
APPENDIX B

Dynamic Cone Penetration Tests

We explored the subsurface conditions along the highway rehabilitation project by performing Dynamic Cone Penetration (DCP) tests at 21 boring/coring locations, extending to depths of about 21 to 108 inches below the pavement finished grade. The approximate boring/coring locations where DCP tests were performed are shown on the Site Plans, Plates 3.1 through 3.12. Results are shown on the Dynamic Core Penetrometer Data Sheet, Plates B-1 through B-21.

The procedures used in our DCP tests are in general accordance with ASTM D6951, Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications. The DCP apparatus consists of a 5/8-inch diameter steel rod with a 60 degree conical tip. The rod is topped with an anvil that is connected to a second steel rod. This rod is used as a guide to allow a 17.6-lb hammer to be repeatedly raised and dropped from a height of 22.6 inches. The connection between the two rods consists of an anvil to allow for quick connections between the rods and for efficient energy transfer from the falling weight to the penetrating rod.

Once the test apparatus is assembled, the DCP is placed at the test location and the initial penetration of the rod is recorded to provide a zeroing scale. While holding the rod vertically, the weight is raised to the top of the rod (22.6 inches above the anvil) and dropped. The penetration of the rod is measured after each drop.

In the DCP tests conducted by Geolabs, the same equipment described above was used to record the number of blows required to advance the cone in 1-inch (25.4-mm) depth increments, as shown in the field logs provided in Appendix A.