

**CITY OF FEDERAL WAY
M E M O R A N D U M**

DATE: November 14, 2022
TO: EJ Walsh, PE – Public Works Director *EJW*
VIA: Desiree Winkler, PE – Deputy PW Director *DW*
Christine Mullen, PE –Engineering Manager *CM*
FROM: Cole Elliott, PE – Development Services Manager *CE*
SUBJECT: *Revision to Concrete Standards for Work in the Right-of-way*

Overview

As part of development, redevelopment or capital improvement of property and right-of-way within the City of Federal Way, frontage improvements are often required, and in many cases the public improvements include concrete curb, gutter, sidewalks (flat work concrete) or street light bases.

Currently the City's Development Standards only allows Type I/Type II concrete for right-of-way improvements as defined in the 2010 WSDOT *Standard Specifications for Road, Bridge and Municipal Construction* Research with the American Concrete Institute (ACI), Washington Department of Transportation Standard Specifications (Specifications), American Association of State Highway and Transportation Officials (AASHTO), and area concrete suppliers indicated that the industry as a whole is moving to the exclusive use of Blended Hydraulic Cement (specifically Type 1L) conforming to ASTM C595 or AASHTO M240.

It is the intent of this memorandum to provide consistency between public and private development of improvements within the public right-of-way and to provide temporary standards until such time as the City's Development Standards are updated.

As part of the analysis City staff consider the following concrete mixes: 4,000 psi Type 1L; 4,000 psi Type 1L with admixture (AEA, Delvo, Pozzolith, Glenium, MBAE (MasterAir), Xypex, MasterLife SF 100, Penetron); 4,000 psi Type 1P; 4,000 psi Type 1S and 5,000 psi Type 1L.

Acceptable Concrete Mixes:

City Standard Drawings that call out Type I/II concrete are hereby amended to allow Type 1L subject to the conditions listed below:

	Class 3000 Type 1L	Class 4,000 Type 1L	Class 4,000 Type 1L with crystalline waterproofing and corrosion protection admixture ¹	Class 5,000 Type 1L
Pre-cast luminaire foundations	X	X	X	X
Cast-in-place luminaire foundations		X	X	X
Pre-cast or cast-in-place catch basins and manholes		X	X	X
Roads, curbs, gutters, roundabouts & aprons, sidewalks, ADA ramps, driveway approaches			X	X
Other exposed surfaces (junction box aprons, cabinet bases, etc.)			X	X

¹ Crystalline Waterproofing Admixtures (Penetron or approved equal) shall meet the following specification: ASTM C 494, Type S, hydrophilic, crystalline permeability-reducing admixture for hydrostatic conditions (PRAH) shall form insoluble crystals throughout the concrete matrix, self-healing and sealing all pores, capillaries and cracks up to 0.5mm (1/51 inch). The crystalline waterproofing admixture shall include a colored tracer material so that it is visible when included in the concrete mix.

For all Type 1L concrete mixes, the City will not accept any maleated Rosin (MasterAir AE90) as a supplied Air Entrainment and Waterproofing admixture or any wax based curing compounds.

cc: Project File
Day File