



Purchasing & Contracting Department

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Charlie Pierce
Borough Mayor

ADDENDUM NO. 1

This addendum consists of 5 pages

TO: All Bid Packet Holders

FROM: Kenai Peninsula Borough – Purchasing & Contracting

DATE: October 7, 2019

SUBJECT: Invitation to Bid – ITB20-011 Nikiski Fire Station No. 3

DUE DATE: November 6, 2019 by no later than 2:00 PM

Bidders must acknowledge receipt of this Addendum in the appropriate place on the Bid Form. Failure to do so may result in the disqualification or rejection of the bid.

As specified in Section 9 of the Kenai Peninsula Borough's invitation to bid, we have agreed to answer written questions received through October 23, 2019. Attached are formal responses to all the questions that we have received to date.

We look forward to receiving your bid by no later than 2:00 PM on November 6, 2019.

Note: Information in this addendum takes precedence over original information. All other provisions of the document remain unchanged.

<u>ITEM NO.</u>	<u>REFERENCE</u>	<u>DESCRIPTION</u>
01-01	Plan Holder Question	<p>Q: Is there a fire alarm system required for this building? If there is can we get the code study to determine what is required for this type of occupancy? We can't find anything on the drawings other than 120V residential type devices in the dorm rooms and living area on the 2nd floor on sheet E4.2.</p> <p>A: A fire alarm system is not required for this building.</p>

01-02

Pre-Bid Question

Q: Drawings E0.1 and E5.2 are not readable, will you please re-issue them so we can see what the words are saying?

A: Please see the attached Drawing Replacements. E0.1, E5.1, E5.2.

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AIC	AMPERES INTERRUPTING CAPACITY
AMP, A	AMPERE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
°C	CELSIUS
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
DW	DISH WASHER
EF	EXHAUST FAN
E, EX, EXIST	EXISTING
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
G, GRD	GROUND
GFCI	GROUND FAULT CURRENT INTERRUPTER
GF	GROUND FAULT PROTECTION
HP	HORSE POWER
IN, "	INCHES
K	DEGREE KELVIN
KCMIL, MCM	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
LC	LIGHTING CONTACTOR
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MLO	MAIN LUGS ONLY
MW	MICROWAVE
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO., #	NUMBER
OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
PA	PUBLIC ADDRESS
PC	PHOTO CELL
PH, Ø	PHASE
RECP, REC	RECEPTACLE
REF	REFRIGERATOR
REQ, REQD	REQUIRED
R	RELOCATED
TELECOM	TELECOMMUNICATIONS
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER

MOUNTING HEIGHT SCHEDULE

*SWITCHES	4'-0"
*RECEPTACLES	1'-6"
*WEATHERPROOF RECEPTACLES	2'-0"
BRANCH PANELS (TOP)	6'-6"
DISCONNECT SWITCHES (TOP)	5'-6"

MOUNTING HEIGHTS SHALL PREVAIL ON ALL NEW CONSTRUCTION UNLESS OTHERWISE NOTED.

MOUNTING HEIGHTS ARE TO CENTER OF DEVICE AND ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

COORDINATE FINAL MOUNTING HEIGHTS FOR DEVICES ABOVE COUNTERS WITH ARCHITECTURAL ELEVATIONS.

COORDINATE FINAL MOUNTING HEIGHTS FOR DEVICES FOR EQUIPMENT WITH ARCHITECTURAL ELEVATIONS.

MOUNTING FOR DEVICES SHOWN ABOVE BASEBOARD HEATERS, 4" ABOVE HEATER, MOUNTED VERTICALLY.

THESE ARE TYPICAL MOUNTING HEIGHTS. NOT ALL DEVICES ARE NECESSARILY APPLICABLE TO THIS PROJECT.

*MOUNTING HEIGHTS COMPLY WITH ICC/ANSO A117.1-09

ELECTRICAL SYMBOLS

LIGHTING FIXTURES

	SURFACE LIGHT FIXTURE
	RECESSED LIGHT FIXTURE
	EMERGENCY LIGHT FIXTURE
	WALL LIGHT FIXTURE - LINEAR
	STRIP LIGHT FIXTURE
	RECESSED CAN LIGHT FIXTURE
	SURFACE LIGHT FIXTURE
	PENDANT LIGHT FIXTURE
	TRACK LIGHT FIXTURE HEAD
	WALL LIGHT FIXTURE
	SELF CONTAINED EMERGENCY LIGHT
	EMERGENCY LIGHT - SINGLE HEAD
	EXIT LIGHT - WALL MOUNTED
	EXIT LIGHT - CEILING MOUNTED
	EXIT LIGHT DIRECTIONAL ARROWS
	FAN & LIGHT COMBINATION
	POLE MOUNTED AREA LIGHT FIXTURE
	FLOOD LIGHT
	WALL MOUNTED AREA LIGHT FIXTURE
	CEILING MOUNTED FAN

