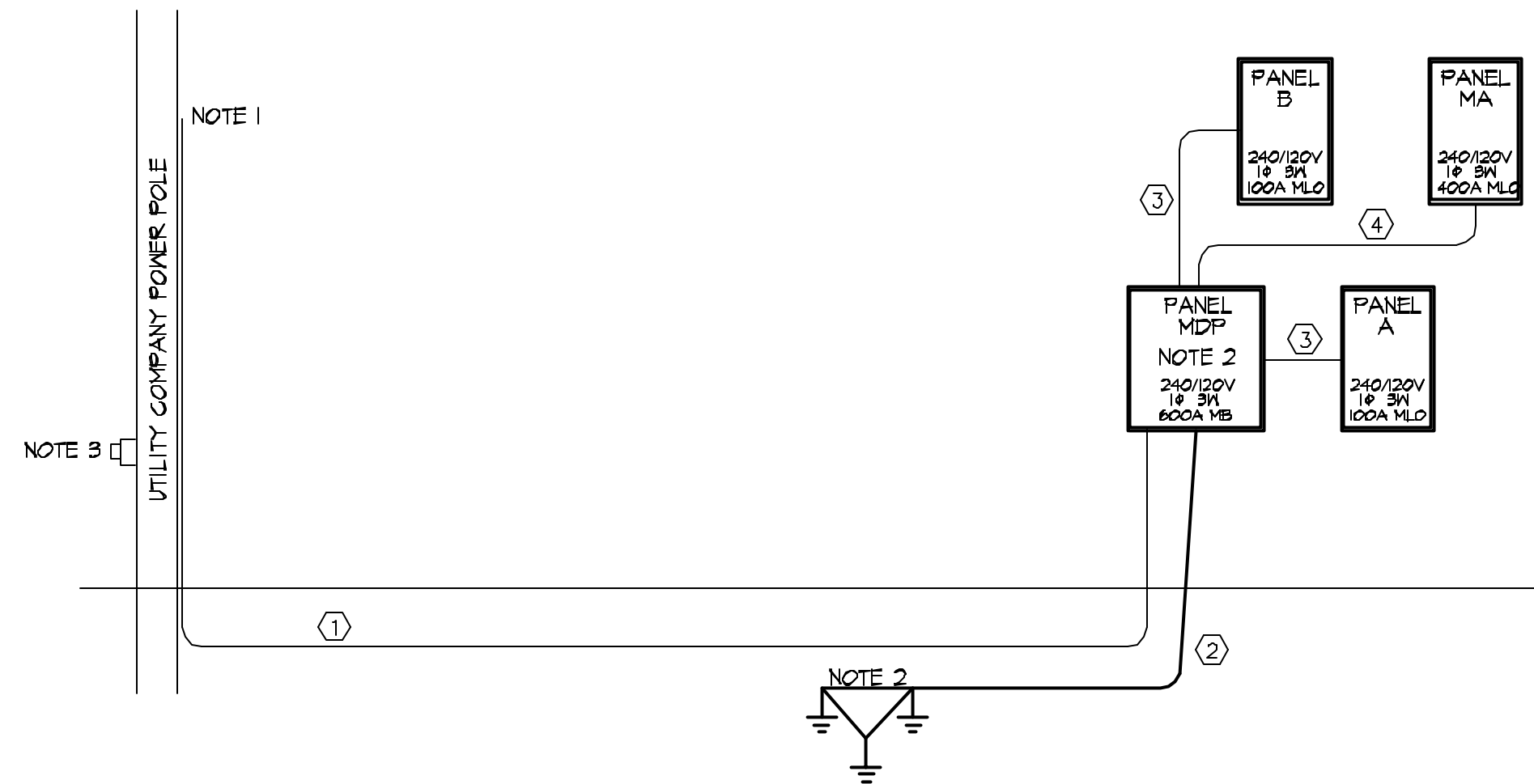


## CONDUCTOR/CONDUIT SCHEDULE

NOTE: THESE FEEDER WIRE SIZES ARE BASED ON COPPER CONDUCTORS - SHOULD THE EC WANT TO USE ALUMINUM CONDUCTORS, THE EC SHALL OBTAIN APPROVAL FROM THE OWNER AND SHALL CONSULT THE ENGINEER TO MODIFY THE WIRE SIZES ON THESE SCHEDULE

