WARNING
Hazardous voltage inside.
KEEP OUT!
Can shock, burn, cause severe injury or death.
If opened or damaged, notify:
Reading Municipal Light Department 781-942-6598

WARNING
Underground power cables are located in this area.
Before digging call 811.
Can shock, burn or cause death.

NOTICE
We need room to work safely on this device. Please keep shrubs and structures 10 feet away from the side with doors and 3 feet from other sides.
Obstructions may be damaged or removed during service restoration or maintenance.

DATE: 9/24/2020
SCALE: N.T.S
PARTIAL LOAD TRANSFER

METER

SERVICE DISCONNECT

DISTRIBUTION

SEALABLE, NON-FUSED DOUBLE THROW SWITCH

STANDBY GENERATOR

NON-TRANSFERABLE LOAD

TRANSFERABLE LOAD

DISTRIBUTION

NON-TRANSFERABLE LOAD

SCALE: N.T.S

DATE: 9/24/2020
NOTES:

1. IF LESS THAN 20' SEPARATION BETWEEN TRANSFORMER AND GENERATOR OR FUEL STORAGE, CUSTOMER TO CONSTRUCT MASONRY WALL. HEIGHT ABOVE GRADE: 6'-0" MINIMUM DEPTH BELOW GRADE: 2'-0" MINIMUM

2. FENCE, WHEN INSTALLED IN FRONT OF TRANSFORMER DOORS SHALL HAVE OPERABLE GATE(S) FOR ACCESS

3. A MINIMUM OF 10'-0" WORKING CLEARANCE MUST BE MAINTAINED FROM THE FRONT OF ALL EQUIPMENT DOORS

4. A MINIMUM OF 3'-0" CLEARANCE MUST BE MAINTAINED FROM ALL SIDES OF EQUIPMENT
OVERHEAD SERVICE ENTRANCE GUIDELINES

NOTES:

1. ELECTRICIAN TO INSTALL POINT OF ATTACHMENT, RMLD TO SUPPLY ATTACHMENT HARDWARE UPON REQUEST

230 Ash St. Reading, MA 01867

SCALE: N.T.S       DATE: 9/24/2020
FIGURE 5

SERVICE DROP REQUIREMENTS

18 -FT MIN OVER PUBLIC STREETS, ALLEYS, ROADS & DRIVEWAYS ON OTHER THAN RES. PROPERTY

16 -FT MIN OVER COMMERCIAL AREAS, PARKING LOTS, AGRICULTURAL OR OTHER AREA SUBJECT TO TRUCK TRAFFIC

12 -FT MIN OVER RESIDENTIAL PROPERTY OR DRIVEWAYS AND COMMERCIAL AREAS NOT SUBJECT TO TRUCK TRAFFIC

10 -FT MIN ABOVE FINISHED GRADE, PEDESTRIAN SIDEWALKS, OR ACCESSIBLE SURFACES TO LOWEST POINT OF DRI-F LOOP

NOTE: CLEARANCE IS SPECIFIED FOR DROP CONDUCTORS - NOT DRI-F LOOP SE CONDUCTORS

REQUIRED CLEARANCE FROM WINDOW OR DOOR ON ELEVATED PORCH

3 FT MIN

SERVICE DROP ATTACHMENT MUST BE ACCESSIBLE FROM GROUND LEVEL USING A LADDER

NOTE: SERVICE DROP CONDUCTORS ABOVE TOP LEVEL OF A WINDOW OR DOOR DO NOT REQUIRE 3 FT. HORIZONTAL CLEARANCE

SCALE: N.T.S
DATE: 9/24/2020
FIGURE 6
TYPICAL SERVICE MAST CONSTRUCTION

MAST SHALL BE GUYED FOR HEIGHT ABOVE ROOF GREATER THAN 3'-0" & SPANS GREATER THAN 100'.

WEATHERHEAD
MAX SERVICE LENGTH - 100'

4" (MAX)
SEAL
FLASHING

18" MIN
3' MIN
5' MAX

2'X4' BLOCKING BETWEEN RAFTERS. MUST BE SOLIDLY INSTALLED.

