GENERAL SPECIFICATIONS

- 1. CONDITIONS OF THE CONTRACT AND DIVISION 1, GENERAL REQUIREMENTS APPLY TO WORK SHOWN ON THESE DRAWINGS. EXAMINE DRAWINGS AND OTHER SPECIFICATIONS FOR REQUIREMENTS THAT AFFECT WORK SHOWN ON THESE DRAWINGS.
- 2. PROVIDE ITEMS REFERRED TO IN SINGULAR NUMBER IN CONTRACT DOCUMENTS IN QUANTITIES NECESSARY TO COMPLETE WORK.
- 3. VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED. REPORT ADVERSE CONDITIONS IN WRITING TO ARCHITECT. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS INCLUDING PREPARATORY WORK DONE BY
- 4. PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT AS SHOWN ON DRAWINGS. COORDINATE ELECTRICAL WORK WITH WORK SHOWN ON
- 5. GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION.
- 6. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION.
- . MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM APPROVED FOR INTENDED SERVICE. MATERIAL AND INSTALLATION SHALL MEET REQUIREMENTS OF NATIONAL AND STATE ELECTRICAL CODE.
- 8. MAINTAIN RECORD DRAWINGS ON SITE. RECORD SET MUST BE COMPLETE, CURRENT AND AVAILABLE FOR INSPECTION WHEN REQUISITIONS FOR PAYMENT ARE SUBMITTED.
- 9. GUARANTEE WORK IN WRITING FOR ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE, REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO
- 10. SUBMIT GUARANTEE TO ARCHITECT BEFORE FINAL PAYMENT. STATEMENT OF GUARANTEE REQUIREMENTS SHALL NOT BE INTERPRETED TO LIMIT OWNER'S RIGHTS UNDER LAW AND THIS CONTRACT.
- 11. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS BUT NOT SHOWN ON PLANS, AND VICE VERSA, AS IF EXPRESSLY REQUIRED ON BOTH.
- 12. UTILIZE MOLDED CASE CIRCUIT BREAKERS. MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 AMPS SYMMETRICAL AT 240 VOLTS, AND 14,000 AMPS SYMMETRICAL AT 480 VOLTS.
- 13. TEMPORARY LIGHT AND POWER SHALL BE PROVIDED ON SITE BY THE ELECTRICAL CONTRACTOR. COST OF ELECTRICITY SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- 14. ADDRESS QUESTIONS REGARDING DRAWINGS TO ARCHITECT IN WRITING BEFORE AWARD OF CONTRACT. OTHERWISE, ARCHITECT INTERPRETATION OF MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.
- 15. SUBMIT SHOP DRAWINGS AND PRODUCT DATA WITHIN THIRTY (30) DAYS AFTER AWARD OF CONTRACT. CHECK, STAMP AND MARK WITH PROJECT NAMES SUBMITTALS BEFORE TRANSMITTING TO ARCHITECT. INDICATE DEVIATIONS FROM CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL EQUIPMENT SHOWN ON THE DRAWINGS. PROVIDE SHOP DRAWINGS ON LIGHTING, PANELBOARDS, CIRCUIT BREAKERS, CONDUIT, WIRING DEVICES, LIGHTING CONTROL DEVICES, CABLE AND CONDUCTORS, FIRE ALARM INCLUDING BATTERY CALCULATIONS, RISER DIAGRAM, EQUIPMENT CUTS AND DISCONNECTS.
- 16. DEVIATION FROM CONTRACT DOCUMENTS. OR PROPOSED SUBSTITUTION OF MATERIALS OR EQUIPMENT FOR THOSE SPECIFIED. SHALL BE REQUESTED IN SEPARATE LETTER, WHETHER DEVIATIONS ARE DUE TO FIELD CONDITIONS, STANDARD SHOP PRACTICE, OR OTHER CAUSE.
- 17. SUBSTITUTIONS FOR SCHEDULED LIGHTING EQUIPMENT WILL BE REJECTED UNLESS SUBSTITUTION SUBMITTAL IS RECEIVED WITHIN TEN (10) DAYS AFTER CONTRACT AWARD.
- 18. SCHEDULE AT LEAST TEN (10) WORKING DAYS, EXCLUSIVE ON TRANSMITTAL TIME FOR SUBMITTAL REVIEW.
- 19. ALL WIRING SHALL BE RUN CONCEALED UNLESS SPECIFIED OTHERWISE
