

**MORRISVILLE WATER & LIGHT
GUIDE
FOR ELECTRIC SERVICE LINE EXTENSIONS**

Introduction

This guide is intended to provide general information to a Customer, Contractor or Developer making application for a line extension or line relocation in the Morrisville Water & Light service territory. It includes information regarding payment terms, easement and right-of-way requirements, basic design and siting requirements for both overhead and underground construction and the appeal process in the event of a dispute related to the proposed line extension. Please contact Morrisville Water & Light at 802-888-3348 if there are any questions.

Morrisville Water & Light (MWL) will consider applicants preferences in the design of the line extension, however it will not approve line extension locations that will result in additional maintenance problems or delay restoration time in the event of power outages. The design and siting of electric line extensions or relocation of lines will consider: maintenance and reliability; worker and public safety; aesthetics; cost; customer, landowner and municipal preference; and environmental and land use implications. MWL will provide relevant information in writing, with respect to off-grid electric generation solutions and options upon an applicant's request.

An applicant may contact the Vermont Department of Public Service Consumer Affairs Division at: Vermont Department of Public Service, 112 State Street, Drawer 20, Montpelier, VT 05620-2601. 1-800-734-8390 or consumer@state.vt.us, or refer the matter to the Public Service Board, 112 State Street, Drawer 20 Montpelier, VT 05620 in the event of a dispute with reference to the proposed line extension. A copy of PSB Rule 5.600 - Electric Service Extension Policy is attached.

General Information

The following are general requirements for line extensions. Each line extension will be considered individually and the job specifications for each application will be the basis for construction.

Applying for a Line Extension

An applicant must complete and submit a written application form to MWL along with a \$250 Application Fee for the engineering, design and cost estimate for a line extension. This is a non refundable fee; however it will be credited toward the total cost of the line extension if the extension is constructed. MWL will provide a design and cost estimate to the applicant along with any easement or trimming requirements. This fee normally will be waived if the work does not involve extending primary power or installing poles.

General Guidelines for Overhead Primary Construction

MWL will design the line and provide an estimated cost of construction. MWL will apply for any local or State permits required to build the line within a Town or State highway right-of-way. If special federal, state or local permits, such as "Act 250" permits or particular town permits, or condemnation are required for the construction of the line the applicant shall pay the cost associated with obtaining the permit.

Poles shall be located adjacent to a roadway which is suitably maintained to permit MWL maintenance vehicles access in all weather conditions. Construction of the line extension will not begin until a road is constructed.

An applicant shall provide a suitable easement for construction on the applicant's property and is responsible to obtain easements on other property, if required for the construction of the line extension. The applicant shall bear any cost for obtaining such easements.

The applicant is responsible for providing all necessary trimming to MWL specifications for an overhead line extension. This includes the applicant's property, as well as any other property where trimming is needed for the construction of the line. If it becomes necessary for MWL to provide the trimming, the applicant shall bear any cost associated with the work.

Telephone, cable and electric will normally be on the same pole. If the applicant is going to have either telephone or cable, the applicant must separately contact the respective company to determine the charges and requirements for each.

General Guidelines for Underground Primary Construction

MWL will design the line, provide an estimate of MWL costs for its work, provide its construction standards and a list of materials the applicant is responsible for providing for construction of the line. Each job will

The applicant is responsible for all the trenching and backfilling to MWL specifications. MWL must inspect the trench before it is backfilled. Failure to notify MWL for an inspection may result in reopening the trench.

The applicant is responsible for providing and installing conduit(s) for the underground primary line including the conduit to reach the top of the pole. MWL will install the conduit on the pole.

Pad transformers and junction boxes will be located within 18' of a roadway which is suitably maintained to permit MWL vehicles access to the equipment any time during the year.

An applicant shall provide a suitable easement for construction on the applicant's property and is responsible to obtain easements on other property if required for the construction of the line extension.

The installation of underground primary is weather sensitive and MWL generally will not install underground cable between the period November 15 to April 15.

Cost and Payment

The applicant is required to pay MWL the estimated cost of construction prior to the start of construction. The job will be billed at actual cost and if the actual cost exceeds the estimate, the customer agrees to pay the difference. If the actual cost is less than the estimate, MWL will refund the balance to the customer.

Each new residential single family residence or individual dwelling unit is entitled to a credit equal to the cost of a service drop as defined in PSB Rule 5.600.

Line Construction Option

An applicant is entitled to contract with a private contractor for the construction of a routine line extension or relocation. All construction and materials shall be in accordance with MWL's distribution standards and specifications which will be provided to the contractor. MWL will design or approve the design of the line and the construction shall be subject to inspection and monitoring by MWL at the applicant's expense. MWL will make all the primary cable terminations and overhead connections to its system. The contractor must notify MWL of the construction commencement date, specifications and standards. The contractor must provide a satisfactory certificate of insurance to MWL prior to commencing any construction. The applicant will be charged for any MWL work including, but not limited to, engineering, monitoring, inspections, cable terminations and overhead connections. The line ownership and responsibility for maintenance of the line extension or relocation shall transfer to MWL at the time the line is energized.

MWL will not connect any contractor built line extension or relocation which does not meet the above requirements.

Relocations of existing lines

MWL will consider the relocation of an existing line upon receiving a written application from a customer. The request will be reviewed to determine the feasibility and if the proposed relocation site is acceptable. All costs associated with the relocation shall be paid by the applicant. The same criteria discussed in electric service extensions shall also apply to service relocations.

Customer-Owned Primary Lines

As a general rule, residential customers shall not own primary lines (overhead or underground) that are installed after October 1, 2008. In certain circumstances where MWL and a customer agree that such ownership would be appropriate, MWL and the customer shall petition the Board for a waiver of this prohibition. Any such petition shall address the issue of underground damage prevention with respect to the facilities to be owned by the customer. MWL shall not be responsible for such customer-owned line nor shall MWL be liable for any claims by any persons relating in any way to the customer-owned line.

5.600. ELECTRIC SERVICE EXTENSION POLICY

5.601. Purpose

This Rule implements the legislative mandate of 30 V.S.A. § 209(b)(1)(B).

5.602. Applicability

This Electric Service Extension Policy shall apply to all single-phase and multi-phase distribution service extensions by Vermont electric utilities (as defined by 30 V.S.A. §§ 201 and 203). All such utilities shall revise their tariffs to conform to these rules. These rules shall supercede any utility tariff provision determined to conflict with these rules.

5.603. Definitions

(a) **Application fee:** the fee paid by the line extension customer at the time the customer submits a written application for a line extension. The phrase "application fee" is intended to include any "engineering fee." The application fee shall not exceed \$250, unless a higher fee is specified in the utility's line extension tariff. If applicable, such a higher fee shall be based on an average of all the costs incurred by the utility for all line extensions constructed in a test year. The application fee shall be credited to the customer against the total cost of the line extension if the extension is constructed.

