

Schmidt net projections of joints exposed in rock outcrops on this segment show plane and wedge orientations to the northwest, west, and southeast – orientations not conducive to failure on the proposed cut face. Toppling may be a problem on a steepened cut, however.

A few feet of weathered rock was found overlying the hard rock in only 2 borings; elsewhere the rock was directly overlain by saprolite or by a few feet of colluvium. The saprolite was 4.5 to 13.6 feet thick, consisting of soft to stiff, sandy silt (A-4) or loose to medium dense, silty sand (A-2-4). A boring near the top of the slope encountered 16 feet of A-5, A-2-5 and A-2-4 saprolite overlying weathered rock.

Residual soft clay (A-7-5) about 3 feet thick was found at the surface overlying saprolite in a boring Left of Station 14+00. A boring Left of Station 14+50, on the crest of the ridgeline, found about 3 feet of colluvial silt directly overlying hard rock.

Plans call for a small amount of fill to be placed on the Right Side between Stations 12+00 and 13+00. The maximum fill depth is to be about 5 feet. It will be placed over the existing roadway embankment slope and adjacent floodplain. A subsurface investigation was not done in that area.

-L- Stations 16+00 to 18+00

This segment is to be taken up by the intersection with SR-1131 and SR-1508 and by the bridge.

-L- Stations 18+00 to 23+43.54

A large, Left Side cut is called for in this segment. The cut will begin at the Right Side ditch line and extend up the slope on the Left Side. The maximum depth of cut is to be a little over 40 feet at the Left Side ditch line, and the maximum height of the cut face will be about 100 feet or less, depending on the angle.

The natural slope in the cut area is not more than about 20 degrees. It is covered with a mature forest that is interrupted only by a long driveway and a power line right-of-way. Relocation of the driveway across this cut on alignment -DR2- is described in a later part of this report.

Two rock core borings and four auger borings were made in the area of this cut. One of the core borings, Left of Station 19+00, encountered only thin seams of rock within deep saprolite and weathered rock, and it was terminated in weathered rock at a depth of 46.9 feet. The other core boring, located Left of Station 20+00, encountered hard rock at 25.3 feet, and the rock was cored to 45.3 feet. The rock was moderately to severely weathered and of poor quality. The four auger borings encountered hard rock at depths that varied from 7 to 19 feet.

The hard rock on this slope is overlain by as much as 9 feet of weathered rock, and 2.5 to 20 feet of combined saprolite and residual soil. The saprolite is composed of medium stiff to hard, sandy silt (A-4, A-5) and dense, silty sand (A-2-4). Residual soils 2.5 to 7.5 feet thick overlay saprolite in three borings Left of Stations 19+00 and 20+00. They consist of soft to medium stiff, sandy silt and clay (A-4, A-5, A-7-6).

The lower part of the slope has a surficial cover of soft to medium stiff, silty colluvium (A-4) with rock chips and a few scattered cobbles. The colluvial deposits are 3 feet or less in thickness.

-DR1- Stations 10+00 to 11+29.80

A driveway is to be relocated on this alignment, extending from SR-1131 to the floodplain of Buffalo Creek. Two rock core borings were made for a proposed retaining wall located 9 feet Left of the -DR1- Centerline. The borings were offset to the left near the base of the existing roadway embankment.

A boring 15 feet Left of Station 10+25 penetrated 4 feet of very soft, sandy silt (A-4) and 5 feet of loose sand and gravel to boulders (A-1-b). Fresh, good to very good rock was cored from 9 feet to a total depth of 50.7 feet.

A boring 15 feet left of Station 10+75 penetrated 9 feet of alluvial silt and gravel as above, overlying 1.4 feet of weathered rock. Fresh, fair to very good rock was cored from 10.4 feet to a total depth of 29.6 feet. Artesian water flowed from this boring for several hours after the boring was completed and drilling tools were removed. Artesian flow was first noted during coring, after completion of the first core run at 16.4 feet.

-DR2- Stations 10+00 to 14+67.91

A driveway is to be relocated on this alignment, which traverses a proposed cut face on the Left Side of alignment -L- (See -L- Stations 18+00 to 23+53.44, above). Three auger borings were made on or very near this alignment. The material found at the proposed grade varied from saprolite to weathered rock to hard rock. The saprolite included very stiff to hard, sandy silt (A-4) and very dense, silty sand (A-2-4).

The proposed grade is below the rock line in a boring at -DR2- Station 13+65 (-L- Station 22+50, 70' LT). It is likely that hard rock will be encountered above grade at other points along this alignment.

Respectfully Submitted,



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