- 20. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
- 21. ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
- 22. LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS.
- 23. ALL RACEWAY RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
- 24. CONDUIT HOMERUNS SHOWN ON THE DRAWING WITH MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS ARE SHOWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL NOT INSTALL MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS DONE SO STRICTLY BY THE NATIONAL ELECTRICAL CODE AS AMENDED BY THE STATE.
- 25. THE ELECTRICAL CONTRACTOR SHALL CONSULT AND COOPERATE WITH CONTRACTORS OF OTHER TRADES TO AVOID ANY INTERFERENCE IN THE INSTALLATION OF THEIR RESPECTIVE EQUIPMENT. CONTRACTOR SHALL REVIEW ALL TRADES' CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT. COORDINATE EXACT MOUNTING LOCATIONS WITH THE ARCHITECT
- 26. BRANCH CIRCUIT WIRING MAY NOT BE SHOWN GRAPHICALLY ON DRAWINGS AND MAY BE INDICATED BY CIRCUIT NUMBERS BESIDE FIXTURES, DEVICES AND EQUIPMENT. PROVIDE COMPLETE WIRING SYSTEM WHETHER OR NOT INDICATED GRAPHICALLY, PHASE BALANCE ALL PANELBOARDS IN FIELD. CIRCUIT NUMBERS ARE DIAGRAMMATIC, UTILIZE AVAILABLE SPACE OR PROVIDE ADDITIONAL BREAKERS AND PANELBOARDS AS NECESSARY.
- 27. ALL NEW WIRING SHALL BE TYPE THHN/THWN RATED 75-90°C, 600V. WET-DRY LOCATIONS. MINIMUM BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG SOLID COPPER. BRANCH CIRCUITS LONGER THAN 75 FEET FOR 120 VOLTS OR 175 FEET FOR 277 VOLTS SHALL BE AT LEAST NO. 10 AWG FROM PANEL TO LAST OUTLET.
- 28. ALL NEW EXPOSED INTERIOR WIRING ABOVE 8'-0" NOT EXPOSED TO DAMAGE SHALL BE INSTALLED IN ELECTRIC METALLIC TUBING. ALL WIRING IN CONCRETE SLABS OR EXPOSED IN ROOM BELOW 8'-0" OR EXPOSED TO DAMAGE SHALL BE INSTALLED IN RIGID STEEL CONDUIT. EXTERIOR WIRING SHALL BE IN GALVANIZED RIGID METALLIC CONDUIT.
- 29. INTERRUPTIONS TO EXISTING ELECTRIC SERVICES AND SYSTEMS SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AND DURATION APPROVED BY
- THE ARCHITECT OR OWNER. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH INTERRUPTIONS, TWENTY-FOUR (24) HOUR NOTICE IS REQUIRED. 30. ALL GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS AMENDED BY THE STATE OF RHODE ISLAND.
- 31. ALL FIREPROOFING FOR ELECTRICAL PENETRATIONS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- 32. SYSTEM FEEDERS AND BRANCH CIRCUITS THAT PASS THROUGH ALTERED AREAS AND SERVE OTHER AREAS SHALL BE MAINTAINED.
- 33. PROVIDE NEW TYPED IDENTIFICATION DIRECTORY IN PANELBOARDS INDICATING CIRCUIT FUNCTION OR EQUIPMENT SERVED. LABEL ALL ELECTRICAL PANELS. DISCONNECT SWITCHES AND OTHER EQUIPMENT WITH ENGRAVED VINYL PLATES. NAMEPLATE LETTERING SHALL BE 1/4" MINIMUM.
- 34. LIQUOR STORE PANELBOARDS SHALL BE DOOR-IN-DOOR CONSTRUCTION WITH COPPER BUS. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, BOLT-ON. PANELBOARDS AND BREAKERS SHALL BE CUTLER HAMMER, SQUARE 'D', G.E. OR SIEMENS. PROVIDE TYPE IDENTIFICATION DIRECTORY CARDS IN PANELBOARD INDICATING CIRCUIT FUNCTION OR EQUIPMENT SERVICE
- 35. LIQUOR STORE DISCONNECT SWITCHES SHALL BE HEAVY DUTY (HD). SIDE OPERATED WITH INTERLOCKING COVER, G.E., SQUARE 'D', CUTLER HAMMER OR SIEMENS OR EQUAL.

