This document is intended to better define the intended scope for I-2 Breakaway Cable Terminal (BCT) Replacement projects that have advertisement dates in the 2017-2019 biennium.

Scope of Work

The sub-program is intended to replace BCT's on interstates and non-interstate freeways. Freeways are defined here as divided highways with a minimum of two lanes in each direction for the exclusive use of vehicular traffic, with full control of access and a posted speed of 50 mph. or greater. Replace BCT's and anchors that are located within the design clear zone for approaching traffic with crashworthy terminals on these facilities. BCT's should be replaced regardless of the flare rate that they were installed at. Replacement of BCT's & non-crashworthy anchors that are outside of the design clear zone is allowed at the engineer's discretion. BCT's and anchors that are effectively shielded by another barrier do not warrant replacement.

Some terminals may connect to elements not in compliance with current Design Manual guidance:

- *Transition sections:* If impacted, replace non-compliant transition sections with a currently approved transition section.
- *Length of Need:* Follow the length of need criteria in Design Manual 1610.03(5) for the terminal replacements.
- *Guardrail Height:* If a terminal replacement installation connects to an existing guardrail run that does not meet the height criteria in Design Manual 1610.04(3) raise (by field drilling existing posts) or remove and reset a short section of the guardrail run (25' is suggested) to a height of 28", and attach the Type 1 to Type 31 adaptor (C-25.80). If engineering judgement indicates that it is prudent (due to the guardrail run length) raise or replace the entire run.
- *Bridge Rails:* it is outside of the scope of this subprogram to replace bridge rails.
- *Terrain:* Follow the grading criteria shown on the non-flared terminal standard plans (C-22.40 or C-22.45)
- Curbs within Terminal limits: Remove curbs if hydraulically acceptable.

WSDOT is actively implementing the AASHTO Manual for Assessing Safety Hardware (MASH) . Projects going to add after April 2, 2018, will require terminals that are MASH compliant. For additional design guidance – including information regarding MASH compliant terminals- see "Roadside Safety FAQ's" at: http://www.wsdot.wa.gov/Design/Policy/RoadsideSafety.htm.

Locations

An initial list of BCT locations was sent to regions early in the scoping process, with an expectation that this list would be validated during the course of scoping and/or design. Verify that the list is complete by considering whether listed locations have already been replaced, and whether missing locations need to be added. All interstate and non-interstate freeway (per definition above) mainline, ramps and crossroadx (LX), are included in the evaluation.

It is suggested that design work is prioritized in the following order:

1) Interstate Mainlines
2) Interstate Ramps
3) Non-Interstate freeways Mainlines
4) Non-Interstate freeways Ramps
5) Interstate – all other locations (such as crossroads)
6) Non-Interstate freeways – all other locations (such as crossroads)

By prioritizing design work as shown, this should most efficiently allow adjustment if funding levels become an issue. Estimates should be organized so that mainline work, ramp work and "all other location" work can be differentiated easily.

Documentation

Include a copy of these Design Instructions in the Design Documentation Package (DDP), along with an updated spreadsheet listing ALL Locations that were evaluated by the project. On the spreadsheet identify any locations that – for any reason- will not be addressed and document why they will not be addressed.

A Basis of Design exemption is appropriate (See DM 1100.10(1)(a) for procedure) unless roadway geometrics are –for some reason- modified (See DM 1100.10(1)(a)).