



**MINISTRY OF MUNICIPALITY  
AND ENVIRONMENT  
INFRASTRUCTURE PLANNING DEPARTMENT**

**Procedure or Geotechnical  
Borehole Drilling Outside Road Row**

**January 2019**



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Commitment of Geotechnical Investigation Contractor



## 1.0 INTRODUCTION

### 1.1 Purpose

The purpose of this Infrastructure Planning Department of the Ministry of Municipality and Environment (IPD-MME) document is to provide guidelines for borehole drilling operations outside the Right-of-Way (ROW) and within property boundary.

The intend usage for this document including, without limitation, geotechnical, environmental, geo-environmental, hydrogeological, structural and construction specialists involved with the design, constructions, contracting and inspection of construction projects in the State of Qatar.

### 1.2 Document Control and Distribution

Updates and modifications to this document are controlled by IPD-MME. Users of this document should check that they have the most current version. Users are encouraged to provide feedback, which will be reviewed, assessed and possibly included in the next version.

### 1.3 Abbreviations

Table 1 – Abbreviation

Abbreviations	
AGS	Association of Geotechnical and Environmental Specialists
HS&E	Health, Safety & Environmental
IPD	Infrastructure Planning Department
Kahramaa	Qatar General Electricity & Water Corporation
MME	Ministry of Municipality & Environment
MW	Monitoring Well
NOC	No-Objection Certificate
PDF	Portable Document Format (Adobe)
PWA	Public Work Authority (Ashghal)
RPZ	Rail Protection Zone
ROW	Right-of-Way
QCS	Qatar Construction Specifications
QND(95)	Qatar National Datum (95) / Qatar National Grid
QRail	Qatar Rail Company



## 1.4 Procedures for Submission

A written application shall be sent to the Director of Infrastructure Planning Department of the Ministry of Municipality and Environment. The Applicant shall provide drawings including location plan and site plan with borehole locations.

## 1.5 Applicable Laws

This document is developed by IPD of MME based on the relevant laws and regulations indicated below:

- ✓ Article No. 839, Law No. 22 of 2004.
- ✓ Article No. 3, Law No. 1 of 2013.
- ✓ Law No. 10 of 2014.

## 2.0 PROCEDURE STEPS

The following section outlines IPD procedure steps which are required to be followed by consultants, contractors and owner's representatives in order to carry out geotechnical borehole drilling outside the Right-of-Way (ROW) and within the property boundary:

- 1- The owner and/or his representatives shall appoint a qualified geotechnical consultant/contractor utilizing appropriate techniques and drilling equipment to carry out the geotechnical investigation at the site.
- 2- The geotechnical consultant/contractor shall pledge to send all geotechnical information and soil/rock tests data and associated reports to the IPD-MME to be approved and added to the Geotechnical Database at the MME. Geotechnical data shall be provided in AGS4 format and high-quality PDF format. The commitment form is attached herein.
- 3- The geotechnical consultant/contractor shall furnish all labor, equipment, tools, supplies and transportation required to perform the geotechnical investigation, exploration, testing, analyses and reporting in accordance with the latest edition of QCS and/or other similar governing specifications.
- 4- The geotechnical contractor/consultant shall commit to submit a method statement for the geotechnical borehole drilling works for IPD-MME approval. The method statement shall be peer-reviewed internally by the geotechnical consultant/contractor prior to submittal to IPD-MME for review and approval. The peer reviewers must be practicing geotechnical engineers. The method statement shall include, but not limited to, the following:
  - a. A description of the project
  - b. The purpose and objectives of the geotechnical investigation
  - c. Type of structures to be constructed and approximate loads
  - d. Information on site access and work permit requirements
  - e. The number and depths of boreholes to be drilled



