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ELECTRICAL SYMBOLS LEGEND

ANNOTATION

LIGHTING

- FLUORESCENT FIXTURE, PENDANT OR CABLE HUNG
- ♀ WALL-MOUNTED LED FIXTURE
- ⊙ WALL-MOUNTED EXIT SIGN, SINGLE FACE
- ⊕ EMERGENCY FIXTURE
MOUNTING HEIGHT: +8'-0" AFF, UON
- OUTDOOR SITE LIGHT, SUBSTATION AND DOLPHIN
- ⊕ OUTDOOR SITE LIGHT, TERMINAL AND UPLAND
- PULL BOX, LIGHTING

POWER

- ⊕^{+48"} DUPLEX RECEPTACLE, 15A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON
↑ DENOTES HEIGHT IN INCHES
AFF (INTERIOR) AFG (EXTERIOR)
- ⊕ DOUBLE DUPLEX RECEPTACLE, 15A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON
- ⊕ OR ⊕ SPECIAL PURPOSE RECEPTACLE AS DESIGNATED SEE 'SPECIAL SYMBOLS' ON EACH SHEET
- OR □ JUNCTION BOX, CODE SIZED UON
- ⊕ TEST PORT
- ⊕ OR ⊕ GROUND ROD
- ⊕ UTILITY METER
- DISCONNECT / SAFETY SWITCH
- ⊕ HEAVY DUTY - ENCLOSED CIRCUIT BREAKER WITH EXTERNALLY OPERATED AND LOCKABLE HANDLE

EQUIPMENT

- OR ■ BRANCH CIRCUIT PANEL BOARD, SURFACE OR FLUSH MOUNTED
- ▭ OR ▭ LIGHTING CONTROL PANEL
- ▭ OR ▭ SIGNAL TERMINAL CABINET OR CONTROL PANEL SURFACE OR FLUSH MOUNTED
- 3'W X 5'L X 2'D PULL BOX, POWER & TELECOMM
- 8'W X 6'L X 6'D PULL BOX, POWER
- 10'W X 8'L X 6'D PULL BOX, POWER

DIAGRAM

- ⊕ ALARM, INDICATING LIGHT, SIGNAL LIGHT OR STROBE
- ⊕^{AT}/_{AF} LOW VOLTAGE CIRCUIT BREAKER - SIZE AND TYPE AS INDICATED
- ⊕^{XXX/X}/_{NEMA XX} LOW VOLTAGE CIRCUIT BREAKER IN NEMA ENCLOSURE SIZE AND TYPE AS INDICATED
- 52 MEDIUM/HIGH VOLTAGE CIRCUIT BREAKER
- ⊕^{OL} THERMAL OVERLOAD RELAY
- ⊕^{XXX/X}/_{SIZE} COMBINATION MOTOR CONTROLLER, STARTER, CIRCUIT BREAKER TYPE
- ⊕ DRAW-OUT TYPE CONNECTION
- ⊕ DISCONNECT SWITCH WITH FUSE
- ⊕ FUSE - SIZE AS INDICATED
- ⊕ TRANSFORMER, PAD MOUNT
- ⊕ TRANSFORMER, DRY TYPE
- ⊕ POTENTIAL TRANSFORMER WITH FUSE
- ⊕ CURRENT TRANSFORMER (CT)
- ⊕ LIGHTING SURGE ARRESTOR
- SPD SURGE PROTECTION DEVICE
- ⊕ GROUNDING ELECTRODE OR CONNECTION

ANNOTATION

- 1 KEYNOTE
- TAG 10 RACEWAY, FEEDER OR CIRCUIT DESIGNATION (SEE SCHEDULE)
- ⊕ DENOTES TYPE
A LIGHTING FIXTURE TYPE DESIGNATION (SEE SCHEDULE)
- ⊕ DENOTES WATTS
180
- ⊕ DENOTES RELAY
6R5
- ⊕ DENOTES CIRCUIT
A, A1
- ⊕ DETAIL INDICATOR
1 E-501
↑ DENOTES SHEET NUMBER ON WHICH DETAIL APPEARS
- ⊕ SECTION INDICATION
A E-301
↑ DENOTES SHEET NUMBER ON WHICH SECTION APPEARS
- WH 1 MECHANICAL EQUIPMENT DESIGNATION (SEE SCHEDULE)

SWITCHING

- ⊕ LIGHT SWITCH, SPST - MOUNTING HEIGHT: +44" AFF, UON
- ⊕ LIGHT SWITCH, 3-WAY - MOUNTING HEIGHT: +44" AFF, UON
- ⊕ DENOTES SWITCH
10
- ⊕ DENOTES CIRCUIT
10
- ⊕ DENOTES RELAY
6R5
- ⊕ DENOTES CIRCUIT
A, A1
- A, A1 LIGHTING FIXTURE TYPE SEE LIGHTING FIXTURE SCHEDULE ON SHEET E-XXX

CONDUIT

- CONDUIT INSTALLED ABOVE GRADE
- - - CONDUIT INSTALLED UNDERGROUND OR UNDER SLAB
- E — UNDERGROUND ELECTRIC - MEDIUM VOLTAGE
- T — UNDERGROUND TELECOMM
- - - CONDUIT STUB-OUT WITH CAP
- ⊕ FLEXIBLE CONDUIT WHIP TO LIGHT FIXTURE OR EQUIPMENT
- ⊕ INDICATES CIRCUIT BREAKER I.D.
- ⊕ L1-4 CONDUIT HOME RUN TO DESIGNATED PANEL, TERMINAL, OR CONTROL CABINET EXAMPLES:
↑ INDICATES BRANCH PANEL
- ⊕ L1-6,8 COMMA INDICATES MULTIPLE SINGLE POLE CIRCUITS
- ⊕ L1-10/12 SLASH INDICATES MULTI-POLE CIRCUIT

OBJECT LINES

- ⊕ NEW OBJECTS (HEAVY CONTINUOUS LINES, UNDERGROUND CONDUIT HEAVY DASHED LINES)
- ⊕ EXISTING OBJECTS TO REMAIN. MAY INCLUDE NEW CIRCUITING ETC. (FINE CONTINUOUS LINES, UNDERGROUND CONDUIT FINE DASHED LINES)
- ⊕ EXISTING OBJECTS TO BE DEMOLISHED (EXTRA FINE DASHED LINES, SCREENED)

COMMUNICATIONS

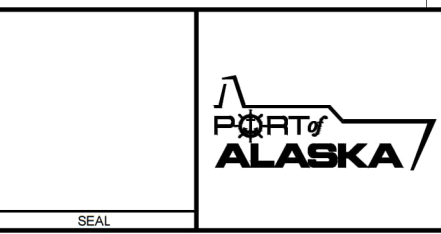
- ⊕ CCTV CAMERA, POLE MOUNTED
- ⊕ SPEAKER, POLE MOUNTED

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK CHK	APVD
CONSULTANT		SEAL	



ELECTRICAL

ELECTRICAL LEGEND, SYMBOLS LEGEND

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE	DATE:	T1-E-001
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

ABBREVIATIONS:

A, AMP	AMPERES	ISC	INTRINSICALLY SAFE CIRCUIT
AC	ALTERNATING CURRENT	ISR	INTRINSICALLY SAFE RELAY
AF	AMPERE FRAME	IPC	INTEGRATED POWER CENTER
AFF	ABOVE FINISHED FLOOR		
AFG	ABOVE FINISHED GRADE	J / JB	JUNCTION BOX
A	ANALOG INPUT		
AIC	AMPS INTERRUPTING CAPACITY	KAIC	KILO-AMPS INTERRUPTING CAPACITY
ANN	ANNUNCIATOR	KCMIL	THOUSANDS CIRCULAR MILLS
AP	ANNUNCIATOR PANEL	KV	KILOVOLT
AT	AMPERE TRIP	KVA	KILOVOLT-AMP
ATS	AUTOMATIC TRANSFER SWITCH	KW	KILOWATT
AUX	AUXILIARY	KWH	KILOWATT-HOUR
AWG	AMERICAN WIRE GAUGE		
		LA	LIGHTING ARRESTOR
B	BYPASS CONTACTOR	LAN	LOCAL AREA NETWORK
BLCP	BYPASS LEVEL CONTROL PANEL	LC	LIGHTING CIRCUIT
BLDG	BUILDING	LE	LEVEL ELEMENT
BRK	BREAKER	LIT	LEVEL INDICATING TRANSMITTER
		LOC	LOCATION
C	CONDUIT	LO	LOCKOUT
CB	CIRCUIT BREAKER	LS	LIMIT SWITCH/LEVEL SWITCH
CC	CONTROL CIRCUIT	LSH	HIGH-LEVEL LEVEL SWITCH
CCTV	CLOSED CIRCUIT TELEVISION	LSL	LOW-LEVEL LEVEL SWITCH
CEC	CHUGACH ELECTRIC CO.	LTG	LIGHTING
CKT	CIRCUIT		
COMP	COMPARTMENT	mA	MILLIAMPS
COND	CONDUCTOR	MAG	MAGNETIC
CO	CONDUIT ONLY	MAX	MAXIMUM
CP	CONTROL PANEL	MCP	MOTOR CIRCUIT PROTECTOR
CPT	CONTROL POWER TRANSFORMER	MECH	MECHANICAL
CPU	CENTRAL PROCESSING UNIT	MCB	MAIN CIRCUIT BREAKER
CS	CONTROL STATION	MFR	MANUFACTURER
CT	CURRENT TRANSFORMER	MH	MAN HOLE
CU	COPPER	MIN	MINIMUM
CMS	CABLE MANAGEMENT SYSTEM	MMS	MANUAL MOTOR STARTER
CEP	CONCRETE EQUIPMENT PAD	MNF	MANUFACTURERS
		MS	MOTOR STARTER
DB	DUCT BANK	MSCP	MOTOR STARTER CONTROL PANEL
DC	DIRECT CURRENT	MSH	MOTOR SPACE HEATER
DCS	DIGITAL CONTROL SYSTEM	MSS	MOTOR STARTING SWITCH
DI	DIGITAL INPUT	MTG	MOUNTING
DIA	DIAMETER	MTR	MOTOR TIMING RELAY
DIV	DIVISION	MWTS	MOTOR WINDING TEMPERATURE SWITCH
DO	DISCRETE OUTPUT/DISSOLVED OXYGEN	Mx	MOTOR CONTACTOR AUXILIARY CONTACT
DPM	DIGITAL POWER MONITOR		
DS	DISCONNECT SWITCH	N	NEUTRAL
DWG	DRAWING	N/A	NOT AVAILABLE-OR- NOT APPLICABLE
		NCTO	NORMALLY CLOSED TIMED OPEN
ELEC	ELECTRICAL	NEC	NATIONAL ELECTRIC CODE
ELEV	ELEVATION	NEMA	NATIONAL ELECTRIC MNF ASSOS.
EMR	EQUIPMENT MOUNTING RACK	NFSS	NON-FUSED SAFETY SWITCH
EM	EMERGENCY	NIC	NOT IN CONTRACT
ES	EMERGENCY STOP	N.C.	NORMALLY CLOSED
EQ	EQUALIZATION	N.O.	NORMALLY OPEN
(E), EX	EXISTING	NTS	NOT TO SCALE
		NOTC	NORMALLY OPENED TIMED CLOSED
FE	FLOW ELEMENT	NP	NAME PLATE
FF	FINISHED FLOOR	N1SP	NORTH TEMINAL 1 SHORE POWER
FLEX	FLEXIBLE		
FO	FIBER OPTIC	OC	ON CENTER
FVNR	FULL VOLTAGE NONE REVERSING	OD	OUTER DIAMETER
FVR	FULL VOLTAGE REVERSING	OEM	ORIGINAL EQUIPMENT MANUFACTURER
FT, '	FEET	OIT	OPERATOR INTERFACE TERMINAL
		OL	OVERLOAD RELAY
		ONAN	OIL NATURAL AIR NATURAL
G/GRD	GROUND		
GEC	GROUNDING ELECTRODE CONDUCTOR	φ	PHASE
GEN	GENERATOR	P	POLE
GF	GROUND FAULT	PB	PULL BOX, ELECTRICAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	PC	POWER & CONTROL
GFI	GROUND FAULT INTERRUPTER	PCS	PROCESS CONTROL SYSTEM
GFR	GROUND FAULT RELAY	PF	POWER FACTOR
GGCC	GROUND GRID CONNECTION CONDUCTOR	PHTS	PUMP HOUSING TEMPERATURE SWITCH
GND	GROUND	PLC	PROGRAMMABLE LOGIC CONTROLLER
		PNL	PANEL
HB	HANDBOX	POA	PORT OF ALASKA
HH	HANDHOLE	PR	PAIR
HOA	HAND-OFF-AUTO SELECTOR	PRIM	PRIMARY
HP	HORSEPOWER	PS	PRESSURE SWITCH POWER SUPPLY
HZ	HERTZ	PTC	POSITIVE TEMPERATURE COEFFICIENT
		THERMISTOR	THERMISTOR
IN, "	INCHES	PT	POTENTIAL TRANSFORMER
IC	ISOLATION CONTACTOR	PVC	POLYVINYL CHLORIDE
IL	INDICATING LIGHT		
I/O	INPUT/OUTPUT		

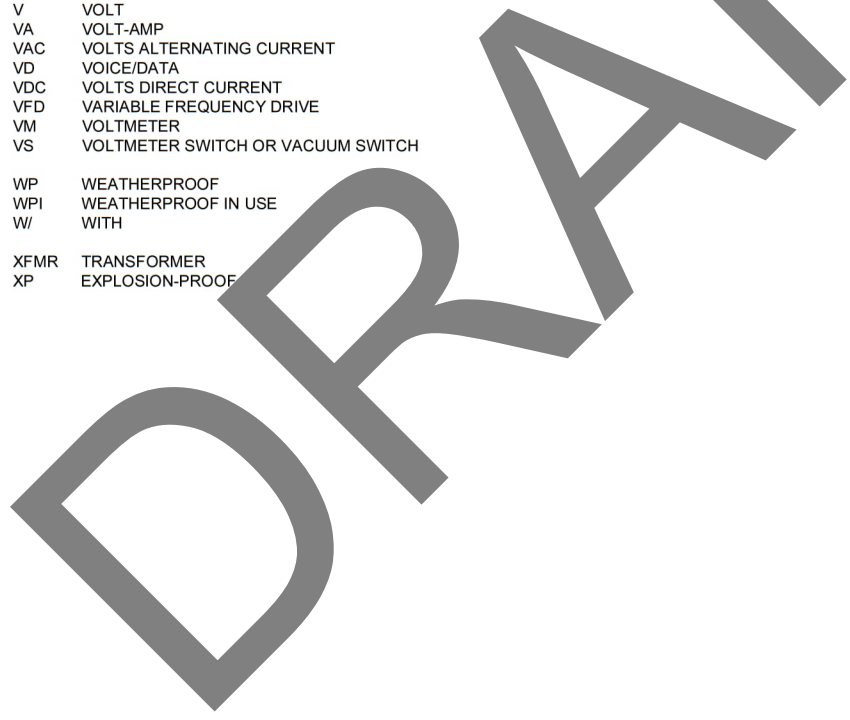
QTY	QUANTITY		
RECEP	RECEPTACLE	T1C	TERMINAL 1 CAMERA
RGS	RIGID GALVANIZED STEEL (CONDUIT)	T1S	TERMINAL 1 SPEAKER
		TB	TELECOMM PULL BOX
SA	SURGE ARRESTOR	TC	TERMINAL CABINET OR TIMED CLOSED
S1SP	SOUTH TERMINAL 1 SHORE POWER	TDR	TIME DELAY RELAY
SEC	SECOND OR SECONDARY	TEL	TELEPHONE
SEAL	SEAL FAILURE	TERM	TERMINAL
SEL	SELECTOR SWITCH	TSP	TWISTED SHIELDED PAIR
S/L	STOP/LOCKOUT SWITCH	T-STAT	THERMOSTAT
SN	SOLID NEUTRAL	TTC	TELEPHONE TERMINATION CABINET
SP	SPEED	TTP	TELEPHONE TERMINATION PANEL
SPD	SURGE PROTECTION DEVICE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESS
S/S	STOP/START PUSH BUTTON	TYP	TYPICAL
SS	STAINLESS STEEL		
SSRV	SOLID STATE REDUCED VOLTAGE	UDS	UNDERGROUND DISTRIBUTION SWITCHGEAR
SW	SWITCH	ULS	ULTRASONIC LEVEL SENSOR
SWD	SWITCHING DUTY	UPS	UNINTERRUPTIBLE POWER SUPPLY
		V	VOLT
		VA	VOLT-AMP
		VAC	VOLTS ALTERNATING CURRENT
		VD	VOICE/DATA
		VDC	VOLTS DIRECT CURRENT
		VFD	VARIABLE FREQUENCY DRIVE
		VM	VOLTMETER
		VS	VOLTMETER SWITCH OR VACUUM SWITCH
		WP	WEATHERPROOF
		WPI	WEATHERPROOF IN USE
		W/	WITH
		XFMR	TRANSFORMER
		XP	EXPLOSION-PROOF

GENERAL NOTES:

- DRAWINGS INDICATE THE REQUIRED EQUIPMENT, DEVICES, FIXTURES, ETC. AND THEIR RELATED CIRCUITING REQUIREMENTS. COORDINATE THE DEVICES LOCATIONS WITH DISCIPLINES.
- VERIFY FIELD CONDITIONS AND DIMENSIONS BEFORE CONSTRUCTION BEGINS. NOTIFY PORT OF ALASKA REPRESENTATIVE IF DISCREPANCIES OCCUR.
- PROTECT FROM DAMAGE EQUIPMENT, CONDUIT, CABLE AND WIRE THAT IS TO REMAIN.
- COORDINATE WITH PORT OF ALASKA REPRESENTATIVE SHUTDOWN OF EXISTING BUILDING SYSTEMS TO MINIMIZE OUTAGE TIME.
- DEMOLITION WORK SHOWN WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT REPRESENT THAT ALL ITEMS WHICH MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
- INTERCEPT, EXTEND, REROUTE, REPULL CONDUCTORS AND OTHERWISE MODIFY EXISTING CONDUCTORS OF ALL SYSTEMS AS REQUIRED TO MAINTAIN AND/OR ESTABLISH PROPER FUNCTION AND SATISFY DESIGN INTENT. REMOVE ALL ABANDONED CONDUCTORS AND CONDUIT, UON.
- PRIOR TO COMMENCING WORK, COORDINATE WITH OTHER TRADES TO PREVENT CONFLICTS.
- ALL EQUIPMENT SHALL BE LISTED AND LABELED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURERS INSTRUCTIONS.
- ALL EQUIPMENT SHALL BE GROUNDED PER THE REQUIREMENTS OF CEC ARTICLES 250. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL POWER SYSTEM RACEWAYS.

GENERAL DEMOLITION NOTES:

- THE DEMOLITION PLANS WERE DEVELOPED FROM AVAILABLE RECORD DRAWINGS OBTAINED FROM CHARLES COUNTY AND ARE INTENDED ONLY TO SHOW BASIC SYSTEM CONFIGURATION. IT IS CONTRACTOR'S RESPONSIBILITY TO DETERMINE ACTUAL SITE CONDITIONS. PRIOR TO THE DEMOLITION, CONTRACTOR SHALL CONFIRM WITH OWNER THE EXACT EXTENT OF DEMOLITION.
- UNLESS SHOWN TO BE DEMOLISHED, ALL EXISTING STRUCTURES AND EQUIPMENT SHALL CONTINUE TO BE OPERATIONAL AND SHALL BE PROTECTED.
- DEMOLITION TO BE PERFORMED IN ACCORDANCE WITH CONSTRUCTION CONSTRAINTS OUTLINED IN THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL CLEAN AND DISPOSE OF ALL RESIDUAL MATERIAL IN EACH PROCESS TANK WHERE NEW WORK IS SHOWN OR SPECIFIED (REFER TO BID FORM).
- ALL WALL SECTIONS MUST BE FULLY SUPPORTED DURING DEMOLITION AGAINST VERTICAL, HORIZONTAL AND OVERTURNING FORCES AND MOVEMENT.
- HATCHED AREAS ARE TO BE DEMOLISHED. SEE LEGEND.
- ADDITIONAL ITEMS TO DEMOLISHED INCLUDE, BUT ARE NOT LIMITED TO, ELECTRICAL, PIPING, VALVES, FITTINGS, SUPPORTS, WALKWAYS, GUARDRAILS, GRATING, GROUND COVER, AND PAVEMENT AS SHOWN IN THE DEMOLITION PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS. UNDERGROUND PIPING AND DUCT BANK SHOWN TO BE DEMOLISHED AND NOT LOCATED IN AREAS OF NEW CONSTRUCTION MAY BE ABANDONED IN PLACE AND CAPPED AND PLUGGED AT BOTH ENDS.
- ELECTRICAL CONDUITS SHALL BE MOVED AS REQUIRED TO FACILITATE NEW PIPING ARRANGEMENTS.
- CONTRACTOR SHALL FILL IN VOIDS CREATED BY REMOVING PIPE, BOLTS, REBAR, CONDUIT AND OTHER SIMILAR ITEMS WITH NON-SHRINK GROUT AND MAKE FLUSH WITH SURROUNDING SURFACE. ALL ITEMS REMAINING ARE TO BE CUT AND GROUND FLUSH WITH SURROUNDING SURFACE. REMAINING EMBEDDED METALS EXPOSED TO CORROSIVE ENVIRONMENTS SHALL BE COATED PER SECTION 09900 AFTER GRINDING FLUSH WITH SURROUNDING SURFACE.
- DEMOLISH EQUIPMENT PADS, PIPE SUPPORTS, AND ELECTRICAL FOR DEMOLISHED EQUIPMENT UNLESS OTHERWISE NOTED.
- CONDUCT DEMOLITION WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE SEQUENCING CONSTRAINTS IDENTIFIED IN SECTION 01010.
- EXISTING PIPING ELEVATIONS SHOWN ARE APPROXIMATE AND FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM IN THE FIELD.
- WHERE STRUCTURES ARE IDENTIFIED AS ABANDONED, THIS SPECIFIES THE CURRENT CONDITION OF THOSE FACILITIES. WHERE THESE STRUCTURES ARE HATCHED, THEY SHALL BE DEMOLISHED.
- WHERE PIPES ARE ABANDONED IN PLACE CONTRACTOR SHALL CLOSE ALL ASSOCIATED VALVES AND REMOVE UPPER SECTION OF VALVE BOX AND BACKFILL HOLE WITH CONCRETE.
- WHERE OPENINGS ARE LEFT IN BUILDING WALLS FROM DEMOLITION OF EQUIPMENT, CONTRACTOR SHALL SEAL WITH MATERIALS THAT MATCH THE EXISTING CONSTRUCTION. TOOTH ALL MASONRY CONSTRUCTION TO EXISTING.
- FOR ADDITIONAL DESCRIPTIONS OF DEMOLITION REQUIREMENTS, REFER TO SECTION 02030.
- CONTRACTOR SHALL ASSUME THAT THE PAINTING SYSTEMS USED IN THE MATTAWOMAN WWTP CONTAIN LEAD IN CONCENTRATIONS EXCEEDING THE MARYLAND STATE GUIDELINES. CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH APPLICABLE OSHA AND MOSHA REGULATIONS, INCLUDING DISPOSAL.
- CONTRACTOR SHALL ASSUME THAT SOME MATERIALS AT THE MATTAWOMAN WWTP CONTAIN ASBESTOS IN EXCESS OF FEDERAL AND STATE GUIDELINES. CONTRACTOR SHALL FOLLOW ALL APPLICABLE EPA GUIDELINES IN PERFORMING WORK IN AFFECTED AREAS, INCLUDING DISPOSAL.
- THE OWNER RESERVES THE RIGHT TO REMOVE ANY EQUIPMENT OR MATERIALS SCHEDULED FOR DEMOLITION OR REMOVAL UP TO THE DATE OF DEMOLITION, OR REMOVALS ACTUALLY BEGIN. THE REMOVAL OR FAILURE TO REMOVE, BY THE OWNER, ANY EQUIPMENT OR MATERIAL SCHEDULED FOR DEMOLITION OR REMOVAL SHALL NOT BE CAUSE FOR ANY ADDITIONAL CHARGES BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING AT LEAST 30 DAYS PRIOR TO BEGINNING ANY DEMOLITION.

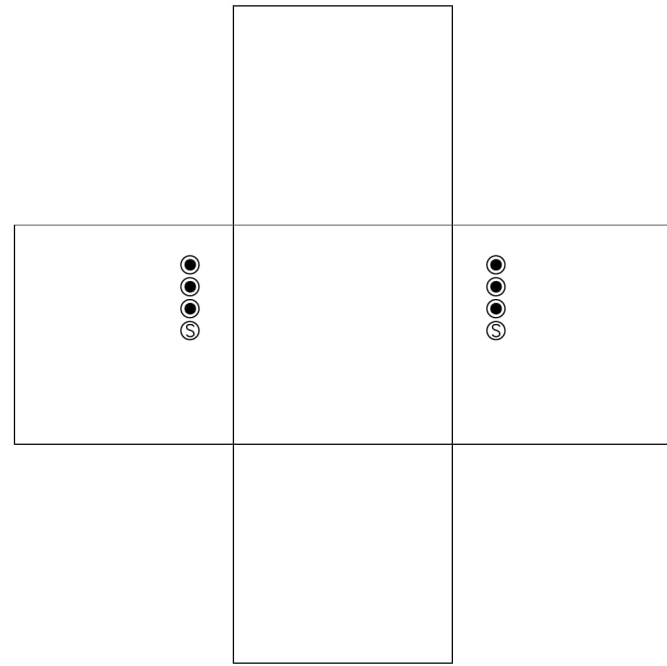


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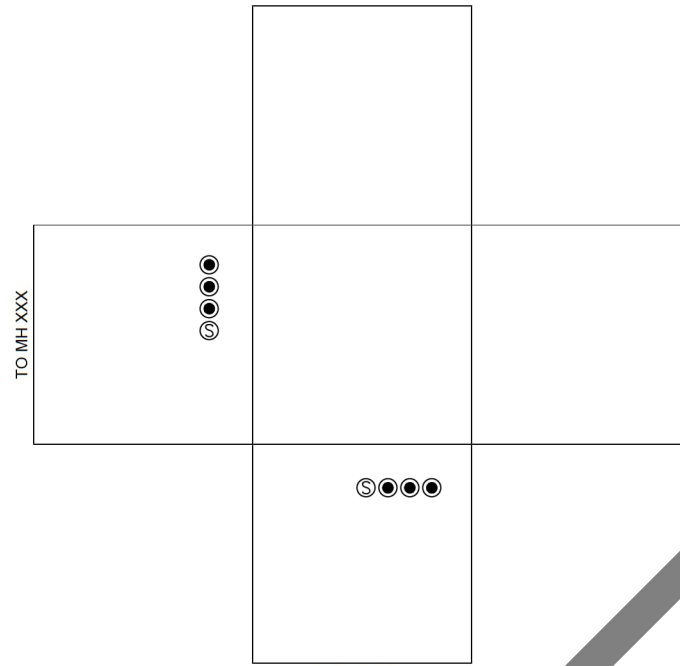
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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td colspan="5" style="text-align: center;">REVISIONS</td> </tr> </table>	REV	DATE	DESCRIPTION	BY	APVD						REVISIONS					<p style="font-size: 8px;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)</p> <p style="font-size: 8px;">DSGN: D. BURGER DR: J. LIBERATO CHK: CHK APVD: SEAL: CONSULTANT</p>		<p style="font-size: 12px; margin: 0;">ELECTRICAL</p> <p style="font-size: 10px; margin: 0;">ELECTRICAL ABBREVIATIONS AND NOTES</p>	<p style="font-size: 10px; margin: 0;">PORT OF ALASKA</p> <p style="font-size: 12px; margin: 0;">PORT OF ALASKA MODERNIZATION PROGRAM</p> <p style="font-size: 14px; margin: 0;">CARGO TERMINAL 1 DESIGN</p> <p style="font-size: 10px; margin: 0;">ANCHORAGE, ALASKA</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td style="width: 50%;">HORIZ SCALE: NONE</td> <td style="width: 50%;">DATE: T1-E-002</td> </tr> <tr> <td>VERT SCALE:</td> <td>SHEET: X OF</td> </tr> </table>	HORIZ SCALE: NONE	DATE: T1-E-002	VERT SCALE:	SHEET: X OF
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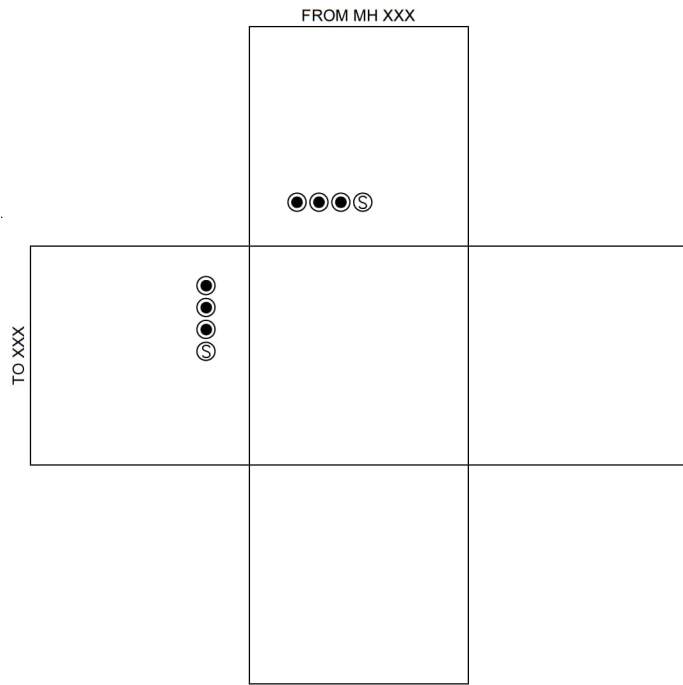
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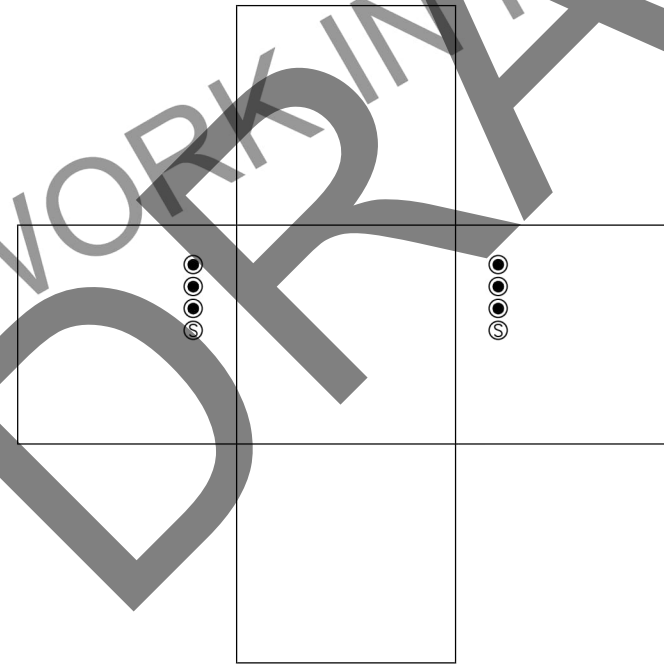
1 TYPICAL FOR MH XXX
SCALE: NTS T1-E-XXX



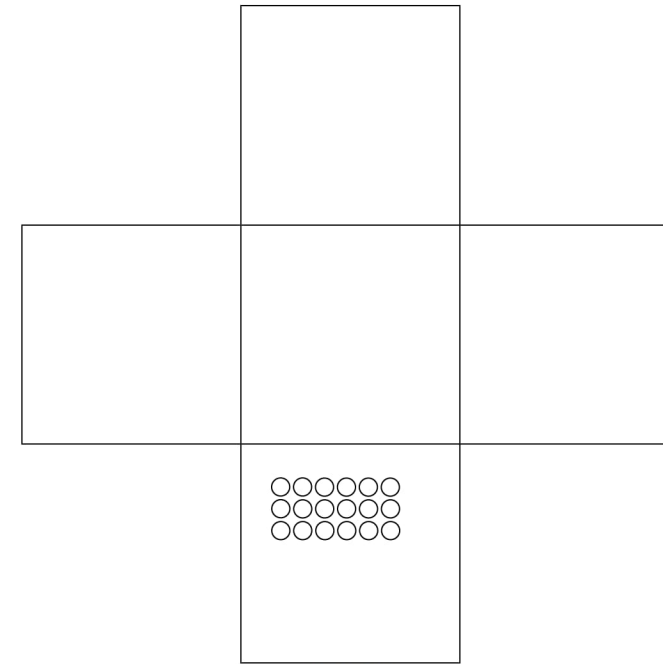
X MH XXX
SCALE: NTS T1-E-XXX



X TYPICAL FOR MH XXX
SCALE: NTS T1-E-XXX



X MH XXX
SCALE: NTS T1-E-XXX



X MH XXX
SCALE: NTS T1-E-XXX

GENERAL SHEET NOTES

1. XXX

SHEET KEYNOTES

1. XXX

WORK IN PROGRESS
DRAWING

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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

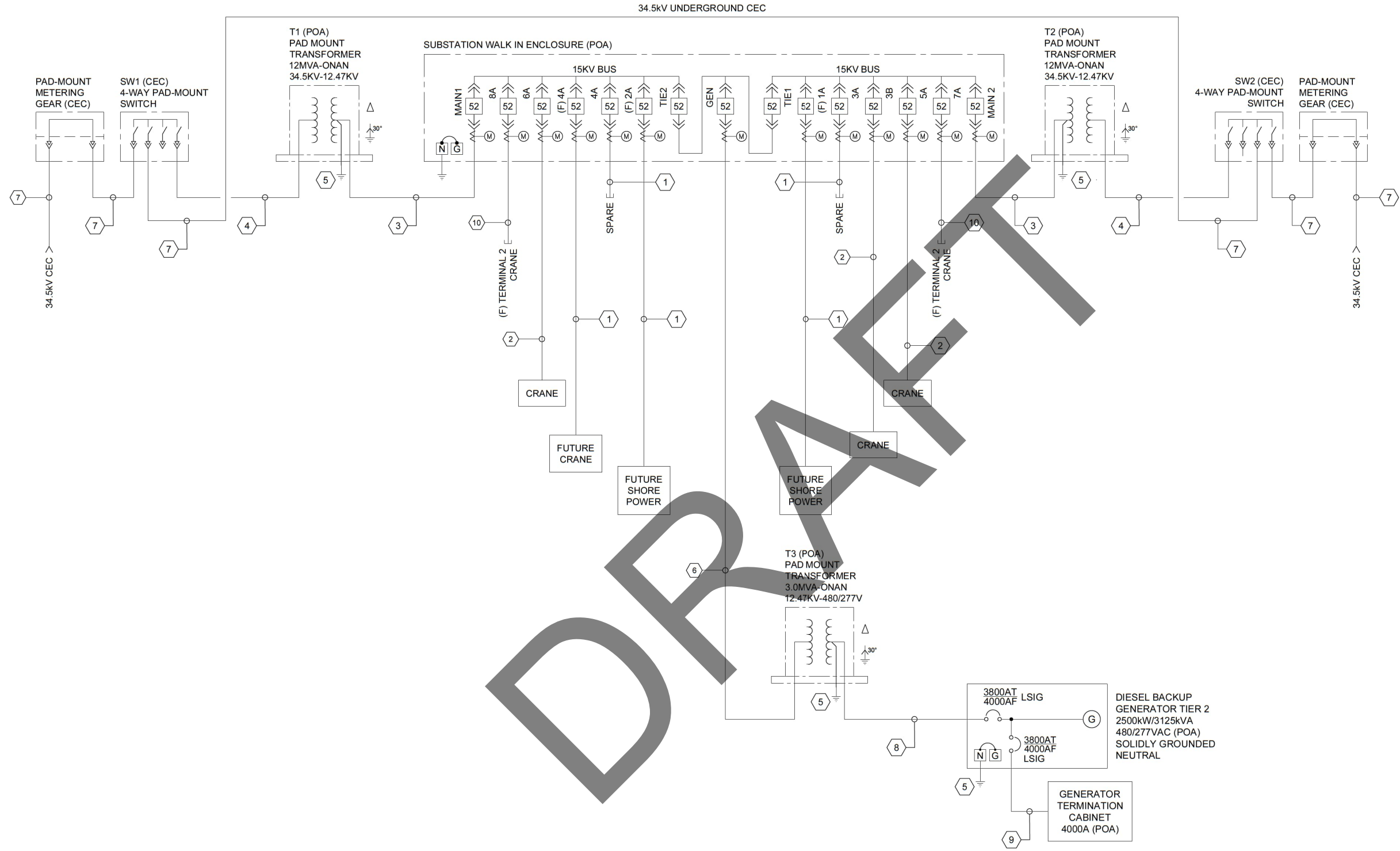
SEAL



ELECTRICAL
UTILITY VAULT CABLE LAYOUT - POWER

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NTS	DATE:	T1-E-003
VERT SCALE:	SHEET: X OF	

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SINGLE-LINE DIAGRAM
SCALE: NONE

GENERAL SHEET NOTES

1. REFER TO SHEET T1-E-006 FOR OVERCURRENT PROTECTION DEVICE RATINGS.
2. ALL RACEWAYS, EQUIPMENT, AND DEVICES THAT ARE NOT SPECIFICALLY DESIGNATED AS CHUGACH ELECTRIC COOPERATIVE (CEC) ARE TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
3. DO NOT EXCEED MANUFACTURER PUBLISHED PULLING TENSION OR SIDE WALL PRESSURE WHILE INSTALLING CABLES.

SHEET KEYNOTES

1. 2 - 5" CONDUIT EACH RUN.
2. 4" CONDUIT WITH 3 - #3/0 KCMIL ALUMINUM MV-105 AND ONE SPARE 4" CONDUIT EACH RUN.
3. 2 PARALLEL 3" CONDUITS EACH WITH 4 - #500 KCMIL 15KV ALUMINUM MV-105 AND ONE SPARE 4" CONDUIT.
4. 4" CONDUIT WITH 3 - #250 KCMIL 35KV ALUMINUM MV-105 AND ONE SPARE 4" CONDUIT.
5. #4/0 BARE STRANDED COPPER TO SUBSTATION GROUND GRID, REFER TO SHEET T1-E-401.
6. 4" CONDUIT WITH 3 - #3/0 KCMIL ALUMINUM MV-105 AND ONE SPARE 4" CONDUIT.
7. CONDUIT AND WIRE BY CEC.
8. 12 PARALLEL RUNS OF 5" CONDUIT EACH WITH 4 - #750 KCMIL COPPER XHHW-2.
9. 12 PARALLEL RUNS OF 5" CONDUIT EACH WITH 4 - #750 KCMIL COPPER XHHW-2 AND 1 - #4/0 COPPER GROUND XHHW-2.
10. 2 - 5" CONDUIT EACH RUN.

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

GHD

wsp

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

PORT OF ALASKA

PORT OF ALASKA

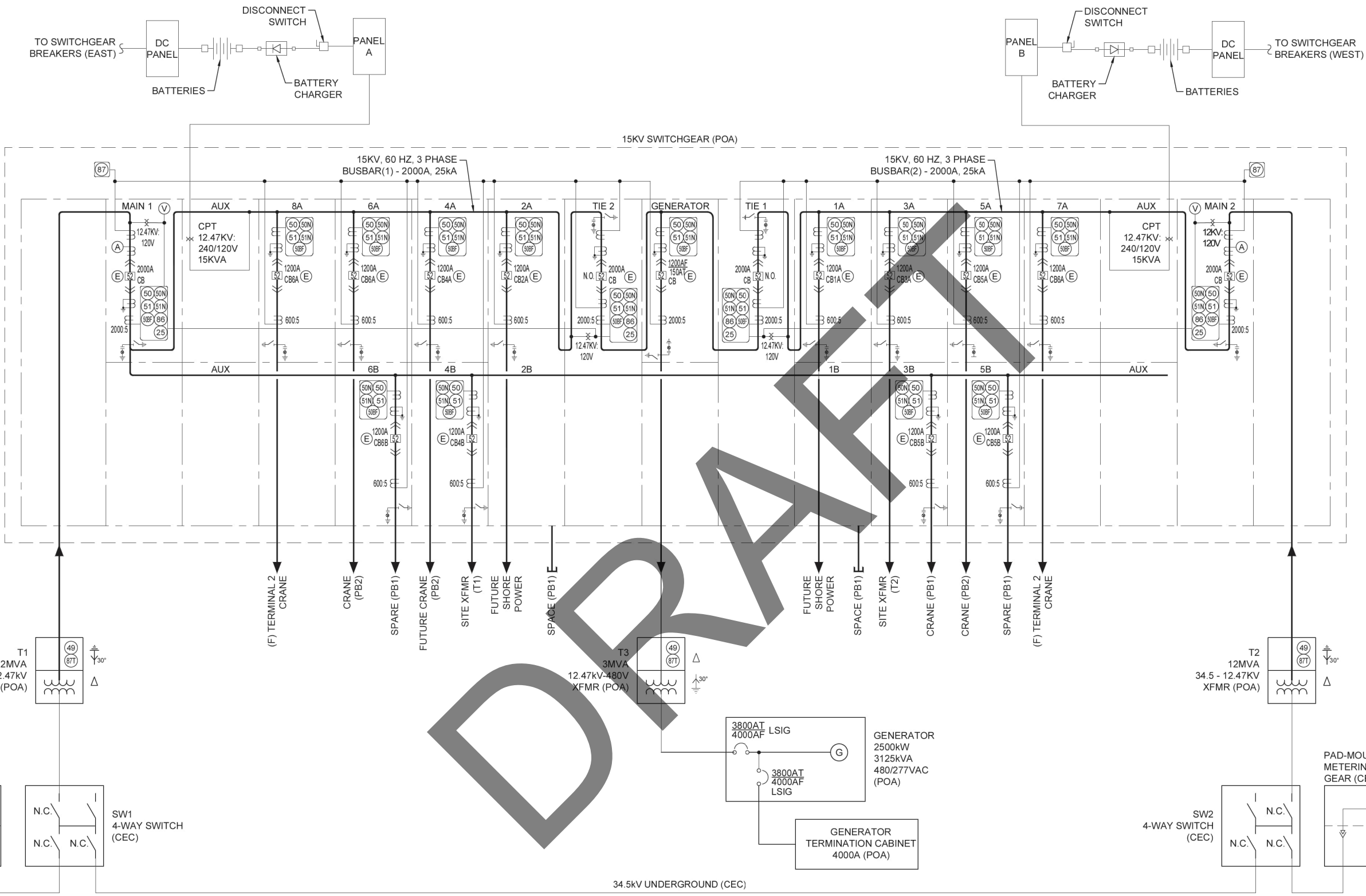
ELECTRICAL

SINGLE-LINE DIAGRAM

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-005
VERT SCALE:	SHEET: X OF	

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- ### GENERAL SHEET NOTES
- REFER TO SHEET T1-E-005 FOR CONDUIT AND CABLE SIZES.
 - POLARITY OF CT'S SHALL BE CONFIRMED BY SWITCHGEAR MANUFACTURER.
 - PHASE ROTATION SHALL BE CONFIRMED BY SWITCHGEAR MANUFACTURER.
 - THE BURDEN OF THE CT'S SHALL BE VERIFIED BY SWITCHGEAR MANUFACTURER TO ENSURE THE CT'S WILL NOT SATURATE IN THE SHORT CIRCUIT FAULT CONDITION.
 - THE BUS DIFFERENTIAL RELAY SHALL BE SELECTED TO ACCOMMODATE THE NUMBER OF CT INPUTS.
 - SEE SINGLE LINE DIAGRAM ON SHEET T1-E-005.

- ### LEGEND
- VCB (VACUUM WITHDRAWABLE CIRCUIT BREAKER), 15kV, CURRENT RATING AS INDICATED
 - AMMETER
 - ELECTRICALLY OPERATED
 - VOLTMETER
 - SYNCHRONIZING CHECK
 - THERMAL OVERLOAD
 - INSTANTANEOUS OVERCURRENT
 - INSTANTANEOUS OVERCURRENT - NEUTRAL
 - INVERSE TIME OVERCURRENT
 - INVERSE TIME OVERCURRENT - NEUTRAL
 - LOCKOUT
 - DIFFERENTIAL PROTECTION
 - DIFFERENTIAL PROTECTION, TRANSFORMER

MEDIUM VOLTAGE ONE-LINE DIAGRAM
SCALE: NONE

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS				

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AEC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

WSP

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

PORT OF ALASKA

ANCHORAGE, ALASKA

ELECTRICAL

MEDIUM VOLTAGE ONE-LINE DIAGRAM

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE	DATE:	T1-E-006
VERT SCALE:	SHEET: X OF	

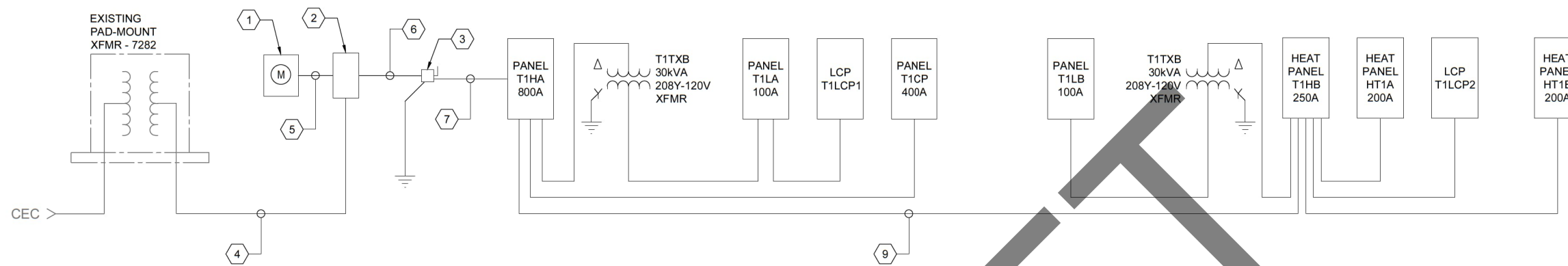
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

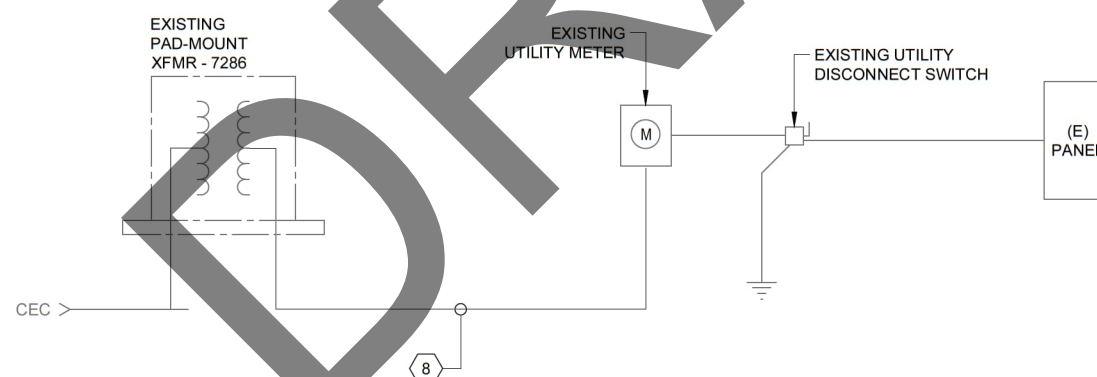
1. ALL RACEWAYS, EQUIPMENT, AND DEVICES THAT ARE NOT SPECIFICALLY DESIGNATED AS CHUGACH ELECTRIC COOPERATIVE (CEC) ARE TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
2. DO NOT EXCEED MANUFACTURER PUBLISHED PULLING TENSION OR SIDE WALL PRESSURE WHILE INSTALLING CABLES.

SHEET KEYNOTES

1. PROVIDE NEMA 4X UTILITY METER.
2. PROVIDE NEMA 4X CT CABINET ENCLOSURE.
3. PROVIDE NEMA 4X 800A UTILITY DISCONNECT SWITCH.
4. PROVIDE 2 - 4" CONDUIT WITH (2) 3 - #500 KCMIL AND 1 - #1/0 GND BETWEEN EXISTING TRANSFORMER AND CT CABINET ENCLOSURE..
5. PROVIDE 1 1/2" CONDUIT BETWEEN MAIN METER AND CT CABINET ENCLOSURE.
6. PROVIDE 2 - 4" CONDUIT WITH (2) 3 - #500 KCMIL AND 1 - #1/0 GND BETWEEN CT CABINET ENCLOSURE AND MAIN DISCONNECT SWITCH.
7. PROVIDE 2 - 4" CONDUIT WITH (2) 3 - #500 KCMIL AND 1 - #1/0 GND BETWEEN MAIN DISCONNECT SWITCH AND PANELBOARD
8. PROVIDE 2" CONDUIT WITH 4 - #3/0 CU XHHW-2.
9. PROVIDE 4" CONDUIT WITH 2 SETS OF (4) - #4/0 AWG, 1 - #1 GND CU XHHW-2.



1 LOW VOLTAGE ONE-LINE DIAGRAM - TERMINAL T1 ELECTRIC SHED
SCALE: NONE T1-E-XXX



2 LOW VOLTAGE ONE-LINE DIAGRAM - FUEL VALVE STATION
SCALE: NONE T1-E-XXX

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65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)
DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

WSP
CONSULTANT

PORT OF ALASKA

ANCHOR

ELECTRICAL

LOW VOLTAGE ONE-LINE DIAGRAMS
TERMINAL T1 ELECTRIC SHED AND
FUEL VALVE STATION

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE	DATE:	T1-E-007
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

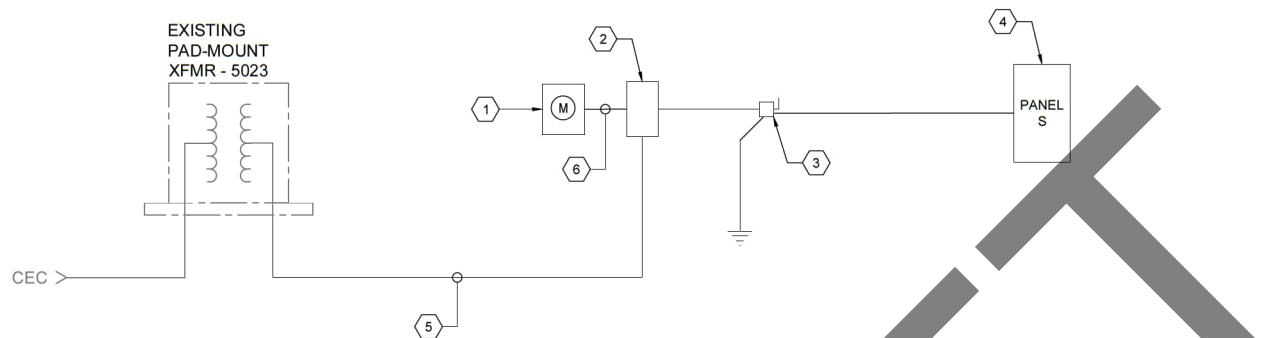
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GENERAL SHEET NOTES

1. ALL RACEWAYS, EQUIPMENT, AND DEVICES THAT ARE NOT SPECIFICALLY DESIGNATED AS CHUGACH ELECTRIC COOPERATIVE (CEC) ARE TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
2. DO NOT EXCEED MANUFACTURER PUBLISHED PULLING TENSION OR SIDE WALL PRESSURE WHILE INSTALLING CABLES.





SHEET KEYNOTES

1. PROVIDE NEMA 4X UTILITY METER.
2. PROVIDE NEMA 4X CT CABINET ENCLOSURE.
3. PROVIDE NEMA 4X 800A UTILITY DISCONNECT SWITCH
4. PROVIDE NEMA 12 800A 120/240 VOLT PANELBOARD.
5. PROVIDE (2) 4" CONDUIT WITH WITH PULL ROPE AND REFER TO CEC REQUIREMENTS.
6. PROVIDE 1 1/2" CONDUIT BETWEEN MAIN METER AND CT CABINET ENCLOSURE.



1 LOW VOLTAGE ONE-LINE DIAGRAM - STEVEDORE BUILDING
 SCALE: NONE T1-E-XXX

65% SUBMITTAL

<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 1"</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD																  <p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)</p>	<p>DR J. LIBERATO</p> <p>CHK CHK</p> <p>APVD</p>	<p>SEAL</p>	 	<p>ELECTRICAL</p> <p>LOW VOLTAGE ONE-LINE DIAGRAM STEVEDORE BUILDING</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA</p>	<p>HORIZ SCALE: NONE DATE: T1-E-008</p> <p>VERT SCALE: SHEET: X OF</p>
	REV	DATE	DESCRIPTION	BY	APVD																							
<p>REVISIONS</p>	<p>CONSULTANT</p>	<p>DATE: T1-E-008</p>	<p>SHEET: X OF</p>	<p>T1-E-008</p>																								
<p>***PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS***</p>																												

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GENERAL SHEET NOTES

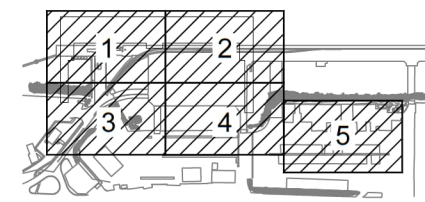
1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.

SHEET KEYNOTES

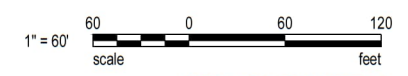
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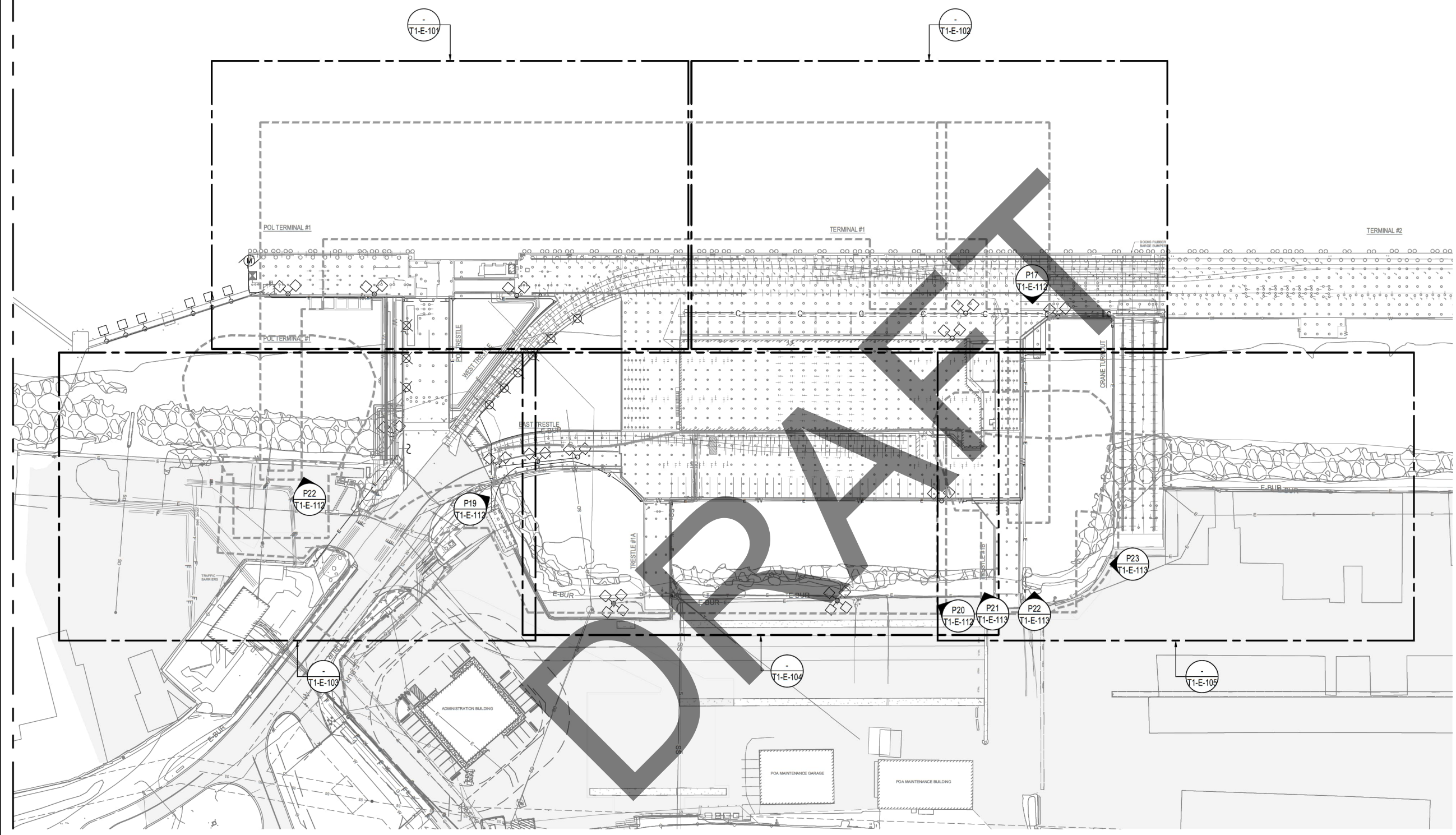
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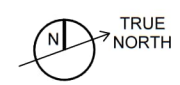
KEY PLAN



65% SUBMITTAL



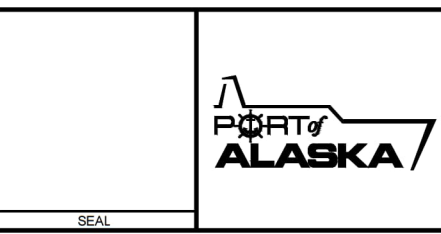
TERMINAL 1 ELECTRICAL OVERALL DEMOLITION PLAN
SCALE: 1" = 60'-0"



REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
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0 1"
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GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
DSGN DR J. LIBERATO CHK APVD
D. BURGER J. LIBERATO
CONSULTANT SEAL



ELECTRICAL
TERMINAL 1 ELECTRICAL OVERALL DEMOLITION PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

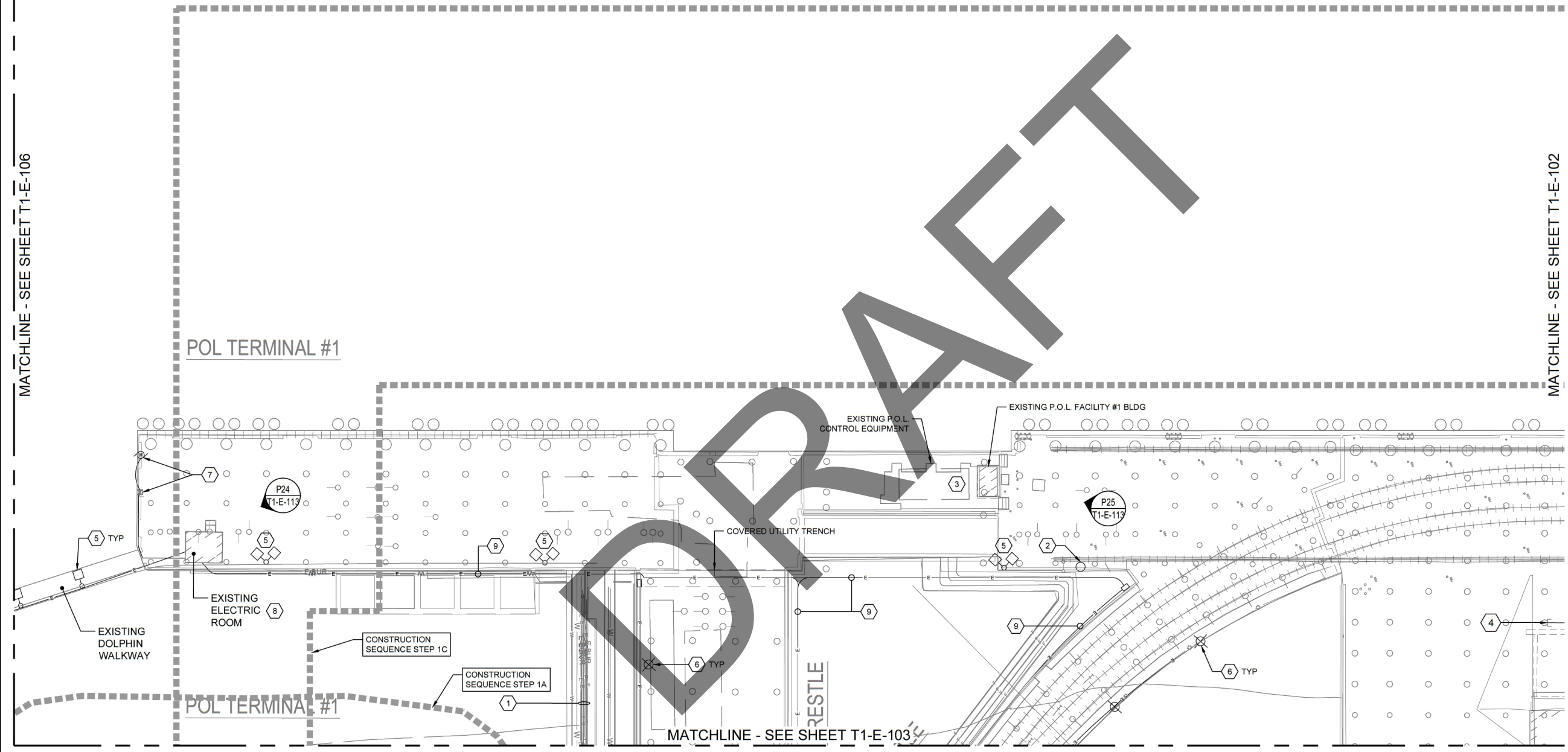
HORIZ SCALE: AS SHOWN DATE: T1-E-100
VERT SCALE: SHEET: X OF

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MATCHLINE - SEE SHEET T1-E-106

MATCHLINE - SEE SHEET T1-E-102



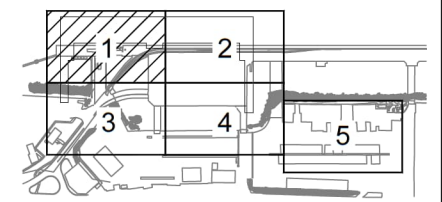
GENERAL SHEET NOTES

1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.

SHEET KEYNOTES

1. ABANDONED CONDUIT AND WIRE, (6) - 6" AND (1) - 1 1/2", REMOVE.
2. REMOVE POST-MOUNTED PHOTOCELL.
3. REMOVE P.O.L POWER AND CONTROL CONDUITS AND ASSOCIATED APPURTENANCES.
4. RETAIN TERMINATION CAP FROM EXISTING CRANE AND RE-INSTALL AT REMAINING CRANE POWER ON TERMINAL 2. SEE SHEET T1-E-102.
5. REMOVE POLE LIGHTS, CONDUIT AND WIRING.
6. REMOVE POST LIGHTS, CONDUIT AND WIRING.
7. REMOVE COMBINATION MOTOR STARTER AND DISCONNECT, MOTOR AND ASSOCIATED CONDUIT AND WIRING.
8. REMOVE ELECTRICAL PANEL INCLUDING WEATHER STATION AND ASSOCIATED CONDUIT AND WIRING.
9. REMOVE CONDUIT AND WIRE DURING FINAL DEMOLITION.

