)
   - RW CENTERLINE
   - THRESHOLD BAR
   - THRESHOLD STRIPES
4. REMOVE OR MASK ALL MARKINGS ON THE CLOSED PORTION OF THE RUNWAY WITHIN 24 HOURS OF HALF WIDTH CLOSURE. REMOVE ALL MASKED MARKINGS WITHIN 96 HOURS OF HALF WIDTH CLOSURE. MASKING MAY INCLUDE BLACK PAINT, FABRIC TARPS, WOOD OR PLASTIC PANELS SUITABLY ANCHORED TO WITHSTAND PROPELLER WASH, AND HIGH WINDS, OR OTHER METHOD AS APPROVED.
5. RECONSTRUCT / OVERLAY RW 12 / 30 RIGHT OF CENTERLINE (NORTH HALF, OR TW B SIDE) USING HALF WIDTH CLOSURE.
6. REPLACE RW LIGHTING ON CLOSED PORTION OF RW AND ON TW B. INSTALL NEW WIND CONE AND VASI WIRING ALONG NORTH SHOULDER OF RUNWAY.
7. CONSTRUCT TRANSITIONAL PAVEMENT TO MATCH TW B USING PARTIAL CLOSURE OF RAMP AND TW B, OR NIGHT TIME CLOSURE. MAINTAIN ACCESS TO RAMP B FOR ALL SCHEDULED OPERATIONS.
8. ULTIMATE RUNWAY MARKINGS WILL INCLUDE REDESIGNATION TO RUNWAY 13 / 31. SEE MARKING PLANS.
9. UPON COMPLETING WORK INSIDE THE CLOSED PORTION OF THE RUNWAY, CLEAN AND SWEEP PAVED SURFACES TO REMOVE ALL FOREIGN DEBRIS. ENERGIZE OR ENABLE EDGE LIGHTING, PROVIDE ALL PERMANENT RUNWAY MARKINGS AS SHOWN, OR AS REQUIRED, AND REMOVE ALL BARRICADES.

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathan G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
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UNALASKA AIRPORT
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PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
CONSTRUCTION PLAN PHASE 3B, RW NORTH SIDE

DATE: JANUARY 13, 2012
SHEET: C09 OF 54
AS-BUILT SHEET:

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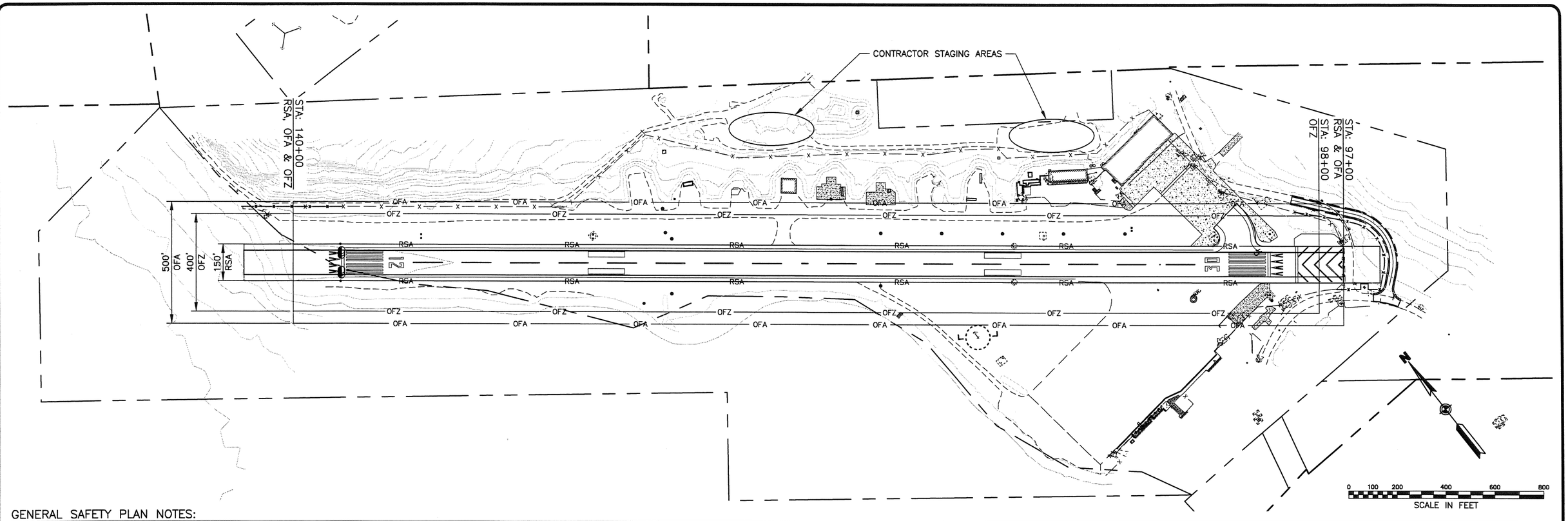

GENERAL SAFETY PLAN NOTES:

1. SEE SHEETS C11 TO C14 FOR CONSTRUCTION PHASE SPECIFIC SAFETY PLANS. THIS PROJECT IS SHOWN AS FOUR SEPARATE CONSTRUCTION PHASES, WITH FOUR DIFFERENT RUNWAY CONFIGURATIONS:

EXISTING RW	PHASE 1
	PHASE 2
SOUTH HALF CLOSURE	PHASE 3A
NORTH HALF CLOSURE	PHASE 3B
FINAL RW CONFIGURATION	

   THE RSA, OFZ AND OFA CHANGES WITH EACH RUNWAY CONFIGURATION AND ARE BASED ON THE ACTIVE RW CENTERLINE FOR EACH PHASE.

2. WHENEVER THE PLANS OR SPECIFICATIONS CALL FOR COORDINATION, NOTIFICATION, CONTACT, OR OTHER INTERACTION WITH FAA, AIRPORT MANAGEMENT, MAINTENANCE AND OPERATIONS, ARFF PERSONNEL, AIRPORT TENANTS, AIRPORT USERS, ANY LOCAL, STATE, OR FEDERAL AGENCY, GROUP, OR ASSOCIATION, OR THE GENERAL PUBLIC, SUCH ACTIVITY SHALL BE DONE THROUGH, IN THE PRESENCE OF, OR WITH THE WRITTEN APPROVAL OF THE ENGINEER. ALLOW SUFFICIENT TIME FOR COORDINATION AND APPROVALS WITHIN PROPOSED WORK SCHEDULES.

3. NIGHT TIME CLOSURES OF THE RUNWAY WILL BE REQUIRED TO COMPLETE THIS PROJECT. COORDINATE WITH AIRPORT MANAGEMENT, AND AIRPORT USERS TO ESTABLISH TIMES FOR NIGHT TIME CLOSURES. SUBMIT PROPOSED CLOSURE TIMES AS PART OF THE CPM AND WORK SCHEDULES. SEE SECTION G-300.

4. ARFF MUST HAVE CONTINUOUS ACCESS TO ENTIRE AIRPORT FOR EMERGENCIES. MAINTAIN SUITABLE CORRIDORS AND COORDINATE ACCESS WITH ARFF PERSONNEL THROUGH THE ENGINEER AS REQUIRED.

5. THE RUNWAY SAFETY AREA DURING CONSTRUCTION IS 150 FOOT WIDE, CENTERED ON THE ACTIVE RUNWAY. SEE SAFETY PLAN DETAILS FOR ADDITIONAL GROUND AND AIRSPACE RESTRICTIONS.

6. ALL PEOPLE AND EQUIPMENT SHALL BE A MINIMUM OF 200 FEET FROM THE ACTIVE RUNWAY CENTERLINE DURING ALL AIR OPERATIONS. THE CONTRACTOR MAY WORK WITHIN 200 FEET OF THE ACTIVE RUNWAY CENTERLINE DURING APPROVED NIGHT TIME CLOSURES, OR BETWEEN AIRCRAFT OPERATIONS AS APPROVED.

7. PROVIDE AIRPORT FLAGGER TO MONITOR CTAF ON 122.6 MHZ AND ADVISE CONSTRUCTION EQUIPMENT OPERATORS AT ALL TIMES DURING CONSTRUCTION. AIRPORT FLAGGER SHALL BE RESPONSIBLE FOR CLEARING ALL WORKERS AND EQUIPMENT WITHIN 200 FEET OF THE ACTIVE RUNWAY CENTERLINE FOR ALL AIRCRAFT OPERATIONS.

8. ALL WORKERS AND EQUIPMENT WORKING WITHIN THE RUNWAY OFA OR TAXIWAY SAFETY AREAS SHALL REMAIN IN CONSTANT RADIO CONTACT WITH THE AIRPORT FLAGGER.

9. STORAGE OF EQUIPMENT OR MATERIALS ON THE APRON, TAXIWAY AND SAFETY AREAS OR RUNWAY SAFETY AREA WILL NOT BE ALLOWED. NO STOCKPILING OF MATERIALS, PARKING OR STAGING OF EQUIPMENT IS ALLOWED WITHIN 400 FEET OF THE ACTIVE RUNWAY CENTERLINE, NOR WITHIN 1000 FEET BEYOND EACH OF THE THRESHOLDS ALONG THE EXTENDED CENTERLINE.

10. MAINTAIN TEMPORARY MARKINGS AND LIGHTING SYSTEMS THROUGHOUT THE PHASES OF CONSTRUCTION. REPAIR DAMAGED OR NON-FUNCTIONING MARKINGS AND LIGHTING IMMEDIATELY UPON DISCOVERY OR NOTIFICATION. USE OF LIGHT COLORED SAND BAGS, OR OTHER MATERIALS THAT INTERFERE WITH THE AIRPORT MARKING SYSTEM WILL NOT BE ALLOWED.

11. CARRYOUT CONTINUING COORDINATION THROUGH THE ENGINEER USING WEEKLY BRIEFINGS WITH AIRPORT MANAGEMENT, AIRPORT MAINTENANCE, ARFF PERSONNEL, AND AIRPORT USERS TO KEEP EVERYONE AWARE OF THE STATUS AND CHANGES OF AIRPORT SURFACES IN RELATION TO AIRCRAFT AND GROUND TRAFFIC. PROVIDE DETAILED DRAWINGS INDICATING TRAFFIC ROUTES FOR AIRCRAFT, GROUND TRAFFIC, AND PASSENGERS. INDICATE AREAS CLOSED TO AIRCRAFT MOVEMENT AND PARKING. PROVIDE UPDATED DRAWINGS AS CONSTRUCTION PROCEEDS.

12. CONDUCT A JOINT INSPECTION OF NEWLY CONSTRUCTED AIRPORT SURFACES WITH AIRPORT MANAGEMENT, AND THE ENGINEER PRIOR TO OPENING THEM FOR AIRCRAFT MOVEMENT OR OPERATIONS. REMOVE ALL FOREIGN OBJECTS, CLEAN AND SWEEP SURFACES AS REQUIRED, OR AS DIRECTED. PROVIDE A PICKUP BROOM TRUCK, (STREET SWEEPER) OR OTHER APPROVED MACHINERY AND EQUIPMENT TO ACCOMPLISH THIS TASK.

13. REPORT ANY SAFETY ISSUES TO THE ENGINEER AND AIRPORT MANAGER UPON DISCOVERY. TAKE IMMEDIATE ACTION TO RESOLVE SAFETY ISSUES AS DIRECTED.

14. PROVIDE WATER FOR DUST CONTROL AS REQUIRED, AND AS DIRECTED. DUST, SMOKE, STEAM, OR OTHER AIRBORNE PARTICULATES CAUSED BY CONTRACTOR ACTIVITIES MAYBE CONSIDERED A SAFETY VIOLATION AS DETERMINED BY THE ENGINEER.

15. REMOVE ALL FOREIGN OBJECTS AND DEBRIS (FOD) FROM ACTIVE SURFACES IMMEDIATELY UPON DISCOVERY OR NOTIFICATION. FAILURE TO REMOVE FOD MAY BE CONSIDERED A SAFETY VIOLATION AS DETERMINED BY THE ENGINEER.

16. REFER TO FAA ADVISORY CIRCULAR (AC) 150/5370-2E FOR ADDITIONAL GUIDANCE ON PREPARING SAFETY PLANS. REFER TO AC 150/5300-13 CHAPTER 3 FOR CLEARANCE STANDARDS RELATED TO THE OFA, OFZ, AND RSA. REFER TO APPENDIX 2 OF THE AC, AND DETAILS ON SHEET 18 FOR THRESHOLD SITING CRITERIA. NOTICE THAT THE MOST RESTRICTIVE CRITERIA GOVERNS. UNALASKA IS AN APPROACH CATEGORY B, AND DESIGN GROUP II AIRPORT.

17. FIELD VERIFY SUITABILITY OF HAUL ROUTES AND STAGING AREAS SHOWN. DEVELOP AND MAINTAIN HAUL ROUTES AS REQUIRED. SEE SECTIONS 40-04 & 70-11 (G). PROVIDE TRAFFIC CONTROL PLANS FOR EACH PHASE OF WORK. SEE SECTION G-710.

STATE OF ALASKA 49TH
Zane W. Shanklin
CE 7056
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH
Johnathan G. Limb
No. CE 11243
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

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STATE OF ALASKA
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UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SAFETY PLAN

DATE: JANUARY 13, 2012
SHEET: C10 OF 54
AS-BUILT SHEET:

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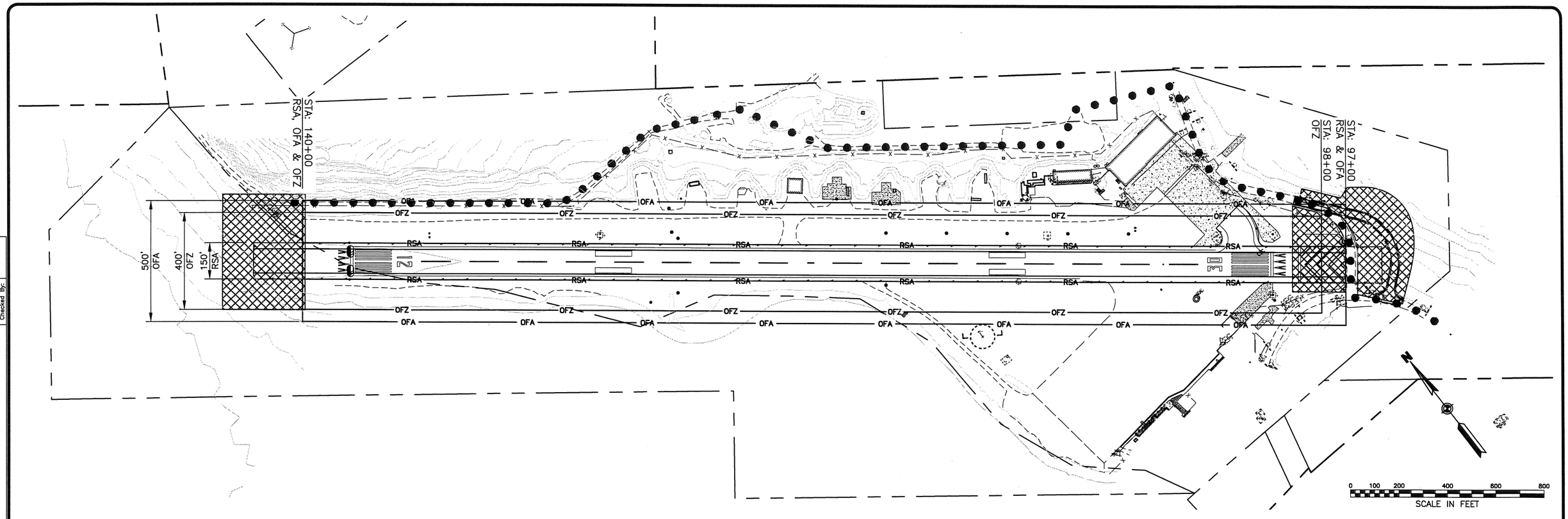

LEGEND:

● ● ● ● HAUL ROUTE

AREA CLOSED TO AIRCRAFT MOVEMENT/WORK ZONE

PHASE 1 SAFETY NOTES:

1. KEEP ALL WORKERS, EQUIPMENT, AND MATERIALS OUTSIDE OF THE ACTIVE RUNWAY SAFETY AREA, AND RUNWAY END SITING SURFACE DURING AIRCRAFT OPERATIONS, AND ONLY ENTER THESE AREAS AS REQUIRED AND AS APPROVED. SEE DETAILS. 1/C15 2/C15
2. MAINTAIN AIRPORT SECURITY FENCING. USE TEMPORARY FENCE ONLY AS APPROVED. SUBMIT DETAILS AND LOCATION OF ANY TEMPORARY GATES FOR APPROVAL. TEMPORARY FENCE MUST MEET SPECIFICATIONS AND STANDARDS FOR PERMANENT FENCE, EXCEPT CONCRETE FOOTING WILL NOT BE REQUIRED.
3. USE THE DESIGNATED HAUL ROUTES FOR THIS PHASE AS SHOWN. ALTERNATE HAUL ROUTES MUST BE APPROVED, AND DEPICTED ON THE CONTRACTORS SAFETY PLANS.

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER Zane W. Shanklin CE 7056

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER Johnathan G. Limb No. CE 11243

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UNALASKA AIRPORT
UNALASKA, ALASKA
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PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SAFETY PLAN PHASE 1, NO IMPACT TO AIR, GROUND OPERATIONS

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SHEET: C11 OF 54
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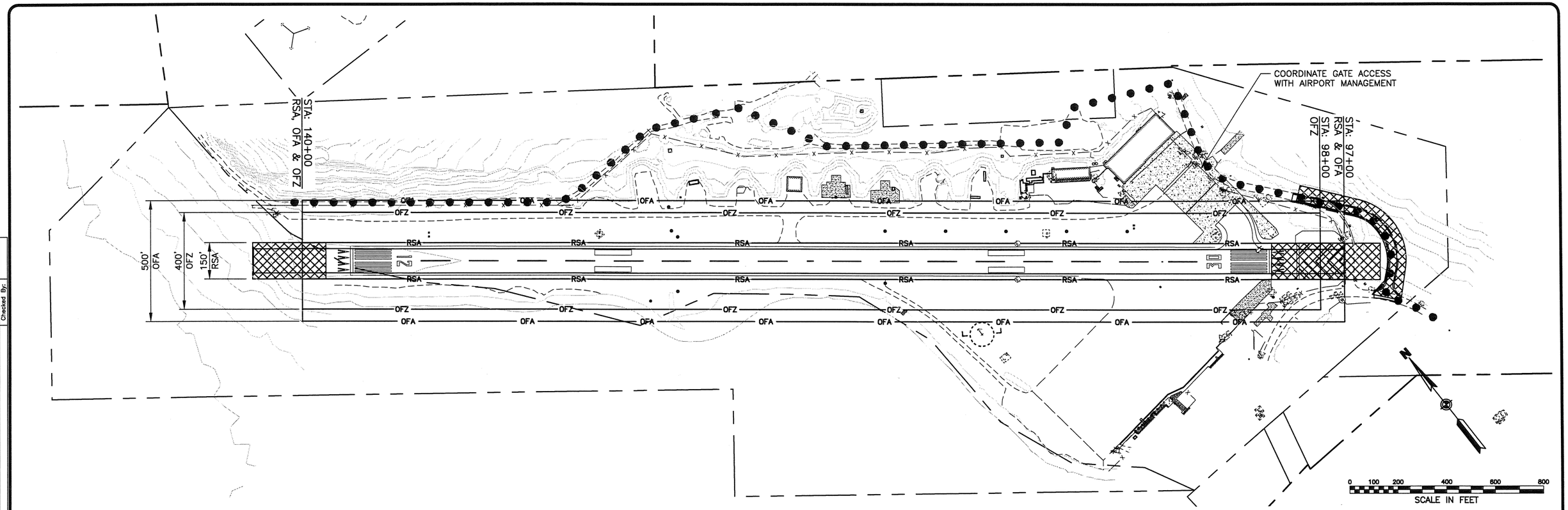

LEGEND:

AREA CLOSED TO AIRCRAFT MOVEMENT/ WORK ZONE

HAUL ROUTE

PHASE 2 SAFETY NOTES:

1. KEEP ALL WORKERS, EQUIPMENT, AND MATERIALS OUTSIDE OF THE ACTIVE RUNWAY SAFETY AREA, AND RUNWAY END SITING SURFACE DURING AIRCRAFT OPERATIONS, AND ONLY ENTER THESE AREAS AS REQUIRED AND AS APPROVED. SEE DETAILS. 1/C15 2/C15
2. MAINTAIN AIRPORT SECURITY FENCING. USE TEMPORARY FENCE ONLY AS APPROVED. SUBMIT DETAILS AND LOCATION OF ANY TEMPORARY GATES FOR APPROVAL. TEMPORARY FENCE MUST MEET SPECIFICATIONS AND STANDARDS FOR PERMANENT FENCE, EXCEPT CONCRETE FOOTING WILL NOT BE REQUIRED.
3. USE THE DESIGNATED HAUL ROUTES FOR THIS PHASE AS SHOWN. ALTERNATE HAUL ROUTES MUST BE APPROVED, AND DEPICTED ON THE CONTRACTORS SAFETY PLANS.
4. SUITABLE AREAS AT EACH END OF THE RUNWAY MUST BE AVAILABLE FOR AIRCRAFT TURN AROUND DURING THIS PHASE. THEY SHALL BE CONSIDERED PART OF THE ACTIVE RUNWAY, AND KEPT FREE OF FOD.
5. NO TAXIING AIRCRAFT WILL BE REQUIRED TO TRAVERSE AN UNPAVED SURFACE, UNLESS APPROVED, AND THEN ONLY AS SHOWN ON THE PHASING AND SAFETY PLANS.

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

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A.I.P. No. 3-02-0082-XXX-2012
SAFETY PLAN PHASE 2, EXTENDED RUNWAY AND ROADWAY PAVING

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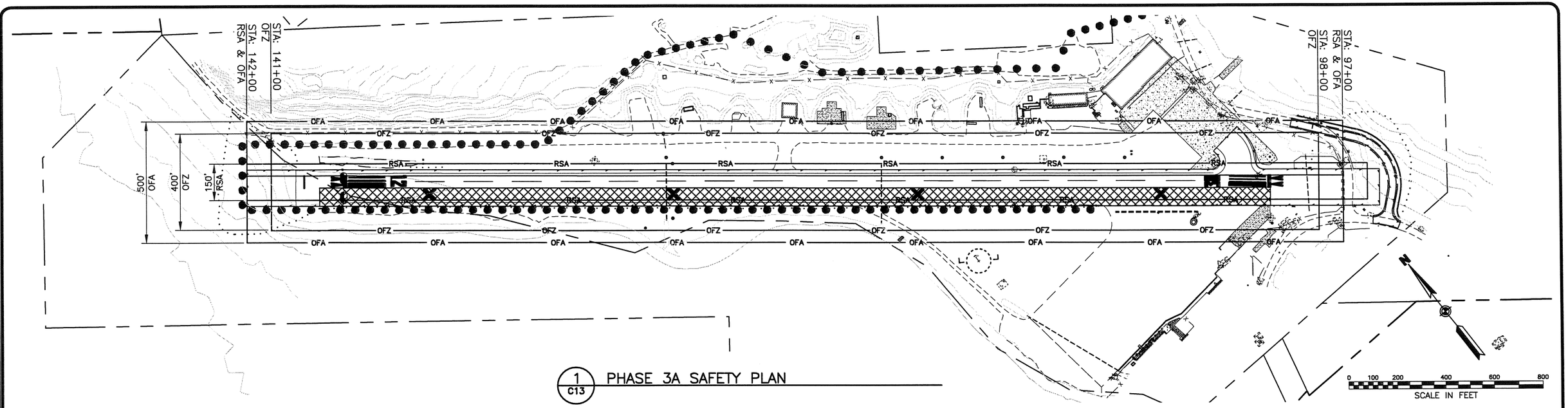
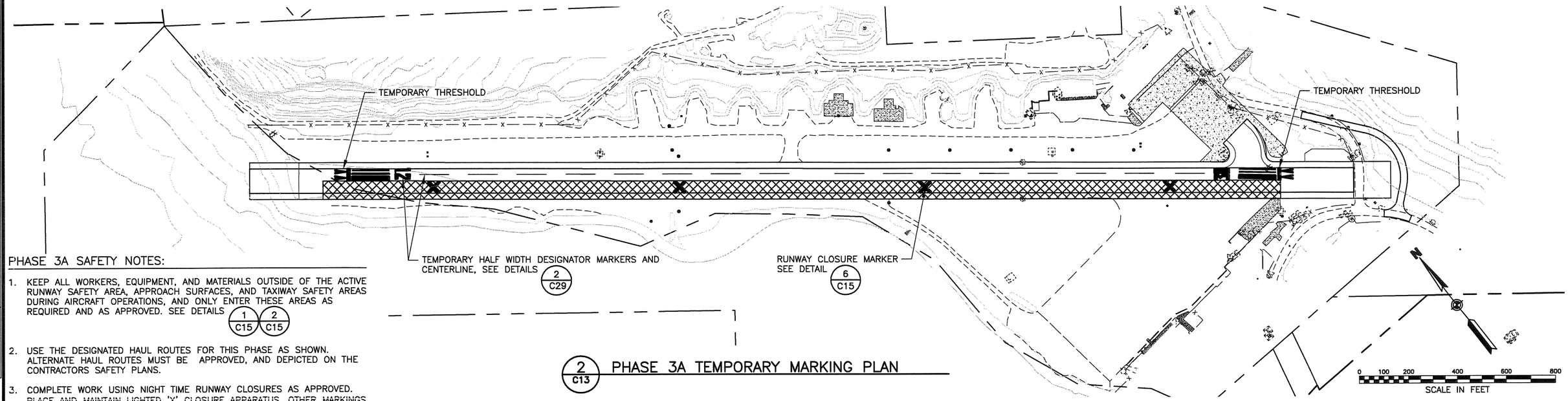


1 / C13 PHASE 3A SAFETY PLAN



2 / C13 PHASE 3A TEMPORARY MARKING PLAN

PHASE 3A SAFETY NOTES:

1. KEEP ALL WORKERS, EQUIPMENT, AND MATERIALS OUTSIDE OF THE ACTIVE RUNWAY SAFETY AREA, APPROACH SURFACES, AND TAXIWAY SAFETY AREAS DURING AIRCRAFT OPERATIONS, AND ONLY ENTER THESE AREAS AS REQUIRED AND AS APPROVED. SEE DETAILS 1 / C15 2 / C15
2. USE THE DESIGNATED HAUL ROUTES FOR THIS PHASE AS SHOWN. ALTERNATE HAUL ROUTES MUST BE APPROVED, AND DEPICTED ON THE CONTRACTORS SAFETY PLANS.
3. COMPLETE WORK USING NIGHT TIME RUNWAY CLOSURES AS APPROVED. PLACE AND MAINTAIN LIGHTED 'X' CLOSURE APPARATUS, OTHER MARKINGS AND BARRICADES AS REQUIRED. RETURN RUNWAY TO HALF WIDTH OPERATIONS FOR ALL SCHEDULED DAYTIME FLIGHTS. LIGHTED 'X' TO BE USED FOR FULL RUNWAY CLOSURES ONLY, AND MUST BE REMOVED FOR HALF WIDTH OPERATIONS. FOR LIGHTED 'X' REQUIREMENTS, SEE SPECIFICATIONS.
4. USE HAZARD MARKER BARRIERS TO DELINEATE CLOSED PORTIONS OF THE RAMPS OR TAXIWAYS. DO NOT PLACE BARRIERS WITHIN 200 FEET OF THE RW CENTERLINE. CONSIDER THE EFFECTS OF PROPELLER WASH AND HIGH WINDS WHEN LAYING OUT BARRIERS.
5. SUITABLE AREAS AT EACH END OF THE RUNWAY MUST BE AVAILABLE FOR AIRCRAFT TURN AROUND DURING THIS PHASE. THEY SHALL BE CONSIDERED PART OF THE ACTIVE RUNWAY, AND KEPT FREE OF FOD.
6. NO TAXIING AIRCRAFT WILL BE REQUIRED TO TRAVERSE AN UNPAVED SURFACE, UNLESS APPROVED, AND THEN ONLY AS SHOWN ON THE PHASING AND SAFETY PLANS.

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathan G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

TEMPORARY MARKING PLAN NOTES:

1. INSTALL AND MAINTAIN TEMPORARY RUNWAY CLOSURE X MARKINGS EVENLY SPACED AT APPROXIMATELY 1000' INTERVALS ALONG CLOSED PORTION OF RUNWAY.
2. DO NOT USE LIGHTED X MARKING, UNLESS CLOSING ENTIRE RUNWAY TO ALL TRAFFIC.
3. PLACE TEMPORARY RUNWAY MARKINGS AS REQUIRED.
4. SEE MARKING DETAILS FOR TEMPORARY AND HALF WIDTH MARKING DIMENSIONS.

LEGEND:

- AREA CLOSED TO AIRCRAFT MOVEMENT/WORK ZONE
- HAZARD MARKER BARRIER – SEE DETAIL 3 / C15
- HAUL ROUTE

PLANS DEVELOPED BY: USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SAFETY PLAN PHASE 3A, RW SOUTH SIDE

DATE: JANUARY 13, 2012
SHEET: C13 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:48 PM
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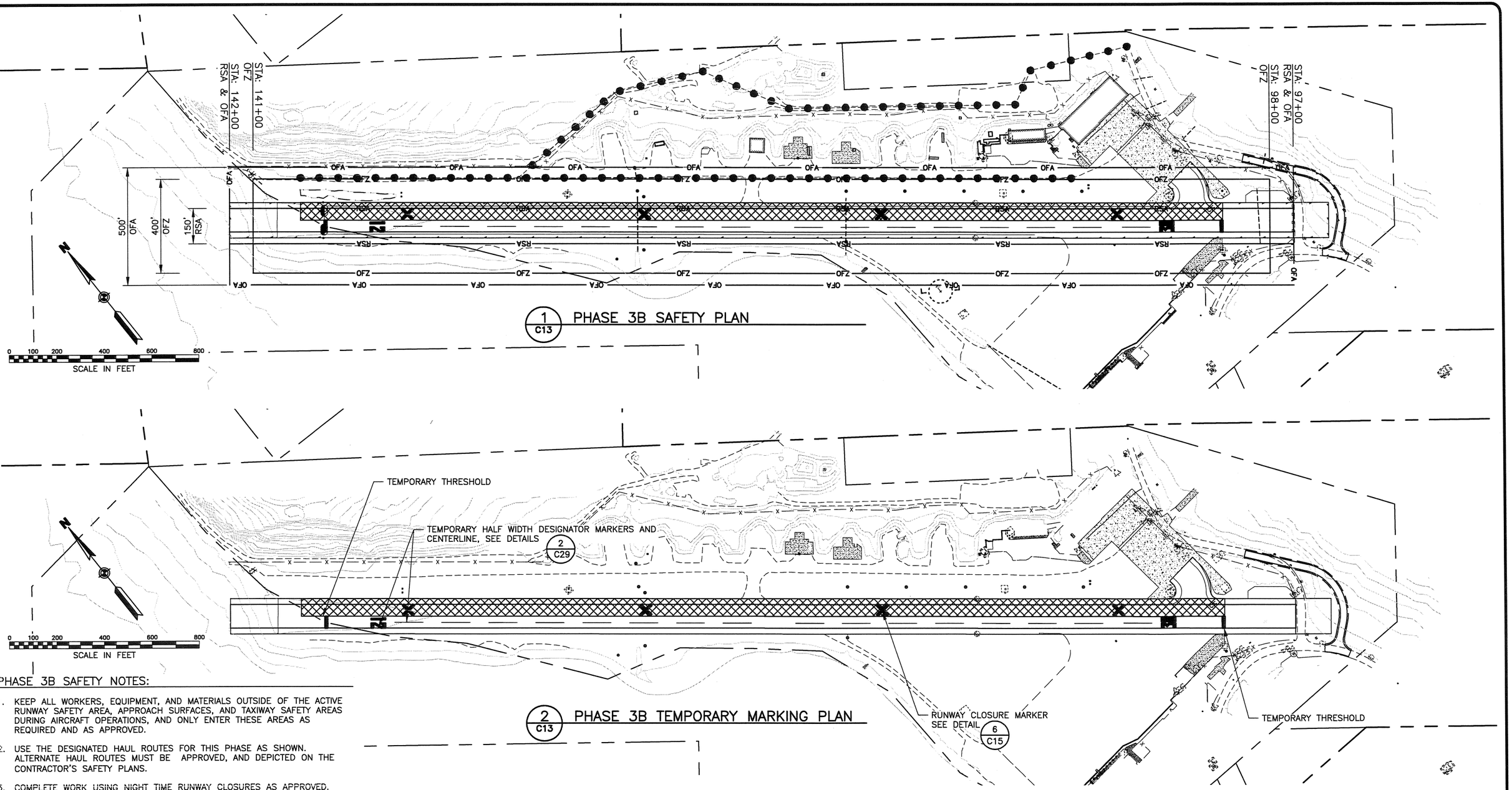

1 C13 PHASE 3B SAFETY PLAN

2 C13 PHASE 3B TEMPORARY MARKING PLAN

PHASE 3B SAFETY NOTES:

1. KEEP ALL WORKERS, EQUIPMENT, AND MATERIALS OUTSIDE OF THE ACTIVE RUNWAY SAFETY AREA, APPROACH SURFACES, AND TAXIWAY SAFETY AREAS DURING AIRCRAFT OPERATIONS, AND ONLY ENTER THESE AREAS AS REQUIRED AND AS APPROVED.
2. USE THE DESIGNATED HAUL ROUTES FOR THIS PHASE AS SHOWN. ALTERNATE HAUL ROUTES MUST BE APPROVED, AND DEPICTED ON THE CONTRACTOR'S SAFETY PLANS.
3. COMPLETE WORK USING NIGHT TIME RUNWAY CLOSURES AS APPROVED. PLACE AND MAINTAIN LIGHTED 'X' CLOSURE APPARATUS, OTHER MARKINGS AND BARRICADES AS REQUIRED. RETURN RUNWAY TO HALF WIDTH OPERATIONS FOR ALL SCHEDULED DAYTIME FLIGHTS. LIGHTED 'X' TO BE USED FOR FULL RUNWAY CLOSURES ONLY, AND MUST BE REMOVED FOR HALF WIDTH OPERATIONS. FOR LIGHTED 'X' REQUIREMENTS, SEE SPECIFICATIONS.
4. USE HAZARD MARKER BARRIERS TO DELINEATE CLOSED PORTIONS OF THE RAMPS OR TAXIWAYS. DO NOT PLACE BARRIERS WITHIN 200 FEET OF THE RW CENTERLINE. CONSIDER THE EFFECTS OF PROPELLER WASH AND HIGH WINDS WHEN LAYING OUT BARRIERS.
5. SUITABLE AREAS AT EACH END OF THE RUNWAY MUST BE AVAILABLE FOR AIRCRAFT TURN AROUND DURING THIS PHASE. THEY SHALL BE CONSIDERED PART OF THE ACTIVE RUNWAY, AND KEPT FREE OF FOD.
6. NO TAXIING AIRCRAFT WILL BE REQUIRED TO TRAVERSE AN UNPAVED SURFACE, UNLESS APPROVED, AND THEN ONLY AS SHOWN ON THE PHASING AND SAFETY PLANS.

TEMPORARY MARKING PLAN NOTES:

1. INSTALL AND MAINTAIN TEMPORARY RUNWAY CLOSURE X MARKINGS EVENLY SPACED AT APPROXIMATELY 1000' INTERVALS ALONG CLOSED PORTION OF RUNWAY.
2. DO NOT USE LIGHTED X MARKING, UNLESS CLOSING ENTIRE RUNWAY TO ALL TRAFFIC.
3. INSTALL AND MAINTAIN TEMPORARY RUNWAY MARKINGS AS REQUIRED.
4. SEE MARKING DETAILS FOR TEMPORARY AND HALF WIDTH MARKING DIMENSIONS.

LEGEND:

- AREA CLOSED TO AIRCRAFT MOVEMENT/WORK ZONE
- HAZARD MARKER BARRIER – SEE DETAIL 3 C15
- HAUL ROUTE

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH, INC.

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UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SAFETY PLAN PHASE 3B, RW NORTH SIDE

DATE: JANUARY 13, 2012
SHEET: C14 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:
Date Revised:
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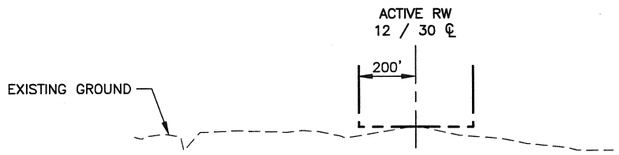
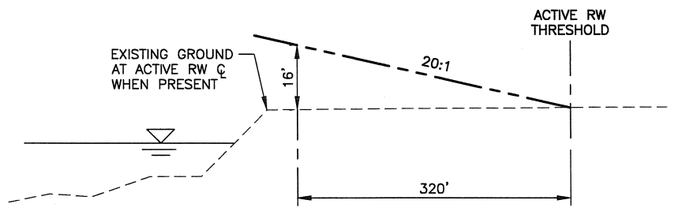


NOTE:

STOCKPILES, PERSONS, AND EQUIPMENT MUST NOT PENETRATE CLEARANCES.

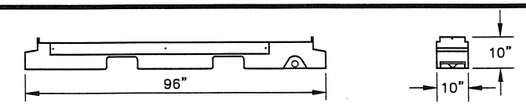
1 C15 RUNWAY OFZ
SCALE: N.T.S.



NOTES:

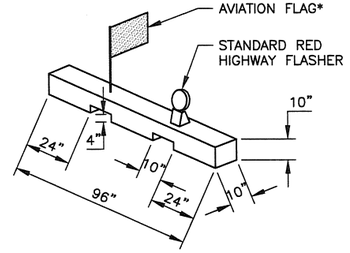
1. STOCKPILES, PERSONS, AND EQUIPMENT MUST NOT PENETRATE CLEARANCES.
2. REFER TO AC 150/5300-13 FOR RUNWAY END SITING CRITERIA.

2 C15 RUNWAY END SITING SURFACE
SCALE: N.T.S.



NOTES:

1. PLACE BARRIERS TO LIMIT ACCESS TO THE CLOSED RUNWAY. USE LOW STYLE BARRIERS (LESS THAN 12 INCHES HIGH) WHEN ADJACENT TO AN ACTIVE MOVEMENT AREA.
2. DISABLE AND PREVENT THE OPERATION OF RUNWAY EDGE LIGHTS AND RUNWAY THRESHOLD LIGHTS DURING CLOSURE OF THE RUNWAY.
3. HAZARD MARKER BARRIERS ARE NOT TO BE PLACED WITHIN 200 FEET OF THE ACTIVE RUNWAY CENTERLINE. CONSIDER JET BLAST WHEN PLACING BARRIERS.



