ELECTRICAL SYMBOL LEGEND

SWITCHES

SYMBOL	DESCRIPTION
$\$_{a}$	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)
$\$_{E}$	EMERGENCY SWITCH
$\$_{3}$	THREE-WAY SWITCH
$\$_{4}$	FOUR-WAY SWITCH
$\$_{HOA}$	HAND-OFF-AUTOMATIC SWITCH
$\$_{WP}$	SINGLE POLE SWITCH WITH WEATHERPROOF COVER
$\$_{K}$	SINGLE POLE KEY SWITCH
$\$_{3K}$	THREE-WAY KEY SWITCH
$\$_{4K}$	FOUR-WAY KEY SWITCH
$\$_{LV}$	LOW VOLTAGE SWITCH
$\$_{F}$	FAN SWITCH
$\$_{M}$	MOTOR SWITCH
$\$_{D}$	WALL DIMMER SWITCH
$\$_{OS}$	WALL SWITCH OCCUPANCY SENSOR
$\$_{VS}$	WALL SWITCH VACANCY SENSOR (MANUAL ON – AUTO OFF)
$\$_{T}$	TIMER SWITCH (60 MINUTES)
	OCCUPANCY SENSOR – CEILING MOUNTED
	OCCUPANCY SENSOR – WALL MOUNTED
	PHOTOCELL
	LIGHTING CONTACTOR
	TIME CLOCK
	LIGHTING ROOM CONTROLLER
	PLUG LOAD SWITCH PACK FOR RECEPTACLE LOAD CONTROL
	LIGHTING / MOTOR SWITCH PACK

RECEPTACLES

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	DUPLEX RECEPTACLE, 20 AMP, 120V MOUNTED AT 48" A.F.F. U.O.N.
	QUADRAPLEX RECEPTACLE, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	QUADRAPLEX RECEPTACLE, 20 AMP, 120V MOUNTED AT 48" A.F.F. U.O.N.
	SINGLE RECEPTACLE, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	GFCI RECEPTACLE, 20 AMP, 120V U.O.N. (WP DENOTES WEATHERPROOF COVER)
	GFCI RECEPTACLE, 20 AMP, 120V U.O.N. MOUNTED AT 48" A.F.F. U.O.N. (WP DENOTES WEATHERPROOF COVER)
	GFCI QUADRAPLEX RECEPTACLE, 20 AMP, 120V U.O.N. (WP DENOTES WEATHERPROOF COVER)
	GFCI QUADRAPLEX RECEPTACLE, 20 AMP, 120V U.O.N. MOUNTED AT 48" A.F.F. U.O.N. (WP DENOTES WEATHERPROOF COVER)
	SPECIAL PURPOSE RECEPTACLE (NEMA RATING AS INDICATED)
	EMERGENCY DUPLEX RECEPTACLE, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	EMERGENCY QUADRAPLEX RECEPTACLE, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	DUPLEX RECEPTACLE HALF SWITCHED, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	DUPLEX RECEPTACLE, 20 AMP, 120V CEILING MOUNTED
	QUADRAPLEX RECEPTACLE, 20 AMP, 120V CEILING MOUNTED
IG	DUPLEX RECEPTACLE WITH ISOLATED GROUND, 20 AMP, 120V MOUNTED AT 18" A.F.F. U.O.N.
	DUPLEX RECEPTACLE, 20 AMP, 120V AUTOMATIC SWITCHED RECEPTACLE
	QUADRAPLEX RECEPTACLE, 20 AMP, 120V AUTOMATIC SWITCHED RECEPTACLE
	DUPLEX RECEPTACLE, 20 AMP, 120V FLOOR MOUNTED
	QUADRAPLEX RECEPTACLE, 20 AMP, 120V FLOOR MOUNTED
J	JUNCTION BOX – CEILING MOUNTED
J	JUNCTION BOX – WALL MOUNTED
J	JUNCTION BOX – FLOOR MOUNTED
J	JUNCTION BOX – FURNITURE SYSTEM FEED
	DUPLEX RECEPTACLE, 20 AMP, 120V & VOICE/DATA OUTLET FLOOR MOUNTED
	QUADRAPLEX RECEPTACLE, 20 AMP, 120V & VOICE/DATA OUTLET FLOOR MOUNTED

FIRE ALARM

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FAAP	FIRE ALARM ANNUNCIATOR PANEL
EVAC	FIRE ALARM VOICE / EVACUATION UNIT
F	FIRE ALARM MANUAL PULL STATION
F	FIRE ALARM HORN/STROBE DEVICE MINIMUM 75CD RATING
F	FIRE ALARM STROBE DEVICE MINIMUM 75CD RATING (WALL MOUNTED)
F	FIRE ALARM STROBE DEVICE MINIMUM 75CD RATING (CEILING MOUNTED)
SS	FIRE ALARM SPEAKER DEVICE (CEILING MOUNTED)
H	FIRE ALARM HEAT DETECTOR 135°F U.O.N. (CEILING MOUNTED)
PH	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR (CEILING MOUNTED)
I	FIRE ALARM IONIZATION SMOKE DETECTOR (CEILING MOUNTED)
E	FIRE ALARM SMOKE DETECTOR WITH ELEVATOR RECALL CONTACTS
R	FIRE ALARM SMOKE DETECTOR RETURN DUCT
S	FIRE ALARM SMOKE DETECTOR SUPPLY DUCT
PIV	POST INDICATOR VALVE WITH TAMPER SWITCH
FH	FIRE HYDRANT WITH TAMPER SWITCH
FS	FLOW SWITCH
TS	TAMPER SWITCH

TELECOMMUNICATIONS (RACEWAY ONLY)

SYMBOL	DESCRIPTION
	INFORMATION OUTLET
	INFORMATION OUTLET (FLOOR MOUNTED)
TV	CATV OUTLET
TV	CATV OUTLET (FLOOR MOUNTED)
S	INTERCOM SPEAKER (CEILING MOUNTED)

ELECTRICAL ABBREVIATIONS

SYMBOL	DESCRIPTION
A	AMPERES
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CU	COPPER
DC	DIRECT CURRENT
DIA	DIAMETER
E	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEV	ELEVATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EP	EMERGENCY POWER
EPO	EMERGENCY POWER OFF (BUTTON OR SWITCH)
FA	FIRE ALARM

GENERAL NOTES

1) DESIGN DRAWINGS ARE SCHEMATIC IN NATURE. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

2) THE CONTRACTOR SHALL CONTACT THE ARCHITECT OR ENGINEER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN THEIR BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT OR ENGINEER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

3) ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/OWNER.

4) CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FROM A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.

5) CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.

6) ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OF PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

7) ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, NFPA 101, AND STATE AND LOCAL CODE ORDINANCES.

8) ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED, FOR INTENDED USE, WITH UNDERWRITER'S LABORATORIES INC. (U.L.), WHERE STANDARDS HAVE BEEN ESTABLISHED BY U.L.

9) ALL LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE U.O.N.

10) THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.

11) CONTRACTOR TO FIELD VERIFY ROUTING OF NEW CONDUIT/WIRING ABOVE EXISTING CEILINGS FOR NEW DEVICES.

12) EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND NEMA RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.

13) BRANCH CIRCUIT HOMERUNS OVER 100-FEET IN LENGTH SHALL BE #10 AWG MINIMUM ON 120-VOLT SYSTEMS. BRANCH CIRCUIT HOMERUNS OVER 200-FEET IN LENGTH SHALL BE #10 AWG MINIMUM ON 277-VOLT SYSTEMS. BRANCH CIRCUIT HOMERUNS OVER 250-FEET IN LENGTH SHALL BE #8 AWG MINIMUM ON 120-VOLT SYSTEMS. BRANCH CIRCUIT HOMERUNS OVER 350-FEET IN LENGTH SHALL BE #8 AWG MINIMUM ON 277-VOLT SYSTEMS.

GENERAL NOTES

1) CONTRACTORS SHALL VISIT THE SITE AND THOROUGHLY EXAMINE ALL CONTRACT DOCUMENTS, DRAWINGS, AND DETAILS TO HAVE COMPLETE UNDERSTANDING OF THE SCOPE OF THIS PROJECT AND ALL EXISTING CONDITIONS BEFORE SUBMITTING THEIR PROPOSAL BID. ALSO, ANY QUESTION, DISCREPANCY OR IRREGULARITY THAT A SUCCESSFUL CONTRACTOR MAY HAVE OR FIND SHALL BE CLARIFIED PRIOR TO CONTRACT FINALIZATION. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO PERFORM ALL WORK AND ALL MATERIALS AND EQUIPMENT REQUIRED FOR COMPLETE AND SATISFACTORY INSTALLATION AS INTENDED BY THIS DESIGN AND THE SCOPE OF THIS PROJECT.

2) COORDINATE WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH WOULD REQUIRE ELECTRICAL WORK (DISCONNECTION/RECONNECTION, ETC.) AND ARE NOT INDICATED ON THE ELECTRICAL PLANS.

3) ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH MECHANICAL CONTRACTOR PRIOR TO WIRING OF ALL HVAC EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES OR FEEDER SIZE PER THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

4) ALL ELECTRICAL WORK AND MATERIALS SHALL BE PROVIDED (FURNISHED AND INSTALLED) BY THE CONTRACTOR UNLESS INDICATED OTHERWISE.

5) MOUNT DUPLEX RECEPTACLE FOR CATV ADJACENT TO CATV OUTLET. COORDINATE FINAL LOCATION AND MOUNTING HEIGHT OF RECEPTACLE AND CATV OUTLETS WITH INTERIOR DECORATOR PRIOR TO ROUGH-IN.

6) VOICE AND DATA OUTLETS AND CABLING SHALL BE INCLUDED IN EC SCOPE (BY ALLOWANCE).

7) ALL UNDERGROUND CONDUIT FOR LOW VOLTAGE WIRING TO BE PROVIDED BY EC.

8) ALL TEMPERATURE CONTROL WIRING SHALL BE FURNISHED AND INSTALLED BY OTHERS.

9) WITHIN 30 DAYS AFTER THE DATE OF CERTIFICATE OF OCCUPANCY, CONTRACTOR SHALL PROVIDE OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, CLEARLY IDENTIFIED REQUIRED ROUTINE MAINTENANCE ACTIONS, AND NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY PER FBC 13-413.1.ABC.2.2.1. SUBMIT THREE COPIES OF MANUFACTURER'S OPERATING AND MAINTENANCE AND SPARE PARTS LIST FOR EACH PIECE OF EQUIPMENT

POWER COMPANY REQUIREMENTS

1) CONTRACTOR SHALL COORDINATE WITH POWER COMPANY AND SHALL FOLLOW REQUIREMENTS FOR ELECTRIC AND METER INSTALLATIONS PRIOR TO COMMENCING THE ELECTRICAL WORK. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL EQUIPMENT AND COMPONENTS AS NECESSARY FOR COMPLETE INSTALLATIONS TO DELIVER ELECTRICAL SERVICE TO THE FACILITY.

2) SERVICE PAD MOUNTED TRANSFORMER AND PRIMARY DISTRIBUTION WILL BE PROVIDED BY POWER COMPANY. CONTRACTOR SHALL PROVIDE CONCRETE PAD, METER ENCLOSURE, AND SECONDARY ENTRANCE CONDUCTORS AND CONDUIT. PROVIDE GROUNDING OF TRANSFORMER IN ACCORDANCE WITH POWER COMPANY REQUIREMENTS.

3) SERVICE ENTRANCE CONDUCTORS AND CONDUIT SHALL BE INSTALLED UNDER NOT LESS THAN 2" OF CONCRETE BENEATH THE BUILDING OR SHALL BE INSTALLED UNDER NOT LESS THAN 18" OF EACH BENEATH THE BUILDINg. DO NOT ROUTE CONDUIT UNDERNEATH STAIRWAYS OR ELEVATORS.

4) CONTRACTOR SHALL ANTICIPATE IN PAYING FOR THE POWER COMPANY FOR THEIR ELECTRICAL WORK IN ASSOCIATED WITH THIS PROJECT.

