Streetlight Poles, Chief Seattle, Foundation, Base, and Collar Installation

1. Scope

This standard covers the requirements for installing Chief Seattle streetlight pole foundations, bases and collars.

This standard applies only to Chief Seattle streetlights with base and collar assemblies measuring 10 to 12 inches in diameter.

Strain poles with Chief Seattle bases and collars are not owned by Seattle City Light (SCL) and are therefore outside the scope of this document.

2. Application

Chief Seattle streetlights are only installed in special districts. Contact Streetlight Engineering for specific details.

Foundations for Chief Seattle streetlight poles are poured in place as opposed to being precast.

Regardless of type, all Chief Seattle streetlight poles owned by SCL require a bolt circle measuring 15-3/4 inches in diameter.

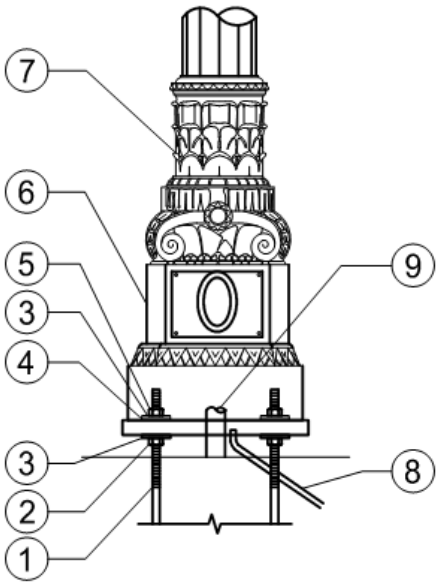
Chief Seattle streetlight pole foundations are required for streetlight poles with the following stock numbers:

Stock No.	Length (ft)	Application
569518	18	3-globe fixtures
569530	26	Aladdin arm assembly
569531	31	Aladdin arm assembly (used on Alaskan Way)

3. Material List

Item No.	Description	Stock No.	Quantity
1	Anchor bolt, 1 in (dia) x 36 in (length) x 4 in (hook)	Supplied with pole	4 ea
2	Leveling nut	Supplied with pole	4 ea
3	Flat washer	Supplied with pole	8 ea
4	Lock washer	Supplied with pole	4 ea
5	Hex nut	Supplied with pole	4 ea
6	Base assembly with access door		1 ea
	Cast bronze	568030	
	Cast aluminum	568031	
7	Collar assembly		1 ea
	Bronze, 10 in diameter	568032	
	Bronze, 12 in diameter	012474	
	Aluminum, 10 in diameter	568033	
	Aluminum, 12 in diameter	568039	
8	3/4-in Schedule 40 PVC	734526	4 ft
9	Conduit	Per drawing	Per drawing

Figure 3. Material List



4. Material Requirements

4.1 Concrete

Concrete shall be Class 3000 and meet the requirements of the City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction (City of Seattle Standard Specifications) 6-02.

Concrete shall have a minimum compressive strength at 28 days of 3000 psi in accordance with the American Association of State Highway and Transportation Officials (AASHTO) T 22 standard.

4.2 Anchor Bolts, Nuts and Washers

Anchor bolts shall measure 1 inch in diameter by 36 in (length) by 4 in (hook).

Anchor bolts, nuts, and washers shall meet the requirements of the City of Seattle Standard Specifications 9-06.

4.3 Grout

Grout shall meet the requirements of the City of Seattle Standard Specifications 9-20.