- f. The number and depths of monitoring wells to be installed, if any
  - g. The number, type and depths of field test to be conducted
  - h. The objectives of laboratory test program
  - i. A description of any special tests or requirements
  - j. A location plot plan including the locations of the existing and proposed facilities and the locations of the boreholes
  - k. Health, Safety & Environmental (HS&E) requirements.
- 5- The geotechnical consultant/contractor shall prepare a drilling plan for submittal for underground utilities clearance in order to protect existing utilities (i.e. QRail, Kahramaa, PWA, Ooredoo, etc...) and provide safe work environment for all workers at the site.
  - 6- The geotechnical consultant/contractor shall be responsible to obtain an encroachment permits from all relevant entities prior to undertaking any drilling activities at the site. In particular, all drilling and boring operations within the QRail Rail Protection Zone (RPZ) shall require a formal NOC from QRail prior to commencement of any drilling activities at the site, subject to Law No. 10 of 2014. RPZ are defined in the law as "*Zones determined to protect the track of the tunnels in order to prevent any entity from carrying out construction works that may affect the safety of the tunnels*". RPZ are determined based on the Rail alignment approved by Government stakeholders.
  - 7- The geotechnical consultant/contractor shall commit to provide an experienced geotechnical engineer or geologist in the field full time during drilling activities. The geotechnical engineer/geologist shall supervise and observe all subsurface exploration operations, classify samples and prepare logs of boreholes, test pits, etc... .
  - 8- The geotechnical consultant/contractor shall use the QND (95) datum to establish the coordinates and elevation of the existing ground level at each borehole location. Coordinates and elevations must be shown on the field borehole logs.
  - 9- Following the completion of drilling and sampling activities in the field, all boreholes shall be sealed with sand-cement grout, with exception to, boreholes that will be needed for groundwater monitoring wells (MW). Groundwater MW shall be installed properly as per relevant standards and regulations.
  - 10- The geotechnical consultant/contractor shall be responsible to restore the site to its original state following the completion of the drilling works at the site.
  - 11- The geotechnical consultant/contractor shall submit the final report to IPD for review and approval. The report shall have an Executive Summary, placed immediately after the Table of Content. The signatures of both the primary engineer and the peer-reviewer must appear in the report.
  - 12- The final report can include, but not limited to, the followings:
    - a. Introduction
      - i. Description of proposed construction
      - ii. Purpose and scope of investigation
      - iii. Abstract of findings and recommendations
    - b. Site Conditions



- i. Site local geology
    - ii. Potential geological hazards
    - iii. Site topography
  - c. Subsurface Conditions
    - i. Stratigraphy
    - ii. Subsurface material properties
    - iii. Groundwater levels both historical and present
  - d. Field Investigation
    - i. Summary of drilling operations
    - ii. Description of sampling procedures
    - iii. Description of field tests
    - iv. Logs of boreholes, test pits, MW, etc.
    - v. Scale plan with locations of boreholes, test pits, MW, etc.
  - e. Laboratory Tests
    - i. Description of tests
    - ii. Test results
  - f. Soil and Groundwater Properties
  - g. General Foundation Recommendations
  - h. Shallow Foundation Recommendations
  - i. Deep Foundation Recommendations
  - j. Earth Pressures and Retaining Walls
  - k. Seismic Design Considerations
  - l. Flood Considerations
  - m. Earthwork
  - n. Excavation Considerations and Groundwater Control
  - o. Drainage Considerations
  - p. Pavements and Slab-on-Grades
  - q. Corrosion Potentials
  - r. Underground Cavity Risk Assessment
  - s. Instrumentation and Monitoring during Construction
  - t. Construction Quality Control
  - u. Other Considerations
  - v. References and Glossary
- 13- The Geotechnical Reports shall be provided in one hard (paper) copy as well as one electronic copy (PDF and Word format).



### 3.0 DISCLAIMER

This document is intended to be used only in its entirety. IPD-MME should be contacted if the Applicant requires additional information or has questions regarding the content or completeness of this document.

The use of IPD-MME's approval for any work, does not relieve the Applicant (or anyone who acts on his behalf) from his responsibilities, nor does it entitle the Applicant (or anyone who acts on his behalf) to claim any kind of compensation for damages or losses during geotechnical borehole drilling or thereafter. IPD-MME accepts no responsibility for any damages to third party assets caused by geotechnical investigation works.



## Attachments





**تعهد شركة مقاولات (حفریات جيوتقنية)**  
**Commitment of Geotechnical Investigation Contractor**

Company Name:	إسم الشركة:
Company Address:	عنوان الشركة:
Project Name:	اسم المشروع:
Project Number:	رقم المشروع:
Work Site:	موقع العمل:

نتعهد بإرسال جميع المعلومات الجيوتقنية و فحوصات التربة و الصخور بما في ذلك التقارير الجيوتقنية والمسوحات الجيوفيزيائية وتقارير رصد المياه الجوفية الخاصة بالمشروع الوارد ذكره أعلاه إلى إدارة تخطيط البنية التحتية في وزارة البلدية و البيئة و ذلك فور الانتهاء منها و بدون أي تأخير و تسليمها بصيغة AGS4 و صيغة PDF عالي الجودة.

Kindly note that we undertake to submit all geotechnical information, soil and rock test results, including the geotechnical reports, geophysical surveys and groundwater monitoring results of the project mentioned above, to the Infrastructure Planning Department at the Ministry of Municipality and Environment, immediately after completion without any delay, and delivered in AGS4 format and high quality PDF format.

Name	:	:	الاسم:
Designation	:	:	الصفة
ID number	:	:	رقم البطاقة الشخصية
Signature	:	:	التوقيع:
Date	:	:	التاريخ
Company Stamp	:	:	ختم الشركة