LEGEND:
 CONSTRUCTION SEQUENCE BOUNDARY

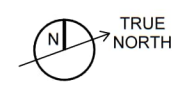


KEY PLAN



65% SUBMITTAL

TERMINAL 1 ELECTRICAL DEMOLITION PLAN
 SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



ELECTRICAL

TERMINAL 1 ELECTRICAL DEMOLITION PLAN

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN

ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: T1-E-101
VERT SCALE:	SHEET: X OF

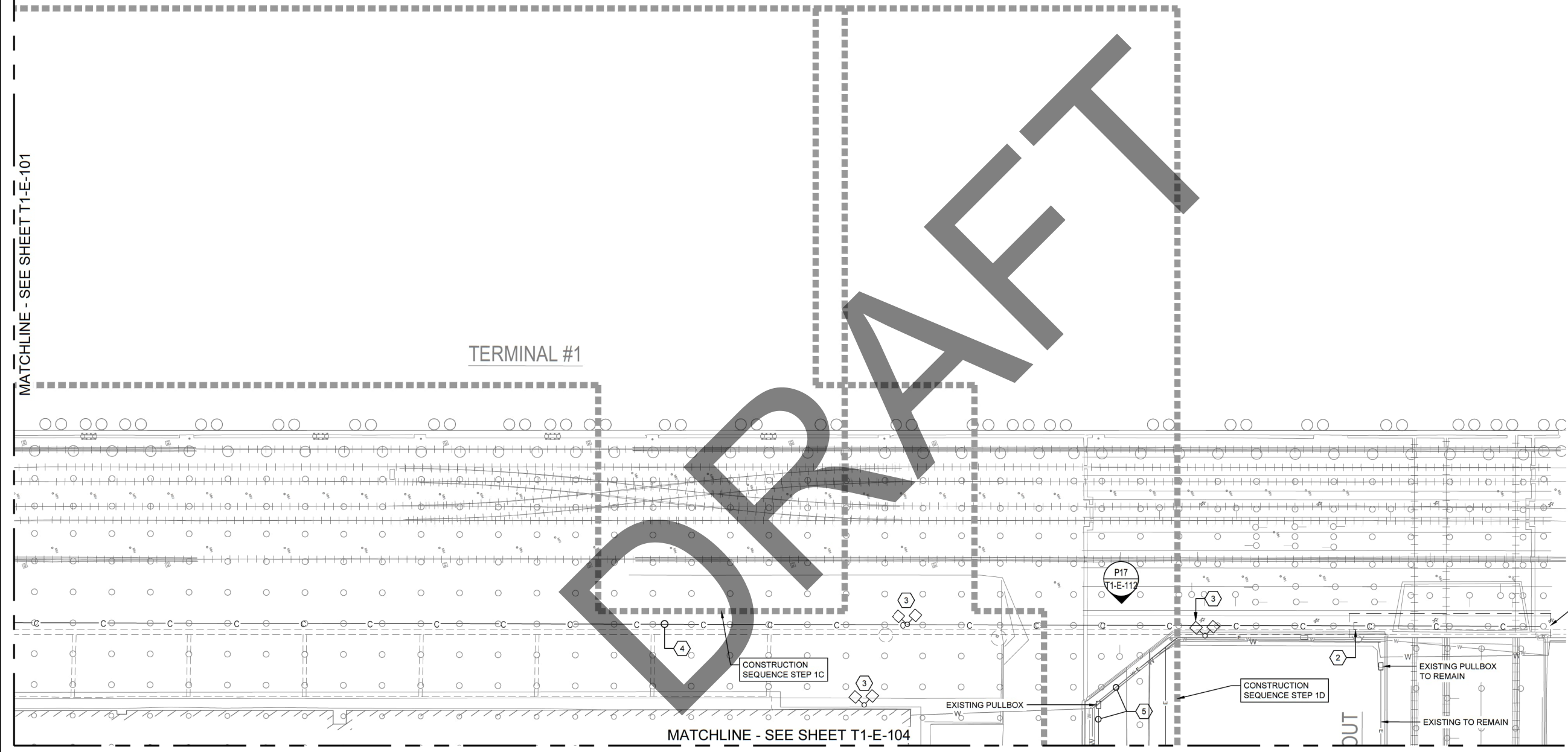
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GENERAL SHEET NOTES

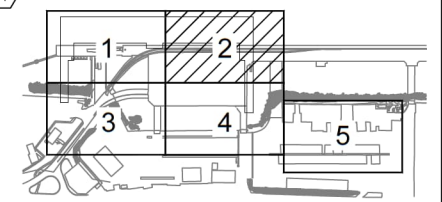
1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.

SHEET KEYNOTES

1. EXISTING TERMINAL 2 OVERHEAD CRANE POWER TO REMAIN.
2. TERMINATE 2 OVERHEAD CRANE POWER WITH END CAP FROM SOUTH END DEMOLITION. SEE SHEET T1-E-101.
3. REMOVE POLE LIGHTS, CONDUIT AND WIRE.
4. REMOVE TERMINAL 1 CRANE POWER.
5. REMOVE CONDUIT AND WIRE.



LEGEND:
 CONSTRUCTION SEQUENCE BOUNDARY

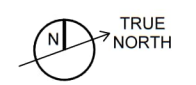


KEY PLAN




65% SUBMITTAL

TERMINAL 1 ELECTRICAL DEMOLITION PLAN
 SCALE: 1" = 20'-0"




REV	DATE	DESCRIPTION	BY	APVD

REVISIONS



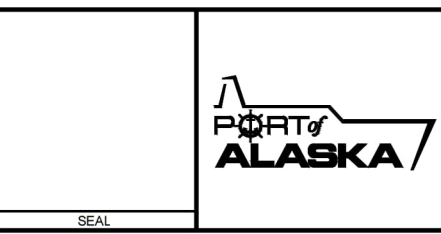
GHD



wsp

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT		SEAL	



ELECTRICAL

TERMINAL 1 ELECTRICAL DEMOLITION PLAN

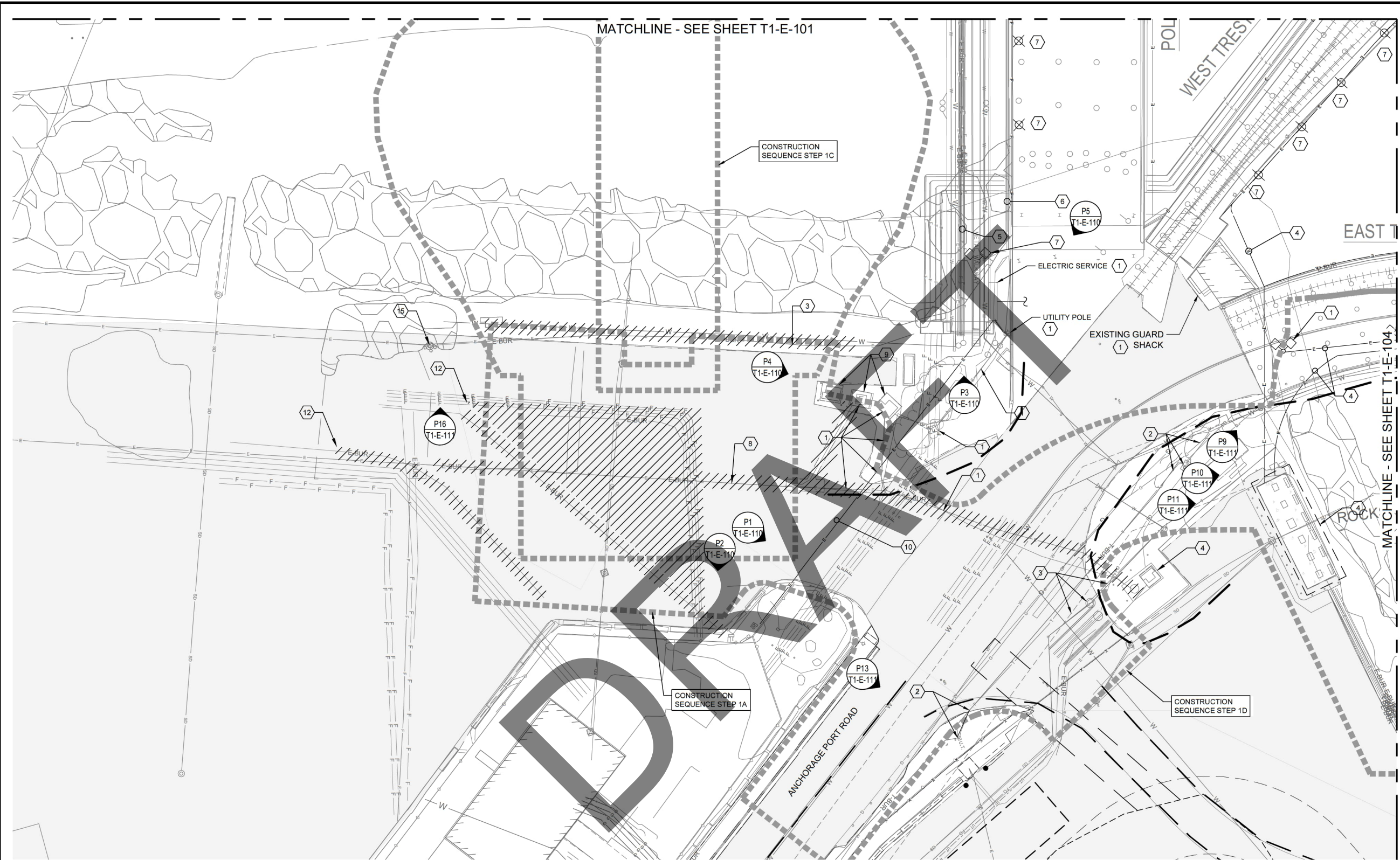
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN

ANCHORAGE, ALASKA

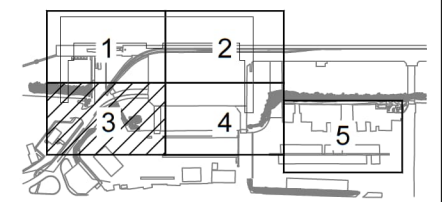
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VERT SCALE:	SHEET: X OF	

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- ### GENERAL SHEET NOTES
1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.
- ### SHEET KEYNOTES
1. EXISTING TO REMAIN UNTIL FINAL DEMOLITION PHASE.
 2. EXISTING UNDERGROUND TELEPHONE SYSTEM TO GUARD SHACK TO REMAIN UNTIL FINAL DEMOLITION PHASE.
 3. EXISTING UNDERGROUND TELEPHONE CONDUITS AND PULLBOX TO REMAIN.
 4. REMOVE CATHODIC PROTECTED SYSTEM AND ALL CONDUIT AND CABLES TO WHARF.
 5. ABANDONED 6 - 4°C SURFACE MOUNTED AND WIRE TO BE REMOVED.
 6. (2) - 1" CONDUIT, CONTROLS FOR P.O.L. TO BE DEMOLISHED.
 7. REMOVE LIGHTING POLE, FIXTURE, CONDUIT AND WIRING.
 8. CHUGACH ELECTRIC TO RE-ROUTE.
 9. DEMOLISH CONCRETE PADS AFTER CHUGACH ELECTRIC REMOVES TRANSFORMER AND CABLES.
 10. DEMOLISH ELECTRIC SERVICE TO VALVE CONTROL STRUCTURE.
 11. DEMOLISH EXISTING LIGHTING CIRCUIT.
 12. DEMOLISH POWER AND CONTROLS.
 13. DEMOLISH FIXTURE'S POWER.
 14. EXISTING TRANSFORMER TO REMAIN.
 15. EXISTING LIGHT POLE TO REMAIN.

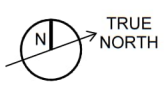
LEGEND:
 ■■■■■ CONSTRUCTION SEQUENCE BOUNDARY



KEY PLAN



UPLAND TERMINAL 1 ELECTRICAL DEMOLITION PLAN
 SCALE: 1" = 20'-0"

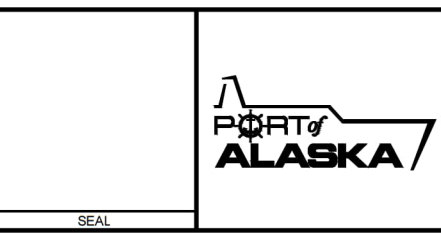


REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			



ELECTRICAL

UPLAND TERMINAL 1 ELECTRICAL
 DEMOLITION PLAN

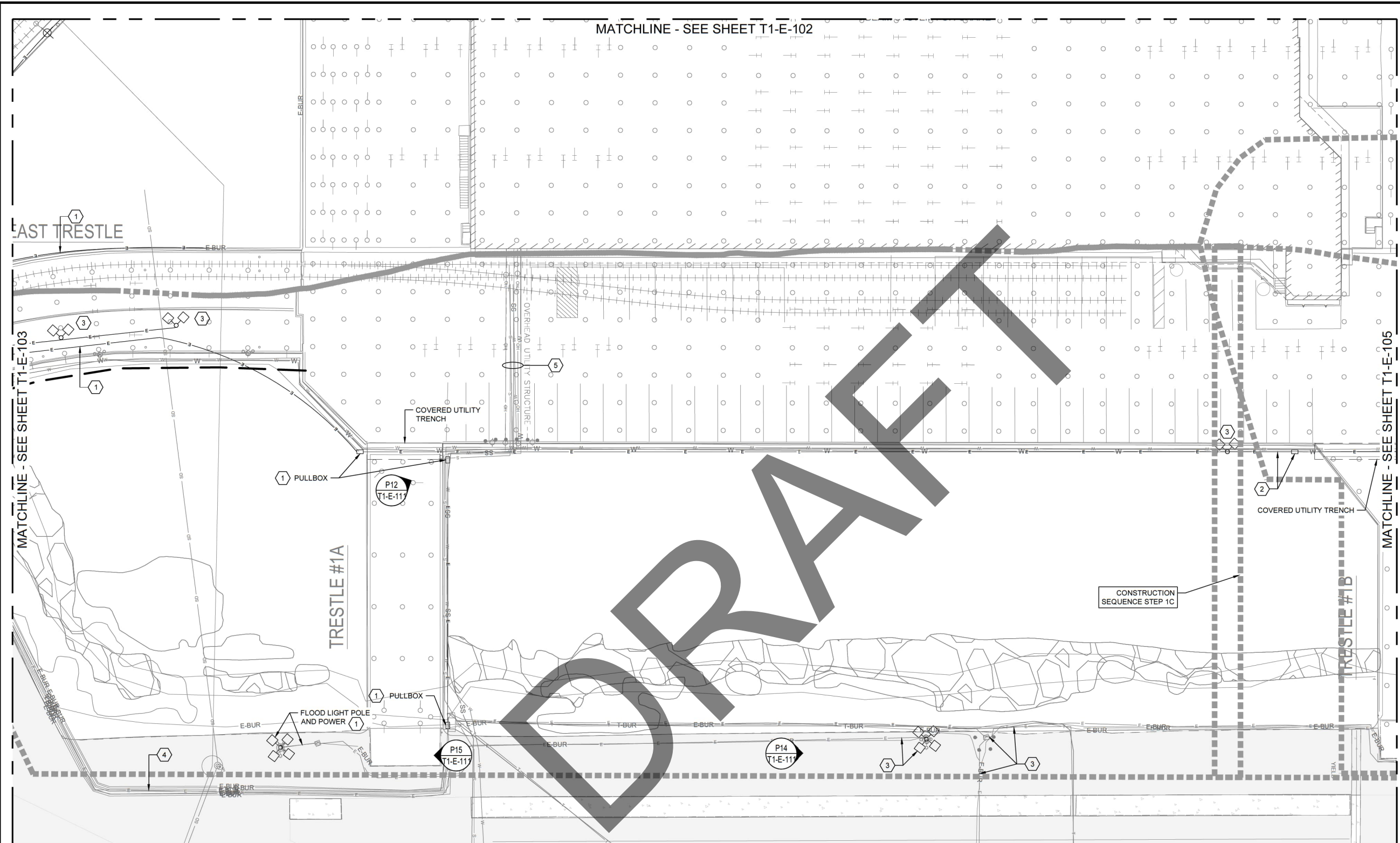
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
 CARGO TERMINAL 1 DESIGN
 ANCHORAGE, ALASKA

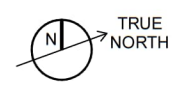
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VERT SCALE:	SHEET: X OF

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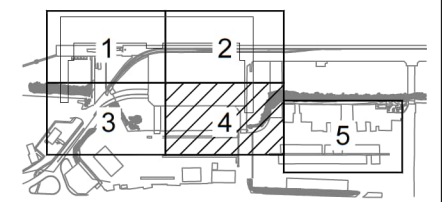


UPLAND TERMINAL 1 ELECTRICAL DEMOLITION PLAN
SCALE: 1" = 20'-0"



- GENERAL SHEET NOTES**
1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.
- SHEET KEYNOTES**
1. EXISTING TO REMAIN UNTIL FINAL DEMOLITION PHASE.
 2. PULLBOX, CONDUIT, AND WIRE TO BE DEMOLISHED UNTIL FINAL DEMOLITION PHASE.
 3. LIGHT POLE, CONDUIT, AND WIRE TO BE DEMOLISHED.
 4. EXISTING CATHODIC PROTECTED SYSTEM AND ALL CONDUIT AND CABLES TO WHARF TO BE REMOVED.
 5. UTILITY STRUCTURE CONDUIT AND WIRE TO BE REMOVED.

LEGEND:
 CONSTRUCTION SEQUENCE BOUNDARY

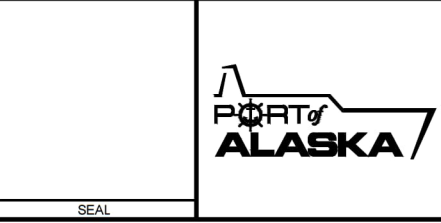


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK 	APVD
CONSULTANT		SEAL	

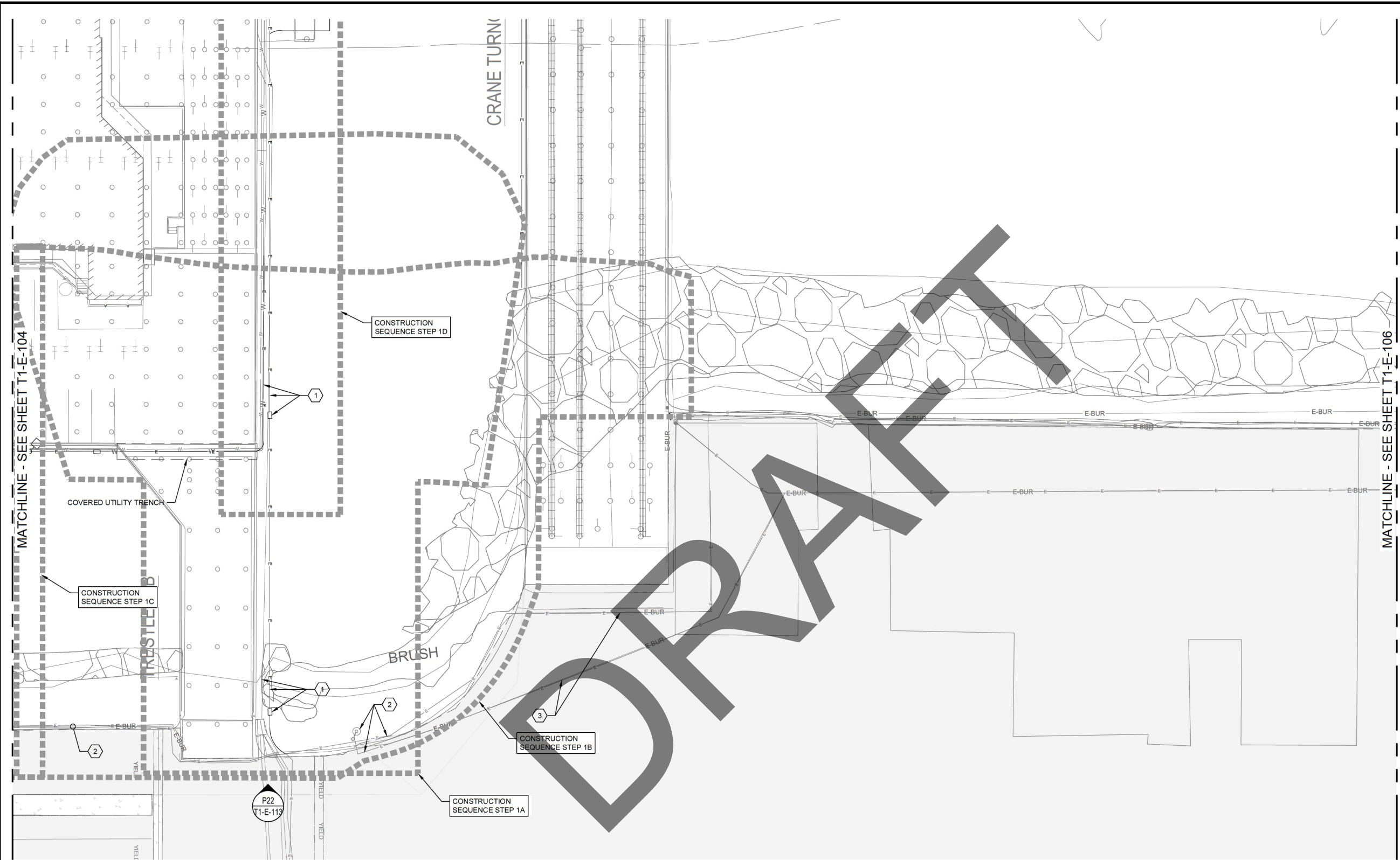


ELECTRICAL
 UPLAND TERMINAL 1 ELECTRICAL DEMOLITION PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-104
VERT SCALE:	SHEET: X OF	

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GENERAL SHEET NOTES

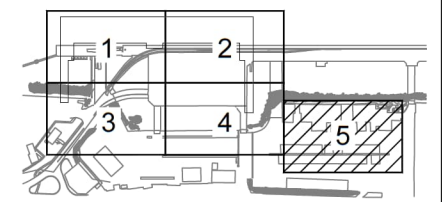
1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.

SHEET KEYNOTES

1. PULLBOX, CONDUIT, AND WIRE TO BE DEMOLISHED AND CIRCUITS RELOCATED TO EXISTING TERMINAL 2 TRESTLE, REFER TO SHEET T1-E-203.
2. LIGHT POLE, CONDUIT, AND WIRE TO BE DEMOLISHED TO NEAREST FIXTURE THAT IS REMAINING.
3. PULL OUT WIRE, ABANDON CONDUIT BELOW GRADE.

LEGEND:

■■■■■■■■■■ CONSTRUCTION SEQUENCE BOUNDARY

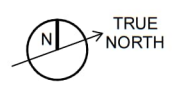


KEY PLAN



65% SUBMITTAL

UPLAND SUBSTATION ELECTRICAL DEMOLITION PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



ELECTRICAL
UPLAND SUBSTATION ELECTRICAL
DEMOLITION PLAN

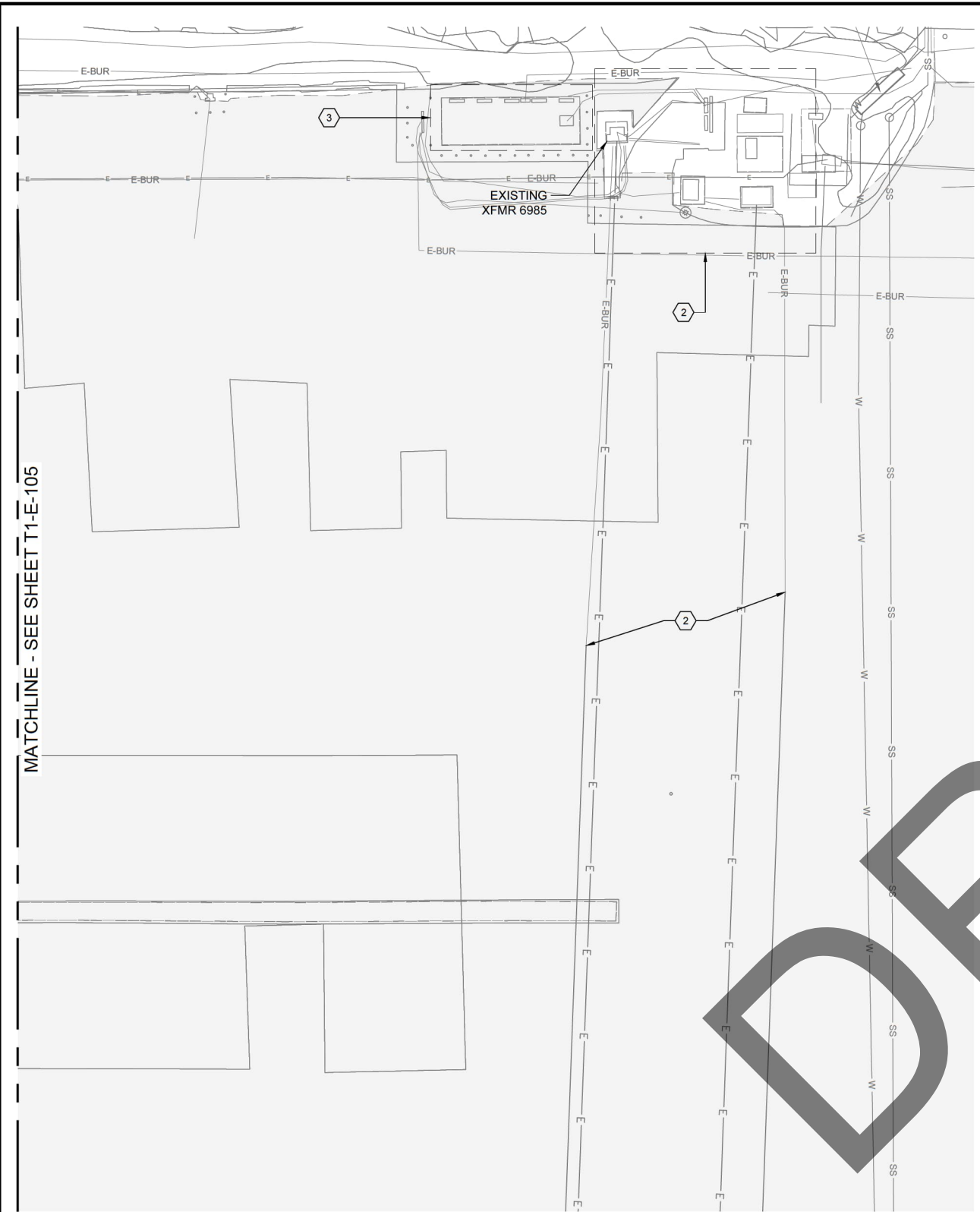
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

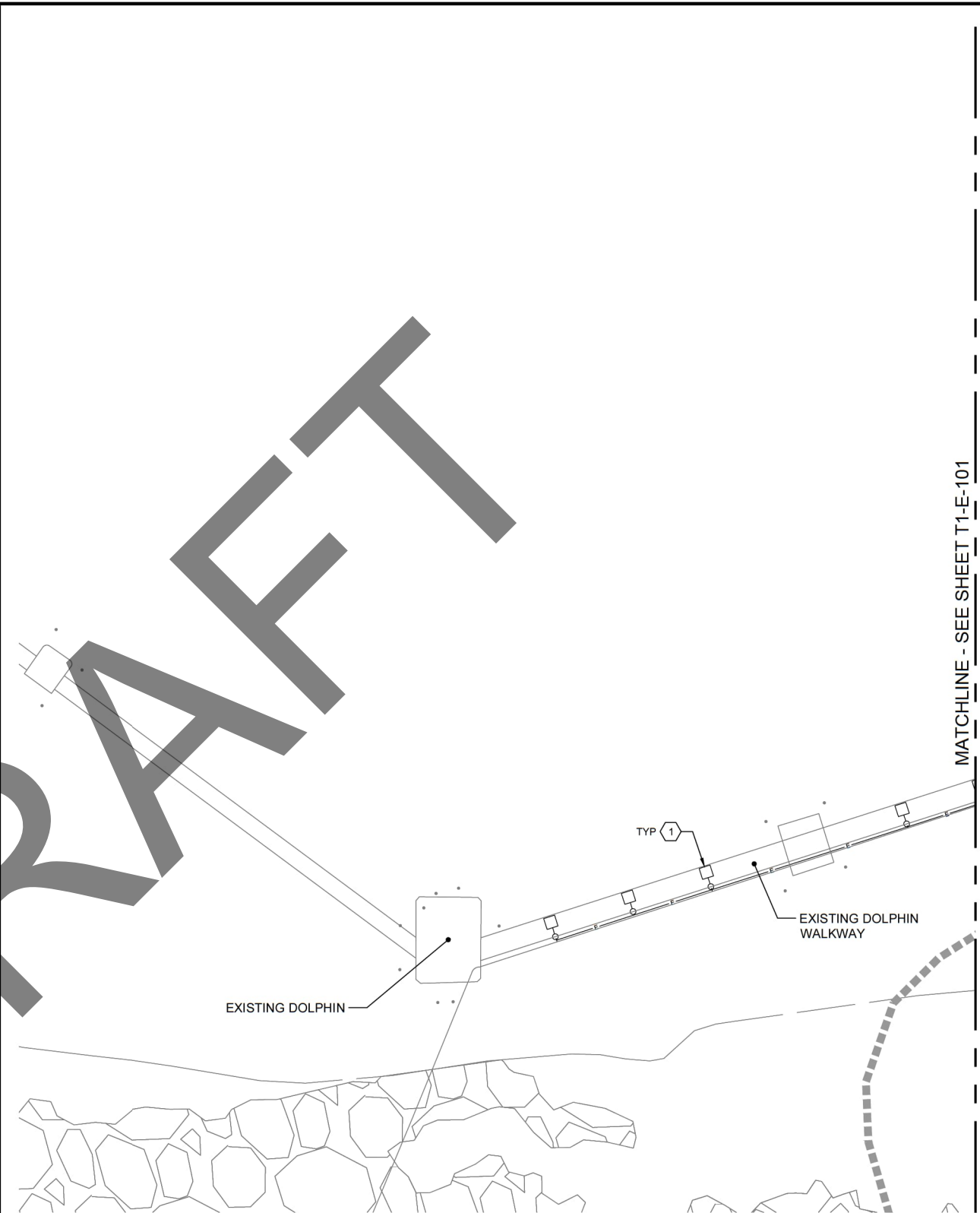
HORIZ SCALE: AS SHOWN	DATE:	T1-E-105
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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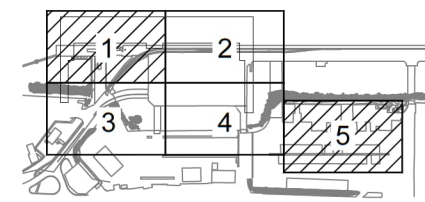


UPLAND TERMINAL 1 ELECTRICAL DEMOLITION PLAN
SCALE: 1" = 20'-0"

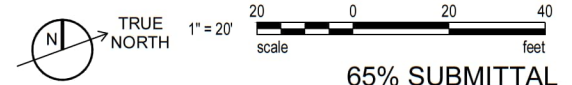


TERMINAL 1 ELECTRICAL DEMOLITION PLAN
SCALE: 1" = 20'-0"

- GENERAL SHEET NOTES**
1. MAINTAIN PORT OPERATIONS AT ALL TIMES. GENERAL POWER AND LIGHTING SHALL BE KEPT IN SERVICE UNTIL FINAL DEMOLITION.
-
- SHEET KEYNOTES**
1. REMOVE POLE LIGHTS.
 2. EXISTING UNDERGROUND POWER SYSTEM TO REMAIN.
 3. EXISTING CATHODIC PROTECTION SYSTEM TO REMAIN.



KEY PLAN



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2184152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



ELECTRICAL

UPLAND TERMINAL 1 DEMOLITION PLAN

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-106
VERT SCALE:	SHEET: X OF	

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P1 PHOTO
SCALE: NTS T1-E-XXX



P2 PHOTO
SCALE: NTS T1-E-XXX



P3 PHOTO
SCALE: NTS T1-E-XXX



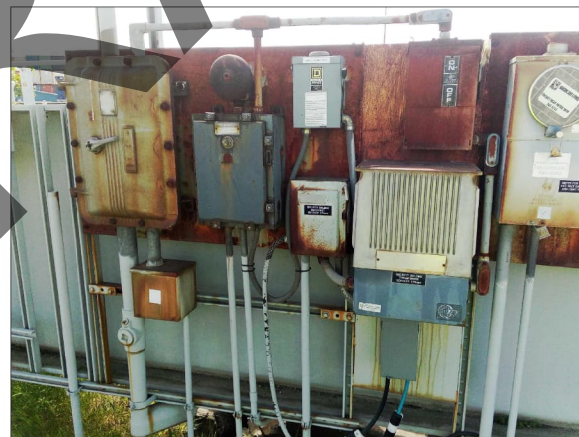
P4 PHOTO
SCALE: NTS T1-E-XXX



P5 PHOTO
SCALE: NTS T1-E-XXX



P6 PHOTO
SCALE: NTS T1-E-XXX



P7 PHOTO
SCALE: NTS T1-E-XXX



P8 PHOTO
SCALE: NTS T1-E-XXX

GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. TEXT.

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK CHK	APVD APVD
CONSULTANT			

SEAL



ELECTRICAL
PHOTOS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NONE VERT SCALE:	DATE: SHEET: X OF	T1-E-110

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P9 PHOTO
SCALE: NTS T1-E-XXX



P10 PHOTO
SCALE: NTS T1-E-XXX



P11 PHOTO
SCALE: NTS T1-E-XXX



P12 PHOTO
SCALE: NTS T1-E-XXX



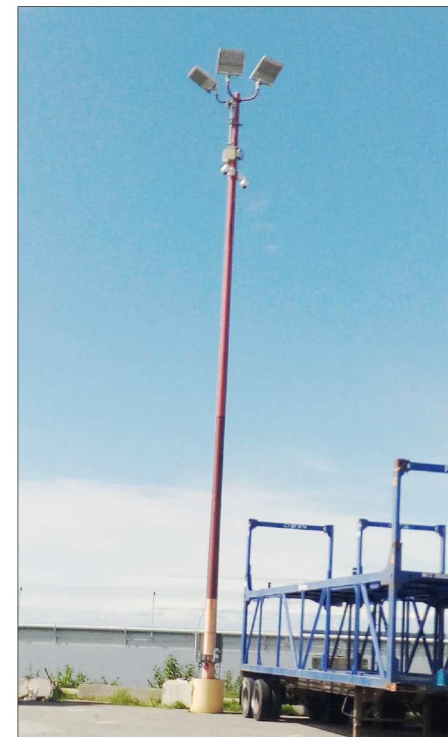
P13 PHOTO
SCALE: NTS T1-E-XXX



P14 PHOTO
SCALE: NTS T1-E-XXX



P15 PHOTO
SCALE: NTS T1-E-XXX



P16 PHOTO
SCALE: NTS T1-E-XXX

GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. TEXT.

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



ELECTRICAL
PHOTOS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 PESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-111
VERT SCALE:	SHEET: X OF	



P17 PHOTO
SCALE: NTS T1-E-XXX



P18 PHOTO
SCALE: NTS T1-E-XXX



P19 PHOTO
SCALE: NTS T1-E-XXX



P20 PHOTO
SCALE: NTS T1-E-XXX

GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. TEXT.

65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

VERIFIY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



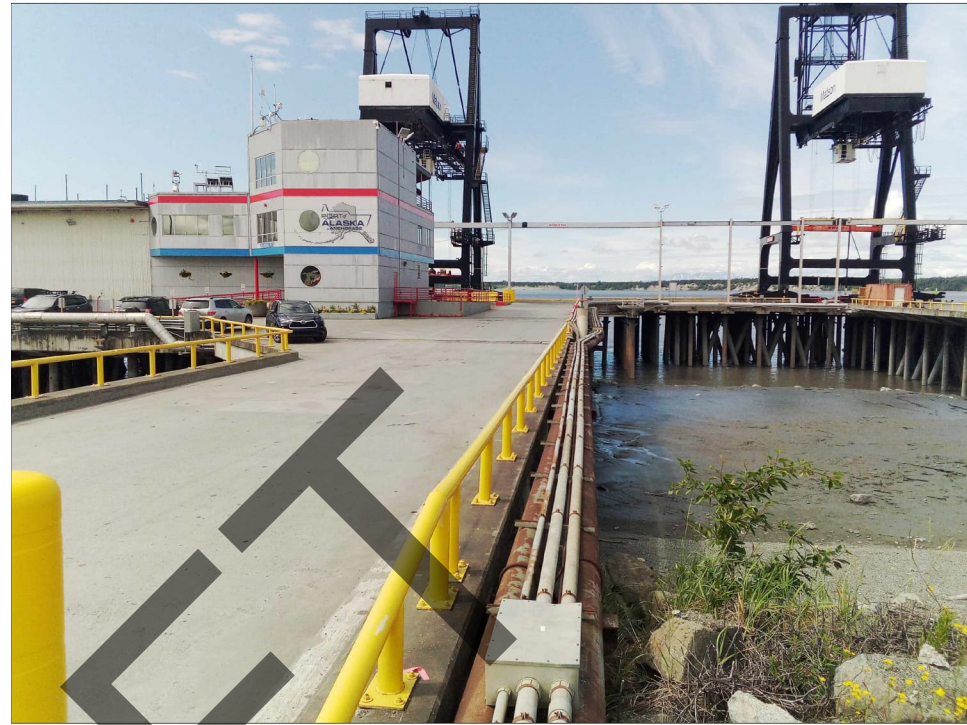
ELECTRICAL
PHOTOS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 PESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-112
VERT SCALE:	SHEET: X OF	

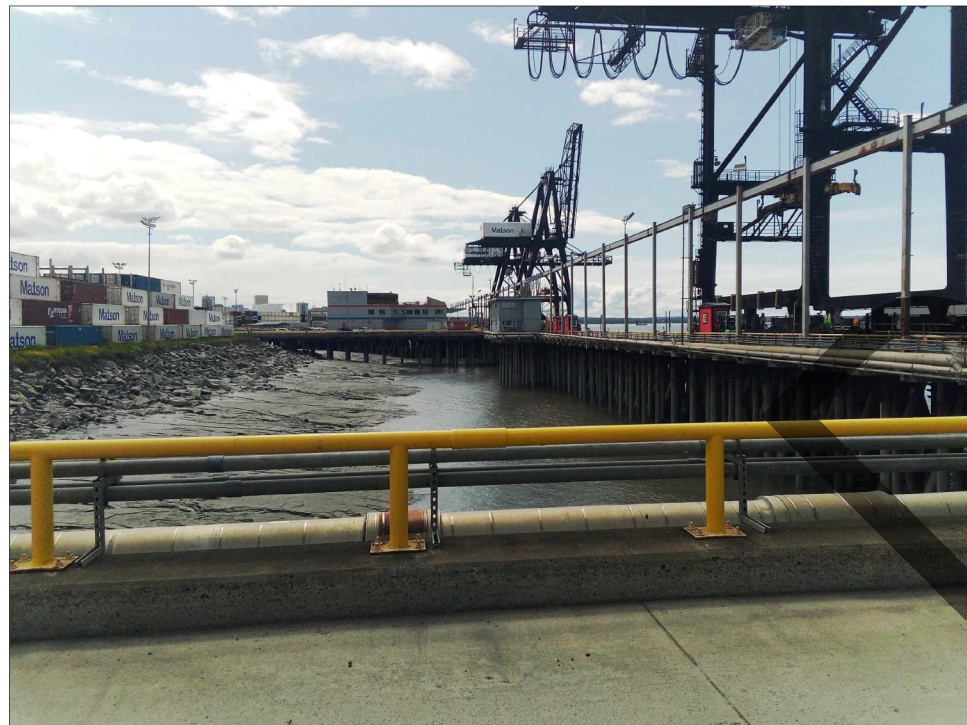
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P21 PHOTO
SCALE: NTS T1-E-100



P22 PHOTO
SCALE: NTS T1-E-100



P23 PHOTO
SCALE: NTS T1-E-100



P24 PHOTO
SCALE: NTS T1-E-101



P25 PHOTO
SCALE: NTS T1-E-101

GENERAL SHEET NOTES

1. TEXT.



SHEET KEYNOTES

1. TEXT.

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

VERIFIY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK 	APVD
CONSULTANT			

SEAL



ELECTRICAL
PHOTOS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 PESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-113
VERT SCALE:	SHEET: X OF	

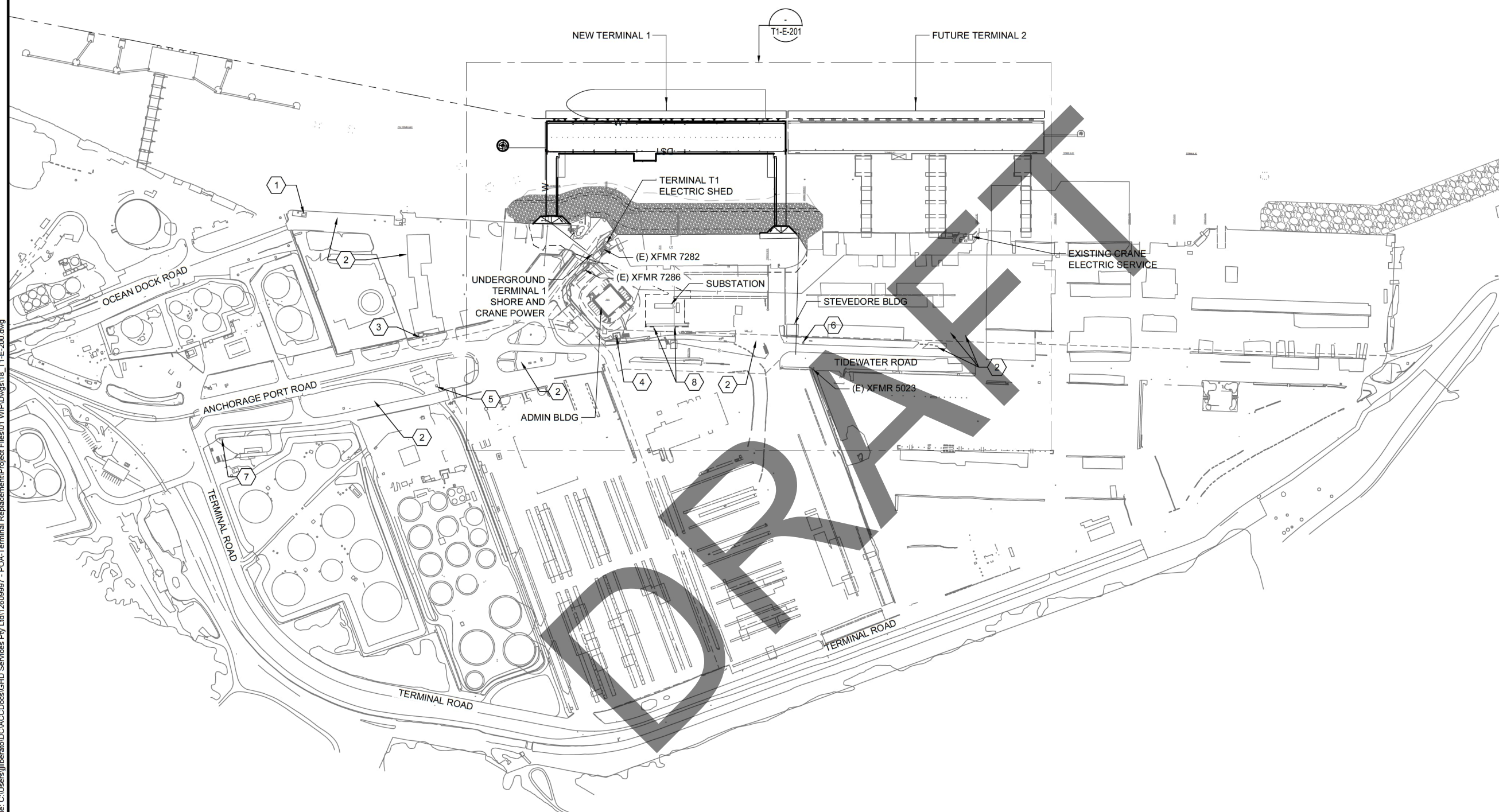
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

1. TEXT.

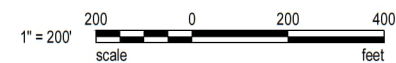
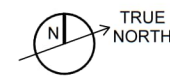
SHEET KEYNOTES

1. CHUGACH ELECTRIC SWITCH SC-471, FOR REFERENCE ONLY.
2. CHUGACH ELECTRIC UNDERGROUND, FOR REFERENCE ONLY.
3. CHUGACH ELECTRIC SWITCH SC-388, FOR REFERENCE ONLY.
4. CHUGACH ELECTRIC SWITCH SC-385, FOR REFERENCE ONLY.
5. CHUGACH ELECTRIC SWITCH SC-370, FOR REFERENCE ONLY.
6. CHUGACH ELECTRIC SWITCH SC-390, FOR REFERENCE ONLY.
7. CHUGACH ELECTRIC PULL BOX PORT RD-73G, FOR REFERENCE ONLY.
8. NEW HIGH VOLTAGE UNDERGROUND BY CHUGACH ELECTRIC.



COMPOSITE PORT ELECTRICAL SITE PLAN

SCALE: 1" = 200'-0"



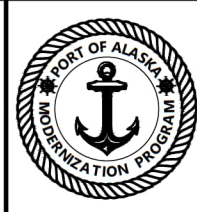
65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



ELECTRICAL
COMPOSITE PORT ELECTRICAL SITE PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-200
VERT SCALE:	SHEET: X OF	

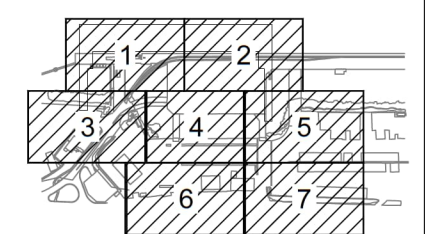
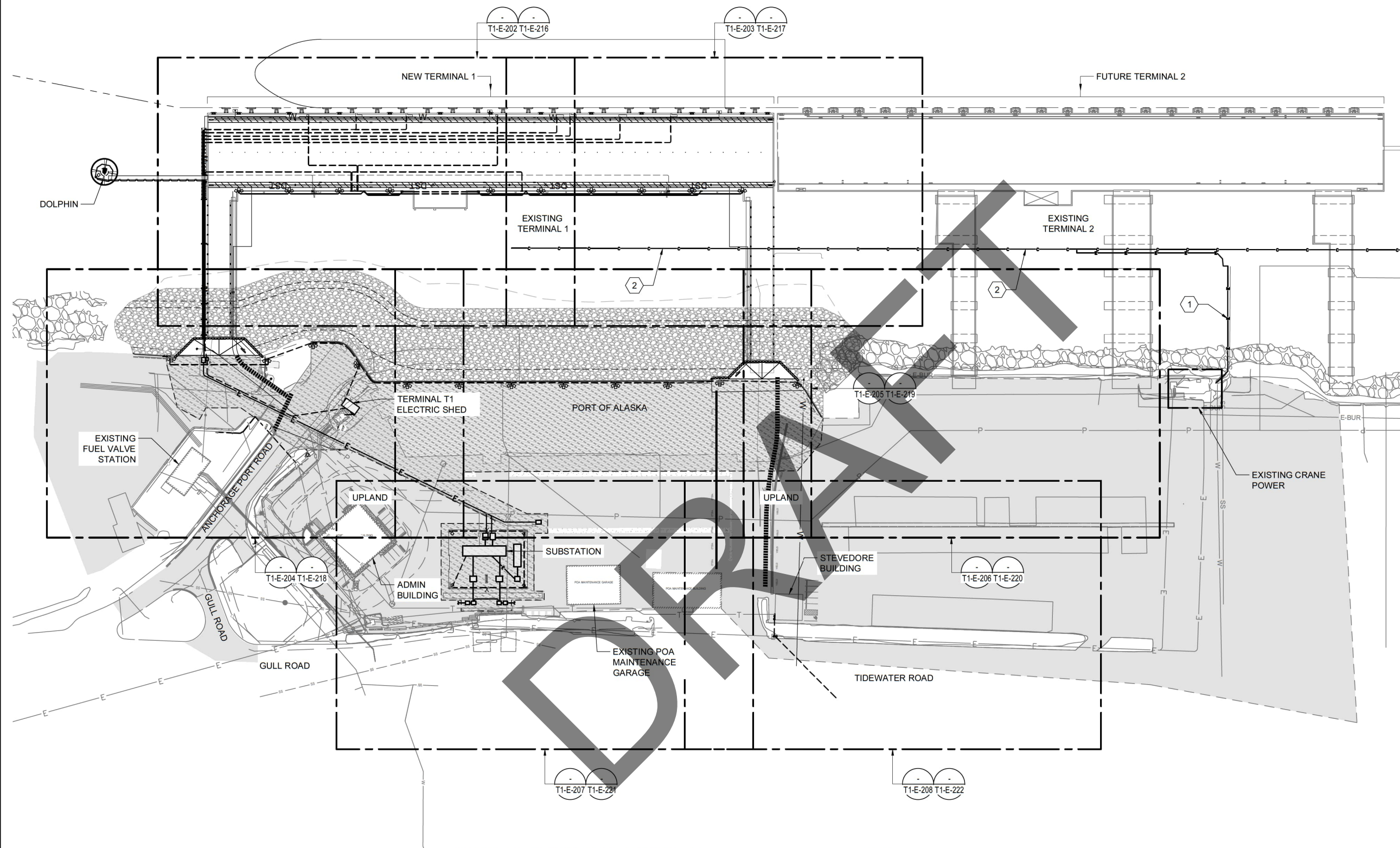
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

- 1. EXISTING CRANE POWER ELECTRIC SERVICE.
- 2. EXISTING OVERHEAD CRANE POWER ELECTRIC SERVICE RAIL.



OVERALL ELECTRICAL SITE PLAN
SCALE: 1" = 80'-0"



65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
 DSGN: D. BURGER DR: J. LIBERATO CHK: APVD:

CONSULTANT

SEAL



ELECTRICAL
OVERALL ELECTRICAL SITE PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-201
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

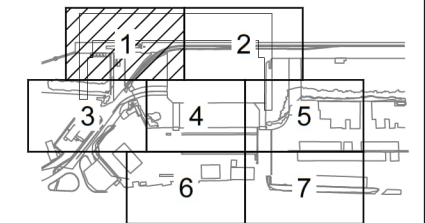
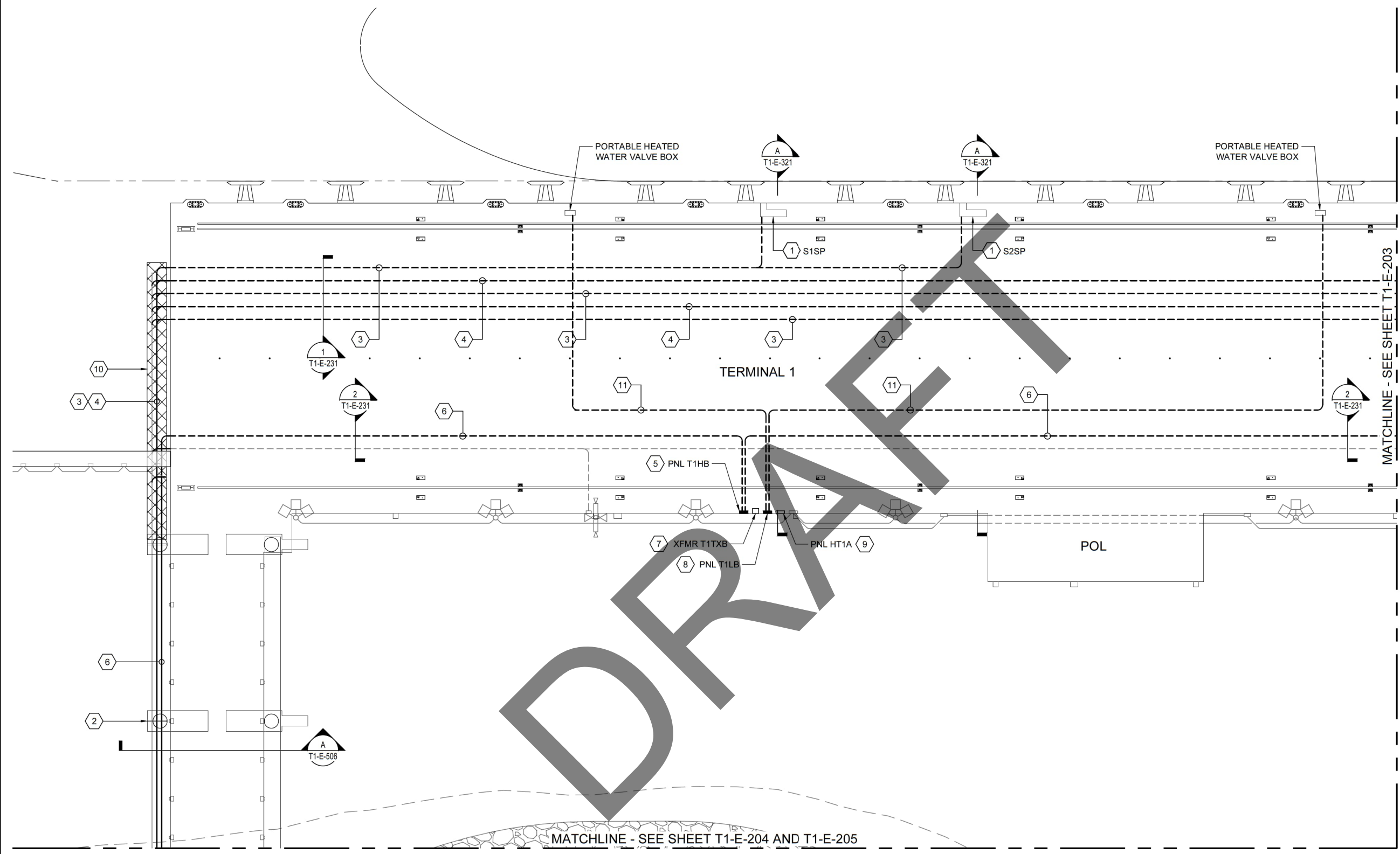
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GENERAL SHEET NOTES

1. ALL CONDUITS WITHIN CONCRETE DECK SHALL BE RGS CONDUIT.

SHEET KEYNOTES

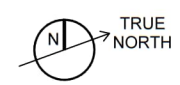
1. PROVIDE SHORE POWER VAULT. SEE SHEET T1-E-507.
2. PROVIDE CABLE RACK.
3. PROVIDE SHORE POWER CONDUITS:
- (2) 5" FOR 15KV CABLES
- (2) 3" FOR CONTROL WIRE AND FIBER
4. PROVIDE CRANE POWER CONDUITS:
- (4) 5" FOR 15KV CABLES
- (4) 3" FOR CONTROL WIRE AND FIBER
5. PROVIDE 400A - 480V PANELBOARD.
6. PROVIDE POWER CONDUITS:
- (4) 4" FOR 480V POWER
7. PROVIDE ENCAPSULATED 30KVA 120/208 VOLT TRANSFORMER.
8. PROVIDE NEMA 12 100A 120/208 VOLT PANELBOARD.
9. PROVIDE NEMA 4X 200A 120/208 VOLT PANELBOARD.
10. PROVIDE CABLE TRAY.
11. PROVIDE 3/4" CONDUIT WITH 2 - #10 AWG AND 1 - #10 AWG GND RHHW-2.



KEY PLAN



TERMINAL 1 ELECTRICAL PLAN
SCALE: 1" = 20'-0"



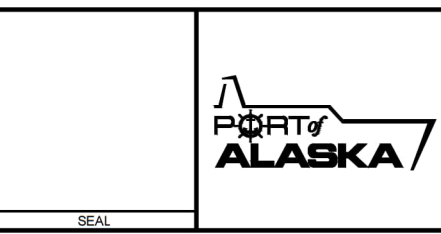
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
DSGN: D. BURGER

AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
DR: J. LIBERATO
CHK: APVD:

CONSULTANT



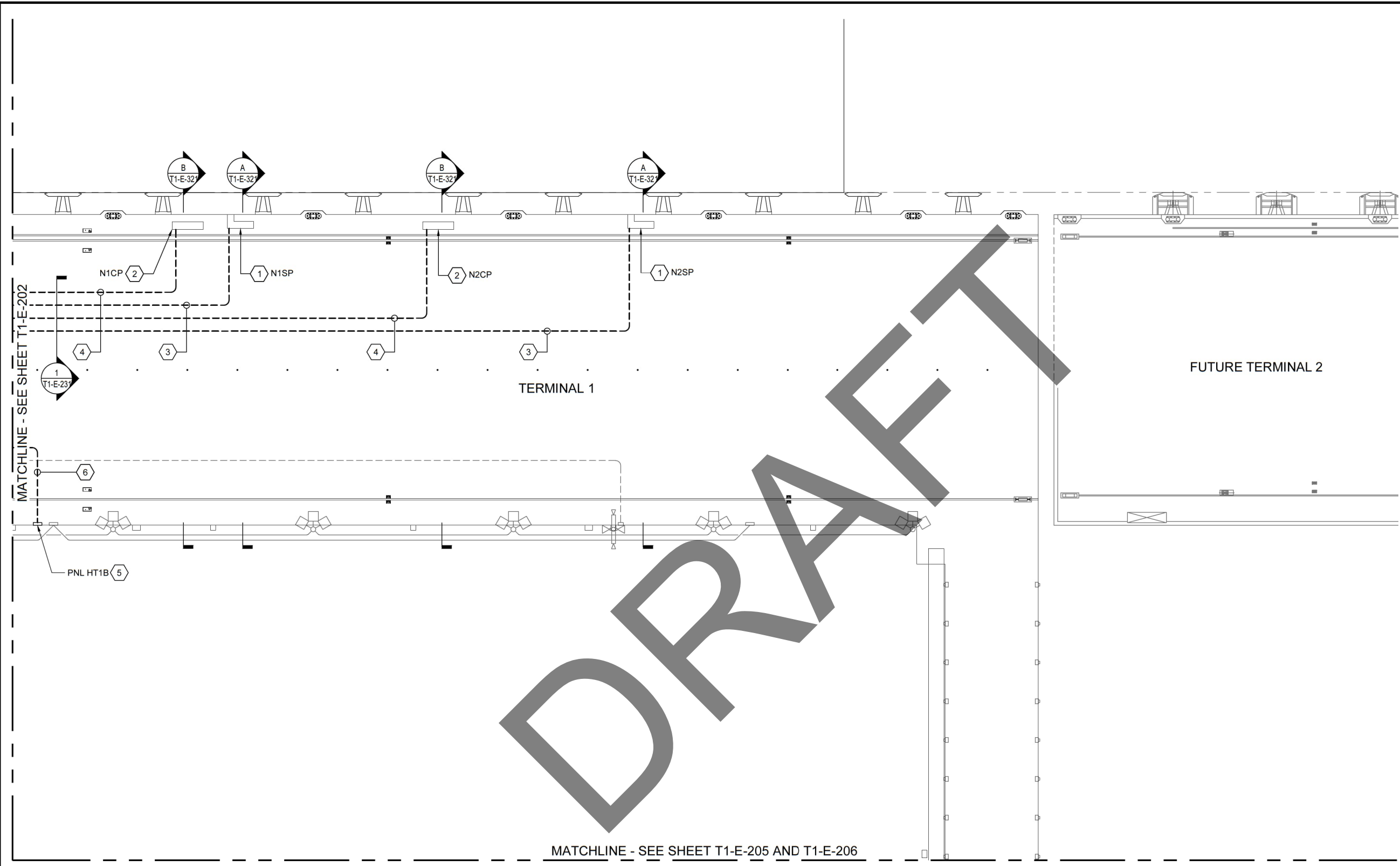
ELECTRICAL
TERMINAL 1 ELECTRICAL PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-202
VERT SCALE:	SHEET: X OF	

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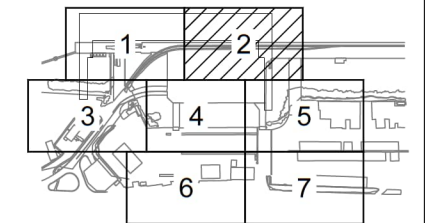


GENERAL SHEET NOTES

1. ALL CONDUITS WITHIN CONCRETE DECK SHALL BE RGS CONDUIT.

- SHEET KEYNOTES**
1. PROVIDE SHORE POWER VAULT. SEE SHEET T1-E-507.
 2. PROVIDE CRANE ANCHOR VAULT.
 3. PROVIDE SHORE POWER CONDUITS:
 - (2) 5" FOR 15KV CABLES
 - (2) 3" FOR CONTROL WIRE AND FIBER
 4. PROVIDE CRANE POWER CONDUITS:
 - (4) 5" FOR 15KV CABLES
 - (4) 3" FOR CONTROL WIRE AND FIBER
 5. PROVIDE NEMA 4X 200A 120/208 VOLT PANELBOARD.
 6. PROVIDE 2" POWER CONDUIT.

DRAFT

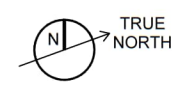


KEY PLAN

1" = 20' scale

65% SUBMITTAL

TERMINAL 1 ELECTRICAL PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197142(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

CONSULTANT

SEAL

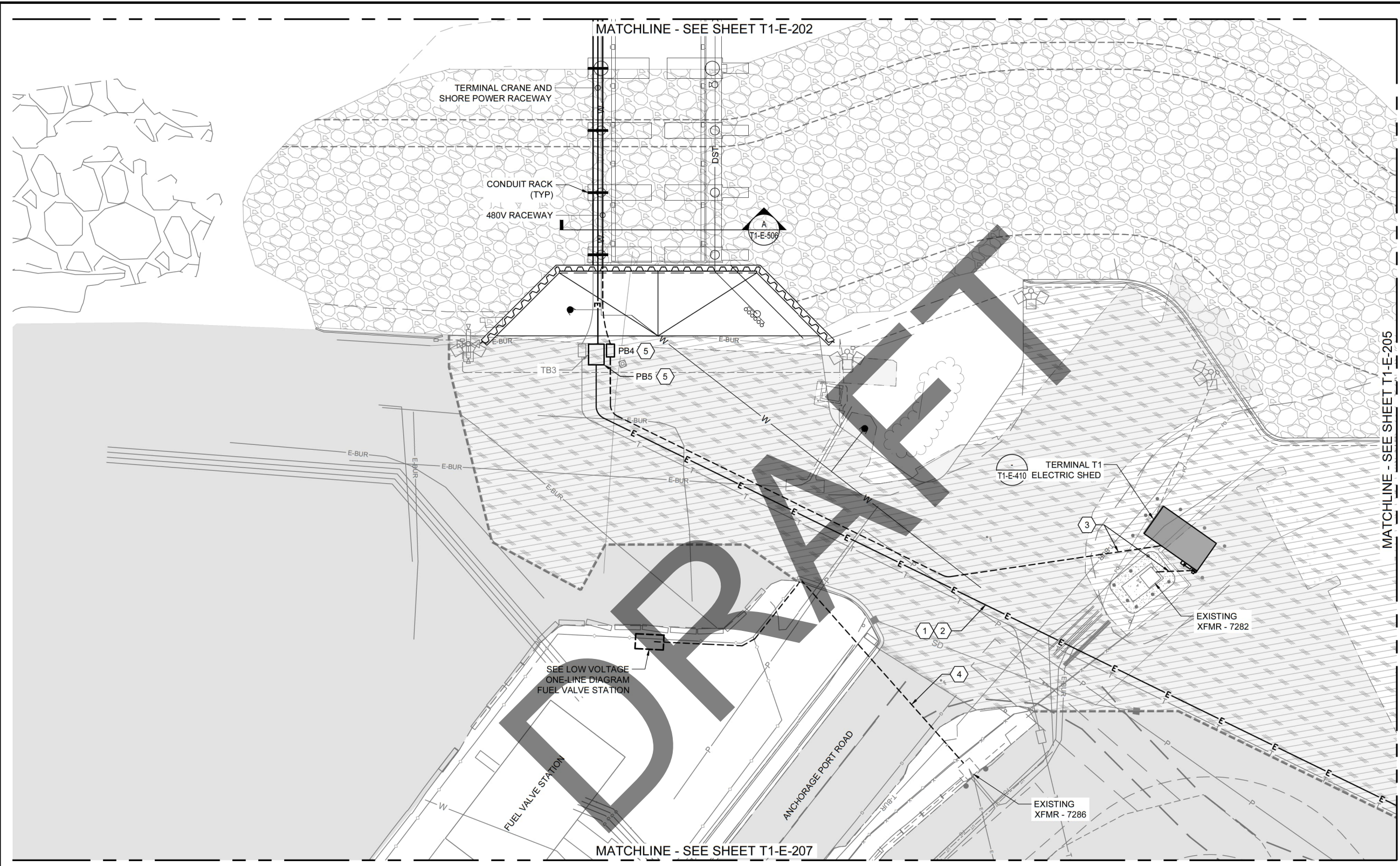


ELECTRICAL
TERMINAL 1 ELECTRICAL PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-203
VERT SCALE:	SHEET: X OF	

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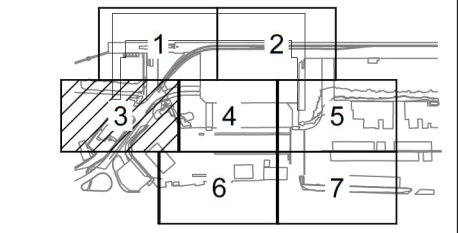


GENERAL SHEET NOTES

- SEE ONE DIAGRAMS ON SHEET E-007 FOR EQUIPMENT RATING AND SIZES.

SHEET KEYNOTES

- PROVIDE TERMINAL CRANE POWER CONDUITS.
- PROVIDE SHORE POWER CONDUITS.
- PROVIDE 480V POWER CONDUITS.
- PROVIDE 4 - #3/0 XHHW-2 IN 2" SCH 80 PVC 36" BFG TO CT CABINET ENCLOSURE, UTILITY METER AND SERVICE DISCONNECT.
- PROVIDE OPEN BOTTOM AIRCRAFT RATED PULL BOX.

