WIRING DEVICES

SYMBOL	DESCRIPTION
	5-20R, DUPLEX RECEPTACLE OUTLET, 5-15R, TAMPER PROOF, FOR RESIDENTIAL APPLICATIONS, UNO.
GFCI	5-20R, GFCI DUPLEX RECEPTACLE OUTLET (IF RECEPTACLE IS NOT READILY ACCESSIBLE GFCI PROTECTION SHALL BE PROVIDED AT THE PANEL)
	5-20R, QUADRUPLEX RECEPTACLE OUTLET
	SPECIAL RECEPTACLE, NEMA CONFIGURATION PER PLAN
FB#	FLOORBOX / POKETRHOUGH FB# - INDICATES BOX TYPE, REFER BELOW [TO SCHEDULE AND DETAILS] FOR TYPE FB0 - PROVIDE POWER [AND DATA] [FLOORBOX] WITH [#] DUPLEX RECEPTACLE(S) AND [#] GANG DATA WITH 3/4" C. FOR POWER, AND MIN. 1-1/4" C. FOR DATA FB1 - PROVIDE [#]INCH POWER [AND DATA] [POKETHROUGH] WITH [#] DUPLEX RECEPTACLE(S) AND [#] GANG DATA WITH 3/4" C. FOR POWER, AND MIN. 1-1/4" C. FOR DATA
RECPTACLE ABBREVIATIONS	DESCRIPTION (CCT AS INDICATED UNO ON PLANS)
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
WP	WEATHER RESISTANT GFCI WITH LOCKABLE, WHILE-IN-USE CAST COVER

CABLE AND CONDUIT SYSTEMS

SYMBOL	DESCRIPTION
	HEAVY LINES INDICATE NEW WORK
	LIGHT LINES INDICATE EXISTING WORK TO REMAIN
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	CONDUIT STUB WITH WIRE PULL AND CAP
	UNDERGROUND CONDUIT OR DUCT BANK

ONE LINE AND RISER DIAGRAM

SYMBOL	DESCRIPTION
	NORMAL POWER PANEL
	GROUNDED/UNGROUNDED DELTA CONNECTION
	GROUNDED/UNGROUNDED WYE CONNECTION
	CONNECTION TO GROUNDING SYSTEM
	TRANSFORMER
NO NC	CONTROL OR POWER CONTACT NORMALLY OPEN / NORMALLY CLOSED
	FUSED SWITCH
	CIRCUIT BREAKER
	LIGHTNING OR SURGE ARRESTOR
	CURRENT TRANSFORMER
M M	WATTHOUR METER
AF	ARC FLASH MAINTENANCE SWITCH
SPD	SURGE PROTECTIVE DEVICE
XXXXX	FEEDER ID TAG

LIGHTING CONTROL DEVICES

SYMBOL	DESCRIPTION
D	DAYLIGHT SENSOR SEE LIGHTING SPECIFICATION
ABBREVIATION	DESCRIPTION
a	LOWER CASE LETTER DENOTES LIGHTING CONTROL ZONE

LIGHTING

LIGHTING DESIGNATIONS TYPICAL FOR ALL LIGHTING FIXTURES:
- "X#" INDICATES FIXTURE TYPE
- "/E" INDICATES EMERGENCY LIGHTING
- "YYY - #" INDICATES PANEL NAME AND CIRCUIT NUMBER
- "a" LOWER CASE LETTER INDICATES CONTROL ZONE

X#/E
YYY - #
a

X#/E
YYY - #
a

SYMBOL	DESCRIPTION
	BOLLARD LIGHT FIXTURE

LIGHTNING PROTECTION

L	LIGHTNING MAST LOCATION
	AIR TERMINAL LOCATION
	CONNECTION
	GROUNDING CONNECTION TO TRIPOD GROUNDING RING WITH INSPECTION TEST WELL
	COUNTERPOISE LOOP BELOW GRADE.
	COPPER CABLE, U.L. LABELED. (2# AWG)
	GROUND CONNECTION TO BUILDING STEEL WHERE REQUIRED

POWER

SYMBOL	DESCRIPTION
	PANELBOARD - DASHED OUTLINE DENOTES WORKING SPACE CLEARANCES.
	DRY TYPE TRANSFORMER PRIMARY FUSED DISCONNECT OR CB WHEN SOURCE CB IS NOT WITHIN SIGHT CONCRETE HOUSEKEEPING PAD FOR FLOOR MOUNTED APPLICATIONS
FSD J VAV	JUNCTION BOX 'FSD' DENOTES FIRE SMOKE DAMPER 'VAV' DENOTES VARIABLE AIR VOLUME DEVICE
	FUSED DISCONNECT SWITCH
	NON-FUSED DISCONNECT SWITCH USE ONLY IN APPLICATIONS WHERE AVAILABLE FAULT CURRENT IS LESS THAN 10 KA
	ENCLOSED CIRCUIT BREAKER
	CIRCUIT HOMERUN - SHORT TICK MARKS INDICATES NUMBER OF HOT WIRES, LONG TICK MARK INDICATES NEUTRAL WIRE AND THE DOT INDICATES THE GROUND WIRE.

EQUIPMENT NAMING CONVENTION

E - PP - 3

- SEQUENCE
  1, 2, 3, ...
- PANEL TYPE
  - DP - DISTRIBUTION PANEL
  - DS - DISCONNECT SWITCH
  - LP - LIGHTING PANEL
  - PP - POWER PANEL
  - TX - TRANSFORMER
- POWER TYPE
  - (BLANK) - NORMAL POWER
  - E - LIFE SAFETY POWER (NEC BRANCH 700)
  - S - LEGALLY REQUIRED STANDBY POWER (NEC BRANCH 701)
  - O - OPTIONAL STANDBY POWER (NEC BRANCH 702)

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DEFINITION
A	AMPERE
AC	ALTERNATING CURRENT OR AIR COMPRESSOR
AF	AMPERE FRAME
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISTICTION
AIC	AMPERE INTERRUPTING CAPACITY
AS	AMPERE SWITCH
AT	AMPERE TRIP
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERURATURE
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DIA	DIAMETER
DPDT	DOUBLE POLE DOUBLE THROW SWITCH
DPST	DOUBLE THROW SINGLE THROW SWITCH
DS	DISCONNECT SWITCH
DN	DOWN
DP	DISTRIBUTION PANEL
E OR EM	EMERGENCY
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
EMT	ELECTRICAL METAL TUBING
EX	EXISTING
ETR	EXISTING TO REMAIN
FMC	FLEXIBLE METAL CONDUIT
FT	FEET OR FOOT
G	GROUND OR GENERATOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HP	HORSE POWER
HZ	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
IN	INCH
IG	ISOLATED GROUND

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DEFINITION
JB	JUNCTION BOX
KAIC	KILO-AMPS INTERUPTING CAPACITY
KV OR kV	KILOVOLT
KVA	KILOVOLT AMPERE
KW	KILOWATT
L	LINE
LED	LIGHT EMITING DIODE
LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
LTG	LIGHTING
L,S,I,G	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND TRIP
LV	LOW VOLTAGE
M	METER
MCB	MAIN CIRCUIT BREAKER
MCM,KCML	THOUSAND CIRCULAR MILS
N	NEUTRAL
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OCP	OVERCURRENT PROTECTIVE DEVICE
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PWR	POWER
RE	RELOCATED EXISTING DEVICE
RMC	RIGID METAL CONDUIT
SCCR	SHORT CIRCUIT CURRENT RATING
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW SWITCH
T	TRANSFORMER
TYP	TYPICAL
UL	UNDERWRITER LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLTAGE
W	WIRE
WP	WEATHERPROOF

IEEE STANDARD DEVICE NUMBERS

ABBREVIATION	DEFINITION
25	SYNCHRONIZING OR SYNCHRONISM CHECK DEVICE
27	UNDERVOLTAGE RELAY
50	INSTANTANEOUS OVERCURRENT
51	AC INVERSE TIME OVERCURRENT RELAY
52	AC CIRCUIT BREAKER
59	OVERVOLTAGE RELAY
81	FREQUENCY RELAY
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
P	PHASE
N	NEUTRAL
G	GROUND

DEMOLITION LEGEND

SYMBOL	DESCRIPTION
J ETR	EXISTING TO REMAIN. ALL EXISTING TO REMAIN DEVICES SHALL BE MAINTAINED AND WORKING THROUGHOUT CONSTRUCTION.
J EX	EXISTING TO BE RELOCATED AS PART OF SCOPE. EXTEND ALL ASSOCIATED WIRING AND RACEWAY TO THE FINAL LOCATION AS SHOWN ON PLAN.
J RE	RELOCATED EXISTING FIXTURE'S FINAL LOCATION. EXTEND ALL ASSOCIATED WIRING AND RACEWAY TO THIS FINAL LOCATION AS SHOWN ON PLAN.
ERR	EXISTING TO BE REMOVED AND DISPOSED OF. REMOVE AND DISPOSE OF ALL ASSOCIATED WIRING AND RACEWAY. MAINTAIN CONTINUITY BETWEEN DEVICES ON THE SAME POWER/CONTROL CIRCUIT THAT ARE ETR.

