

FEEDER SCHEDULE - CU			
STD. FUSE OR CB TRIP SIZE	# OF SETS	BUILDING WIRE QUANTITY & SIZE TYPE THHN - DRY TYPE THHN - WET	MINIMUM CONDUIT SIZE
30	1	4 #10, #10 G	1/2"
35	1	4 #8, #10 G	3/4"
40	1	4 #8, #10 G	3/4"
45	1	4 #6, #10 G	1"
50	1	4 #6, #10 G	1"
60	1	4 #6, #10 G	1"
70	1	4 #4, #8 G	1 1/4"
80	1	4 #4, #8 G	1 1/4"
90	1	4 #4, #8 G	1 1/4"
100	1	4 #2, #6 G	1 1/2"
110	1	4 #2, #6 G	1 1/2"
125	1	4 #1, #6 G	1 1/2"
150	1	4 #1/0, #6 G	2"
175	1	4 #2/0, #6 G	2"
200	1	4 #3/0, #6 G	2"
225	1	4 #4/0, #4 G	2 1/2"
250	1	4 - 250MCM, #4 G	2 1/2"
300	1	4 - 350MCM, #4 G	2 1/2"
350	2	4 #2/0, #3 G	2"
400	1	4 - 600MCM, #3 G	4"
450	2	4 #4/0, #2 G	2 1/2"
500	2	4 - 250MCM, #2 G	2 1/2"
600	2	4 - 350MCM, #1 G	3"
700	2	4 - 500MCM, #1/0 G	4"
800	2	4 - 600MCM, #1/0 G	4"
1000	3	4 - 400MCM, #2/0 G	3"
1200	4	4 - 350MCM, #3/0 G	3"
1600	5	4 - 400MCM, #4/0 G	3"

VOLTAGE DROP SCHEDULE		
120 VOLT BRANCH CIRCUITS UP TO 8 AMPS	RUN DISTANCE IN FEET	WIRE SIZE AWG
	1' - 120'	#12
	121' - 190'	#10
	191' - 300'	#8
	301' - 470'	#6

120 VOLT BRANCH CIRCUITS 9 AMPS TO 14 AMPS	RUN DISTANCE IN FEET	WIRE SIZE AWG
	1' - 85'	#12
	86' - 110'	#10
	111' - 170'	#8
	171' - 270'	#6

277 VOLT BRANCH CIRCUITS UP TO 14 AMPS	RUN DISTANCE IN FEET	WIRE SIZE AWG
	1' - 150'	#12
	151' - 220'	#10
	221' - 390'	#8
	391' - 620'	#6

- NOTES:
- ALL FEEDER SIZES LISTED MAY NOT BE USED IN PROJECT RISER DIAGRAM.
 - ELECTRICAL CONTRACTOR TO VERIFY CONDUIT SIZE REQUIRED IF WIRE TYPES OTHER THAN THOSE LISTED ABOVE ARE USED.
 - REFER TO LATEST EDITION OF NEC FOR CONDUIT TYPES REQUIRED PER THEIR LOCATION. IF CONDUIT OTHER THAN 'EMT' IS REQUIRED USE SIZE PER MAXIMUM FULL TABLES.
 - FEEDER SIZES SHOWN IN PROJECT RISER WITH A DELTA SYMBOL (Δ) ARE IN 3 WIRE FEEDERS, A NEUTRAL WIRE IS NOT REQUIRED.
 - FEEDER SIZES SHOWN IN PROJECT RISER WITH A DELTA SYMBOL (Δ) ARE IN 3 WIRE FEEDERS, A NEUTRAL WIRE IS NOT REQUIRED.
 - IG - PROVIDE ISOLATED GROUND CONDUCTOR FOR ISOLATED GROUND BUS IN PANEL.
 - FEEDERS ARE SIZED FOR NEC DEMAND ONLY. EC TO ADJUST FEEDER SIZES AS REQUIRED TO MAINTAIN 3% MAX VOLTAGE DROP FROM SERVICE ENTRANCE.