SHEET INDEX

LIGHTING

SYMBOL	DESCRIPTION
XX	CEILING MOUNTED 2'x4' RECESSED LUMINAIRE NORMAL POWER
XX	CEILING MOUNTED 2'x2' RECESSED LUMINAIRE NORMAL POWER
XX	CEILING MOUNTED 2'x4' RECESSED LUMINAIRE EMERGENCY POWER
XX	CEILING MOUNTED 2'x2' RECESSED LUMINAIRE EMERGENCY POWER
XX	CEILING MOUNTED 1'x4' RECESSED LUMINAIRE NORMAL POWER
XX	CEILING MOUNTED 1'x4' RECESSED LUMINAIRE EMERGENCY POWER
XX	PENDANT MOUNTED 1'x2' HIGH BAY LUMINAIRE W/ OCCUP. SENSOR NORMAL POWER
XX	PENDANT MOUNTED 1'x2' HIGH BAY LUMINAIRE W/ OCCUP. SENSOR EMERGENCY POWER
XX	STRIP LUMINAIRE NORMAL POWER
XX	STRIP LUMINAIRE EMERGENCY POWER
XX	DOWNLIGHT LUMINAIRE NORMAL POWER
XX	DOWNLIGHT LUMINAIRE EMERGENCY POWER
XX	WALL MOUNTED LUMINAIRE NORMAL POWER
XX	WALL MOUNTED LUMINAIRE EMERGENCY POWER
XX	POLE MOUNTED LUMINAIRE NORMAL POWER
XX	POLE MOUNTED LUMINAIRE EMERGENCY POWER
XX	EMERGENCY BATTERY LIGHT FIXTURE
XX	EXIT LIGHT SINGLE FACE WITH DIRECTIONAL ARROW
XX	WALL MOUNTED EXIT LIGHT SINGLE FACE WITH DIRECTIONAL ARROW
XX	EXIT LIGHT DOUBLE FACE WITH DIRECTIONAL ARROW
XX	CEILING FAN

SECURITY

SYMBOL	DESCRIPTION
S	INTERCOM SPEAKER (CEILING MOUNTED)
KP	KEYPAD
GB	GLASS BREAK DETECTION
IDP	INTRUSION DETECTION BOARD
HS	HORN SPEAKER

MISCELLANEOUS

SYMBOL	DESCRIPTION
XXXAF / NF NEMA	NON-FUSED DISCONNECT SWITCH FRAME SIZE / NON-FUSED / ENCLOSURE RATING
XXXAF / XXXAT NEMA	FUSED DISCONNECT SWITCH FRAME SIZE / FUSE SIZE / ENCLOSURE RATING
MCP / SIZE X NEMA	COMBINATION MAGNETIC MOTOR STARTER MCP SIZE / STARTER SIZE / ENCLOSURE RATING
	PANELBOARD, 480/277V
	PANELBOARD, 208/120V
PB	PULL BOX
HH	HAND HOLE
SPD	SURGE PROTECTION DEVICE
	ELECTRIC METER
T	TRANSFORMER
HP	MOTOR CONNECTION (HP DENOTES HORSEPOWER RATING)
EF	EXHAUST FAN
	PUSHBUTTON
ST	SHUNT TRIP

SECURITY

SYMBOL	DESCRIPTION
MD	MOTION DETECTION
	PANIC BUTTON
EH	ELECTRIC HANDSET
OD	OVERHEAD ROLL-UP DOOR CONTACT
CR	CARD READER
DC	SECURITY DOOR CONTACT
PANIC	PANIC DOOR BAR
RTE	REQUEST TO EXIT
PTZ	PAN, TILT, ZOOM CAMERA
CONTR	DOOR CONTROLLER
ES	ELECTRIC STRIKE
INT	INTERCOM

MISCELLANEOUS

SYMBOL	DESCRIPTION
	3/4" PLYWOOD TELEPHONE BACKBOARD
	CONCRETE ENCASED DUCTBANK
	HOMERUN CIRCUIT TO PANEL (1 HOT, 1 NEUTRAL, & 1 EQUIPMENT GROUND)
	HOMERUN CIRCUIT TO PANEL (2 HOTS, 1 NEUTRAL, & 1 EQUIPMENT GROUND)
	HOMERUN CIRCUIT TO PANEL (3 HOTS & 1 EQUIPMENT GROUND)
	HOMERUN CIRCUIT TO PANEL (3 HOTS, 1 SHARED NEUTRAL, & 1 EQUIPMENT GROUND)
	CONDUIT CONCEALED IN CEILING OR WALL
	CONDUIT CONCEALED UNDERGROUND OR UNDER FLOOR
	CONDUIT EXPOSED ON SURFACE
UP	CONDUIT TURNING UP
DOWN	CONDUIT TURNING DOWN
	CONDUIT STUB
	CONDUIT CONTINUED
	FLEXIBLE CONDUIT
	GROUND ROD

LIGHTNING PROTECTION SYSTEM

SYMBOL	DESCRIPTION
CI	CLASS I MAIN CONDUCTOR CABLE
	TEE SPLICE
	BONDING PLATE
	PIPE CLAMP FOR PLUMBING VENT THRU ROOF
	AIR TERMINATION DEVICE
	GROUND TERMINAL
	BONDING CONDUCTOR
DN	DOWN CONDUCTOR
G	COUNTERPOISE CONDUCTOR

ELECTRICAL ABBREVIATIONS

SYMBOL	DESCRIPTION
FLA	FULL LOAD AMPERES
G, GND	GROUND
GRC	GALVANIZED RIGID METAL CONDUIT
HOA	HAND-OFF-AUTO SWITCH
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HZ	HERTZ
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LTG	LIGHTING
LRA	LOCK ROTOR AMPERES
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTION
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
QTY	QUANTITY

ELECTRICAL ABBREVIATIONS

SYMBOL	DESCRIPTION
PB	PUSH BUTTON, PANIC BUTTON, OR PULLBOX
PNL	PANEL
PWR	POWER
RMC	RIGID METAL CONDUIT
RNC	RIGID NON-METALLIC CONDUIT
RTS	REMOTE TEST STATION
SP	SPARE
ST	SHUNT-TRIP
SW	SWITCH
SYM	SYMMETRICAL
TEL	TELEPHONE
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
V	VOLT
VA	VOLT-AMPERE
W	WATT
WP	WEATHERPROOF
XFMR	TRANSFORMER
1PH	SINGLE PHASE
1P	SINGLE POLE
2/C	TWO CONDUCTOR
3/C	THREE CONDUCTOR
3PH	THREE PHASE
4/C	FOUR CONDUCTOR
4W	FOUR WIRE

NOTE: SOME SYMBOLS OR ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

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OWNER

PASCO COUNTY SHERIFF DEPARTMENT
7220 OSTEEN ROAD
NEW PORT RICHEY, FL 34653

PROJECT

CENTER FOR THE RECOVERY OF EXPLOITED AND MISSING PERSON (C.R.E.M.P.)

15-25-18-0000-00300-0000

SEAL

NOT FOR CONSTRUCTION USE

GILAD LIVINGSTONE
AR 94331

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: JEM
DRAWN BY: -
DESIGNED BY: ERE

PROJECT NUMBER
G22-0000-002

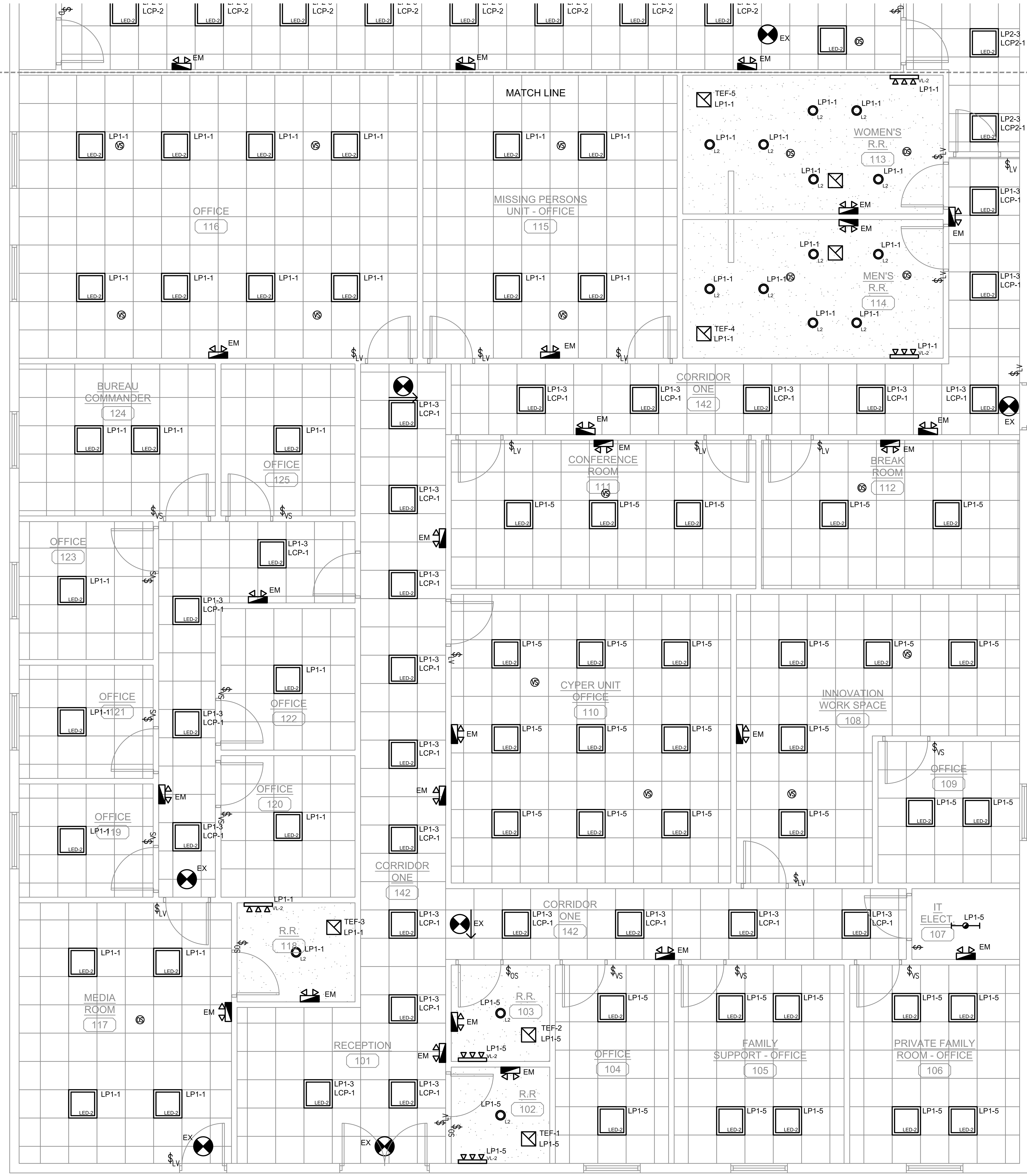
SHEET TITLE

ELECTRICAL LEGEND & GENERAL NOTES

SHEET NUMBER

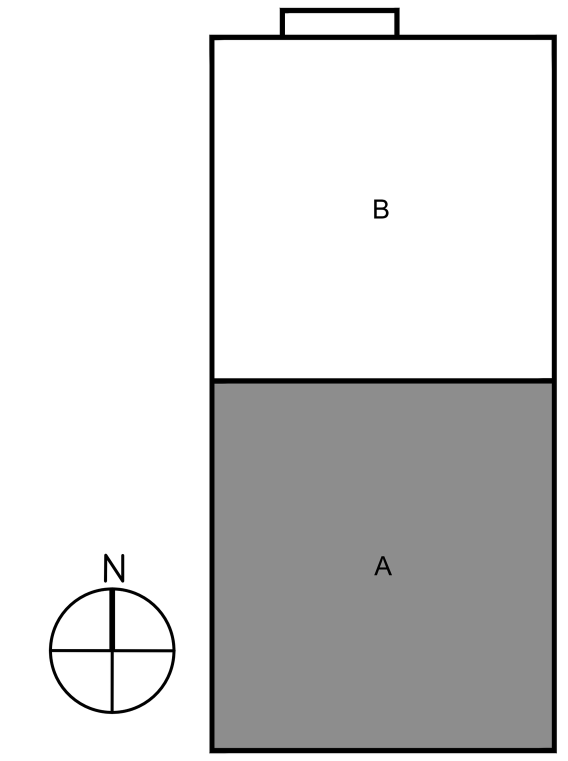
E0.1

NEW CONSTRUCTION



1 LIGHTING PLAN

1/4" = 1'-0" NOTE:



A KEY PLAN

N/A NOTE:

GENERAL NOTES:

1. OCCUPANCY / VACANCY SENSORS SHALL NOT BE INSTALLED WITHIN 6' OF AIR VENTS. CONTRACTOR SHALL COORDINATE AND MOVE AS REQUIRED.
2. OCCUPANCY /VACANCY SENSORS SHALL SHUT OFF ALL LIGHTING, INCLUDING LIGHTING CONNECTED TO EMERGENCY CIRCUITS, AUTOMATICALLY WITHIN 20 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
3. ALL EMERGENCY BATTERY PACK LIGHTING AND EXIT SIGNS SHALL BE WIRED TO LOCAL UNSWITCHED LIGHTING CIRCUIT.

