

# AGEC

## Applied GeoTech

October 2, 2012

Great Basin Engineering  
PO Box 150048  
Ogden, UT 84415

Attention: Mark Babbitt  
EMAIL: [markb@gbenorth.com](mailto:markb@gbenorth.com)

Subject: Road Base Submittal  
The Summit at Ski Lake No. 9  
6800 East 1200 South  
Huntsville, Utah  
Project No. 1120742

Gentlemen:

Applied Geotechnical Engineering Consultants, Inc. was requested to review the gradation results for a sample of 1-inch minus recycled concrete base tested by Intermountain Testing Services. The remarks on the test indicate that the material is nonplastic. The gradation results meet the 2007 APWA recommendation for 1-inch base course and is suitable for use as base course for the project.

We previously reviewed a pit gradation for the 1-inch minus recycled base course and submitted our conclusions and recommendations in a letter dated September 18, 2012 under Project No. 1120742. As stated in the referenced letter, use of this base course could reduce the granular fill section needed below the asphaltic concrete surfacing by 2 inches.

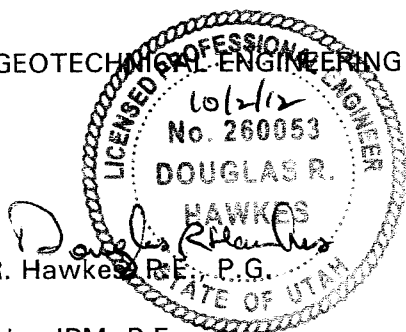
If you have questions or if we can be of further service, please call.

Sincerely,

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

Douglas R. Hawkes, P.E., P.G.

Reviewed by JRM, P.E.  
DRH/dc



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## Applied GeoTech

September 18, 2012

Great Basin Engineering  
PO Box 150048  
Ogden, UT 84415

Attention: Mark Babbitt  
EMAIL: [markb@gbenorth.com](mailto:markb@gbenorth.com)

Subject: Road Base  
The Summit at Ski Lake No. 9  
6800 East 1200 South  
Huntsville, Utah  
Project No. 1120742

Gentlemen:

Applied Geotechnical Engineering Consultants, Inc. was requested to provide our professional opinion concerning the use of road base in place of 4-inch minus subbase material for a road section.

Road base that meets the American Public Works Association (APWA) specifications provides good load carrying capacity, drainage and stability for a road section. This material typically consists of angular particles that are well-graded and will generally have a California Bearing Ratio (CBR) of 50 or greater. Granular borrow or 4-inch minus subbase material is typically a lower quality material with less stringent gradation criteria, rounded to subrounded particles and generally providing a CBR on the order of 20. Thus, its load carrying capacity would be less than that for road base.

The greater CBR for the road base, compared to the 4 inch minus subbase material means that the road base will provide greater load carrying capacity. Road base used in place of 4-inch minus subbase would allow for the combined road base and subbase material thickness to be reduced by 2 inches for the same support capacity.

The gradation results for the base course to be used for The Summit at Ski Lake No. 9 project indicates that this material will meet the APWA gradation specifications. No information is provided on the test sheet concerning the plasticity index of the material, the amount of fracture faces of the aggregate or CBR.

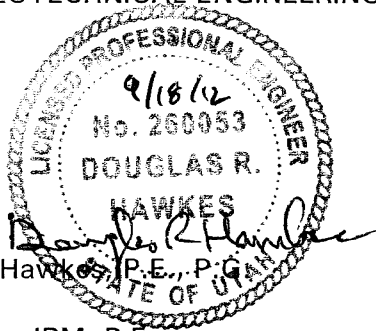
Great Basin Engineering  
September 18, 2012  
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It is our professional opinion that the road base could be used in place of 4-inch subbase material which would provide greater support capacity for the pavement section. Providing a road base thickness that is 2 inches less than the combined road base and 4-inch minus subbase section would provide a similar support capacity to that of the road base and 4-inch minus subbase combined section.

If you have questions or if we can be of further service, please call.

Sincerely,

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.



Douglas R. Hawkes, P.E., P.G.

Reviewed by JRM, P.E.  
DRH/dc