MAX CLAMP SPACING 4' (MAX)

2'X4' BETWEEN STUDS

BUILDING MOUNTING CLAMPS WITH 1"X2" FLAT BEARING SURFACE & 1/2"X10" MACHINE BOLTS/WASHERS

2-1/2" RIGID STEEL CONDUIT (GALV.)(NO COUPLINGS)

WEATHERHEAD

7'-0" MIN
7'-0" MAX
8'-0" MAX

OFFSET ADAPTER

METER

GRADE

3'-0" MIN
6'-0" MAX

8'-0" GROUND ROD

SCALE: N.T.S
DATE: 9/24/2020
FIGURE 7
SERVICE MAST INSTALLATION

SERVICE MAST MINIMUM 18"
GALVANIZED RIGID METAL
CONDUIT PER NEC

UNGUYED HEIGHT "A"
NO. 1/0 - 100 FT SPAN - 18"

HEIGHT A

4' MAX

CUSTOMER IS RESPONSIBLE FOR
GUING HIGHER MASTS OR FOR
SPANS LONGER THAN 100 FT

NOTE: ROOF SLOPE MUST
EXCEED 4" x 12"

4"

12"

SCALE: N.T.S
DATE: 9/24/2020
NOTICE

PLEASE KEEP SHRUBS, DEBRIS, FENCES, AND OTHER STRUCTURES CLEAR OF THIS AREA. A CLEARANCE OF 4' WIDE X 3' DEEP X 6' HIGH IS REQUIRED.

DO NOT TAMPER WITH THE METER, ITS SEALS, OR CONNECTIONS UNDER PENALTY OF LAW.
NOTES:
1. ALL EQUIPMENT, EXCEPT WATT-HOUR METER, SHALL BE FURNISHED AND INSTALL BY THE CUSTOMER, UNLESS SPECIFICALLY NOTED
2. CUSTOMER TO INSTALL RISER AT RMLD UTILITY POLE. MINIMUM RISER INSTALLATION REQUIREMENTS: 10' RIGID STEEL (RGS) CONDUIT, RGS SWEEP AND 2' MIN RGS CONDUIT GETAWAY FROM UTILITY POLE
3. CUSTOMER TO INSTALL HANDHOLE; PROVIDED BY RMLD OF THE FOLLOWING SIZES: 12"x24" OR 17"x30". SIZE OF HANDHOLE TO BE DETERMINED BY RMLD ENGINEERING
4. CUSTOMER WILL FURNISH AND INSTALL WIRE FOR ENTIRE LENGTH, FROM METER SOCKET TO POLE. CUSTOMER TO INCLUDE ENOUGH WIRE TO REACH RMLD SECONDARY CONDUCTORS. (LENGTH SHORTAGE WILL BE CUSTOMER'S RESPONSIBILITY TO RESOLVE)
5. RMLD TO MAKE ALL SERVICE CONNECTIONS AND DISCONNECTIONS AT UTILITY POLE
6. UTILITY POLE SHALL HAVE NO MORE THAN 4 RISERS ASSOCIATED
NOTES:

1. NONCOMBUSTIBLE MATERIAL IS DEFINED AS A MATERIAL THAT WILL NOT IGNITE, BURN, SUPPORT COMBUSTION, OR RELEASE FLAMMABLE VAPORS, WHEN SUJETED TO FIRE OR HEAT (NFPA 220-1979)

2. BUILDING OR ANY ELEMENT OF A BUILDING STRUCTURE SHALL NOT OVERHANG ANY PART OF THE PAD-MOUNTED EQUIPMENT

3. WHEN MINIMUM REQUIRED DISTANCE CANNOT BE MET, A NONCOMBUSTIBLE BARRIER, OF MINIMUM 6' HEIGHT, SHALL BE CONSTRUCTED

4. THE MINIMUM CLEARANCE OF 10' SHALL BE INCREASED TO 25' FOR EXITS FROM PLACES OF PUBLIC ASSEMBLY, SUCH AS AN AUDITORIUM

FIGURE 10
LOCATION OF PAD MOUNTED EQUIPMENT

230 Ash St. Reading, MA 01867

SCALE: N.T.S      DATE: 9/24/2020
NOTES:

1. ALL EQUIPMENT, EXCEPT WATT-HOUR METER, SHALL BE FURNISHED AND INSTALL BY THE CUSTOMER

2. RMLD WILL MAKE ALL SERVICE CONNECTIONS AND DISCONNECTIONS

3. INSTALL EIGHT FOOT (8') LOOP OF SERVICE WIRE AROUND HANDHOLE FOR RMLD CONNECTIONS
CUSTOMER SECONDARY RISER (600V AND BELOW)

SYNTHETIC CONDUIT INSTALLED BY RMLD

WEATHER SEAL BY CUSTOMER

GROUNDING BUSHING ON TOP OF RISER

#6 CU GROUND TO 8' GROUND ROD

RIGID METAL CONDUIT INSTALLED BY CUSTOMER

RMLD PROVIDED GROUND ROD

GROUNDED 3'

GROUNDED 10'

GROUNDED 10'
FIGURE 14
7 TERMINAL METER SOCKET
3Φ-4W - 400A MAX

NOTES:
1. FOR INSTALLATION ON THE FOLLOWING FOUR-WIRE SERVICES
   A. 208/120 VOLT WYE
   B. 480/277 VOLT WYE
2. FOR ALL SERVICES, THE SUPPLY MUST BE CONNECTED TO TOP TERMINALS OF METER SOCKET
3. UNDERGROUND SERVICE CONDUCTORS SHALL BE INSTALLED IN A COMPLETE CABLE-IN-CONDUIT SYSTEM
   ACCORDING TO THE NEC
OVERHEAD

1. BY-PASS LEVER IN BY-PASSING POSITION
2. GROUND CONDUCTOR TERMINAL BONDED TO SOCKET
3. GROUNDED IN SERVICE
4. ENTRANCE EQUIPMENT ENCLOSURE
5. 8' - 0" GROUND ROD

NOTES:
1. FIFTH TERMINAL AT 9 O'CLOCK POSITION REQUIRED
2. ALL METER SOCKETS SHALL HAVE A LEVER OPERATED MANUAL BYPASS WITH JAW RELEASE AND FLASH SHIELD

UNDERGROUND

1. BY-PASS LEVER IN BY-PASSING POSITION
2. GROUND CONDUCTOR TERMINAL BONDED TO SOCKET
3. GROUNDED IN SERVICE
4. ENTRANCE EQUIPMENT ENCLOSURE
5. 8' - 0" GROUND ROD
FIGURE 16
5 TERMINAL - MULTIPLE METERS
VERTICAL MOUNTED TROUGH
1ф - 3W - 400A MAX

NOTES:
1. FIFTH TERMINAL AT 9 O’CLOCK POSITION REQUIRED
2. ALL METER SOCKETS SHALL HAVE A LEVER OPERATED MANUAL BYPASS WITH JAW RELEASE AND FLASH SHIELD
3. OUTDOOR INSTALLATIONS LIMITED TO HEIGHT OF 3 VERTICAL SOCKET POSITIONS
4. FOR INSTALLATIONS GREATER THAN 3 SOCKET POSITIONS OR 3ф, CONSULT RMLD FOR ADDITIONAL REQUIREMENTS

SUPPLY CONDUCTORS FROM OVERHEAD

GROUND ROD

8’ - 0”

TO LOAD SIDE SERVICE EQUIPMENT
NOTES:

1. FIFTH TERMINAL AT 9 O'CLOCK POSITION REQUIRED

2. ALL METER SOCKETS SHALL HAVE A LEVER OPERATED MANUAL BYPASS
   WITH JAW RELEASE AND FLASH SHIELD

3. FOR INSTALLATIONS GREATER THAN 3 SOCKET POSITIONS OR 3φ,
   CONSULT RMLD FOR ADDITIONAL REQUIREMENTS
NOTES:

1. RMLD TO FURNISH AND INSTALL ALL REQUIRED CONDUCTORS FROM CT CABINET TO METER SOCKET. RMLD PROVIDES CTs, CONTROL WIRING, AND TERMINATES WIRING.

2. CUSTOMER TO FURNISH AND INSTALL METER SOCKET AND CONDUIT FROM CT CABINET. CONTRACTOR TO INSTALL CTs, CONDUITS, CT CABINET, AND PULLS IN WIRING.