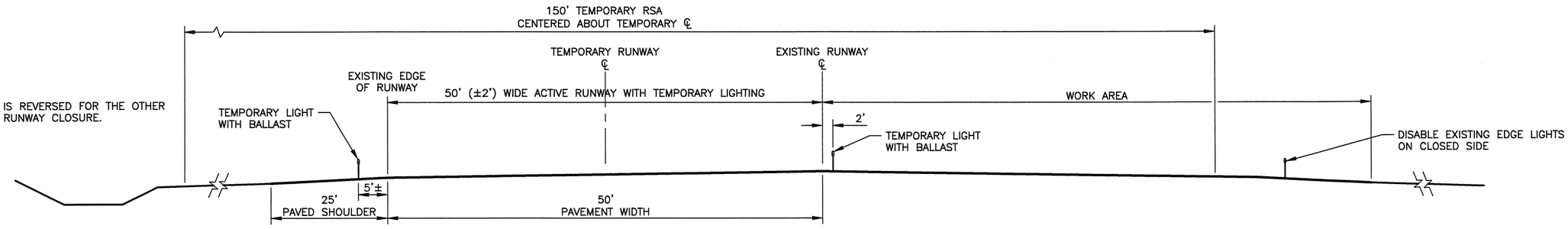
PREPARATION OF
FLAG & FLASHER MOUNT DETAIL

* FLAGS SHALL ALTERNATE COLOR (ORANGE/WHITE) ON EACH BARRIER AS THEY ARE PLACED IN THE AIRPORT OPERATIONS AREA, IN SEQUENCE.

3 C15 HAZARD MARKER BARRIER DETAIL
SCALE: N.T.S.

NOTE:

SECTION IS REVERSED FOR THE OTHER SIDE OF RUNWAY CLOSURE.



4 C15 HALF WIDTH RUNWAY TYPICAL SECTION
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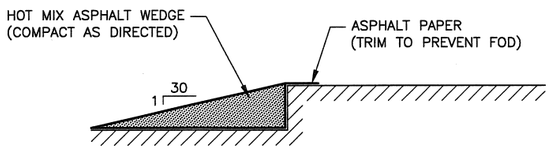
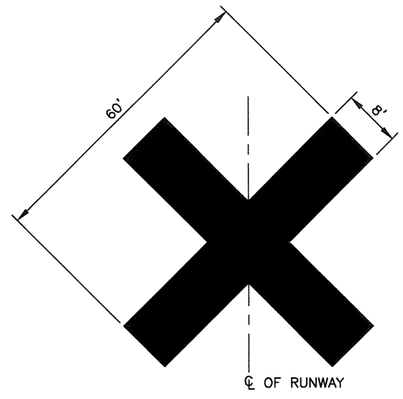


5 C15 TRANSITION WEDGE DETAIL
SCALE: N.T.S.



NOTES:

1. RUNWAY CLOSURE MARKER, VINYL MESH PANEL, SHALL BE POSITIONED OVER RUNWAY DESIGNATION NUMERALS TO DENOTE A TEMPORARY CLOSED RUNWAY, OR AS DIRECTED.
2. RUNWAY CLOSURE MARKERS SHALL BE CONSTRUCTED MATERIAL SPECIFIED IN SECTION P-671, AND SHALL BE YELLOW IN COLOR.
3. PLACE RUNWAY CLOSURE MARKER, VINYL MESH PANEL, ALONG CLOSED PORTION OF RUNWAY AT 1,000 FT. MAXIMUM SPACING.
4. PLACE AND MAINTAIN RUNWAY CLOSURE MARKERS AS CONSTRUCTION ALLOWS. MARKINGS MUST BE IN-PLACE DURING NON WORK HOURS,
5. PLACE RUNWAY CLOSURE MARKER, TEMPORARY ILLUMINATED PANEL AT EACH END OF THE CLOSED RUNWAY. ALIGN ON THE EXTENDED CENTERLINE, AND POSITION ON THE RSA EMBANKMENT TO AVOID CONFLICT WITH CONSTRUCTION ACTIVITY, OR AS OTHERWISE DIRECTED. SEE SECTION P-671, AC 150/5345-53, AND AC 150/5345-55 FOR ADDITIONAL REQUIREMENTS AND GUIDANCE FOR CLOSURE MARKERS.

6 C15 RUNWAY CLOSURE MARKER DETAIL
SCALE: N.T.S.

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Zane W. Shanklin
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REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH
Johnathon G. Limb
No. CE 11243
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SAFETY PLAN DETAILS

DATE: JANUARY 13, 2012
SHEET: C15 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:

Date Revised:
Layout Name: SAFETY DTLS
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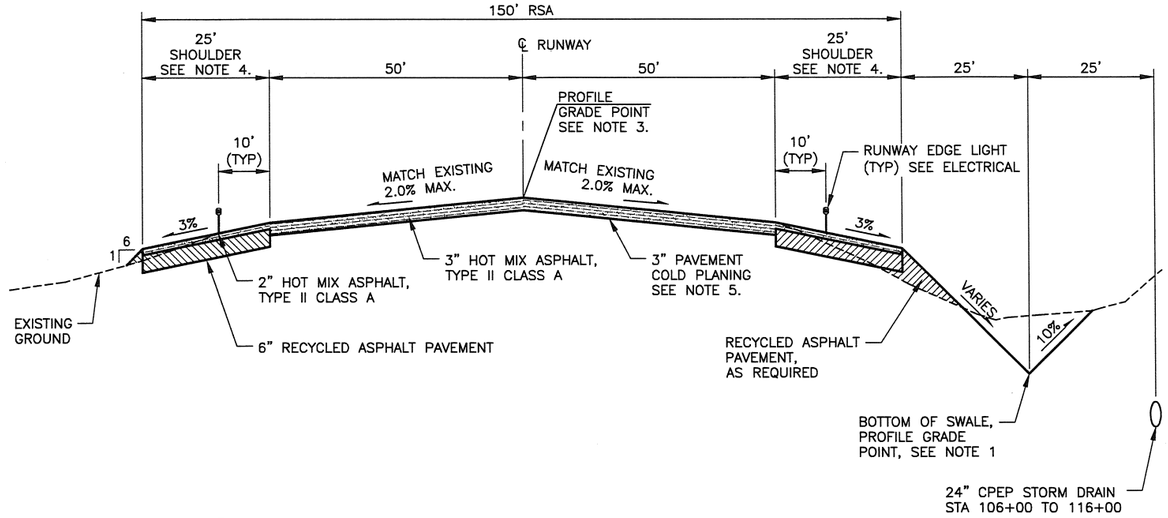


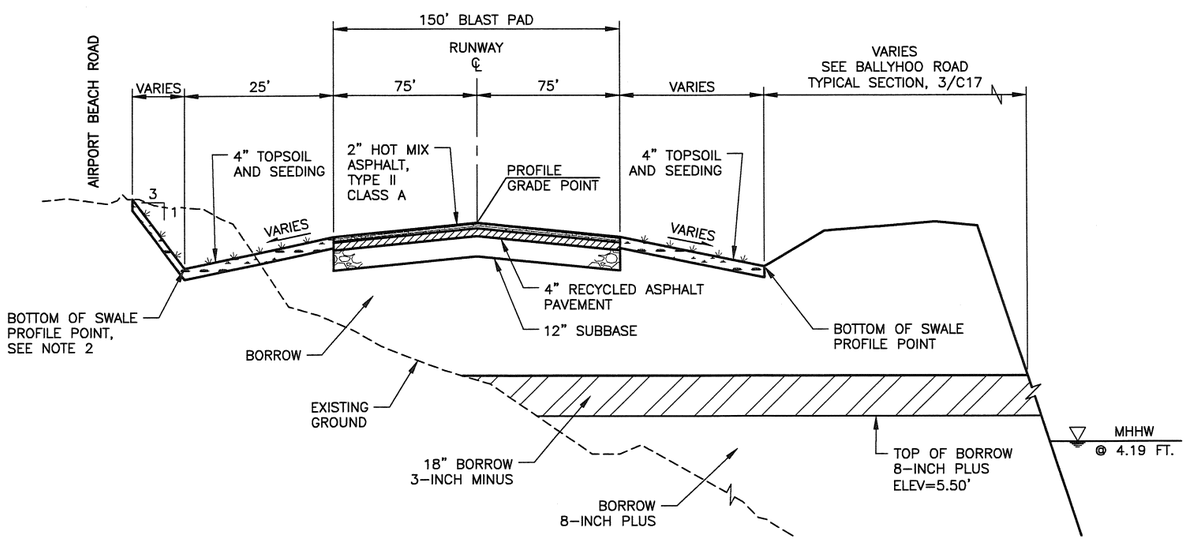
1 C16 EXISTING RUNWAY MILL & OVERLAY

SCALE: N.T.S.

STA. 99+50 TO 103+00 – VARIABLE DEPTH MILLING
STA. 103+00 TO 138+00 – 3 INCH MILLING
STA. 138+00 TO 140+00 – VARIABLE DEPTH MILLING
SEE NOTE 5.

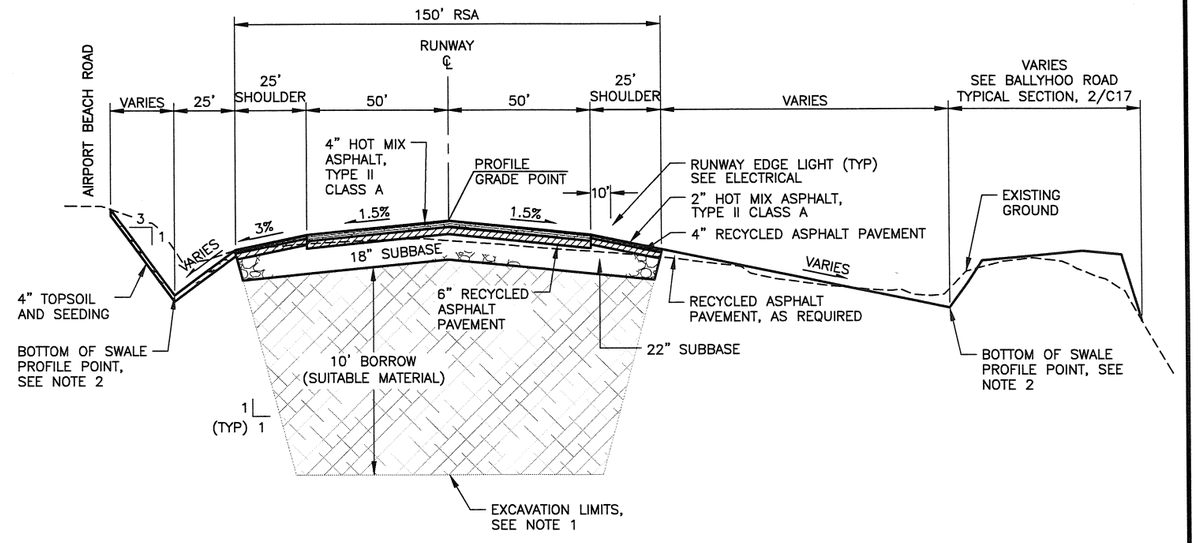
NOTES:

1. APPLY 4" TOPSOIL AND SEEDING WHERE CONSTRUCTION OF SWALE REQUIRES CUT OF EXISTING GROUND. SEE PLAN VIEW FOR STATION LIMITS OF LEFT AND RIGHT SWALES.
2. REMOVE EXISTING RUNWAY SHOULDER PAVEMENT. APPROXIMATE THICKNESS 2.25 INCHES. PROCESS MATERIAL TO BE USED AS RECYCLED ASPHALT PAVEMENT (RAP).
3. PROFILE GRADE POINT FROM 103+00 TO 138+00 IS PROVIDED AS INFORMATION ONLY. MATCH EXISTING GRADES AND CROSS SLOPES. CONSTRUCT SMOOTH TRANSITIONS TO ADJACENT SECTIONS WITH SPECIFIED GRADE AND CROSS SLOPE.
4. FOR AREAS ADJACENT TO TAXIWAYS A AND B, OMIT SHOULDER SECTION AND CONSTRUCT 25' WIDE TRANSITION PAVEMENT ALONG INTERSECTION. MINIMUM THICKNESS OF TRANSITION PAVEMENT IS 2 INCHES. SEE PAVEMENT CUT–MATCH SECTION, SHEET 1/C25
5. FOR STATIONS SPECIFIED AS VARIABLE DEPTH MILLING, MILL EXISTING ASPHALT TO ALLOW A 4 INCH HMA OVERLAY MEETING THE SPECIFIED GRADE. MILL A MINIMUM DEPTH OF 1 INCH AND MAXIMUM DEPTH OF 4 INCHES OF EXISTING PAVEMENT. MATCH EXISTING CROSS SLOPES, HOWEVER DO NOT EXCEED 2.0%.
6. 4 INCH HMA MUST BE PAVED IN TWO SEPARATE LIFTS.



2 C16 RUNWAY SOUTH EMBANKMENT EXTENSION & BLAST PAD

SCALE: N.T.S. STA. 95+50 TO 97+00



3 C16 CONVERT EXISTING BLAST PAD TO RUNWAY

SCALE: N.T.S. STA. 97+00 TO 99+50

NOTES:

1. EXCAVATE UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER, TO 10' MAXIMUM DEPTH. FROM STA. 97+00 TO STA. 98+50.
2. APPLY 4" TOPSOIL & SEED TO AREAS WHERE CONSTRUCTION OF SWALE REQUIRES CUTTING EXISTING GRADE.
3. COLD PLANE ENTIRE 2.25" THICK SHOULDERS.

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathon G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH, INC.

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CENTRAL REGION

UNALASKA AIRPORT
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UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
TYPICAL SECTIONS

DATE: JANUARY 13, 2012
SHEET: C16 OF 54
AS–BUILT SHEET:

Designed By:
Drawn By:
Checked By:
Date Revised: 1/13/2012, 1:49 PM
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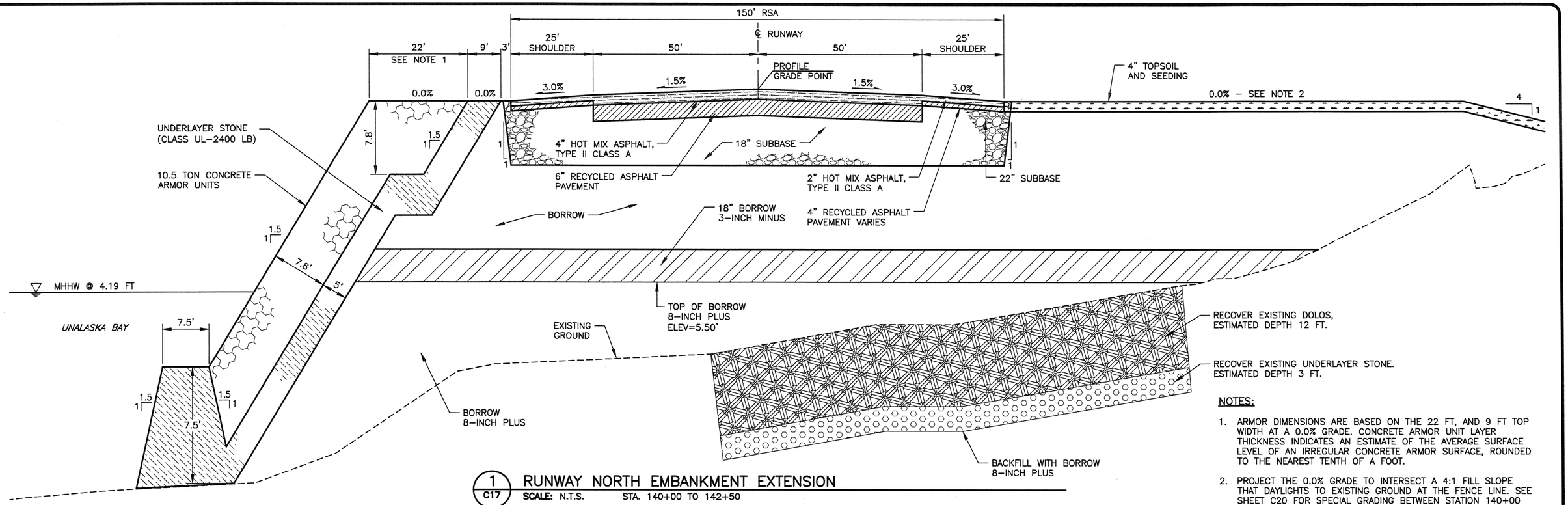
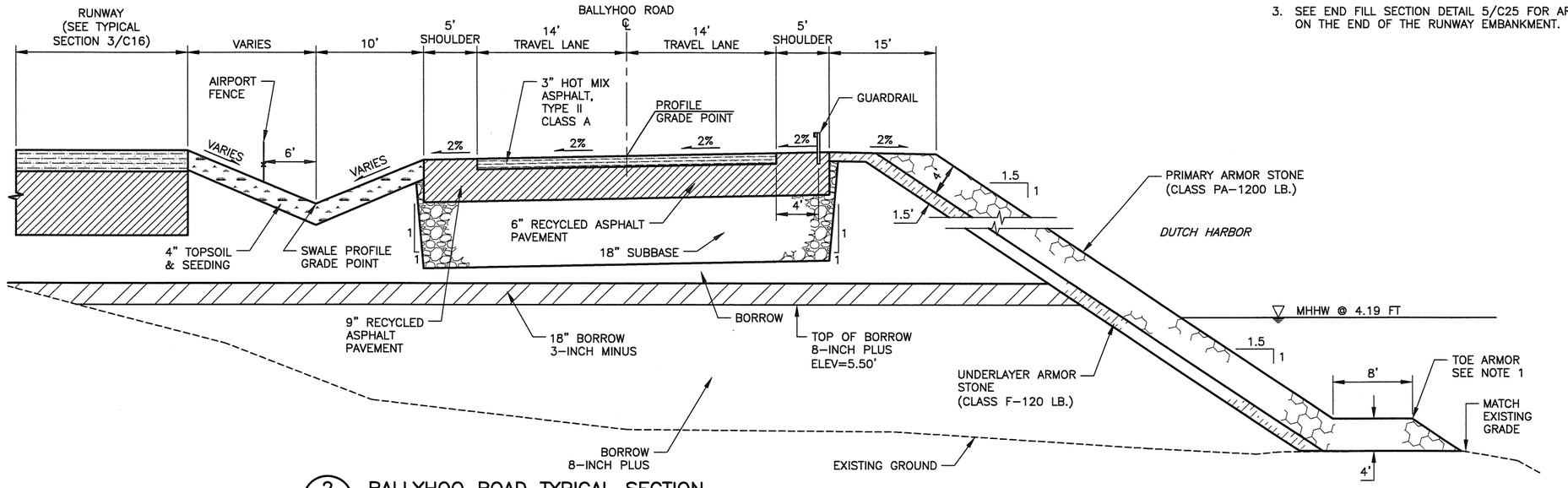


1 / C17 **RUNWAY NORTH EMBANKMENT EXTENSION**
SCALE: N.T.S. STA. 140+00 TO 142+50

NOTES:

1. ARMOR DIMENSIONS ARE BASED ON THE 22 FT, AND 9 FT TOP WIDTH AT A 0.0% GRADE. CONCRETE ARMOR UNIT LAYER THICKNESS INDICATES AN ESTIMATE OF THE AVERAGE SURFACE LEVEL OF AN IRREGULAR CONCRETE ARMOR SURFACE, ROUNDED TO THE NEAREST TENTH OF A FOOT.
2. PROJECT THE 0.0% GRADE TO INTERSECT A 4:1 FILL SLOPE THAT DAYLIGHTS TO EXISTING GROUND AT THE FENCE LINE. SEE SHEET C20 FOR SPECIAL GRADING BETWEEN STATION 140+00 AND 141+00 RIGHT OF RUNWAY SHOULDER.
3. SEE END FILL SECTION DETAIL 5/C25 FOR ARMOR DIMENSIONS ON THE END OF THE RUNWAY EMBANKMENT.



2 / C17 **BALLYHOO ROAD TYPICAL SECTION**
SCALE: N.T.S.

BALLYHOO ROAD NOTES:

1. PROVIDE TOE ARMOR FROM ELEVATION +6.0' TO ELEVATION –10.0'.
2. WHERE NEW ROAD SECTION MEETS EXISTING ROAD SECTION, TAPER SUBBASE AT 2:1 AND ONLY CONSTRUCT RECYCLED ASPHALT PAVEMENT BASE COURSE AND ASPHALT IMPROVEMENTS.
3. BORROW MATERIAL ONLY APPLIES IN AREAS OF FILL, BEYOND EXISTING ROAD TIE–INS.

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

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STATE OF ALASKA
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UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
TYPICAL SECTIONS

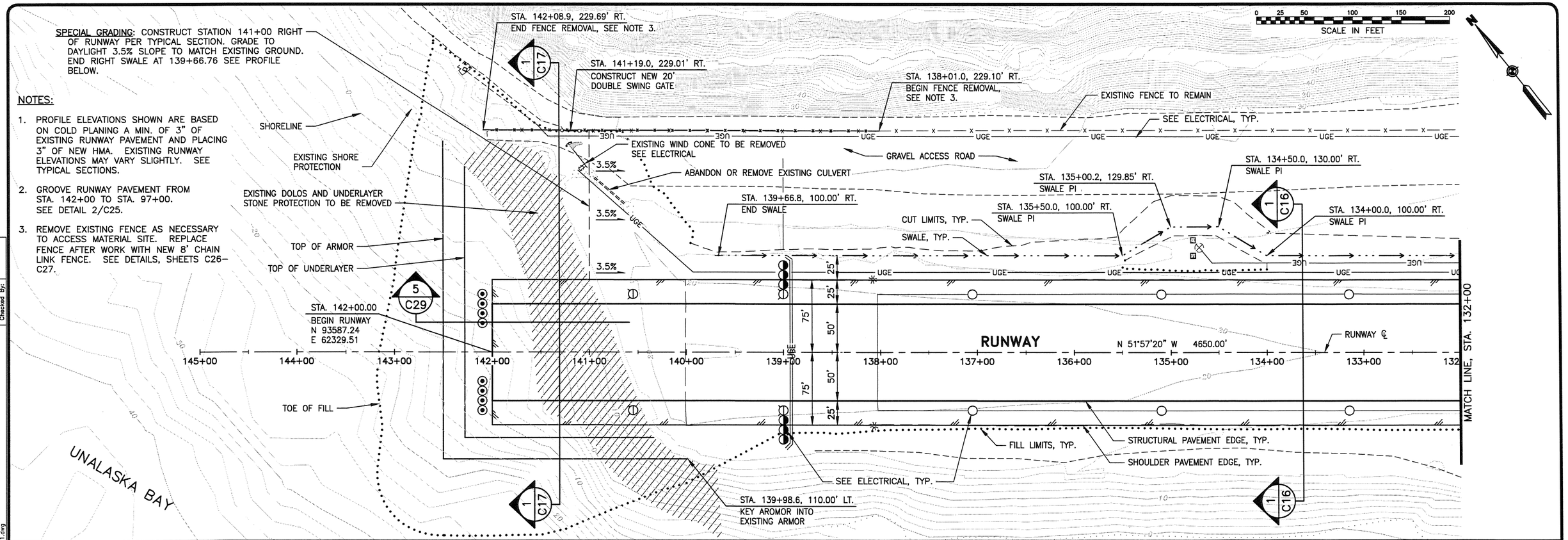
DATE: JANUARY 13, 2012
SHEET: C17 OF 54
AS–BUILT SHEET:

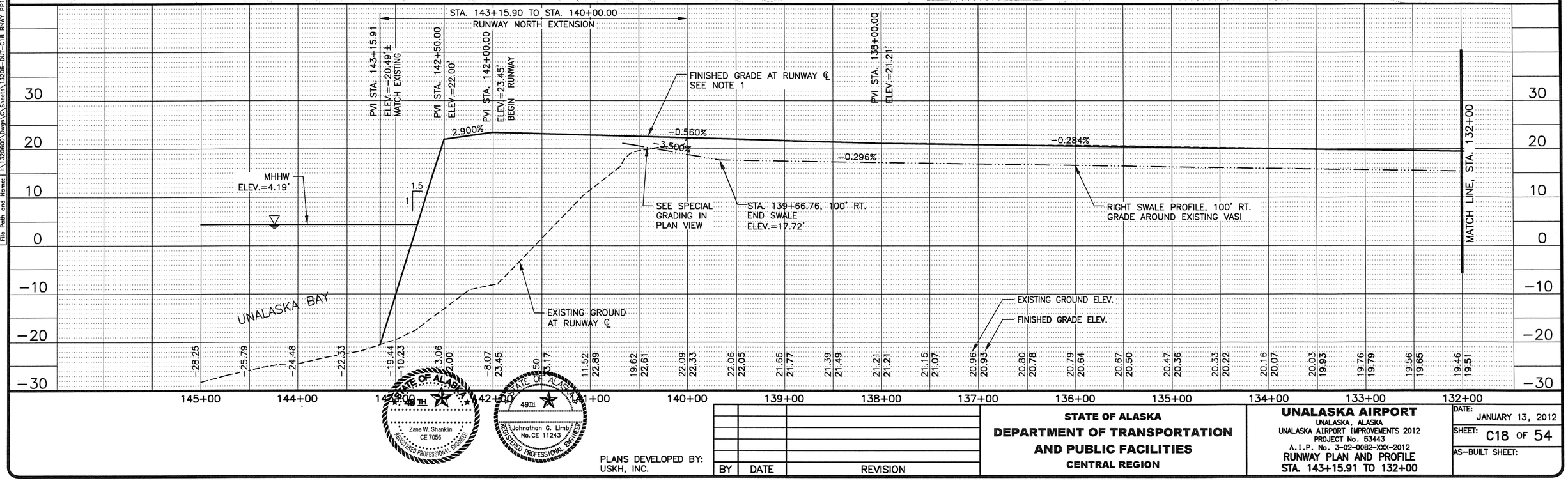
Designed By:
Drawn By:
Checked By:
Date Revised: 1/13/2012, 1:49 PM
Layout Name: TYP SECTS
File Path and Name: I:\1320600\Dwgs\C\Sheets\13206–DUT–C17 TYP SECT2.dwg

SPECIAL GRADING: CONSTRUCT STATION 141+00 RIGHT OF RUNWAY PER TYPICAL SECTION. GRADE TO DAYLIGHT 3.5% SLOPE TO MATCH EXISTING GROUND. END RIGHT SWALE AT 139+66.76 SEE PROFILE BELOW.

NOTES:

1. PROFILE ELEVATIONS SHOWN ARE BASED ON COLD PLANING A MIN. OF 3" OF EXISTING RUNWAY PAVEMENT AND PLACING 3" OF NEW HMA. EXISTING RUNWAY ELEVATIONS MAY VARY SLIGHTLY. SEE TYPICAL SECTIONS.
2. GROOVE RUNWAY PAVEMENT FROM STA. 142+00 TO STA. 97+00. SEE DETAIL 2/C25.
3. REMOVE EXISTING FENCE AS NECESSARY TO ACCESS MATERIAL SITE. REPLACE FENCE AFTER WORK WITH NEW 8' CHAIN LINK FENCE. SEE DETAILS, SHEETS C26–C27.





Zane W. Shanklin
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REGISTERED PROFESSIONAL ENGINEER
STATE OF ALASKA 49TH

Johnnathon C. Limz
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REGISTERED PROFESSIONAL ENGINEER
STATE OF ALASKA 49TH

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UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
RUNWAY PLAN AND PROFILE
STA. 143+15.91 TO 132+00

DATE: JANUARY 13, 2012
SHEET: C18 OF 54
AS-BUILT SHEET:

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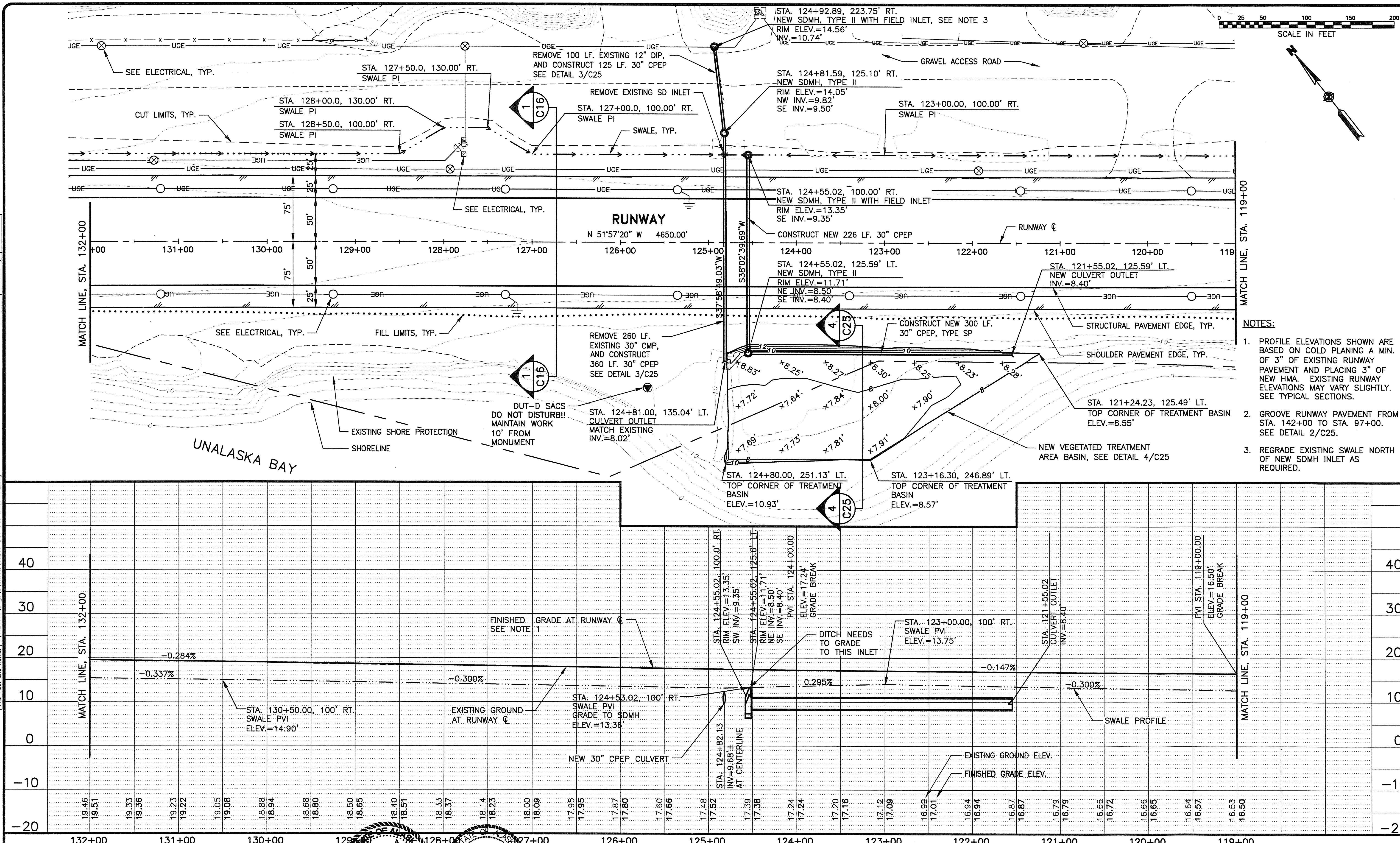

NOTES:

1. PROFILE ELEVATIONS SHOWN ARE BASED ON COLD PLANING A MIN. OF 3" OF EXISTING RUNWAY PAVEMENT AND PLACING 3" OF NEW HMA. EXISTING RUNWAY ELEVATIONS MAY VARY SLIGHTLY. SEE TYPICAL SECTIONS.
2. GROOVE RUNWAY PAVEMENT FROM STA. 142+00 TO STA. 97+00. SEE DETAIL 2/C25.
3. REGRADE EXISTING SWALE NORTH OF NEW SDMH INLET AS REQUIRED.

Date Revised: 1/13/2012, 1:50 PM
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File Path and Name: I:\13206\Dwgs\C\Sheets\13206-DUT-C19 RNWY PP2.dwg
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Drawn By:
Checked By:

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STATE OF ALASKA 49TH — Johnathan G. Limb No.CE 11243 — REGISTERED PROFESSIONAL ENGINEER

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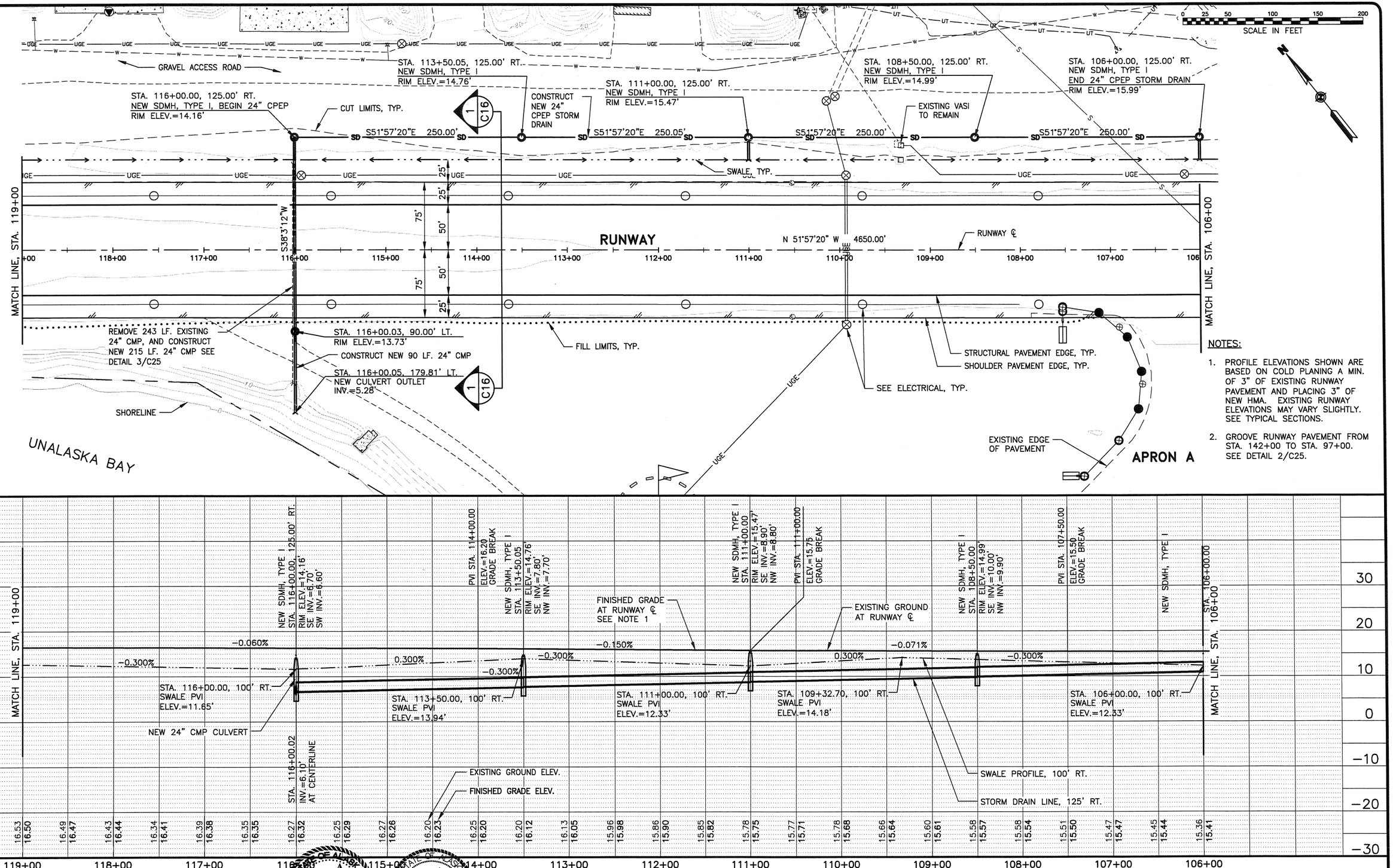
A.I.P. No. 3-02-0082-XXX-2012
RUNWAY PLAN AND PROFILE
STA. 132+00 TO 119+00

DATE: JANUARY 13, 2012
SHEET: C19 OF 54
AS-BUILT SHEET:



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Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:51 PM
Layout Name: RW 3 P&P
File Path and Name: I:\1320600\Dwgs\C\Sheets\13205-DOT-C20 RNWY PP3.dwg

STATE OF ALASKA
49TH
Zane W. Shanklin
CE 7056
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA
49TH
Johnathan G. Limb
No. CE 11243
REGISTERED PROFESSIONAL ENGINEER

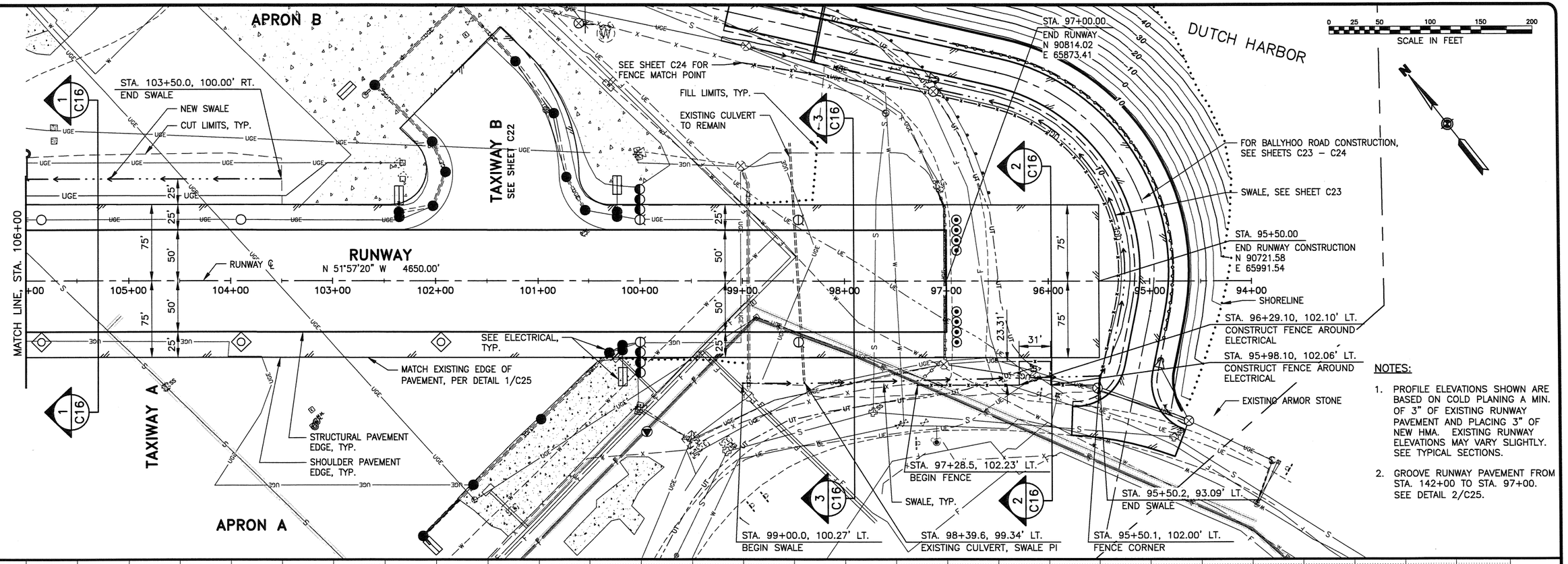
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
RUNWAY PLAN AND PROFILE
STA. 119+00 TO 106+00