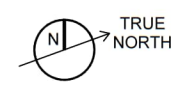


KEY PLAN



65% SUBMITTAL

UPLAND TERMINAL 1 ELECTRICAL PLAN
SCALE: 1" = 20'-0"



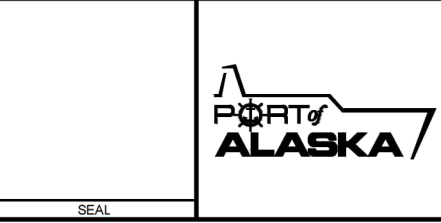
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT



ELECTRICAL

UPLAND TERMINAL 1 ELECTRICAL PLAN

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-204
VERT SCALE:	SHEET: X OF	

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MATCHLINE - SEE SHEET T1-E-203 AND T1-E-204

MATCHLINE - SEE SHEET T1-E-204

MATCHLINE - SEE SHEET T1-E-206

DRAFT

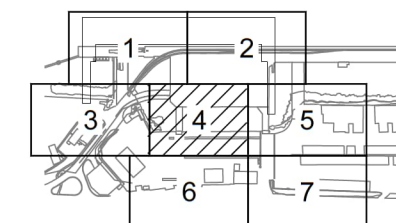
MATCHLINE - SEE SHEET T1-E-207 AND T1-E-208

GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. PROVIDE CRANE POWER CONDUITS.
2. PROVIDE SHORE POWER CONDUITS.



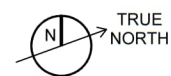
KEY PLAN



65% SUBMITTAL

UPLAND TERMINAL 1 ELECTRICAL PLAN

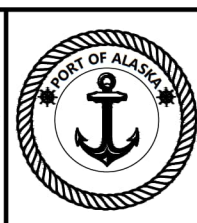
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



ELECTRICAL
UPLAND TERMINAL 1 ELECTRICAL PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-205
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

MATCHLINE - SEE SHEET T1-E-203

GENERAL SHEET NOTES

1. TEXT.

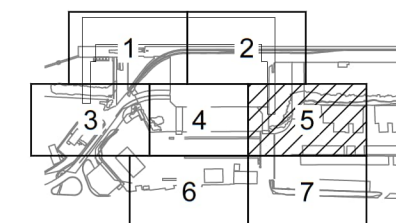
SHEET KEYNOTES

1. TEXT.

MATCHLINE - SEE SHEET T1-E-205

DRAFT

MATCHLINE - SEE SHEET T1-E-208



KEY PLAN



65% SUBMITTAL

UPLAND TERMINAL 1 ELECTRICAL PLAN

SCALE: 1" = 20'-0"



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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



ELECTRICAL

UPLAND TERMINAL 1 ELECTRICAL PLAN

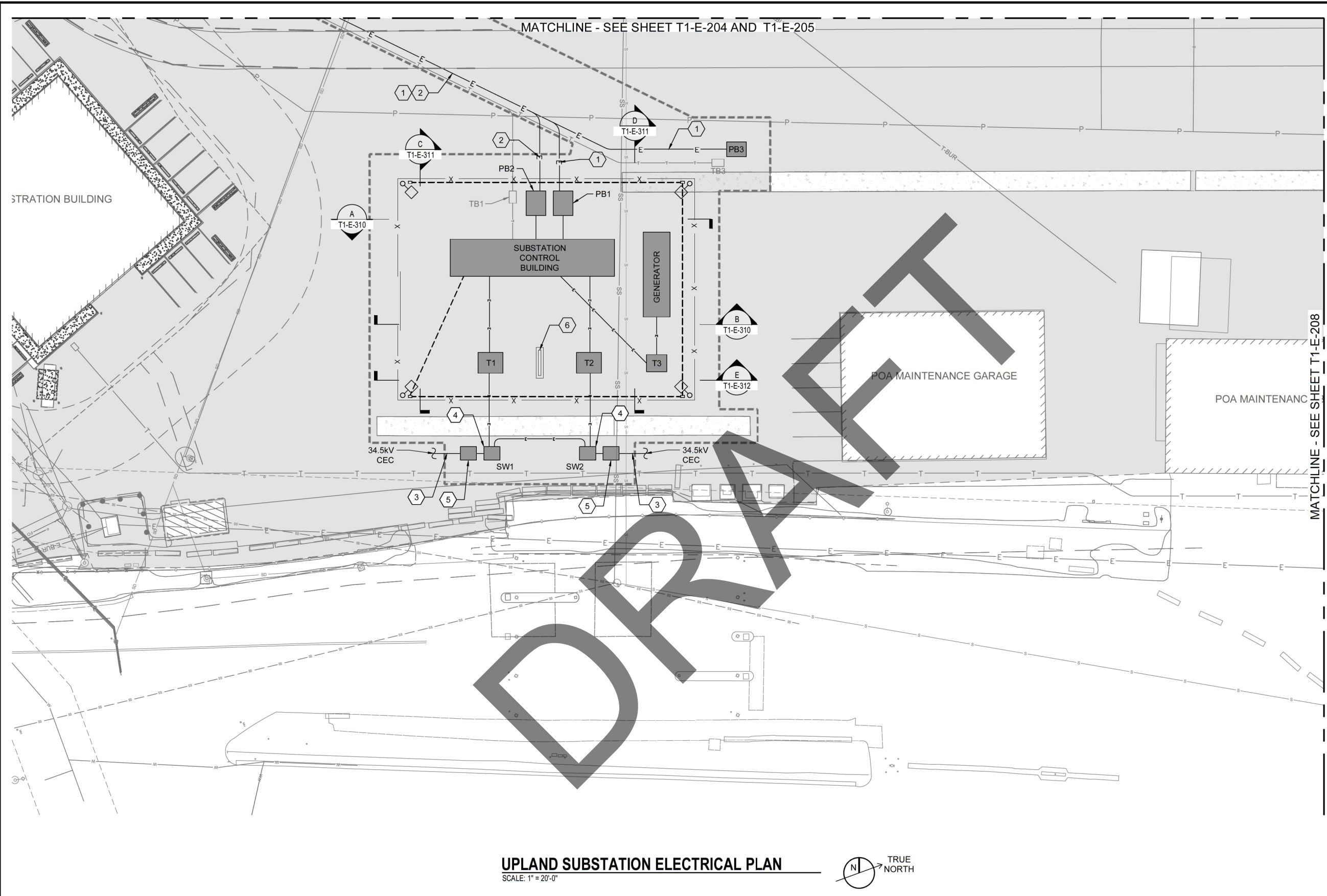
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-206
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

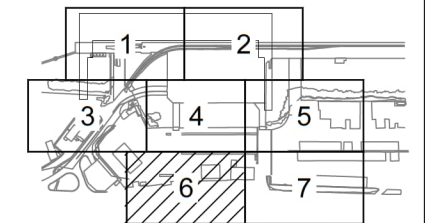
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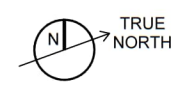
GENERAL SHEET NOTES

- REFER TO STRUCTURAL PLANS FOR EQUIPMENT CONCRETE PAD.

- SHEET KEYNOTES**
- PROVIDE TERMINAL CRANE POWER CONDUITS.
 - PROVIDE SHORE POWER CONDUITS.
 - PROVIDE SERVICE DESIGNED AND INSTALLED BY CHUGACH ELECTRIC.
 - PROVIDE PAD-MOUNT SWITCH SW1 AND SW2 BY CHUGACH ELECTRIC.
 - PROVIDE PAD-MOUNT METERING GEAR BY CHUGACH ELECTRIC.
 - PROVIDE FIRE WALL.



UPLAND SUBSTATION ELECTRICAL PLAN
SCALE: 1" = 20'-0"



65% SUBMITTAL

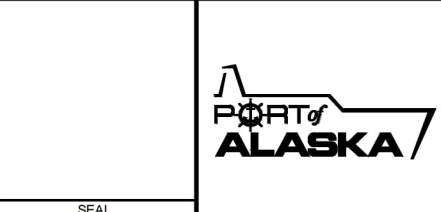
REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

WSP
2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			



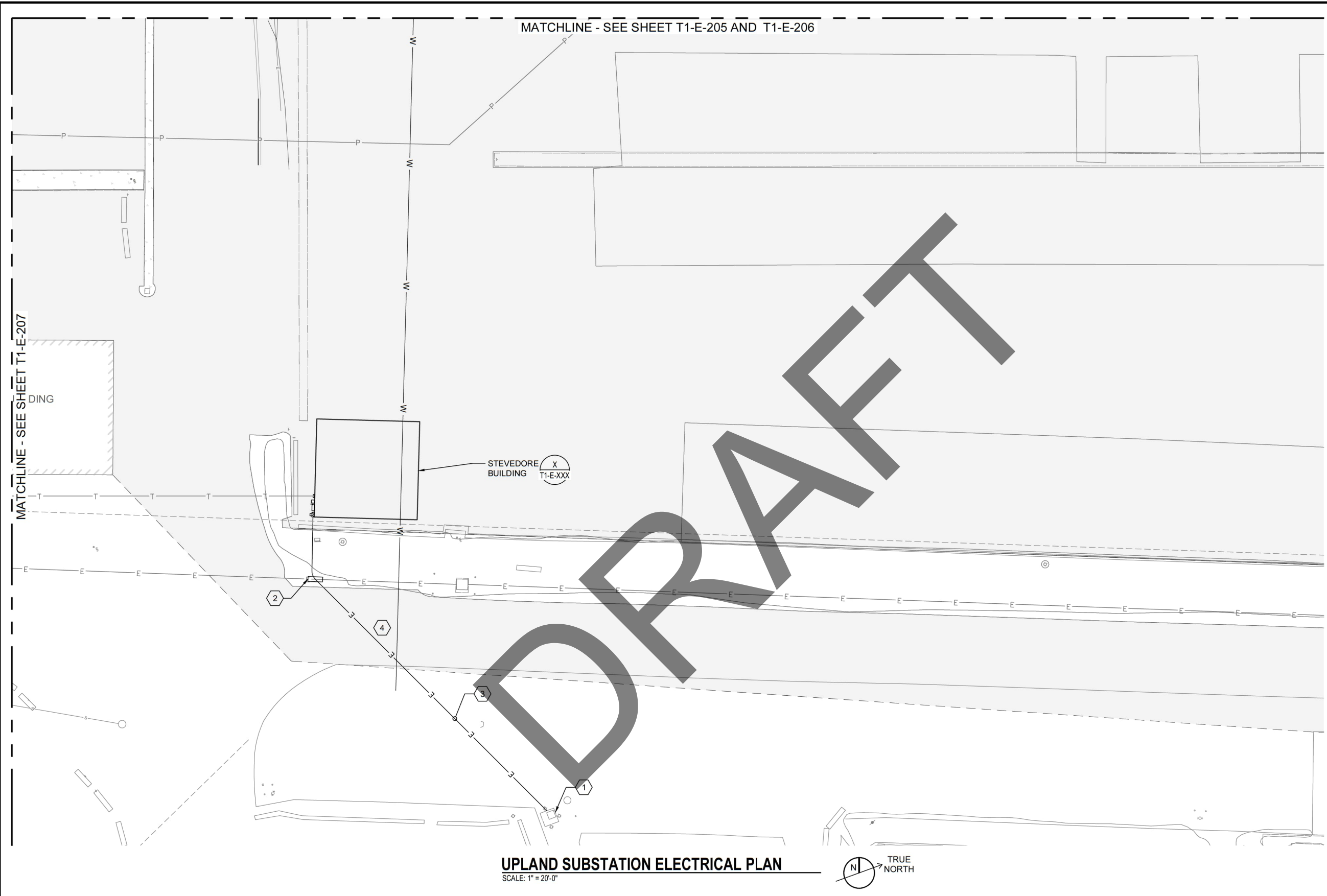
ELECTRICAL
UPLAND SUBSTATION ELECTRICAL PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-207
VERT SCALE:	SHEET: X OF	

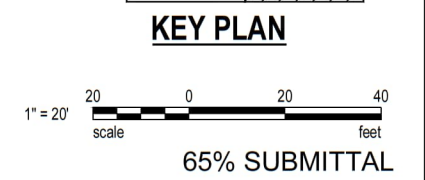
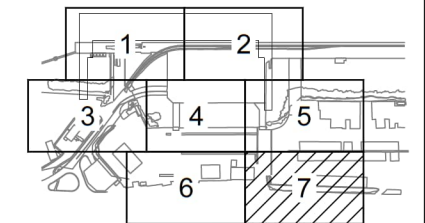
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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UPLAND SUBSTATION ELECTRICAL PLAN
SCALE: 1" = 20'-0"

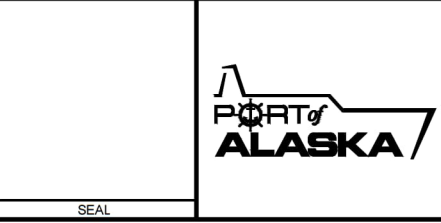
- GENERAL SHEET NOTES**
- PERFORM UNDERGROUND LOCATES FOR ALL EXISTING UTILITIES PRIOR TO DIGGING AND SUBMIT LOCATE RECORD PLANS FOR STEVEDORE WORK.
-
- SHEET KEYNOTES**
- EXISTING CEC 240 VOLT PAD MOUNT TRANSFORMER 5023.
 - EXISTING CEC 34.5kV UNDERGROUND. HAND DIG AND LOCATE EXTENT OF DUCT BANK.
 - PROVIDE SERVICE LATERAL 18" BELOW GRADE.
 - SAWCUT AND PATCH ROAD SURFACE.



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT		SEAL	



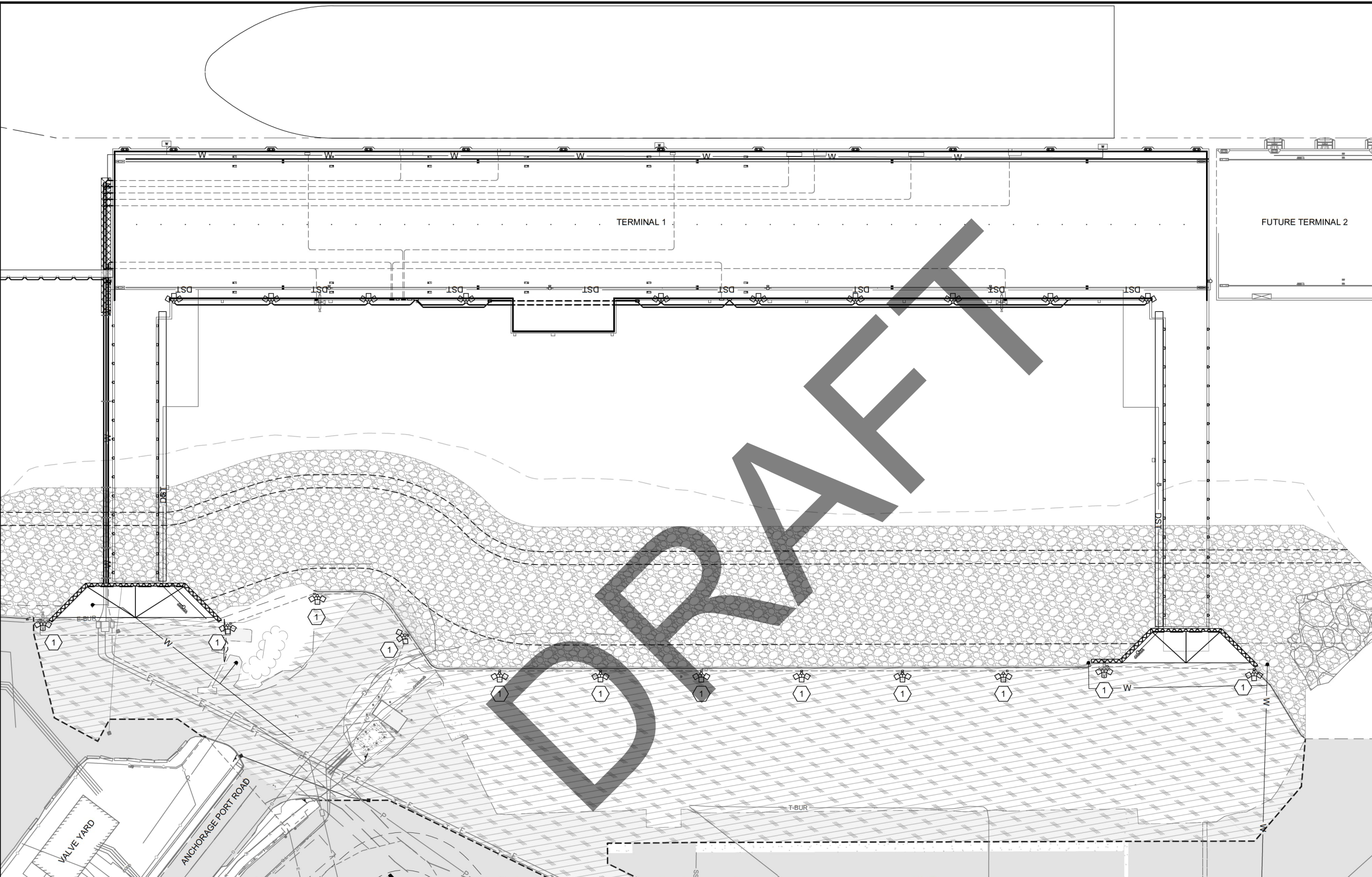
ELECTRICAL

UPLAND SUBSTATION ELECTRICAL PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-208
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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LIGHTNING PROTECTION AND GROUNDING PLAN
SCALE: 1" = 40'-0"

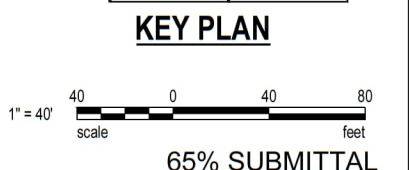
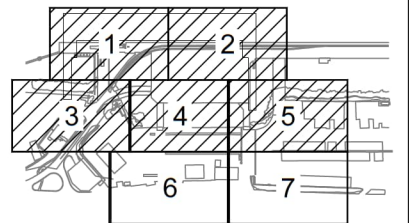


GENERAL SHEET NOTES

- TEXT.

SHEET KEYNOTES

- PROVIDE 25-FOOT LIGHTNING PROTECTION GROUND ROD AT BASE OF THE POLE.



REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

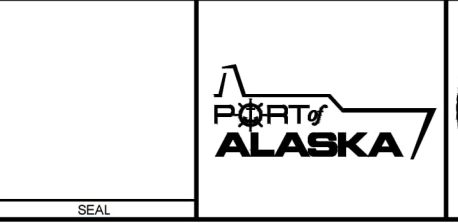
GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

CONSULTANT SEAL



ELECTRICAL
LIGHTNING PROTECTION AND GROUNDING PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: T1-E-209
VERT SCALE: SHEET: X OF

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

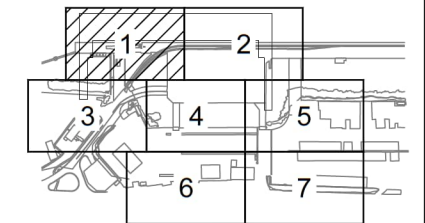
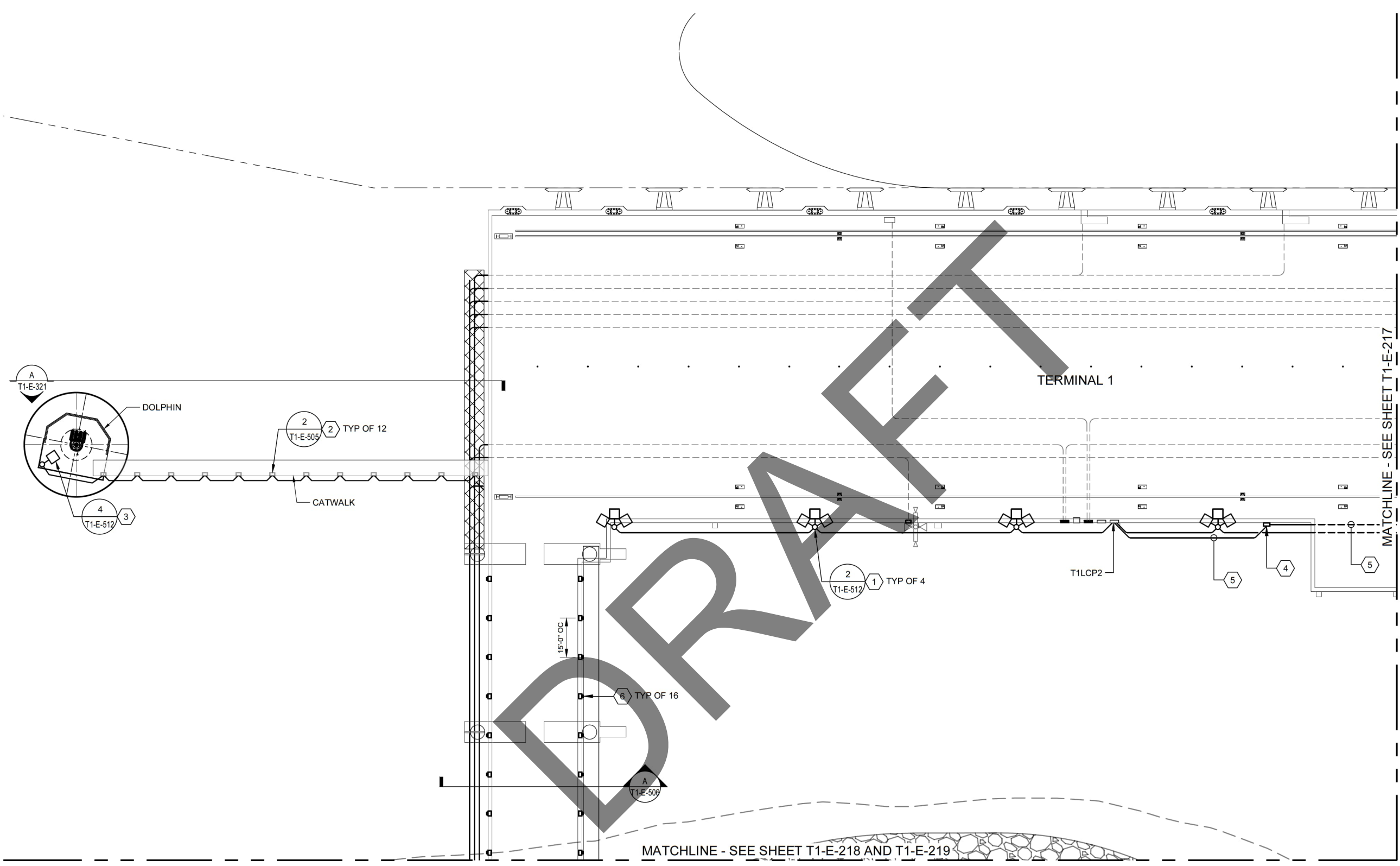
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GENERAL SHEET NOTES

1. ALL CONDUITS WITHIN CONCRETE DECK SHALL BE RGS CONDUIT.

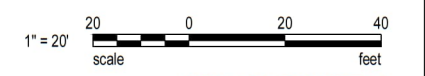
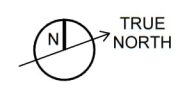
SHEET KEYNOTES

1. PROVIDE TERMINAL LIGHTING.
2. PROVIDE CATWALK LIGHTING.
3. PROVIDE DOLPHIN LIGHTING.
4. PROVIDE PROVIDE CLASS 1 DIVISION 2 SEAL OFFS AT HAZARD ZONE.
5. PROVIDE 3/4" CONDUIT WITH 6 - #8 AWG, 1 - #8 GND CONTROL WIRE TO T1-RLC1 AND T1-RLC2.
6. PROVIDE TRESTLE LIGHTING.



KEY PLAN

TERMINAL 1 LIGHTING PLAN
SCALE: 1" = 20'-0"

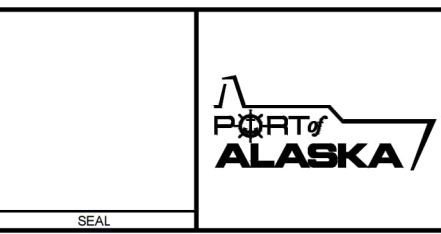


65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			
SEAL			

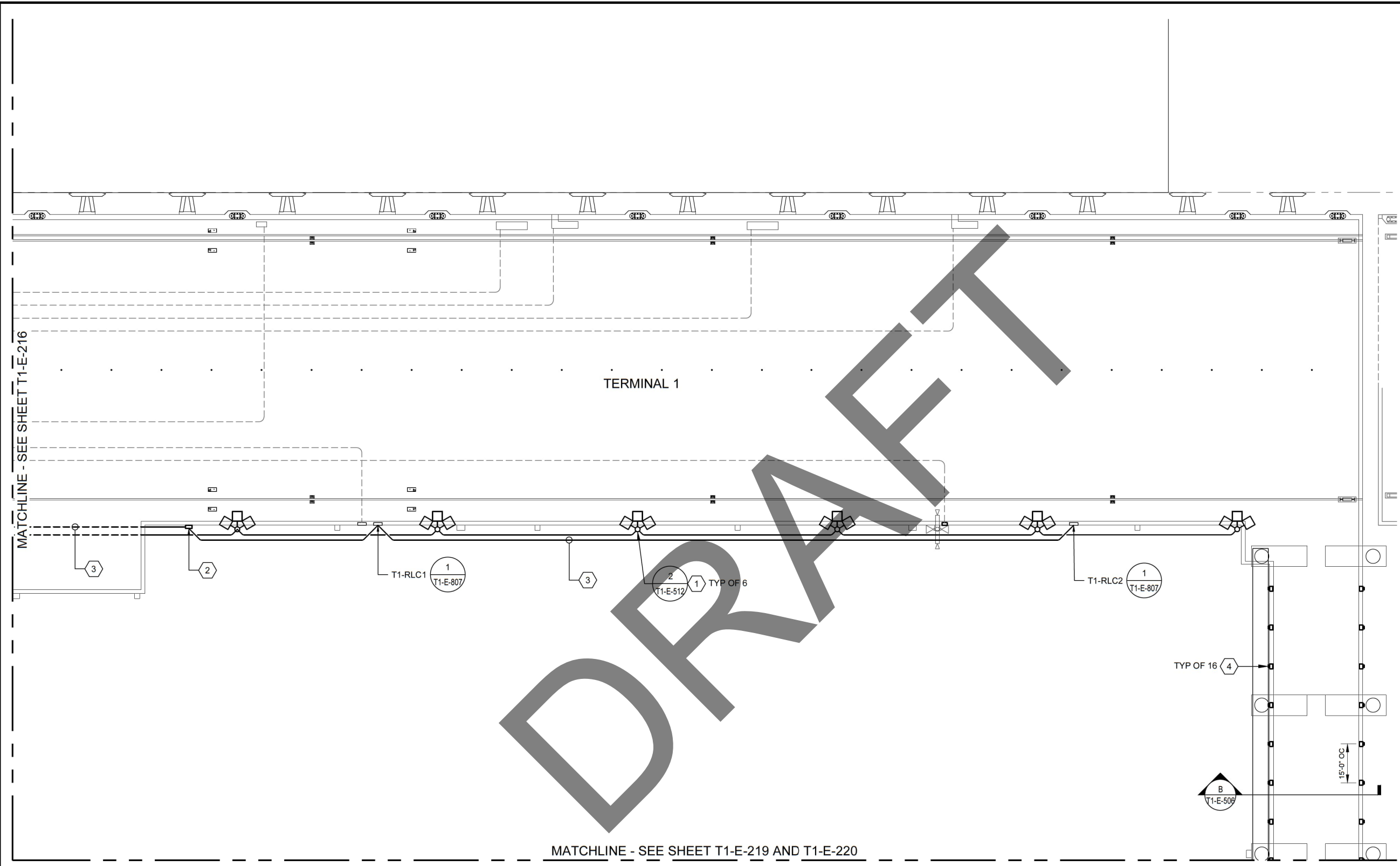


ELECTRICAL
TERMINAL 1 LIGHTING PLAN

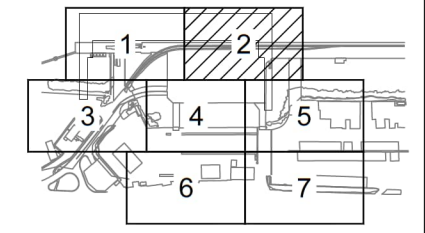
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: X OF	T1-E-216
VERT SCALE:		

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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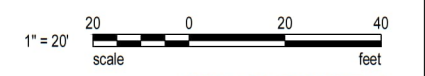
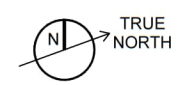


- GENERAL SHEET NOTES**
1. ALL CONDUITS WITHIN CONCRETE DECK SHALL BE RGS CONDUIT.
-
- SHEET KEYNOTES**
1. PROVIDE TERMINAL LIGHTING.
 2. PROVIDE CLASS 1 DIVISION 2 SEAL OFFS AT HAZARD ZONE.
 3. PROVIDE 3/4" CONDUIT WITH 6 - #8 AWG, 1 - #8 GND 1 CONTROL WIRE FROM T1-LCP.
 4. PROVIDE TRESTLE LIGHTING.



KEY PLAN

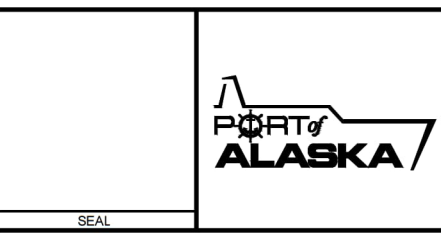
TERMINAL 1 LIGHTING PLAN
SCALE: 1" = 20'-0"



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK CHK	APVD
CONSULTANT		SEAL	

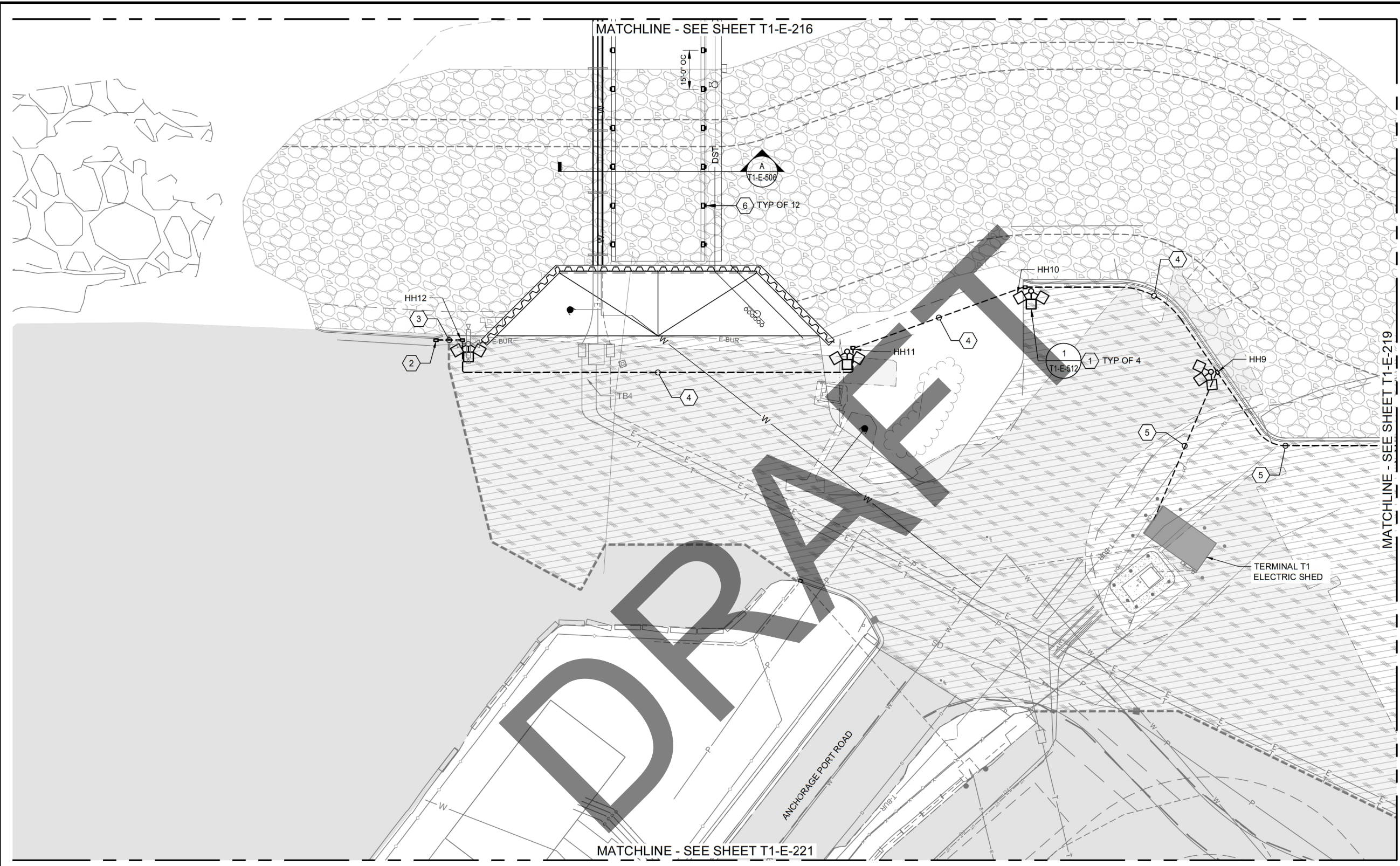


ELECTRICAL
TERMINAL 1 LIGHTING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-217
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

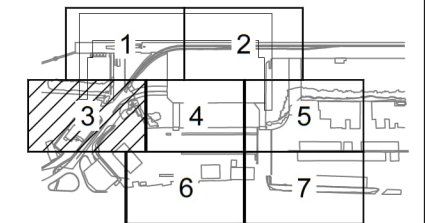
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GENERAL SHEET NOTES

- METALLIC CONDUITS AND BOXES SHALL BE KEPT ISOLATED FROM SUPPORT AND DC-DECOUPLERS PROVIDED TO BOND CONDUITS AND BOXES TO THE TERMINAL. SEE SHEET T1-E-XXX.

- SHEET KEYNOTES**
- PROVIDE UPLAND LIGHTING.
 - PROVIDE OPEN BOTTOM AIRCRAFT RATED PULLBOX.
 - PROVIDE 2" SCH 80 PVC WITH 4 - #8 AWG, 1 - #8 GND TO RE-SERVE EXISTING LIGHTS.
 - PROVIDE 1" SCH 80 PVC WITH 4 - #10 AWG, 1 - #10 GND.
 - PROVIDE 2" SCH 80 PVC WITH 4#8, 1#8 GND IN 2" SCH 80 PVC.
 - PROVIDE TRESTLE LIGHTING.

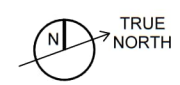


KEY PLAN



65% SUBMITTAL

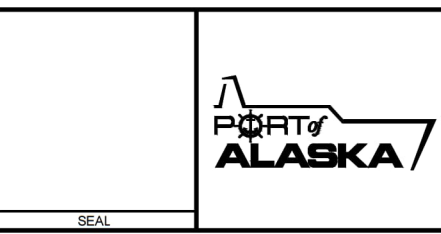
UPLAND TERMINAL 1 LIGHTING PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			SEAL



ELECTRICAL
UPLAND TERMINAL 1 LIGHTING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-218
VERT SCALE:	SHEET: X OF	

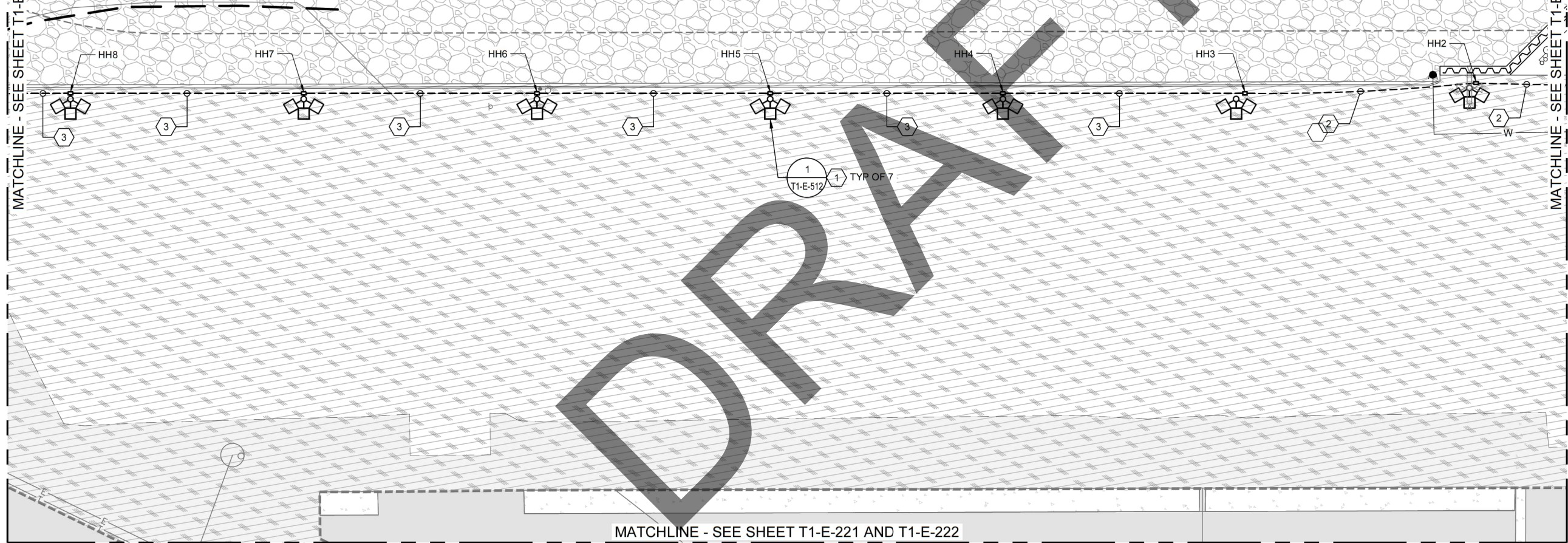
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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MATCHLINE - SEE SHEET T1-E-216 AND T1-E-217

MATCHLINE - SEE SHEET T1-E-218

MATCHLINE - SEE SHEET T1-E-220



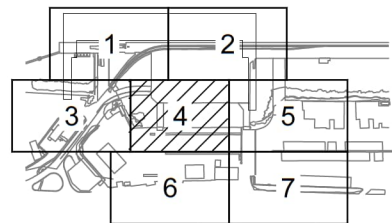
MATCHLINE - SEE SHEET T1-E-221 AND T1-E-222

GENERAL SHEET NOTES

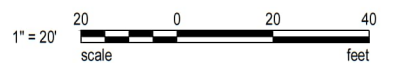
1. METALLIC CONDUITS AND BOXES SHALL BE KEPT ISOLATED FROM SUPPORT AND DC-DECOUPLERS PROVIDED TO BOND CONDUITS AND BOXES TO THE TERMINAL. SEE SHEET T1-E-XXX.

SHEET KEYNOTES

1. PROVIDE UPLAND LIGHTING.
2. PROVIDE 4 - #10 AWG, 1 - #10 GND IN 1" SCH 80 PVC.
3. PROVIDE 4 - #8 AWG, 1 - #8 GND IN 2" SCH 80 PVC.



KEY PLAN



65% SUBMITTAL

UPLAND TERMINAL 1 LIGHTING PLAN

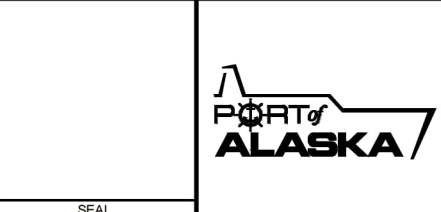
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

 GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) DSGN D. BURGER	 WSP AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP) DR J. LIBERATO	CHK APVD	SEAL



ELECTRICAL
UPLAND TERMINAL 1 LIGHTING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-219
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

MATCHLINE - SEE SHEET T1-E-217

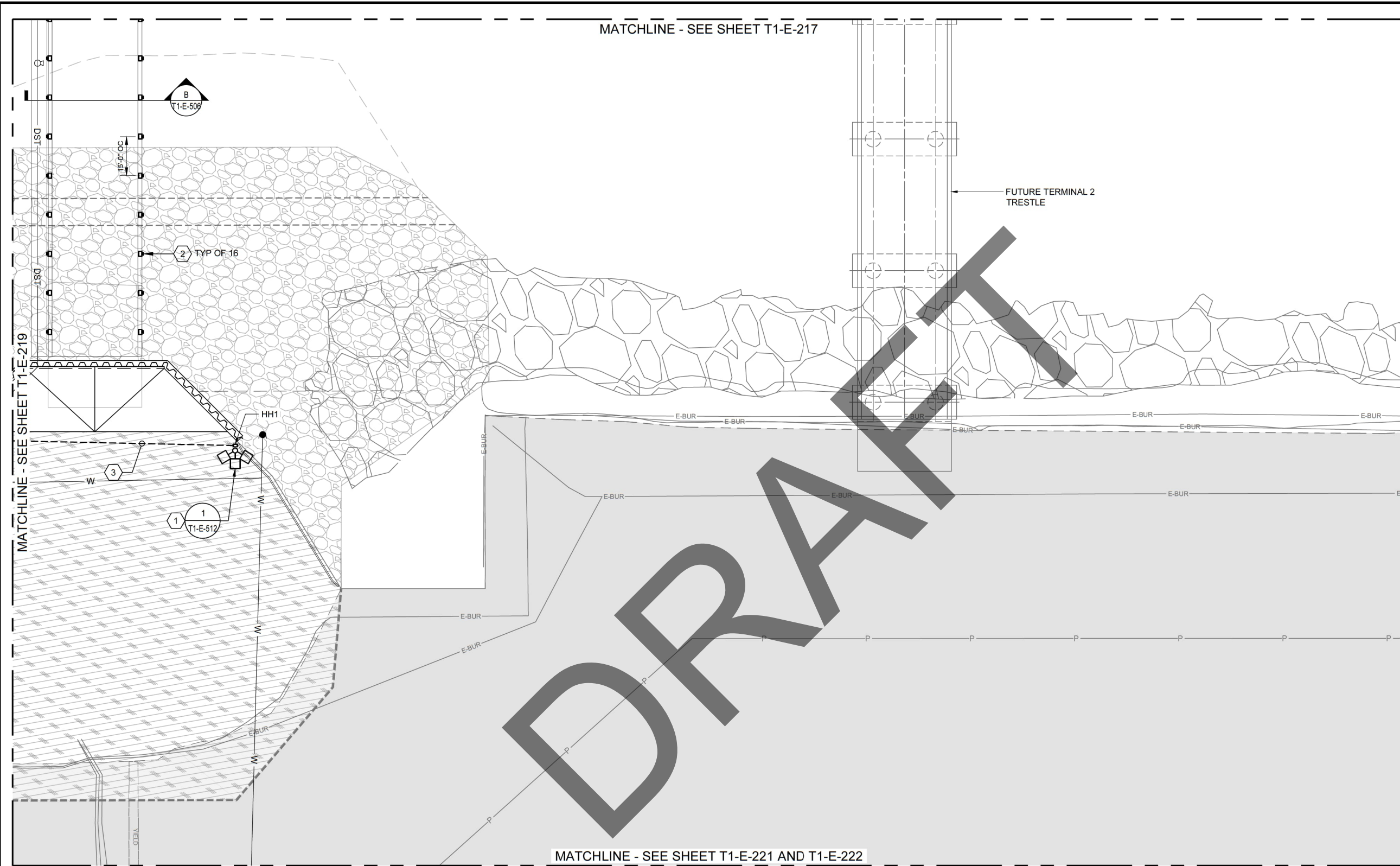
GENERAL SHEET NOTES

1. METALLIC CONDUITS AND BOXES SHALL BE KEPT ISOLATED FROM SUPPORT AND DC-DECOUPLERS PROVIDED TO BOND CONDUITS AND BOXES TO THE TERMINAL. SEE SHEET T1-E-XXX.

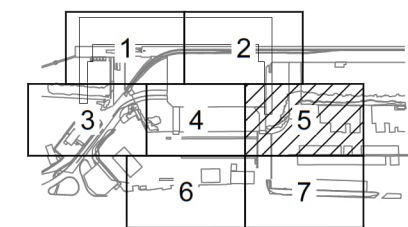
SHEET KEYNOTES

1. PROVIDE UPLAND LIGHTING.
2. PROVIDE TRESTLE LIGHTING
3. PROVIDE 1" SCH 80 PVC WITH 4 - #10 AWG, 1 - #10 GND.

MATCHLINE - SEE SHEET T1-E-219



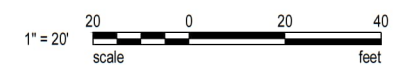
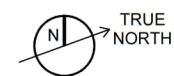
MATCHLINE - SEE SHEET T1-E-221 AND T1-E-222



KEY PLAN

UPLAND TERMINAL 1 LIGHTING PLAN

SCALE: 1" = 20'-0"

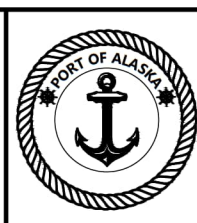


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REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

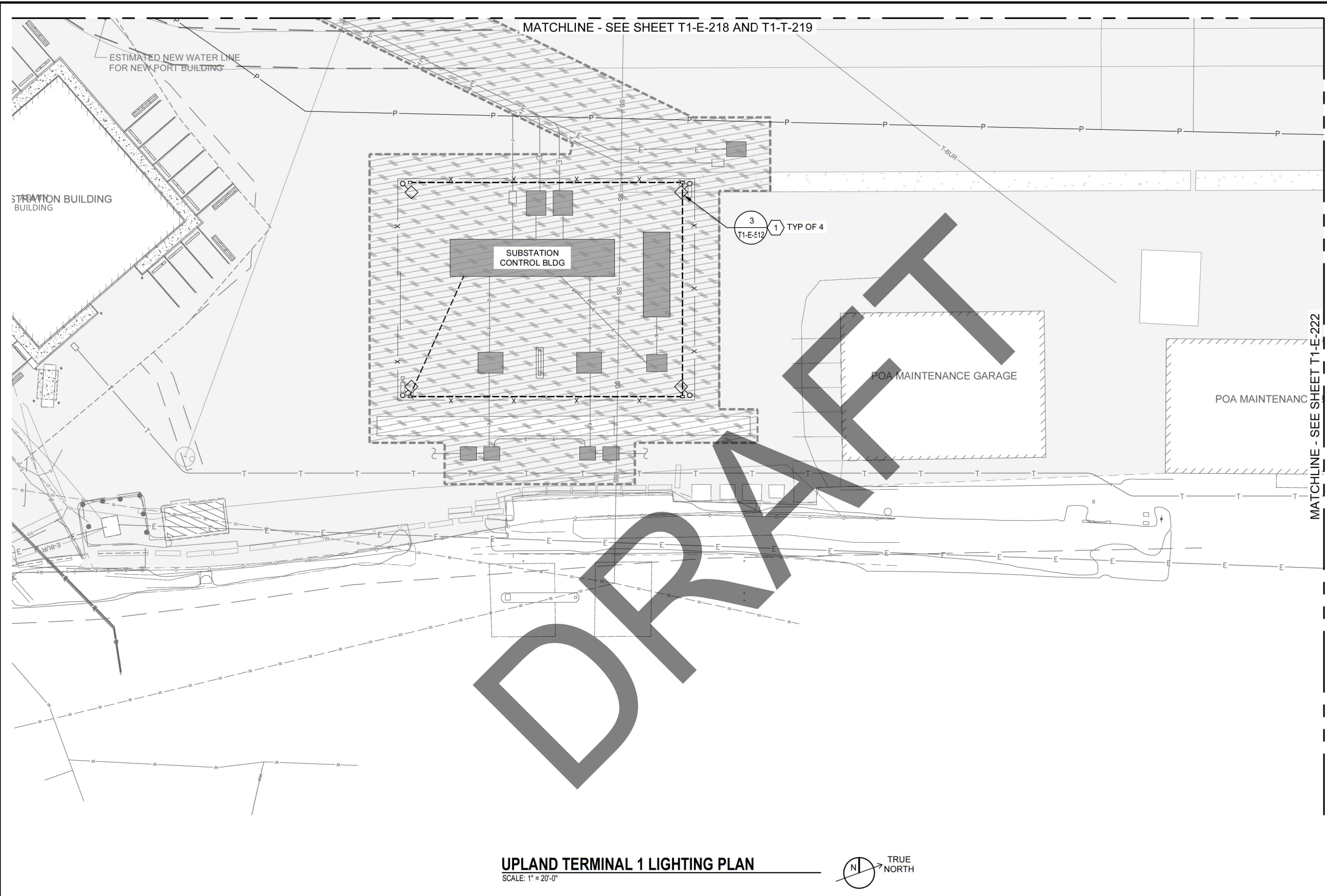
SEAL



ELECTRICAL
UPLAND TERMINAL 1 LIGHTING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-220
VERT SCALE:	SHEET: X OF	

Last Saved by: jliberato on Nov 14, 2023 6:24 PM File: C:\Users\jliberato\Documents\GHD Services Pty Ltd\2609997 - POA-Terminal Replacement\Project Files\01 WIP\Drawings\18_T1-E-221.dwg

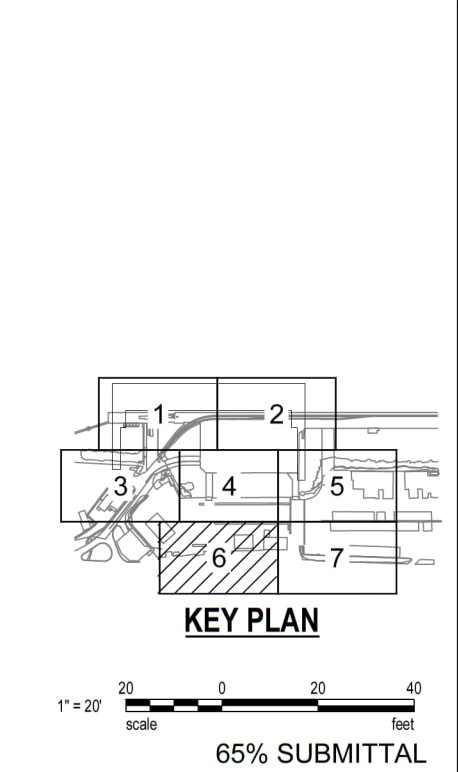


GENERAL SHEET NOTES

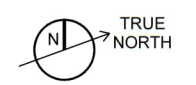
- METALLIC CONDUITS AND BOXES SHALL BE KEPT ISOLATED FROM SUPPORT AND DC-DECOUPLERS PROVIDED TO BOND CONDUITS AND BOXES TO THE TERMINAL. SEE SHEET T1-E-XXX.

SHEET KEYNOTES

- PROVIDE POLE MOUNTED LIGHTING, AND #4/0 AWG BOND TO SUBSTATION GROUND GRID.



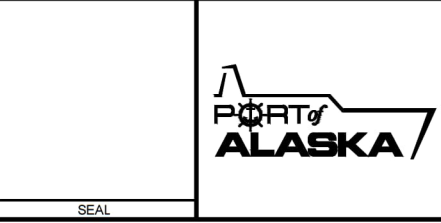
UPLAND TERMINAL 1 LIGHTING PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

VERIFIY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503	
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)	AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
DSGN D. BURGER	DR J. LIBERATO
CHK	APVD
CONSULTANT	
SEAL	



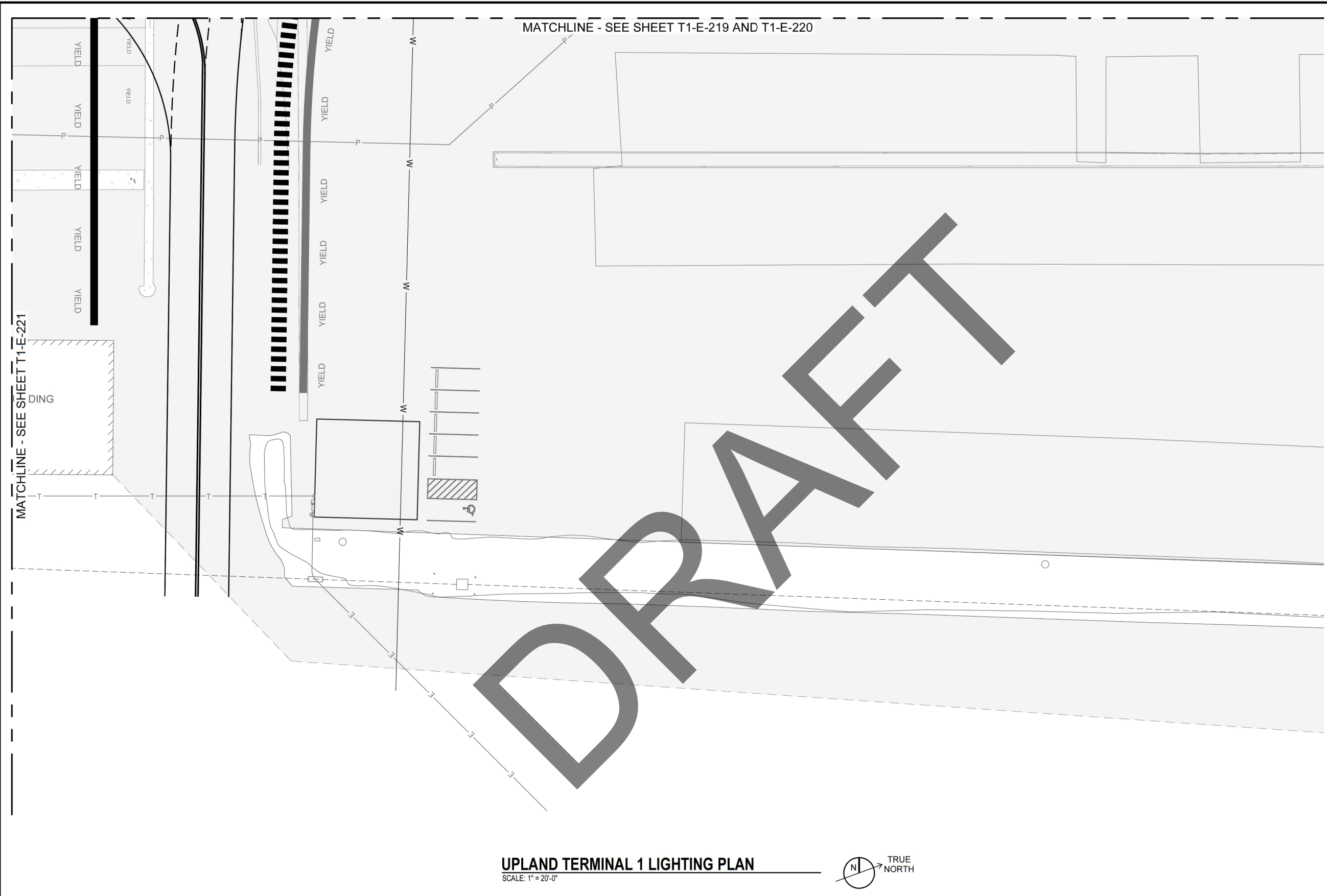
ELECTRICAL

UPLAND TERMINAL 1 LIGHTING PLAN

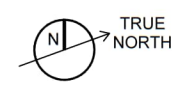
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-221
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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UPLAND TERMINAL 1 LIGHTING PLAN
SCALE: 1" = 20'-0"

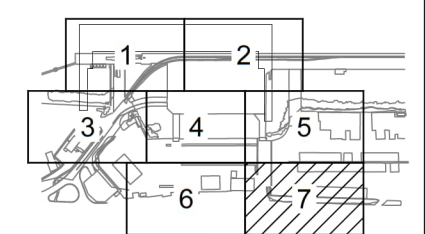


GENERAL SHEET NOTES

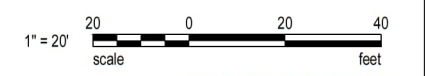
- METALLIC CONDUITS AND BOXES SHALL BE KEPT ISOLATED FROM SUPPORT AND DC-DECOUPLERS PROVIDED TO BOND CONDUITS AND BOXES TO THE TERMINAL. SEE SHEET T1-E-XXX.

SHEET KEYNOTES

- TEXT.



KEY PLAN



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

 GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) DSGN D. BURGER	 WSP 2164152(GHD) - 113511(WSP) AK BUSINESS LICENSE # DR J. LIBERATO CONSULTANT		

SEAL



ELECTRICAL
UPLAND TERMINAL 1
LIGHTING PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: T1-E-222	
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

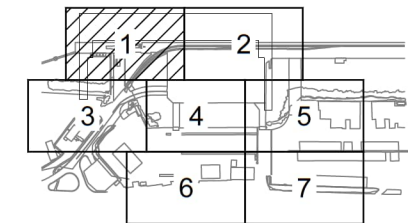
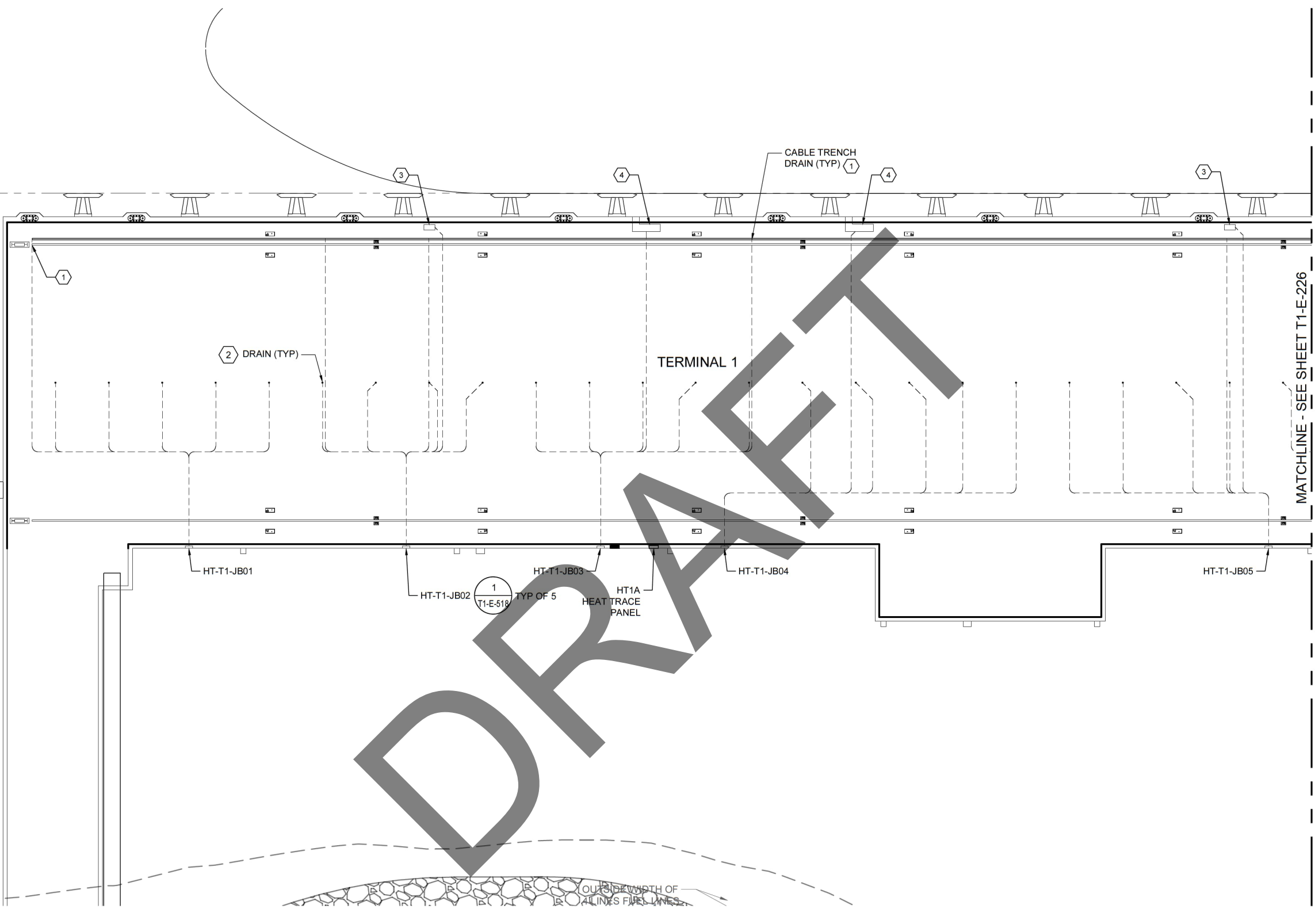
Last Saved by: jliberato on Nov 14, 2023 12:55 PM File: C:\Users\jliberato\Documents\GHD\Projects\Port of Alaska\Terminal Replacement\Project Files\01_WIP\Drawings\T1-E-225.dwg

GENERAL SHEET NOTES

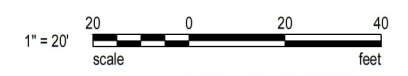
1. TEXT.

SHEET KEYNOTES

1. PROVIDE HEAT TRACING FOR CABLE TRENCH DRAINS.
2. PROVIDE HEAT TRACING FOR DRAINS.
3. PROVIDE HEAT TRACING FOR POTABLE HEATED WATER VALVE BOX .
4. PROVIDE HEAT TRACING FOR SHORE POWER VAULT DRAIN.

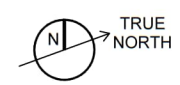


KEY PLAN



65% SUBMITTAL

HEAT TRACE SYSTEM PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



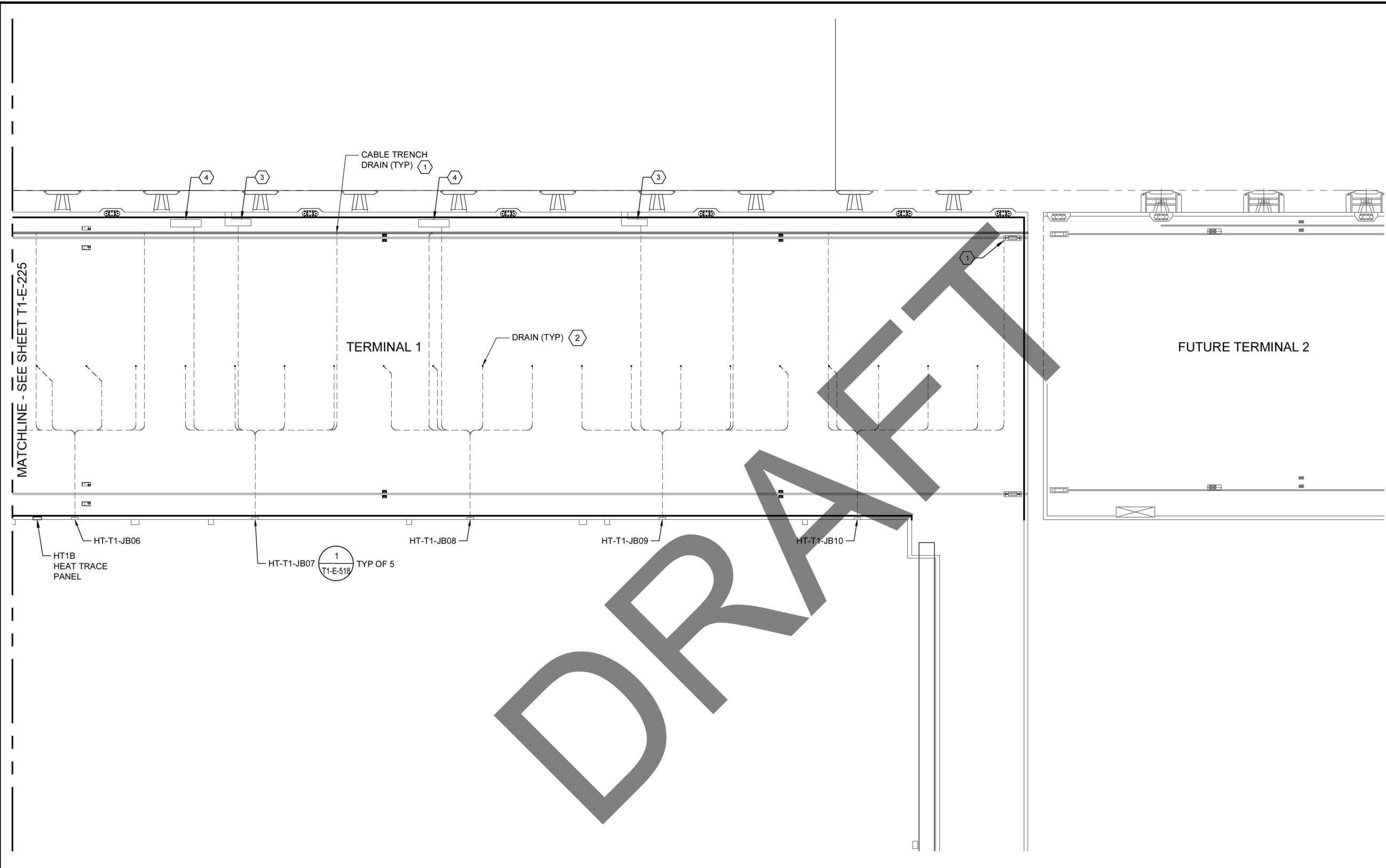
ELECTRICAL
HEAT TRACE SYSTEM PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

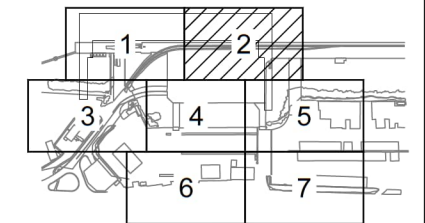
HORIZ SCALE: AS SHOWN	DATE:	T1-E-225
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

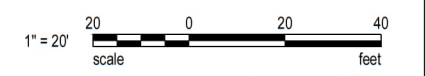
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- GENERAL SHEET NOTES**
1. TEXT.
-
- SHEET KEYNOTES**
1. PROVIDE HEAT TRACING FOR CABLE TRENCH DRAINS.
 2. PROVIDE HEAT TRACING FOR DRAINS.
 3. PROVIDE HEAT TRACING FOR SHORE POWER VAULT DRAIN.
 4. PROVIDE HEAT TRACING FOR CRANE POWER VAULT DRAIN.

