

**STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
SUPPLEMENTAL SPECIFICATION 814**

**EMBANKMENT CONSTRUCTION USING PETROLEUM CONTAMINATED SOIL**

**June 2, 1998**

**814.01 Description**

**814.02 Restrictions on Usage**

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**814.01 Description:** This work shall consist of using Petroleum Contaminated Soil (PCS) material, and/or constructing a mixture of PCS material and embankment material in accordance with these specifications and in reasonably close conformity with the lines shown on the plans or established by the Engineer; mixed, spread, compacted, shaped and finished.

The Contractor may elect to use PCS material as embankment material or may excavate PCS material detailed in the contract or found in the work. It is not a requirement of this specification to use the PCS material in the embankment. The use of PCS material may be allowed as per this specification.

Item 203, Roadway Excavation and Embankment shall apply: deviations from these are as follows.

**814.02 Restrictions of Usage.** The Contractor shall certify to the Engineer that the PCS material does not exceed the petroleum constituent concentrations stated in OAC 1301: 7-9-16(I)(1)(c)(ii)(b). These values are provided below:

Benzene	35 parts per million
Toluene	109 parts per million
Ethylbenzene	32 parts per million
Total Xylenes	165 parts per million

This certification shall include test results from an independent environmental consultant approved by the Department. The consultant shall perform BTEX testing by using United States Environmental Protection Agency (USEPA) test method SW 846 method 8020 or equivalent method. These tests shall be performed on every 90 metric tons (100 tons) of PCS used on the project.

The Contractor shall submit this certification and information in a suitable format to the Engineer 10 working days prior to the intended usage.

PCS shall not be allowed within the top 1.0 m (3 feet) of the final subgrade elevation or within 1.5

m (5 feet) from any exposed surface.

The final PCS material shall produce a stable embankment. The source, materials, construction and compaction techniques shall be approved by the Engineer.

**814.03 Materials.** The PCS material shall meet the requirements of Item 203 and the following additional requirements:

The PCS material shall be classified by an independent soils consultant approved by the Department as per Section 4.3 of the Department's "Specifications for Subsurface Investigation Manual". The soils consultant shall determine the suitability of the material under Item 203 Embankment Materials.

The soils consultant shall make a moisture density curve in accordance with AASHTO T 99 for every 225 metric tons (250 tons) of PCS material.

The soils consultant shall submit the above information in a suitable format to the Engineer at least 7 working days prior to the proposed work. This report shall be written and sealed by a Registered Professional Engineer.

**814.04 Construction Requirements.** The outer soil cover shall be raised uniformly with the PCS material. At no time shall the PCS material be dumped or spread on soft areas, in jurisdictional wetland, or in standing water.

The layers of PCS material shall be alternated with other Department approved soil layers (other than PCS material).

PCS material shall be spread on the embankment or subgrade in 200 mm (8 inch) loose lifts.

Compaction shall be performed with a sheeps foot roller, self propelled roller or other approved equipment. The compaction operation shall be coordinated with the spreading operation to minimize the amount of PCS material spread out on the embankment. In no case shall the PCS material be left spread out and uncompacted overnight.

The PCS material shall be compacted at a moisture content to obtain the required density and embankment stability. The PCS mixture shall be compacted to a density required under 203.12 or to a density determined by 203.09(b). Any water needed to bring the material to the specified moisture shall be uniformly mixed throughout the lift.

**814.05 Method of Measurement.** The PCS material shall be paid as per the 203 Items in the contract documents.

**814.06 Basis of Payment.** The contract unit price per cubic meter(cubic yard) for the 203 Items in the contract documents shall include full compensation for furnishing all testing and certification documentation, labor, materials and incidentals for doing all work involved with the PCS material.