LIGHTING CONTROLS

	SINGLE POLE SWITCH
	DIMMER SWITCH
	OCCUPANCY SENSOR SWITCH
	THREE & FOUR WAY SWITCH
	KEY OPERATED SWITCH
	PHOTOCELL
	MOTION SENSOR (WALL & CEILING)
	OCCUPANCY SENSOR (WALL & CEILING)

CONDUITS AND CONDUCTORS

	CONDUIT OR CABLE, CONCEALED U.N.O.
	NUMBER AND SIZE OF WIRES (NO SLASHES INDICATES 3#12)
	CONDUIT HOMERUN TO PANEL (PANEL & CIRCUIT NUMBER)

LIGHT FIXTURE NOMENCLATURE

	FIXTURE TYPE PER SCHEDULE
	ASSOCIATED SWITCH OR CONTROL ZONE (NO ID = CONTROL VIA SINGLE ROOM SWITCH) (nl = NIGHT LIGHT)
	PANEL & CIRCUIT #

FIRE ALARM DEVICES

	FIRE ALARM PANEL
	HEAT DETECTOR (FIXED TEMP. AS NOTED)
	SMOKE DETECTOR
	SMOKE/CO DETECTOR COMBO
	HORN
	HORN & STROBE
	STROBE
	FIRE ALARM PULL STATION
	MAGNETIC DOOR HOLDER

POWER DEVICES AND EQUIPMENT

	DUPLEX RECEPTACLE
	GFCI PROTECTED RECEPTACLE
	QUADRAPLEX RECEPTACLE
	SPLIT WIRED RECEPTACLE
	SIMPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE, 3Ø & 1Ø AS NOTED
	DRYER RECEPTACLE, NEMA 14-30R
	ELECTRIC RANGE RECEPTACLE, NEMA 14-50R
	FLOOR MOUNTED DEVICE (RECEPTACLE SHOWN)
	CEILING MOUNTED DEVICE (RECEPTACLE SHOWN)
	POWER RECEPTACLE DROP
	JUNCTION BOX
	ELECTRIC MOTOR
	ELECTRIC MOTOR WITH STARTER SWITCH
	EXHAUST FAN
	UNIT HEATER
	CABINET UNIT HEATER

	FLUSH MOUNT ELECTRICAL PANEL - 208V & 480V
	SURFACE MOUNT ELECTRICAL PANEL - 208V & 480V
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MOTOR/STARTER DISCONNECT SWITCH
	VFD DISCONNECT
	PUSH BUTTON OR ACCESS CONTROL JUNCTION BOX
	PUSH BUTTON OR ACCESS CONTROL BOX
	TRAFFIC CONTROL JUNCTION BOX
	WALL / FLOOR MOUNTED MODULAR FURNITURE POWER

TELECOMMUNICATION DEVICES

	TELECOMMUNICATIONS OUTLET
	TELEPHONE (VOICE) OUTLET
	FLOOR MOUNTED DEVICE (TELECOMM SHOWN)
	CEILING MOUNTED DEVICE (TELECOMM SHOWN)
	SPEAKER (WALL & CEILING)
	TELEVISION OUTLET (WALL & CEILING)
	TELEVISION/DATA COMBO OUTLET (WALL & CEILING)
	CLOCK (DIGITAL & ANALOG)
	CLOCK & SPEAKER COMBINATION

SECURITY SYSTEM DEVICES

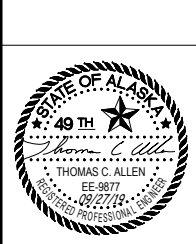
	INTERCOM / ACCESS CONTROL MASTER STATION
	INTERCOM / ACCESS CONTROL DOOR ENTRY STATION
	ACCESS CONTROL ELECTRIC STRIKE/LOCK
	POWER SUPPLY
	DOOR CHIME
	KEYPAD
	CARD READER
	GLASS BREAK SENSOR
	SURVEILLANCE CAMERA
	VARIABLE DIRECTION SURVEILLANCE CAMERA
	DOOR BELL BUTTON