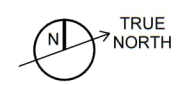


KEY PLAN



65% SUBMITTAL

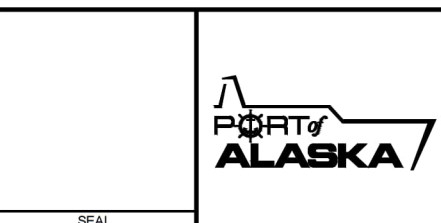
HEAT TRACE SYSTEM PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

 GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)	DR	CHK	APVD
	D. BURGER	J. LIBERATO	
CONSULTANT		SEAL	



ELECTRICAL
HEAT TRACE SYSTEM PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-226
VERT SCALE:	SHEET: X OF	



PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

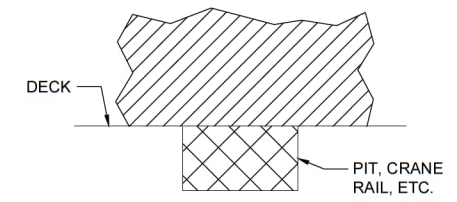
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GENERAL SHEET NOTES

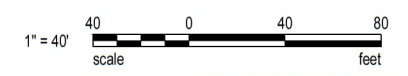
1. HAZARD AREAS FOR POL AS DEFINED BY NFPA70 ARTICLE 515.

LEGEND

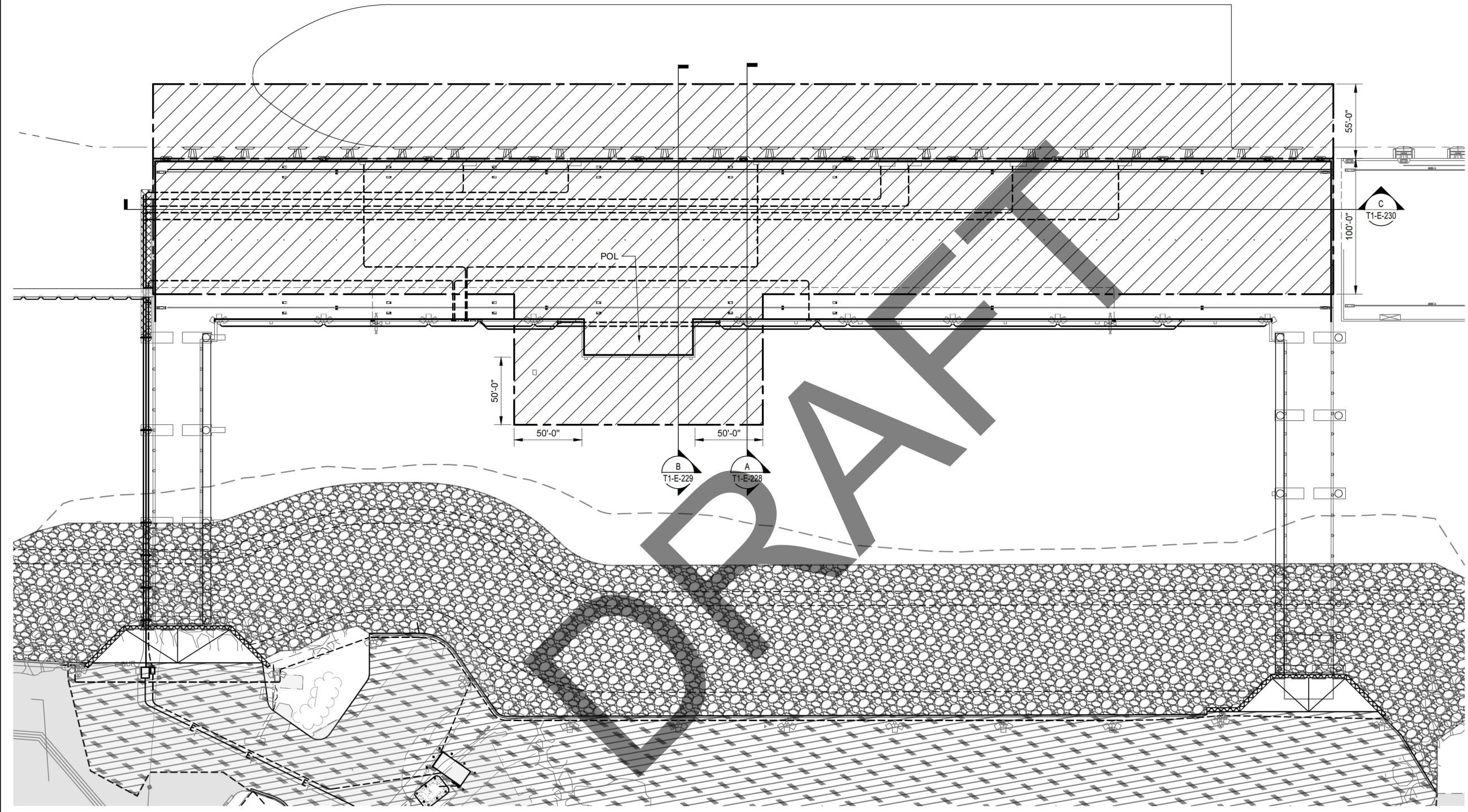
-  CLASS 1 DIVISION 2 DURING FUELING
-  CLASS 1 DIVISION 1 DURING FUELING



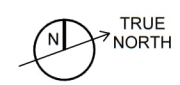
2 OPEN SUMP OR PIT IN DECK
SCALE: NTS



65% SUBMITTAL




1 HAZARD ZONE PLAN
SCALE: 1" = 40'-0"




REV	DATE	DESCRIPTION	BY	APVD

REVISIONS



GHD



wsp

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



ELECTRICAL
HAZARD ZONE PLAN

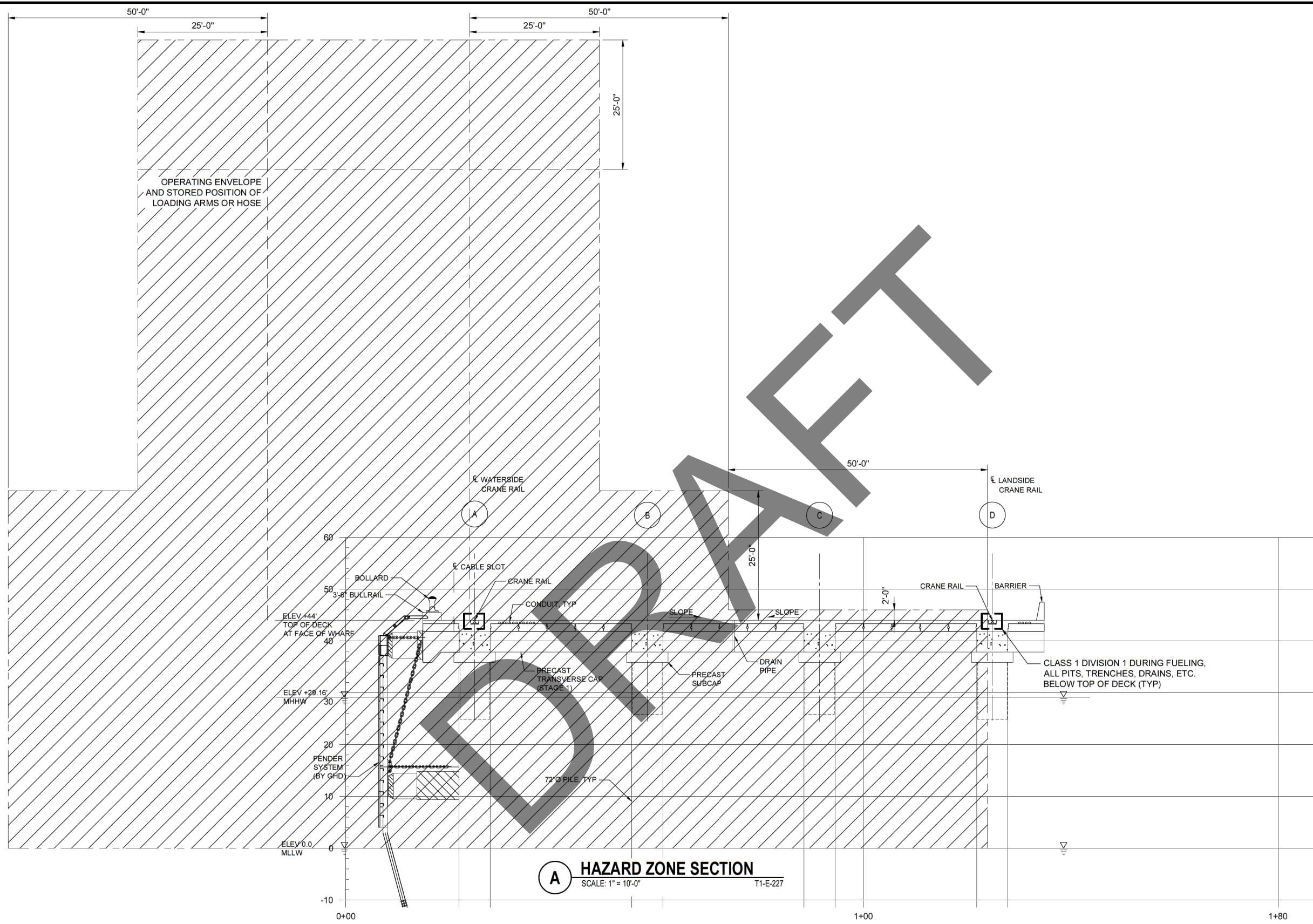
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-227
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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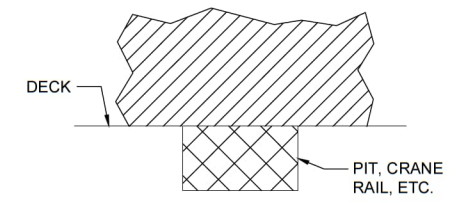
A HAZARD ZONE SECTION
SCALE: 1" = 10'-0" T1-E-227

GENERAL SHEET NOTES

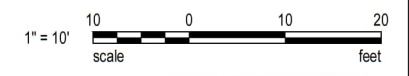
- HAZARD AREAS FOR POL AS DEFINED BY NFPA70 ARTICLE 515.

LEGEND

- CLASS 1 DIVISION 2 DURING FUELING
- CLASS 1 DIVISION 1 DURING FUELING



2 OPEN SUMP OR PIT IN DECK
SCALE: NTS



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



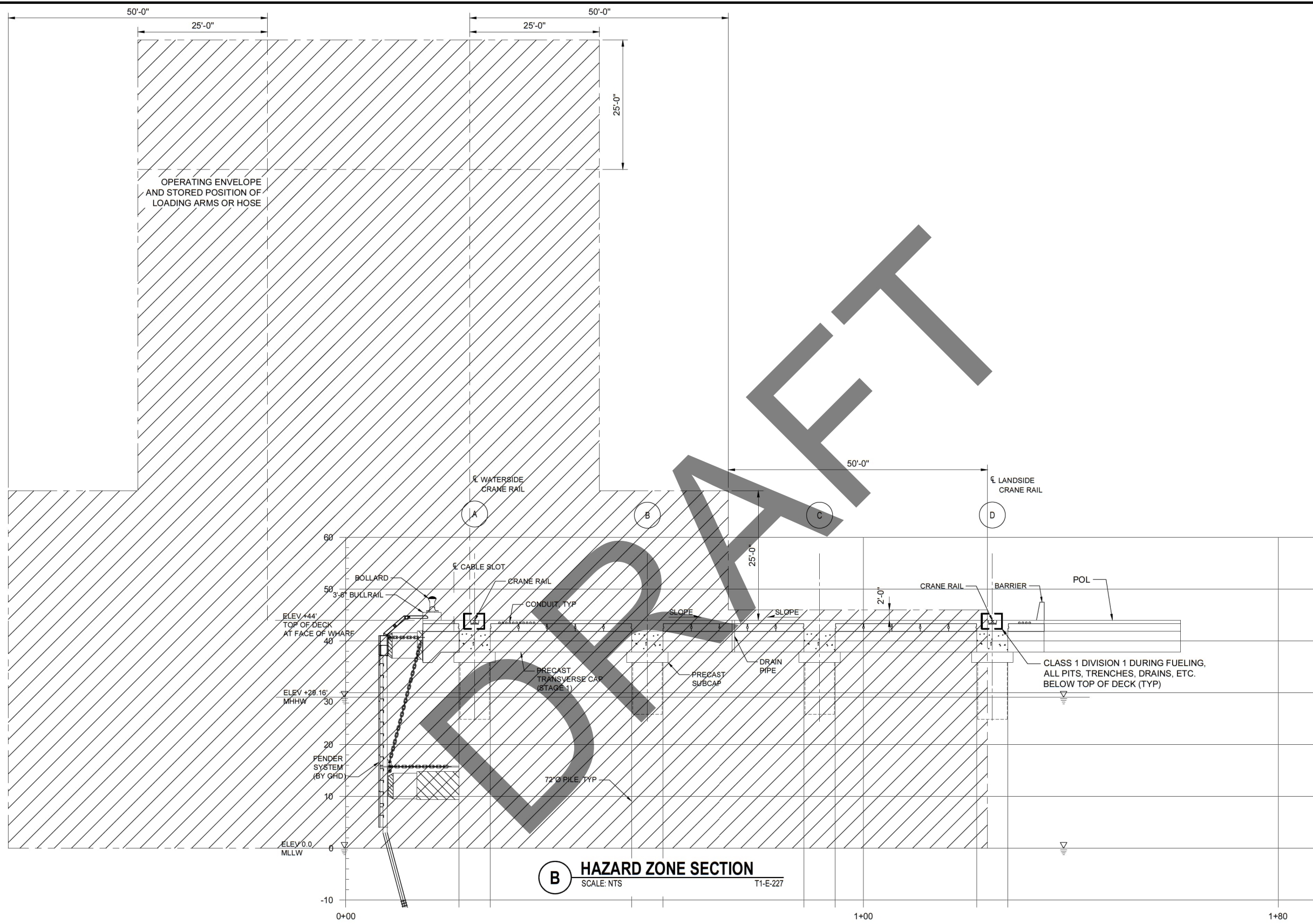
ELECTRICAL
HAZARD ZONE SECTION A

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-228
VERT SCALE:	SHEET: X OF	

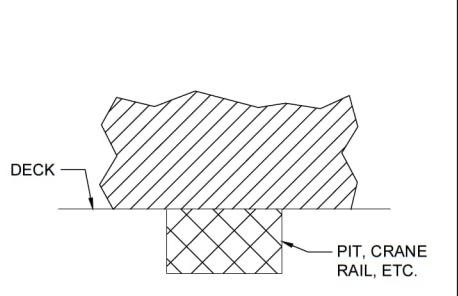
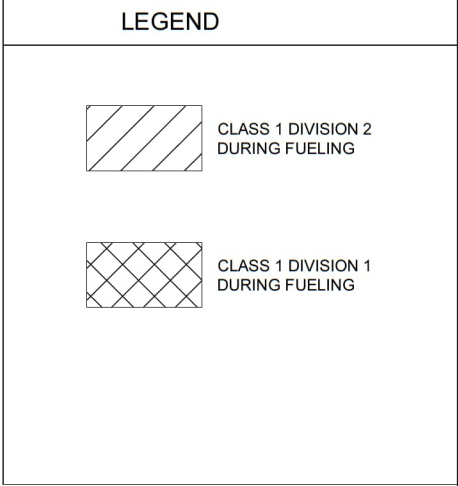
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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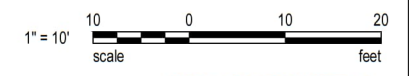


GENERAL SHEET NOTES

- HAZARD AREAS FOR POL AS DEFINED BY NFPA70 ARTICLE 515.



2 OPEN SUMP OR PIT IN DECK
SCALE: NTS



65% SUBMITTAL

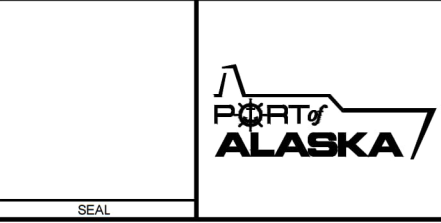
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

CONSULTANT SEAL



ELECTRICAL

HAZARD ZONE SECTION B

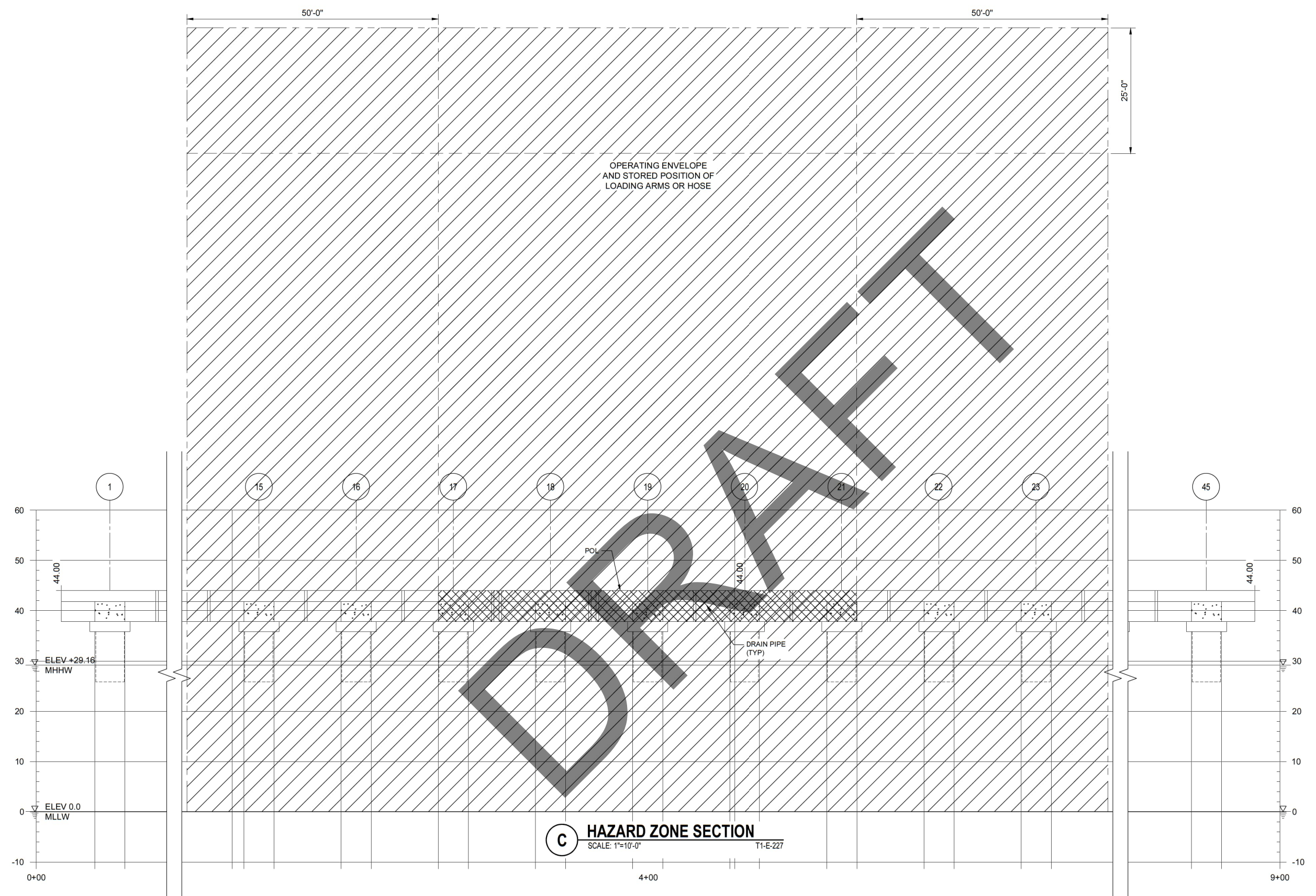
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN DATE: T1-E-229
VERT SCALE: SHEET: X OF

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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GENERAL SHEET NOTES

1. HAZARD AREAS FOR POL AS DEFINED BY NFPA70 ARTICLE 515.

LEGEND

CLASS 1 DIVISION 2 DURING FUELING

CLASS 1 DIVISION 1 DURING FUELING

DECK

PIT, CRANE RAIL, ETC.

2 OPEN SUMP OR PIT IN DECK
SCALE: NTS

1" = 10'
scale feet

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

CONSULTANT

SEAL

PORT OF ALASKA

PORT OF ALASKA

ELECTRICAL

HAZARD ZONE SECTION C

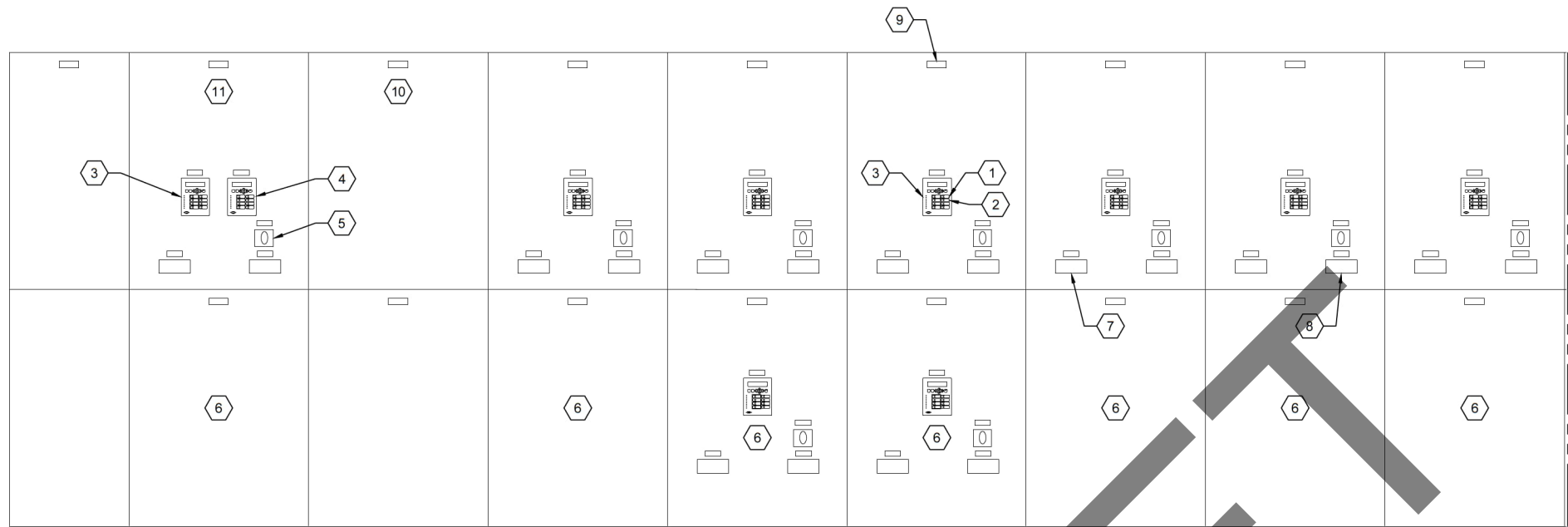
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

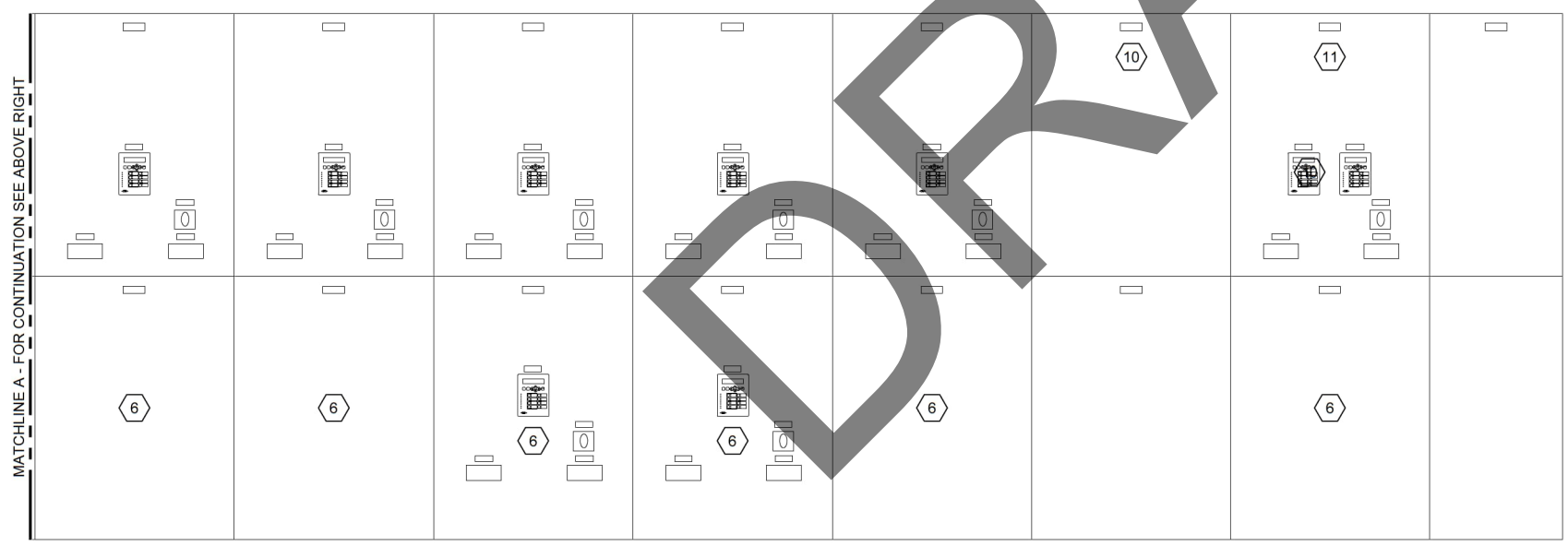
HORIZ SCALE: AS SHOWN DATE: T1-E-230
VERT SCALE: SHEET: X OF

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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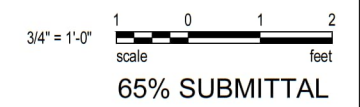


1 SWITCHGEAR ELEVATION A
SCALE: 3/4" = 1'-0" T1-E-406



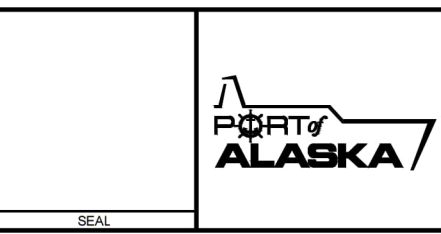
2 SWITCHGEAR ELEVATION B
SCALE: 3/4" = 1'-0" T1-E-406

- SHEET KEYNOTES**
1. CLOSED CONTROL SWITCH AND INDICATING LIGHT (TYP).
 2. TRIP CONTROL SWITCH AND INDICATING LIGHT (TYP).
 3. PROTECTION AND CONTROL RELAY, SEL 751 (TYP).
 4. DIFFERENTIAL PROTECTION TRANSFORMER, 87T.
 5. "86" LOCKOUT RELAY (TYP).
 6. BREAKER COMPARTMENT. (BREAKER BEHIND DOOR, TYP).
 7. CURRENT AND POTENTIAL TEST SWITCHES (TYP).
 8. TRIP CUT-OUT TEST SWITCHES (TYP).
 9. ENGRAVED NAMEPLATE (TYP).
 10. CONTROL POWER TRANSFORMER AND FUSE DRAWER (BEHIND DOOR).
 11. POTENTIAL TRANSFORMER AND FUSE DRAWER (BEHIND DOOR).



REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT		SEAL	



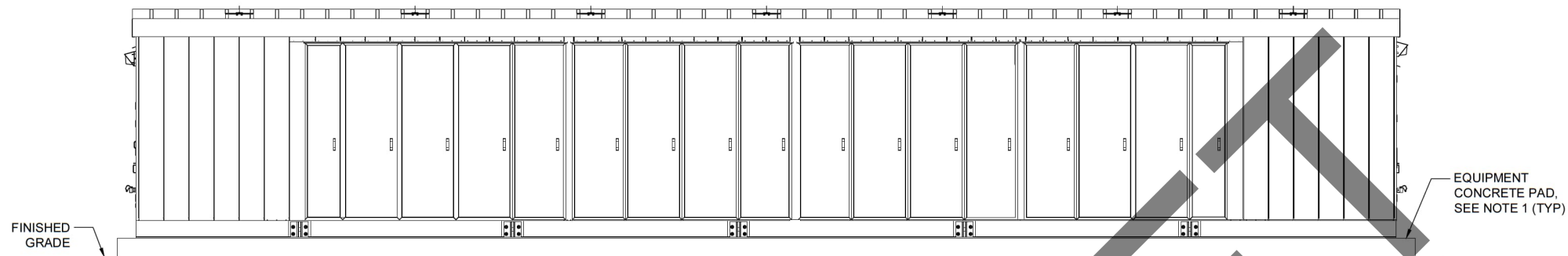
ELECTRICAL
SWITCHGEAR ELEVATIONS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-301
VERT SCALE:	SHEET: X OF	

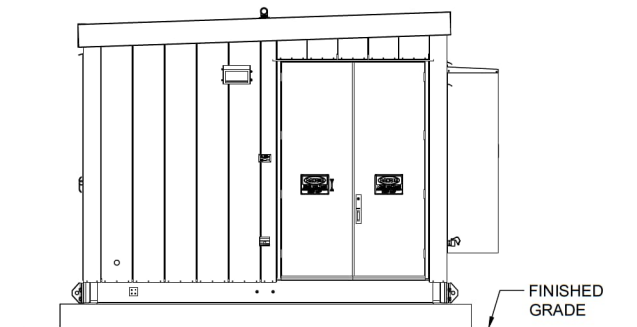
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

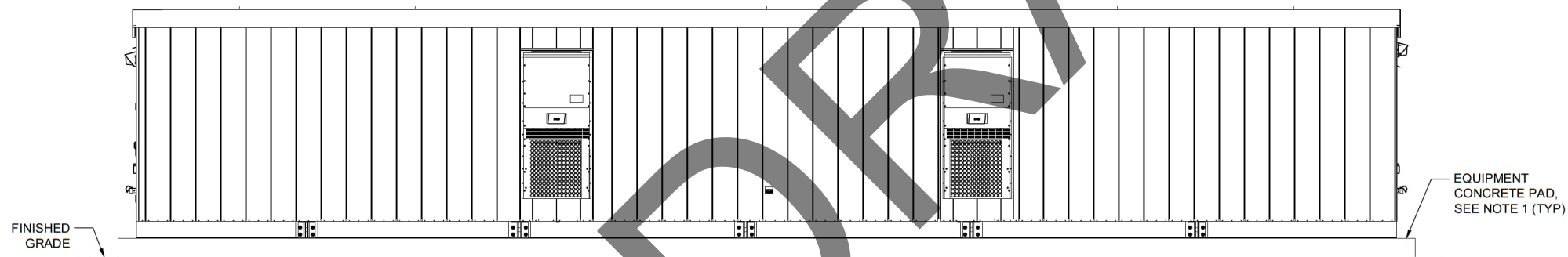
1. REFER TO STRUCTURAL DRAWINGS FOR EQUIPMENT CONCRETE PAD.



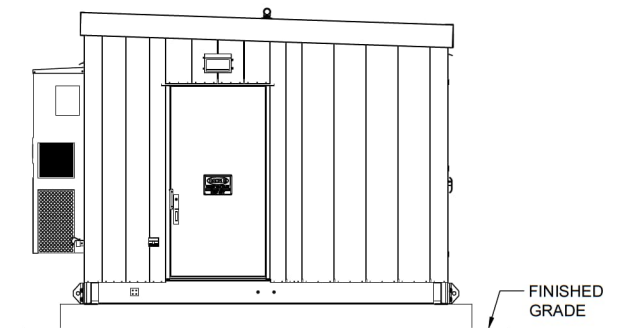
1 ELEVATION - SOUTH
SCALE: 1/4" = 1'-0" T1-E-406



2 ELEVATION - WEST
SCALE: 1/4" = 1'-0" T1-E-406



3 ELEVATION - NORTH
SCALE: 1/4" = 1'-0" T1-E-406



4 ELEVATION - EAST
SCALE: 1/4" = 1'-0" T1-E-406



65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



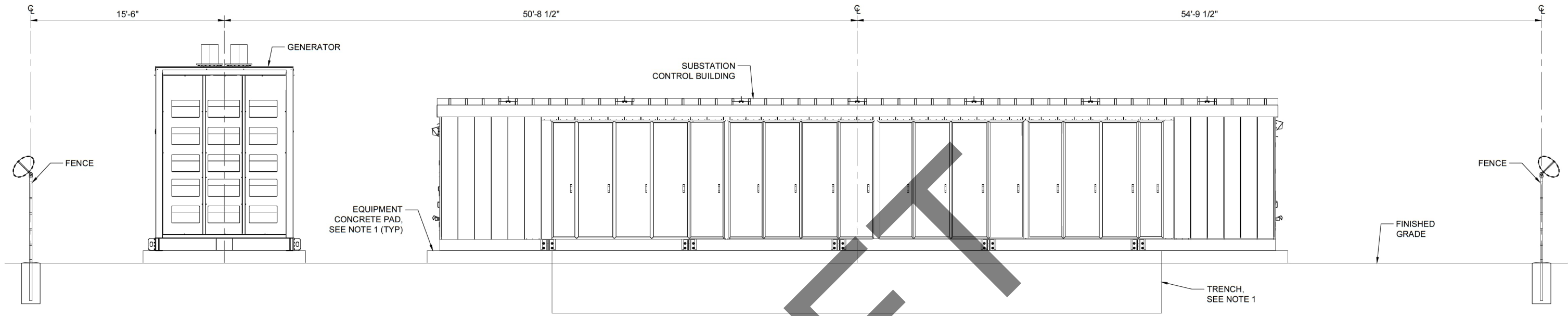
ELECTRICAL
SUBSTATION CONTROL BUILDING
ELEVATIONS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-302
VERT SCALE:	SHEET: X OF	

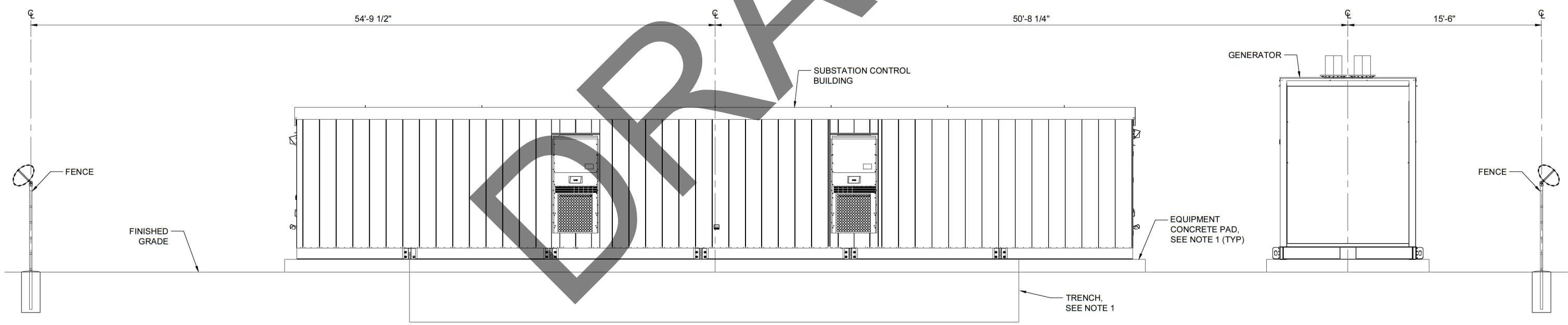
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

1. REFER TO STRUCTURAL PLANS FOR EQUIPMENT CONCRETE PAD.



A UPLAND SUBSTATION SECTION
SCALE: 1/4" = 1'-0" T1-E-207



B UPLAND SUBSTATION SECTION
SCALE: 1/4" = 1'-0" T1-E-207



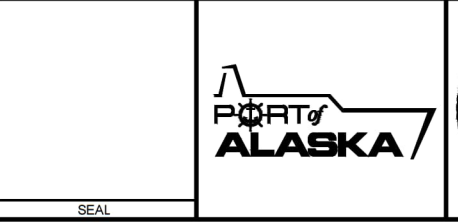
65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

<small>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)</small>			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT		SEAL	



ELECTRICAL

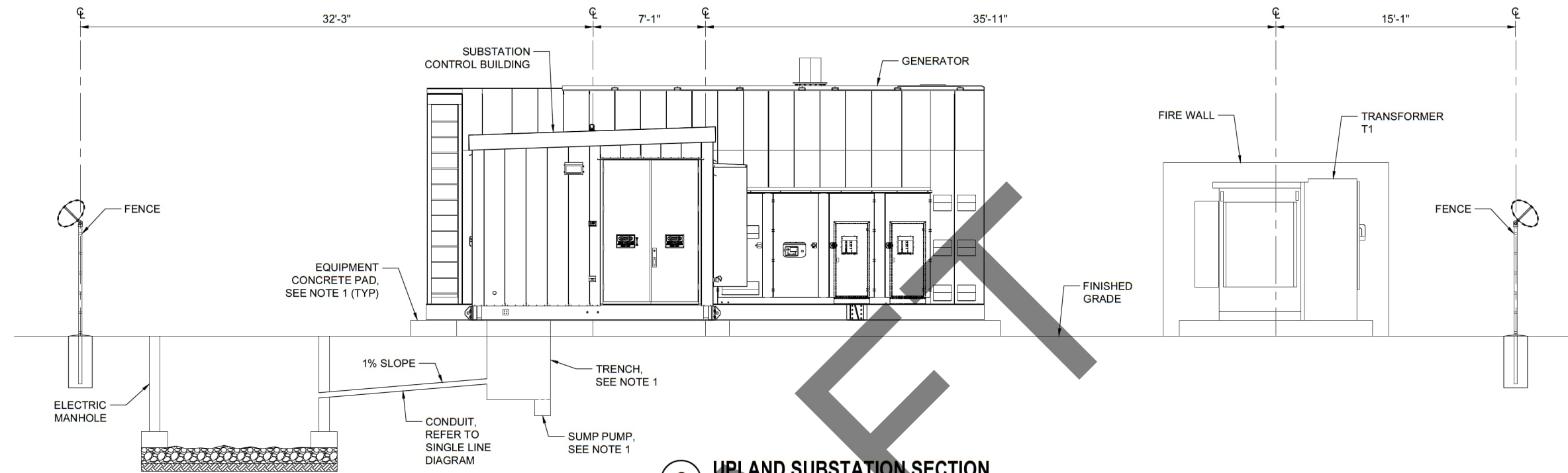
UPLAND SUBSTATION SECTIONS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: _____	T1-E-310
VERT SCALE: _____	SHEET: X OF _____	

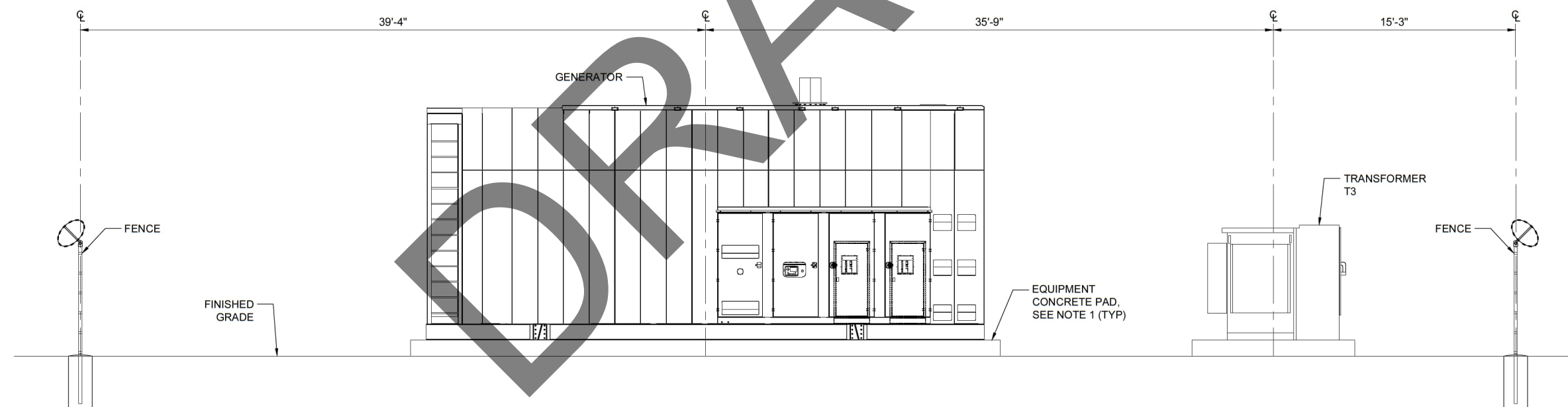
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

- REFER TO STRUCTURAL PLANS FOR EQUIPMENT CONCRETE PAD.



C UPLAND SUBSTATION SECTION
SCALE: 1/4" = 1'-0" T1-E-207



D UPLAND SUBSTATION SECTION
SCALE: 1/4" = 1'-0" T1-E-207



65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

ELECTRICAL

UPLAND SUBSTATION SECTIONS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

CARGO TERMINAL 1 DESIGN

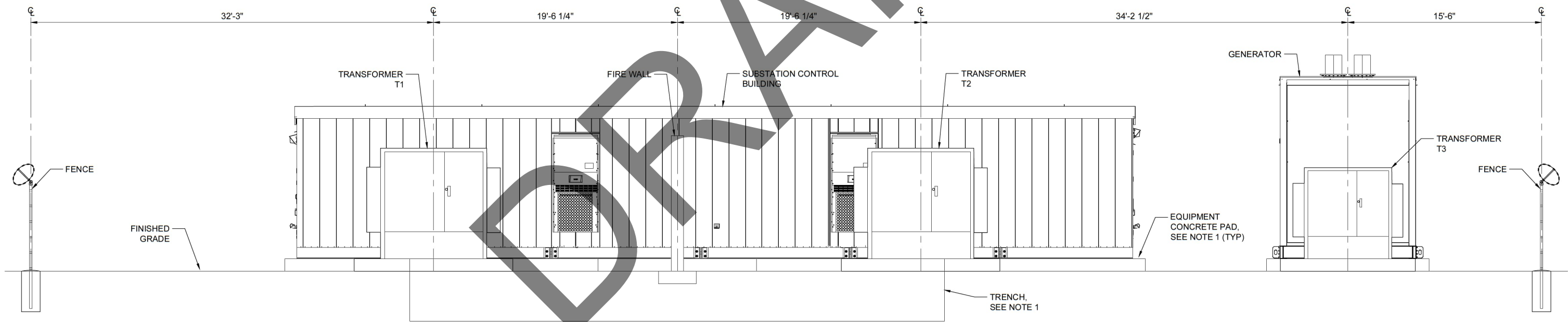
ANCHORAGE, ALASKA

HORIZ SCALE: NONE	DATE:	T1-E-311
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

- REFER TO STRUCTURAL PLANS FOR EQUIPMENT CONCRETE PAD.



E UPLAND SUBSTATION SECTION
SCALE: 1/4" = 1'-0" T1-E-207



65% SUBMITTAL

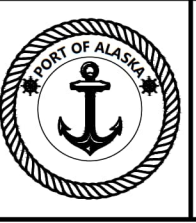
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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

		GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)	
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



ELECTRICAL
UPLAND SUBSTATION SECTION E

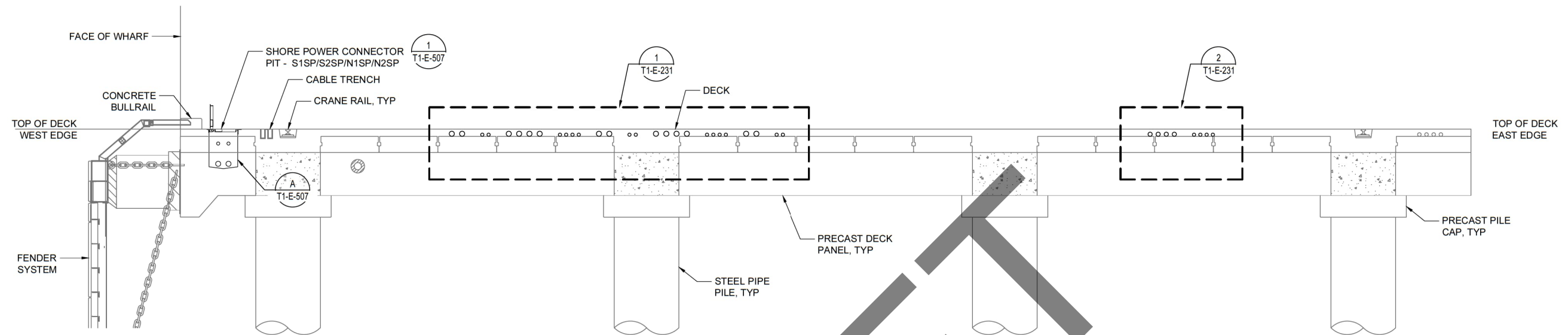
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HORIZ SCALE: AS SHOWN	DATE: _____	T1-E-312
VERT SCALE: _____	SHEET: X OF _____	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

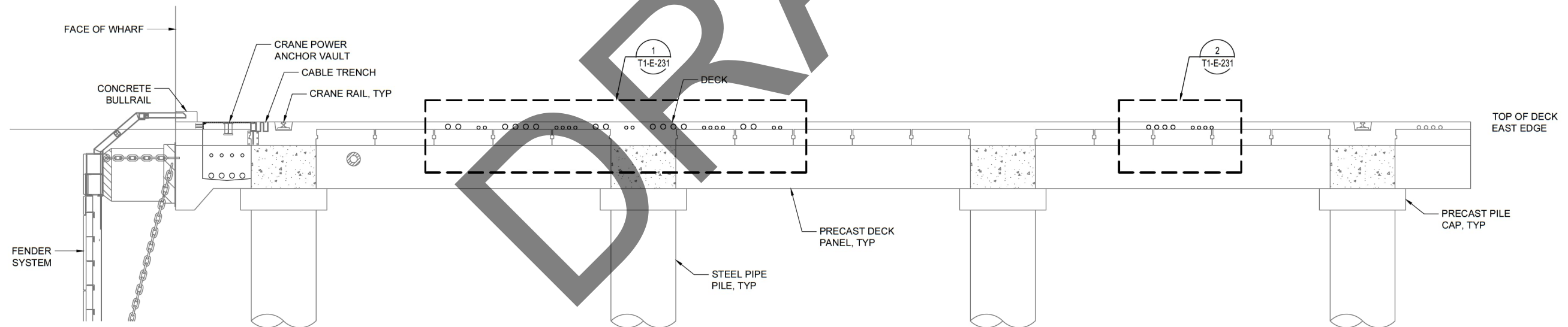
SEE NOTE 1

GENERAL SHEET NOTES

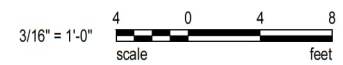
- REFER TO STRUCTURAL DRAWINGS FOR WHARF DECK STRUCTURE.



A WHARF DECK SECTION - POWER
SCALE: 3/16" = 1'-0" T1-E-202



B WHARF DECK SECTION - POWER
SCALE: 3/16" = 1'-0" T1-E-203



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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD		wsp	
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503			
AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP)		AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)	
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL

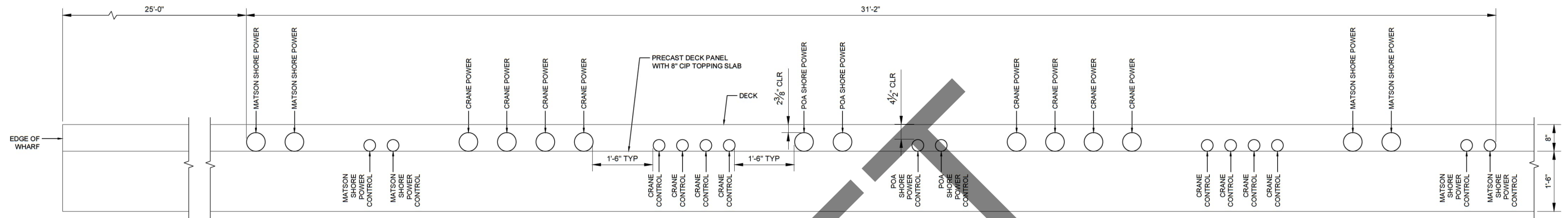


ELECTRICAL
WHARF DECK SECTIONS

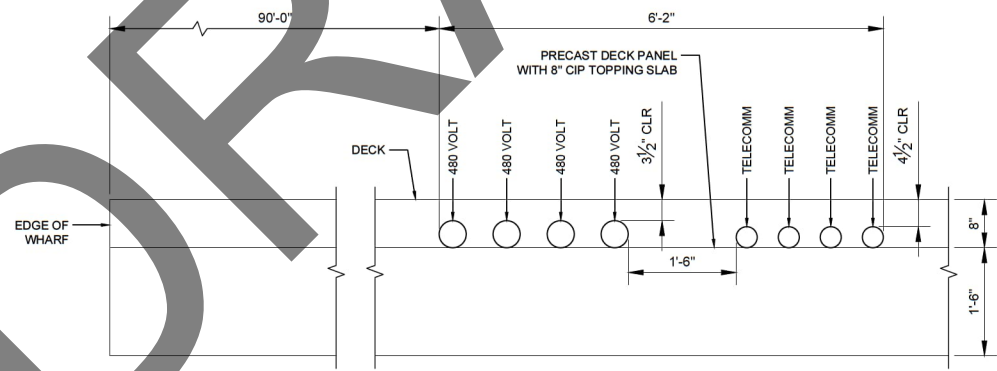
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-321
VERT SCALE:	SHEET: X OF	

GENERAL SHEET NOTES

1. REFER TO STRUCTURAL DRAWINGS FOR WHARF DECK STRUCTURE.



1 WHARF SECTION
SCALE: 3/4" = 1'-0" T1-E-202, T1-E-203, T1-E-321, T1-E-322



2 WHARF SECTION
SCALE: 3/4" = 1'-0" T1-E-202, T1-E-203, T1-E-321, T1-E-322



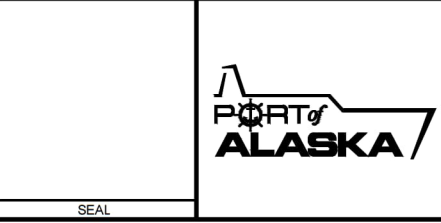
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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT		SEAL	



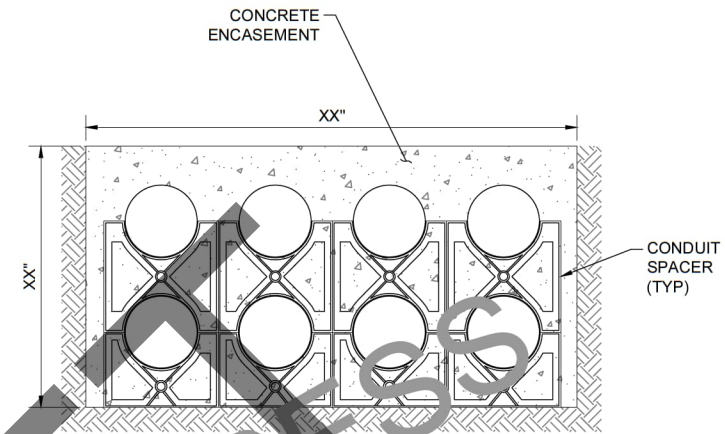
ELECTRICAL
WHARF DECK SECTIONS

PORT OF ALASKA	
PORT OF ALASKA MODERNIZATION PROGRAM	
CARGO TERMINAL 1 DESIGN	
ANCHORAGE, ALASKA	
HORIZ SCALE: AS SHOWN	DATE: T1-E-322
VERT SCALE:	SHEET: X OF

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

1. REFER TO PROFILE DRAWINGS T1-C-XXX FOR DUCT BANK DEPTHS, AND FOR ROUTING ABOVE AND BELOW OBSTRUCTIONS.
2. REFER TO CIVIL DETAIL T1-C-XXX FOR DUCT BANK TRENCH PAVEMENT RESTORATION AND BACKFILLS.



SECTION - 8 CONDUITS
 T1-E-XXX

WORK IN PROGRESS
 DRAFT

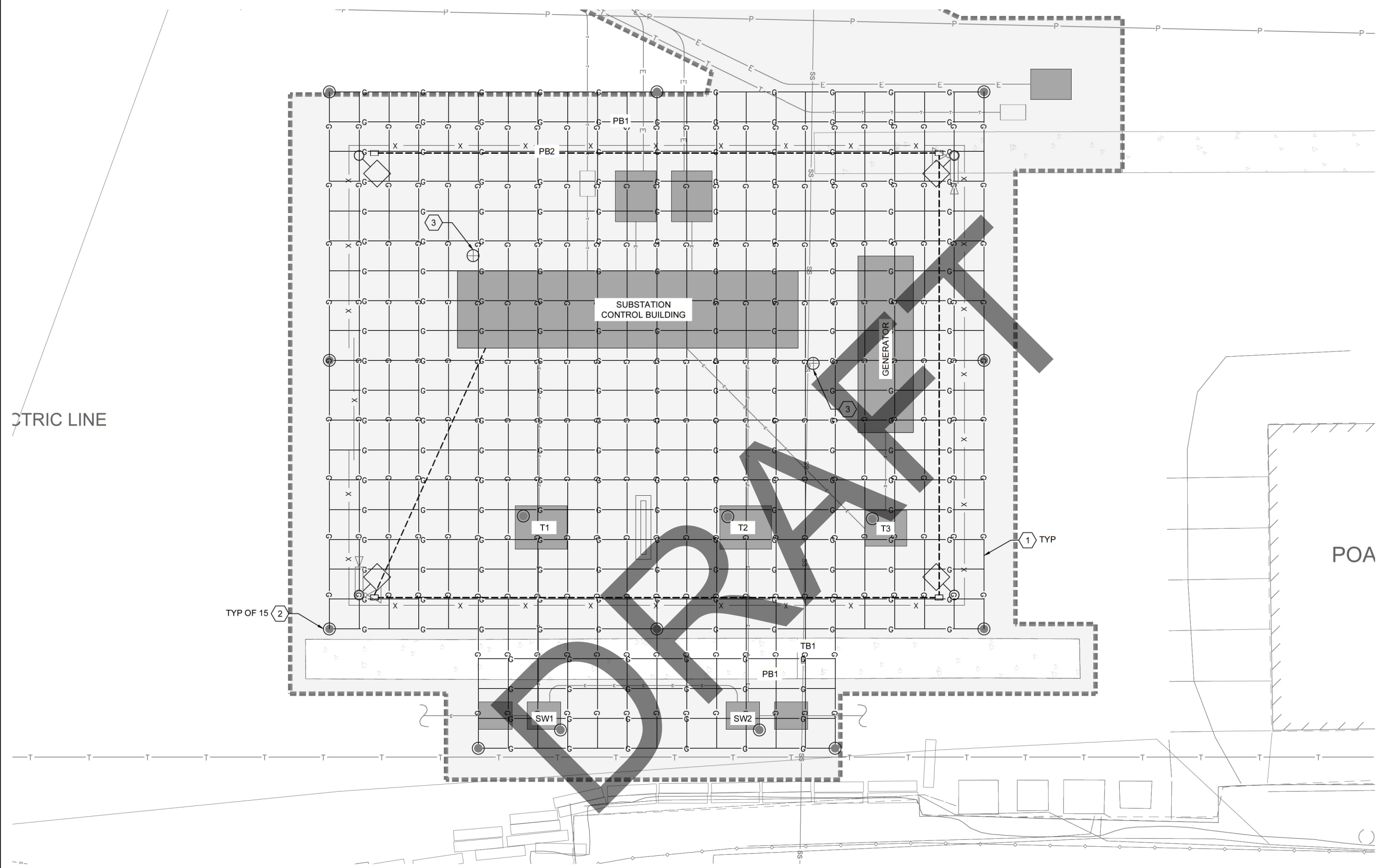
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<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD																																														<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 <small>AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)</small> </div> <div style="text-align: center;"> WSP CONSULTANT </div> </div>	SEAL		ELECTRICAL DUCT BANK SECTIONS	PORT OF ALASKA PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA
REV	DATE	DESCRIPTION	BY	APVD																																																				
REVISIONS		CONSULTANT	DATE: _____	SHEET: X OF _____	T1-E-323																																																			

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

Last Saved by: jliberato on Nov 14, 2023 3:00 PM File: C:\Users\jliberato\Documents\GHD Services Pty Ltd\2609997 - POA-Terminal Replacement\Project Files\01 WIP\Drawings\18_T1-E-401.dwg

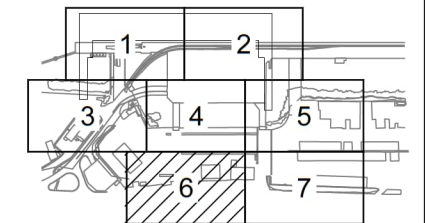


GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. PROVIDE 4/0 BARE COPPER GROUNDING GRID CONDUCTOR.
2. PROVIDE 3/4" X 25' COPPER CLAD STEEL GROUNDING ROD.
3. PROVIDE GROUNDING TEST WELL, REFER TO DETAIL 2/T1-E-513.

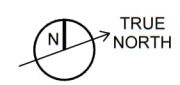


KEY PLAN



65% SUBMITTAL

SUBSTATION GROUNDING PLAN
SCALE: 1" = 10'-0"



REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

CONSULTANT

SEAL



ELECTRICAL
SUBSTATION GROUNDING PLAN

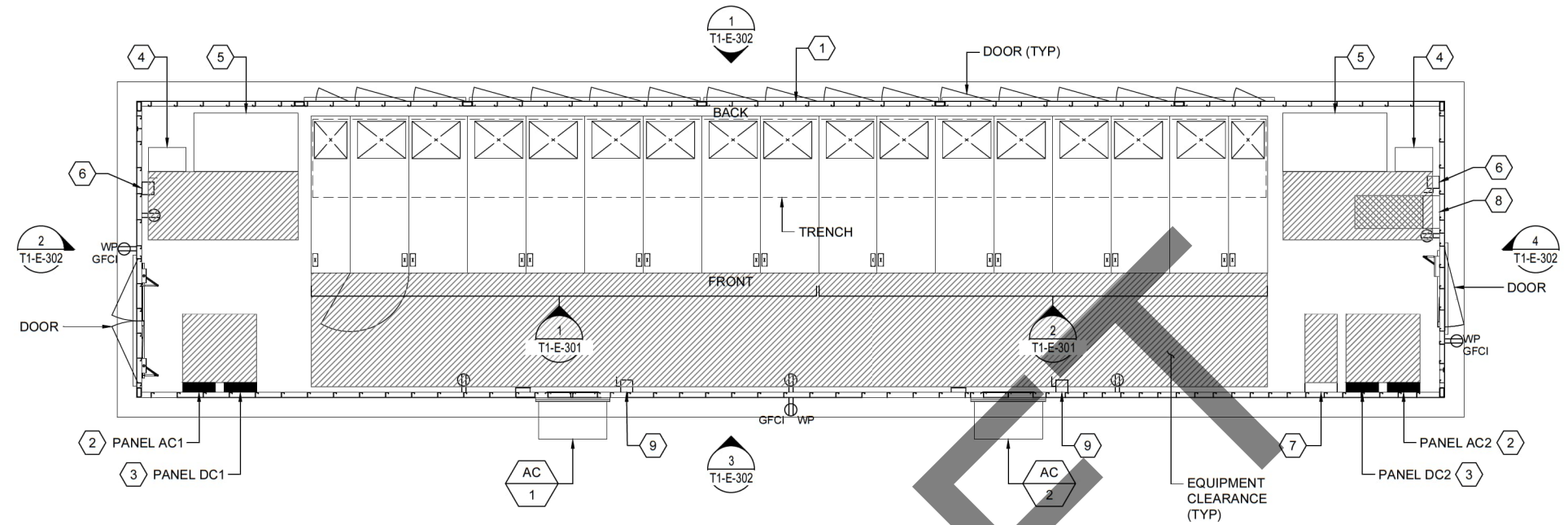
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

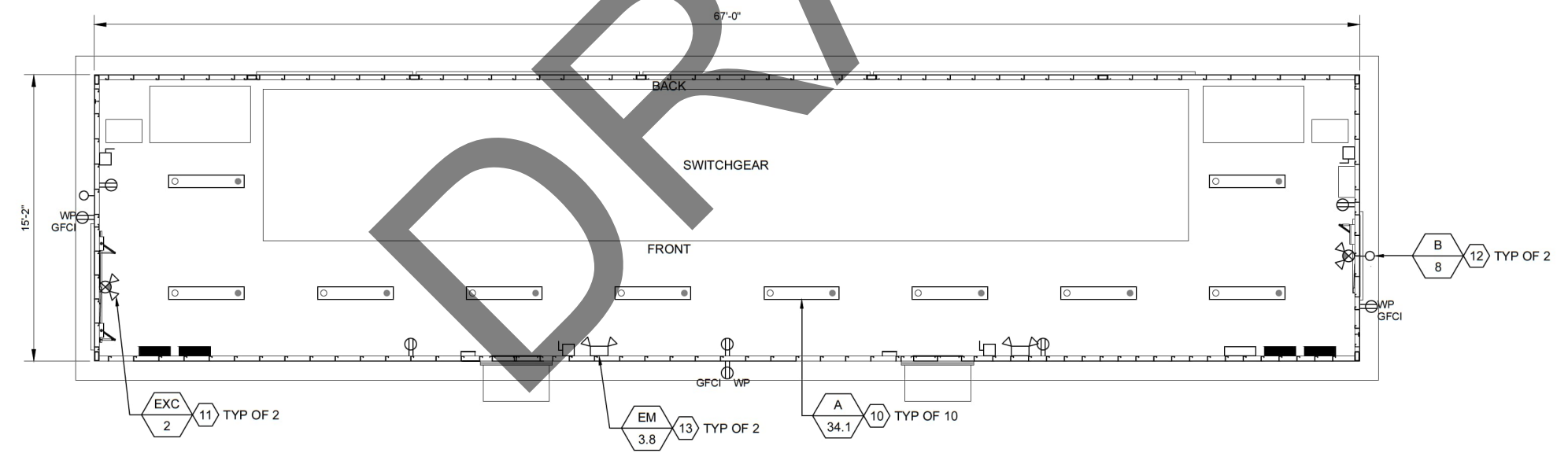
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VERT SCALE: SHEET: X OF

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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1 POWER PLAN
SCALE: 1/4" = 1'-0"



2 LIGHTING PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1. SWITCHGEAR TO BE PROVIDED IN PRE-ENGINEERED METAL BUILDING.
2. PROVIDE COMPLETE PLANS, INCLUDING SEISMIC CALCULATIONS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF ALASKA.
3. REFER TO CIVIL AND STRUCTURAL PLANS FOR SEISMIC LOADING.
4. REFER TO SINGLE LINE DIAGRAM ON SHEET T1-E-005 FOR EQUIPMENT RATINGS AND SIZES.

SHEET KEYNOTES

1. PROVIDE PRE-ENGINEERED SUBSTATION CONTROL BUILDING AND 15KV SWITCHGEAR.
2. PROVIDE 120/240 VOLT PANELBOARD.
3. PROVIDE DC PANELBOARD.
4. PROVIDE BATTERY CHARGER.
5. PROVIDE BATTER RACK.
6. PROVIDE DISCONNECT SWITCH FOR DC POWER.
7. PROVIDE FIRE ALARM PANEL.
8. PROVIDE DATA INTERFACE PANEL.
9. PROVIDE DISCONNECT SWITCH FOR AC UNITS.
10. PROVIDE LED INDUSTRIAL LIGHT FIXTURE.
11. PROVIDE LED COMBINATION EMERGENCY AND EXIT SIGN LIGHT FIXTURE.
12. PROVIDE LED WALL PACK LIGHT FIXTURE.
13. PROVIDE LED INDUSTRIAL EMERGENCY LIGHTING UNIT.