ALL DEVICES ARE NEW UNLESS OTHERWISE NOTED BY ABBREVIATIONS ABOVE. NOT ALL ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT.

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PRINCIPLE

BURO HAPPOLD

Skowhegan Riverfront Walkway - Phase 1

Water Street
Skowhegan, ME

No.	Revision	Date	Appvd.

Designed by: SR
Checked by: TP
Issued for: Construction Documents
Date: 12/05/2025

Drawing Title
ELECTRICAL SYMBOLS & ABBREVIATIONS

Drawing Number
E-001

Sheet of

Project Number
55815.00

A. CONTRACT PERFORMANCE

1. THE DRAWINGS SHOW VARIOUS CONDUIT SYSTEMS DIAGRAMMATICALLY. JUNCTION BOXES, PULL BOXES, SUPPORTS AND ACCESSORIES ARE NOT SHOWN BUT REQUIRED TO MEET APPLICABLE CODES, BUILDING STANDARDS AND TO FULFILL CONTRACT DOCUMENTS.

2. ALL WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE CODES AND STANDARDS:

   A. 2023 NATIONAL ELECTRICAL CODE WITH LOCAL AMENDMENTS
   B. INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS
   C. 2021 IECC INTERNATIONAL ENERGY CONSERVATION CODE
   D. NFPA 111: STANDARD ON STORED ELECTRICAL ENERGY EMERGENCY AND STANDBY POWER SYSTEMS
   E. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
   F. UNDERWRITERS' LABORATORIES INC. (UL)
   G. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
   H. ILLUMINATING ENGINEERING SOCIETY (IES)
   I. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
   J. ASSOCIATION OF EDISON ILLUMINATING COMPANIES (AEIC)
   K. REQUIREMENTS AND STANDARDS OF THE LOCAL ELECTRIC UTILITY
   L. ELECTRICAL TESTING LABORATORIES (ETL)
   M. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
   N. ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA)
   O. INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)
   P. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
   Q. APPLICABLE LOCAL CODES AND ORDINANCES

3. OBTAIN PERMITS AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION.

4. SCHEDULE WORK TO BE PERFORMED WITH OWNER AND INCLUDE ALL NECESSARY PREMIUM TIME REQUIRED FOR SHUTDOWNS, WORK IN OCCUPIED AREAS, ETC.

5. AREAS ASSOCIATED WITH WORK TO BE PERFORMED SHALL BE EXAMINED PRIOR TO BID SUBMISSION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR CONDITIONS FOUND DURING INSTALLATION.

6. COORDINATE WORK WITH OTHER TRADES TO INSURE INSTALLATION IS MADE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

B. INSTALLATION

1. COORDINATE WORK SHOWN ON DRAWINGS WITH OTHER TRADES TO ASSURE SYSTEMS ARE COMPLETE AND OPERATIONAL. COORDINATE EQUIPMENT LOCATIONS AND CONDUIT RUNS TO AVOID CONFLICTS OR OBSTRUCTIONS WITH OTHER TRADES. PROVIDE NECESSARY PULL BOXES, VERTICAL SUPPORT BOXES AND CONDUIT OFFSETS REQUIRED WHETHER OR NOT INDICATED ON PLANS.

2. CONDUIT RUNS INDICATED ON PLAN ARE DIAGRAMMATIC. EXACT LOCATIONS AND ELEVATION OF CONDUIT TO BE DETERMINED AFTER COORDINATION WITH OTHER TRADES. SUBMIT COORDINATED SHOP DRAWINGS SHOWING EXACT LOCATION OF EQUIPMENT AND CONDUIT INCLUDING LOCATIONS AND MEANS OF SUPPORT AS WELL AS EXPECTED LOAD CONCENTRATION AT POINTS OF ATTACHMENT. SUBMIT LOADING INFORMATION TO THE STRUCTURAL ENGINEER FOR APPROVAL.

3. PROVIDE NECESSARY CABLE SUPPORT BOXES, PULL BOXES AND CONDUIT SUPPORTS, WHERE NOTED AND AS REQUIRED BY APPLICABLE CODES. LOW VOLTAGE (COMMUNICATIONS, SECURITY, A/V, ETC.) CONDUIT, FIRE ALARM CONDUIT, ETC., WHICH HAVE RUNS IN EXCESS OF 100 FEET IN LENGTH AND/OR CONTAINING BENDS IN EXCESS OF 180 DEGREES TO BE PROVIDED WITH A PULLBOX. LABEL PULLBOXES FOR THEIR INTENDED USE. PROVIDE DECALS TO INDICATE VOLTAGE LEVEL. PAINT OR PROCURE RED BOXES FOR FIRE ALARM SYSTEM. TAG CONDUIT WITH FEEDER OR BRANCH CIRCUIT DESIGNATION AT ALL BOXES. WHERE CONDUIT BENDS ARE REQUIRED IN COMMUNICATIONS RACEWAY SYSTEMS, LIMIT THE RADIUS OF RACEWAY BENDS TO LESS THAN TEN TIMES THE DIAMETER OF THE RACEWAY. LOCATE PULL BOXES FOR COMMUNICATION RACEWAYS IN STRAIGHT PULLS ONLY. LABEL EACH RACEWAY PER TECHNOLOGY SPECIFICATION REQUIREMENTS EVERY 50 FEET HORIZONTALLY AND ON EACH FLOOR VERTICALLY. SUBMIT LABELING SYSTEM FOR REVIEW.

4. PULL WIRES IN CONDUIT ONLY AFTER THE CONDUIT SYSTEM IS COMPLETE. USE APPROVED PULLING COMPOUND WHERE REQUIRED. SPLICE WIRING ONLY WITHIN JUNCTION BOXES.

5. LOCATIONS AND MOUNTING HEIGHTS OF LIGHTING FIXTURES, SWITCHES, WALL OUTLETS, ETC., AS NOTED ON THE ARCHITECTURAL DRAWINGS.

6. DO NOT WORK ON ENERGIZED EQUIPMENT.

7. FINAL CONNECTIONS TO EQUIPMENT SHALL BE MADE ACCORDING TO MANUFACTURER APPROVED SHOP DRAWINGS.

8. COORDINATE LOCATIONS AND HEIGHTS OF STUB-UPS AND OUTLETS IN FIELD WITH VENDORS AND/OR FURNITURE MANUFACTURERS' APPROVED SHOP DRAWINGS. ALL RECEPTACLES MUST BE ACCESSIBLE.

9. INSTALL GFCI RECEPTACLES SO THE TEST AND RESET BUTTONS ARE ACCESSIBLE.

10. PROVIDE FUSED DISCONNECTS FOR EQUIPMENT WHERE REQUIRED BY CODE AND COORDINATE DISCONNECT SWITCH REQUIREMENTS AND LOCATIONS WITH THE ELECTRICAL INSPECTOR, MANUFACTURER'S APPROVED SHOP DRAWINGS AND FINAL EQUIPMENT LOCATIONS.

11. VERIFY PHASE LOAD BALANCING ON POWER PANELS UPON COMPLETION OF THE ELECTRICAL INSTALLATION. INCLUDE RE-DISTRIBUTION OF CIRCUITS WITHIN PANELS TO BALANCE WITHIN A 10% WINDOW (±5%).

12. WHERE MORE THAN ONE CIRCUIT IS ROUTED IN THE SAME CONDUIT, DERATE THE WIRING PER NATIONAL ELECTRICAL CODE REQUIREMENTS.

13. WORK AND/OR EQUIPMENT INSTALLED OUTDOORS SHALL BE APPROVED FOR USE IN WET LOCATIONS.

C. ARCHITECT'S AND/OR ENGINEER'S REVIEW

1. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO THE START OF WORK. WORK OR EQUIPMENT INSTALLED PRIOR TO REVIEW OF SHOP DRAWINGS AND FOUND TO BE UNACCEPTABLE MUST BE REMOVED AND MODIFIED AT THE CONTRACTOR'S EXPENSE INCLUDING ANY RESULTANT SCHEDULING DELAYS EXPERIENCED.

