

# Underground School

May 9–12, 2023



**Underground School**

features hands-on training with a variety of sessions. Whether you are a seasoned journeyman looking to stay current or an apprentice just starting out, this school offers something for everyone!

**MMUA Training Center  
Marshall, MN**

# 2023 Underground School Overview

**Participants will be divided into groups and will rotate through the following six hands-on training sessions:**

## **Troubleshooting secondary**

This class is designed to give students an insight of megging secondary wire. Because secondary faults are a never-ending issue, troubleshooting is of utmost importance. Instructors will cover different ways of restoring power. Participants will be taught the need for an add-a-phase and how to properly install one, as well as hooking up a meter socket with armored cable. After service has been restored, individuals work on finding the fault.

## **600-amp terminations**

This session will help participants gain important knowledge in the process of terminating 500 MCM aluminum wire. Three different types of terminations will be taught. A skirted termination for a riser, 600-amp elbow in a PME switch, and a splice will all be covered. Proper tool selection and grounding will also be covered.



## **Directional drill operations**

In this session, participants will gain hands-on experience operating a directional drill as well as the equipment needed to complete a project. Whether you have experience with a directional drill or not, this class will be beneficial.

## **Underground distribution design**

Design of your underground distribution system is an extensive and complex capital venture. Understanding proper system layout & design, coupled with critical planning is essential to ensure system reliability, operability, and economic return on investment. We will review fundamental principles of proper underground design and other important topics.

## **Troubleshooting and fault-finding primary cable**

In this session, students will be taught how to isolate and restore power on URD primary systems. Proper use of phasing sticks with DC hi-pot adapters, fault indicators and thumpers will be demonstrated to help students understand and address the issues related to URD faults.

## **Circuit isolation and switching**

This session will cover the importance of following switching orders when they are needed to be completed. Instruction on proper steps will be taken to cover the techniques needed to switch and isolate underground equipment. Required procedures and use of tools and equipment will be taught on how to effectively test and ground your work area.

## **Schedule**

### **Tuesday, May 9**

12:00	Registration/check-in
1:00	Welcome
1:15	General session: Load securement and CDL requirements
4:00	Wrap-up

### **Wednesday, May 10**

8:30	Hands-on training sessions
11:45	Lunch
12:30	Hands-on training sessions
4:00	Wrap-up
5:00	Optional evening activities: Archery (equipment required) Sporting clay shoot or golf (each at participant's expense)

### **Thursday, May 11**

8:30	Hands-on training sessions
11:45	Lunch
12:30	Hands-on training sessions
4:00	Lineworker rodeo mystery event

### **Friday, May 12**

8:30	General session: A lineworker's worst nightmare
12:00	Wrap-up

*Schedule subject to change.*

## **What to bring**

Because some of the training will take place outside of the classroom, participants must have the proper PPE, including:

- High-visibility clothing/outerwear
- Hard hat
- Safety glasses
- Work gloves
- Rubber gloves
- Work boots

## **Certificate of achievement**

Attendees earn a certificate of achievement for their participation. Watch for an email from MMUA with the certificate, upon completion of the course.

## **Hotel information**

The AmericInn and EverSpring Inn (formerly Ramada) offer special pricing for participants. Ask for MMUA's reduced rate when booking. Visit [MMUA's website](#) for more information.

# 2023 Underground School Registration Form

4413.01

Date: May 9–12, 2023  
Location: MMUA Training Center  
1004 Michigan Road  
Marshall, MN 56258

## Attendee Information

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Indicate preferred shirt size (S–3XL): \_\_\_\_\_

(2) Name: \_\_\_\_\_

Email: \_\_\_\_\_

Indicate preferred shirt size (S–3XL): \_\_\_\_\_

(3) Name: \_\_\_\_\_

Email: \_\_\_\_\_

Indicate preferred shirt size (S–3XL): \_\_\_\_\_

(4) Name: \_\_\_\_\_

Email: \_\_\_\_\_

Indicate preferred shirt size (S–3XL): \_\_\_\_\_

Utility/Co. \_\_\_\_\_

Primary Contact: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

PHOTOGRAPHS: By registering for this conference, I, the attendee(s) named above, authorize Minnesota Municipal Utilities Association (MMUA) to photograph me at this event and use such photographs in MMUA marketing materials (both electronic and print). I understand that I will not be paid for giving this consent.

QUESTIONS? Contact Theresa Neddermeyer by email at [tneddermeyer@mmua.org](mailto:tneddermeyer@mmua.org) or call 763-551-1230.

## Registration Fee (by April 7)

- Member - \$515 per person
- Non-member - \$690 per person

NOTE: Registration fees increase \$50 per person on April 8.

Deadline to register: April 18.

Registration Fee: \$ \_\_\_\_\_

x Number of Attendees: \_\_\_\_\_

Total Due \$ \_\_\_\_\_

## Payment Options

Check Payable to MMUA

Bill Utility/Company

Purchase order \_\_\_\_\_

Credit Card\*

Visa  MasterCard  Discover

\*If you would like to pay by credit card, please contact our office at 763-551-1230.

Or if you prefer that we contact you, please indicate the phone number that we should contact you at:

\_\_\_\_\_

REFUND: MMUA will issue a refund (less \$35 processing fee per person) provided MMUA is notified of the cancellation by 4:30 pm on April 18. Sorry, no refunds after April 18, 2023.

Registering  
is Easy!

Online: [www.mmua.org/event/underground-2023](http://www.mmua.org/event/underground-2023)

Email: [tneddermeyer@mmua.org](mailto:tneddermeyer@mmua.org)

Reg. fee  
increases  
\$50  
on April 8