POWER NOTES

- 1. ALL CONDUIT, WIRING AND ELECTRICAL EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE NATIONAL & STATE ELECTRICAL CODES AND ANY APPLICABLE LOCAL REGULATIONS.
- 2. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN. ALL CONDUIT RUNS SHALL BE RIGIDLY SUPPORTED.
- 3. NO CONDUIT SMALLER THAN 3/4 INCH ELECTRICAL TRADE SIZE SHALL BE USED, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS.

4. PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT TO MAKE INSTALLATION COMPLETE IN EVERY DETAIL UNDER THIS CONTRACT

- WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS.
- 5. WIRING DEVICES SHALL BE SPECIFICATION GRADE, 20 AMP, WITH SMOOTH NYLON DEVICE PLATES AS MANUFACTURED BY HUBBELL, OR EQUAL. COLOR TO MATCH EXISTING OR AS APPROVED BY ARCHITECT.
- 6. CONDUCTORS AND CABLE SHALL BE MINIMUM #12 AWG, 600 VOLT, COPPER WITH TYPE THHN/THWN INSULATION. PROVIDE SEPARATE
- GREEN GROUND IN ALL FEEDERS. WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED, #10 AWG AND SMALLER SHALL BE SOLID. COLOR CODE CONDUCTORS BLACK, RED, BLUE, WITH WHITE NEUTRAL AND GREEN GROUND EXCEPT AS NOTED FOR 120 VOLT
- 7. MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED: a.) CONVENIENCE RECEPTACLE (GENERAL), 1'-6" FROM FLOOR TO CENTERLINE.
 - b.) CONVENIENCE RECEPTACLE (OFFICE), 1'-6" FROM FLOOR TO CENTERLINE.
 - c.) TELEPHONE OUTLETS, 1'-6" FROM FLOOR TO CENTERLINE.
- 8. PROVIDE SEPARATE HOT, GROUND AND NEUTRAL CONDUCTOR FOR ALL CIRCUITS CONNECTED TO ARC-FAULT CIRCUIT BREAKERS.

GENERAL NOTES

- 1. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR MOUNTING HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.
- 2. ALL FLOOR, MASONRY WALLS AND STRUCTURAL CEILING PENETRATIONS SHALL BE SLEEVED.
- 3. PROVIDE FIRE/MOISTURE SEAL FOR WALL, FLOOR OR CEILING PENETRATIONS.
- 4. DO NOT LAY CABLES OR RACEWAY ON, OR SUPPORT FROM SUSPENDED CEILING OR PIPING AND DUCTWORK.
- 5. OUTLET BOXES SHALL BE MOUNTED FLUSH. CONDUIT SHALL BE RUN CONCEALED. WHERE WALLS ARE BLOCK, DEVICES AND WIRING SHALL BE SURFACE MOUNTED. PROVIDE WIREMOLD OR EQUAL TO SURFACE MOUNTED RACEWAY WITH FINISHED BOXES.
- 6. ALL WIRING WITHIN UTILITY CLOSETS MAY BE IN SURFACE MOUNTED CONDUIT. EMT MAY BE UTILIZED.
- 7. FLEXIBLE CONDUIT CONNECTIONS SHALL BE A MAXIMUM OF 6'-0".
- 8. MC TYPE CONDUCTOR WITH INTEGRAL GROUND WIRE MAY BE UTILIZED FOR POWER AND LIGHTING CIRCUITS. MC CABLE SHALL BE UTILIZED ONLY WHERE COMPLETELY CONCEALED.