TYPE ID	MANUFACTURER MODEL NUMBER	FIXTURE DESCRIPTION	LAMP		LED		MOUNTING	
			TYPE	QTY	LUMENS	WATTS	TYPE	HEIGHT
A	LITHONIA LIGHTING #ZBLT4-60L-ADP-EZ1-LP835	2'X4' RECESSED TROFFER WITH 3500K COLOR TEMPERATURE CURVED DIFFUSER, AND 0-10V DIMMING.	LED		6,016	48	RECESSED	GRID
B	GOTHAM #EVO-35/25-6AR-MD-LSS-MVOLT-EZ10	RECESSED DOWNLIGHT WITH 6" APERTURE, MEDIUM DISTRIBUTION, 3500K COLOR TEMPERATURE, WET LISTING, AND 0-10V DIMMING.	LED		2,660	30	RECESSED	CEILING
C	LITHONIA LIGHTING #ZL1N-L48-5000LM-FST-MVOLT-40K-80CRI-WH	4' LINEAR STRIP LIGHT WITH 4000K COLOR TEMPERATURE, FROSTED DIFFUSER, AND WHITE FINISH.	LED		4,585	34	SURFACE	CEILING
D	LITHONIA LIGHTING #T2L1N-L96-14000LM-FST-MVOLT-40K-80CRI-WH	8' LINEAR STRIP LIGHT WITH 4000K COLOR TEMPERATURE, FROSTED DIFFUSER, AND WHITE FINISH.	LED		12,933	104	SUSPENDED	+20' AFF
F	LITHONIA LIGHTING #WL4-30L-EZ1-LP835	4' LINEAR WALL MOUNTED FIXTURE WITH 3500K COLOR TEMPERATURE, CURVED DIFFUSER, 0-10V DIMMING, AND WHITE FINISH.	LED		3,095	28	SURFACE	WALL
G	LITHONIA LIGHTING #BLWP4-48L-ADP-EZ1-LP835	4'X6" LINEAR LOW PROFILE WRAP FIXTURE WITH 3500K COLOR TEMPERATURE, 0-10V DIMMING, AND CURVED DIFFUSER.	LED		4,800	39	SURFACE	CEILING
H	TBD	PENDANT FIXTURE TO BE SELECTED BY ARCHITECTURAL	LED		N/A	MAX 50	SUSPENDED	+6' AFF
I	LITHONIA LIGHTING #FEM-L48-4000LM-LPAQL-MD-MVOLT-GZ10-40K-80CRI	4' LINEAR WET-LISTED FIXTURE WITH CLEAR LOW-PROFILE LENS, 4000K COLOR TEMPERATURE, AND MEDIUM DISTRIBUTION.	LED		4,312	31	SURFACE	CEILING
J	WNONA LIGHTING #BSP711-700KNL1-40DEG-LSS1A-35K-MVOLT-GV3-BKT	'SMALL' SPOT LIGHT WITH KNUCKLE MOUNT, 40 DEGREE DISTRIBUTION, 3500K COLOR TEMPERATURE, GLARE VISOR, AND BLACK FINISH.	LED		1,121	15	SURFACE	WALL/CEILING
S1	LITHONIA LIGHTING #DSX1 LED-60C-1000-40K-T4M-MVOLT-SPA-DBBxD #SSS-20-5C-DM19AS-DBBxD	AREA LUMINAIRE WITH TWO ENGINES, 4000K COLOR TEMPERATURE, TYPE 4 MEDIUM DISTRIBUTION, AND DARK BRONZE FINISH. INCLUDE SQUARE POLE MOUNT AND 20" MATCHING SQUARE POLE.	LED	60	20,681	209	POLE	+23'
S2	LITHONIA LIGHTING #OLWX1 LED-40W-40K-120-DBB	WALL MOUNTED AREA LUMINAIRE WITH 4000K COLOR TEMPERATURE AND DARK BRONZE FINISH.	LED		4,027	39	SURFACE	WALL +14'
S3	LITHONIA LIGHTING #OFL1 LED-P1-40K-MVOLT-THK-DBBxD-DSXF1/2TS	FLOOD LUMINAIRE WITH 4000K COLOR TEMPERATURE, DARK BRONZE FINISH, AND SLIPFITTER AT ATTACHMENT FOR CONNECTION TO ROUND FLAG POLE.	LED		2,137	23	POLE	GROUND
S4	LITHONIA LIGHTING #OFL1 LED-P1-40K-MVOLT-YK-DBBxD	FLOOD LUMINAIRE WITH 4000K COLOR TEMPERATURE, DARK BRONZE FINISH, AND YOKE MOUNT.	LED		2,137	23	SURFACE	CANOPY ROOF
S5	ELLIPITAR #S175-R08L-H-06-M-00-0-840-00 #HFC	8' LINEAR EXTERIOR FIXTURE WITH DARK BRONZE FINISH & 4000K COLOR TEMPERATURE. PROVIDE 24" CANTILEVER HANGER AND ADDITIONAL ACCESSORIES AS REQUIRED.	LED		6,118	58	SURFACE	WALL
E1	LITHONIA LIGHTING #ELM2-LED	SELF CONTAINED THERMOPLASTIC EMERGENCY LIGHT WITH NICKEL CADMIUM BATTERY.	LED		N/A	2	SURFACE	WALL
E2	LITHONIA LIGHTING #INDX1236-LP05VS	12V INDUSTRIAL EMERGENCY LIGHTING UNIT WITH TWO LAMP HEADS AND NI-CAD BATTERY.	LED		N/A	36	SURFACE	WALL
X1	LITHONIA LIGHTING #LE-S1-R-EL N	DIE-CAST ALUMINUM EXIT SIGN WITH SINGLE FACE, RED LETTERING, AND NICKEL-CADMIUM BATTERY.	LED		N/A	3	SURFACE	WALL
X2	LITHONIA LIGHTING #ELA-S1-R-EL N #ELA-LHCO-120277 N #ELA-AFNR-DB	DIE-CAST ALUMINUM EXIT SIGN WITH SINGLE FACE, RED LETTERING, NICKEL-CADMIUM BATTERY, AND REMOTE CAPACITY CANOPY FOR DARK BRONZE REMOTE HEAD AS SPECIFIED.	LED		N/A		SURFACE	WALL

NOTE: ALL FIXTURES, COLORS, & FINISHES ARE TO BE APPROVED BY ARCHITECT/OWNER PRIOR TO ORDERING.