(b) **Contributions-In-Aid-Of-Construction:** the monetary contributions by a customer requesting service to an electric utility to design, furnish, place and construct such primary and secondary service extensions as are necessary to render the service requested.

(c) **Conduit:** the pipe that encloses and protects electric conductors in underground power installations, including necessary fittings and connectors.

(d) **Customer-Owned Lines:** electric service lines, at either primary or secondary voltage, extending from the Delivery Point.

(e) **Delivery Point:** the point at which the utility-owned facilities first connect to the customer-owned facilities. Each utility's line extension tariff shall specifically identify the typical Delivery Point for each type of electric service that it provides and shall state how the Delivery Point may be determined for specific situations in which the actual Delivery Point differs from the typical Delivery Point.

(f) **Looped Electric Utility Service:** electric service provided to a customer from a distribution line which receives, or is capable of receiving, its electric supply from both directions of the distribution line.

(g) **Primary Line:** an electric distribution line operating at greater than 600 volts.

(i) **Service Drop:** includes a 100-foot overhead power line(s) from the initial customer connection with the utility's secondary facilities to the Delivery Point. The service drop is the minimum overhead secondary electrical connection and shall not include poles, primary wiring, right-of-way clearing or acquisition, trenching or backfilling, or any other cost item required to serve a new or relocated customer.

(j) **Service Extension:** the electric facilities required to connect the power line existing at the time of the request for service to the customer's premises. The service extension shall include all poles, primary wiring, secondary wiring, right-of-way acquisition and clearing, trenching and backfilling, any other one-time cost items associated with service only to that new customer, and transformer(s) and meter(s) if so provided in the utility's tariff. A Service Extension shall include the reestablishment of a previously abandoned Service Extension.

5.604 Contributions-in-Aid-of-Construction for Electric Service Extensions

Upon written application of the owner of any property, or occupant with the consent of the owner, the electric utility shall furnish, place, and construct such secondary and primary service extensions as are necessary to render the service requested. The total cost of the service extension, less any credits outlined below, shall be paid by the party requesting the service extension. This requirement is subject to the following conditions/exceptions:

(a) **Line Assessment Charges:** all customer charges for construction of new utility lines shall be based on the actual costs to the utility. However, a utility shall charge average costs for those elements for which average costs are specified in its tariff.

(b) **Service Drop Credit:** each new single-family residence or individual dwelling unit is entitled to a credit equal to the cost of the service drop(s) as defined above. However, if the cost of a line extension is less than the cost of the service drop(s) as defined above, the amount of the service drop credit shall be the same as the cost of the extension.

(c) **Installation of Conduit:** the additional material cost of installation of conduit for underground primary and secondary line extensions shall be shared equally between the customer and the utility. The cost of trenching and backfilling of the trench shall be the responsibility of the owner of the property.

5.605 Cost Recovery Period for Contributions-in-Aid-of-Construction

Whenever more than one customer is connected to a customer-financed line extension, total contributions-in-aid-of-construction shall be computed to yield to the utility not more than the total cost of extending or expanding service to the new customer(s), less the service drop credit(s). Amounts to be collected from new customers connecting to customer-financed lines shall be computed as follows:

(a) For a period of five (5) years from the completion of construction of a line extension, reimbursement from new customers connecting to said line to customers entitled to reimbursements shall be based upon an equal sharing of the full cost of construction of the

subject line extension, adjusted to the percentage used of that line extension to the point of connection (or other reasonable method employed by the utility to determine the cost of the portion of the line actually used).

(b) For a period of ten (10) years immediately following the initial five (5) year period discussed in (a) above, reimbursement to customers entitled to reimbursements shall be based upon an equal sharing of the full cost of construction of the subject line extension depreciated at a straight line rate to zero at the end of the ten (10) year period, also adjusted to the percentage of the line extension used to the point of connection (or other reasonable method employed by the utility to determine the cost of the portion of the line actually used).

(c) For each new transaction (defined as one or more new connections at the same time and location) involving a line that is subject to contribution-in-aid-of-construction payments for new connections within the 15-year reimbursement period, an administrative fee not to exceed \$100.00 shall be retained by the utility from the total amount to be reimbursed to customers entitled to reimbursements. If the total amount of all reimbursements owed for each transaction is less than the utility's administrative fee, no reimbursements shall be collected or distributed.

(d) All line extension reimbursements shall be paid by electric utilities to the current owners of the dwellings or structures served by line extensions that are subject to reimbursement payments for new connections, except that reimbursement payments shall be made to any customer who paid for or contributed to the costs of line extensions and who subsequently sold the dwellings or structures originally served prior to the effective date of the Board's Order of September 21, 1999, in Docket 5496.

5.606 Tax Assessments on Contributions-in-Aid-of-Construction

Customers shall be responsible for all costs of line extensions, including the actual utility tax liability from contributions-in-aid-of-construction.

5.607 Interest on Customer Funds Held by Utilities

(a) No interest shall be paid on an initial application fee.

(b) No interest shall be paid on funds received in advance of line extension construction and used for the purpose of ordering long lead time specialty items necessary for the subject line extension.

(c) With the exception of items (a) & (b) above, interest shall be paid, at the rate of 1% per month, to line extension customers on funds received in advance of construction (unless returned to the customer due to perceived delays), from sixty (60) days after the payment is received by the utility to the date of the commencement of the line extension construction.

(d) No interest shall be paid by the utility under item (c) above as a result of construction delays beyond the control of the utility.

(e) Interest to be paid on funds received more than sixty (60) days in advance of the commencement of line extension construction may be waived by customers seeking priority status for construction at a specified time as agreed to by both the customer and the utility.

5.608 Construction Standards

(a) Minimum Standards: All line extensions shall conform to the latest edition of the National Electrical Safety Code at a minimum; except that Cooperatives may have higher minimum standards pursuant to the requirements of the Rural Utilities Service.

(b) Customer-Owned Lines: As a general rule, residential customers shall not own primary lines (overhead or underground) that are installed after the effective date of this rule. In certain circumstances where the utility and customer agree that such ownership would be appropriate, the utility and the customer shall petition the Board for a waiver of this prohibition. Any such petition shall address the issue of underground damage prevention with respect to the facilities to be owned by the customer. However, no such petition shall be required for a customer to extend or connect to a line already owned by that customer.

(c) Customer Information for Line Extensions: To explain utility line extension policies adequately to its customers, all utilities shall develop, either individually or collectively, a comprehensive information booklet or brochure for line extension customers that fully explains its line extension policies and their rationale. This booklet shall explain that utilities will, to the extent possible, try to accommodate individual customer line extension needs, but that no deviations will be granted that will result in significant additional maintenance problems for the utility, and additional costs resulting from the accommodation will be the responsibility of the customer.