LIGHTING NOTES

- 1. ALL CONDUIT, FIXTURES AND OUTLETS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN.
- 2. ALL LIGHTING FIXTURE SPACING DIMENSIONS AND MOUNTING HEIGHTS ARE RECOMMENDED LOCATIONS. SLIGHT VARIATIONS WHERE NECESSARY TO AVOID INTERFERENCE SHALL BE DETERMINED IN THE FIELD.
- 3. MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED: a.) LIGHT SWITCHES, 4'-0" FROM FLOOR TO CENTERLINE.
 - b.) LIGHTING PANELBOARDS, 6'-6" FROM FLOOR TO TOP. c.) LIGHT FIXTURES - SEE LIGHTING FIXTURE SCHEDULE, MOUNTING HEIGHT OF FIXTURE IS MEASURED TO
- BOTTOM OF REFLECTOR. 4. WHERE REQUIRED, ADDITIONAL SUPPORT STEEL FOR THE LIGHTING INSTALLATION SHALL BE FURNISHED AND INSTALLED BY

5. PROVIDE SEPARATE UN-SWITCHED NEUTRAL TO ALL EMERGENCY LIGHT FIXTURES CONTAINING EMERGENCY BALLASTS AND

- ELECTRICAL CONTRACTOR. SEISMIC RESTRAINTS SHALL BE INCLUDED AS PER STATE BUILDING CODE.
- 6. FOR RENOVATION PROJECTS, PROVIDE NEW BRANCH CIRCUITRY BETWEEN ALL NEW FIXTURES BEING PROVIDED, UNLESS

ABBREVIATIONS

NOTED OTHERWISE ON DRAWINGS.

4 /4 UD	ALIDEDE.	IMC	INTERMEDIATE METALLIC CONDUIT
A/AMP	AMPERE	JB	INTERMEDIATE METALLIC CONDUIT JUNCTION BOX
AC	ALTERNATING CURRENT AMPERE FRAME	KVA	KILOVOLT-AMPERE
AF AFF	· ···· = · · = · · · · · · · · =	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE	LTG	LIGHTING
AFG		PWR	POWER
AIC	APRERE INTERRUPTING CAPACITY	MCB	MAIN CIRCUIT BREAKER
AL AT	ALUMINUM AMPERE TRIP	MEC	MASSACHUSETTS ELECTRICAL COD
at Ats	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUGS ONLY
	AMERICAN WIRE GAUGE	MTG	MOUNTING
AWG C	CONDUIT	MTD	MOUNTED
CKT	CIRCUIT	MCC	MOTOR CONTROL CENTER
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRICAL CODE
CU	COPPER	NS	NON-SYSTEM
CL	CENTERLINE	NTS	NOT TO SCALE
DC	DIRECT CURRENT	No., #	NUMBER
DE	DUAL ELEMENT	PC	PLUMBING CONTRACTOR
DWG	DRAWING	RPM	REVOLUTIONS PER MINUTE
EC	ELECTRICAL CONTRACTOR	RMS	ROOT MEAN SQUARE VALUE
EMH	ELECTRICAL MANHOLE	RGS	RIGID STEEL CONDUIT
EWC	ELECTRIC WATER COOLER	SF	SQUARE FOOT
EMT	ELECTRIC METALLIC CONDUIT	SN	SOLID NEUTRAL
FLMT	FLEXIBLE LIQUID TIGHT METALLIC TUBING	SWBD	SWITCHBOARD
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GND	GROUND	V	VOLTS
GFI	GROUND FAULT INTERRUPTING	VA	VOLT-AMPERE
GRMC	GALAVNIZED RIGID METAL CONDUIT	VFD	VARIABLE FREQUENCY DRIVE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING	WP	WEATHERPROOF
LID	HODOEDOWED		

1. FURNISH LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR THE PROPER AND COMPLETE INSTALLATION OF ALL ELECTRIC WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. REFER TO ANY SPECIFICATIONS, STANDARDS AND/OR DETAILS REQUIRED BY THE MPTN, SUCH REQUIREMENTS SHALL SUPERCEDE THIS SPECIFICATION WHERE A CONFLICT OCCURS

2. ALL ITEMS NOT SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE ELECTRICAL INSTALLATION, SHALL BE FURNISHED AND INSTALLED AS PART OF THIS PROJECT.

3. ALL ELECTRICAL INSTALLATIONS AND GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE MPTN, STATE AND NATIONAL CODES. 4. OBTAIN AND PAY FOR ALL INSPECTIONS, TESTS AND/OR PERMITS.

5. MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KIND AND IN FULL ACCORDANCE WITH THE MOST MODERN ELECTRICAL CONSTRUCTION STANDARDS. ALL MATERIAL SHALL BE NEW, UNLESS OTHERWISE NOTED AND FREE OF ANY

6. THE ELECTRICAL CONTRACTOR SHALL CLEAN AT THE END OF EACH DAY ALL AREAS WORKED IN. EMPTY BOXES, RUBBISH, AND OTHER CONSTRUCTION MATERIALS OF NO USE SHALL BE REMOVED FROM THE BUILDING.