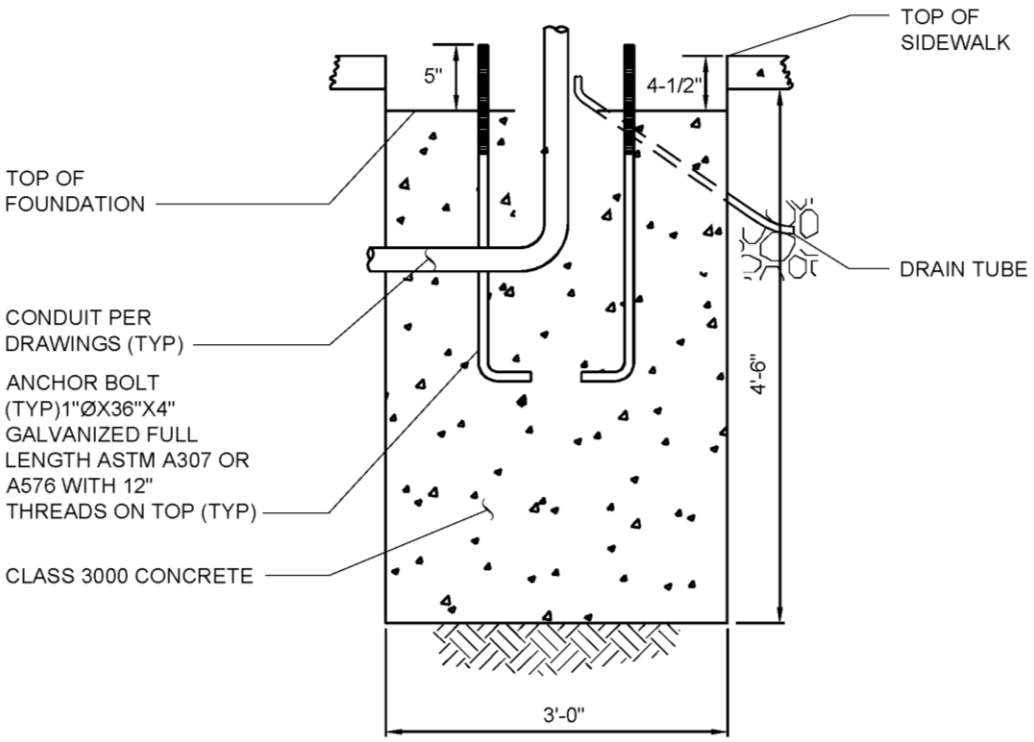
5. Requirements

5.1 General

Foundation shall conform to the requirements in Figure 5.1.

For foundations installed on an incline, see Section 5.2.

Figure 5.1. Requirements for Chief Seattle Streetlight Foundation, Profile View

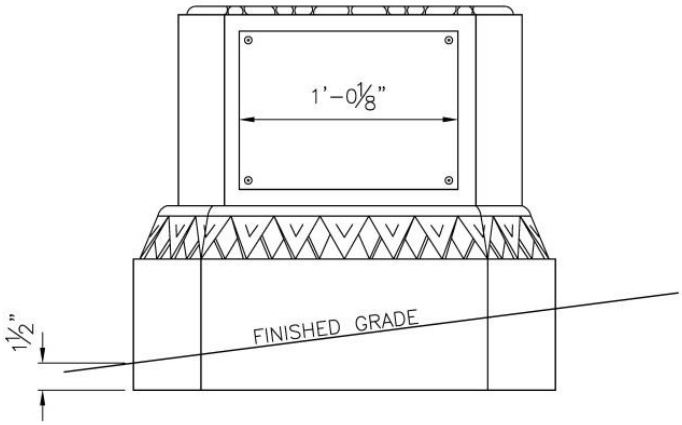


5.2 Special Consideration, Installations on an Incline

Installations on an incline shall conform to the requirements outlined in this document with a slight variation in installation depth. The installation depth for the foundation shall be determined by the Streetlight Engineer to meet the requirements shown in Figure 5.2.

On an incline, the base of the finished installation shall be embedded 1-1/2 inches at the low point of the sidewalk grade.

Figure 5.2. Chief Seattle Base, Incline Installation

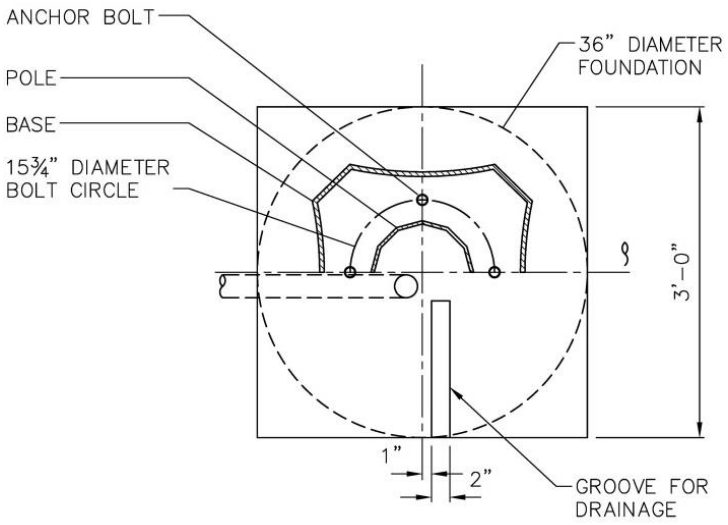


5.3 Foundation

Foundation shall be augured and constructed against undisturbed soil.

Foundation shall be installed with bolt pattern oriented diamond-shape to the curb. A groove at the top of the foundation shall be made for water drainage. The groove shall run from the center to the low side of the foundation. See Figure 5.3.

Figure 5.3 Requirements for Chief Seattle Streetlight Foundation, Plan View



Concrete shall be placed against undisturbed earth within a dry hole. Should a dry hole not be maintained, the installer shall select a method of concrete placement which does not adversely impact the strength or durability of the concrete as approved by the Streetlight Engineer.

In unstable ground, the installer shall install Sonotube or other approved form material to provide undisturbed concrete placement. Backfill between form material and undisturbed earth shall be controlled density fill.

Each foundation shall be poured in one continuous pouring operation.

Where new excavations are near an existing foundation, the installer shall provide temporary support for the existing structure as appropriate.

Where foundations are installed on slopes, foundation depth shall be measured using the shortest bearing surface.