LEGEND:

- OCCUPANCY SENSOR
- EE EMERGENCY/EXIT COMBINATION LIGHT WITH OPTIONAL DIRECTIONAL ARROW
- L2 6" RECESSED LIGHT
- F FLOOD LIGHT
- LED-2 2' X 2' DROP CEILING LIGHT
- EMERGENCY EXIT SIGN
- EM EMERGENCY LIGHT
- VL-2 VANITY LIGHT
- EXHAUST FAN; 1.5 TONES OR LESS
- FLUE FOR HOT WATER HEATER

LIGHTING SCHEDULE:

CODE	DESCRIPTION	MANUFACTURER	MODEL #	WATTS	REMARKS
LED-2	2' X 2' LED VOLUMETRIC WHITE TROFFER LIGHT	ENVIROLITE	EVTR22DI23WD	24.5	
L2	HLB 6 IN. WHITE ROUND INTEGRATED LED RECESSED LIGHT DIRECT MOUNT KIT WITH SELECTABLE CCT	HALO	HLB6099FS1EMWR	13	
F	GOOD EARTH LIGHTING 6.25-IN 2-HEAD LED WHITE SWITCH - CONTROLLED FLOOD LIGHT	GOOD EARTH LIGHTING	SE1092-WH3-00LF0-G	22	
VL-2	VANITY LIGHT	TBD	TBD	TBD	ARCHITECT SELECTION
EE	COMBO 14-WATT WITH NICAD 9.6-VOLT BATTERY WHITE INTEGRATED LED EXIT SIGN AND EMERGENCY LIGHT	COMMERCIAL ELECTRIC	EECLEDRG120277	4.6	
EM	3-WATT WITH NICAD 6.0-VOLT BATTERY WHITE INTEGRATED LED EMERGENCY LIGHT	COMMERCIAL ELECTRIC	EMLEDRECT120277	3	
EX	3-WATT WITH NICAD 6.0-VOLT BATTERY WHITE INTEGRATED LED EMERGENCY LIGHT	COMMERCIAL ELECTRIC	EXLEDRG120277	3.5	
OS	CEILING SENSOR LOW VOLTAGE BY PIR SWITCH MOTION DETECTOR, OCCUPANCY SENSOR MOUNT, CEILING LIGHT SENSOR, WHITE	ENERLITES	MPC-50L-STICKER		

NOTES:

1. PROVIDE ALL FIXTURES COMPLETE WITH LAMPS
2. PROVIDE ALL REQUIRED MOUNTING OR HANGING HARDWARE
3. RESTROOM AND OFFICE OCCUPANCY SENSOR TO BE PLACED ON SWITCH
4. INSTALL OCCUPANCY SENSORS PER ASHRAE 90.1

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REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: JEM
DRAWN BY: -
DESIGNED BY: ERE

PROJECT NUMBER
G22-0000-002

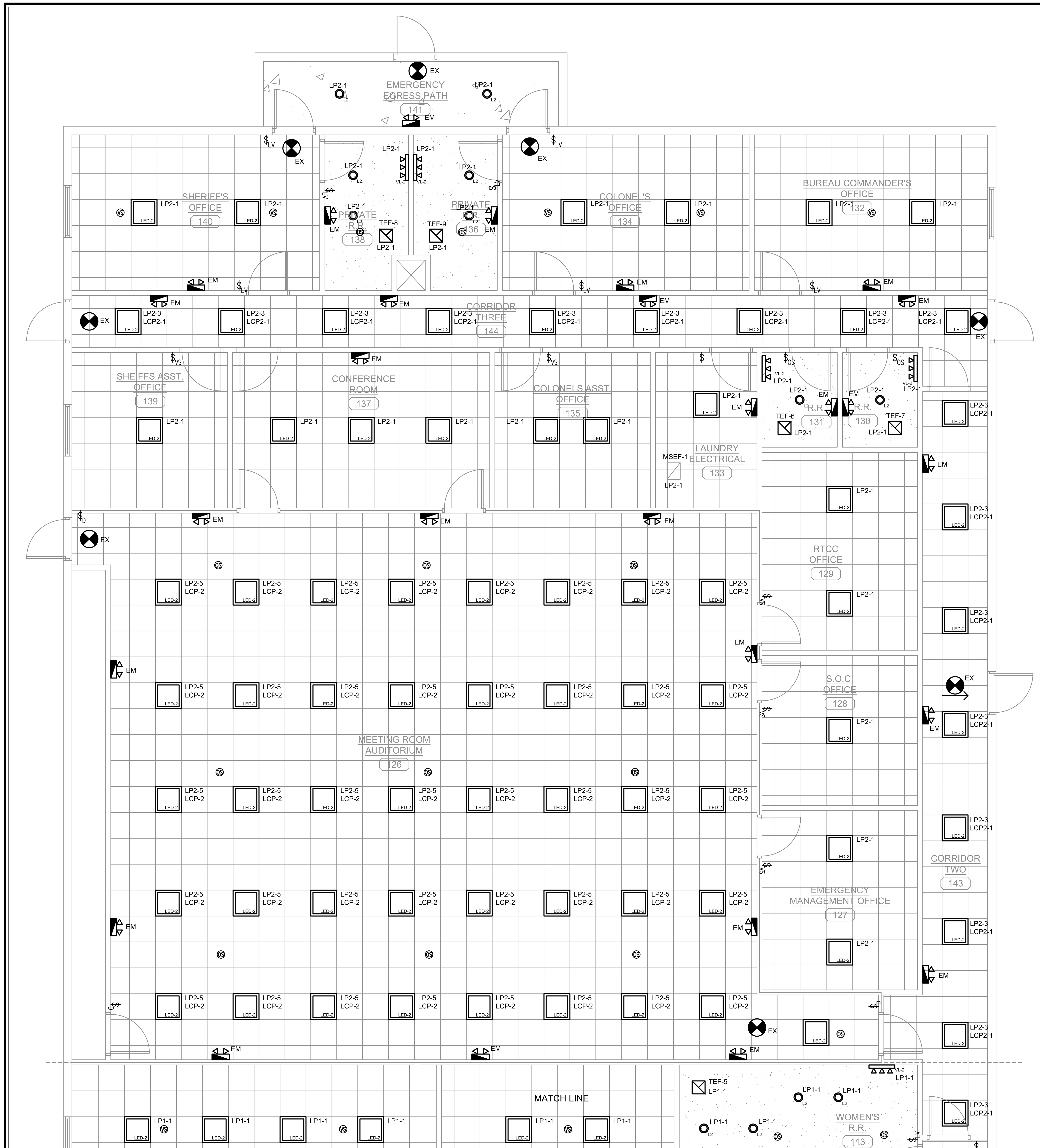
SHEET TITLE

LIGHTING PLAN

SHEET NUMBER

E2.0

NEW CONSTRUCTION



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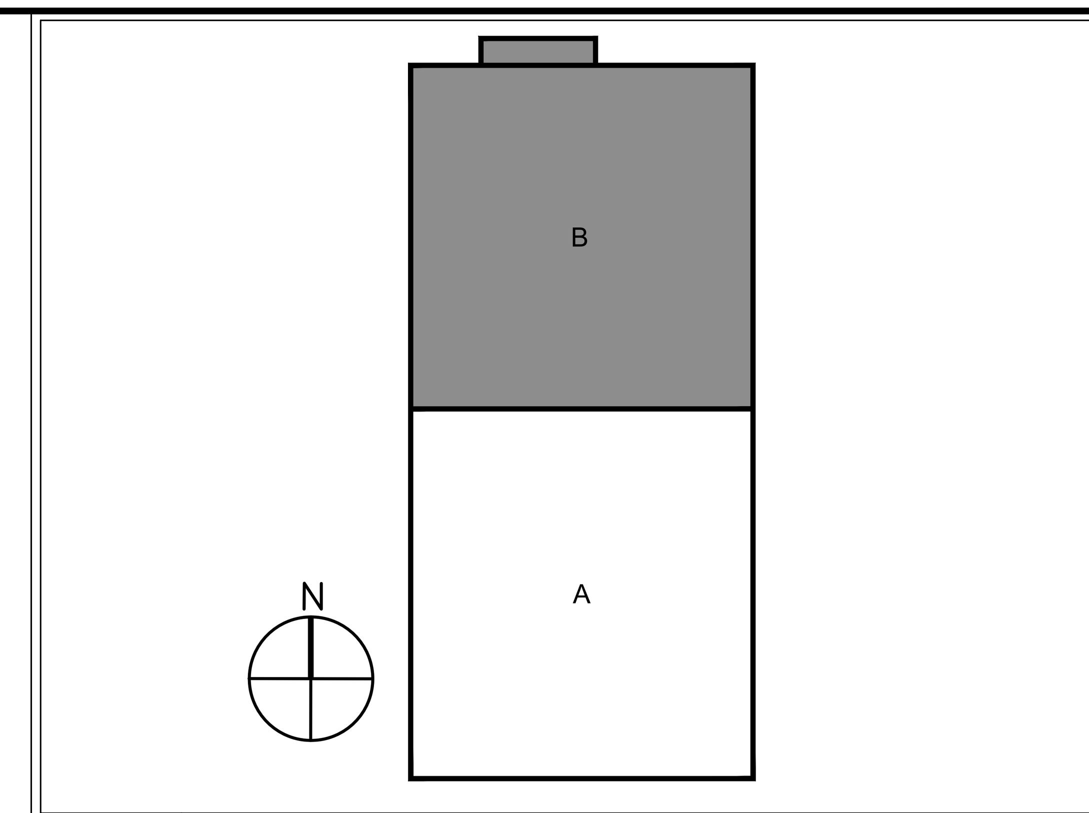

A KEY PLAN

N/A NOTE:

GENERAL NOTES:

1. OCCUPANCY / VACANCY SENSORS SHALL NOT BE INSTALLED WITHIN 6' OF AIR VENTS. CONTRACTOR SHALL COORDINATE AND MOVE AS REQUIRED.
2. OCCUPANCY /VACANCY SENSORS SHALL SHUT OFF ALL LIGHTING, INCLUDING LIGHTING CONNECTED TO EMERGENCY CIRCUITS, AUTOMATICALLY WITHIN 20 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
3. ALL EMERGENCY BATTERY PACK LIGHTING AND EXIT SIGNS SHALL BE WIRED TO LOCAL UNSWITCHED LIGHTING CIRCUIT.

LEGEND:

- OCCUPANCY SENSOR
- EE — EMERGENCY/EXIT COMBINATION LIGHT WITH OPTIONAL DIRECTIONAL ARROW
- L2 — 6" RECESSED LIGHT
- FLOOD LIGHT
- LED-2 — 2' X 2' DROP CEILING LIGHT
- EMERGENCY EXIT SIGN
- EM — EMERGENCY LIGHT
- VL-2 — VANITY LIGHT
- EXHAUST FAN; 1.5 TONES OR LESS
- FLUE FOR HOT WATER HEATER

LIGHTING SCHEDULE:

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L2	HLB 6 IN. WHITE ROUND INTEGRATED LED RECESSED LIGHT DIRECT MOUNT KIT WITH SELECTABLE CCT	HALO	HLB6099FS1EMWR	13	
F	GOOD EARTH LIGHTING 6.25-IN 2-HEAD LED WHITE SWITCH - CONTROLLED FLOOD LIGHT	GOOD EARTH LIGHTING	SE1092-WH3-00LF0-G	22	
VL-2	VANITY LIGHT	TBD	TBD	TBD	ARCHITECT SELECTION
EE	COMBO 14-WATT WITH NICAD 9.6-VOLT BATTERY WHITE INTEGRATED LED EXIT SIGN AND EMERGENCY LIGHT	COMMERCIAL ELECTRIC	EECLEDRG120277	4.6	
EM	3-WATT WITH NICAD 6.0-VOLT BATTERY WHITE INTEGRATED LED EMERGENCY LIGHT	COMMERCIAL ELECTRIC	EMLEDRECT120277	3	
EX	3-WATT WITH NICAD 6.0-VOLT BATTERY WHITE INTEGRATED LED EMERGENCY LIGHT	COMMERCIAL ELECTRIC	EXLEDRG120277	3.5	
OS	CEILING SENSOR LOW VOLTAGE BY PIR SWITCH MOTION DETECTOR, OCCUPANCY SENSOR MOUNT, CEILING LIGHT SENSOR, WHITE	ENERLITES	MPC-50L-STICKER		

NOTES:

1. PROVIDE ALL FIXTURES COMPLETE WITH LAMPS
2. PROVIDE ALL REQUIRED MOUNTING OR HANGING HARDWARE
3. RESTROOM AND OFFICE OCCUPANCY SENSOR TO BE PLACED ON SWITCH
4. INSTALL OCCUPANCY SENSORS PER ASHRAE 90.1

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OWNER

PASCO COUNTY SHERIFF DEPARTMENT
7220 OSTEEN ROAD
NEW PORT RICHEY, FL 34653

PROJECT

CENTER FOR THE RECOVERY OF EXPLOITED AND MISSING PERSON (C.R.E.M.P.)

15-25-18-0000-00300-0000

SEAL

NOT FOR CONSTRUCTION USE

GILAD LIVINGSTONE
AR 94331

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: GBL
DRAWN BY: JEM, JLS
DESIGNED BY: JEM

