

BOLLARDS

Part 1 General

1.1 SECTION INCLUDE

- .1 Supply and installation of steel bollards as shown on the Drawings.

1.2 RELATED SECTIONS

- .1 Section 03 30 00 - Cast-in-Place Concrete.
- .2 Section 03 20 00 – Concrete Reinforcing.

1.3 MEASUREMENT PROCEDURES

1.4 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM A53/A53M-[02], Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - .2 A653/A653M-[03], Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-1.40, Anti-corrosive Structural Steel Alkyd Primer.
 - .2 CAN/CGSB-1.108, Bituminous Solvent Type Paint.
 - .3 CAN/CGSB-1.181, Ready-Mixed, Organic Zinc-Rich Coating.
- .3 Canadian Standards Association (CSA).
 - .1 CAN/CSA-G40.20/G40.21 – General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA-G164, Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CSA-W59: Welded Steel Construction (Metal Arc Welding)

Part 2 Products

2.1 MATERIALS

- .1 Steel pipe: 200 mm diameter SCHEDULE 40 STD.
- .2 Concrete 30 MPa. Reinforcing to Section 03 20 00 – Concrete reinforcing.

2.2 SHOP PAINTING

- .1 Clean surface in accordance with SSPC Painting Manual, Volume 2, minimum SP3.
- .2 Apply one shop coat of primer to bollards prior to painting.

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- .3 Clean surfaces before painting. Do not paint when temperature is lower than 7 °C. Apply approved yellow epoxy paint as a final finish.\

2.3 Cover

- .1 HDPE bollard cover.
- .2 Colour: Blue.

Part 3 Execution

3.1 ERECTION

- .1 Before starting Work, locate all utilities serving the Site. Notify all agencies or companies having jurisdiction over the specific utilities and protect, relocate, remove or discontinue service according to the requirements. Any damages shall be repaired at the Contractor's expense.
- .2 Protect and restore pavements, boulevards, grassed areas, etc., that may be opened or damaged in the performance of Work.
- .3 Set pipe level and plumb into reinforced concrete footing as indicated on the Drawings. File pipe with concrete and round over concrete at top of bollard.
- .4 Attach 4 strips of white 25 mm wide reflective tape around diameter after installation as illustrated on the Drawings.

3.2 CLEANING

- .1 Clean and trim areas disturbed by operations.
 - .1 Dispose of surplus material as directed Contract Administrator.

END OF SECTION