PROVIDE 120 KW STANDBY (150KW ALTERNATOR) GENSET IN WEATHERPROOF ENCLOSURE. LIQUID COOLED GENERATOR SET. PROVIDE 1200A OUTPUT BREAKER FOR STANDBY POWER PANEL FEEDER VIA THE AUTOMATIC TRANSFER SWITCH AND 200A OUTPUT BREAKER FOR EMERGENCY LIGHTING PANEL VIA THE EL AUTOMATIC TRANSFER SWITCH. PROVIDE INTERFACE WIRING AS REQUIRED. VOLTAGE DIP TO BE 6% MAXIMUM. GENERATOR SIZING AND REQUIREMENTS BASED ON GENERATOR EQUIVALENT MANUFACTURERS ACCEPTED. GENSET AND ENCLOSURE TO BE UL 2200 LISTED AS AN ASSEMBLY. ALL ASPECTS OF GENERATOR AND EMERGENCY POWER INSTALLATION SHALL MEET GENERATOR REQUIREMENTS OF NFPA 10 LEVEL 1 AND AS REQUIRED BY ALL. ALL WIRING TO BE INSTALLED IN ACCORDANCE WITH NEC 700 AND 701 REQUIREMENTS.

PROVIDE DOUBLE MALL BASE TANK SIZED FOR 24HR FULL LOAD OPERATION. PROVIDE TANK FULL OF FUEL AT TURN OVER TO OWNER AND AFTER ALL TESTING HAS BEEN COMPLETED.

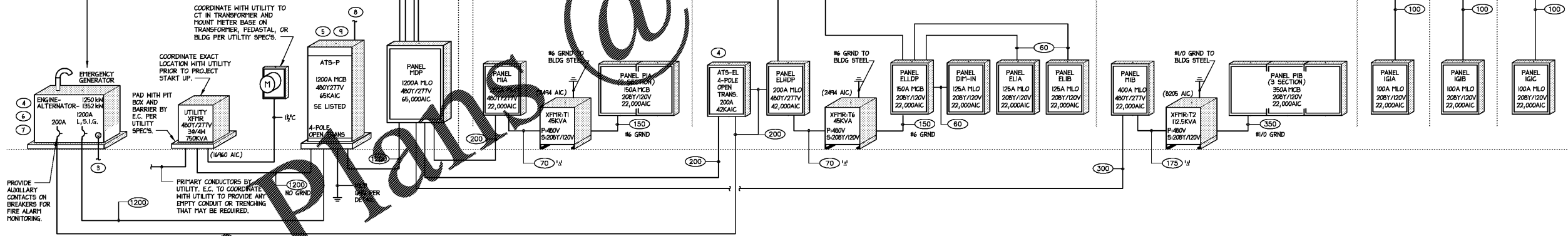
BASIS OF DESIGN: GENERAC 50 SERIES

COORDINATE WITH UTILITY TO CT IN TRANSFORMER AND MOUNT METER BASE ON TRANSFORMER, PEDASTAL, OR BLDG PER UTILITY SPECS.

COORDINATE EXACT LOCATION WITH UTILITY PRIOR TO PROJECT START UP.

PAD WITH FIT BOX AND BARRIER BY E.C. PER UTILITY SPECS.

PRIMARY CONDUCTORS BY UTILITY. E.C. TO COORDINATE WITH UTILITY TO PROVIDE ANY EMPTY CONDUIT OR TRENCHING THAT MAY BE REQUIRED.

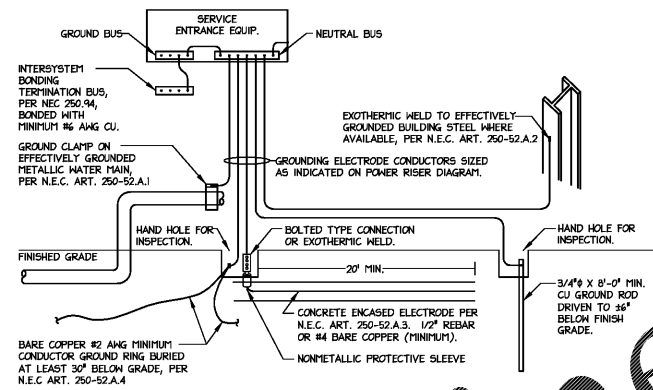


1 POWER RISER DIAGRAM NTS

- NOTES:
- COORDINATE ALL ELECTRICAL SERVICE WORK WITH LOCAL UTILITY PRIOR TO PROJECT START UP. ALL WORK MUST CONFORM TO LOCAL UTILITY RULES AND REGULATIONS.
 - ALL ELECTRICAL EQUIPMENT SIZES ARE BASED ON SQUARE D. IF OTHER MANUFACTURER IS SELECTED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL EQUIPMENT FITS IN SPACE PROVIDED.
 - PROVIDE (4) EMPTY 1 1/2" PVC CONDUITS TO ATS'S, GENERATOR ANNUNCIATOR PANEL IN MAIN ELECTRICAL ROOM, AND THE FIRE ALARM CONTROL PANEL FOR CONTROL WIRING AS REQUIRED BY THE MANUFACTURER.