PROJECT NUMBER
G22-0000-002

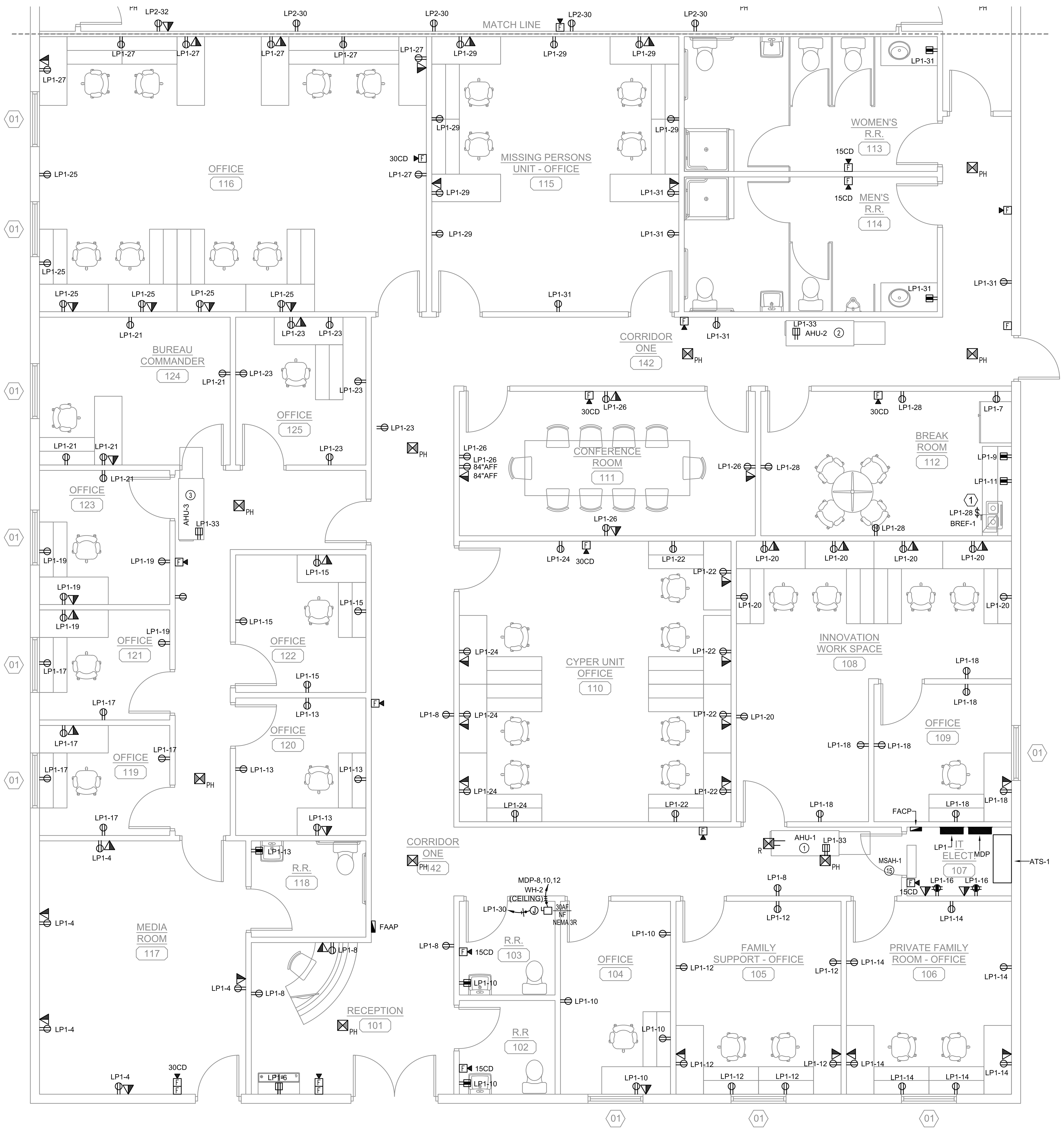
SHEET TITLE

LIGHTING PLAN

SHEET NUMBER

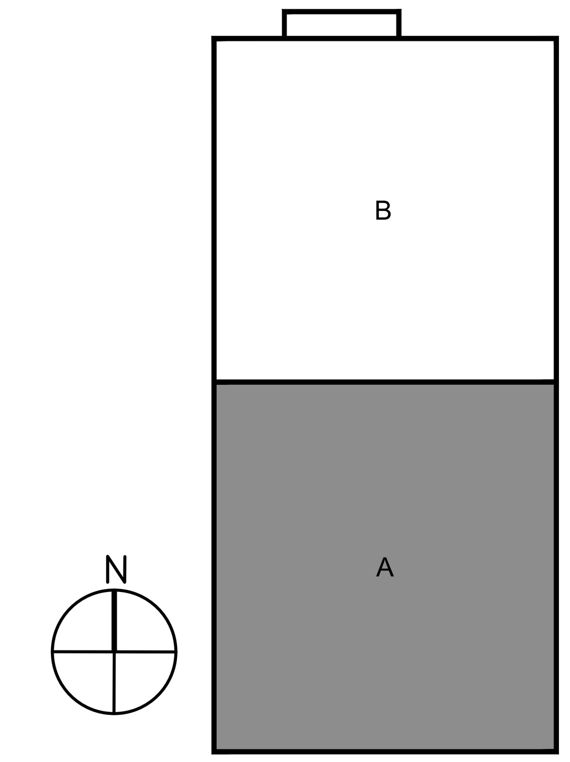
E2.1

NEW CONSTRUCTION



1 POWER PLAN

1/4" = 1'-0" NOTE:



A KEY PLAN

N/A NOTE:

KEYED NOTES: (X)

1. TIMER SWITCH WILL BE PROVIDED BY EXHAUST FAN VENDOR. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

MECHANICAL EQUIPMENT

KEY (#)	DESCRIPTION	ELECTRICAL CHARACTERISTICS					CIRCUIT DESIGNATION	BREAKER		DISCONNECT SWITCH	DISCONNECT ENCLOSURE	REMARKS
		VOLTS	PHASE	KW	HP	MCA		AMPS	POLES			
1	AHU-1	208	3	11.3	3/4	47.7	MDP-13,15,17	50	3	60/3/NF	NEMA 1	NOTE 1
2	AHU-2	208	3	11.3	3/4	47.7	MDP-19,21,23	50	3	60/3/NF	NEMA 1	NOTE 1
3	AHU-3	208	3	11.3	3/4	47.7	MDP-25,27,29	50	3	60/3/NF	NEMA 1	NOTE 1
4	AHU-4	208	3	11.3	3/4	47.7	MDP-31,33,35	50	3	60/3/NF	NEMA 1	NOTE 1
5	AHU-5	208	3	11.3	3/4	47.7	MDP-37,39,41	50	3	60/3/NF	NEMA 1	NOTE 1
6	AHU-6	208	1	7.5	1/2	53.8	MDP-14,16	60	2	60/2/NF	NEMA 1	NOTE 1
7	AHU-7	208	3	11.3	3/4	47.7	MDP-20,22,24	50	3	60/3/NF	NEMA 1	NOTE 1
8	CU-1	208	3	-	-	21.4	MDP-26,28,30	30	3	30/3/NF	NEMA 3R	NOTE 1
9	CU-2	208	3	-	-	21.4	MDP-32,34,36	30	3	30/3/NF	NEMA 3R	NOTE 1
10	CU-3	208	3	-	-	17.8	MDP-38,40,42	30	3	30/3/NF	NEMA 3R	NOTE 1
11	CU-4	208	3	-	-	17.8	MDP-43,45,47	30	3	30/3/NF	NEMA 3R	NOTE 1
12	CU-5	208	3	-	-	17.8	MDP-49,51,53	30	3	30/3/NF	NEMA 3R	NOTE 1
13	CU-6	208	1	-	-	12.2	MDP-44,46	20	2	30/2/NF	NEMA 3R	NOTE 1
14	CU-7	208	3	-	-	17.8	MDP-50,52,54	30	3	30/3/NF	NEMA 3R	NOTE 1
15	MSAH-1	208	1	-	-	0.3	MDP-56,58	15	2	30/2/NF	NEMA 1	NOTE 1
16	MSCU-1	208	1	-	-	8.0	-	-	-	-	-	NOTE 2

NOTES:
1) CONTRACTOR SHALL PROVIDE AND INSTALL DISCONNECTS WITHIN 10' OF EQUIPMENT WHILE MEETING NEC REQUIREMENTS.
2) EQUIPMENT SHALL BE CONNECTED AND POWERED BY MSAH-1 UNIT. VENDOR PROVIDED WIRING AND DISCONNECT FOR MSCU-1.

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OWNER

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NEW PORT RICHEY, FL 34653

PROJECT

CENTER FOR THE RECOVERY OF EXPLOITED AND MISSING PERSON (C.R.E.M.P.)

15-25-18-0000-00300-0000

SEAL

NOT FOR CONSTRUCTION USE

GILAD LIVINGSTONE
AR 94331

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY:
DRAWN BY: ERE
DESIGNED BY:

PROJECT NUMBER
G22-0000-002

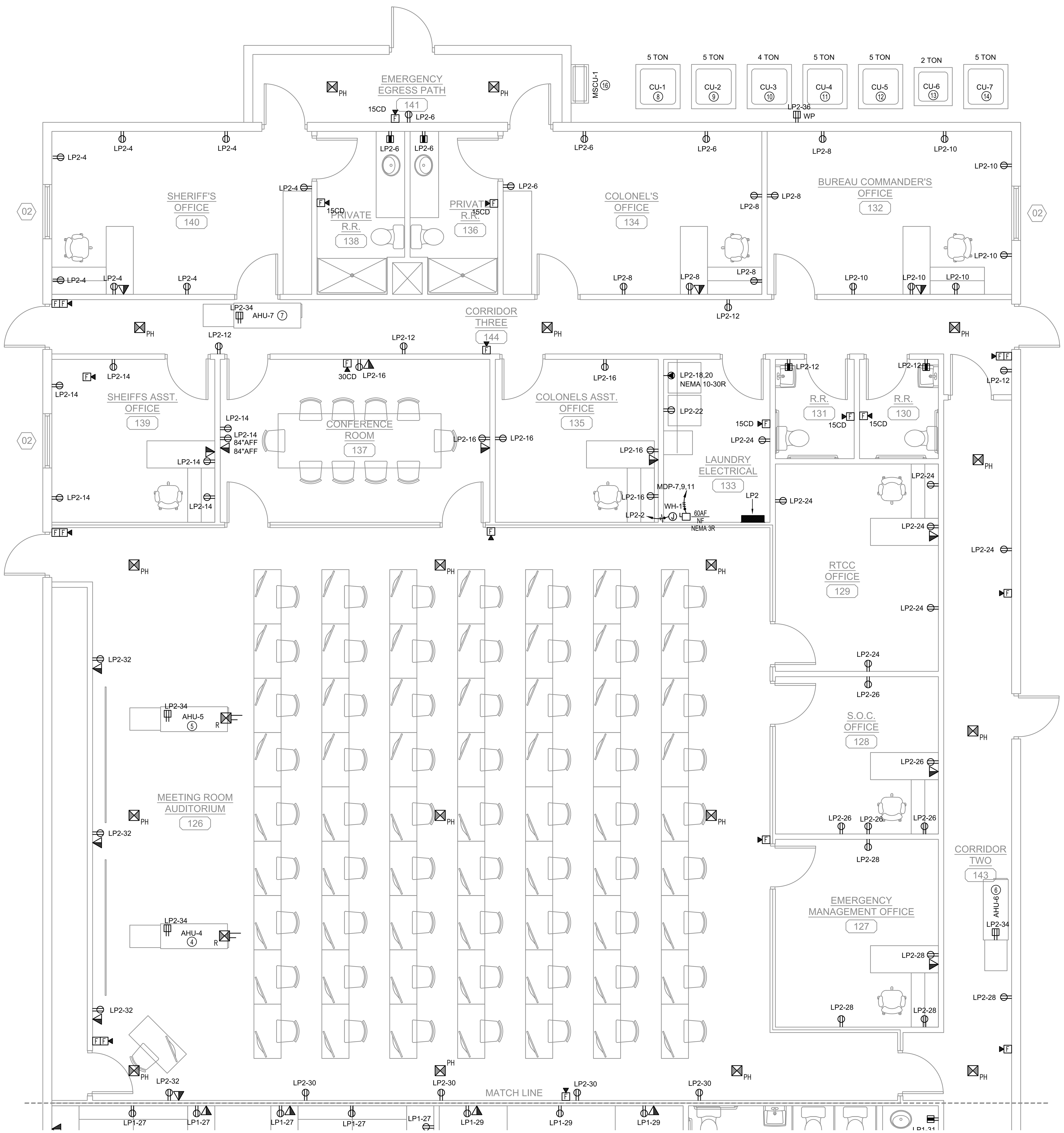
SHEET TITLE

POWER PLAN

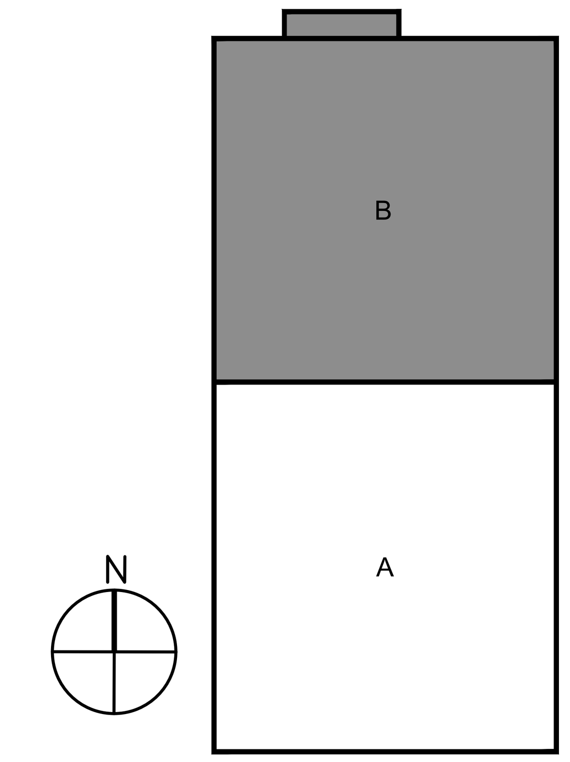
SHEET NUMBER

E3.0

NEW CONSTRUCTION



1	POWER PLAN
1/4" = 1'-0"	NOTE:



A	KEY PLAN
N/A	NOTE:

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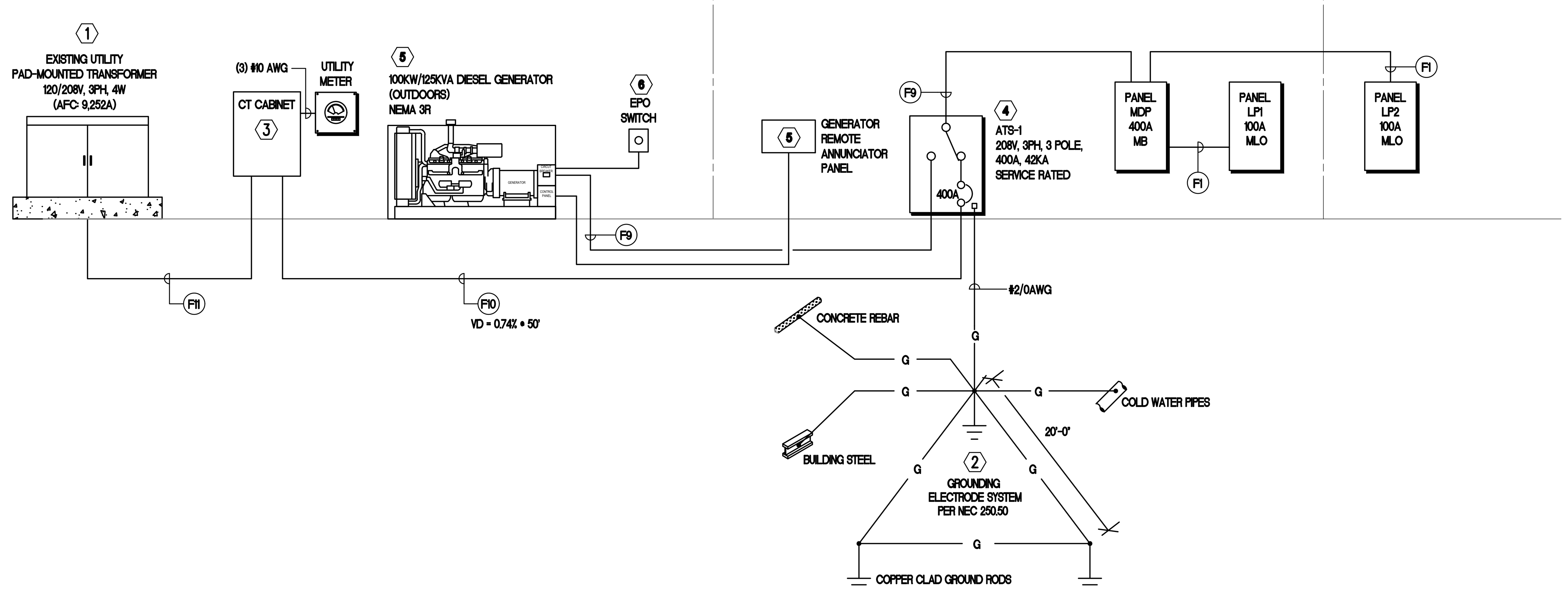
SHEET TITLE

POWER PLAN

SHEET NUMBER

E3.1

NEW CONSTRUCTION



ELECTRICAL KEYNOTES

1. EXISTING UTILITY TRANSFORMER ON SITE. COORDINATE WITH POWER COMPANY FOR UTILITY PAD MOUNTED TRANSFORMER FINAL SIZES AND LOCATION.
2. SERVICE GROUNDING ELECTRODE SYSTEM PER NEC. BARE COPPER CONDUCTOR BONDED TO 3 - 5/8" DIA X 10' L GROUNDING RODS, NEAREST BUILDING STRUCTURAL FOUNDATION, AND METALLIC COLD WATER PIPING. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS.
3. PROVIDE METER PER LOCAL POWER COMPANY STANDARDS. EQUIPMENT SHALL BE APPROVED BY POWER COMPANY PRIOR TO PURCHASE AND INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ELECTRICAL COORDINATION WITH UTILITY COMPANY.
4. SERVICE RATED 400A ATS W/ SOLID NEUTRAL. ASCO J-03AUS-A-3-0400-C-G-C OR EQUAL.
5. 100KW, 208V, 3PH, NEMA 3R STANDBY GENERATOR W/ GENERATOR ANNUNCIATOR PANEL LOCATED IN ELECTRICAL ROOM.
6. REMOTE MANUAL GENERATOR STOP STATION SHALL BE OUTDOOR RATED AND SHALL BE MOUNTED SEPARATE FROM GENERATOR ENCLOSURE PER NEC 445.18.

GENERAL ELECTRICAL NOTES

1) PANELS, ENCLOSED CIRCUIT BREAKERS, AND MAIN DISCONNECTS SHALL BE SQUARE D WITH PANELS BEING NF AND NQ PANEL TYPES.
2) ENSURE ENOUGH SPACING BETWEEN TENANT DISCONNECTS IS ADEQUATE FOR 400 AMP SERVICES. CONFIRM WITH MANUFACTURE SPECS PRIOR TO INSTALLATION. SERVICES OVER 200 AMP 480 VOLT REQUIRE A CT CABINET PER LAKELAND ELECTRIC SPECS.
3) COORDINATE WITH PROPER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. CONTACT ENGINEER SHOULD ANY DISCREPANCIES ARISE.
4) ALL CONDUCTORS SHALL BE THHN/THWN COPPER.
5) BRANCH CIRCUIT AND FEEDER CONDUCTORS ARE SIZED TO KEEP TOTAL VOLTAGE DROP BELOW 5% PER FBC 405.6.3.
6) PER NEC 408.4(B), ALL PANELS SHALL BE LABELED WITH THEIR SUPPLY SOURCE.
7) PANELS AND MAIN DISCONNECTS ARE AS SPECIFIED. SUBSTITUTIONS NOT PERMITTED.
8) ACCEPTABLE TRANSFORMER MANUFACTURERS ARE SQUARE D, FEDERAL PACIFIC, AND MGM.
9) A PERMANENT PLAQUE OR DIRECTORY SHALL BE INSTALLED AT EACH SERVICE DISCONNECT LOCATION DENOTING ALL OTHER SERVICES, FEEDERS, AND BRANCH CIRCUITS SUPPLYING THAT BUILDING OR STRUCTURE AND THE AREA SERVED BY EACH.

COPPER FEEDER SCHEDULE

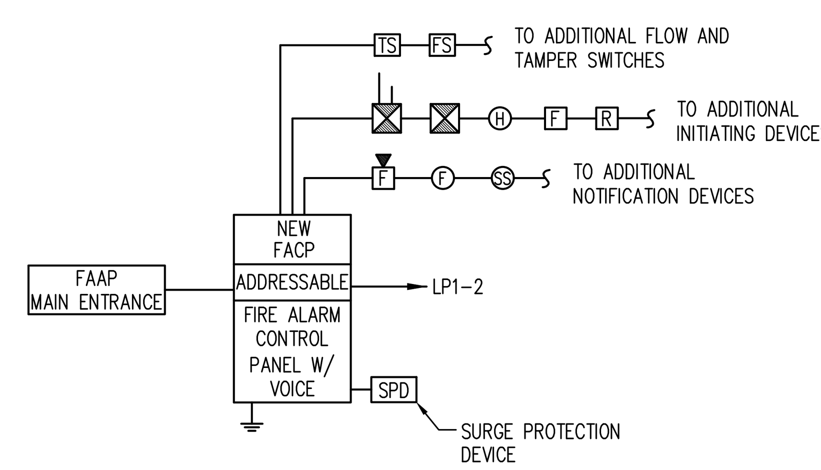
(USED FOR THIS SHEET ONLY) (USED FOR THIS SHEET ONLY)

FEEDER TAG	FEEDER SIZE	RACEWAY	CIRCUIT BRKR	FEEDER TAG	FEEDER SIZE	RACEWAY	CIRCUIT BRKR
F1	(4) #2 + (1)#8GND	1 1/4"	100	F10	2 SETS OF (4) #3/0 W/ #2/0 SUPPLY SIDE BONDING JUMPER	(2) 2 1/2"	400
F2	(4) #1/0 + (1)#6GND	2"	150	F11	2 SETS OF (4) #3/0	(2) 2 1/2"	400
F3	(4) #2/0 + (1)#6GND	2"	175	F12	2 SETS OF (4) #350 KCMIL	(2) 3"	600
F4	(4) #3/0 + (1)#6GND	2 1/2"	200	F13	3 SETS OF (4) #300 KCMIL + (1)#1/0GND	(3) 3"	800
F5	(4) #4/0 + (1)#4GND	2 1/2"	225	F14	3 SETS OF (4) #400 KCMIL + (1)#2/0GND	(3) 3 1/2"	1000
F6	(4) #250 KCMIL + (1)#4GND	3"	250	F15	4 SETS OF (4) #350 KCMIL + (1)#3/0GND	(4) 3"	1200
F7	(4) #350 KCMIL + (1)#4GND	3"	300	F16	5 SETS OF (4) #500 KCMIL + (1)#4/0 GND	(5) 3 1/2"	1600
F8	(4) #500 KCMIL + (1)#3GND	4"	350	F17	6 SETS OF (4) #500 KCMIL + (1)#250 KCMIL GND	(6) 4"	2000
F9	2 SETS OF (4) #3/0 + (1)#3GND	2 1/2"	400	F18	8 SETS OF (4) #500 KCMIL + (1)#250 KCMIL GND	(12) 4"	3000

FAULT CURRENT STUDY -- CABLE IMPEDANCE VALUES BASED ON IEEE STD. 241-1990, TABLE 65.

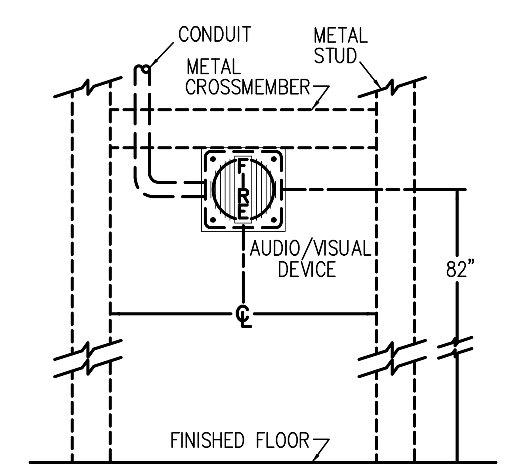
PROJECT: PCSO CREMP
SYSTEM VOLTAGE: 208 (WIRE TYPE CU=1)
ASSUMED BASE KVA: 100 (WIRE TYPE AL=2)
UTILITY COMPANY AFC: 9252 (FAULT CURRENT BASED ON UTILITY PROVIDED AVAILABLE FAULT CURRENT)
UTILITY COMPANY X/R RATIO: 12.00

BUS (PANEL)	SOURCE AFC	SOURCE X/R	WIRE SIZE	WIRE TYPE	# OF RUNS	FEEDER LENGTH	BUS X/R	BUS AFC	SOURCE PUZ	SOURCE PUR	SOURCE PUX	CABLE BASE R OHMS	CABLE BASE XL OHMS	CABLE PUR	CABLE PUX	AT END OF FDR BUS PUR	AT END OF FDR BUS PUX	BUS PUZ
ATS-1	9,252	12.00	3/0	1	2	50	5.11	8,581	0.0300	0.0025	0.0299	0.064	0.032	0.0037	0.0018	0.0062	0.0317	0.0323
PANEL MDP	8,581	5.00	3/0	1	2	10	4.53	8,446	0.0323	0.0063	0.0317	0.064	0.032	0.0007	0.0004	0.0071	0.0321	0.0329
PANEL LP1	8,446	5.00	2	1	1	10	3.24	8,037	0.0329	0.0064	0.0322	0.162	0.034	0.0037	0.0008	0.0102	0.0330	0.0345
PANEL LP2	8,037	5.00	2	1	1	125	0.81	4,019	0.0345	0.0068	0.0339	0.162	0.034	0.0468	0.0097	0.0536	0.0436	0.0691



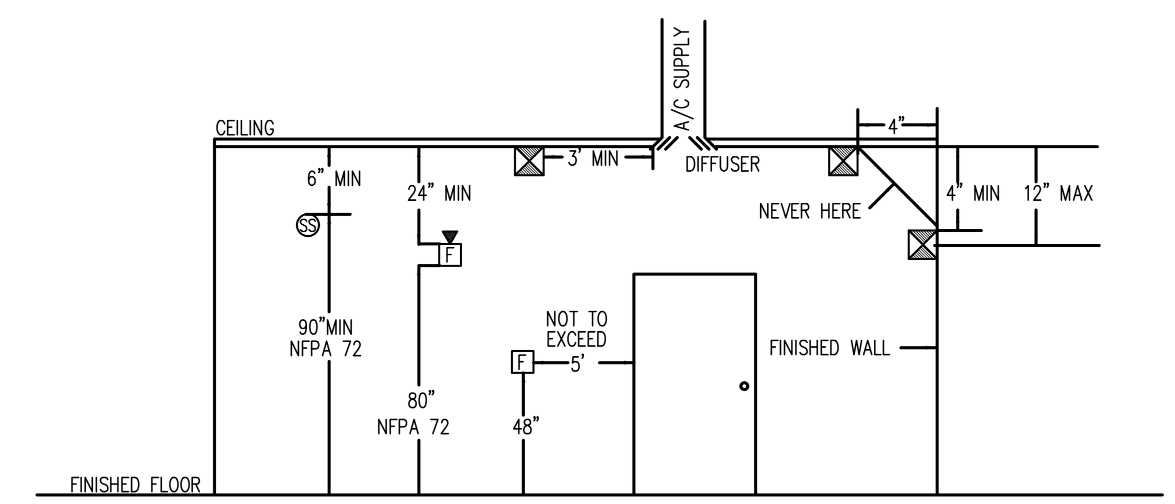
PARTIAL FIRE ALARM RISER

FEET
SCALE: N.T.S.



AUDIO/VISUAL MOUNTING DETAIL

FEET
SCALE: N.T.S.



DEVICE MOUNTING HEIGHTS

FEET
SCALE: N.T.S.