3. WIRE LENGTH SHALL BE WITHIN 50 FT OF CT CABINET.

4. CABINET BAR TYPE CT METER INSTALLATION PREFERRED.

5. CONSULT RMLD REGARDING CT CABINET SIZES.
DEPARTMENT SECONDARY

PROVIDE ADEQUATE CONDUCTOR LENGTH FOR DRIP LOOP

WEATHERHEAD MOUNTED 4'-5" BELOW DEPARTMENT SECONDARY CONDUCTORS

TOP COMMUNICATION ATTACHMENT HEIGHT 12" MIN BETWEEN ATTACHMENTS

#6 CU GROUND

COMMUNICATION CABINET

COMMUNICATION COMPANY POWER SUPPLY CONDUCTORS IN 1" PVC CONDUIT, PER ELECTRIC CODE

METER SOCKET DISCONNECT & OVERCURRENT PROTECTION

#6 CU GROUND TO 8' GROUND ROD

GROUND LINE

FIGURE 19
DETAIL OF METERED POWER SUPPLY FOR COMMUNICATION CABINET ON WOOD POLE

SCALE: N.T.S
DATE: 9/24/2020
DEPARTMENT SECONDARY

PROVIDE ADEQUATE CONDUCTOR LENGTH FOR DRIP LOOP

WEATHERHEAD MOUNTED 4"-5" BELOW DEPARTMENT SECONDARY CONDUCTORS

TOP COMMUNICATION ATTACHMENT HEIGHT
12" MIN BETWEEN ATTACHMENTS

#6 CU GROUND

GROUND LINE

COMMUNICATION CABINET

METER

SWITCH

DATE: 9/24/2020

SCALE: N.T.S

Reading Municipal Light Department
RELIABLE POWER FOR GENERATIONS
230 Ash St. Reading, MA 01867

FIGURE 19
DETAILOF METERED POWER SUPPLY
FOR PAD MOUNTED COMMUNICATION CABINET

230 Ash St. Reading, MA 01867

FIGURE 19
DETAILOF METERED POWER SUPPLY
FOR PAD MOUNTED COMMUNICATION CABINET

DATE: 9/24/2020

SCALE: N.T.S

Reading Municipal Light Department
RELIABLE POWER FOR GENERATIONS
230 Ash St. Reading, MA 01867
NOTES:

1. METER BRACKET ASSEMBLY SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION
1. **SPECIFICATIONS:** ALL WORK SHALL BE IN ACCORDANCE WITH THESE STANDARDS. THE NATIONAL ELECTRICAL SAFETY CODE, STATE AND LOCAL CODE REQUIREMENTS. ADDITIONAL SPECIFICATIONS, WHEN REQUIRED, TO BE FURNISHED BY THE RMLD ENGINEERING DIVISION UPON REQUEST.

2. **OWNERSHIP:** CONTRACTOR SHALL FURNISH TRENCH, BACKFILL, AND CONDUIT.

3. **APPROVAL:** CUSTOMER SHALL OBTAIN APPROVAL OF PLANS BY THE RMLD ENGINEERING DIVISION. NO TRENCH SHALL BE BACKFILLED OR POURED WITH CONCRETE UNTIL INSPECTED BY RMLD ENGINEERING DIVISION.

4. **CONDUIT:** TYPICAL INSTALLATION SHOWN. TYPICAL SIZE OF CONDUITS SHALL BE 4" FOR PRIMARY AND 3" FOR SECONDARY; UNLESS OTHERWISE NOTED BY RMLD ENGINEERING.

5. **SAND/FILL:** PROVIDE AS SHOWN; ALL FILL BEING THOROUGHLY COMPACTED.

**NOTES:**
ANY VARIATION IN TRENCH SPECIFICATIONS MUST HAVE PRIOR APPROVAL OF RMLD ENGINEERING DIVISION.

ALL REQUIRED EASEMENTS SHALL BE SECURED BY THE CONTRACTOR/OWNER

"DIG SAFE" NOTIFICATION IS THE RESPONSIBILITY OF THE CONTRACTOR
1. SPECIFICATIONS: ALL WORK SHALL BE IN ACCORDANCE WITH THESE STANDARDS: THE NATIONAL ELECTRICAL SAFETY CODE, STATE AND LOCAL CODE REQUIREMENTS. ADDITIONAL SPECIFICATIONS, WHEN REQUIRED, TO BE APPROVED BY THE RMLD ENGINEERING DIVISION UPON REQUEST.

