

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

MAY 2010

DECORATIVE BETHESDA
CAST STREETLIGHT POST

1) DESCRIPTION

The decorative Bethesda cast streetlight post is made of an integrally cast iron or cast aluminum, finished with a polyester powder coating. This streetlight post is intended for use at the curbside along selected roadways in the Bethesda Central Business District (CBD). Any manufacturer, distributor or vendor who submits bid shall agree to comply with these specifications.

Each pole shall be complete with the following:

- a) Access plate with attaching hardware;
- b) Anchor bolts, nuts, and washers (as specified);
- c) Typical footing design specifications including but limited to, base template, anchor bolt dimensions, reinforcement and footer details;
- d) One (1) pint can of touch-up paint, "Federal Green", federal color 595B, # 14036.

2) DESIGN CRITERIA

2.1 AASHTO Standards

The decorative Bethesda streetscape cast streetlight post shall meet the requirements of the American Association of State Highway and Transportation Officials (AASHTO) Standard, "Specification for Structural supports for Highway Signs, Luminaires and Traffic Signals," latest edition.

2.2 Wind Load

The decorative Bethesda streetscape cast streetlight post shall be designed to resist (at yield strength of the material without permanent deflection or destruction), test loads equivalent to the calculated wind loads developed by the velocity pressures of an 80 MPH wind with a 30% gust factor. A minimum safety factor of 1.82 on the yield strength shall be maintained.

2.3 Effective Projected Area (EPA)

The decorative Bethesda streetscape cast streetlight post shall have a EPA allowable for the following assumptions:

- a) Streetlight luminaire shall be assumed to be rectangular in shape with triangular shapes at the top and bottom, minimum length plus width of sixty-five (65) inches, when viewed from above.
- b) The streetlight luminaire shall have a nominal mounting height of 16 feet above the base.
- c) One or two (24" x 36") maximum traffic signs may be mounted with the sign's bottom edge 7 feet above the base.

3) MATERIALS

3.1 Iron Casting

The lamp post shall be integrally cast as one piece and shall be cast iron per ASTM A-48--72, Class 30. The sections are to be indicated below. The castings are to be true to pattern, with 16 flutes separated by 16 flat facets. All ornamental components shall be cast iron.

3.2 Aluminum Casting

The lamp post may be cast in one piece, as described above, of aluminum alloy of the same details as described above and minimum wall thickness as described below. The alloy used in the casting shall have a minimum yield strength of 30,000 PSI and shall be heat treated as required to provide that yield strength.

3.3 Split Casting

The lamp post may be a multiple piece castings that are factory-assembled into one piece may be considered, provided that there are no gaps between any pieces of the assembly that would allow water seepage or rust. Prior written approval required for the method.

4) SHAFT

The entire shaft shall be straight within +/- 3/16 inch along the center axis of the shaft. Dimensions and wall thickness of the lamp post shall be as follows and as per the attached drawing:

- A) Column at base - 5 3/4 inches outside diameter and 1/2 inch minimum wall thickness from outer edge of flute to inside wall.
- B) Column at top - 3 1/4 inches outside diameter and 3/8 inch minimum wall thickness from outer edge of flute to inside wall .
- C) Base at base - 17 inches outside diameter and 1/2" minimum wall thickness Flange 7/8" minimum thickness.

5) RECEPTACLE

The post shall incorporate a 15A120V GFI duplex receptacle with a waterproof cover, painted to match post. Receptacle shall be located 180 degrees from traffic flow and 6 inches from the bottom of the tenon.

6) HEIGHT

The height of the post, less tenon, shall be 13 feet 0 inches. The weight of the cast iron post with complete door assembly, shall be 460 lbs. +/- 5%. All castings shall be painted with a shop coat of iron oxide primer.

7) TENON

The top of the post shall be equipped with a luminaire mounting tenon integrally cast as a part of the post casting. The tenon shall measure 2 7/8" outside diameter and 2 5/8" long.