7. ALL WORK SEQUENCES SHALL BE COORDINATED WITH THE ARCHITECT AND SHALL BE COORDINATION WITH OTHER BUILDING TRADES AND ARCHITECTS BUILDING SCHEDULES.

8. ALL BRANCH CIRCUITS RATED AT 120 VOLTS, 20 AMPERES EXCEEDING 75 FEET SHALL BE MINIMUM #10 AWG. 9. ALL EQUIPMENT AND INSTALLATION OF ELECTRICAL EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM

10. FURNISH AND INSTALL TEMPORARY POWER AS REQUIRED TO OPERATE TOOLS AND LIGHTING FOR ALL TRADES. PROVIDE CONDUIT, CONDUCTORS, WIRING DEVICES, AND LIGHTING FIXTURES FOR CONSTRUCTION AS NEEDED.

11. THE ELECTRICAL CONTRACTOR (E.C.) SHALL INSPECT THE SITE, PRIOR TO SUBMITTING HIS BID, AND SHALL INVESTIGATE ALL CONDITIONS UNDER WHICH THIS WORK SHALL BE PREFORMED. FAILURE TO INSPECT EXISTING CONDITIONS OR TO FULLY UNDERSTAND THE WORK WHICH REQUIRED SHALL NOT EXCUSE THE E.C. FROM HIS OBLIGATIONS TO SUPPLY AND INSTALL THE WORK IN ACCORDANCE WITH THE SPECIFICATIONS AND THE DRAWINGS AND UNDER ALL SITE CONDITIONS AS THEY EXIST.

12. THE PLANS DEPICT THE LOCATION OF ALL FIXTURE AND EQUIPMENT AND ARE INTENDED TO INDICATE THE GENERAL SCOPE OF WORK, LAYOUT AND QUALITY OF WORKMANSHIP. THEY ARE NOT INTENDED FOR THE PURPOSE OF EXECUTION OF THE WORK, BUT THE CONTRACTOR SHALL UNDERSTAND THAT SUCH DETAILS ARE PART OF THE WORK

13. THE ELECTRICAL CONTRACTOR SHALL CAREFULLY VERIFY ALL MEASUREMENTS AT THE SITE AND DETERMINE THE EXACT LOCATION OF ALL CHASES AND OPENINGS REQUIRED BY THIS WORK AND SHALL PROVIDE ALL SLEEVES, INSERTS, AND HANGERS REQUIRED.

14. BRANCH CIRCUITS ADDED TO ANY EXISTING PANELBOARDS SHALL ALSO INCLUDE THE CIRCUIT BREAKER DIRECTORY TO BE UPDATED. IF NO DIRECTORY EXISTS THAN ONE SHALL BE PROVIDED INDICATING THE NEW CIRCUITS ADDED. 15. WIRE AND CABLE FOR BRANCH CIRCUITS SHALL BE TYPE THWN/THHN, INSULATED FOR 600VOLTS, RATED AT 75°C MINIMUM

AND UL LISTED FOR BUILDING WIRE USE. WIRE SIZE SHALL BE A MINUMUM OF #12 AWG SOLID. ALL CONDUCTORS SHALL BE COPPER, ALL WIRING SHALL BE CONCEALED AND INSTALLED IN RACEWAY, RACEWAYS SHALL BE E.M.T. WITH STEEL SET SCREW FITTINGS. METAL-CLAD CABLE TYPE MC CABLE MAY BE USED IN AREAS WHERE APPROVED BY THE LOCAL WIRING INSPECTOR. 16. LIGHTING FIXTURES SHALL BE SUPPORTED INDEPENDENTLY FROM THE STRUCTURE OF THE BUILDING. THE CEILING SHALL

NOT BE THE SOLE SUPPORT FOR THE LIGHTING FIXTURES. ALL LIGHTING FIXTURES SHALL BE PROVIDED WITH LAMPS INSTALLED. ALL BALLASTS SHALL BE HIGH POWER FACTOR, CLASS "A" SOUND RATED WITH FUSING OR THERMAL PROTECTION. NEW LAMPS SHALL HAVE THE SAME COLOR TEMPERATURE AS EXISTING LAMPS WITHIN THE SAME AREA.

