Southcentral Foundation

SCF Generators - Q House

225 Eagle Street, Anchorage, AK 99501

PROJECT DESCRIPTION

INSTALLATION OF A NEW BACKUP GENERATOR AND ASSOCIATED ELECTRICAL GEAR

INDEX

21032.01:KPB PN

PERMIT PHASE
03.08.22

OWNER
SOUTHCENTRAL FOUNDATION
4510 DIPLOMACY DRIVE
ANCHORAGE, ALASKA 99508
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GENERAL CONTRACTOR
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2501 BLUEBERRY ROAD
ANCHORAGE, AK 99503
Ph: 907.276.1058

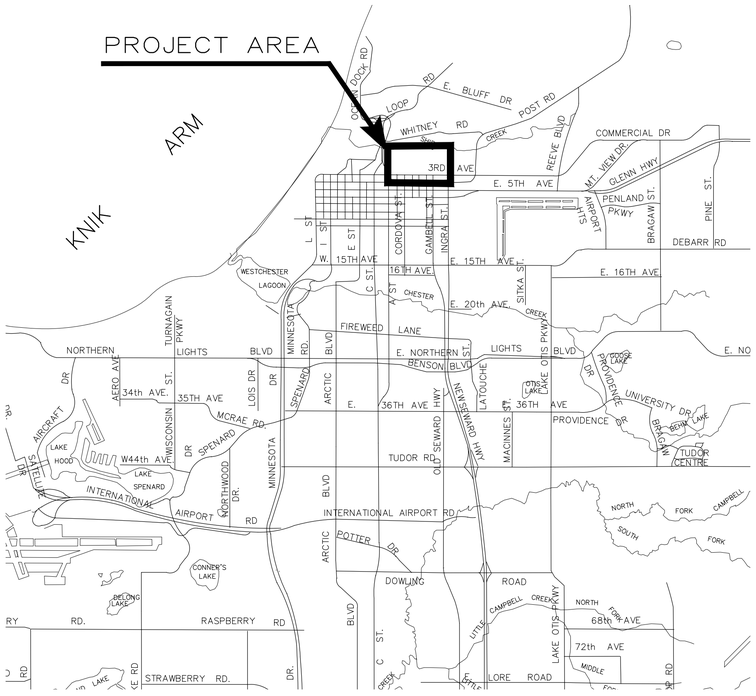
PROJECT MANAGER
KPB ARCHITECTS
500 L STREET, SUITE 400
ANCHORAGE, ALASKA 99501
Ph: 907.274.7443

CIVIL ENGINEER
EBSC ENGINEERING LLC
11301 OLIVE LN
ANCHORAGE, AK,99515
907.222.1085

STRUCTURAL ENGINEER
REID MIDDLETON
4300 B STREET, STE 302
ANCHORAGE, AK, 99503
907.562.3439

ELECTRICAL ENGINEER
RSA ENGINEERING, INC.
670 WEST FIREWEED LANE, SUITE 200
ANCHORAGE, AK, 99503
907.276.5021

VICINITY MAP



LEGEND

PROPOSED	EXISTING	
	GAS	NATURAL GAS
	COM	COMMUNICATIONS LINE
E	E	UNDERGROUND ELECTRIC
	OE	OVERHEAD ELECTRIC
	T	BURIED TELEPHONE LINE
		PROPERTY LINE
		EASEMENT LINE
		STRUCTURE
		CURB & GUTTER

ABBREVIATIONS

ACP	–	ASPHALT CONCRETE PAVEMENT	N	–	NORTH / NORTHING
BOP	–	BOTTOM OF PIPE	OH	–	OVERHEAD
C	–	CABLE	OHW	–	ORDINARY HIGH WATER
CB	–	CATCH BASIN	PCPEP	–	PERFORATED CPEP
C&G	–	CURB & GUTTER	PSI	–	POUNDS PER SQUARE INCH
CIP	–	CAST IRON PIPE	R	–	RADIUS
CMP	–	CORRUGATED METAL PIPE	ROW	–	RIGHT–OF–WAY
CO	–	CLEAN OUT	S	–	SOUTH
CONC	–	CONCRETE	SD	–	STORM DRAIN
CPP	–	CORRUGATED PLASTIC PIPE	SDCB	–	STORM DRAIN CATCH BASIN
CPEP	–	CORRUGATED POLYETHYLENE PIPE	SDCO	–	STORM DRAIN CLEAN OUT
DIA	–	DIAMETER	SDMH	–	STORM DRAIN MANHOLE
DIP	–	DUCTILE IRON PIPE	SS	–	SANITARY SEWER
E	–	EAST / EASTING / EXISTING	SSCO	–	SANITARY SEWER CLEANOUT
ELEV	–	ELEVATION	SSMH	–	SANITARY SEWER MAHNOLE
EP	–	EDGE OF PAVEMENT	SW	–	SIDEWALK
EX	–	EXISTING	T	–	TELEPHONE
FF	–	FINISH FLOOR	TA	–	TOP OF ASPHALT
FL	–	FLOW LINE	TB	–	TEST BORING
GR	–	GROUND	TBC	–	TOP BACK OF CURB
GB	–	GRADE BREAK	TRW	–	TOP OF RETAINING WALL
GV	–	GATE VALVE	TSW	–	TOP OF SIDEWALK
INV	–	INVERT	TYP	–	TYPICAL
LC	–	LEVELING COURSE	VB	–	VALVE BOX
ME	–	MATCH EXISTING	VLY GTR	–	VALLEY GUTTER
MIN	–	MINIMUM	W	–	WEST
NTS	–	NOT TO SCALE	ø	–	DIAMETER

1. ALL CONSTRUCTION SHALL BE INSTALLED AS SPECIFIED IN THE MOST CURRENT EDITION (2015) OF THE MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS FOR STREETS–DRAINAGE–UTILITIES–PARKS (MASS), THE MOA DESIGN CRITERIA MANUAL, THE AWWU DESIGN AND CONSTRUCTION PRACTICES MANUAL, ADOT STANDARD DRAWINGS, AND ANY SPECIAL PROVISIONS. COPIES OF THE QUALITY CONTROL PLAN AND INSPECTION REPORTING TO BE DELIVERED TO THE MOA INSPECTOR. NO FIELD CHANGES WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE PUBLIC WORKS ENGINEER.
2. CAUTION, EXISTING UTILITIES SHOWN ARE NOT COMPREHENSIVE. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION / CONSTRUCTION, AND SHALL CALL FOR UTILITY LOCATES A MINIMUM OF TWO UTILITY WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION.
3. ALL BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION PROCEDURE (ASTM D1557) WITH MAXIMUM LIFT THICKNESS OF 12".
4. MAINTAIN A MINIMUM OF 36–INCHES OF VERTICAL SEPARATION BETWEEN ANY STORM SEWER (STORM DRAIN OR FOOTING DRAIN) AND WATERLINE (MAINS OR SERVICES) OR SANITARY SEWER (MAINS OR SERVICES). IF 36–INCHES CANNOT BE MAINTAINED, PROVIDE A MINIMUM OF 4–INCH THICK INSULATION.
5. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACTOR RECORD DRAWINGS.
6. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRE–CONSTRUCTION CONDITION.
7. THE CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH RECORD DRAWING PLANS PRIOR TO CONTRACT FINAL PAYMENT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND MUNICIPAL LAWS THAT PROHIBIT UNPERMITTED DISCHARGE OF POLLUTANTS, INCLUDING SEDIMENTS, THAT ARE A RESULT OF EROSION AND OTHER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONDUCT ALL WORK SO SEDIMENT IS NOT TRANSPORTED ONTO THE ROADWAY OR ADJACENT PROPERTY. AT A MINIMUM, THE CONTRACTOR SHALL SWEEP UP ANY SEDIMENT TRACKED ONTO PAVED SURFACES IN PUBLIC RIGHT–OF–WAY WITHIN 24 HOURS OF THE TRACKING TO MINIMIZE THE WASH–OFF OF SEDIMENT INTO THE STORM DRAINS OR WATERWAYS.
9. IF DEWATERING IS REQUIRED, WATER RESULTING FROM THE CONTRACTOR'S DEWATERING EFFORT MAY NOT BE PUMPED OR OTHERWISE DIVERTED INTO EXISTING STORM DRAINS UNLESS THE CONTRACTOR OBTAINS PERMITS INCLUDING, BUT NOT LIMITED TO, THOSE REQUIRED BY THE MUNICIPALITY OF ANCHORAGE STORM WATER PLAN REVIEW OFFICE. IT IS NOT ALLOWABLE UNDER ANY CIRCUMSTANCES FOR THE CONTRACTOR TO DIVERT WATER FROM EXCAVATIONS IN TO ROADWAYS. CONTRACTOR SHALL PROVIDE A DISPOSAL SITE FOR EXCESS WATER AND SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND APPROVALS. CONTRACTOR SHALL PROVIDE COPIES OF NECESSARY PERMITS AND APPROVALS TO THE MOA RIGHT OF WAY PERMIT OFFICE.

