

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL REQUIREMENTSⁱ

Introduction

The Pennsylvania Department of Transportation (PennDOT) does maintain an approved products list for Earth Retainment Systems. This list is contained in PennDOT Bulletin 15, Qualified Products List for Construction (QPL) and is available, at www.penndot.gov/ProjectAndPrograms/Construction/Pages/Construction-Bulletins.aspx.

The PennDOT Materials Approval Process is discussed on page 2 of Bulletin 15. Earth Retainment System approval (and submittal) guidelines are listed in Section 1.14 Systems Approval of the PennDOT Design Manual, Part 4; per the web link under MISC Precast Concrete Products of the QPL. Any proprietary system must undergo a Departmental evaluation and approval process prior to inclusion as an alternate system during the design phase or as a value engineering alternate during construction. The Department bases its approval of the wall system and the supplier on the following four considerations:

- (a) The system has a sound theoretical and practical basis for the engineer to evaluate and anticipate its claimed performance.
- (b) If precast or prefabricated material is used in the system, the Precaster or Fabricator must be approved by the Department prior to approval for construction on Department projects.
- (c) The system will not be approved for frequent use unless it goes through the experimental installation and evaluation process.
- (d) If a wall system or other type system involves a roadside safety barrier different from the PennDOT standard barriers, documentation of the full suite of tests verifying that the barrier is MASH 2016 compliant needs to be included in the application for the evaluation process.

Item (a) requires a submittal from the retaining wall vendor to PennDOT, that must address nine listed items. Several of the listed submittal items are contained in an IDEA report. However, there are some additional requested items, which are not listed (or specifically noted) on the IDEA protocols (<https://www.geoinstitute.org/special-projects/idea>). A retaining wall supplier with an IDEA report should supplement their IDEA report with the additional, specific items that PennDOT requires, as listed below. The items are presented with the PennDOT listed item number.

Information items that are identical to, and therefore redundant to, IDEA protocol listed items are not listed in this supplemental requirements report. However, items under a topic that the agency requests which are, or may be, more specific or detailed than the IDEA protocol are listed. The wall system supplier submittal may address this in their supplemental information or, if fully addressed in their IDEA submittal, refer to their IDEA report.

PennDOT should contact the IDEA webmaster and update this report if/when their policies, etc. change. This supplemental requirements report is readily updateable, and a revision number and new date should be noted when updated.

Supplement Items

1. The theory, its proponent, and the year it was proposed.
2. Where and how it was developed.
3. Experiments supporting the theory.
4. Field tests.
7. Names and qualifications of the designer(s). The Designer must be a Professional Engineer.
9. Typical unit costs supported by data from actual construction.

ⁱ Report Ver 1, June 2021.