17. OUTLET BOXES SHALL BE GALVANIZED STEEL, OF THE TYPE REQUIRED FOR THE PARTICULAR APPLICATION, AND SIZED TO ACCOMODATE THE NUMBER OF CONDUCTORS TO BE INSTALLED PER CODE.

18. SWITCHES SHALL BE EQUAL TO HUBBELL #1221 FOR 20-AMP / 1-POLE AND #1223 FOR 20-AMP / 3-POLE. RECEPTACLES SHALL BE EQUAL TO HUBBELL #5352 AND #GF5352 FOR GFCI TYPE. ALL DEVICES SHALL BE PROVIDED WITH MATCHING FACE PLATES. COLORS OF DEVICES AND PLATES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ORDERING ANY MATERIAL. 19. ADDITIONAL JUNCTION BOXES BEYOND THOSE SHOWN ON THE DRAWINGS SHALL BE PROVIDED AS NECESSARY FOR ALL ELECTRICAL INSTALLATIONS.

20. ALL CUTTING, PATCHING AND FIRESTOPPING FOR ELECTRICAL INSTALLATIONS SHALL BE THE RESPONSIBILITY OF THE

ELECTRICAL CONTRACTOR. 21. PROVIDE CONDUIT SLEEVES FILLED WITH AN APPROVED FIRE RESISTANT MATERIAL WHERE FIRE RATED WALLS, FLOORS OR CEILINGS ARE PENETRATED. APPROVED WATERTIGHT CONDUIT SLEEVES SHALL BE PROVIDED WHERE WALLS ARE PENETRATED EITHER ENTERING OR LEAVING THE BUILDING

22. RECEPTACLES, LIGHT FIXTURES, AND POWER ITEMS BRANCH CIRCUIT WIRING MAY NOT BE SHOWN BUT SHALL BE PROVIDED AS REQUIRED. MINIMUM WIRING SHALL BE 2#12 PLUS 1#12GROUND IN 3/4"C. NO MORE THAN THREE PHASES MAY BE COMBINED IN A SINGLE HOMERUN AND EACH PHASE SHALL BE PROVIDED WITH AN INDIVIDUAL NEUTRAL.

23. ALL CONDUITS SHALL CONTAIN A GREEN SAFETY GROUND WIRE. BOND ALL PANELS, CABINETS, ENCLOSURES, CONDUITS, ETC., AS REQUIRED PER CODE.

24. ALL SUPPORTS AND ANCHORS SHALL BE DESIGNED AND INSTALLED PER REQUIREMENTS FOR THE SEISMIC CLASSIFICATIONS AS OUTLINED IN THE APPLICABLE BUILDING CODE. SITE LOCATION AND PREVAILING ORIENTATION SHALL BE TAKEN INTO

25. SUBMIT SIX (6) COPIES FOR REVIEW AND APPROVAL OF THE FOLLOWING SHOP DRAWINGS: LIGHTING FIXTURES, WIRING DEVICES, RACEWAY, AND BUILDING WIRE & CABLE.

OCCUPANCY SENSORS

- WALL MOUNTED OCCUPANCY SENSOR, 180', 300SF COVERAGE (20'W x 25'L), PHILIPS LIGHTING CONTROLS No. ITS2U-COLOR OR EQUAL
- CEILING MOUNTED OCCUPANCY SENSOR, 360' TWO-SIDED, 1950SF COVERAGE (50' DIAMETER), PHILIPS LIGHTING CONTROLS No. ITSCS (FOR PARTIAL COVERAGE APPLICATIONS, A PROVIDED MASK CAN BE TRIMMED TO ADJUST COVERAGE) OR EQUAL. "WP" DENOTES WEATHER PROOF TYPE.
 - COVERAGE DIMENSIONS APPLY TO DEVICE BEING CENTERED. ACTUAL COVERAGE'S CAN VARY ON THE SHAPE AND USE OF APPLICABLE SPACE. COVERAGE MAY BE REDUCED IF DEVICE IS MOUNTED GREATER THAN 12 FEET HIGH. SENSORS REQUIRE RELAY PACKS, PHILIPS LIGHTING CONTROLS No. ITSRP1U (SINGLE CIRCUIT), ITSRP2 (TWO CIRCUIT) OR ITSRP4 (FOUR CIRCUIT)

