



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Code for investigation of geotechnical engineering

工程勘察通用规范

(English Translation)

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1 General

1.0.1

This specification is formulated to ensure the quality of engineering surveys, safeguard engineering, personal, property, and public safety, protect the ecological environment, and meet the basic needs of engineering supervision and management.

1.0.2

Engineering investigation must implement this code.

1.0.3

The engineering survey should be planned and implemented according to the requirements of different stages of the project construction. The survey results should correctly reflect the engineering geological conditions, find out the adverse geological effects, provide real data, complete structures, reasonable evaluation, reliable conclusions, and feasible suggestions. Survey report.

1.0.4

Whether the technical methods and measures adopted in the project construction meet the requirements of this specification shall be judged by the relevant responsible parties. Among them, innovative technical methods and measures should be demonstrated and meet the performance requirements in this specification.

2 Basic regulations

2.0.1

The planning and implementation of engineering investigation shall comply with the following regulations.

- 1 The design data of the proposed project shall be obtained, the geological data and environmental data related to the construction of the project shall be collected, and the survey outline shall be compiled;
- 2 The type, cause, distribution range, development and degree of harm of adverse geological effects on the site shall be investigated;
- 3 The topography of the proposed project site and the type, distribution, and engineering characteristics of the rock and soil layer within the scope of project influence shall be ascertained, and underground buried objects that are unfavorable to the project shall be investigated;
4. The distribution characteristics of the groundwater affecting the project shall be ascertained, the influence of the groundwater on the project shall be analyzed, and the corrosivity of the groundwater and soil to building materials shall be evaluated;
- 5 The possible engineering risks caused by geological conditions shall be analyzed, suggestions for prevention and control measures shall be put forward, and geotechnical parameters required for design and construction shall be provided;
- 6 An engineering investigation report shall be provided.

2.0.2

The original records, video data and engineering survey reports of exploration, sampling, in-situ testing, and indoor testing shall be archived and traceable.

2.0.3

Exploration, sampling, testing and testing instruments and equipment should be kept in normal use. Test and test instruments should be used within the validity period of the calibration.

2.0.4

The survey unit should participate in the construction trench inspection, and check the consistency between the geological conditions revealed by the excavation and the engineering survey report. If there is any abnormal situation, suggestions for handling measures or design modification should be put forward.

3.1 Survey Outline

3.1.1

The engineering survey should be based on the collection and analysis of existing data and on-site survey, and according to the survey purpose, task and the requirements of the corresponding current technical standards, the survey outline should be prepared according to the characteristics of the proposed project and the engineering geological conditions of the site. The survey outline should include the following.

- 1 Project overview;
- 2 An overview of the proposed site environment, engineering geological conditions, and nearby reference geological data (if any);
- 3 Survey purpose, task requirements and main technical problems to be solved;
- 4 The technical standards to be implemented;
5. Exploration methods selected;
- 6 survey work arrangement;
- 7 On-site treatment after completion of exploration;
- 8 Quality control, safety assurance and environmental protection measures to be adopted;
- 9 Instruments and equipment to be invested, personnel arrangement, survey progress plan, etc.;
- 10 Post-services such as survey safety, technical clarification and tank inspection;
- 11 Plane layout of proposed engineering exploration points.

3.1.2

The survey work arrangement in the survey outline shall include the following contents.

- 1 Drilling (well exploration, trenching, hole exploration) arrangement;
- 2 methods and arrangements for geophysical prospecting and in-situ testing;
- 3 Sampling method and sampler selection, taking rock samples, soil samples and water samples and their storage, protection and transportation requirements;
- 4 Contents, methods and quantities of indoor rock, soil and water tests.

3.1.3

When the survey work proposed in the survey outline cannot meet the task requirements, the survey outline should be adjusted in time or a supplementary survey outline should be prepared.

3.1.4

The survey outline and its changes shall be signed by the person in charge of the survey project.

3.2 Foundation engineering

3.2.1

The foundation engineering survey work should be deployed according to the proposed engineering load, deformation requirements, foundation form, foundation complexity and construction requirements, and should meet the site and foundation stability evaluation requirements.

3.2.2

The layout of exploration points in the detailed survey stage should meet the following requirements.

- 1 The exploration point shall be able to control the foundation range of the building (structure) on the plane;
- 2 Exploration points should be arranged for major equipment foundations;
- 3 Exploration points shall be arranged on the dam abutment of the embankment;
- 4 Controlling exploratory holes shall not be less than 1/3 of the total number of exploratory holes;
- 5 There should be no less than 4 exploration holes for a single high-rise building, and no less than 2 control exploration holes; each building of a high-rise building group should have at least 1 control exploration point.

3.2.3

The depth of control exploration holes shall meet the requirements of site and foundation stability analysis and deformation calculation; the depth of general exploration holes shall meet the requirements of bearing capacity evaluation.

3.2.4

The depth of the exploratory hole on the natural foundation shall comply with the following regulations, except that the stable strata such as bedrock or thick gravel soil are allowed to be adjusted within the following specified depths.

- 1 The exploration depth shall be calculated from the foundation bottom. When the width of the foundation bottom is not greater than 5m, the depth of the exploratory hole shall not be less than 3 times the width of the foundation bottom for strip foundations, and shall not be less than 1.5 times the width of the foundation bottom for independent column foundations, and shall not be less than 5m.