5.609 Use of Private Contractors for Line Extensions

All electric utilities shall allow customers to hire private contractors for construction of routine distribution line extensions. Utilities shall be allowed to design and monitor the construction of these lines at customer expense.

5.610 Appropriate Customer Payment of Contributions-in-Aid-of-Construction for Electric Line Relocations

For all relocated distribution lines that provide a benefit to the utility, customers who request the relocation shall reimburse electric utilities for distribution line relocations according to the following formula:

	$^{CP}TAX\ ADJ.$	$New\ Line + ^{PV}DEP\ ^{SV}EXISTING$
Where:		
	$^{CP}TAX\ ADJ.$	Customer Payment, adjusted for any utility tax liability
		Total cost of relocating the line today
	New Line	Present value of any unrealized depreciation expense associated with the existing line
	^{PV}DEP	Salvage Value of existing line (including line removal costs)
	$^{SV}EXISTING$	

5.611 Change in Presumption as to Reimbursements for Contributions-in-Aid-of-Construction

The presumption regarding reimbursements for customer-financed lines shall be changed if there is a grantee/grantor relationship between the person connecting to a customer-financed line and the person who originally paid for the line to whom a reimbursement would otherwise have been due. In such cases, no reimbursement will be collected from the connecting customer or paid by the utility to the grantor.

5.612 Considerations in the Design and Siting of Line Extensions

(1) In determining the appropriate design and siting (e.g., whether roadside or off-road and overhead or underground) of electric distribution line extensions and relocations of line extensions, electric utilities shall consider: maintenance and reliability; worker and public safety; aesthetics; cost; customer, landowner and municipal preference; and environmental and land use implications.

(2) When a customer requests an electric line extension, the utility shall inform the customer in writing of customer and company rights, responsibilities and options for line extensions, including but not limited to: payment terms; easement and right-of-way information; contribution-in-aid-of-construction; basic information about design, siting and location, such as overhead or underground placement, and road-side or off-road siting; and how to contact the Vermont Department of Public Service Consumer Affairs Division by toll-free phone or in writing in the event of a dispute.

5.613 Information Regarding Line Extension Alternatives

Upon request, a retail electric distribution utility shall provide relevant information in writing, preferably brochures, with respect to off-grid electric generation solutions and options.

VILLAGE OF MORRISVILLE WATER & LIGHT DEPARTMENT

857 ELMORE STREET
P.O. BOX 460
MORRISVILLE, VT 05661
(802) 888-3348

APPLICATION FOR NEW ELECTRIC SERVICE OR UPGRADE TO EXISTING SERVICE

Please complete this form, sign and return it to the office

Applicant Name(s) _____

Mailing Address _____ Town _____ State _____ Zip _____

Daytime Phone # _____ Home Phone # _____ Cell # _____

Location of Property:

Town _____ Road/Street _____ E-911 _____

** Complete sketch on back showing property lines, planned location of the building, driveway, road, and existing poles or provide site plan of the lot or development.

Type of Service:

Residential [] Commercial [] Industrial [] Farm [] Multi-family [] Mobile Home []

Other _____

Single Phase [] Three Phase []

Primary Extension : Overhead [] Underground []

Service to building : Overhead [] Underground []

Meter Location : Pole [] Pedestal [] Building [] Other: _____

Size of Service:

100 amp [] 200 Amp [] Other: _____ Amp (load sheet required if >200amp)

Voltage Requested:

Single Phase:

120/240 volt (3 wire) []

120/240 volt (4 wire) [] (mobile home)

Three-Phase:

120/208Y 4-wire []

277/480Y 4-wire []

Other: _____ * (Need MWL approval for any voltage not listed above)

Non-Standard Equipment:

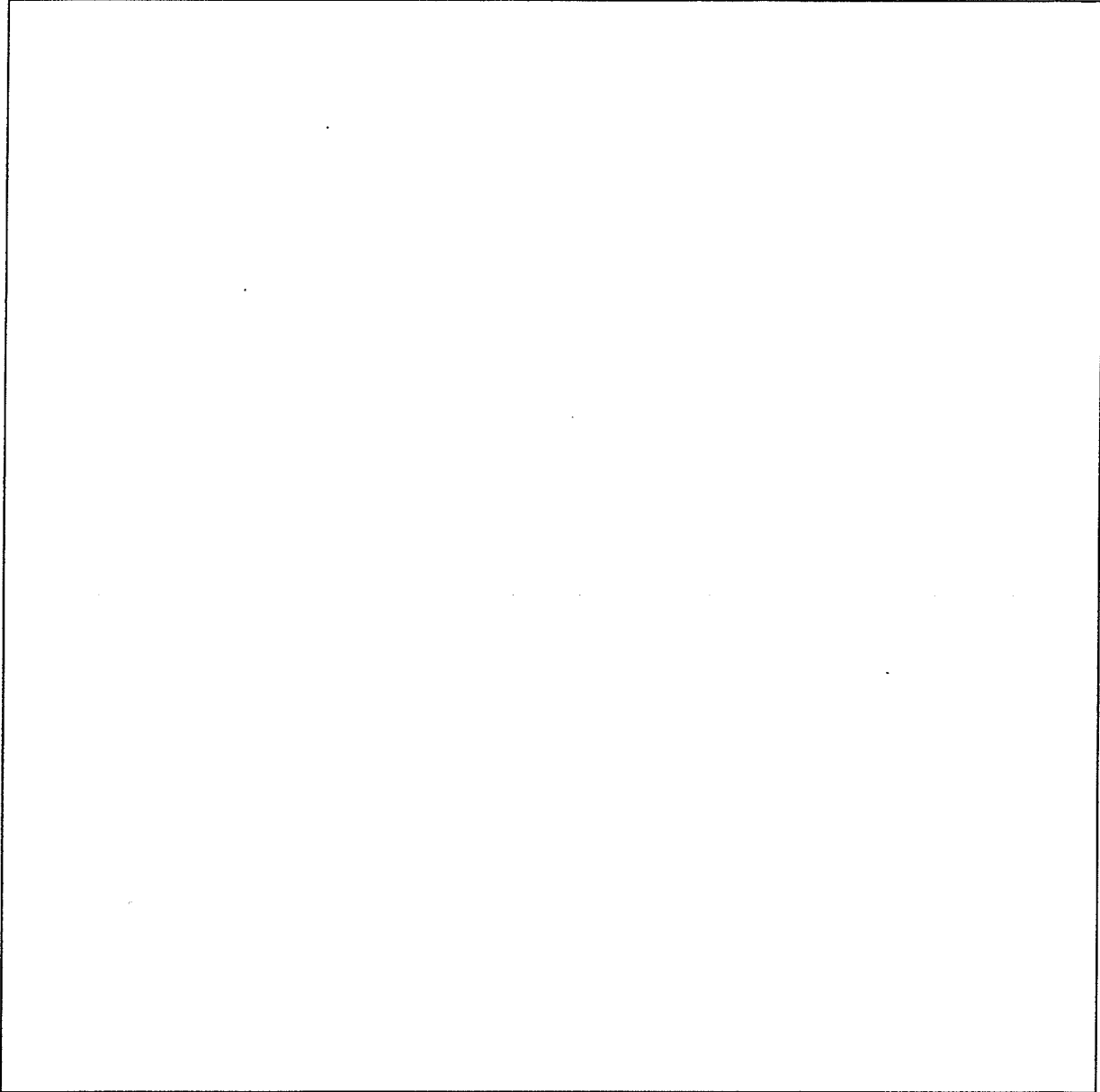
List any special equipment being installed (i.e. welder, electric heat , large load appliance, etc.)

