
Revision Date: 07/28/2021

1. **Design Criteria:**

- a. Concrete filled steel pipe bollards to be provided in locations as determined by UVM and in coordination with specific site demands.
- b. Removable bollard locations to include pedestrian walkways that occasionally accommodate vehicular traffic but may include other site-specific locations as directed by UVM.
- c. Reference Standards: To be specified by Design Professional
- d. See Division 26 – Lighting for requirements of lighted bollards

2. **Required Submittals:**

- a. Proposed locations
- b. Proposed products

3. **Products, Materials & Equipment:**

- a. Concrete filled galvanized steel pipe, 6" diameter, 4000 psi.
- b. Removable bollards: plate-mounted (bolting) type.
- c. Bollard sleeves: Safety yellow PVC cover; BOL-49 by Pawling Corp., or equal
 - i. Coordinate sleeve diameter with bollard diameter
 - ii. Sleeves to be mechanically fastened to bollard to prevent removal.
 - iii. Sleeves may extend above steel pipe if height of cover is taller than pipe.
 - iv. Sleeves may be cut to height of steel pipe.
 - v. Sleeves to have reflective stripes.

4. **Installation, Fabrication, and Construction:**

- a. Top of pipe to be 3'-6" above finished grade, typically
- b. Slope top of concrete to drain away from bollard
- c. Ensure compliance with industry standards for galvanizing
- d. Bollard footing to extend below frost line or to below grade stone/ledge.
- e. Steel pipe bollards to be set below grade in 12-inch diameter pier concrete backfilled with granular fill for drainage
- f. Bottom of footing to be drained with granular fill 8 inches minimum.

5. **Warranties:**

- a. Provide installer's typical one-year installation warranty.

Revision Date: 07/28/2021

6. **List of attached sketches:**
 - a. SK01 Bollard Detail

