ALBERTA TRANSPORTATION LABORATORY TESTING (TLT) MANUAL

INTRODUCTION

PURPOSE

This Transportation Laboratory Testing (TLT) Manual has been prepared for the purpose of standardizing test procedures used by Alberta Transportation and specified for use by contractors/consultants conducting work for the department.

SCOPE

The test methods and procedures for preparation of samples fall into the following three groups:

1) test methods which follow a national or international standard;

2) test methods which follow a national or international standard but which have been modified to some degree to meet our specific needs based on the Department's experience; or

3) test methods which have been developed by the Alberta Transportation and which may not be described elsewhere and remain unique to Alberta.

Original methods have been developed in those cases where it has been possible to develop a more effective test or where nationally recognized standards do not adequately take into account geographic, geologic, meteorologic, or other special conditions that exist in Alberta. In preparing the test methods, considerable emphasis has been placed on the description of detailed procedures necessary to assure accurate and reproducible test results. The aim in developing original methods has been three-fold. First, to measure a property that is related to performance; second, to make the test simple and straightforward; and third, to minimize testing time.

These test procedures do not address safety concerns associated with their use. Users of these test procedures are responsible for establishing appropriate and adequate safety measures.

An effort has been made to describe each test procedure in enough detail so a competent technician, although unfamiliar with the particular method but with a little training and experience, can follow the procedures and obtain accurate results. Alberta Transportation's Highway Engineering Section appreciates receiving constructive suggestions for improvements in describing test procedures or test details that might lead to more efficient or effective test methods.

Materials used in highway construction are often heterogeneous in nature and all reasonable precautions should be taken to ensure that representative samples are obtained for testing. The results of tests should therefore not be considered as absolute

values representing properties of the materials in question, but an indication of or approximation to these properties, and the higher the level of sampling the closer the approximations to the actual values. These factors should be taken into account when considering the degree of accuracy to which all testing should be carried out.

It is important that those engaged in testing should have not only a thorough knowledge of testing procedures, but also a basic understanding of the reasons for testing, and the uses to which the results will be put. This understanding of the significance of testing, which is achieved only by considerable laboratory and field experience, will often enable the operator to save testing time as he or she will have some idea of what to look for and what results to expect. It will also enable them to become aware of obvious mistakes in sampling or testing.

Wherever possible, test results should be checked and, if there is any doubt, or where results are critical, tests should be done in duplicate, or be repeated by another operator.

The science of materials engineering is progressively being revised, altered and expanded through experience and new technologies. Technologists are encouraged to read the latest technical literature and bring forward changes to this Manual.

OTHER REFERENCES

The following publications should also be consulted:

Manual of Test Procedures (Alberta Transportation Tests, ATT)

American Association of State Highway and Transportation Officials (AASHTO) standard specifications and test methods

American Society for Testing and Materials (ASTM) standards

Asphalt Institute (MS-2, MS-14)

British Standards

California Testing and Control Procedures

Canadian General Standards Board (CGSB)

Canadian Standards Association (CSA)

Ontario Laboratory Testing Manual