GENERAL NOTES

- THIS INSTALLATION SHALL BE IN COMPLIANCE WITH THE CITY OF AURORA, IL BUILDING CODES OF ORDINANCES, LOCAL AMENDMENTS AND NATIONAL CODES INCLUDING BUT NOT LIMITED TO: 2015IBC, 2014NEC, 2015IECC. AND NFPA72.
- BEFORE COMMENCING WORK THE CONTRACTOR SHALL VISIT THE JOB SITE AND FULLY INFORM HIMSELF OR HERSELF OF ALL CONDITIONS THAT AFFECT THE WORK, EXAMINE THE DRAWINGS AND SPECIFICATIONS SHEET, AND SUBMIT ANY QUESTIONS IN WRITING TO THE ARCHITECT AND ENGINEER.
- ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION SHEET AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
- 4. THE CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THIS WORK SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT BEFORE COMMENCING ANY WORK. THE PROJECT DRAWINGS FORM THE BASIS OF THIS CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, THE MOST STRICT METHOD GOVERN UNLESS THE ARCHITECT/ENGINEER DIRECTS OTHERWISE.
- THE ELECTRICAL CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET, ALARM STATION, CONTROL DEVICE, POWER WIRING DEVICE, ETC...IS OMITTED. HE/SHE SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT. NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER AFTER BIDDING FOR SUCH FOUIPMENT AND LABOR.
- EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS MUST BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
- INSTALL ELECTRICAL DEVICES AS INDICATED IN THIS SET OF DRAWINGS. ADJUST FINAL DEVICE LOCATIONS AS REQUIRED TO ACCOMMODATE WORK. COORDINATE WITH ALL TRADES INVOLVED AND WITH ARCHITECTURAL CASEWORK AND ELEVATIONS DRAWINGS. NOTIFY THE ENGINEER AND/OR THE ARCHITECT IF ANY CONFLICTS ARE FOUND PRIOR TO BIDDING PROJECT. INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.
- 8. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
- CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY
- 10. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS.

THE ARCHITECT.

- 11. ADJACENT POWER AND DATA DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION.
- 12. ALL RECEPTACLES, VOICE AND DATA OUTLETS SHALL BE MOUNTED PER MOUNTING HEIGHT LEGEND, UNLESS OTHERWISE NOTED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. ALL DEVICES SHALL BE NEW. REFER TO ARCHITECTURAL CASEWORK DRAWINGS AND ARCHITECTURAL ELEVATIONS FOR EXACT DEVICES MOUNTING HEIGHTS.
- REFER TO FIRE ALARM SHEET IN THIS SET OF DRAWINGS FOR FIRE ALARM SYSTEM INFORMATION.
- 14. DETERMINE, IN ADVANCE OF PURCHASE, THAT ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED SHALL FIT INTO THE ROOM OR SPACE ALLOCATED, AS INDICATED ON THE DRAWINGS. ALLOWING SUFFICIENT CLEARANCE FOR THE SAFE SERVICE AND/OR MAINTENANCE OF RELATED EQUIPMENT, INCLUDING THAT OF OTHER TRADES.
- 15. ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED. COLOR OF GROUNDING CONDUCTOR SHALL BE GREEN. SIZE OF GROUNDING CONDUCTOR SHALL BE AS REQUIRED PER CEC ARTICLE
- 16. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR INSTALLED UNLESS OTHERWISE INDICATED. COLOR OF NEUTRAL CONDUCTOR SHALL BE WHITE.
- 17. ALL CONDUCTOR SHALL BE MADE OF COPPER. MINIMUM WIRE SIZE SHALL BE #12AWG UNLESS OTHERWISE INDICATED. UTILIZE SOLID CONDUCTORS FOR WIRE GAGES UP TO #12AWG AND STRANDED CONDUCTOR FOR GAGES #10AWG AND LARGER.
- 18. SPECIAL RECEPTACLES PLUG CONFIGURATION REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT PLUG REQUIREMENTS PRIOR TO INSTALLATION.
- ALL FEEDER AND BRANCH CIRCUIT WIRING INSTALLED INDOORS SHALL USE THHN INSULATION (90F). ALL WIRING INSTALLED OUTDOORS SHALL USE THWN INSULATION (75F). REFER TO SPECIFICATION SHEET FOR COLOR CODED REQUIREMENTS.
- 20. ALL POWER WIRING SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. MINIMUM RACEWAY SIZE SHALL BE 3/4"C UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL SIZE ALL CONDUITS SO AS TO NOT EXCEED 40% OF CONDUIT FILLING CAPACITY. WHEN MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN THE SAME CONDUIT AND AMBIENT TEMPERATURES ADJUSTMENT FACTORS PER ELECTRICAL CODE TABLES 310.15(B)(2)(A), 310.15(B)(3)(A) SHALL BE
- 21. ALL CIRCUITS SERVING EMERGENCY EXIT SINGS, NIGHT LIGHTS AND EXTERIOR LIGHTS SHALL UTILIZE #10 WIRE TO MINIMIZED VOLTAGE DROP UNLESS OTHERWISE INDICATED.
- 22. ALL BREAKERS SERVING FIRE ALARM EQUIPMENT AND EXIT SIGNS SHALL HAVE LOCK-OUT DEVICE INSTALLED UNLESS OTHERWISE INDICATED.
- 23. DISTRIBUTION PANELS AND BRANCH CIRCUIT PANELBOARDS, SHALL BE LABELED WITH PANEL NAME AND ALSO HAVE A PANEL DIRECTORY INSTALLED. UTILIZE TYPE WRITER AS A MINIMUM FOR COMPLIANCE. HAND WRITTEN CARD DIRECTORIES ARE NOT ACCEPTABLE.
- 24. PANELBOARDS, DISCONNECT SWITCHES, ETC. SHALL BE LABEL WITH A READILY VISIBLE LABEL PER NFPA 70E, STANDARD FOR SAFETY IN THE WORKPLACE, LABEL SHALL BE CLEARLY VISIBLE TO PERSONNEL AND SHALL READ "CAUTION ARC FLASH HAZARD" ALSO LABELS SHALL INDICATE THE AVAILABLE SHORT CIRCUIT CURRENT AT EQUIPMENT, PPE, VOLTAGE, PHASES, SIZE AND COLOR OF TEXT SHALL BE PER STANDARD.
- 25. ALL FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE DONE WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT. INSTALL GREEN GROUNDING CONDUCTOR.
- 26. ALL FINAL BREAKERS AND CONDUCTORS SIZES SERVING MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH MECHANICAL SHOP DRAWINGS AND CONTRACTOR PRIOR TO INSTALLATION. E.C. SHALL COORDINATE WITH HVAC CONTRACTORS EXACT POINT OF CONNECTION TO THE EQUIPMENT PRIOR TO ROUGH-IN.
- 27. ALL EQUIPMENT INSTALLED OUTSIDE SHALL BE WEATHER PROOF RATED.

GENERAL NOTES (CONTINUE)

- REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.
- 28. INSTALL CONDUIT FROM THE TOP OF THE BAR JOIST.
- 29. LABEL ALL J-BOXES COVER PLATES, RECEPTACLES COVER PLATES WITH CIRCUIT INFORMATION AND PANEL SOURCE. UTILIZE P-TOUCH LABEL OR APPROVED EQUAL.
- 30. ALL MOUNTING HEIGHTS OF DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS OR ARCHITECT PRIOR TO ROUGH-IN.
- 31. DO NOT INSTALL DEVICES IN DIFFERENT ROOMS BACK TO BACK. PROVIDE 6" SIDE BY SIDE IN BETWEEN.
- 32. WHEN APPLICABLE COORDINATE EXACT FURNITURE POWER REQUIREMENTS AND

VOICE/DATA FEEDING CONNECTIONS AT EACH LOCATION PRIOR TO ROUGH-IN.

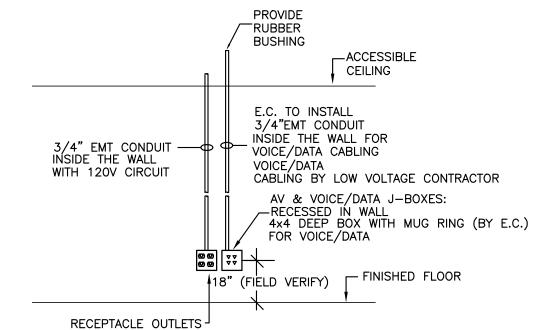
- 33. GENERAL USE RECEPTACLES SHALL BE WHITE IN COLOR WITH STEEL COVER PLATES. FINAL COLOR OF RECEPTACLES & COVER PLATES SHALL BE AS
- 34. E.C. SHALL INSTALL J-BOX AND CONDUIT FOR MECHANICAL THERMOSTATS. COORDINATE EXACT LOCATIONS WITH M.C. E.C. SHALL FURNISH AND INSTALL WIRING AND TERMINATE ALL LINE VOLTAGE
- 35. FIRE PROOF ALL PENETRATIONS THRU WALLS AND FLOORS TO RE-STABLISH THE FIRE RATING OF PARTITION.
- 36. PROVIDE MULTI-GANG J-BOX FOR INSTALLATION OF WIRING DEVICES LOCATED AT THE SAME LOCATION UNLESS OTHERWISE INDICATED ON THE FLOOR PLANS. PROVIDE METALLIC DIVIDER PLATES BETWEEN DIFFERENT CIRCUITS IN THE SAME
- 37. ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED PER ELECTRICAL CODE ARTICLE 314, TABLES 314,16 BASED IN THE AMOUNT OF CABLE AND CONDUITS ENTERING/LEAVING THE BOX.
- 38. VOICE/DATA/AUDIO VISUAL (AV) SYSTEMS CABLING AND EQUIPMENT SHALL BE PROVIDED BY LOW VOLTAGE CONTRACTOR. EC SHALL PROVIDE REQUIRED JUNCTION BOXES, CONDUIT, AND PULL STRING FOR ALL LOCATIONS.
- 39. FOR THE AREA OF WORK WITH DAMAGED, DETERIORATED, COMPROMISED OR MISSING FIREPROOFING CREATED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED TO FULL PROTECTIVE CAPACITY.
- 40. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE OR 2014 NATIONAL ELECTRICAL CODE

GAS PIPING:

THERMOSTATS.

- NATURAL GAS DISTRIBUTION PIPING SHALL BE SCHEDULE 40 BLACK PIPE WITH 150# MALLEABLE IRON FITTINGS.
- 2. GAS PIPING GREATER THAN 2" INSIDE DIAMETER OR CARRYING MORE THAN 5 POUNDS(PSIG) SHALL BE SCHEDULE 40 BLACK PIPE WITH STANDARD WELD FITTINGS.
- 3. PIPE INSTALLED ABOVE GRADE OUTDOORS TO BE PAINTED.
- g. 1-1/4" AND SMALLER: BALL VALVE, BRASS OR BRONZE BODY, SCREWED CONNECTIONS, BLOW-OUT PROOF STEM, TEFLON SEATS AND SEALS, AND U.L. LISTED FOR USE WITH NATURAL GAS. CONBRACO "APOLLO" SERIES 80-100, CRANE 9400 SERIES, MILWAUKEE BA-475, OR NIBCO T585-70-UL.
- b. 1-1/2" AND LARGER: ECCENTRIC PLUG VALVE, CAST IRON BODY, /2" 2-1/2" THREADED AND 3"-4" FLANGED CONNECTIONS, BRONZE OR ELECTRO LESS NICKEL PLATED CAST IRON PLUG, CARBOXYLIC-NITRILEBUTADIENE (HYCAR) RESILIENT PLUG SEAL, CORROSION RESISTANT BEARINGS AND SEALS, CLASS 125, AND U.L. LISTED FOR USE WITH NATURAL GAS KEY PORT FIG. 425-1RS49.
- 5. BEFORE FINAL EQUIPMENT CONNECTIONS ARE MADE, PNEUMATICALLY TEST GAS PIPING AT 15 PSIG AIR PRESSURE. THE PRESSURE TEST SHALL BE DEEMED ACCEPTABLE IF THE PIPING SYSTEM HOLDS THE PRESSURE FOR FOUR (4) HOURS. TESTING SHALL BE WITNESSED AND SIGNED BY THE

ELECTRIC AND VOICE/DATA OUTLETS



1-ADJACENT POWER AND DATA/PHONE DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED.

2-ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS

ELECTRICAL SYMBOL LIST

DUPLEX RECEPTACLE, # INDICATES CIRCUIT

SIMPLEX RECEPTACLE

 $^{\rm C}$ \rightarrow SIMPLEX RECEPTACLE CLOCK STYLE

GFI DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER

U DUPLEX RECEPTACLE, W/2 USB PORTS

QUAD RECEPTACLE (# INDICATES CIRCUIT)

AC QUAD RECEPTACLE MOUNTED ABOVE THE COUNTER.
REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT DUPLEX RECEPTACLE MOUNTED AT SWITCH HEIGHT

SPECIAL RECEPTACLE COORDINATE EXACT REQUIREMENTS WITH EQUIP. SERVING FLUSH MOUNTED FLOOR BOX WITH DUPLEX RECEPTACLE

FLOOR BOX (REFER TO FLOOR PLAN FOR REQUIREMENTS: PWR, VOICE/DATA & AV (PT) POKE THRU SEE DRAWING FOR REQUIREMENTS

PULL BOX

TOGGLE SWITCH SPECIFICATION GRADE

TOGGLE SWITCH WITH DIMMER

3-WAY TOGGLE SWITCH

KEYED SWITCH MOMENTARY CONTACT SWITCH - CENTER OFF

RED PILOT LIGHT SWITCH (ON IN THE ON POSITION)

WALL SWITCH OCCUPANCY SENSOR

VOLUME SWITCH

CEILING MOUNTED OCCUPANCY SENSOR

DAY LAY SENSOR

PHOTOCELL FOR OVERRIDE TIME CLOCK FUNCTION

HEAVY DUTY FUSIBLE DISCONNECT SWITCH

HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH

JUNCTION BOX

 Θ

SINGLE POLE DISCONNECT SWITCH TOGGLE STYLE CONTROL TRANSFORMER WITH DISCONNECT SWITCH

MOTOR WITH MOTOR RATED DISCONNECT SWITCH.