811 Know what's below. Call before you dig. ALASKA DIGLINE

LEGAL DESCRIPTION

EAST ADDITION
BLOCK 36 LOT 1

PERMIT SET

STATE OF ALASKA
49TH
LUKE MATTSON
CE 14384
9/28/2021
REGISTERED PROFESSIONAL ENGINEER

KPB ARCHITECTS
500 L STREET SUITE 400
ANCHORAGE, AK 99501
(V)907.274.7448 (F)907.274.7407
WWW.KPBARCHITECTS.COM
AK CORPORATION # 94752 D

EBSC ENGINEERING, LLC #AECL1635
BSC engineering
11301 CLIVE LN. ANCHORAGE AK. 99516
Phone: 222-1085 Fax: 222-5210
www.ebscengineering.com

SOUTHCENTRAL FOUNDATION
Q HOUSE GENERATOR UPGRADES
225 EAGLE STREET
ANCHORAGE, AK

REVISION SCHEDULE

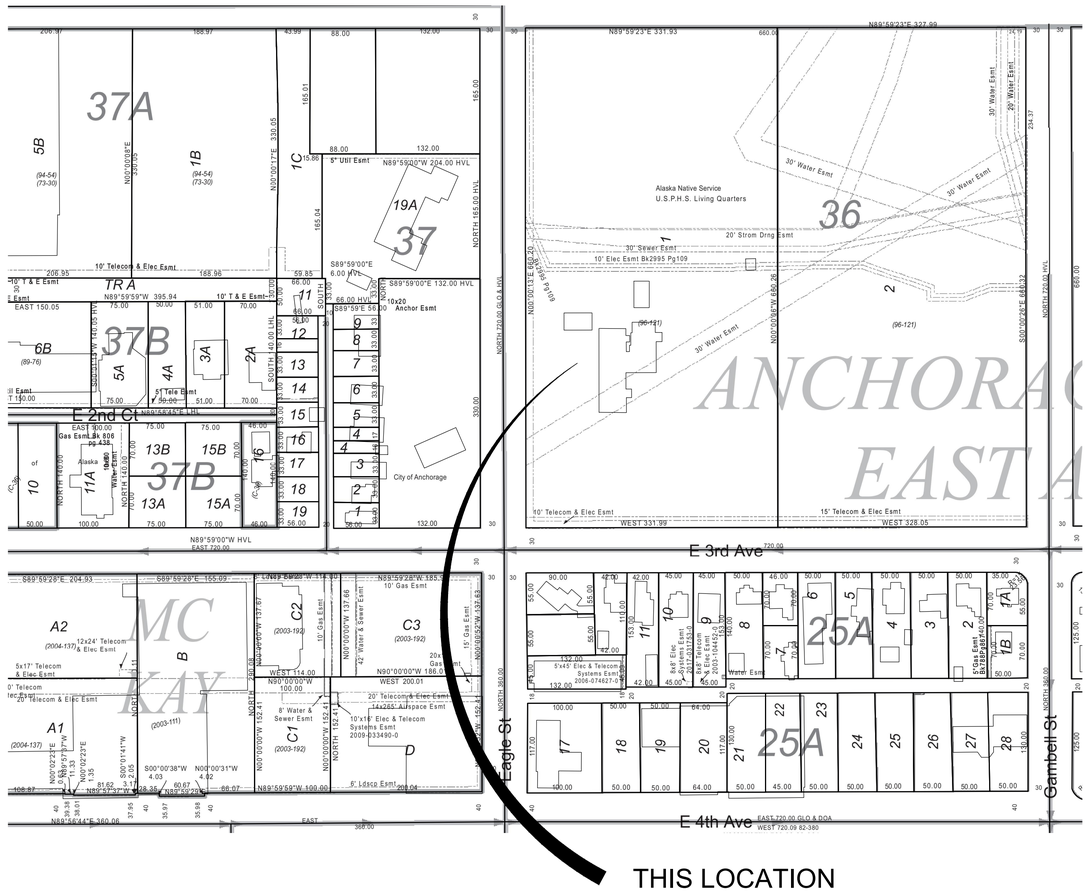
#	DESCRIPTION	DATE

JOB NO.	E21.19
DATE	03.08.2022
DRAWN	LDM
REVIEWED	LDM

SHEET NAME
CIVIL NOTES LEGEND & ABBREVIATIONS

SHEET NO.
C001

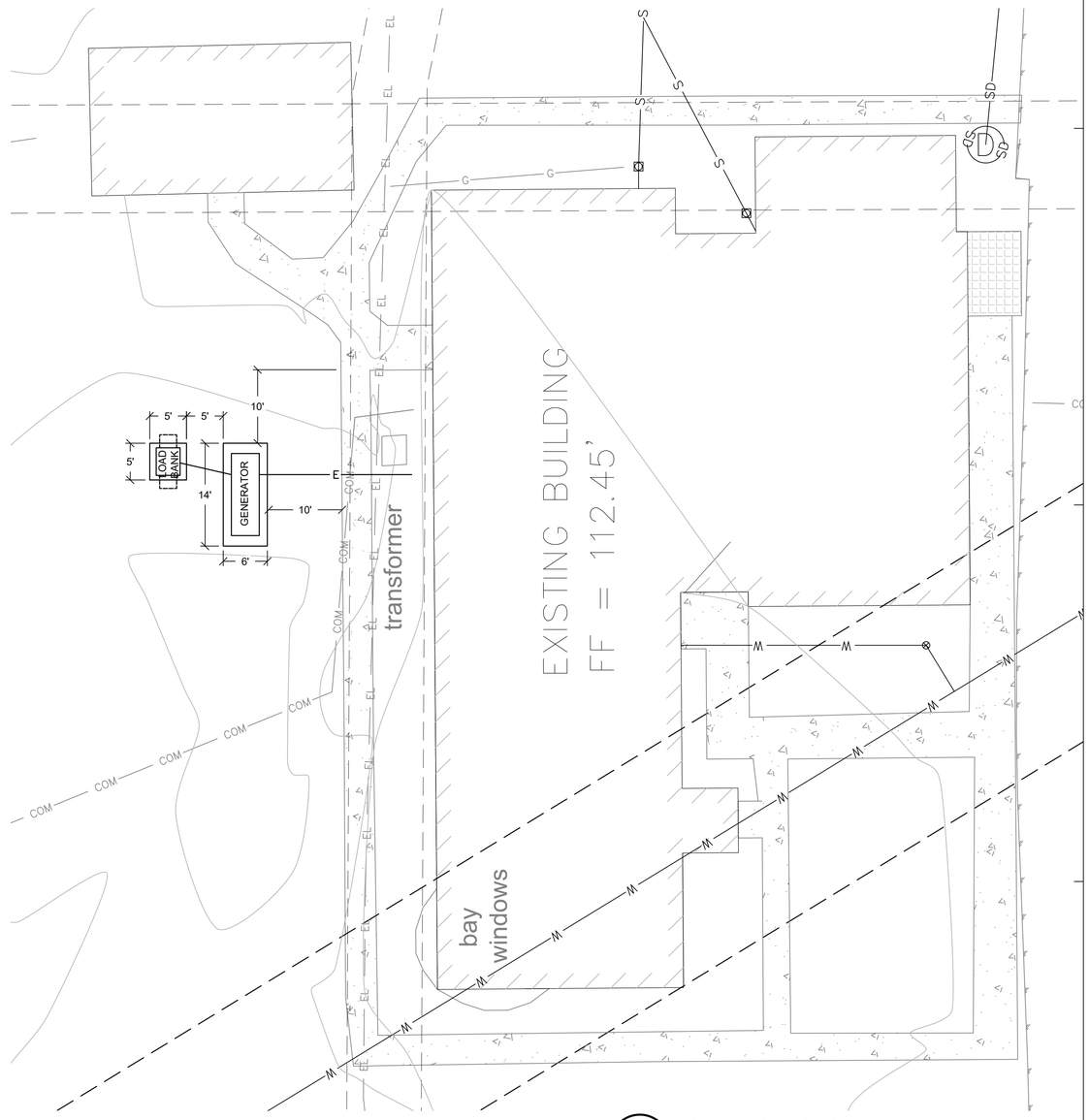
HALF-SCALE AT 11X17



THIS LOCATION

1 C101 **VICINITY MAP**

SCALE = H 1:100



2 C101 **GENERATOR SITE PLAN**

SCALE = H 1:10

STATE OF ALASKA
49TH
LUKE MATTSON
CE 14384
9/28/2021
REGISTERED PROFESSIONAL ENGINEER

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	E21.19
DATE	03.08.2022
DRAWN	LDM
REVIEWED	LDM

SHEET NAME
CIVIL SITE PLAN

SHEET NO.
C101

PERMIT SET

HALF-SCALE AT 11X17

GENERAL STRUCTURAL NOTES

THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AMONG THE DRAWINGS BEFORE STARTING ANY WORK OR FABRICATION. IN CASE OF DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, REFERENCE STANDARDS, SITE CONDITIONS OR GOVERNING CODE, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES AND OBTAIN DIRECTION PRIOR TO PROCEEDING. NOTES ON INDIVIDUAL STRUCTURAL DRAWINGS SHALL TAKE PRIORITY OVER GENERAL STRUCTURAL NOTES. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED AS TYP ON THE PLANS BUT SHALL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS.

ALL CONSTRUCTION SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE MUNICIPALITY OF ANCHORAGE (MOA).

SAFETY - THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL FEDERAL, STATE AND LOCAL SAFETY STANDARDS. THE CONTRACTOR IS IN CHARGE OF ALL SAFETY MATTERS ON AND AROUND THE JOB SITE.

STRUCTURAL DESIGN DATA

STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE IBC AS AMENDED AND ADOPTED BY THE MUNICIPALITY OF ANCHORAGE. RISK CATEGORY IS IV (EMERGENCY BACKUP) IN ACCORDANCE WITH IBC SECTION 1604.5.

