



# Standard Drawing Report

**Date:** December 1, 2017

**Technical Owner:** Traffic – Lewis H. Wardrip, P.E.

**Standard Drawing No.** P-405      **Calculation Book No.** n/a

**Drawing Title:** Breakaway Anchor Traffic Sign Supports



Expires 06/30/18

## Background Information, Including Reference Material:

In 2003 the Portland Transportation Maintenance Operations group began test installations of the breakaway anchor traffic sign support in areas where signs are at highest risk for knock-downs (i.e. islands, curb extensions, and roadways without curbs). The breakaway anchor traffic sign support allows damaged/knocked down signs to be repaired in minutes because the break out feature breaks cleanly when impacted without damage to the in-ground anchor. The break out feature also breaks completely flush with grade when impacted protecting pedestrians from trips and falls when posts are knocked over.

In 2006 the City began using breakaway anchor traffic sign supports as a standard sign installation method for capital improvement projects.

## Assumption Made:

PBOT Maintenance Operations determined in 2008, based on wind loading, that the breakaway sign coupler can support approximately 12 square feet of sign area (on the same plane), with the centroid of the sign assembly located at a height of 8 feet above the ground. More than one post and breakaway support should be used if sign area exceeds 12 square feet, or a different type of sign post/support should be considered.

**Design Narrative:**

P-405 is based on the "Break-Out" product line by Sign Support Systems. The breakaway anchor traffic sign support has received an acceptance letter from FHWA finding the system acceptable for use as a Test Level 3 device per NCHRP Report 350 for use on the National Highway System.

The breakaway anchor sign supports are used for sign installations in soil. For sign installations on concrete see P-406.