RACEWAY STUB UP TO ABOVE ACCESSIBLE CEILING WITH END BUSHING

CONDUIT CONCEALED IN WALL/ABOVE THE CEILING

CONDUIT IN CONCRETE SLAB/UNDERGROUND EXPOSED CONDUIT

FLEXIBLE METAL CONDUIT

SLEEVE WITH END BUSHINGS ACC SIZE AS INDICATED IN DRAWINGS

(4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP VOICE OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP

VOICE/DATA OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP AUDIO/VISUAL/DATA OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 1 1/4"C. STUB UP

TO ACC WITH END BUSHING)

FIRE ALARM REMOTE BOOSTER POWER SUPPLY

FIRE ALARM DOUBLE ACTION PULL STATION WALL MOUNTED FIRE ALARM STROBE (DEVICE W/ A "C" IS CEILING MTD) WALL MOUNTED FIRE ALARM HORN/STROBE (W/ A "C" IS CEILING MTD)

FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR

FIRE ALARM HEAT DETECTOR (SEE DRAWINGS FOR TYPE) 135FIX, 200FIX, RATE OF RISE (ROR)

FIRE ALARM DUCT SMOKE DETECTOR FIRE ALARM DUCT DETECTOR REMOTE KEYED TEST SWITCH

FIRE ALARM MONITOR MODULE FIRE ALARM CONTROL RELAY

CEILING MOUNTED SPEAKER

UNIVERSAL MOUNTED (CEILING/WALL) EXIT SIGN WITH CHEVRONS (SEE LIGHT FIXTURE SCHEDULE)

2 x 4 SURFACE MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE) 2 x 4 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT

FIXTURE SCHEDULE) 2 x 2 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT

NIGHT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE) LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)

FIXTURE SCHEDULE)

EMERGENCY LIGHT (SEE LIGHT FIXTURE SCHEDULE) **PANELBOARD**

WIRELESS ACCESS POINT

VOICE/DATA OUTKET WITH 3 JACKS CAT6 (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP

ABBREVIATIONS

WEATHER PROOF

WIRE GUARD ABOVE THE COUNTER

CEILING MOUNTED DEVICE

NIGHT LIGHT CLG CEILING

SUPPLY DUCTWORK OVERHEAD DOOR

RETURN DUCTWORK

ABOVE ACCESSIBLE CEILING VERIFY EXACT LOCATION PRIOR TO ROUGH-IN

DEVICE MOUNTED AT 42 INCHES AFF

ABOVE FINISH FLOOR

TAMPER RESISTANT

TAMPER GUARD ELECTRICAL WATER COOLER

METAL WHILE-IN-USE COVER WEATHER PROOF SIMILAR TO

EATON WIUMH-1 SERIES ELECTRICAL CONTRACTOR M.C. MECHANICAL CONTRACTOR

SECURITY CONTRACTOR AUTHORITY HAVING JURISDICTION

ELECTRICAL HAND DRYER INSTANTANEOUS ELECTRICAL WATER HEATER

EXISTING DEVICE TO REMAIN

EXISTING DEVICE TO BE REMOVED AND RELOCATED

EXISTING DEVICE RELOCATED

NEW DEVICE

ELECTRICAL DRAWING LIST

E001 ELECTRICAL SYMBOL LIST, GENERAL NOTES AND DETAILS.

E101 BASEMENT & 1ST FLOOR PLANS — ELECTRICAL

E200 PARTIAL ELECTRICAL RISER DIAGRAM

1ST FLOOR PANELS SCHEDULES

E302 2ND FLOOR PANELS SCHEDULES.

E102 2ND FLOOR PLAN — ELECTRICAL

E300 BASEMENT LEVEL PANELS SCHEDULES

E400 ELECTRICAL SPECIFICATION SHEET.

MBOL OTES EL IS

ISSUED:

9-23-21 ISSUED FOR REVIEW

E001



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SY N RIC,

ISSUED FOR REVIEW

0 2' 5' 10' 15'

GENERAL NOTES

1. ALL WORK MUST COMPLY WITH NEC, NFPA, LIFE SAFETY & LOCAL APPLICABLE CODES.

2. PROVIDE ALL ADDITIONAL HARDWARE FOR MOUNTING AS REQUIRED FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM.

NEW 200A-3PH-208V FUSIBLE DISCONNECT SWITCH. FUSE AT 200A OR USE THERMO-MAGNETIC BREAKER BOX WITH 42kAIC BREAKER $\langle 5 \rangle$ NEW 800A-4P-120/208V-35kAIC NON LIFE SAFETY LOADS AUTOMATIC TRANSFER SWITCH (ATS2).

 $\langle 6 \rangle$ NEW 800A-3PH-208V-42kAIC C/T MAIN DISCONNECT SWITCH CABINET.

DEMOLISH EXISTING ABANDONED COMPRESSOR CONTROL CABINETS, RETAIN EXISTING RELAYS LOCATED INSIDE OF CABINETS AND LOCATED IN WALL NEAR EXISTING COMPRESSOR. PROVIDE NEW SMALL CABINET FOR INSTALLATION OF ACTIVE RELAYS. DEMO ALL EXISTING ABANDONED OR NOT ACTIVE EXISTING ELECTRICAL RACEWAY AND WIRIGN IN THE AREA -THE IDEA IS TO CLEAR SPACE FOR INSTALLATION OF NEW HARDWARE. TURN OFF ASSOCIATED SWITCHES IN SCHITCH BOARD AND LABEL SPARE.

(8) EXISTING UTILITY METER TO REMAIN.

DEMO EXISTING UTILITY METERS AND BYPASS CONNECTIONS ONLY IF EXISTING UTILITY METERS ARE ABANDONED OR NOT DOING ANYTHING. THE GOLD IS TO HAVE ONLY ONE METER IF POSSIBLE. COORDINATE WITH COMED FOR THIS WORK.

FURNISH AND INSTALL NEW PANELS AT THIS LOCATION AFTER REMOVAL OF EXISTING ABANDONED EQUIPMENT

ELECTRICAL CONTRACTOR SHALL PICK EXISTING LIFE SAFETY LOADS LOCATED IN THIS PANEL AND RELOCATE THEM TO NEW LIFE SAFETY PANEL SERVING THIS FLOOR AND AREA (LS-01 & LS-11). FURNISH AND INSTALL NEW RACEWAY, WIRING & J-BOXES AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS TO NEW PANEL. MATCH EXISTING SIZE AND TYPE OF WIRING AND RACEWAY CURRENTLY BEING USED. ALL BREAKERS NOT SERVING ANY LOADS SHALL BE TURN OFF AND LABEL "SPARE". PROVIDE NEW PANEL CARD DIRECTORY TO REFLECT UP-TO-DATE INSTALLATIONS AND ROOM NAMES AND NUMBERS. REFER TO SHEETS E300 BASEMENT PANEL SCHEDULES AND E301 1ST FLOOR PANEL SCHEDULES FOR ADDITIONAL INFORMATION. NEW BREAKERS SHALL CORRELATE WITH EXISTING CIRCUIT RATING. ALL NEW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE CEILINGS. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY DAMAGE CEILING TILES OR GYP BOARD DAMAGE DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILING TYPE AND FURNISH AND INSTALL NEW CEILING TITLE TO MATCH EXISTING WHEN DROP CEILINGS.

FURNISH AND INSTALL NEW LIFE SAFETY PANEL. REFER TO SHEETS E200, E300 & E301 PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

FURNISH AND INSTALL NEW UNDERGROUND NATURAL GAS LINE TO POWER THE NEW EMERGENCY GENERATOR. ADJUST ROUTING AS REQUIRED TO ACCOMMODATE INSTALLATION. CONTRACTOR SHALL TRENCH, AND RETURN SITE TO EXISTING CONDITIONS AROUND SURROUNDING AREA.

(14) 3" GAS @ 7" WC (VIF), 3000 CFH @ 50' E.L. (VIF)

(15) VENTED REGULATOR, WHEN RUNNING MEDIUM PRESSURE GAS.

(16) INSTALL WITH GAS COCK, 6" DIRT LEG AND UNION CONNECTION.

(17) EXISTING GAS METER. COORDINATE WITH GAS COMPANY FOR UPGRADE IF NECESSARY.

TO LS-01 APPROXIMATE—/
LOCATION ALL NÉW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE THE CEILINGS.
CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY CEILING TILES OR GYP BOARD DAMAGED DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND/OR TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILINGS AND FURNISH AND INSTALL NEW CEILING TITLE TO MATCH SURROUNDING AREA WHEN DROP CEILINGS. APPROXIMATE LOCATION (11) TO LS-01

1ST FLOOR PLAN - ELECTRICAL

260kW-120/208V-3PH-4W NATURAL GAS (3000 CFH) EMERGENCY GENERATOR L:223IN x W:100IN x H:149IN

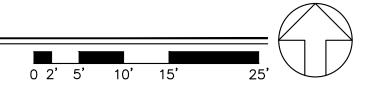
LOCATION

ALL NEW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE THE CEILINGS. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY CEILING TILES OR GYP BOARD DAMAGED DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND/OR TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILINGS AND FURNISH AND INSTALL NEW CEILING TITLE TO MATCH

SURROUNDING AREA WHEN DROP CEILINGS.

(14)(13)

EXISTING _ GAS METER



EXISTING FIRE ALARM PANEL

LOCATION

NEW GENERATOR REMOTE ANNUNCIATOR PANEL

Partial basement plan — electricai



- 1. ALL WORK MUST COMPLY WITH NEC, NFPA, LIFE SAFETY & LOCAL APPLICABLE CODES.
- 2. PROVIDE ALL ADDITIONAL HARDWARE FOR MOUNTING AS REQUIRED FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM.

KEY NOTES

- FURNISH AND INSTALL NEW LIFE SAFETY PANEL. REFER TO SHEETS E200 AND E302 BASEMENT PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- ELECTRICAL CONTRACTOR SHALL PICK EXISTING LIFE SAFETY LOADS LOCATED IN THIS PANEL AND RELOCATE THEM TO NEW LIFE SAFETY PANEL SERVING THIS FLOOR AND AREA (LS-21 & LS-22). FURNISH AND INSTALL NEW RACEWAY, WIRING & J-BOXES AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS TO NEW PANEL. MATCH EXISTING SIZE AND TYPE OF WIRING AND RACEWAY CURRENTLY BEING USED. ALL BREAKERS NOT SERVING ANY LOADS SHALL BE TURN OFF AND LABEL "SPARE". PROVIDE NEW PANEL CARD DIRECTORY TO REFLECT UP-TO-DATE INSTALLATIONS AND ROOM NAMES AND NUMBERS. REFER TO SHEETS E302 2ND FLOOR PANEL SCHEDULES FOR ADDITIONAL INFORMATION. NEW BREAKERS SHALL CORRELATE WITH EXISTING CIRCUIT RATING. ALL NEW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE CEILINGS. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY DAMAGE CEILING TILES OR GYP BOARD DAMAGE DURING CONSTRUCTION SHALL BE RETURNED TO

DAMAGE CEILING TILES OR GYP BOARD DAMAGE DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILING TYPE AND FURNISH AND INSTALL NEW CEILING TITLE TO MATCH EXISTING WHEN DROP CEILINGS.

GENCY GENERAT
77 S. BROADWAY
AURORA, IL 60505

EMEKGENCY C 77 S. BROAD AURORA, IL

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409 S. Highland Ave. Arlington Heights, IL 60005

ELECTRICAL

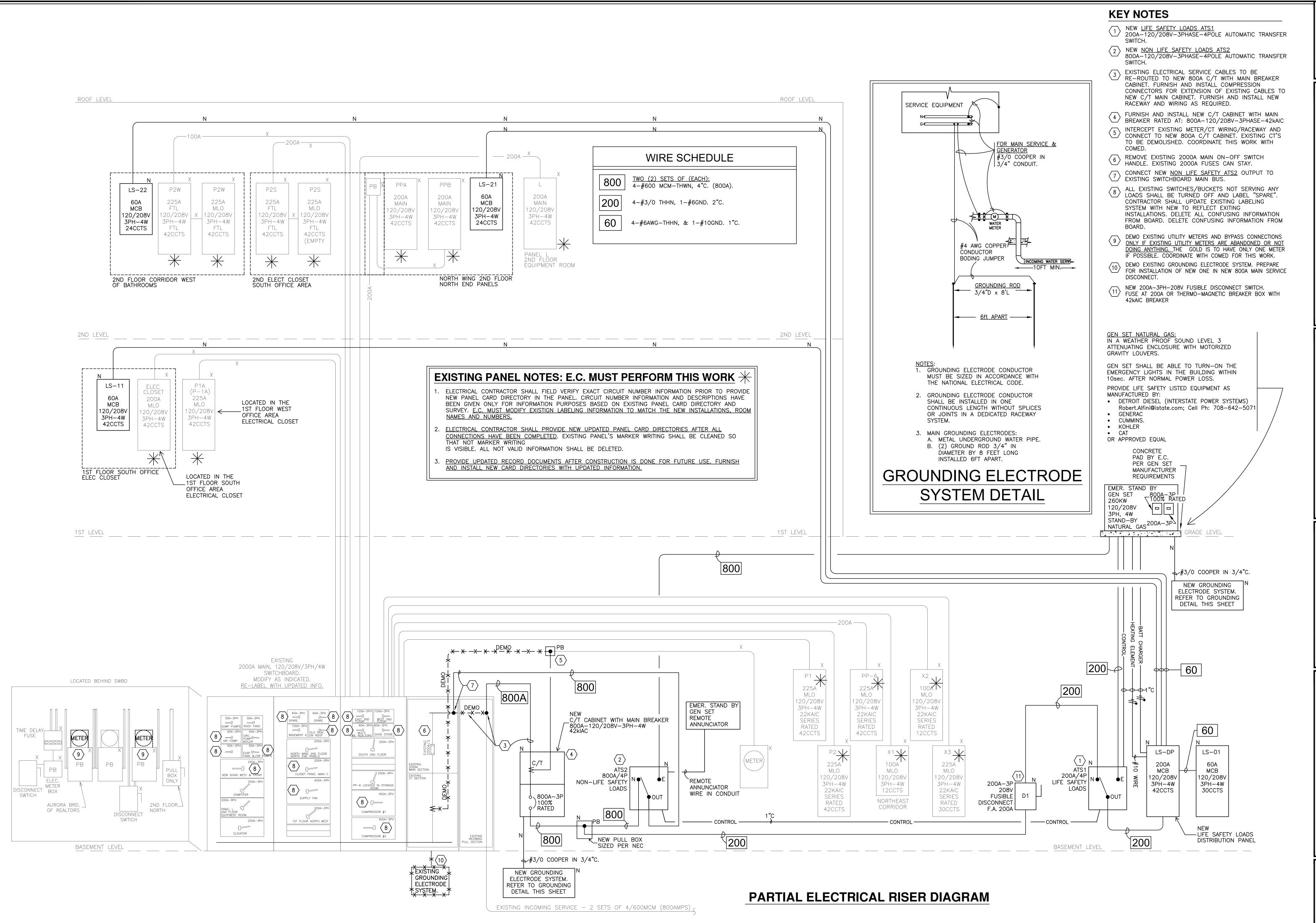
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0 2' 5' 10' 15'





SENCY GENERATOR
77 S. BROADWAY
AURORA, IL 60505

ENGINEERING

H Consulting Engineers, LL(

LICENSE NO. 184.007392-0002

ELECTRICAL RISE

ISSUED:

9-23-21
ISSUED FOR REVIEW

E200

VOLTAGE: 120/208V

- 20 1 40

- 20 1 42

GFI BREAKER

-L.O. LOCK OUT

PANEL: P1

33 20 1 - NORTH CUBICAL RECEPTACLES

39 20 1 - NORTH CUBICAL RECEPTACLES

20 1 - NORTH CUBICAL RECEPTACLES

TOTAL CONNECTED LOADS (VA) TOTAL CONNECTED LOADS (VA)

TOTAL AMPERAGE

NORTH CUBICAL RECEPTACLES NORTH CUBICAL RECEPTACLES

LOC	ATI(ON:	BASE	MENT - MAIN ELEC RM ENTRY HALL AREA	FTL:	X			PHASE	:3ф	
FEE	DER	₹:	SEE RI	SER FOR INFORMATION	AIC:	10kAIC			WIRE	:4W	
CKT NO.	BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR	P CK
1	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 2
3	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 4
5	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	
7	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 8
9	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 10
11	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 12
13	20	1	-	CONFERENCE ROOM RECEPTACLE				CENTER CUBICAL RECEPTACLES	-	20	1 14
15	20	1	-	BATHROOM LIGHTS & RECEPTACLES (1)				CENTER CUBICAL RECEPTACLES	-	20	1 16
17	20	1	-	BASEMENT NAC PANEL 1				CENTER CUBICAL RECEPTACLES	-	20	1 18
19	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 20
21	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 22
23	20	1	-	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES	-	20	1 24
25	20	1	-	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES	-	20	1 26
27	20	1	-	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES	-	20	1 28
29	20	1	-	NORTH CUBICAL RECEPTACLES				FIRE ALARM PANEL 1	_	20	1 30
31	20	1	-	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES	-	20	1 32

WEST RECEPTION RECEPTACLES

② EXISTING PANEL X1②

PANE	EL:		X1		FRAME SIZ	E: 100A					VOLTAGE	: 120/	208V
LOC	ATI	ON:	BASEN	MENT LEVEL NORTH EAST CORR	MI	.0: X	_				PHASE	: 3ф	
FEE			-	SER FOR INFORMATION	А	IC: 10kAIC	F	ULL RATE	ΞD		WIRE		
CKT NO.	BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PH/	ASE B	PHA	SE C	CIRCUIT DESCRIPTION	FAUL1 C.B.	BR	P CKT
1	20	1	-	N OFFICE LIGHTS 1	•					ISC COMPUTER EQUIP	-	20	1 7
2	20	1	-	S OFFICE LIGHTS (1)						BOOK KEPPING NRC	-	20	1 8
3	20	1	-							BLUE -WEST RECEP	-	20	1 9
4	20	1	-	W WALL RECEPS & CLOCK						IBM *-NCR	-	20	1 10
5	20	1	-	S WALL RECEPS							-	20	1 11
6	20	1	-	NW WALL RECEPS							-	20	1 12
ГОТ	AL (CON	NECT	ED LOADS (VA)	### ###	####	####	####	####				
ОТ	AL (CON	INECT	ED LOADS (VA)	####	#	###	##	###		GFI BF	REAKE	R
ОТ	AL A	AMF	PERAG	E		#	####			-	-L.O. L	OCK	OUT

② EXISTING PANEL X2 ②

PAN	EL:		X1		FRA	ME SIZE	: 100A				VC	LTAGE	: 120	/208	V
LOC	ATI	ON:				MLO	: X					PHASE	:3ф		
FEE	DEF	? :	SEE RI	SER FOR INFORMATION		AIC	: 10kAIC	F	ULL RATE	ED .		WIRE	:4W		
CKT NO.	BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHA	SE A	PHA	SE B	PHA	SE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR		CKT NO.
1	20	1	-	FRONT OFFICE FLR RECEPS							SPARE	-	20	1	6
2	20	1	-	CORNER OFFICE FLR RECEPS							FLOOR RECEPS DIRST- DIRST, PRES OFFICE	-	20	1	7
3	20	1	-	RECEPTS - CLOCK -BACK ROOM							LOBBY FL RECEPS	-	20	1	8
4	20	1	-	RECEPTS - CLOCK - FRONT ROOM							LOBBY FL RECEPS	-	20	1	9
5	20	1	-	RECEPTS							RECEPTS WATER COOLER	-	20	1	10
TOT	AL (CON	NECT	ED LOADS (VA)	###	####	####	####	####	####					
TOT	AL (CON	NECT	ED LOADS (VA)	##	##	##	##	##	##		GFI BF	EAK	ER	
ТОТ	AL A	\MF	PERAG	Е			###	###	1			-L.O. L	OCK	OU	T

②EXISTING PANEL X3②

PANE	EL:		X3		FRAME SIZE:	225A			VOLTAC	3E: 120	/208V
OC.	ATIC	ON:	:		MLO:	X			PHAS	SE: 3φ	
FEEI	DER). 	SEE RI	ISER FOR INFORMATION	AIC	10kAIC F	ULL RATED		WIF	RE:4W	
CKT NO.	BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAU C.E	LT BR	P CKT
1	20	1	-	BOOK VAULT LIGHTS 1				DINING ROOM OUTLETS	-	20	1 2
3	20	1	-	OUTLETS				KITCHEN LIGHTS (1	_	20	1 4
5	20	1	-	DIRECTOR ROOM LIGHTS (1)				KITCHEN OUTLETS	-	20	1 6
7	20	1	-	LIGHTS (1)	<u> </u>			MECH RM LIGHTS (1	> -	20	1 8
9	20	1	-	LIGHTS				SUPPLY ROOM MEN WASH RM JAN	-	20	1 10
11	20	1	-	STORAGE AREA LIGHTS	-			WOMENS LOUNGE WASHROOM	-	20	1 12
13	20	1	-	LIGHTS				STAIRWAY EXITS ELEV SUMP 1	<u> </u>	20	1 14
15	20	1	-	COND, FAN \$ BOILER LIGHTS				CORRIDOR LIGHTS	<u> </u>	20	1 16
17	20	1	-	KITCHEN OUTLETS 1				UPS ROOM OUTLETS	\ -	20	1 18
19	20	1	-	KITCHEN OUTLETS 1				UPS ROOM LIGHTS	$\langle \ \ $	20	1 20
21	20	1	-	DIRECTORS ROOM OUTLETS				ADDRESS GRAPH ROOM OUTLETS	_	20	1 22
23	20	1	-	CORRIDOR OUTLET				ADDRESS GRAPH & STORAGE OUTLETS	\ -	20	1 24
25	20	1	-	KITCHEN - DISHWASHER			<u> </u>	ELEVATOR SUMP	_	20	1 26
27	20	1	-	KITCHEN DISPOSAL							20
29	20	1	-	SPARE				SPARE	-	30	2 30
ТОТ	AL C	CON	NECT	ED LOADS (VA)	//###/////####//		14444 A444 101100				
TOT	AL C	CON	NNECT	ED LOADS (VA)	34 454 41 17 10 10 10 17 10 10 10	####	######################################		GFII	BREAK	ER
TOT	AL A	MF	PERAG	E		31454343 3211951415	<u></u>		-L.O.	. LOCK	OUT

② EXISTING PANEL - P2②

PANE	EL:		P2		FRA	ME SIZE	: 225A					VOLTAGE	: 120/2	08V
LOC	ATI(ON:	BASE	MENT - MAIN ELEC RM ENTRY HALL AREA		MLO	: X					PHASE	: 3ф	
				ISER FOR INFORMATION		AIC	: 10kAIC					WIRE		
CKT NO.	BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHA	SE A	PHA	SE B	PHA	SE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR I	CKT NO.
1	20	1	-	SOUTH RECEPTION RECEPTACLES							WEST RECEPTION RECEPTACLES	-	20	1 2
3	20	1	-	SOUTH RECEPTION RECEPTACLES							WEST RECEPTION RECEPTACLES	-	20	1 4
5	20	1	-	SOUTH RECEPTION RECEPTACLES							WEST RECEPTION RECEPTACLES	-	20	1 6
7	20	1	-	EAST LOBBY RECEPTACLES							SPARE	-	20	1 8
9	20	1	-	EAST LOBBY RECEPTACLES							SPARE	-	20	1 10
11	20	1	-	VESTIBULE RECEPRACLES							SPARE	-	20	1 12
13	20	1	-	SOUTH CUBICAL RECEPTACLES							SOUTH CUBICAL RECEPTACLES	-	20	1 14
15	20	1	-	SOUTH CUBICAL RECEPTACLES							SOUTH CUBICAL RECEPTACLES	-	20	1 16
17	20	1	-	SOUTH CUBICAL RECEPTACLES							SOUTH CUBICAL RECEPTACLES	-	20	1 18
19	20	1	-	SOUTH CUBICAL RECEPTACLES							SOUTH CUBICAL RECEPTACLES	-	20	1 20
21	20	1	-	SOUTH CUBICAL RECEPTACLES							SOUTH CUBICAL RECEPTACLES	-	20	1 22
23	20	1	-	SOUTH CUBICAL RECEPTACLES							SOUTH CUBICAL RECEPTACLES	-	20	1 24
25	20	1	-	SOUTH RECEPTION RECEPTACLES								-	20	1 26
27	20	1	-	SOUTH RECEPTION RECEPTACLES								-	20	1 28
29	20	1	-	SOUTH RECEPTION RECEPTACLES								-	20	1 30
31	20	1	-	WEST RECEPTION RECEPTACLES								-	20	1 32
33	20	1	-	WEST RECEPTION RECEPTACLES								-	20	1 34
35	20	1	-	EAST LOBBY RECEPTACLES								-	20	1 36
37	20	1	-	OFFICE DOG HOUSE								-	20	1 38
39	20	1	-	OFFICE DOG HOUSE								-	20	1 40
41	20	1	-	OFFICE DOG HOUSE								-	20	
TOT	AL (CON	NECT	ED LOADS (VA)	###	####	####	####	####	####		1		
TOT	AL (CON	NECT	ED LOADS (VA)	##	###	##	##	##	##		GFI BR	EAKE	3
TOT	AL A	AMF	PERAG	E			###	###				-L.O. L	OCK (DUT

②EXISTING PANEL - PP6 ②

PAN	EL:		PP6		FRA	AME SIZE	: 225A				\	/OLTAGE	: 120)/208	3V
LOC	ATI	ON:				MLO	: X	-				PHASE	: 3ф		
FEE	DEF	₹:	SEE R	ISER FOR INFORMATION		AIC	: 10kAIC	FEE	D THRU L	UGS		WIRE	:4W		
NO.	BR	Р	FAUL ⁷ C.B.	CIRCUIT DESCRIPTION	PHA	ASE A	PHA	SE B	PHAS	SE C	CIRCUIT DESCRIPTION	FAUL1 C.B.	BR	Р	CKT NO.
3	100	2	-	BLOT FARMER'S MARKER							SUMP PUMPS	_	40	2	2
5	20	1	-	OUTSIDE PHOTOCELL					(//////////////////////////////////////		4				6
7	20	1	-												8
9	20	1	-	SW OFFICE IG RECEPT							COMPRESSOR DISCONNECT	-	20	2	10
11	20	1	-	IG SW CUBE BY WINDOWS											12
13	20	1	-	RECEPT DOGHOUSE EMPLOYEE AREA							BASEMENT STORAGE ROOM QUAD	-	20	1	14
15	20	1	-								RECEPT 2ND FLOOR LOBBY	-	20	1	16
17	20	1	-	EXIT LIGHTS NE STAIRS 1							RECEPT 2ND FLOOR LOBBY	-	20	1	18
19	20	1	-	HEATER NE STAIRWELL							SUMP PUMP ALARM	-	20	1	20
21	20	1	-	NE STAIRWELL LIGHTS 1							HEATER NE STAIRWELL	-	20	1	22
23	20	1	-	NE STAIRWELLS LIGHTS 1							UNIT HEATER IN SUMP PUMP ROOM	-	20	1	24
25	20	1	-	UNDER CANOPY LIGHTING 1							ROLL UP GATE	-	20	1	26
27	20	1	-				***************************************				ROLL UP GATE /PHOTOCELL	-	20	1	28
29	20	1	-								ROLL UP GATE	-	20	1	30
31	20	1	-								LIGHTING SUMP PUMP ROOM 1	-	20	1	32
33	20	1	-	LIGHT POLES							PHOTOCELL BYPASS	-	30	1	34
35	20	1	-												36
37	10	0									HEATER IN OUTSIDE SUMP PUMP ROOM	-	40	3	
39	40	2	-												40
41	-	1	-	SPACE							SPACE	-	-	1	42
TOT	AL (CON	INECT	ED LOADS (VA)	###	####	####	####	####	####					
				ED LOADS (VA)	#	###	##		##	##		GFI BF			_
TOT	AL A	AMF	ERAG	SE			##	###				-L.O. L	.OCK	(01	JΤ

NEW PANEL - LS-01

PANEL	L:		LS-01		FRA	ME SIZE	: 100A				VC	LTAGE	: 120)/20	8V
LOCA	TIC	ON:	BASEN	MENT CORRIDOR		MLO	: X	-				PHASE	: 3ф		
FEEDI	ER	2:	SEE R	ISER FOR INFORMATION		AIC	: 10kAIC					WIRE	::4W	'	
CKT NO.	3R	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHA	SE A	PHA	SE B	PHA	SE C	CIRCUIT DESCRIPTION	FAUL1 C.B.	BR	Р	CKT NO.
	20	1	-	(FROM PNL "X3") BOOK VAULT LIGHTS							(FROM PNL "P1") BASEMENT NAC PANEL	-	20	1	2
3 2	20	1	-	(FROM PNL "X3") DIRECTOR ROOM LIGHTS							(FROM PNL "P1") FIRE ALARM PANEL	-	20	1	4
5 2	20	1	-	(FROM PNL "X3") LIGHTS							(FROM PNL "P1") BATHROOM LIGHTS	-	20	1	6
7 2	20	1	-	(FROM PNL "X3") LIGHTS							SPARE	-	20	1	8
9 2	20	1	-	(FROM PNL "X3") STORAGE AREA LIGHTS							SPARE	-	20	1	10
11 2	20	1	-	(FROM PNL "X3") LIGHTS							SPARE	-	20	1	12
13 2	20	1	-	(FROM PNL "X3") COND,FAN BOILER LIGHTS							SPARE	-	20	1	14
15 2	20	1	-	(FROM PNL "X3") KITCHEN LIGHTS							FROM PNL "PP6") EXIT LIGHTS NE STAIRS	-	20	1	16
17 2	20	1	-	(FROM PNL "X3") MECH RM LIGHTS							(FROM PNL "PP6") NE STAIRWELL LIGHTS	-	20	1	18
19 2	20	1	-	(FROM PNL "X3") CORRIDOR LIGHTS							FROM PNL "PP6") NE STAIRWELL LIGHTS	-	20	1	20
21 2	20	1	-	(FROM PNL "X3") UPS ROOM LIGHTS							FROM PNL "PP6") LIGHTING SUMP PUMP RM	-	20	1	22
23 2	20	1	-	(FROM PNL "X3") SUPPLY RM MEN WASH RM JAN							(FROM PNL "PP6") UNDER CANOPY LIGHTING	-	20	1	24
25 2	20	1	-	(FROM PNL "X3")WOMENS LOUNGE WASHROOM							SPARE	-	20	1	26
27 2	20	1	-	(FROM PNL "X3")STAIRWAY EXITS							FROM PNL "X1") N OFFICE LIGHTS	-	20	1	28
29 2	20	1	-	SPARE							(FROM PNL "X1") S OFFICE LIGHTS	-	20	1	30
TOTAL	L C	ON	INECT	ED LOADS (VA)	###	####	####	####	####	####					
TOTAI	L C	CON	INECT	ED LOADS (VA)	##	###	##	##	##	##		GFI BF	REAK	ER	
TOTAL	LΑ	MP	PERAG	SE [##:	###				-L.O. L	OCK	(01	UT