WIND LOADS: BASIC WIND SPEED (3-SECOND GUST, Vult)=160 MPH, EXPOSURE B

SEISMIC LOADS: SITE CLASS D, DESIGN CATEGORY D,
Ss=1.5, S1=0.683, Sds=1.2, Sd1=0.683, Ie=1.5

FOUNDATIONS

FOUNDATIONS ARE DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 2,500 PSF UNDER SUSTAINED LOADING.

SPECIAL INSPECTION

SPECIAL INSPECTION IS NOT REQUIRED, TYPICALLY.
CONCRETE IS MINOR IN NATURE AND NOT HIGHLY STRESSED.
POST-INSTALLED ANCHORS STRESSED TO LESS THAN 50% USING OVERSTRENGTH LOADS (UNLESS 'SP' NOTED NEXT TO ANCHORS, THEN PERIODIC SPECIAL INSPECTION IS REQUIRED).

STRUCTURAL CONCRETE

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301, STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE, AS MODIFIED BY IBC SECTION 1905 AND LOCAL ADOPTED AMENDMENTS. CONCRETE SHALL BE PROPORTIONED TO ACHIEVE A WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. CONCRETE PLACED DURING COLD WEATHER SHALL CONFORM TO ACI 306. ALL COLD WEATHER CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL CONTAIN AIR ENTRAINMENT PER ACI 318-14 TABLE 19.3.3.1.

ALL CAST-IN-PLACE CONCRETE:

1. MINIMUM 28-DAY COMPRESSIVE STRENGTH = 2,500 PSI
2. MAXIMUM AGGREGATE SIZE = 3/4"
3. MAXIMUM WATER-CEMENT RATIO = 0.50
4. MAXIMUM CHLORIDE ION CONTENT = 1.00%
5. TARGET AIR CONTENT = 6% (+/-1%)

APPLICABLE ASTM STANDARDS:
PORTLAND CEMENT = ASTM C150
AGGREGATE = ASTM C33, NORMAL WEIGHT
WATER = ASTM C94, SECTION 5.4 OR ASTM C1602
WATER REDUCING ADMIXTURE = ASTM C494, TYPE A

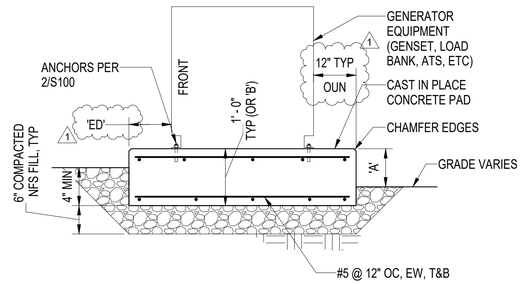
MINIMUM CONCRETE COVER SHALL BE 3-INCHES FOR PROVIDED FOR REINFORCEMENT CAST AGAINST EARTH.

ALL CONCRETE REINFORCING SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 315, ACI 318, CRSI MSP-1 AND ACI SP-66. TYPICAL REINFORCING BARS SHALL BE ASTM A615, GRADE 60. LAP SPLICES SHALL BE CLASS B LAPS PER ACI (63 X BAR DIAMETER). LAP SPLICES MAY ALSO ACCOMPLISHED USING MECHANICAL DEVICES THAT DEVELOP 125% OF THE STRENGTH OF THE REBAR.

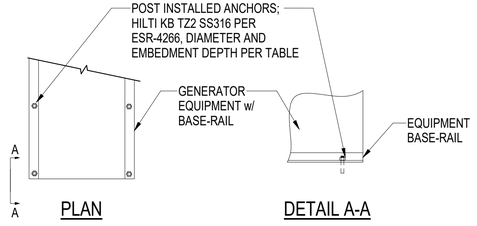
POST-INSTALLED ANCHORS

INSTALLATION SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS OF ICC-ES REPORT. ALL POST-INSTALLED ANCHORS SHALL HAVE A CURRENT ICC-ES REPORT AND BE AUTHORIZED FOR USE IN SEISMIC DESIGN CATEGORY D.

EXPANSION ANCHORS SHALL BE HILTI "KWIK BOLT TZ2" STAINLESS STEEL 316 (PER ESR-4266).



