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INTRODUCTION

The purpose of this manual is to supply essential information to customers, contractors, builders, architects, engineers, and others concerned with the planning of electrical installations.

All information given in this manual is to be used in conjunction with the Company's **Electric Service Rules and Regulations**, on file with the Public Service Commissions of Wisconsin and Michigan. In issuing this manual, the Company is in no way relieving the customer or contractor of his or her responsibility to install the wiring in accordance with the applicable Wisconsin or Michigan State Electrical Codes, as well as local ordinances, or to maintain the wiring and equipment in a safe operating condition. The Company cannot accept any responsibility for the condition of the customer's wiring and equipment.

The information contained herein is general and may not cover all conditions. For new or special cases not specifically covered in this manual, the Company should be consulted.

This edition of the **Electric Service and Metering Manual** supersedes any and all previous editions.

HOW TO USE THIS MANUAL

This Manual is broken into five main sections. Each section has a Table of Contents and General Requirements that apply to that section.

- The section you are reading is the **G** (General) Section, which has the main Table of Contents, phone numbers for We Energies, and provides general information.
- Sections **O** & **U** (Overhead & Underground) provide the installation details of the equipment for overhead and underground services respectively. They show the equipment layout, critical dimensions and service drop or lateral terminations.
- The **M** (Metering) Section should then be consulted for the wiring of the service equipment. This section is organized by type of service, overhead or underground, 1Ø or 3Ø, and ampacity. The metering sequence to be followed is given after the title block. This section references pages in the **D** Section for that specific metering installation.
- The **D** (Devices) Section lists all the approved termination and metering equipment and is arranged similar to the **M** Section. Only equipment listed in the **D** Section is to be used.

COMPANY CONTACT DIRECTORY

COMPANY WEBSITE

we-energies.com

GENERAL CUSTOMER SERVICE

Residential: 1-800-242-9137

EMERGENCY SERVICE & OUTAGE REPORTING:

Electric: 1-800-662-4797
Gas: 1-800-261-5325

ELECTRIC SERVICE RESIDENTIAL

Website: www.we-energies.com/residential/new_construction/index.htm
Phone: 1-262-574-6400
1-866-423-0364
Fax: 1-262-574-6401
Email: co-non-design-central@we-energies.com

ELECTRIC SERVICE COMMERCIAL

Website: www.we-energies.com/contractors

Phone:	Development/Subdivision	Construction/Service
	SE WI: 800-753-9509	SE WI: 866-423-0364
	Fox Valley: 800-753-9509	Fox Valley: 800-972-8856
	Iron Range: 800-562-1050	Iron Range: 800-562-1050

ONE-CALL CENTERS FOR LOCATION OF UTILITY FACILITIES

WISCONSIN - DIGGERS HOTLINE

- Phone numbers include: From Milwaukee area (414) 259-1181
  Toll-free . . . . . 1-800-242-8511 or 811
  TTY 1-800-542-2289
- All types of requests are accepted 24 hours a day, 7 days a week, 365 days a year.
- Wisconsin law requires that a minimum of three working days notice be given for any excavation other than emergencies.
- Will accept calls for emergencies, planned excavation, planning information, appointments and overhead information.
- Visit www.diggershotline.com to file online requests.

MICHIGAN - MISS DIG

- Phone number: toll-free 1-800-482-7171 or 811
- Hours of operation 7:00 A.M. - 7:00 P.M. Monday thru Friday. Emergency calls accepted 24 hours a day 7 days a week.
- Michigan law requires that a minimum of three working days notice be given for any excavation other than emergencies.
- Will accept calls for emergencies, planned excavation, appointments and overhead information.
- Visit www.missdig.net to file online requests.

NOTE: These services will only notify members to locate their facilities.