KEY NOTES

- TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-01", PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRIGN SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
- PROVIDE NEW PANEL CARD DIRECTORY WITH UPDATED INFORMATION. ALL EMPTY BREAKERS OR SERVING ABANDONED LOADS SHALL BE TURN OFF AND LABEL "SPARE"

NEW LIFE SAFETY DIST PANEL - LS-DP

ANEL:		LS-DI		FRAM	ME SIZE:	200A					VOLTAGE	E: 120	1/20	8V
OCAT	ION	:BASEN	IENT		MCB	Χ					PHASE	Ξ: 3φ		
EEDE	R:		ISER FOR INFORMATION		AIC:	65kAIC	FEE) THRU L	UGS	-	WIRE			_
<u>U. </u>	P	FAUL C.B.	CIRCUIT DESCRIPTION	PHAS	SE A	PHA	SE B	PHA	SE C	CIRCUIT DESCRIPTION	FAUL C.B.	BR	Р	CK NC
1 3 60 5	3	-	PANEL "LS-01" (BASEMENT LEVEL)					<u></u>		PANEL "LS-22" (FIRST FLOOR SOUTH WIN	G) -	60	3	4
7 20	1	-	SPARE							SPARE	-	20	1	8
9 20	1	-	SPARE							SPARE	-	20	1	1(
1 20	1	-	SPARE							SPARE	-	20	1	12
3				(//////////////////////////////////////						SPACE	-		1	14
5 7	3	-	PANEL "LS-11" (1ST FLOOR)								-	<u> </u>	1	16
9 20	1	-	SPARE								-		1	16
1 20	1	-	SPARE								-		1	
3 20	1	-	SPARE								-		1	
5										V	-		1	26
	3	-	PANEL "LS-21" (FIRST FLOOR NORTH WING)							GENERATOR HEATER	-	30	1	28
9										GENERATOR BATTERY CHARGER	-	20	1	3(
TAL	CO	NNEC	ED LOADS (VA)	###	####	####	####	####	####					
TAL	CO	NNEC	ED LOADS (VA)	##:	##	##	##	##	##		GFI BI	REAK	ER	
DTAL	ΑM	PERAC	SE .			###	##				-L.O. L	OCK	(Ol	JT

BASEMENT LEVEL PANELS SCHEDULES

ISSUED: 9-23-21 ISSUED FOR REVIEW

E300

2 EXISTING P-1A 2

PANEL:		P1A (P	-1A)	FRA	ME SIZE	: 225A				V	OLTAGE	E: 120	/208	8V
OCATIO	ON:	1ST FL	OOR OFFICE - WEST ELEC CLOSET		MLO	: X					PHASE	<u>=</u> : 3ф		
FEEDER	? :	SEE RI	SER FOR INFORMATION		AIC	: 10kAIC	F	ULL RATE	D		WIRE	E: 4W		
CKT NO. BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHA	ASE A	PHA	SE B	PHAS	SE C	CIRCUIT DESCRIPTION	FAUL C.B.	BR	Р	CK NO
1 20	1	-	LOBBY LIGHT EM (1)							ELEVATOR LIGHTS (1)	-	20	1	2
3 20	1	-	LOBBY LIGHT 1			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				ELEVATOR SMOKE	-	20	1	4
5 20	1	-	COPY SOUTH							NORTHSIDE LIGHTS EM 1	-	20	1	6
7 20	1	-	COPY SOUTH							CONFERENCE RM LIGHTS 1	-	20	1	8
9 20	1	-	COUNTER BY SOUTH COPY							REFRIDGE	-	20	1	1(
11 20	1	-	COUNTER BY SOUTH COPY							REFRIDGE	-	20	1	12
13 20	1	-	CONFERENCE ROOM							MICROWAVE	-	20	1	14
15 20	1	-	BATHROOM LIGHT1 1							MICROWAVE	-	20	1	16
20	1	-								DISHWASHER	-	20	1	1
19 20	1	-	IT ROOM LIGHTS 1							COUNTERTOP	-	20	1	2
21 20	1	-	SIGN & TIMECLOCK							LIGHTS LOBBY 1	-	20	1	22
23 20	1	-	LIGHT STAIR 1							LIGTS LOBBY 1	-	20	1	2
25 20	1	-								LIGHTS LOBBY 1	-	20	1	2
27 20	1	-	NORTH WALL							IT ROOM	-	20	1	2
29 20	1	-	NORTH WALL							IT ROOM	-	20	1	3
31 20	1	-	NORTH WALL							IT ROOM	-	20	1	3:
33 20	1	-	NORTH WALL								-	20	1	34
35 20	1	-	NORTH WALL								-	20	1	36
37 20	1	-									-	20	1	38
39 20	1	-	BATHS							LOBBY COLUMB RECEP - COFFEE POT	-	20	1	4
41 -	1	-									-	-	1	4:
			ED LOADS (VA)	###	####	####	####	####	####					
			ED LOADS (VA)	#	###	##		##	##		GFI BI			
TOTAL A	\MF	PERAG	E			###	###				-L.O. L	.OCK	. Ol	JΤ

② EXISTING OLD PANEL IN CLOSET ②

PANEL:	P1		FRA	ME SIZE	: 200A				V	OLTAGI	Ξ: 120	/208V	1
LOCATION	: 1ST F	LR OFFICE AREA SOUTH ELECT CLOSET		MLO	: X					PHASI	Ξ: 3φ		
FEEDER:		ISER FOR INFORMATION		AIC	: 10kAIC	F	JLL RATE	D		WIRI	Ξ: 4W		
CKT NO. BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHA	SE A	PHAS	SE B	PHAS	SE C	CIRCUIT DESCRIPTION	FAUL C.B.	T BR	PN	X VC
41 20 1	-	LITES(DIRST) (1)							LITES (NEUS)	-	20	4	42
1 20 1	-	LITES(DIRST) (1)							LITES OFFICE 1	-	20	4	2
2 20 1	-	LITES (NEUS)							LITES OFFICE 1	-	20	4	22
3 20 1	-	LITES SW 1							LITES OFFICE 2	-	20	4	23
4 20 1	-	EXIT + NITE LITES 1							LITES OFFICE 2	-	20	4	24
5 20 1	-	LITES LOBBY 1							LITES OFFICE 3	-	20	4	25
6 20 1	-	LITES LOBBY 1							LITES OFFICE 4	-	20	1	26
7 20 1	-								LITES OFFICE 5	-	20	1	2
8 20 1	-	BAD BREAKER							LITES OFFICE 6	-	20	4	2
9 20 1	-	LITES LOBBY 1							LITES OFFICE 7	-	20	4	29
10 20 1	-	ATM							RECEPTS	-	20	4	30
11 20 1	-	RECEPS FOR ATM							LITES OFFICE 2	-	20	4	3′
20 1	-	NIGHT DEPOSITORY							LITES OFFICE 4	-	20	1 -3	32
13 20 1	-	SOFFIT LIGHTS 1							LITES OFFICE 6	-	20	1 -	33
14 20 1	-	TIME CLOCK								-	20	4	34
15 20 1	-								BATHROOM 2ND FLOOR	-	20	4	35
16 20 1	-	LITES ENTRY 1								-	20	4	36
17 20 1	-	SPARE							COPY MACH	-	20	1	37
18 20 1	-	EAST STAIRS 1								-	20	4	38
19 20 1	-	SPARE							EXH FAN ON ROOF	-	20	4	39
20 20 1	-	SPARE							TIME CLOCK FEED FOR 2 ATM LIGHT & 2 BLDNG	-	20	4	40
		ED LOADS (VA)	###	####	####	####	####	####					
		TED LOADS (VA)	##	##	##		##	##	-	GFI BI			
TOTAL AMI	PERAG	GE .			###	##				-L.O. l	OCK.	OUT	Ĩ

NEW PANEL LIFE SAFETY LOADS - LS-11

PANE		۱۸.	LS-11		FKA	.ME SIZE: MLO:		-				VOLTAGE		
LOC <i>P</i> FEED				LR OFFICE AREA SOUTH ELECT CLOSET ISER FOR INFORMATION			. A : 10kAIC					PHASE WIRE		
OVT	3R		FAULT C.B.		PHA	SE A		SE B	PHA	SE C	CIRCUIT DESCRIPTION	FAULT C.B.		
1	20	1	-	(FROM PNL "P-1A") LOBBY LIGHT EM							FROM PNL "CLOSET") LITES (DIRST)	-	20	
3	20	1	-	(FROM PNL "P-1A") LOBBY LIGHT							FROM PNL "CLOSET") LITES SW	-	20	
5	20	1	-	(FROM PNL "P-1A") BATHROOM LIGHT							(FROM PNL "CLOSET") LITES LOBBY	-	20	
7	20	1	-	(FROM PNL "P-1A") IT ROOM LIGHTS	<u> </u>						FROM PNL "CLOSET") LITES	-	20	1
9	20	1	-	(FROM PNL "P-1A") LIGHT STAIR							FROM PNL "CLOSET") LITES OFFICE 1	-	20	1
11	20	1	-	(FROM PNL "P-1A") ELEVATOR LIGHTS							(FROM PNL "CLOSET") LITES OFFICE 2	-	20	
13	20	1	-	(FROM PNL "P-1A") NORTHSIDE LIGHTS EM							FROM PNL "CLOSET") LITES OFFICE 3	-	20	
15	20	1	-	(FROM PNL "P-1A") CONFERENCE RM LIGHTS							FROM PNL "CLOSET") LITES OFFICE 4	-	20	
17	20	1	-	(FROM PNL "P-1A") LIGHTS LOBBY					(11111111111111111111111111111111111111		(FROM PNL "CLOSET") LITES OFFICE 5	-	20	1
19	20	1	-	(FROM PNL "P-1A") LIGHTS LOBBY	<u> </u>						FROM PNL "CLOSET") LITES OFFICE 6	-	20	1 -
21	20	1	-	(FROM PNL "P-1A") LIGHTS LOBBY			<i></i>				FROM PNL "CLOSET") LITES OFFICE 7	-	20	\top
23	20	1	-	(FROM PNL "CLOSET") LITES STAIRS							(FROM PNL "CLOSET") LITES (NEUS)	-	20	
25	20	1	-	(FROM PNL "CLOSET") SOFFIT LIGHTS							FROM PNL "CLOSET") EXIT + NITE LITES	-	20	T
27	20	1	-	SPARE							FROM PNL "CLOSET") LITES LOBBY	-	20	T
29	20	1	-	SPARE					(//////////////////////////////////////		(FROM PNL "CLOSET") LITES ENTRY	-	20	
31	20	1	-	SPARE				///////////////////////////////////////	<u> </u>	 	SPARE	-	20	
33	20	1	-	SPARE							SPARE	-	20	
35		1	-	SPACE							SPACE	-		1
37		1	-	SPACE							SPACE	-	\top	1
39		1	-	SPACE							SPACE	-	\top	1
41		1	-	SPACE				ı			SPACE	-	\top	1
TOTA	L C	ON	INECT	ED LOADS (VA)	###	###	###	###	###	###				
			INECT ERAG	ED LOADS (VA)	##	###		###	##	##		GFI BR -L.O. L		

KEY NOTES

- TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-11", PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRIGN SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
- PROVIDE NEW PANEL CARD DIRECTORY WITH UPDATED INFORMATION. ALL EMPTY BREAKERS OR SERVING ABANDONED LOADS SHALL BE TURN OFF AND LABEL "SPARE"

