MEMORANDUM TO: Jay Bennett, PE  
State Roadway Design Engineer

FROM: Njoroge Wainaina, PE  
State Geotechnical Engineer

SUBJECT: Microstation Line Style for Contaminated Properties

The Geotechnical Engineering Unit, with the help of Cadd Support and Roadway design, has developed drafting standards for contaminated soil and ground water, geoenvironmental borings, and underground storage tanks.

The NCDOT Conventional Plan Sheet Symbols legend depicts the four new symbols. The four new symbols are:

1. **Known Soil Contamination: Boundary or Site**, 

   ![Symbol of skull and crossbones](skull_icon.png)

2. **Potential Soil Contamination: Boundary or Site**, 

   ![Symbol of question mark](question_mark_icon.png)

3. **Underground Storage Tank, Approximate Location**, 

   ![Symbol of UST (underground storage tank)](UST_icon.png)

4. **Geoenvironmental Boring**. 

   ![Symbol of radiation hazard](radiation_icon.png)
During the Project Development stage of a project, our unit will create a design file named TIP_geo_env.dgn to define areas of contamination based on existing data. This design file will reside on the Project Store server under \TIP\Geotech\Geoenvironmental and is to be referenced to Roadway’s design file. The GeoEnvironmental design file will be updated based on our field investigation of each site prior to right of way acquisition. Our intent is to identify areas of concern on the plans so that all project contributors can make better decisions in regard to contaminated soil and ground water.

NWW:cfp

Cc: Preconstruction
Division Engineers
Right of Way Branch