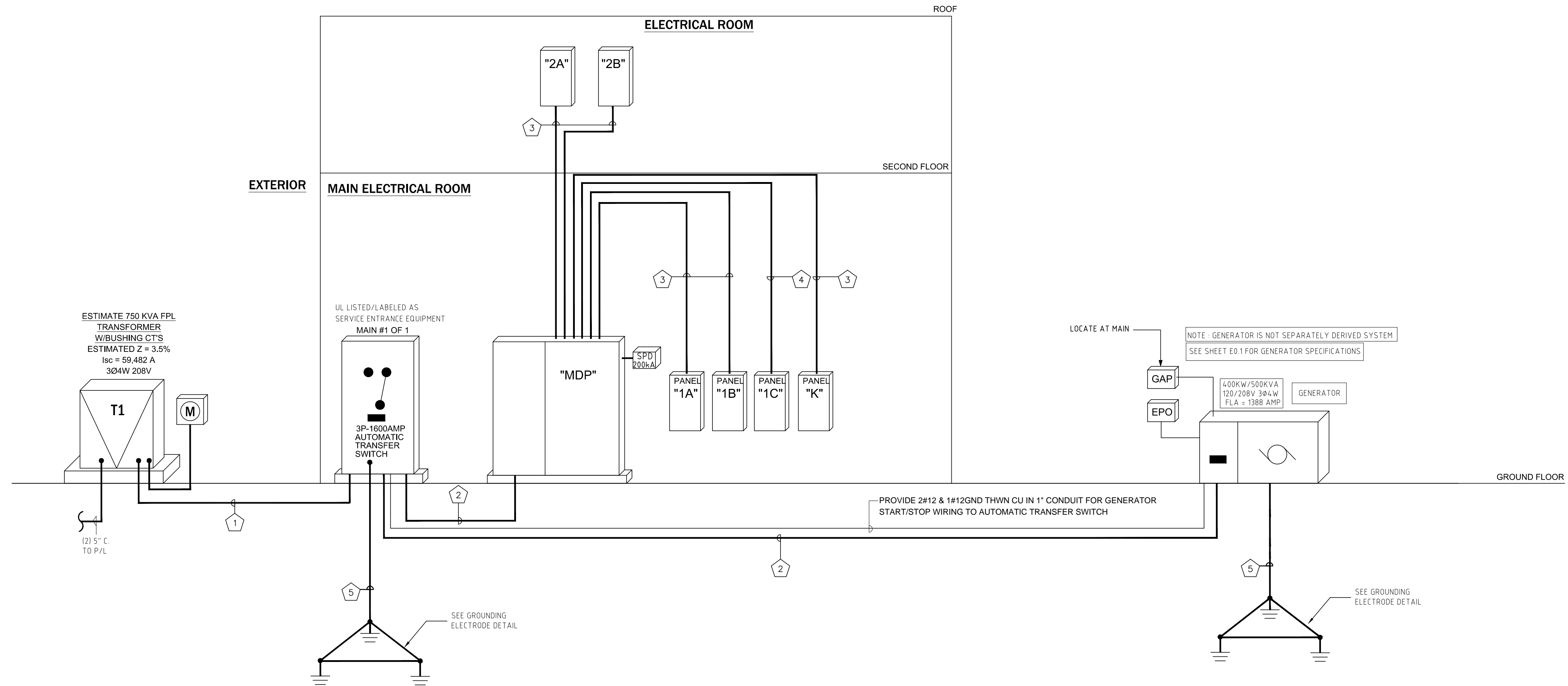


- ### ELECTRICAL SERVICE & PANEL NOTES
1. ALL ELECTRICAL SERVICE EQUIPMENT SHALL HAVE MIN A.I.C. RATING OF 65,000 AMPS. ALL EQUIPMENT LOCATED ON EXTERIOR OF BUILDING SHALL BE NEMA-3R RATED.
 2. ALL ELECTRICAL EQUIPMENT AND WIRE SHALL BE RATED @ 75°C CONTINUOUS DUTY.
 3. PRIOR TO CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL:
 - a) VERIFY ALL EXISTING CONDITIONS IN FIELD
 - b) COORDINATE THE ELECTRICAL SERVICE WITH F&B REPRESENTATIVE
 - c) NOTIFY THE ENGINEER OF ANY CHANGES REQUIRED TO COMPLETE NEW CONSTRUCTION.
 4. ALL ELECTRICAL EQUIPMENT SHALL BE FIELD MARKED TO WARN OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE BEFORE ANY EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.
 5. EACH DISCONNECT SHALL BE LEGIBLY MARKED TO INDICATE THE UNIT IT IS FEEDING. THE MARKING SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.

