

MEMORANDUM

To: Michael Moyal
1825 Washington Boulevard
Ogden, Utah 84401

From: Caleb R. Allred, P.E.
Project Geotechnical Engineer

Date: October 23, 2020

Subject: Pavement Sections
Aspen Ridge at Powder Mountain Development



The memorandum has been completed to provide pavement recommendations for subdivision roads in proposed Aspen Ridge at Powder Mountain Development. The memorandum has been prepared according to the proposal dated October 14, 2020.

A site visit was performed on October 15, 2020, by an engineer from GeoStrata. GeoStrata observed several grading cuts extending more than 4 feet into the native slopes as well as an excavated trench for the placement of utilities. The native soils observed in the trench and cuts consisted of Clayey SAND with gravel (SC). A bulk sample of the native, near-surface soils was obtained and transported to our laboratory for testing. A California Bearing Ratio (CBR) laboratory test was completed on the sample in order to complete the proposed pavement design. The results of our testing have been attached to the end of this memorandum and are presented below:

Test Pit	Depth (ft)	CBR (%)
GS-01	2	5.5

Based on the results of our laboratory testing, GeoStrata elected to use the CBR value of 5 for our pavement analysis. Anticipated traffic information was not available at the time GeoStrata prepared this pavement analysis, and as such we have assumed that traffic loading equal to or less than 500 passenger car or small truck trips a day, with two large trucks every other day for a total ESAL's of 15,000, for the industry standard 20-year design life. Asphalt has been assumed to be a high stability plant mix; base course material should be composed of crushed stone with a minimum CBR of 70. Asphalt should be compacted to 94% of the Theoretical Maximum Density value (Rice Density ASTM D 2041) plus or minus 2 percent. Granular borrow (subbase) material may be used to reduce the required thickness of untreated base course (road base) and should consist of a granular borrow material as defined in APWA Standard Specifications, Section 31 05 13, "Common Fill", and should have a CBR of 30.

The table below presents the county minimum and the recommended pavement section based on the above assumptions.

Asphalt Concrete (in)	Untreated Base Course (in)	Granular Subbase (in)
3	6	8

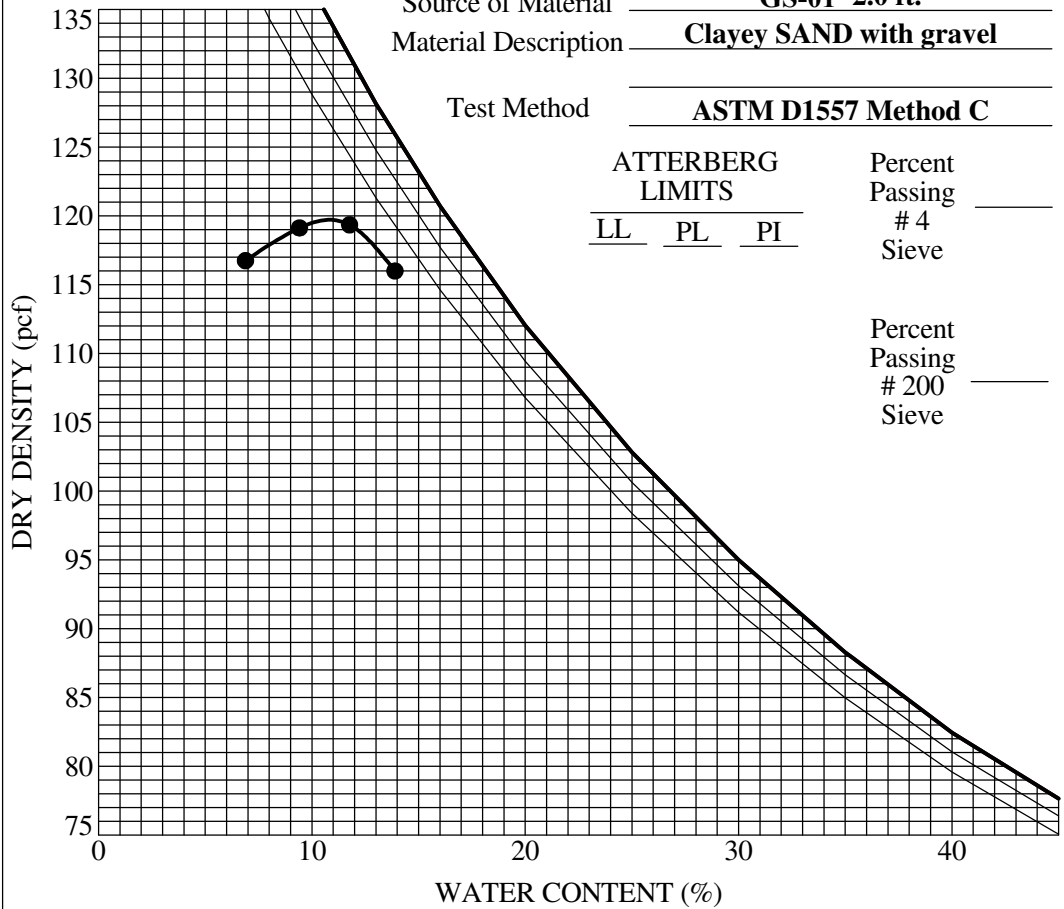
If traffic conditions vary significantly from our stated assumptions, GeoStrata should be contacted so we can modify our pavement design parameters accordingly. Specifically, if the traffic counts are significantly higher, we should be contacted to revise the pavement section design as necessary. If a significant volume of construction traffic occurs after the pavement section has been constructed, the owner should anticipate maintenance or a decrease in the design life of the pavement area.