- ① NEW SERVICE ENTRANCE CONDUCTORS, EC SHALL PROVIDE AND INSTALL: TWO SETS OF (3) 350 Kcmil CONDUCTORS IN 4" PVC CONDUIT EACH ROUTED UNDERGROUND AND UP UTILITY POLE; UTILITY COMPANY SHALL TERMINATE SERVICE FEEDER ON POLE MOUNTED TRANSFORMERS; EC IS RESPONSIBLE FOR COORDINATING THE ELECTRIC UTILITY SERVICE WITH THE UTILITY CO. THE ELBOW AND STUB-UP BELOW THE PANEL AND ON POLE SHALL BE RIGID GALVANIZED STEEL (RGS) CONDUIT; THIS SERVICE FEEDER RUN SHALL ALSO INCLUDE TWO (2) EMPTY AND PARALLEL 4" PVC CONDUITS WITH PULLCORD IN PARALLEL TO THE UTILIZED CONDUITS - THE EC SHALL COIL THE CONDUCTORS OUT OF THE CONDUIT FOR CONNECTION BY THE UTILITY COMPANY
- ② BARE #4/0 COPPER CABLE TO GROUNDING TRAIL BELOW GRADE AT APPROXIMATELY 10'-0" OUTSIDE THE BUILDING IN THE DIRECTION OF THE TRANSFORMER
- ③ (3) #1 & (1) #2 GND. IN 1-1/4" EMT C.
- ④ (3) 500Kcmil & (1) #3 GND. IN 3" EMT C.



## 1 ONE LINE DIAGRAM

E7 SCALE: N.T.S.

SERVICE 240/120, 1Ø, 3WIRE		PANEL A		MAIN 100A MLO	
MTG SUBREACE		I.C. 35 KAIC		REMARKS	
BRANCH CIRCUIT	LOAD (kVA)	NEUTRAL	LOAD (kVA)	LOAD DESCRIPTION	BRANCH CIRCUIT
1 RESTROOMS RCPTS	0.6	20	0.6	EMERGS/EXIT LTG	2
3 CORRIDOR/STOR RCPTS	0.7	20	0.4	RSTRMS/JANITOR LTG	4
5 FELLOWSHIP HALL RCPTS	0.8	20	0.4	STOR/FOYER/CORR LTG	6
7 FELLOWSHIP HALL RCPTS	0.8	20	1.0	FELLOWSHIP HALL LTG	8
9 FELLOWSHIP/STOR RCPTS	0.8	20	1.1	FELLOWSHIP/STOR LTG	10
11 WATER COOLER	1.0	20	0.4	EXTERIOR LTG	12
13 TELECOMM BKBRD RECEPTS	0.9	20	0.2	LIGHTING CONTROLS	14
15 SPARE		20		SPARE	16
17 SPARE		20		SPARE	18
19 SPARE		20		SPARE	20
21 SPARE		20		SPARE	22
23 SPARE		20		SPARE	24
25 SPARE		20		SPARE	26
27 SPARE		20		SPARE	28
29 SPARE		20	0.5	FIRE ALARM SYSTEM	30
CONNECTED LOAD: A 5.3 KVA B 4.1 KVA		TOTAL 9.4 KVA			

NOTES:

CONNECTED LOAD = 9.4 KVA = 94.2 AMPS

MAIN PANEL "MDF" SCHEDULE					
AIC RATINGS : 35 KAIC		VOLTAGE : 240/120V, 1Ø, 3W		MAINS : 600A SHUNT TRIP TYPE MAIN BREAKER (SEE NOTE 2)	
BRANCH FEEDER INFORMATION					
BREAKER TAG	SERVING	BREAKER RATING	POLES	CONNECTED KVA	DEMAND KVA
MDF-1	FCU-1	45A (HAGR)	2	8.4	8.4
MDF-2	FCU-2	50A (HAGR)	2	8.7	8.7
MDF-3	FCU-3	50A (HAGR)	2	8.7	8.7
MDF-4	PANEL A	100A	2	9.4	7.1
MDF-5	PANEL B	100A	2	19.9	14.9
MDF-6	PANEL MB	400A	2	69.0	69.0
MDF-7	SPARE	100A	2	--	--
MDF-8 thru MDF-9	SPACE FOR A MINIMUM OF TWO (2) FUTURE 100A FRAME BREAKERS				
LOAD TOTALS SUMMARY				124.1	116.8

