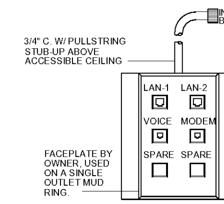
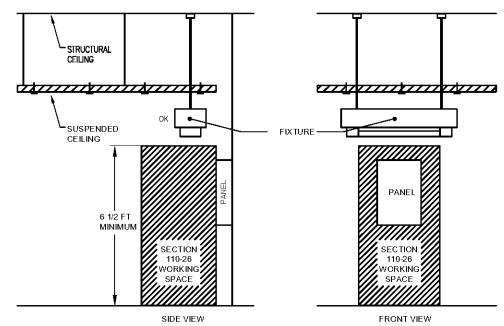
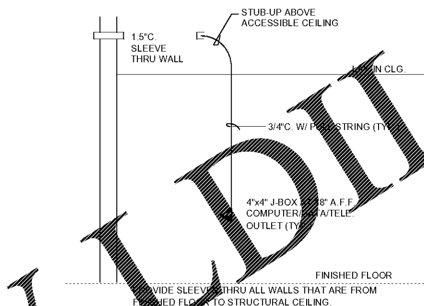


1 / E-301 COMPUTER/DATA/TEL. OUTLET BOX DETAIL
NO SCALE



2 / E-301 WORKING CLEARANCE FOR ELECTRICAL EQUIPMENT
NEC ARTICLE 110.26



3 / E-301 COMPUTER/DATA/TEL. OUTLET DETAIL
NO SCALE

VOLTAGE DROP SCHEDULE

120 VOLT BRANCH CIRCUITS UP T[illegible] AMPS

RUN DISTANCE IN FEET			WIRE SIZE AWG
1'		120'	#12
[illegible]		190'	#10
19[illegible]	-	300'	#8
301'	-	[illegible]	#6

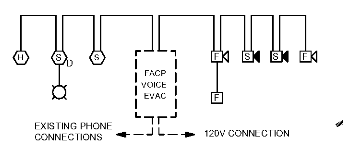
120 VOLT BRANCH CIRCUITS 9 AMPS TO 14 AMPS

RUN DISTANCE IN FEET			WIRE SIZE AWG
1'	-	65'	#12
66'	-	110'	#10
111'	-	170'	#8
171'	-	270'	#6

277 VOLT BRANCH CIRCUITS UP TO 14 AMPS

RUN DISTANCE IN FEET			WIRE SIZE AWG
1'	-	160'	#12
161'	-	250'	#10
251'	-	390'	#8
391'	-	620'	#6

WIRE SIZES INDICATED IN PANEL SCHEDULES ARE MINIMUM WIRE SIZES. CONTRACTOR SHALL UPSIZE WIRES BASED ON LOAD AND LENGTH OF RUN AS INDICATED IN SCHEDULE ABOVE.



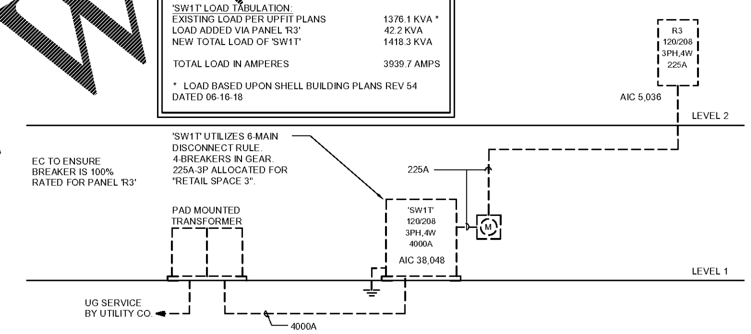
FIRE ALARM RISER NOTES:
1. FACP HAS A MINIMUM 24HR. BATTERY BACKUP.
2. ALL ITEMS INDICATED DASHED ARE EXISTING TO REMAIN.
3. FACP IS CONNECTED TO A UL APPROVED CENTRAL STATION.
4. ZONE PER NFPA 72 AND MANUFACTURER'S RECOMMENDATIONS
5. SEE PLANS FOR EXACT DEVICE QUANTITY AND LOCATIONS.
6. CONTRACTOR SHALL MODIFY EXISTING SIMPLEX SYSTEM AS REQUIRED TO HANDLE THE NEW FIRE ALARM DEVICES.
7. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

4 / E-301 FIRE ALARM RISER DIAGRAM
NO SCALE

'SW1T' LOAD TABULATION:

EXISTING LOAD PER UPFIT PLANS	1376.1 KVA *
LOAD ADDED VIA PANEL 'R3'	42.2 KVA
NEW TOTAL LOAD OF 'SW1T'	1418.3 KVA
TOTAL LOAD IN AMPERES	3939.7 AMPS

* LOAD BASED UPON SHELL BUILDING PLANS REV 54 DATED 06-16-18



5 / E-301 POWER RISER DIAGRAM
NO SCALE

NOTES:
1. ITEMS INDICATED AS DASHED ARE EXISTING TO REMAIN UNDER SHELL BUILDING PLANS. FIELD COORDINATE PLACMENT OF PANEL 'R3' WITH LOCATION INDICATED IN TENANT UPFIT PLAN SET.