1 S100 EXTERIOR CONCRETE PAD
3/4" = 1'-0"



UNIT ID	MAX WET WEIGHT (LBS)	NUMBER AND SIZE OF ANCHORS	MIN PAD ELEV ABV GRADE; 'A' DIM	FRONT EDGE DISTANCE; 'ED' DIM
GEN-1	5,892 LBS	(4) 3/4" DIA X 4 1/2" EMBED	4"	12"
LB-1	425 LBS	(4) 3/4" DIA X 4 1/2" EMBED	19"	6"
ATS-1	590 LBS	(4) 3/8" DIA X 2 1/2" EMBED	4"	6"

2 S100 MOUNTING ANCHORS
3/4" = 1'-0"

@	At	BLKG	Blocking	EA	Each	INT	Interior	OH	Overhead	SIM	Similar	TYP	Typical
AB	Anchor Bolts	BM	Beam	EQ	Equal. Earthquake	LAG	Lag Screw	OPNG	Opening	SQ	Square	UON	Unless Otherwise Noted
BLDG	Building	BOT	Bottom	EW	Each Way	LOC	Location	PL	Plate	STL	Steel	VERT	Vertical
ARCH	Architect	BTWN	Between	EXP	Expansion	LONG	Longitudinal	PLS	Places	T&B	Top and Bottom	W/	With
AR	Anchor Rod	CL	Center-Line	FDN	Foundation	MAX	Maximum	PSF	Pounds-per-square-foot	T&G	Tongue and Groove	W/O	Without
ALT	Alternate	CLR	Clear	FF	Finished Floor	MEZZ	Mezzanine	PSI	Pounds-per-square-inch	T.O.	Top of	W	Wide-Flange, Wide
AHJ	Authority Having Jurisdiction	COL	Column	GALV	Galvanized	MIN	Minimum	REQ'D	Required	T.O.B.	Top of Beam	W/C	Water / Cement Ratio
AFF	Above Finish Floor	CONC	Concrete	GLB	Glue-Laminated Beam	MFR	Manufacturer	RO	Rough Opening	T.O.S.	Top of Steel	W.P.	Work Point
ADH	Adhesive	CONT	Continuous, Continue	HORZ	Horizontal	(N)	New	SBN	Shearwall Boundary Nailing	T.O.W.	Top of Wall	WWR	Welded Wire Reinforcement
ADD'L	Additional	DBN	Diaphragm Boundary Nailing	HSS	Hollow Structural Steel	OC	On-Center	SCH	Schedule	TRANS	Transverse		
		(E)	Existing	IBC	International Building Code								

PERMIT SET

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Phone 907 562-3439 - www.reidmiddleton.com
Corporate License #AECC598

STATE OF ALASKA 49TH
DAVID D STIERWALT
No. CE 11152
REGISTERED PROFESSIONAL ENGINEER
09/30/2021

GENERATOR UPGRADES
Q HOUSE
225 EAGLE STREET
ANCHORAGE, AK 99501
SOUTHCENTRAL FOUNDATION

DATE : 03/08/2022
PROJECT NO : 402021.071
DRAWN BY :DS
CHECKED BY :DS
COPYRIGHT :

SHEET DESCRIPTION:
Q HOUSE GENSET MOUNTING DETAILS

SHEET NO:
S100g

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.
2. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
3. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES:

1. CONDUCTORS SIZING BASED ON COPPER, TYPE XHHW INSULATION. AT CONTRACTOR'S OPTION ALUMINUM CONDUCTORS OF EQUAL OR HIGHER AMPACITY CAN BE SUBSTITUTED.
2. PROVIDE GROUNDING FOR STRUCTURES SUPPLIED BY A FEEDER OR BRANCH CIRCUIT PER NEC ARTICLE 250.32
3. NEW ALTERNATE SOURCE SHUNT TRIP DISCONNECT.
4. PROVIDE ADEQUATE SPACE TO ACCESS EXISTING CONDUITS.
5. DEMOLISH (6) EXISTING DISCONNECTS FROM BUILDING EXTERIOR. EXTEND EXISTING FEEDERS TO NEW MDP SEE PANEL SCHEDULES SHEET E3.
6. EXTEND FEEDER FROM EXISTING JUNCTION BOX TO NEW MDP.
7. PROVIDE PLACARD ON SERVICE EQUIPMENT THAT INIDCATES THE AVAILABLE FAULT CURRENT.
8. 6.PROVIDE NEW JUNCTION BOXES TO EXTEND FEEDERS TO NEW MDP SIZE PER NEC 314.28

ELECTRICAL LOAD CALCULATION

PROJECT:	**SCF Q-HOUSE GENERATOR**
	ANCHORAGE, ALASKA
DATE :	**3/7/2022**

EXISTING DEMAND LOAD (NEC 220.87)

EXISTING DEMAND LOAD W:	54,000 W
PER NEC 220.87(2) (125%)	67,500 W
ASSUMED POWER FACTOR OF 0.85	79,412 VA

MINIMUM FEEDER/SERVICE SIZE FOR 120/240 V, SINGLE PHASE SERVICE:

79,412 VA / 240 = **331 A**

NEW ELECTRICAL SERVICE AMPACITY: **400 A**

7

FEEDER SCHEDULE	
1	(2) 2"C., 3# 3/0kcmil & 1 GND
2	1"C., 3# 6 & 10 GND

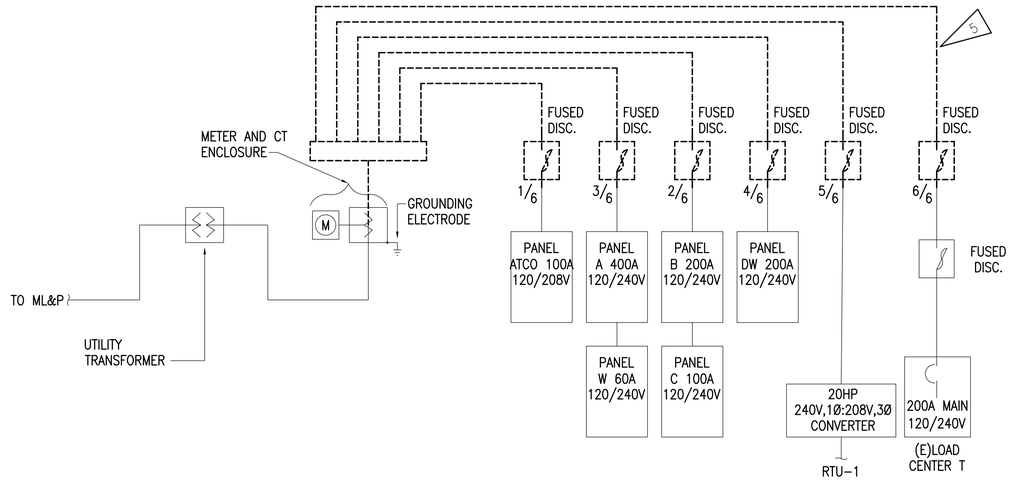
FAULT CURRENT ANALYSIS:

ALL FAULT CURRENT DATA IS BASED ON TRANSFORMER DATA TAKEN FROM AS-BUILT DRAWINGS. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL VERIFY THE ACTUAL TRANSFORMER SIZE AND IMPEDANCE PRIOR TO ORDERING EQUIPMENT AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