2. THE ARCHITECT AND/OR ENGINEER WILL REVIEW SHOP DRAWINGS AND SAMPLES FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS. THE ARCHITECT'S AND/OR ENGINEER'S REVIEW OF SHOP DRAWINGS AND SAMPLES IS ONLY FOR THE CONVENIENCE OF THE OWNER IN FOLLOWING THE WORK AND DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE ARCHITECT'S AND/OR ENGINEER'S REVIEW SHALL NOT BE CONSTRUED AS A COMPLETE OR DETAILED CHECK OF THE WORK SUBMITTED, NOR SHALL IT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OF ANY SORT IN THE SHOP DRAWINGS AND SAMPLES, OR FROM THE NECESSITY OF FURNISHING WORK REQUIRED BY THE CONTRACT DOCUMENTS WHICH MAY HAVE BEEN OMITTED FROM SHOP DRAWING SUBMITTALS.

3. THE REVIEW OF A SEPARATE ITEM SHALL NOT INDICATE REVIEW OF THE COMPLETE ASSEMBLY IN WHICH IT FUNCTIONS. NOTHING IN THE ARCHITECT'S AND/OR ENGINEER'S REVIEW OF SHOP DRAWINGS AND SAMPLES SHALL BE CONSIDERED AS AUTHORIZING:
   a. A DEPARTURE FROM CONTRACT DOCUMENTS OR SPECIFICATIONS, OR,
   b. ADDITIONAL COST TO THE OWNER, OR,
   c. INCREASED TIME FOR COMPLETION OF THE WORK.

4. NO PART OF THE WORK SHALL BE STARTED IN THE SHOP OR IN THE FIELD UNTIL THE ARCHITECT AND/OR ENGINEER HAS REVIEWED THE SHOP DRAWINGS AND SAMPLES FOR THAT PORTION OF THE WORK. THEREAFTER, THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE INDICATED STATUS OF THE REVIEWED SHOP DRAWING.

5. SAMPLES SHALL BE SUBMITTED FOR REVIEW WHEN REQUESTED BY THE ARCHITECT AND/OR ENGINEER.

6. TWO WEEKS AFTER AWARD OF CONTRACT SUBMIT A SHOP DRAWING LOG FOR REVIEW WITH SUBMITTAL DATES AND SUBMITTAL TYPE.

7. PROVIDE OPERATIONS AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND MATERIALS.

D. RECORD DRAWINGS

1. PREPARE AND FURNISH TO OWNER "AS BUILT" PLANS FOR ALL WORK INSTALLED. PROVIDE CAD DRAWINGS AND CAD FILES COMPLETED IN THE LATEST VERSION OF AUTOCAD. ALL DRAWINGS SHALL BE IN A STYLE COMMENSURATE WITH THE ENGINEERING DESIGN. THE ENGINEERING DESIGN CAD DRAWINGS OR BACKGROUNDS WILL BE FURNISHED FOR USE TO THIS CONTRACTOR FOR THE PURPOSE OF THIS SUBMISSION (SUBMIT A CAD INDEMNIFICATION AGREEMENT).

2. DURING CONSTRUCTION, KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK AS SHOWN ON DRAWINGS AND THAT WHICH IS ACTUALLY INSTALLED. THIS RECORD SET OF PRINTS SHALL BE KEPT AT JOB SITE FOR INSPECTION.

3. UPON COMPLETION OF THE INSTALLATION. SUBMIT ONE SET OF BLACK AND WHITE PRINTS OF THESE "AS-BUILT" RECORD DRAWINGS TO THE ARCHITECT/ENGINEER FOR REVIEW. AFTER REVIEW BY THE ARCHITECT/ENGINEER, MAKE NECESSARY CHANGES TO THESE DRAWINGS AND DELIVER TO THE OWNER FOR RECORD. FINAL PAYMENT WILL BE WITHHELD UNTIL COMPLETION OF "AS-BUILT" DRAWINGS.

4. AS-BUILT DRAWINGS MUST CONTAIN EXACT ROUTING AND ELEVATIONS OF CONDUIT BANKS, ACTUAL PANELBOARD CIRCUIT BREAKER POLE POSITIONS USED FOR EACH CIRCUIT, AND EXACT LOCATION OF ALL EQUIPMENT. ALL DIMENSIONS SHALL BE REFERENCED TO BUILDING STRUCTURE CENTERLINES.

E. EQUIPMENT SPECIFICATIONS

1. EQUIPMENT AND MATERIALS SHALL BE NEW, LISTED AND SHALL CONFORM TO ANY ADDITIONAL LABELING, TESTING AND CONSTRUCTION REQUIREMENTS ESTABLISHED BY THE AHJ. SAME SHALL BE GUARANTEED FOR 1 YEAR SUBSEQUENT TO FINAL ACCEPTANCE.

2. CLEAN EXISTING EQUIPMENT TO BE RELOCATED OR TO BE INSTALLED FROM STORAGE.

3. INTERMEDIATE METAL CONDUIT SHALL BE USED WHERE SUBJECTED TO ANY WATER OR MOISTURE CONDITIONS.

4. LOCATE CONDUIT EXPANSION FITTINGS TOGETHER WITH BONDING JUMPER AND SUITABLE SLEEVES WHERE EXPANSION JOINTS ARE ENCOUNTED. INSTALL CONDUIT EXPANSION FITTINGS IN EACH CONDUIT RUN WHEREVER IT CROSSES AN EXPANSION JOINT IN THE STRUCTURE. INSTALL EXPANSION FITTING ON ONE SIDE OF THE JOINT WITH ITS SLIDING SLEEVE END FLUSH WITH THE JOINT AND WITH A LENGTH OF BONDING JUMPER IN THE EXPANSION JOINT EQUAL TO AT LEAST THREE TIMES THE NORMAL WIDTH OF THE JOINT.

5. FOR VOLTAGE DROP CONSIDERATIONS, USE #10 MINIMUM WIRE FOR 20A, SINGLE POLE, 120 VOLT OR 208 VOLT BRANCH CIRCUIT RUNS IN EXCESS OF 100 FEET FROM THE PANEL TO THE DEVICE.

6. LOCATE JUNCTION OR PULL BOXES WHERE INDICATED ON PLANS AND WHEREVER ELSE SUCH A BOX MAY BE NECESSARY TO FACILITATE INSTALLATION OR CONFORM TO CODE REQUIREMENTS. COORDINATE LOCATIONS OF JUNCTION/PULL BOXES WITH ARCHITECT FOR ACCESSIBILITY AND AESTHETIC CONSIDERATIONS. INSTALL JUNCTION BOXES AND PULL BOXES EVERY 100 FEET IN CONDUIT HORIZONTAL RUNS. DO NOT EXPOSE JUNCTION/PULL BOXES IN FINISHED SPACES. TAG AND IDENTIFY CABLES WITHIN PULL BOXES. LABEL CONDUITS WITH FEEDER DESIGNATION AT ENTRY AND EXIT TO THE BOX.

F. LIGHTING FIXTURES

1. WIRE BRANCH CIRCUITS WHICH CONTAIN THE NECESSARY NUMBER OF WIRES TO AFFORD THE SWITCH CONTROL INDICATED. FOR LIGHTING CIRCUITS CONTROLLED BY DIMMERS, DO NOT SHARE A NEUTRAL WITH OTHER CIRCUITS.

2. COMPLETE AND FILE LIGHTING REBATE FORMS ON BEHALF OF THE CLIENT REQUIRED FOR A REBATE WITH THE GOVERNING AUTHORITY AND/OR UTILITY AS REQUIRED PRIOR TO THE PURCHASE OF FIXTURES IN ORDER TO ACHIEVE THE MAXIMUM REBATE AMOUNT. FILE FOR MOTION/VACANCY SENSORS, TIMECLOCKS, ETC. AS PART OF THE REBATE PROCESS WHERE APPLICABLE.

SCOPE NOTES:

THE DRAWINGS ARE SCOPE DOCUMENTS THAT INDICATE THE GENERAL SCOPE-OF-WORK OF THE PROJECT AND DO NOT NECESSARILY INDICATE OR DESCRIBE ALL WORK REQUIRED FOR THE FULL PERFORMANCE AND COMPLETION OF THE WORK. WORK REQUIRED TO PROPERLY COMPLETE THE SCOPE-OF-WORK DEFINED BY THE GENERAL SCOPE SHOWN ON AND REQUIRED BY THE CONTRACT DOCUMENTS IS INCLUDED. COMPREHEND THE FULL SCOPE -OF-WORK AND ANTICIPATE ALL THE WORK REASONABLY INFERABLE IN THE CONTRACT DOCUMENTS.