2. OWNERSHIP: CONTRACTOR SHALL FURNISH TRANSFORMER PAD (PROVIDED BY RMLD), CONDUITS AND GROUNDING PROVISIONS. RMLD TO TAKE OWNERSHIP OF FACILITIES POST ENERGIZATION.

3. APPROVAL: CUSTOMER SHALL OBTAIN APPROVAL OF PLANS BY THE TOWNS ENGINEERING DIVISION AND RMLD. PLANS SHALL INCLUDE ALL ELECTRIC FACILITIES IN THEIR INTENDED LOCATIONS.

4. LOCATION/PROTECTION: PAD LOCATION TO BE APPROVED BY RMLD ENGINEERING. THERE SHALL BE NO OBSTRUCTIONS WITHIN 3' OF THE REAR AND SIDES, AND 10' IN FRONT. IN AREA OF VEHICULAR ACTIVITY, APPROVED BARRIERS SHALL BE INSTALLED BY THE CUSTOMER, AROUND THE PAD FOR MECHANICAL PROTECTION OF THE TRANSFORMER.

5. CONDUIT: INSTALL AS SHOWN. PRIMARY CONDUITS INTO TRANSFORMER PAD TO BE 4", SECONDARY CONDUITS TO BE 3", UNLESS STATED OTHERWISE BY RMLD.

6. GROUNDING: CUSTOMER TO INSTALL A SINGLE GROUND ROD IN TRANSFORMER PAD, AS SHOWN.

7. BACKFILL: PROVIDE AS SHOWN; ALL FILL BEING THOROUGHLY COMPACTED.

8. CONDUCTORS: PRIMARY AND SECONDARY CABLES TO BE PULLED, TERMINATED AND LANDED ON THE TRANSFORMER IN THEIR PROPER LOCATIONS. PRIMARY CABLE TEST REPORT MUST BE PROVIDED TO RMLD ENGINEERING BEFORE TRANSFORMER CAN BE ENERGIZED.

NOTES:
ANY VARIATION IN DESIGN TO ELECTRIC FACILITIES MUST HAVE PRIOR APPROVAL OF RMLD ENGINEERING DIVISION.

ALL REQUIRED EASEMENTS SHALL BE SECURED BY THE CONTRACTOR/OWNER.

"DIG SAFE" NOTIFICATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

FIGURE 23
SPECIFICATIONS FOR FIBERGLASS TRANSFORMER PAD
1Φ - 15kV

SCALE: N.T.S
DATE: 9/24/2020
FIGURE 24
SECONDARY PEDESTAL SPECIFICATIONS
120/240V - 200A / 120/208V - 100A
METER FORM - 2S & 12S

1. SPECIFICATIONS: ALL WORK SHALL BE IN ACCORDANCE WITH THESE STANDARDS: THE NATIONAL ELECTRICAL SAFETY CODE, STATE AND LOCAL CODE REQUIREMENTS. ADDITIONAL SPECIFICATIONS, WHEN REQUIRED, TO BE APPROVED BY THE RMLD ENGINEERING DIVISION UPON REQUEST. CONSULT RMLD FOR 3Φ, 320A AND 480V APPLICATIONS.

2. OWNERSHIP: CUSTOMER TO FURNISH INSTALL AND MAINTAIN PEDESTAL. PEDESTAL SHALL MEET RMLD'S METER SOCKET ENCLOSURE REQUIREMENTS.

3. APPROVAL: CUSTOMER SHALL OBTAIN APPROVAL OF PLANS BY THE TOWNS ENGINEERING DIVISION AND RMLD. PLANS SHALL INCLUDE ALL ELECTRIC FACILITIES IN THEIR INTENDED LOCATIONS.

4. CONDUIT: TYPICAL INSTALLATION SHOWN. CONDUIT TO BE 4" SCHEDULE 40 PVC. CONDUIT UNDER ROADWAY TO BE SCHEDULE 40 PVC ENCASED IN CONCRETE, SCHEDULE 80 PVC, OR RIGID STEEL. USE 24" RADIUS BENDS. SIX (6) INCH MINIMUM CABLE SEPARATION REQUIRED BETWEEN LINE AND LOAD CABLES IN COMMON TRENCH.