FIRE ALARM SEQUENCE

SEQUENCE OF OPERATIONS / ALARM SOURCE AND TYPE	BUILDING SYSTEM OUTPUTS												CENTRAL COMM.				
	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTIVATE GENERAL EXACTUATION SIGNAL	DISPLAY CHANGE OF STATUS	ACTIVATE EXTERNAL HORN STROBE	TRANSMIT F.A. SIGNAL TO CENTRAL COMMUNICATOR	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL COMM.	TRANSMIT TROUBLE SIGNAL TO CENTRAL COMM.	SHOW CHANGE OF STATUS ON ANNUNCIATOR	SHOW CHANGE OF STATUS ON CENTRAL PANEL	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
1. MANUAL PULL STATION ALARM	■	■					■	■	■	■			■	■	■		
2. BUILDING SMOKE DETECTOR	■	■					■	■	■	■			■	■	■		
3. DUCT DETECTOR ALARM			■	■				■			■		■	■		■	
4. SMOKE DETECTOR DIRTY/MALFUNCTION - ALL					■	■		■				■	■	■			■
5. SPRINKLER WATERFLOW	■	■					■	■	■	■			■	■	■		
6. SPRINKLER TAMPER			■	■				■			■		■	■		■	
7. FIRE ALARM AC POWER FAILURE					■	■		■				■	■	■			■
8. FIRE ALARM SYSTEM LOW BATTERY					■	■		■				■	■	■			■
9. OPEN CIRCUIT					■	■		■				■	■	■			■
10. GROUND FAULT					■	■		■				■	■	■			■
11. NOTIFICATION APPLIANCE CIRCUIT SHORT					■	■		■				■	■	■			■
12. SYSTEM RESET	(SEE NOTES 1 AND 2 BELOW FOR ACTIONS)																

NOTES:
1. 'SYSTEM RESET' SHALL CLEAR ALL DETECTOR AND MANUAL ALARM SIGNALS, STOP AND RESET THE PRE-DISCHARGE COUNTDOWN, AND STOP TRANSMISSION OF ALL ALARM SIGNALS TO THE MAIN PANEL
2. SYSTEM SHALL BE PROGRAMMED SUCH THAT THE SYSTEM CAN BE RESET WHILE THE MANUAL ABORT BUTTON IS ACTIVATED.
3. SYSTEM SHALL HAVE A 3 BEAT TEMPORAL SOUND PATTERN.

PANELBOARD SCHEDULE - 'R3'

MAIN: 225A MLO | VOLTAGE: 208/120 | PHASE: 3 | WIRE: 4 | MOUNTING: SURFACE | AIC: 10,000 | NOTES:

CKT #	BKR TRIP	POLE	WIRE SIZE	COND SIZE	DESCRIPTION	LTG	REC	MTR	A/C	HTG	KIT	MISC	PHASE ABC	LTG	REC	MTR	A/C	HTG	KIT	MISC	DESCRIPTION	COND SIZE	WIRE SIZE	POLE	BKR TRIP	CKT #
1	20	1	12	1/2"	RECEPTACLES		1.1										1.5				AH-1	1/2"	12	1	20	2
3	20	1	12	1/2"	RECEPTACLES		0.7										1.5				AH-2	1/2"	12	1	20	4
5	20	1	12	1/2"	EWC *							0.3									SPARE			1	20	6
7	20	1	12	1/2"	RECEPTS. SMOOTH *		0.4														SPARE			1	20	8
9	20	1	12	1/2"	UC REFRIGE. *							0.8					2.7				HP-1	1"	6	2	50	10
11	20	1	12	1/2"	ICE MACHINE *							1.2					2.7									12
13	20	1	12	1/2"	RECEPTS		0.5										2.7				HP-2	1"	6	2	50	14
15	20	1	12	1/2"	DRINK REC *							0.8					2.7									16
17	20	1	12	1/2"	RECEPTACLES		0.2														SPACE					18
19	20	1	12	1/2"	RECEPTACLES		0.2													1.0	WASHING MACHINE *	1/2"	12	1	20	20
21	20	1	12	1/2"	STERIO (SHUNT)							0.4						2.3			DRYER	3/4"	10	2	30	22
23					SHUNT TRIP SPACE													2.3								24
25	20	1	12	1/2"	RECEPTACLES			0.4													SPARE			1	20	26
27	20	1	12	1/2"	RECEPTACLES			0.9												0.3	DWH	1/2"	12	1	20	28
29	20	1	12	1/2"	SHOW WINDOWS							1.9									SPARE			1	20	30
31	20	1	12	1/2"	SHOW WINDOWS							1.9		1.2							LIGHTING	1/2"	12	1	20	32
33	20	1	12	1/2"	SHOW WINDOWS							1.9		1.2							LIGHTING	1/2"	12	1	20	34
35	20	1	12	1/2"	SHOW WINDOWS							1.9		0.5							LIGHTING TRACK	1/2"	12	1	20	36
37	20	1			SPARE											1.2					FANS	1/2"	12	1	20	38
39	20	1			SPARE											1.2					FANS	1/2"	12	1	20	40
41	20	1			SPARE									1.2							SIGN	1/2"	12	1	20	42
LIGHTING (KVA):					4.1	0.0	3.1	1.3	0.0	0.0	0.0	10.9		4.1	0.0	2.4	13.7	4.5	0.0	1.3	CONNECTED LOAD (KVA):					41.2
RECEPTACLES (KVA):					3.1																DEMAND LOAD (KVA):					42.2
MOTORS (KVA):					3.7							PHASE A	12	100.0												
A/C (KVA):					13.7							PHASE B	17	144.1							CONNECTED LOAD (AMPS):					114.4
HEATING (KVA):					4.5							PHASE C	12	99.5							DEMAND LOAD (AMPS):					117.3
KITCHEN (KVA):					0.0								KVA	AMPS												
MISCELLANEOUS (KVA):					12.2																					

NOTES: 1. EXISTING PER SHELL DRAWINGS. 2. * - INDICATES NEW GFCI RATED BREAKER. 3. ** - INDICATES BREAKE WITH LOCK OFF DEVICE.

MECH/ELEC SCHEDULE

ITEM	(WATTS) MCA	MOCP	VOLTAGE	DISCONNECT
DWH	(19.4)	-	120V-1Ø	S_M
EF-1,2,3,4	(19.4)	-	120V-1Ø	S_M SWITCH W/LIGHTS
AH-1/2	12.9	20	120V,1Ø	S_M
CU-1/2	31.0	50	208V,1Ø	60/F50-P-3R

NOTE:
1. EC TO COORDINATE WITH MC AND PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED FOR PER MANUFACTURES STAMPED DATA PLATES FOR A COMPLETE AND OPERATIONAL MECHANICAL/ELECTRICAL SYSTEM.

PNL 'R3' DEMAND CALCS

LIGHTING		4.05	KVAX	125 %	=	5.1 KVA
RECEPTAC TOTAL		3.08	KVA			
	1ST	10.00	KVAX	100 %	=	3.1 KVA
	REMAIN	0.00	KVAX	50 %	=	0.0 KVA
MOTORS		3.66	KVAX	100 %	=	3.7 KVA
A/C		13.75	KVAX	100 %	=	13.7 KVA
HEATING		4.50	KVAX	100 %	=	4.5 KVA
LOCKED-OUT LOAD		____	KVAX	100 %	=	0.0 KVA
KITCHEN		0.00	KVAX	65 %	=	0.0 KVA
MISCELLANEOUS		12.20	KVAX	100 %	=	12.2 KVA
TOTAL	=	117.3 amps			=	42.2 KVA

ODa
overcash demmitt
2010 south tryon st. suite 1a
charlotte north carolina 28203
office.704.332.1615
web.www.odarch.com

NORTH CAROLINA PROFESSIONAL SEAL 037734 ENGINEER MICHAEL J. SENUTA
6/28/2019

WAVE ENGINEERING
1300 S. MINT ST. SUITE 110
CHARLOTTE NC, 28203
980.256.7728
INFO@WAVE-ENGINEERING.COM
NC CORP. LICENSE #P-1621
WAVE PROJECT #19102

Hustle House

ODA Project No. 183324

Charlotte, NC

FOR CONSTRUCTION

06.28.2019

REVISIONS

No.	Description	Date

ELECTRICAL RISERS & SCHEDULES

E-301

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