The recommendations contained in this memorandum which include professional opinions and judgments, are based on the information available to us at the time of our evaluation, the results of our field observations, our limited subsurface exploration and our understanding of the proposed site development. This memorandum was prepared in accordance with the generally accepted standard of practice at the time the report was written. No warranty, expressed or implied, is made.

This memorandum was written for the exclusive use of Michael Moyal and only for the proposed project described herein. It is the Client's responsibility to see that all parties to the project including the Designer, Contractor, Subcontractors, etc. are made aware of this memorandum in its entirety. We are not responsible for the technical interpretations by others of the information described or documented in this memorandum.

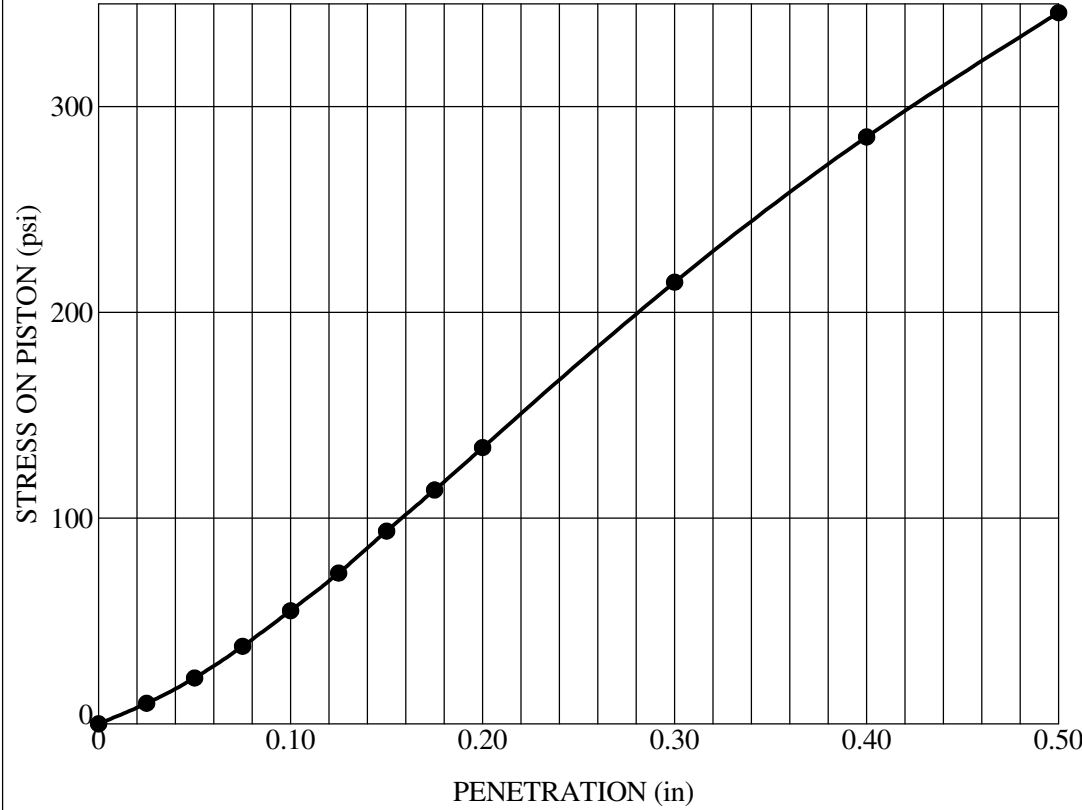
ATTACHMENTS:

Plate 1 – Compaction and CBR Test



TEST RESULTS	
Maximum Dry Density	<u>119.7 (pcf)</u>
Optimum Water Content	<u>10.9 (%)</u>
Percent Rock	_____ (%)
Corrected Maximum Dry Density	_____ (pcf)
Corrected Optimum Water Content	_____ (%)

Curves of 100% Saturation for Specific Gravity Equal to:
2.60, 2.70, 2.80



Dry Density	<u>119.7 (pcf)</u>
Relative Compaction	<u>98 (%)</u>
Surcharge	<u>51 (psf)</u>
% Standard CBR	<u>5.50</u>
Swell	<u>0.55 (%)</u>

COMPACTION AND CBR TEST



Michael Moyal
 Lot 8 Aspen Ridge
 Powder Mountain, Utah
 Project Number: 1236-004

Plate
C - 5