DATE: JANUARY 13, 2012
SHEET: C20 OF 54
AS-BUILT SHEET:



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File Path and Name: I:\1320600\Dwgs\C\Sheets\1320-DUT-C21 RNWY PP4.dwg

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

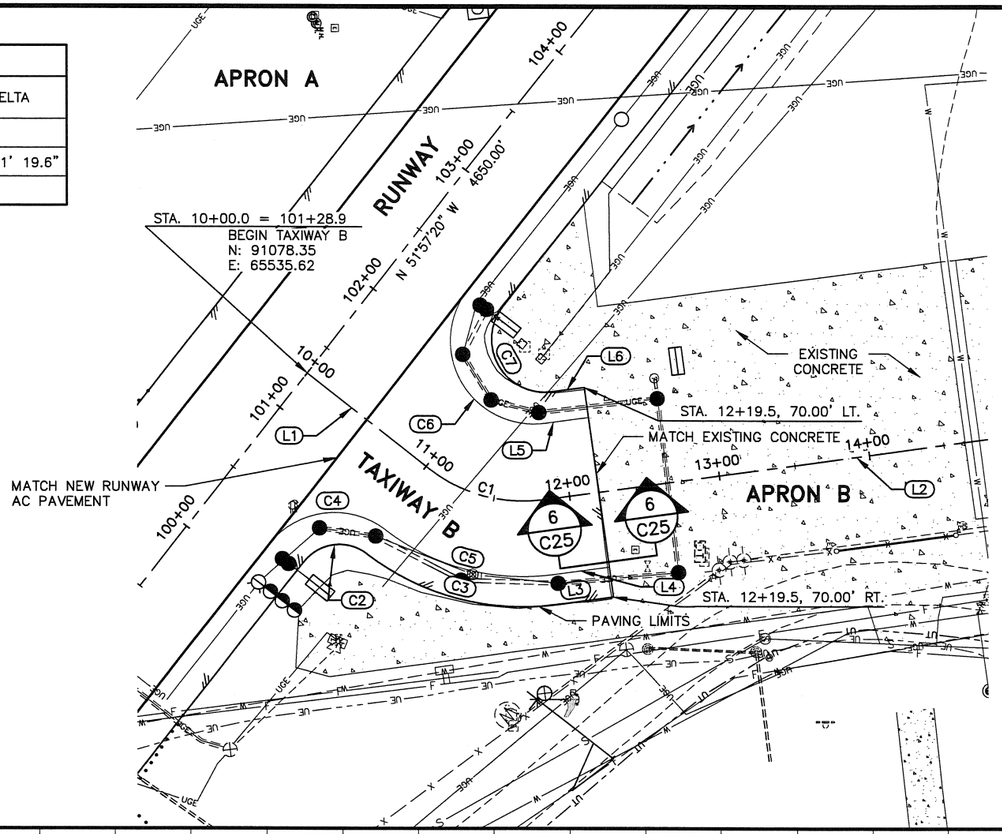
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

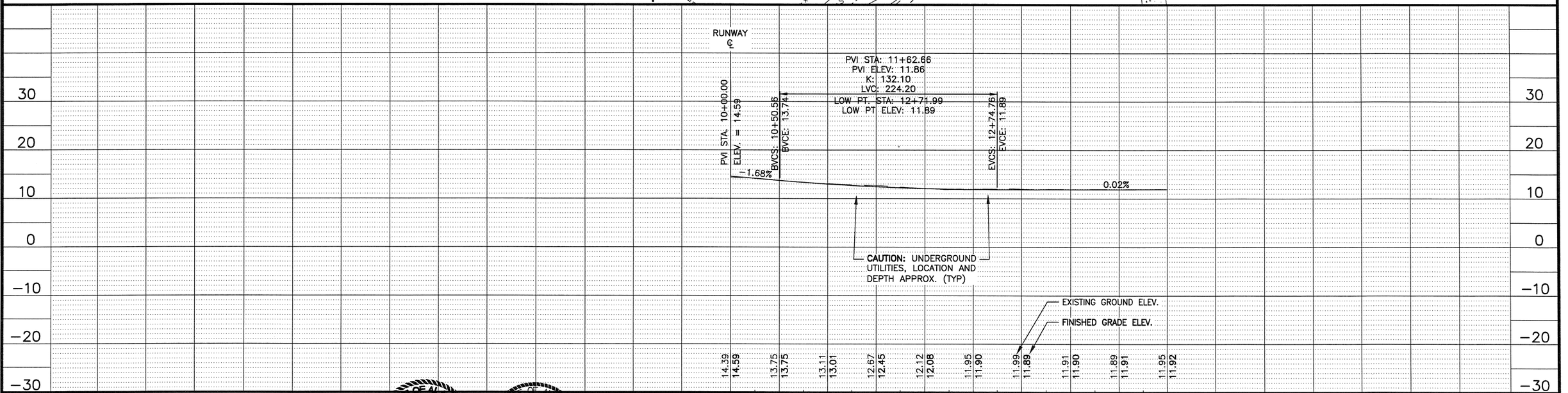
UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
RUNWAY PLAN AND PROFILE
STA. 106+00 TO 94+00

DATE: JANUARY 13, 2012
SHEET: C21 OF 54
AS-BUILT SHEET:

ALIGNMENT LAYOUT TABLE										
NO.	START STATION	NORTHING	EASTING	TANGENT DISTANCE	TANGENT BEARING	NORTHING CENTER	EASTING CENTER	RADIUS	LENGTH	DELTA
L1	10+00.00	91078.35	65535.62	102.77	N38° 02' 39.7"E					
C1	11+02.77	91159.29	65598.96			91220.91	65520.20	100.00	80.03	45° 51' 19.6"
L2	11+82.80	91234.50	65619.28	417.20	N7° 48' 39.9"W					

LINE AND CURVE TABLE								
NO.	BEGIN EASTING	BEGIN NORTHING	LENGTH	DIRECTION / DELTA	RADIUS	END EASTING	END NORTHING





0 25 50 100 150 200
SCALE IN FEET

N

NOTES:

1. THE INTENT FOR TW B IS TO MILL TWO INCHES OF EXISTING ASPHALT, AND REPAVE A MINIMUM OF TWO INCHES OF ASPHALT TO MATCH EXISTING ELEVATIONS AND GRADES. PROFILE GRADE MAY BE USED AS INFORMATION ONLY, AND MAY REQUIRE ADJUSTMENT IN THE FIELD TO MATCH NEW RW PAVEMENT AS REQUIRED.

Designed By:
Drawn By:
Checked By:
Date Revised: 1/13/2012, 1:52 PM
Layout Name: TW_B P&P
File Path and Name: I:\132060\Dwgs\CC\Sheets\132060-DUT-C22_TW_B PP.dwg

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathan G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

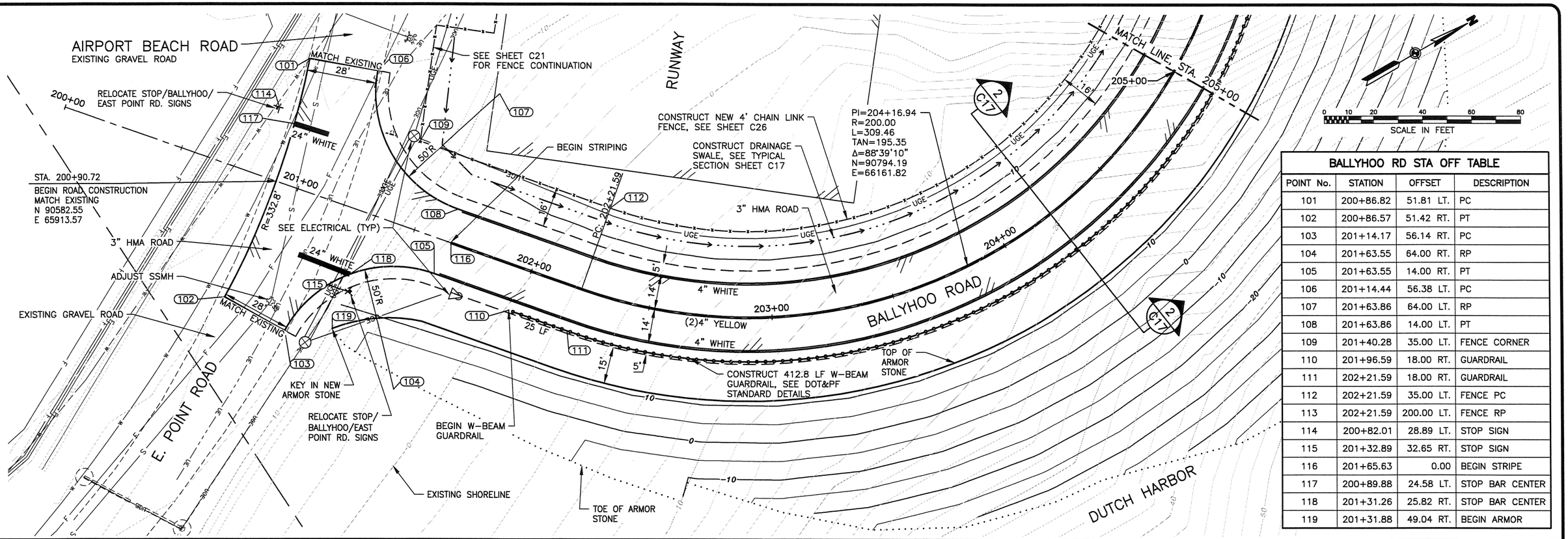
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

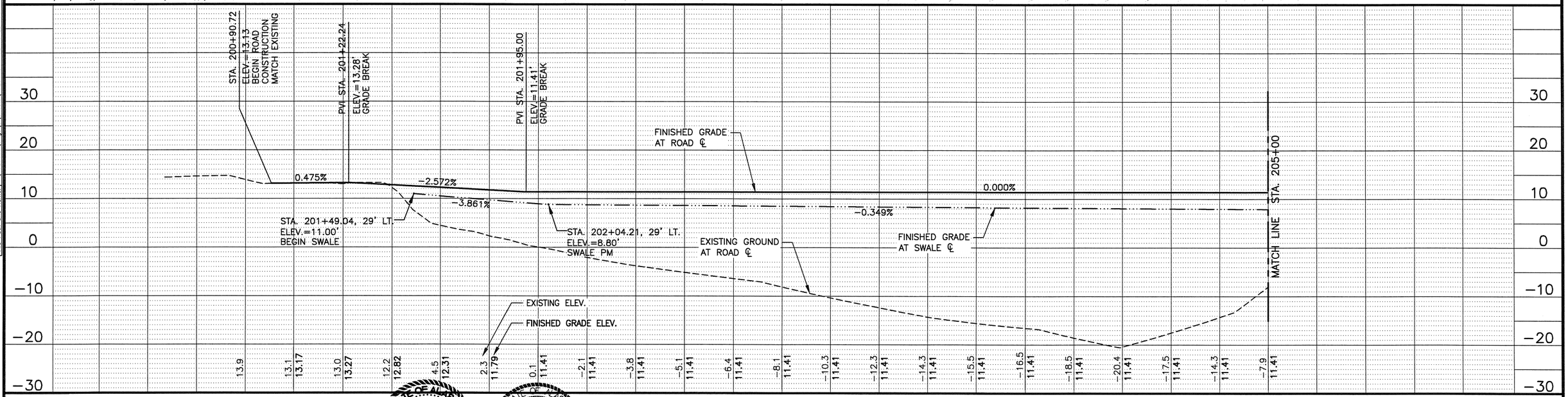
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
TAXIWAY 'B' PLAN AND PROFILE

DATE: JANUARY 13, 2012
SHEET: C22 OF 54
AS-BUILT SHEET:



BALLYHOO RD STA OFF TABLE			
POINT No.	STATION	OFFSET	DESCRIPTION
101	200+86.82	51.81 LT.	PC
102	200+86.57	51.42 RT.	PT
103	201+14.17	56.14 RT.	PC
104	201+63.55	64.00 RT.	RP
105	201+63.55	14.00 RT.	PT
106	201+14.44	56.38 LT.	PC
107	201+63.86	64.00 LT.	RP
108	201+63.86	14.00 LT.	PT
109	201+40.28	35.00 LT.	FENCE CORNER
110	201+96.59	18.00 RT.	GUARDRAIL
111	202+21.59	18.00 RT.	GUARDRAIL
112	202+21.59	35.00 LT.	FENCE PC
113	202+21.59	200.00 LT.	FENCE RP
114	200+82.01	28.89 LT.	STOP SIGN
115	201+32.89	32.65 RT.	STOP SIGN
116	201+65.63	0.00	BEGIN STRIPE
117	200+89.88	24.58 LT.	STOP BAR CENTER
118	201+31.26	25.82 RT.	STOP BAR CENTER
119	201+31.88	49.04 RT.	BEGIN ARMOR



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Checked By:

Date Revised:
Layout Name: Layout1
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1/13/2012, 1:53 PM

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathan G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

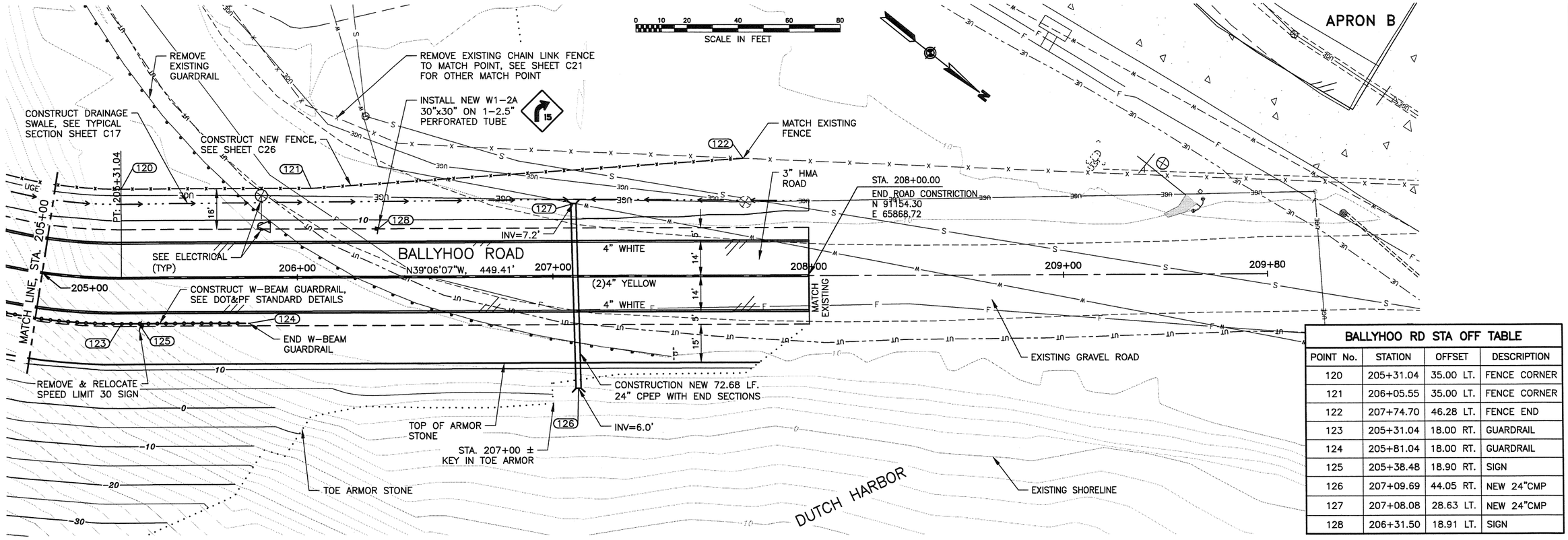
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

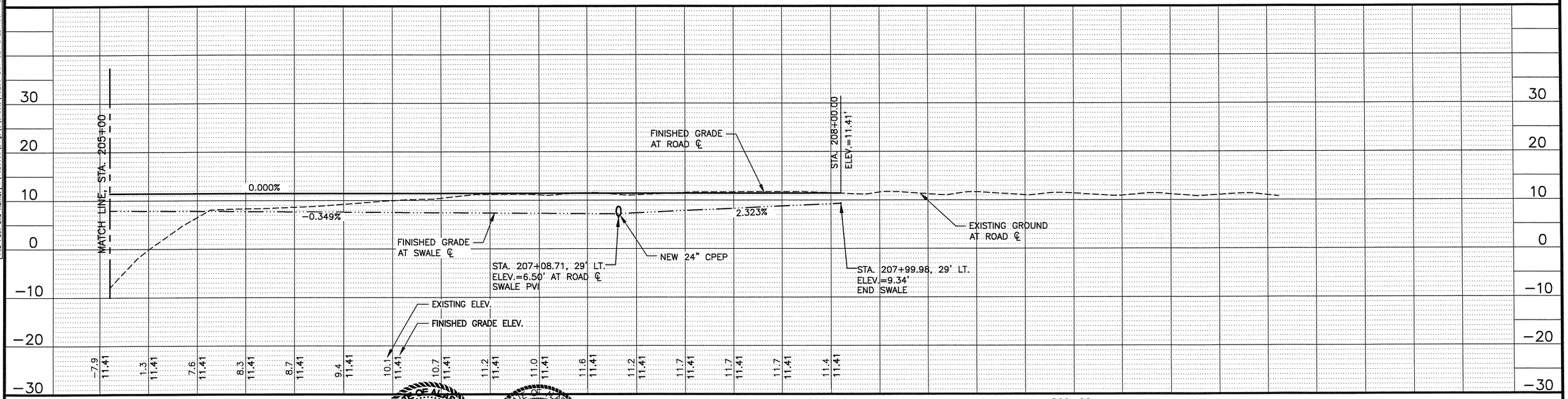
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
BALLYHOO ROAD REALIGNMENT PLAN AND PROFILE

DATE: JANUARY 13, 2012
SHEET: C23 OF 54
AS-BUILT SHEET:



BALLYHOO RD STA OFF TABLE			
POINT No.	STATION	OFFSET	DESCRIPTION
120	205+31.04	35.00 LT.	FENCE CORNER
121	206+05.55	35.00 LT.	FENCE CORNER
122	207+74.70	46.28 LT.	FENCE END
123	205+31.04	18.00 RT.	GUARDRAIL
124	205+81.04	18.00 RT.	GUARDRAIL
125	205+38.48	18.90 RT.	SIGN
126	207+09.69	44.05 RT.	NEW 24"CMP
127	207+08.08	28.63 LT.	NEW 24"CMP
128	206+31.50	18.91 LT.	SIGN



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Checked By:

Date Revised:
Layout Name: 1/13/2012, 1:53 PM Layout1
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STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathon G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

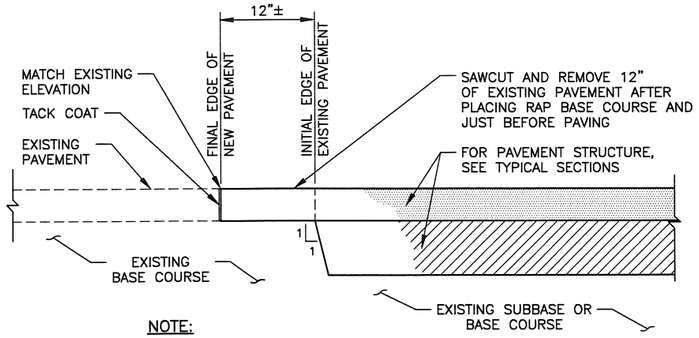
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
BALLYHOO ROAD REALIGNMENT PLAN AND PROFILE

DATE: JANUARY 13, 2012
SHEET: C24 OF 54
AS-BUILT SHEET:

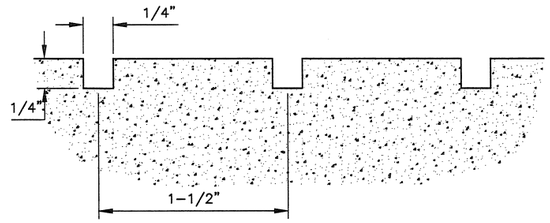


NOTE:

THIS DETAIL APPLIES AT LOCATIONS WHERE NEW PAVEMENT IS PLACED AGAINST EXISTING PAVEMENT.

1 C25 PAVEMENT CUT–MATCH SECTION

SCALE: N.T.S.

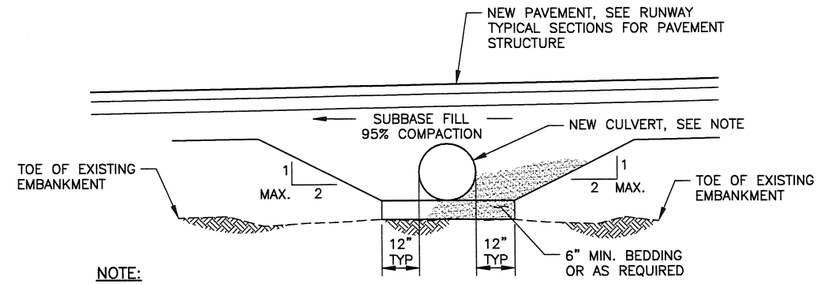


NOTES:

1. SEE SECTION P–630 FOR ADDITIONAL REQUIREMENTS FOR PAVEMENT GROOVING.
2. GROOVE ENTIRE LENGTH OF RUNWAY FROM STA. 142+00 TO 97+00.
3. GROOVE RUNWAY PRIOR TO PLACING PAVEMENT MARKINGS OR AS OTHERWISE APPROVED.

2 C25 RUNWAY PAVEMENT GROOVING DETAIL

SCALE: N.T.S. STA. 97+00 TO 142+00

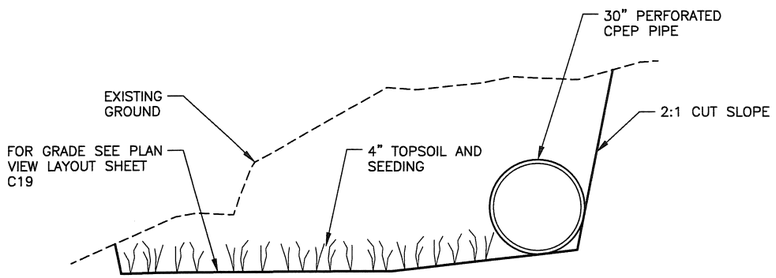


NOTE:

SEE PLAN AND PROFILE SHEETS FOR CULVERT SIZE, LENGTHS, AND LOCATIONS.

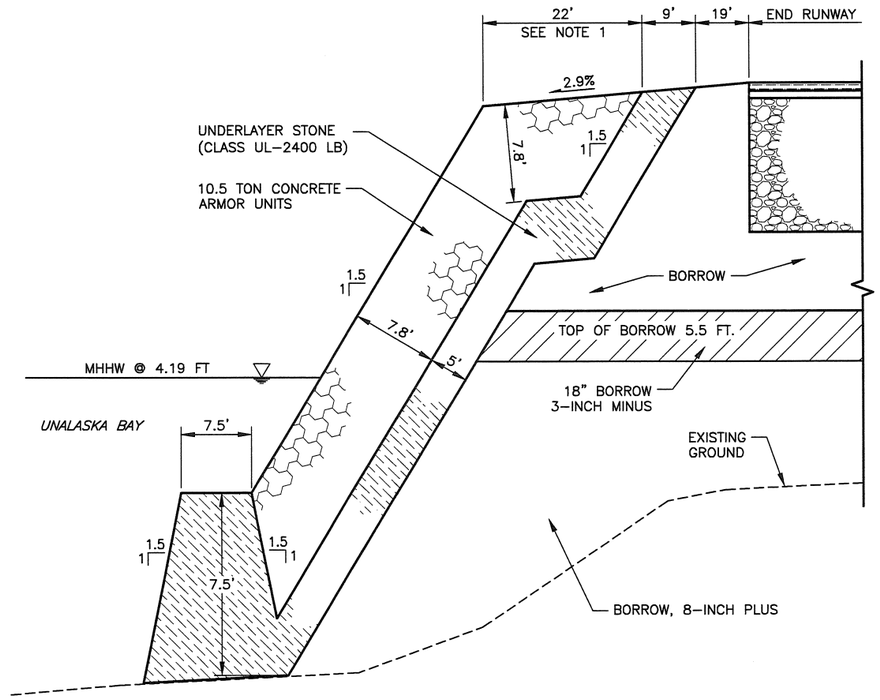
3 C25 TYPICAL CULVERT DETAIL

SCALE: N.T.S.



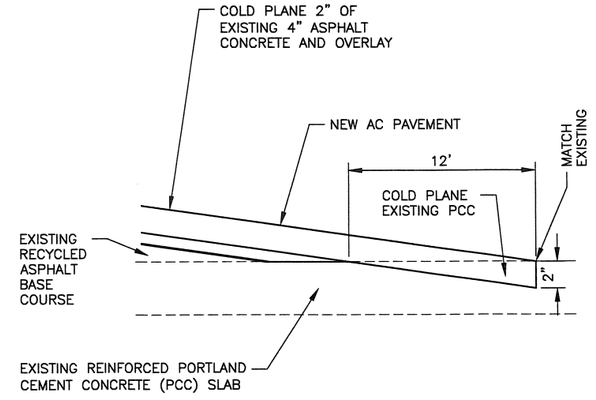
4 C25 VEGETATED TREATMENT AREA BASIN SECTION

SCALE: N.T.S.



5 C25 END FILL SECTION

SCALE: N.T.S.



6 C25 TAXIWAY D CONCRETE MATCH DETAIL

SCALE: N.T.S.

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
DETAILS

DATE: JANUARY 13, 2012
SHEET: C25 OF 54
AS–BUILT SHEET:

Date Revised: 1/13/2012, 1:54 PM
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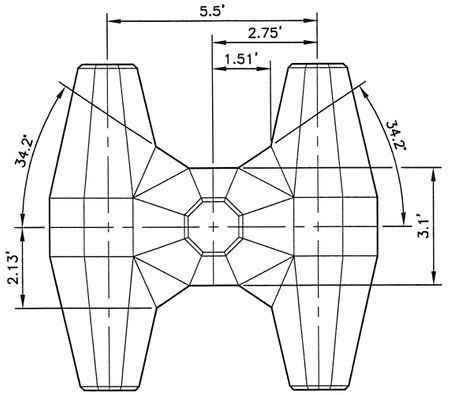
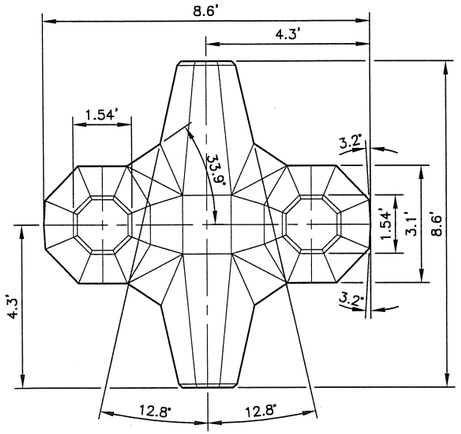
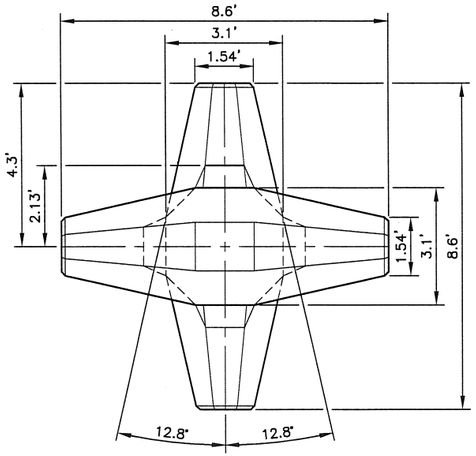
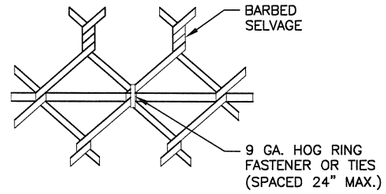
Drawn By:
Checked By:



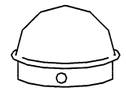




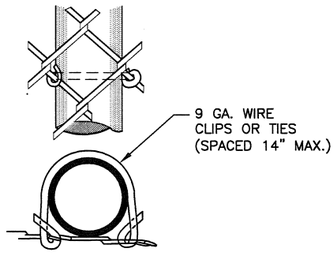
1 C26 10.5 TON CORE-LOC DETAIL
SCALE: N.T.S.



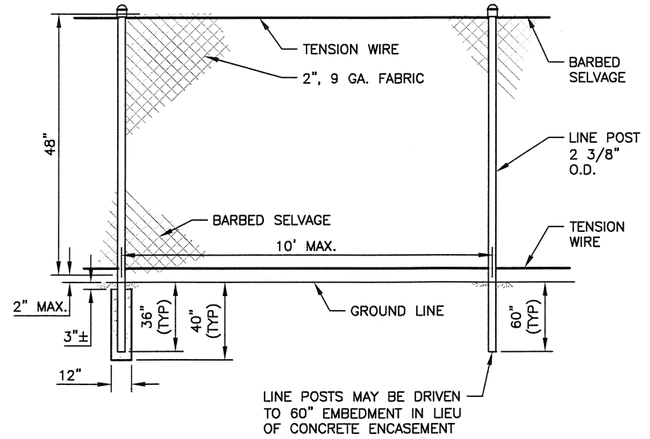
TYPICAL METHOD OF TYING FABRIC TO TENSION WIRE



ACORN OR DOME CAP FOR GATE/TERMINAL POST



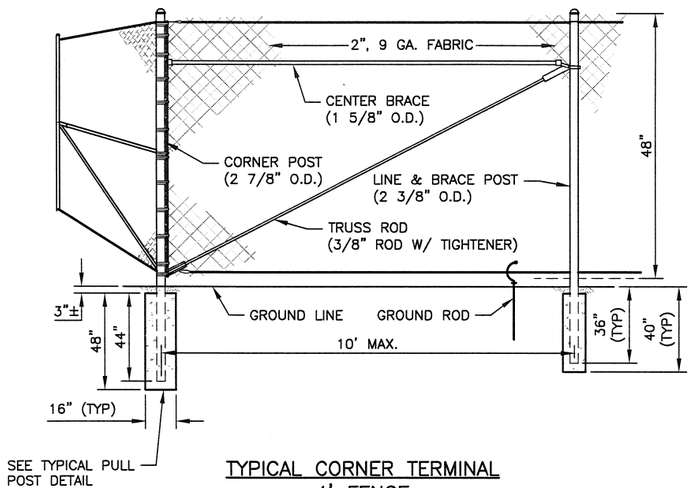
TYPICAL METHOD OF TYING FABRIC TO TUBULAR POSTS



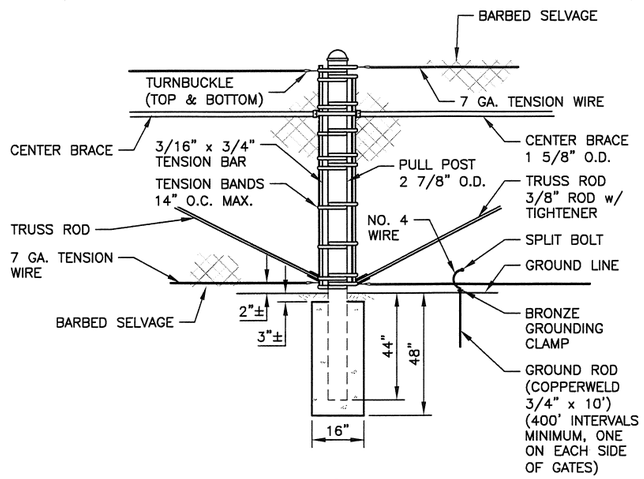
TYPICAL LINE SECTION
4' FENCE

NOTES:

1. ALL CONCRETE USED FOR FENCE FOOTINGS SHALL BE 3000 PSI MINIMUM.
2. FINISHED CONCRETE TO BE RECESSED BELOW THE GROUND LINE. BACKFILL AND COMPACT AROUND RECESSED CONCRETE WITH EXCAVATED MATERIAL (TYPICAL ALL CONCRETE POSTS IN GROUND)
3. FINISHED CONCRETE TO BE FLUSH WITH PAVEMENT. (TYP. ALL CONCRETE POSTS IN PAVEMENT)



TYPICAL CORNER TERMINAL
4' FENCE



TYPICAL PULL/TERMINAL POST
4' FENCE

STATE OF ALASKA 49TH
Zane W. Shanklin
CE 7056
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH
Johnathon G. Limb
No. CE 11243
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
DETAILS

DATE: JANUARY 13, 2012
SHEET: C26 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:
Date Revised:
Layout Name: DETAILS
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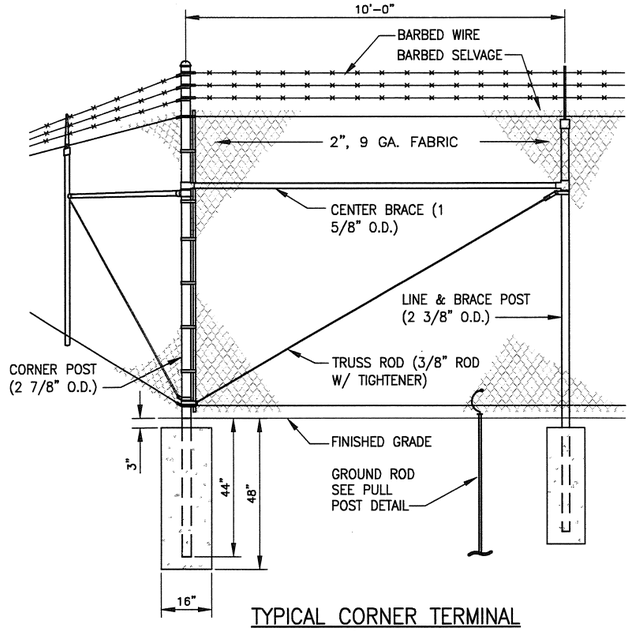
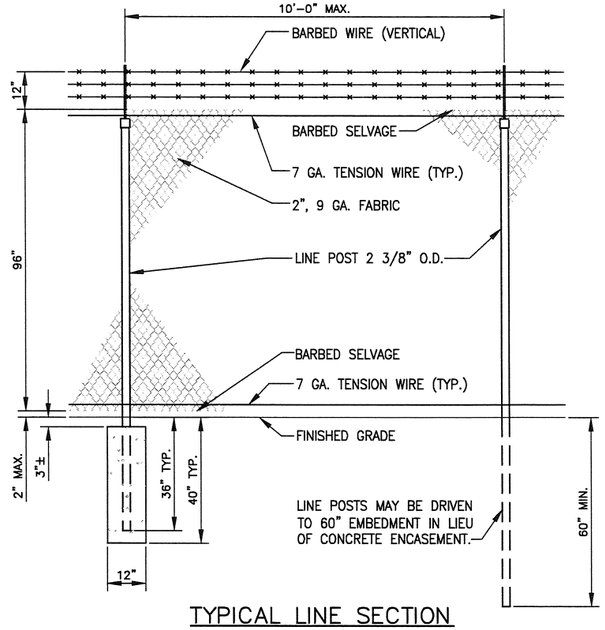


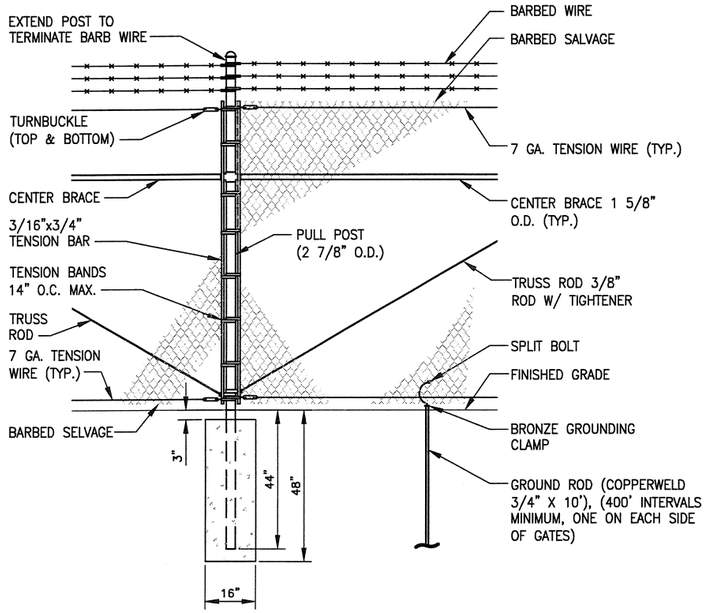
TYPICAL CORNER TERMINAL 8' FENCE



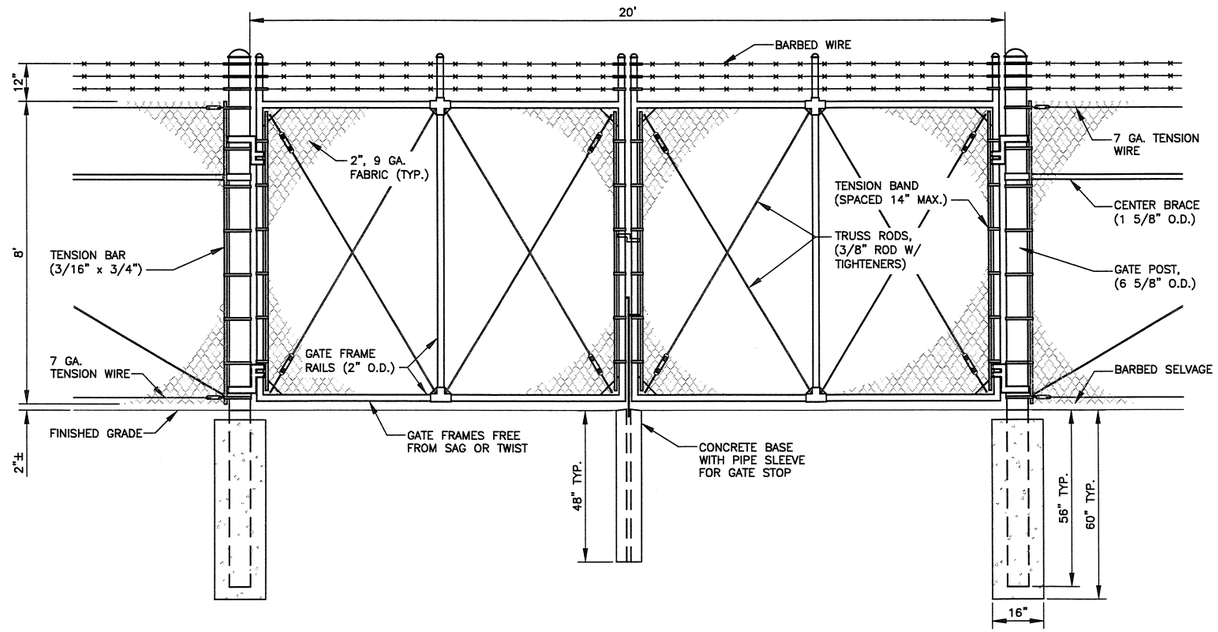
TYPICAL LINE SECTION 8' FENCE

NOTES:

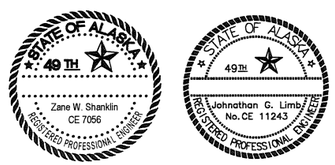
1. ALL CONCRETE USED FOR FENCE FOOTINGS SHALL BE 3000 PSI MINIMUM.
2. FINISHED CONCRETE TO BE RECESSED BELOW THE GROUND LINE. BACKFILL AND COMPACT AROUND RECESSED CONCRETE WITH EXCAVATED MATERIAL (TYPICAL ALL CONCRETE POSTS IN GROUND)
3. FINISHED CONCRETE TO BE FLUSH WITH PAVEMENT. (TYP. ALL CONCRETE POSTS IN PAVEMENT)



TYPICAL PULL / TERMINAL POST 8' FENCE



20' DOUBLE SWING GATE



PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
FENCE DETAILS

DATE: JANUARY 13, 2012
SHEET: C27 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:54 PM
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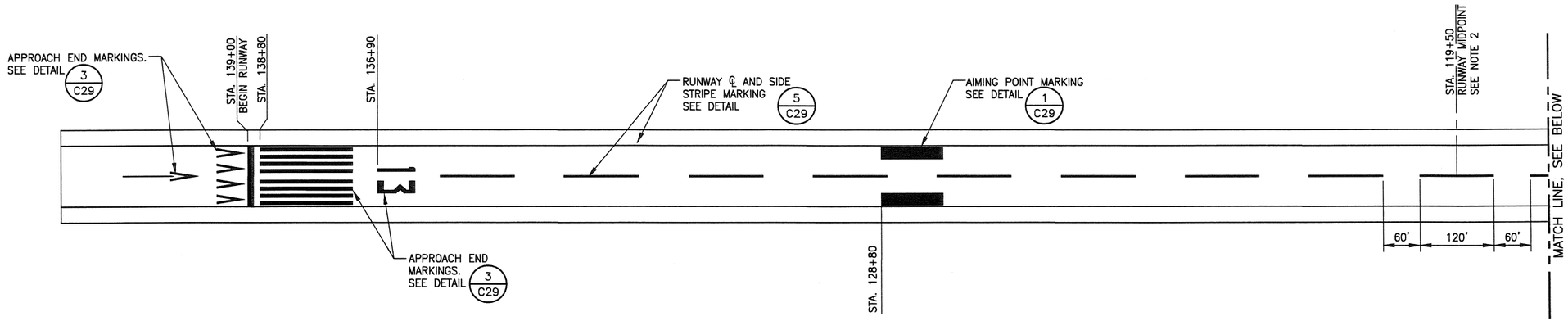
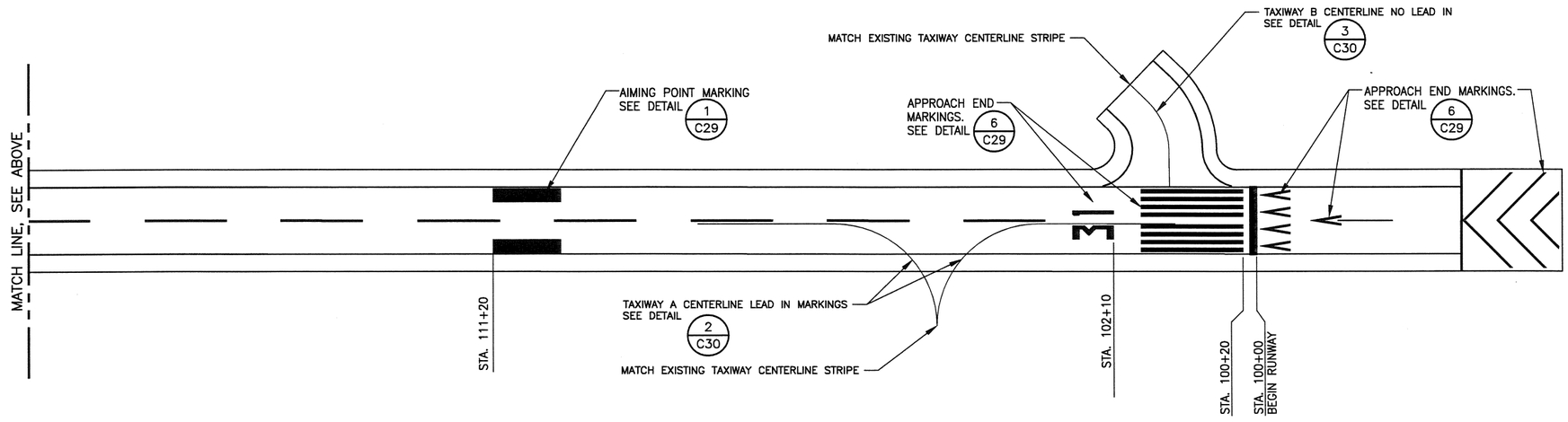
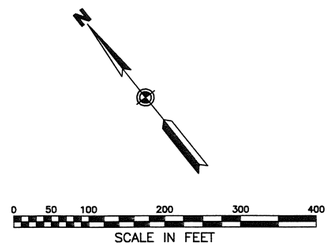






MARKING NOTES:

1. SEE LATEST VERSION OF ADVISORY CIRCULAR (AC) 150/5340-1 FOR ADDITIONAL GUIDANCE AND REQUIREMENTS FOR AIRPORT MARKINGS. ALL MARKINGS MUST CONFORM TO REQUIREMENTS PRESENTED IN THE AC.
2. LAYOUT RUNWAY CENTERLINE SPACING FROM BOTH ENDS TOWARD MID POINT OF RUNWAY. MAINTAIN 120' CENTERLINE STRIPES AND 80' SPACES AND ADJUST AT MID POINT.
3. ALL RUNWAY MARKINGS ARE WHITE UNLESS OTHERWISE INDICATED.
4. ALL TAXIWAY MARKINGS ARE AVIATION YELLOW UNLESS OTHERWISE INDICATED.
5. APPLY GLASS BEADS TO ALL MARKINGS.
6. ALL CENTERLINE STRIPES ARE DIMENSIONED TO CENTER OF STRIPE. ALL EDGE STRIPES ARE DIMENSIONED TO OUTERMOST EDGE OF STRIPE.
7. RUNWAY MARKINGS TAKE PRECEDENCE OVER TAXIWAY MARKINGS. BREAK TAXIWAY CENTERLINE LEAD IN SO RUNWAY MARKINGS ARE NOT OBSCURED.

STATE OF ALASKA 49TH
Zane W. Shanklin
CE 7056
REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH
Johnathan G. Limb
No. CE 11243
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

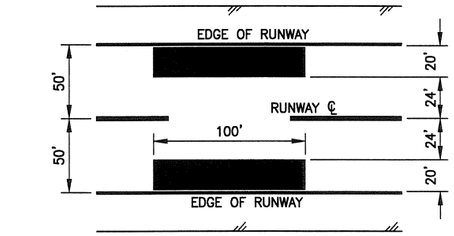
BY	DATE	REVISION

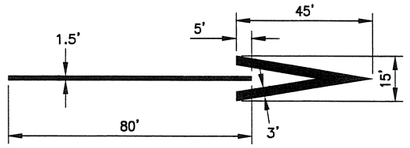
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
RUNWAY MARKING PLAN

DATE: JANUARY 13, 2012
SHEET: C28 OF 54
AS-BUILT SHEET:

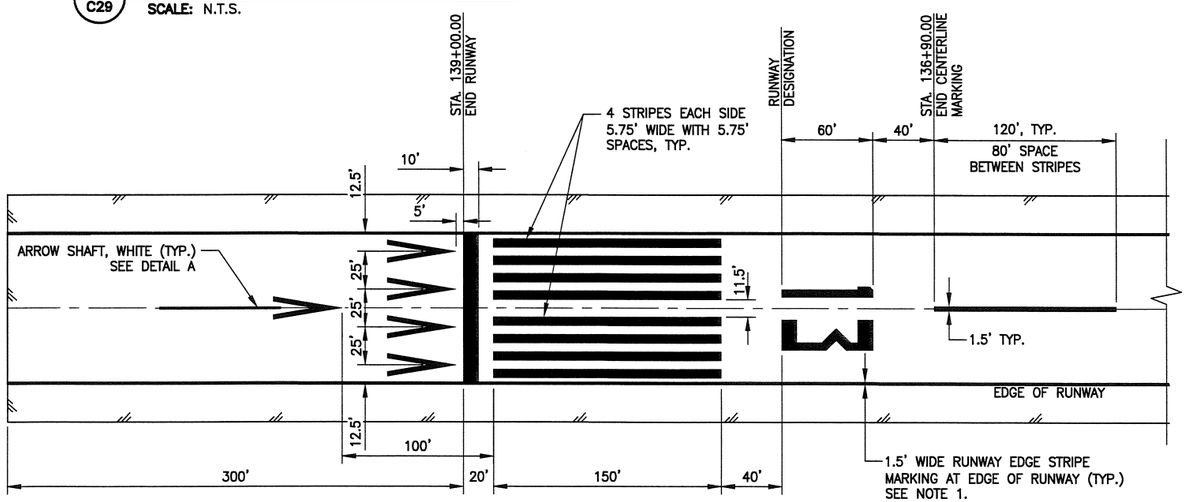
Designed By:	
Drawn By:	
Checked By:	
Date Revised:	1/13/2012, 1:54 PM
Layout Name:	RW MARK PLN
File Path and Name:	I:\132060D\Dwgs\C\Sheets\13206-DUT-C28 RNWY MRK PLN.dwg



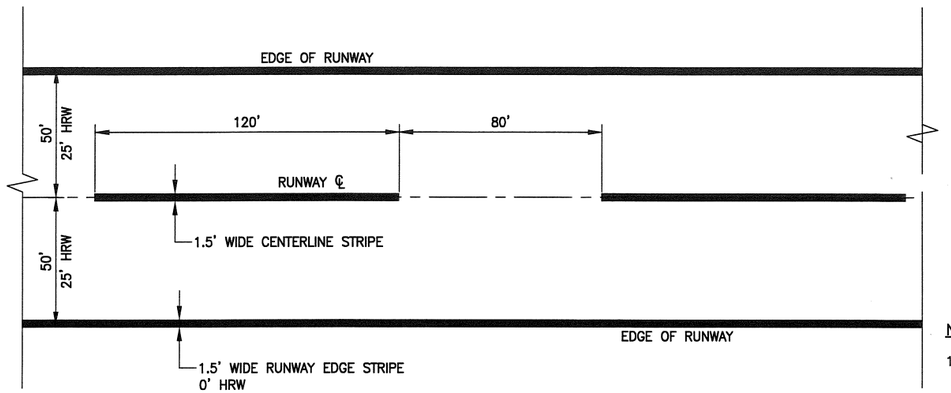


DETAIL A

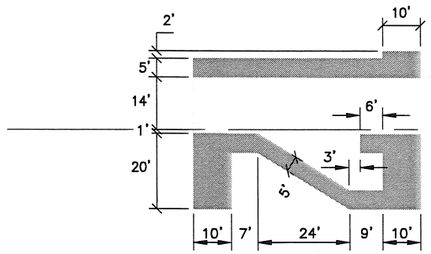
1 C29 AIMING POINT MARKING DETAIL
SCALE: N.T.S.



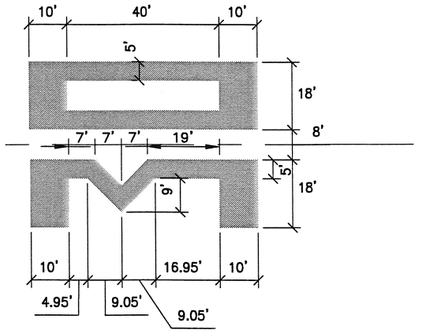
3 C29 RUNWAY 13 APPROACH END MARKING DETAIL
SCALE: N.T.S.



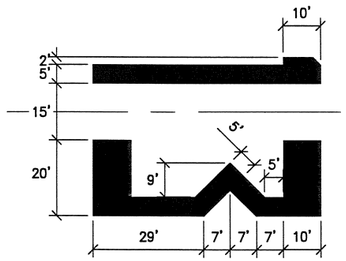
5 C29 RUNWAY CENTERLINE AND SIDE STRIPE MARKING DETAIL
SCALE: N.T.S.



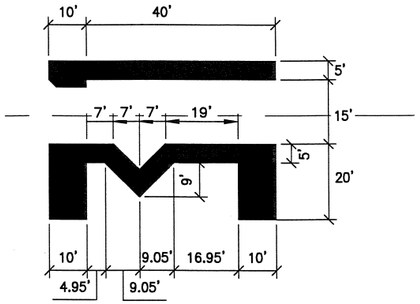
℄ ACTIVE RUNWAY



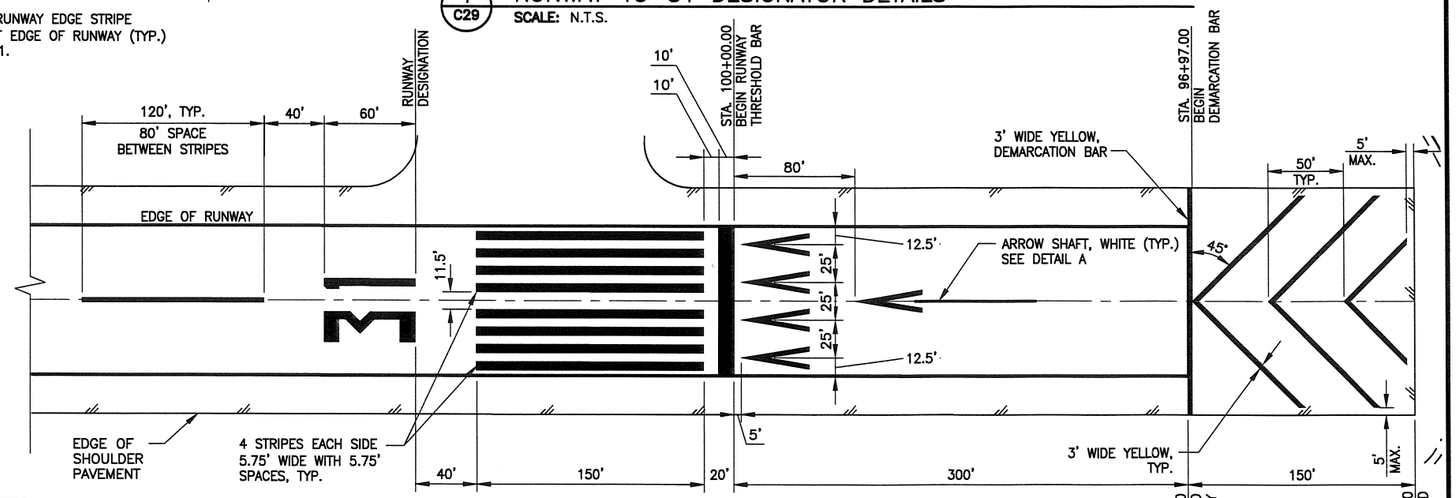
2 C29 RUNWAY 12–30 DESIGNATOR DETAILS FOR TEMPORARY HALF WIDTH RUNWAY MARKINGS ONLY
SCALE: N.T.S.



℄ RUNWAY



4 C29 RUNWAY 13–31 DESIGNATOR DETAILS
SCALE: N.T.S.



6 C29 RUNWAY 31 APPROACH END MARKING DETAIL
SCALE: N.T.S.

NOTES:

1. RUNWAY EDGE STRIPE IS DIMENSIONED FROM THE RUNWAY CENTERLINE TO THE OUTER MOST EDGE OF THE EDGE STRIPE.
2. ALL RUNWAY MARKINGS ARE WHITE UNLESS OTHERWISE INDICATED.
3. HALF WIDTH RW DESIGNATION WILL MATCH THE NON–STANDARD DIMENSIONS SHOWN IN 2/C29 ABOVE. NOTE 12 DESIGNATOR IS NOT CENTERED ON ACTIVE RW DUE TO PROXIMITY OF RW EDGE.
4. DIMENSIONS FOR HALF WIDTH RUNWAY MARKINGS ARE SUFFIXED WITH HRW. ALL OTHER DIMENSIONS REMAIN THE SAME FOR HALF WIDTH MARKINGS.

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathon G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

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USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
RUNWAY MARKING DETAILS

DATE: JANUARY 13, 2012
SHEET: C29 OF 54
AS–BUILT SHEET:

Designed By:
Drawn By:
Checked By:

Date Revised:
Layout Name: RW MARK DTLS
File Path and Name: I:\1320600\Dwgs\C\Sheets\13205-DUT-C29 RWY MRK DTL.dwg

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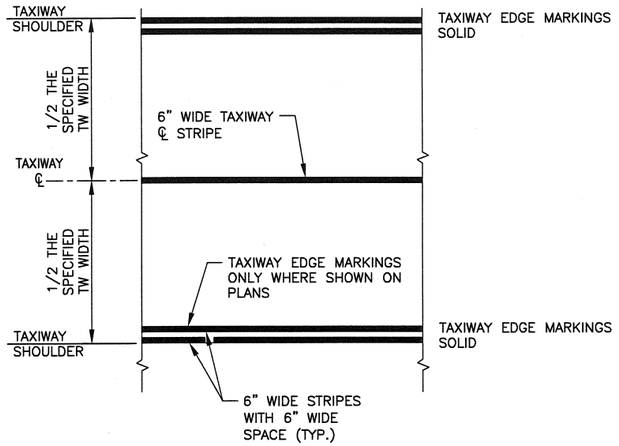
NOTE:

TAXIWAY EDGE MARKINGS ARE PAINTED ENTIRELY ON THE FULL DEPTH PAVEMENT SECTION. NOT ON THE SHOULDER PAVEMENT. TAXIWAY MARKINGS ARE YELLOW, UNLESS SPECIFIED OTHERWISE.

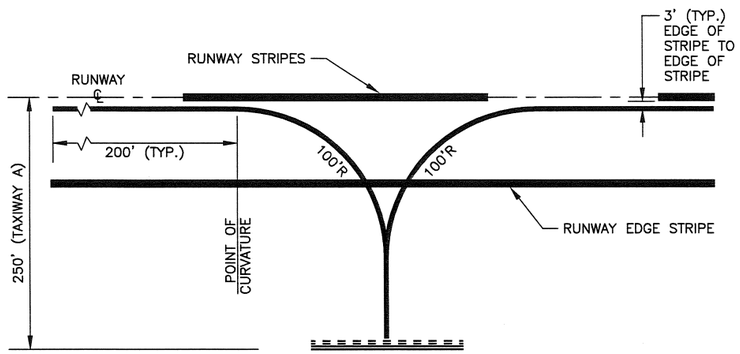


1 C30 TAXIWAY EDGE STRIPE MARKING DETAIL

SCALE: N.T.S.

NOTE:

RUNWAY MARKINGS HAVE PRECEDENCE OVER TAXIWAY MARKINGS. BREAK TAXIWAY MARKINGS WHERE THEY CROSS ANY RUNWAY MARKINGS.



NOTE:

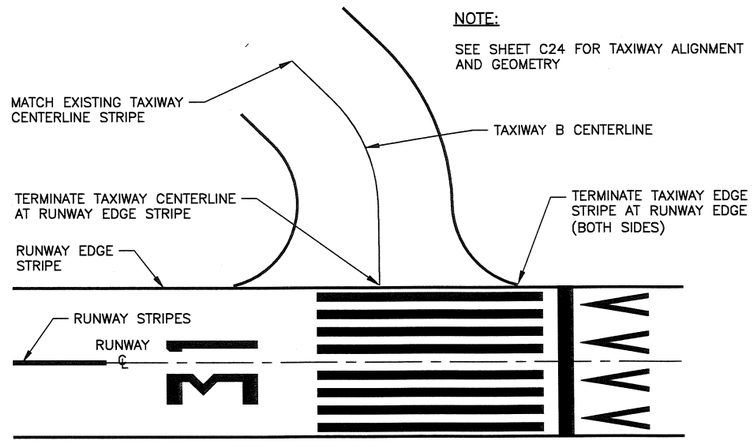
MATCH EXISTING TAXIWAY EDGE STRIPING.

2 C30 TAXIWAY A – CENTERLINE LEAD IN

SCALE: N.T.S.

NOTE:

SEE SHEET C24 FOR TAXIWAY ALIGNMENT AND GEOMETRY



3 C30 TAXIWAY B – NO LEAD IN

SCALE: N.T.S.

Date Revised:	1/13/2012, 1:54 PM
Layout Name:	MARK DTLS
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Checked By:	

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

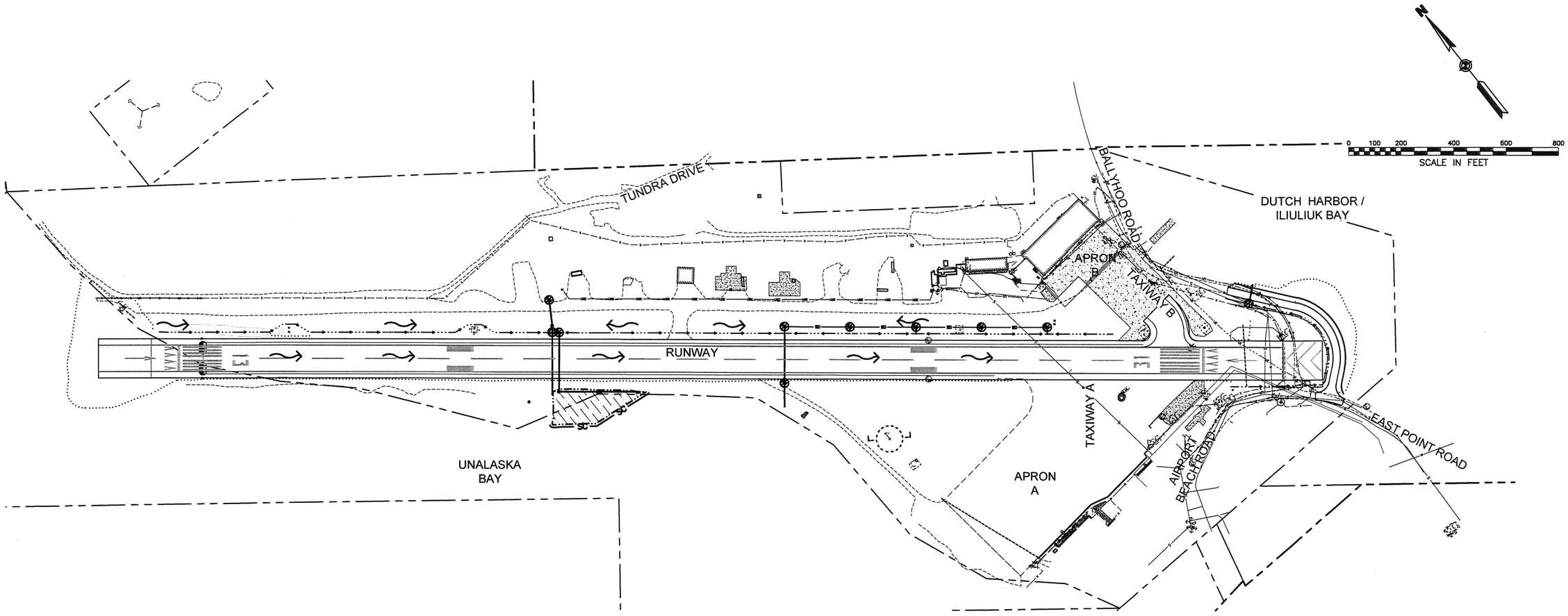
BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
MARKING DETAILS

DATE: JANUARY 13, 2012
SHEET: C30 OF 54
AS-BUILT SHEET:

Designed By:	
Drawn By:	
Checked By:	
Date Revised:	1/13/2012, 2:17 PM
Layout Name:	ESCP SITE MAP
File Path and Name:	I:\1320600\Dwgs\C\Sheets\13206-DUT-ESCP-SITE.dwg



LEGEND:

- EDGE OF WATER
- SD — STORM DRAIN PIPE
- TOE OF SLOPE LIMIT
- PROPOSED CULVERT
- EXISTING CULVERT
- FLOW ARROWS
- INLET PROTECTION
- DITCH AND FLOW DIRECTION
- SC — SC — SEDIMENT CONTROL

ESCP NOTES:

1. THE CONTRACTOR SHALL DEVELOP A SINGLE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) THAT SHALL COMPLY WITH THE ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES) REQUIREMENTS FOR STORM WATER DISCHARGE FROM THE PROJECT CONSTRUCTION SITE.
2. NO EARTHWORK WILL BE ALLOWED UNTIL THE SWPPP HAS BEEN APPROVED AND IMPLEMENTED.
3. THE CONTRACTOR SHALL MINIMIZE THE AREA AND TIME PERIOD ERODIBLE SOILS ARE EXPOSED TO STORM WATER. DISTURBED AREAS SHALL BE STABILIZED WITHIN 7 DAYS.
4. ALL BMPS SHALL BE MAINTAINED ON A DAILY BASIS INCLUDING, BUT NOT LIMITED TO, REMOVAL AND DISPOSAL OF ACCUMULATED SOILS, CLEANING BMPS, AND REPLACEMENT OF DAMAGED BMPS.
5. THE CONTRACTOR SHALL USE WATER OR NON-CORROSIVE NON-TOXIC DUST CONTROL PALLIATIVES TO CONTROL DUST.
6. THE CONTRACTOR SHALL NOT MAINTAIN EQUIPMENT OR PERFORM FUELING OPERATIONS WITHIN 100 FEET OF A WATER BODY.
7. THE CONTRACTOR SHALL DISPOSE OF UNCONTAMINATED GROUND WATER BY PUMPING THROUGH A FILTER BAG OR DEWATERING BASIN TO REMOVE SEDIMENT BEFORE DISCHARGE.
8. THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL AS SHOWN ON PLANS, AND AS NECESSARY, TO PREVENT MIGRATION OF SEDIMENT USING SILT CURTAIN OR INLET PROTECTION.
9. THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENT CONTROL AROUND ALL STOCKPILE AREAS.
10. ALL STORM WATER DISCHARGES TO A SURFACE WATER.

STATE OF ALASKA 49TH — Zane W. Shanklin CE 7056 — REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH — Johnathan G. Limb No. CE 11243 — REGISTERED PROFESSIONAL ENGINEER

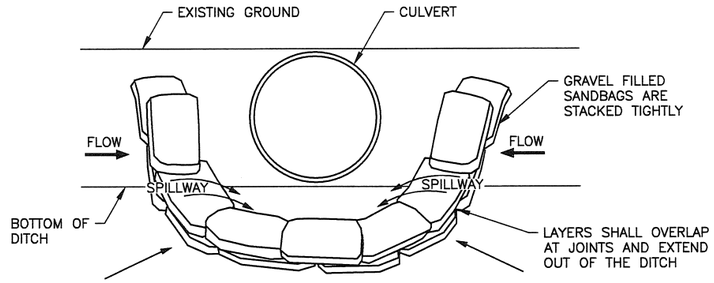
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
EROSION AND SEDIMENT CONTROL PLAN

DATE: JANUARY 13, 2012
SHEET: OF 54
AS-BUILT SHEET:



NOTES:

1. CULVERT COVERING OR OTHER INLET PROTECTION MAY BE USED; HOWEVER FLOW SHALL NOT BE BLOCKED.
2. SANDBAGS SHALL BE BRIGHTLY COLORED YELLOW AND MADE OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC FILLED WITH WASHED GRAVEL.
3. LEAVE A ONE SANDBAG GAP IN TOP ROW IN LINE WITH FLOW DIRECTION TO PROVIDE SPILLWAY OF A MINIMUM 3".

MAINTENANCE NOTES:

1. CONFIRM THAT SANDBAGS ARE NOT PACKED WITH SEDIMENT AND REMOVE VISIBLE ACCUMULATIONS.
2. CONFIRM THAT SANDBAGS ARE IN FULL CONTACT WITH DITCH BOTTOM AND THAT BYPASS ROUTES ARE NOT PRESENT.
3. REPLACE DAMAGED SANDBAGS.

1 CULVERT INLET PROTECTION DETAIL
SCALE: N.T.S.

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Drawn By:	
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Date Revised:	1/13/2012, 2:17 PM
Layout Name:	Layout1
File Path and Name:	I:\1320600\Dwgs\C\Sheets\1320600-DUT-ESCP-DTLS.dwg

STATE OF ALASKA 49TH Zane W. Shanklin CE 7056 REGISTERED PROFESSIONAL ENGINEER

STATE OF ALASKA 49TH Johnathon G. Limb No. CE 11243 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ESCP DETAILS

DATE: JANUARY 13, 2012
SHEET: OF 54
AS-BUILT SHEET:

Designed By:	
Drawn By:	
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Date Revised:	1/13/2012, 1:55 PM
Layout Name:	ELEC NOTES LGND
File Path and Name:	E:\1320600\Dwgs\E\Sheets\13206-DUT-E01 NOTES LGND.dwg

GENERAL ELECTRICAL NOTES:

1. LOCATIONS OF EXISTING EQUIPMENT, CONDUIT, ETC ARE TAKEN FROM ASBUILT DRAWINGS AND SHALL BE FIELD VERIFIED. OBTAIN LOCATES OF EXISTING SYSTEMS AND EXCAVATE WITH CAUTION.
2. REMOVE LIGHTS, SIGNS, AND OTHER EQUIPMENT AS INDICATED ON DEMOLITION PLANS. REMOVAL INCLUDES ALL ASSOCIATED CONDUIT, CONDUCTORS, LIGHT BASES, TRANSFORMERS, CONTROLLERS, DRAIN CONDUITS, FOUNDATIONS, AND CONCRETE, UNLESS OTHERWISE INDICATED. ALL REMOVED LIGHTS, SIGNS, TRANSFORMERS, AND WIND CONES SHALL BE OFFERED TO AIRPORT MAINTENANCE. DISPOSAL OF LIGHTING EQUIPMENT DEEMED NON-SALVAGABLE BY AIRPORT MAINTENANCE AND REMOVED CONDUIT, CONDUCTORS, LIGHT BASES, CONCRETE, AND OTHER MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT AN APPROVED SITE OFF OF AIRPORT PROPERTY IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS. DISPOSAL COSTS SHALL BE SUBSIDIARY TO THE CONTRACT.
3. REMOVAL OF EXISTING LIGHTED SIGNS IS SUBSIDIARY TO ITEM L-100n.
4. COORDINATE ALL LIGHTING OUTAGES CAUSED BY DISCONNECTIONS, CIRCUIT CHANGES, OR OTHER WORK WITH THE PROJECT ENGINEER. SCHEDULE INSTALLATION OF CONDUCTORS AND OTHER EQUIPMENT TO MINIMIZE QUANTITY AND DURATION OF OUTAGES.
5. COMPLETE ALL EXCAVATION AND TRENCHING PRIOR TO THE FINISH SURFACE ASPHALT BEING PLACED.
6. ALL AIRFIELD LIGHTING CONDUCTORS SHALL BE FAA TYPE C.
7. INSTALL A #6 BARE COPPER GROUNDING CONDUCTOR WITH ALL LIGHTING AND SIGN CIRCUIT CONDUCTORS.
8. DRAWINGS SHOW THE ENTIRE PROJECT. WORK SHALL BE COMPLETED IN PHASES IN ACCORDANCE WITH THE PROJECT CONSTRUCTION AND SAFETY PLANS.

SHEET NOTES: (X)

1. EXISTING OBSTRUCTION LIGHTS ON FENCE LINE TO REMAIN. REPAIR CONDUITS AND JUNCTION BOXES, AND SUPPORT CONDUIT ALONG FENCE. SEE DETAIL 4/E04.
2. INSTALL HANDHOLE TO CAPTURE EXISTING CONDUIT. EXTEND NEW CONDUCTORS THROUGH EXISTING CONDUIT TO EXISTING EQUIPMENT.
3. PULL SUFFICIENT CONDUCTOR BACK INTO HANDHOLE TO ALLOW SPLICING TO NEW CONDUCTORS. LABEL CONDUCTORS TO FACILITATE RECONNECTION OF EXISTING CIRCUITS TO NEW CONDUCTORS.
4. REMOVE EXISTING LIGHT FIXTURES, BASEPLATES, TRANSFORMERS, AND CONDUCTORS IN THIS AREA. LIGHT BASES AND CONDUIT TO BE REUSED.
5. NEW LIGHTS IN THIS AREA WILL REQUIRE SAW CUTTING AND CORE DRILLING OF EXISTING CONCRETE APRON.
6. INSTALL NEW TAXIWAY LIGHTS, TRANSFORMERS, AND CONDUCTORS ON/IN EXISTING LIGHT BASES AND CONDUITS IN THIS AREA. SEE TAXIWAY EDGE LIGHT SCHEDULE FOR INFORMATION ON WORK AT SPECIFIC LIGHTS.
7. LOCATE EXISTING CONDUIT, CUT, EXTEND, AND INSTALL NEW CONDUCTORS AS INDICATED.
8. REMOVE CONDUIT AND CONDUCTORS TO THIS POINT (POINT OF NEW WORK CONNECTION). FIELD VERIFY EXACT EXTENT OF REMOVAL.
9. REMOVE CONDUCTORS FROM EXISTING CONDUIT. CONDUIT TO BE REUSED FOR INSTALLATION OF NEW CONDUCTORS.
10. FIELD VERIFY ROUTING OF 2400V FAA POWER FEEDER.
11. ROUTE CONDUITS BETWEEN EDGE OF PAVEMENT AND DRAINAGE SWALE.
12. CONNECT NEW CONDUIT TO EXISTING HANDHOLE. REUSE EXISTING CONDUIT OPENING OR DRILL NEW OPENING AS REQUIRED. SEAL ANY UNUSED OPENINGS.