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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD		wsp	
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503			
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)		AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)	
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

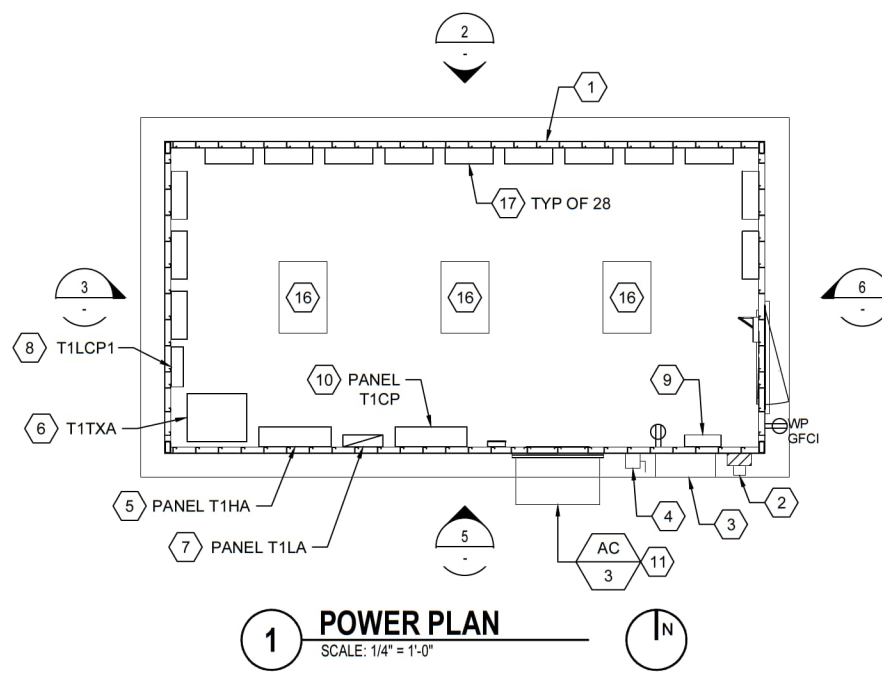


ELECTRICAL
SUBSTATION CONTROL BUILDING
POWER AND LIGHTING PLANS

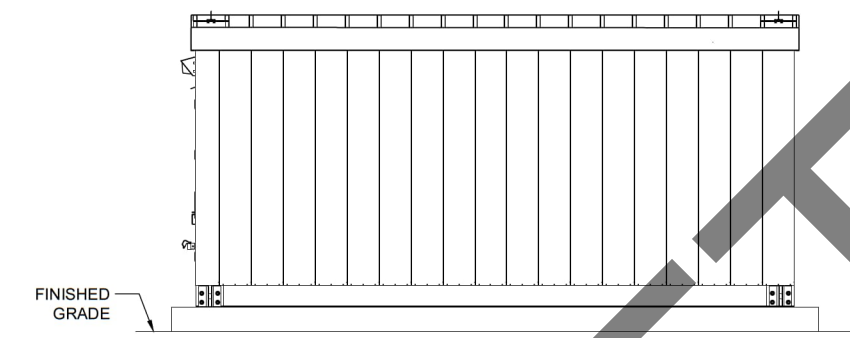
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PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-406
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

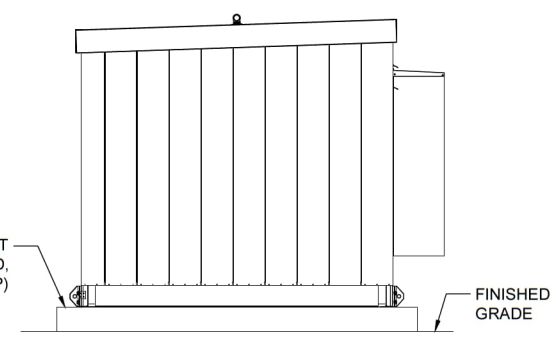
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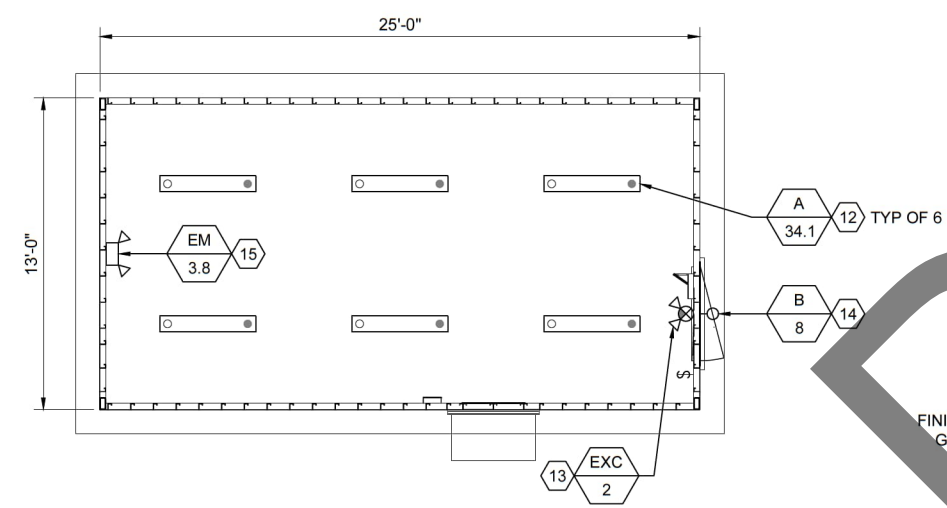
1 POWER PLAN
SCALE: 1/4" = 1'-0"



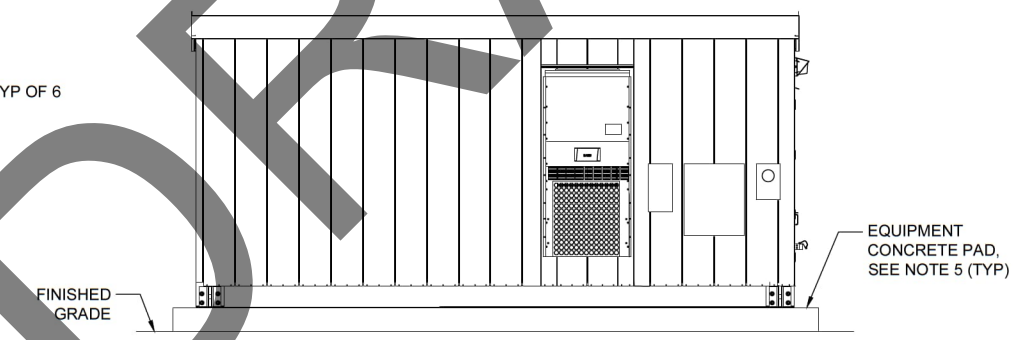
2 ELEVATION - SOUTH
SCALE: 1/4" = 1'-0"



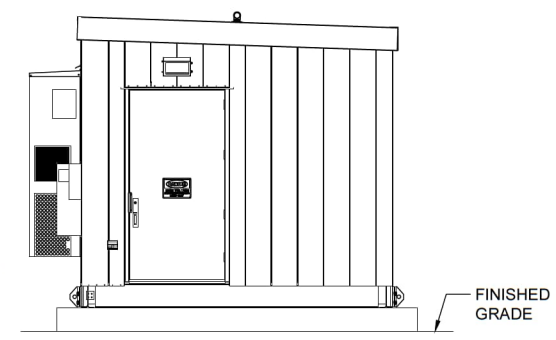
3 ELEVATION - WEST
SCALE: 1/4" = 1'-0"



4 LIGHTING PLAN
SCALE: 1/4" = 1'-0"



5 ELEVATION - NORTH
SCALE: 1/4" = 1'-0"



6 ELEVATION - EAST
SCALE: 1/4" = 1'-0"

- GENERAL SHEET NOTES**
1. PRE-ENGINEERED METAL TERMINAL T1 SHED.
 2. PROVIDE COMPLETE PLANS, INCLUDING SEISMIC CALCULATIONS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF ALASKA.
 3. REFER TO CIVIL AND STRUCTURAL PLANS FOR SEISMIC LOADING.
 4. SEE LOW VOLTAGE ONE-LINE DIAGRAM ON SHEET T1-E-007 FOR EQUIPMENT RATINGS AND SIZES.
 5. REFER TO STRUCTURAL PLANS FOR EQUIPMENT CONCRETE PAD.

- SHEET KEYNOTES**
1. PROVIDE PRE-ENGINEERED TERMINAL T1 SHED.
 2. PROVIDE NEMA 4X UTILITY METER.
 3. PROVIDE NEMA 4X CT CABINET ENCLOSURE.
 4. PROVIDE NEMA 4X UTILITY DISCONNECT SWITCH.
 5. PROVIDE NEMA 12 480 VOLT PANELBOARD.
 6. PROVIDE NEMA 1 TRANSFORMER.
 7. PROVIDE NEMA 12 PANELBOARD.
 8. PROVIDE NEMA 4X LIGHTING CONTROL PANEL.
 9. PROVIDE DATA INTERFACE PANEL.
 10. PROVIDE NEMA 12 480 VOLT PANELBOARD FOR CATHODIC PROTECTION RACK.
 11. PROVIDE AC UNIT.
 12. PROVIDE LED INDUSTRIAL LIGHT FIXTURE.
 13. PROVIDE LED COMBINATION EMERGENCY AND EXIT SIGN LIGHT FIXTURE.
 14. PROVIDE LED WALL PACK LIGHT FIXTURE.
 15. PROVIDE LED INDUSTRIAL EMERGENCY LIGHTING FIXTURE.
 16. PROVIDE RACK FOR CATHODIC PROTECTION POWER SUPPLY. REFER TO CATHODIC PROTECTION DRAWINGS.
 17. CATHODIC PROTECTION TERMINAL BOX. REFER TO CATHODIC PROTECTION DRAWINGS.



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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

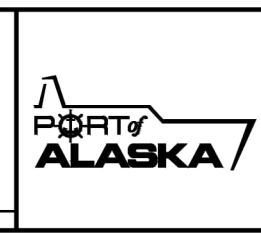
GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

CONSULTANT

SEAL



ELECTRICAL

TERMINAL T1 SHED POWER AND LIGHTING PLANS, AND ELEVATIONS

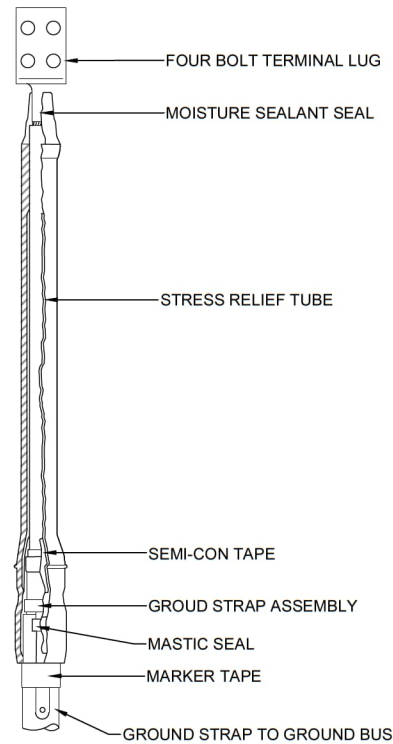
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

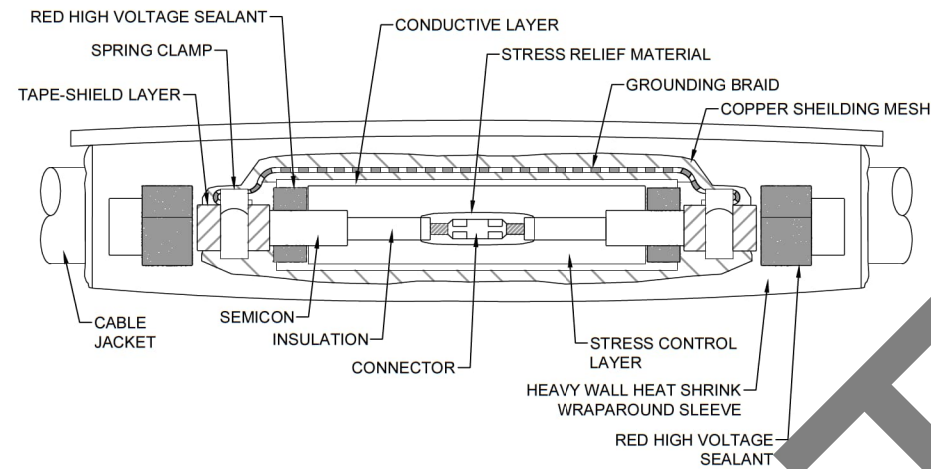
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VERT SCALE: SHEET: X OF

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

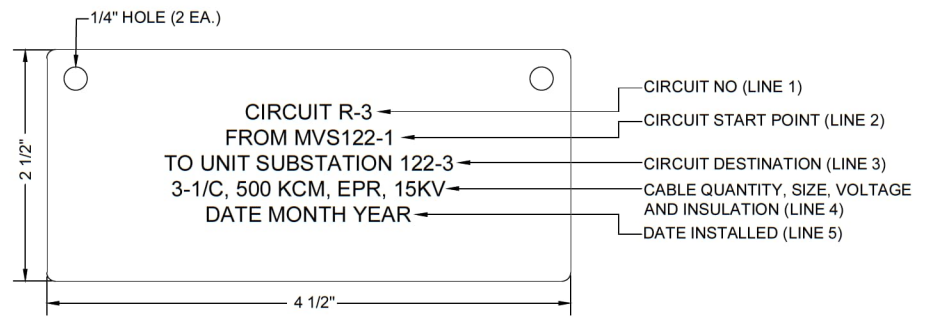
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1 15KV CLASS TERMINATOR
NO SCALE REF

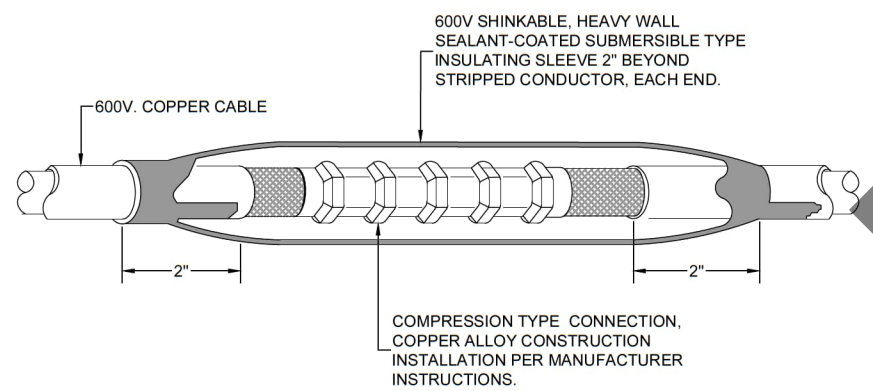


2 MEDIUM VOLTAGE SPLICE
NO SCALE REF

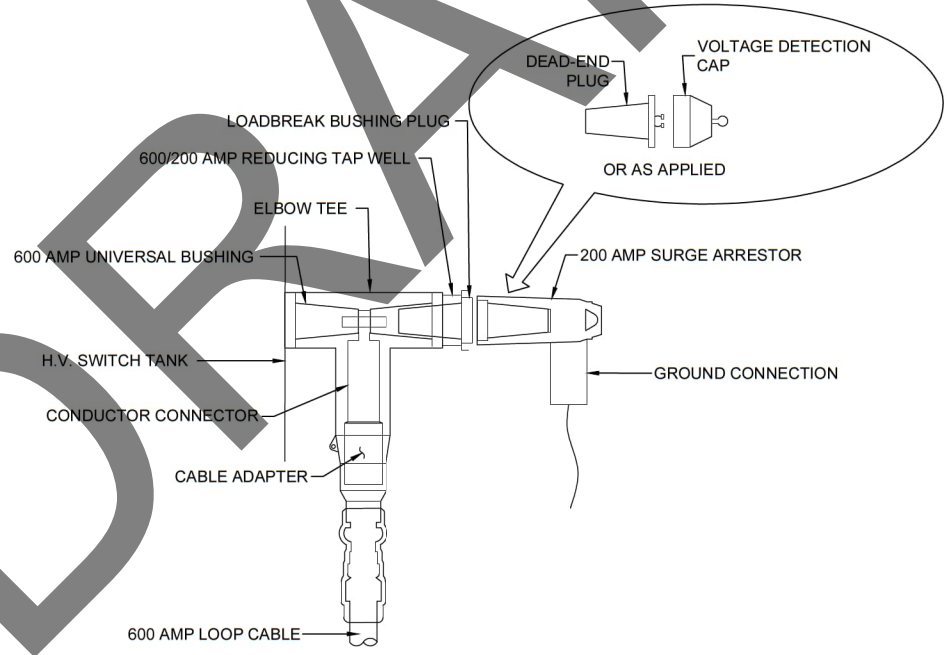


NOTES:
 1. 3mmTHICK LAINATED WHITE MELAMINE (WITH BLACK CORE), PLASTIC TAG WITH MATTE WHITE FINISH WITH CHARACTERS CUT THROUGH THE WHITE PLASTIC INTO THE BLACK CORE.
 2. USE LOCK-ON TYPE NYLON TIES TO ATTACH TAG TO CABLES.
 3. ALL LETTERS AND NUMBERS SHALL BE 1/2" HIGH.
 4. PROVIDE ELECTRICAL DRAWINGS CABLE TAG SCHEDULE FOR INFORMATION TO BE ENGRAVED. ABOVE INFORMATION IS ONLY A SAMPLE.
 5. PLACE TAGS TO BE ELIGIBLE FROM CENTER OF MANHOLE.
 PROVIDE CABLE TAGS ALL FEEDERS AT ACCESSIBLE LOCATION (MANHOLES, SF6 SWITCHES, LIS, HANDHOLES, ETC)

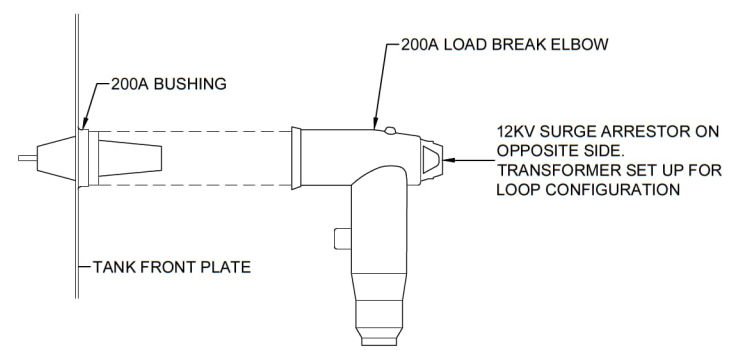
3 CABLE IDENTIFICATION TAG (TYP)
NO SCALE REF



4 600V CABLE SPLICE
NO SCALE REF



5 600A CONNECTOR WITH 200A INTERFACE
NO SCALE REF



6 PAD MOUNTED HV CONNECTOR - 200A
NO SCALE REF

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REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD	wsp
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503	
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)	AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
DSGN D. BURGER	CHK J. LIBERATO
DR J. LIBERATO	APVD
CONSULTANT	

SEAL

PORT OF ALASKA

PORT OF ALASKA

ELECTRICAL

MEDIUM VOLTAGE TERMINATION AND SPLICE DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

CARGO TERMINAL 1 DESIGN

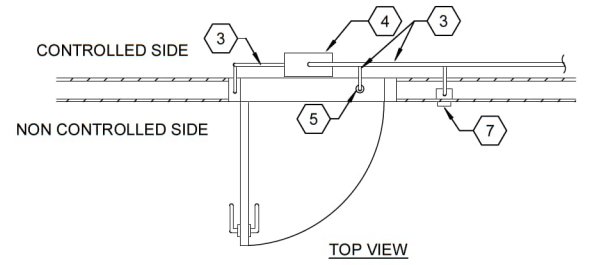
ANCHORAGE, ALASKA

HORIZ SCALE: NONE DATE: T1-E-501

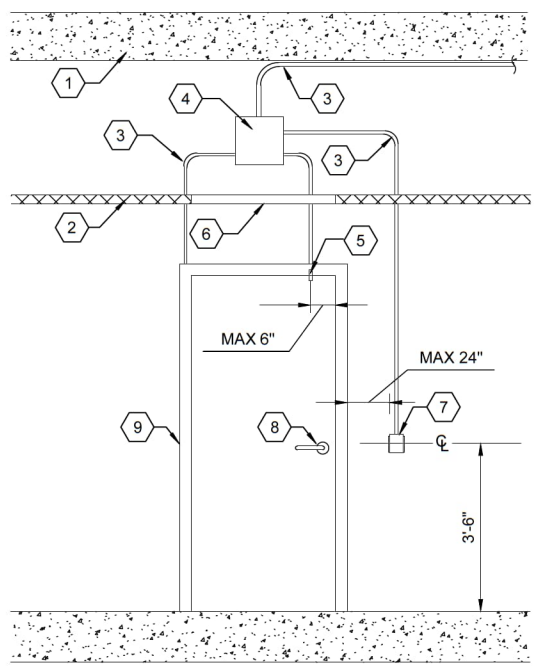
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PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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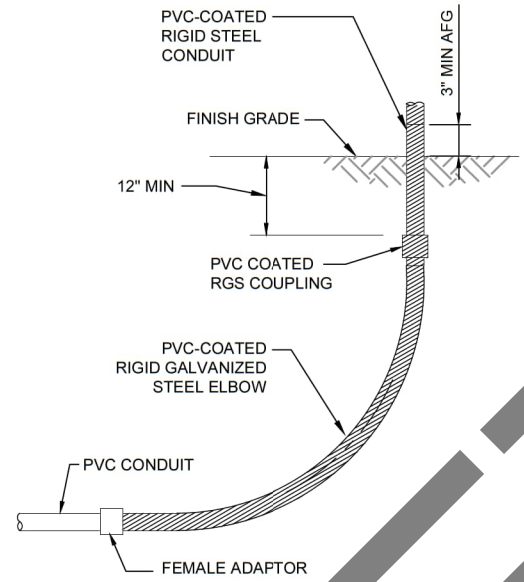


DETAIL NOTES:
 A. COORDINATE DOOR & DOOR FRAME PREPARATION WITH DIVISION 8 REQUIREMENTS.
 B. REFER TO ARCHITECTURAL DRAWINGS FOR ACCESS PANEL LOCATIONS (AS APPLICABLE) ALL CONDUIT BELOW FINISHED CEILING TO BE EXPOSED SURFACE MOUNTED. NO CONDUIT WITHIN WALLS IS PERMITTED.

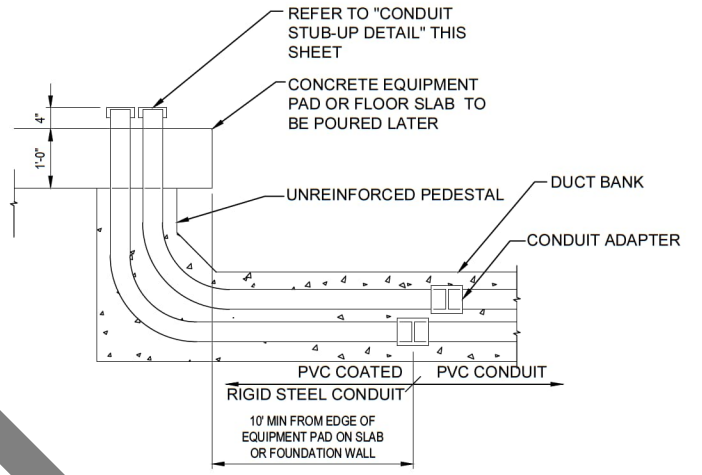


1 TYPICAL DOOR ACCESS CONTROL
NO SCALE REF

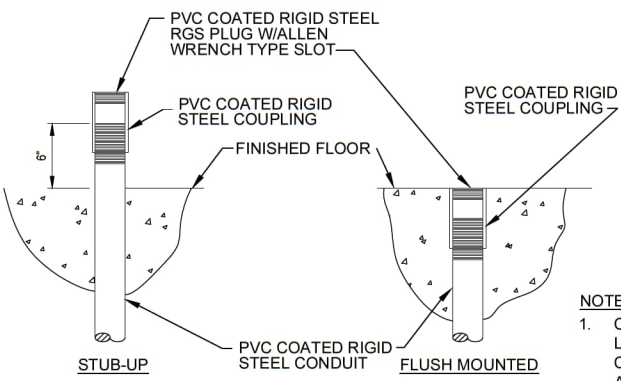
DETAIL KEY NOTES:
 1. CEILING SLAB
 2. FINISHED CEILING (AS APPLICABLE)
 3. EMT CONDUIT
 4. JUNCTION BOX WITH COVER, SIZE AS REQUIRED
 5. DOOR POSITION SWITCH
 6. ACCESS PANEL - WHERE APPLICABLE
 7. CARD READER AND KEYPAD
 8. ELECTRIFIED LOCKSET WITH INTEGRATED REX - COORDINATE WITH DOOR HARDWARE REQUIREMENTS
 9. ELECTRIC TRANSFER HINGE



2 TYPICAL CONDUIT STUB-UP
NO SCALE REF

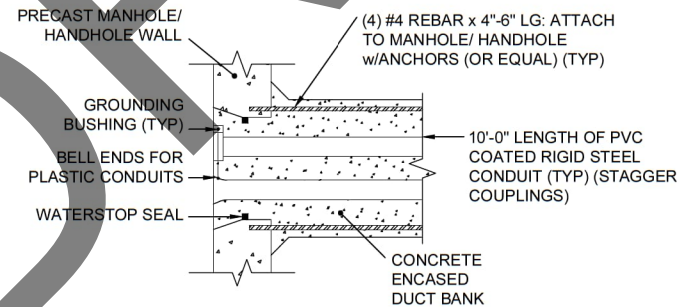


3 DUCT BANK STUB-UP DETAIL
NO SCALE REF

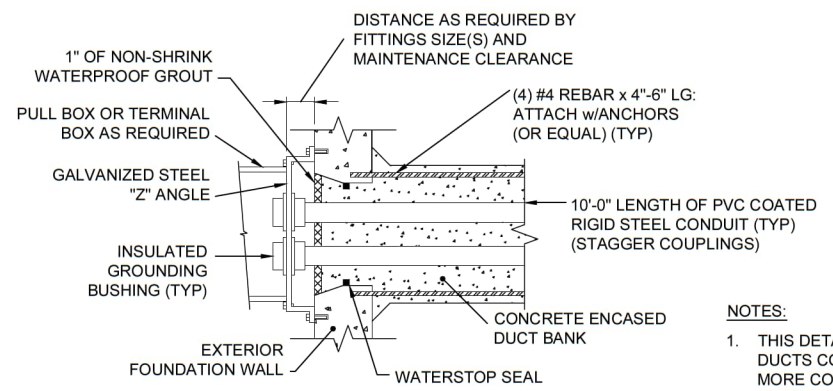


NOTES:
 1. CONDUIT STUB-UPS IN HAZARDOUS LOCATIONS SHALL BE PROVIDED WITH CONDUIT SEALS IN ACCORDANCE WITH ARTICLE 501 OF THE NATIONAL ELECTRIC CODE.

4 CONDUIT STUB-UP DETAIL
NO SCALE REF



5 CONDUIT ENTRANCE AT MANHOLE/HANDHOLE
NO SCALE REF



NOTES:
 1. THIS DETAIL APPLIED TO DUCTS CONTAINING 4 OR MORE CONDUITS. USE CAST-IN-PLACE WALL SEALS FOR PENETRATIONS OF 3 CONDUITS OR LESS.

6 CONDUIT WALL ENTRANCE SEAL DETAIL
NO SCALE REF

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD **wsp**

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: R. KEATING CHK: [] APVD: []

CONSULTANT

SEAL



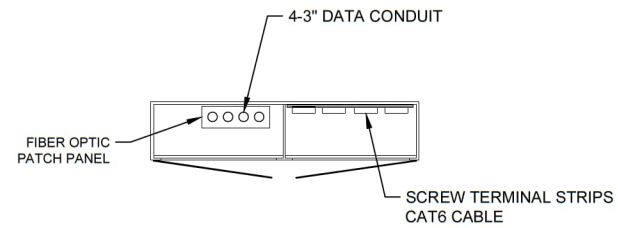
ELECTRICAL
 ELECTRICAL DETAILS 1

PORT OF ALASKA
 PORT OF ALASKA MODERNIZATION PROGRAM
 CARGO TERMINAL 1 DESIGN
 ANCHORAGE, ALASKA

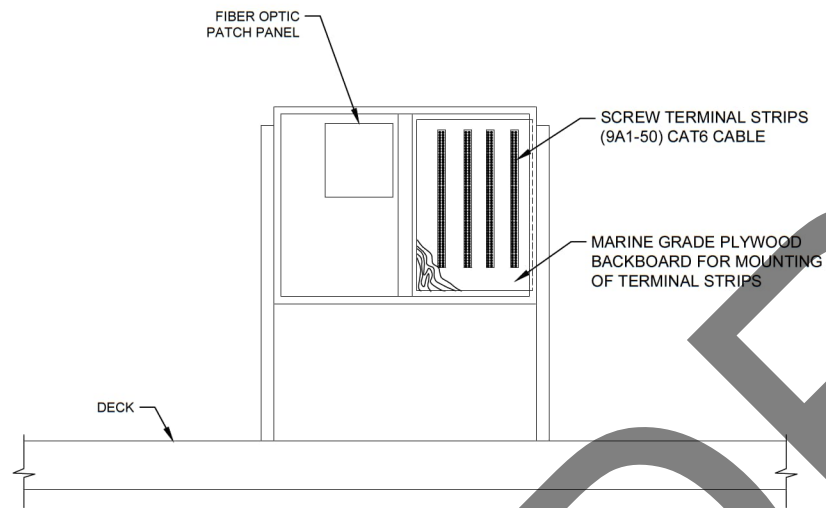
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 VERT SCALE: [] SHEET: X OF T1-E-502

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PLAN VIEW



DOORS SHOWN REMOVED FOR CLARITY

SHIP SIDE ELEVATION

DRAFT

1 ELECTRICAL COMM/SIGNAL MOUND PLAN AND ELEVATION
NO SCALE REF

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2184152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK 	APVD
CONSULTANT			

SEAL

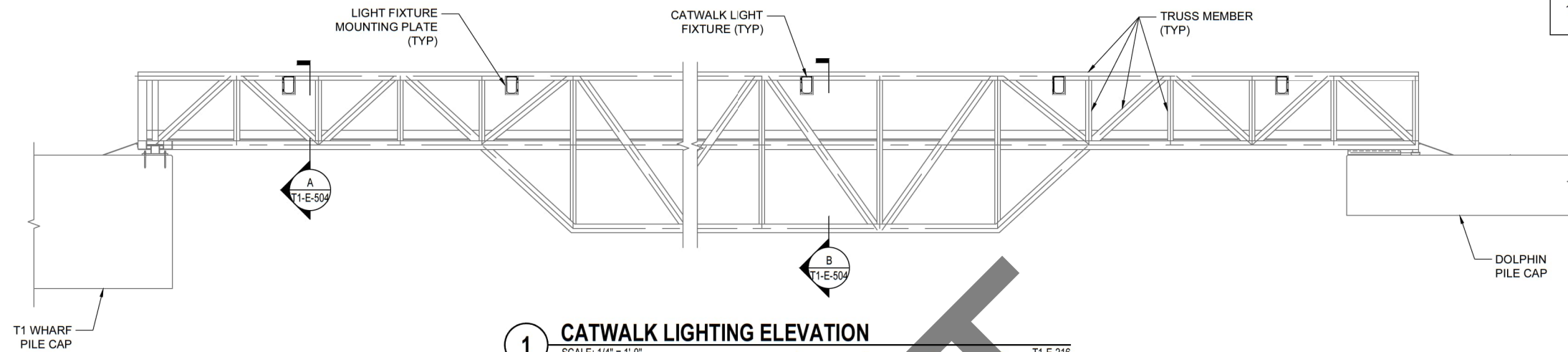


ELECTRICAL
ELECTRICAL DETAILS 3

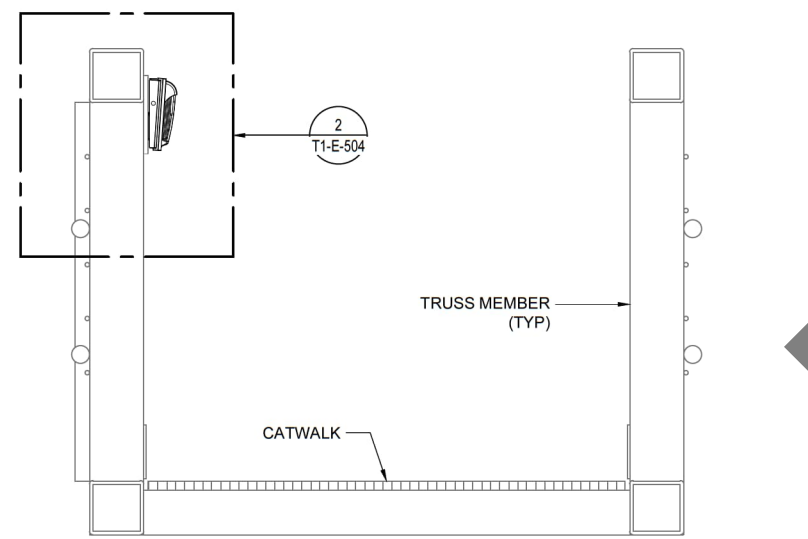
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-504
VERT SCALE:	SHEET: X OF	

GENERAL SHEET NOTES

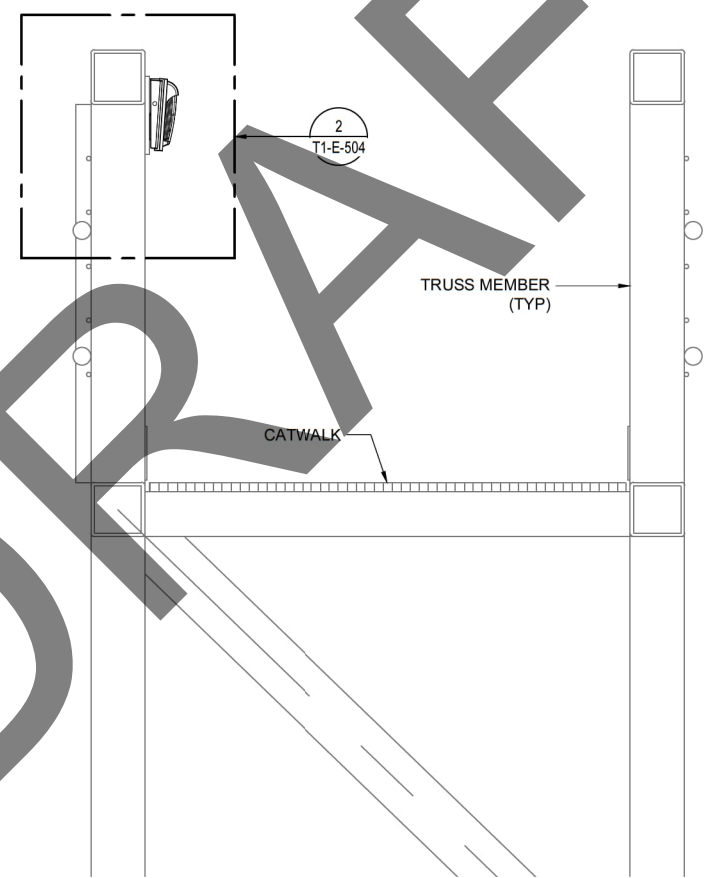
1. REFER TO STRUCTURAL DRAWINGS FOR CATWALK STRUCTURE.



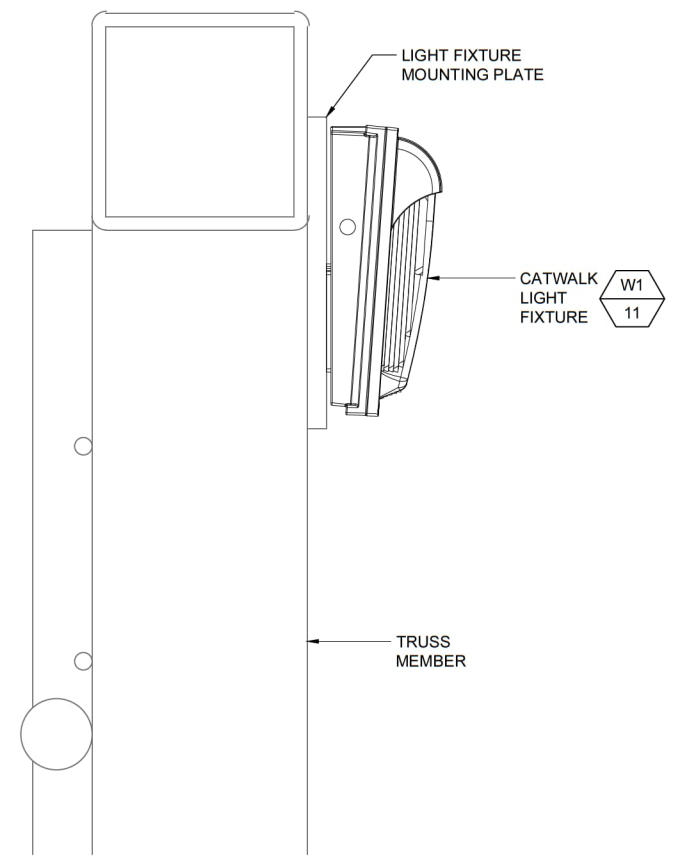
1 CATWALK LIGHTING ELEVATION
 SCALE: 1/4" = 1'-0"
 1/4" = 1'-0" scale feet



A CATWALK LIGHTING SECTION
 SCALE: 3/4" = 1'-0"
 3/4" = 1'-0" scale feet



B CATWALK LIGHTING SECTION
 SCALE: 3/4" = 1'-0"
 3/4" = 1'-0" scale feet




2 CATWALK LIGHTING DETAIL
 SCALE: 3" = 1'-0"
 3" = 1'-0" scale inches

DRAFT


65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD




GHD




wsp

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
 DSGN DR J. LIBERATO CHK APVD
 D. BURGER J. LIBERATO
 CONSULTANT



PORT OF ALASKA



ELECTRICAL

WALKWAY LIGHTING ELEVATION
AND DETAIL SECTIONS

PORT OF ALASKA

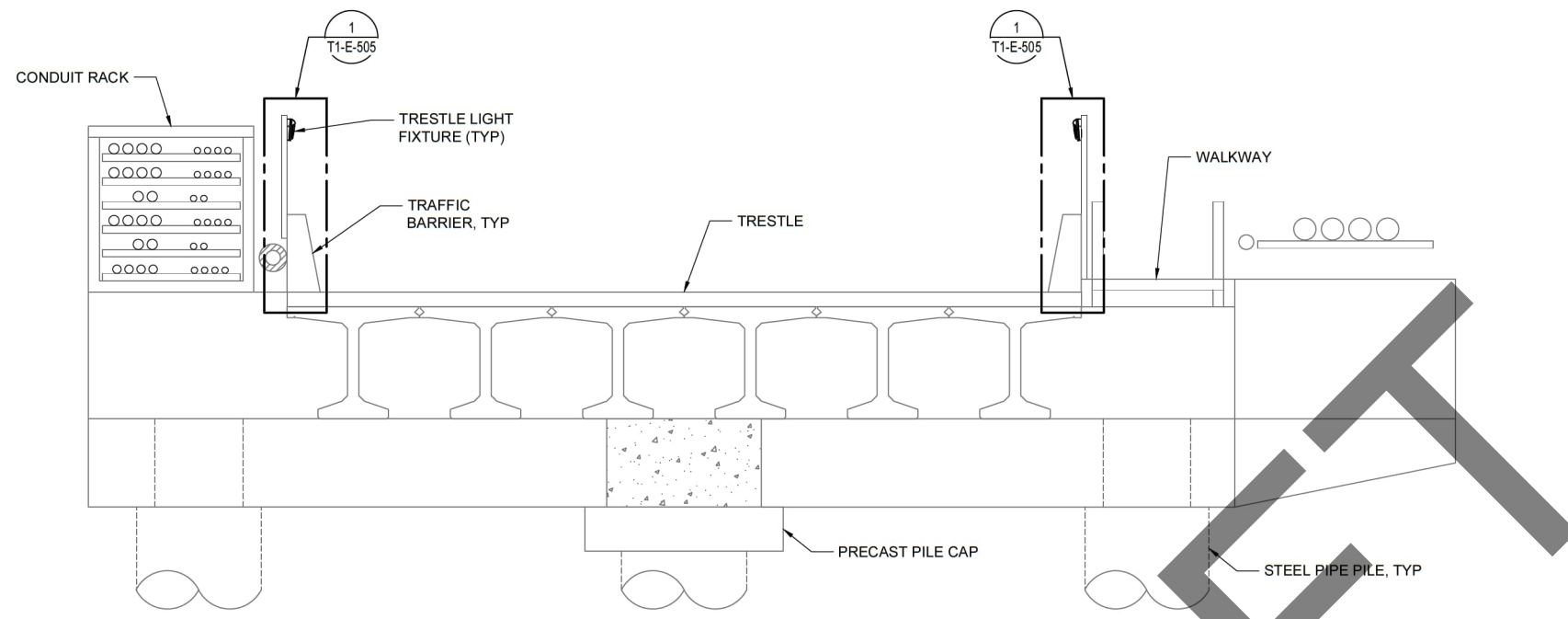
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-E-505
VERT SCALE:	SHEET: X OF	

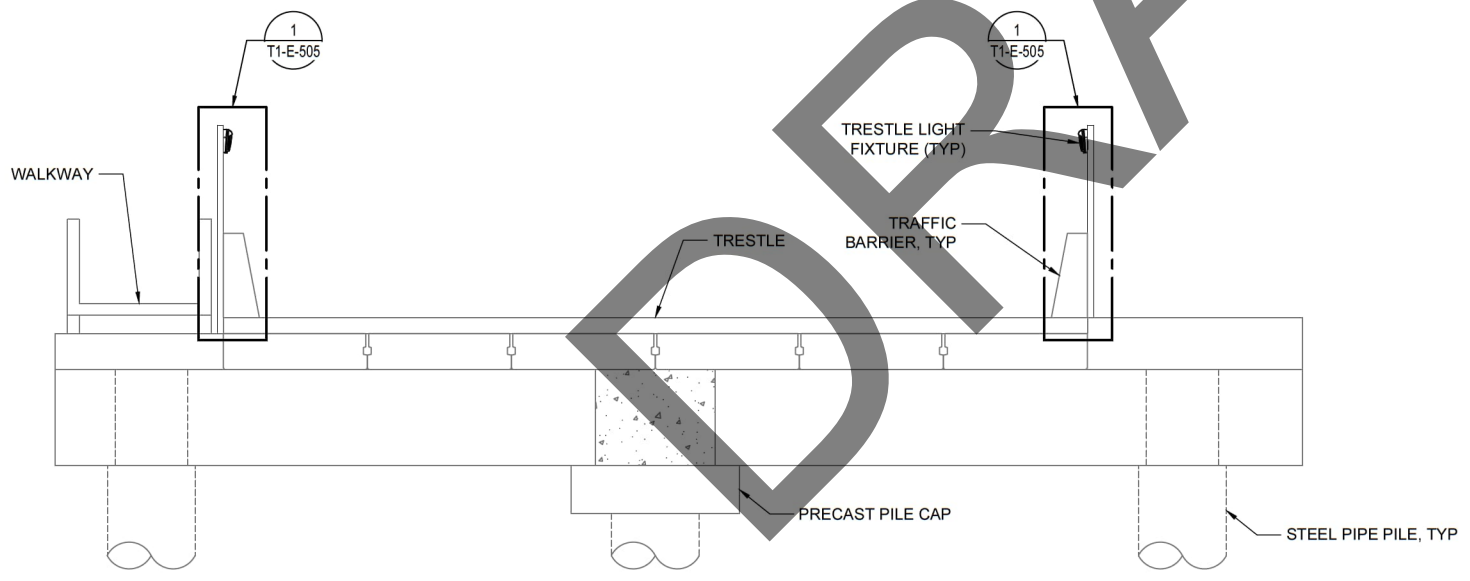
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

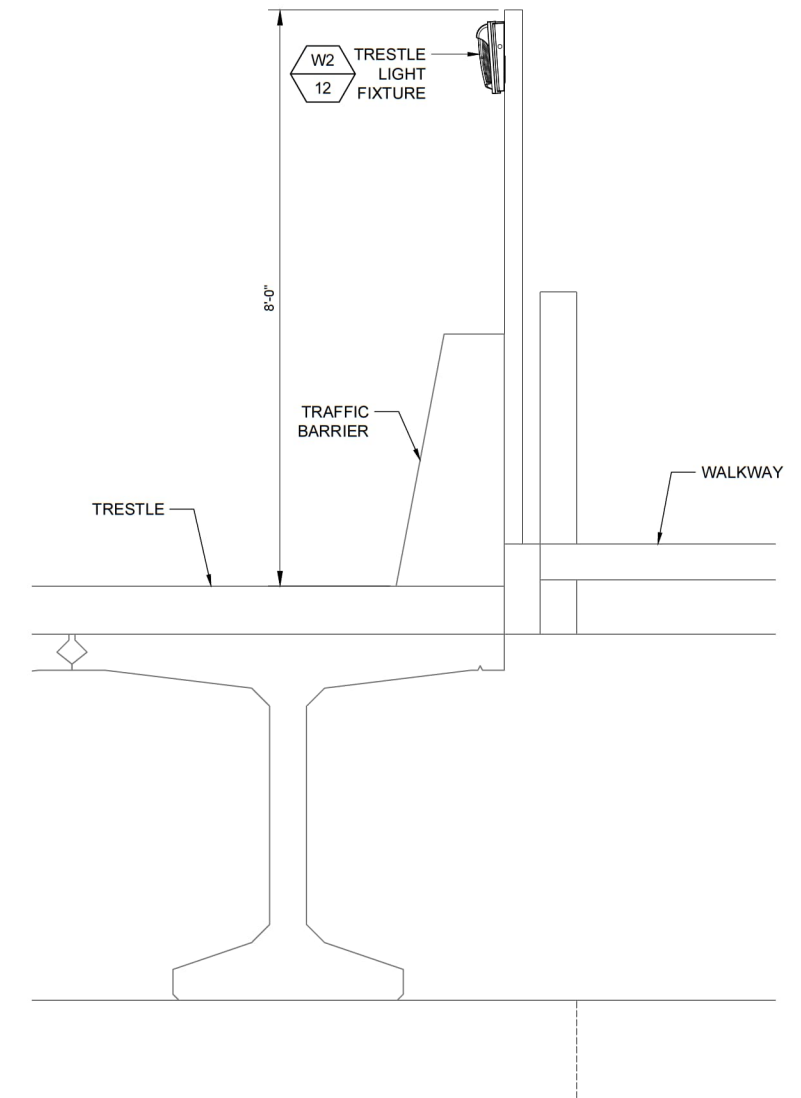
1. REFER TO STRUCTURAL DRAWINGS FOR TRESTLE STRUCTURE.



A TRESTLE LIGHTING SECTION - SOUTH
 SCALE: 1/4" = 1'-0"
 T1-E-216 THRU 219
 1/4" = 1'-0" scale



B TRESTLE LIGHTING SECTION - NORTH
 SCALE: 1/4" = 1'-0"
 T1-E-216 THRU 219
 1/4" = 1'-0" scale



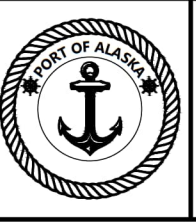
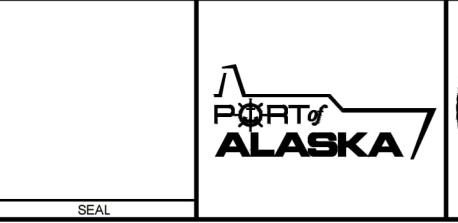
1 TRESTLE LIGHTING DETAIL
 SCALE: 3/4" = 1'-0"
 3/4" = 1'-0" scale

65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD	wsp
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503	
AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP)	AK BUSINESS LICENSE # 2184152(GHD) - 113511(WSP)
DSGN D. BURGER	DR J. LIBERATO
CHK APVD	SEAL
CONSULTANT	

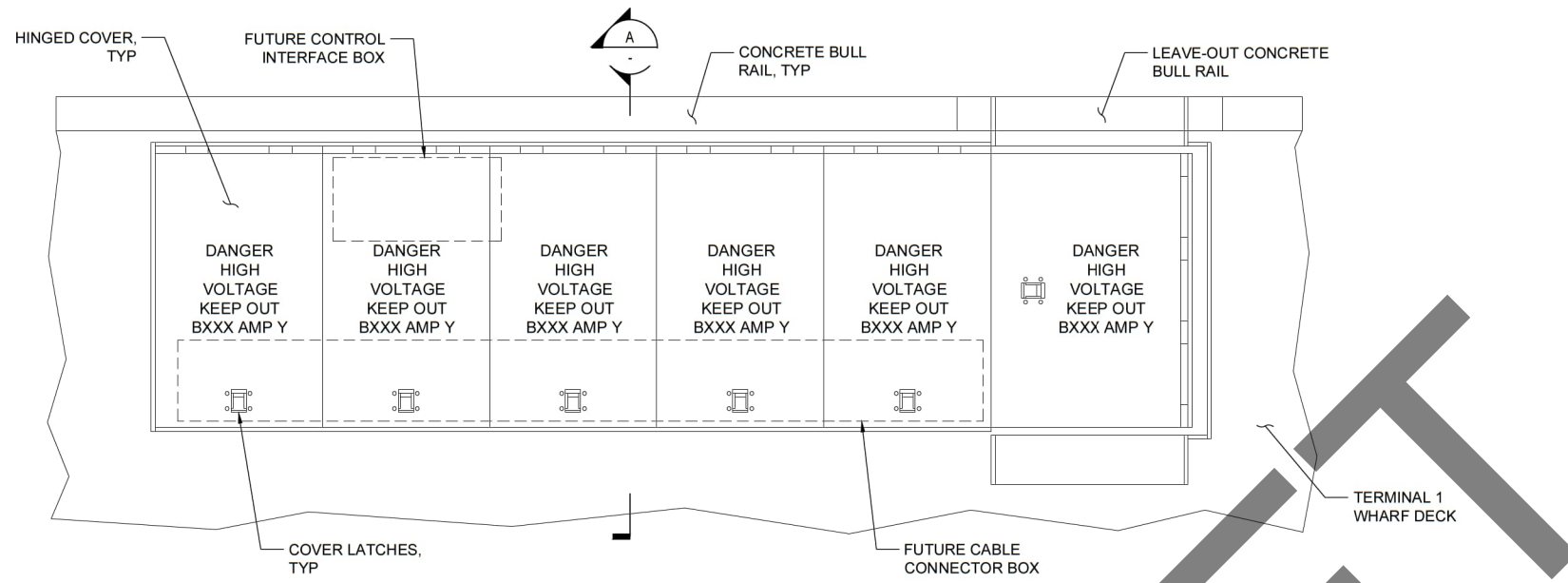


ELECTRICAL
 TRESTLE LIGHTING SECTIONS AND DETAIL

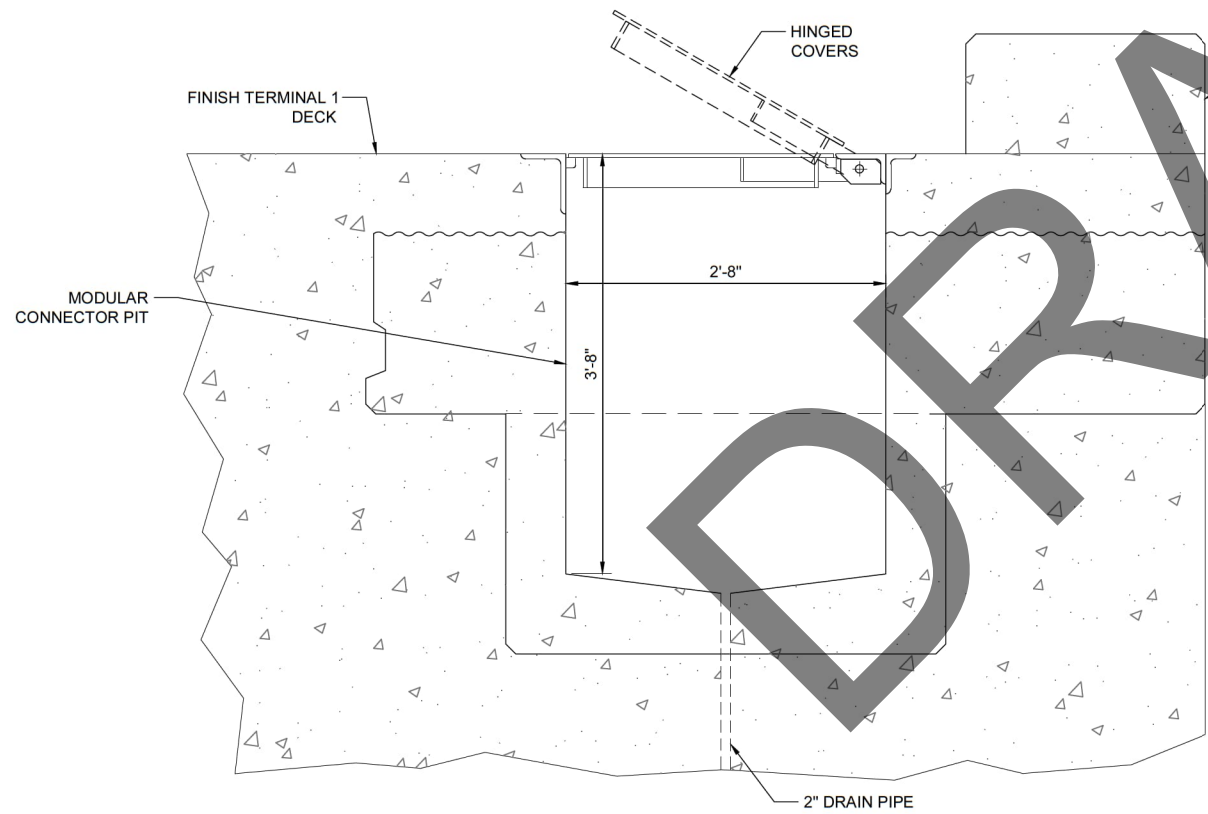
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-E-506
VERT SCALE:	SHEET: X OF	

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1 CMS CONNECTOR PIT PLAN - S1SP/N1SP
SCALE: NTS T1-E-301



A CMS CONNECTOR PIT SECTION - S1SP/N1SP
SCALE: NTS T1-E-507

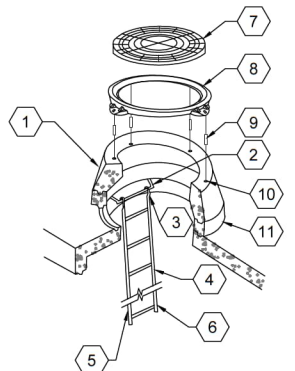
NOTES:

1. STRUCTURAL SECTIONS AND PLATE SHALL BE ASTM A63 STRUCTURAL STEEL.
2. STEEL COVER AND FRAME SHALL BE HOT DIP GALVANIZED PER ASTM A123 AFTER ALL WELDING.
3. THE COVER LATCHES SHALL BE 316 STAINLESS STEEL RECESSED HANDLE WITH NO ABOVE-GRADE PROTRUSIONS. EACH LATCH HANDLE SHALL BE SPRING LOADED AND RETURN TO CLOSED POSITION AUTOMATICALLY, ALL 316 STAINLESS CONSTRUCTION.
4. HARDWARE TO BE 316 STAINLESS STEEL.
5. HINGE SHALL BE HEAVY DUTY ALL 316 STAINLESS STEEL CONSTRUCTION.
6. FRAME SHALL HAVE INTEGRAL CONCRETE ANCHORS. MINIMUM TWO FOR EVERY 24" WIDTH OF COVER.
7. THE CONNECTOR PIT COVER: A SELF-ENGAGING HOLD OPEN BAR (HOB) SHALL BE PROVIDED TO SAFELY HOLD THE COVERS IN POSITION AND TO PROTECT AGAINST COVER OVER-TRAVEL WHILE OPENING. COVERS SHALL HAVE AN ALL STAINLESS STEEL 316 GAS SPRING LIFT ASSIST, ONE-MAN LIFT CAPABILITY, WITH A 20 LB. MAXIMUM OPENING FORCE THROUGH THE 90 DEGREE OPENING RANGE.
8. CMS TRENCH COVER: THE OPEN POSITION OF THE CMS TRENCH COVER SHALL BE 180 DEGREES ROTATED FROM THE CLOSED POSITION. CMS TRENCH COVERS SHALL HAVE A SELF-ENGAGING SAFETY BAR AND MECHANICAL LIFT.
9. PROVIDE 2" DIAMETER DRAIN HOLES AT THE LOW POINTS IN THE TRENCH AND CONNECTOR PITS. FOR SLOPE OF THE CMS TRENCH AND FOR LOCATION OF LOW POINTS, SEE CIVIL DRAWINGS.

65% SUBMITTAL

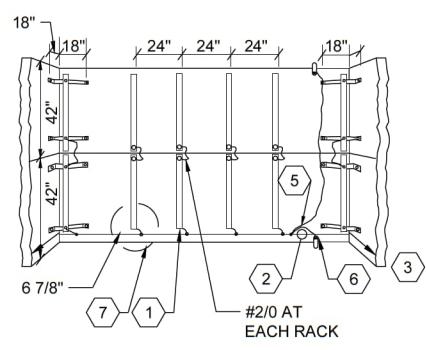
<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 1"</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD							<p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)</p> <p>DSGN: D. BURGER DR: J. LIBERATO CHK: APVD</p> <p>CONSULTANT</p>		<p>ELECTRICAL</p> <p>CMS CONNECTOR PIT PLAN AND SECTION</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
REV	DATE	DESCRIPTION	BY	APVD												
REVISIONS		SEAL		HORIZ SCALE: NONE DATE: VERT SCALE: SHEET: 2 OF		T1-E-507										

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS



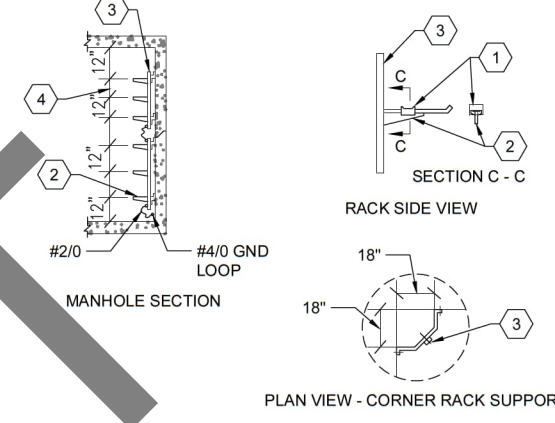
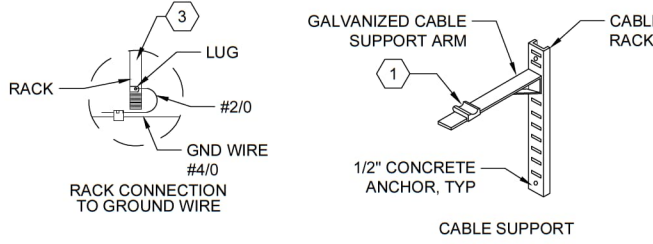
- 1 PRECAST CONCRETE MANHOLE CONE.
- 2 GALVANIZED STEP SUPPORT BAR 3/4" DIA. PLACED BETWEEN JOINTS 12" O.C. FOR EXTENDED GRADE RINGS.
- 3 HANG FROM SUPPORT BAR.
- 4 GALVANIZED STEEL LADDER 12" WIDE WITH 5/8" DIA. RUNGS
- 5 GROUND WITH #4/0 WIRE. PROVIDE BOLTED LUG CONNECTION TO LADDER.
- 6 LENGTH AS REQUIRED TO HOOK ON SUPPORT BAR AND REST ON CONC. FLOOR AT 15 ANGLE FROM VERTICAL PLANE.
- 7 TRAFFIC COVER. IN PRINT ON COVER "E" FOR ELECTRIC.
- 8 FRAME.
- 9 STAINLESS STEEL ADJUSTING STUDS. 4 PLACES.
- 10 1/2" DIA. INSERTS FOR ADJUSTING STUDS. 4 PLACES.
- 11 PRECAST CONCRETE GRADE RINGS QUANTITY AS REQUIRED TO SET COVER 1" ABOVE ADJACENT GRADE.

1 TYPICAL MANHOLE LADDER AND INSTALLATION
SCALE: NTS T1-E-XXX

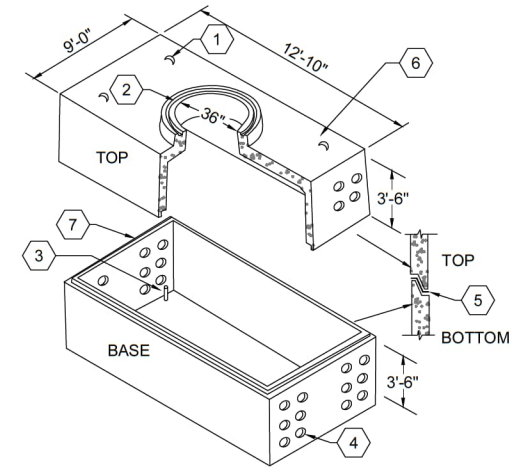


- 1 CABLE RACK TYPICAL 4 - SIDES. QUANTITY 36.
- 2 CONTINUOUS LOOP #4/0 GROUND WIRE.
- 3 BOND TO GROUND WITH #4/0.
- 4 FOR PLAN VIEW OF CORNER RACK SEE DRAWING T1-E-510.
- 5 BOND TO GROUND RODS WITH #4/0.
- 6 GROUND RODS TO BE FACTORY CONNECTED TO REBAR.
- 7 FOR RACK CONNECTION TO GROUND WIRE SEE DRAWING T1-E-510.

2 MANHOLE ACCESSORIES
SCALE: NTS T1-E-XXX

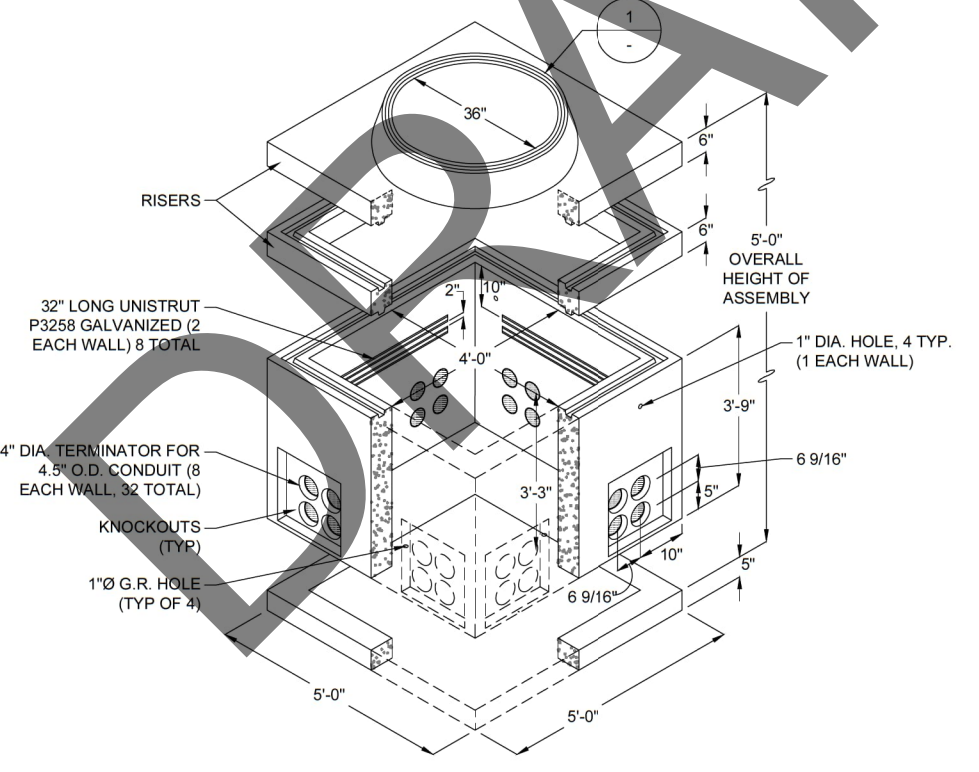


3 MANHOLE RACK AND GROUNDING
SCALE: NTS T1-E-XXX

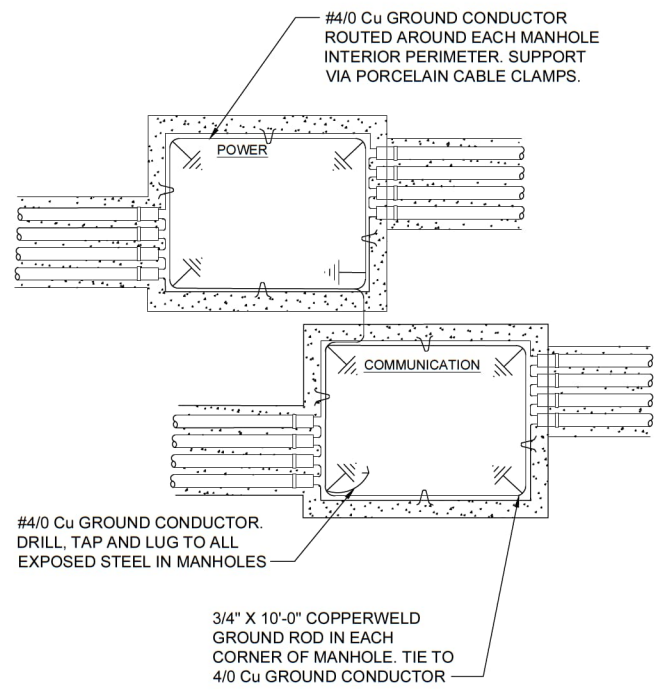


- 1 #4 REBAR HOOKS FOR HANDLING.
- 2 GROOVE TO RECEIVE PRE-CAST NECKING.
- 3 GROUND ROD 5/8" DIA. COPPER GROUND ROD FACTORY CONNECTED TO REBAR. ONE IF ROOF SECTION.
- 4 6" DIA. KNOCKOUT TERMINATORS, 20 PLACES EACH END.
- 5 PROVIDE SEALANT FOR A WEATHERPROOF SEAL.
- 6 RATED FOR H2O BRIDGE LOADING.
- 7 PRECAST CONCRETE MANHOLE.