8) GROUNDING LUG

The post shall be drilled and tapped for a 1/4 inch - # 20 grounding screw, inside the lamp post and opposite the access door,

9) HANDHOLE

The post shall have an handhole/access door with minimum opening 7 inches high, 2 3/4 inch wide at the top and 7 inches wide at the bottom secured with stainless steel machine screw shall be provided in the base of the lamp post.

10) BOTTOM ACCESS HOLE

The base of the lamp post shall have an inside diameter sufficient to accommodate two four inch diameter schedule 40 PVC conduits at the bottom of the post, side by side, for streetlight wiring in accordance with utility company requirements.

11) ANCHOR BOLTS

Each post shall be furnished with four (4) anchor bolts, each 3/4 inch diameter x 24 inches long, plus a 3 inches "L" at the bottom. Each bolt shall be supplied with one (1) nut and one (1) washer. Bolts, nuts, and washers shall be fully hot dipped galvanized in accordance with ASTM A153.

12) FINISH

12.1 Cast Aluminum

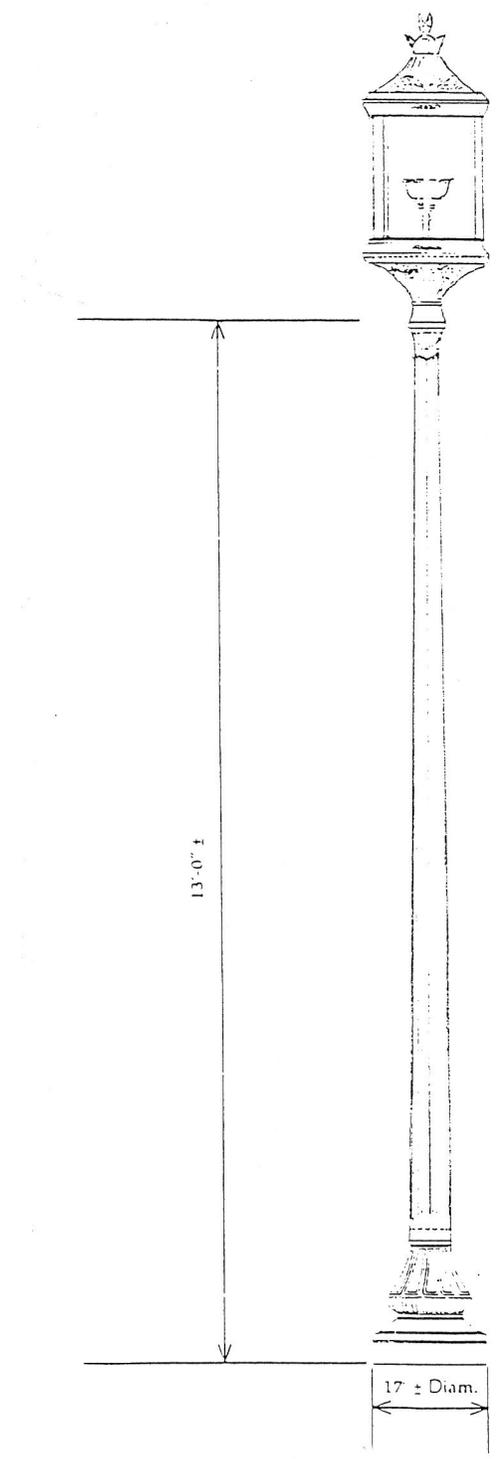
The cast aluminum poles, access doors, and hardware shall be finished with a dark green electrostatically-applied thermoset polyester powder coat, color "Hadco J" or approved equal, as per the attached finish specification "ICS-2". One pint can of dark green touch-up enamel, color "Federal Green" or approved equal, shall be supplied.

12.2 Cast Iron

The cast iron poles and all components shall be supplied with one coat of oil-based red lead primer paint. Two (2) coats of enamel ("Federal Green", federal color 595B, # 14036) shall be apply to each pole in the field.

13) POLE INFORMATION

The lamp pole shall be Spring City Washington # 13 or Approved equal.



13'-0" ±

17" ± Diam.

BETHESDA LANTERN
 LIGHT POLE BASE
 FOOTING DETAIL FOR 17" BASE
 (IN UNDISTURBED SOIL)