Revisions:

1	Construction Docs	02/01/19
2	Final Coordination	02/07/19
3	Doc Revisions	09/27/19

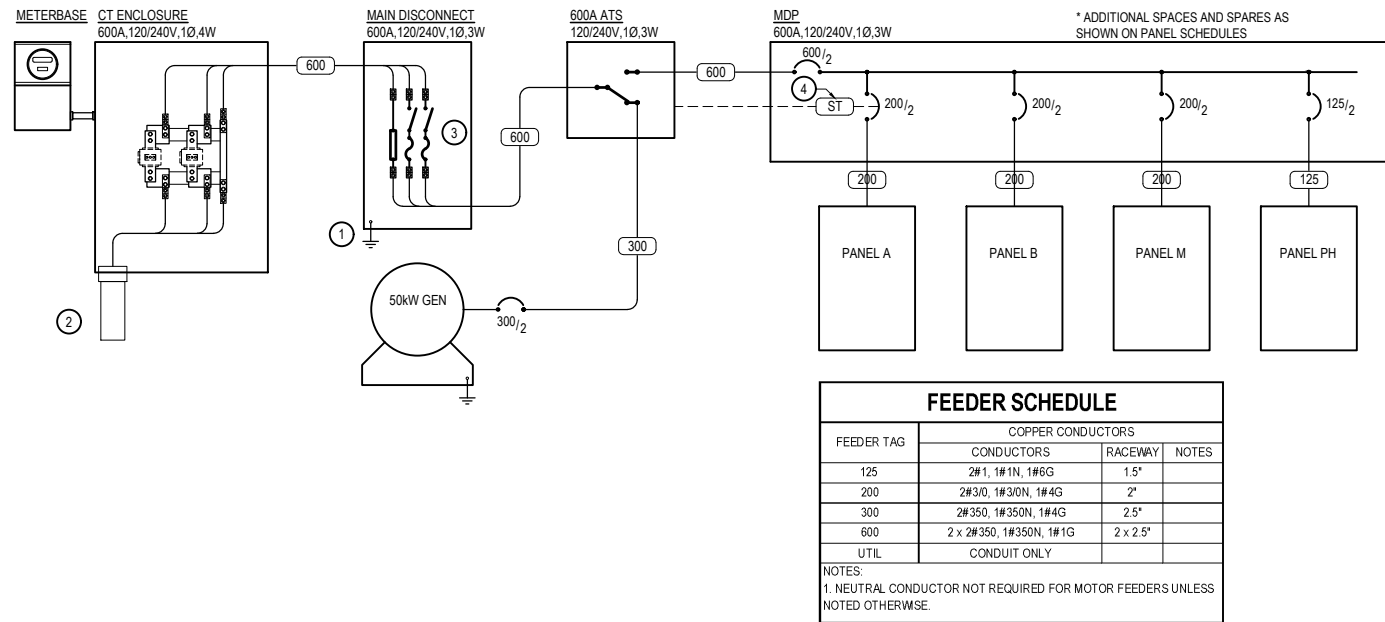


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Sheet Title:
ABBREVIATIONS, SYMBOLS, & LIGHTING FIXTURE SCHEDULE

Sheet:

E0.1



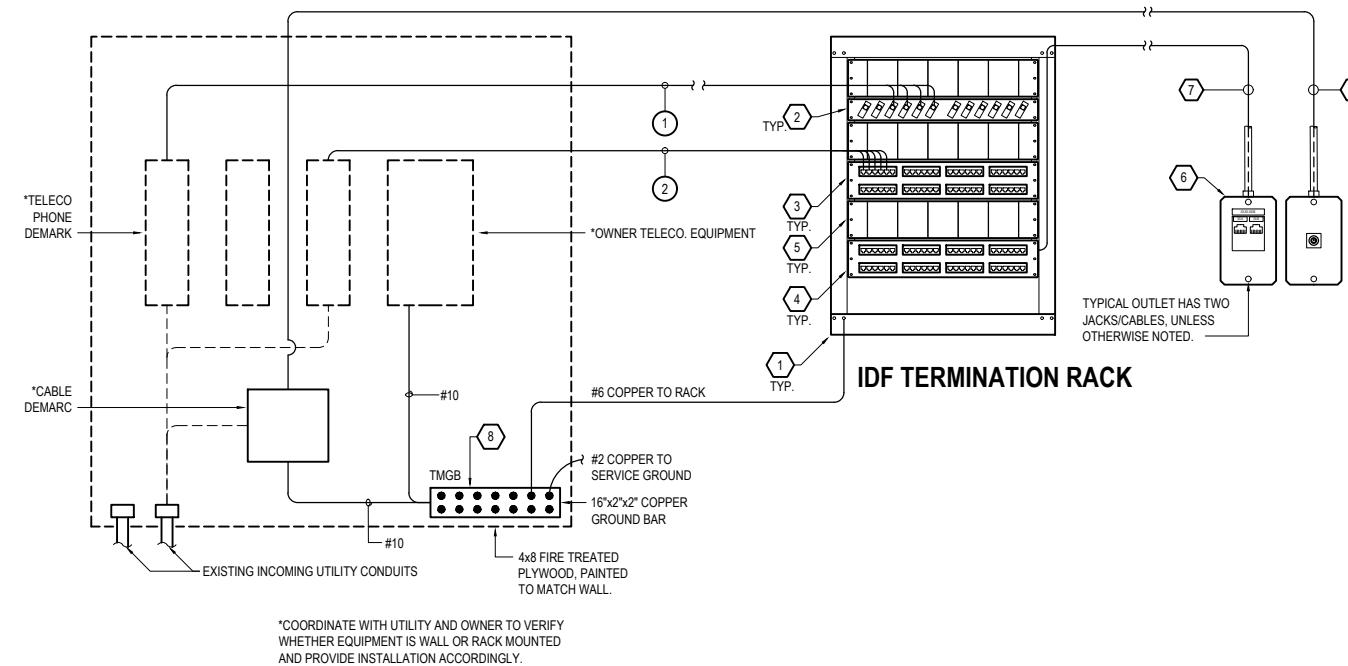
SINGLE LINE DIAGRAM GENERAL NOTES

1. IMMEDIATELY UPON PROJECT INCEPTION THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE INSTALLATION OF A NEW ELECTRICAL SERVICE. EQUIPMENT LAYOUT AS SHOWN IS DIAGRAMMATIC. THE CONTRACTOR SHALL SUBMIT DETAILED INFORMATION REGARDING THE PROPOSED SERVICE ENTRANCE EQUIPMENT TO THE UTILITY COMPANY AND OWNER/ARCHITECT FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT. ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH UTILITY COMPANY STANDARDS AND THE LATEST ADOPTED NEC.

SINGLE LINE DIAGRAM NOTES INDICATED BY:

1. PROVIDE GROUNDING ELECTRODE SYSTEM PER SPECIFICATIONS.
2. SERVICE BY UTILITY.
3. PROVIDE TRON CLASS T FAST-ACTING CURRENT LIMITING FUSE (BUSMANN JUN-600) TO LIMIT AVAILABLE FAULT CURRENT ON LOAD SIDE OF MAIN DISCONNECT TO LESS THAN 10,000A.
4. PROVIDE SHUNT-TRIP BREAKER FOR PANEL 'A' TO SHED LOAD UPON ACTIVATION OF GENERATOR AND AUTOMATIC TRANSFER SWITCH.

1 ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS



2 TELECOMMUNICATIONS RISER DIAGRAM
SCALE: NTS

COMM RISER EQUIPMENT

- 1 4 STRAND (2-PAIR) SM FIBER CABLES FROM MDF, CONTRACTOR TO VERIFY OWNER NEEDS.
- 2 5-CATEGORY 6 CABLES FROM MDF, CONTRACTOR TO VERIFY OWNER NEEDS.

COMMUNICATIONS EQUIPMENT SCHEDULE

- 1 WALL MOUNTED EQUIPMENT RACK
- 2 12 PORT FIBER OPTIC PATCH PANELS AT MDF WITH TYPE SC CONNECTOR PORTS
- 3 CAT 6 UTP PATCH PANEL - VOICE BACKBONE
- 4 CAT 6 UTP PATCH PANEL - HORIZONTAL CABLE
- 5 WIRE MANAGEMENT PANEL
- 6 TELECOMMUNICATIONS OUTLET: PROVIDE WITH TWO CAT 6 8P8C JACKS PER OUTLET UNLESS NOTED OTHERWISE. INSTALL IN 4 1 1/16"x4 1 1/16"x2 1/8" BACK BOX WITH SINGLE GANG DEVICE RING
- 7 CAT 6 CABLE, TWO PER JACK, TYPICAL
- 8 12"x4"x1/4" GROUNDING BAR ON ISOLATORS WITH GROUNDING CONDUCTOR BACK TO MAIN CER GROUNDING BAR AND ACCESSIBLE BUILDING STEEL
- 9 RG-6 COAX TO VIDEO JACK, ONE PER JACK, TYPICAL

Revisions:	
1 Construction Docs	02/01/19
2 Final Coordination	02/07/19
3 Doc Revisions	09/27/19