③EXISTING PANEL − 2ND FL WEST③ EXISTING PANEL - 2ND FL WEST3 PANEL: P2W FRAME SIZE: 225A VOLTAGE: 120/208V PANEL: P2W FRAME SIZE: 225A VOLTAGE: 120/208V LOCATION: FTL: X PHASE: 3¢ LOCATION: MLO: X FEEDER: SEE RISER FOR INFORMATION AIC: 10kAIC FEED THRU LUGS WIRE: 4W FEEDER: SEE RISER FOR INFORMATION AIC: 10kAIC FEED THRU LUGS CKT BR P FAULT C.B. FAULT R. P. CKT NO. CKT BR P FAULT NO. CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C PHASE A PHASE B PHASE C OFFICE 112-114 & CUBE 115,116 LTS 2 OPEN AREA 2 LIGHTING OFFICE 113 RECEPTACLES OPEN AREA 108 RECEPTACLES KITCHEN OUTLET CUBE 115, 116 & 117 RECEPTACLES PRINT AREA 109 PLOTTER 20 1 48 WATER COOLER - KITCHEN KITCHEN 124 PRINTER PRINT AREA 109 PRINTER 20 1 50 **ENGINEERING SUPPLY** OPEN AREA 102 RECEPTACLES KITCHEN 124 PRINTER 20 1 52 HALL BATHROOMS OPEN AREA 102 RECEPTACLES KITCHEN 124 DISHWASHER SPARE 20 1 51 KITCHEN 124 COFFEE OPEN AREA 102 PRINTER 20 1 56 RECEPS - OFFICE 114 KITCHEN 124 MICROWAVE OPEN AREA 107 RECEPTACLES 20 1 50 KITCHEN 124 REFRIGERATOR OPEN AREA 107 RECEPTACLES HEATER 113 IT ROOM 126 & CORRI & KITCHEN RCPTCLS - 20 1 60 COPIER CUBE 117 RECEPTACLE. NEW COPIER EASTEND 20 1 60 CONFERENCE 123 RECEPTACLES HEATER 114 - 20 1 64 LOBBY 100 & ADMIN 122 RECETACLES 65 20 1 - SPARE ON ROOF SERVICE RECEPTACLE 20 1 66 CONFERENCE 127 RECEPTACLES 67 20 1 20 1 68 CUBE 118 - 120 RECEPTACLES 69 20 1 OFFICE 112 RECEPTACLES 20 1 70 ADMIN OF. MANAGER & OPEN OFFICE RPCTS OFFICE 105-106 LIGHTING 73 20 1 20 1 OFFICE 104 - 106 RECEPTACLES 75 20 1 CONFER. 123, I.T. & KITCHEN LTS CONFERENCE 102 RECEPTACLES 77 20 1 KITCHEN 110 DEDICATED RECEPTACLE CUBE 117-121, ADMIN 122, CORRIDOR LTS KITCHEN 110 DEDICATED RECEPTACLE IT ROOM QUAD PHONE BOARD LOBBY 100 & SOUTH CORRIDOR LIGHTING - 20 1 84 OPEN AREA 1 & ADMIN OFFICE LTG TOTAL CONNECTED LOADS (VA) TOTAL CONNECTED LOADS (VA) /2019//X//201901/X//201945/X//20195// #### #### TOTAL CONNECTED LOADS (VA) TOTAL CONNECTED LOADS (VA) #### #### #### #### #### GFI BREAKER TOTAL AMPERAGE -L.O. LOCK OUT TOTAL AMPERAGE PPA-NORTH WING 2ND FLOOR 3 PPA-NORTH WING 2ND FLOOR 3 **3 EXISTING PANEL** PANEL: PPA FRAME SIZE: 225A VOLTAGE: 120 / 208V PANEL: PPB FRAME SIZE: 225A VOLTAGE: 120 / 208V LOCATION: 2ND FLOOR NORTH ELECTRICAL CLOSET MAIN: 200A LOCATION: 2ND FLOOR NORTH ELECTRICAL CLOSET MAIN: 200A PHASE: 3¢ FEEDER: SEE RISER SERIES RATED WIRE: 4W FEEDER: SEE RISER AIC: 22kAIC AIC: 22kAIC SERIES RATED CKT BR P FAULT C.B. CKT BR P FAULT CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION RECEPTS. OFFICE & HALL NEAR TO PRINTE RECEPTS. OFFICE 214 20 1 EBB -2 OFFICE 212 EBB -2 OFFICE 214 PRINTER IN NORTHWEST OFFICE 210 RECEPTS. OFFICE 215 EBB -2 OFFICE 215 20 1 EBB -2 OFFICE 212 RECEPTS. OFFICE 211 RECEPTS. OFFICE 216 EBB -2 OFFICE 215 20 1 6 EBB - 2 OFFICE 211 RECEPTS. OFFICE 210 RECEPTS. OFFICE 217 20 1 8 EBB - 1 OFFICE 216 EBB - 1 OFFICE 206 9 20 1 RECEPTS. OFFICE 206 RECEPTS. OFFICES 218 20 1 10 EBB -2 OFFICE 217 EBB - 1 OFFICE 205, 204 20 1 12 RECEPTS. OFFICE 208, 209 RECEPTS. OFFICE 220 EBB - 1 OFFICE 217 13 20 1 RECEPTS. OFFICE 204 & 205 RECEPTS. OFFICE 219 EBB - 1 OFFICE 203 EBB -2 OFFICE 218 20 1 14 EBB -2 OFFICE 219 PRINTER BY OFFICE 208 RECEPTS. OFFICE 221 20 1 16 EBB - 1 OFFICE 202 RECEPTS. OFFICES 204 & 203 RECEPT. BREAK ROOM (GFI/AC) EBB - 1 OFFICE 221 20 1 40 EBB - 1 OFFICE 201 RECEPT. BREAK ROOM (GFI/AC) 20 1 20 CONFERENCE ROOM 201 EBB - 1 OFFICE 221 EWH - 1 (ELECT HEAT STAIRS) 21 20 1 - OFFICE 202 RECEPT. BREAK ROOM (GFI/AC) 20 1 22 WATER COOLER 214 25 20 1 - SPARE 25 25 1 - ELECTRICAL WATER HEATER LIGHTING OFFICE 214-216 27 20 1 - LIGHTING OFFICES 210-212 LIGHTING OFFICE 217 SPARE PLUMBING WASTE HEAT TAPE 29 20 1 - LIGHTING OFFICES 201-209 LIGHTING OFFICE 220, 221 SPARE 31 20 1 - PLUMBING WASTE HEAT 31 20 1 - SPARE LIGHTING OFFICE 218,219 20 1 32 33 20 1 - RECP, EF & LIGHTING BATH MEN (1) 33 25 1 - PLUMBING WASTE HEAT LIGHTING NORTH STAIR 35 20 1 - RECP, EF & LIGHTING BATH WOMEN (1) SPARE SPARE 37 20 1 - RECEPT BELOW PANEL 20 2 - MEN BATHROOM CUH 20 1 38 39 20 1 - SPARE 41 20 2 - WOMEN BATHROOM CUH 41 20 1 - SPARE TOTAL CONNECTED LOADS (VA) TOTAL CONNECTED LOADS (VA) | #### | #### | #### | #### | #### | ##### | #### | #### | #### | #### | #### TOTAL CONNECTED LOADS (VA) ##### TOTAL CONNECTED LOADS (VA) ##### ##### ##### GFI BREAKER TOTAL AMPERAGE -L.O. LOCK OUT TOTAL AMPERAGE ③EXISTING PANEL - 2ND FL SOUTH ③ 3 EXISTING PANEL L3 FRAME SIZE: 225A FRAME SIZE: 225A VOLTAGE: 120/208V VOLTAGE: 120/208V PANEL: L LOCATION: FTL: X MLO: X PHASE: 3¢ LOCATION: MECHANICAL 125 FEEDER: SEE RISER FOR INFORMATION FEEDER: SEE RISER FOR INFORMATION WIRE: 4W AIC: 10kAIC FEED THRU LUGS AIC: 10kAIC FULL RATED CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION 1 20 1 - SPARE 20 1 - LIGHTS EQUIP RM - 20 1 CLOSET LIGHT LIGHTS & RECEPT BOILER RM 3 20 1 -- 20 1 4 SPARE BOILER POWER 20 1 - LIGHTS CORR 5 20 1 L.O. F.A 5 20 1 -2 L.O. 20 1 6 TEL EQUIP FIRE ALARM PANEL 7 20 1 -TEL EQUIP 20 1 - RECEPST IN CORR - 20 1 g 9 20 1 -20 1 L.O. EXIT LIGHT SOUTH SPARE OUTSIDE CANOPY LIGHTS 11 20 1 -SPARE 20 1 12 20 1 - SPARE 13 20 1 -SOUTH WALL OUTLETS 20 1 - SPARE 15 20 1 -

- 20 1 16

20 1 20

20 1 24

20 1 32

- 20 1 36

- 20 1 38

- 20 1 40

- 20 1 42

GFI BREAKER

-L.O. LOCK OUT

TOTAL AMPERAGE

TOTAL CONNECTED LOADS (VA)

TOTAL CONNECTED LOADS (VA)

SOUTH WALL OUTLETS

HALLWAY OUTLETS

FILE CABINETS OUTLETS

PRINTER RECEP OUTLET

SPARE

SPARE

SPARE

####

####

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SW OFFICE LIGHT & OUTLETS

SOUTH WALL OUTLETS (KARTS OFFICE)

SURFACE MOUNTED OUTLET CORNER OF.

SURFACE MOUNTED OUTLET CORNER OF.

BIG OFFICE OUTLETS & LIGHTS (KEN) \langle 2 \rangle

HALL LIGHTS & OFFICE (JASGA) #2 2

SPARE

19 20 1 -

23 20 1 -

27 20 1 -

31 20 1 -

33 20 1 -

37 20 1 -

39 20 1 -

41 20 1 -

TOTAL AMPERAGE

TOTAL CONNECTED LOADS (VA) TOTAL CONNECTED LOADS (VA)

PHASE: 3¢ WIRE: 4W FAULT BR P CKT NO. 20 1 -20 1 20 1 6 20 1 - 20 1 10 20 1 42 - 20 1 14 20 1 - 20 1 18 20 1 20 - 20 1 22 20 1 CONFER. 102, OPEN AREA 3, PRINTER LTS

L.O. 20 1

GFI BREAKER

PHASE: 3¢

WIRE: 4W

FAULT BR P CKT NO.

20 1

20 1

20 1 6

20 1 0

20 1

20 1 12

- 20 1 16

20 1

- 20 1 20

- 20 1 30

- 20 1 40

- 20 1 42

GFI BREAKER

-L.O. LOCK OUT

PHASE: 3¢

WIRE: 4W

- 20 1 2

- 20 1 4

- 20 1 6

GFI BREAKER

-L.O. LOCK OUT

AIR COND (SUB BREAKER) $\langle 3 \rangle$

| ### | ### | ### |

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20 1 22

-L.O. LOCK OUT

KEY NOTES

- TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-21", PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETT PANEL LS-ZI, FROMING ALL RESOURCE WINDOWS AND TYPE CURRENTLY BEING USED. TURN OFF FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRIGN SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
- TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-22", PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRIGN SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
- PROVIDE NEW PANEL CARD DIRECTORY WITH UPDATED INFORMATION. ALL EMPTY BREAKERS OR SERVING ABANDONED LOADS SHALL BE TURN OFF AND LABEL "SPARE"

NEW PANEL LIFE SAFETY LOADS - LS-21

PANE	L:		LS-21		FRA	ME SIZE:	100A				V	OLTAGE	: 120	/208V
LOCA	ATIC	N:	SECON	ND FLOOR NORTH WING ELECTRICAL CLOSET		MLO	X					PHASE	: 3ф	
FEE		-		SER FOR INFORMATION		AIC	10kAIC					WIRE	:4W	
CKT NO.	BR	Р	FAULT C.B.	CIRCUIT DESCRIPTION	PHA	SE A	PHA	SE B	PHA	SE C	CIRCUIT DESCRIPTION	FAUL1 C.B.	BR	P CK1
1	20	1	-	(FROM PNL "L") LIGHTS EQUIP RM							(FROM PNL "PPA") LTS OFFICE 210-212	-	20	1 2
	20	1	ı	(FROM PNL "L") LIGHTS CORR							FROM PNL "PPA") LIGHTING OFFICE 201-209	-	20	1 4
5	20	1	1	(FROM PNL "L") F.A.							(FROM PNL "PPA") RECP, EF & LTS BATH ME	N -	20	1 6
7	20	1	-	(FROM PNL "L") EXIT LIGHT SOUTH							FROM "PPA") RECP, EF & LTG BATH WOMEN	-	20	1 8
9	20	1	-	(FROM PNL "L") LTS & RECEPT BOILER RM							FROM PNL "PPA") LIGHTING OFFICE 214-21	6 -	20	1 10
11	20	1	-	(FROM PNL "L") OUTSIDE CANOPY LIGHTS							(FROM PNL "PPA") LIGHTING OFFICE 217	-	20	1 12
13	20	1	-								(FROM PNL "PPA") LIGHTING OFFICE 220, 22	:1 -	20	1 14
15	20	1	-								FROM PNL "PPA") LIGHTING OFFICE 218,21	9 -	20	1 16
	20	1	1								(FROM PNL "PPA") LIGHTING NORTH STAIR	-	20	1 18
19	20	1	1								SPARE	-	20	1 20
	20	1	-									-	20	1 22
23	20	1	-	\								-	20	
TOT	AL C	0	NECT	ED LOADS (VA)	###	####	####	####	####	####				•
TOT	AL C	ON	NECT	ED LOADS (VA)	##	##	##	##	##	##	1	GFI BF	REAK	ΞR
тоти	AL A	MF	PERAG	Е			###	###				-L.O. L	OCK	OUT

PANEL: LS-22 FRAME SIZE: 100A VOLTAGE: 120Z LOCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X PHASE: 39 FEEDER: SEE RISER FOR INFORMATION AIC: 10XAIC WIRE: 4W KIND BR P FAULT C.B. CIRCUIT DESCRIPTION C.B. CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION FAULT FAULT FROM PNL. "2ND FLR SOUTH") SW OFFICE LIGHT & OUTLETS (FROM PNL. "2ND FLR SOUTH") SW OFFICE LIGHT & OUTLETS (FROM PNL. "2ND FLR SOUTH") HALL LIGHTS & - 20 DFFCCE (JASGA) #2 20 1 - FROM PNL. "2ND FLR WEST") OPFICE 112-114 & - 20 9 20 1 - FROM PNL. "2ND FLR WEST") OFFICE 112-114 & - 20 9 20 1 - FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS FROM PNL. "2ND FLR WEST") OFFICE 105-106 LIGHT & OUTLETS TOTAL CONNECTED LOADS (VA) ###################################	IOTAL CC	JINI	INLUII	LD LONDO (VA)		ттт		1111		1111				CITEIN			
COCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X PHASE: 36	TOTAL CONNECTED LOADS (VA)				##	#### ####				##	1			GEL BR	FΔK	FR	
COCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X PHASE: 36	TOTAL CC	NC	NECT	ED LOADS (VA)	###	####	####	####	####	####							
Phase 30		_		ADMIN OFFICE LTG								/		-	20	1	
DOCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X NLO: X	72011	- 1	-	(FROM PNL "2ND FLR WEST") NIGHT LIGHTS										-	20	1	
DOCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MIC: X MIC: 4W	720	1	-											-	20	1	
December Company Com	720 1	1	-	ľ '										-	20	1	
DCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MIO: X	20 1	1	-											-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X EEDER: SEE RISER FOR INFORMATION AIC: 10kAIC WIRE: 4W KT O. BR P FAULT C.B. CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION FAULT C.B. BR I I I I I I I I I	20 1	1	-	KITCHEN LTS										-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X EEDER: SEE RISER FOR INFORMATION AIC: 10kalC WIRE: 4W KT D. BR P FAULT C.B. CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION FAULT C.B. 1	20 1	1	-	AREA 3, PRINTER LTS										-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X PHASE: 3 EEDER: SEE RISER FOR INFORMATION AIC: 10kAIC WIRE: 4W KT O. BR P FAULT C.B. CIRCUIT DESCRIPTION C.B. PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION (FROM PNL "2ND FLR SOUTH") SW OFFICE 10GHT & OUTLETS (FROM PNL "2ND FLR SOUTH") BIG OFFICE 11GHTING TO 1 - FROM PNL "2ND FLR WEST") OPEN AREA 2 LIGHTING TO 20 1 - FROM PNL "2ND FLR WEST") OPEN AREA 2 LIGHTING TO 20 1 - FROM PNL "2ND FLR WEST") OFFICE 112-114 & CUBE 115,116 LTS TO 20 1 - CUBE 115,116 LTS TO 20 1 - CUBE 115,116 LTS TO 20 1 - CUBE 115,116 LTS TO 20 2 - 20 2 - 20 2 - 20 2 - 20 2 - 20 2 - 20 2 2 2 2	20 1	1	-	LIGHTING										-	20	1	
CCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X EEDER: SEE RISER FOR INFORMATION AIC: 10kAIC WIRE: 4W C.B. CIRCUIT DESCRIPTION O. BR P FAULT C.B. CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION C.B. (FROM PNL "2ND FLR SOUTH") SW OFFICE C.B. GROW PNL "2ND FLR SOUTH") FIRE ALARM PANEL GROW PNL "2ND FLR SOUTH") BIG OFFICE C.B. FROM PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 FROM PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 FROM PNL "2ND FLR SOUTH") FIRE ALARM PANEL FROM PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 FROM PNL "2ND FLR SOUTH") OPEN AREA 2		1	-	CUBE 115,116 LTS										-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X EEDER: SEE RISER FOR INFORMATION AIC: 10kAIC WIRE: 4W KT DR P FAULT C.B. CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION (FROM PNL "2ND FLR SOUTH") SW OFFICE - 20 GROW PNL "2ND FLR SOUTH") FIRE ALARM PANEL GROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE GROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE GROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") BIG OFFICE CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHTS & - 20 CROW PNL "2ND FLR SOUTH") HALL LIGHT	<u>5</u> 20 1	1	-	LIGHTING			<u>.</u>							-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X EEDER: SEE RISER FOR INFORMATION AIC: 10kAIC WIRE: 4W KT DR P FAULT C.B. CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION FAULT C.B. 1 20 1 - FROM PNL "2ND FLR SOUTH") FIRE ALARM PANEL LIGHT & OUTLETS PHASE: 30	20 1	1	-	LIGHTING									GHTS &	-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X PHASE: 3 WIRE: 4W CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE A PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE B PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE B PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE B PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE B PHASE B PHASE B PHASE B PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B PHASE B PHASE B PHASE B PHASE B PHASE C CIRCUIT DESCRIPTION PHASE B		1	-	,										-	20	1	
OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS MLO: X PHASE: 3¢ FEDER: SEE RISER FOR INFORMATION AIC: 10kAIC WIRE: 4W	KT IO. BR F		-AULT C.B.	CIRCUIT DESCRIPTION	PHASE A		PHA	PHASE B		PHASE C				FAULT <u>C.B.</u>	BR	Р	
	EEDER:		SEE RI	SER FOR INFORMATION		AIC: 10kAIC											
ANEL: LS-22 FRAME SIZE: 100A VOLTAGE: 120/2	OCATION: SECOND FLOOR CORRIDOR WEST OF BATHROOMS					MLO: X						PHASE: 3¢					
	ANEL:		LS-22		FRA	FRAME SIZE: 100A							VOI	_TAGE	: 120	/2	

