

Empire Laboratories, Inc.

GEOTECHNICAL ENGINEERING & MATERIALS TESTING

P.O. Box 503 • (303) 484-0359
301 No. Howes • Fort Collins, Colorado 80522

March 30, 1987

Rec 4-1-87

RBD, Inc.
2900 South College Avenue
Fort Collins, Colorado 80525

Attention: Mr. Brian Cole

Re: Centre for Advanced Technology
Fort Collins, Colorado
ELI Project No. 6433-2-87

Gentlemen:

At your request, Empire Laboratories, Inc. has evaluated the pavement thicknesses for the proposed residential streets at the above-referenced project. Based on the subsurface data obtained at the site and described in our "Report of a Pavement Design" dated February 6, 1987, the following minimum pavement thicknesses should be used for residential streets. These pavement thicknesses are based on existing subsurface data, an assumed eighteen kip equivalent daily load application of 5, a serviceability index of 2.0 and a weighted structural number of 2.15.

Residential Streets

Asphaltic Concrete	3"
Crushed Aggregate Base Course	4"
Select Subbase	<u>4"</u>
Total Pavement Thickness	11"
Asphaltic Concrete	3"
Crushed Aggregate Base Course	<u>7"</u>
Total Pavement Thickness	10"
Asphaltic Concrete	2"
Plant Mix Bituminous Base Course	<u>4"</u>
Total Pavement Thickness	6"

Using a modulus of subgrade reaction of one hundred (100) pounds per square foot based on an "R" value 8, a design life of twenty (20) years, and concrete designed using a modulus of rupture of six hundred (600) pounds per square foot, five (5) inches of nonreinforced concrete may



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Member of Consulting Engineers Council


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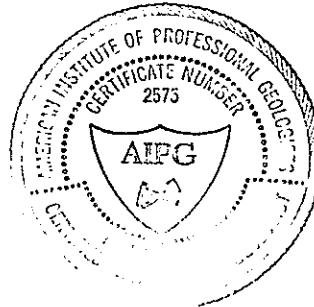
be used as an alternate pavement for residential street construction. All recommendations regarding construction of the proposed streets set forth in our report should be followed.

If you have any questions regarding the pavement thicknesses at the site, please do not hesitate to contact us.

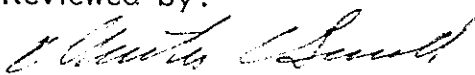
Very truly yours,

EMPIRE LABORATORIES, INC.

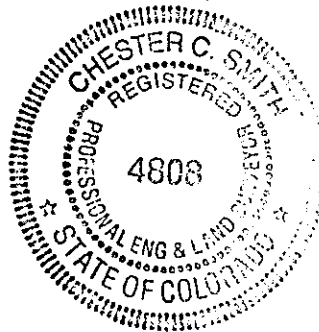

Neil R. Sherrod
Senior Engineering Geologist



Reviewed by:



Chester C. Smith, P.E.
President



clc