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AR 94331

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: JEM
DRAWN BY: -
DESIGNED BY: ERE

PROJECT NUMBER
G22-0000-002

SHEET TITLE
RISER DIAGRAM

SHEET NUMBER
E4.0

NEW CONSTRUCTION

Name: MDP

MAIN BREAKER: 400 AMPS 3 POLE
MAIN LUGS: AMPS
K.A.I.C. : 42 AMPS
SURFACE MTD: X
FLUSH MTD:

3 PHASE
4 WIRE
X 208Y/120V
480Y/277V
240/120V

Project Name: PCSO COMMAND CENTER
Project Number: 22-029
Fed From: ATS

NOTES	CKT NO	IDENTIFICATION	CODE	LOAD/PHASE (KVA) A	B	C	WIRE SIZE	CIRCUIT BREAKER TRIP	POLES	POLES	TRIP	WIRE SIZE	LOAD/PHASE (KVA) A	B	C	CODE	IDENTIFICATION	CKT NO	NOTES
	1		O	8.0			3#2 & 1#8G IN 1 3/4"	100	3	3	100	3#2 & 1#8G IN 1 3/4"	7.0		.	O		2	
	3	PANEL LP1	O		8.0			-	-	-	-			7.0		O	PANEL LP2	4	
	5		O			8.0		-	-	-	-				7.0	O		6	
	7		O	5.0			3#6 & 1#10G IN 3/4"	60	3	3	30	3#10 & 1#10G IN 3/4"	2.0			O		8	
	9	WH-1	O		5.0		-	-	-	-	-	-		2.0		O	WH-2	10	
	11		O			5.0	-	-	-	-	-	-			2.0	O		12	
	13		C	4.6			3#6 & 1#10G IN 3/4"	50	3	2	60	2#6 & 1#10G IN 3/4"	4.5			C	AHU-6	14	
	15	AHU-1	C		4.6		-	-	-	-	-	-		4.5		C		16	
	17		C			4.6	-	-	-	1							SPACE	18	
	19		C	4.6			3#6 & 1#10G IN 3/4"	50	3	3	50	3#6 & 1#10G IN 3/4"	4.6			C		20	
	21	AHU-2	C		4.6		-	-	-	-	-	-		4.6		C	AHU-7	22	
	23		C			4.6	-	-	-	-	-	-			4.6	C		24	
	25		C	4.6			3#6 & 1#10G IN 3/4"	50	3	3	30	3#10 & 1#10G IN 3/4"	2.1			C		26	
	27	AHU-3	C		4.6		-	-	-	-	-	-		2.1		C	CU-1	28	
	29		C			4.6	-	-	-	-	-	-			2.1	C		30	
	31		C	4.6			3#6 & 1#10G IN 3/4"	50	3	3	30	3#10 & 1#10G IN 3/4"	2.1			C		32	
	33	AHU-4	C		4.6		-	-	-	-	-	-		2.1		C	CU-2	34	
	35		C			4.6	-	-	-	-	-	-			2.1	C		36	
	37		C	4.6			3#6 & 1#10G IN 3/4"	50	3	3	30	3#10 & 1#10G IN 3/4"	1.7			C		38	
	39	AHU-5	C		4.6		-	-	-	-	-	-		1.7		C	CU-3	40	
	41		C			4.6	-	-	-	-	-	-			1.7	C		42	
	43		C	2.1			3#10 & 1#10G IN 3/4"	30	3	2	20	2#12 & 1#12G IN 3/4"	1.0			C	CU-6	44	
	45	CU-4	C		2.1		-	-	-	-	-	-		1.0		C		46	
	47		C			2.1	-	-	-	1							SPACE	48	
	49		C	2.1			3#10 & 1#10G IN 3/4"	30	3	3	30	3#10 & 1#10G IN 3/4"	1.7			C		50	
	51	CU-5	C		2.1		-	-	-	-	-	-		1.7		C	CU-7	52	
	53		C			2.1	-	-	-	-	-	-			1.7	C		54	
	55								1	2	20	2#12 & 1#12G IN 3/4"	0.1			C	MSAH-1	56	
	57	SPACE							1	-	-	-		0.1		C		58	
	59								1	1							SPACE	60	
	61								1	1								62	
	63	SPACE							1	1							SPACE	64	
	65								1	1								66	
				35.9	35.9	35.9							23.8	23.8	19.3				

	CONN. LOAD (KVA)	ADJUST. FACTOR	DEMAND FACTOR		DEMAND LOAD (KVA)
LIGHTING (L)	0.0	1.25	1.00		0.0
RECEPTACLES (R)	0.0	---	NEC		0.0
LARGEST MOTOR (M)	0.0	1.25	1.00		0.0
ALL OTHER MOTORS (M)	0.0	1.00	1.00		0.0
HEATING (H)	0.0	1.00	1.00		0.0
COOLING (C)	40.1	1.00	1.00		40.1
OTHER (O)	65.9	1.00	1.00		65.9
ELEVATOR (V)	0.0	1.00	1.00		0.0
SPARES (S)	0.0	1.00	1.00		0.0
DRYERS (D)	0.0	1.00	1.00		0.0
X-RAY (X)	0.0	1.00	1.00		0.0
KITCHEN (K)	0.0	1.00	1.00		0.0

TOTAL CONNECTED LOAD: 106.0 KVA
TOTAL DEMAND LOAD: 106.0 KVA
DEMAND AMPS: 294.6 AMPS

PERCENT IMBALANCE: 7 %

NOTES:

Name: LP1

MAIN BREAKER: AMPS 3 POLE
MAIN LUGS: 125 AMPS
K.A.I.C. : 22 AMPS
SURFACE MTD: X
FLUSH MTD:

3 PHASE
4 WIRE
X 208Y/120V
480Y/277V
240/120V

Project Name: PCSO COMMAND CENTER
Project Number: 22-029
Fed From: MDP

NOTES	CKT NO	IDENTIFICATION	CODE	LOAD/PHASE (KVA) A	B	C	WIRE SIZE	CIRCUIT BREAKER TRIP	POLES	POLES	TRIP	WIRE SIZE	LOAD/PHASE (KVA) A	B	C	CODE	IDENTIFICATION	CKT NO	NOTES
	1	LIGHTING - ROOMS 113-125	L	0.8			2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"	0.5			O	FIRE ALARM PANEL FACP	2	
	3	CORRIDOR ONE 142	L		0.6		2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"		0.9		R	MEDIA ROOM 117 RECEPT	4	
	5	LIGHTING - ROOMS 102-112	L			0.8	2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"			0.8	O	RECEPTION 101 WATER COOLER	6	
	7	REFRIGERATOR BR RM 112	O	0.8			2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"	0.9			R	CORRIDOR ONE 142 RECEPT	8	
	9	SMALL APPLIANCE BR RM 112	O		1.2		2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"		1.1		R	RR 102 & 103 OFFICE 104 RECEPT	10	
	11	SMALL APPLIANCE BR RM 112	O			1.2	2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"			1.3	R	FAMILY SUPPORT OFFICE 105 REC	12	
	13	OFFICE RM 120 RR 118 REC	R	0.9			2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"	1.3			R	PRIVATE FAM RM OFFICE 106 REC	14	
	15	OFFICE RM 122 REC	R		0.7		2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"		0.7		R	IT ELEC RM 107 REC	16	
	17	OFFICE RM 119 & 121 REC	R			1.1	2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"			1.3	R	INNOVATION WORK 108 109 REC	18	
	19	OFFICE RM 121 & 123 REC	R	0.9			2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"	1.3			R	INNOVATION WORK 108 REC	20	
	21	BUREAU COMMANDER 124 REC	R		0.9		2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"		1.1		R	CYPER UNIT OFFICE 110 REC	22	
	23	OFFICE RM 125 REC	R			1.1	2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"			0.9	R	CYPER UNIT OFFICE 110 REC	24	
	25	OFFICE RM 116 REC	R	1.1			2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"	0.9			R	CONFERENCE RM 111 REC	26	
	27	OFFICE RM 116 REC	R		1.3		2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"		0.5		R	BREAK RM 112 REC	28	
	29	MISSING PERSONS OFF 115 REC	R			1.3	2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"			0.2	M	RECIRCULATING PUMP RP-2	30	
	31	MISSING 115 RR 113 CORR 142 REC	R	1.3			2#12 & 1#12G IN 3/4"	20	1	1							SPACE	32	
	33	AHU RECEPT	R		0.5		2#12 & 1#12G IN 3/4"	20	1	1							SPACE	34	
	35	SPARE						20	1	1							SPACE	36	
	37	SPARE						20	1	1							SPACE	38	
	39	SPARE						20	1	1							SPACE	40	
	41	SPARE						20	1	1							SPACE	42	
				5.8	5.2	5.4							4.8	4.3	4.4				

	CONN. LOAD (KVA)	ADJUST. FACTOR	DEMAND FACTOR		DEMAND LOAD (KVA)
LIGHTING (L)	2.2	1.25	1.00		2.8
RECEPTACLES (R)	23.0	---	NEC		16.5
LARGEST MOTOR (M)	0.2	1.25	1.00		0.3
ALL OTHER MOTORS (M)	0.0	1.00	1.00		0.0
HEATING (H)	0.0	1.00	1.00		0.0
COOLING (C)	0.0	1.00	1.00		0.0
OTHER (O)	4.5	1.00	1.00		4.5
ELEVATOR (V)	0.0	1.00	1.00		0.0
SPARES (S)	0.0	1.00	1.00		0.0
DRYERS (D)	0.0	1.00	1.00		0.0
X-RAY (X)	0.0	1.00	1.00		0.0
KITCHEN (K)	0.0	1.00	1.00		0.0

TOTAL CONNECTED LOAD: 30.0 KVA
TOTAL DEMAND LOAD: 24.1 KVA
DEMAND AMPS: 66.9 AMPS

PERCENT IMBALANCE: 10 %

NOTES:

Name: LP2

MAIN BREAKER: AMPS 3 POLE
MAIN LUGS: 125 AMPS
K.A.I.C. : 22 AMPS
SURFACE MTD: X
FLUSH MTD:

3 PHASE
4 WIRE
X 208Y/120V
480Y/277V
240/120V

Project Name: PCSO COMMAND CENTER
Project Number: 22-029
Fed From: MDP

NOTES	CKT NO	IDENTIFICATION	CODE	LOAD/PHASE (KVA) A	B	C	WIRE SIZE	CIRCUIT BREAKER TRIP	POLES	POLES	TRIP	WIRE SIZE	LOAD/PHASE (KVA) A	B	C	CODE	IDENTIFICATION	CKT NO	NOTES
	1	LIGHTING - ROOMS 127-141	L	0.7			2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"	0.2			M	RECIRCULATING PUMP RP-1	2	
	3	LIGHTING - CORR 2 143 & 3 144	L		0.5		2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"		1.1		R	SHERIFFS OFFICE 140 RM	4	
	5	LIGHTING - MEETING RM AUDIT 126	L			1.0	2#12 & 1#12G IN 3/4"	20	1	1	20	2#12 & 1#12G IN 3/4"			1.1	R	RR 136 138 EGRESS 141 OFF 134 RE	6	
	7	SPARE						20	1	1	20	2#12 & 1#12G IN 3/4"	1.1			R	COLONELS OFF 134 COMM 132 REC	8	
	9	SPARE						20	1	1	20	2#12 & 1#12G IN 3/4"		1.1		R	COMMANDERS OFFICE 132 REC	10	
	11	SPARE						20	1	1	20	2#12 & 1#12G IN 3/4"			1.1	R	CORRIDOR 3 144 RR 130 131 REC	12	
	13	SPACE							1	1	20	2#12 & 1#12G IN 3/4"	1.3			R	SHERIFFS ASSIST OFFICE RM 139	14	
	15	SPACE							1	1	20	2#12 & 1#12G IN 3/4"		1.1		R	CONFERENCE RM 137 OFF 135 REC	16	
	17	SPACE							1	2	30	2#10 & 1#10G IN 3/4"			2.5	O	DRYER	18	
	19	SPACE							1	-	-	-	2.5			O		20	
	21	SPACE							1	1	20	2#12 & 1#12G IN 3/4"		1.2		O	WASHER	22	
	23	SPACE							1	1	20	2#12 & 1#12G IN 3/4"			1.3	R	LAUNDRY 133 RTCC OFF 129 REC	24	
	25	SPACE							1	1	20	2#12 & 1#12G IN 3/4"	1.1			R	SOC OFFICE 128 REC	26	
	27	SPACE							1	1	20	2#12 & 1#12G IN 3/4"		0.9		R	EMERGENCY MAN OFFICE 127 REC	28	
	29	SPACE							1	1	20	2#12 & 1#12G IN 3/4"			0.7	R	MEETING RM AUDITORIUM 126	30	
	31	SPACE							1	1	20	2#12 & 1#12G IN 3/4"	0.7			R	MEETING RM AUDITORIUM 126	32	
	33	SPACE							1	1	20	2#12 & 1#12G IN 3/4"		0.7		R	AHU RECEPT	34	
	35	SPACE							1	1	20	2#12 & 1#12G IN 3/4"			0.2	R	CU RECEPT	36	
	37	SPACE							1	1							SPACE	38	
	39	SPACE							1	1							SPACE	40	
	41	SPACE							1	1							SPACE	42	
				0.7	0.5	1.0							6.8	6.1	6.8				

	CONN. LOAD (KVA)	ADJUST. FACTOR	DEMAND FACTOR		DEMAND LOAD (KVA)
LIGHTING (L)	2.2	1.25	1.00		2.8
RECEPTACLES (R)	13.3	---	NEC		11.7
LARGEST MOTOR (M)	0.2	1.25	1.00		0.3
ALL OTHER MOTORS (M)	0.0	1.00	1.00		0.0
HEATING (H)	0.0	1.00	1.00		0.0
COOLING (C)	0.0	1.00	1.00		0.0
OTHER (O)	6.2	1.00	1.00		6.2
ELEVATOR (V)	0.0	1.00	1.00		0.0
SPARES (S)	0.0	1.00	1.00		0.0
DRYERS (D)	0.0	1.00	1.00		0.0
X-RAY (X)	0.0	1.00	1.00		0.0
KITCHEN (K)	0.0	1.00	1.00		0.0

TOTAL CONNECTED LOAD: 21.9 KVA
TOTAL DEMAND LOAD: 20.9 KVA
DEMAND AMPS: 58.0 AMPS

PERCENT IMBALANCE: 16 %

NOTES:

LIVESTONE CONSULTING

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Lutz, FL 33548
Phone: 813-345-2612
www.LivestoneConsulting.com

L1302130000320
L1302130000317

OWNER

PASCO COUNTY SHERIFF DEPARTMENT
7220 OSTEEN ROAD
NEW PORT RICHEY, FL 34653

PROJECT

CENTER FOR THE RECOVERY OF EXPLOITED AND MISSING PERSON (C.R.E.M.P.)

