Barkman Pole Base Specifications

POLE BASE ROUND UNITS – 24” (610 mm) DIAMETER & 18” (457 mm) DIAMETER & 30” (762 mm) DIAMETER.

Pole Base round units are machine-placed, wet-cast, precast light pole bases. The bases are manufactured from air-entrained, structural grade concrete mixes that produce a finished product with excellent resistance to deterioration from freeze-thaw cycles and deicing chemical exposure. The bases have a round smooth profile, a chamfered top, recessed bevel strip near top, and recessed vertical joint lines, providing superior aesthetics over traditional site cast alternatives. The controlled factory conditions in which the bases are manufactured, produce consistent, high quality products with tight dimensional tolerances on the concrete unit, reinforcing steel, anchor rods, and electrical conduits. Precast Pole Base units are also very easy to install, with the contractor simply needing to auger a hole, place the stone foundation, connect site conduits, lower the Pole Base unit into the hole, and backfill. Detailed construction installation recommendations, design recommendations, application details, are available at www.barkmanconcrete.com/product/pole-base/

CONCRETE MIX PROPERTIES [a] [b] [c]

CEMENT TYPE [d] [e] [f]	MINIMUM 28 DAY COMPRESSIVE STRENGTH	MAXIMUM WATER [g] TO CEMENT RATIO	NORMAL MAXIMUM AGGREGATE SIZE [h]	AIR CONTENT
HS OR HSb (C-1 & S-1 EXPOSURE CLASS [i])	35 MPA	0.40	16 mm	5-8%
ADMIXTURES WILL CONFORM TO CSA A23.1 AND THE APPLICABLE SPECIFICATION AS FOLLOWS:				
AIR ENTRAINMENT (AIR ENTRAINING ADMIXTURES FOR CONCRETE)				ASTM C260
WATER REDUCER, RETARDERS, ACCELERATORS, HIGH RANGE WATER REDUCERS, SELF CONSOLIDATING CONCRETE (CHEMICAL ADMIXTURES FOR CONCRETE)				ASTM C494
SELF CONSOLIDATING CONCRETE (CONCRETE ADMIXTURE FOR USE IN PRODUCING FLOWING CONCRETE)				ASTM C1017

[a] Concrete mix properties conform to the durability requirements of CSA A23.1-14, 4.1.1.1

[b] Concrete mixes will be proportioned in accordance with ACI 211.1 (Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete) and CSA A23.1-14, 4.3.1.

[c] Chloride Ion Penetrability test - < 1500 coulombs within 91 d.

[d] Cement will conform to CSA A3001-03 (Cementitious Materials for Use in Concrete).

[e] Cement blend maximum expansion when exposed to sulphates using CSA A3004-C8, Procedure A @ 12 months shall be 0.10.

[f] Pozzolans will conform to CSA A3000-03.

[g] Water will conform to the requirements of CSA A23.1 (4.2.2). Water used in mixing concrete will be potable and will be free from deleterious amounts of oils, acid, alkalis, salts, organic material or other substance, which may adversely affect the properties of fresh and hardened concrete.

[h] Fine and Coarse aggregate will conform to the requirements of CSA A23.1-14, table 10, 11, 12

[i] As defined by CSA A23.1-14 Table 1 (Concrete materials and Methods of Concrete Construction).