Motors over 5 H.P. (if size of service is 200 amp or less)

Auxiliary Generator / Power Generation: Yes [] No [] **Net Metering:** []

Describe equipment if yes. _____

Site Sketch



Date Service is Needed: _____

Application fee: \$250 [] Date_____ **(required if extension needs pole(s) or ug primary)**

Applicants Signature : _____ **Date** _____

_____ **Date** _____

Note : This is only an application to extend service to the property/building. You must apply at Customer Service to establish an electric service account in your name before a meter will be installed.

Account # _____
Previous Owner: _____

Deposit Requirement: _____

VILLAGE OF MORRISVILLE WATER AND LIGHT DEPARTMENT (MW&L)
857 Elmore Street
Morrisville, Vermont 05661-8408
(802) 888-3348
Fax (802) 888-5911

APPLICATION FOR ESTABLISHMENT OF UTILITY SERVICE(S)

Customer's Name _____

Customer's Soc. Sec. # _____

Phone Number (Home) _____ (Cell) _____

E-mail address _____

Service Address: Street _____

Town/Village _____ Zip _____

Billing address: Name _____

Street or P.O. Box _____

City/Town _____

State _____ Zip _____

Current Employer _____

Employer's Phone Number _____

Joint Customer _____

Joint Customer's Soc. Sec. # _____

Joint Customer's Phone Number (Home) _____ (Cell) _____

Joint Customer's Current Employer _____

Joint Customer's Employer's Phone Number _____

Have either of you ever had service with MW&L? _____ If yes,
location and when: _____ Acct # _____

Have either of you ever had service with another electric
utility? _____ If yes, what utility and when: _____
_____ Acct # _____

Are you: Owner _____ Tenant _____

Landlord: Name _____

When do you want service to begin? _____

Is this your main residence: Yes No

If commercial, owner's name and type of business: _____

Electric Heat: Yes No

FOR SCHEDULED INTERRUPTIONS OF SERVICE(S), will there be anyone in this household on emergency medical life support requiring electricity or municipal water? No Yes. **If yes, please fill out our Emergency Medical Condition form.**

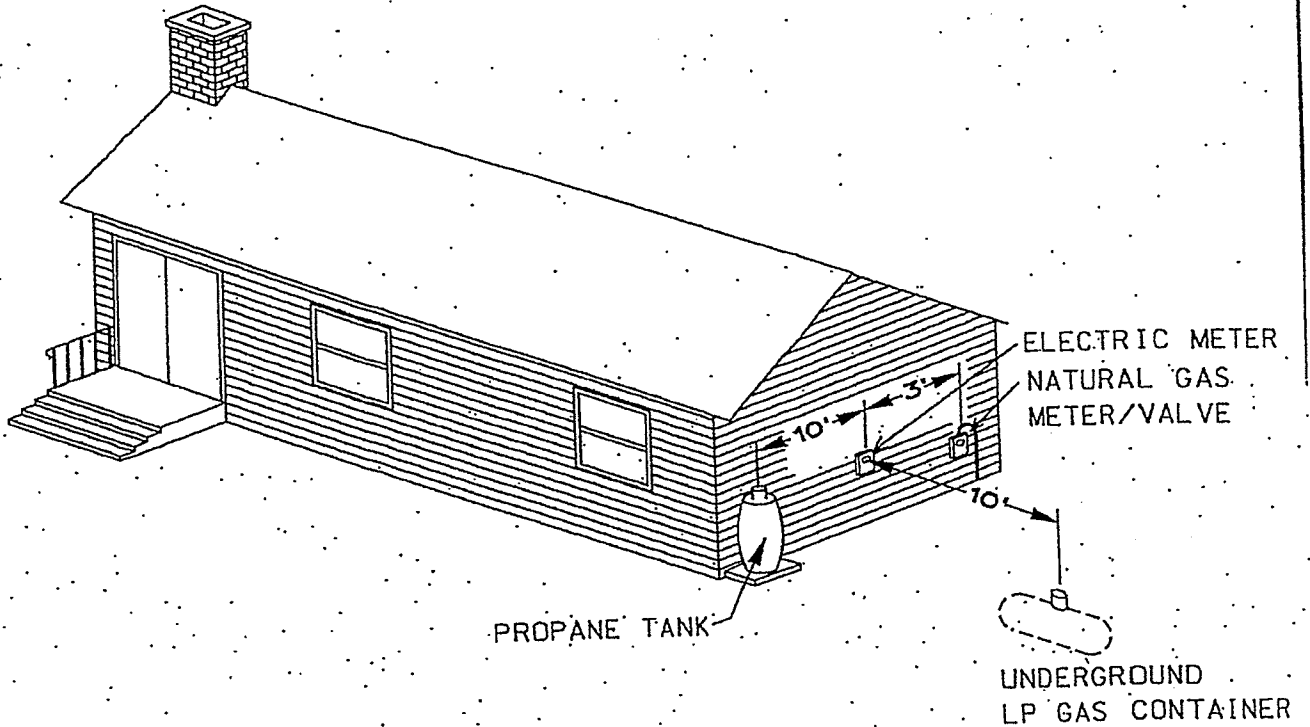
I (We) hereby apply for utility service(s), to be furnished in accordance with the Village of Morrisville Water & Light Department's Rule and Regulations as filed with and approved by the Vermont Public Service Board and are available for review at the MW&L office at 857 Elmore Street, Morrisville, Vermont. I (we) agree to pay for such service(s) in accordance with the Department's applicable rate schedules.

