

## Customer Requirements for Horizontal Directional Drilling (HDD)



### 1. Scope

This standard covers the customer requirements for horizontal directional drilling (HDD) installation of underground secondary single-phase and three-phase service conduit(s) in the right-of-way when required by franchise City or King County.

Underground secondary service in the Network system is outside the scope of this standard.

Primary service conduits are outside the scope of this standard.

### 2. Application

This standard is for customers, Seattle City Light (SCL) engineers, Electric Service Representatives (ESRs), Electric Service Engineers (ESEs), and contractors who design and/or construct underground secondary conduit installations using HDD means and methods.

Standard Coordinator  
Brett Hanson

Standards Engineering Supervisor  
John Shippek

Division Director  
Andrew Strong

### 3. Introduction

HDD is an underground excavation method using a steerable system for installing pipe, conduit, and cable using a surface-launched drill rig.

A fluid-filled pilot bore is drilled using a fluid-driven motor. The bore is then enlarged by pre-reaming when necessary, and by back-reaming to the size required for product pipe installation. The drill head steers the pilot boring.

Before drilling begins, the location, depth, and dimension of existing underground facilities within and near the proposed bore path are identified and located, including appurtenances as may exist, and the bore path alignment and profile through these underground facilities is planned. The location and depth of the drill head following this planned bore path is monitored and known at all times. Notifications and coordination with others whose underground facilities exist along the bore path are prearranged and timely.

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### 4. Requirements

#### 4.1 General

All HDD installations shall be reviewed and approved by the SCL Distribution Engineer.

All HDD installations shall be performed by a licensed HDD contractor.

HDD shall meet the requirements listed in section 2-16 of the City of Seattle Standard Specifications for Road, Bridge and Municipal Construction, and all requirements listed in this standard. In case of conflict, the most stringent requirements will prevail.

#### 4.2 Submittal

Before any HDD activity starts, the contractor must create and submit the proposed bore path alignment shown on plan and profile shop drawings that meet the applicable requirements listed in SCL 0224.07. The contractor shall also determine all existing and known utility depths through all means available and include them on the shop drawings to show the appropriate clearances from SCL and non-SCL facilities as required by SCL 0214.00. The shop drawings with proposed bore path alignment shall be submitted to the SCL Distribution Engineer for review and approval.

#### 4.3 Materials

The conduit used shall be the SCL-approved material for HDD that is specified by SCL 7017.05 or SCL-approved zinc-coated steel conduit that is specified by SCL 7050.05.

The conduit size and number of conduits shall be specified by the SCL Distribution Engineer.

A minimum of two conduits are required for street crossings.

#### 4.4 Construction

All utility crossings shall be verified by pothole to confirm locates and required clearances. HDD conduits shall be terminated a minimum of three feet away from a handhole and terminated into the handhole using an open trench and conduit.

Four-inch and larger conduits shall be terminated a minimum of four feet away from the handhole.

#### 4.5 Damage Liability

Any utility infrastructure damaged as a result of HDD is the responsibility of the contractor.

#### 4.6 Inspection

The conduit material should be inspected prior to installation and the conduit shall be cleaned and mandreled after installation per SCL U2-11.40/NKD-40.

#### 4.7 As-Built Drawings

Upon completion of the conduit installation, the contractor shall submit an “as-built” drawing showing the depth of the installation along the alignment path to the SCL Distribution Engineer.

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### 5. References

**SCL Construction Standard 0214.00**; “Clearances Between SCL Underground Structures and Other Structures”

**SCL Construction Standard 0224.07**; “Requirements for Secondary Conduit Installation”

**SCL Material Standard 7017.05**; “Directional Drilling Conduit Systems”

**SCL Material Standard 7050.05**; “Zinc-Coated Steel Conduit and Fittings”

**SCL Construction Standard U2-11.40/NDK-40**; “Mandreling and Cleaning of Ducts and Conduits”

**City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction**; 2020 Edition

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### 6. Sources

**Lu, Curtis**; SCL Standards Engineer and originator of 0223.03

**Knowlton, Christine**; SCL Civil Engineering Specialist Supervisor and subject matter expert for 0223.03