DEFINITION OF WORK:

1. PROVIDE A COMPLETE AND FULLY FUNCTIONING ELECTRICAL SYSTEM INCLUDING, BUT NOT LIMITED TO THE FOLLOWING REQUIREMENTS, ALL OF WHICH CONSTITUTE THE WORK TO BE PERFORMED:

   A. LABOR, MATERIAL, EQUIPMENT, FREIGHT, SUPERVISION, TAXES, ETC. REQUIRED TO FURNISH A COMPLETE AND WORKING SYSTEM.

   B. EXPANSION FITTINGS FOR CONDUITS AS FOLLOWS:
      a. AT EACH POINT WHERE AN EXPOSED OR CONCEALED CONDUIT CROSSES A BUILDING EXPANSION JOINT.
      b. AT EACH CROSSING OF A BUILDING EXPANSION JOINT WITH CONDUIT WHICH IS EMBEDDED IN CONCRETE.
      c. AT UNINTERRUPTED CONDUIT RUNS WHICH ARE IN EXCESS OF 200 FT. IN LENGTH. THIS PROVISION APPLIES TO CONDUIT WHICH IS RUN HORIZONTALLY AND TO CONDUIT WHICH IS RUN VERTICALLY.
      d. TRANSITION FITTINGS IF REQUIRED FOR APPLICATION WITH EMT CONDUIT.
      e. FOR NONMETALLIC PVC CONDUIT INSTALL FITTINGS AS RECOMMENDED BY THE MANUFACTURER.

   C. LIGHTING FIXTURES ALLOWANCE.

   D. BUILDING UTILITY METERING, INCLUDING ALL REQUIRED METER FITTINGS, WIRING, ETC.

   E. HOOKUP ALL POWER WIRING OF ALL PIECES OF EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS REGARDLESS OF WHETHER OR NOT THESE CONNECTIONS ARE SHOWN ON THE ELECTRICAL DRAWINGS. CONDUIT, JUNCTION BOXES, AND CONDUCTORS AND DISCONNECTS, TO EQUIPMENT INCLUDING HVAC, PLUMBING, BUILDING, AND FIRE PROTECTION AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.

   F. CONCRETE ENCASEMENT FOR ELECTRICAL CONDUIT WHERE INDICATED FOR MEDIUM VOLTAGE CABLE, FIRE PUMP AND EMERGENCY GENERATOR. STRUCTURAL SUPPORT (WHICH SHALL BE DESIGNED TO ACCEPT THE FULL TEMPORARY WEIGHT OF FORMED WET CONCRETE FOR THE CONDUITS AFTER THE FORMS ARE STRIPPED) IS INCLUDED.

   G. TESTING REQUIRED BY THE DOCUMENTS IN THE PRESENCE OF THE ARCHITECT/ENGINEER OR TESTING LABORATORY. INCLUDE LOAD TEST AS REQUIRED BY GOVERNING AGENCY OR DOCUMENTS. DEVICES, MATERIALS, SUPPLIES, LABOR AND POWER AS REQUIRED TO PROPERLY CONDUCT REQUIRED TESTING OF ALL SYSTEMS INSTALLED UNDER THIS CONTRACT AS REQUIRED. PARTIAL TESTING, PARTIAL EQUIPMENT START-UP, AND REBALANCING AS NECESSARY TO ACCOMPLISH THE PHASED OCCUPANCY AND MULTIPLE TURNOVER DATES AS SPECIFIED AND AS REQUIRED.

   H. LAYOUT AND PLACING OF ALL SLEEVES, EMBEDS AND BOX-OUTS. SLEEVES ARE TO BE ANCHORED TO MINIMIZE DAMAGE TO THE CONCRETE FORMS.

1. PROVIDE EXTENDED WARRANTIES ON ALL PERMANENT ELECTRICAL EQUIPMENT USED TEMPORARILY DURING CONSTRUCTION SO THAT THE WARRANTY PERIOD FOR ALL EQUIPMENT BEGINS ON THE DATE THE ENTIRE PROJECT IS SUBSTANTIALLY COMPLETE, NOT A PHASED OCCUPANCY.

2. CONCRETE HOUSEKEEPING PADS SHOWN ON DRAWINGS OR WHERE REQUIRED.

3. IDENTIFICATION REQUIRED BY THE CONTRACT DOCUMENTS AND CODE.

4. SLEEVES AND WALL SUPPORT FOR ELECTRICAL SYSTEMS INCLUDING WATERPROOF FIRE- SAFING, STOPS AS SEALANT REQUIRED. PENETRATIONS IN THE FLOOR MUST BE WATERPROOF AND FIRESAFED.

ELECTRICAL POWER SCOPE CLARIFICATION NOTES:

A. FOR ALL SYSTEMS, PROVIDE ALLOWANCES FOR ALL COMPONENTS AND ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

B. 20A-1P RECEPTACLES SHALL BE CIRCUITED TO NO MORE THAN (6) DUPLEX RECEPTACLES PER CIRCUIT.

C. EXTERIOR EQUIPMENT - PROVIDE NEMA 3R RATING FOR ALL EXTERIOR MOUNTED EQUIPMENT, INCLUDING DISCONNECT SWITCHES.

D. PROVIDE UL MASTER LABEL LIGHTNING PROTECTION SYSTEM.

E. SITE CONVENIENCE POWER - PROVIDE (1) 20A-1P, 120V, GFCI WEATHERPROOF DUPLEX RECEPTACLE AS SHOWN.

ELECTRICAL SITE PLAN NOTES:

1. CONTRACTOR SHALL COORDINATE WITH UTILITY WORK ORDER FOR ENGINEER PRIMARY SYSTEM DESIGN.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL AND LABOR RELATED TO "CUSTOMER" RELATED ITEMS ON THE UTILITY WORK ORDER. CONTRACTOR SHALL PROVIDE ALL REQUIRED UTILITY TRANSFORMER PADS, MANHOLES, PROTECTION BOLLARDS, ETC. PER UTILITY STANDARDS.

3. ELECTRICAL SITE PLAN IS DIAGRAMMATIC. COORDINATE ALL UTILITY SERVICES AND ROUTING WITH UTILITIES AND GENERAL CONTRACTOR. THIS DRAWING SHOWS PROPOSED CONDUIT ROUTING. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS AND BE RESPONSIBLE OF ACTUAL ROUTING TO AVOID ALL CONFLICTS WITH OTHER TRADES.

4. CONTRACTOR SHALL COORDINATE WITH CIVIL, LANDSCAPE AND ARCHITECTURAL DRAWINGS.

5. PROVIDE PULL ROPE FOR ALL EMPTY CONDUITS.

6. ALL UNDERGROUND CONDUITS WITH ELBOWS AND OFFSETS GREATER THAN 30 DEGREES SHALL BE RIGID METALLIC CONDUIT (RMC) ELBOWS AND OFFSETS.

7. ALL SITE LIGHTING TO BE PROVIDED WITH CONCRETE BASES AND WITH MINIMUM 2#10, 1#10G IN 1-1/2"C. INCREASE CONDUCTOR, GROUND AND CONDUIT SIZE AS REQUIRED TO MAINTAIN < 3% VOLTAGE DROP. REFER TO CIVIL DRAWINGS FOR CONCRETE BASE DETAILS.

8. REFER TO ARCHITECTURAL PLANS AND ELECTRICAL PLANS FOR LOCATIONS OF BUILDING MOUNTED LIGHT FIXTURES.

9. CONTRACTOR SHALL PROVIDE ALL HANDHOLES. ALL HANDHOLES CONTAINING UTILITY SERVICES SHALL BE UTILITY APPROVED AND COMPLY WITH THE RESPECTIVE UTILITY STANDARDS AND REQUIREMENTS.

10. COORDINATE WITH CIVIL ENGINEER AND PROVIDE ALL REQUIRED CURB CUTS.

11. COORDINATE WITH CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS AND SITE LIGHTING.

12. ALL MATERIALS TO BE INSTALLED UNDERGROUND SHALL BE NONE METALLIC TYPE INCLUDING ALL ACCESSORIES AND HARDWARE.

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BURO HAPPOLD

Skowhegan Riverfront Walkway - Phase 1

Water Street
Skowhegan, ME

No.	Revision	Date	Appvd.

