
Ohio's Universal Marking Standards

Alice J. Miller
Director, Community Affairs
Ohio Marking Standards Committee Chair

Overview

- The Need for Statewide Standardization
 - The National Picture
 - The Committee
 - Development
 - The Process – it isn't pretty
 - Project Support
 - The Marks
 - Going Forward
-

The Need for Statewide Standardization

- **Clear, Consistent Communications**
 - Reduces Injuries and/or Fatalities
 - Reduces Loss/Damage to Property
 - Reduces Harm to Environment
 - Allows Work to Flow in an Efficient Manner
 - Saves Time and Money
-

The National Picture

Has Your State Developed Marking Standards?

- 29 States Polled

- 10 Yes

Connecticut, Delaware, Maine, Maryland, Massachusetts
New Hampshire, Ohio, Rhode Island, Vermont, Virginia
& D.C.

- 12 Recommend CGA Best Practices

- 7 No

- 6 Recommend APWA Color Code
 - 1 No Standards / No Recommendations
-

The Committee – 24 Members

American Electric Power

ATT

BP Pipelines (North America)

Buckeye Partners

Central Locating Services

City of Cleveland

Columbia Gas of Ohio, Incorporated

Cook Paving & Construction Co., Inc.

Crestline Paving & Excavating Co., Inc.

Dominion East Ohio Gas Company

Duke Energy

EMBARQ Corporation

FirstEnergy Corporation

Lucas County Engineers

Northeast Ohio Regional Sewer District

Ohio Department of Transportation

Ohio Site Services

Ohio Utilities Protection Service

Precision Directional Boring, Inc.

Premier Utility Services, LLC

Rudolph/Libbe, Incorporated

Time Warner Cable

Vectren Energy Delivery

Waterville Gas Company

Thank You!

Committee Development

- In The Beginning...
 - Toledo DPC – CGA Best Practices Committee
 - Cleveland DPC
 - Reaching Out – Cross Section
-

Committee Development

Purpose

To reduce damages to Ohio's infrastructure by establishing marking standards used to identify underground facilities; and to create effective educational materials to promote the use of the marking standards among all stakeholders and educate excavators as to their meaning.

The Process

- Election of Chair
 - Alice Miller, O.U.P.S.
 - Election of Secretary
 - Jennifer Reams, Crestline Paving & Excavation
 - Developed By-Laws
 - Jennifer Jones, Lou Griggs, Ozz Johnson,
Alice Miller
-

The Process

Consensus Process: Consensus means arriving at a common decision that all Committee members can accept. A consensus agreement is a decision made that may not be the first choice of all committee members, but for which all members indicate they will accept and support. A single Committee member's veto means consensus has not been reached. Committee members are expected to achieve consensus.

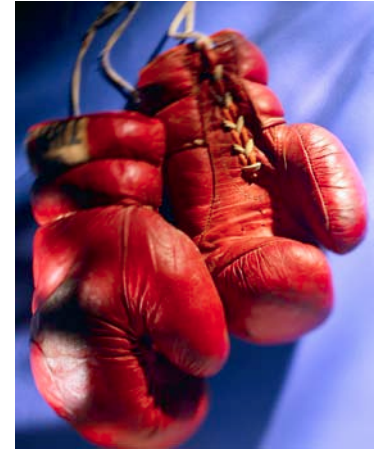
The Process

- All Committee members should try aggressively and honestly to ensure effective communications to represent their company's/constituents' interests. All Committee members are expected to participate in all Committee meetings and discussions with an open mind and to try vigorously and honestly to achieve consensus on committee matters.
 - In the event that the Committee member and/or their representative are unable to attend, then that Member will be noted as “absent” on the attendance roster and will forfeit their right to vote on any issues addressed at that particular meeting.
-

The Process

Rules of Engagement

The following guidelines should be followed to facilitate flow of information and enhance consensus building



- Share all relevant information.
- Focus on safety and damage prevention, not individual/company interests.
- Be specific, use examples.
- Aggressively research all information presented.
- Define ambiguous words or those that need a uniform meaning.
- Explain the reasons behind your statements, questions, or actions, as necessary.
- Discuss disagreements and concerns openly and in an orderly and civil manner.
- Ensure that everyone has multiple opportunities to share their viewpoint and experience.
- Make statements, and then invite comments and questions.
- Keep the discussion focused.
- Communicate with your constituency. Seek their input and ideas.
- When consensus is reached on an item fully support the Committees' decision with integrity.