4 HIGH VOLTAGE MANHOLE
SCALE: NTS T1-E-XXX



5 TELECOMM PULL BOX
SCALE: NTS T1-E-XXX



6 MANHOLE GROUNDING DETAIL
SCALE: NTS

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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN DR J. LIBERATO CHK APVD D. BURGER

CONSULTANT

PORT OF ALASKA



ELECTRICAL

ELECTRICAL DETAILS 3

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

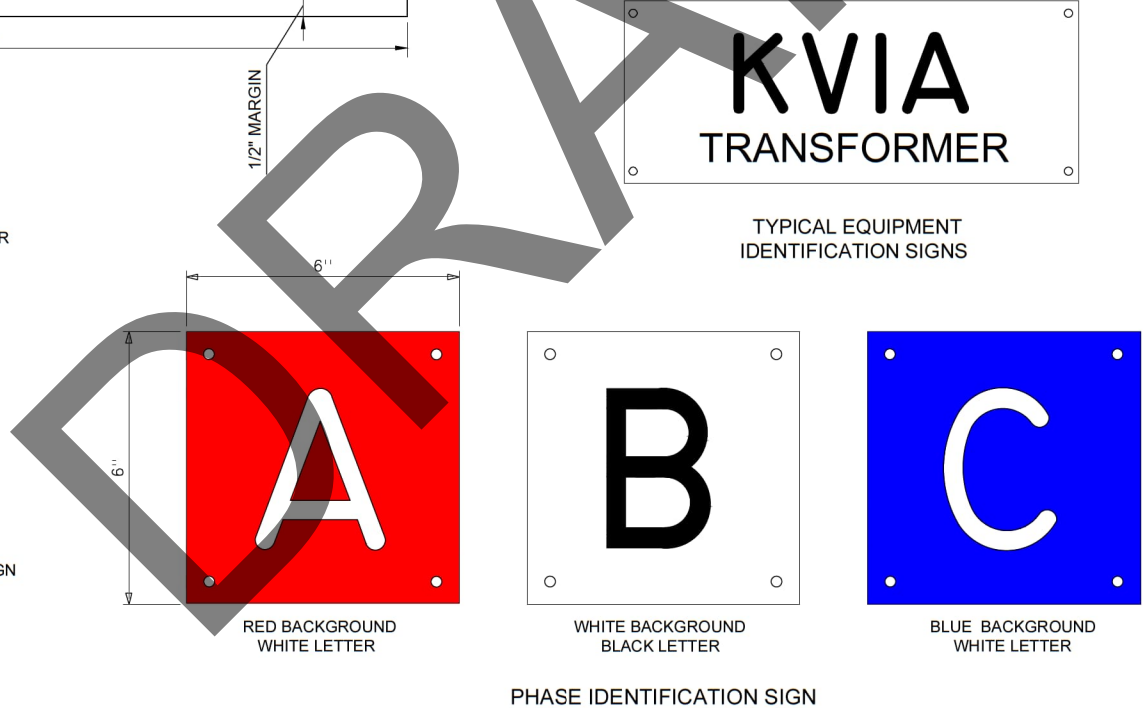
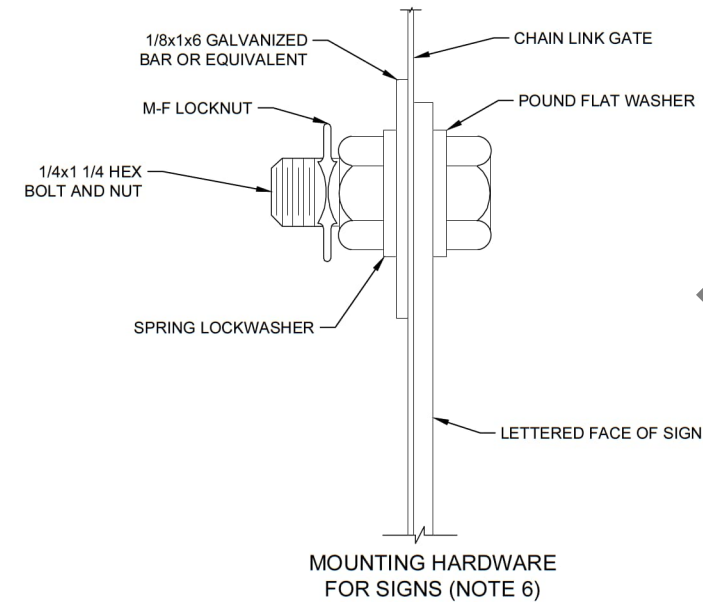
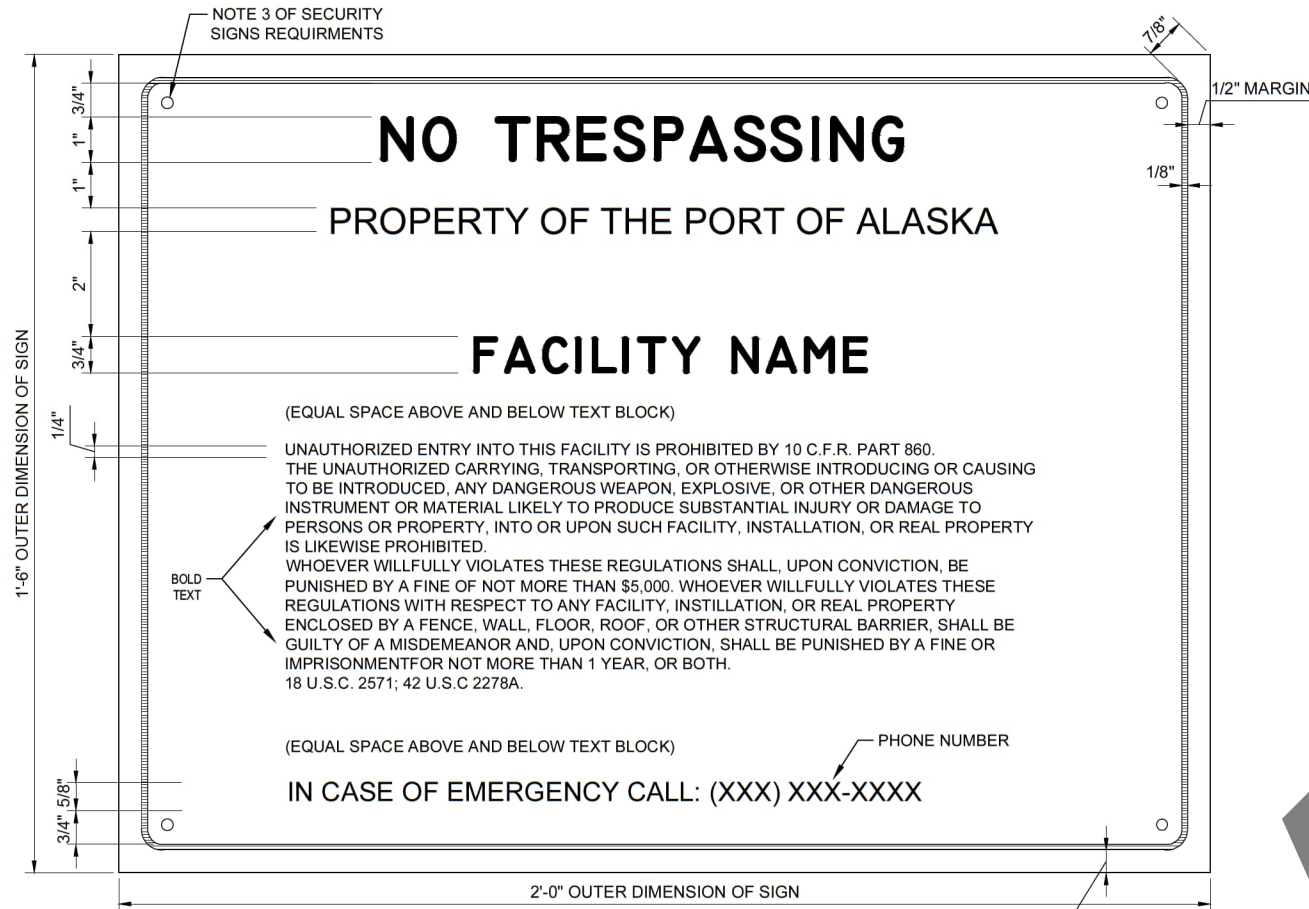
CARGO TERMINAL 1 DESIGN

ANCHORAGE, ALASKA

HORIZ SCALE: NONE DATE: T1-E-508
VERT SCALE: SHEET: X OF

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1 HIGH VOLTAGE COLOR CODING
SCALE: NONE

SECURITY SIGN REQUIREMENTS

- MATERIAL SHALL BE NO. 16 US GAUGE SHEET STEEL WITH FUSED PORCELAIN FINISH 3/32-INCH THICK WITH BLACK CENTER AND GLOSSY FINISH WHITE SURFACES BOTH SIDES. BACKGROUND SHALL BE WHITE AND ALL TEXT SHALL BE BLACK
- TEXT STYLE SHALL BE MEDIUM HELVETICA BLOCK TYPE EXCEPT WHERE BOLD IS SPECIFIED.
- THE CENTERLINE OF MOUNTING HOLES SHALL BE LOCATED 1-INCH FROM EACH EDGE AND SHALL BE FITTED WITH BRASS EYELETS. THE FINISHED HOLES SHALL BE SUITABLE FOR A 1/4-INCH BOLT. PROVIDE 1/8x1x6 INCH GALVANIZED STRAP OR OTHER SUITABLE HARDWARE TO FASTEN SIGNS ON GATES.

EQUIPMENT IDENTIFICATION SIGN REQUIREMENTS

- MATERIAL SHALL BE NO. 18 US GAUGE SHEET STEEL WITH FUSED PORCELAIN FINISH 3/32-INCH THICK WITH BLACK CENTER AND GLOSSY FINISH WHITE SURFACES BOTH SIDES. BACKGROUND TO BE WHITE WITH BLACK LETTERS FOR ALL SIGNS EXCEPT BACKGROUND TO BE RED WITH WHITE LETTERS FOR ALL GROUND SWITCH SIGNS, OR RED, WHITE OR BLUE FOR PHASE IDENTIFICATION SIGNS.
- THE SMALL CHARACTERS SHALL BE 5/8-INCH HIGH, 3/32-INCH STROKE, THE LARGE NUMERALS 1 3/4-INCH HIGH, 1/4-INCH STROKE ON THE EQUIPMENT IDENTIFICATION SIGNS. THE LARGE LETTER ON THE PHASE DESIGNATION SIGN SHALL BE 4-INCHES HIGH AND 1/4-INCH STROKE.
- THE NUMBER OF 5/8-INCH HIGH CHARACTERS PLUS THE NUMBER OF SPACES BETWEEN WORDS FOR THE FIRST AND THIRD LINES OF EQUIPMENT IDENTIFICATION SIGNS SHALL NOT EXCEED 21. USE ABBREVIATIONS AND/OR ACRONYMS AS NECESSARY TO STAY WITHIN THIS LIMIT.
- THE DESIGNATION AT THE BOTTOM OF THE EQUIPMENT IDENTIFICATION SIGN IS THE DESIGN DESIGNATION APPEARING ON CONTROL WIRING AND CABLE TAGS.
- MOUNTING HOLES SHALL BE LOCATED 1/2-INCH FROM EACH EDGE. MOUNTING HOLES IN PORCELAIN FINISH SIGNS SHALL BE FITTED WITH BRASS EYELETS. THE FINISHED HOLES SHALL BE SUITABLE FOR A 1/4-INCH BOLT.
- THE 1/8x1x6 BARS ARE NOT NORMALLY REQUIRED FOR MOUNTING IDENTIFICATION SIGNS.
- SIGN LENGTH WILL VARY FROM 8 TO 12 INCHES DEPENDING ON THE NUMBER OF LETTERS AND NUMBERS.

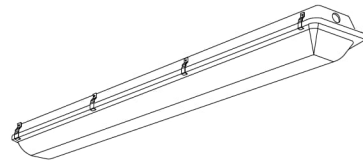
65% SUBMITTAL

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD						<p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)</p> <p>DSGN: D. BURGER DR: J. LIBERATO CHK: APVD</p> <p>CONSULTANT</p>		<p>ELECTRICAL</p> <p>ELECTRICAL DETAILS 4</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
	REV	DATE	DESCRIPTION	BY	APVD										
<p>REVISIONS</p>	<p>SEAL</p>		<p>DATE: T1-E-509</p>												
<p>HORIZ SCALE: NONE</p> <p>VERT SCALE:</p>	<p>DATE: X OF</p>	<p>T1-E-509</p>													

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

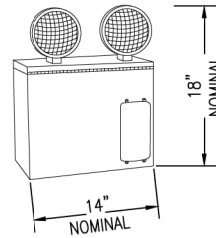
GENERAL SHEET NOTES

1. THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.



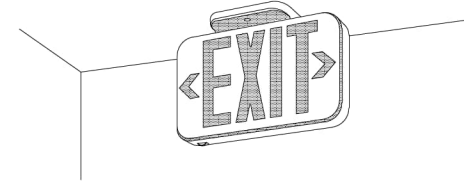
LUMINAIRE REQUIREMENTS:

1. HOUSING - FIBERGLASS OR FIBERGLASS-REINFORCED POLYESTER OUTER HOUSING, WITH ALUMINUM COMPONENT TRAY AND HEAT SINK. OPTIONAL LENGTHS OF 4FT OR 8FT.
2. LENS - IMPACT-RESISTANT ACRYLIC OR OPTIONAL POLYCARBONATE, WITH CONTINUOUS CLOSED-CELL POLYURETHANE GASKET, SECURE WITH STAINLESS STEEL OR POLYCARBONATE LATCHES.
3. LIGHT SOURCE - SOLID STATE LED WITH 50K HOURS RATED LIFE AT L70, 3500K CCT UON, MINIMUM 50CRI, MAXIMUM 4-STEP MCADAM ELLIPSE BINNING TOLERANCE FOR COLOR CONSISTENCY, AND MINIMUM EFFICACY OF 100 LUMENS/WATT. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEMENT, INTEGRAL, HIGH-EFFICIENCY DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, <20% TOTAL HARMONIC DISTORTION, ON-OFF CONTROL, STEP-DIMMABLE OR FULLY DIMMABLE AS INDICATED.
5. CERTIFICATION - UL 1590, WET LOCATION (IP65, IP66, IP67). DLC QUALIFIED, AND ROHS COMPLIANT. COMPLIES WITH LM79, LM80 AND TM21 TESTING STANDARDS. UL 924 WHEN EQUIPPED WITH EMERGENCY BACK-UP.
6. MOUNTING - SURFACE-MOUNTING OR SUSPENDED FROM CEILING.
7. OPTIONS - POWER CORD, INTEGRAL MOTION SENSOR, EMERGENCY BACK-UP.



LUMINAIRE REQUIREMENTS

1. HOUSING - NEMA 4X, WET-LOCATION LISTED, HEAVY-GAUGE STEEL WITH BAKED-ON WHITE
2. INTERNAL COMPONENTS - FULLY AUTOMATIC, SOLID STATE, CONSTANT VOLTAGE, CURRENT-LIMITED BATTERY CHARGER; MAINTENANCE FREE NICAD BATTERY; AND BUILT-IN OVERLOAD PROTECTION.
3. LAMP HEADS - UL FLAME RATED THERMOPLASTIC; FULLY ADJUSTABLE HORIZONTALLY AND VERTICALLY. SEALED BEAM, PAR 36 LED LAMPS MUST BE 12 WATTS OR AS INDICATED IN LIGHTING FIXTURE SCHEDULE.
4. MOUNTING - DIRECTLY TO WALL USING MOUNTING HOLES IN REAR OF CABINET, ACCESSORY WALL BRACKETS, OR MOUNTING SHELF.
5. CERTIFICATION - UL LISTED AND LABELED. COMPLIES WITH UL 924 AND NFPA 101 REQUIREMENTS.
6. OPTIONS - VOLTMETER, AMMETER, THREE-CONDUCTOR ORD SET, OR WIRE GUARD



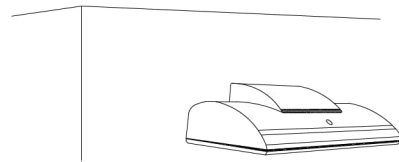
LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST ALUMINUM OR HIGH-IMPACT, UV-STABILIZED, INJECTION-MOLDED THERMOPLASTIC.
2. LIGHT SOURCE - SOLID STATE LEDES.
3. DRIVER - INTEGRAL, HIGH-EFFICIENCY DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120/277V, THERMAL MANAGEMENT, AND < 20% THD.
4. CERTIFICATION - NFPA 101, UL LISTED FOR DAMP OR WET LOCATION, AND ROHS COMPLIANT.
5. MOUNTING - SURFACE MOUNTED ON CEILING AND/OR WALL.
6. OPTIONS - RED OR GREEN LETTERING, ONE- OR TWO-SIDED. ELU REMOTE HEAD CAPABILITIES. BATTERY BACKUP.

1 LED ENCLOSED AND GASKETED (NL-11)
SCALE: NTS T1-E-XXX

2 INDUSTRIAL EMERGENCY LIGHTING UNIT (NL-65)
SCALE: NTS T1-E-XXX

1 EXIT SIGN (NL-28)
SCALE: NTS T1-E-XXX



LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST OR EXTRUDED ALUMINUM WITH INTEGRAL PASSIVE COOLING MECHANISM. HEAT SINK INCORPORATED DIRECTLY INTO HOUSING OR DRIVER COMPARTMENT.
2. OPTICS - PRECISION MOLDED ACRYLIC LENS WITH TYPE II, III, OR IV DISTRIBUTIONS. BUG UPLIGHT RATING OF U0, WITH GLARE RATING AS DETERMINED BY LIGHTING ZONE INSTALLED.
3. LIGHT SOURCE - SOLID STATE LEDES, 3000K CCT UON, MINIMUM 70 CRI UON, AND MINIMUM EFFICACY OF 80 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON-OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION - UL LISTED FOR WET LOCATION, ROHS COMPLIANT. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING - SURFACE MOUNTED WITH STAINLESS STEEL MOUNTING HARDWARE.
7. OPTIONS - VARIOUS LIGHT DISTRIBUTIONS. INTEGRAL MOTION SENSOR, PHOTOCELL, BATTERY BACK-UP.

4 LED WALL PACK
SCALE: NTS T1-E-XXX

DRAFT

65% SUBMITTAL

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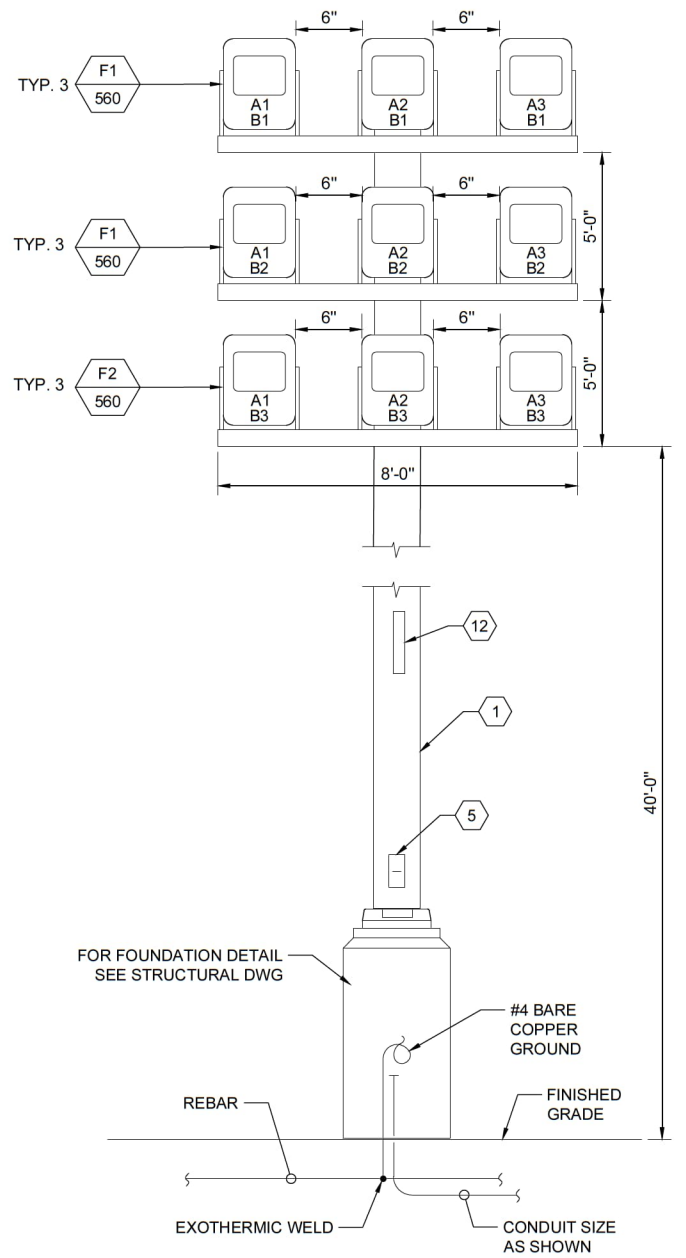
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DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO	CHK	
CONSULTANT			

	SEAL
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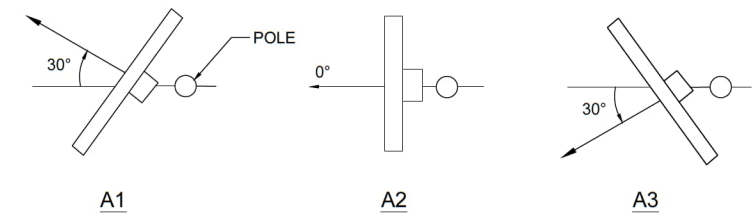
	ELECTRICAL LIGHTING DETAILS 1
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PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE: _____	T1-E-511
VERT SCALE: _____	SHEET: X OF _____	

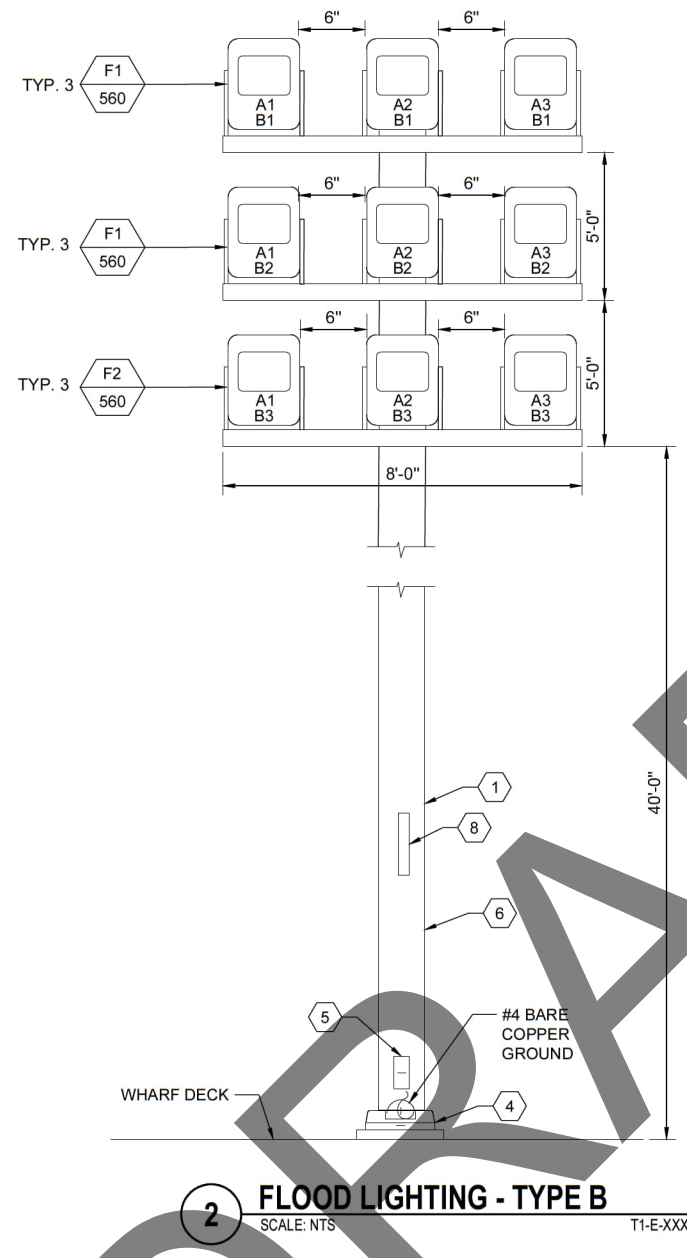
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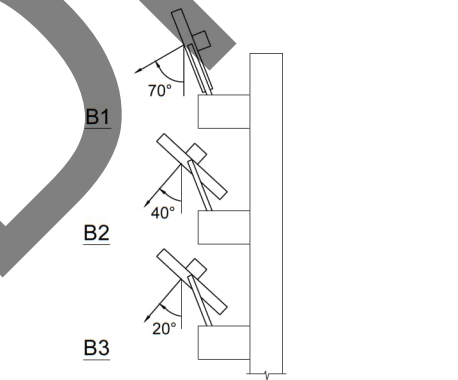
1 FLOOD LIGHTING - TYPE A
SCALE: NTS T1-E-XXX



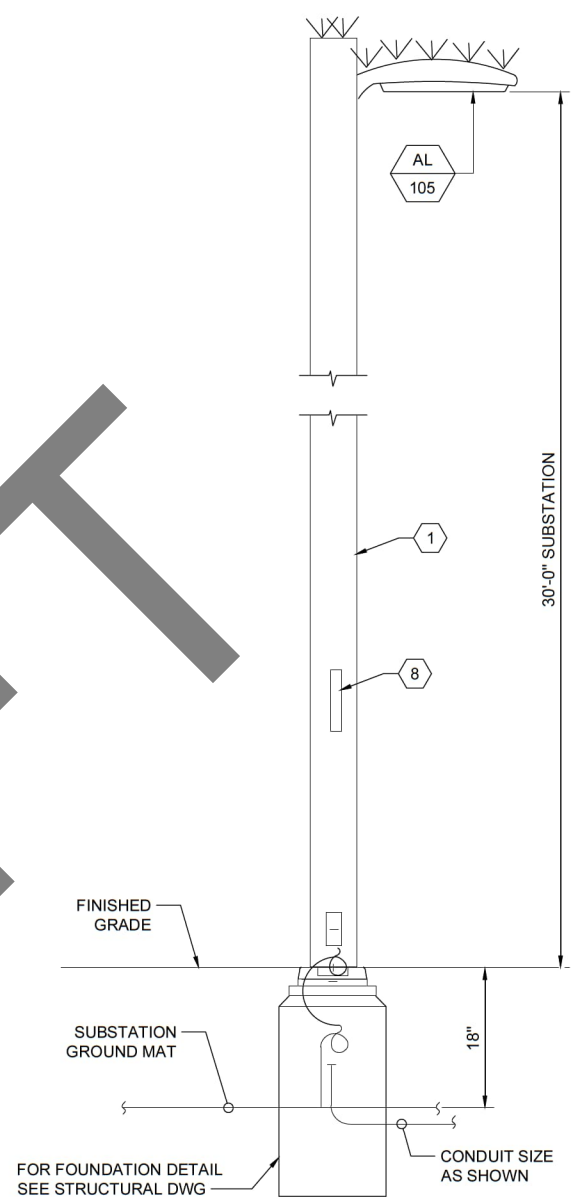
A FLOOD LIGHT ROTATION ANGLES
SCALE: NTS T1-E-XXX



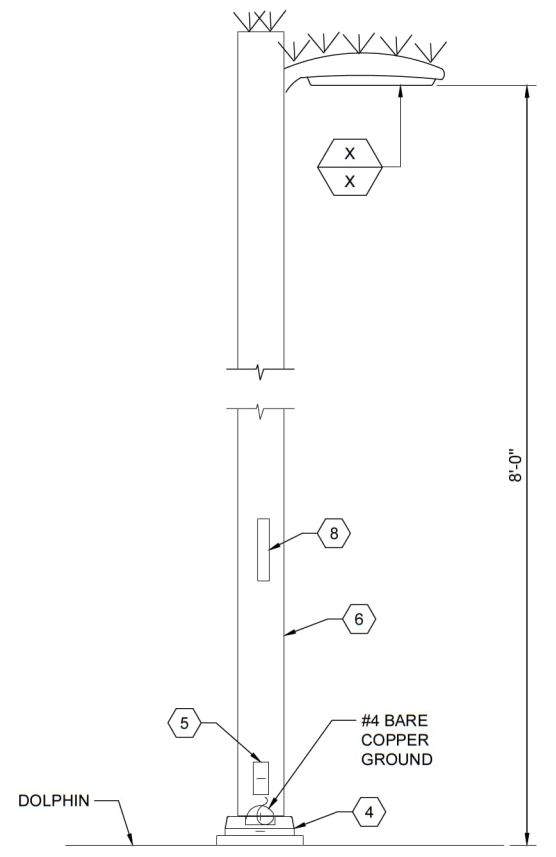
2 FLOOD LIGHTING - TYPE B
SCALE: NTS T1-E-XXX



B FLOOD LIGHT ANGLES
SCALE: NTS T1-E-XXX



3 LIGHTING - SUBSTATION
SCALE: NTS T1-E-221



4 LIGHTING - DOLPHIN
SCALE: NTS T1-E-XXX

- SHEET KEYNOTES**
1. HEAVY DUTY POLE HOT DIPPED GALVANIZED STEEL. POLE HEIGHT SHALL BE 40'. DESIGN TO COMPLY WITH ALASKA BUILDING CODE REQUIREMENTS WITH A WIND LOADING OF 160 MPH
 2. 620W LED FIXTURE. WITH BALLAST TYPICAL OF TEN (10) FOR EACH POLE.
 3. SUPPLIER/MFR TO PROVIDE FIXTURE AIMING SCHEDULE TO MEET MINIMUM OF 5 FC (ENTIRE PIER) AND 3 FC AT PIER ENTRANCE AVERAGE ILLUMINATION.
 4. TWO PIECE, BOLT COVER. COLOR TO MATCH POLE.
 5. WIRING HANDHOLE.
 6. POLE COLOR SHALL BE BLACK.
 7. POLE MOUNTING STEEL BASE PLATE. BOLT CIRCLE DIAMETER SHALL BE PER MANUFACTURER OR FURNISHED POLE.
 8. PROVIDE POLE # TAG.

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REV	DATE	DESCRIPTION	BY	APVD

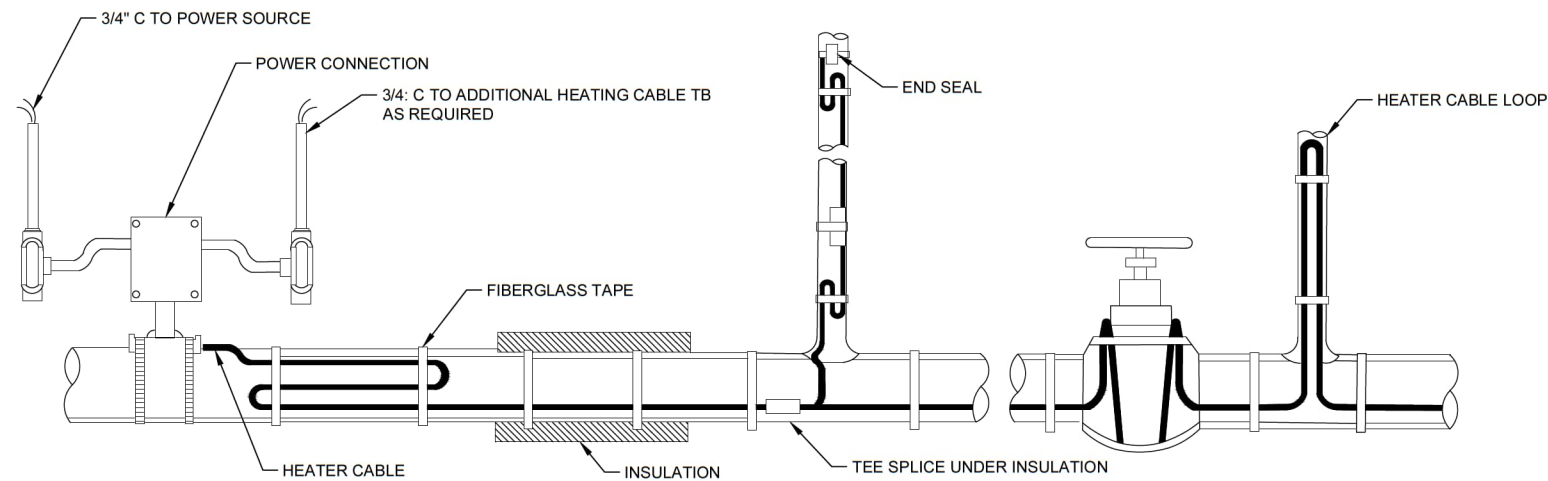
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GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503	
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)	AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
DSGN D. BURGER	DR J. LIBERATO
CHK	APVD
CONSULTANT	

PORT OF ALASKA

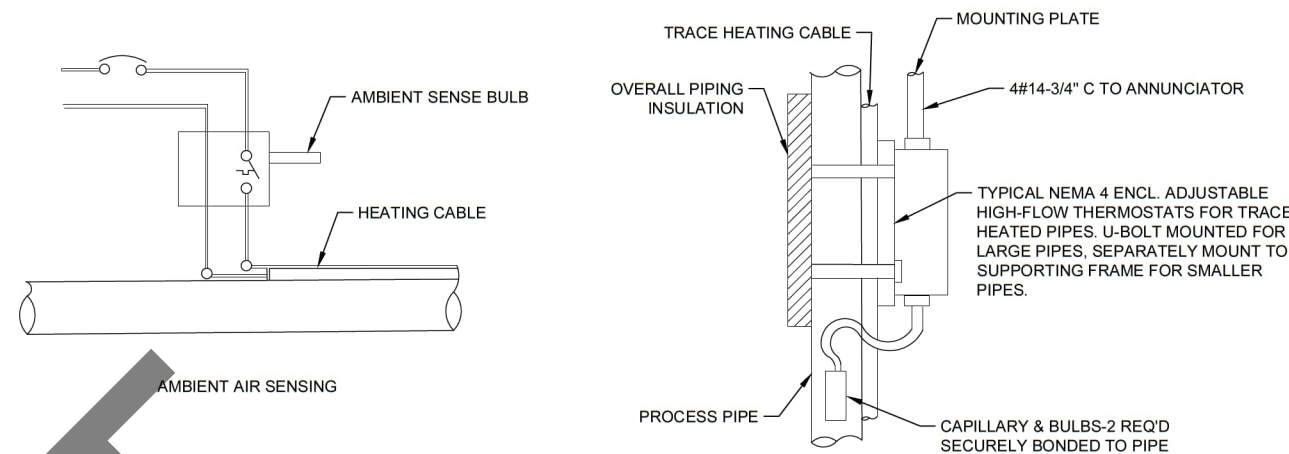


ELECTRICAL
LIGHTING DETAILS 2

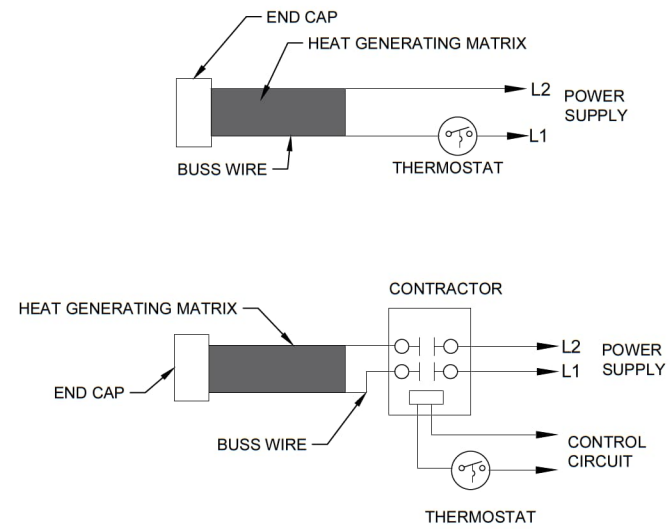
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PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: NTS	DATE:	T1-E-512
VERT SCALE:	SHEET: X OF	



1 TYPICAL INSTALLATION OVERVIEW
SCALE: NONE REF



2 SENSOR PLACEMENT
SCALE: NONE REF



3 TYPICAL HEATER CIRCUIT WIRING DIAGRAM
SCALE: NONE REF

CHECKLIST FOR SELF-REGULATING AND POWER-LIMITING HEAT TRACING

GENERAL INFORMATION		
PROJECT NUMBER		INSTALLATION CONTRACTOR
UNIT NUMBER		NUMBER
CUSTOMER REF NUMBER		INSPECTOR
RECORD 1: PRIOR TO INSTALLATION		
CABLE TYPE		REEL NUMBER
REEL LENGTH		OHMS*
TESTED BY DATE		WITNESSED BY DATE
RECORD 2: AFTER CABLE INSTALLATION		
LINE NUMBER		THERMOSTAT NUMBER
EQUIPMENT NUMBER		JUNCTION BOX NUMBER
CIRCUIT HEATER NUMBER		OFF
CIRCUIT SWITCH NUMBER		HEATER LENGTH
METAL CONNECTED TO EARTH GROUND		OHMS*
TESTED BY DATE		WITNESSED BY DATE
RECORD 3: AFTER THERMAL INSULATION IS INSTALLED		
INSULATION WATERTIGHT		OHMS*
TESTED BY DATE		WITNESSED BY DATE
RECORD 4: FINAL COMMISSIONING		
PANEL NUMBER		AMBIENT TEMP (C)
BREAKER NUMBER		PIPE TEMP (C)
VOLTS		MINS)
TESTED BY DATE		WITNESSED BY DATE

WARNING

ELECTRIC HEAT TRACING

SHOCK AND FIRE HAZARD; SYSTEM MUST BE INSTALLED AND MAINTAINED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. FOLLOW ELECTRICAL LOCKOUT PROCEDURE BEFORE WORKING ON THIS LINE OR REMOVING THERMAL INSULATION.

NOTE: PLACE LABEL EVERY TEN (10) FEET.

4 HEAT TRACED PIPE LABEL
SCALE: NONE REF

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REV	DATE	DESCRIPTION	BY	APVD

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	S. DODA		

CONSULTANT

ELECTRICAL

HEAT TRACE DETAILS 1

PORT OF ALASKA

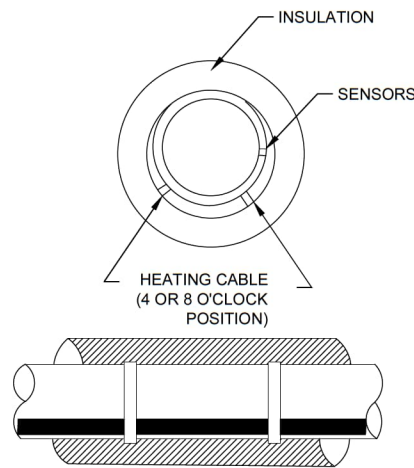
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE	DATE:	T1-E-515
VERT SCALE:	SHEET: X OF	

65% SUBMITTAL

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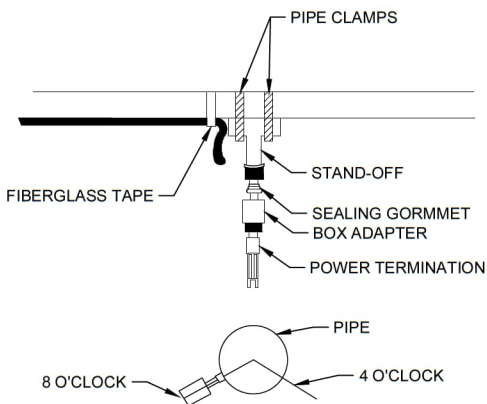
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STRAIGHT TRACING NOTES:

1. WHEN STRAIGHT TRACING IS USED, INSTALL THE HEATER CABLE ON THE LOWER QUADRANT OF THE PIPE. THIS HELPS PREVENT PHYSICAL DAMAGE TO THE HEATER CABLE FROM FALLING OBJECTS AND BEING WALKED ON.
2. ALTERNATIVE LOCATION IS THE 2 AND 10 O'CLOCK POSITION.
3. SECURE PIPE AT 12" INTERVALS WITH FIBERGLASS TAPE.

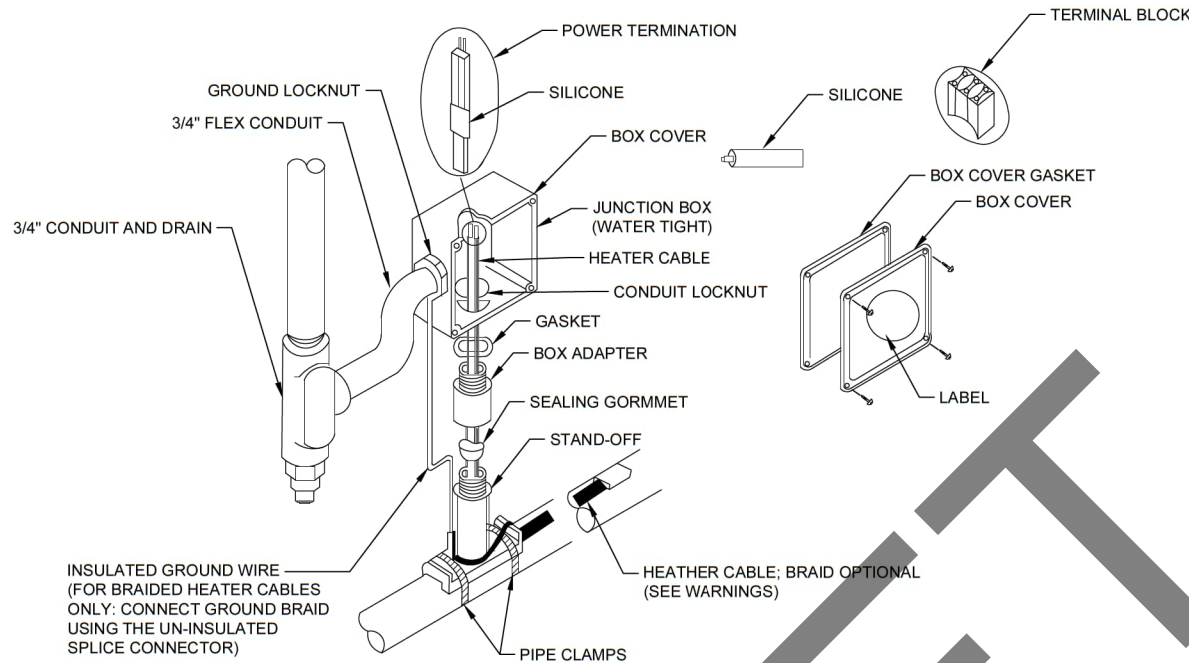
1 HEAT CABLE WRAP
SCALE: NONE REF



NOTES:

1. DO NOT PLACE PIPE CLAMPS OVER THE HEATER CABLE.
2. RECOMMEND INSTALLING AT THE 4 OR 8 O'CLOCK POSITIONS.

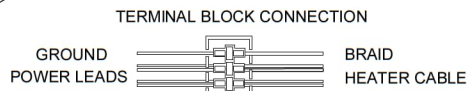
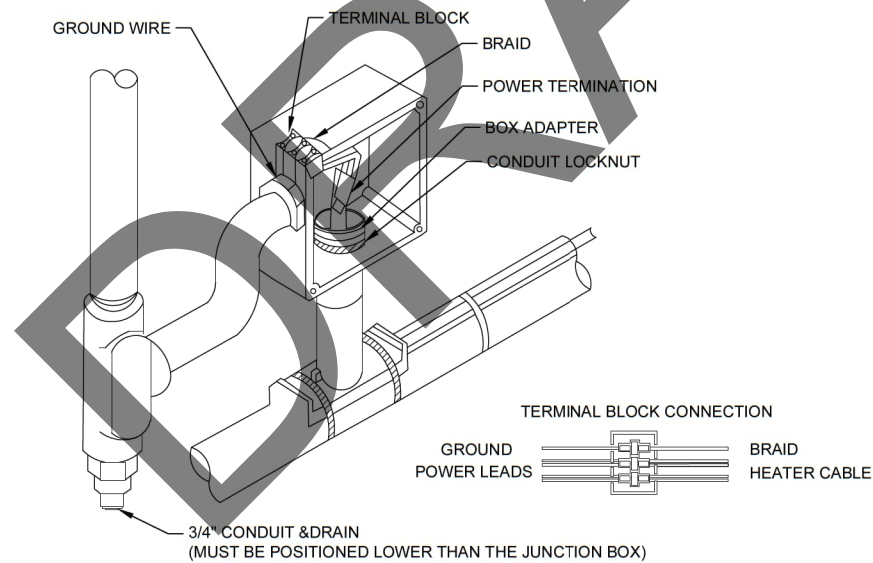
3 STANDOFF INSULATION
SCALE: NONE REF



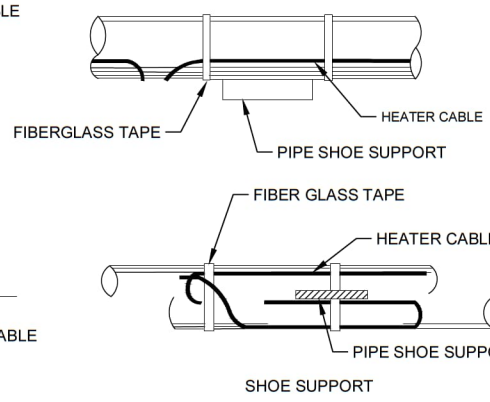
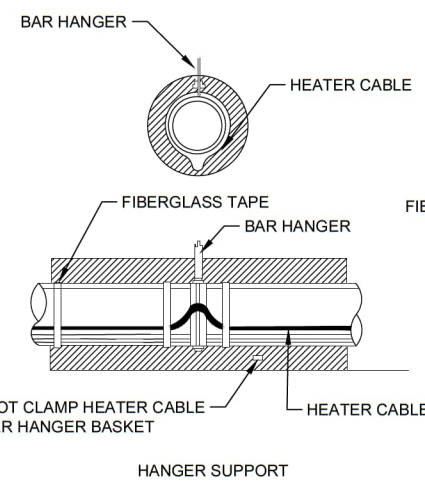
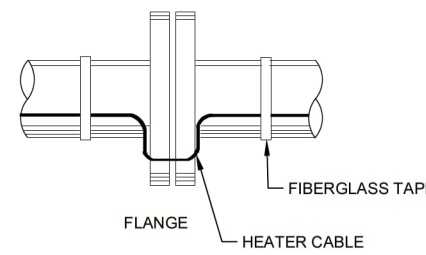
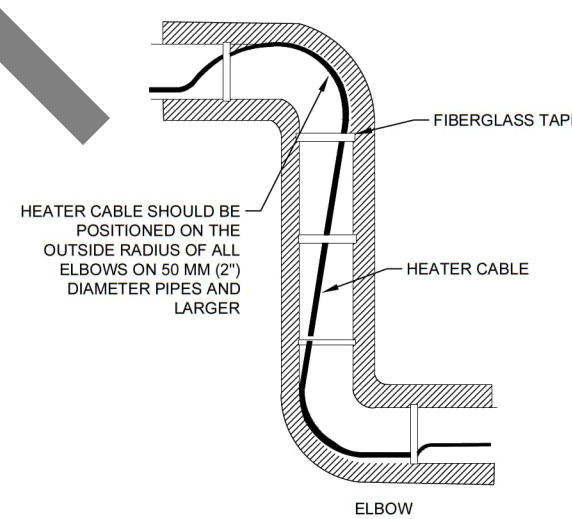
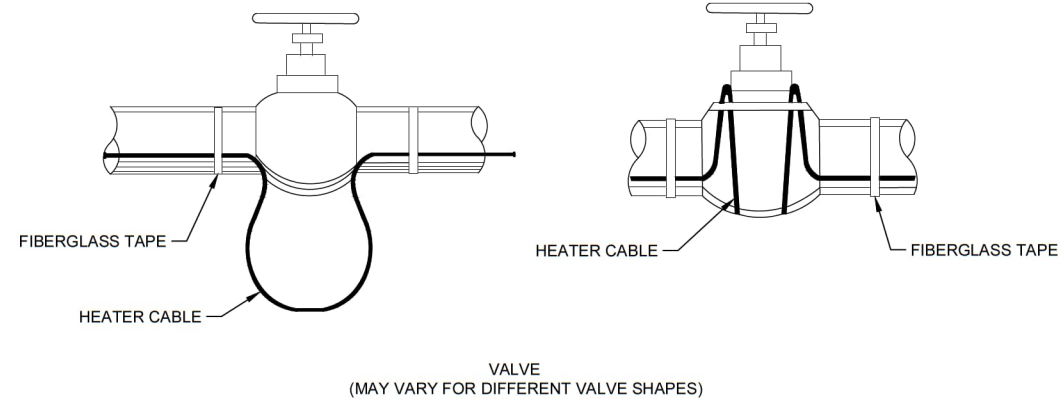
NOTES:

1. ARTICLE 427 OF THE NATIONAL ELECTRIC CODE REQUIRES THAT ALL HEATERS SHALL HAVE METAL COVERINGS AND BE PROVIDED WITH BRANC CIRCUIT GROUND-FAULT PROTECTION.
2. IS NUISANCE TIPPING OF GROUND FAULT BREAKERS OCCURS DUE TO CONDENSATION IN THE JUNCTION BOX, ELECTRICAL CONNECTIONS SHOULD BE MOISTURE PROOFED BY USE OF COATING OR SEALANT.

2 POWER CONNECTION BOX BRAIDED CABLE
SCALE: NONE REF



4 POWER CONNECTION BOX NON BRAIDED CABLE
SCALE: NONE REF



5 TYPICAL HEATER CABLE INSTILLATION
SCALE: NONE REF

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REV	DATE	DESCRIPTION	BY	APVD

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AEC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN DR CHK APVD
D. BURGER S. DODA

CONSULTANT

PORT OF ALASKA



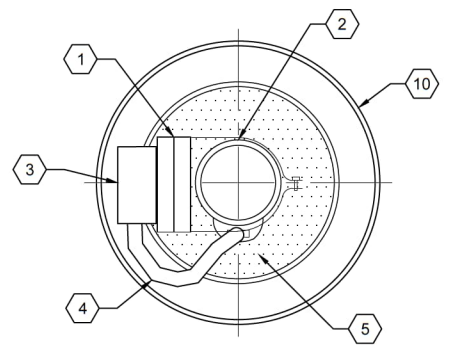
ELECTRICAL
HEAT TRACE DETAILS 2

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

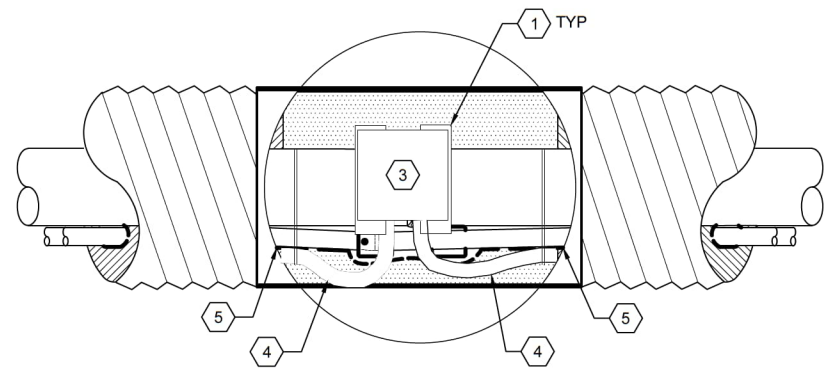
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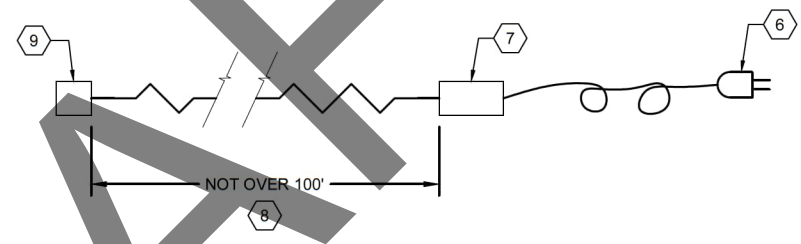
- SHEET KEYNOTES**
- FIBERGLASS UNISTRUT 1-5/8" WIDE X 1".
 - NON-METALLIC 4" PIPE STRAP. VERIFY PIPE SIZE.
 - RAYCHEM PMKG-JS SPLICE BOX. SECURE TO UNISTRUT WITH STAINLESS HARDWARE. WHERE HEAT TAPE IS TOO SHORT FOR BOTH TO REACH COMMON POINT PROVIDE TWO JUNCTION BOXES WITH SUPPORT AND CONNECT WITH 3/4" LFNC AND 3#12 CU XHHW-2.
 - 3/4" LFNC WITH CONNECTORS AT BOTH ENDS.
 - PROVIDE BUSHING ON CONNECTOR AND ROUTE HEAT TRACE THROUGH CONDUIT TO JUNCTION BOX. USE TY-RAP BAND TO HOLD CONDUIT AGAINST HEAT TRACE CHANNEL. SEAL SPACE AT JUNCTION OF CONDUIT AND CHANNEL TO PREVENT FOAM FROM ENTERING.
 - CLASS A GFCI PLUG HEAD NEMA 5-15P RATED FOR 20A/120V WITH 10' 12/3 SJTW CORD. WORLD CORD SET PAB5-24W-0120 OR EQUAL.
 - RAYCHEM PKMG-LP POWER CONNECTION WITH DIA. PVC THREADED COUPLING AND DIA. STRAIN RELIEF. STRAIN RELIEF WORLD CORD SET #20513 - VERIFY CORD SET DIAMETER BEFORE ORDERING. POWERPOINT MUST MATCH HEAT TRACE MANUFACTURER.
 - HEAT TRACE. RAYCHEM BTV SERIES. SEE SPECIFICATIONS.
 - RAYCHEM PKMG-LE END KIT. END KIT MUST MATCH MANUFACTURER.
 - LARGE DIAMETER JOINT KIT TO ACCOMMODATE SPLICE BOX



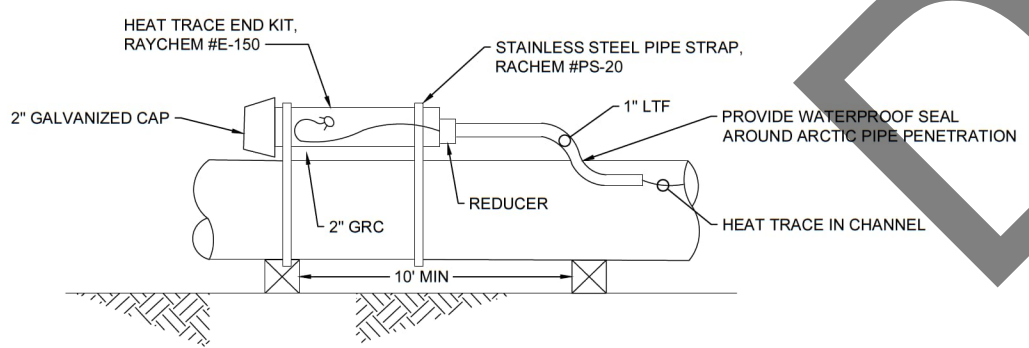
1 TYPICAL WATER ARCTIC PIPE HEAT TRACE SPLICE
SCALE: NONE REF



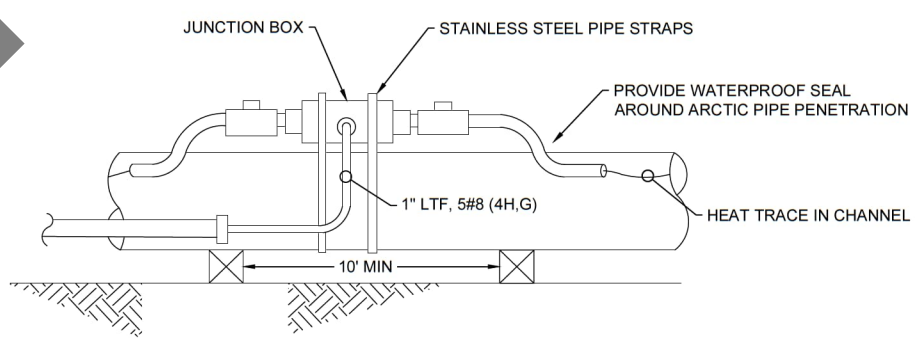
2 TYPICAL HEAT TAPE SPLICE CONNECTION
SCALE: NONE REF



3 TYPICAL WATER SERVICE HEAT TAPE INSTALLATION
SCALE: NONE REF



4 TYPICAL HEAT TRACE END KIT
SCALE: NONE REF



5 TYPICAL HEAT TRACE POINT CONNECTION
SCALE: NONE REF

DRAFT

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REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503	
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)	AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)
DSGN D. BURGER	CHK J. LIBERATO
APVD	
CONSULTANT	

SEAL

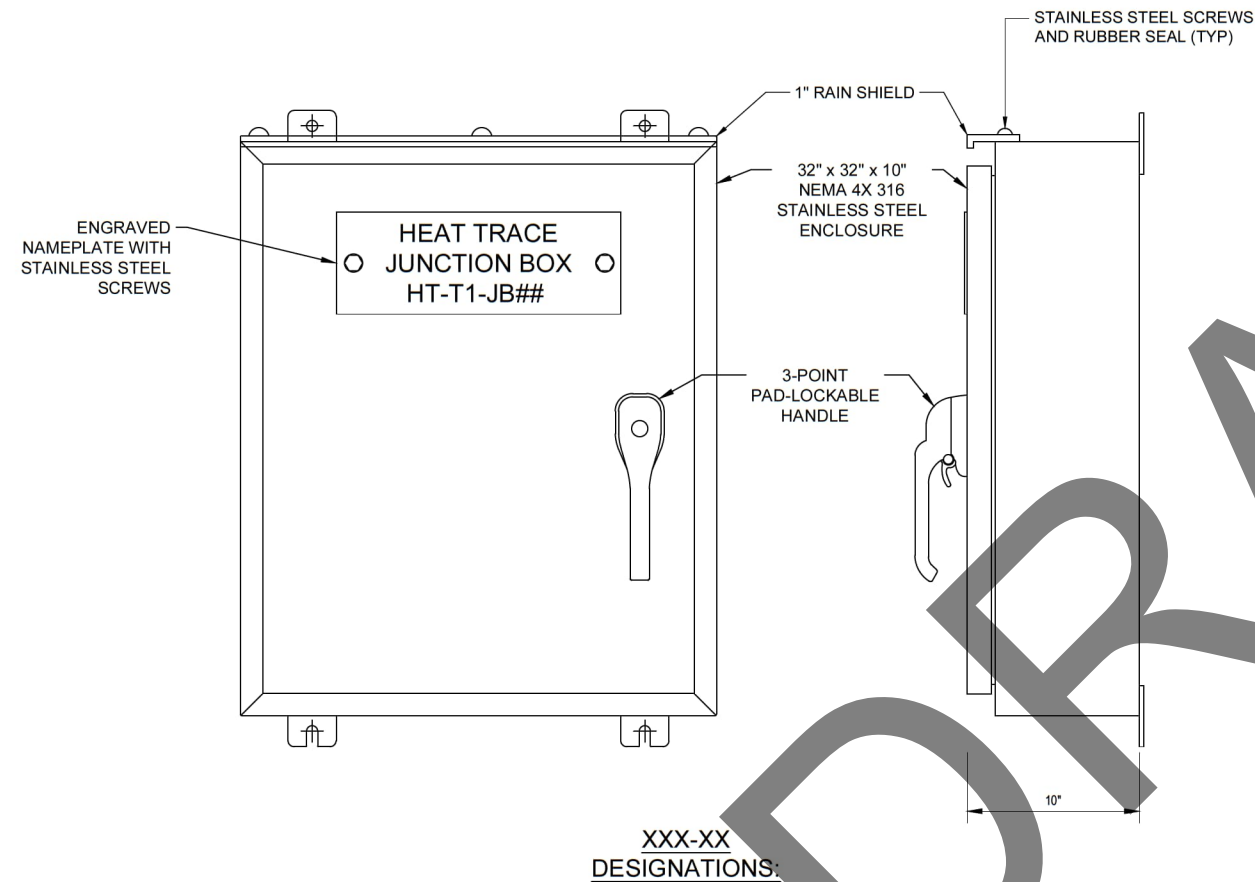
ELECTRICAL
HEAT TRACE DETAILS 3

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE	DATE:	T1-E-517
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS





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XXX-XX
DESIGNATIONS:

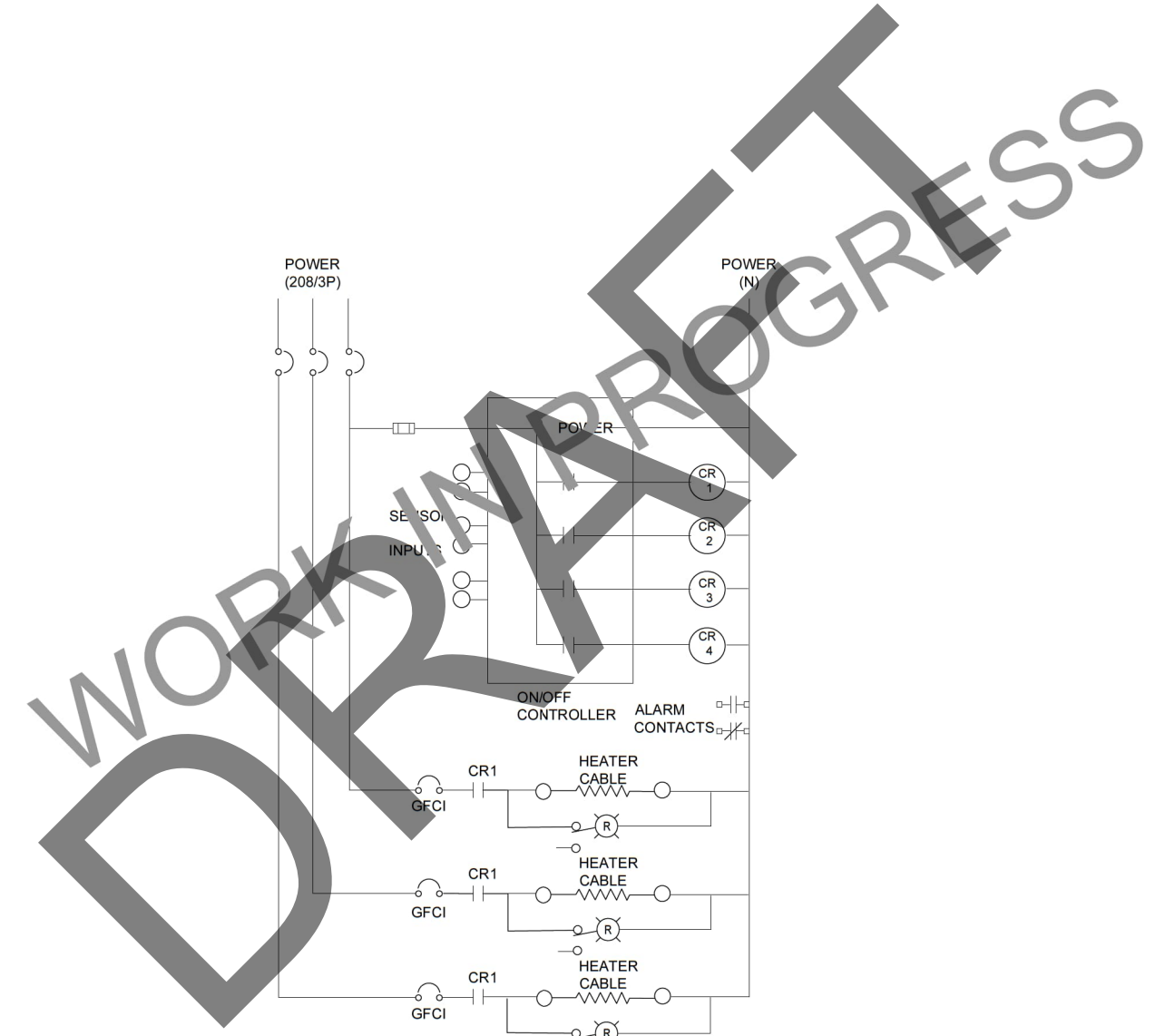
1 HEAT TRACE JUNCTION BOX (HT-T1-JB##)
SCALE: NTS T1-E-225, T1-E-226