Designed by: SR
Checked by: TP
Issued for: Construction Documents
Date: 12/05/2025

Drawing Title: ELECTRICAL GENERAL NOTES

Drawing Number: E-002

Sheet of

Project Number: 55815.00

2 ELECTRICAL POWER - GROUND - CD PHASE 1 EXTENDED

1/8" = 1'-0"

1 ELECTRICAL POWER - GROUND - BH C

1/8" = 1'-0"

PHASE 1 SCOPE NOTES:

1. ALL BRANCH CIRCUIT FEEDERS SHALL BE A MINIMUM OF #10AWG. CONTRACTOR TO VERIFY VOLTAGE DROP CALCULATIONS WITH FIELD INSTALLATION.
2. RELOCATE EXISTING UTILITY POLES AS SHOWN. ALL EXISTING UTILITY SERVICE EQUIPMENT SHALL BE REPLACED WITH NEW, TYPE 4X, ENCLOSURES AND RELOCATED PER BELOW:
   A. RELOCATE ALL EXISTING SERVICE EQUIPMENT TO ART PLINTH. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND PROPOSED CLOSET. SEE SHEET E-700 FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
   B. RELOCATE EXISTING PANEL TO NEW UTILITY POLE LOCATION. EXACT POLE LOCATION SHALL BE COORDINATED WITH THE ARCHITECTS AND UTILITY COMPANY.
3. ALL RECEPTACLES SHOWN IN BOARDWALK SHALL BE MOUNTED TO THE JOISTS BELOW AND STUBBED UP FOR ACCESS ABOVE THE DECKING. CONFIRM MOUNTING HEIGHT WITH ARCHITECT.
4. CONTRACTOR SHALL CARRY AN ALLOWANCE FOR A TOTAL OF (4) 3/4" EMPTY CONDUITS WITH PULL STRINGS FROM PANEL PP-1 TO PHASE 1 LIMIT OF WORK BOUNDARY FOR FUTURE CIRCUITS. (2) CONDUITS SHALL BE ROUTED TO PLAN EAST LIMIT OF WORK AND (2) CONDUITS SHALL BE ROUTED TO PLAN WEST LIMIT OF WORK.
5. ALL BURIED CONDUITS FOR BRANCH CIRCUIT WIRING SHALL HAVE PROVISIONS FOR FUTURE EXTENSION. PROVIDE HANDHOLES, JUNCTION BOXES AND CAPS AS NEEDED TO ACCOMMODATE TOTAL BEND RADIUS FOR PHASE 1 CIRCUITS AND EXTENSION TO FUTURE DEVICES.
6. ADD ALTERNATE #1: CONTRACTOR TO CARRY PRICING FOR TEMPORARY SERVICE INSTALLATION AS PART OF PHASE 1 SCOPE INCLUDING THE FOLLOWING ITEMS:
   A. UTILITY METER, PANELBOARD AND OTHER UTILITY EQUIPMENT SHALL BE INSTALLED ON TEMPORARY STRUCTURE AND RELOCATED UPON FUTURE PHASE CONSTRUCTION.
   B. STRUCTURE AND EQUIPMENT PER DETAIL E-502/#4. REFER TO SHEET E-700 FOR SERVICE EQUIPMENT REQUIREMENTS.

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Designed by: SR
Checked by: TP
Issued for: Construction Documents
Date: 12/05/2025

Drawing Title
ELECTRICAL PLAN - B/C - PHASE 1

Drawing Number
E-103

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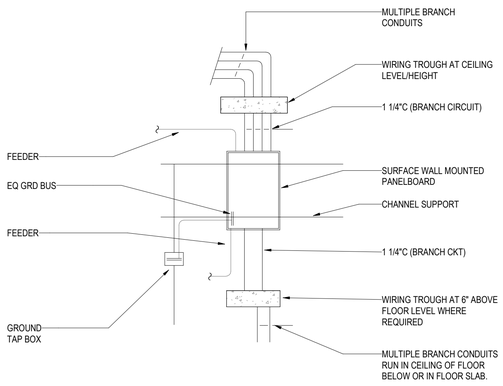
Project Number
55815.00

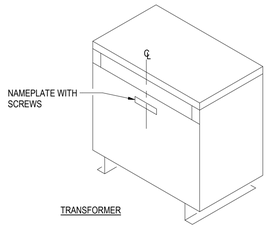


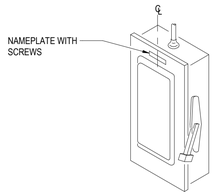
3 TYPICAL PANELBOARD INSTALLATION

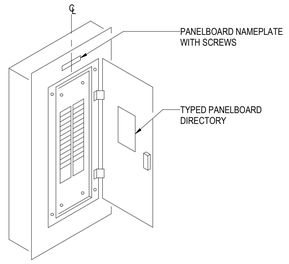
NOT TO SCALE

NOTE:

NAMEPLATE SHALL IDENTIFY THE FOLLOWING:
- NAME OF PANEL OR LOAD SERVED
- SYSTEM VOLTAGE
- NAME OF UPSTREAM/FEEDING PANEL OR SWITCHBOARD





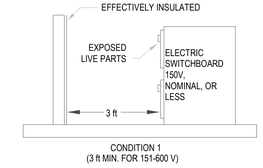


NOTES:

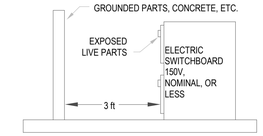
1. REFER TO SPECIFICATION 260553 FOR LABELING REQUIREMENTS.
2. PROVIDE LAMINATED, ENGRAVED PLASTIC NAMEPLATES WITH ¼ INCH HIGH LETTERS FOR ALL SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFER SWITCHES, PANELBOARDS, SIGNAL SYSTEM EQUIPMENT CABINETS, AND TERMINAL CABINETS.
3. PROVIDE SIMILAR NAMEPLATES WITH ¾ INCH HIGH LETTERS FOR TRANSFORMERS, TIME SWITCHES, INDIVIDUALLY MOUNTED BREAKERS, SWITCHES AND CONTROLS, SWITCHBOARDS, AND MOTOR CENTER BRANCH DEVICES.
4. ATTACH NAMEPLATES TO GEAR WITH SHEET METAL SCREWS. ADHESIVE MOUNTED NAMEPLATES ARE NOT ACCEPTABLE.
5. REFER TO SINGLE LINE DIAGRAMS AND SCHEDULES FOR ACTUAL DESIGNATIONS AND CIRCUIT NUMBERS THAT APPLY TO THIS PROJECT.

2 IDENTIFICATION OF ELECTRICAL EQUIPMENT

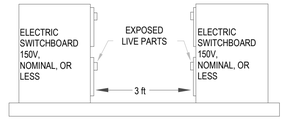
NOT TO SCALE



CONDITION 1
(3 ft MIN. FOR 151-600 V)



CONDITION 2
(SPACE WOULD INCREASE TO 3 ½ ft FOR 151-600 V)

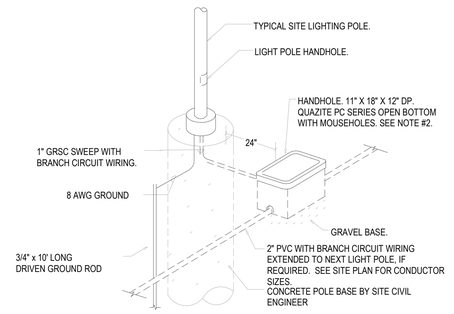


CONDITION 3
(SPACE WOULD INCREASE TO 4 ft FOR 151-600 V)

NOMINAL VOLTAGE TO GROUND	MINIMUM CLEAR DISTANCE		
	CONDITION 1	CONDITION 2	CONDITION 3
0-150	900 mm (3 ft)	900 mm (3 ft)	900 mm (3 ft)
151-600	900 mm (3 ft)	1.0 m (3 ft 6 in.)	1.2 m (4 ft)
601-1000	900 mm (3 ft)	1.2 m (4 ft)	1.5 m (5 ft)

1 NEC REQUIRED WORKING CLEARANCE

NOT TO SCALE



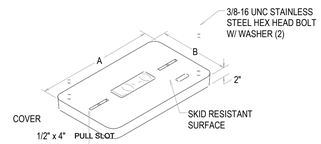
COORDINATE COVER AND FRAME COLOR

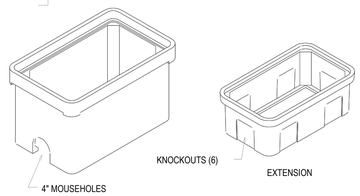
NOTES:

1. INSTALLATION TYPICAL FOR LANDSCAPED OR PAVED SIDEWALK AREAS. HANDHOLE SHALL NOT BE LOCATED IN TRAFFIC AREAS. OF HANDHOLE WITH ARCHITECT.
2. PROVIDE IN-LINE, WATERPROOF FUSE HOLDER-BUSS "TRON", TYPE HEB OR HEX, AS REQUIRED.
3. REFER TO TYPICAL LIGHT POLE BASE DETAIL.

6 SITE LIGHTING FIXTURE HANDHOLE DETAIL

NOT TO SCALE





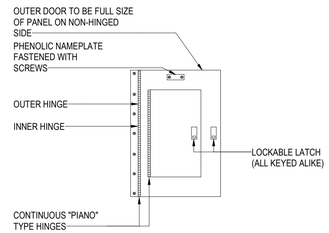
TYPE	DESCRIPTION	DIMENSIONS	
		A	B
H1	STACKABLE BOX & HEAVY DUTY COVER WITH 2 BOLTS; NO BASE (2) MOUSEHOLES WITH EXTENSIONS WITH NO BASE	24"	13"
H2		18"	11"

NOTES:

1. HANDHOLES SHALL BE BLACK IN COLOR.
2. PROVIDE 1" x 4" BELL PULL SLOT FOR EACH HANDHOLE.
3. PROVIDE HANDHOLES BY QUAZITE OR APPROVED EQUAL.