ELECTRICAL PLAN LEGEND

- EXISTING LIGHT TO REMAIN/BE REMOVED
- NEW RUNWAY EDGE LIGHT, OMNI-DIRECTIONAL
- NEW RUNWAY EDGE LIGHT, BI-DIRECTIONAL
- NEW RUNWAY THRESHOLD LIGHT, BI-DIRECTIONAL
- NEW RUNWAY END LIGHT, 360° RED
- NEW SEMI-FLUSH RUNWAY EDGE LIGHT, BI-DIRECTIONAL
- TAXIWAY EDGE LIGHT, 360° BLUE
- EXISTING LIGHTED AIRPORT SIGN TO REMAIN/BE REMOVED
- NEW LIGHTED AIRPORT SIGN
- SERIES LIGHTING CIRCUIT, TICK MARKS INDICATE NUMBER OF 5KV SERIES CONDUCTORS IN HDPE CONDUIT (2 SHOWN), INCLUDE GROUND CONDUCTOR (NOT SHOWN), TICK MARKS NOT SHOWN ON SHORT SEGMENTS OR IN CONGESTED AREAS FOR CLARITY
- SERIES LIGHTING CIRCUIT, TICK MARKS INDICATE NUMBER OF 5KV SERIES CONDUCTORS IN CONCRETE ENCASED RIGID STEEL CONDUIT (2 SHOWN), INCLUDE GROUND CONDUCTOR (NOT SHOWN), TICK MARKS NOT SHOWN ON SHORT SEGMENTS OR IN CONGESTED AREAS FOR CLARITY
- EXISTING CONDUIT
- HDPE CONDUIT CABLE WITH CONDUCTORS AS INDICATED
- CONCRETE ENCASED RIGID STEEL CONDUIT WITH CONDUCTORS AS INDICATED
- GROUND ROD, 3/4"x10' TYPICAL
- NEW HANDHOLE (HH), TYPE I (LIGHT BASE WITH BLANK COVER)
- EXISTING ELECTRICAL MANHOLE TO REMAIN/BE REMOVED
- NEW ELECTRICAL MANHOLE OR JUNCTION BOX (TYPE II) AS INDICATED
- EXISTING TRANSFORMER TO REMAIN/BE REMOVED
- NEW TRANSFORMER
- --UGE-- EXISTING PRIMARY UNDERGROUND ELECTRICAL LINE TO REMAIN/BE REMOVED
- -UGE- NEW PRIMARY UNDERGROUND ELECTRICAL LINE
- WIND CONE
- REIL FIXTURE
- (W) WEATHER SENSOR

UON	UNLESS OTHERWISE NOTED
EMT	ELECTRICAL METALLIC TUBING
RMC	RIGID METALLIC CONDUIT (GALVANIZED STEEL)
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
C	CONDUIT
BC	BARE COPPER
TYP	TYPICAL
GRD	GROUND
LHA	LIGHT HOUSING ASSEMBLY
VASI	VISUAL APPROACH SLOPE INDICATOR

EQUIPMENT NUMBER, SEE SCHEDULES ON SHEETS E08-E09

TX	TAXIWAY EDGE LIGHT
RX	RUNWAY EDGE LIGHT
JBX	JUNCTION BOX
HHX	HANDHOLE
SX	LIGHTED SIGN

(X) REFERENCE TO SHEET NOTE

LIGHT COLORS AND DISTRIBUTIONS

B	BLUE
Y	YELLOW
G	GREEN
R	RED
W	WHITE
O	OBSCURED/BLANK
BI	BI-DIRECTIONAL
UNI	UNI-DIRECTIONAL
OMNI	OMNI-DIRECTIONAL

STATE OF ALASKA 49TH
LUCAS SCHNELLER EE-11399 REGISTERED PROFESSIONAL ENGINEER

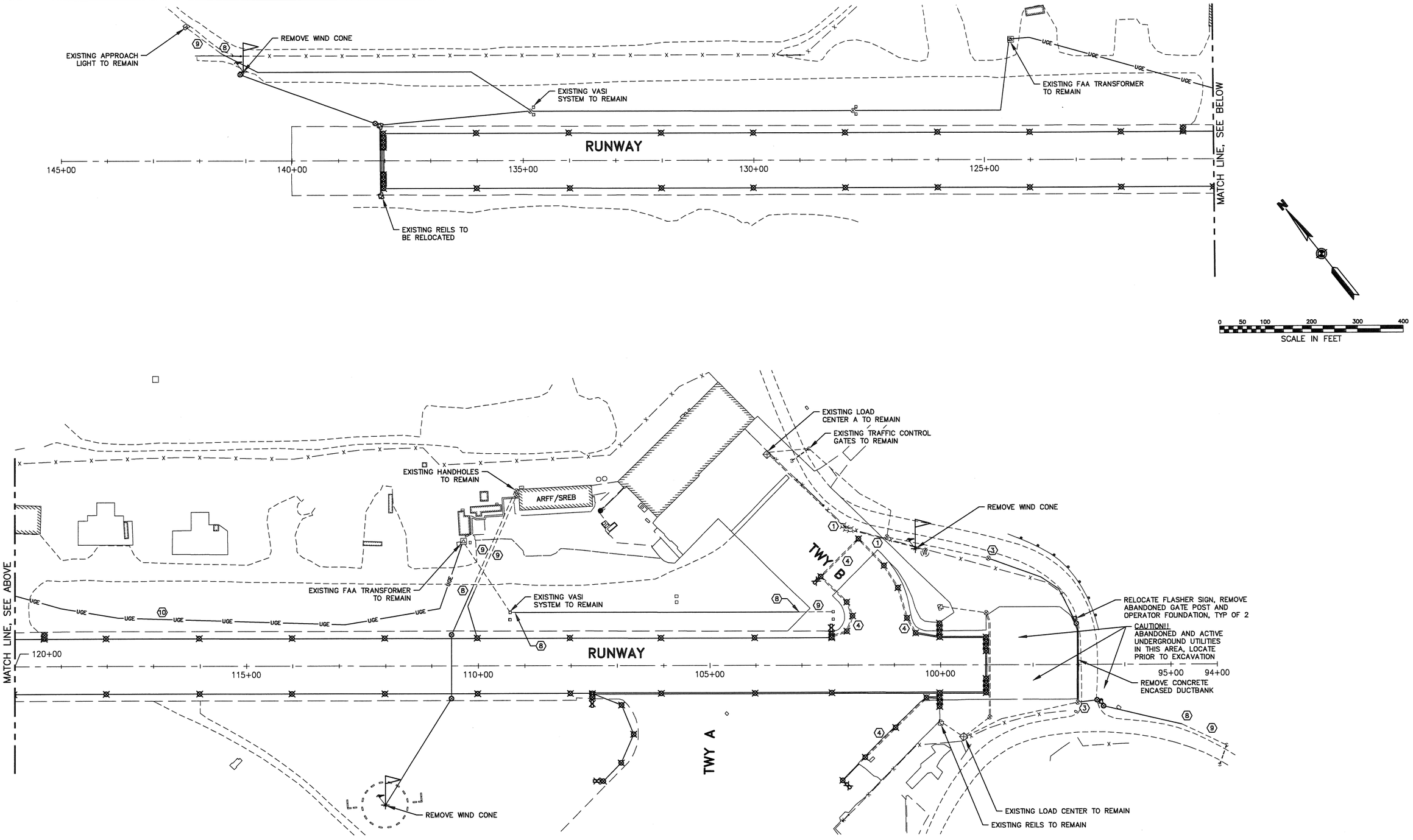
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ELECTRICAL NOTES AND LEGEND

DATE: JANUARY 13, 2012
SHEET: E01 OF 54
AS-BUILT SHEET:



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Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:55 PM
Layout Name: ELEC DEMO
File Path and Name: I:\1320600\Dwgs\E\Sheets\13206-DUT-E02 ELEC DEMO.dwg

STATE OF ALASKA
49 TH
LUCAS SCHNELLER
EE-11399
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

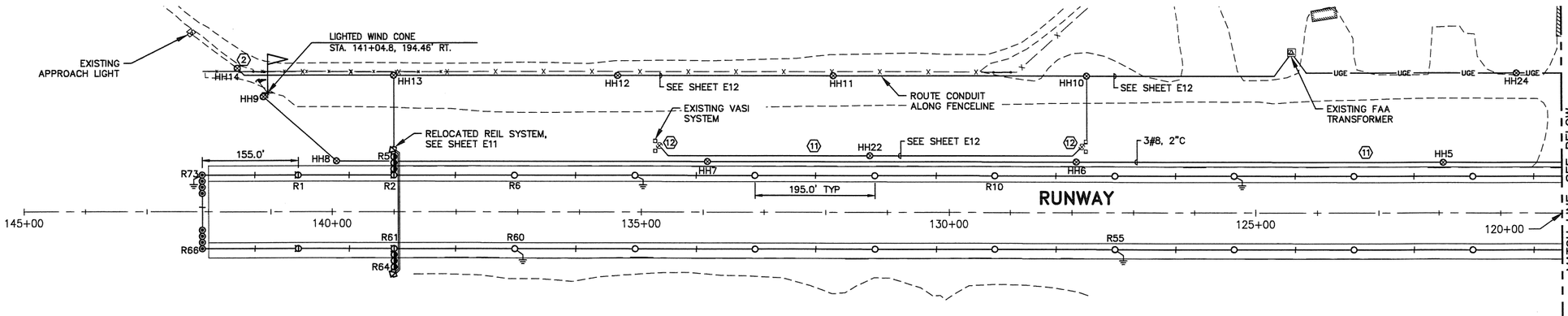
BY	DATE	REVISION

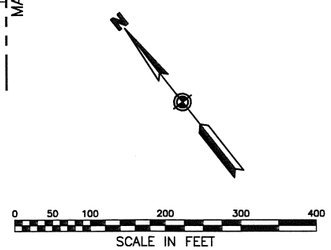
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

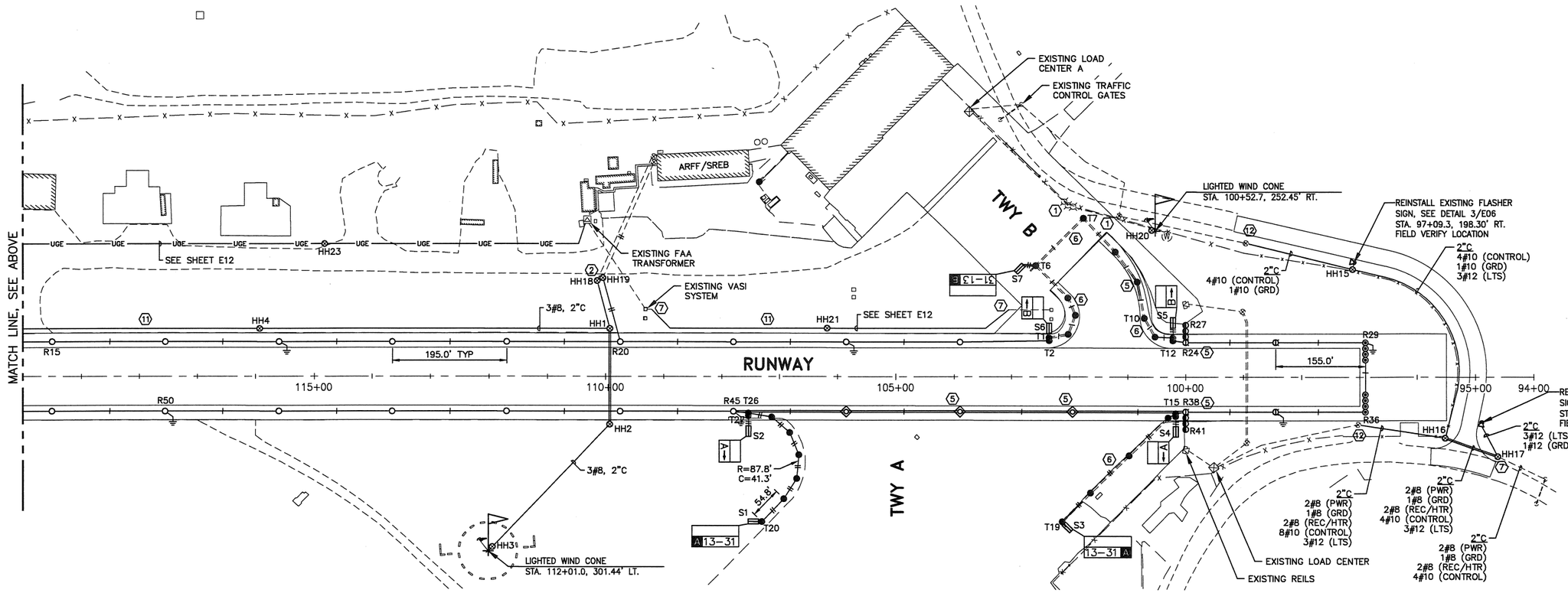
UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012

ELECTRICAL DEMOLITION PLAN

DATE: JANUARY 13, 2012
SHEET: E02 OF 54
AS-BUILT SHEET:







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UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ELECTRICAL NEW WORK PLAN

DATE: JANUARY 13, 2012
SHEET: E03 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:

Date Revised:
Layout Name: ELEC NEW
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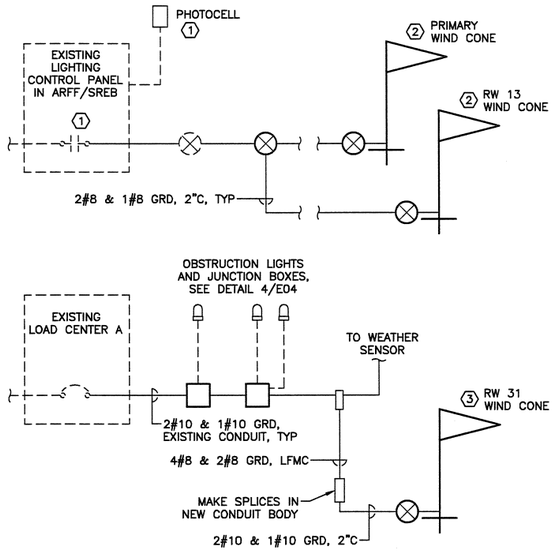
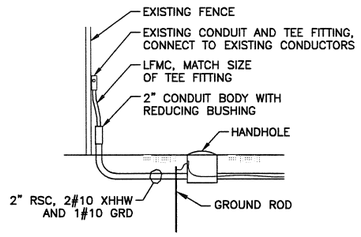


NOTES: ⬡

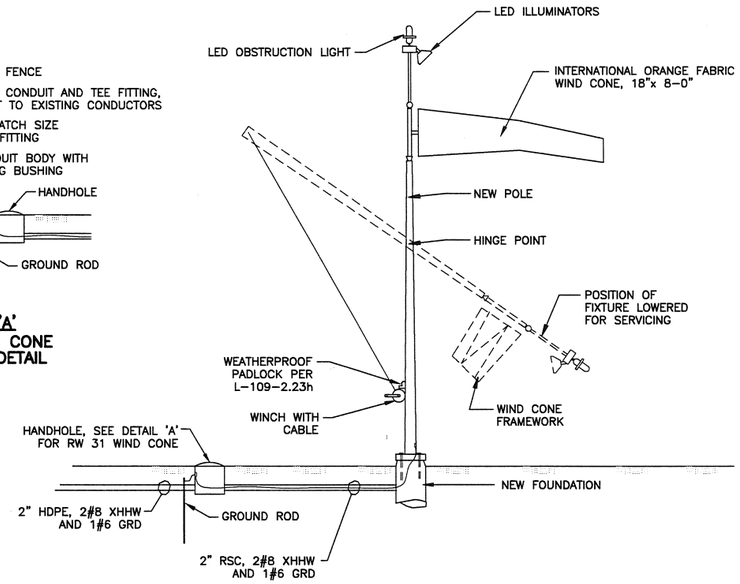
1. TROUBLESHOOT AND REPAIR OR REPLACE EXISTING PHOTOCELL AND CONTROL CIRCUIT AS REQUIRED FOR PROPER OPERATION.
2. REMOVE WIND CONE AND RETROFIT WITH NEW POLE PER SPECIFICATIONS. INSTALL ON NEW FOUNDATION.
3. INSTALL STATE–FURNISHED WIND CONE AND POLE ON NEW FOUNDATION.

5 E04 WIND CONE RISER DIAGRAMS

SCALE: N.T.S.



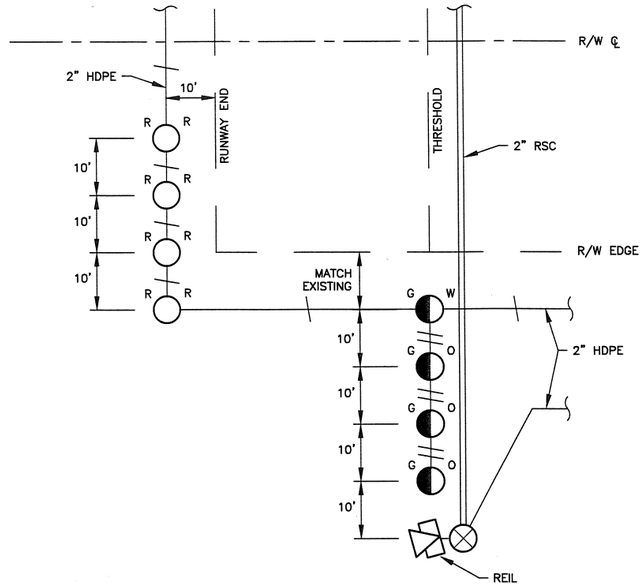
DETAIL 'A'
RW 31 WIND CONE HANDHOLE DETAIL



FAA TYPE L–807, STYLE–IA, SIZE–1

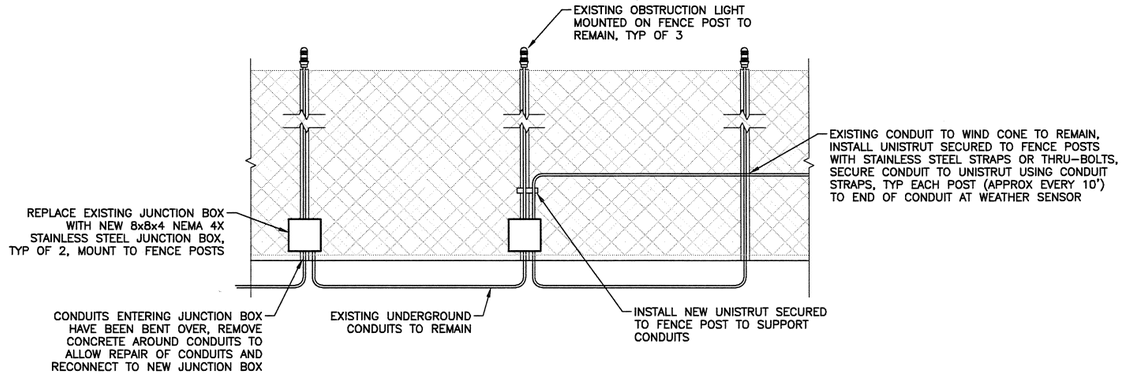
2 E04 LIGHTED WIND CONE ASSEMBLY

SCALE: N.T.S.



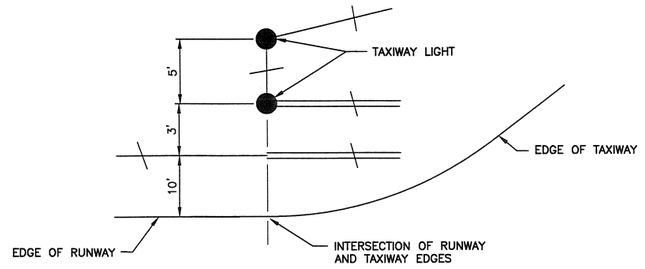
1 E04 DISPLACED THRESHOLD LIGHT DETAIL

SCALE: N.T.S.



4 E04 OBSTRUCTION LIGHT CONDUIT REPAIR DETAIL

SCALE: N.T.S.



3 E04 TAXIWAY ENTRANCE LIGHTS DETAIL

SCALE: N.T.S.

Date Revised:	1/13/2012, 1:55 PM
Layout Name:	ELEC DTLS1
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STATE OF ALASKA 49TH — LUCAS SCHNELLER EE–11399 — REGISTERED PROFESSIONAL ENGINEER

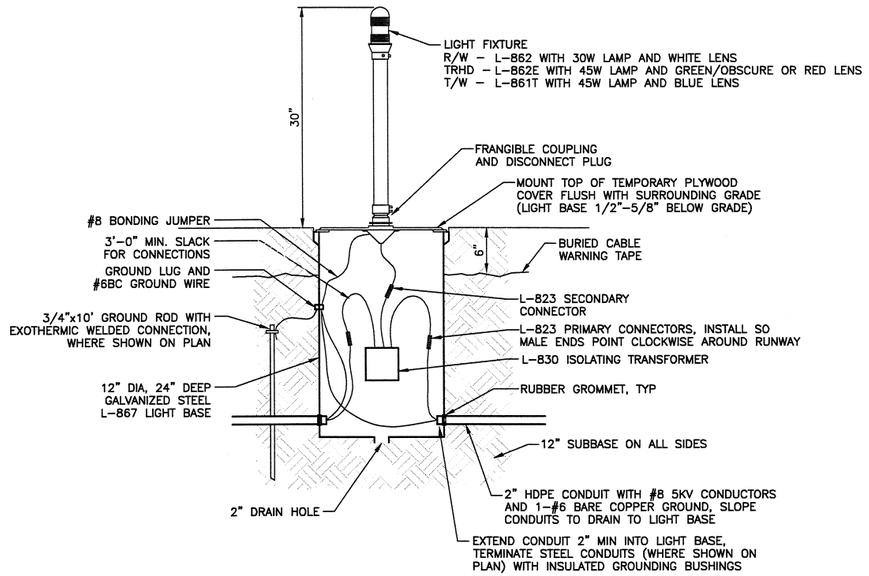
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
ELECTRICAL DETAILS

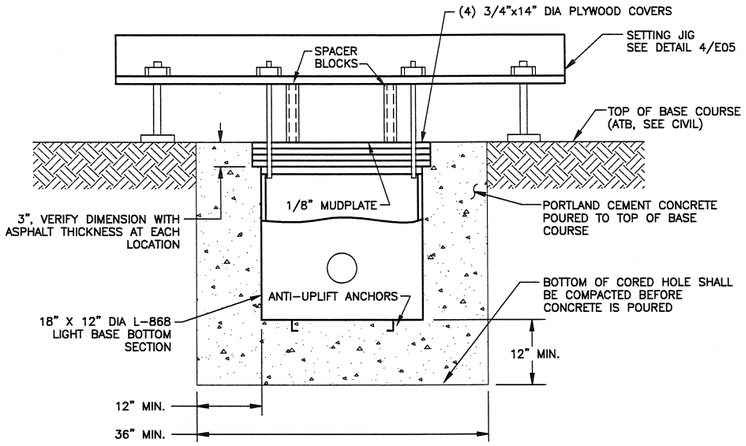
DATE: JANUARY 13, 2012
SHEET: E04 OF 54
AS–BUILT SHEET:



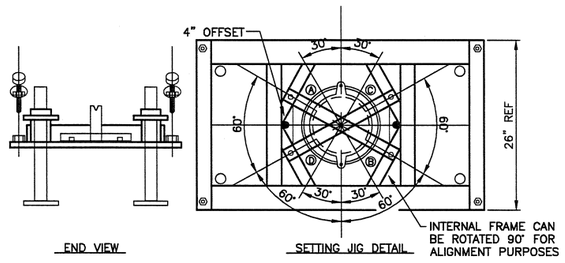
2 E05 BASE MOUNTED LIGHT DETAIL
SCALE: N.T.S.

NOTES:

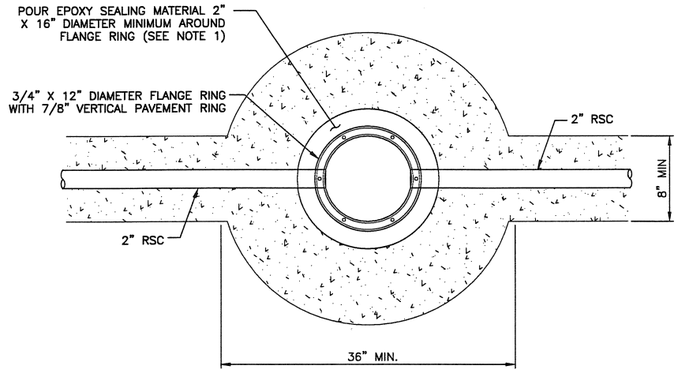
1. POLYESTER EPOXY ADHESIVE COMPOUND SHALL BE BITUPLASTIC MATERIALS MEETING SPECIFICATION P-606. ANNULUS TO BE CLEAN AND DRY PRIOR TO POURING EPOXY.
2. SELF-LEVELING SILICONE SEALER SHALL BE GE BRAND RTV 118 OR APPROVED EQUAL.
3. CONDUIT SYSTEM SHALL BE INSTALLED AT THE SAME GRADE AS THE RUNWAY OR TAXIWAY AND SLOPED TO DRAIN TO THE LOW SPOTS AND DRAINS WHERE SHOWN.
4. BOTTOM OF CORED HOLE SHALL BE COMPACTED BEFORE CONCRETE IS POURED.
5. SETTING JIG FOR FIXTURE SHALL BE FROM JAQUITH INDUSTRIES INC. OR APPROVED EQUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.
6. CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION P-610.
7. ALL CONDUIT AND NEW FIXTURE BOTTOM SECTIONS SHALL BE INSTALLED BEFORE INSTALLATION OF ASPHALT PAVEMENT.
8. ALL CONCRETE SHALL BE SEALED IN ACCORDANCE WITH REQUIREMENTS OF SECTION P-610.



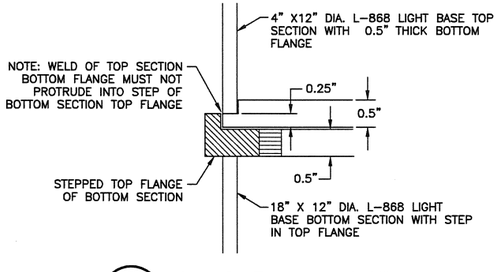
1 E05 SEMI-FLUSH LIGHT BASE INSTALLATION
SCALE: N.T.S.



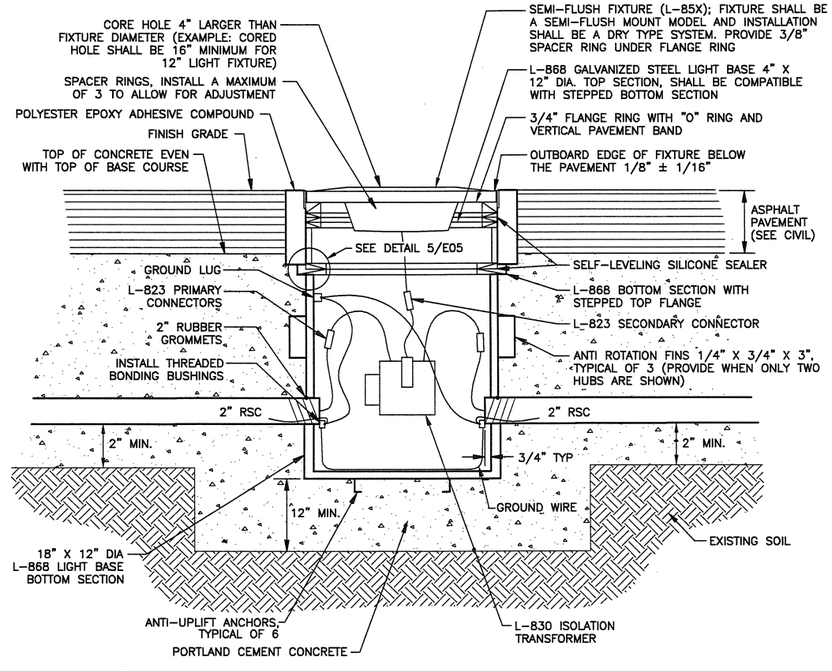
4 E05 SETTING JIG DETAILS
SCALE: N.T.S.



6 E05 SEMI-FLUSH LIGHT – PLAN VIEW
SCALE: N.T.S.



5 E05 BASE FLANGE DETAIL
SCALE: N.T.S.



3 E05 SEMI-FLUSH LIGHT – SECTION VIEW
SCALE: N.T.S.

Designed By:
Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:55 PM
Layout Name: ELEC DTLS2
File Path and Name: I:\1320600\Dwgs\E\Sheets\13206-DUT-E05 ELEC DTLS2.dwg

STATE OF ALASKA 49TH
LUCAS SCHNELLER EE-11399
REGISTERED PROFESSIONAL ENGINEER

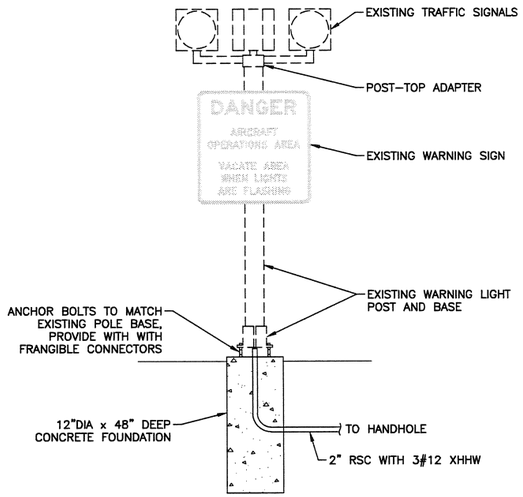
PLANS DEVELOPED BY: USKH, INC.

BY	DATE	REVISION

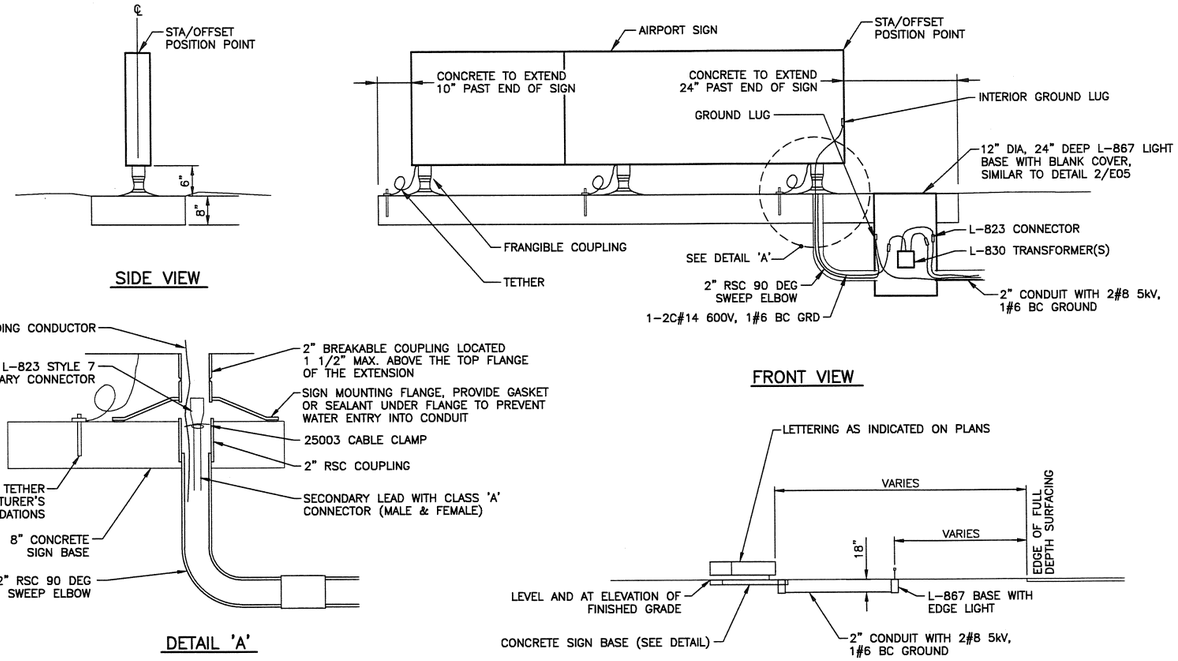
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ELECTRICAL DETAILS

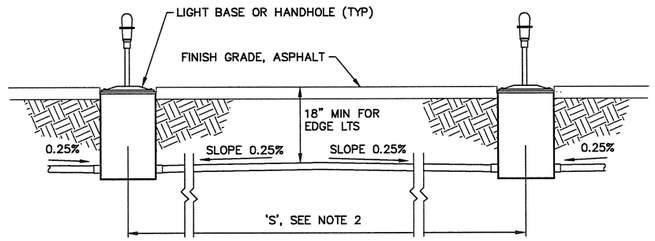
DATE: JANUARY 13, 2012
SHEET: E05 OF 54
AS-BUILT SHEET:



3 FLASHER SIGN DETAIL
ED6 SCALE: N.T.S.

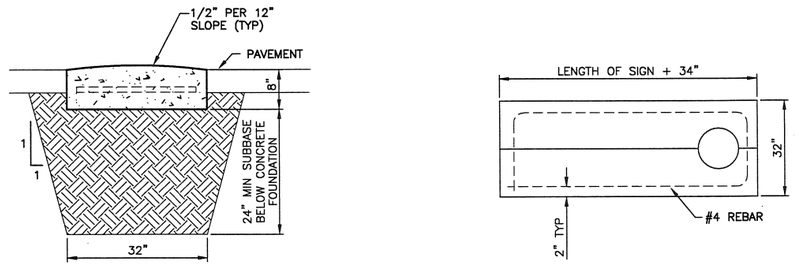


1 AIRPORT SIGN DETAILS
ED6 SCALE: N.T.S.



NOTES:
1. CONDUIT SHALL BE INSTALLED WITH CROWN TO DRAIN TO LIGHT BASES AS SHOWN.
2. IF 'S' IS LESS THAN 20', OR IF 0.25% SLOPE CAN BE MAINTAINED IN ONE DIRECTION DUE TO SLOPE OF GRADE, LAY CONDUIT STRAIGHT WITHOUT CROWN BETWEEN BASES/HANDHOLES.
3. ADDITIONAL HUBS FOR CONDUIT DRAINS SHALL BE PROVIDED WHERE SHOWN ON PLANS.
4. ALL CONDUIT, LIGHT BASES, AND HANDHOLES SHALL BE INSTALLED BEFORE INSTALLATION OF SURFACE ASPHALT.

4 TYPICAL INTERCONNECTION DETAIL
ED6 SCALE: N.T.S.



NOTES:
1. MINOR GRADING OR FILL SHALL BE REQUIRED AT ALL SIGN LOCATIONS. THE GRADING AND EARTHWORK SHALL BE INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT SHALL BE MADE.
2. ATTACH SIGNS TO CONCRETE BASE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION P-610.
4. SIGN BASE SHALL BE LEVEL AND SET AT THE ELEVATION OF THE SURROUNDING GRADE.

2 CONCRETE SIGN BASE DETAIL
ED6 SCALE: N.T.S.

STATE OF ALASKA 49 TH
LUCAS SCHNELLER EE-11399 REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ELECTRICAL DETAILS

DATE: JANUARY 13, 2012
SHEET: E06 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:
Date Revised:
Layout Name: 1/13/2012, 1:56 PM
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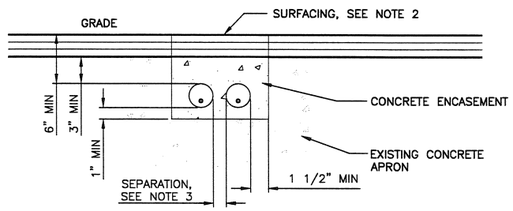
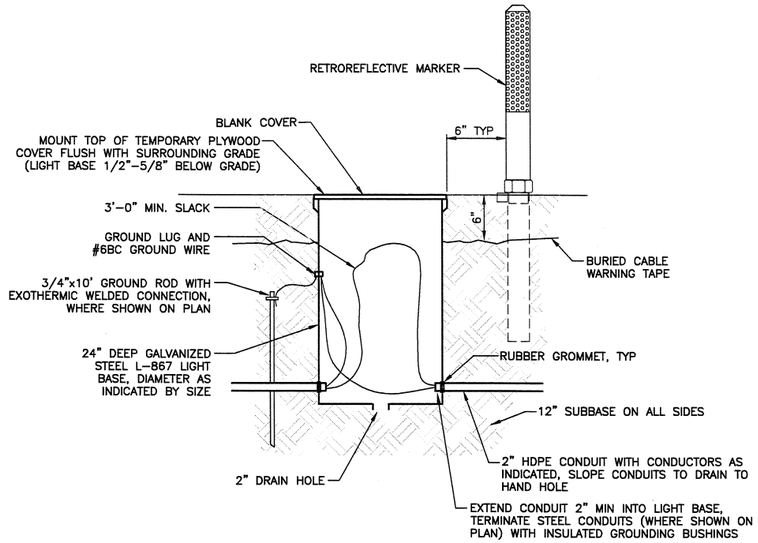


NOTES:

1. WIDTH OF TRENCH AND NUMBER OF CONDUITS PER TRENCH DETERMINED IN FIELD (2 SHOWN), 6" MINIMUM WIDTH
2. IN NEW ASPHALT, EXTEND CONCRETE ENCASEMENT TO UNDERSIDE OF NEW ASPHALT
   IN EXISTING CONCRETE, EXTEND CONCRETE ENCASEMENT FLUSH WITH EXISTING CONCRETE
3. SEPARATION BETWEEN CONDUITS SHALL BE AS FOLLOWS:
   –CONDUITS OF SAME SYSTEM – 1 1/2"
   –AIRPORT LIGHTING AND FAA CONDUITS – 12" MIN
   –PRIMARY POWER AND ANY OTHER CONDUIT – 18" MIN
   –TELECOM SERVICE AND ANY OTHER CONDUIT – 18" MIN
4. DETAIL MAY BE APPLIED ONLY WHERE EXTENDING EXISTING CONDUITS INSTALLED IN A SIMILAR MANNER.

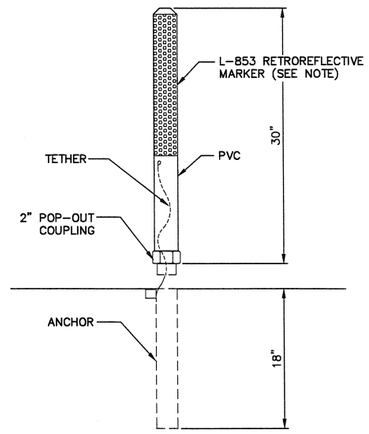
3 E07 SAW–CUT CONDUIT INSTALLATION DETAIL

SCALE: N.T.S.



2 E07 HANDHOLE DETAIL – TYPE 1

SCALE: N.T.S.

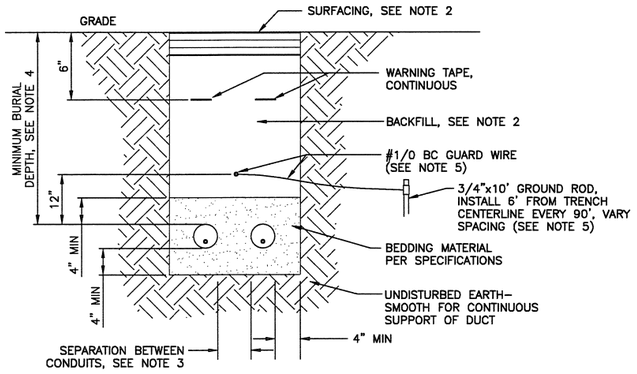


NOTE:

RETROREFLECTIVE MARKERS SHALL BE INSTALLED 6" FROM EACH HANDHOLE, J–BOX, OR MANHOLE AS INDICATED. MARKERS SHALL BE SUBSIDIARY TO THE HANDHOLE, JUNCTION BOX, OR MANHOLE PAY ITEM AND NO SEPARATE PAYMENT SHALL BE MADE.

1 E07 RETROREFLECTIVE MARKER DETAIL

SCALE: N.T.S.

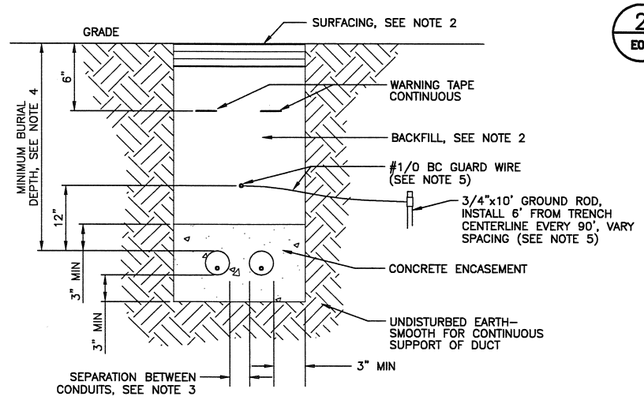


NOTES:

1. WIDTH OF TRENCH AND NUMBER OF CONDUITS PER TRENCH DETERMINED IN FIELD (2 SHOWN)
2. IN NEW PAVEMENT, SEE CIVIL FOR SURFACING AND BACKFILL
   IN EXISTING PAVEMENT, MATCH EXISTING SURFACING AND BACKFILL
3. SEPARATION BETWEEN CONDUITS SHALL BE AS FOLLOWS:
   –CONDUITS OF SAME SYSTEM – 2"
   –AIRPORT LIGHTING AND FAA CONDUITS – 12" MIN
   –PRIMARY POWER AND ANY OTHER CONDUIT – 18" MIN
   –TELECOM SERVICE AND ANY OTHER CONDUIT – 18" MIN
4. MINIMUM BURIAL DEPTH SHALL BE AS FOLLOWS:
   –AIRPORT LIGHTING CONDUITS – 18"
   –FAA NAVIGATION AID CONDUITS – 24"
5. GUARD WIRE AND ASSOCIATED GROUND RODS SHALL BE INSTALLED FOR THE FOLLOWING CONDUITS:
   –FAA NAVIGATION AID CONDUITS (VASI, REIL)

6 E07 TYPICAL CONDUIT TRENCH DETAIL

SCALE: N.T.S.