BRANCH CIRCUIT AND FEEDER SYMBOLS

- BRANCH CIRCUIT OR FEEDER CONCEALED UNLESS OTHERWISE NOTED. BRANCH CIRCUIT DIAGONAL LINES INDICATE NUMBER OR CONDUCTORS, NO DIAGONAL LINES INDICATES TWO (2) CONDUCTORS (1 PHASE AND 1 NEUTRAL). GROUND WIRE(S) NOT INDICATED. MINIMUM SIZE CONDUCTOR #12 AWG AND 3/4" CONDUIT, UNLESS OTHERWISE NOTED
- 4#1,1#6G-1½"C INDICATES (3) #1 AWG(PHASE), (1)#1 AWG(NEUTRAL), (1) #6 GROUND IN A 1-1/2" CONDUIT

CONDUCTOR. (1) GROUNDING CONDUCTOR UNDERSTOOD.

- FLEXIBLE CONNECTION TO MOTOR OR EQUIPMENT
- HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1. DIAGONAL LINES INDICATE (1) PHASE AND (1) NEUTRAL CONDUCTOR. (1) GROUNDING CONDUCTOR UNDERSTOOD.
- HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1 & 3. DIAGONAL LINES INDICATE (2) PHASE AND (2) NEUTRAL = (2)20A/1P conductor. (2) grounding conductor understood.
- P1-1,3,5 HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1, 3 & 5. DIAGONAL LINES INDICATE (3) PHASE AND (3) NEUTRAL
- (3)20A/1P CONDUCTOR. (3) GROUNDING CONDUCTOR UNDERSTOOD. P1-1,3,5 HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1, 3 & 5. DIAGONAL LINES INDICATE (3) PHASE AND (1) NEUTRAL
- P1-1,3,5 HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1, 3 & 5. DIAGONAL LINES INDICATE (3) PHASE CONDUCTORS. NEUTRAL CONDUCTOR NOT REQUIRED. (1) GROUNDING CONDUCTOR UNDERSTOOD.

SWITCHING SYMBOLS

- SINGLE POLE SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "a" DENOTES FIXTURE SWITCH CONTROL
- THREE WAY SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "a" DENOTES FIXTURE SWITCH CONTROL
- MANUAL MOTOR STARTER, RATED 20A, 250V, COORDINATE MOUNTING HEIGHT IN FIELD, MOUNTING HEIGHT SHALL NOT EXCEED 6'-7" AFF
- COOLER LIGHT SWITCH WITH LED INDICATOR, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, LED INDICATOR SHALL BE ILLUMINATED WHEN COOLER LIGHTS ARE ON. "a" DENOTES FIXTURE

LIGHTING FIXTURE SYMBOLS

- FLUORESCENT LIGHTING FIXTURE, CEILING/SURFACE/RECESSED/PENDANT OR WALL MOUNTED. "A" DENOTES LIGHTING ■■2□ FIXTURE TYPE (SEE FIXTURE SCHEDULE), "2" DENOTES CIRCUIT NUMBER, "a" DENOTES SWITCH CONTROL
- COMPACT FLUORESCENT LIGHT FIXTURE, CEILING/SURFACE/RECESSED OR PENDANT MOUNTED. "B" DENOTES LIGHTING FIXTURE TYPE, "4" DENOTES CIRCUIT NUMBER, "b" DENOTES SWITCH CONTROL
- SINGLE CIRCUIT TRACK WITH MOUNTED PENDANTS (LUMINAIRES). "D" AND "DA" DENOTES LIGHTING FIXTURE/TRACK TYPE, "4" DENOTES CIRCUIT NUMBER. "b" DENOTES SWITCH CONTROL.

SECURITY LEGEND

- 'IP' SECURITY CAMERA, 'PZT' INDICATES PAN/TILT/ZOOM, 'FIXED' INDICATES FIXED POSITION, 'C' INDICATES CEILING MOUNTED, 'W' INDICATES WALL MOUNTED
- CAMERA NETWORK VIDEO RECORDER
- DIGITAL VIDEO RECORDER
- POWER OVER ETHERNET SWITCH

PANELBOARD AND TERMINAL CABINET

- SURFACE MOUNT ELECTRICAL PANEL, TELEPHONE TERMINAL 4'x8' 3/4" PLYWOOD BACKBOARD, PAINTED BLACK
- TRANSFORMER, DRY TYPE

EXISTING EQUIPMENT DESIGNATIONS

- EXISTING TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS.
- EXISTING TO REMAIN.