5 HANDHOLE DETAIL

NOT TO SCALE



NOTE:
1. ALL PANELS SIZE 400A AND LESS SHALL BE PROVIDED WITH DOOR-IN-DOOR COVERS.

4 DOOR-IN DOOR

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No.	Revision	Date	Appvd.

Designed by: SR
Checked by: TP
Issued for: Construction Documents
Date: 12/05/2025

Drawing Title
ELECTRICAL DETAILS

Drawing Number
E-500

Sheet of

Project Number
55815.00

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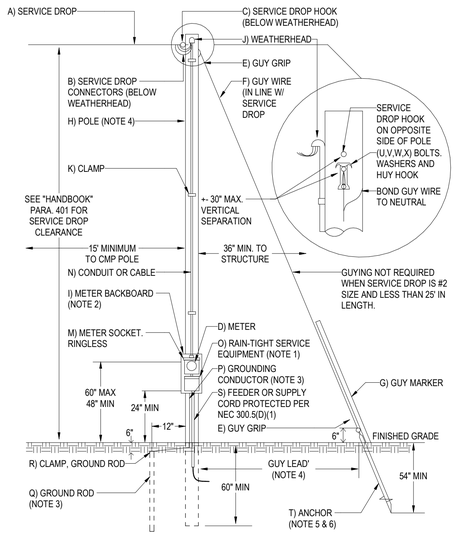


ITEMS SUPPLIED AND INSTALLED BY CMP:

A. SERVICE DROP
B. SERVICE DROP CONNECTORS
C. SERVICE DROP METER
D. METER

ITEMS SUPPLIED BY CUSTOMER AND INSTALLED BY CMP:

E. (2) PREFORMED OR EQUIVALENT GUY GRIPS 5/16"
F. GUY WIRE 7 STRAND 5/16" EHS x REQUIRED LENGTH (ALLOW FOR BONDING TO NEUTRAL)
G. GUY MARKER PVC 8FT.

ITEMS SUPPLIED AND INSTALLED BY CUSTOMER:

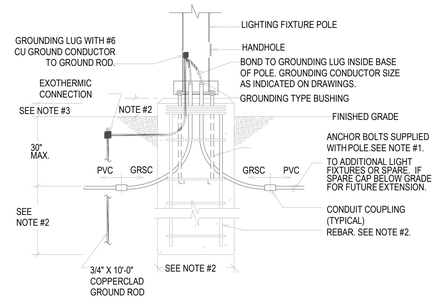
H. POLE. PRESSURE TREATED (SEE NOTE 4)
J. WEATHERHEAD
K. CLAMPS, (TWO HOLE ON A ROUND POLE), SPACED AS REQUIRED BY NEC
L. METER BACKBOARD (SEE NOTE 2)
M. METER SOCKET, RINGLESS (SEE HANDBOOK "SUPPLEMENT")
N. CONDUIT
O. RAIN-TIGHT SERVICE EQUIPMENT (SEE NOTE 1)
P. GROUNDING CONDUCTOR (SEE NOTE 3)
Q. GROUND ROD 5/8" x 8' COPPERWELD (MINIMUM)
R. GROUND ROD CLAMP
S. FEEDER OR SUPPLY CORD PER NEC (SEE NOTE 1)
T. ANCHOR:
1. NO-WRENCH SCREW TYPE, ONE PIECE, 3/4" ROD, 6" HELIX, 66" OVERALL LENGTH
2. EXPANDING WITH A MINIMUM AREA OF 70 SQ. IN. WHEN EXPANDED. ANCHOR MUST EXPAND.
3. STEEL CROSSPLATE WITH A MINIMUM AREA OF 70 SQ. IN.
U. (2) WASHERS 2-1/4" x 2-1/4" x 3/16"
V. GUY HOOK FOR 5/16" STRANDED GUY
W. BOLT, MACHINE SQUARE GALVANIZED 5/8" x REQUIRED LENGTH
X. BOLT, TOE 1/2" x 4"
* (ITEMS V, W AND X MAY BE REPLCED BY USING AN ANGLE TYPE THIMBLEYE BOLT.)

NOTES:

1. THIS STANDARD IS TYPICAL FOR A MOBILE HOME SERVICE (HANDBOOK, PARA. 408A.) BUT MAY BE APPLIED ANYWHERE THAT OVERHEAD SERVICE CONDUCTORS TERMINATE ON A CUSTOMER OWNED SERVICE/METER POLE (HANDBOOK, PARA. 404). THE SERVICE DISCONNECT AND OVERCURRENT DEVICE UNDER THE METER MAY NOT BE REQUIRED FOR ALL APPLICATIONS, BUT IT IS HIGHLY RECOMMENDED IN ORDER TO ALLOW THE CUSTOMER TO DISCONNECT AND MAINTAIN THEIR UNDERGROUND CONDUCTORS WITHOUT THE COST OF A CMP LINE CREW VISIT. SEE "HANDBOOK" ILLUSTRATION NO. 31 FOR ALLOWABLE CUSTOMER OWNED RESIDENTIAL SERVICE LENGTHS.
2. METER BACKBOARD IS RECOMMENDED (ESPECIALLY FOR A ROUND POLE) AND SHOULD BE SECURELY MOUNTED AND SEALED WITH PAINT OR PRESERVATIVE (OR BE PRESSURE TREATED).
3. SERVICE BONDING AND GROUNDING SHALL BE AS REQUIRED BY "HANDBOOK" SECTION VII AND NEC ARTICLE 250. FOR METER ONLY (NO DISCONNECT) INSTALLATIONS, THE METER ENCLOSURE SHALL BE GROUNDED (AT A MINIMUM) TO A "SUPPLEMENTARY GROUND ROD (5/8" x 8').
4. THE POLE SHALL BE PRESSURE TREATED FULL LENGTH (OR UNTREATED CEDAR), HAVE A MINIMUM DIAMETER OF 8" AND GROUND LINE AND 6" AT TOP, AND BE OF SUFFICIENT HEIGHT TO PROVIDE PROPER SERVICE DROP CLEARANCE. A 6" x 6" (OR LARGER) PRESSURE TREATED TIMBER IS ACCEPTABLE. THE GUY 'LEAD' DIMENSION SHALL BE A MINIMUM OF 10 FEET OR 1/3 THE HEIGHT OF THE POLE (ABOVE GROUND), WHICHEVER IS GREATER.
5. THE ANCHOR AND ROD ARE A ONE PIECE GALVANIZED UNIT. TO MANUALLY INSTALL ANCHOR, PLACE A TURNING BAR THROUGH THE ROD EYE AND ROTATE ANCHOR CLOCKWISE. IF FULL DEPTH INSTALLATION CANNOT BE ACHIEVED BY THIS METHOD. THEN A HOLE MAY BE DUG TO FULL DEPTH, ANCHOR PLACED AND THE HOLE BACKFILLED AND TAMPED WITH STONES AND DIRT.
6. FOR THE EXPANDING ANCHOR AND THE CROSSPLATE ANCHOR, AN ANCHOR ROD WITH A MINIMUM DIAMETER OF 5/8" AND A MINIMUM LENGTH OF 6 FEET MUST BE ORDERED SEPARATELY IN ADDITION TO THE ANCHOR.

2 CMP - PERMANENT SERVICE - POLE MOUNTED SERVICE/METER

NOT TO SCALE



NOTES:

1. FURNISH GENERAL CONTRACTOR WITH POLE BASE BOLT TEMPLATE PRIOR TO CONCRETE POUR.
2. REFER TO SITE CIVIL ENGINEER FOR POLE BASE HEIGHT, SIZE AND REBAR REQUIREMENTS .
3. COORDINATE EXACT ANCHOR BOLT REQUIREMENTS WITH SITE CIVIL ENGINEER e.g. BREAK-AWAY TYPE.