65% SUBMITTAL

<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 1"</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD											  <p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP) DSGN DR J. LIBERATO CHK APVD D. BURGER J. LIBERATO</p>	 	<p>ELECTRICAL</p> <p>HEAT TRACE DETAILS 4</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
	REV	DATE	DESCRIPTION	BY	APVD															
<p>REVISIONS</p>	<p>SEAL</p>	<p>HORIZ SCALE: NONE</p> <p>VERT SCALE:</p>	<p>DATE:</p> <p>SHEET: X OF</p>	<p>T1-E-518</p>																
<p> </p>	<p> </p>	<p> </p>	<p> </p>	<p> </p>																





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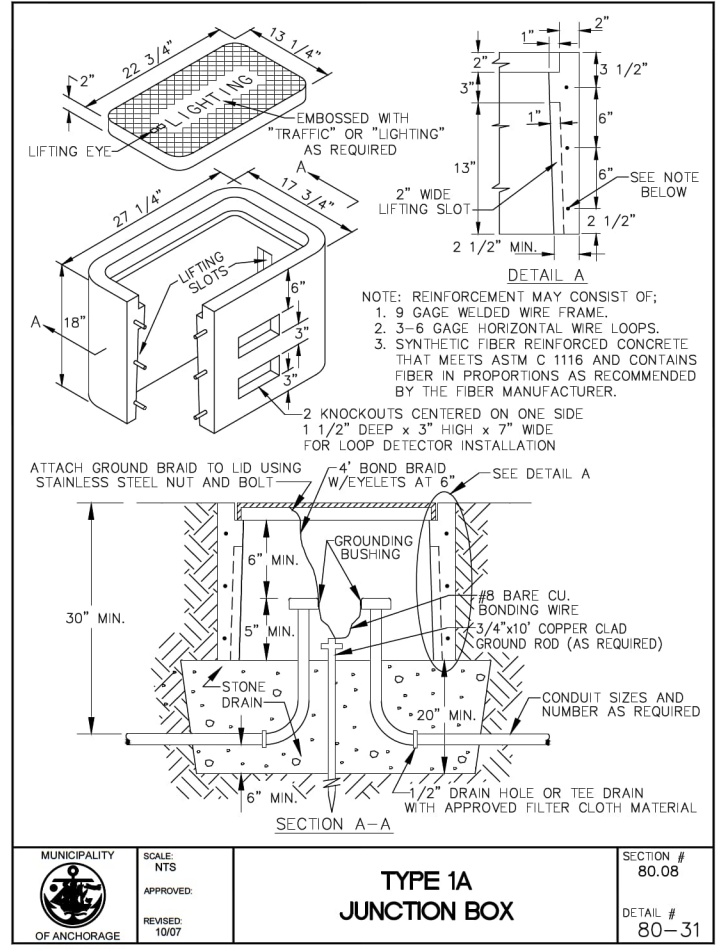
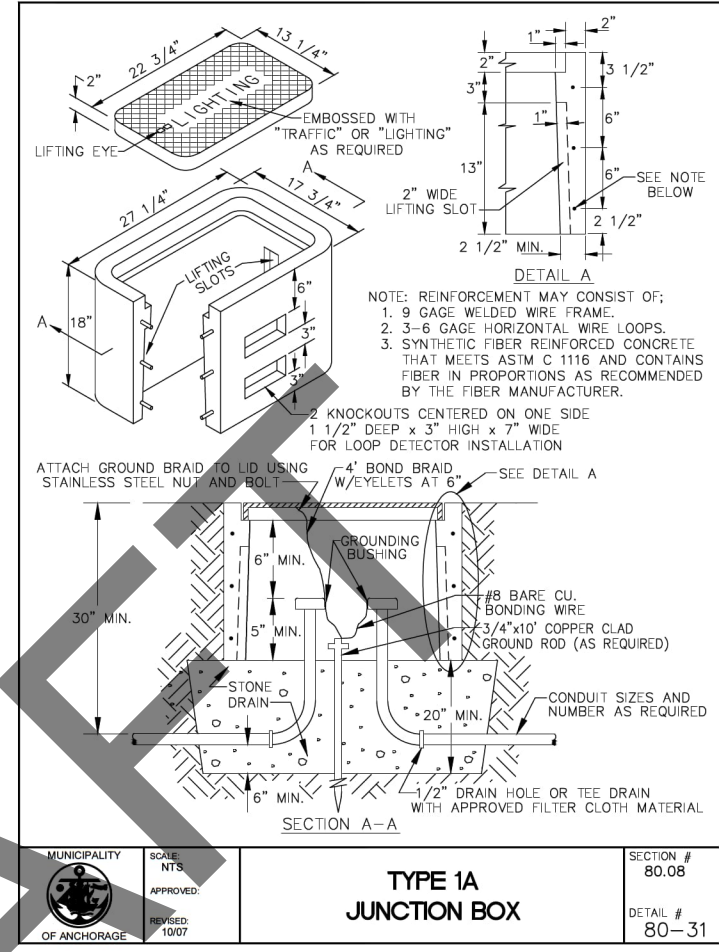
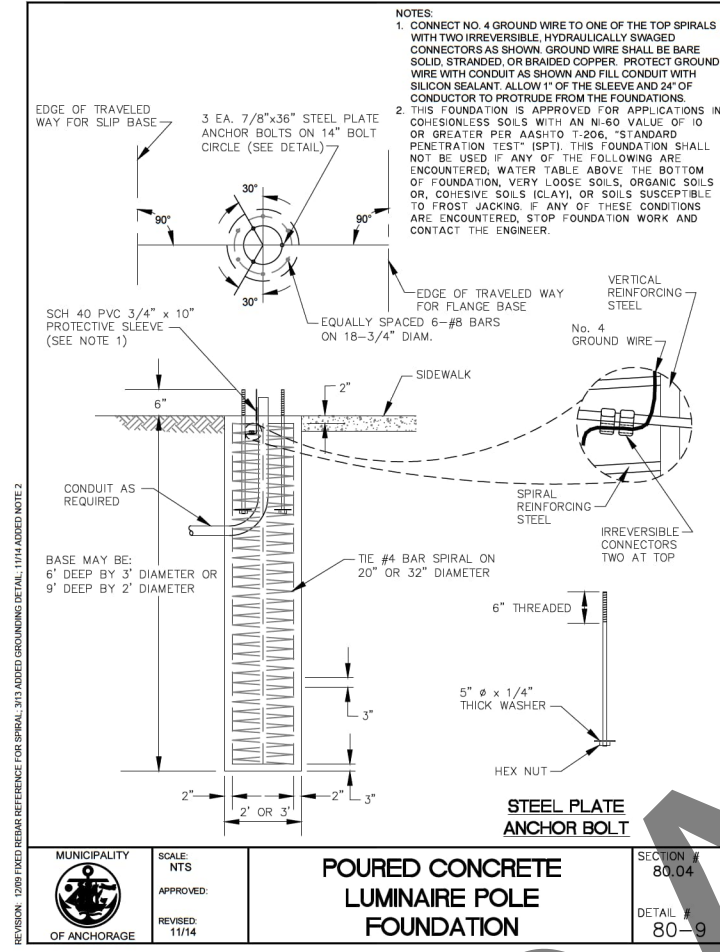
1 LOGICAL DIAGRAM FOR HEAT TRACE PANEL
SCALE: NONE REF

65% SUBMITTAL

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD											  GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP) DSGN DR J. LIBERATO CHK APVD D. BURGER J. LIBERATO CONSULTANT			ELECTRICAL LOGICAL DIAGRAM FOR HEAT TRACE	PORT OF ALASKA
	REV	DATE	DESCRIPTION	BY	APVD																
REVISIONS	SEAL	PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA																			
HORIZ SCALE: NONE VERT SCALE:	DATE: SHEET: X OF	T1-E-519																			

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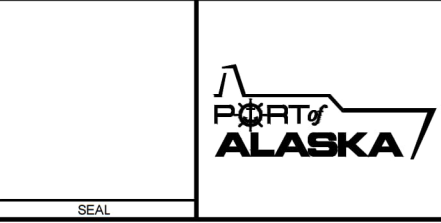


DRAFT

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK CHK	APVD
CONSULTANT		SEAL	



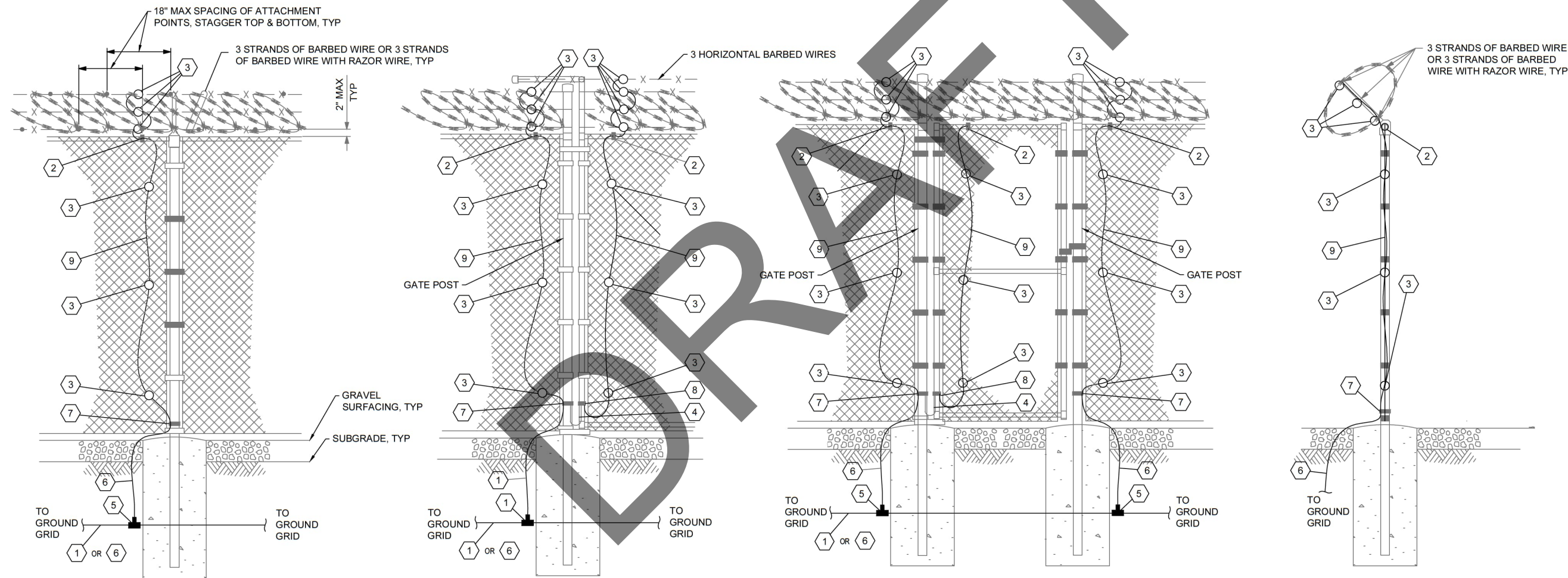
ELECTRICAL
STANDARD DETAILS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-520
VERT SCALE:	SHEET: X OF	

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SHEET KEYNOTES

1. COPPER CABLE, BARE, #4/0 AWG.
2. COPPER CABLE TO PIPE CLAMP, BURNDY.
3. SERVIT CONNECTOR OR BRASS SPLIT BOLT.
4. COPPER BRAIDED CABLE, BURNDY.
5. COMPRESSION CABLE TO CABLE CONNECTOR TEE CONNECTOR, DMC POWER GC731, GC732, GC733 OR EQAUL.
6. COPPER CLAD CABLE, BARE.
7. FENCE POST CONNECTOR.
8. BRAIDED CABLE TO PIPE CLAMP.
9. COPPER CLAD CABLE, BARE.



1 TYPICAL FENCE POST
NO SCALE

2 TYPICAL SWING GATE FOR VEHICLE ACCESS
NO SCALE

3 PERSONNEL GATE
NO SCALE

4 RAZOR WIRE GROUNDING
NO SCALE

65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

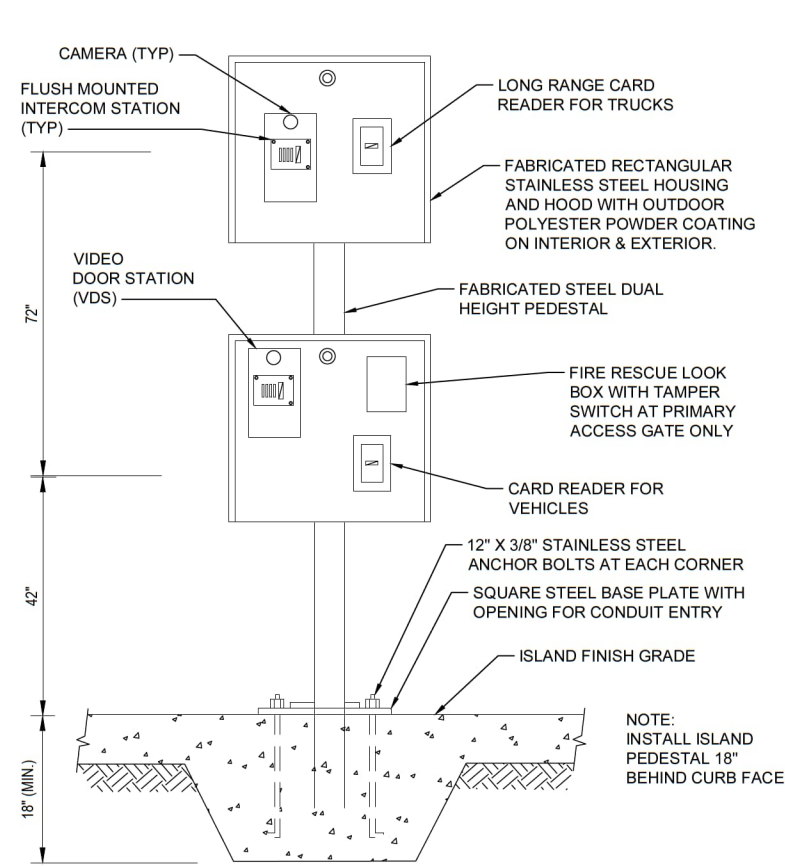
ELECTRICAL

ELECTRICAL DETAILS 5

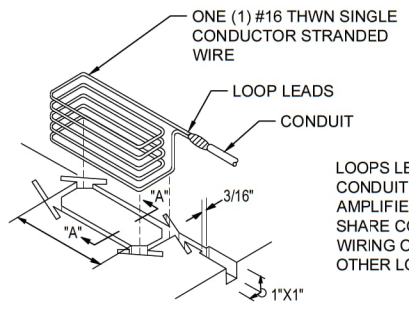
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: NONE	DATE:	T1-E-525
VERT SCALE:	SHEET: X OF	

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1 ACCESS GATE INTERCOM AND CARD ACCESS PEDESTAL DETAIL
NO SCALE



2 DETECTOR LOOP DETAIL
NO SCALE

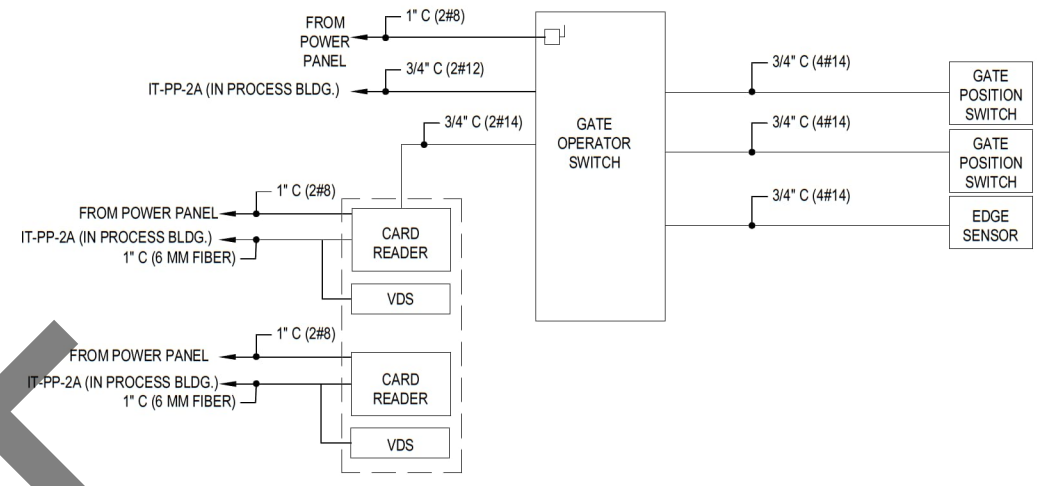
TYPICAL LAYOUT FOR LOOP
SAW SLOT 3/16" WIDE X 1/2" DEEP
MAKE RECTANGULAR SHAPE TO SPECIFIED LOOP DIMENSIONS PLUS SLOT FOR LEAD CONDUIT
GROUT WITH NO. 202 WEATHERDAN SEALANT A PRODUCT OF 3M CO., OR EQUAL

NOTES:
LOOPS LEADS ARE LIMITED TO 100FT.
LOOP TO HAVE 6 TURNS AS SHOWN.

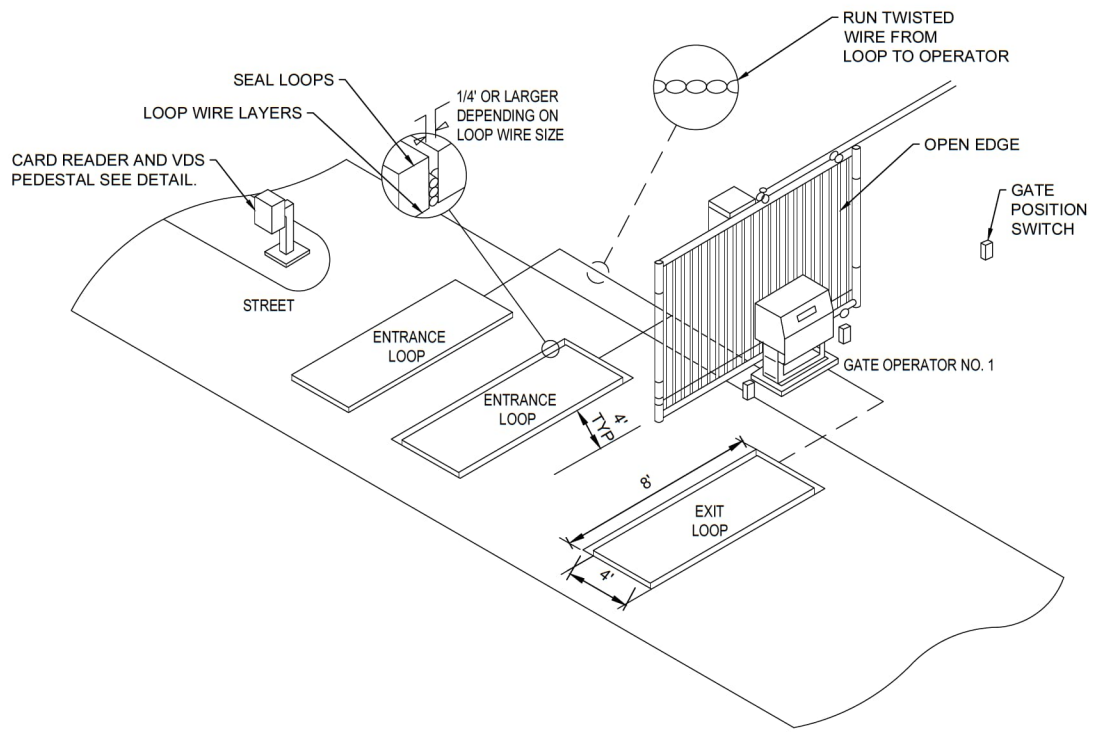
CAUTION- CONTROL AND POWER RUNS TO BE 18" FROM DETECTOR LOOPS. LOOP LEAS TO HAVE (4) TWISTS PER FOOT.

REFER TO MANUFACTURER'S REQUIREMENTS FOR EQUIPMENT SIZE, RATINGS AND INSTALLATIONS

LOOPS LEADS MUST BE IN CONDUIT BETWEEN LOOP AND AMPLIFIER, THEY MUST NOT SHARE CONDUIT WITH OTHER WIRING OR LEADS FROM OTHER LOOPS.



3 TYPICAL ENTRANCE GATE OPERATOR RISER DIAGRAM
NO SCALE



4 TYPICAL ENTRANCE GATE DETAIL PLAN
NO SCALE

DRAFT

65% SUBMITTAL

<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD						<p style="text-align: center; font-size: 8pt;"> GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP) </p> <p style="font-size: 8pt;"> DSGN: D. BURGER DR: J. LIBERATO CHK: APVD: SEAL: </p>		<p>ELECTRICAL</p> <p>ELECTRICAL DETAILS 6</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
REV	DATE	DESCRIPTION	BY	APVD											
<p>REVISIONS</p>					<p>HORIZ SCALE: NONE DATE: T1-E-526</p> <p>VERT SCALE: SHEET: X OF</p>										

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WORK IN PROGRESS
DRAFT

CONTROL CABLE AND CONDUIT SCHEDULE							
CABLE TAG	FROM	TO	TO	CABLE	GROUND SIZE (AWG)	CONDUIT SIZE (INCHES)	REMARKS
	DESCRIPTION	DESCRIPTION	DESCRIPTION				

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
 1400 W. BENSON BLVD, SUITE 400
 ANCHORAGE, ALASKA 99503
 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2184152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		

CONSULTANT

SEAL



ELECTRICAL

CONDUIT SCHEDULE - CONTROLS AND INSTRUMENTATION

PORT OF ALASKA PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA	
HORIZ SCALE: NONE VERT SCALE:	DATE: _____ SHEET: X OF _____
T1-E-602	

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LIGHTING FIXTURE SCHEDULE							
ID	DESCRIPTION	MOUNTING	LAMP TYPE	COLOR TEMP	WATTAGE	TEMPLATE	NOTES
A	4' INDUSTRIAL STRIP LED	CHAIN	LED	3500	34.1	NL-11	LITHONIA CSS L48 4000LM MVOLT 40K 80CRI OR EQUAL
AL	AREA LIGHT & POLE	POLE	LED	3000	105	XL-19	GULLWING GL-18-1-3-105LA-4870-WW-UNV-BRP-IS OR EQUAL
B	EXTERIOR WALL SCONCE	WALL	LED	3000	8	XL-8	LITHONIA TWS ALO SWW2 MVOLT PE
EM	INDUSTRIAL EMERGENCY LIGHTING UNIT	WALL	LED	-	3.8	NL-65	LITHONIA WLTU LED OR EQUAL
EXC	COMBINATION EXIT AND EMERGENCY WITH 90 MINUTE Ni-cad BATTERY BACKUP	WALL	LED	-	2		LITHONIA ECRD M6 OR EQUAL
W1	WALL PACK	AS DETAILED	LED	4000	11	NA	LITHONIA TWX1-P2-40K-MVOLT-PE OR EQUAL
W2	WALL PACK	AS DETAILED	LED	4000	12	NA	LITHONIA TWX1-P4-40K-MVOLT-PE OR EQUAL
F1	FLOOD LIGHT	AS DETAILED	LED	4000	560	NA	HF2LE-P4-40K-MNFL-277-UBV OR EQUAL
F2	FLOOD LIGHT	AS DETAILED	LED	4000	560	NA	HF2LE-P4-40K-MFL-277-UBV OR EQUAL

DRY TYPE TRANSFORMER SCHEDULE								
NO.	LOCATION	KV	VOLTAGE		PHASE CONNECTION		TYPE	REMARKS
		75	480	208/120	DELTA	WYE	ENERGY EFFICIENT	FLOOR MOUNTED w/CEP
		30	480	208/120	DELTA	WYE	ENERGY EFFICIENT	FLOOR MOUNTED w/CEP
		15	480	208/120	DELTA	WYE	ENERGY EFFICIENT	FLOOR MOUNTED w/CEP

WORK IN PROGRESS

DRAWING

65% SUBMITTAL

<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>0 1"</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD						<p style="font-size: 8px;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)</p> <p>DSGN: D. BURGER DR: J. LIBERATO CHK: APVD: SEAL: CONSULTANT</p>			<p>ELECTRICAL</p> <p>LIGHTING FIXTURE AND TRANSFORMER SCHEDULES</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
	REV	DATE	DESCRIPTION	BY	APVD											
REVISIONS		SEAL		DATE: SHEET: X OF		T1-E-603										
<p>HORIZ SCALE: NONE VERT SCALE: DATE: SHEET: X OF</p>							T1-E-603									

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PANEL SCHEDULE

PANEL NAME: A		VOLTAGE: 208/120		NEMA RATING: 12		MOUNTING: SURFACE		NOTES:	
MAINS RATING: 100		A MCB		PHASE: 1		AIC RATING: 18,000		LOCATION: SWITCHGEAR BLDG	
BUS RATING: 100		A		WIRE: 3		MAND FACTOR: 0.8			

CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	H	AC-1	40/2						A			12	7.08	0.85	20/1	SWITCHGEAR HEATERS	O	2
3	H	AC-1	40/2						B			12	7.08	0.85	20/1	SWITCHGEAR HEATERS	O	4
5	L	INT LIGHTING	15/1						C							EXT LIGHTING	L	6
7	R	RECEPTACLES	15/1						A									8
9		SPARE	20/1						B						20/1	SPARE		10
11		SPARE	20/1						C						20/1	SPARE		12
13		SPARE	20/1						A						20/1	SPARE		14
15			20/1						B						20/1			16
17			20/1						C						20/1			18
19			20/1						A						20/1			20
21	P	DC1 PANEL	50/2						B						50/2			22
23	P	DC1 PANEL	50/2						C						50/2			24

CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		
PHASE A: 0.9	0.7	5.7	ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF))) * L		
PHASE B: 0.9	0.7	5.7	H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS		
			L	LIGHTING	0.80	R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
			M	MOTOR	0.85	ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU		
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

PANEL SCHEDULE

PANEL NAME: B		VOLTAGE: 208/120		NEMA RATING: 12		MOUNTING: SURFACE		NOTES:	
MAINS RATING: 100		A MCB		PHASE: 1		AIC RATING: 18,000		LOCATION: SWITCHGEAR BLDG	
BUS RATING: 100		A		WIRE: 3		MAND FACTOR: 0.8			

CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	H	AC-2	40/2						A			12	7.08	0.85	20/1	SWITCHGEAR HEATERS	O	2
3	H	AC-2	40/2						B			12	7.08	0.85	20/1	SWITCHGEAR HEATERS	O	4
5	L	LIGHTING	15/1						C									6
7	R	RECEPTACLES	15/1						A									8
9		SPARE	20/1						B						20/1	SPARE		10
11		SPARE	20/1						C						20/1	SPARE		12
13		SPARE	20/1						A						20/1	SPARE		14
15			20/1						B						20/1			16
17			20/1						C						20/1			18
19			20/1						A						20/1			20
21	P	DC2 PANEL	50/2						B						50/2			22
23	P	DC2 PANEL	50/2						C						50/2			24

CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		
PHASE A: 0.9	0.7	5.7	ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF))) * L		
PHASE B: 0.9	0.7	5.7	H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS		
			L	LIGHTING	0.80	R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
			M	MOTOR	0.85	ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU		
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

PANEL SCHEDULE

PANEL NAME: DC1		VOLTAGE: 240/120		NEMA RATING: 12		MOUNTING: SURFACE		NOTES:	
MAINS RATING: 100		A MCB		PHASE: 1		AIC RATING: 18,000		LOCATION: SWITCHGEAR BLDG	
BUS RATING: 100		A		WIRE: 3		MAND FACTOR: 0.15			

CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	O	SECTION	15/2						A						15/2	SECTION	O	2
3	O	SECTION	15/2						B						15/2	SECTION	O	4
5	O	SECTION	15/2						A						15/2	SECTION	O	6
7	O	SECTION	15/2						B						15/2	SECTION	O	8
9	O	SECTION	15/2						A						15/2	SECTION	O	10
11	O	SECTION	15/2						B						15/2	SECTION	O	12
13	O	SECTION	15/2						A						15/2	SECTION	O	14
15	O	SECTION	15/2						B						15/2	SECTION	O	16
17		SPARE	15/2						A						15/2	SPARE		18
19		SPARE	15/2						B						15/2	SPARE		20
21		SPARE	15/2						A						15/2	SPARE		22
23		SPARE	15/2						B						15/2	SPARE		24

CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		
PHASE A:			ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF))) * L		
PHASE B:			H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS		
			L	LIGHTING	0.80	R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
			M	MOTOR	0.85	ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU		
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

PANEL SCHEDULE

PANEL NAME: DC2		VOLTAGE: 240/120		NEMA RATING: 12		MOUNTING: SURFACE		NOTES:	
MAINS RATING: 100		A MCB		PHASE: 1		AIC RATING: 18,000		LOCATION: SWITCHGEAR BLDG	
BUS RATING: 100		A		WIRE: 3		MAND FACTOR: 0.15			

CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	O	SECTION	15/2						A						15/2	SECTION	O	2
3	O	SECTION	15/2						B						15/2	SECTION	O	4
5	O	SECTION	15/2						A						15/2	SECTION	O	6
7	O	SECTION	15/2						B						15/2	SECTION	O	8
9	O	SECTION	15/2						A						15/2	SECTION	O	10
11	O	SECTION	15/2						B						15/2	SECTION	O	12
13	O	SECTION	15/2						A						15/2	SECTION	O	14
15	O	SECTION	15/2						B						15/2	SECTION	O	16
17		SPARE	15/2						A						15/2	SPARE		18
19		SPARE	15/2						B						15/2	SPARE		20
21		SPARE	15/2						A						15/2	SPARE		22
23		SPARE	15/2						B						15/2	SPARE		24

CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		
PHASE A:			ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF))) * L		
PHASE B:			H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS		
			L	LIGHTING	0.80	R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
			M	MOTOR	0.85	ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU		
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)
DSGN DR CHK APVD
D. BURGER J. LIBERATO
CONSULTANT

SEAL



ELECTRICAL
PANEL SCHEDULES

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE DATE: T1-E-604
VERT SCALE: SHEET: X OF

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PANEL SCHEDULE																			
PANEL NAME: T1HA		VOLTAGE: 480/277 NEMA RATING: 12			MOUNTING: SURFACE		NOTES:												
MAINS RATING: 800 A MCB		PHASE: 3			AIC RATING: 18,000		LOCATION: ELECTRIC SHED												
BUS RATING: 800 A		WIRE: 4			MAND FACTOR: 0.8														
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.	
1	L	UPLAND LIGHTING	20/1						A						20/1	UPLAND LIGHTING	L	2	
3	L	UPLAND LIGHTING	20/1						B						20/1	UPLAND LIGHTING	L	4	
5	L	UPLAND LIGHTING	20/1						C						20/1	UPLAND LIGHTING	L	6	
7	L	UPLAND LIGHTING	20/1						A						20/1	UPLAND LIGHTING	L	8	
9	L	UPLAND LIGHTING	20/1						B						20/1	UPLAND LIGHTING	L	10	
11	L	UPLAND LIGHTING	20/1						C						20/1	UPLAND LIGHTING	L	12	
13			20/1						A						20/1			14	
15			20/1						B						20/1			16	
17			20/1						C						20/1			18	
19			20/1						A						20/1			20	
21			20/1						B						20/1			22	
23			20/1						C						20/1			24	
25	P		400/3						A						200/3		P	26	
27	P	T1CP	400/3						B						200/3	T1HB	P	28	
29	P		400/3						C						200/3		P	30	
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND			VOLTAGE DROP CALCULATION							
PHASE A:			ID			LOAD TYPE			ASSUMED PF			VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: $VD = I * (R * PF + X * SIN(ACOS(PF))) * L$				ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU			
PHASE B:			H			HVAC			0.85			WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.							
PHASE C:			L			LIGHTING			0.80										
			M			MOTOR			0.85										
			R			RECEPTACLE			0.80										
			P			PANEL			0.85										
			O			OTHER			0.85										

PANEL SCHEDULE																			
PANEL NAME: T1LA		VOLTAGE: 208/120 NEMA RATING: 12			MOUNTING: SURFACE		NOTES:												
MAINS RATING: 100 A MCB		PHASE: 1			AIC RATING: 18,000		LOCATION: ELECTRIC SHED												
BUS RATING: 100 A		WIRE: 3			MAND FACTOR: 0.8														
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.	
1			20/1						A						20/1			2	
3			20/1						B						20/1			4	
5			20/1						C						20/1			6	
7			20/1						A						20/1			8	
9			20/1						B						20/1			10	
11			20/1						C						20/1			12	
13			20/1						A						20/1			14	
15			20/1						B						20/1			16	
17			20/1						C						20/1			18	
19			20/1						A						20/1			20	
21			20/1						B						20/1			22	
23			20/1						C						20/1			24	
25			20/1						A						20/1			26	
27			20/1						B						20/1			28	
29			20/1						C						20/1			30	
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND			VOLTAGE DROP CALCULATION							
PHASE A:			ID			LOAD TYPE			ASSUMED PF			VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: $VD = I * (R * PF + X * SIN(ACOS(PF))) * L$				ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU			
PHASE B:			H			HVAC			0.85			WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.							
PHASE C:			L			LIGHTING			0.80										
			M			MOTOR			0.85										
			R			RECEPTACLE			0.80										
			P			PANEL			0.85										
			O			OTHER			0.85										

PANEL SCHEDULE																			
PANEL NAME: T1CP		VOLTAGE: 480/277 NEMA RATING: 12			MOUNTING: SURFACE		NOTES:												
MAINS RATING: 400 A MCB		PHASE: 3			AIC RATING: 18,000		LOCATION: ELECTRIC SHED												
BUS RATING: 400 A		WIRE: 4			MAND FACTOR: 0.8														
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.	
1			20/1						A						20/1			2	
3			20/1						B						20/1			4	
5			20/1						C						20/1			6	
7			20/1						A						20/1			8	
9			20/1						B						20/1			10	
11			20/1						C						20/1			12	
13			20/1						A						20/1			14	
15			20/1						B						20/1			16	
17			20/1						C						20/1			18	
19			20/1						A						20/1			20	
21			20/1						B						20/1			22	
23			20/1						C						20/1			24	
25			20/1						A						20/1			26	
27			20/1						B						20/1			28	
29			20/1						C						20/1			30	
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND			VOLTAGE DROP CALCULATION							
PHASE A:			ID			LOAD TYPE			ASSUMED PF			VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: $VD = I * (R * PF + X * SIN(ACOS(PF))) * L$				ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU			
PHASE B:			H			HVAC			0.85			WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.							
PHASE C:			L			LIGHTING			0.80										
			M			MOTOR			0.85										
			R			RECEPTACLE			0.80										
			P			PANEL			0.85										
			O			OTHER			0.85										

PANEL SCHEDULE																			
PANEL NAME: T1HB		VOLTAGE: 480/277 NEMA RATING: 4X			MOUNTING: SURFACE		NOTES:												
MAINS RATING: 250 A MCB		PHASE: 3			AIC RATING: 18,000		LOCATION: TERMINAL 1 WHARF DECK												
BUS RATING: 250 A		WIRE: 4			MAND FACTOR: 0.8														
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.	
1	L	TERMINAL 1 LIGHTING	20/1						A						20/1	TERMINAL 1 LIGHTING	L	2	
3	L	TERMINAL 1 LIGHTING	20/1						B						20/1	TERMINAL 1 LIGHTING	L	4	
5	L	TERMINAL 1 LIGHTING	20/1						C						20/1	TERMINAL 1 LIGHTING	L	6	
7	L	TERMINAL 1 LIGHTING	20/1						A						20/1	TERMINAL 1 LIGHTING	L	8	
9	L	TERMINAL 1 LIGHTING	20/1						B						20/1	TERMINAL 1 LIGHTING	L	10	
11			20/1						C						20/1			12	
13			20/1						A						20/1			14	
15			20/1						B						20/1			16	
17			20/1						C						20/1			18	
19			20/1						A						20/1			20	
21			20/1						B						20/1			22	
23			20/1						C						20/1			24	
25			20/1						A						20/1			26	
27			20/1						B						20/1			28	
29			20/1						C						20/1			30	
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND			VOLTAGE DROP CALCULATION							
PHASE A:			ID			LOAD TYPE			ASSUMED PF			VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: $VD = I * (R * PF + X * SIN(ACOS(PF))) * L$				ASSUMPTIONS: POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU			
PHASE B:			H			HVAC			0.85			WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.							
PHASE C:			L			LIGHTING			0.80										
			M			MOTOR			0.85										
			R			RECEPTACLE			0.80										
			P			PANEL			0.85										
			O			OTHER			0.85										

65% SUBMITTAL

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REV	DATE	DESCRIPTION	BY	APVD	 GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) 2164152(GHD) - 113511(WSP) DSGN DR J. LIBERATO CHK APVD D. BURGER J. LIBERATO CONSULTANT	 	ELECTRICAL PANEL SCHEDULES	PORT OF ALASKA PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
	HORIZ SCALE: NONE VERT SCALE:			DATE: SHEET: X OF	T1-E-605						

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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PANEL SCHEDULE																		
PANEL NAME: T1LB		VOLTAGE: 208/120		NEMA RATING: 12		MOUNTING: SURFACE		NOTES:										
MAINS RATING: 100		A MCB		PHASE: 1		AIC RATING: 18,000		LOCATION: TERMINAL 1 WHARF DECK										
BUS RATING: 100		A		WIRE: 3		MAND FACTOR: 0.8												
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1			20/1						A						20/1			2
3			20/1						B						20/1			4
5			20/1						C						20/1			6
7			20/1						A						20/1			8
9			20/1						B						20/1			10
11			20/1						C						20/1			12
13			20/1						A						20/1			14
15			20/1						B						20/1			16
17			20/1						C						20/1			18
19			20/1						A						20/1			20
21			20/1						B						20/1			22
23			20/1						C						20/1			24
25			20/1						A						20/1			26
27			20/1						B						20/1			28
29			20/1						C						20/1			30

CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		ASSUMPTIONS:
PHASE A:			ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF)) * L		POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU
PHASE B:			H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
PHASE C:			L	LIGHTING	0.80			
STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA			M	MOTOR	0.85			
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

PANEL SCHEDULE																		
PANEL NAME: HT1A		VOLTAGE: 480/277		NEMA RATING: 4X		MOUNTING: SURFACE		NOTES:										
MAINS RATING: 100		A MCB		PHASE: 3		AIC RATING: 18,000		LOCATION: TERMINAL 1 WHARF DECK										
BUS RATING: 100		A		WIRE: 4		MAND FACTOR: 0.8												
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1			20/1						A						20/1			2
3			20/1						B						20/1			4
5			20/1						C						20/1			6
7			20/1						A						20/1			8
9			20/1						B						20/1			10
11			20/1						C						20/1			12
13			20/1						A						20/1			14
15			20/1						B						20/1			16
17			20/1						C						20/1			18
19			20/1						A						20/1			20
21			20/1						B						20/1			22
23			20/1						C						20/1			24
25			20/1						A						20/1			26
27			20/1						B						20/1			28
29			20/1						C						20/1			30

CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		ASSUMPTIONS:
PHASE A:			ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF)) * L		POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU
PHASE B:			H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
PHASE C:			L	LIGHTING	0.80			
STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA			M	MOTOR	0.85			
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

PANEL SCHEDULE																		
PANEL NAME: HT1B		VOLTAGE: 480/277		NEMA RATING: 4X		MOUNTING: SURFACE		NOTES:										
MAINS RATING: 100		A MCB		PHASE: 3		AIC RATING: 18,000		LOCATION: TERMINAL 1 WHARF DECK										
BUS RATING: 100		A		WIRE: 4		MAND FACTOR: 0.8												
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1			20/1						A						20/1			2
3			20/1						B						20/1			4
5			20/1						C						20/1			6
7			20/1						A						20/1			8
9			20/1						B						20/1			10
11			20/1						C						20/1			12
13			20/1						A						20/1			14
15			20/1						B						20/1			16
17			20/1						C						20/1			18
19			20/1						A						20/1			20
21			20/1						B						20/1			22
23			20/1						C						20/1			24
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27			20/1						B						20/1			28
29			20/1						C						20/1			30

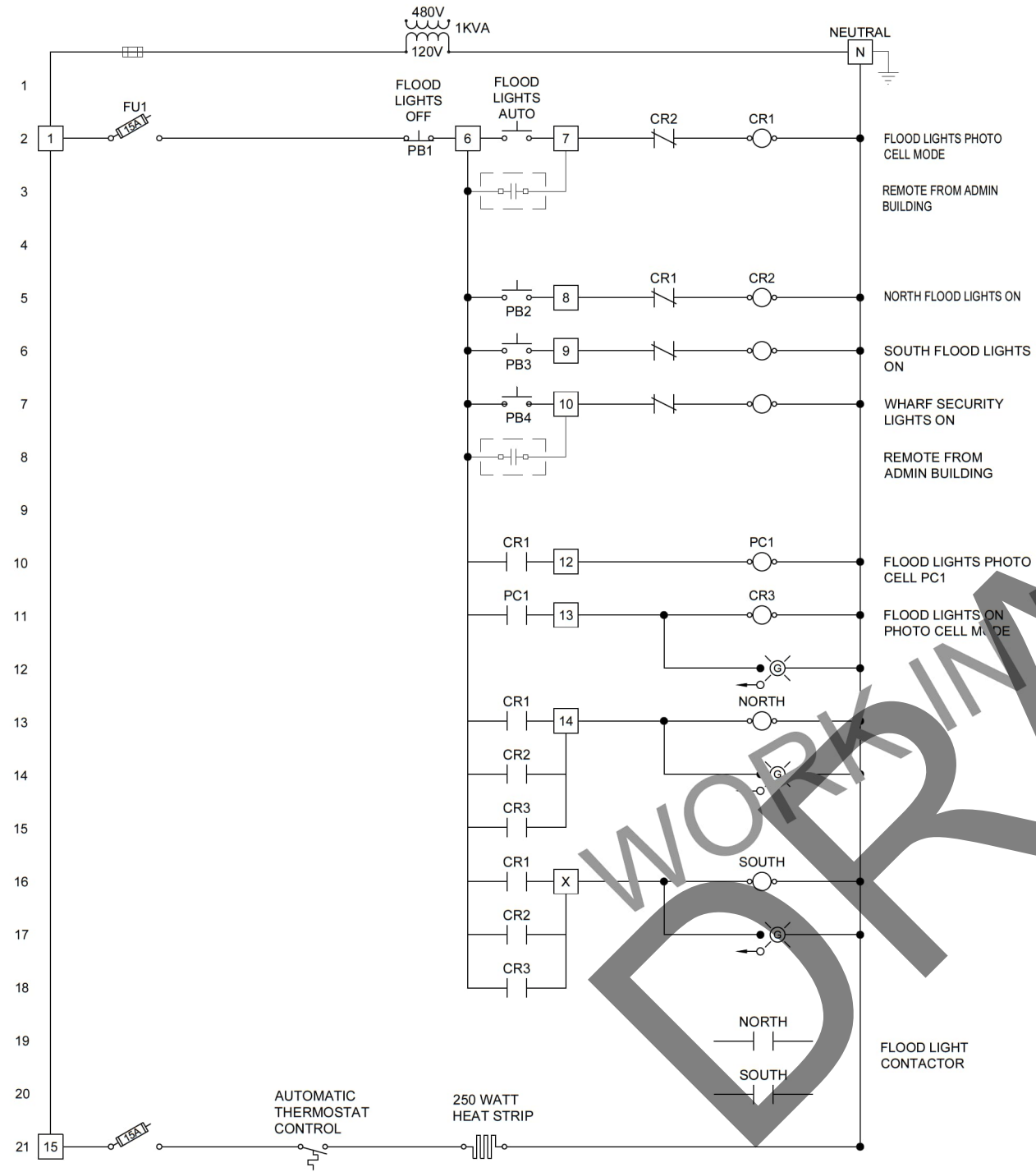
CONNECTED KVA	DEMAND KVA	DEMAND AMPS	USE LEGEND			VOLTAGE DROP CALCULATION		ASSUMPTIONS:
PHASE A:			ID	LOAD TYPE	ASSUMED PF	VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2023 NEC CHAPTER 9 TABLE 9 FORMULA: VD = I * (R * PF + X * SIN(ACOS(PF)) * L		POWER FACTOR VARIES BY LOAD TYPE CONDUIT TYPE RGS OR EMT WIRE MATERIAL CU
PHASE B:			H	HVAC	0.85	WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS R AND X VALUES ARE TAKEN FROM 2023 NEC CHAPTER 9 TABLE 9.		
PHASE C:			L	LIGHTING	0.80			
STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA			M	MOTOR	0.85			
			R	RECEPTACLE	0.80			
			P	PANEL	0.85			
			O	OTHER	0.85			

65% SUBMITTAL

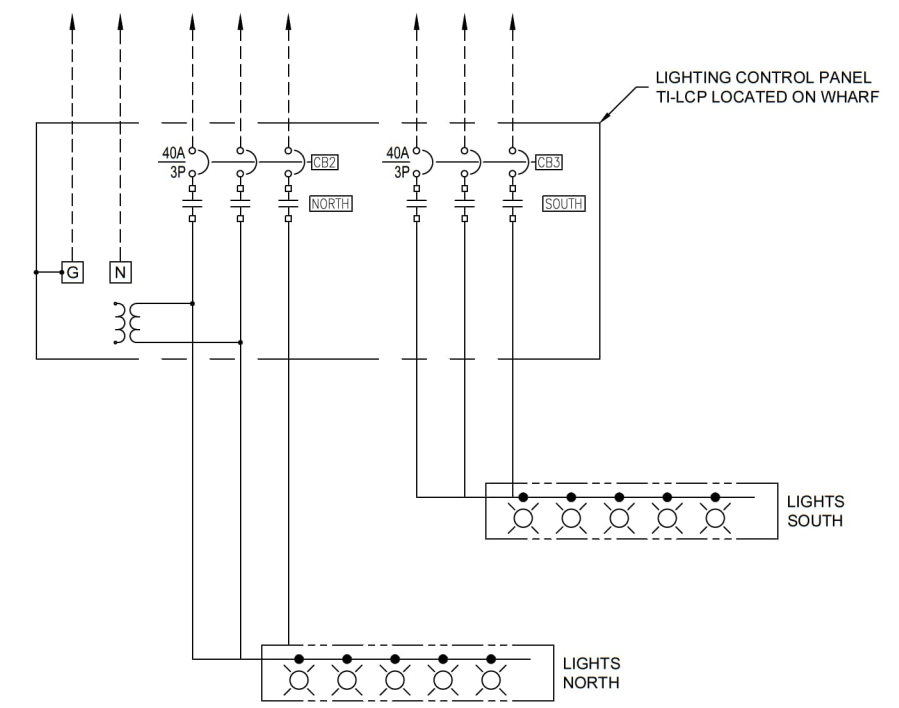
<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD											<p style="font-size: 8px;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2184152(GHD) - 1113511(WSP) DSGN: D. BURGER DR: J. LIBERATO CHK: APVD: </p> <p style="font-size: 8px;">CONSULTANT</p>		<p>ELECTRICAL</p> <p>PANEL SCHEDULES</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
REV	DATE	DESCRIPTION	BY	APVD																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">HORIZ SCALE: NONE</td> <td style="width: 50%;">DATE: </td> </tr> <tr> <td>VERT SCALE: </td> <td>SHEET: X OF </td> </tr> </table>			HORIZ SCALE: NONE	DATE:	VERT SCALE:	SHEET: X OF	<p style="font-size: 12px; font-weight: bold;">T1-E-606</p>											
HORIZ SCALE: NONE	DATE:																			
VERT SCALE:	SHEET: X OF																			

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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1 FLOOD LIGHT CONTROL DIAGRAM T1-LCP
SCALE: NTS T1-E-301



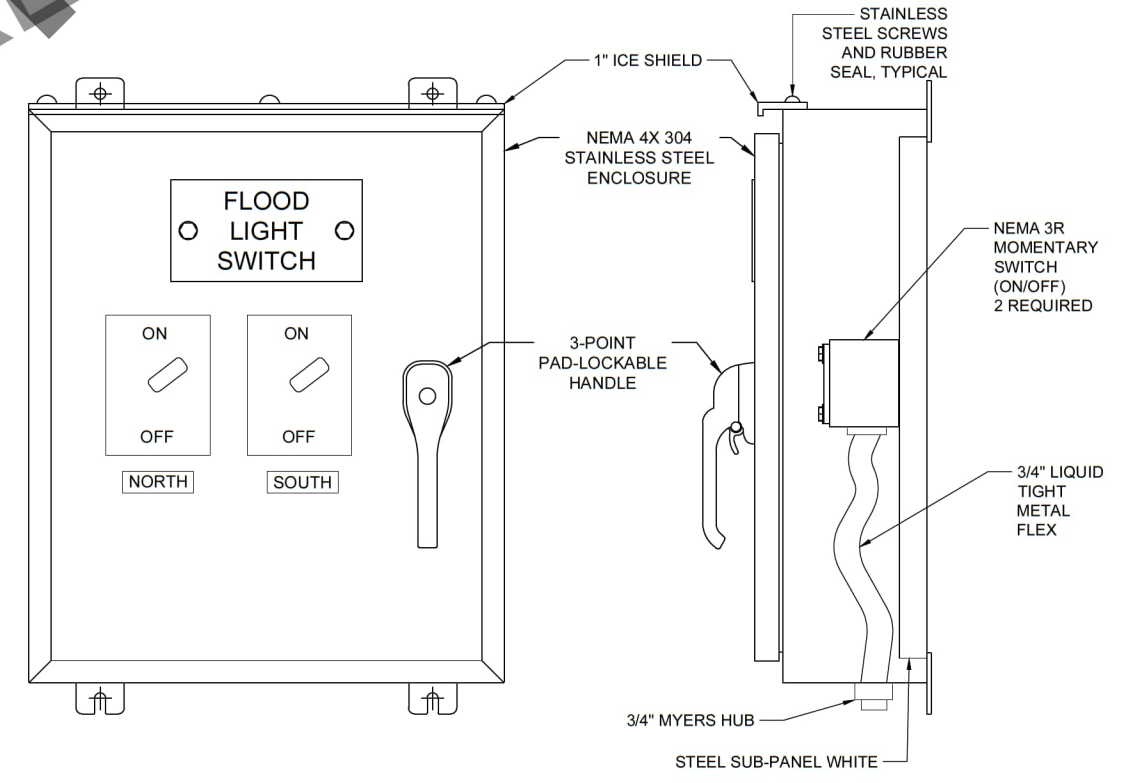
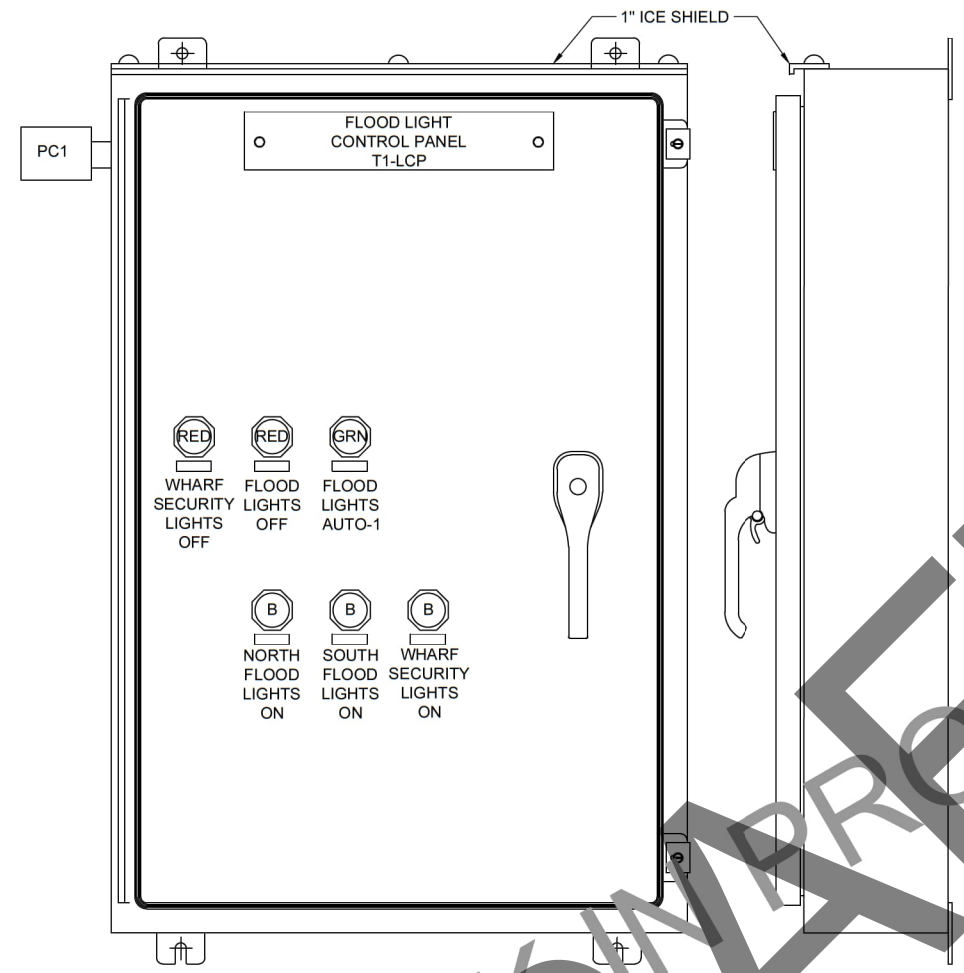
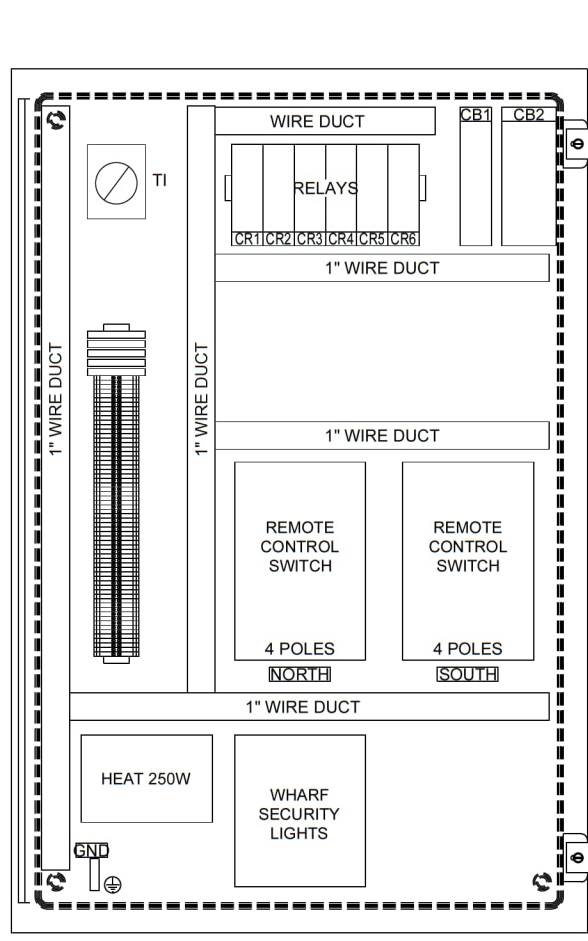
2 FLOOD LIGHT SCHEMATIC DIAGRAM T1-LCP
SCALE: NTS T1-E-301

65% SUBMITTAL

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD																					<p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP) DSGN: D. BURGER DR: J. LIBERATO CHK: APVD</p>		<p>ELECTRICAL</p> <p>FLOOD LIGHT CONTROL AND SCHEMATIC DIAGRAMS</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p>
	REV	DATE	DESCRIPTION	BY	APVD																									
<p>REVISIONS</p>	<p>SEAL</p>	<p>DATE: _____</p> <p>SHEET: X OF _____</p>	<p>T1-E-806</p>																											

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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CONSTRUCTION NOTES:

1. ENCLOSURE NEMA 4X STAINLESS STEEL TYPE 16L 14" W x 36" H x 8" D REMOTE LIGHTING CONTROL PANEL. BACK PANEL WHITE PAINTED CARBON STEEL.
2. 15A 1P CIRCUIT BREAKER.
3. REMOTE CONTROL SWITCH, COIL RATING OF 120V AC, CONTACT 10-POLE.
4. ICE CUBE RELAY RH SERIES AND SOCKET MOUNT ON DIN RAIL, OR EQUAL
5. 5A FUSE TERMINAL BLOCK.
6. TERMINAL BLOCK INCLUDE TERMINAL BLOCK AND END BARRIER.
7. PILOT LIGHT.
8. START PUSH BUTTON 30MM.
9. STOP PUSH BUTTON 30MM.
10. ACRYLIC NAME PLATE 3"W x 1"H.
11. ACRYLIC NAME PLATE 6"W x 6"H.
12. STAINLESS STEEL MACHINE SCREW
13. GROUND BAR.
14. 40A, 3P CIRCUIT BREAKER.
15. POLYESTER WARNING LABEL FOR TWO COURSES OF POWER, STANDARD UL969, ANSI Z535.1, ANSI Z535.4.
16. LIGHTING CONTROL PANEL MUST BE FABRICATED BY A UL CERTIFIED PANEL SHOP AND LISTED.
17. REFER TO SHEET T1-E-806 FOR WIRING SCHEMATIC

XXX-XX
DESIGNATIONS:

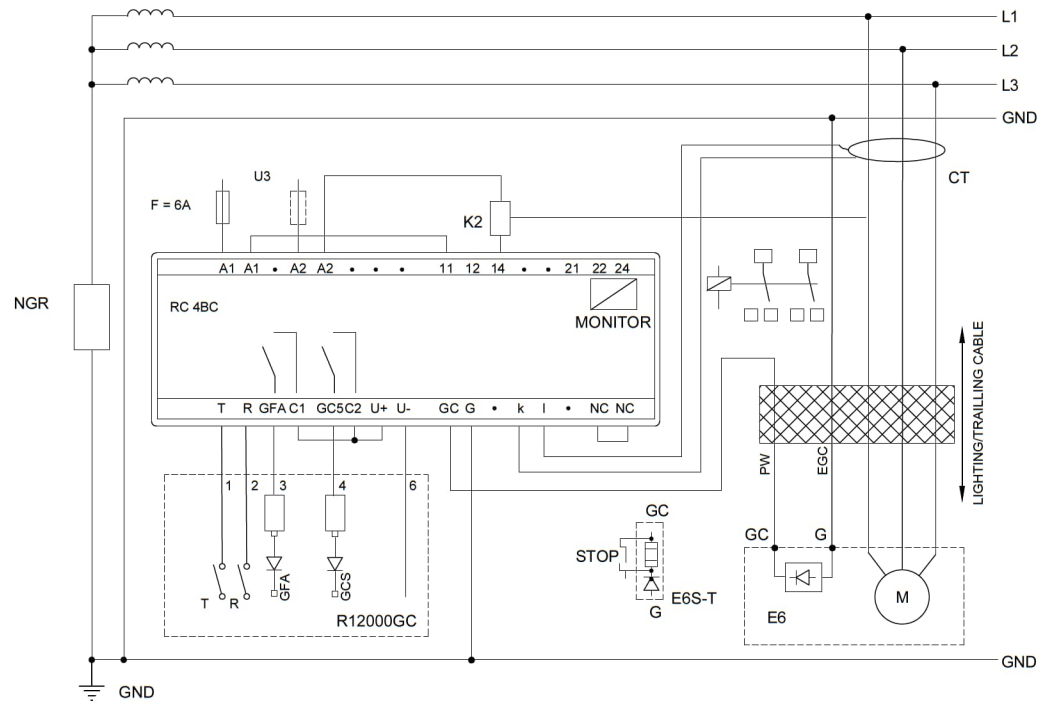
1 FLOOD LIGHT CONTROL PANEL T1-LCP
SCALE: NTS T1-E-301

2 FLOOD LIGHT REMOTE CONTROL PANEL T1-RLC1 AND T1-RLC2
SCALE: NTS T1-E-301

65% SUBMITTAL

<p>VERIFY SCALES</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING</p> <p>IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p>	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD						<p style="font-size: small; text-align: center;">GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)</p> <table border="1" style="width: 100%; font-size: x-small;"> <tr> <td>DSGN</td> <td>DR</td> <td>CHK</td> <td>APVD</td> </tr> <tr> <td>D. BURGER</td> <td>R. KEATING</td> <td> </td> <td> </td> </tr> </table> <p style="font-size: x-small; text-align: center;">CONSULTANT</p>	DSGN	DR	CHK	APVD	D. BURGER	R. KEATING				<p>ELECTRICAL</p> <p>FLOOD LIGHT CONTROL PANELS</p>	<p>PORT OF ALASKA</p> <p>PORT OF ALASKA MODERNIZATION PROGRAM</p> <p>CARGO TERMINAL 1 DESIGN</p> <p>ANCHORAGE, ALASKA</p> <table border="1" style="width: 100%; font-size: x-small;"> <tr> <td>HORIZ SCALE: NTS</td> <td>DATE:</td> <td rowspan="2" style="text-align: right; font-weight: bold;">T1-E-807</td> </tr> <tr> <td>VERT SCALE:</td> <td>SHEET: X OF</td> </tr> </table>	HORIZ SCALE: NTS	DATE:	T1-E-807	VERT SCALE:	SHEET: X OF
REV	DATE	DESCRIPTION	BY	APVD																								
DSGN	DR	CHK	APVD																									
D. BURGER	R. KEATING																											
HORIZ SCALE: NTS	DATE:	T1-E-807																										
VERT SCALE:	SHEET: X OF																											

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1 GROUND CHECK SCHEMATIC DIAGRAM
SCALE: NTS T1-E-301

DRAFT

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2184152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: J. LIBERATO CHK: APVD

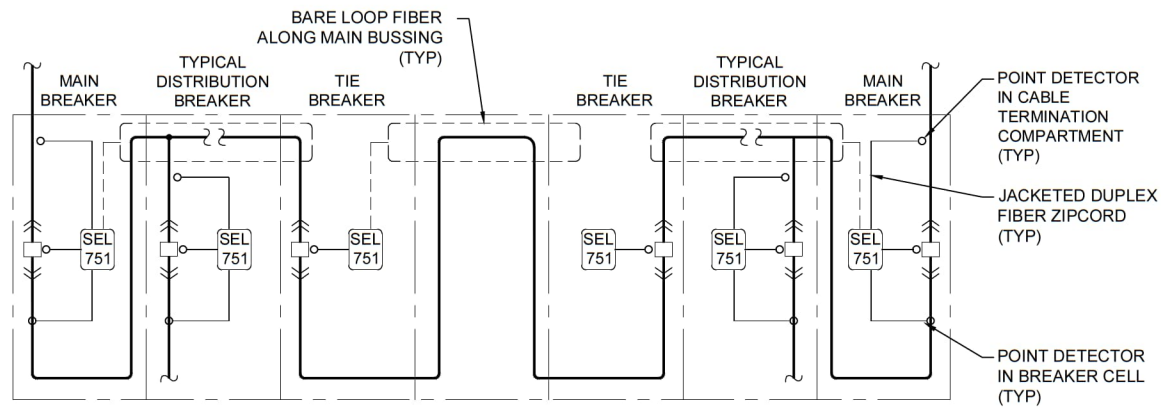
CONSULTANT

SEAL



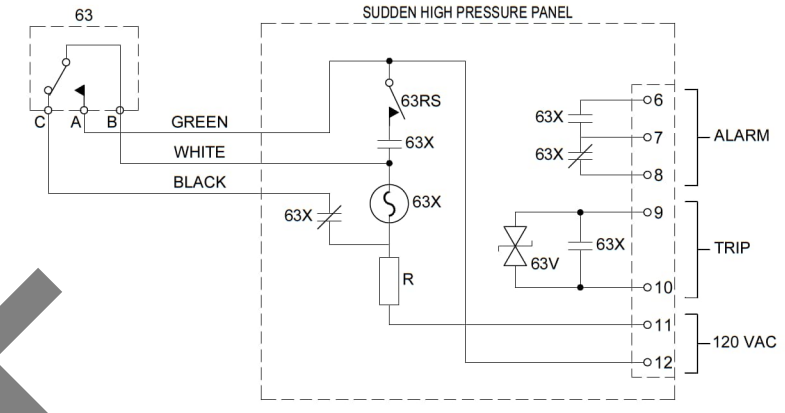
ELECTRICAL
GROUND CHECK SCHEMATIC DIAGRAM

PORT OF ALASKA	
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA	
HORIZ SCALE: NONE	DATE:
VERT SCALE:	SHEET: X OF
T1-E-808	



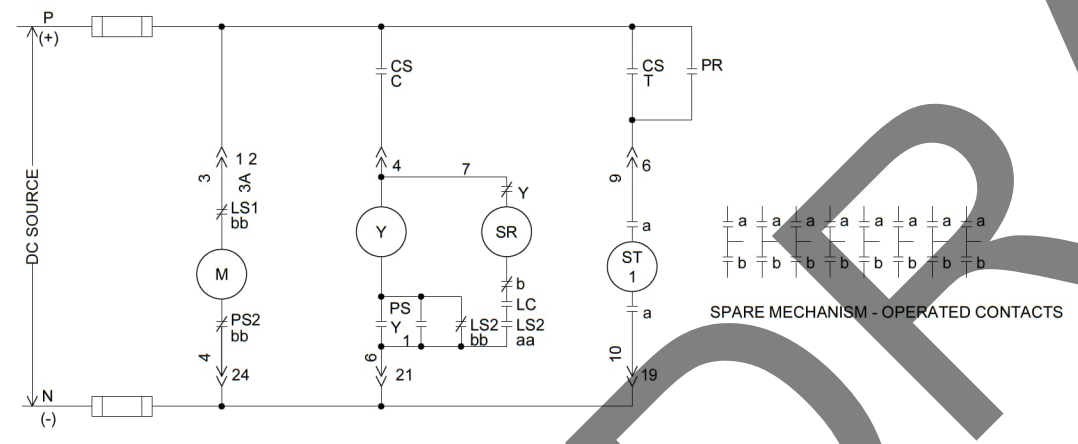
NOTE: PROGRAM SEL 751'S TO ANNUNCIATE ARC FLASH TRIP

1 ARC FLASH DETECTION CONTROL DIAGRAM
NO SCALE



LEGEND:
63 = MICROSWITCH
63X = SEAL - IN RELAY
63RS = RESET SWITCH
63V = VOLTRAP
R = RESISTOR

2 TRANSFORMER HIGH PRESSURE ALARM CONTROL DIAGRAM
NO SCALE



LEGEND:
CS/C = BREAKER CONTROL SWITCH-CLOSE
CS/T = BREAKER CONTROL SWITCH-TRIP
Y = ANTI PUMP RELAY
SR = SPRING RELEASE COIL
M = SPRING CHARGE MOTOR
ST = SHUNT TRIP
PR = PROTECTIVE RELAY
⋆ = SECONDARY DISCONNECT

3 TIE BREAKER CONTROL DIAGRAM
NO SCALE

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VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>APVD</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	BY	APVD																					<p>GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) AK BUSINESS LICENSE # 2184152(GHD) - 1113511(WSP) DSGN: D. BURGER DR: J. LIBERATO CHK: APVD</p>		<p>ELECTRICAL</p> <p>ELECTRICAL CONTROL DIAGRAMS</p>	PORT OF ALASKA
	REV	DATE	DESCRIPTION	BY	APVD																									
REVISIONS	SEAL	PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA																												
HORIZ SCALE: NONE VERT SCALE:	DATE: SHEET: X OF	T1-E-809																												

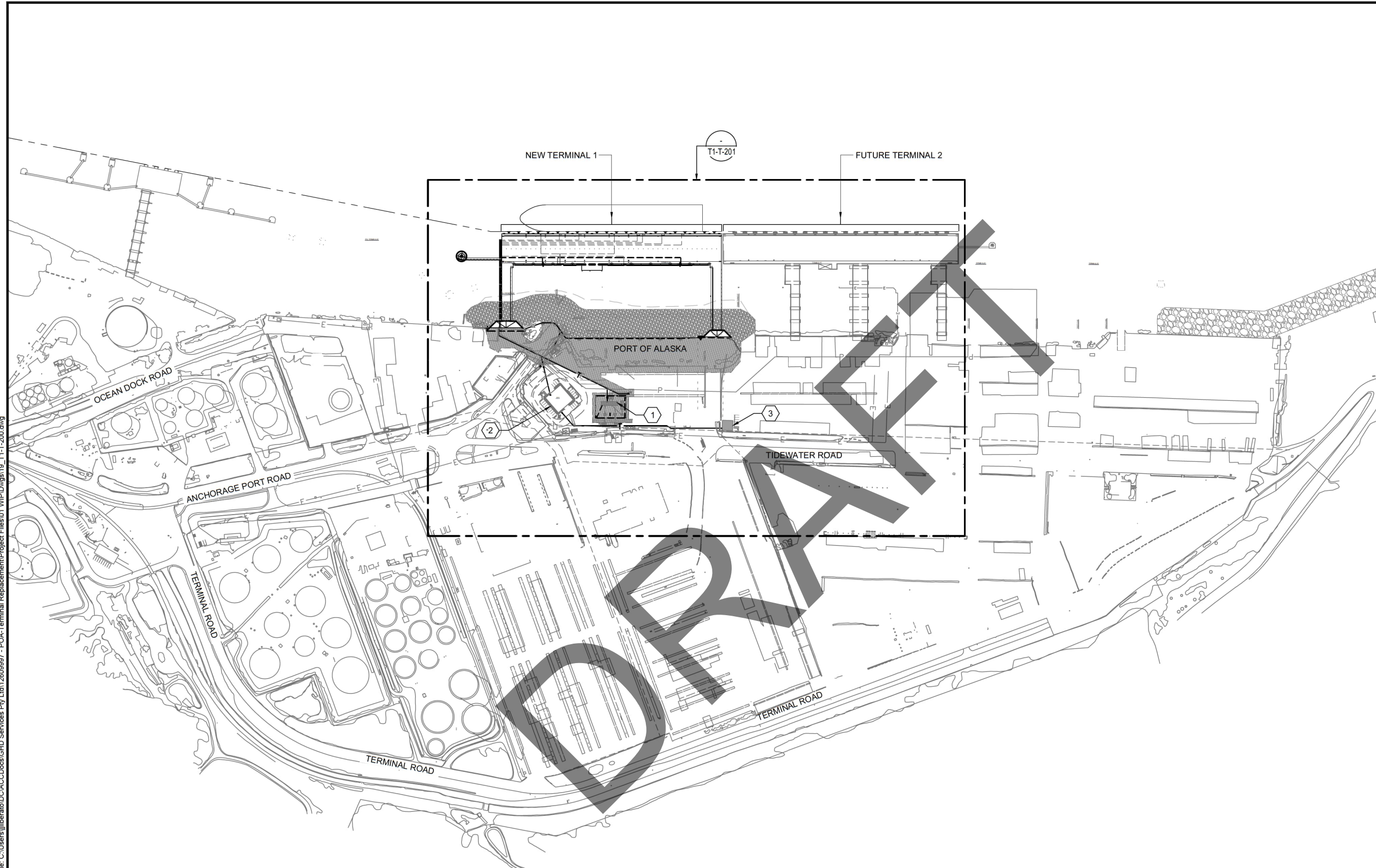
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

GENERAL SHEET NOTES

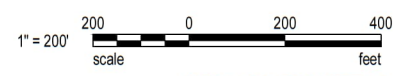
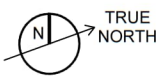
- 1. TEXT.