- ### ALUMINUM NOTES(OWNER/CONTRACTOR BID OPTION)
1. ALL EQUIPMENT USED WITH ALUMINUM CONDUCTORS MUST BE LISTED FOR THE PURPOSE.
 2. ALL ALUMINUM CONDUCTORS SHALL BE TERMINATED WITH HARDWARE AND COMPRESSION LUGS APPROVED FOR THE PURPOSE.
 3. ALL COMPRESSION LUGS SHALL BE CHECKED 3, 6, & 11 MONTHS AFTER C.O. AND EVERY THREE YEARS THEREAFTER. BUILDING OWNER SHALL HAVE A MAINTENANCE CONTRACT WITH ELECTRICAL CONTRACTOR OF CHOICE. CONTRACTOR SHALL DOCUMENT ALL MEASUREMENTS AND VERIFICATION IN TABULAR FORM. PROVIDE CORRECTIVE RECOMMENDATIONS, ACTIONS TAKEN, AND TESTING EQUIPMENT UTILIZED.
 4. THE ELECTRICAL CONTRACTOR MUST TORQUE ALL ALUMINUM TERMINATIONS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
 5. PRIOR TO TERMINATING ALUMINUM CONDUCTORS, THE CONTRACTOR MUST CLEAN WIRE THOROUGHLY WITH WIRE BRUSH AND APPLY AN ANTI-OXIDANT COMPOUND.
 6. ALL BRANCH CIRCUITS FROM PANELS MUST BE COPPER.
 7. ALL GROUNDING SHALL BE COPPER.
 8. UL LISTED LUGS SHALL BE RATED FOR 90°C WHERE ALUMINUM WIRE IS USED.
 9. THE ELECTRICAL CONTRACTOR SHALL PERFORM MEGGER TEST ON ALL ALUMINUM FEEDERS AND PROVIDE RESULTS TO ENGINEER.
 10. PIN CONNECTORS ARE NOT ACCEPTABLE FOR USE.
 11. ALL ALUMINUM FEEDERS SHALL BE: ALUMA FLEX COMPACT STRANDED THWN-2.



RISER NO.1

PROPOSED ELECTRICAL RISER DIAGRAM

NOT TO SCALE

FEEDERS SCHEDULE

1	5 SETS OF 4-400MCM IN THWN CU IN 3"
2	5 SETS OF 4-400MCM & 1#4/0 GND THWN CU IN 3"
3	4#3/0 & 1#4 GND THWN CU IN 2-1/2"
4	4#350 & 1#4 GND THWN CU IN 3"
5	1#3/0 GND CU

GENERATOR LOAD SUMMARY

ATSA	KVA ØA 153.4	KVA ØB 148.1	KVA ØC 144.8
TOTAL KVA	KVA 446.3		
PROPOSED SIZE OF GENERATOR	400 KW/500 KVA 208/120V 3 PHASE, 4 WIRE		

FULL RATED/SELECTIVE COORDINATION NOTE

1. CONTRACTOR SHALL PROVIDE A COMPLETE POWER STUDY CONFIRMING FULLY RATED/SELECTIVE COORDINATION FOR ALL NEC REQUIRED SYSTEMS INCLUDING BUT NOT LIMITED TO NEC 620.
2. POWER STUDY SHALL BE BASED ON CONTRACTOR'S PROPOSED MANUFACTURER EQUIPMENT FOR BOTH NORMAL AND EMERGENCY BRANCHES.

EMERGENCY SYSTEM NOTE:

ALL WIRING FOR EMERGENCY LOADS SHALL BE IDENTIFIED WITH PERMANENT MARKINGS AND KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER NEC 700.9

ELECTRICAL CONTRACTOR SHALL PROVIDE SIGNS AT THE SERVICE INDICATING THE TYPE AND LOCATION OF THE ON SITE EMERGENCY POWER SOURCE PER NEC 700.8

AC Calculation For Voltage Percent

Load: 1300 Amperes
Load Circuit: 3-PH, 4-W, Wye
Power Factor: 0.9
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 5
Conduit: PVC/ABS
Cable Length: 140 Feet
Conductor Gauge: 400

Results:
1.44%
2.99 Volts Line-to-Line
1.73 Volts Line-to-Neutral

Date Created: Not Saved
Date Modified: Not Saved

Source: EDR, Electrical Designer's Reference
Software Version: 8.2 (Build 2012). Based on the 2011 NEC.
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Calculation of Fault Current

Fault SCA Source = TA Primary Infinite
SCA Available = Infinite
Length Units = Feet
Motor Load = None
Motor SCA = None
Motor SCA Treatment = Motor SCA Not Included
System Voltage = 208
System Phase = 3 Phase

