

## Lightweight Deflectometer (LWD) Field Testing – Quick Reference Guide

NDOR Field personnel will perform LWD deflection and moisture testing of embankment, subgrade, foundation course, granular fill, and select granular backfill according to the specifications and to the frequency listed in the Material Sampling Guide.

### Using a Control Strip to Determine Deflection Target Value (DTV):

If a control strip is required to determine the DTV, the Contractor will roll the testing material with the appropriate compaction equipment. The NDOR Field personnel will perform LWD testing between roller passes until the DTV is established.

**\*\*Note – A control strip shall be performed for each new soil type.**

After finishing the control strip, NDOR Field personnel will obtain a representative sample of material (10-lb minimum) to send to the NDOR Branch Laboratory. The NDOR Branch Laboratory personnel will perform Atterberg limits and determine the percent retained on the #200 sieve to determine the Nebraska Group Index (NGI). NDOR Branch Laboratory personnel will then report the lab testing results to the NDOR Field personnel and the NDOR Geotechnical Engineer.

### Using NGI to Determine DTV

If DTV is determined based on the NGI, the NDOR Field personnel shall obtain a representative 10-lb sample of each soil type and send to its NDOR Branch Laboratory for Atterberg limits and percent retained on the #200 sieve. This sample should be submitted at least 7 days prior to construction. The NDOR Branch Laboratory personnel will provide the NGI value, optimum moisture content, and DTV value to be used by NDOR Field personnel for moisture and deflection field testing.

### SiteManager Template

After LWD acceptance testing is performed for placed earth material, the NDOR Field personnel will enter the test results into SiteManager on the Moisture and Deflection Field Template (SLF006001). The information from this template will be reviewed by the Project Manager and NDOR Geotechnical Engineer to ensure satisfactory testing was performed equal to the quantity of material placed (Refer to the appropriate Materials Sampling Guide).

**\*\*Note – All failing moisture and deflection tests shall be re-tested until a passing test is obtained or otherwise noted in the comments section of the template.**