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 File Name: E5.1

Sheet Title:
 ELECTRICAL & COMM
 RISER DIAGRAMS

Sheet:
E5.1

MDP				VOLTAGE: 120/240V, 1PH, 3W		AMPERE RATING: 600 A	
				MOUNTING: SURFACE		MAIN CIRCUIT BREAKER RATING: 600 A	
				SUPPLIED FROM: UTILITY		SHORT CIRCUIT CURRENT RATING: 10,000 A	
CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	LOAD DESCRIPTION	POLE AMP CKT
1	200	2	PANEL A	14,459	16,760	PANEL M	200 2
3	200	2	PANEL B	12,887	3,949	PANEL PH	125 4
5	200	2	PANEL B		11,816		125 6
7	-	1	SPACE		14,050		2 8
9	-	1	SPACE		11,588	3,908	1 - 10
11	-	1	SPACE				1 - 12
13	-	1	SPACE				1 - 14
15	-	1	SPACE				1 - 16
CONNECTED LOAD (VA)				48,055	41,362	89,417 VA	
CONNECTED LOAD (AMPERES)				400	345	373 A	
DEMAND LOAD (VA)*				48,761	42,374	91,135 VA	
DEMAND LOAD (AMPERES)*				406	353	380 A	

* - DEMAND LOAD INCLUDES LIGHTING AND LARGEST MECHANICAL LOAD AT 125%
S - PROVIDE SHUNT TRIP BREAKER, SEE SINGLE LINE DIAGRAM 1/E5.1 NOTE #4

PANEL A				VOLTAGE: 120/240V, 1PH, 3W		AMPERE RATING: 200 A		
				MOUNTING: SURFACE		MAIN CIRCUIT BREAKER RATING: M.L.O.		
				SUPPLIED FROM: MDPL		SHORT CIRCUIT CURRENT RATING: 10,000 A		
CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	LOAD DESCRIPTION	POLE AMP CKT	
1	20	1	REC - BEDROOMS 1, 2	1,080		SPARE	1 20 2	
3	20	1	REC - BEDROOMS 2, 3		1,080	SPARE	1 20 4	
5	20	1	REC - BATHROOMS 209, 210, JAN 204	673	1,200	REC - COPIER COMMONS 104	1 20 6	
7	20	1	REC - LIVING 201, HALL, 208		1,260	REC - COPIER COMMONS 105	1 20 8	
9	20	1	REC - RANGE KITCHEN 202	500	900	REC - RECEPTION N	1 20 10	
11	20	1	REC - RANGE HOOD KITCHEN 202		500	REC - RECEPTION S	1 20 12	
13	20	1	REC - DISHWASHER KITCHEN 202	1,200	1,163	REC - COMMONS 104, RR 102, JAN 103, EXT. S STAIR, EF-1, EF-4	1 20 14	
15	20	1	REC - DISPOSAL KITCHEN 202		1,176	REC - COMM 105	1 20 16	
17	20	1	REC - ABOVE COUNTER & REF KITCHEN 202	1,500	360	REC - COMM 105	1 20 18	
19	20	1	REC - KITCHEN ABOVE COUNTER 202		1,500	REC - COMM 105	1 20 20	
21	20	1	REC - WASHER LAUNDRY 203	1,200	540	REC - TRAINING ABOVE COUNTER, S WALL	1 20 22	
23	20	1	REC - DRYER LAUNDRY 203		1,200	SPARE	1 20 24	
25	20	1	SMOKE DETECTORS - BEDROOMS	900	1,080	REC - TRAINING FLOOR & TV	1 20 26	
27	20	1	SPARE		540	REC - TRAINING N	1 20 28	
29	20	1	SPARE		963	REC - DECON 109 ABOVE COUNTER, EMS STORAGE 108, EF-2, ERV-1	1 20 30	
31	20	1	SPARE		720	REC - PATIENT CARE 107	1 20 32	
33	-	1	SPACE		1,200	REC - DECON WASHER	1 20 34	
35	-	1	SPACE			1,200	REC - DECON DRYER	1 20 36
37	-	1	SPACE				1 20 38	
39	-	1	SPACE				1 20 40	
41	-	1	SPACE				1 20 42	
43	20	2	GEAR DRYER	960		SPARE	1 20 44	
45	30	2	WASHER / EXTRACTOR	1,800	1,500	HEABOLT HEATER #1	1 20 46	
47	30	2	WASHER / EXTRACTOR		1,800	HEABOLT HEATER #2	1 20 48	
49	60	2	FUTURE COMPRESSOR	3,360	1,500	HEABOLT HEATER #3	1 20 50	
51	60	2	FUTURE COMPRESSOR			HEABOLT HEATER #4	1 20 52	
53	2	2			3,360	HEAT TRACE - STAIR SOUTH, CUH-1	1 20 54	
CONNECTED LOAD (VA)				14,459	11,816	26,275 VA		
CONNECTED LOAD (AMPERES)				120	98	109 A		
DEMAND LOAD (VA)*				14,459	11,816	26,275 VA		
DEMAND LOAD (AMPERES)*				120	98	109 A		