1 SITE LIGHTING POLE BASE DETAIL

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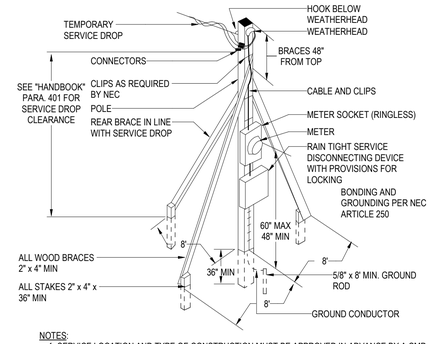
TEMPORARY SERVICE STRUCTURE - FOR USE DURING BUILDING CONSTRUCTION



NOTES:

1. SERVICE LOCATION AND TYPE OF CONSTRUCTION MUST BE APPROVED IN ADVANCE BY A CMP REPRESENTATIVE. THE TYPE OF STRUCTURE SHOWN HERE MAY BE USED ONLY WHERE THE TEMPORARY SERVICE DROP LENGTH DOES NOT EXCEED 75'. SEE METERING STANDARDS 980-31.1.6.1 & 980-31.1.6.2 ("HANDBOOK" ILLUS. NO.4) FOR GREATER DISTANCE OF TEMPORARY SERVICE OR FOR PERMANENT SERVICE.
2. THE POLE MUST BE AT LEAST 5" IN DIAMETER AT THE TOP, OR BE A 6" x 6" TIMBER (A 4" x 4" TIMBER MAY BE USED WHEN DISTANCE TO THE CMP POLE IS LESS THAN 25 FEET.)
3. THE POLE MUST BE TALL ENOUGH TO PERMIT THE ATTACHMENT POINT TO BE AT LEAST 12 FEET ABOVE GROUND WITH A MINIMUM OF 36" IN GROUND. ADDITIONAL HEIGHT MAY BE REQUIRED FOR PROPER CLEARANCE WHEN THE TEMPORARY SERVICE IS ON THE OPPOSITE SIDE OF THE STREET OR HIGHWAY FROM THE CMP POLE. (SEE "HANDBOOK", PARA. 401 FOR SERVICE DROP CLEARANCES).
4. ALL EQUIPMENT, EXCEPT THE SERVICE DROP, HOOK, CONNECTORS AND METER, ARE TO BE SUPPLIED, INSTALLED AND MAINTAINED BY THE CONTRACTOR.
5. INSTALLATION OF A TEMPORARY SERVICE ON A CONSTRUCTION SHACK, MAY BE PERMITTED WITH THE APPROVAL OF A CMP REPRESENTATIVE. PER NEC 230.10. TREES SHALL NOT BE USED FOR A SUPPORT OF OVERHEAD SERVICE CONDUCTORS.

3 CMP - ADD ALTERNATE #1 - TEMP SERVICE STRUCTURE 200A MAX

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Designed by: SR
Checked by: TP
Issued for: Construction Documents
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Drawing Title
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Drawing Number
E-501

Sheet of

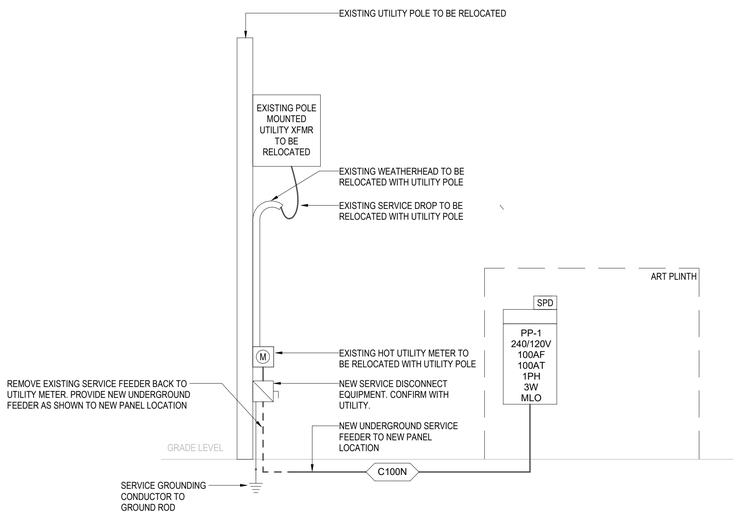
Project Number
55815.00

LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	MANUFACTURER	LAMP	WATTAGE	VOLTAGE	NOTES
B	BOLLARD LIGHT	BY ARCHITECT	BY ARCHITECT	17	120 V	PROVIDE PHOTOCELL INTEGRAL TO FIXTURE
LP	LIGHT POLE	BY ARCHITECT	BY ARCHITECT	31	120 V	PROVIDE PHOTOCELL INTEGRAL TO FIXTURE

LIGHT FIXTURE SCHEDULE NOTES:
1. REFER TO CIVIL AND LANDSCAPE SITE PLANS FOR FINAL SITE LIGHT FIXTURE LOCATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR FINAL FIXTURE COORDINATION AND INSTALLATION.
3. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES REQUIRED FOR INSTALLATION OF LIGHT FIXTURES INCLUDING, BUT NOT LIMITED TO, BAR HANGARS, SWIVEL STEM HANGERS, PENDANTS, END CAPS, CONNECTORS, MOUNTING BOXES, MOUNTING CLIPS.
4. FINAL FINISHED AND COLORS OF ALL LIGHT FIXTURES SHALL BE APPROVED BY ARCHITECT AND LIGHTING DESIGNER.
5. FIXTURES SHALL BE U.I. WET LOCATION LISTED.
6. ADD ALTERNATE #2: PROVIDE POLE MOUNTED, CENTRAL LIGHTING CONTROLS FOR SITE LIGHTING.

FEEDER DESIGNATIONS - COPPER CONDUIT					
FEEDER ID	AMPS	PHASE WIRES (AWG)	NEUTRAL WIRES (AWG)	GND (AWG)	MIN. CONDUIT SIZE (IN)
C20	20	(3)#12		#12	3/4
C20N	20	(3)#12	(1)#12	#12	3/4
C30	30	(3)#10		#10	3/4
C30N	30	(3)#10	(1)#10	#10	1
C40	40	(3)#8		#10	1
C40N	40	(3)#8	(1)#8	#10	1
C50	50	(3)#6		#10	1-1/4
C50N	50	(3)#6	(1)#6	#10	1-1/4
C60	60	(3)#4		#10	1-1/4
C60N	60	(3)#4	(1)#4	#10	1-1/4
C70	70	(3)#4		#8	1-1/4
C70N	70	(3)#4	(1)#4	#8	1-1/4
C80	80	(3)#3		#8	1-1/4
C80N	80	(3)#3	(1)#3	#8	1-1/2
C90	90	(3)#2		#8	1-1/2
C90N	90	(3)#2	(1)#2	#8	1-1/2
C100	100	(3)#1		#8	1-1/2
C100N	100	(3)#1	(1)#1	#8	1-1/2



1 ELECTRICAL POWER RISER

NOT TO SCALE

ELECTRICAL EQUIPMENT SCHEDULE

PANEL NAME	VOLTAGE CONFIGURATION			SCCR	BUS AMPS	MCB RATING	NUMBER OF POLES	COMMENTS
	VOLTAGE	PHASE	NUMBER OF WIRES					
PP-1	240 V	1	3	22kA	100 A	100 A	24	NEMA 4X ENCLOSURE

PP-1

ROOM: PAVILION
MOUNTING: SURFACE
FED FROM: UTILITY TRANSFORMER
NOTE:

VOLTS: 120/240V, 1P 3W
BUS AMPS: 100 A
NEUTRAL: 100%

A.I.C.: 22kA
MAINS: 100 A MLO
LUGS: STANDARD

CKT #	CKT BKR	# OF POLES	CIRCUIT DESCRIPTION	A		B		CIRCUIT DESCRIPTION	# OF POLES	CKT BKR	CKT #
1	20 A	1	BOLLARD LIGHTING - WEST OF PEDESTRIAN BRIDGE	153	360			RECEPTACLES - BOARDWALK FOR LIGHTING	1	20 A	2
3	20 A	1	RECEPTACLES - WEST OF PAVILION			540	180	RECEPTACLES - WEST OF PEDESTRIAN BRIDGE	1	20 A	4
5	20 A	1	POLE LIGHTING	124	0			SPARE	1	20 A	6
7	20 A	1	SPARE			0	0	SPARE	1	20 A	8
9	20 A	1	SPARE	0	0			SPARE	1	20 A	10
11	20 A	1	SPARE			0	0	SPARE	1	20 A	12
13	20 A	1	SPARE	0	0			SPARE	1	20 A	14
15	--	1	SPACE & PROVISION			--	--	SPACE & PROVISION	1	--	16
17	--	1	SPACE & PROVISION	--	--			SPACE & PROVISION	1	--	18
19	--	1	SPACE & PROVISION			--	--	SPACE & PROVISION	1	--	20
21	--	1	SPACE & PROVISION	--	--			SPACE & PROVISION	1	--	22
23	--	1	SPACE & PROVISION			--	--	SURGE PROTECTIVE DEVICE	1	--	24
				637 VA		720 VA					
				5 A		6 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND	CALCULATED DEMAND	TOTALS
LIGHTING	277 VA	100%	277 VA	
MOTORS	0 VA	125% LARGEST + 100% REMAINDER	0 VA	
RECEPTACLES	1080 VA	100% FIRST 10kVA, 50% REMAINDER	1080 VA	**TOTAL CONNECTED LOAD:** 1,357 VA
HEATING/COOLING	0 VA	100%	0 VA	**TOTAL CALCULATED DEMAND:** 1357 VA
KITCHEN	0 VA	PER NEC TABLE 220.56	0 VA	**BALANCED THREE PHASE AMPS:** 6 A
CONTINUOUS	0 VA	125%	0 VA	
NONCONTINUOUS	0 VA	100%	0 VA	
NONCOINCIDENTAL	0 VA	0%	0 VA	