15-25-18-0000-00300-0000

SEAL

NOT FOR CONSTRUCTION USE

GILAD LIVINGSTONE
AR 94331

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: JEM
DRAWN BY: -
DESIGNED BY: ERE

PROJECT NUMBER
G22-0000-002

SHEET TITLE

PANEL SCHEDULES

SHEET NUMBER

E4.1

NEW CONSTRUCTION

DIVISION 26 SPECIFICATIONS:

SECTION 26 01 00 – BASIC ELECTRICAL REQUIREMENTS

1. THE WORK PROVIDED UNDER THIS DIVISION SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS, INSPECTIONS AND REINSPECTION FEES, TOOLS, EQUIPMENT, TRANSPORTATION, INSURANCE, TEMPORARY PROTECTION, TEMPORARY LIGHTING, SUPERVISION AND INCIDENTAL ITEMS NECESSARY TO MAKE READY FOR USE A COMPLETE ELECTRICAL SYSTEM REQUIRED BY THE CONTRACT DOCUMENTS. PROVIDE AND PLACE IN SATISFACTORY CONDITION ALL MATERIALS NECESSARY FOR THE COMPLETE ELECTRICAL SYSTEM.

2. COORDINATE FINAL EQUIPMENT LOCATIONS WITH GOVERNING ARCHITECTURAL DRAWINGS. LOCATIONS OF CONDUIT AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE THE WORK WITH INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTING AND LOCATION OF ALL SYSTEMS PRIOR TO FABRICATION OR INSTALLATION.

3. MATERIALS SHALL BE NEW AND SHALL BEAR A UL LABEL. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, LOCAL AND STATE ORDINANCES, AND INDUSTRY STANDARDS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

NFPA 70: NATIONAL ELECTRICAL CODE
NFPA 101: LIFE SAFETY CODE
INTERNATIONAL BUILDING CODE
UNIFORM CONSTRUCTION CODE, WITH AMMENDMENTS
FLORIDA BUILDING CODE

4. ELECTRICAL RACEWAYS PASSING THROUGH FIRE PARTITIONS, FIRE WALLS, OR FLOORS SHALL HAVE A FIRE STOP INSTALLED PROVIDING AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FIRE, SMOKE, AND GASES, MAINTAINING THE REQUIRED RATING.

5. COORDINATE WITH ALL TRADES, AND PROVIDE TEMPORARY POWER FOR ALL TRADES.

6. GIVE ALL NOTICES, FILE ALL PLANS, PAY ALL FEES, OBTAIN ALL PERMITS AND APPROVALS FROM AUTHORITIES HAVING JURISDICTION. INCLUDE ALL FEES IN THE BID PRICE.

7. THE CONTRACT DRAWINGS ARE DIAGRAMMATIC ONLY INTENDING TO SHOW GENERAL RUNS AND LOCATIONS OF CONDUIT AND EQUIPMENT, AND NOT NECESSARILY SHOWING ALL REQUIRED OFFSETS, DETAILS AND ACCESSORIES AND EQUIPMENT TO BE CONNECTED.

8. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND DURING CONSTRUCTION OF THE PROJECT AND SHALL NOT PROCEED WITH THAT PORTION OF THE PROJECT UNTIL A WRITTEN DEFINITIVE STATEMENT IS RECEIVED PROVIDING CLEAR DIRECTION. IF A CONFLICT EXISTS BETWEEN THE CONTRACT DOCUMENTS AND ANY APPLICABLE CODE OR STANDARD, THE MOST STRINGENT REQUIREMENT SHALL BE INCLUDED FOR THIS PROJECT.

9. WORKING CLEARANCES: WORKING CLEARANCES ABOUT ELECTRICAL EQUIPMENT SHALL BE AS REFERENCED NEC 110–26, AND SHALL INCLUDE NEW EQUIPMENT INSTALLED IN EXISTING CEILING SPACES.

10. THE PROJECT WILL BE CONSTRUCTED IN PHASES. PHASING SHALL BE PER THE ARCHITECT.

11. PROVIDE SHOP DRAWINGS FOR PANEL BOARDS, TRANSFORMERS, CONDUIT, WIRE AND LIGHTING FIXTURES.

12. ALL LOW VOLTAGE (600V AND BELOW) EQUIPMENT SHALL BE FIELD TESTED PER NETA STANDARDS.

SECTION 26 05 19 – LOW–VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

1. CONDUCTORS SHALL BE COPPER TYPE AND UTILIZE THHN/THWN–2 INSULATION FOR BRANCH CIRCUITS AND THHN/THWN–2 OR XHHW–2 INSULATION FOR FEEDERS. MINIMUM WIRE SIZE SHALL BE #12 AWG.

2. CONDUCTORS SIZE #10 AWG AND SMALLER SHALL BE SOLID TYPE. CONDUCTORS SIZE #8 AWG AND LARGER SHALL BE STRANDED TYPE.

3. BRANCH CIRCUIT HOMERUNS OVER 100–FEET IN LENGTH SHALL BE #10 AWG MINIMUM ON 120/208–VOLT SYSTEMS. BRANCH CIRCUIT HOMERUNS OVER 200–FEET IN LENGTH SHALL BE #10 AWG MINIMUM ON 277/480–VOLT SYSTEMS. BRANCH CIRCUIT HOMERUNS OVER 250–FEET IN LENGTH SHALL BE #8 AWG MINIMUM ON 120/208–VOLT SYSTEMS. BRANCH CIRCUIT HOMERUNS OVER 350–FEET IN LENGTH SHALL BE #8 AWG MINIMUM ON 277/480–VOLT SYSTEMS.

4. FOR SINGLE PHASE CIRCUITS, UNLESS NOTED OTHERWISE, SHALL BE 2#12, 1#12 GND IN 3/4" CONDUIT. FOR THREE PHASE CIRCUITS, UNLESS NOTED OTHERWISE, NEW WIRING INDICATED SHALL BE 3#12, 1#12 GND IN 3/4" CONDUIT.

SECTION 26 05 26 – GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

1. PROVIDE A GROUNDING ELECTRODE SYSTEM PER NEC ARTICLE 250.

2. PROVIDE A GROUND FIELD TO BE UTILIZED AS A GROUNDING ELECTRODE, CONSISTING OF THREE 10–FOOT LONG, VERTICALLY DRIVEN GROUND RODS ARRANGED IN A TRIANGULAR PATTERN SPACED 20–FEET APART. ADDITIONAL GROUND RODS SHALL BE ADDED AS NECESSARY TO ACHIEVE AN ELECTRODE RESISTANCE OF 10 OHMS MAXIMUM. GROUND RODS SHALL BE COPPERCLAD STEEL, 5/8" DIAMETER BY 10' LONG.

3. THE BUILDING'S MAIN METALLIC UNDERGROUND WATER PIPING SHALL BE UTILIZED AS A GROUNDING ELECTRODE, PROVIDED THE METAL PIPE IS INSTALLED IN DIRECT CONTACT WITH THE EARTH FOR A MINIMUM OF 10–FEET. BOND TO THE MAIN METALLIC WATER SERVICE WITHIN 5–FEET OF THE ENTRANCE OF THE PIPE INTO THE BUILDING.

4. THE BUILDING STEEL SHALL BE UTILIZED AS A GROUNDING ELECTRODE, PROVIDED THE STEEL IS IN DIRECT CONTACT WITH THE EARTH OR IS OTHERWISE EFFECTIVELY GROUNDED. IN CONCRETE BUILDINGS, UTILIZE THE REINFORCING BARS IN THE CONCRETE.

5. ALL RACEWAYS SHALL HAVE AN INSULATED COPPER SYSTEM GROUND CONDUCTOR RUN THROUGHOUT ITS ENTIRE LENGTH.

SECTION 26 05 33 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

1. PROVIDE ALL SUPPORTS, HANGERS AND INSERTS REQUIRED TO MOUNT CONDUIT, PULLBOXES AND OTHER EQUIPMENT PROVIDED UNDER THIS DIVISION, IN ACCORDANCE WITH NEC. RACEWAYS SHALL BE SUPPORTED FROM THE STRUCTURE. BOXES NOR RACEWAYS SHALL BE SUPPORTED OR FASTENED TO CEILING SUSPENSION WIRES OR TO PORTIONS OF A SUSPENDED CEILING.

2. RACEWAYS FOR INTERIOR APPLICATIONS SHALL BE ELECTRICAL METALLIC TUBING (EMT), OR FLEXIBLE METAL CONDUIT, SUBJECT TO THE RESTRICTIONS OF NEC. EMT SHALL NOT BE USED IN CONCRETE CONSTRUCTION OR WHERE SUBJECT TO PHYSICAL DAMAGE.

3. RACEWAYS FOR EXTERIOR ABOVE–GRADE APPLICATIONS SHALL BE INTERMEDIATE METAL CONDUIT (IMC) (OR LIQUID–TIGHT FLEXIBLE METAL CONDUIT WHERE APPLICABLE).

4. FLEXIBLE METAL CONDUIT SHALL BE USED ONLY FOR CONNECTIONS TO ROTATING EQUIPMENT AND TRANSFORMERS. MAXIMUM LENGTH OF A RUN OF FLEXIBLE METAL CONDUIT SHALL BE 5'–0".

5. RACEWAYS FOR ALL BELOW–GRADE APPLICATIONS SHALL BE SCHEDULE 40 PVC, UNLESS SPECIFICALLY INDICATED OTHERWISE.

6. DIRECT BURIED UNDERGROUND CONDUIT SHALL HAVE A MINIMUM COVER OF TWO FEET.

7. WIREWAYS SHALL BE SIZED AS REQUIRED, AND SHALL BE AS MANUFACTURED BY HOFFMAN ENGINEERING COMPANY, SQUARE D, OR STEEL CITY.

8. NYLON PULLSTRINGS SHALL BE PROVIDED IN ALL EMPTY RACEWAYS.

9. BRANCH CIRCUIT AND FEEDER RACEWAYS SHALL HAVE A COPPER SYSTEM GROUND CONDUCTOR WITHIN THE CONDUIT THROUGHOUT THE ENTIRE LENGTH OF THE RUN. ALL CONDUIT SHALL BE ELECTRICALLY CONTINUOUS TO ESTABLISH REDUNDANT GROUNDING.

10. EXPANSION FITTINGS SHALL BE USED WHERE RACEWAYS PASS THROUGH BUILDING EXPANSION JOINTS. FITTINGS SHALL BE WEATHERPROOF TELESCOPIC TYPE, AND SHALL PERMIT A MINIMUM MOVEMENT OF 4".

11. FITTINGS FOR EMT SHALL BE STEEL, GLAND COMPRESSION TYPE OR SET SCREW TYPE, WITH INSULATED THROAT.

12. FITTINGS FOR RIGID METAL CONDUIT SHALL BE CUT GROOVE STEEL. CAST FITTINGS ARE NOT ACCEPTABLE.

13. END BUSHINGS WITH INSULATED THROATS SHALL BE PROVIDED ON CONDUIT STUB–OUTS ABOVE ACCESSIBLE CEILINGS. CONNECTORS WITH INSULATED THROATS SHALL BE PROVIDED FOR ALL CONDUITS AT THEIR TERMINATION INTO ALL EQUIPMENT AND/OR DEVICES.

15. MINIMUM CONDUIT SIZE SHALL BE 1/2".

16. RACEWAYS SHALL BE ROUTED CONCEALED UNLESS NOTED OTHERWISE.

17. RACEWAY SYSTEMS SHALL BE PROVIDED FOR TELEPHONE.

18. MC SHALL ONLY BE USED ABOVE ACOUSTICAL OR DRYWALL CEILINGS OR IN CONCEALED WALLS. WHEN USED, IT SHALL BE TIED TIGHTLY TO THE BAR JOISTS EVERY 4 FEET (OR PER LOCAL CODE REQUIREMENT, WHICHEVER IS LESS). MC SHALL ONLY BE USED WHERE PERMITTED BY CODE. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO VERIFY CODE AT BID TIME. MC SHALL NOT BE USED IN OPEN DECK AREAS, WHERE IT IS VISIBLE.

19. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS. CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.

20. SWITCH, WALL RECEPTACLE, TELEPHONE AND OTHER WALL OUTLET BOXES IN DRYWALL SHALL BE 4" SQUARE BY 1–1/2" DEEP.

21. CEILING OUTLET BOXES SHALL BE 4" OCTOGONAL OR 4" SQUARE BY 1–1/2" DEEP, OR LARGER AS REQUIRED FOR NUMBER AND SIZE OF CONDUCTORS AND ARRANGEMENT, SIZE AND NUMBER OF CONDUITS ENTERING.

