ELECTRICAL

SCALE: AS NOTED **DATE:** 05-24-16

ELECTRICAL SYMBOLS									
LIGHTING		RECEPTACLES		GROUNDING		SINGLE LINE DIAGRAM			
FIXTUI UPPEI	R CASE SUBSCRIPTS INDICATE RE CONTROLS R CASE SUBSCRIPTS INDICATE FIXTURE TYPE. R TO LIGHTING FIXTURE SCHEDULE.	" SPEC	EX RECEPTACLE, 120V, 20A, CIFICATION GRADE, NEMA 5-20 R	— G —	GROUND WIRE, BARE GROUND WIRE, EXOTHERMIC—WELD CONNECTION, NUMBER INDICATES	m m	TRANSFORMER		
Sab	120/277V, 20A LIGHT SWITCH SPECIFICATION GRADE	YY SPEC SUBS	EX RECEPTACLE, 120V, 20A SIFICATION GRADE, NEMA 5-20 R SCRIPT "G" INDICATES GROUND		CONNECTION TYPE. (FOR TYPES OF EXOTHERMIC—WELD CONNECTIONS REFER TO DRAWING ———	\rightarrow	TRANSFORMER		
S ₃	120/277V, 20A 3-WAY LIGHT SWITCH, SPECIFICATION GRADE	WEAT	T INTERRUPT, WP INDICATES THERPROOF GROUND FAULT RRUPT.		MECHANICAL GROUNDING CONNECTION	├─	CURRENT TRANSFORMER		
Sp	120/277V, 20A LIGHT SWITCH WITH PILOT LIGHT.		BLE DUPLEX RECEPTACLE		GROUND CABLE "PIGTAIL" WITH IDENTIFICATION MARKER FOR FUTURE GROUND GRID CONNECTION.	→ ⊷	LIGHTNING ARRESTOR		
S _D	SPECIFICATION GRADE LOW VOLTAGE DIMMER SWITCH SHALL DE COMPATIBLE WITH DIMMING DRIVER	Ψ 1 PH.	POWER RECEPTACLE, 208V, 30A 1 PHASE, NEMA 6-30R, SPECIFICATION GRADE		CONSIST OF 10 FEET (3 METERS) OF GROUND CABLE COILED UNLESS OTHERWISE NOTED.	M 1	METER		
S _L #	BE COMPATIBLE WITH DIMMING DRIVER. LOW VOLTAGE, SWITCH LIGHTING CONTROL	FLOO!	R RECEPTACLES	0	GROUND ROD, COPPER CLAD.	' 	GROUND CONNECTION		
A CO	# INDICATES QUANTITY OF PROGRAMMABLE BUTTONS	_	NG DUPLEX RECEPTACLE	GENERA	<u>L</u>	i i	DISCONNECT SWITCH		
A o ab	LED LIGHT FIXTURES	<u>SECURITY</u>		,©/	EMERGENCY GENERATOR CONSTANT SPEED INDUCTION MOTOR	, ,	CIRCUIT BREAKER, MANUALLY OPERATED		
Aoab		SC SECU	RITY SYSTEM PANEL		NUMBER DENOTES HORSEPOWER RATING.		FUSE		
	LED FIXTURE WITH AC DRIVER AND EMERGENCY BATTERY UNIT	KP KEY			TRANSFORMER	[T#]	TRANSFORMER		
					□ NON-FUSED DISCONNECT SWITCH □ FUSED DISCONNECT SWITCH		FIRE ALARM		
O ^A	NON-LINEAR FIXTURE SUBSCRIPT INDICATES FIXTURE TYPE		TRIC STRIKE/LOCK	⊠₁	COMBINATION MAGNETIC STARTER	FACP	FIRE ALARM CONTROL PANEL		
ю ^A	WALL MOUNTED FIXTURE SUBSCRIPT INDICATES FIXTURE TYPE			PB	PULL BOX	FA	FIRE SYSTEM ANNUNCIATOR		
o ^A	RECESSED DOWNLIGHT	LINE TYPE L		3	JUNCTION BOX	⊕ _R	HEAT DETECTOR		
8	OCCUPANCY SENSOR — DUAL TECHNOLOGY DEFAULT P = PASSIVE—INFRARED		EXIST ITEMS TO REMAIN	A <u>-1</u>	BRANCH CIRCUIT HOMERUN, A-1 INDICATES PANEL DESIGNATION AND CIRCUIT NUMBER	© _D	SMOKE DETECTOR D = DUCT DETECTOR B = BEAM		
	U = ULTRASONIC W = WALL SWITCH TYPE, WITH DIMMING AND PHOTOCELL (BASIS OF DESIGN IS HUBBELL LIGHTHAWK 2 LHD—IRS—3—N—WH	S REMOVE S	PROVIDE ITEMS SWITCH (REMOVALS DRAWINGS)	•	PUSHBUTTON	\	FLOW SWITCH		
4_4	EMERGENCY LIGHT, BATTERY POWERED	5 PROVIDE	SWITCH (INSTALLATION DRAWINGS) SWITCH TO REMAIN		PUSHBUTTON STATION	& _	TAMPER SWITCH		
	TWO LAMPS	TELEPHONE, DATA AND VIDEO		DDC	CONTROL PANEL FOR HEATING VENTILATION AND AIR CONDITIONING	¤ ⊠d	STROBE SPEAKER WITH STROBE		
Ψ	EMERGENCY LIGHT, REMOTE HEAD ONE LAMP		TELEPHONE JACK OUTLET	VFC	VARIABLE FREQUENCY CONTROLLER		SPEAKER		
44	EMERGENCY LIGHT, REMOTE HEADS TWO LAMPS	W =	WALL TYPE	<i>V/////</i>	EXISTING PANELBOARD	M	DOOR HOLDER		
M M	ILLUMINATED EXIT SIGN, LED TYPE SINGLE FACE OR DOUBLE FACE, ARROW INDICATES DIRECTION OF	# IND	DATA JACK DICATES QUANTITY OF JACKS. ULT IS ONE.		PANELBOARD	E	MANUAL PULL STATION		
	FLOW FOR THE FACE	▼ FLOO	R BOX DATA JACK		HORN	R	REMOTE INDICATOR		
P	PHOTOCELL INTERIOR	► CAT6	TELEPHONE/(2) CAT6 DATA JACKS			□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	ELECTRIC BELL		
æ	PHOTOCELL EXTERIOR		VISION JACK						
TC	PROGRAMMABLE TIME CLOCK	AP WIREL (PRO	LESS ACCESS POINT VIDED BY BUILDING OWNERS)						