5. CONSTRUCTION: CONCRETE FOOTING MINIMUM DIMENSIONS SHOWN FOR A SINGLE PEDESTAL (28" WIDE, 18" DEEP, 12" HIGH) GREATER SIZE FOOTING REQUIRED FOR MULTIPLE OR LARGER PEDESTAL UNITS.

NOTES:
ANY VARIATION IN DESIGN TO ELECTRIC FACILITIES MUST HAVE PRIOR APPROVAL OF RMLD ENGINEERING DIVISION.
ALL REQUIRED EASEMENTS SHALL BE SECURED BY THE CONTRACTOR/OWNER
"DIG SAFE" NOTIFICATION IS THE RESPONSIBILITY OF THE CONTRACTOR
FIGURE 25
INSTALLATION PREPARATION FOR FIBERGLASS STREETLIGHT POLE

NOTES:
1. SONOTUBE TO BE CARDBOARD
2. CONDUIT FOR ELECTRICAL WIRE TO BE CENTERED IN TUBE
3. DEVELOPER TO PROVIDE 1/5 YARD OF SAND FOR BACKFILL
NOTES:

1. RISER POLE AND TERMINATION MOUNTING BRACKET BY READING MUNICIPAL LIGHT DEPARTMENT

2. TRANSFORMER BY READING MUNICIPAL LIGHT DEPARTMENT (UPTO 500KVA)

3. PRIMARY CABLE SUPPORT ABOVE 10FT LEVEL BY RMLD

4. UG PRIMARY CONDUIT, SWEEP, AND 10' STEEL UP POLE BY CONTRACTORS (1ST 10' SECTION FROM POLE - STEEL)

5. TRANSFORMER PAD BY CONTRACTOR, CONCRETE PAD TO BE BUILT TO RMLD SPECIFICATIONS.

6. PRIMARY AND SECONDARY CONDUIT, CABLES, AND TERMINATIONS BY CONTRACTOR. SECONDARY CONNECTIONS BY CONTRACTOR. PRIMARY CONNECTIONS AT RISER POLE BY RMLD.

7. EXPENSE INCURRED BY RMLD (MATERIAL, LABOR, ETC) WILL BE BILLED TO THE OWNER AND/OR DEVELOPER OF THE PROPERTY TO BE SERVED
1. **SPECIFICATIONS:** All work shall be in accordance with these standards. The National Electrical Safety Code, state and local code requirements. Additional specifications, when required, to be furnished by the RMLD engineering division upon request.

2. **OWNERSHIP:** Contractor shall furnish and own concrete pad, ground grid, conduits and ground wires.

3. **APPROVAL:** Customer shall obtain approval of plans by the wire inspector and RMLD. Plans shall show concrete pad, also conduits, location, type, size and number.

4. **LOCATION / PROTECTION:** Pad location to be approved by RMLD. There shall be no obstructions within 4" of the rear, of the sides, and 12" of the front. In areas of vehicular activity approved barriers shall be installed, by the customer, around the pad for mechanical protection of the transformer.

5. **CONDUIT:** Install as shown. Conduit to be 4" in diameter for primary and 3" for secondary, use 36" radius bends. Terminations of conduits for primary and secondary shall be installed in their respective zones; primary on left, secondary on right (when facing the front doors of transformer).

6. **GROUND GRID:** Contractor to install, 1/0 STR (7 strands) bare copper wire loop 12" below pad grade. Leave 36" Wire above pad at two opposite points in the conduit openings, for grounding of the transformer. Drive four (4) 3/4" by 8' Copperweld ground rods in each corner of pad and bond to ground wire.

7. **BACKFILL:** All fill being thoroughly compacted.

8. **CONCRETE PAD:** Concrete minimum strength 5,000 PSI after 28 days. All reinforcement per ASTM A-615, all material conform to ACI-318.

9. **CONDUCTORS:** Primary and secondary conductors and terminations to be installed by customer. Primary connection at riser pole to be done by RMLD. Cable test report required before cable can be energized.

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**Figure 27**

Concrete Pad (84x84)

Up to 500KVA

**Scale:** N.T.S  
**Date:** 9/24/2020