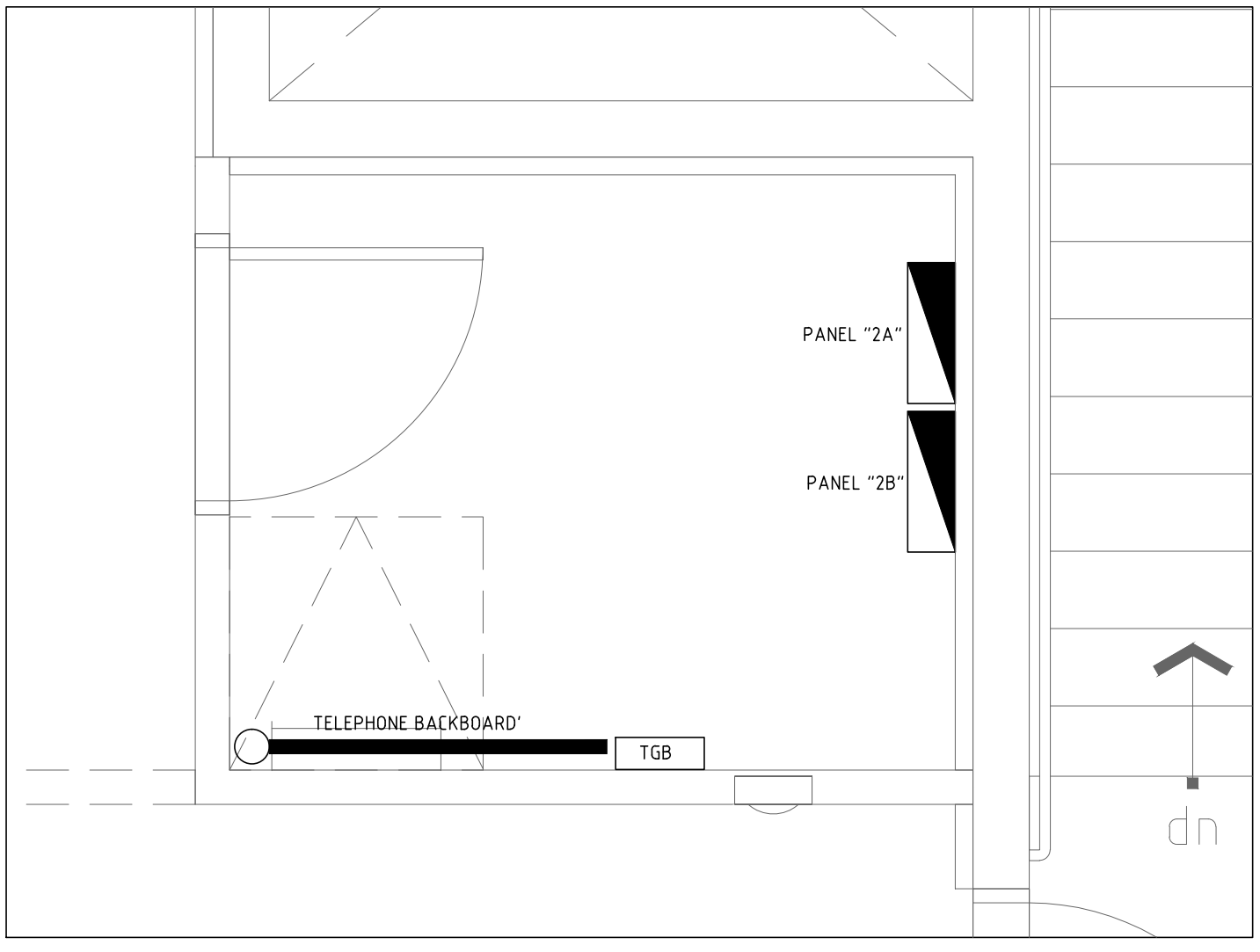
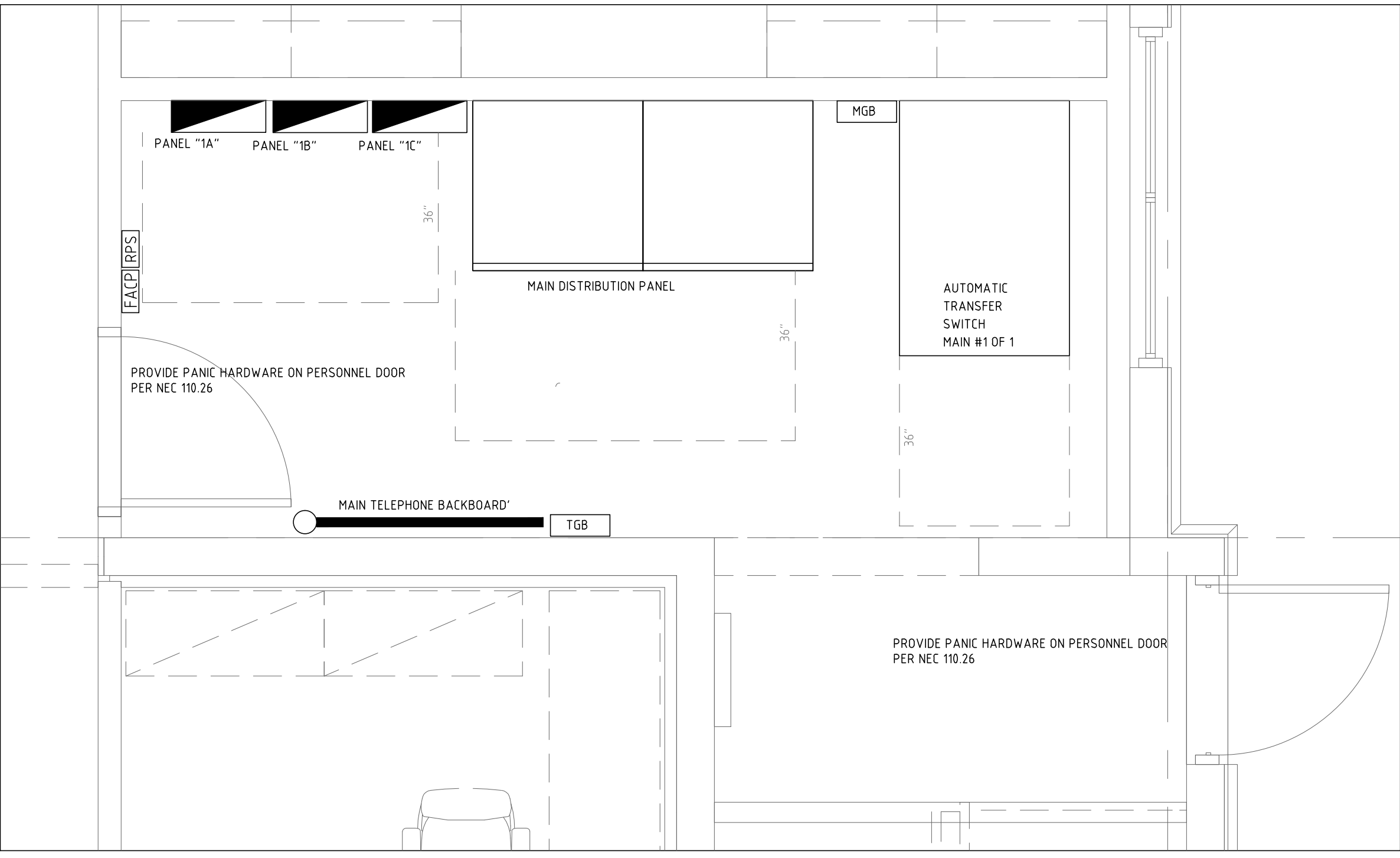
Transformers	Name	PH	Size	Pri V	Sec V	%Z	SCA,3PH
TA	FPL	3-PH	750	208	35	59.482	