3/4" FIRE RETARDANT BACKBOARD

ELECTRICAL GENERAL NOTES

- ELECTRICAL INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), NFPA, AND STATE AND LOCAL
- 2. WORK SHALL BE COORDINATED WITH ARCHITECTURAL, CIVIL, STRUCTURAL, AND MECHANICAL TRADES.
- 3. ELECTRICAL EQUIPMENT AND WIRING SHALL BE NEW AND UL LISTED UNLESS OTHERWISE NOTED.
- 4. LIGHT FIXTURES AND OTHER CEILING MOUNTED ELECTRICAL EQUIPMENT SHALL BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, AND MECHANICAL WORK TO AVOID
- 5. A SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH INDIVIDUAL CIRCUIT. METAL CONDUIT SHALL BE GROUNDED BUT SHALL NOT BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

INTERFERENCE.

- 6. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS AND REPORT DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCIES HAVE BEEN RESOLVED BY THE OWNER'S REPRESENTATIVE.
- 7. CONDUCTORS SHALL BE MINIMUM #12 AWG UNLESS NOTED OTHERWISE.
- 8. CONDUIT SHALL BE MINIMUM 3/4" FOR POWER AND 1" FOR COMMUNICATIONS UNLESS OTHERWISE NOTED.
- 9. FIRE ALARM STROBES SHALL BE RATED 15/75 CANDELA UNLESS NOTED OTHERWISE.
- 10. COORDINATE LOCATION OF DEVICES IN ELEVATOR PIT WITH
- ELEVATOR INSTALLER. 11. UNLESS OTHERWISE INDICATED, WIRE AND CONDUIT SIZE FOR

EACH 15A 1P, 15A 2P, 20A 1P AND 20A 2P BRANCH

- CIRCUIT SHALL BE 2 #12 + #12G, IN 3/4"C. 12. UNLESS OTHERWISE INDICATED, WIRE AND CONDUIT SIZE FOR EACH 15A 3P AND 20A 3P BRANCH CIRCUIT SHALL BE 3
- #12 + #12G, IN 3/4°C. 13. UNLESS OTHERWISE INDICATED, WIRE AND CONDUIT SIZE FOR 20A 1P BRANCH CIRCUITS CONTAINING ISOLATED GROUND
- 14. A SEPARATE NEUTRAL CONDUCTOR SHALL BE PROVIDED FOR EACH INDIVIDUAL 120V CIRCUIT.