Customer Signature: _____ Date: _____

Joint Customer Signature: _____ Date: _____

FOR INTERNAL USE ONLY	
_____	Check Harris for previous/other accounts
_____	Deposit/Credit Ref
_____	ID
_____	Terms & Conditions
_____	On-line access instructions
_____	Credit Card Form
=====	
_____	Acct. built on _____

CLEARANCE BETWEEN ELECTRIC METERS AND L.P. OR NATURAL GAS EQUIPMENT



NOTES:

1) NATIONAL GAS CODES¹ REFER TO CLEARANCE FROM SOURCES OF IGNITION FOR GAS METERS, SERVICE REGULATORS, RELIEF VALVES, FILL CONNECTIONS, VENTS DRAINS AND OTHER COMPONENTS. ELECTRIC METERS, DEPENDING ON FEATURES OF THEIR DESIGNS, MAY BE SOURCES OF IGNITION.

2) THIS STANDARD IS INTENDED TO SERVE AS A GUIDELINE IN SPECIFYING THE POINT OF ELECTRIC SERVICE WHERE LIQUID PETROLEUM OR NATURAL GAS INSTALLATIONS ARE PRESENT. THE REQUIREMENTS IN THE NFPA GAS CODES ARE INTENDED AS FIRE-PREVENTATIVE MEASURES, NOT AS ELECTRICAL REQUIREMENTS OR PERSONAL PROTECTION MEASURES. IN THIS APPLICATION WE ARE AVOIDING A GAS CODE VIOLATION WHEN LOCATING, OR RELOCATING, THE ELECTRIC SERVICE EQUIPMENT, AFTER THE GAS EQUIPMENT HAS BEEN INSTALLED.

3) MAINTAIN THE FOLLOWING CLEARANCES:

- A) INSIDE INSTALLATIONS SHOULD MAINTAIN CLEARANCE OF NOT LESS THAN: 3.0 FT.
- B) OUTSIDE INSTALLATIONS SHOULD MAINTAIN CLEARANCE SHOWN ON FIGURE SHOWN ABOVE.
- C) AN LP GAS REGULATOR, MOUNTED ON THE BUILDING SHOULD MAINTAIN A CLEARANCE OF 5.0 FT.

1. NFPA-54 (NATIONAL FUEL GAS CODE), NFPA-58 (L.P. GASES), AND 49CFR SUBPART H (FOR NATURAL GAS).

VERMONT UTILITIES
ELECTRIC SERVICE REQUIREMENTS

DRAWN: LAW	DATE: 01-01-07
APPRVD: YES	DATE: 01-19-07
DRAWING No.: 401	PAGE: 1
DATA BASE No.: DTW01900c	

DRAWINGS/STANDARD/VERMONT

Village of Morrisville
Water & Light Department

857 Elmore Street
Morrisville, Vermont 05661-8408
(802) 888-3348
Fax: (802) 888-5911
www.mwlvvt.com

TRUSTEES
Peter Bourne, Chairman
Wallace Reeve
Timothy W. Sargent
Edward DeBor
Dana Wildes

MANAGER
Craig Myotte

THE FOLLOWING IS A LIST OF MATERIALS THAT ARE TO BE SUPPLIED BY
THE CUSTOMER:

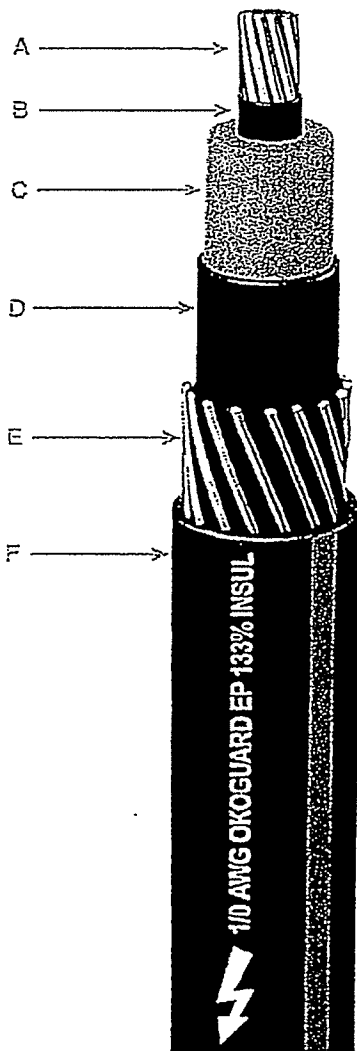
_____ Ground Rod
_____ Ground Rod Clamps
_____ #2 Strand Copper
_____ 3" PVC Pipe
_____ 3" PVC Coupling
_____ 3" PVC 90° Long Sweep
_____ 3" PVC Frost Joint
_____ Fiberglass Pad - 32 X 36 X 32
_____ Fiberglass Junction Box (either "Highline model
fcs3353ga or Nordic ND-150")
_____ 1/0 15KV Primary cable (220 cil) with jacket
neutral
_____ 2" PVC Pipe - Only covers distance from fiberglass
pad to meter socket.
_____ 2" PVC Coupling
_____ 2" PVC 90° Long Sweep
_____ 2" PVC Frost Joint
_____ 6 x 6 x 12 PT
_____ 2 x 6 x 12 PT
_____ Marking Tape



Okoguard® URO-J

15kV Underground Primary Distribution Cable-Jacketed Red Identification Stripes

Filled Strand Aluminum Conductor/105°C Rating
100% and 133% Insulation Levels



- A Conductor - Stranded Aluminum with Filled Strand - Water Swellable Power
- B Strand Screen - Extruded Semi-conducting EPR
- C Insulation - Okoguard EPR
- D Insulation Screen - Extruded Semi-conducting EPR
- E Concentric Conductor-Bare Copper Wires
- F Encapsulating Jacket-Okolene with Extruded ID Stripes & NESC lightning bolt

Insulation

Okoguard is Okonite's registered trade name for its exclusive ethylene-propylene rubber (EPR) based, thermosetting compound, whose optimum balance of electrical and physical properties is unequaled in other solid dielectrics. Okoguard insulation, with the distinctive red color and a totally integrated EPR system, provides the optimum balance of electrical and physical properties for long, problem free service.

The triple tandem extrusion of the screens with the insulation provides optimum electrical characteristics.

The compressed conductors are filled with water swellable powder. This construction slows the migration of water through the strands in the event of a mechanical dig-in followed by external exposure to water.

An insulation screen of ethylene-propylene rubber is extruded over the insulation. The copper concentric wires are uniformly spaced around the insulation screen. The overall polyethylene jacket provides protection against mechanical damage and corrosion.

Product identification is provided through the use of three red stripes placed 120° apart in the black jacket, with an NESC lightning bolt.

Applications

Okoguard URO-J cables provide maximum circuit longevity in underground residential distribution systems. They can be buried directly or installed in underground ducts or conduits.

Specifications

Central Conductor: Aluminum per ASTM B-609, Class B stranded per B-231.

Filled Strand: Water swellable powder meets or exceeds ICEA T-31-610 water penetration resistance and ANSI/NEMA class A connectorability requirements.

Conductor Screen: Extruded semiconducting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649 and AEIC CS8.