A 3/4-in schedule 40 PVC drain tube shall be installed on the low side of the foundation to a rock pocket outside the foundation. See Figure 5.1.

Conduit shall extend 1 in above the pole base plate.

5.4 Anchor Bolts

Anchor bolts shall be set securely in place and held in a vertical position with the specified bolt projection and at the specified bolt circle to match the exact bolt pattern of Chief Seattle streetlight pole.

Prior to placing concrete, all projecting anchor bolts shall be taped with a corrosion protection tape from a point 6 inches below the top of the foundation to the top of the bolt. Tape shall conform to the requirements of SCL 7366.35 and shall remain permanently in place.

Nuts and washers shall be installed over the tape.

The tops of each bolt shall all be at the same elevation.

A steel template shall be used at the lower end, and a wood or steel template shall be used at the upper end of the anchor bolts, to maintain the correct bolt pattern and spacing until the concrete has set.

Anchor bolts shall not be altered in any way after fabrication.

Bending of anchor bolts is unacceptable and will be cause for removal and replacement of the entire foundation.

Where required, the bolt circle shall be measured by the Streetlight Engineer prior to pouring the concrete.

Immediately after concrete is placed, the location of the anchor bolts shall be checked with a template conforming to the bolt pattern of the Chief Seattle streetlight pole.

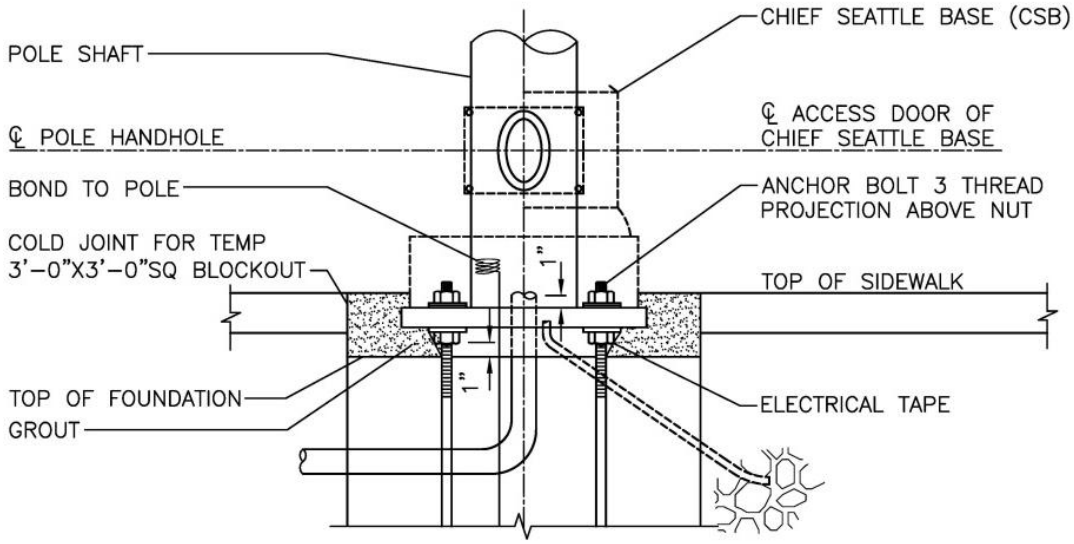
After the concrete is placed, anchor bolts and conduit shall be cleaned and kept free of concrete splatter and mortar.

Concrete shall be float-finished, edged, and brushed where necessary. Adjusting anchor bolts to make them fit the hole-pattern in the base plate will not be allowed after concrete has begun to set.

5.5 Mounting and Grouting

Mounting and grouting shall conform to the requirements in Figure 5.5.

Figure 5.5. Requirements for Mounting and Grouting



The clearance between the bottom of the leveling nut and the top of the foundation shall be one-inch nominal with a tolerance of one-eighth inch.

Before placing grout, concrete should be cleaned, roughened, and wetted with water to ensure proper bonding.

Base shall be embedded at low point of sidewalk grade.

6. Base and Collar

All SCL-owned streetlight poles require the use of the 10-in diameter collars.

The interior flutes on the top of the collar may be slightly grounded to allow a snug fit against the pole.

The space between the top of the collar and the pole shall be caulked to prevent entrance of moisture and debris. Sealant material shall be Sikaflex-15 LM black polyurethane or approved equal. Contact Streetlight Engineering for product approval.

7. References

SCL Material Standard 5680.33; "Cast Aluminum Streetlight Base and Collar Assemblies"

SCL Material Standard 5680.44; "Cast Bronze Streetlight Base and Collar Assemblies"

SCL Material Standard 7366.35; "Tape, Corrosion Protection"

8. Sources

American Association of State Highway and Transportation Officials (AASHTO) T 22; Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens, AASHTO, Washington, DC, 2014

Borek, Tom; SCL Streetlight Engineer, subject matter expert for 1716.38; (tom.borek@seattle.gov)

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City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction; 2014 Edition

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