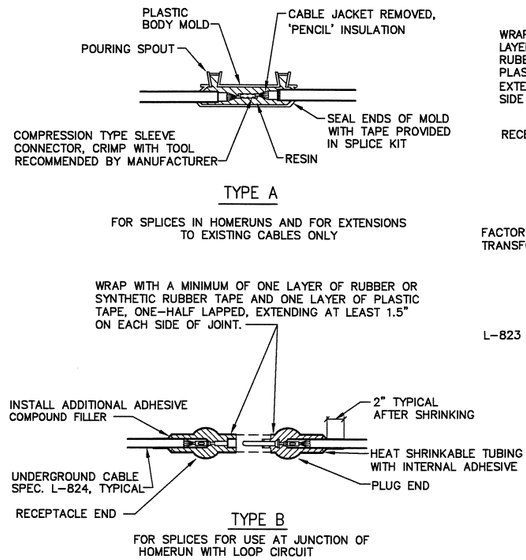


NOTES:

1. WIDTH OF TRENCH AND NUMBER OF CONDUITS PER TRENCH DETERMINED IN FIELD (2 SHOWN)
2. IN NEW PAVEMENT, SEE CIVIL FOR SURFACING AND BACKFILL
   IN EXISTING PAVEMENT, MATCH EXISTING SURFACING AND BACKFILL
3. SEPARATION BETWEEN CONDUITS SHALL BE AS FOLLOWS:
   –CONDUITS OF SAME SYSTEM – 1 1/2"
   –AIRPORT LIGHTING AND FAA CONDUITS – 12" MIN
   –PRIMARY POWER AND ANY OTHER CONDUIT – 18" MIN
   –TELECOM SERVICE AND ANY OTHER CONDUIT – 18" MIN
4. MINIMUM BURIAL DEPTH SHALL BE AS FOLLOWS:
   –AIRPORT LIGHTING CONDUITS – 18"
   –FAA NAVIGATION AID CONDUITS – 24"
5. GUARD WIRE AND ASSOCIATED GROUND RODS SHALL BE INSTALLED FOR THE FOLLOWING CONDUITS:
   –FAA NAVIGATION AID CONDUITS (VASI, REIL)

5 E07 CONCRETE ENCASED DUCTBANK DETAIL

SCALE: N.T.S.

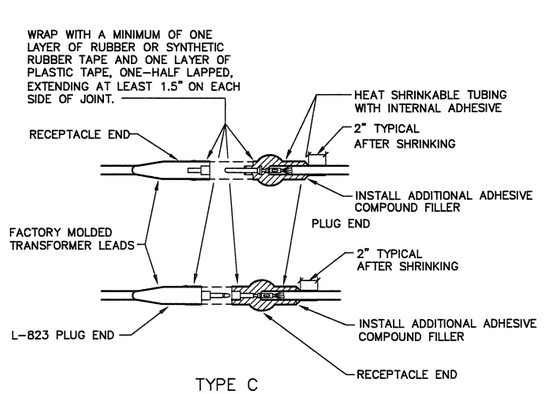


TYPE A

FOR SPLICES IN HOMERUNS AND FOR EXTENSIONS TO EXISTING CABLES ONLY

TYPE B

FOR SPLICES FOR USE AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT



TYPE C

FOR SPLICES AT RUNWAY LIGHTS

NOTES:

1. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE. CONNECTOR SHALL BE SUPPLIED TO MATCH CABLE PER MANUFACTURER'S INSTRUCTIONS.

4 E07 SPLICE DETAILS

SCALE: N.T.S.

STATE OF ALASKA 49TH
LUCAS SCHNELLER
EE-11399
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
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DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
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UNALASKA AIRPORT
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UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012

ELECTRICAL DETAILS

DATE: JANUARY 13, 2012
SHEET: E07 OF 54
AS–BUILT SHEET:

Designed By:
Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:56 PM
Layout Name: ELEC DTLS4
File Path and Name: I:\1320600\Dwgs\E\Sheets\13206-DUT-E07 ELEC DTLS4.dwg

RUNWAY EDGE LIGHT SCHEDULE

NUM	LENS COLOR	TYPE	LAMP WATTS	XFMR WATTS	STATION	OFFSET	REMARKS
R1	W/R	L-861	30	30/45	140+55.0	60.0 RT	
R2	W/G	L-861	45	30/45	139+00.0	60.0 RT	
R3	O/G	L-861	45	30/45	139+00.0	70.0 RT	
R4	O/G	L-861	45	30/45	139+00.0	80.0 RT	
R5	O/G	L-861	45	30/45	139+00.0	90.0 RT	
R6	W	L-861	30	30/45	137+04.9	60.0 RT	
R7	W	L-861	30	30/45	135+10.0	60.0 RT	
R8	W	L-861	30	30/45	133+15.0	60.0 RT	
R9	W	L-861	30	30/45	131+20.0	60.0 RT	
R10	W	L-861	30	30/45	129+25.0	60.0 RT	
R11	W	L-861	30	30/45	127+30.0	60.0 RT	
R12	W	L-861	30	30/45	125+35.0	60.0 RT	
R13	W	L-861	30	30/45	123+40.0	60.0 RT	
R14	W	L-861	30	30/45	121+45.0	60.0 RT	
R15	W	L-861	30	30/45	119+50.0	60.0 RT	
R16	W	L-861	30	30/45	117+55.0	60.0 RT	
R17	W	L-861	30	30/45	115+60.0	60.0 RT	
R18	W	L-861	30	30/45	113+65.0	60.0 RT	
R19	W	L-861	30	30/45	111+70.0	60.0 RT	
R20	W	L-861	30	30/45	109+75.0	60.0 RT	
R21	W	L-861	30	30/45	107+80.0	60.0 RT	
R22	W	L-861	30	30/45	105+85.0	60.0 RT	
R23	W	L-861	30	30/45	103+90.0	60.0 RT	
R24	G/W	L-861	45	30/45	100+00.0	60.0 RT	SEE NOTE 1
R25	G/O	L-861	45	30/45	100+00.0	70.0 RT	SEE NOTE 1
R26	G/O	L-861	45	30/45	100+00.0	80.0 RT	SEE NOTE 1
R27	G/O	L-861	45	30/45	100+00.0	90.0 RT	SEE NOTE 1
R28	R/W	L-861	30	30/45	98+45.0	60.0 RT	
R29	R	L-861	45	30/45	96+90.0	60.0 RT	
R30	R	L-861	45	30/45	96+90.0	50.0 RT	
R31	R	L-861	45	30/45	96+90.0	40.0 RT	
R32	R	L-861	45	30/45	96+90.0	30.0 RT	
R33	R	L-861	45	30/45	96+90.0	30.0 LT	
R34	R	L-861	45	30/45	96+90.0	40.0 LT	
R35	R	L-861	45	30/45	96+90.0	50.0 LT	
R36	R	L-861	45	30/45	96+90.0	60.0 LT	
R37	R/W	L-861	30	30/45	98+45.0	60.0 LT	
R38	G/W	L-861	45	30/45	100+00.0	60.0 LT	SEE NOTE 1
R39	G/O	L-861	45	30/45	100+00.0	70.0 LT	SEE NOTE 1
R40	G/O	L-861	45	30/45	100+00.0	80.0 LT	SEE NOTE 1

NOTE:

1. CORE DRILL ASPHALT AND CONCRETE APRON TO ALLOW INSTALLATION OF LIGHT BASE. SAW-CUT CONCRETE AS REQUIRED TO INSTALL CONDUIT.

RUNWAY EDGE LIGHT SCHEDULE

NUM	LENS COLOR	TYPE	LAMP WATTS	XFMR WATTS	STATION	OFFSET	REMARKS
R41	G/O	L-861	45	30/45	100+00.0	90.0 LT	SEE NOTE 1
R42	W	L-850C	(2) 105	200	101+95.0	60.0 LT	SEE NOTE 1
R43	W	L-850C	(2) 105	200	103+90.0	60.0 LT	SEE NOTE 1
R44	W	L-850C	(2) 105	200	105+85.0	60.0 LT	
R45	W	L-861	30	30/45	107+80.0	60.0 LT	
R46	W	L-861	30	30/45	109+75.0	60.0 LT	
R47	W	L-861	30	30/45	111+70.0	60.0 LT	
R48	W	L-861	30	30/45	113+65.0	60.0 LT	
R49	W	L-861	30	30/45	115+60.0	60.0 LT	
R50	W	L-861	30	30/45	117+55.0	60.0 LT	
R51	W	L-861	30	30/45	119+50.0	60.0 LT	
R52	W	L-861	30	30/45	121+45.0	60.0 LT	
R53	W	L-861	30	30/45	123+40.0	60.0 LT	
R54	W	L-861	30	30/45	125+35.0	60.0 LT	
R55	W	L-861	30	30/45	127+30.0	60.0 LT	
R56	W	L-861	30	30/45	129+25.0	60.0 LT	
R57	W	L-861	30	30/45	131+20.0	60.0 LT	
R58	W	L-861	30	30/45	133+15.0	60.0 LT	
R59	W	L-861	30	30/45	135+10.0	60.0 LT	
R60	W	L-861	30	30/45	137+05.0	60.0 LT	
R61	W/G	L-861	45	30/45	139+00.0	60.0 LT	
R62	O/G	L-861	45	30/45	139+00.0	70.0 LT	
R63	O/G	L-861	45	30/45	139+00.0	80.0 LT	
R64	O/G	L-861	45	30/45	139+00.0	90.0 LT	
R65	W/R	L-861	30	30/45	140+55.0	60.0 LT	
R66	R	L-861	45	30/45	142+10.0	60.0 LT	
R67	R	L-861	45	30/45	142+10.0	50.0 LT	
R68	R	L-861	45	30/45	142+10.0	40.0 LT	
R69	R	L-861	45	30/45	142+10.0	30.0 LT	
R70	R	L-861	45	30/45	142+10.0	30.0 RT	
R71	R	L-861	45	30/45	142+10.0	40.0 RT	
R72	R	L-861	45	30/45	142+10.0	50.0 RT	
R73	R	L-861	45	30/45	142+10.0	60.0 RT	

TAXIWAY EDGE LIGHT SCHEDULE

NUM	LENS COLOR	TYPE	LAMP WATTS	XFMR WATTS	STATION	OFFSET	REMARKS
T1	B	L-861T	45	30/45	102+35.5	67.6 RT	SEE NOTE 1
T2	B	L-861T	45	30/45	102+35.2	62.6 RT	SEE NOTE 1
T3	B	L-861T	45	30/45	102+02.4	73.7 RT	SEE NOTE 1
T4	B	L-861T	45	30/45	101+90.1	106.9 RT	SEE NOTE 1
T5	B	L-861T	45	30/45	102+02.9	136.8 RT	SEE NOTE 1
T6	B	L-861T	45	30/45	102+58.4	192.5 RT	SEE NOTE 1
T7	B	L-861T	45	30/45	101+76.1	274.4 RT	SEE NOTE 1
T8	B	L-861T	45	30/45	101+21.5	216.1 RT	SEE NOTE 1
T9	B	L-861T	45	30/45	100+83.8	164.6 RT	SEE NOTE 2
T10	B	L-861T	45	30/45	100+71.7	102.0 RT	SEE NOTE 1
T11	B	L-861T	45	30/45	100+53.1	69.5 RT	SEE NOTE 1
T12	B	L-861T	45	30/45	100+22.0	63.0 RT	SEE NOTE 2
T13	B	L-861T	45	30/45	100+22.0	68.0 RT	SEE NOTE 2
T14	B	L-861T	45	30/45	100+17.2	68.0 LT	SEE NOTE 2
T15	B	L-861T	45	30/45	100+17.2	63.0 LT	SEE NOTE 2
T16	B	L-861T	45	30/45	100+30.1	70.4 LT	SEE NOTE 1
T17	B	L-861T	45	30/45	100+97.4	135.6 LT	SEE NOTE 1
T18	B	L-861T	45	30/45	101+63.7	199.9 LT	SEE NOTE 1
T19	B	L-861T	45	30/45	102+12.4	249.9 LT	SEE NOTE 1
T20	B	L-861T	45	30/45	107+30.1	250.3 LT	
T21	B	L-861T	45	30/45	106+91.9	210.9 LT	
T22	B	L-861T	45	30/45	106+69.9	175.9 LT	
T23	B	L-861T	45	30/45	106+66.2	134.7 LT	
T24	B	L-861T	45	30/45	106+81.9	96.4 LT	
T25	B	L-861T	45	30/45	107+13.3	69.5 LT	
T26	B	L-861T	45	30/45	107+53.5	63.0 LT	
T27	B	L-861T	45	30/45	107+53.5	68.0 LT	

NOTES:

1. INSTALL NEW LIGHT FIXTURE AND TRANSFORMER ON EXISTING LIGHT BASE WITH NEW CONDUCTORS IN EXISTING CONDUIT.
2. CORE DRILL ASPHALT AND CONCRETE APRON TO ALLOW INSTALLATION OF LIGHT BASE. SAW-CUT CONCRETE AS REQUIRED TO INSTALL CONDUIT.

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Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:56 PM
Layout Name: E08
File Path and Name: I:\1320600\Darga\E\Sheets\13208-DUT-E08-E09 ELEC SCHDL.dwg

STATE OF ALASKA
49 TH
LUCAS SCHNELLER
EE-11399
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ELECTRICAL SCHEDULES

DATE: JANUARY 13, 2012
SHEET: E08 OF 54
AS-BUILT SHEET:

HANDHOLE SCHEDULE

NUM	TYPE	SIZE	STATION	OFFSET	REMARKS
HH1	I	B	109+92.7	82.8 RT	
HH2	I	B	109+92.7	82.5 LT	
HH3	I	B	111+94.4	294.1 LT	
HH4	I	B	115+92.7	82.8 RT	
HH5	I	B	121+92.7	82.8 RT	
HH6	I	B	127+92.7	82.8 RT	
HH7	I	B	133+92.7	82.8 RT	
HH8	I	B	139+92.7	82.8 RT	
HH9	I	B	141+11.6	188.1 RT	
HH10	I	D	127+75.7	223.4 RT	PAID UNDER L-132a(1)
HH11	I	D	131+87.1	223.4 RT	PAID UNDER L-132c
HH12	I	D	135+37.6	223.4 RT	PAID UNDER L-132c
HH13	I	D	139+00.0	223.4 RT	PAID UNDER L-132c
HH14	I	D	141+53.4	234.9 RT	PAID UNDER L-132c
HH15	I	B	97+12.0	186.4 RT	PAID UNDER L-165a
HH16	I	B	95+51.8	104.8 LT	PAID UNDER L-165a
HH17	I	B	94+62.4	137.0 LT	PAID UNDER L-165a
HH18	I	B	110+14.2	165.5 RT	
HH19	I	B	110+04.4	170.5 RT	
HH20	I	B	100+58.8	253.8 RT	
HH21	I	B	106+17.3	83.7 RT	PAID UNDER L-132a(2)
HH22	I	B	131+27.8	92.5 RT	PAID UNDER L-132a(1)
HH23	I	D	114+81.8	228.9 RT	PAID UNDER L-132a(1)
HH24	I	D	120+72.9	228.9 RT	PAID UNDER L-132a(1)

NOTES:

1. LOCATIONS ARE APPROXIMATE, FIELD LOCATE HANDHOLES AND JUNCTION BOXES.

SIGN SCHEDULE

NUM	SIDE	PANEL	LEGEND	TYPE	LEGEND COLOR	FACE COLOR	STATION	OFFSET	SIZE	STYLE	CLASS	MODE	REMARKS
S1	1	1	A	L-858L	YELLOW	BLACK	107+35.9	250.0 LT	2	2	2	3	
		2	13-31	L-858R	WHITE	RED							
	2	1	–	–	–	–							
S2	1	1	–	–	–	–	107+53.5	85.0 LT	2	2	2	3	
	2	1	A →	L-858Y	BLACK	YELLOW							
S3	1	1	13-31	L-858R	WHITE	RED	102+09.7	253.0 LT	2	2	2	3	SIGN MAY BE INSTALLED ON EXISTING FOUNDATION
		2	A	L-858L	YELLOW	BLACK							
	2	1	–	–	–	–							
S4	1	1	← A	L-858Y	BLACK	YELLOW	100+17.2	85.0 LT	2	2	2	3	
	2	1	–	–	–	–							
S5	1	1	B →	L-858Y	BLACK	YELLOW	100+22.0	85.0 RT	2	2	2	3	
	2	1	–	–	–	–							
S6	1	1	–	–	–	–	102+35.5	85.0 RT	2	2	2	3	
	2	1	← B	L-858Y	BLACK	YELLOW							
S7	1	1	31-13	L-858R	WHITE	RED	102+79.5	193.5 RT	2	2	2	3	
		2	B	L-858L	YELLOW	BLACK							
	2	1	–	–	–	–							

STATION AND OFFSET INDICATED IS AT CENTER OF SIGN DEPTH ON END NEAREST TO EDGE OF RUNWAY OR TAXIWAY UNLESS OTHERWISE INDICATED.

NOTE: TRANSFORMERS SHALL BE SIZED AS RECOMMENDED BY THE SIGN MANUFACTURER.

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Drawn By:
Checked By:

Date Revised:
Layout Name: E09
File Path and Name: I:\1320600\Dwgs\E\Sheets\13206-DUT-E08-E09 ELEC SCHDL.dwg

STATE OF ALASKA 49TH
LUCAS SCHNELLER
EE-11399
REGISTERED PROFESSIONAL ENGINEER

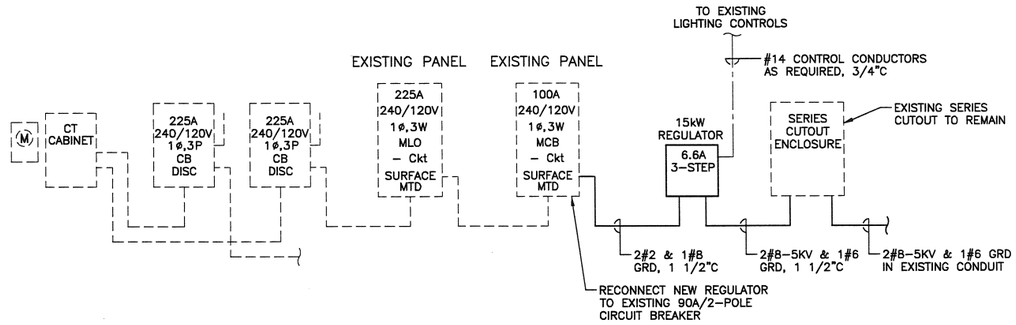
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

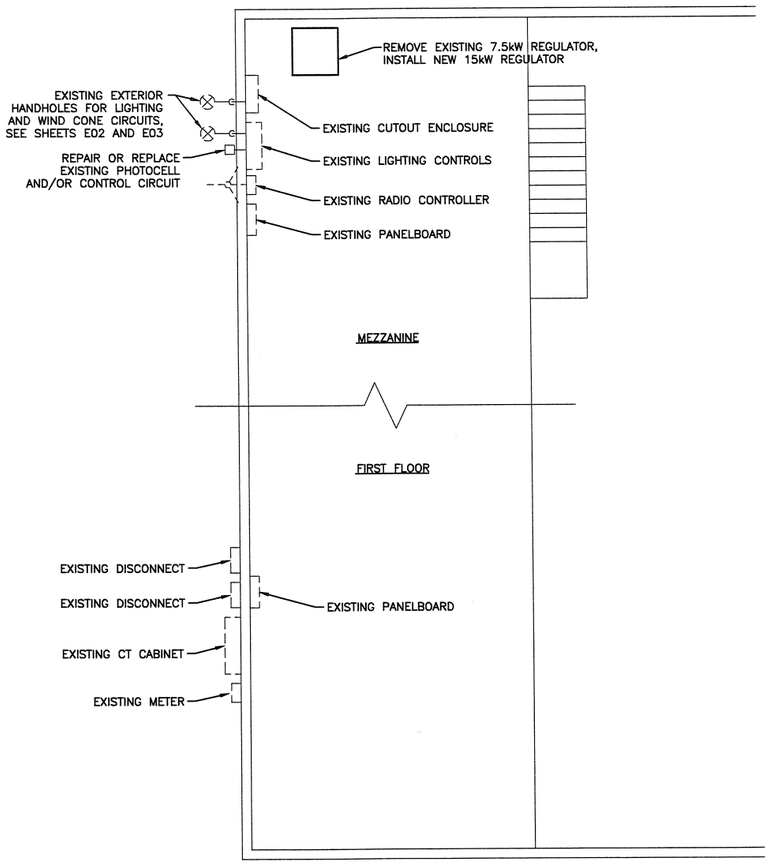
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ELECTRICAL SCHEDULE

DATE: JANUARY 13, 2012
SHEET: E09 OF 54
AS-BUILT SHEET:



2 / E10 ARFF/SREB PARTIAL RISER DIAGRAM
SCALE: N.T.S.



1 / E10 ARFF/SREB PARTIAL FLOOR PLAN
SCALE: N.T.S.

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File Path and Name:	I:\1320600\Dwgs\E\Sheets\1320-DUT-E10 ARFF SREB BUILDING.dwg

STATE OF ALASKA 49 TH
LUCAS SCHNELLER EE-11399
REGISTERED PROFESSIONAL ENGINEER

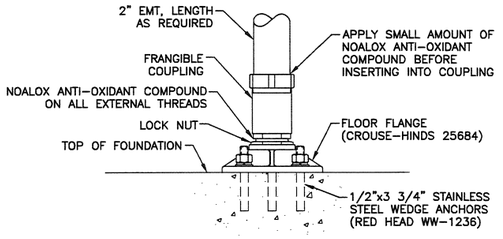
PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

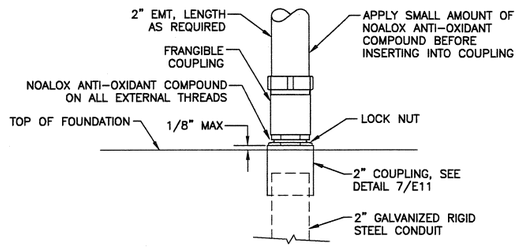
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
ARFF SREB BUILDING

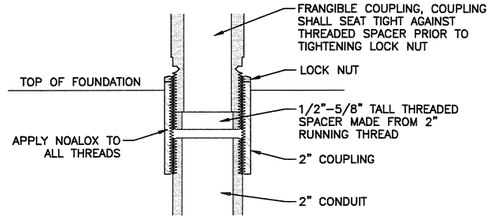
DATE: JANUARY 13, 2012
SHEET: E10 OF 54
AS-BUILT SHEET:



5 E11 FRANGIBLE LEG DETAIL
SCALE: N.T.S.

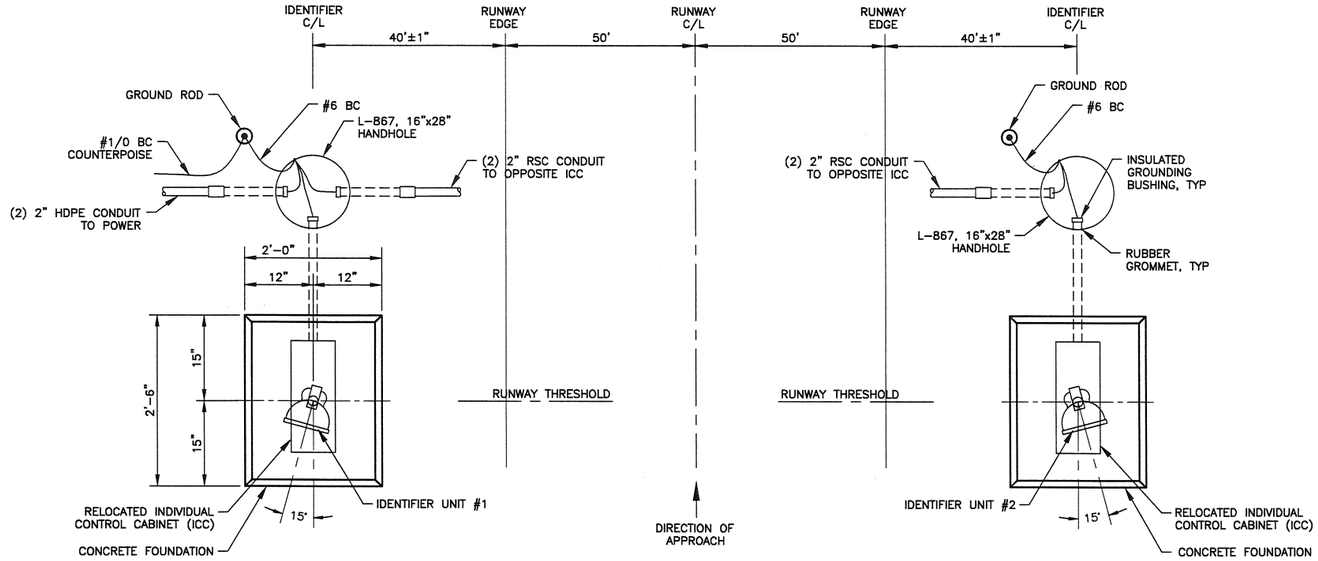


6 E11 FRANGIBLE WIRING LEG DETAIL
SCALE: N.T.S.



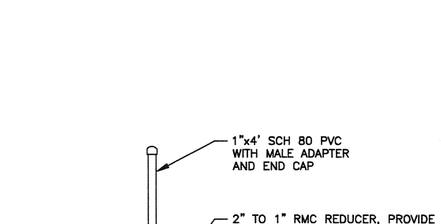
NOTE:
DETAIL SHALL APPLY AT ALL LOCATIONS WHERE FRANGIBLE COUPLINGS ARE THREADED INTO CONDUIT COUPLINGS

7 E11 FRANGIBLE COUPLING DETAIL
SCALE: N.T.S.



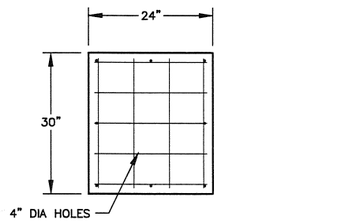
1 E11 REIL INSTALLATION PLAN
SCALE: N.T.S.

NOTES:
1. FIELD VERIFY WIRING CONFIGURATION AND TERMINATIONS PRIOR TO DISCONNECTING EXISTING REIL SYSTEM. FIELD VERIFY QUANTITY OF CONDUCTORS REQUIRED.
2. FAA WILL VERIFY AIMING AND CERTIFY THE REIL SYSTEM AFTER THE INSTALLATION IS COMPLETE.
3. CONCRETE AND REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SPECIFICATION P-610.
4. DRILL HOLES AND INSTALL ANCHORS WHEN REIL UNITS HAVE BEEN ACCURATELY LOCATED.
5. COORDINATE PLACEMENT OF CONDUIT STUB-UPS WITH EQUIPMENT PRIOR TO PLACING CONCRETE.
6. ALL MOUNTINGS TO BE 2 INCH FRANGIBLE COUPLINGS.
7. ALL THREADED AND COMPRESSION CONNECTIONS SHALL BE WRENCH-TIGHT AND WIGGLE FREE. ALL THREADED CONNECTIONS SHALL BE TREATED WITH NOALOX ANTI-OXIDANT COMPOUND BEFORE ASSEMBLY.
8. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, EXCAVATE TO PROVIDE A MINIMUM OF 12" OF SUBBASE BENEATH FOUNDATIONS.
9. THE IDENTIFIERS SHALL BE AIMED 15 DEGREES OUTWARD FROM THE RUNWAY CENTERLINE AND 10 DEGREES ABOVE THE HORIZONTAL.
10. THE ELEVATION OF BOTH LAMP HEADS SHALL BE WITHIN 3 FEET OF A HORIZONTAL PLANE THROUGH THE RUNWAY CENTERLINE, OR A MAXIMUM OF 5 FEET ABOVE THE SURROUNDING GRADE. FIELD MEASURE AND INSTALL AT HIGHEST ACCEPTABLE ELEVATION.

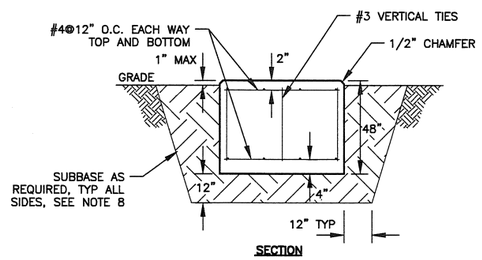


NOTE:
PROVIDE AIMING POINT FOR EACH LIGHT. LOCATE 50' FROM LIGHT AND 15' OUTWARD FROM A LINE PARALLEL TO RUNWAY CENTERLINE

4 E11 AIMING POINT DETAIL
SCALE: N.T.S.



PLAN



SECTION

3 E11 REIL FOUNDATION DETAIL
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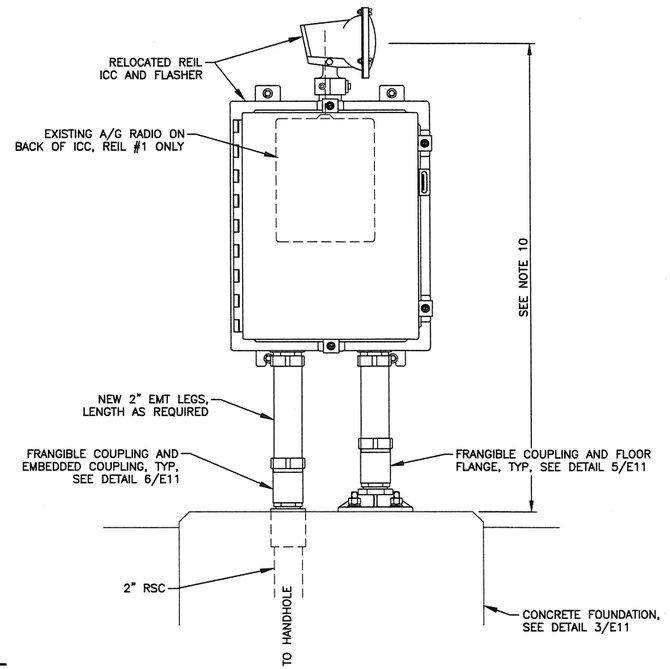

2 E11 REIL INSTALLATION ELEVATION
SCALE: N.T.S.

STATE OF ALASKA 49TH
LUCAS SCHNELLER
EE-11399
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
REIL DETAILS

DATE: JANUARY 13, 2012
SHEET: E11 OF 54
AS-BUILT SHEET:

Designed By:
Drawn By:
Checked By:
Date Revised: 1/13/2012, 1:55 PM
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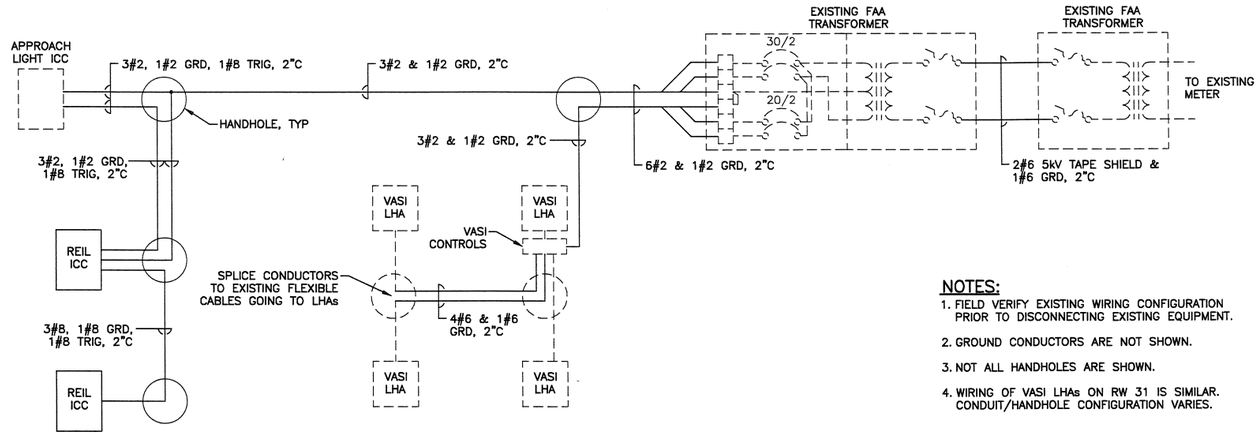

NOTES:

1. FIELD VERIFY EXISTING WIRING CONFIGURATION PRIOR TO DISCONNECTING EXISTING EQUIPMENT.
2. GROUND CONDUCTORS ARE NOT SHOWN.
3. NOT ALL HANDHOLES ARE SHOWN.
4. WIRING OF VASI LHAs ON RW 31 IS SIMILAR. CONDUIT/HANDHOLE CONFIGURATION VARIES.

1 / E12 RW 13 VASI AND REIL WIRING DIAGRAM

SCALE: N.T.S.

Designed By:
Drawn By:
Checked By:

Date Revised: 1/13/2012, 1:56 PM
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File Path and Name: I:\1320600\Dwgs\E\Sheets\13206-DUT-E12 REIL DTLS2.dwg

STATE OF ALASKA 49TH
LUCAS SCHNELLER
EE-11399
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY:
USKH, INC.

BY	DATE	REVISION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
VASI–REIL WIRING DIAGRAM

DATE: JANUARY 13, 2012
SHEET: E12 OF 54
AS–BUILT SHEET:

PIPE INSTALLATION

DESCRIPTION	FROM STATION	TO STATION	LENGTH (FT)	REMARKS
6" CLASS 52 DUCTILE IRON PIPE – SEWER	200+97, 7' LEFT	208+79, 7' LEFT	771	INSTALL 7' LEFT OF CENTERLINE, SEE NOTE 2 SHEET U2
12" CLASS 52 DUCTILE IRON PIPE – WATER	200+86, 7' RIGHT	201+09, 7' RIGHT	23	
16" CLASS 52 DUCTILE IRON PIPE – WATER	201+09, 7' RIGHT	208+92, 7' RIGHT	793	INSTALL 7' RIGHT OF CENTERLINE, SEE NOTE 7 SHEET U1
20" CLASS 52 DUCTILE IRON PIPE – WATER	0+00W	2+35W	235	STA 0+00W=STA 201+09, 7' LEFT. SEE NOTE 1 SHEET U1

WATER

DESCRIPTION	STATION	OFFSET	REMARKS
20" BUTTERFLY VALVE AND VALVE BOX	2+35W	0	INSTALL ON EAST POINT SIDE OF EXISTING TEE, SEE DETAIL 5 SHEET U4
20" BUTTERFLY VALVE AND VALVE BOX	201+09	7' RIGHT	INSTALL ON AIRPORT BEACH ROAD SIDE OF NEW TEE, SEE DETAIL 5 SHEET U4
16" BUTTERFLY VALVE AND VALVE BOX	201+09	7' RIGHT	INSTALL AFTER 20x16 REDUCER ON BALLYHOO ROAD SIDE, SEE DETAIL 5 SHEET U4
12" GATE VALVE AND VALVE BOX	201+09	7' RIGHT	INSTALL AFTER 20x12 REDUCER ON E.P SIDE, SEE DETAIL 5, DETAIL 6, SHEET U4
SINGLE PUMPER HYDRANT ASSEMBLY	0+56W	30' LEFT	SEE DETAIL 1, DETAIL 3 SHEET U4
DOUBLE PUMPER HYDRANT ASSEMBLY	203+58	30' LEFT	SEE DETAIL 2, DETAIL 3 SHEET U4
REMOVE AND SALVAGE HYDRANT ASSEMBLY	0+79W	16' RIGHT	DELIVER SALVAGED HYDRANT AND VALVE TO CITY OF UNALASKA
CONNECT TO EXISTING COMBIO AIR/VACUUM RELIEF VAULT	1+98W	35' LEFT	SEE DETAIL 4 SHEET U4
CONNECT TO EXISTING WATERLINE (20")	2+23W	0	INSTALL 45° BEND AFTER NEW VALVE, SEE DETAIL 6 SHEET U4
CONNECT TO EXISTING WATERLINE (16")	208+92	7' RIGHT	INSTALL 11.25° BEND
CONNECT TO EXISTING WATERLINE (12")	200+86	7' RIGHT	INSTALL 90° BEND, SEE DETAIL 6 SHEET U4

SEWER

DESCRIPTION	STATION	OFFSET	REMARKS
INSTALL 4' DIAMETER MANHOLE	200+07	7' LEFT	INSTALL OVER EXISTING 8" DIP SEWER. SEE NOTE 1 SHEET U2, DETAIL 1 SHEET U5
INSTALL DROP CONNECTION	200+07	7' LEFT	SEE DETAIL 2 SHEET U5
INSTALL CLEANOUT MANHOLE	206+54	7' LEFT	INSTALL CLEANOUT MANHOLE, SEE DETAIL 4 SHEET U5
CONNECT TO EXISTING 6" DUCTILE IRON SEWER	208+79	7' LEFT	INSTALL 11.25° BEND

GENERAL NOTES

1. ALL UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL OBTAIN UTILITY LOCATES FROM UTILITY COMPANIES PRIOR TO THE START OF ANY EXCAVATION.
2. THE CONTRACTOR IS RESPONSIBLE TO REPAIR AND/OR REPLACE ANY UTILITIES SHOWN THAT ARE DAMAGED DURING CONSTRUCTION.
3. AT A SUFFICIENT DISTANCE PRIOR TO ENCOUNTERING A KNOWN OBSTACLE OR A TIE INTO AN EXISTING PIPE, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE EXACT LOCATION OF THE OBSTACLE OR PIPE SO THAT ALIGNMENT AND/OR GRADE MAY BE DETERMINED BEFORE THE PIPE SECTIONS ARE LAID IN THE TRENCH AND BACKFILLED. NO EXTRA PAYMENT WILL BE MADE FOR REWORK OF NEWLY INSTALLED UTILITIES REQUIRED BY FAILURE TO EXPOSE EXISTING UTILITIES.
4. THE CONTRACTOR SHALL MAINTAIN A VERTICAL SEPARATION AND MINIMUM CLEARANCE OF 18" BETWEEN THE WATER MAIN AND SEWER OR STORM DRAIN PIPES AT ALL CROSSINGS. IN ADDITION, THE PIPE SECTIONS SHALL BE LOCATED SO THAT NO PIPE JOINT IS CLOSER THAN 9' FROM THE POINT OF THE CROSSING. WATER MAINS AND SEWER PIPES SHALL MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 10' CLEAR.
5. THE CONTRACTOR SHALL INSTALL 2" OF RIGID BOARD INSULATION 4' WIDE AND A MINIMUM OF 2–FEET BEYOND THE SIDES OF THE PIPES AT ALL WATER AND SEWER PIPE CROSSINGS OF CULVERTS AND STORM DRAINS.

Designed By: T. REGAN
Drawn By: T. REGAN
Checked By:
Date Revised:
Layout Name:
File Path and Name: D:\Unalaska\Airport ADOT Utilities\ADOT Airport Utility Design.dwg

REGAN ENGINEERING, P.C.

