

Course Description Sheet

COURSE TITLE

Water Main Installation

COURSE DURATION

1 Hour

OVERVIEW

Water main installation workers face serious risks including cave-ins, utility strikes, and contamination exposure that can result in severe injuries or death. Proper implementation of OSHA trenching protocols, 811 Call Before You Dig procedures, and comprehensive safety measures can prevent the majority of water main installation accidents. This interactive online course will teach you how to calculate proper trench dimensions, select appropriate Personal Protective Equipment, and execute safe pipe laying and joining techniques according to American Water Works Association standards. Additionally, you will learn regulatory compliance requirements including Safe Drinking Water Act provisions, hydrostatic pressure testing protocols, and accurate documentation procedures essential for protecting public health and infrastructure integrity.

PREREQUISITES

No prior knowledge is required.

BEHAVIORAL OBJECTIVES

By the end of this course, you will be able to:

- Identify the critical role of water mains in municipal distribution systems and their impact on public health and safety, interpret city infrastructure plans, and apply local and state regulatory requirements for water main projects
- Demonstrate proper Personal Protective Equipment selection and implement OSHA trenching and shoring practices while executing 811 Call Before You Dig procedures
- Calculate proper trench dimensions and apply correct pipe laying, cutting, and joining techniques while performing hydrostatic pressure testing according to AWWA standards
- Execute proper backfilling and compaction techniques using layered approaches while completing accurate as-built drawings and maintenance documentation requirements

COURSE OUTLINE

Chapter	Minutes
Introduction	2
Master Water Main Installation Fundamentals	9
Essential Pre-Installation Planning Strategies	10
Proven Safety and Site Preparation	11
Expert Water Main Installation Techniques	15
Effective Post-Installation and Restoration	10
Conclusion	2
Summary	1
Course Total	60

AVAILABILITY

This course is offered online and is available 24 hours a day, 7 days a week, 365 days a year.

TRAINING METHODOLOGY & EVALUATION

This course is self-paced online training. Review exercises reinforce the content, and students are evaluated with a multiple-choice exam. Upon completion, students are prompted to submit a course evaluation.

REFERENCES

- American Water Works Association. (2020). *AWWA C600-17: Installation of ductile-iron mains and their appurtenances* (4th ed.). American Water Works Association.
- Common Ground Alliance. (2019). *DIRT report: Damage information reporting tool annual report for 2018*. Common Ground Alliance. <https://commongroundalliance.com/>
- Occupational Safety and Health Administration. (2015). *OSHA 29 CFR 1926.651: Specific excavation requirements*. U.S. Department of Labor. <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.651>
- U.S. Environmental Protection Agency. (2018). *Safe Drinking Water Act (SDWA): A comprehensive guide for water system operators* (EPA Publication No. 816-F-04-030). Office of Water.
- Walski, T. M., Chase, D. V., Savic, D. A., Grayman, W., Beckwith, S., & Koelle, E. (2017). *Advanced water distribution modeling and management* (2nd ed.). Bentley Institute Press.