ISSUED: 9-23-21 ISSUED FOR REVIEW

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1. SCOPE OF WORK:

- a. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DRAWINGS. THE INSTALLATION SHALL BE COMPLETE IN EVERY DETAIL ESSENTIAL TO PROPER AND SATISFACTORY OPERATION, READY FOR USE AND IN CONDITION FOR SERVICE WHEN DELIVERED TO THE OWNER. ALL MANUFACTURED ITEMS SHALL BE ERECTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN.
- b. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

2. APPROVALS:

a. OBTAIN APPROVALS FROM INSPECTION AUTHORITIES FOR ELECTRICAL INSTALLATIONS REQUIRING SPECIFIC APPROVAL. PRINTS OF THE ELECTRICAL DRAWINGS, FOR THIS PURPOSE, WILL BE FURNISHED UPON REQUEST. REQUIRED WIRING DIAGRAMS SHALL BE PROVIDED AND SUBMITTED FOR APPROVAL BY THE CONTRACTOR. COPIES OF THE FINAL APPROVALS SHALL BE OBTAINED BEFORE COMMENCEMENT OF RELATED WORK.

3. CODES AND STANDARDS:

- a. THE WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, MUNICIPAL, AND NATIONAL CODES. WHERE THE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL GOVERN. HOWEVER, THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.
- b. MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO LOCAL CODE AND STANDARDS, THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), UNDERWRITER'S LABORATORIES (UL), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND ALL LAWS AND ORDINANCES OF LOCAL, STATE AND FEDERAL GOVERNING AGENCIES.

4. FEES:

a. ALL PERMIT FEES SHALL BE PAY BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED INSURANCE, INSPECTIONS, APPLICATIONS, PERMITS, LICENSES, ETC. RELATING TO THE ELECTRICAL WORK.

5. CONTRACTOR'S LIABILITY:

- a. THE CONTRACTOR SHALL AGREE THAT THE OWNER, THE ARCHITECT AND THE ENGINEER SHALL NOT IN ANY FORM OR MANNER BE ANSWERABLE OR ACCOUNTABLE FOR ANY VIOLATION OF ORDINANCES, CODES OR REGULATIONS OF ANY AUTHORITIES, UTILITIES, INSURANCE COMPANIES AND GOVERNMENT AGENCIES HAVING JURISDICTION, OR FOR ANY ACCIDENTS, INJURY, LOSS OR DAMAGE TO ANY PERSON OR PERSONS AND THEIR PROPERTIES ARISING FROM NEGLIGENCE OR CARELESSNESS ON THE PART OF THE CONTRACTOR (NOR ANYONE IN HIS EMPLOY), ANY OF HIS SUBCONTRACTORS, OR ANY OTHER PARTIES OR AGENTS TO THIS CONTRACT.
- b. THE CONTRACTOR SHALL AGREE TO MAKE GOOD TO SAID OWNER, ARCHITECT, AND ENGINEER ANY LOSS, DAMAGE OR EXPENSE SO INCURRED, TOGETHER WITH REASONABLE ATTORNEY'S FEES.
- c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND COMPLYING WITH BOTH THE DRAWINGS AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, OR CODES, THE REFERENCE WHICH PROVIDES THE MORE COMPLETE OR HIGHER STANDARD SHALL PREVAIL.
- d. THE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED TO THEM IMMEDIATELY UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES. FIGURES MARKED ON DRAWINGS SHALL IN GENERAL BE FOLLOWED IN PREFERENCE TO SCALE MEASUREMENTS. LARGE SCALE DRAWINGS SHALL IN GENERAL GOVERN SMALL SCALE DRAWINGS. THE CONTRACTOR SHALL COMPARE ALL DRAWINGS AND VERIFY THE FIGURES BEFORE LAYING OUT THE WORK AND WILL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.

6. EXAMINATION OF DRAWINGS AND SITE:

- a. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A COMPLETE SET OF ARCHITECTURAL AND ENGINEERING DOCUMENTS AND COORDINATE WITH MECHANICAL, PLUMBING, ARCHITECTURAL, CIVIL AND OTHER TRADES FOR EXACT DIMENSIONS, CLEARANCES, ROUGH—IN LOCATIONS, AND OTHER ADDITIONAL SCOPES OF WORK THAT MAY NOT BE SHOWN ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE POWER TO OTHER TRADES EQUIPMENT AND HARDWARE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONTROLS, FIRE, MOTORIZED DOORS, DAMPERS, POLE LIGHTS, AND OTHER SYSTEMS. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL PLANS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SAFETY DISCONNECT SWITCHES TO MECHANICAL EQUIPMENT AND TRANSFORMERS UNLESS OTHERWISE INDICATED.
- b. BY THE ACT OF HAVING SUBMITTED A BID, THE CONTRACTOR SHALL DEEM TO HAVE MADE SUCH AN EXAMINATION AND SHALL HAVE ACCEPTED THE PREVAILING CONDITIONS. NO SUBSEQUENT ALLOWANCE WILL BE MADE TO CONTRACTOR BECAUSE OF HIS NEGLECT IN COMPLYING WITH THE FOREGOING.

7. GUARANTEE:

- a. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE COVERING ALL OF THE EQUIPMENT AND INSTALLATION FURNISHED UNDER THE CONTRACT AGAINST FAILURE FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. THE CONTRACTOR SHALL ASSUME THE LIABILITY OF ALL EQUIPMENT AND INSTALLATION COVERED IN THIS CONTRACT, INCLUDING ALL COSTS OF LABOR, MATERIALS AND EQUIPMENT RENTALS REQUIRED.
- b. ANY ADDITIONAL COSTS INCURRED IN THE REPAIR AND RECONSTRUCTION OF ALL OTHER INSTALLATIONS NOT PART OF THIS CONTRACT BUT WHICH MIGHT BE DAMAGED BY THE EQUIPMENT GUARANTEED OR AFFECTED BY THE REPAIR WORK COVERED UNDER THE GUARANTEE, SHALL BE PART OF THIS GUARANTEE.

8. INTERPRETATION OF THE DOCUMENTS:

- a. CAREFULLY COMPARE THE DRAWINGS AND SPECIFICATIONS, CHECKING MEASUREMENTS AND CONDITIONS UNDER WHICH THIS INSTALLATION IS TO BE MADE. FOR CLARIFICATION BETWEEN VARIOUS DRAWINGS, BETWEEN DRAWINGS OR SPECIFICATION, OR BETWEEN SECTIONS OF THE SPECIFICATION, THE MATTER SHALL BE REFERRED TO THE ENGINEER BEFORE ANY WORK IS EXECUTED. THE CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY EXCEPTIONS NECESSARY TO MAKE THIS A COMPLETE, READY TO USE INSTALLATION. IF NOT STATED IN THE PROPOSAL, IT WILL NOT BE CONSIDERED EXTRA.
- b. OMISSIONS FROM THE DRAWINGS, SPECIFICATION NOTES, OR DETAILS OF WORK WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

9. ELECTRICAL DRAWINGS:

a. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL DOORS, WALLS, FURNITURE, EQUIPMENT, ETC. THE LOCATION OF RACEWAY SYSTEM COMPONENTS IS SCHEMATIC. THE EXACT LOCATION OF RACEWAY SYSTEM COMPONENTS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL CONFIRM THE DIMENSIONS OF THE ACTUAL EQUIPMENT TO BE SUPPLIED FOR THIS PROJECT, AND VERIFY CLEARANCES AND ROUGH—INS PRIOR TO STARTING WORK.

10. SHOP DRAWINGS AND SUBMITTALS:

- c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWING SUBMITTALS WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO: PRODUCT DATA AND EQUIPMENT SPECIFICATIONS SHEETS, SCHEMATIC DIAGRAMS, WIRING DIAGRAMS, SIZES, MOUNTING DETAILS (WITH REQUIRED ELEVATIONS), TECHNICAL DESCRIPTIONS OF COMPONENTS, TEST REPORTS, CERTIFICATES, OPERATING AND MAINTENANCE MANUALS, AND PROPER CALCULATIONS TO ENSURE SPECIFIED PERFORMANCE OF THE SYSTEMS. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO APPROVAL OF THE SUBMITTALS AND SHOP DRAWINGS.
- d. SUBMIT COMPLETE SHOP DRAWINGS FOR MANUFACTURED EQUIPMENT: CLEARLY MARK SUBMISSIONS FOR LIGHTING FIXTURES WITH THE TYPE ASSIGNED TO EACH FIXTURE IN THE FIXTURES SCHEDULE. INCLUDE SELECTION OF INTENDED PART. INCLUDE LAMPS AND BALLASTS
- e. PROVIDE SUFFICIENT INFORMATION AND DATA REQUIRED TO REASONABLY DETERMINE PROPER COMPLIANCE WITH THE SPECIFICATIONS.
- f. IN ADDITION, THE CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF MATERIALS PROPOSED, GIVING THE MANUFACTURER'S NAME, CATALOG NUMBER, OR OTHER MEANS OF IDENTIFICATION TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS.
- g. REVIEW OF SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY, AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS, NOR SHALL IT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF BASIC RESPONSIBILITY UNDER THE CONTRACT. SHOP DRAWINGS SHALL BE SUBMITTED ON, BUT NOT BE LIMITED TO THE FOLLOWING SYSTEMS: LIGHT FIXTURES AND ALL ASSOCIATED LIGHT FIXTURES HARDWARE INCLUDING LAMPS, WIRING DEVICES, COVER PLATES, ELECTRICAL GEAR, PANELS, BREAKERS, DISCONNECTS, BUSS DAVA/VOICE AND CABLING (WHEN INCLUDED IN THE PROJECT), CABLE (WHEN INDICATED), FIRE ALARM DEVICES, AUTOMATIC TRANSFER SWITCHES, GENERATOR, ETC.

B. <u>MATERIAL AND EQUIPMENT:</u>

1 GENERAL

- a. PROPOSALS SHALL BE BASED UPON THE FURNISHING OF ALL MATERIALS AND EQUIPMENT AS SPECIFIED, WHICH IN EVERY CASE SHALL BE NEW AND OF THE BEST GRADE AND QUALITY AVAILABLE. EQUIPMENT AND MATERIALS SHALL BE WITHOUT BLEMISH OR DEFECT AND SHALL NOT BE USED FOR TEMPORARY POWER PURPOSES, WITHOUT THE ENGINEER'S PRIOR WRITTEN AUTHORIZATION.
- b. ALL ITEMS OF EQUIPMENT OF ONE TYPE, EXCEPT CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, WIRE, AND CABLE, SHALL BE THE PRODUCT OF ONE MANUFACTURER THROUGHOUT UNLESS OTHERWISE INDICATED OR ACCEPTED BY THE ENGINEER

2. RACEWAYS:

- a. THE CONTRACTOR SHALL PROVIDE ALL CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO LIGHTING, RECEPTACLES, HEATING, AIR CONDITIONS, PLUMBING EQUIPMENT, VOICE/DATA/CATV/AV OUTLETS AND ELECTRICAL EQUIPMENT IN GENERAL.
- b. ALL PANEL AND SERVICE FEEDERS SHALL BE IN RIGID GALVANIZED STEEL CONDUIT (RGSC) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE UL LABELED. EMT SHALL BE ACCEPTABLE FOR BRANCH CIRCUITS RUN ABOVE SUSPENDED CEILINGS OR CONCEALED IN INTERIOR PARTITIONS. EMT CONNECTORS SHALL BE COMPRESSION TYPE UNLESS OTHERWISE INDICATED, SET SCREW FITTINGS ARE NOT PERMITTED. CONDUIT UNDER SLAB OR LOCATED IN THE EXTERIOR OF THE BUILDING SHALL BE RGSC.
- c. MINIMUM SIZES OF CONDUIT SHALL BE 3/4" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTION OR TO INDIVIDUAL LIGHT SWITCHES AND FOR ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED. IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE MINIMUM OF 1/2" SIZE, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR SLAB CONDUIT SHALL BE A MINIMUM OF 1"C SIZE UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
- d. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING.
- e. GENERALLY, ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. EXPOSED CONDUIT SHALL BE ALLOWED ONLY AS NOTED ON PLAN AND AS APPROVED BY THE OWNER'S CONSTRUCTION MANAGER. PAINTING OF CONDUITS WILL BE BY GENERAL CONTRACTOR.
- f. FLEXIBLE METAL CONDUIT AND THEIR ASSOCIATED FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED. ALL CONNECTORS ARE TO BE OF A NEMA APPROVED TYPE.
- g. FLEXIBLE CONDUIT SHALL BE ACCEPTABLE FOR THE FOLLOWING APPLICATIONS
 AND SHALL NOT EXCEED 6 FEET IN LENGTH. INSTALL GREEN GROUNDING
 CONDUCTOR
 • FINAL CONNECTIONS TO VIBRATING EQUIPMENT SUCH AS MOTORS,
 TRANSFORMERS, ETC SHALL BE MADE WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT
- FINAL INTER-CONNECTIONS BETWEEN LIGHT FIXTURES.
 FINAL CONNECTIONS WHERE RIGID CONDUIT IS NOT PRACTICAL.
- I. PROVIDE POLY PULL-STRING IN ALL EMPTY CONDUITS.
- m. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER CLEARANCE OF CEILING AND OTHER TRADES WORK. RACEWAYS SHALL BE SECURELY SUPPORTED BY APPROVED STRUCTURAL METHODS AT FIVE FOOT (5') INTERVALS.
- n. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO COLUMN LINES.
- o. ALL CONDUITS MUST BE SIZED PER CODE.
- p. WHERE RACEWAY IS SUBJECT TO MECHANICAL INJURY OR CORROSION UTILIZE RGSC OR INTERMEDIATE METAL CONDUIT (IMC), FITTINGS SHALL BE THREADED.
- q. PROVIDE PULL BOXES IN RUNS OVER 100 FEET, WHEN MORE THAN THE EQUIVALENT OF THREE (3) 90° BENDS ARE USED, AND AS SHOWN ON DRAWINGS.

