

1 **(October 3, 2022)**

2 **BOLLARDS**

3 **Description**

4 This work shall consist of furnishing and installing steel bollards in accordance with the
5 Plans, Standard Plans, and these Specifications, at the locations shown in the Plans or as
6 staked by the Engineer.

7

8 **Materials**

9 ***Posts and Hardware***

10 Type 1 and Type 2 bollard posts shall be in accordance with the Standard Plans and
11 ASTM A 53, NPS 3 (3" Nom.) schedule 80 steel pipe. Post sleeves shall be ASTM A 53,
12 NPS 4 (4"Nom.) schedule 40 steel pipe.

13

14 Type 3 bollard posts shall be steel structural tubing in accordance with the Plans and
15 ASTM A 500 Gr B.

16

17 Steel plate shall be in accordance with ASTM A 36.

18

19 All steel parts shall be hot-dip galvanized after fabrication in accordance with AASHTO
20 M 111.

21

22 ***Reflective Tape***

23 Reflective tape shall be in accordance with Section 9-28.12.

24

25 ***Concrete***

26 Footings shall be constructed using concrete Class 3000.

27

28 **Construction Requirements**

29 Bollards shall be constructed in accordance with the Standard Plans.

30

31 Bollards shall not vary more than ½ inch in 30 inches from a vertical plane.

32

33 Bollard posts and the exposed parts of the base assembly shall be painted in accordance
34 with Section 6-07.3(11) for galvanized surfaces. The top coat shall match SAE AMS
35 Standard 595, Color No. 33538 Traffic Signal Yellow.

36

37 **Measurement**

38 Measurement for bollards will be by the unit for each type of bollard furnished and installed.

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40 **Payment**

41 Payment will be made for the following bid items when included in the proposal:

42

43 "Bollard Type ____", per each.