RECEPTACLES SHALL BE 2 #12, 1#12G, 1 #12 IG, IN 3/4"C.

15. REFER TO DETAIL 10 IN DRAWING C-501 FOR CONDUIT PENETRATIONS THROUGH FOUNDATION.

EQUIVALENT CONDUCTOR SIZES SCHEDULE

COPPER	ALUMINUM		
1/0	3/0		
2/0	4/0		
3/0	250 KCMIL		
4/0	300 KCMIL		
250 KCMIL	400 KCMIL		
350 KCMIL	500 KCMIL		
500 KCMIL	750 KCMIL		

NOTE: CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE COPPER. INCREASE CONDUIT SIZE AS NEEDED IN ACCORDANCE WITH THE NEC IF ALUMINUM CONDUCTORS ARE USED.

WATT, WIRE WEATHERPROOF

UNDERWRITERS LABORATORIES

VARIABLE FREQUENCY CONTROLLER

MOUNTING HEIGHT SCHEDULE

ELECTRICAL ABBREVIATIONS

GROUND; GROUND FAULT CIRCUIT INTERRUPTER

HEATING LOAD TYPE FOR PANEL SCHEDULE

HEATING, VENTILATION, AND AIR CONDITIONING

LIGHTING LOAD TYPE FOR PANEL SCHEDULE

MOTOR LOAD TYPE FOR PANEL SCHEDULE

NATIONAL FIRE PROTECTION ASSOCIATION

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

RECEPTACLE LOAD TYPE FOR PANEL SCHEDULE

A, AMP

AFF

AIC

AVG

AWG

BKR

CB

CKT

DDC

ELEV

EMT

FACP

GFCI

НО

HP

HVAC

KCMIL

KVA KW

LC

LED

MAX

MCB

MIN

MLO

MTS

NEMA

NFPA

NO, # OCC

P/0

RM RMC

SPDT

SW TGB

TYP

UE

AMPERE

AVERAGE

BREAKER

CIRCUIT

COPPER

DRAWING

ELEVATOR

HIGH OUTPUT

HORSEPOWER

KILO-WATT

LIGHTING

MAXIMUM

MINIMUM

NEUTRAL

NUMBER

PHASE

OCCUPANCY

RECEPTACLE

SQUARE

SWITCH

TELEVISION

VOLT AMPERE

TYPICAL

METAL HALIDE

MAIN LUG ONLY

NOT IN CONTRACT

RIGID GALVANIZED STEEL

SINGLE POLE, DOUBLE THROW

HEAT RESISTANT THERMOPLASTIC WIRE

TRANSIENT VOLTAGE SURGE SUPPRESSOR

MOISTURE & HEAT RESISTANT THERMOPLASTIC

TELECOM GROUND BUSBAR

WIRE WITH NYLON JACKET TELECOM GROUNDING BUSBAR

UNDERGROUND ELECTRIC

TELECOM MAIN GROUND BUSBAR

RIGID METAL CONDUIT

WITH NYLON JACKET

KILO-CIRCULAR MILS

LIGHTING CONTROL PANEL

LIGHT EMITTING DIODE

MAIN CIRCUIT BREAKER

MANUAL TRANSFER SWITCH

KILO-VOLT-AMPERE

AMPERES, 3-POLE

ALTERNATING CURRENT

ABOVE FINISHED FLOOR

AMERICAN WIRE GAUGE

CONDUCTOR, CONDUIT

CATALOG, CATEGORY

CLOSED CIRCUIT TELEVISION

ELECTRICAL METALLIC TUBING

FIRE ALARM CONTROL PANEL

GROUND FAULT CIRCUIT INTERRUPTER

DIRECT DIGITAL CONTROL

CIRCUIT BREAKER

AMPERE INTERRUPTING CAPACITY

(UNLESS NOTED OTHERWISE)

- RECEPTACLES: 18" UNLESS NOTED OTHERWISE 2. RECEPTACLES AT COUNTERS: 6" ABOVE COUNTER TOP/BACKSPLASH 3. SWITCHES: 48"
- 4. MANUAL PULL STATIONS: 48"
- 5. FIRE ALARM STROBES: 80"

WIRE SIZE	HOME RUNS (20A CIRCUIT) MAXIMUM DISTANCE IN FEET UNLESS NOTED OTHERWISE								
	120V	208V	277V	480V					
# 12	60'	100'	140'	240'					
# 10	100'	160'	220'	360'					
#8	150'	250'	325'	550'					
# 6	240'	400'	500'	800'					

DWG. **E-001**