Insulation: Extruded Okoguard meets or exceeds the requirements of ICEA S-94-649 and AEIC CS8.

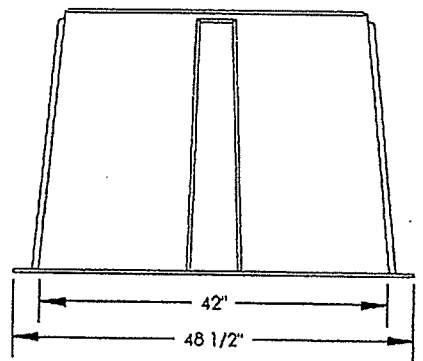
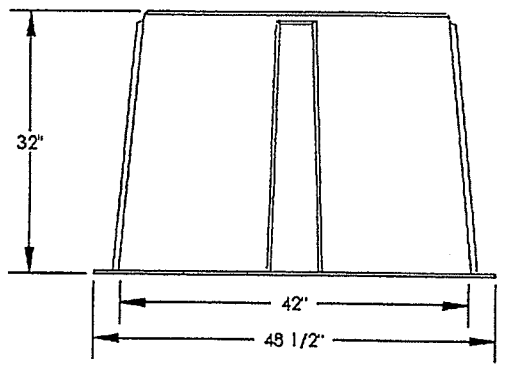
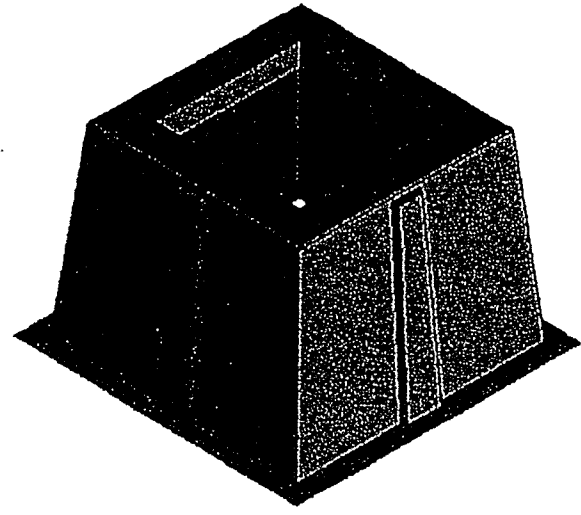
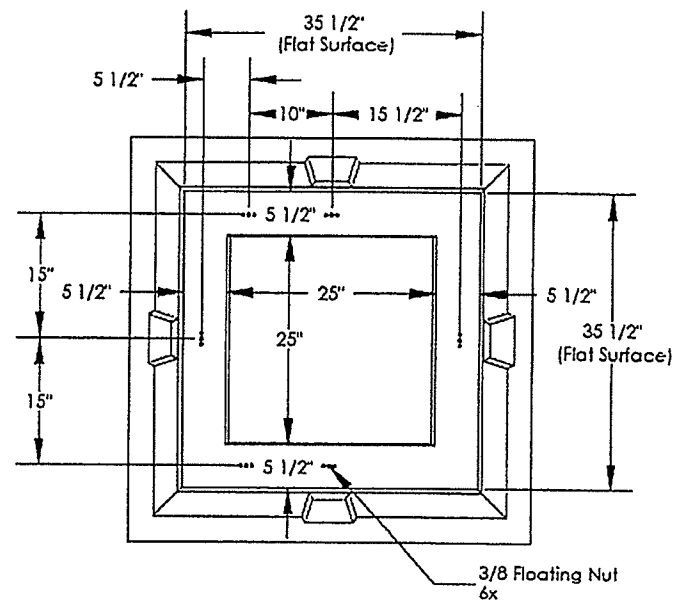
Insulation Screen: Extruded semiconducting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649 and AEIC CS8.

Concentric Conductor: Bare copper wires.
Jacket: Black Okolene with red extruded stripes meets or exceeds the requirements of ICEA S-94-649 for polyethylene jackets.

Product Features

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed NEMA/ICEA and RUS 7CFR 1728.204 standards.
- 105°C continuous operating temperature.
- 140°C emergency rating.
- 250°C short circuit rating.
- Excellent corona resistance.
- Low dielectric constant and power factor.
- Screens are clean stripping.
- Exceptional resistance to "treeing".
- Filled strand conductor.
- Moisture resistant.
- Overall jacket provides extended life.
- Excellent resistance to most chemicals.
- Can be listed by UL as Type MV-90 on special orders.
- Cable listed by CSA to C68.5 on special orders.
- Design Options:
 - Additional conductor sizes
 - Copper central conductor
 - Copper flat strap concentric neutral
 - Product identification via colored jackets.
 - Semiconducting jackets.
- Improved Temperature Rating. Okoguard insulation system has been tested and qualified for operation at 105°C continuous and 140°C emergency operating temperature.
- Minimum installation temperature of -40°C.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
REL-01		4/24/2007	



PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NORDIC FIBERGLASS, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NORDIC FIBERGLASS, INC. IS PROHIBITED.

Customer Name: 11/A		
DIMENSIONS ARE IN INCHES		
TOLERANCES: ANGLES ± 1°		
FRACTIONAL ± 1/2		
ONE PLACE DECIMAL ± 0.060		
TWO PLACE DECIMAL ± 0.030		
THREE PLACE DECIMAL ± 0.015		
MATERIAL	DATE	DATE
DRAWN	P.L.V.	04/23/07
CHECKED		-/-

