

**GEOTECHNICAL INVESTIGATION OF ROAD A,  
SECTOR F-3, PHASE 8 BAHRIA TOWN, ISLAMABAD,  
PAKISTAN**



A thesis submitted to Bahria University Islamabad in partial fulfillment of  
the requirement for the degree of B.S in Geology

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## DEDICATION

This dissertation is dedicated to our beloved Parents with whom support and unceasing encouragement this task has been completed.

## ABSTRACT

The study area Bahria Town Phase 8, which comprises of thick deposits of clay/alluvial cover is present. The main purpose of study is to evaluate the aggregate soil, soil's index, and engineering properties as subgrade materials is purposed for Bahria Town phase 8 in district Rawalpindi.

During field investigation different test were performed according to soil testing of the road project specification along the purposed road alignment. In-situ compaction was determined by using sand-cone method (ASTM D1556) which ranges from to 90-100 %. The grain friction analysis reveals that the gravel varies from 1 to 54 %, sand varies from 4 to 57% and silt/clays friction ranges from 33 to 92 %. The Atterberg limits data reveals that the Liquid Limit varies from 23.1 to 30.5 %, Plastic Limit 18.3 to 18.9 %. The soil in the study area was classified as A-4 using AASHTO M 145 soil classification. The Californian Bearing Ratio at 1mm" penetration ranges from 4% to 9%. Based upon AASHTO soil classification and Central Laboratory of Bahria Town road specification, the soil of area is not recommended for purposed road subgrade. But the aggregate and concrete are within the standard of AASHTO test.

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