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ELECTRICAL POWER RISER DIAGRAM & SCHEDULE SCOPE NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL CARRY ELECTRONIC TRIP LSI TYPE CIRCUIT BREAKERS FOR ALL PANELBOARD MAIN CIRCUIT BREAKERS. FEEDER BREAKERS SERVING OTHER PANELBOARDS, AND ALL CIRCUIT BREAKERS RATED 100-AMPS AND GREATER.
2. SEE RESPONSIBILITY MATRIX FOR SCOPE DELINEATION BETWEEN OWNER AND UTILITY WORK.
3. SEE SHEET E-501 FOR ADDITIONAL SERVICE DETAILS.
4. SEE DETAIL #2/E-501 FOR MORE INFORMATION ON SERVICE BONDING AND GROUNDING. ALL SERVICE GROUNDING SHALL COMPLY WITH UTILITY AND NEC ARTICLE 250 STANDARDS.
5. ALL UNDERGROUND SERVICE CONDUCTORS AND FEEDERS SHALL COMPLY WITH NEC ARTICLE 300.5 AND UTILITIES HANDBOOK.

POWER STUDY NOTES:

1. PROVIDE A SHORT CIRCUIT, COORDINATION, AND ARC FLASH HAZARD ANALYSIS STUDY FOR ALL ELECTRICAL EQUIPMENT IN THIS PROJECT. THE STUDIES SHALL BE PERFORMED BY THE DISTRIBUTION EQUIPMENT MANUFACTURER OR A FIRM ENGAGED BY THE EQUIPMENT MANUFACTURER. THE ARC FLASH HAZARD ANALYSIS SHALL BE PER NFPA 70E, ARTICLE 130.3, ANNEX D.
2. THE STUDIES SHALL BE SUBMITTED FOR ENGINEER REVIEW PRIOR TO RELEASE OF ELECTRICAL EQUIPMENT FOR MANUFACTURING.
3. THE ELECTRICAL CONTRACTOR SHALL OBTAIN UTILITY COMPANY EQUIPMENT CHARACTERISTICS FOR COMPLETE AND ACCURATE STUDY.
4. THE STUDIES SHALL INCLUDE ALL PORTIONS OF THE ELECTRICAL DISTRIBUTION SYSTEM.
5. STUDY SHALL INDICATED THE FOLLOWING:
   A. DESCRIPTION, PURPOSE, BASIS OF SCOPE OF THE STUDY.
   B. FAULT CURRENT INPUT DATA, AND INTERPRETATION OF FINDINGS.
   C. TABULATION OF THE WORST-CASE CALCULATED SHORT CIRCUIT DUTIES AS A PERCENTAGE OF THE APPLIED DEVICE RATING.
   D. TIME-CURRENT CURVES WITH ASSOCIATED ONE-LINE DIAGRAM IDENTIFYING THE PLOTTED DEVICES AND CIRCUIT BREAKER ANSI SETTINGS.
   E. ONE-LINE DIAGRAM SHOWING PROTECTIVE DEVICE AMPERE RATING, AND ASSOCIATED DESIGNATIONS, CABLE SIZE AND LENGTH, TRANSFORMER KVA AND ELECTRICAL DISTRIBUTION EQUIPMENT DESIGNATIONS.
   F. INCIDENT ENERGY AND FLASH PROTECTION BOUNDARY CALCULATIONS.
   G. COMMENTS AND RECOMMENDATIONS FOR THE SYSTEM IMPROVEMENTS.
   H. EXECUTIVE SUMMARY INCLUDING SOURCE INFORMATION AND ASSUMPTIONS MADE.
6. THE STUDIES SHALL BE PERFORMED WITH AID OF A DIGITAL COMPUTER PROGRAM AND SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE IEEE AND ANSI STANDARDS. WHERE AN EXISTING BUILDING STUDY EXISTS AND PROGRAM AS AVAILABLE, MODIFICATIONS TO THE EXISTING STUDY SHALL BE COMPLETED USING THE APPROPRIATE SOFTWARE.
7. REFER TO THE ELECTRICAL SPECIFICATIONS FOR FURTHER REQUIREMENTS AND DETAILS ON THE POWER SYSTEM STUDY.

POWER RISER DIAGRAM NOTES:

1. WHERE DISCREPANCIES OCCUR BETWEEN RISER AND SCHEDULES, CARRY THE WORST CASE IN THE BID AND SUBMIT RFI FOR REVIEW AND CLARIFICATION.
2. CONTRACTOR SHALL CONTACT UTILITY TO OBTAIN NEW SERVICE REQUIREMENTS, PRIMARY SERVICE DESIGN, SERVICE CONNECTION POINT LOCATIONS, REQUIREMENTS AND DESIGN LAYOUT. PROVIDE ALL MATERIALS, CONDUITS, WIRING, PULL/SPLICE/JUNCTION BOXES, LABOR (REGULAR/OVERTIME), FEES/CHARGES, RENTAL EQUIPMENT, CONCRETE ENCASEMENT, ETC AS REQUIRED FOR COMPLETE INSTALLATION TO MEET ALL CODES AND UTILITY'S REQUIREMENTS. MISCELLANEOUS BACK CHARGES SHALL BE PAID DIRECTLY BY THE OWNER.
3. PROVIDE UTILITY APPROVED METER SOCKETS AND CT CABINET ENCLOSURES. EXACT LOCATIONS TO BE COORDINATED WITH UTILITY COMPANY.
4. REFER TO ELECTRICAL SERVICE GROUNDING DETAIL FOR SERVICE GROUNDING REQUIREMENTS.
5. CONTRACTOR SHALL INCREASE FEEDER AND CONDUIT SIZES AS REQUIRED TO MAINTAIN LESS THAN 2% VOLTAGE DROP. ALL FEEDERS TO BE XHHW-2.
6. NON-METERED SERVICE FEEDERS SHALL BE INSTALLED IN RIGID METAL CONDUIT (RMC).
7. THE ELECTRICAL CONTRACTOR PROVIDE PERMANENT IDENTIFICATION FOR EACH OF THE MAIN SERVICE DISCONNECT SWITCHES PER NEC 230.2(E) AND THE AUTHORITY HAVING JURISDICTION.
8. THE ELECTRICAL CONTRACTORS SHALL SUPPLY LUG KITS AND CONDUCTOR REDUCING ADAPTORS (SUCH AS MAC ADAPTORS) AS REQUIRED TO TERMINATE CONDUCTORS TO LUGS FOR CIRCUIT BREAKERS AND ELECTRICAL DISTRIBUTION EQUIPMENT.
9. PROVIDE PULL BOXES AS REQUIRED. PULL BOXES FOR UNMETERED SERVICE FEEDERS SHALL BE WITH HINGED COVER WITH UTILITY APPROVED LOCK.
10. PROVIDE A SHORT CIRCUIT AND COORDINATION STUDY AND ARC FLASH HAZARD ANALYSIS STUDY. EQUIPMENT RATINGS ON AVAILABLE FAULT CURRENTS SHALL EXCEED THE STUDY. EQUIPMENT SUBMITTALS WILL NOT BE APPROVED WITHOUT FINAL APPROVALS STUDIES.

Responsibility Matrix						
	CENTRAL MAINE POWER			OWNER		
	Furnish	Install	Terminate	Furnish	Install	Terminate
SERVICE DROP CONDUCTORS FROM UTILITY XFMR	x	x				x
SERVICE MAST W/ WEATHERHEAD				x	x	x
METER	x	x	x			
SERVICE DISCONNECT				x	x	x
GROUND CONDUCTORS AND GROUND ROD				x	x	x

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PRINCIPLE

BURO HAPPOLD

Skowhegan Riverfront Walkway - Phase 1

Water Street
Skowhegan, ME

No.	Revision	Date	Appvd.

Designed by: SR
Checked by: TP
Issued for: Construction Documents
Date: 12/05/2025

Drawing Title: ELECTRICAL POWER RISER

Drawing Number: E-700

Sheet of

Project Number: 55815.00

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