3. ELECTRICAL BOXES:

- a. UNLESS OTHERWISE NOTED, OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE, WITH SUITABLE PLASTER RINGS AND COVER PLATES.
 b. UNUSED KNOCKOUT HOLES SHALL REMAIN CLOSED AND THOSE OPENED BY
- ERROR SHALL BE CLOSED WITH SNAP-IN BLANKS.

 c. OUTLET BOXES SHALL NOT BE SMALLER THAN REQUIRED BY CODE FOR THE
- NUMBER AND SIZE OF WIRES TO BE INSTALLED.
- d. BOXES IN COVE AND LOCATED ABOVE SUSPENDED CEILING SHALL BE PLENUM RATED WHEN THE SPACE IS PLENUM RATED.

SMALL JUNCTION BOXES SHALL BE SIMILAR TO OUTLET BOXES.

- e. FLOOR BOXES: PROVIDE SYSTEMS PER DRAWINGS.
 f. PROVIDE JUNCTION BOXES, PULL BOXES, CABLE SUPPORTS, AND WIREWAYS AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS. COVERS SHALL BE ACCESSIBLE.
- g. JUNCTION BOXES AND COVERS SHALL BE FABRICATED FROM GALVANIZED NEC GAGE SHEET STEEL. OUTLET BOXES TO BE OF THE HOT-DIPPED GALVANIZED, PRESSED STEEL, KNOCKOUT TYPE. BOXES SHALL GENERALLY BE 4 INCHES SQUARE, 1-1/2"DEEP MINIMUM, EXCEPT WHERE NOTED OTHERWISE.
- g. PULL BOXES, CABLE SUPPORT BOXES, AND LARGE JUNCTION BOXES FOR INDOOR USE SHALL BE MADE OF CODE GAUGE STEEL. COVERS SHALL BE HELD IN PLACE WITH STAINLESS STEEL SCREWS. PAINT INTERIOR AND EXTERIOR SURFACES WITH RUST—INHIBITIVE PAINT.
- e. BOXES SHALL BE AS MANUFACTURED BY: APPLETON, GARVIN, RACO (HUBBELL) & STEEL CITY.

4. SLEEVES:

- a. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH IT'S RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR.
- b. UNLESS OTHERWISE NOTED, ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THE FIRE RATING OF THE FLOOR OR WALL. CONFORM TO UL ASSEMBLY RATING OF FLOOR OR WALL.
- c. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT BLACK STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL CONDUIT.
- d. SLEEVES SHALL HAVE PLASTIC END BUSHES INSTALLED WHEN THEY ARE USE FOR THE INSTALLATION OF OPEN CABLING.

. WIRING

- a. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS MINIMUM WIRE SIZE SHALL BE #12 UNLESS OTHERWISE INDICATED IN THE DRAWINGS. THE CONDUCTORS SHALL HAVE 600 VOLT INSULATION, TYPE THHW OR THHN.
- b. CONDUCTORS SHALL BE STRANDED FOR SIZES #10AWG AND LARGER.
- c. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
- d. ALL WIRING SHALL BE IN RACEWAY.
- e. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #10 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCKTIGHT" FOR #8 AWG AND LARGER. EQUALS BY BUCHANAN OR IDEAL ARE ACCEPTABLE.
- f. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:

120/208 VOLT SYSTEM
NEUTRAL — WHITE
PHASE A OR L1 — BLACK
PHASE B OR L2 — RED
PHASE C OR L3 — BLUE
GROUND — GREEN

6. WIRING DEVICES:

a. THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES AS SHOWN ON THE DRAWINGS AND AS NECESSARY FOR A COMPLETE INSTALLATION.

- COLOR OF DEVICES AND PLATES SHALL BE AS DIRECTED BY THE ARCHITECT.
 THE DEVICES SHALL BE OF THE TYPES AND RATINGS LISTED, OR EQUALS AS
 MANUFACTURED BY: PASS & SEYMOUR, HUBBELL, LEVITON, LEGRAND.
 WEATHERPROOF GFI RECEPTACLES SHALL BE INSTALLED WHERE SHOWN ON
 DRAWINGS OR AS REQUIRED BY CODE.
- TOGGLE SWITCHES: 20A-120V COMMERCIAL SPECIFICATION GRADE.
 DUPLEX RECEPTACLES: 20A-125V COMMERCIAL SPECIFICATION GRADE.
 GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE: 20A-125V, 5mA. COMMERCIAL SPECIFICATION GRADE.
- b. 120 WALL SWITCHES SHALL BE MOUNTED IN SUITABLE OUTLET BOXES IN THE WALL OR PARTITIONS. THEY SHALL BE OF THE QUIET DESIGN, TOGGLE HANDLE.
- c. RECEPTACLES SHALL BE GROUNDING TYPE, THREE WIRE (HOT, NEUTRAL WIRES PLUS EQUIPMENT GROUND) SINGLE, DUPLEX OR SPECIAL AS INDICATED ON THE DRAWINGS.
- d. SPECIAL PURPOSE NEMA RECEPTACLES OTHER THAN 20 AMP CONVENIENCE RECEPTACLES SHALL BE AS SHOWN ON PLANS. FINAL PLUG CONFIGURATION SHALL BE COORDINATED WITH EQUIPMENT SELECTION.
- e. COLOR OF WIRING DEVICES AND COVER PLATES SHALL BE SELECTED BY ARCHITECT.

- a. WALL PLATES SHALL BE AS SPECIFIED BY ARCHITECT AND/OR OWNER. WHERE STANDARD PLATES WILL NOT FIT WALL FINISH, UNPLASTERED BRICK OR SPECIAL FINISH WALLS, USE SPECIAL SIZE PLATES TO SUIT CONDITIONS. ALL WALL PLATES LINE UP AND FLUSH WITH MOUNTING SURFACE AND SECURELY ATTACHED
- b. WHERE SWITCHES, RECEPTACLES OR COMBINATIONS THEREOF ARE GROUNDED, USE GANG PLATES AND OUTLET BOXES TO SUIT THE SPECIFIC ARRANGEMENTS.
- c. VERIFY MOUNTING HEIGHTS OF WIRING DEVICES WITH ARCHITECT/OWNER: IN GENERAL, RECEPTACLES 15" ABOVE FLOOR OR 4.5" ABOVE COUNTER TOP WHERE COUNTERS OCCUR, AND SWITCHES 3'-6" ABOVE FLOOR, EXCEPT WHERE SPECIFIC HEIGHTS ARE INDICATED. SPECIAL RECEPTACLE SHALL BE LOCATED AS DIRECTED BY ARCHITECT AND ENGINEER OR AS REQUIRED BY THE EQUIPMENT
- d. WALL PLATES SHALL BE OF THE SAME MANUFACTURER AS WIRING DEVICES.
- 8. POKE THRUS (WHEN INDICATED ON DRAWINGS):
- a. PROVIDE SYSTEM, FIRE RATED POKE THROUGH PER DRAWINGS.
- b. FURNISH AND INSTALL ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION SYSTEM.
- c. ACCEPTED MANUFACTURERS: HUBBELL, WIREMOLD, OR APPROVED EQUAL.

9. LIGHT FIXTURES:

- a. FIXTURES SHALL BE PROVIDED COMPLETE WITH ACCESSORIES SUCH AS PLASTER FRAMES, AND OTHER SUPPORTING DEVICES FOR: RECESSED, SURFACE, OR PENDANT MOUNT AS REQUIRED.
- b. SPLICES IN INTERNAL WIRING SHALL BE MADE WITH APPROVED INSULATED "WIRE NUT" TYPE MECHANICAL CONNECTORS, SUITABLE FOR THE TEMPERATURE AND VOLTAGE CONDITIONS TO WHICH THEY ARE SUBJECTED.
- c. EACH LIGHTING FIXTURE SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF (2) 12 GAGE STEEL WIRE. SEE DETAIL IN FRONT SHEET.
- d. MANUFACTURER MODEL TYPES SHALL BE AS NOTED OR SCHEDULED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.
- e. PROVIDE LAMPS FOR FIXTURES FROM: PHILLIPS, GENERAL ELECTRIC.
- f. BALLASTS OR DRIVERS SHALL BE ELECTRONIC WITH A POWER FACTOR OF NOT LESS THAN 98 PERCENT, TOTAL HARMONIC DISTORTION OF NOT MORE THAT 10%. ACCEPTABLE MANUFACTURERS: PHILLIPS, GE OR AS PROVIDED WITH LIGHT FIXTURE AS PART OF THE SYSTEM.
- g. THIS CONTRACTOR SHALL FURNISH ADDITIONAL AUXILIARY SUPPORTING STEEL HANGER WIRES ADEQUATELY SIZED TO SUPPORT THE WEIGHT OF THE FIXTURE AND FASTENED TO BUILDING STRUCTURE (MINIMUM TWO PER FIXTURE) FOR FIXTURES NOT MOUNTED ON BUILDING FRAMEWORK. FIXTURES SHALL NOT BE SUPPORTED SOLELY BY THE CEILING STRUCTURE.
- h. THIS CONTRACTOR SHALL PROVIDE ANY NECESSARY FITTINGS, ACCESSORIES, ETC. AS NECESSARY TO MAKE A COMPLETE INSTALLATION.
- i. REMOVE ALL DIRT, OIL OR GREASE FROM LIGHT FIXTURES. CLEAN ALL GLASS,
- 10. OCCUPANCY SENSORS (REFER TO DRAWING FOR INFORMATION).

LENSES, ETC. AND POLISH FIXTURES AND TRIM

- 11. PANELS (UTILIZE EXISTING PANELS WITH NEW BREAKERS WHEN INDICATED):
- a. PANEL BOARDS SHALL BE OF THE DEAD-FRONT, SAFETY TYPE, WITH BOLTED-TYPE UL LISTED MOLDED CASE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL BE LISTED AS HID FOR LIGHTING CIRCUITS, HACR FOR HVAC LOADS, SWD FOR SWITCHING LOADS ON-OFF DIRECTLY FROM THE PANEL, VOLTAGE RATINGS, NUMBER OF POLES, FRAME SIZES, TRIP RATINGS, MAIN BREAKER, NEUTRAL BUS, AND EQUIPMENT GROUND BARS ARE AS SHOWN ON THE DRAWINGS. PANEL BOARDS ARE TO BE FULLY RATED FOR THE SHORT CIRCUIT RATING SHOWN ON THE DRAWINGS BUT NOT LESS THAN 10,000 AMPS. BUS BARS SHALL BE RECTANGULAR, SOLID COPPER, 1000 AMPS PER SQUARE INCH TYPE, SECURELY MOUNTED AND BRACED. ALL CONNECTIONS TO BUS BARS SHALL BE SECURELY BOLTED CABINETS BOXES SHALL BE CONSTRUCTED OF CODE GRADE GALVANIZED STEEL, SIZED TO PROVIDE MINIMUM 4-INCH WIDE WIRING GUTTERS ON SIDES, TOPS AND BOTTOM, FRONTS SHALL BE CONSTRUCTED OF CODE GRADE STEEL, ADJUSTABLE INDICATING TRIM CLAMPS AND WITH DOOR PROVIDED WITH CONCEALED HINGES AND CYLINDER TYPE LOCK AND CATCH, PROVIDE DOOR WITHIN DOOR, TWO KEYS PER PANEL SHALL BE FURNISHED. AND ALL LOCKS KEYED ALIKE. FINISH SHALL BE ANSI 61 GRAY. ACCEPTABLE MANUFACTURERS: SQUARE D, CUTLER-HAMMER, PHILLIPS, GENERAL ELECTRIC.
- b. IDENTIFICATION OF PANEL BOARDS. PANEL BOARD SHALL HAVE A TYPEWRITTEN CIRCUIT DIRECTORY, MOUNTED UNDER TRANSPARENT PLASTIC ON THE INSIDE OF DOOR TO IDENTIFY EACH CIRCUIT LOAD AND LOCATION. EACH PANEL BOARD SHALL HAVE A LAMINATED BAKELITE NAMEPLATE ATTACHED TO THE OUTSIDE OF THE PANEL BOARD. THE NAMEPLATE SHALL INCLUDE PANEL BOARD DESIGNATION, VOLTAGE, AND PHASE. NAMEPLATES SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.
- 12. DISCONNECT SWITCHES (HEAVY DUTY, REFER TO DRAWINGS FOR INFORMATION)
- a. PROVIDE HEAVY DUTY SURFACE—MOUNTED SAFETY SWITCHES FOR MOTORS, TRANSFORMER, EQUIPMENT, ETC. UNLESS OTHERWISE INDICATED, OF TYPES, SIZES, AND ELECTRICAL CHARACTERISTICS AS INDICATED ON THE DRAWINGS. THE SWITCHES SHALL BE FUSED OR NON—FUSED AS INDICATED ON THE DRAWINGS AND SHALL BE MANUFACTURED BY SQUARE D, CUTLER HAMMER, EATON, PHILLIPS OR GENERAL ELECTRIC.
- b. SWITCHES SHALL HAVE SWITCH BLADES WHICH SHALL BE FULLY VISIBLE IN THE OFF POSITION WHEN THE ENCLOSURE DOOR IS OPEN. CURRENT CARRYING PARTS SHALL BE PLATED COPPER AND SWITCH CONTACTS SHALL BE SILVER-TUNGSTEN. SWITCHES SHALL BE QUICK-MADE, QUICK-BREAK TYPE. THE OPERATING HANDLE SHALL BE AN INTEGRAL PART OF THE ENCLOSURE BASE AND SHALL BE PAD LOCKABLE IN THE OFF POSITION. THE HANDLE POSITION SHALL INDICATE WHETHER THE SWITCH IS ON OR OFF. SWITCHES SHALL BE HORSE POWER RATED FOR 250 AC OR DC OR 600 VOLTS AC AS REQUIRED.
- 13. FIRE ALARM SYSTEM (REFER TO FIRE ALARM SHEET FOR ADDITIONAL INFORMATION):

14. IDENTIFICATION:

- a. PROVIDE TYPED DIRECTORIES IN PANEL BOARDS TO DEPICT ACTUAL EQUIPMENT CONNECTED TO INDIVIDUAL BREAKERS/SWITCHES.
- LABEL EACH PIECE OF EQUIPMENT WITH EQUIPMENT NAME DESIGNATION, SOURCE, VOLTAGE, PHASES.
- c. PROVIDE ORANGE LABELS WITH BLACK LETTER/NUMBERS INDICATING VOLTAGE SERVICE 120/208V—PH—W.; 480/277V—PH—W.
- d. FURNISH AND INSTALL OUTSIDE OF EQUIPMENT: DESIGNATION, SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.

