CONDUCTOR/CONDUIT SCHEDULE

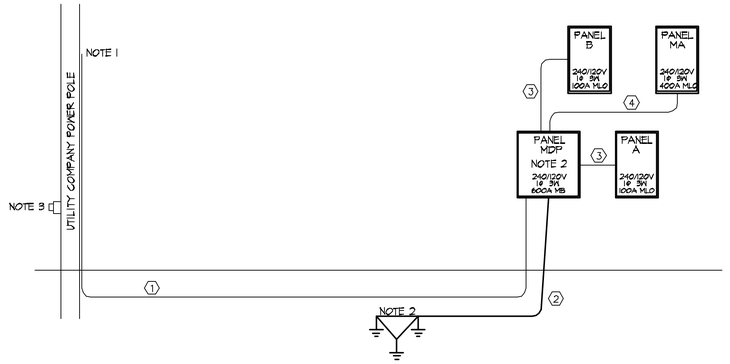
NOTE: THESE FEEDER WIRE SIZES AER BASED ON COPPER CONDUCTORS - SHOULD THE EC WANT TO USE ALUMINUM CONDUCTORS, THE EC SHALL OBTAIN APPROVAL FROM THE OWNER AND SHALL CONSULT THE ENGINEER TO MODIFY THE WIRE SIZES ON THESE SCHEDULE

(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 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 TRAID BELOW GRADE AT APPROXIMATELY 10'-0" OUTSIDE THE BUILDING IN THE DIRECTION OF THE TRANSFORMER

(3) (3) #1 & (1) #6 GND. IN 1-1/4" EMT C.

(4) (3) 500Kcmil & (1) #3 GND. IN 3" EMT C.



1 E7 ONE LINE DIAGRAM

SCALE: N.T.S.

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 "MDP" 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 "MDP". IT SHALL BE A 600A, 240V, 1Ø, 3W GROUNDED 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) 10' 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 WELD 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 "MDP".
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 240/120V, 1-PH, 3W TRANSFORMER AT AN ASSUMED 2.0% IMPEDANCE (%Z). THE EC SHALL FIELD CONFIRM THE AVAILABLE FUALT 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 A** — MAIN 100A MLO

MTG SURFACE — I.C. 35 KAIC — REMARKS

BRANCH CIRCUIT NO.	LOAD DESCRIPTION	LOAD(kVA) A	LOAD(kVA) B	TRIP	NEUTRAL A	NEUTRAL B	TRIP	LOAD(kVA) A	LOAD(kVA) B	LOAD DESCRIPTION	BRANCH CIRCUIT NO.
1	RESTROOMS RCPTS	0.6		20			20	0.6		EMERG/EXIT LTG	2
3	CORRIDOR/STOR RCPTS		0.7	20			20		0.4	RSTRMS/JANITOR LTG	4
5	FELLOWSHIP HALL RCPTS	0.6		20			20	0.4		STOR/FOYER/CORR LTG	6
7	FELLOWSHIP HALL RCPTS		0.6	20			20		1.0	FELLOWSHIP HALL LTG	8
9	FELLOWSHIP/STOR RCPTS	0.8		20			20	1.1		FELLOWSHIP/STOR LTG	10
11	WATER COOLER		1.0	20			20		0.4	EXTERIOR LTG	12
13	TELECOMM BKBRD RECEPTS	0.3		20			20	0.2		LIGHTING CONTROLS	14
15	SPARE			20			20			SPARE	16
17	SPARE			20			20			SPARE	18
19	SPARE			20			20			SPARE	20
21	SPACE									SPACE	22
23	SPACE									SPACE	24
25	SPACE									SPACE	26
27	SPACE									SPACE	28
29	SPACE						20	0.3		FIRE ALARM SYSTEM	30

CONNECTED LOAD: A 5.3 KVA B 4.1 KVA — TOTAL 9.4 kVA

NOTES:

CONNECTED LOAD = 9.4 KVA = 39.2 AMPS

MAIN PANEL "MDP" SCHEDULE

AIC RATING : 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
MDP-1	FCU-1	45A (HACR)	2	8.4	8.4
MDP-2	FCU-2	50A (HACR)	2	8.7	8.7
MDP-3	FCU-3	50A (HACR)	2	8.7	8.7
MDP-4	PANEL A	100A	2	9.4	7.1
MDP-5	PANEL B	100A	2	19.9	14.9
MDP-6	PANEL MB	400A	2	69.0	69.0
MDP-7	SPARE	100A	2	--	--
MDP-8 thru MDP-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 = 517.1 AMPS @ 240V/120V, 1-PH, 3W
DEMAND LOAD TOTALS SUMMARY = 116.8 KVA = 486.7 AMPS @ 240/120V, 1-PH, 3W

SERVICE 240/120 , 1Ø, 3WIRE — **PANEL B** — MAIN 100A MLO

MTG RECESSED — I.C. 35 KAIC — REMARKS

BRANCH CIRCUIT NO.	LOAD DESCRIPTION	LOAD(kVA) A	LOAD(kVA) B	TRIP	NEUTRAL A	NEUTRAL B	TRIP	LOAD(kVA) A	LOAD(kVA) B	LOAD DESCRIPTION	BRANCH CIRCUIT NO.
1	RSTRMS/FOYER/CORR RCPTS	1.0		20			20	0.6		EMERG/EXIT LTG	2
3	SANCTUARY/CORR RCPTS		0.8	20			20		0.7	RSTRMS/JANITOR LTG	4
5	SANCTUARY RCPTS	0.8		20			20	0.6		FOYER/CORRIDOR LTG	6
7	SANCTUARY/CNGING RCPTS		0.8	20			20		1.0	SANCTUARY LTG	8
9	IN FLOOR STAGE RCPT	0.6		20			20	0.8		SANCTUARY LTG	10
11	IN FLOOR STAGE RCPTS		1.2	20			20		1.2	SANCTUARY LTG	12
13	BAPTISTERY HEATER	2.0		30			20	0.7		STAGE DOWNLTG	14
15	↓		2.0	↓			20		0.7	STAGE DOWNLTG	16
17	BAPTISTERY CIRC PUMP	1.0		20			20	0.7		STAGE/BAPT DOWNLTG	18
19	WATER COOLER		1.0	20			20		0.8	STAGE TRACK LTG	20
21	SPARE			20			20	0.9		EXTERIOR LTG	22
23	SPARE			20			20		0.2	LIGHTING CONTROLS	24
25	SPARE			20			20			SPARE	26
27	SPACE									SPACE	28
29	SPACE									SPACE	30

CONNECTED LOAD: A 9.1 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 NO.	LOAD DESCRIPTION	LOAD(kVA) A	LOAD(kVA) B	TRIP	NEUTRAL A	NEUTRAL B	TRIP	LOAD(kVA) A	LOAD(kVA) B	LOAD DESCRIPTION	BRANCH CIRCUIT NO.	
*	1	ROOFTOP UNIT (RTU-1)	9.4		100			20	1.2		HEAT PUMP (HP-1)	2	*
	3	↓		9.4	↓			↓		1.2	↓	4	
*	5	ROOFTOP UNIT (RTU-2)	8.9		100			35	2.2		HEAT PUMP (HP-2)	6	*
	7	↓		8.9	↓			↓		2.2	↓	8	
*	9	ROOFTOP UNIT (RTU-3)	7.9		100			40	2.6		HEAT PUMP (HP-3)	10	*
	11	↓		7.9	↓			↓		2.6	↓	12	
	13	SPACE						80	2.3		WATER HEATER (WH-1)	14	
	15	SPACE						↓		2.3	↓	16	
	17	SPACE									SPACE	18	
	19	SPACE									SPACE	20	
	21	SPACE									SPACE	22	
	23	SPACE									SPACE	24	
	25	SPACE									SPACE	26	
	27	SPACE									SPACE	28	
	29	SPACE									SPACE	30	

CONNECTED LOAD: A 34.5 KVA B 34.5 KVA — TOTAL 69.0 kVA

NOTES: * THIS BREAKER SHALL BE A HACR RATED BREAKER

CONNECTED LOAD = 69.0 KVA = 288.0 AMPS

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REVISIONS
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DISTRICT OF COLUMBIA — GEORGE W. LUMSDEN, JR. — No. 900128 — 7/31/09 — REGISTERED PROFESSIONAL ENGINEER

new facility for:
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