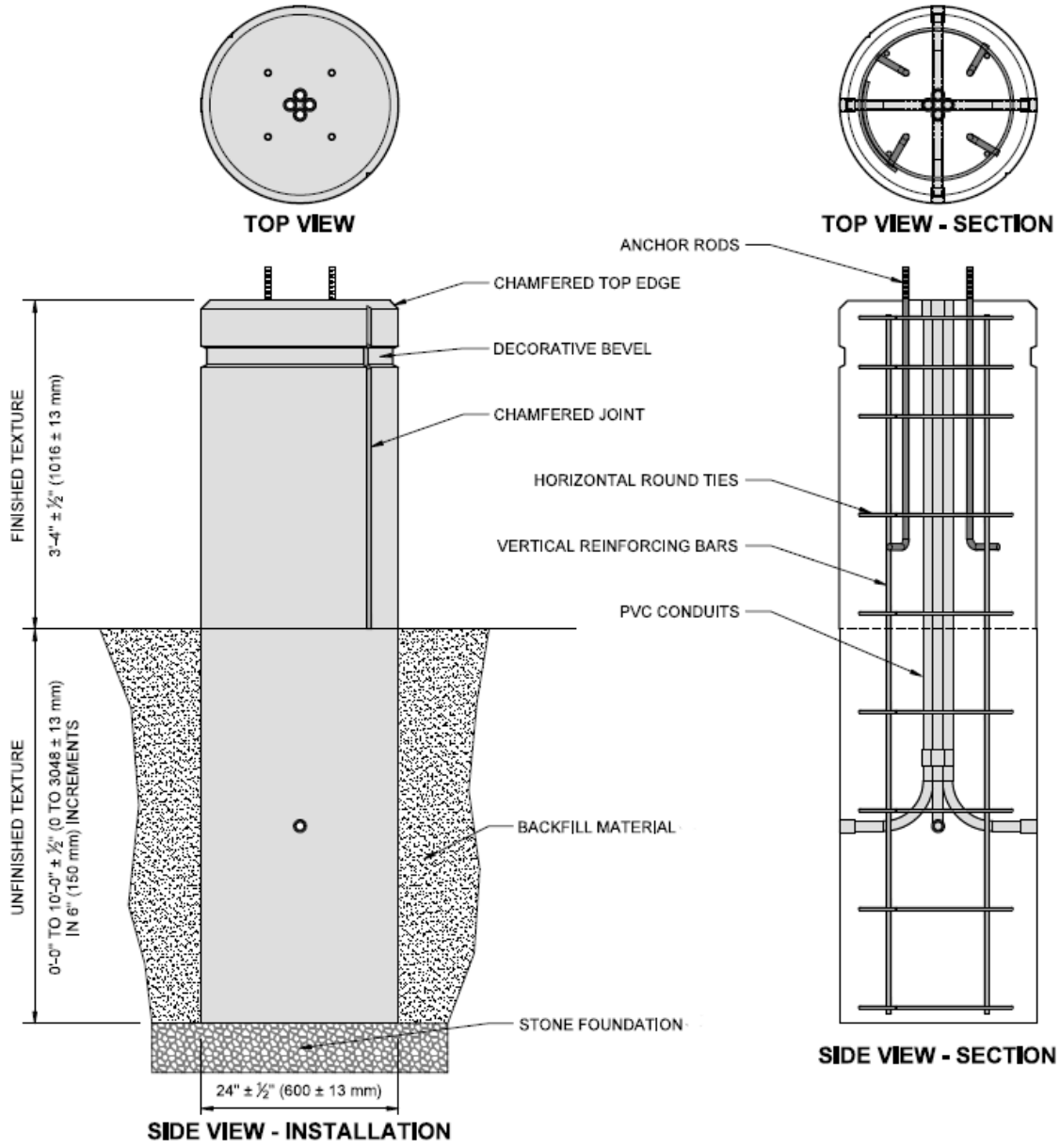
EMBEDDED MATERIALS

STEEL REINFORCING BARS – CSA G30.18-GR.400W	
CUSTOM OPTION	BAR SIZE, SPACING, GRADE, COATING, INSTALLED PER PROJECT ENGINEERING
VERTICAL BARS	(4) 15M BARS
HORIZONTAL STIRRUPS (ROUND TIES)	10M BARS, TOP (3) SPACED AT 6” (150 mm), BALANCE SPACED AT 12” (300 mm) TO BOTTOM OF BASE.
ANCHOR RODS	
CUSTOM OPTION	RODS SUPPLIED BY LIGHT POLE MANUFACTURER, INSTALLED TO SPECIFIED PATTERN AND PROJECTION.
STANDARD OPTION [j] [k]	¾” (19 mm) DIA. X 24” LONG WITH 4” (100 mm) HOOK AT 90° BEND, 6” THREAD LENGTH (10 UNC). 1” (25 mm) DIA. X 36” (914 mm) LONG WITH 4” (100 mm) HOOK AT 90° BEND, 6” THREAD LENGTH (8 UNC).
PVC ELECTRICAL CONDUIT	
CUSTOM OPTION	CONDUIT QUANTITY, DIAMETER, CONFIGURATION, AND MATERIAL INSTALLED PER PROJECT ENGINEERING
STANDARD OPTION	(1 TO 4) RUNS OF 1” (25 mm) DIA. CONDUITS WITH 90° BENDS, ASTM F512, INSTALLED AT CARDINAL POINTS, AND COUPLERS (ASTM F12) AT ALL CONDUIT EXIT POINTS ON TOP AND SIDES OF BASE. CONDUITS TERMINATE AT THE SIDES OF THE BASE 3’-0” (915 mm) BELOW THE FINISHED GRADE.

[j] Complete with 2 nuts (ASTM A563-GR DH, ANSI B18.2.2) and 2 washers (ASTM F-436).

[k] ASTM F1554-18 GR55 &/or AASHTO M314-95 GR55. Galvanized to ASTM-A153, Class C

POLE BASE DIAGRAM – ROUND SMOOTH UNITS



- Finished texture exposure height to be determined by the project design team.
- Stone foundation and backfill material to be placed and compacted in 6" lifts to 90% relative density. Backfill material to conform to the table below.
- For installation details, refer to manufacturer's installation recommendations.

Grading Requirements for Backfill

Canadian Metric Sieve Size	Percent of total Dry Weight Passing Each Sieve	
	Backfill Material	**Foundation Material**
75 000		
28 000		100%
20 000	100%	
10 000		
5 000	40% - 70%	0% - 5%
2 500	25% - 60%	
630		
315	8% - 25%	
80	6% - 17%	

Note: material is to consist of sound, hard, crushed rock or crushed gravel free from organic or soft material that would disintegrate through decay or weathering, well graded throughout conforming to the grading requirements of the above table. Backfill material is to have a 100% crush content and be well graded throughout