GENERAL INFORMATION

1. Unless otherwise indicated, all items shown on the sketches are to be furnished and installed by the customer.
2. Meters and current transformers will be furnished and maintained by We Energies.
3. The Customer's service entrance equipment shall match the existing or requested service size.
4. Only meter mounting devices and service termination equipment listed in Section D of this manual are to be used. The listing of equipment in this manual is not an endorsement or indication of suitability, but only that it is acceptable for installation of our metering equipment and termination of our service lateral conductors as required. It is the responsibility of the customer or their electrical contractor to verify that the equipment is suitable for the installation and that it is installed in accordance with all applicable codes.
5. Application of these standards must be made in accordance with the Company's **Electric Service Rules and Regulations**.
6. Electrical contractors are expected to acquaint themselves with the plans of other trades on the premises being wired so that the meter can be located in accordance with the requirements set forth in this manual.
7. For all new and rewired, one or two family, single-phase residential services rated at 200 amperes or less, We Energies will not provide an outlet location letter with a Guaranteed Available Short Circuit Current (GASCC) or service equipment location sketch. The customer and/or the electrical contractor will be responsible for ensuring outlet locations and service entrance facilities comply with requirements specified in this manual and in accordance with the applicable Wisconsin or Michigan State Electrical Codes and local ordinances. A GASCC value of 10,000 amps is to be used for these services only. On January 2025, the minimum short circuit current rating for service entrance equipment to be 18,000 amps.
8. For all new and rewired single-phase residential services rated at 320 amperes, service entrance equipment shall have a minimum short circuit current rating of 22 kA. Accepted service entrance cable may be used where permitted by the applicable Wisconsin or Michigan State Electrical Codes and Local Ordinances.
9. Transfer equipment used with stand-by power plants or generators shall be suitable for intended use and be so designed and installed as to prevent the inadvertent interconnection of normal and stand-by sources of supply in any operation of the transfer equipment. Further, transfer equipment shall be installed such that it is located electrically on the load side of the meter. *Meter mounted transfer switches will not be allowed.* All transfer schemes shall be submitted to the local We Energies job representative for acceptance before installation.
10. The use of approved material, tested and listed by a nationally recognized testing laboratory, and approved methods of installation are requirements of the Wisconsin State Electrical Code by the Wisconsin State Electrical Code Section of the Department of Commerce, and by OSHA for employers, for customer owned electrical service equipment.
11. This manual only covers secondary services. For Primary Services refer to the Electric Service and Metering Manual Addendum **Primary Rate Requirements for Customer Substations.**

NEW SERVICES

1. Before any new electric service can be installed and energized:
   a. The electrical contractor, building owner or general contractor must be on site to take responsibility for the newly energized service.
   b. Or We Energies crews must have safe access to the service's main disconnect.