RECEPTACLES AND OUTLETS

- DUPLEX CONVENIENCE RECEPTACLE OUTLET, GROUNDING TYPE, RATED 20A, 125V TYPE. "5" DENOTES CIRCUIT NUMBER. MOUNTING HEIGHT 18" TO CENTERLINE AFF
- GROUND FAULT INTERRUPTING OUTLET, RATED 20A, 125V RECEPTACLE, MOUNTING HEIGHT 18" TO CENTERLINE AFF
- DUPLEX CONVENIENCE OUTLET, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR 6" ABOVE COUNTER TOP
- GROUND FAULT DUPLEX RECEPTACLE, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR MOUNTED 6" ABOVE COUNTER TOP

DOUBLE DUPLEX GROUND FAULT OUTLET, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR 6" ABOVE COUNTER TOP

- JUNCTION BOX, COORDINATE MOUNTING HEIGHT WITH ARCHITECT, 'F' INDICATES FAN RATED JUNCTION BOX

DOUBLE DUPLEX CONVENIENCE OUTLET, MOUNTING HEIGHT 18" TO CENTERLINE AFF

- CABLE TELEVISION CONNECTION, FLUSH MOUNTING 18" TO CENTERLINE AFF WITH 1 GANG BACK BOX & COVER PLATE WITH 'F'-CONNECTOR
- TELEPHONE OUTLET (RJ45), FLUSH MOUNTING HEIGHT 18" TO CENTERLINE AFF WITH SINGLE GANG BACK BOX AND COVER PLATE. "W" DENOTES WALL PHONE, MOUNTING HEIGHT 5'-0"
- TELEPHONE/COMPUTER OR DATA OUTLET (RJ45), FLUSH MOUNTING 18" TO CENTERLINE AFF WITH SINGLE GANG BACK
- COMPUTER/ETHERNET OR DATA OUTLET (RJ45), FLUSH MOUNTING 18" TO CENTERLINE AFF WITH SINGLE GANG BACK BOX
- INDICATES 4"x4" BOX WITH 1" CONDUIT TO ABOVE HUNG CEILING WITH PULL WIRE

BOX AND COVER PLATE

MISCELLANEOUS

UTILITY METER

TIMECLOCK, SURFACE MOUNTED

MECHANICAL EQUIPMENT TAG, REFER TO MECHANICAL SCHEDULE

MOTOR AND CONTROLS

MOTOR, NUMERAL INDICATES HORSEPOWER

DISCONNECT SWITCH, NON-FUSIBLE TYPE, RATED 30A/3P, IN NEMA TYPE "3R" ENCLOSURE,

DISCONNECT SWITCH, FUSED TYPE, RATED 30A, 20A FUSE, 3 POLE IN NEMA TYPE "1" ENCLOSURE, UNLESS OTHERWISE NOTED.

SITE SYMBOLS

UNDERGROUND CONDUIT OR DUCTBANK, REFER TO DRAWING E4.01

MANHOLE, "E" DENOTES POWER, "C" DENOTES COMMUNICATIONS, MANHOLES SHALL BE PRECAST CONCRETE AND SHALL MEET OR EXCEED UTILITY REQUIREMENTS

UTILITY POLE

SECTION "A-A"

SITE LIGHTING FIXTURE, REFER TO LIGHTING FIXTURE SCHEDULE

PAD MOUNTED TRANSFORMER

---- UE ---- UNDERGROUND ELECTRICAL

UNDERGROUND TELEPHONE, FIRE ALARM

AREIAL ELECTRICAL, TELEPHONE

HAND HOLE

Cumberland Farms Store # 5613 512 Woodford Street

Portland, ME

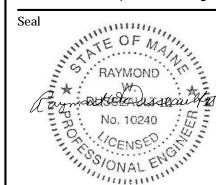


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Consultant



Revisions

11/22/13 90% Review Set 01/24/14 Bid and Permit

Key Plan

ELECTRICAL: SYMBOL LIST AND **GENERAL NOTES**

Project No.

2113119