

## GEOTECHNICAL DESCRIPTIVE ANALYSIS

For descriptive purposes, the project has been divided into segments.

### -L- 10+00 to 20+00

From the beginning of Line -L- at Station 10+00 to the existing bridge near Station 14+80, soil conditions are relatively uniform. Proposed are small embankments and ditch cuts to the right in alluvial soils, which are generally coarse, grained with significant quantities of rock with depth. To the left of -L- are proposed 2:1 cuts of 10 feet or less in the toe of a colluvial slope consisting of brown sandy silt with occasional cobbles and boulders.

From the existing bridge to -L- Station 20+00, the creek is to the left and a large colluvial mass ascends to the right. Proposed are embankment on the left of -L- and short 2:1 cuts in colluvium to the right. Embankment present on the creek side of NC 209 consists of bouldery silt. Colluvium appears to overlie alluvial soils in some areas. Both the colluvium and alluvium are bouldery.

### -DET- 11+65 to 15+53

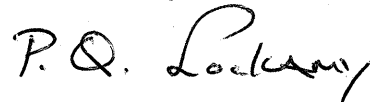
Alluvial sands with gravel, cobbles and boulders from 8 to 10 feet thick is found on both sides of the creek. Alluvium is underlain by granitoid gneiss; there is a sharp contact to hard rock. On the north bank (-Y1- side) there is a sliver embankment consisting of recycled colluvium (bouldery silt) resting on the toe of the large colluvial mass consisting of wet bouldery silt. Short approach fills are proposed along the line.

### -Y1- 10+00 to 15+08 and -DRI- 5+00 to 7+66

These lines are located at the toe of the large colluvial mass which extends uphill a couple hundred feet beyond the project limits. The colluvium weeps water into the ditches on the sides of NC 209 and 63.

This side of the creek has some red saprolite (less than 15 feet thick) on the former slope with a small section of alluvial soil by the creek, both of which have been covered over by a landslide deposit consisting of bouldery silt. The colluvium is stable on existing steep cuts, generally less than 15 feet high, but lengthening those cuts may destabilize the landslide deposit.

Respectfully Submitted



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