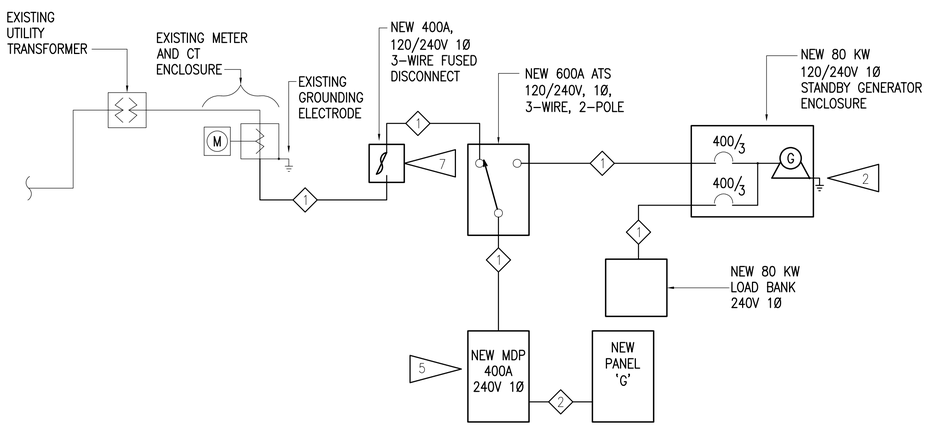
EXISTING TRANSFORMER SIZE:	75 kVA
ASSUMED EXISTING TRANSFORMER IMPEDANCE (%Z):	2.5 %
AVAILABLE FAULT CURRENT AT TRANSFORMER SECONDARY:	11,562 A
ESTIMATED LENGTH OF SERVICE CONDUCTORS:	20 FEET
ASSUMED SERVICE LATERAL SIZE AND QUANTITY:	2EA. 2"C, 4#3/0 CU
AVAILABLE FAULT CURRENT AT SERVICE DISCONNECT:	11,349 A
EST. CONDUCTOR LENGTH FROM DISCONNECT TO ATS:	10 FEET
FEEDER TO ATS:	2EA. 2"C, 4#3/0 CU
AVAILABLE FAULT CURRENT AT ATS:	10,946 A
FEEDER TO MDP:	5 FEET
AVAILABLE FAULT AT MDP:	10,571 A

LEGEND

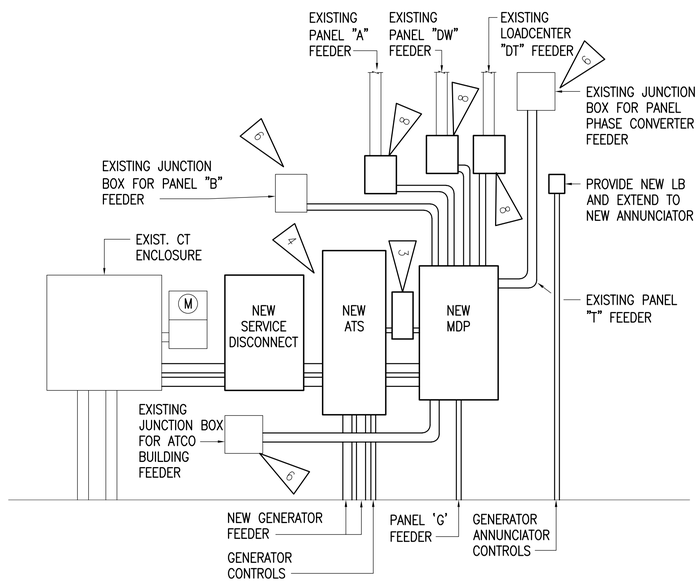
	CONDUIT, CONCEALED OR EXPOSED
	PANEL
	JUNCTION BOX
	DISCONNECT SWITCH
	DISCONNECT SWITCH (FUSED)
1	NOTE TAG (No. INDICATES NOTE)
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
(E)	DENOTES EXISTING ITEM
GND	GROUND
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
N	NEUTRAL
MDP	MAIN DISTRIBUTION PANEL
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED



1 ONE-LINE DIAGRAM DEMOLITION



2 ONE-LINE DIAGRAM REMODEL



3 ELECTRICAL SERVICE EQUIPMENT ELEVATION

STATE OF ALASKA
TIMOTHY E. HALL
EE-9131
REGISTERED PROFESSIONAL ENGINEER

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
2930 West Fireweed Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

SCF Q-HOUSE NEW GENERATOR
SOUTHCENTRAL FOUNDATION
225 EAGLE ST.,
ANCHORAGE, ALASKA

REVISIONS:

DRAWN BY:	NVF
CHECKED BY:	TEH,DB
DATE:	03/08/2022
JOB NUMBER:	M1168
DWG FILE:	M1168-ESERIES

DRAWING TITLE:
ELECTRICAL ONE-LINE & SERVICE ELEVATION

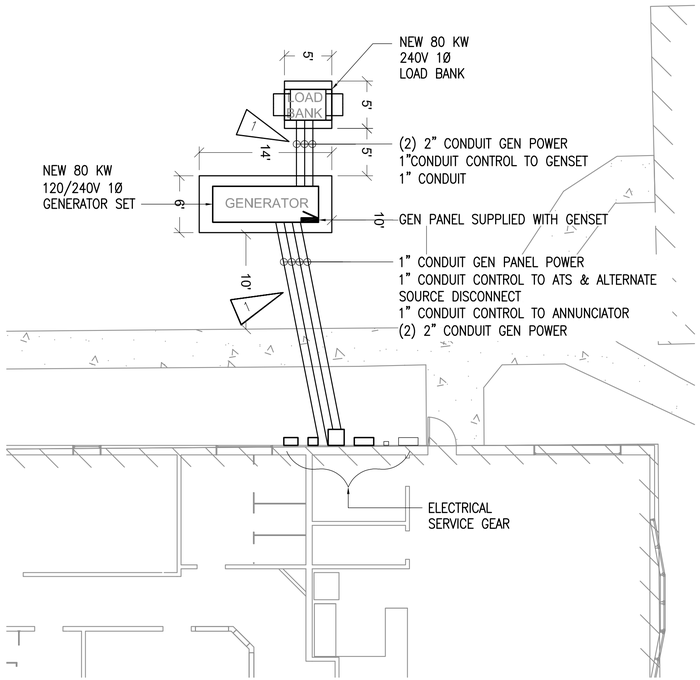
SHEET:
E1

GENERATOR WIRING SCHEDULE

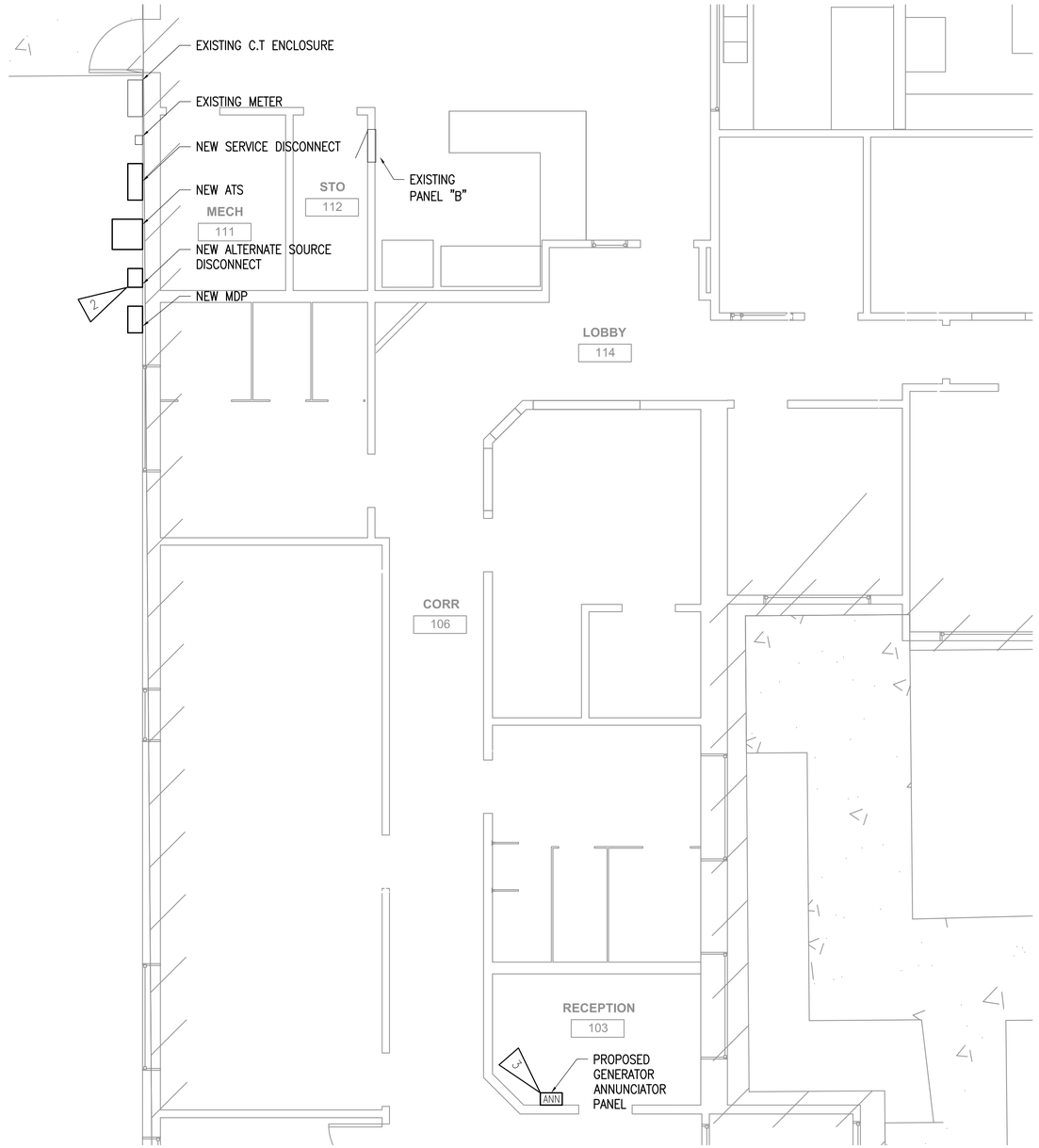
FUNCTION	FROM	TO	CONDUIT	WIRE/CABLE
GENERATOR POWER	GENERATOR BREAKER	ATS LOAD TERMINALS	SEE ONE-LINE	SEE ONE-LINE
GENERATOR START SIGNAL	GENERATOR TERMINAL TB3-3,4	ATS TERMINALS J5-13,14	1"C	2#18
GENERATOR SHUNT TRIP	GENERATOR BREAKER	ALTERNATE SOURCE DISCONNECT		3#12
GENERATOR MODULE SITE POWER	GENERATOR LOAD CENTER	MDP	1"C	3#6, 1#10 GND, CU, XHHW FEEDER
GENERATOR REMOTE ANNUNCIATOR	GENERATOR CONTROL PANEL	REMOTE ANNUNCIATOR	1"C	BELDEN #9841 1-PAIR, 24 AWG, SHIELDED RS-485 2#14 BATTERY CABLE
LOAD BANK POWER	GENERATOR BREAKER	LOAD BANK TERMINALS	SEE ONE-LINE	SEE ONE-LINE
LOAD BANK CONTROL	LOAD BANK TERMINALS TB-COM-4,5,6	LOAD BANK CTRL TERMINALS TB-H-1,2,3	1"C	BELDEN #9841 1-PAIR, 24 AWG, SHIELDED RS-485
	LOAD BANK TERMINALS TB-DC-1,2	LOAD BANK CTRL TERMINALS TB-H-5,6		2#14
LOAD BANK CT WIRING	LOAD BANK TERMINALS TB-xx	LOAD BANK CTRL TERMINALS TB-xx		EXACT CABLE TBD BY GENERATOR SUPPLIER
LOAD BANK HEATER	GENERATOR LOAD CENTER	LOAD BANK HEATER	1"C	3#12

SHEET NOTES

1. SEE GENERATOR WIRING SCHEDULE ON THIS SHEET FOR FEEDER SIZE.
2. PROVIDE NEW 30A "ALTERNATE SOURCE DISCONNECT".
3. COORDINATE WITH OWNER FOR EXACT LOCATION OF GENERATOR REMOTE ANNUNCIATOR PANEL PRIOR TO ROUGH-IN.



1 GENERATOR SITE PLAN
1/8" = 1'-0"



2 ENLARGED POWER PLAN
1/4" = 1'-0"

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SCF Q-HOUSE NEW GENERATOR
SOUTHCENTRAL FOUNDATION
225 EAGLE ST.,
ANCHORAGE, ALASKA

REVISIONS:

DRAWN BY: NVF
CHECKED BY: TEH, DB
DATE: 03/08/2022
JOB NUMBER: M1168
DWG FILE: M1168-ESERIES

DRAWING TITLE:
ELECTRICAL SITE PLAN

SHEET:
E2

26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

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

B. STANDARDS, CODES AND REGULATIONS: COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND INTERNATIONAL FIRE CODE AND THE NATIONAL ELECTRICAL SAFETY CODE INCLUDING ALL STATE AND LOCAL AMENDMENTS TO THESE CODES. COMPLY WITH THE LATEST PUBLISHED VERSION OF THE NECA STANDARD OF INSTALLATION.

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

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

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

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

G. OPERATION AND MAINTENANCE MANUALS: PROVIDE OPERATION AND MAINTENANCE MANUALS FOR TRAINING OF THE OWNER'S PERSONNEL. DESCRIBE THE PROCEDURES NECESSARY TO OPERATE THE SYSTEM INCLUDING START-UP, OPERATION, EMERGENCY OPERATION AND SHUTDOWN. PROVIDE INSTRUCTIONS AND A SCHEDULE OF PREVENTIVE MAINTENANCE IN TABULAR FORM FOR ALL ROUTINE CLEANING, INSPECTION AND LUBRICATION WITH RECOMMENDED LUBRICANTS. PROVIDE INSTRUCTIONS FOR MINOR REPAIR OR ADJUSTMENTS REQUIRED FOR PREVENTIVE MAINTENANCE ROUTINES. PROVIDE MANUFACTURER'S DESCRIPTIVE LITERATURE INCLUDING APPROVED SHOP DRAWINGS COVERING DEVICES USED IN ANY CONTRACTOR-PROVIDED EQUIPMENT OR SYSTEMS WITH ILLUSTRATION, EXPLODED VIEWS, ETC.

H. WARRANTY: THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM BENEFICIAL OCCUPANCY. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

I. PERMITS: SECURE AND PAY FOR ALL FEES, PERMITS, ETC. REQUIRED BY LOCAL AND STATE AGENCIES. COSTS FOR THE LINE EXTENSION TO THE METER ARE PAID FOR BY THE OWNER.

26 05 05 – SELECTIVE DEMOLITION FOR ELECTRICAL

A. OBTAIN PERMISSION FROM OWNER AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM. MINIMIZE OUTAGE DURATION AND MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.

B. REMOVE, RELOCATE AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

C. AND EXTENSION WORK. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE.

26 05 19 – WIRE AND CABLE

A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.

B. MATERIALS:
1. ALL CONDUCTORS SHALL BE COPPER OR ALUMINUM AA-8000 SERIES ALLOY WITH TYPE XHHW, THWN, THW OR THHN INSULATION. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE #12 AWG. MINIMUM CONTROL CIRCUIT CONDUCTOR SIZE SHALL BE #18 AWG. MINIMUM ALUMINUM CONDUCTOR SIZE SHALL BE #2 AWG.
2. CONTROL CIRCUITS SHALL BE COPPER, STRANDED CONDUCTOR, 600V INSULATION, THHN/THWN, MINIMUM SIZE #18 AWG.