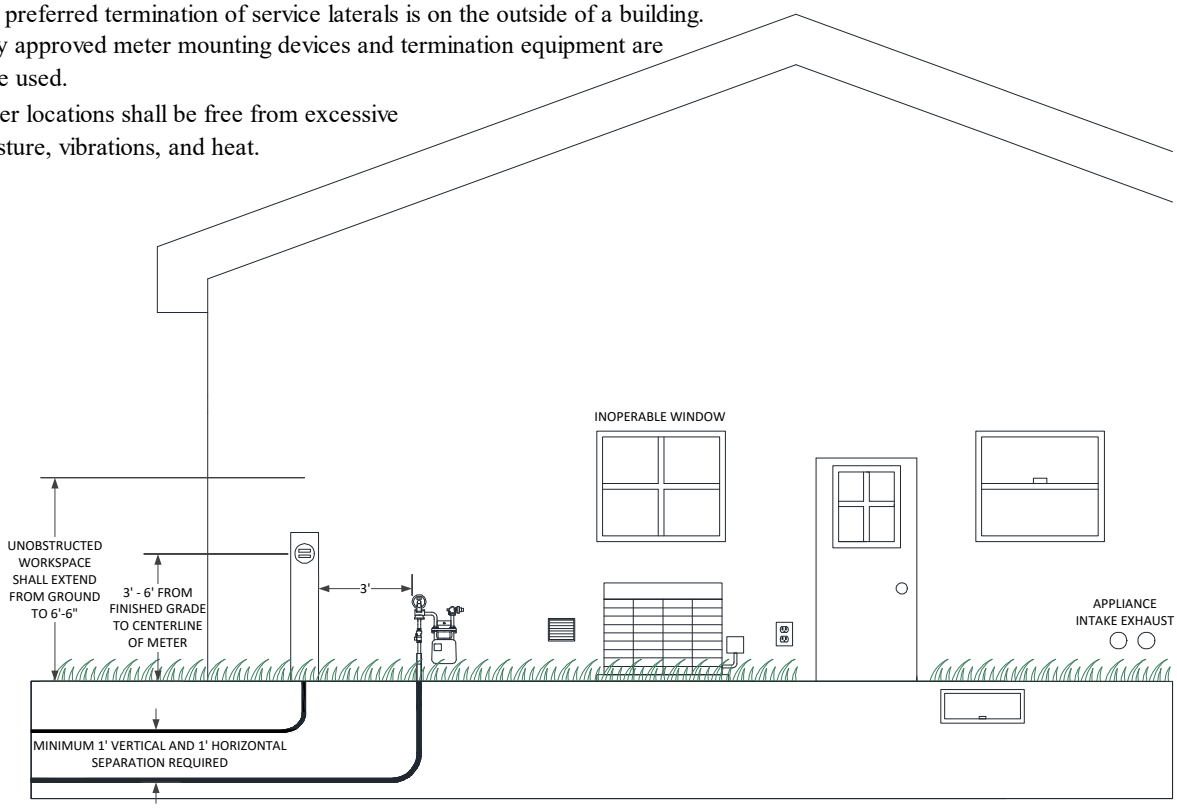
   Please Note that these requirements are in addition to requirements or contingencies such as, but not limited to, the City OK from the Local Municipal Electrical Inspector (or Affidavit in areas where they are used in place of the City OK), grading, permits and payment of any charges.

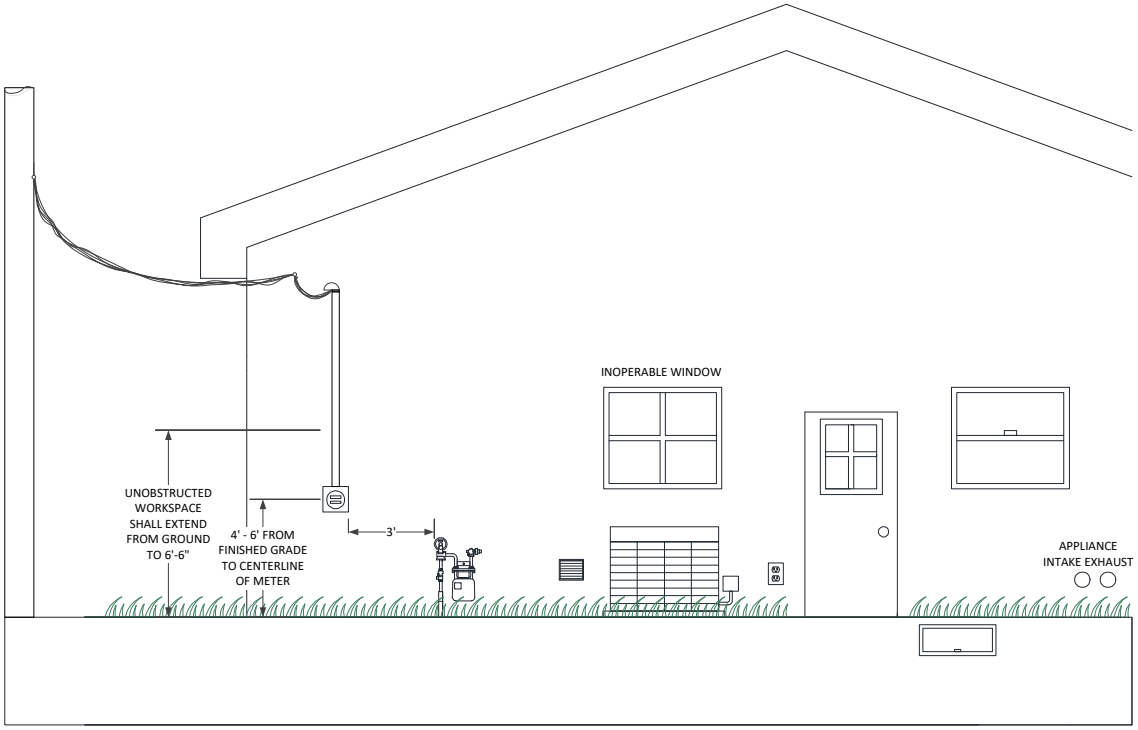
2. If the above conditions are not met or the service is deemed unsafe the service lateral may be installed, but the service will not be energized. Our crew will leave a tag on site with a telephone number to call to arrange to have the service energized after the reason(s) for not energizing the service have been corrected.