CONNECTED LOAD TOTALS SUMMARY = 124.1 KVA = 511.1 AMPS @ 240V/120V, 1-Ø, 3W  
DEMAND LOAD TOTALS SUMMARY = 116.8 KVA = 486.7 AMPS @ 240V/120V, 1-Ø, 3W

### NOTES (APPLIES TO THIS ONE LINE ONLY):

1. EC SHALL PROVIDE AND INSTALL THE UNDERGROUND SERVICE ENTRANCE UTILITY POWER FEEDER, SIZED AS INDICATED ON THE CONDUCTOR/CONDUIT SCHEDULE FROM THE UTILITY SERVICE DISCONNECT/METERING POINT ON THE EXTERIOR OF THE BUILDING. THE EC SHALL COORDINATE THE EXACT UTILITY POLE AND POLE MOUNTED TRANSFORMER LOCATION WITH THE UTILITY COMPANY AND ROUTE THIS UNDERGROUND SERVICE FEEDER ACCORDINGLY. THE EC SHALL TURN THE CONDUIT UP THE UTILITY POLE AND TERMINATE IT ON THE UTILITY POLE PER UTILITY COMPANY STANDARDS. THE EC SHALL CARRY THE PRICE FOR THE CONDUIT, THE CONDUCTORS, PULLING THE CONDUCTORS AND TERMINATING THEM AT THE MAIN PANEL "MDF" ON THE MAIN BREAKER. THE UTILITY COMPANY SHALL TERMINATE THE CONDUCTORS AT THE UTILITY RISER POLE, INSTALL THE METER, AND MAKE ALL FINAL CONNECTIONS AT THE TRANSFORMER BANK. THE UTILITY COMPANY SHALL PERFORM ALL TERMINATIONS AT THE POLE MOUNTED TRANSFORMER AND UTILITY POLE. THIS MAIN PANEL CAN BE MADE HOT ONCE INSPECTED AND APPROVED AND THE MAIN BREAKER WITHIN IT CAN THEN BE USED AS THE MAIN DISCONNECT POINT UNTIL PROJECT COMPLETION.
2. EC SHALL PROVIDE AND INSTALL THIS MAIN SERVICE PANEL "MDF". IT SHALL BE A 600A 240V, 1Ø, 3W GROUNDING TYPE, SERVICE ENTRANCE RATED, NEMA 1 ENCLOSURE TYPE PANEL. FOR THIS MAIN PANEL, THE EC SHALL USE A 600A SHUNT TRIP TYPE MAIN BREAKER TYPE, SERVICE ENTRANCE LABELED PANEL. FROM THIS PANEL, THE EC SHALL PROVIDE AND INSTALL A GROUNDING TRIAD CONSISTING OF THREE (3) 1Ø x 3/4" DRIVEN COPPER RODS ARRANGED IN A TRIANGLE CONFIGURATION TO SERVE AS MAIN GROUNDING POINT AND FROM THIS TRIAD, SHALL PROVIDE A #4/0 BARE COPPER GROUND WIRE FROM DISCONNECT TO THE ROD VIA AN EXOTHERMIC WELDED CONNECTION. SEE GROUNDING TRIAD DETAIL, DETAIL #1, ON DRAWING E9.
3. EC SHALL COORDINATE WITH THE UTILITY COMPANY REGARDING METERING AND METERING BASE LOCATION. AS A BASE COST PRICE, THE EC SHALL ALSO FURNISH AND INSTALL A 1" RGS CONDUIT BETWEEN THE COORDINATED UTILITY COMPANY METER LOCATION AND THE MAIN PANEL "MDF".
4. UNLESS OTHERWISE NOTED, ALL ELECTRICAL GEAR SHALL BE RATED 35,000 AIC AS A MINIMUM BASED ON AN AVAILABLE FAULT CURRENT LEVEL OF 34,800 AMPS FROM A 240V/120V, 1-Ø, 3W TRANSFORMER AT AN ASSUMED 20% IMPEDANCE (X/R). THE EC SHALL FIELD CONFIRM THE AVAILABLE FAULT CURRENT LEVEL WITH THE UTILITY COMPANY TO SEE IF THESE VALUES AND THE BRACING OF THE PANELS COULD BE REDUCED.