- C. INSTALLATION (VERIFY WITH G.C./MEANS AND METHODS SHOULD BE APPROVED BY GC AND ARCHITECT):
- 1. CUTTING AND PATCHING:
- a. ALL CUTTING, DRILLING, PATCHING, ETC. NECESSARY FOR INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT SHALL BE DONE BY THIS CONTRACTOR.
- b. ALL DISTURBED CONSTRUCTION AND FINISHED SHALL BE RETURNED TO ITS ORIGINAL STATE. HOLES IN CONCRETE WALLS AND FLOORS SHALL BE CORE DRILLED AND SLEEVED. NO CUTTING OF STRUCTURAL MEMBERS WILL BE

2. INSTALLATION OF WORK:

- a. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE SAFETY OF THE OWNERS EMPLOYEES, BUILDING EMPLOYEES AND GUESTS, AS WELL AS THEIR OWN FORCES, BY ADEQUATELY PROTECTING ANY EXPOSED LIVE CONDUCTORS, OR DEVICES THROUGHOUT THE COURSE OF THIS WORK.
- b. WIRE SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES, PULL BOXES, OUTLET BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6" LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.
- c. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT LOCATION OF ALL EQUIPMENT AND IN CASE ANY OUTLETS DO NOT COME IN CORRECT LOCATION, HE SHALL MOVE SAME, DO NECESSARY CUTTING AND PATCHING.
- d. OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF OUTLETS WITHIN 10'-0" RADIUS BEFORE WORK IS INSTALLED WITHOUT EXTRA COST.
- e. CHECK WITH HVAC CONTRACTOR AS TO LOCATION OF UNITS, DUCTS AND GRILLES AND PLUMBING CONTRACTOR AS TO LOCATION OF PIPING BEFORE INSTALLING THE
- f. CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND REVIEW THE PLANS TO VERIFY THE EXACT LOCATIONS OF ALL OUTLETS ARE ABOVE COUNTERS WHERE CABINET WORK OCCURS, AND VERIFY THAT SWITCHES ARE AT THE CORRECT SIDE OF DOOR SWINGS.
- d. THE CONTRACTOR SHALL CONSULT WITH THE EQUIPMENT SUPPLIERS FOR THE CORRECT SIZES OF ALL OUTLETS IN SUFFICIENT TIME BEFORE WALL CONSTRUCTION.
- e. FAILURE OF THE CONTRACTOR TO COMPLY WITH ALL OF THE ABOVE SHALL MAKE HIM/HER RESPONSIBLE FOR ANY RELOCATIONS AT HIS EXPENSE DUE TO CONFLICT WITH OTHER EQUIPMENT.

3. GROUNDING:

- a. CONTRACTOR SHALL INSTALL ENTIRE CONDUIT SYSTEM, INCLUDING BOXES, CABINETS, PANELS, ETC. SO AS TO INSURE PROPER GROUND CONTINUITY THROUGHOUT THE SYSTEM WHICH INCLUDES BUT IS NOT LIMITED TO: PROVIDE COMPLETE WIRE GROUNDING CONDUCTOR SYSTEM, #12 AWG MINIMUM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE CODE.
- b. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL—TO—METAL JUST CONTACT BETWEEN THE DEVICES YOKE AND THE OUTLET BOX IS NOT SUFFICIENT AND IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM. ALL CONDUIT, INCLUDING FLEXIBLE CONDUIT, SHALL BE GROUNDED WITH GREEN GROUNDING CONDUCTOR.
- c. ALL ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE TO BE GROUNDED. CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCK NUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES. WHERE ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PENN-UNION" OR EQUAL, SIMILAR TO "GPL"
- d. THE COMPLETE ELECTRICAL INSTALLATION SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE.

EQUIPMENT GROUNDING SYSTEM CABLE SHALL BE COPPER.

- e. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS AND ENCLOSURES WITHIN THE BUILDING.
- f. ACCESSIBLE GROUNDING CONNECTIONS SHALL BE BOLTED OR CLAMP TYPE UNLESS OTHERWISE INDICATED. SOLDERED CONNECTIONS WILL NOT BE PERMITTED IN THE GROUNDING SYSTEM.
- 4. FIRE STOPPING (MEANS AND METHODS— SHOULD BE APPROVED BY G.C. AND
- ARCHITECT)

 a. ALL PENETRATIONS IN WALL, FLOOR OR CEILINGS SHALL BE SUITABLY CLOSED UP
 AND SEALED WITH A FIRE STOPPING COMPOUND LISTED IN THE MOST RECENT

FACTORY RESEARCH. FIRE STOPPING PRODUCTS SHALL BE MANUFACTURED BY 3M CO.

- 5. ELECTRICAL CONNECTIONS
- a. ALL WIRE CONNECTIONS SHALL BE MADE BY MEANS OF SOLDERLESS CONNECTORS.b. JOINT AND SPLICES SHALL BE COVERED WITH 3M ELECTRICAL TAPE TO 150% OF
- c. NO SPLICES SHALL BE MADE IN THE CONDUCTOR EXCEPT AT OUTLET BOXES, JUNCTION BOXES, OR IN SPLICE BOXES.

INSULATION VALUE.

- 6. EQUIPMENT CONNECTIONS
 f. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS AND FOR ALL OWNER FURNISHED EQUIPMENT. PROVIDE A FLEXIBLE
- LIQUID TIGHT CONNECTIO TO ALL VIBRATION PRODUCING EQUIPMENT.

 g. THE CONTRACTOR SHALL MAKE POWER CONNECTIONS TO ALL MOTORS AND EQUIPMENT FURNISHED BY OTHERS. SEE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS, AND
- DRAWING NOTES FOR ADDITIONAL INFORMATION

 h. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE

ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS'

- LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
- j. ALL DEVICES INSTALLED OUTSIDE OR IN DAMP LOCATIONS SHALL BE APPROVED WEATHERPROOF RATED.
 k. THE CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS. PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGEWAYS CLEAR AND
- MEET ALL STRUCTURAL CODE REQUIREMENTS.

 I. BRANCH CIRCUITS TO RECEPTACLES, LIGHTING AND MISC. SMALL LOADS (20 AMP CIRCUITS), UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE 2-#12, 1-#12G,
- m. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, WIRE AND CABLE FURNISHED TO HIM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL INSTALLATION DRAWINGS AND WIRING DIAGRAMS FROM THE EQUIPMENT MANUFACTURER. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- n. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AND TERMINATIONS TO THE OWNER, MECHANICAL, AND PLUMBING CONTRACTOR'S FURNISHED EQUIPMENT.

7. MISCELLANEOUS SUPPORTING MEMBERS

a. THE INSTALLATION OF ANGLES CHANNELS, AND OTHER MISCELLANEOUS STEEL, BOLTS, RODS, ETC. REQUIRED TO SUPPORT LIGHT FIXTURE, CONDUIT, RACEWAY, LADDER TRAY, OR OTHER ELECTRICAL EQUIPMENT OR DEVICES SHALL BE COORDINATED WITH THE G.C.

8. SPECIAL SYSTEMS:

a. VOICE/DATA/CABLE TV SYSTEMS: UNDER THIS SET OF ELECTRICAL DRAWINGS CONTRACTOR SHALL INSTALL CONDUITS AND J-BOXES. G.C. IS RESPONSIBLE FOR COORDINATION BETWEEN ALL SUB CONTRACTORS AND IS ULTIMATELY RESPONSIBLE FOR ACCURATELY DICTATING THE SCOPE BETWEEN SUB CONTRACTS.

- b. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE G.C. TO PROVIDE LOW VOLTAGE CABLING, APPROPRIATE TAGS BACK TO MAIN DEMARC AREA.
- 9. GENERAL INSTALLATION NOTES

REQUIREMENTS.

- a. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT OR STRUCTURAL ENGINEER.
- b. THE CONTRACTOR SHALL PROVIDE SUPPORT FOR ALL FIXTURES AND ELECTRICAL EQUIPMENT TO COMPLY WITH BUILDING CODE AND ALL LOCAL ORDINANCES.
- c. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES (WITH LAMPS), RECEPTACLES, SERVICE DEVICES, SWITCHBOARDS AND PANELBOARDS (WHEN INDICATED AS NEW) REQUIRED FOR A COMPLETE INSTALLATION AND OPERATIONAL ELECTRICAL SYSTEM.
- d. PROVIDE A EXTERNAL MANUAL DISCONNECTING MEANS AT ALL MOTORS OR PACKAGED MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. SOME UNITS ARE PROVIDED BY MECHANICAL CONTRACTOR A PART OF A MECHANICAL PACKAGE.
- e. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING THROUGH FIRE RATED SEPARATIONS. THROUGH STOP FIRE SEALING OF CONDUITS SHALL BE MADE WITH 3M CP25WP+ CAULK ACCORDING TO THE ADDITIONAL OF THE PROPERTY OF
- f. LOCATIONS SHOWN ON THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS TAKE PRECEDENCE OVER THOSE SHOWN ON THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR THE EXACT LOCATIONS, RATINGS, TYPE CONNECTIONS, WIRING DIAGRAMS AND AUXILIARY DEVICES.
- g. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRE AND CONNECTIONS FOR LINE VOLTAGE LIGHTING CONTROLS AND LOW VOLTAGE LIGHTING CONTROL UNLESS NOTED OTHERWISE ON DRAWINGS. THE CONTRACTOR SHALL MAKE ALL POWER CONNECTIONS TO HVAC EQUIPMENT INCLUDING 120 VOLT POWER CONTROL, MONITORING, AND SIGNALING EQUIPMENT FURNISHED BY OTHER DISCIPLINES. COORDINATE WITH OTHER DISCIPLINES FOR
- h. THE CONTRACTOR SHALL RECEIVE, STORE AND INSTALL ALL ELECTRICAL ITEMS FURNISHED BY THE OWNER.
- i. REFER TO THE REFLECTED CEILING PLAN AND THE ARCHITECTURAL FLOOR PLANS FOR THE EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND DEVICES.
- j. RECEPTACLES SHALL HAVE PRINTED LABELS WITH THE PANEL AND CIRCUIT NUMBER PLACED ON THE COVER. THE LABEL SHALL BE RED WITH BLACK LETTERS FOR

EMERGENCY RECEPTACLES, AND WHITE WITH BLANK LETTERS FOR NORMAL RECEPTACLES.

AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE ELECTRICAL

- k. THE CONTRACTOR SHALL PROVIDE A SET OF AS-BUILT DRAWINGS SHOWING THE LOCATIONS OF ALL UNDERGROUND CONDUITS, INDICATE ALL CHANGES MADE DURING CONSTRUCTION, AND ANY DEVIATIONS FROM THE ELECTRICAL DRAWINGS.
- I. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.

 m. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, THE ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND INFORMATION
- work interfaces with other trades.

 n. This contractor shall visit the site and familiarize himself/herself with construction conditions. No allowance will be made subsequently, on this condition, in behalf of the contractor for any error or negligence on his
- o. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS TO DETERMINE WHERE NEW WALLS AND CEILINGS ARE TO BE INSTALLED AND SHALL MAKE USE OF THESE AREAS TO CONCEAL CONDUIT. THE CONTRACTOR SHALL USE SURFACE RACEWAYS SUCH AS WIREMOLD WHERE NECESSARY
- (ONLY WHERE INDICATED OR AS DIRECTED).

 10. TEMPORARY LIGHTING, POWER, FIRE, AND SAFETY

UNDERGOING WORK DURING CONSTRUCTION.

a. E.C. TO PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED IN AREAS

b. E.C. SHALL COMPLY WITH NFPA 241 FOR SAFEGUARDING DURING CONSTRUCTION

- AND ALTERATION OPERATIONS.
- 11. BALANCING OF LOADS
 a. UPON CONNECTING ALL CIRCUITS TO PANELS, THE CONTRACTOR SHALL BALANCE THE LOAD IN AMPERES TO +/- 20% BETWEEN PHASES FOR EACH PANEL OR

12 TESTING AND INSPECTION:

PER OWNERS SATISFACTION.

- TESTING AND INSPECTION:
 THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST THE ENTIRE ELECTRICAL SYSTEM FOR GROUNDS, SHORTS AND PROPER GROUNDING RESISTANCE. A MAXIMUM OF 25 OHMS RESISTANCE FROM NEUTRAL CONDUCTOR AND CONDUIT TO EARTH GROUND SHALL BE PERMITTED. ONLY A GROUND RESISTANCE MEASURING METER OF APPROVED TYPE SHALL BE USED. A COMMON OHM METER IS NOT
- ACCEPTABLE.

 b. THE ELECTRICAL CONTRACTOR SHALL SEE THAT LOCAL INSPECTION AUTHORITIES
 ARE NOTIFIED WHEN INSPECTIONS ARE REQUIRED BY CODE AND SHALL GIVE ALL
- NECESSARY ASSISTANCE TO THE INSPECTOR WHEN HE IS MAKING AN INSPECTION.

INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.

c. THE ELECTRICAL CONTRACTOR WILL SATISFY ALL REGULATIONS HAVING

JURISDICTION ON THIS PROJECT.

d. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND

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MGH Consult

ELECTRICAL PECIFICATION SHEET

ISSUED:

9-23-21

ISSUED FOR REVIEW