BY	DATE	REVISION
TR	01/16/12	95% DESIGN – REVIEW SET

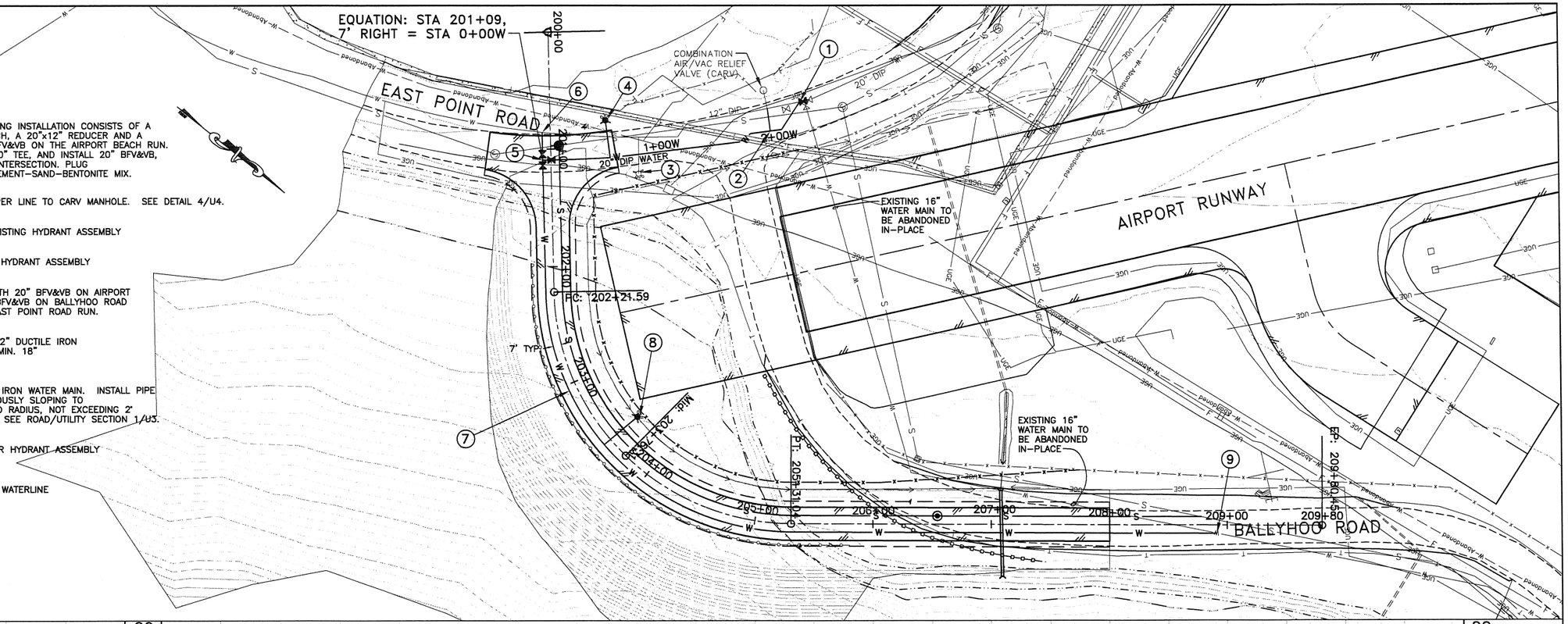
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

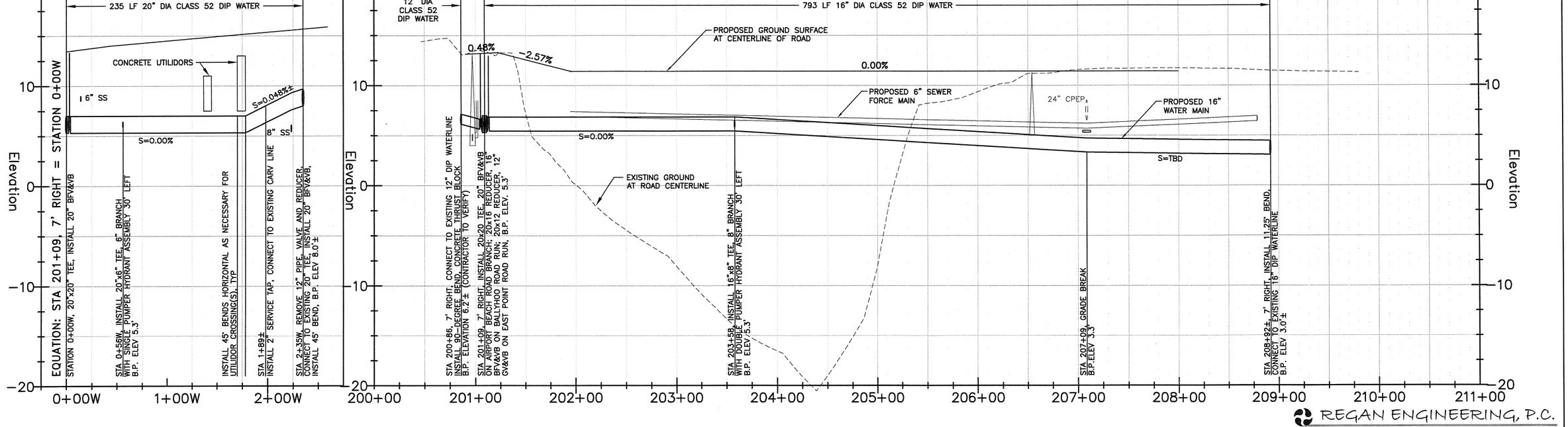
UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
TABLES

DATE: 01/16/2012
SHEET: U0 OF T#
AS–BUILT SHEET:

WORK NOTES:

1. STATION 2+35W (STA 200+93±, 218'± LEFT); EXISTING INSTALLATION CONSISTS OF A 20"x16" TEE, 16" BFV&VB ON THE BALLYHOO BRANCH, A 20"x12" REDUCER AND A 12" GV&VB ON THE EAST POINT RUN, AND A 20" BFV&VB ON THE AIRPORT BEACH RUN. REMOVE 20"x12" REDUCER, CONNECT TO EXISTING 20" TEE, AND INSTALL 20" BFV&VB, 20" DIA. 45° BEND AND PIPE TO RELOCATED ROAD INTERSECTION. PLUG AND ABANDON WATERLINE TO EAST WITH MIN. 18" CEMENT–SAND–BENTONITE MIX.
2. STATION 1+98W±, 35' LEFT, CONNECT NEW 2" COPPER LINE TO CARV MANHOLE. SEE DETAIL 4/U4.
3. STATION 0+79, 16' RIGHT, REMOVE AND SALVAGE EXISTING HYDRANT ASSEMBLY
4. STATION 0+56W, 30' LEFT, INSTALL SINGLE PUMPER HYDRANT ASSEMBLY
5. STATION 201+09, 7' RIGHT, INSTALL 20"x20" TEE WITH 20" BFV&VB ON AIRPORT BEACH ROAD BRANCH, 20"X16" REDUCER AND 16" BFV&VB ON BALLYHOO ROAD RUN; AND 20"x12" REDUCER AND 12" GV&VB ON EAST POINT ROAD RUN.
6. STATION 200+86, 7' RIGHT, CONNECT TO EXISTING 12" DUCTILE IRON WATERLINE. PLUG ABANDONED LINE TO WEST WITH MIN. 18" CEMENT–SAND–BENTONITE MIX.
7. 7' RIGHT, INSTALL 16" DIAMETER CLASS 52 DUCTILE IRON WATER MAIN. INSTALL PIPE LEVEL TO MATCH SURFACE GRADE AND/OR CONTINUOUSLY SLOPING TO CONNECTION. DEFLECT PIPE JOINTS TO MATCH ROAD RADIUS, NOT EXCEEDING 2° PER JOINT (8" DELFLECTION IN 20' PIPE SECTION). SEE ROAD/UTILITY SECTION 1/U3.
8. STATION 203+58, 30' LEFT, INSTALL DOUBLE PUMPER HYDRANT ASSEMBLY
9. STATION 208+92±, 7' RIGHT, CONNECT TO EXISTING WATERLINE





REGAN ENGINEERING, P.C.

PROFILE SCALE
HORIZ: 1"=50'
VERT: 1"=5'

BY	DATE	REVISION
TR	01/16/12	95% DESIGN – REVIEW SET

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
WATER– PLAN AND PROFILE

DATE: 01/16/2012
SHEET: U1 OF T#
AS–BUILT SHEET:

Designed By: T. REGAN
Drawn By: T. REGAN
Checked By:

Date Revised:
Layout Name:
File Path and Name: D:\Unalaska\Airport ADOT Utilities\ADOT Airport Utility Design.dwg

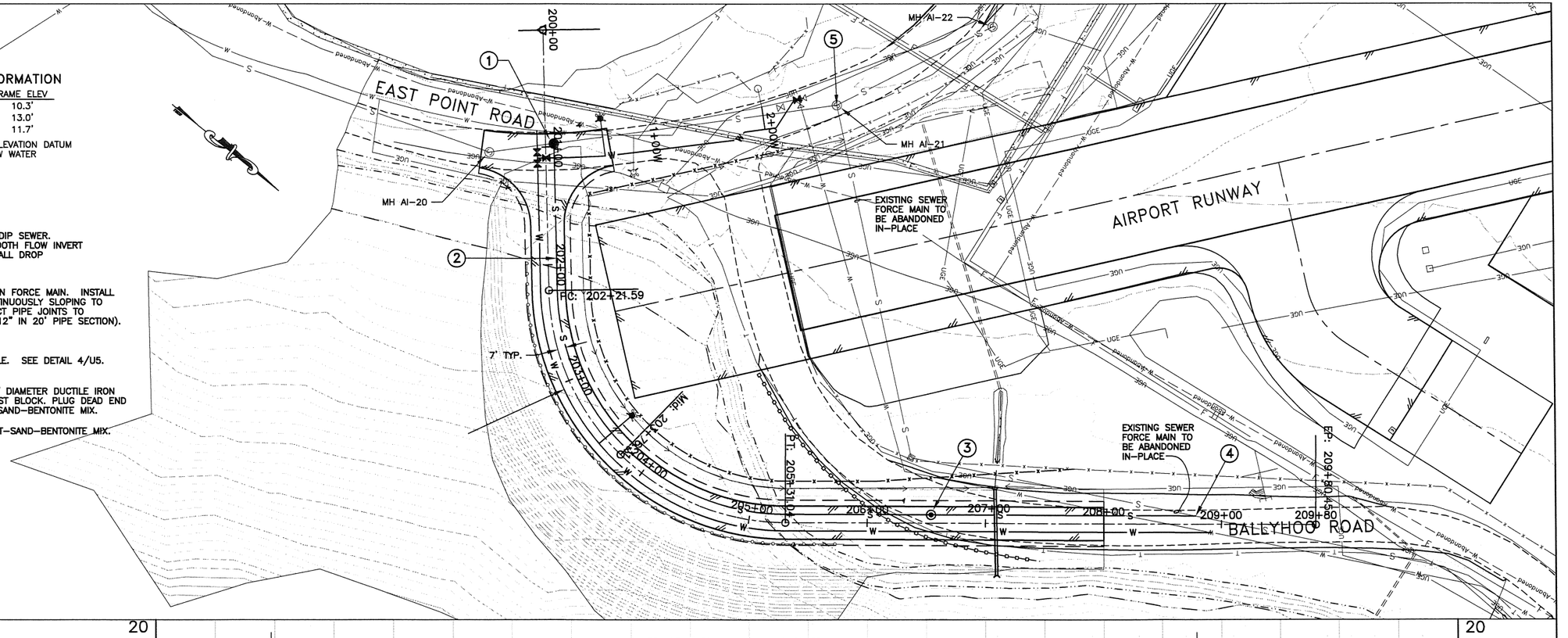
EXISTING SANITARY SEWER MANHOLE INFORMATION

DESIGNATION	I.E. IN	I.E. OUT	FM IN ELEV	FRAME ELEV
MH AI–20	4.24'	4.14'	–	10.3'
MH AI–21	5.54'	5.44'	5.60'	13.0'
MH AI–22	6.24'	6.14'	–	11.7'

INFORMATION OBTAINED FROM 1989 CH2MHILL AS–BUILTS, ELEVATION DATUM N.O.A.A. TIDAL BENCHMARK 15, ELEV 8.63' ABOVE MEAN LOW WATER
I.E. = INVERT ELEVATION
FM = FORCE MAIN

WORK NOTES:

1. STATION 200+97, 7' LEFT, CONNECT TO EXISTING 8" DIP SEWER. CONSTRUCT NEW MANHOLE AI–21.1. CONSTRUCT SMOOTH FLOW INVERT TO EAST. CONTRACTOR TO VERIFY ELEVATIONS. INSTALL DROP CONNECTION. SEE DETAILS 1 & 2/U5
2. 7' LEFT, INSTALL 6" DIAMETER CLASS 52 DUCTILE IRON FORCE MAIN. INSTALL PIPE LEVEL TO MATCH SURFACE GRADE AND/OR CONTINUOUSLY SLOPING TO MANHOLE EXCEPT WHERE SHOWN OTHERWISE. DEFLECT PIPE JOINTS TO MATCH ROAD RADIUS NOT EXCEEDING 3° PER JOINT (12" IN 20' PIPE SECTION). SEE ROAD/UTILITY SECTION 1/U3.
3. STATION 206+54, 7' LEFT, INSTALL CLEANOUT MANHOLE. SEE DETAIL 4/U5.
4. STATION 208+79±, 7' LEFT, CONNECT TO EXISTING 6" DIAMETER DUCTILE IRON FORCE MAIN. INSTALL 11.25° BEND, CONCRETE THRUST BLOCK. PLUG DEAD END OF ABANDONED FORCE MAIN WITH MIN. 18" CEMENT–SAND–BENTONITE MIX.
5. PLUG EXISTING 6" FORCE MAIN WITH MIN. 18" CEMENT–SAND–BENTONITE MIX.



SCALE (IN FEET)
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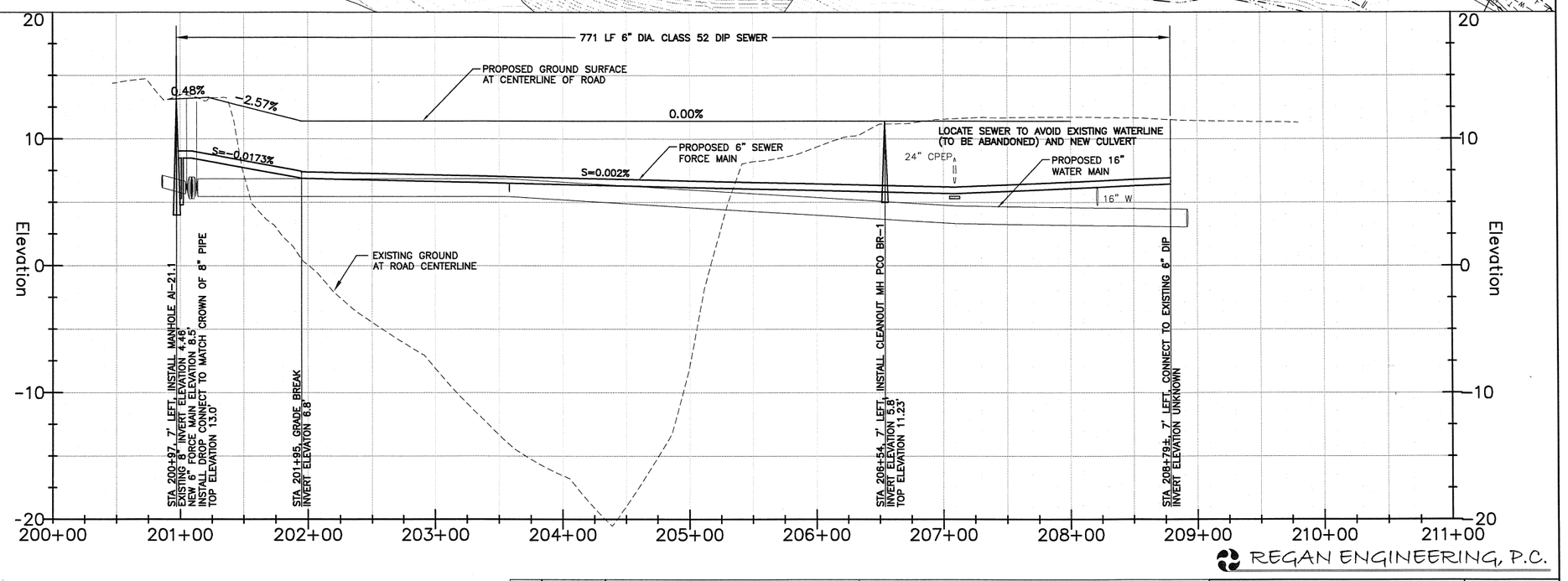

REGAN ENGINEERING, P.C.

PROFILE SCALE
HORIZ: 1"=50'
VERT: 1"=5'

BY	DATE	REVISION
TR	01/16/12	95% DESIGN – REVIEW SET

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
SEWER – PLAN AND PROFILE

DATE: 01/16/2012
SHEET: U2 OF T#
AS–BUILT SHEET:

Designed By: T. REGAN
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Data Revised:
Layout Name:
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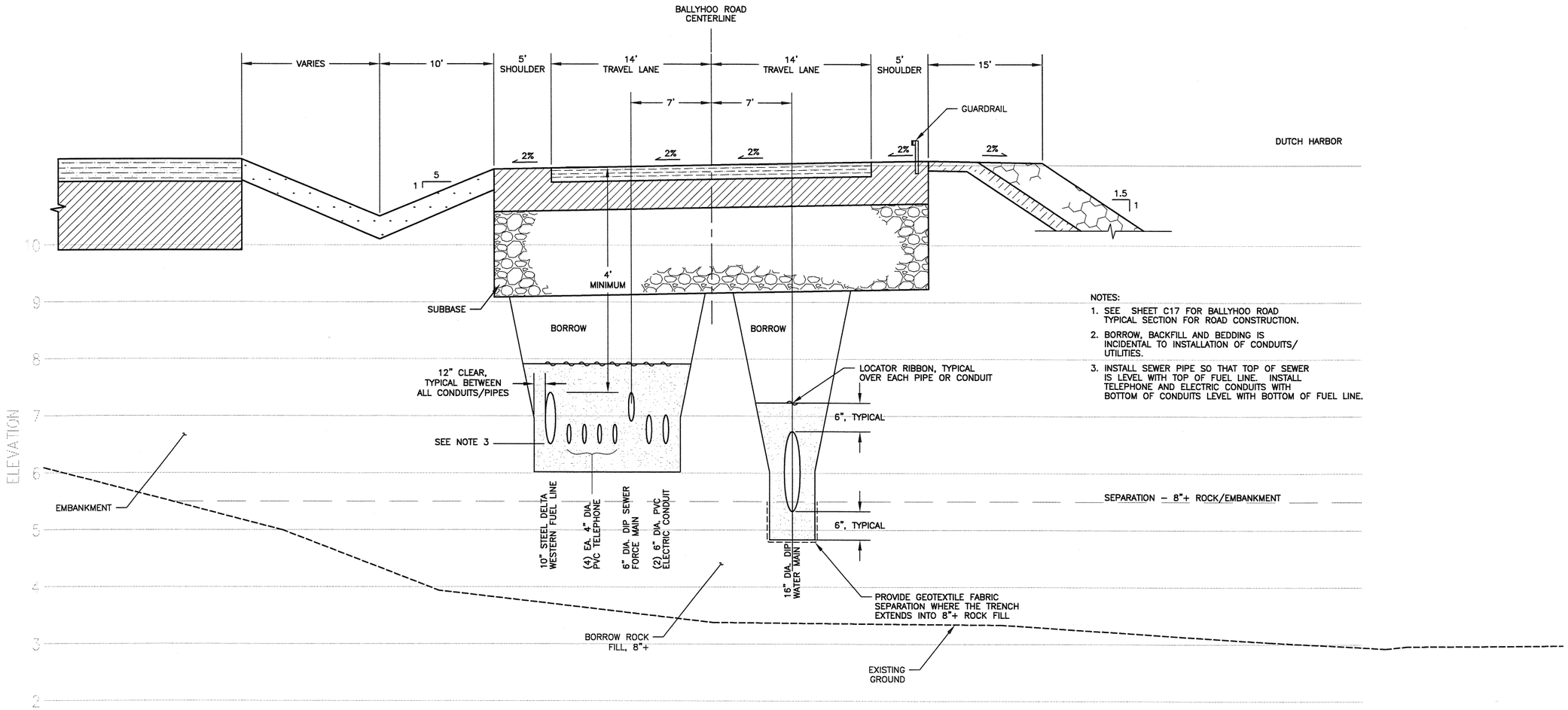

NOTES:

1. SEE SHEET C17 FOR BALLYHOO ROAD TYPICAL SECTION FOR ROAD CONSTRUCTION.
2. BORROW, BACKFILL AND BEDDING IS INCIDENTAL TO INSTALLATION OF CONDUITS/ UTILITIES.
3. INSTALL SEWER PIPE SO THAT TOP OF SEWER IS LEVEL WITH TOP OF FUEL LINE. INSTALL TELEPHONE AND ELECTRIC CONDUITS WITH BOTTOM OF CONDUITS LEVEL WITH BOTTOM OF FUEL LINE.

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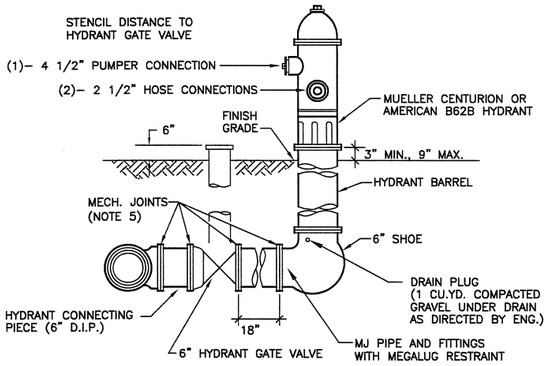
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
TYPICAL UTILITIES/ROAD SECTION

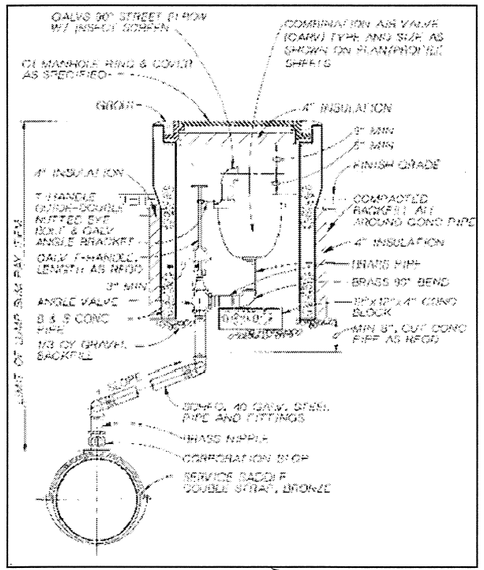
DATE: 01/16/2012
SHEET: U3 OF T#
AS-BUILT SHEET:



SEE NOTES WITH DETAIL 2.

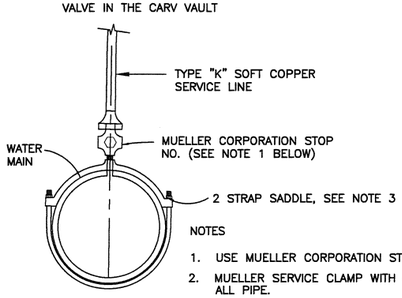
1 DETAIL - SINGLE PUMPER HYDRANT ASSEMBLY

NOT-TO-SCALE



DETAIL FOR CARV VAULT FROM ORIGINAL 1989 CH2MHILL DESIGN

REPLACE 2" LINE ALL THE WAY TO THE ANGLE VALVE IN THE CARV VAULT

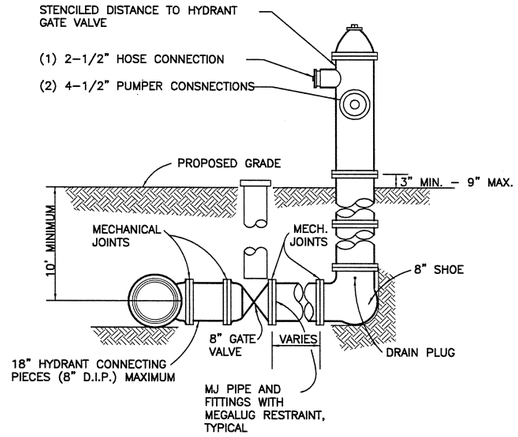


NOTES

1. USE MUELLER CORPORATION STOP NO. 15025 OR EQUAL.
2. MUELLER SERVICE CLAMP WITH (2) TWO STRAPS OR EQUAL SHALL BE USED ON ALL PIPE.
3. USE MUELLER CURB STOP NO. H15214 ORISEAL OR EQUAL.

4 DETAIL - 2" SERVICE TAP FOR CARV

NOT-TO-SCALE

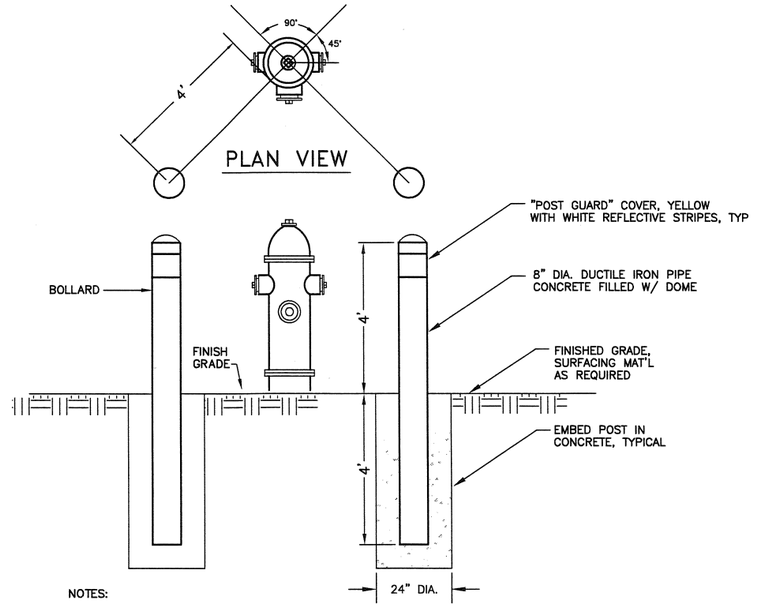


HYDRANT INSTALLATION NOTES:

1. HYDRANT BARREL MUST BE INSTALLED PLUMB AND THE LEG MUST BE INSTALLED LEVEL.
2. DRAIN PLUG TO BE REMOVED BY CONTRACTOR.
3. ALL HYDRANTS SHALL BE PAINTED; MUELLER–YELLOW, AMERICAN DARLING – RED.
4. AUXILLIARY GATE VALVE BOX TO BE INSTALLED ACCORDING TO DETAIL FOR TYPICAL VALVE BOX EXCEPT FOR ADJUSTMENT HEIGHT.
5. ALL PIPE AND FITTINGS BETWEEN HYDRANT AND MAIN SHALL BE MECHANICAL JOINT WITH MEGALUG RESTRAINT.

2 DETAIL - DOUBLE PUMPER HYDRANT ASSEMBLY

NOT-TO-SCALE

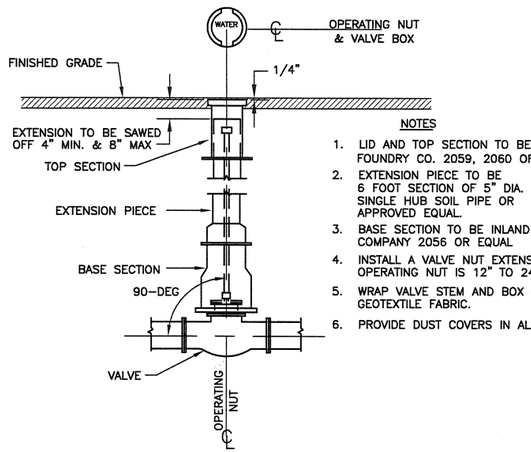


NOTES:

1. GUARD POSTS WILL BE FURNISHED & INSTALLED BY THE CONTRACTOR.
2. POSTS SHALL BE LOCATED TO ALLOW UNRESTRICTED ACCESS TO PUMPER AND HOSE CONNECTIONS.
3. COVER ALL BOLLARDS WITH POLYETHYLENE "POST GUARD" PROTECTIVE SLEEVES AS MANUFACTURED BY ENCORE COMMERCIAL PRODUCTS, INC.

3 DETAIL - HYDRANT GUARD POSTS

NOT-TO-SCALE

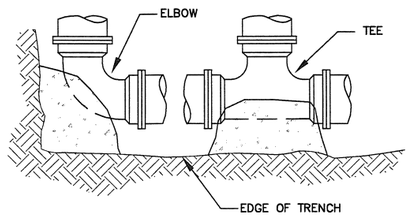


NOTES

1. LID AND TOP SECTION TO BE INLAND FOUNDRY CO. 2059, 2060 OR EQUAL.
2. EXTENSION PIECE TO BE 6 FOOT SECTION OF 5" DIA. SINGLE HUB SOIL PIPE OR APPROVED EQUAL.
3. BASE SECTION TO BE INLAND FOUNDARY COMPANY 2056 OR EQUAL
4. INSTALL A VALVE NUT EXTENSION PIECE SO THE OPERATING NUT IS 12" TO 24" FROM THE VALVE BOX LID.
5. WRAP VALVE STEM AND BOX WITH NON–WOVEN GEOTEXTILE FABRIC.
6. PROVIDE DUST COVERS IN ALL VALVE BOXES.

5 DETAIL - VALVE AND VALVE BOX

NOT-TO-SCALE



PIPE SIZE	MIN BASE AREA SQ.FT.		
	90 BEND	45 BEND	PLUG
6"	2.0	1	2.0
12"	6	3.5	6
16"	10.5	6	10.5
20"	18	10	18

ALL THRUST BLOCKS TO BE MINIMUM 3000 PSI CONCRETE

COST OF THRUST BLOCKS SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE

PROVIDE RESTRAINT FOR ALL FITTINGS, INCLUDING PLUGS. PROVIDE THRUST BLOCKS AT ALL NEW FITTINGS.

6 DETAIL - CONCRETE THRUST BLOCK

NOT-TO-SCALE

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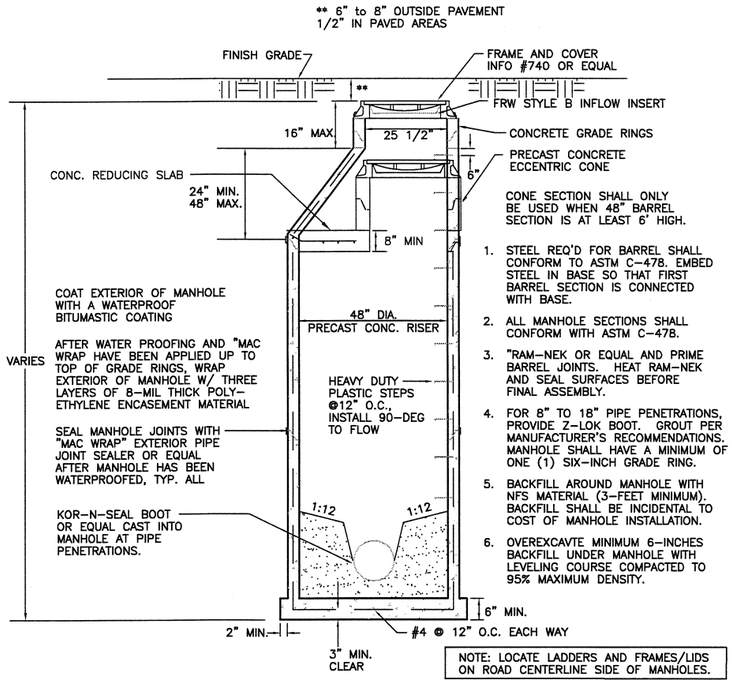
REGAN ENGINEERING, P.C.

BY	DATE	REVISION
TR	01/16/12	95% DESIGN – REVIEW SET

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

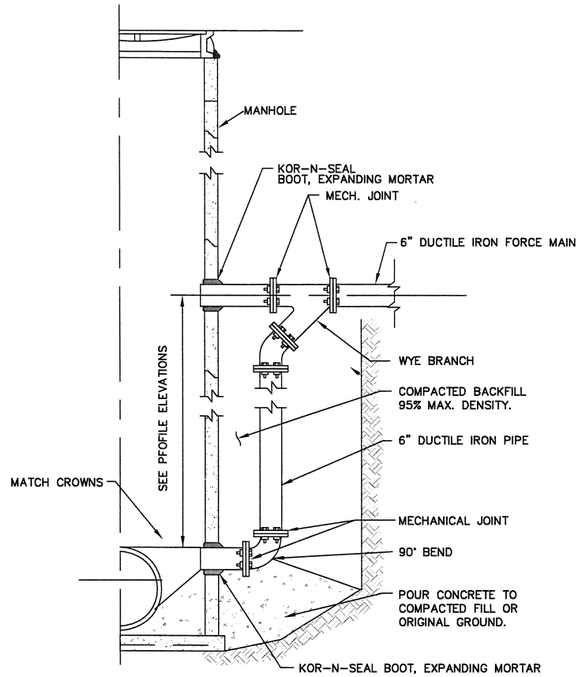
UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3–02–0082–XXX–2012
WATER DETAILS

DATE: 01/16/2012
SHEET: U4 OF T#
AS–BUILT SHEET:



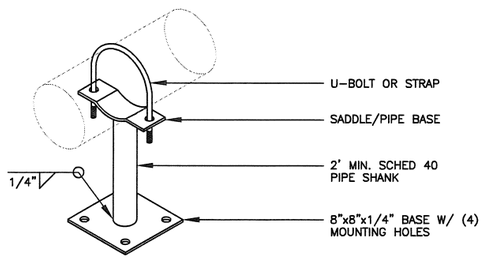
1 DETAIL - SANITARY SEWER MANHOLE

NOT-TO-SCALE



2 DETAIL- DROP CONNECTION

NOT-TO-SCALE



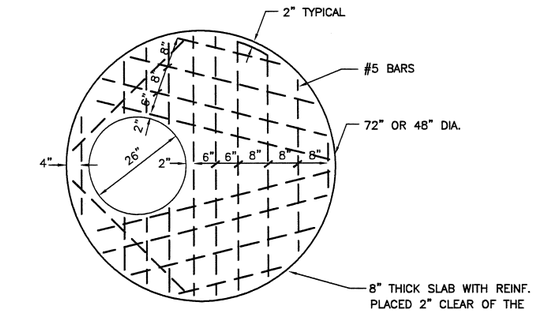
NOTE: ALL MISCELLANEOUS METALS, FABRICATIONS, HARDWARE, BOLTS AND METAL MATERIALS SHALL BE STAINLESS STEEL.

INSTALL NON-SHRINK GROUT UNDER PIPE SUPPORT TO PROVIDE UNIFORM BEARING.

MOUNT BASE WITH (4) 1/2" DIAMETER BOLTS EPOXIED INTO VALVE VAULT FLOOR OR WETWELL WALL.

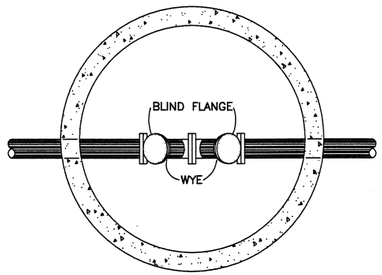
5 DETAIL - PIPE SUPPORT

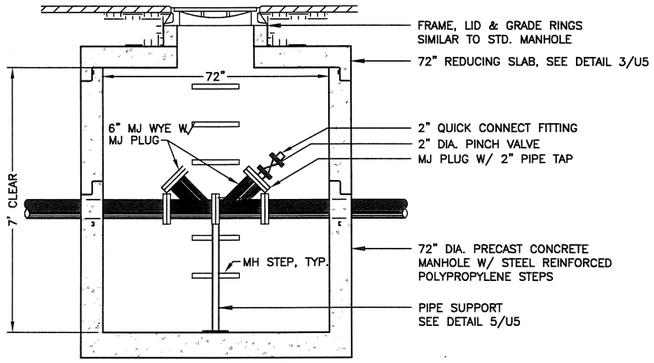
NOT-TO-SCALE



3 DETAIL - CONCRETE REDUCING SLAB

NOT-TO-SCALE





THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL FITTINGS, BENDS, OFFSETS, AND OTHER ITEMS NECESSARY TO INSTALL A COMPLETE PRESSURE TESTED SYSTEM.

MANHOLES SHALL MEET THE STRUCTURAL REQUIREMENTS FOR THE 48" MANHOLE DETAILED ON THIS SHEET

PINCH VALVE: REDVALVE SERIES 75, HYPALON SLEEVE, BEVEL GEAR WITH HANDWHEEL OPERATOR.

4 DETAIL - CLEANOUT MANHOLE

NOT-TO-SCALE

REGAN ENGINEERING, P.C.