C. INSTALLATION:
1. COLOR CODE WIRES BY LINE OR PHASE. COLOR CODE THE 120/240V CONDUCTORS BLACK, RED, AND WHITE.
2. DO NOT SHARE NEUTRAL CONDUCTORS. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL.
3. USE PROPERLY SIZED INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #8 AWG AND SMALLER. TERMINATE #6 AWG AND LARGER CONDUCTORS WITH CRIMP OR COMPRESSION TYPE CONNECTORS INSTALLED WITH TOOL RECOMMENDED BY CONNECTION MANUFACTURER AND INSULATE WITH PROPERLY SIZED 600 VOLT RATED HEAT SHRINK TUBING.
4. INSTALLATION SCHEDULE: BUILDING WIRE IN RACEWAYS AT ALL LOCATIONS UNLESS OTHERWISE NOTED. PROVIDE XHHW-2 FOR FEEDERS AND IN EXTERIOR LOCATIONS.

26 05 26 – GROUNDING AND BONDING

A. SUBMITTALS: SUBMIT PRODUCT DATA FOR GROUND RODS.

B. MATERIAL: SOLID GROUND RODS: COPPER-ENCASED STEEL, 3/4 INCH DIAMETER, MINIMUM LENGTH 10 FEET.

C. INSTALLATION:
1. PROVIDE A SEPARATE, INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL BRANCH CIRCUITS AND FEEDERS. TERMINATE EACH END ON A GROUNDING LUG, BUS, OR BUSHING.
2. MECHANICAL CONNECTORS: NON-REVERSIBLE CRIMP TYPE LUGS ONLY. USE FACTORY MADE COMPRESSION LUG FOR ALL TERMINATIONS. FOR TELECOMMUNICATION SYSTEMS USE COPPER, COPPER ALLOY, OR TIN-PLATED COPPER, NON-REVERSIBLE LONG BARREL CRIMP TYPE BOLT LUGS WITH TWO BOLT TONGUES FOR #6 AWG OR LARGER CONDUCTORS. CRIMP TYPE ONE HOLE FOR CONDUCTORS SMALLER THAN #6 AWG.
3. BOND TOGETHER SYSTEM NEUTRALS, SERVICE EQUIPMENT ENCLOSURES, EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN RACEWAYS AND CABLES, RECEPTACLE GROUND CONNECTORS, AND PLUMBING AND FUEL SYSTEMS.

26 05 29 – HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION. PROVIDE STRUCTURALLY ENGINEERED SHOP DRAWINGS (STAMPED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF ALASKA) FOR SEISMIC RESTRAINT OF ELECTRICAL EQUIPMENT REQUIRED BY THE INTERNATIONAL BUILDING CODE (IBC), CHAPTERS 16, 17. STRUCTURAL DESIGN SHALL BE BASED ON THE SEISMIC USE CATEGORY AND SEISMIC DESIGN CATEGORY AS DESIGNATED IN THESE CHAPTERS.

B. MATERIAL: SUPPORT CHANNEL SHALL BE GALVANIZED OR PAINTED STEEL. HARDWARE SHALL BE CORROSION RESISTANT.

C. INSTALLATION: EQUIPMENT WEIGHING MORE THAN 50 POUNDS SHALL BE ADEQUATELY ANCHORED TO THE BUILDING STRUCTURE TO RESIST LATERAL EARTHQUAKE FORCES. PROVIDE SAFETY CHAINS FOR LIGHT FIXTURES, SUPPORTED FROM T-BAR OR OTHER CEILING SUSPENSION SYSTEM, CAPABLE OF SUPPORTING A MINIMUM OF 200 POUNDS. ATTACH SAFETY CHAINS AT EACH CORNER OF FIXTURE CONNECTED SUCH THAT FIXTURE WILL NOT DROP BELOW A HEIGHT OF 7'-6" IN THE EVENT OF A CEILING SUSPENSION SYSTEM FAILURE. INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH THE SEISMIC STRUCTURAL ENGINEER'S DRAWINGS AND DETAILED IN ACCORDANCE WITH SEISMIC GUIDELINES.

26 05 33 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.

B. MATERIALS:
1. RIGID STEEL CONDUIT: ANSI C80.1. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; THREADED TYPE WITH INSULATED THROAT BUSHINGS, MATERIAL TO MATCH CONDUIT.
2. INTERMEDIATE METAL CONDUIT (IMC): GALVANIZED STEEL. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; USE FITTINGS AND CONDUIT BODIES SPECIFIED ABOVE FOR RIGID STEEL CONDUIT.
3. ELECTRICAL METALLIC TUBING CONDUIT (EMT): ANSI C80.3. GALVANIZED TUBING. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; STEEL OR MALLEABLE IRON, COMPRESSION TYPE OR SET SCREW FITTINGS WITH INSULATED THROAT BUSHINGS. DIE-CAST FITTINGS ARE NOT ACCEPTABLE. MAXIMUM SIZE SHALL BE 2". PROVIDE FACTORY ELBOWS ON SIZES 1-1/2" AND LARGER.
4. FLEXIBLE METAL CONDUIT: FS WW-C-566; STEEL, FULL WALL OR REDUCED WALL THICKNESS. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; STEEL OR MALLEABLE IRON WITH INSULATED THROAT BUSHINGS. DIE CAST FITTINGS ARE NOT ACCEPTABLE.
5. LIQUIDTIGHT FLEXIBLE CONDUIT: FLEXIBLE METAL CONDUIT WITH PVC JACKET. FITTINGS AND CONDUIT BODIES: ANSI/NEMA FB 1; STEEL OR MALLEABLE IRON WITH INSULATED THROAT BUSHINGS. DIE CAST FITTINGS ARE NOT ACCEPTABLE.
6. RIGID NONMETALLIC CONDUIT: NEMA TC 2; SCHEDULE 40 PVC, RATED FOR 90° C CABLE.
7. PROVIDE CAST ALUMINUM OR FERALLOY TYPE BOXES WITH GASKETED COVER, THREADED HUBS AND NEMA 3R RATING FOR USE IN EXTERIOR OR WET LOCATIONS.

C. INSTALLATION:
1. INSTALL CONDUIT FOR ALL SYSTEMS UNLESS OTHERWISE NOTED, 1/2 INCH MINIMUM SIZE, EXCEPT CONDUIT FOR SPECIAL SYSTEMS SHALL BE 3/4" MINIMUM. IN SLAB ABOVE GRADE, EXPOSED OUTDOOR LOCATIONS, WET INTERIOR LOCATIONS, AND FEEDERS SHALL BE RIGID STEEL CONDUIT OR INTERMEDIATE METAL CONDUIT OR SCHEDULE 40 PVC CONDUIT.
2. EXPOSED DRY INTERIOR LOCATIONS SHALL BE ELECTRICAL METALLIC TUBING, RIGID STEEL CONDUIT OR INTERMEDIATE METAL CONDUIT.
3. MOTOR AND EQUIPMENT CONNECTIONS SHALL BE SHORT EXTENSIONS OF FLEXIBLE METAL CONDUIT TO ALLOW FOR VIBRATION. LIQUIDTIGHT FLEXIBLE CONDUIT AND FITTINGS SHALL BE USED FOR THESE CONNECTIONS IN DAMP OR WET LOCATIONS.
4. PROVIDE OUTLET BOXES AS SHOWN ON THE DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, DEVICE INSTALLATION AND CODE COMPLIANCE.
5. INSTALL FITTINGS AND FLEXIBLE METAL CONDUIT TO ACCOMMODATE 3-AXIS MOVEMENTS WHERE RACEWAY CROSSES SEISMIC JOINTS. INSTALL FITTINGS DESIGNED AND LISTED TO ACCOMMODATE EXPANSION AND CONTRACTION WHERE RACEWAY CROSSES CONTROL AND EXPANSION JOINTS.
6. SUPPORT BOXES INDEPENDENTLY OF CONDUIT.

26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION.