3. If a service is energized and there is no one on site authorized to take responsibility, the main disconnect will be left in the off position and tagged to indicate that the electric service is energized.

RESIDENTIAL ELECTRIC FACILITIES LOCATION

- The National Electric Safety Code requires an unobstructed working space that extends from the floor or ground to a minimum height of 6 feet, 6 inches. For electrical equipment mounted higher than 6 feet, 6 inches, this space shall extend to the top of the equipment.
- For underground service laterals, the centerline of all meters shall be between 3 and 6 feet from the finished grade.
- For overhead service drops, the centerline of all meters shall be between 4 and 6 feet from the finished grade.
- There shall be a minimum distance of 3 feet of unobstructed working space, measured from the meter face, in front of all electric and gas meters.
- A 3 foot minimum separation between gas and electric facilities is required.
- The preferred termination of service laterals is on the outside of a building.
- Only approved meter mounting devices and termination equipment are to be used.
- Meter locations shall be free from excessive moisture, vibrations, and heat.





SECONDARY VOLTAGES

The following secondary voltages are generally available from We Energies. **It must be noted that all voltages and ampacities may not be available in all areas.** There may be a charge to extend the necessary facilities to the customer. For some classes of service, especially three phase, availability is also dependent upon the customer's connected load. **The local We Energies job representative must be contacted for availability and cost of service**.

• 120 Volt, 1Ø, 2-Wire	30 Amperes maximum
• 120/240 Volt, 1Ø, 3-Wire	800 Amperes maximum
• 208Y/120 Volt, 3Ø, 4-Wire, grounded-wye	4000 Amperes maximum
• 480Y/277 Volt, 3Ø, 4-Wire, grounded-wye	4000 Amperes maximum
• 208Y/120 Volt, 1Ø, 3-Wire Service	100 Amperes/Position maximum (limited availability)

Secondary voltages no longer provided as new services:

- 240 Volt, 3Ø, 3-Wire Service, Grounded B Phase
- 480 Volt, 3Ø, 3-Wire Service

For services greater than 1600 Amperes and for services using 100% rated Breakers, the Percent Load Factor needs to be calculated as follows:

$$\%\ \text{Load Factor} = \frac{\text{Average Load of Daily Cycle}}{\text{Daily Maximum 1 Hour Average}} \text{ x } 100$$

Where: The "Average Load of Daily Cycle" is equal to the sum of the average hourly current (in amperes) in a 24 hour period divided by 24.
The "Daily Maximum 1 Hour Average" is equal to the highest average hourly current (in amperes).

Once the % Load Factor has been determined, provide the % Load Factor with your service application.

If a high load factor is expected, an engineering analysis may be required. Please contact the local We Energies job representative if the load factor is expected to be higher than 80%.