A - PROVIDE WITH ARC-FAULT TYPE BREAKER, GF - PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION

FAULT CURRENT CALCULATION SUMMARY				ASSUMED UTILITY CONFIGURATION	
				UTILITY CONTRIBUTION: INFINITE	
				TRANSFORMER RATING: 100 KVA	
				TRANSFORMER IMPEDENCE: 1.4% Z	
EQUIPMENT	SUPPLY FEEDER RATING AND LENGTH	FAULT CURRENT L-L	FAULT CURRENT L-N		
UTILITY TRANS SECONDARY	N/A	29,762 A	N/A		
CT ENCLOSURE	2 EA. #500 AL PER PHASE 50'	23,074 A	23,945 A		
MAIN DISCONNECT	2 EA. #350 CU PER PHASE 5'	22,524 A	22,791 A		
ATS	2 EA. #350 CU PER PHASE 5'	22,000 A	21,743 A		
MDP	2 EA. #350 CU PER PHASE 90'	15,507 A	9,662 A		
PANEL A	1 EA. #3/0 CU PER PHASE 100'	7,730 A	3,293 A		
PANEL B	1 EA. #3/0 CU PER PHASE 15'	13,474 A	7,489 A		
PANEL M	1 EA. #3/0 CU PER PHASE 20'	12,909 A	6,967 A		

NOTE: CONTRACTOR TO CONFIRM UTILITY ASSUMPTIONS UTILIZED FOR THIS CALCULATION AS WELL AS INSTALLED CONDUCTOR CONFIGURATIONS AND LENGTHS DURING CONSTRUCTION. REPORT ANY DECREASE IN TRANSFORMER IMPEDENCE AND INSTALLED CABLE LENGTHS AS WELL AS ANY INCREASE IN TRANSFORMER KVA RATING AND CONDUCTOR RATINGS TO ENGINEER FOR RE-EVALUATION PRIOR TO DISTRIBUTION EQUIPMENT PROCUREMENT.

PROVIDE TRON CLASS T FAST-ACTING CURRENT LIMITING FUSE (BUSSMANN JIN-600) TO LIMIT AVAILABLE FAULT CURRENT ON LOAD SIDE OF MAIN DISCONNECT TO LESS THAN 10,000A

PANEL B				VOLTAGE: 120/240V, 1PH, 3W		AMPERE RATING: 200 A		
				MOUNTING: SURFACE		MAIN CIRCUIT BREAKER RATING: M.L.O.		
				SUPPLIED FROM: MDPL		SHORT CIRCUIT CURRENT RATING: 10,000 A		
CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	LOAD DESCRIPTION	POLE AMP CKT	
1	20	1	REC - APPARATUS EXT. N/E	540	1,248	LTG - APPARATUS SOUTH	1 20 2	
3	20	1	REC - APPARATUS EXT. N/W		540	936	LTG - APPARATUS NORTH	1 20 4
5	20	1	REC - STORAGE 114, 116, APPARATUS N/E, EF-2	752	668		1 20 6	
7	20	1	REC - APPARATUS WORK BENCH		180	1,313	LTG - FIRST FLOOR NORTH, EXERISE 211	1 20 8
9	20	1	REC - APPARATUS WORK BENCH	180	906		1 20 10	
11	20	1	REC - APPARATUS E, S/E		720	1,799	LTG - SECOND FLOOR & STAIRS	1 20 12
13	20	1	REC - WORKSHOP 115	1,260	313		1 20 14	
15	20	1	REC - APPARATUS SW		720		SPARE	1 20 16
17	20	1	REC - EXERCISE ROOM W	180			SPARE	1 20 18
19	20	1	REC - EXERCISE ROOM S		180		SPARE	1 20 20
21	20	1	REC - EXERCISE ROOM	540			SPACE	1 - 22
23	20	1	ROAD WARNING SIGNS		500		SPACE	1 - 24
25	20	1	REC - CORD REEL APP. BAY WEST	360			SPACE	1 - 26
27	20	1	REC - CORD REELS EAST APP. BAY		360		SPACE	1 - 28
29	20	1	REC - CORD REEL APP. BAY WEST MID	180			SPACE	1 - 30
31	20	1	OWS-1 CONTROL PANEL		500		SPACE	1 - 32
33	30	1	OH DOOR 1 N/W	1,920			SPACE	1 - 34
35	30	1	OH DOOR 2 W		1,920		SPACE	1 - 36
37	30	1	OH DOOR 3 S/W	1,920			SPACE	1 - 38
39	30	1	OH DOOR 4 N/E		1,920		SPACE	1 - 40
41	30	1	OH DOOR 5 S/E	1,920			SPACE	1 - 42
CONNECTED LOAD (VA)				12,887	11,588	24,475 VA		
CONNECTED LOAD (AMPERES)				107	97	102 A		
DEMAND LOAD (VA)*				13,593	13,080	26,673 VA		
DEMAND LOAD (AMPERES)*				113	109	111 A		

