



NOTES:

1. CONCRETE SHALL BE 5000 P.S.I. MIN. IN 28 DAYS
2. USE 2 PARTS OLYMPIA SAND (OR EQUIVALENT) TO 1 PART PORTLAND CEMENT CONFORMING TO A.S.T.M. C-150, TYPE 1, 11 OR 111
3. AGGREGATE MAX. SIZE 3/4", A.S.T.M. C-133
4. REINFORCEMENT SHALL CONFORM TO A.S.T.M. A615, GRADE 60

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

**BUREAU OF TRANSPORTATION
CITY OF PORTLAND, OREGON**
Steve Tomm
Chief Engineer

Standard Drawing Title

PRECAST CONCRETE BOLLARD

Note:
All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.

Effective Date: 08-16-2011

Calc. Book No.:

Baseline Report Date:

Standard Drawing No.

P-579