22. FLOOR OUTLET BOXES IN CONCRETE SHALL BE MALLEABLE CAST IRON TYPE WHERE INSTALLED IN SLAB ON GRADE. IN CONCRETE SLABS ABOVE GRADE, BOXES SHALL BE EITHER STAMPED STEEL OR MALLEABLE CAST IRON.

SECTION 26 05 53 – IDENTIFICATION OF ELECTRICAL SYSTEMS

13. A NEATLY TYPED PANEL SCHEDULE SHALL ACCOMPANY EACH NEW OR REWORKED PANEL AT THE COMPLETION OF WORK.

14. PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES TO IDENTIFY PANELBOARDS, SWITCHBOARDS, SAFETY SWITCHES, AND TRANSFORMERS. NAMEPLATES SHALL HAVE 1/4" HIGH, RECESSED LETTERS.

15. NAMEPLATES FOR EQUIPMENT ON NORMAL POWER SHALL BE BLACK IN COLOR WITH WHITE RECESSED LETTERS. NAMEPLATES FOR EQUIPMENT ON EMERGENCY POWER SHALL BE RED IN COLOR WITH WHITE RECESSED LETTERS.

16. NAMEPLATES SHALL INCLUDE EQUIPMENT DESIGNATION, VOLTAGE AND PHASE OF OPERATING SYSTEM, AND THE DESIGNATION OF THE EQUIPMENT THE ITEM IS FED FROM.

SECTION 26 08 00 – COMMISSIONING OF ELECTRICAL SYSTEMS

1. THE CONTRACTOR SHALL DEMONSTRATE TO THE REGISTERED DESIGN PROFESSIONAL REPRESENTATIVE BY WAY OF FUNCTIONAL PERFORMANCE TESTING OF ALL AUTOMATIC LIGHTING SYSTEMS. DEMONSTRATE THE PERFORMANCE OF THE SYSTEMS DESCRIBED HERE IN, INCLUDING: CALIBRATION OF CONTROL HARDWARE AND SOFTWARE, ADJUSTMENT AND PROGRAMMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. DEMONSTRATED THE PLACEMENT, SENSITIVITY AND TIME–OUT ADJUSTMENT FOR OCCUPANT SENSORS. DEMONSTRATE THE TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED TO TURN THE LIGHTS OFF. DEMONSTRATE THE PLACEMENT AND ADJUSTMENT OF PHOTOSENSORS AND DAYLIGHTING CONTROLS ARE AS SPECIFIED.

SECTION 26 24 00 – SWITCHBOARDS AND PANELBOARDS

1. DISTRIBUTION, LIGHTING AND RECEPTACLE PANELBOARDS SHALL BE OF DEADFRONT CONSTRUCTION, UTILIZING THERMAL MAGNETIC BOLT–ON CIRCUIT BREAKERS.

2. PANELBOARD CABINETS SHALL HAVE A SYSTEM GROUNDING BAR BONDED TO THE CABINET FOR CONNECTION OF SYSTEM GROUNDING CONDUCTORS. THIS BAR SHALL BE MECHANICALLY AND ELECTRICALLY ISOLATED FROM THE NEUTRAL BAR, UNLESS PANEL IS TO BE USED AS SERVICE EQUIPMENT.

3. MOUNTING HEIGHT SHALL BE 78" AFF TO TOP OF PANEL TRIM.

4. ALL PANELBOARDS SHALL BE BY ONE OF THE FOLLOWING MANUFACTURERS: SQUARE–D, EATON, SIEMENS, OR GENERAL ELECTRIC.

SECTION 26 27 26 – WIRING DEVICES

1. CONVENIENCE RECEPTACLES: PROVIDE 20–AMPERE PREMIUM SPECIFICATION GRADE SINGLE OR DUPLEX RECEPTACLES WHERE INDICATED ON DRAWINGS. MOUNTING HEIGHT SHALL BE PER NOTES ON DRAWINGS.

2. RECEPTACLES SHALL BE 2–POLE, 3–WIRE GROUNDING TYPE, WITH GREEN HEXAGONAL EQUIPMENT GROUNDING SCREW, GROUND TERMINALS AND POLES INTERNALLY CONNECTED TO MOUNTING YOKE, WITH METAL PLASTER EARS, SIDE WIRING, NEMA TYPE 5–20R UNLESS OTHERWISE NOTED. COLOR SHALL BE DRAWINGS.

3. RECEPTACLES SHALL HAVE HEAVY DUTY NYLON FACE AND WRAPAROUND MOUNTING STRAP, UTLIZING HEAVY–GAUGE BRASS GROUND CONTACTS RIVETED TO STRAP. RECEPTACLES SHALL INCLUDE AUTOMATIC SELF–GROUNDING SPRING AND T–SLOT ONE–PIECE COPPER ALLOY CONTACT WIPES WHICH INTERFACE WITH PLUG BLADES INSERTED AT THREE POINTS.

4. GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES: PROVIDE COMMERCIAL SPECIFICATION GRADE DUPLEX, GROUNDING TYPE, UL RATED CLASS A, GROUP 1, 20–AMPERE, 125–VOLTS, WITH SOLID STATE GROUND FAULT SENSING AND SIGNALING, WITH 5 MILLIAMPERE GROUND FAULT TRIP LEVEL. ALL EXTERIOR RECEPTACLES SHALL BE DUPLEX GFCI WEATHERPROOF TYPE.

5. TOGGLE SWITCHES: PROVIDE SPECIFICATION GRADE, FAST–MAKE POSITIVE–BREAK, FLUSH SINGLE–POLE THREE AND FOUR WAY, SILENT OPERATION TOGGLE SWITCHES. SWITCHES SHALL BE 20–AMPERE, 120– OR 277–VOLT AS REQUIRED, WITH MOUNTING YOKE INSULATED FROM MECHANISM, EQUIPPED WITH PLASTER EARS, AND SIDE–WIRED SCREW TERMINALS. COLOR SHALL BE WHITE UNLESS OTHERWISE NOTED. SWITCHES SHALL BE MOUNTED AT 48" AFF, MEASURED TO THE TOP OF THE DEVICE.

6. MOTOR–RATED SWITCHES: PROVIDE FRACTIONAL HORSEPOWER SWITCH WITH MELTING ALLOY TYPE OVERLOAD RELAY, WITH NUMBER OF POLES TO COORDINATE WITH EQUIPMENT BEING CONTROLLED.

7. ACCEPTABLE MANUFACTURERS FOR WIRING DEVICES ARE LEVITON, HUBBELL, OR EATON.

SECTION 26 27 28 – DISCONNECT SWITCHES

1. PROVIDE SAFETY SWITCHES FOR DISCONNECTING MEANS FOR ALL EQUIPMENT. SAFETY SWITCHES SHALL BE TYPE "A," QUICK–MAKE, QUICK–BREAK, HEAVY–DUTY CONSTRUCTION. SAFETY SWITCHES SHALL HAVE INTERLOCKING DOORS. CABINETS SHALL BE BONDERIZED AND FINISHED IN GREY ENAMEL. PROVIDE NEMA TYPE 3R ENCLOSURES IN AREAS EXPOSED TO THE WEATHER OR IN WET AREAS.

2. EQUIPMENT SHALL BE PROVIDED WITH THE PROPER SIZE/RATING SAFETY SWITCH, WHETHER INDICATED ON THE DRAWINGS OR NOT, TO COMPLY WITH NEC. INSTALL AND CONNECT SAFETY SWITCHES FURNISHED BY OTHER TRADES.

3. SAFETY SWITCHES SHALL BE MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, SIEMENS, OR EATON.

SECTION 26 50 00 – LIGHTING

1. LIGHT FIXTURES PROVIDED UNDER THIS DIVISION SHALL BE PROVIDED COMPLETE WITH LAMPS AND ALL NECESSARY TRIM AND MOUNTING HARDWARE, AND INSTALLED AS SHOWN ON THE DRAWINGS. LIGHT FIXTURES SHALL BE NEATLY AND FIRMLY MOUNTED, USING STANDARD SUPPORTS FOR OUTLETS AND FIXTURES. LAMPS SHALL BE INCLUDED IN THE SYSTEM GUARANTEE FOR A PERIOD OF 90 DAYS AFTER FINAL ACCEPTANCE OF THE BUILDING.

2. THE CONTRACTOR SHALL PROVIDE FIXTURE TRIMS AND SUPPORTS AS REQUIRED TO MATCH TYPE OF CEILING SYSTEM. NO CEILING FIXTURE SHALL BE ORDERED UNTIL THE CEILING SYSTEM INSTALLER HAS GIVEN WRITTEN ACCEPTANCE OF THE METHOD AND LOCATION OF FIXTURE HANGING AND FIXTURE TYPE.

3. LED FIXTURE DRIVERS SHALL BE ELECTRONIC TYPE, HIGH POWER FACTOR, COVERED BY THREE YEAR WARRANTY AGAINST DEFECTS. EACH DRIVER SHALL BE RATED FOR VOLTAGE SYSTEM TO WHICH APPLIED. DRIVER SHALL INCORPORATE THE FOLLOWING FEATURES AT A MINIMUM:

- SHALL BE CONSTANT CURRENT, RATED AT 95% POWER FACTOR.
- SHALL BE MINIMUM "A" SOUND RATED.
- CASE TEMPERATURE SHALL NOT EXCEED 90°C.
- SHALL CONTAIN MOV TRANSIENT SURGE PROTECTION.
- SHALL NOT CAUSE RFI INTERFERENCE.
- SHALL HAVE TOTAL HARMONIC DISTORTION OF LESS THAN 15%.

4. COORDINATE ALL FIXTURES WITH PIPING AND DUCTWORK PRIOR TO INSTALLATION AND RELOCATE FIXTURES AS REQUIRED TO PROVIDE PROPER ILLUMINATION. COORDINATE SIGNIFICANT CHANGES TO ENGINEER PRIOR TO INSTALLATION.

SECTION 28 46 00 – FIRE DETECTION AND ALARM

1. PROVIDE A COMPLETE U.L. LISTED FIRE ALARM PER NFPA 72 AND ADA.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING BATTERY CALCULATIONS AND SIGNED AND SEALED SHOP DRAWINGS (IF REQUIRED BY LOCAL AUTHORITY AUTHORITY HAVING JURISDICTION) TO SUBMIT FOR PERMIT. FIRE ALARM SYSTEM DESIGN SHALL BE IN COMPLIANCE WITH ALL GOVERNING AGENCY CRITERIA.

3. SHOP DRAWINGS SHALL INCLUDE 1/8–INCH SCALE DRAWINGS AND PRODUCT DATA. PLANS SHALL SHOW POINT–TO–POINT CONNECTIONS, ROUTING OF RACEWAYS, CONNECTIONS, COMPONENTS, AND CONDUCTOR QUANTITIES AND TYPES. DRAWINGS SHALL BE CAD–GENERATED. PRODUCT DATA SHALL INCLUDE DATA ON EACH SYSTEM COMPONENT, LISTING AGENCY FILE, WIRING DIAGRAMS, INSTALLATION INFORMATION, BATTERY CALCULATIONS, AND CIRCUIT LOAD AND VOLTAGE DROP CALCULATIONS.

4. SHOULD AN EXISTING FIRE ALARM EXISTS, NEW DEVICES TO BE TIED INTO EXISTING SYSTEM SHALL MATCH EXISTING DEVICES, UNLESS OTHERWISE NOTED BY OWNER. CONTRACTOR SHALL FIELD VERIFY EXISTING FIRE ALARM SYSTEM SO THAT ADDITIONAL DEVICES WILL NOT EFFECT THE EXISTING SYSTEM'S PERFORMANCE & QUALITY.

5. PROVIDE A DUCT DETECTOR IN THE SUPPLY DUCTWORK OF EACH AIR HANDLING UNIT RATED GREATER THAN 2000 CFM, AND IN THE RETURN DUCTWORK OF SAME UNITS WHERE SHOWN BY MECHANICAL DRAWINGS. DUCT DETECTORS SHALL HOUSE A PHOTOELECTRIC SMOKE DETECTOR, A STANDARD RELAY OR ISOLATOR DETECTOR MOUNTING BASE, AND SHALL BE PROVIDED WITH REMOTE ALARM LED INDICATORS AND REMOTE TEST STATIONS.

6. VISUAL ALARMS (STROBES) SHALL BE RATED 75 CANDELA UNLESS INDICATED OTHERWISE ON PLANS, AND SHALL BE SYNCHRONIZED. AUDIBLE ALARMS (HORNS) AND AUDIO–VISUAL ALARMS SHALL BE SELECTABLE FOR STEADY OR TEMPORAL OUTPUT, AND SELECTABLE FOR HIGH OR LOW dBA OUTPUT.

7. WALL MOUNTED VISUAL APPLIANCES SHALL BE MOUNTED AT 80 INCHES ABOVE FINISHED FLOOR, MEASURED TO THE BOTTOM OF THE DEVICE.

8. MANUAL INITIATING DEVICES SHALL BE MOUNTED AT 48" ABOVE FINISHED FLOOR, MEASURED TO THE TOP OF THE DEVICE.

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PROJECT

CENTER FOR THE RECOVERY OF EXPLOITED AND MISSING PERSON (C.R.E.M.P.)

15-25-18-0000-00300-0000

SEAL

NOT FOR CONSTRUCTION USE

GILAD LIVINGSTONE
AR 94331

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: JEM
DRAWN BY: **ERE**
DESIGNED BY: ERE

PROJECT NUMBER
G22-0000-002

SHEET TITLE

ELECTRICAL SPECIFICATIONS

SHEET NUMBER

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NEW CONSTRUCTION