A - PROVIDE WITH ARC-FAULT TYPE BREAKER, GF - PROVIDE 30mA GROUND FAULT EQUIPMENT PROTECTION
* - DEMAND LOAD CALCULATED WITH LIGHTING AND LARGEST MOTOR AT 125%

PANEL M				VOLTAGE: 120/240V, 1PH, 3W		AMPERE RATING: 200 A		
				MOUNTING: SURFACE		MAIN CIRCUIT BREAKER RATING: M.L.O.		
				SUPPLIED FROM: MDPL		SHORT CIRCUIT CURRENT RATING: 10,000 A		
CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	LOAD DESCRIPTION	POLE AMP CKT	
1	20	1	BOILER 1 & PUMP BC-1	996	960	CP-3	2 20 2	
3	20	1	BOILER SHUNT		960		2 20 4	
5	20	1	BOILER 2 & PUMP BC-2	996	1,200	CP-5	2 20 6	
7	20	1	BOILER SHUNT		1,200		2 20 8	
9	20	1	CP-1 & CP-2	948	960		15 10	
11	20	1	CP-4		1,176	VEF-1 - APPARATUS N/W	2 12	
13	20	1	CP-6, UH-1, VF-1	900	960		15 14	
15	20	1	REC - GT-1 & CONVENIENCE		264	960	VEF-1 - APPARATUS W	2 16
17	20	1	UNIT HEATER & REC - ELEC 113	380	960		15 18	
19	20	1	SPARE		960	VEF-1 - APPARATUS SW	2 20	
21	20	1	SPARE		960		15 22	
23	20	1	SPARE		960	VEF-1 - APPARATUS N/E	2 24	
25	20	1	SPARE		960		15 26	
27	20	1	SPARE		960	VEF-1 - APPARATUS S/E	2 28	
29	-	1	SPACE		1,560	GENERATOR FUEL DISPENSING PUMP 1	1 20 30	
31	-	1	SPACE		1,560	GENERATOR FUEL DISPENSING PUMP 2	1 20 32	
33	-	1	SPACE		180	REC - GEN. DISPENSING PUMPS	1 20 34	
35	60	2	DOMESTIC WATER WELL PUMP		1,440	250	VEF CONTROL PANELS	1 20 36
37	2	2		1,440			SPACE	1 - 38
39	30	2	ACS TOWER		2,400		SPACE	1 - 40
41	2	2		2,400			SPACE	1 - 42
CONNECTED LOAD (VA)				16,760	14,050	30,810 VA		
CONNECTED LOAD (AMPERES)				140	117	128 A		
DEMAND LOAD (VA)*				17,060	14,350	31,410 VA		
DEMAND LOAD (AMPERES)*				142	120	131 A		

* - DEMAND LOAD CALCULATED WITH LARGEST MOTOR AT 125%

PANEL PH				VOLTAGE: 120/240V, 1PH, 3W		AMPERE RATING: 125 A		
				MOUNTING: SURFACE		MAIN CIRCUIT BREAKER RATING: M.L.O.		
				SUPPLIED FROM: MDPL		SHORT CIRCUIT CURRENT RATING: 10,000 A		
CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	LOAD DESCRIPTION	POLE AMP CKT	
1	20	1	LIGHTING - PUMP HOUSE, SMOKE ALARM	545	900	REC - SOUTH WALL, EXT.	1 20 2	
3	20	1	OVERHEAD DOOR		864	540	REC - NORTH WALL	1 20 4
5	20	1	OFC FLOAT OVERFLOW CONTROL	500	564		1 20 6	
7	20	1	LIQUID LEVEL CONTROL		500	564	SPARE	1 20 8
9	20	1	SPARE				1 20 10	
11	20	1	SPARE				1 - 12	
13	20	1	SPARE				1 - 14	
15	20	1	SPARE				1 - 16	
17	-	1	SPACE				1 - 18	
19	-	1	SPACE				1 - 20	
21	-	1	SPACE				1 - 22	
23	-	1	SPACE				1 - 24	
25	-	1	SPACE				1 - 26	
27	60	2	FIRE WATER WELL PUMP		1,440		SPACE	1 - 28
29	2	2		1,440			SPACE	1 - 30
CONNECTED LOAD (VA)				3,949	3,908	7,857 VA		
CONNECTED LOAD (AMPERES)				33	33	33 A		
DEMAND LOAD (VA)*				3,949	3,908	7,857 VA		
DEMAND LOAD (AMPERES)*				33	33	33 A		

* - DEMAND LOAD CALCULATED WITH LARGEST MOTOR AT 125%

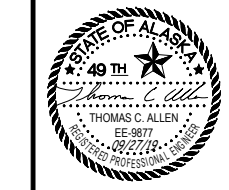
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NIKISKI FIRE STATION #3
CONSTRUCTION DOCUMENTS
NIKISKI, ALASKA

Revisions:

1	Construction Docs	02/01/19
2	Final Coordination	02/07/19
3	Doc Revisions	09/27/19



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PANEL SCHEDULES

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E5.2