B. MATERIALS:
1. NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, WHITE LETTERS ON A BLACK BACKGROUND. NAMEPLATES SHALL BE PROVIDED TO IDENTIFY ALL ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT AND LOADS SERVED.
2. TAPE LABELS: ADHESIVE TAPE LABELS, WITH 3/16 INCH BOLD BLACK LETTERS ON CLEAR BACKGROUND MADE USING DYMO RHINO SERIES OR EQUAL LABEL PRINTER.
3. WIRE AND CABLE MARKERS: CLOTH MARKERS, SPLIT SLEEVE OR TUBING TYPE.

C. INSTALLATION:
1. GEAR: PROVIDE ENGRAVED THREE-LAYER LAMINATED PLASTIC NAMEPLATES WITH WHITE LETTERS ON A BLACK BACKGROUND TO IDENTIFY ALL ELECTRICAL DISTRIBUTION, CONTROL EQUIPMENT, LOADS SERVED, AND LOW-VOLTAGE SYSTEM PANELS.
2. CONDUITS: MARK ALL CONDUITS ENTERING OR LEAVING PANELBOARDS WITH INDELIBLE BLACK MAGIC MARKER WITH THE CIRCUIT NUMBERS OF THE CIRCUITS CONTAINED INSIDE. LABEL FEEDER CONDUITS AND SPARE CONDUITS AT EACH END WITH SOURCE AND TERMINATION POINT.
3. JUNCTION BOXES: MARK ALL CIRCUIT NUMBERS OF WIRING ON ALL JUNCTION BOXES WITH SHEET STEEL COVERS. MARK WITH INDELIBLE BLACK MARKER. ON EXPOSED JUNCTION BOXES IN PUBLIC AREAS, MARK ON INSIDE OF COVER. MARK ALL FIRE ALARM SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS WITH "FA." MARK WITH INDELIBLE RED MARKER. MARK ALL OTHER SPECIAL SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS.
4. WIRE IDENTIFICATION: PROVIDE WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT LOAD CONNECTION. MARKERS SHALL BE LOCATED WITHIN ONE INCH OF EACH CABLE END, EXCEPT AT PANELBOARDS, WHERE MARKERS FOR BRANCH CIRCUIT CONDUCTORS SHALL BE VISIBLE WITHOUT REMOVING PANEL DEADFRONT.
5. DEVICE PLATES: LABEL EACH RECEPTACLE DEVICE PLATE OR POINT OF CONNECTION DENOTING THE PANELBOARD NAME AND CIRCUIT NUMBER. INSTALL LABEL ON THE TOP OF EACH PLATE.

26 24 16 – PANELBOARDS

A. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.

B. MATERIAL:
1. MANUFACTURERS: SQUARE D, GE, EATON, OR EQUAL.
2. PROVIDE DEAD-FRONT CIRCUIT BREAKER PANELBOARDS WITH BUS SIZE, SHORT CIRCUIT RATING, NUMBER AND SIZE OF BRANCH CIRCUITS AS SHOWN ON THE DRAWINGS. CABINETS SHALL BE 6 INCHES DEEP BY 20 INCHES WIDE MINIMUM. PROVIDE WITH FLUSH OR SURFACE FRONTS, AS NOTED ON THE DRAWINGS, WITH CONCEALED TRIM CLAMPS, CONCEALED HINGE AND FLUSHLOCK. FINISH IN MANUFACTURER'S STANDARD GRAY ENAMEL. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON MAGNETIC TRIP TYPE WITH COMMON TRIP HANDLE FOR ALL POLES.

C. INSTALLATION:
1. INSTALL PANELBOARDS PLUMB WITH TOP OF CABINET 6'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. PROVIDE TYPED CIRCUIT DIRECTORIES FOR EACH PANELBOARD.
3. ALL PANELBOARDS SHALL HAVE SIGNAGE FOR ARC HAZARD INSTALLED. THE MARKING SHALL BE LOCATED TO BE CLEARLY VISIBLE TO QUALIFIED PERSONNEL BEFORE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE OF THE EQUIPMENT. AT A MINIMUM THE 3-LINE SIGNAGE SHALL STATE THE FOLLOWING:

   WARNING – ARC FLASH AND SHOCK HAZARD – APPROPRIATE PPE REQUIRED.

26 28 19 – ENCLOSED SWITCHES

A. SUBMITTALS: SUBMIT PRODUCT DATA FOR APPROVAL.

B. MATERIALS:
1. MANUFACTURERS: SQUARE D, GE, EATON, OR EQUAL
2. FUSIBLE SWITCH ASSEMBLIES: NEMA KS 1; TYPE HD; QUICK-MAKE, QUICK-BREAK, HEAVY-DUTY LOAD INTERRUPTER ENCLOSED KNIFE SWITCH WITH EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION. HANDLE LOCKABLE IN OFF POSITION. ENCLOSURE SHALL BE NEMA KS 1; TYPE 1, 3R OR 4 AS INDICATED ON DRAWINGS. FUSES SHALL BE CLASS RK1; RK5; DUAL ELEMENT, CURRENT LIMITING, TIME DELAY, ONE-TIME FUSES, 600V, WITH AN INTERRUPTING RATING OF 200,000 RMS AMPERES.

C. INSTALLATION:
1. INSTALL DISCONNECT SWITCHES IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FIELD LOCATE FINAL LOCATION OF DISCONNECTS TO ALLOW READY ACCESS AND NEC 110.26 WORKING CLEARANCES WHERE APPLICABLE.
2. ALL FUSED DISCONNECTS SHALL HAVE SIGNAGE FOR ARC HAZARD INSTALLED. THE MARKING SHALL BE LOCATED TO BE CLEARLY VISIBLE TO QUALIFIED PERSONNEL BEFORE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE OF THE EQUIPMENT. AT A MINIMUM THE 3-LINE SIGNAGE SHALL STATE THE FOLLOWING:

   WARNING – ARC FLASH AND SHOCK HAZARD – APPROPRIATE PPE REQUIRED

26 32 00– PACKAGED ENGINE GENERATOR ASSEMBLIES

A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION. GENERATOR AND LOAD BANK ALREADY ORDERED BY CONTRACTOR.

26 36 23– AUTOMATIC TRANSFER SWITCHES

A. SUBMITTALS: NONE REQUIRED FOR THIS SECTION. TRANSFER SWITCH ALREADY ORDERED BY CONTRACTOR.

MAIN DISTRIBUTION PANEL 'MDP'

MFR/MODEL: SQUARE 'D' TYPE I-LINE VOLTS: 120/240V,1PH,3W ENCLOSURE: NEMA 3R 400 A

MTG SPACE: AS REQUIRED VOLT-AMPS MTG: SURFACE

NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A	B	TYPE	SERVICE	AMPS	POLE	CIRC	NOTE
	1	2	100	ATCO PANEL	FEDR			FEDR	RTU-1	150	2	2	
	3	2	100	^^	FEDR			FEDR	^^	150	2	4	
	5	2	400	PANEL A	FEDR			FEDR	PANEL T	200	2	6	
	7	2	400	^^	FEDR			FEDR	^^	200	2	8	
	9	2	200	PANEL B	FEDR			FEDR	GEN PANEL	60	2	10	
	11	2	200	^^	FEDR			FEDR	^^	60	2	12	
	13	2	200	PANEL DW	FEDR							14	
	15	2	200	^^	FEDR							16	
	17											18	
	19											20	
	21											22	
	23											24	
				TOTAL V-A		0	0		0 VA				
				TOTAL AMPS		0	0		0 A				
				A.I.C. RATING: 18,000									

PANEL NOTES:
a
b
c
d
e

PANEL OPTIONS:
MAIN LUGS ONLY

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STATE OF ALASKA – TIMOTHY E. HALL – EE-9131 – REGISTERED PROFESSIONAL ENGINEER

SCF Q-HOUSE NEW GENERATOR
SOUTHCENTRAL FOUNDATION
225 EAGLE ST.,
ANCHORAGE, ALASKA

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DRAWING TITLE:
ELECTRICAL SPECIFICATIONS

SHEET:
E3