SERVICE 240/120, 1Ø, 3WIRE		PANEL B		MAIN 100A MLO	
MTG RECESSED		I.C. 35 KAIC		REMARKS	
BRANCH CIRCUIT	LOAD (kVA)	NEUTRAL	LOAD (kVA)	LOAD DESCRIPTION	BRANCH CIRCUIT
1 RSTRMS/FOYER/CORR RCPTS	1.0	20	0.6	EMERGS/EXIT LTG	2
3 SANCTUARY/CORR RCPTS	0.8	20	0.7	RSTRMS/JANITOR LTG	4
5 SANCTUARY RCPTS	0.8	20	0.6	FOYER/CORRIDOR LTG	6
7 SANCTUARY/CNGING RCPTS	0.8	20	1.0	SANCTUARY LTG	8
9 IN FLOOR STAGE RCPT	0.6	20	0.8	SANCTUARY LTG	10
11 IN FLOOR STAGE RCPTS	1.2	20	1.2	SANCTUARY LTG	12
13 BAPTISTERY HEATER	2.0	20	0.7	STAGE DOWNLTG	14
15	2.0	20	0.7	STAGE DOWNLTG	16
17 BAPTISTERY CIRC PUMP	1.0	20	0.7	STAGE/BAPT DOWNLTG	18
19 WATER COOLER	1.0	20	0.8	STAGE TRACK LTG	20
21 SPARE		20	0.8	EXTERIOR LTG	22
23 SPARE		20	0.2	LIGHTING CONTROLS	24
25 SPARE		20		SPARE	26
27 SPARE		20		SPARE	28
29 SPARE		20		SPARE	30
CONNECTED LOAD: A 9.7 KVA B 10.2 KVA		TOTAL 19.9 KVA			

NOTES:

CONNECTED LOAD = 19.9 KVA = 82.9 AMPS

SERVICE 240/120, 1Ø, 3WIRE		PANEL MB		MAIN 400A MLO	
MTG RECESSED		I.C. 35 KAIC		REMARKS	
BRANCH CIRCUIT	LOAD (kVA)	NEUTRAL	LOAD (kVA)	LOAD DESCRIPTION	BRANCH CIRCUIT
1 ROOFTOP UNIT (RTU-1)	9.4	20	12	HEAT PUMP (HP-1)	2
3	9.4	20	12	HEAT PUMP (HP-2)	4
5 ROOFTOP UNIT (RTU-2)	8.9	20	2.2	HEAT PUMP (HP-2)	6
7	8.9	20	2.2	HEAT PUMP (HP-2)	8
9 ROOFTOP UNIT (RTU-3)	7.9	20	2.6	HEAT PUMP (HP-3)	10
11	7.9	20	2.6	HEAT PUMP (HP-3)	12
13		20	2.3	WATER HEATER (WH-1)	14
15		20	2.3	WATER HEATER (WH-1)	16
17		20		SPACE	18
19		20		SPACE	20
21		20		SPACE	22
23		20		SPACE	24
25		20		SPACE	26
27		20		SPACE	28
29		20		SPACE	30
CONNECTED LOAD: A 34.5 KVA B 34.5 KVA		TOTAL 69.0 KVA			

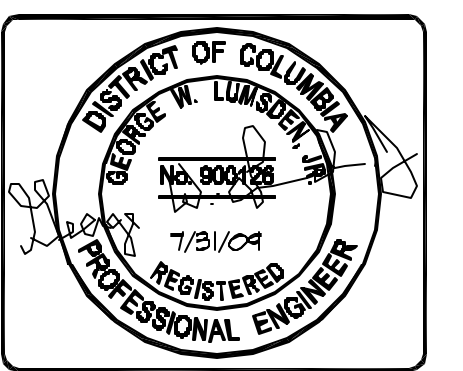
NOTES: \* THIS BREAKER SHALL BE A HAGR RATED BREAKER

CONNECTED LOAD = 69.0 KVA = 288.0 AMPS

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REVISIONS  
A  
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washington  
seventh day  
baptist church  
CRITTENDEN @ 16TH, WASHINGTON, D.C.

project no. 2K70609  
dwn by: TC chk by: GWL  
date: JULY 31, 2009  
scale: AS SHOWN  
sheet no: E7