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PROTECTION OF CABLES AND OTHER ELEMENTS OF
OUTSIDE PLANT

Investigation of the soil before using trenchless techniques

ITU-T Recommendation L.39

(Formerly CCITT Recommendation)

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Investigation of the soil before using trenchless techniques

Summary

This Recommendation describes the main techniques that allow an investigation of the soil in order to get information about the position of buried objects and the nature of the ground. This data is necessary to plan the execution of work using trenchless techniques and to optimize the drilling path thus avoiding the risk of damage to both the existing infrastructures and the drilling equipment; hence preventing drilling failures due to obstacles or ground characteristics.

This Recommendation gives advice on general requirements of the three different phases in which the investigation work can be divided: preliminary operations, an on-site survey and the output of utility maps.

Source

ITU-T Recommendation L.39 was prepared by ITU-T Study Group 6 (1997-2000) and approved under the WTSC Resolution 1 procedure on 12 May 2000.

FOREWORD

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In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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Investigation of the soil before using trenchless techniques

1 Scope

This Recommendation:

- describes the preliminary operations that are required before performing a direct on-site investigation;
- describes the main techniques and methods that can be used to make soil investigation and gives advice on some operational procedures;
- gives advice on how to produce the final map of the investigated area.

2 Preliminary operations

Right from the first design phase, it is essential to acquire all the available information about the existing utilities and the nature of the ground on site. This information is of the following kind:

- statutory/administrative;
- technological (e.g. presence of utilities or obstacles);
- geolithological, hydrogeological and geotechnical.

The following action is recommended:

- to consult the available existing documentation of any work carried out in the area (e.g.: laying of utilities);
- to collect all the administrative details regarding permits, monitoring, testing of existing utilities;
- to contact the technical offices of Local Authorities in order to obtain geological and geotechnical reports on work carried out in the area;
- to collect from local arts councils or museums archaeological and historical information relevant to the working site;
- to contact the contracting Companies which had previously worked on site in order to get more precise information, especially in the case of potentially dangerous utilities (e.g. gas mains) or those of public importance (e.g. hospital power and telephone lines).

3 On-site survey

In order to minimize the risk of mistakes due to the use of out-of-date maps or to the possible differences between "planning" and "executive" drawings, a direct on-site investigation has to be performed.

The available techniques to perform buried object detection and soil investigation are described.