Ohio's Universal Marking Standards Project Support

- Ohio Utilities Protection Service (O.U.P.S.)
 - Ohio's Damage Prevention Councils
 - Participating Companies/Municipalities
 - Public Utilities Commission of Ohio (PUCO)
 - Pipeline Hazardous Materials Safety Administration (PHMSA)
 - 2009 State Damage Prevention Program Grant
-

The Marks

■ Tools Used

- ❑ Virginia Underground Utility Marking Standards
 - ❑ APWA Marking Standards
 - ❑ CGA's Best Practices
 - ❑ Referenced Other States' Guidelines
-

The Marks - Disclaimer

- Recommendations – Not Law
 - Not All-Encompassing
 - An Evolution
 - More Detailed Marking Recommendations
visit www.commongroundalliance.com
 - Best Practices 6.0, Locating and Marking Chapter
and Appendix B
-

The Marks – APWA Color Code



RED

Electric Power Lines, Cables,
Conduit and Lighting Cables



YELLOW

Gas, Oil, Steam, Petroleum or
Gaseous Materials



ORANGE

Communication, Alarm or
Signal Lines, Cables or
Conduit



BLUE

Potable Water



GREEN

Sewers and Drain Lines



PURPLE

Reclaimed Water, Irrigation
and Slurry Lines



PINK

Temporary Survey Marking

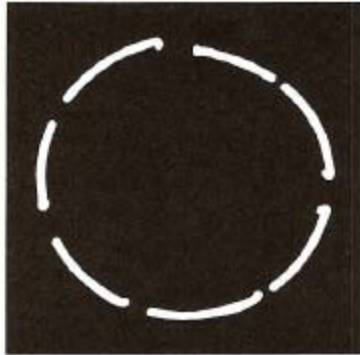


WHITE

Proposed Excavation

The Marks

White Lining



Excavators are encouraged to pre-mark with white paint in order to show the facility owners/locators the specific area where excavation will take place. This will eliminate locating underground facilities that are not involved in the excavation area and reduce unnecessary paint on our streets, roads, and sidewalks.

For a single point excavation such as installing poles, pedestals, or planting a tree, mark (with white paint) the area by using dashes to show the operators/locators the area of excavation.

For continuous excavation such as trenching, boring, etc., mark the center line of the excavation with dashes (in white paint.) Excavation width (in feet) shall be indicated on either side of the center line in legible figures.

White flags or stakes may be used in place of white paint and in some situations may be more practical.

The Marks

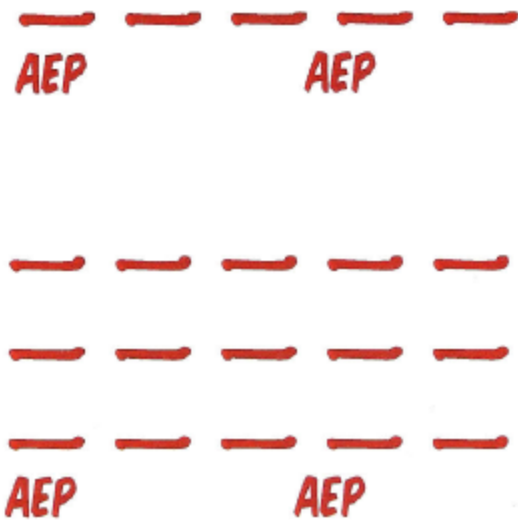
Owner / Operator Identification



When marks are placed at the excavation site, the owner/operator of the facility shall be indicated by a letter or letters utilizing the APWA color code. These letters shall be legible and placed at the beginning and end of the locate and at intervals throughout the locate as needed to clearly identify the owner/operator.

The Marks

Single / Multiple Facilities



Underground utility lines of the same type, in the same trench, owned by the same operator, shall be marked individually. If a single underground facility is present, a single line will indicate the location of the facility.

If multiple underground facilities are present, a single mark for each underground facility shall be used.

Marks shall be placed at the beginning and the end of the locate and at intervals throughout the locate as needed to clearly identify any deviation in the route of the underground utility.

The Marks

Pipelines

Pipelines 2 inches and smaller (nominal size): The physical location of a pipeline shall be represented by a single mark.



Pipelines larger than 2 inches (nominal size): The physical location of a pipeline shall be represented by a single mark. The nominal size shall be noted.

The Marks

Plastic Inserts

When known, pipelines which are inserted into casings should be marked to indicate same.



For All Pipelines:

The owner / operator should be identified. Flags, as well as paint, should be deemed acceptable as identifying the owner/operator.

When known, the material type of the pipeline shall be indicated using the “material type” abbreviation index.

When known, pipelines which are inserted into casings should be marked to indicate same.

Marks shall be placed at the beginning and the end of the locate, and at intervals throughout the locate as needed to clearly identify the pipeline location, material, and width.

All numbers identifying width shall be in inches.

The Marks

Ducts / Duct Banks

The term "duct" shall be used for a single enclosed (raceway) containing one or more cables, the term "duct bank" shall be used for a structure containing two or more ducts



For banks constructed with ducts sized 2 inches or less, the following information will be provided: A single mark or line is used. A diamond is placed within the mark or line. The number of small-diameter ducts shall be indicated within the diamond symbol.

For duct banks containing ducts larger than 2 inches, the following information will be provided: The duct bank boundary (the "width") is identified with marks after locating the outermost ducts within the bank. The number of facilities will be placed within the diamond. This diamond will be placed within the duct bank boundary marks.



The Marks

Ducts / Duct Banks



In situations where multiple ducts which are owned and/or operated by different companies are placed together in a bundle fashion, a duct bank marking symbol shall be used by the first operator marking the facility. Other operators owning facilities within the bundle shall verify the marks and add their operator letter designation.