S/F	Name	Cond	Cable Size	Qty	Feet	SCA,3PH
S/F	SVS-1	PVC, ABS	3/4 CU 400	5	140	39.256

Main-Feeders

Name	Cond	Cable Size	Qty	Feet	SCA,3PH
TA	FPL	3-PH 750	208	35	59.482

Source: EDR, Electrical Designer's Reference
Software Version: 8.2 (Build 2012). Based on the 2011 NEC.
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1 MAIN ELECTRICAL ROOM
SCALE: 1/2" = 1'-0"

2 2ND FLOOR ELECTRICAL ROOM
SCALE: 1/2" = 1'-0"

PRIOR TO SUBMITTING THE BID, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE ARCHITECT AND THE ENGINEER OF ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND THE EXISTING CONDITIONS AND SHALL INCLUDE IN THE BID TO CORRECT THE SAME AS DIRECTED. THE ENGINEER AND THE ARCHITECT, ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD. ALL CHANGES SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. NOT FOR BID UNTIL PERMIT HAS BEEN ISSUED.

PERMIT / BID SET: 09/07/16

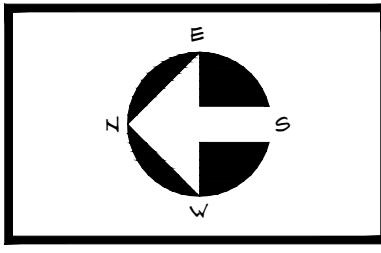
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Revisions:

Project no:	15435
Date:	09.09.16
Drawn by:	RB/SKJS
Project Architect:	BJ



E3.1

09.09.16 BID/PERMIT

ELECTRICAL RISER DIAGRAM