- EMERGENCY SYSTEM OVERCURRENT DEVICES TO BE SELECTIVELY COORDINATED WITH ALL SUPPLY SIDE OVERCURRENT DEVICES PER NEC 700.27. CONTRACTOR TO SUBMIT MANUFACTURER'S SELECTIVE COORDINATION REPORT FOR EMERGENCY SYSTEM PANELS AND BRANCHES.
 - AUTOMATIC TRANSFER SWITCH, BREAKER BASED DESIGN. SERVICE ENTRANCE RATED, NEMA 3R ENCLOSURE. 4 POLE, OPEN TRANSITION. UTILITY INPUT WITH 1200A BREAKER, L.S.I.G. TRIP UNIT. GENSET INPUT WITH 1200A SWITCH.
- BASIS OF DESIGN: EATON CT-V-1-MG-C-4-200-X-R-U

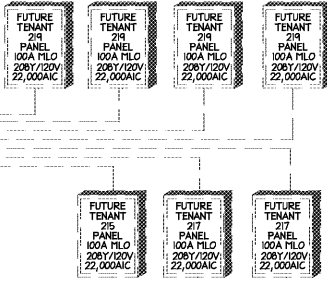
- PROVIDE FIRE ALARM CONNECTION FOR EMERGENCY GENERATOR. COORDINATED WITH ALL SUPPLY SIDE OVERCURRENT DEVICES PER NEC 700.27.
- CONTRACTOR TO PROVIDE GENERATOR MANUFACTURER'S SIZING REPORT BASED ON SPECIFIC LOADS FOR THIS PROJECT AS PART OF THE GENERATOR SHOP DRAWING REVIEW.
- PROVIDE 3/4" CONDUIT FROM ATS TO ELEVATOR CONTROLLER FOR POWER STATUS COMMUNICATION WIRING.
- PROVIDE E.R.M.S. SYSTEM SWITCH PER NEC 240.87.



2 GROUNDING DETAIL NTS

GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SHALL BE AS INDICATED ON POWER RISER DIAGRAM. ALL METHODS OF CREATING THE GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.

FUTURE TENANT PANELS MOUNTED IN TENANT SPACES PROVIDED UNDER SEPARATE PERMIT UPFIT PLANS.



2923 South Tryon Street Suite 280
Charlotte, North Carolina 28203
Tel 704.373.0068



DEC 7, 2018
LICENSE NUMBER = C-2130

WILSON AIR CENTER
NORTH TERMINAL
HCD 000018
CHARLOTTE, NC 28203
5300 WILSON FIELD DRIVE
CHARLOTTE, NC 28203

ARCHITECT
THE WILSON GROUP
P O BOX 6610
CHARLOTTE, NC 28209
(704) 331-9747

CIVIL ENGINEER
TALBERT, BRIGHT & ELLINGTON
3525 WHITEHALL PARK DRIVE, SUITE 210
CHARLOTTE, NC 28273
(704) 426-6070 FIRM NO. C-1163

STRUCTURAL ENGINEER
STEWART
101 N. TRYON ST., SUITE 1400
CHARLOTTE, NC 28202
(704) 909-3523 FIRM NO. C-1051

MECHANICAL, ELECTRICAL, PLUMBING & FIRE PROTECTION ENGINEER
SABER ENGINEERING
2923 S. TRYON ST., SUITE 280
CHARLOTTE, NC 28203
(704) 373-0068 FIRM NO. C-2130

LANDSCAPE ARCHITECT
URBAN DESIGN PARTNERS
1318-E8 CENTRAL AVENUE
CHARLOTTE, NC 28208
(704) 334-3303 FIRM NO. C-T80

COMMUNICATIONS INFRASTRUCTURE
DB CONSULTING
248 LOVES FARM ROAD
BLACKSBURG, SC 29702
(704) 497-7228 FIRM NO. C-T80

REVISIONS

DATE DECEMBER 7, 2018
PROJECT NUMBER 9197-000

SHEET TITLE
POWER RISER
DIAGRAM

SHEET NUMBER
E-301

Order Plans