For All Ducts and Duct Banks:

Marks shall be placed at the beginning and the end of the locate and at intervals throughout the locate as needed to clearly identify the duct/duct bank location, number of ducts, and owner.

The Marks

Termination Points / Deviation in Direction



Termination Points, stub outs, and dead ends shall be marked as shown.

When deviations in the direction of a facility are known to exist, the deviations shall be marked in a manner which clearly identifies the route of the facility.



The Marks

Offset Marks

In areas prone to the frequent destruction of marks offset marks may be used in conjunction with the marks placed at the actual location of a facility. They are intended to be used as a supplemental means of marking.

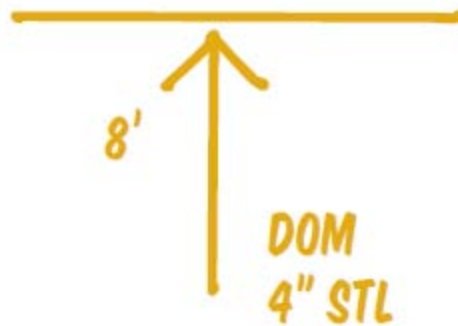
A line is placed in conjunction with an arrow, and a measurement (stated in feet), which specifies the distance from the reference line to the actual location of the facility.

The arrow indicates the direction from the reference line, to the actual location of the facility.

The arrow shall be oriented at 90 degrees to the reference line.

The distance to the actual location of the facility, from the reference line, shall be placed on one side of the arrow.

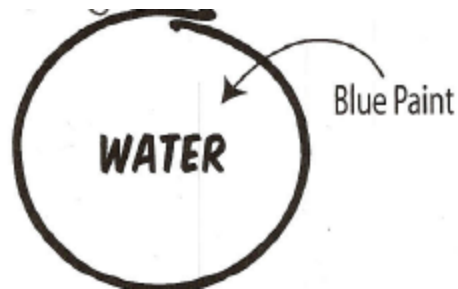
The locator shall provide all of the necessary information which adequately identifies the specific facility, in accordance with the marking standards. This information shall be placed on the side of the arrow which is not utilized for the "distance" information.



The Marks

Valve Boxes/Manholes

When known, the perimeter of valve boxes, manholes, and other surface indicators should be marked using the appropriate APWA color code.





Click on the links below to find important information about Ohio's Universal Marking Standards. You may print this information or attend a [Ohio Damage Prevention Council](#) or [Utility Coordinating Council](#) meeting in your area for copies of each item listed.

- [Ohio's New Marking Standards Brochure](#)
- [Excavator Manual and Universal Marking Standards](#)
- [Marking Examples — Print-and-Go](#)
- [Introducing Ohio's New Marking Standards Video](#)
- [Introducing Ohio's New Marking Standards Power Point Presentation](#)
- [Ohio's Marking Standards News Article](#) - download for your company or organization's newsletters

If you are an underground facility owner/operator in the state of Ohio, and the code you use to identify your underground facilities is not listed, please provide that code to the Ohio Utilities Protection Service by email us at iteam@oups.org.

Once provided, your company code will be posted, and workers in your area will know it is your facility they are excavating near.

Excavators, print this list and keep it handy, it is your key to underground facility owner/operator identification. This list is updated often, so check back frequently.

- [Facility Owners' Identification Codes](#)
- [Facility Material Type Abbreviations List](#)
- [Facility Type Definitions List](#)

The Marks

Resources at WWW.OUPS.ORG

Material Type Abbreviations

AC	Asbestos concrete
CI	Cast iron
CPR	Copper
DI	Ductile iron
FO	Fiber optic
FM	Forced main
PI.....	Plastic line inserted into steel
PL	Plastic
PVC	Polyvinyl chloride
RFC	Reinforced concrete
SCC	Steel cylinder concrete
STL	Steel
TC	Terra cotta
TR	Transite
W/STL	Wrapped steel

Definitions

Duct - A single enclosed raceway (channel, tube, or cylinder) containing one or more lines or cables.

Duct Bank - A structure containing two or more ducts.

Owner – Any person or entity who owns the means to convey services or materials.

Operator - Any person who furnishes, or transports materials or services by means of a utility line.

Pipelines - Underground utility lines used for the transportation of hazardous liquid, steam, water, sewer, storm and gaseous materials.

PI – Plastic Insert. To indicate a plastic line/facility has been inserted into a steel pipe

Going Forward

Educational Efforts

- Encourage Ohio's Owners/Operators to Use Recommended Markings
 - Encourage Facility Locators to Use Recommended Markings
 - Educate Ohio's Excavators About the Marks and What They Mean.
-

Going Forward

■ Timeline

- ❑ Fall & Winter 2009/2010 Educational Program
Kick-off
- ❑ Spring 2010 Facility Owners Will Begin Using The Marking Recommendations.
- ❑ Eventually...

**Ohio's Universal Marking Standards
Will Become The Industry Standard**

Ohio's Universal Marking Standards

Questions ??