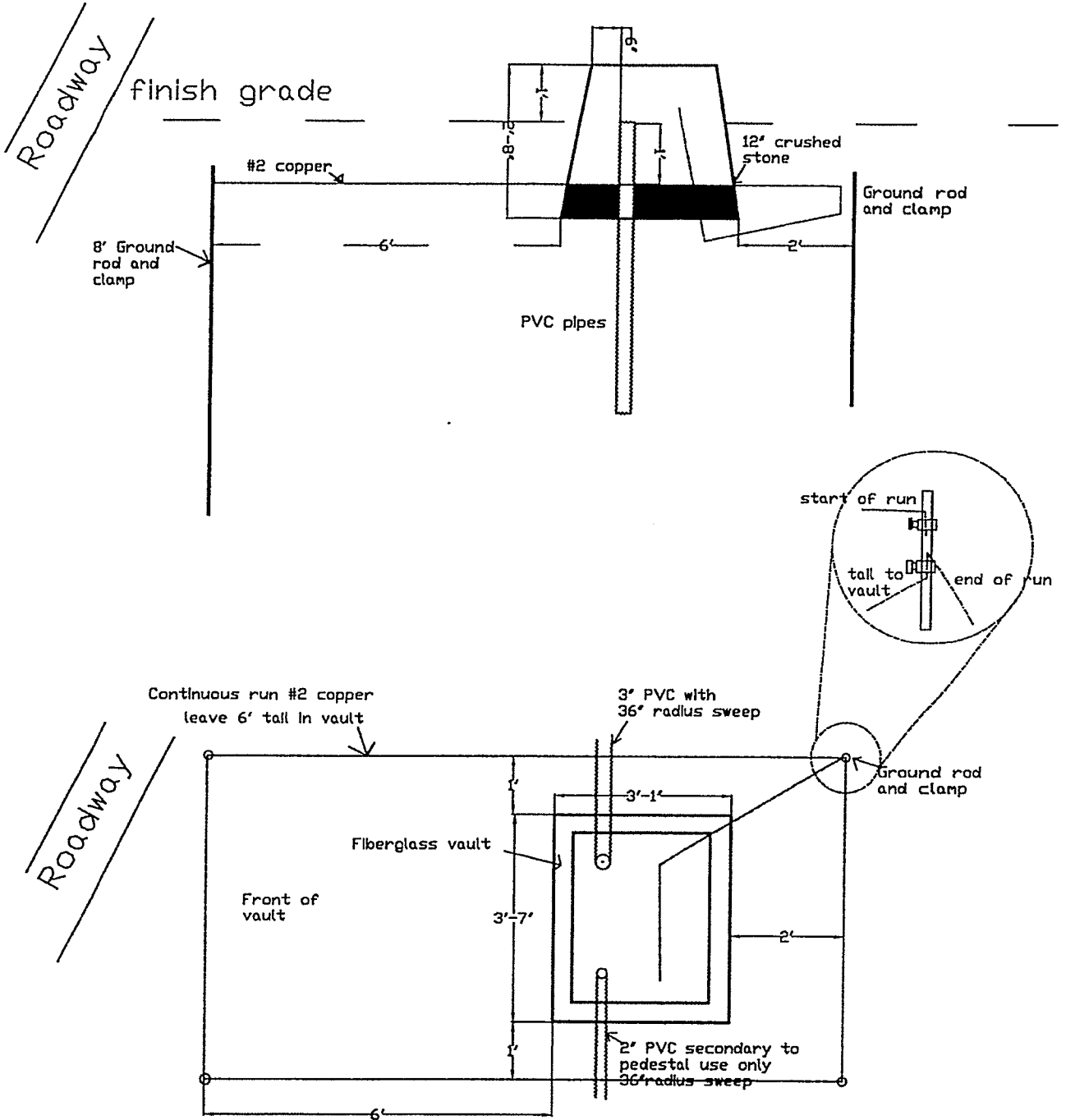
Nordic Fiberglass, Inc.
 21415 US Hwy 75 NW, Waton, WI 54782
 www.nordicfiberglass.com
 218-745-5095 ph. — 218-745-1970 fax

GS-36-36-32-MG-25x25

SIZE	REV.
A	REL-01
SCALE: 1:20	SHEET 1 OF 1

SINGLE PHASE TRANSFORMER INSTALLATION

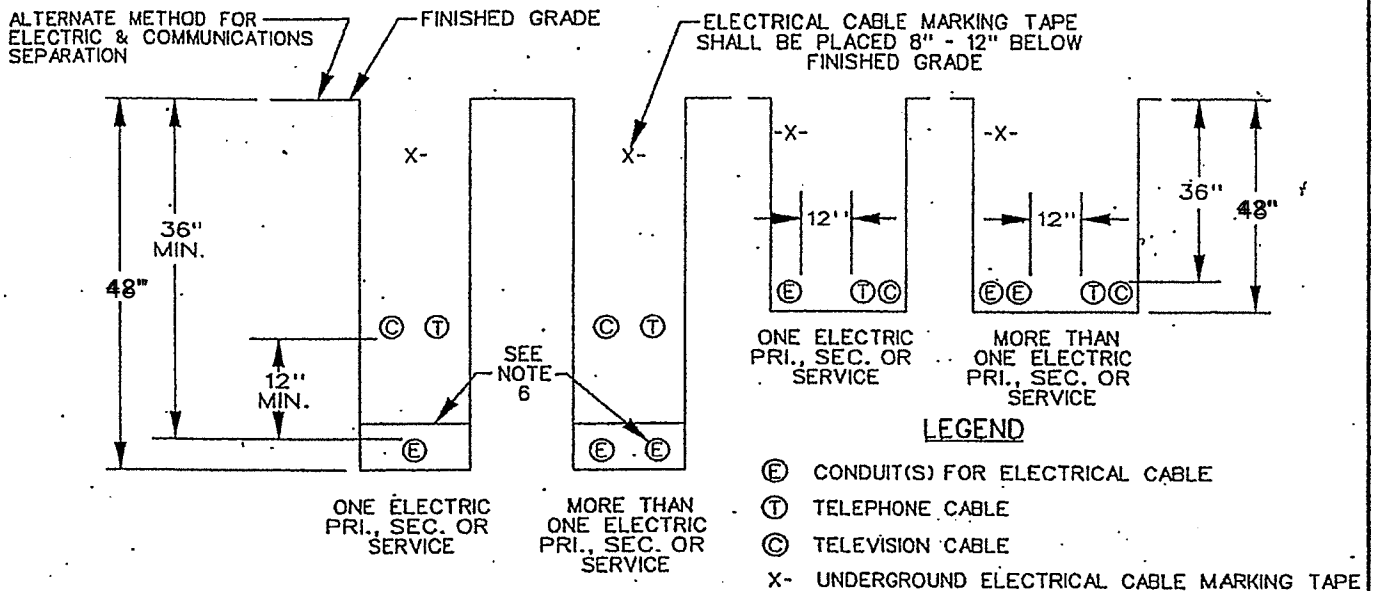
Transformer pads must face the nearest vehicle access