SHEET KEYNOTES

- 1. SUBSTATION CONTROL BUILDING.
- 2. ADMINISTRATION BUILDING.
- 3. STEVEDORE BUILDING.



COMPOSITE CCTV AND TELECOMMUNICATION PLAN
SCALE: 1" = 200'-0"



65% SUBMITTAL

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REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK 	APVD
CONSULTANT			

SEAL

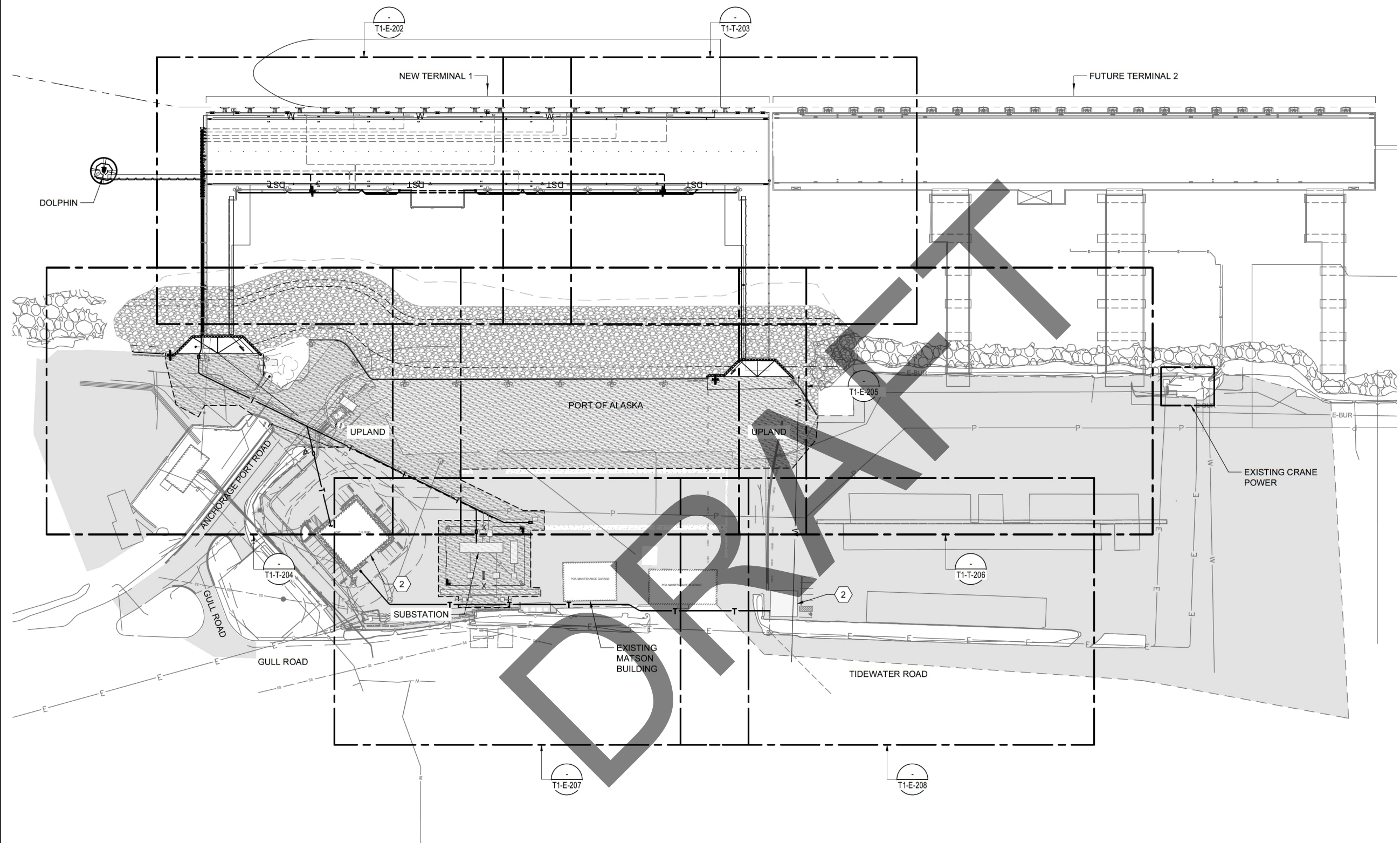


ELECTRICAL
COMPOSITE PORT CCTV AND TELECOMMUNICATION SITE PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-T-200
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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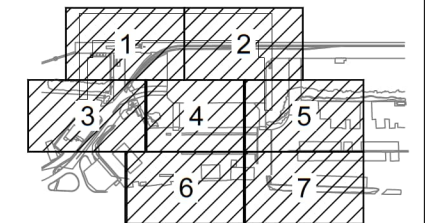


GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. ADMINISTRATION BUILDING.
2. STEVEDORE BUILDING.

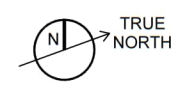


KEY PLAN



65% SUBMITTAL

OVERALL CCTV AND TELECOMMUNICATION SITE PLAN
SCALE: 1" = 80'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)			
DSGN D. BURGER	DR J. LIBERATO	CHK 	APVD
CONSULTANT			

SEAL

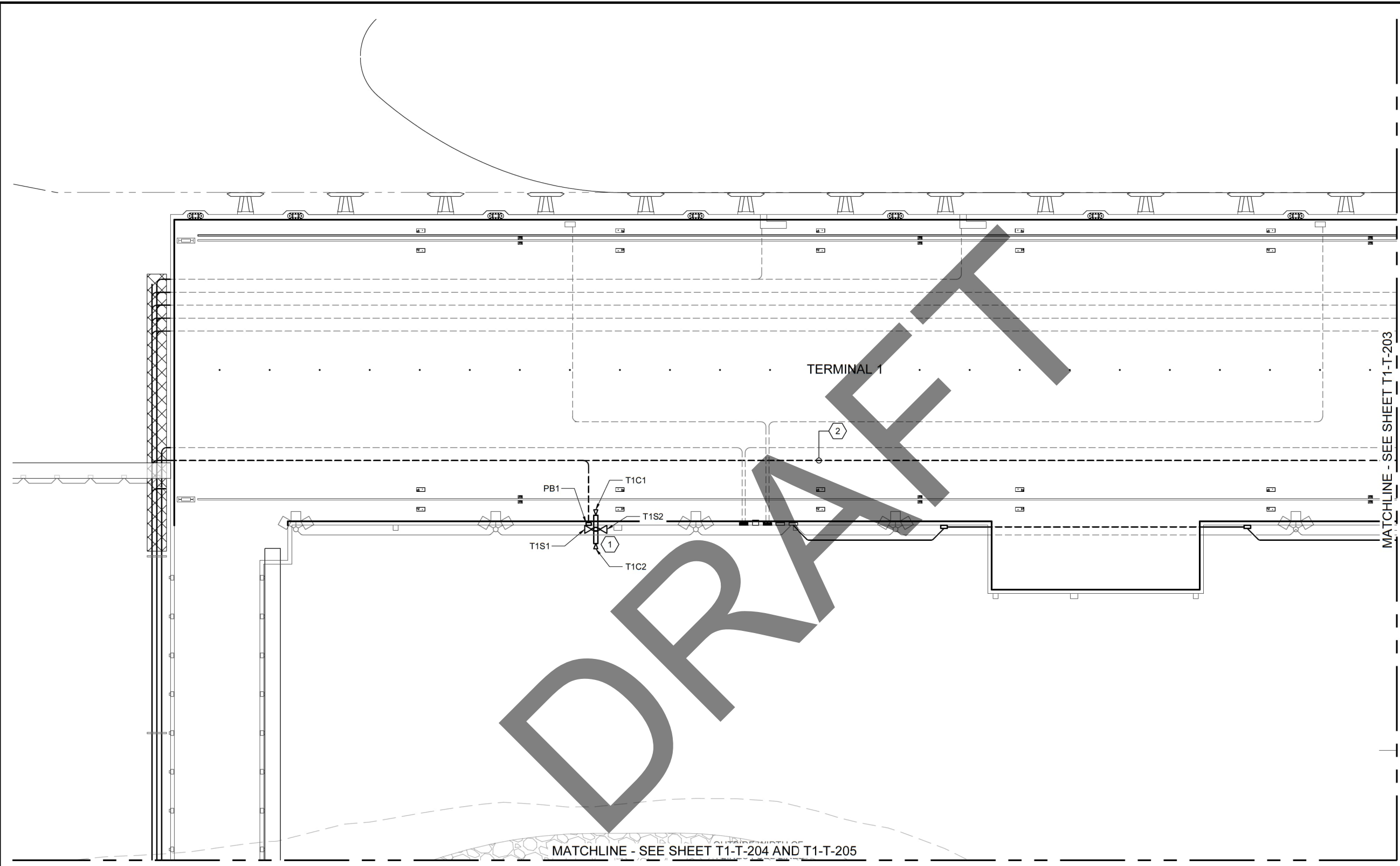


ELECTRICAL
OVERALL CCTV AND TELECOMMUNICATION SITE PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-T-201
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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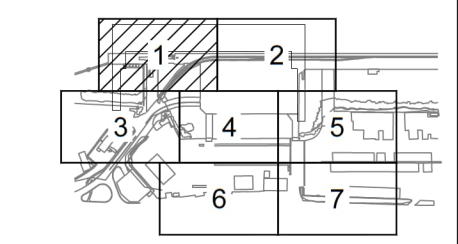


GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

1. PROVIDE POLE MOUNT CAMERAS, SPEAKERS, CONDUIT, POWER, FIBER AND CABLING.
2. PROVIDE TELECOMMUNICATION (4) - 3" CONDUITS.

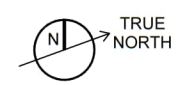


KEY PLAN



65% SUBMITTAL

TERMINAL 1 CCTV AND TELECOMMUNICATION PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD		wsp	
GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL

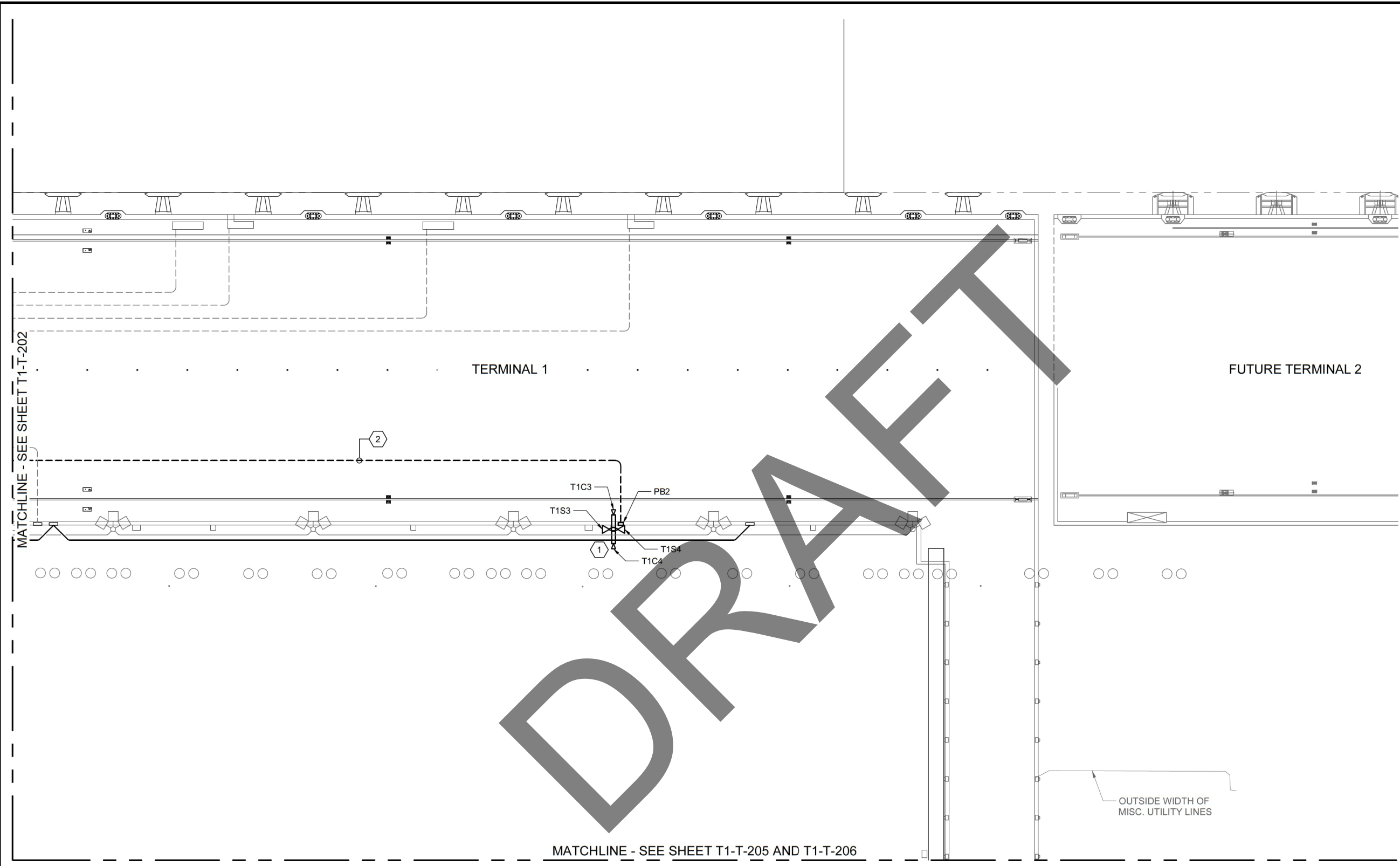


ELECTRICAL
TERMINAL 1 CCTV AND TELECOMMUNICATION PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-T-202
VERT SCALE:	SHEET: X OF	

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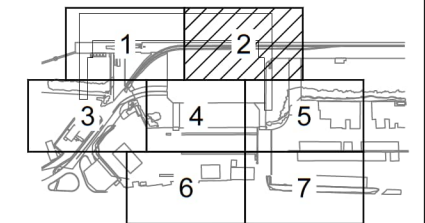


GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

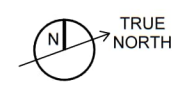
1. PROVIDE POLE MOUNT CAMERAS, SPEAKERS, CONDUIT, POWER, FIBER AND CABLING.
2. TELECOMMUNICATION (2) - 3" CONDUITS.



KEY PLAN



TERMINAL 1 CCTV AND TELECOMMUNICATION PLAN
SCALE: 1" = 20'-0"



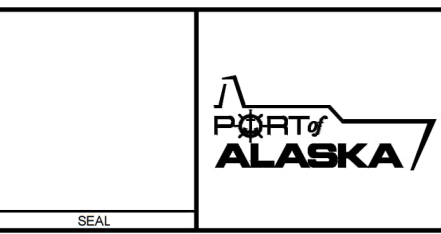
REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

WSP

DSGN D. BURGER	DR J. LIBERATO	CHK 	APVD
CONSULTANT		SEAL	



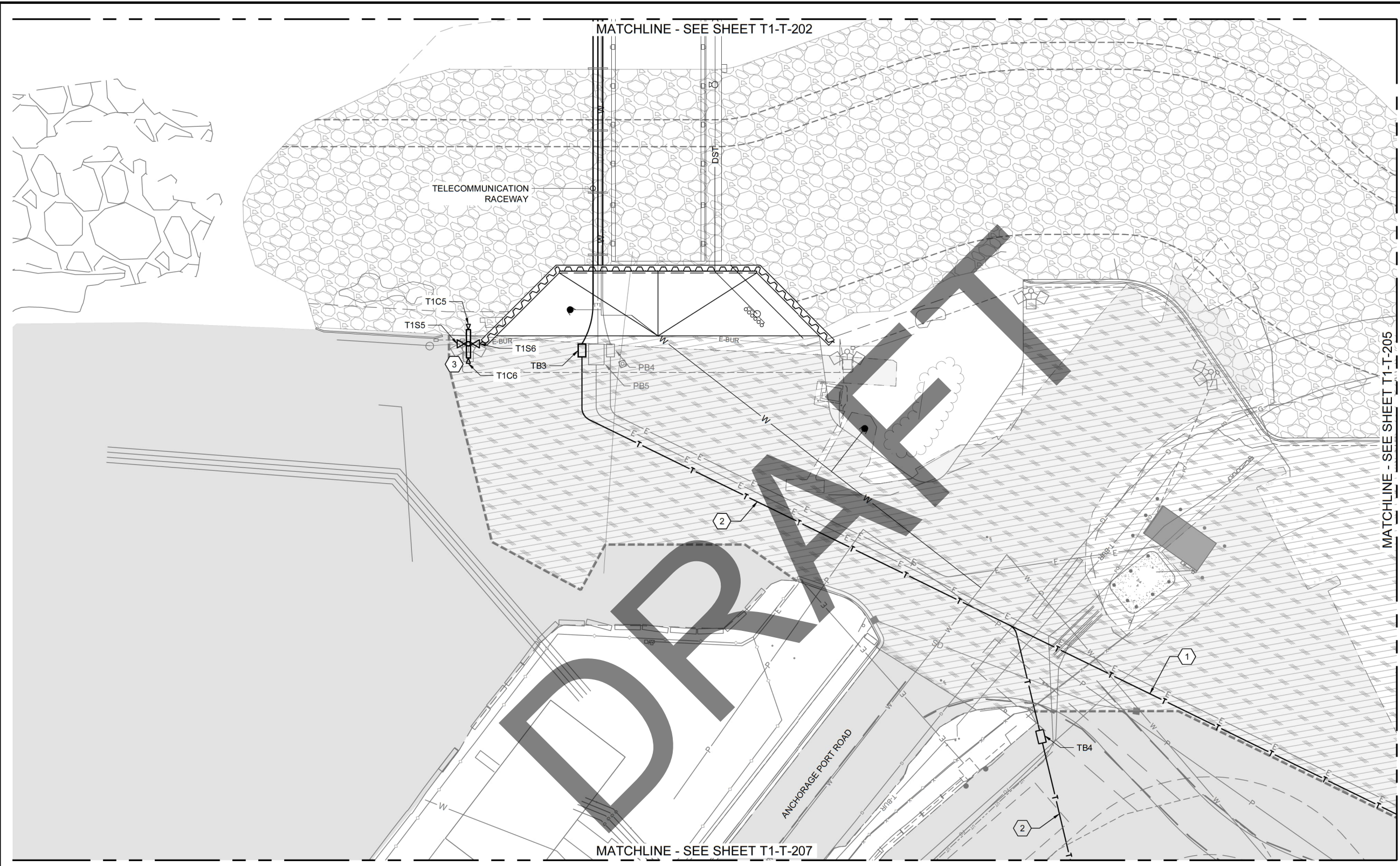
ELECTRICAL
TERMINAL 1 CCTV AND
TELECOMMUNICATION PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:
VERT SCALE:	SHEET: X OF

T1-T-203

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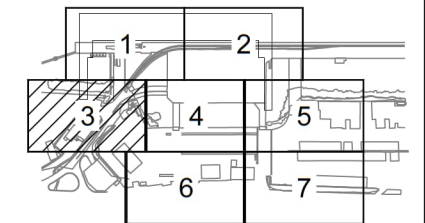


GENERAL SHEET NOTES

1. TEXT.

SHEET KEYNOTES

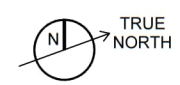
1. PROVIDE (3) - 3" SHORE POWER DCS CONDUITS.
2. PROVIDE (4) - 3" TELECOMMUNICATION CONDUITS.
3. PROVIDE POLE MOUNT CAMERAS, SPEAKERS, CONDUIT, POWER, FIBER AND CABLING.



KEY PLAN



UPLAND TERMINAL 1 CCTV AND TELECOMMUNICATION PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)			
DSGN	DR	CHK	APVD
D. BURGER	J. LIBERATO		
CONSULTANT			

SEAL



ELECTRICAL
UPLAND CCTV AND TELECOMMUNICATION PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-T-204
VERT SCALE:	SHEET: X OF	

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MATCHLINE - SEE SHEET T1-T-202 AND T1-T-203

MATCHLINE - SEE SHEET T1-T-204

MATCHLINE - SEE SHEET T1-T-206

MATCHLINE - SEE SHEET T1-T-207 AND T1-T-208

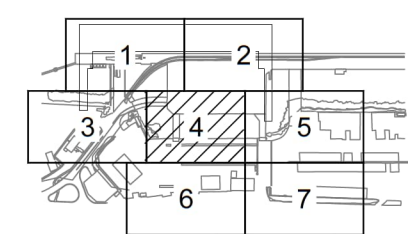
DRAFT

GENERAL SHEET NOTES

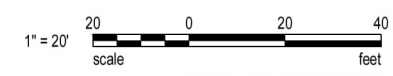
1. TEXT.

SHEET KEYNOTES

1. PROVIDE (3) - 3" SHORE POWER DCS CONDUITS.

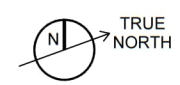


KEY PLAN



65% SUBMITTAL

UPLAND TERMINAL 1 CCTV AND TELECOMMUNICATION PLAN
SCALE: 1" = 20'-0"

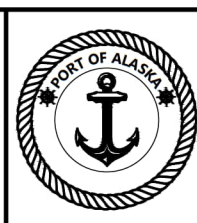


REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

 GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) DSGN	 WSP AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP) CHK	APVD
		D. BURGER J. LIBERATO CONSULTANT

SEAL



ELECTRICAL
UPLAND CCTV AND TELECOMMUNICATION PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
CARGO TERMINAL 1 DESIGN		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-T-205
VERT SCALE:	SHEET: X OF	

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

MATCHLINE - SEE SHEET T1-T-203

GENERAL SHEET NOTES

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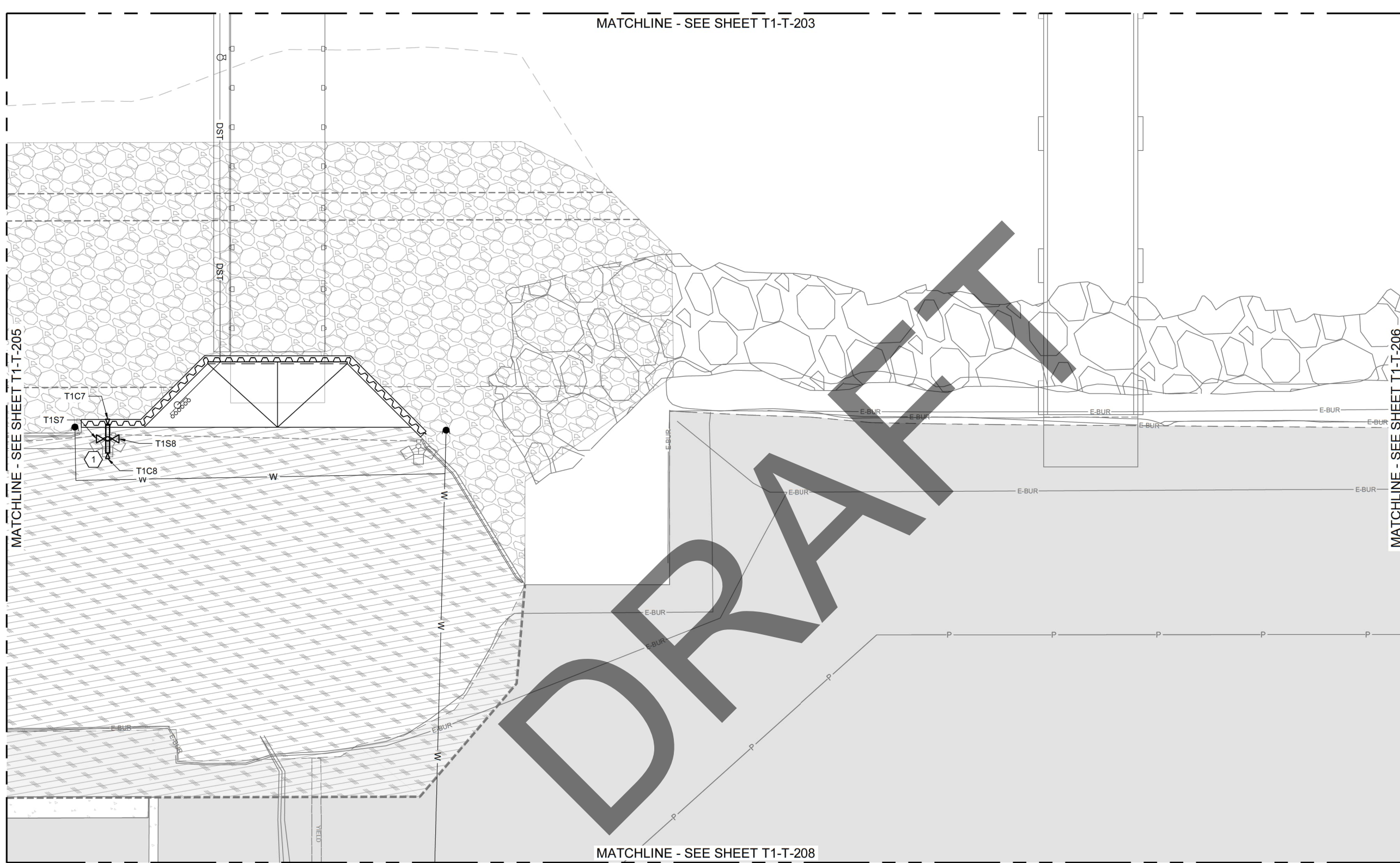
SHEET KEYNOTES

1. PROVIDE POLE MOUNT CAMERAS, SPEAKERS, CONDUIT, POWER, FIBER AND CABLING.

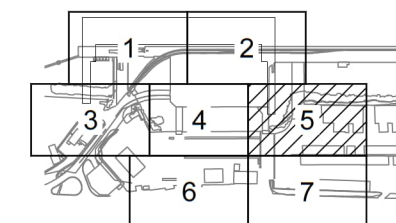
DRAFT

MATCHLINE - SEE SHEET T1-T-205

MATCHLINE - SEE SHEET T1-T-206



MATCHLINE - SEE SHEET T1-T-208



KEY PLAN



65% SUBMITTAL

UPLAND TERMINAL 1 CCTV AND TELECOMMUNICATION PLAN

SCALE: 1" = 20'-0"



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REV	DATE	DESCRIPTION	BY	APVD

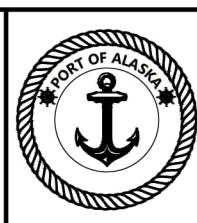
REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DR J. LIBERATO
CHK D. BURGER
APVD

CONSULTANT

SEAL



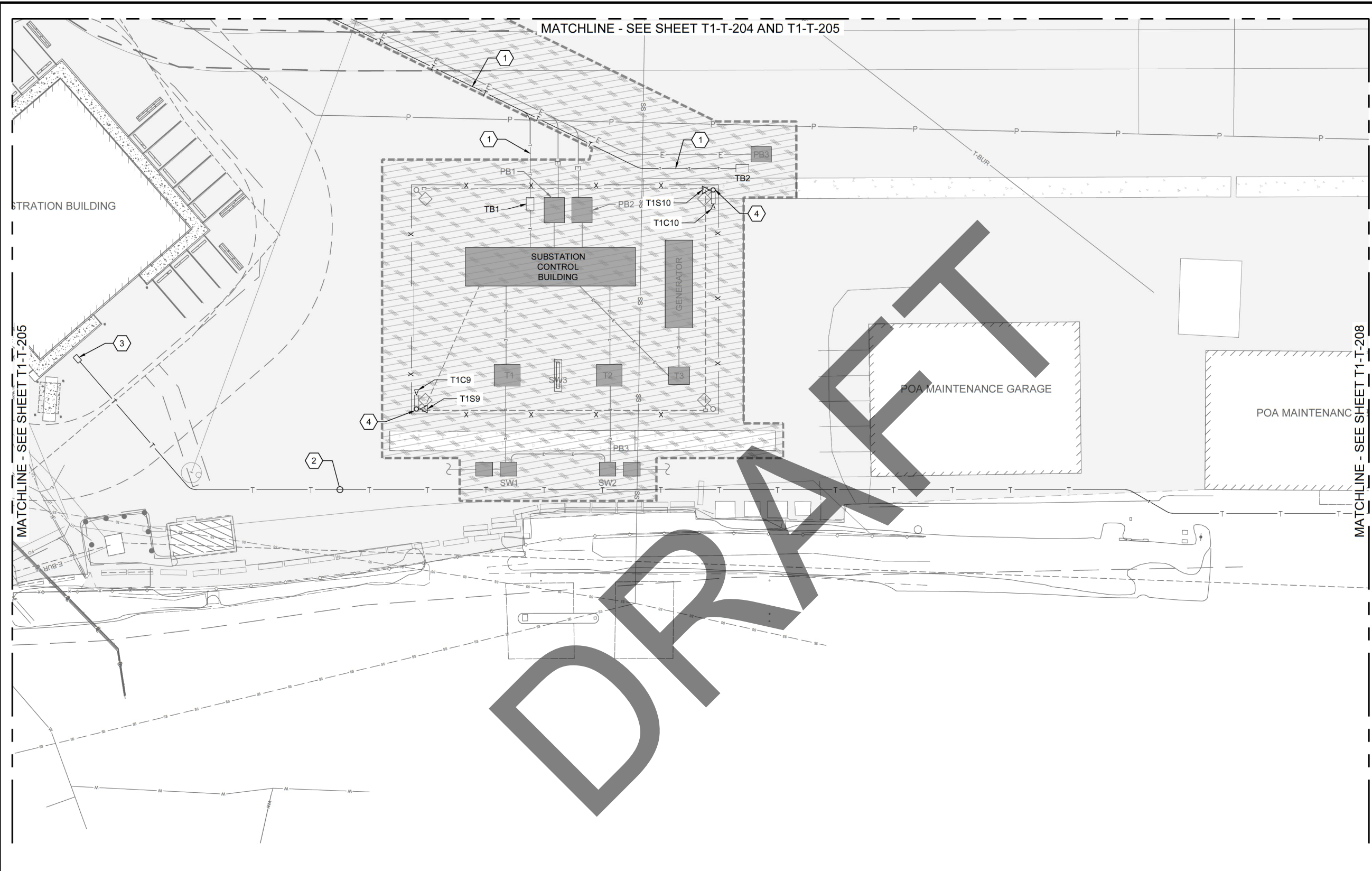
ELECTRICAL
UPLAND CCTV AND
TELECOMMUNICATION PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-T-206
VERT SCALE:	SHEET: X OF	

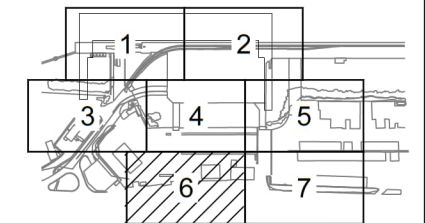
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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GENERAL SHEET NOTES

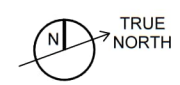
- SHEET KEYNOTES**
1. (3) - 3" SHORE POWER CONTROL CONDUITS.
 2. (3) - 3" FROM STEVEDORE BUILDING.
 3. PROVIDE 5'L X 3'W X 3'D PULL BOX.
 4. PROVIDE POLE MOUNT CAMERAS, SPEAKERS, CONDUIT, POWER, FIBER AND CABLING.



KEY PLAN



UPLAND SUBSTATION CCTV AND TELECOMMUNICATION PLAN
SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

VERIFIY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

 GHD-WSP JV 1400 W. BENSON BLVD, SUITE 400 ANCHORAGE, ALASKA 99503 AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)	DSGN D. BURGER	DR J. LIBERATO	CHK [Blank]	APVD [Blank]
	CONSULTANT			

SEAL

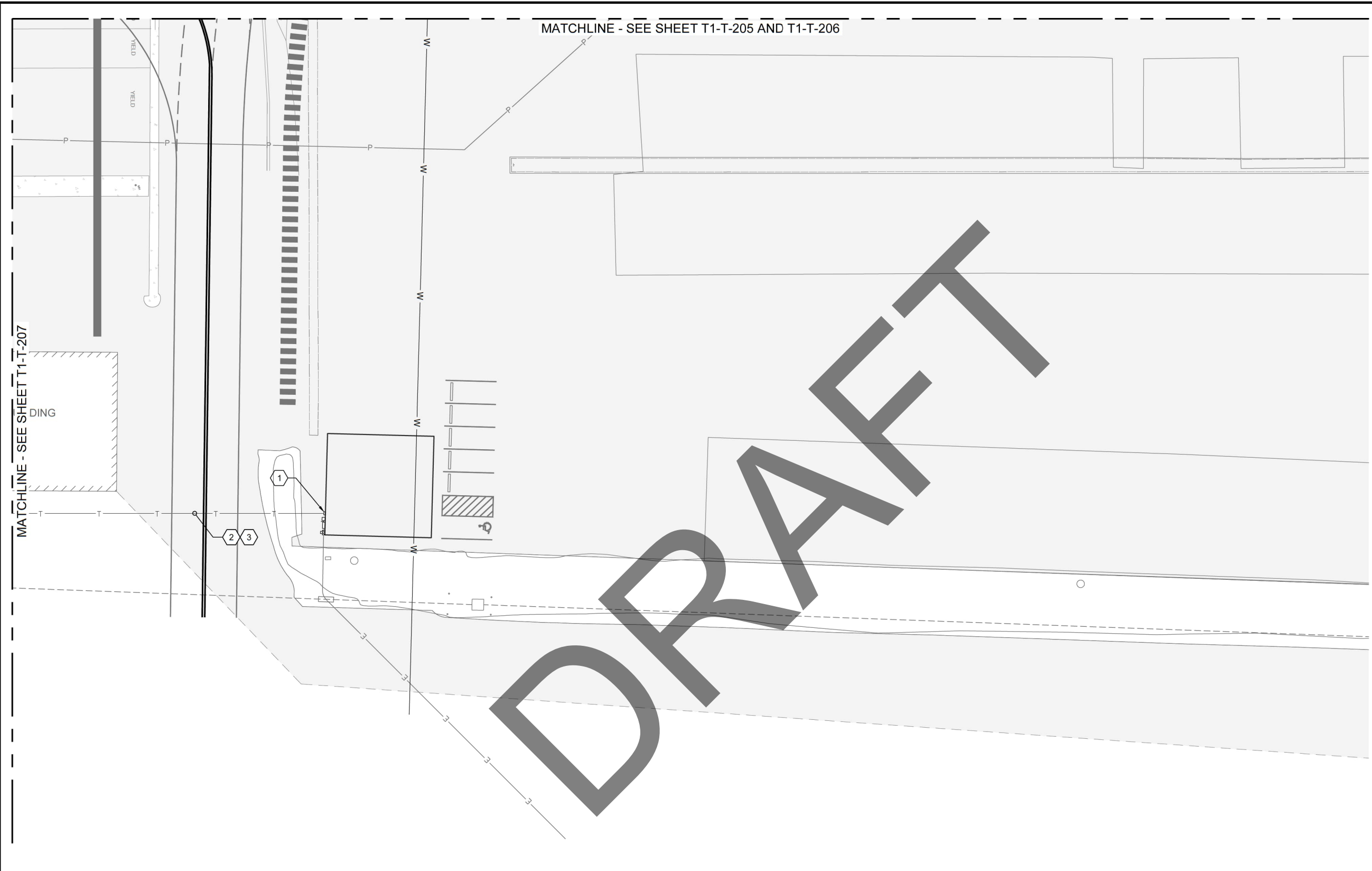


ELECTRICAL
UPLAND CCTV AND TELECOMMUNICATION PLAN

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T1-T-207
VERT SCALE:	SHEET: X OF	

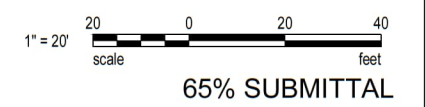
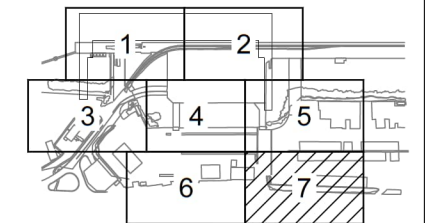
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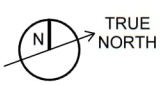
GENERAL SHEET NOTES

- SHEET KEYNOTES**
1. WALL MOUNT TELECOMMUNICATIONS TERMINAL BOX.
 2. (3) - 3" TO ADMINISTRATION BUILDING.
 3. SAWCUT AND PATCH ROAD SURFACE.



UPLAND STEVEDORE BUILDING CCTV AND TELECOMMUNICATION PLAN

SCALE: 1" = 20'-0"



REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

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ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DR J. LIBERATO
CHK D. BURGER
CONSULTANT

APVD

SEAL



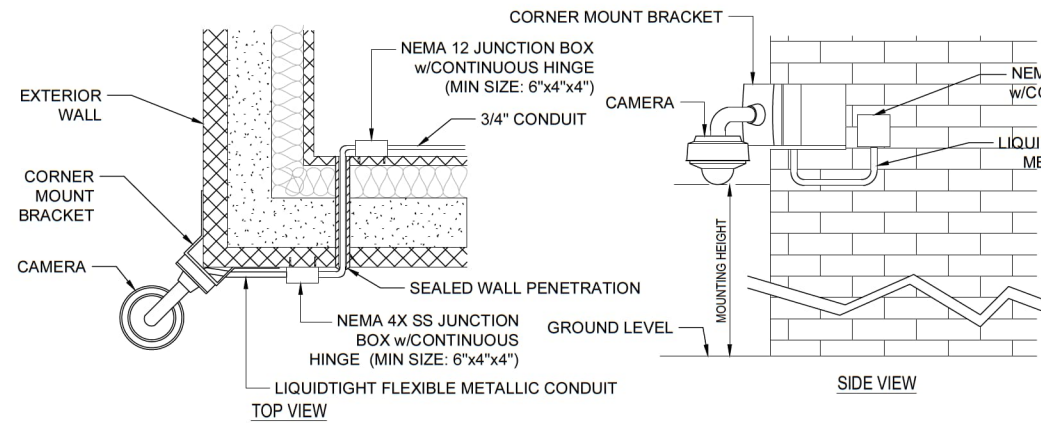
ELECTRICAL
UPLAND CCTV AND
TELECOMMUNICATION PLAN

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T1-T-208
VERT SCALE:	SHEET: X OF	

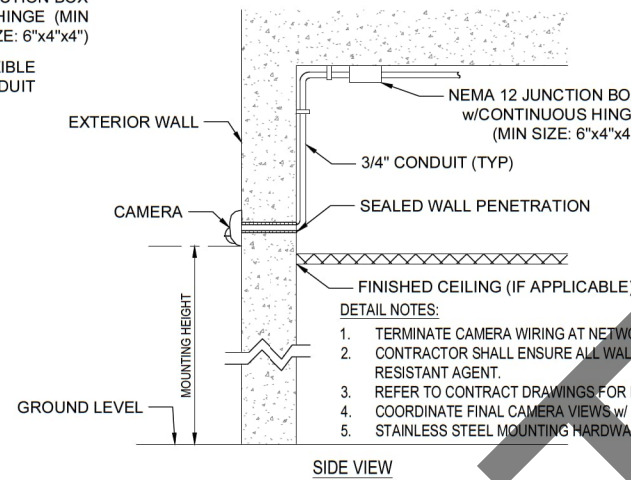
PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

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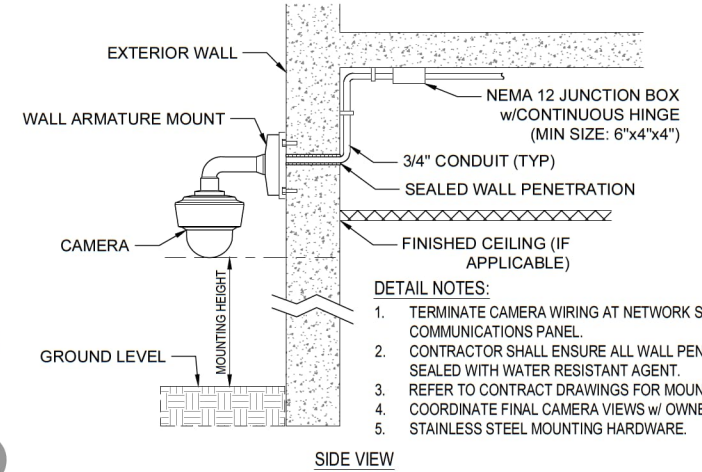
- DETAIL NOTES:**
1. TERMINATE CAMERA WIRING AT NETWORK SWITCH IN IT COMMUNICATIONS PANEL.
 2. CONTRACTOR SHALL ENSURE ALL WALL PENETRATIONS ARE SEALED WITH WATER RESISTANT AGENT.
 3. REFER TO CONTRACT DRAWINGS FOR MOUNTING HEIGHT.
 4. USE CAMERA MFR'S CORNER MOUNT BRACKET AS REQUIRED AND STAINLESS STEEL FASTENERS.
 5. IN AREAS WITH SUSPENDED CEILING, ROUTE CONDUIT AND INTERIOR JUNCTION BOX IN CEILING SPACE.
 6. COORDINATE FINAL CAMERA VIEWS w/ COUNTY.

1 CORNER MOUNTED DOME CAMERA DETAIL
SCALE: NTS



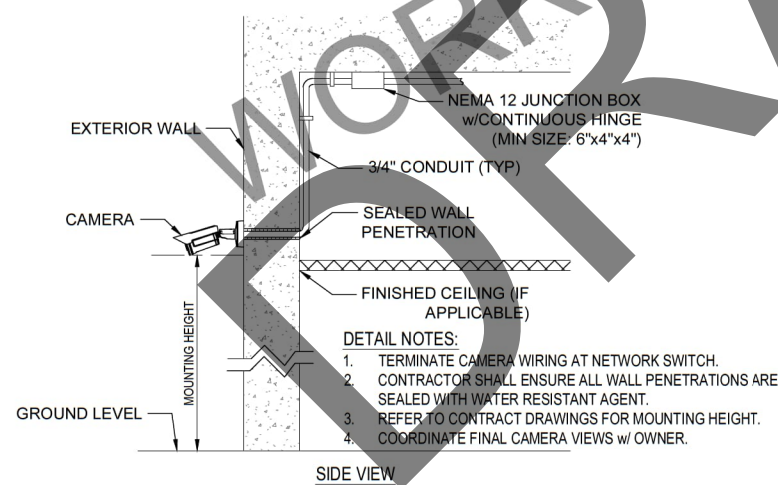
- DETAIL NOTES:**
1. TERMINATE CAMERA WIRING AT NETWORK SWITCH IN IT COMMUNICATIONS PANEL.
 2. CONTRACTOR SHALL ENSURE ALL WALL PENETRATIONS ARE SEALED WITH WATER RESISTANT AGENT.
 3. REFER TO CONTRACT DRAWINGS FOR MOUNTING HEIGHT.
 4. COORDINATE FINAL CAMERA VIEWS w/ COUNTY.
 5. STAINLESS STEEL MOUNTING HARDWARE.

2 WALL MOUNTED EXTERIOR DOME CAMERA DETAIL
SCALE: NTS



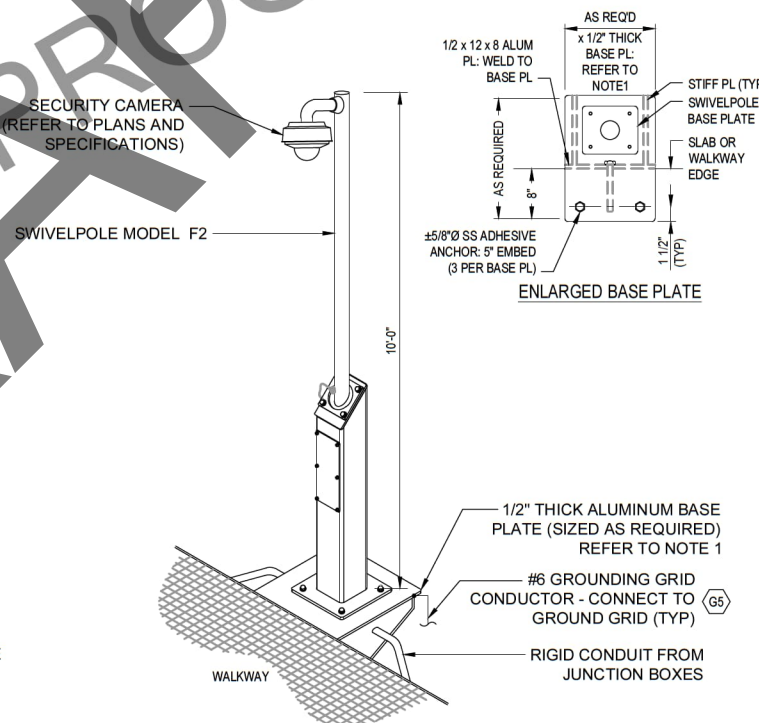
- DETAIL NOTES:**
1. TERMINATE CAMERA WIRING AT NETWORK SWITCH IN IT COMMUNICATIONS PANEL.
 2. CONTRACTOR SHALL ENSURE ALL WALL PENETRATIONS ARE SEALED WITH WATER RESISTANT AGENT.
 3. REFER TO CONTRACT DRAWINGS FOR MOUNTING HEIGHT.
 4. COORDINATE FINAL CAMERA VIEWS w/ OWNER.
 5. STAINLESS STEEL MOUNTING HARDWARE.

3 WALL MOUNTED EXTERIOR DOME CAMERA w/WALL ARMATURE MOUNT DETAIL
SCALE: NTS



- DETAIL NOTES:**
1. TERMINATE CAMERA WIRING AT NETWORK SWITCH.
 2. CONTRACTOR SHALL ENSURE ALL WALL PENETRATIONS ARE SEALED WITH WATER RESISTANT AGENT.
 3. REFER TO CONTRACT DRAWINGS FOR MOUNTING HEIGHT.
 4. COORDINATE FINAL CAMERA VIEWS w/ OWNER.

4 WALL MOUNTED EXTERIOR BULLET CAMERA DETAIL
SCALE: NTS



- NOTES:**
1. ALUMINUM BASE PLATE SHALL BE 2" GREATER ON EACH SIDE THAN DIMENSION OF LIGHT POLE BASE. ROUND ALL CORNERS AND EDGES. REFER TO 'REACTOR TANK LIGHT FIXTURE BASE PLATE DETAIL' FOR ADDITIONAL MOUNTING DETAILS.

5 CAMERA POLE MOUNTING DETAIL
SCALE: NTS

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503

AK ENGINEERING LICENSE # 197742(GHD) - AEOC236(WSP) AK BUSINESS LICENSE # 2164152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: R. KEATING CHK: [] APVD: []

CONSULTANT

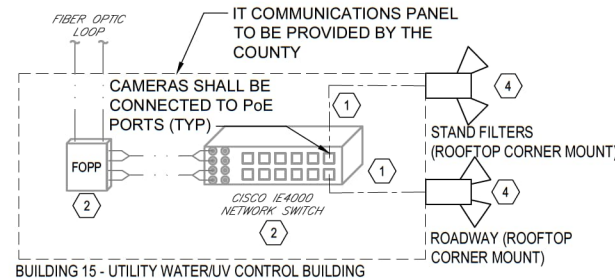
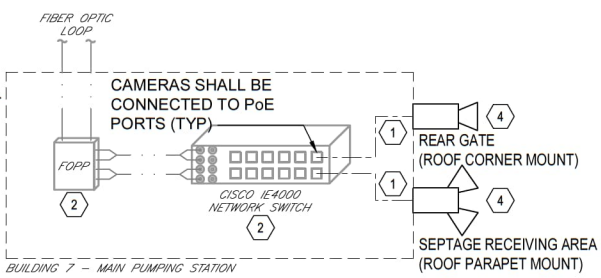
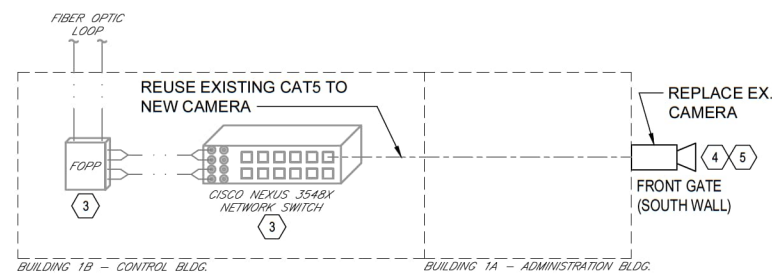
SEAL



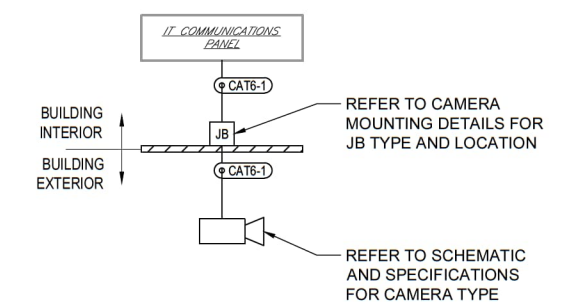
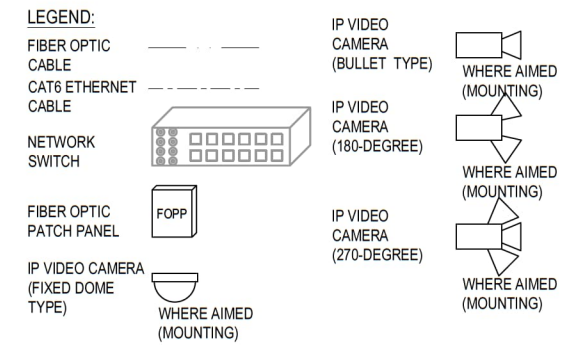
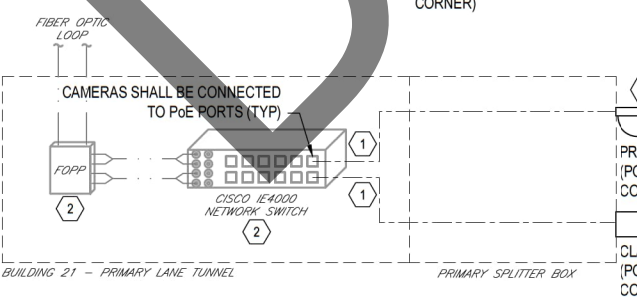
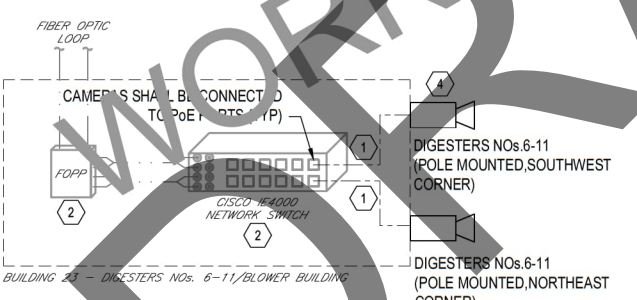
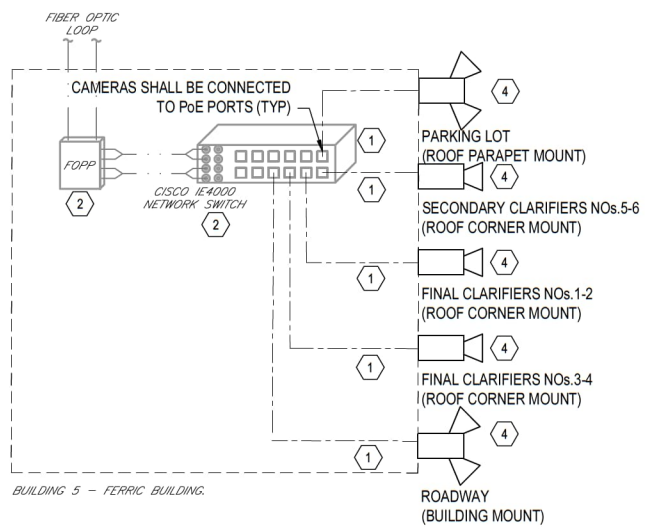
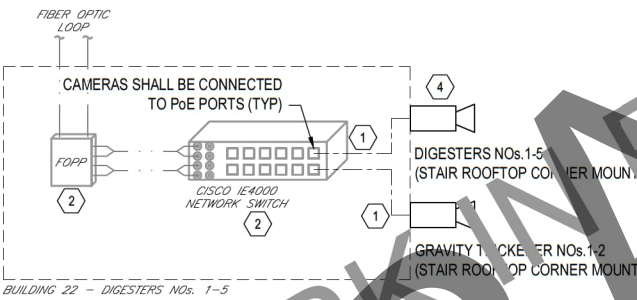
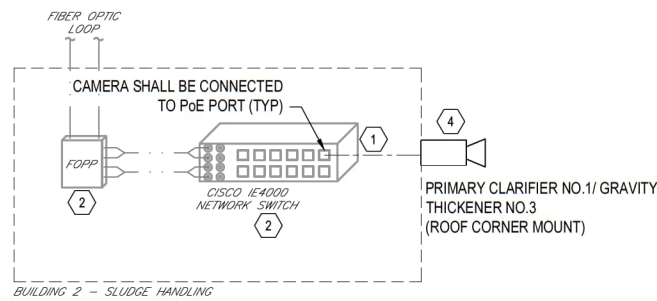
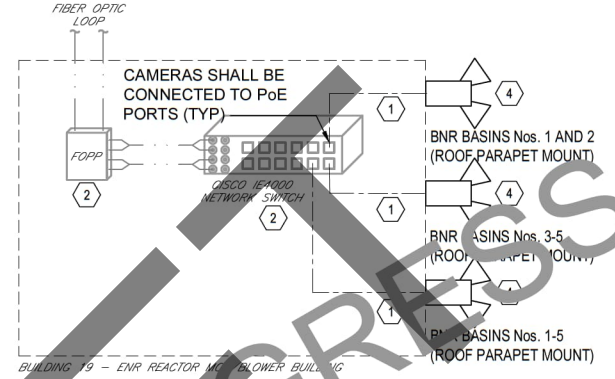
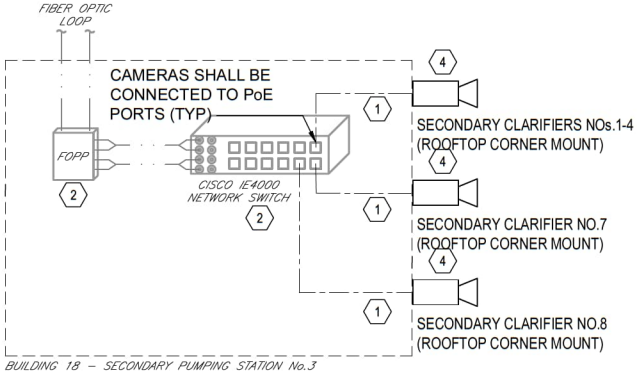
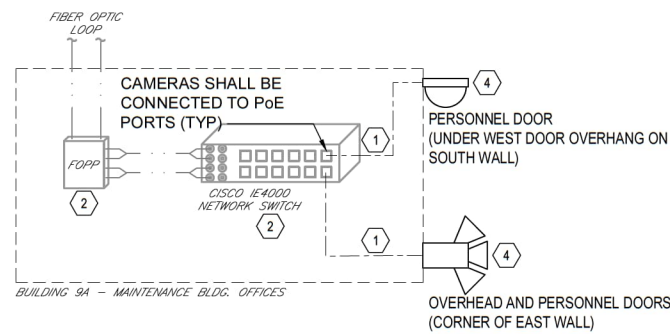
ELECTRICAL
TELECOMMUNICATION DETAILS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM CARGO TERMINAL 1 DESIGN ANCHORAGE, ALASKA		
HORIZ SCALE: NTS	DATE:	T1-T-501
VERT SCALE:	SHEET: X OF	

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- DRAWING NOTES:**
- 1 ALL CONDUCTORS, NETWORK CABLES, AND FIBER OPTIC CABLES SHALL BE ROUTED IN CONDUITS. CONTRACTOR SHALL SIZE CONDUIT AS REQUIRED FOR THE QUANTITY AND TYPE OF CABLE. NOT ALL CONDUITS ARE SHOWN ON PLANS AND RISER DIAGRAMS.
 - 2 NETWORK SWITCH AND PATCH PANEL LOCATED IN CHARLES COUNTY IT COMMUNICATIONS PANEL.
 - 3 NETWORK SWITCH AND PATCH PANEL LOCATED IN SERVER ROOM.
 - 4 REFER TO SPECIFICATION FOR CAMERA DETAILS.
 - 5 REMOVE EXISTING CAMERA AND TURN OVER TO OWNER.



1 PLANT VIDEO MONITORING SYSTEM - SCHEMATIC
SCALE: NTS

2 PLANT VIDEO MONITORING SYSTEM - TYPICAL CONDUIT RISER DIAGRAM
SCALE: NTS

65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

GHD **wsp**

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC238(WSP) 2184152(GHD) - 113511(WSP)

DSGN: D. BURGER DR: R. KEATING CHK: [] APVD: []

CONSULTANT

SEAL

PORT OF ALASKA

PORT OF ALASKA

ELECTRICAL
TELECOMMUNICATIONS SCHEMATICS AND DIAGRAMS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: NONE DATE: []
VERT SCALE: [] SHEET: X OF []

T1-T-801

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