BY	DATE	REVISION
TR	01/16/12	95% DESIGN – REVIEW SET

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
UNALASKA AIRPORT IMPROVEMENTS 2012
PROJECT No. 53443
A.I.P. No. 3-02-0082-XXX-2012
SEWER DETAILS

DATE: 01/16/2012
SHEET: U5 OF T#
AS-BUILT SHEET:

Designed By: T. REGAN
Drawn By: T. REGAN
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Date Revised:
Layout Name:
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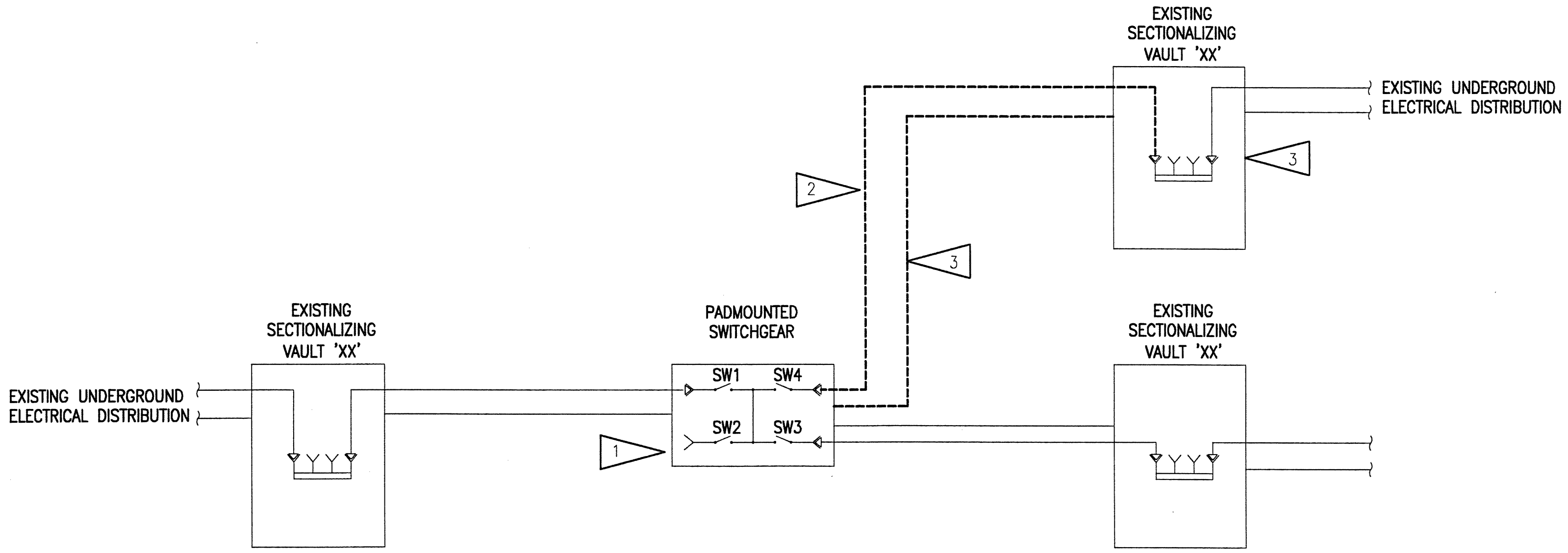
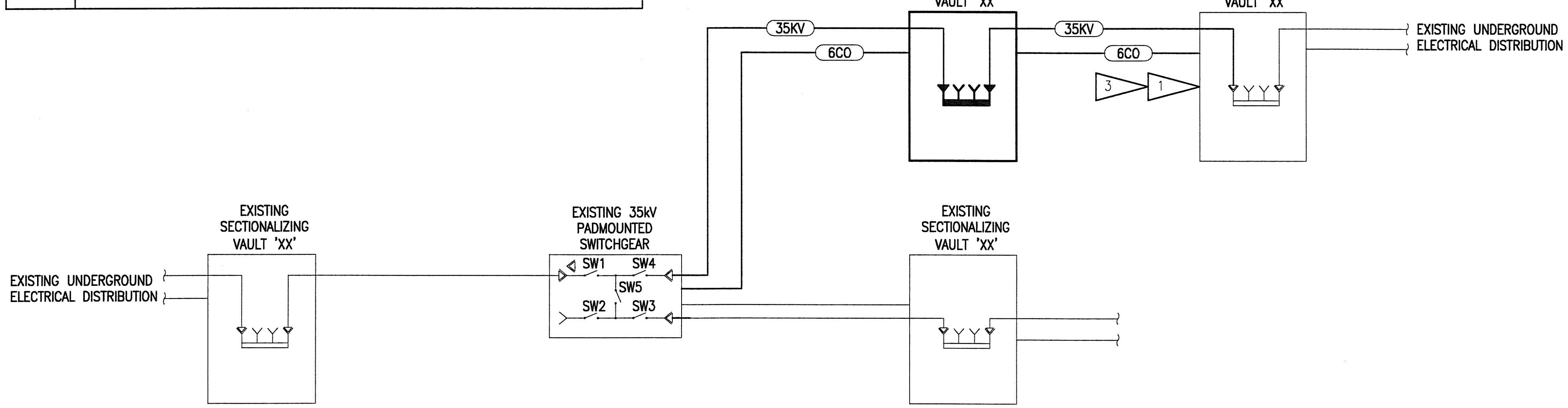


1 DEMOLITION ONE-LINE DIAGRAM
NO SCALE

LEGEND	
	CONDUIT, CONCEALED
#10	NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)
A-2	HOMERUN TO PANEL (PANEL AND CIRCUIT No.)
1	NOTE TAG (No. INDICATES NOTE)
	PADMOUNT TRANSFORMER
	SECTIONAL TRANSFORMER
Δ	TELEPHONE PEDESTAL
C	CONDUIT
CO	CONDUIT ONLY
E	DENOTES EXISTING ITEM
GRSC	GALVANIZED RIGID STEEL CONDUIT
HDPE	HIGH DENSITY POLYETHYLENE CONDUIT
IAW	IN ACCORDANCE WITH

FEEDER SCHEDULE	
35KV	6"C., 3#4/0 CU, 345mil, TRXLP, 35KV, 100% INSULATION WITH 1/3 CONCENTRIC NEUTRAL
6CO	6" CONDUIT ONLY FOR FUTURE CONNECTION



2 REMODEL ONE-LINE DIAGRAM
NO SCALE

GENERAL NOTES:

A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS SUPPLIED BY THE CITY OF UNALASKA AND THE ELECTRICAL UTILITY COMPANY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.

B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.

C. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

D. ALL LINES SHALL BE PULLED AND TESTED PRIOR TO SWITCHOVER TO NEW LINES. CLOSE COORDINATION WITH CITY OF UNALASKA ELECTRICAL DEPARTMENT CREWS SHALL BE MAINTAINED TO MINIMIZE AND SCHEDULE OUTAGES.

SHEET NOTES:

1. ALL LINES SHALL BE PULLED AND TESTED PRIOR TO SWITCHOVER TO NEW LINES. CLOSE COORDINATION WITH CITY OF UNALASKA ELECTRICAL DEPARTMENT CREWS SHALL BE MAINTAINED TO MINIMIZE AND SCHEDULE OUTAGES.
2. DISCONNECT EXISTING MEDIUM VOLTAGE CONDUCTORS. REMOVE EXISTING CONDUCTORS. DEMOLISH CONDUIT WITHIN 10' OF VAULTS. THE REMAINDER OF THE CONDUIT SYSTEM CAN BE ABANDONED IN PLACE UNLESS OTHERWISE NOTED.
3. DEMOLISH EXISTING SPARE CONDUIT. TO ACCOMMODATE FEEDER REPLACEMENT. DEMOLISH CONDUIT WITHIN 10' OF VAULTS. THE REMAINDER OF THE CONDUIT SYSTEM CAN BE ABANDONED IN PLACE UNLESS OTHERWISE NOTED.
4. EXISTING SECTIONALIZING VAULT XX, CITY OF UNALASKA WILL PROVIDE UPGRADES TO CABLING AND EQUIPMENT NECESSARY FOR TIE IN OF THE NEW LINE.

REGAN ENGINEERING, P.C.

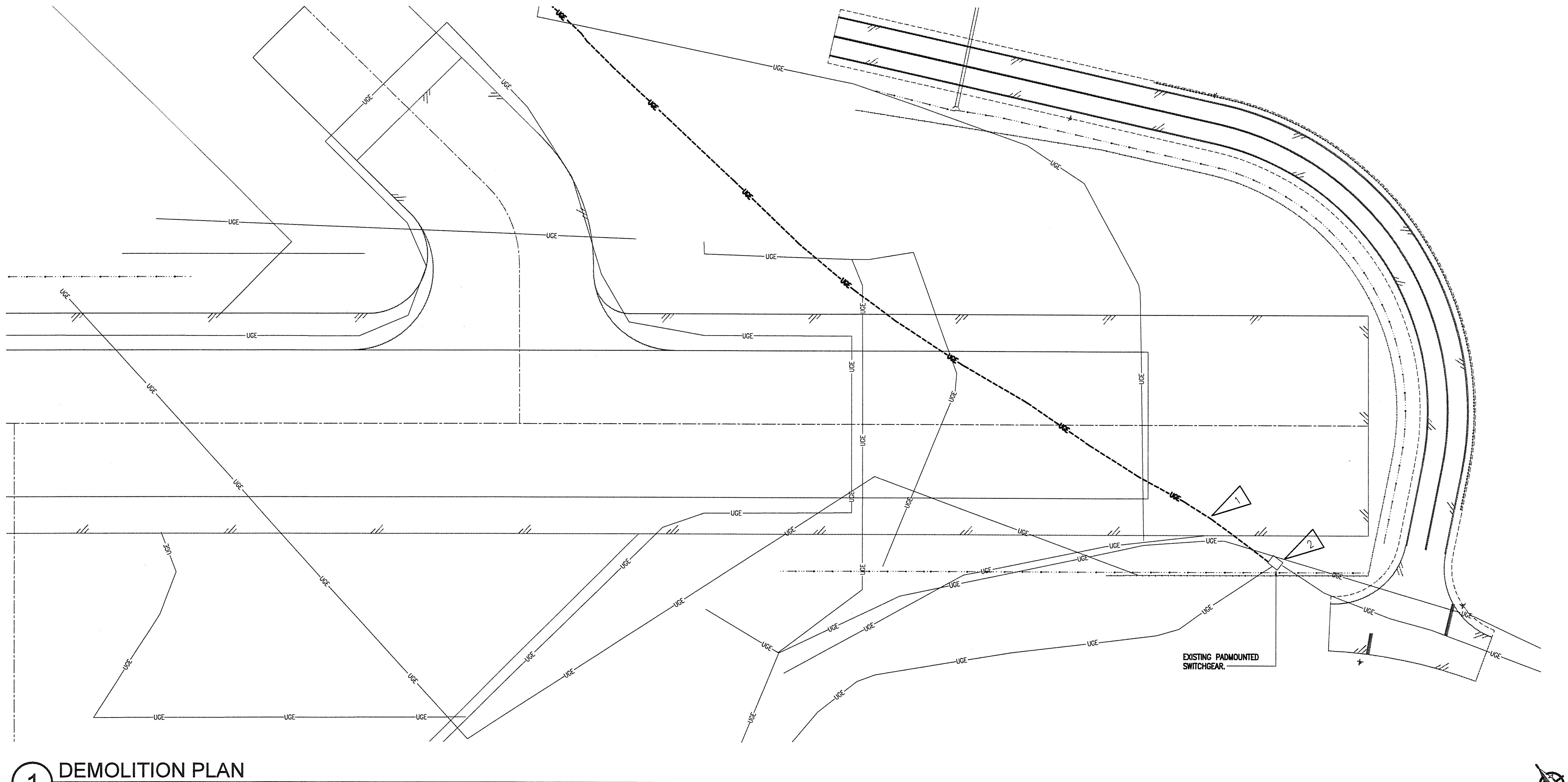
BY	DATE	REVISION
TR	12/02/11	UTILITY RELOCATIONS – ONE-LINE DIAGRAMS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 53443
AIP No. 3-02-0082-XXX-2011
ELECTRICAL UTILITY
ONE-LINE DIAGRAMS

DATE: 1/16/2012
SHEET: U6 OF X
AS-BUILT SHEET: 00 00

Designed By: Drawn By: Checked By:
Date Revised: Layout Name: File Path and Name:



1 DEMOLITION PLAN

1" = 40'-0"

DEMOLITION NOTES:

A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS SUPPLIED BY THE CITY OF UNALASKA AND THE ELECTRICAL UTILITY COMPANY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.

B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.

C. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

D. COORDINATE ALL UTILITY OUTAGES WITH CITY OF UNALASKA.

SHEET NOTES:

1. EXISTING FEEDER TO BE DEMOLISHED SEE 1/E1.
2. EXISTING 35kV PADMOUNTED SWITCHGEAR, TO REMAIN.

Date Revised:	
Layout Name:	
File Path and Name:	G:\2011\L1324\L1324_Eseries.dwg
Designed By:	WKR
Drawn By:	WKR
Checked By:	TEH

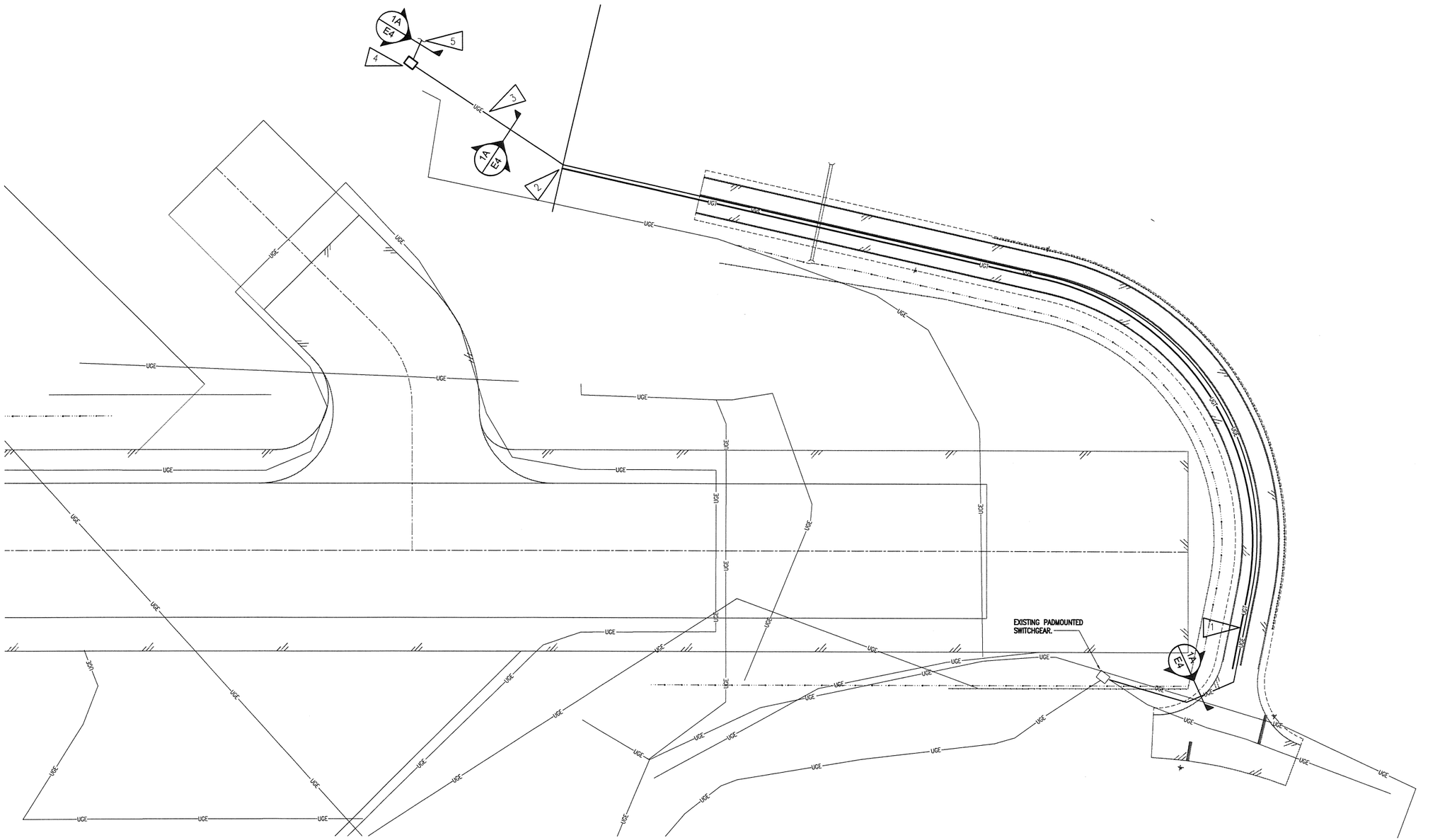
REGAN ENGINEERING, P.C.

BY	DATE	REVISION
TR	12/02/11	UTILITY RELOCATIONS – ONE-LINE DIAGRAMS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 53443
AIP No. 3-02-0082-XXX-2011
ELECTRICAL UTILITY
DEMOLITION PLAN

DATE: 1/16/2012
SHEET: U7 OF X
AS-BUILT SHEET: 00 00



1 ELECTRICAL REMODEL PLAN

1" = 40'-0"

SHEET NOTES:

1. NEW TELECOM CONDUITS TO BE INSTALLED BY OTHERS. COORDINATE WITH CITY OF UNALASKA AND TELECOM PROVIDER FOR LOCATION/QUANTITY.
2. END OF COMBINED WATER/SEWER/ELECTRICAL UTILITY TRENCH.
3. NEW ELECTRICAL UTILITY TRENCH, SEE 1/E4 FOR TRENCHING DETAIL.
4. NEW SECTIONALIZING VAULT IN NEW LOCATION, COORDINATE WITH CITY OF UNALASKA FOR FINAL LOCATION, PRIOR TO ROUGH-IN. SEE 2/E4 FOR SECTIONALIZING VAULT DETAIL.
5. PROVIDE NEW CONNECTION TO EXISTING SECTIONALIZING VAULT, SEE 1/E1 FOR ELECTRICAL ONE-LINE DIAGRAM.

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Date Plotted:
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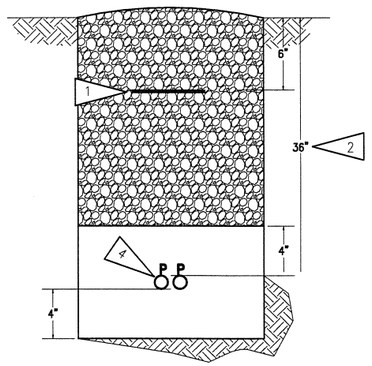
REGAN ENGINEERING, P.C.

BY	DATE	REVISION
TR	12/02/11	UTILITY RELOCATIONS – ONE-LINE DIAGRAMS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

UNALASKA AIRPORT
UNALASKA, ALASKA
AIRPORT IMPROVEMENTS
PROJECT No. 53443
AIP No. 3-02-0082-XXX-2011
ELECTRICAL
REMODEL PLAN

DATE: 1/16/2012
SHEET: U8 OF X
AS-BUILT SHEET: 00 00



TRENCHING UNIT
THREE-PHASE RADIAL FEED

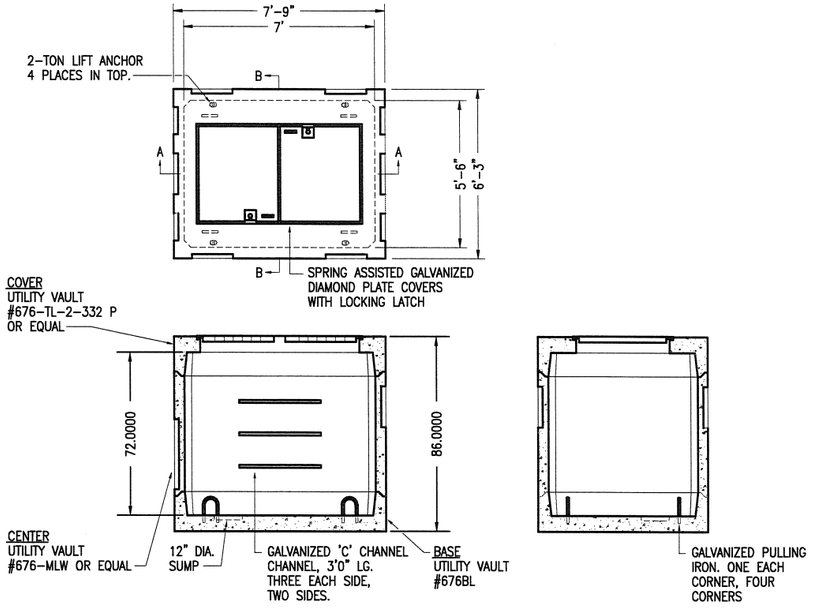
DETAIL A

DETAIL NOTES:

1. PROVIDE 4 MIL, 6 INCH WIDE WARNING TAPE.
2. DEPTHS SPECIFIED ARE TO FINISHED GRADE.
3. OVER-EXCAVATE TRENCHES AS NECESSARY TO ALLOW FOR (a) SAND BEDDING OR (b) LOOSE SANDY SOILS OR (c) WHERE MORE THAN ONE CONDUIT WILL BE INSTALLED IN TRENCH AND LAYING FIRST CONDUIT MAY CAUSE TRENCH DAMAGE AND REDUCTION IN DEPTH.
4. POWER DISTRIBUTION CONDUIT SHALL BE 6" TYPICAL.

1 BURIED PRIMARY UTILITIES DETAIL

NTS



SECTION AA

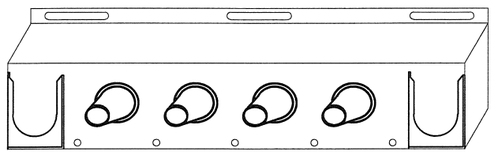
SECTION BB

DETAIL NOTES:

1. SEE 3/E4 FOR SECTIONALIZING JUNCTION DETAIL. COORDINATE WITH CITY OF UNALASKA ELECTRICAL DEPARTMENT FOR LOCATION.

2 SECTIONALIZING VAULT

NO SCALE



3 FOUR POINT JUNCTION

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REGAN ENGINEERING, P.C.

			STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES CENTRAL REGION	UNALASKA AIRPORT UNALASKA, ALASKA AIRPORT IMPROVEMENTS PROJECT No. 53443 AIP No. 3-02-0082-XXX-2011 ELECTRICAL DETAILS	DATE: 1/16/2012 SHEET: U9 OF X AS-BUILT SHEET: 00 00
TR	12/02/11	UTILITY RELOCATIONS - ONE-LINE DIAGRAMS			
BY	DATE	REVISION			

ELECTRICAL SPECIFICATIONS

SCOPE OF WORK – FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT FOR AN EXTENSION TO THE EXISTING ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

STANDARDS, CODES AND REGULATIONS – COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE (NESC) AND RURAL UTILITIES SERVICES (RUS) BULLETINS AS WELL AS ALL CITY OF UNALASAKA DEPARTMENT OF PUBLIC UTILITIES ELECTRICAL DISTRIBUTION DIVISION REQUIREMENTS.

DRAWINGS – THE DRAWINGS ARE DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. UNLESS SPECIFICALLY DIMENSIONED. REVIEW THE DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT FURNISHED BY OTHER CRAFTS BUT INSTALLED IN ACCORDANCE WITH THIS SECTION. BRING QUESTIONABLE OR OBSCURE ITEMS, APPARENT CONFLICTS BETWEEN PLANS AND SPECIFICATIONS, GOVERNING CODES OR UTILITIES REGULATIONS TO THE ATTENTION OF THE ARCHITECT. CODES, ORDINANCES, REGULATIONS, MANUFACTURER'S INSTRUCTIONS OR STANDARDS TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH THE DRAWINGS AND SPECIFICATIONS.

RECORD DRAWINGS – MARK UP A CLEAN SET OF DRAWINGS AS THE WORK PROGRESSES TO SHOW THE DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK WHICH WILL BECOME PERMANENTLY CONCEALED. SHOW ROUTING OF WORK IN PERMANENTLY CONCEALED BLIND SPACES WITHIN THE BUILDING. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO THE SYSTEMS SHOWN.

WORKMANSHIP – INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS SHALL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS AND/OR INSTALLATION DRAWINGS AND IN ACCORDANCE WITH NECA STANDARDS. MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM WITH APPLICABLE INDUSTRY STANDARDS, NEMA STANDARDS AND UNDERWRITERS LABORATORIES STANDARDS WHERE APPLICABLE.

SUBMITTALS – PROVIDE MATERIAL AND EQUIPMENT SUBMITTALS CONTAINING A COMPLETE LISTING OF MATERIAL AND EQUIPMENT SHOWN ON THE DRAWINGS. INCLUDE CATALOG NUMBERS, WIRING DIAGRAMS, ROUGH-IN DIMENSIONS AND PERFORMANCE DATA FOR ALL MATERIAL AND EQUIPMENT. SUBMITTALS SHALL BE BOUND IN HARD COVER, LOOSE-LEAF BINDERS SEPARATE FROM WORK FURNISHED UNDER OTHER DIVISIONS. INDEX AND CLEARLY IDENTIFY ALL MATERIAL AND EQUIPMENT BY ITEM, NAME OR DESIGNATION USED ON THE DRAWINGS. SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE SUBMITTALS ARE NOT CHECKED FOR QUANTITY, DIMENSION, OR FOR PROPER OPERATION. WHERE DEVIATIONS OF A SUBSTITUTE PRODUCT OR SYSTEM PERFORMANCE HAVE NOT BEEN SPECIFICALLY NOTED IN THE SUBMITTAL BY THE CONTRACTOR, PROVISIONS OF A COMPLETE AND SATISFACTORY WORKING INSTALLATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

WARRANTY – PROVIDE WARRANTY PER REQUIREMENTS OF ITEM U-500.

PERMITS – SECURE AND PAY FOR ALL FEES, PERMITS, ETC. REQUIRED BY LOCAL AND STATE AGENCIES.

REFERENCE SYMBOLS – THE ELECTRICAL "LEGEND" ON THE DRAWINGS IS A STANDARDIZED VERSION, AND ALL SYMBOLS SHOWN MAY NOT BE USED. USE THE "LEGEND" AS A REFERENCE FOR THE SYMBOLS USED ON THE DRAWINGS.

IDENTIFICATION – PROVIDE IDENTIFICATION OF CABLES AND STRUCTURES PER NESC AND RUS BULLETIN 1728F-806.

CONDUIT – INSTALL CONDUIT FOR ALL 35KV SYSTEMS, AS WELL AS SPARE CONDUITS AS SHOWN. RACEWAYS SHALL BE RIGID NONMETALLIC CONDUIT (RNC) NEMA TC 2; SCHEDULE 40 PVC, RATED FOR 90 DEGREE C CABLES OR HIGH DENSITY POLYETHYLENE CONDUIT (HDPE) NEMA TC 7; HDPE CONDUIT RATED FOR 90 DEGREE C CABLE. PROVIDE RACEWAYS BURIED UNDERGROUND AND TERMINATED IN ENCLOSURES UNLESS SPECIFICALLY NOTED OTHERWISE. RACEWAY ROUTING AND BOXES ARE SHOWN IN APPROXIMATE LOCATIONS UNLESS DIMENSIONED. FIELD COORDINATE FINAL LOCATION WITH UNALASKA PUBLIC UTILITY PERSONNEL OTHER UTILITY DRAWINGS. USE SUITABLE CAPS TO PROTECT INSTALLED RACEWAY AGAINST ENTRANCE OF DIRT AND MOISTURE. PROVIDE NYLON "JET-LINE" OR APPROVED EQUAL PULL STRING IN EMPTY RACEWAY, EXCEPT SLEEVES AND NIPPLES. WIPE PLASTIC CONDUIT CLEAN AND DRY BEFORE JOINING. APPLY FULL EVEN COAT OF CEMENT TO ENTIRE AREA THAT WILL BE INSERTED INTO FITTING. LET JOINT CURE FOR 20 MINUTES MINIMUM.
EXCAVATION AND BACKFILLING SHALL BE IN ACCORDANCE WITH THESE SPECIFICATIONS AND CIVIL DRAWINGS. EXCAVATE AND BACKFILL AS NECESSARY FOR PROPER INSTALLATION OF OR WORK. PROVIDE BRACING AND SHORING AS NECESSARY OR REQUIRED. COMPACT BACKFILL UNDER PAVING USING MATERIALS AND METHODS SPECIFIED UNDER CIVIL DRAWINGS. ALL CONDUITS SHALL BE BURIED A MINIMUM OF 30 INCHES BELOW GRADE. BOTTOM OF TRENCH SHALL BE SMOOTHED AND ALL ROCKS AND COBBLES 1 INCH AND LARGER SHALL BE REMOVED. CONDUITS SHALL BE BEDDED IN AND SHALL HAVE A COVER OF A MINIMUM OF 4 INCHES OF 1" MINUS GRAVEL. TRENCH SHALL BE BACKFILLED WITH NON-FROST SUSCEPTIBLE MATERIAL AND COMPACTED. DAMAGE TO EXISTING UNDERGROUND UTILITIES SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR. ALL WIRING SHALL BE INSTALLED IN RACEWAY.

MEDIUM VOLTAGE CABLE – CABLE: SINGLE CONDUCTOR TREE RETARDANT CROSS-LINKED POLYETHYLENE (TRXPL), INSULATED POWER CABLE RATED 35 KV AT 100% INSULATION LEVEL, WITH 1/3 CONCENTRIC NEUTRAL AND OVERALL JACKET FOR EITHER DIRECT BURIAL OR INSTALLATION IN DUCTS. CONFORMING TO ICEA S-94-649 FOR CONCENTRIC NEUTRAL CABLES, ICEA S-97-682 FOR UTILITY SHIELDED POWER CABLES AND AEIC CS8 FOR EXTRUDED DIALECTRIC POWER CABLES. CONDUCTOR: CONCENTRIC LAY STRANDING, UNCOATED COPPER, #4/0 AWG IN ACCORDANCE WITH ASTM B3 AND B8 AND ICEA S-68-516. MANUFACTURER – HENDRIX WIRE AND CABLE INC. OR EQUAL. VERIFY THAT CONDUIT IS READY TO RECEIVE WORK. THOROUGHTLY SWAB CONDUITS TO REMOVE FOREIGN MATERIAL BEFORE PULLING CABLES. THE CABLE SHALL BE INSPECTED FOR VISUAL DEFECTS AS IT IS REMOVED FROM THE REEL. DEFECTIVE CABLE SHALL BE DISCARDED. PULL CABLES USING SUITABLE LUBRICANTS AND CABLE PULLING EQUIPMENT. DO NOT EXCEED CABLE PULLING TENSIONS AND BENDING RADIUS RECOMMENDED BY MANUFACTURER. WHERE A BASKET GRIB HAS BEEN USED TO PULL THE CONDUCTORS THE CABLE UNDER THE GRIP AND ONE FOOT PRECEDING IT SHALL BE SEVERED AND DISCARDED AFTER THE PULLING OPERATION. INSTALL CABLE IN MANHOLES ALONG THOSE WALLS PROVIDING THE LONGEST ROUTE AND MOST SPARE CABLE LENGTHS. ARRANGE CABLE TO AVOID INTERFERENCE WITH DUCT ENTRANCES INTO MANHOLE. AVOID ABRASION AND OTHER DAMAGE TO CABLES DURING INSTALLATION. FIREPROOF CABLES IN MANHOLES USING FIREPROOFING TAPE IN HALF-LAPPED WRAPPING EXTENDED ONE INCH INTO DUCTS. NO CABLE BENDS SHALL BE MADE WITHIN SIX INCHES OF A TERMINATION. IDENTIFY ALL CABLES AS THEY ARE INSTALLED. IDENTIFICATION SHALL BE DONE WITH A PERMANENT MARKER ON PLASTIC TAR OR CORROSION RESISTANT METAL TAGS. PAPER OR CLOTH TAGS ARE NOT ACCEPTABLE. WRITING ON PLASTIC TAGS SHALL BE DONE IN NEAT, LARGE, BLOCK LETTERS. SERCURELY ATTACH TAGS TO CABLES WITH TAGS INSIDE ENCLOSURES ORIENTED SO THEY CAN BE READ WITHOUT BEING TOUCHED. PROVIDE A MINIMUM OF 25 INCHES OF SLACK IN THE CABLE TO ALLOW FUTURE RETERMINATION OF CABLE. INSPECT EXPOSED CALBE SECTIONS FOR PHYSICAL DAMAGE. VERIFY THAT CABLE IS CONNECTED ACCORDING TO DRAWINGS AND THAT SHIELD GROUNDING, CABLE SUPPORT, AND TERMINATIONS ARE PROPERLY INSTALLED. AFTER INSTALLATION OF THE CABLE AND PRIOR TO THE HIGH POTENTIAL TEST SPECIFIED BELOW, THE CONTRACTOR SHALL PERFORM A CONTINUITY TEST ON THE CABLE. AFTER SUCCESSFULLY PERFORMING THE CONTINUITY TEST NOTED ABOVE, PERFORM A DC HIGH POTENTIAL TEST OF EACH CONDUCTOR, WITH OTHER CONDUCTORS GROUNDED, TO NEMA WC8. APPLY TEST VOLTAGE TO CONDUCTORS IN AT LEAST EIGHT EQUAL INCREMENTS TO MAXIMUM TEST VOLTAGE. RECORD LEAKAGE CURRENT AT EACH INCREMENT, ALLOWING FOR CHARGING CURRENT DECAY. HOLD MAXIMUM TEST VOLTAGE FOR TEN MINUTES. RECORD RESULTS OF TEST IN TABULAR FORM AND IN PLOTS OF CURRENT VERSUS VOLTAGE FOR INCREMENTAL VOLTAGE STEPS, AND CURRENT VERSUS (30 SECOND INTERVALS) AT MAXIMUM VOLTAGE.

MEDIUM VOLTAGE CABLE ACCESSORIES – CABLE ACCESSORIES SHALL MEET APPLICABLE PORTIONS OF IEEE, ANSI AND OTHER INDUSTRY STANDARDS INCLUDING THE FOLLOWING: IEEE 386 STANDARD FOR SEPARABLE CONNECTORS, IEEE 404 STANDARD FOR CABLE JOINTS AND SPLICES, IEEE 48 STANDARD FOR CABLE TERMINATIONS, IEEE 592 STANDARD FOR EXPOSED SEMICONDUCTRING SHIELDS, ANSI C119.4 STANDARD FOR COPPER AND ALUMINUM CONDUCTOR CONNECTORS, ICEA S-94-649-2004 AND S-97-682-2000 STANDARD FOR CABLES RATED 5,000 – 46,000 VOLTS. MANUFACTURER – ELASTIMOLD OR EQUAL.

MINIMUM RATINGS:

LOADMAKE/LOADBREAK OPERATIONS: 10 LOADBREAK OPERATIONS AT 200 AMPERES, 34.5 KV PHASE TO PHASE 70 TO 80% LAGGING POWER FACTOR

FAULT CLOSE-IN: 10,000 AMPERES RMS SYMMETRICAL AT 34.5 KV FOR 10 CYCLES.

IMPULSE VOLTAGE: 150 KV

WITHSTAND VOLTAGE: 50 KV, 60 HZ – ONE MINUTE, 103 KV, AND DC – 15 MINUTES.

CORONA VOLTAGE LEVEL: 26 KV EXTINCTION.

CURRENT RATING: CONTINUOUS – 200 AMPERES RMS; MOMENTARY – 10,000 AMPERES RMS SYMMETRICAL FOR 10 CYCLES 3,500 AMPERES RMS SYMMETRICAL FOR 3 SECONDS.

LOAD BREAK ELBOWS: 200 AMPERES, 35 KV CLASS, LOAD BREAK SEPARABLE CONNECTOR CONSISTING OF A BAYONET TYPE CONTACT PROBE, COMPRESSION TYPE COPPERTOP TERMINAL FITTING AND INSULATED EPDM STRESS CONE/BODY COATED WITH AN OIL RESISTANT SEMI-CONDUCTIVE MATERIAL THAT COMPLETELY SHIELDS THE ENTIRE TERMINATION. INSTALL CABLE AND TERMINATIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND TO ANSI C2. GROUND CABLE SHIELD AT EACH TERMINATION AND SPLICE. USE PORTABLE COVERING OR SHELTER WHEN TERMINATIONS ARE BEING PREPARED. TERMINATIONS SHALL BE INSTALLED IN ACCORDANCE WIT THE MANUFACTURER'S INSTRUCTIONS. LUBRICATE ALL MATING SURFACES OF FITTINGS WITH SILICONE GREASE BEFORE THE FITTINGS ARE CONNECTED. CABLE SPLICES SHALL BE MADE BY QUALIFIED CABLE SPLICERS IN STRICT ACCORDANCE WITH THE CABLE MANUFACTURER'S RECOMMENDATIONS. CABLE JOINTS OR SPLICES SHALL NOT BE INSTALLED IN RUNS OF 1,000 FEET OR LESS OR AT INTERVALS OF LESS THAN 1,000 FEET IN LONGER RUNS EXCEPT AS REQUIRED FOR TAPS.

MOLDED MULTI-POINT JUNCTIONS: 200 AMPERE, 35 KV CLASS, FOUR POINT JUNCTIONS. MODULAR DESIGN WITH 200A DEEPWELL BUSHINGS ON 6-1/2" CENTERS WITH 200A LOAD BREAK INSERT. EPDM MOLDED RUBBER CONSTRUCTION ON 304 STAINLESS STEEL MOUNTING BRACKETS. JUNCTIONS SHALL BE MAINTENANCE FREE, FULLY SHIELDED DEAD FRONT AND SUBMERSIBLE.

MANHOLES – MANHOLES SHALL MEET APPLICABLE PORTIONS OF THE FOLLOWING STANDARDS: AASHO H-20 – STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, ANSI/ASTM A153 – ZINC COATED (HOT-DIP) ON IRON AND STEEL HARDWARE ANSI/ASTM A568 – STEEL, SHEET AND STRIP, CARBON (0.15 MAXIMUM PERCENT), HOT-ROLLED, COMMERCIAL QUALITY, ASTM A48 – GRAY IRON CASTINGS, ASTM A123 – ZINC (HOT-GALVANIZED) COATINGS ON PRODUCTS FABRICATED FROM ROLLED, PRESSED, AND FORGED STEEL SHAPES, PLATES, BARS, AND STRIPS. MANHOLES SHALL BE PRECAST. PRECAST CONCRETE SHALL BE AIR-ENTRAINED, 2000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. REINFORCING SHALL MEET AASHO H-20; BRIDGE LOADING. CONSTRUCT IN MODULAR SECTIONS WITH TONGUE AND GROOVE JOINTS. MANHOLES SHALL BE SIZE AND SHAPE AS SHOWN ON DRAWINGS. WINDOW FOR DUCT ENTRY AS SHOWN. INCLUDE CABLE PULLING IRONS OPPOSITE EACH DUCT ENTRY WINDOW. INCLUDE INSERTS FOR CABLE RACKS AT 2 FT. ON CENTERS.
MANHOLE FRAMES AND CONVERS: ASTM A48; CLASS 30B GRAY CAST IRON, MACHINE FINISHED WITH FLAT BEARING SURFACES. SUMP COVERS: ASTM A48; CLASS 30B GRAY CAST IRON. PULLING IRONS: 7/8 INCH DIAMETER STEEL BAR FORMING A TRIANBLE OF 9 INCHES PER SIDE WHEN SET. GALVANIZE TO ANSI/ASTM A153 FOR IRREGULAR SHAPED ARTICLES. AT THE CONTRACTOR'S OPTION CAST IN PLACE CONCRETE MANHOLES SHALL BE OF SIMILAR SIZE AND CONFIGURATION TO PRECAST MANHOLES, BUT CONCRETE SHALL HAVE 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. EXCAVATE, INSTALL BASE MATERIAL, AND COMPACT BASE MATERIAL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND AS REQUIRED BY CIVIL ENGINEER. INSTALL AND SEAL PRECAST SECTIONS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. USE PRECAST NECK AND SHAFT SECTIONS TO BRING MANHOLE ENTRANCE TO PROPER ELEVATION. INSTALL MANHOLES PLUMB. SET THE TOP OF EACH MANHOLE TO FINISHED ELEVATION. INSTALL GROUND ROD WITH TOP PROTRUDING 4 INCHES ABOVE MANHOLE FLOOR. WATERPROOF EXTERIOR SURFACES, JOINTS, AND INTERRUPTS OF MANHOLES AFTER CONCRETE HAS CURED 28 DAYS MINIMUM.

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