MORRISVILLE WATER & LIGHT
ELECTRIC SERVICE REQUIREMENTS

DRAWN: JAT	DATE: 05-18-06
APPRVD: YES	DATE: 05-18-06
DRAWING No. 1	PAGE: 1
DATA BASE No. 1	

TYPICAL TRENCH CROSS-SECTION U.G. CABLE IN CONDUIT



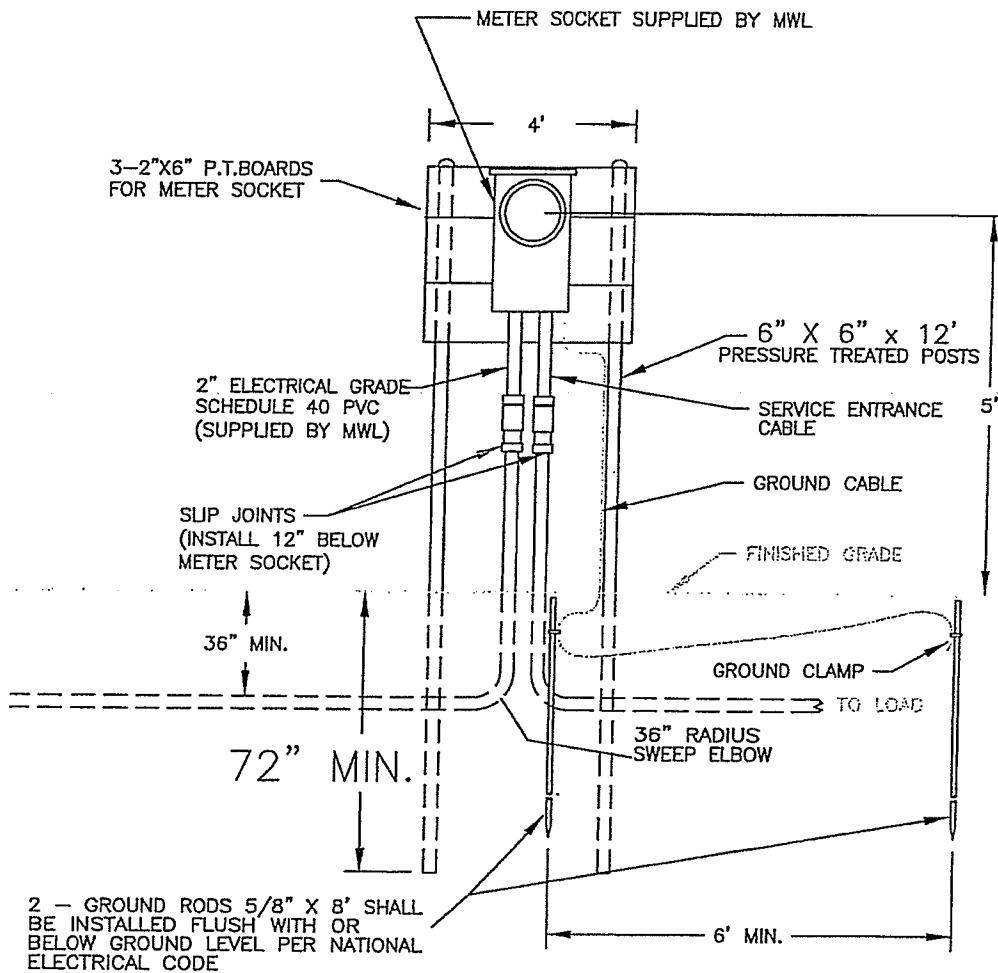
NOTES:

1. ALL TRENCHES AND ELECTRICAL CONDUIT(S) REQUIRE APPROVAL BY UTILITY INSPECTOR BEFORE BACKFILLING.
2. ALL TRENCHES SHALL BE 18 INCH MINIMUM WIDTH. THE CONDUIT SHALL BE EMBEDDED IN UNFROZEN SAND OR FINE GRAVEL, THAT WILL PASS A 1 INCH MESH. THIS MATERIAL SHALL BE A MINIMUM OF 4 INCHES THICK ON ALL SIDES OF THE CONDUIT. THE REMAINDER OF THE BACKFILL SHALL BE CLEAN, AND, SHALL NOT CONTAIN ROCKS LARGER THAN 8 INCHES IN ANY DIMENSION. CAREFULLY COMPACT THE FULL DEPTH OF BACKFILL, UNDER TRAVELLED WAYS AND PARKING LOTS. THE MINIMUM DEPTH, UNDER A HIGHWAY, SHALL BE 48 INCHES RATHER THAN 36 INCHES. MOUNDING THE TRENCH, TO PROVIDE THE REQUIRED DEPTH, IS NOT ALLOWED.
3. CONDUIT SHALL BE ENCASED IN A 4 INCH ENVELOPE OF CONCRETE UNDER THE FOLLOWING CONDITIONS:
 - A) BROOK CROSSINGS.
 - B) CROSSINGS OF WATER, SEWER, AND GAS PIPELINES. CROSSINGS SHALL BE DONE AT NINETY DEGREES IF POSSIBLE. NORMALLY, THE ELECTRICAL CONDUIT SHALL BE A MINIMUM OF 18 INCHES ABOVE THE PIPE. CAREFULLY COMPACT THE FILL BELOW THE ELECTRICAL CONDUIT. CONCRETE ENCASEMENT IS REQUIRED FOR 10 FEET ON EACH SIDE OF THE PIPE.
 - C) UNDER THE TRAVELLED WAY OF CITY STREETS, AND, UNDER TOWN HIGHWAYS, IF REQUIRED BY THE TOWN. A PIPE SLEEVE, SURROUNDING THE CONDUIT, MAY BE SUBSTITUTED.
 - D) CONDUITS WITHIN 20 FEET OF TANKS CONTAINING FUELS, OR SOLVENTS. THESE TANKS MAY BE ABOVE OR BELOW GRADE. THIS REQUIREMENT DOES NOT APPLY TO URD SERVICES.
4. TRENCHES SHOULD BE LOCATED 10 FEET FROM ANY STRUCTURE, UNLESS THE CONDUIT IS GOING TO THE STRUCTURE. CONTACT THE UTILITY IF CLOSER APPROACHES ARE NECESSARY.
5. TRENCHES SHOULD BE LOCATED 10 FEET FROM ANY WATER, SEWER, OR GAS PIPELINE THAT PARALLELS THE CONDUIT. CONTACT THE UTILITY IF CLOSER APPROACHES ARE NECESSARY.
6. COMMUNICATIONS CABLES AND CONDUITS MAY BE LOCATED IN THE SAME TRENCH WITH ELECTRIC CABLES OR CONDUITS. A MINIMUM HORIZONTAL OR VERTICAL SEPARATION OF 12 INCHES IS REQUIRED. ELECTRICAL CONDUITS SHALL BE SEPARATED BY 4 INCHES. THESE DISTANCES ARE MEASURED SURFACE-TO-SURFACE, NOT CENTER-TO-CENTER.
7. DEPTHS SHALLOWER THAN 36 INCHES MAY BE ALLOWED WHERE OBSTRUCTIONS SUCH AS LEDGE ARE ENCOUNTERED. ANY PORTION OF THE CONDUIT SHALLOWER THAN 24 INCHES SHALL BE COVERED WITH A MINIMUM 2 INCH CONCRETE CAP. SEE THE UTILITY FOR DEPTHS SHALLOWER THAN 12 INCHES.

**VERMONT UTILITIES
ELECTRIC SERVICE REQUIREMENTS**

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DATA BASE No.: DTW01893b	

TYPICAL METER PEDESTAL



Meter sockets must be visible from the nearest roadway.

Morrisville Water & Light
ELECTRIC SERVICE REQUIREMENTS

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