MALTA RESOURCES AUTHORITY ACT

(CAP. 423)

Quarries and Mineral Extraction (Authorisation) Regulations, 2010

IN virtue of the powers conferred by article 28 and article 32 of the Malta Resources Authority Act, the Minister for Resources and Rural Affairs, on the recommendation of the Malta Resources Authority, has made the following regulations:

Citation, entry into force and scope.

- **1.** (1) The title of these regulations is the Mineral Extraction (Authorisation) Regulations, 2010.
- (2) These regulations shall come into force on such date as the Minister responsible for resources may by notice in the Gazette appoint, and different dates may be so appointed for different provisions and different purposes of these regulations.
- (3) The scope of these regulations is the regulation of quarries and mineral extraction operations by means of an authorisation scheme established under these regulations.

 $Interpretation \ . \\$

2. In these regulations, unless the context otherwise

requires:-

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"the Act" means the Malta Resources Authority Act;

"active mineral extraction operation" means a mineral extraction operation taking place within a quarry within which active extraction of authorised extractable reserves is carried out;

"authorisation" means an authorisation granted under these regulations;

"authorised area" means a specific area, the boundaries of which are defined by an authorisation within which the authorised provider is authorised to extract minerals;

"authorised extraction reserves" means the amount of mineral reserves authorised to be extracted from a quarry;

"authorised provider" means the holder of an authorisation issued by the Authority under these regulations;

" the Authority" means the Malta Resources Authority established by article 3 of the Act;

"blasting authorisation" means the authorisation issued by the Police Weapons Office for the use of explosives within an authorised area for the extraction of authorised extraction reserves from an active mineral extraction operation;

"compliance inspection" means an inspection undertaken by inspectors duly authorised by the Authority to ascertain whether the operations at a mineral extraction operation site conform to the conditions of the authorisation and any other order or directive issued by the Authority;

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"development permission" shall have the same meaning as under the Environment and Development Planning Act, 2010;

"disused or abandoned quarry" means a quarry which has been disused or abandoned for at least 12 consecutive months as determined by the Authority;

"excavation" means any place at a quarry where minerals are or have been extracted and includes the ground, faces or sides of the quarry and any other incline;

"exhausted quarry" means a site formerly used as a quarry from which no mineral reserves are available to be extracted as determined by the Authority;

"explore" means to search for aggregate and other minerals by prospecting, geophysical, geochemical, geological survey, trenching, excavating, drilling, or other approved methods;

"geotechnical assessment" means an assessment carried out by a geotechnical specialist identifying and assessing all factors liable to affect the stability and safety of a quarry;

"geotechnical specialist" means a *Perit* or geologist who has:

- (a) three or more years relevant experience in soil mechanics, rock mechanics or excavation engineering; and
- (b) is competent to perform a geotechnical analysis to determine the hazard and risk arising from the excavation being assessed;

"inactive quarry" means a quarry from which extraction has ceased for at least 12 consecutive months but which still retains authorised reserves and which may be reactivated in the future;

"inspector" means any employee or officer of the Authority or any other person duly appointed and authorised in writing by the Authority, in accordance with the provisions of the Act, to inspect and check compliance with these regulations and any authorisation condition;

"limit of extraction" means the extent to which excavation is permitted (both laterally and vertically) within an approved mineral extraction operation site or other permitted mineral extraction area;

"minerals" means limestone, marble, marls, gravel, loam, sand, clay, stone or other exploitable mineral resources found in their natural state;

Cap?. "Malta Environment and Planning Authority" means the

Malta Environment and Planning Authority established by the

Environment and Development Planning Act;

"minerals development" means development consisting of the winning and working of minerals, or involving the stockpiling or deposition of mineral waste for future processing;

"mineral extraction operation" means any activity at a mineral extraction operation site that is associated with the

development of the quarry, including stripping and land preparation, extraction, processing, stockpiling, or removal of materials from the site, reclamation of the site, and any works in connection with the site involving labour, machinery, plant, buildings, vessels, and premises and includes;

"mineral extraction operation site" means a parcel of land within which a mineral extraction operation is undertaken or which has been affected by mineral extraction as determined by the Authority;

"mineral reserves" means the amount of minerals found in a quarry;

"processing" means the screening, sieving, blasting, crushing, draining, or any other separation of excavated material prior to stockpiling or removal;

"progressive reclamation" means reclamation work carried out sequentially and concurrently with extraction activities;

"quarry" means the whole area under the control of an operator carrying out any activity involved in the prospecting, extraction, treatment including processing and re-processing,

and the storage of minerals;

"stockpiling" means the storage of overburden or topsoil, or the storage of extracted or processed materials within the mineral extraction operation site or some other site approved for this purpose;

"stop works order" means an order issued by the Authority following a compliance inspection at a mineral extraction operation site and through which all or part of the activities at the said mineral extraction operation site are temporarily halted until any infringement is remedied.

Activities forming part of a mineral extraction operation.

- **3.** The following shall be deemed to form part of a mineral extraction operation:
- (a) the mineral extraction operation site including any buildings, structures, and works therein;
- (b) land surrounding or adjacent to the mineral extraction operation site, which is occupied by the authorised provider of the mineral extraction operation for the purpose of, or in connection with the mineral extraction operation, including storage or stockpiling purposes.

Applicability

- **4.** (1) These regulations shall apply to all quarries and active and inactive mineral extraction operations.
 - (2) The regulations shall not apply to:
- (a) storage or stockpiles of materials used solely for the maintenance of private or public roads. This applies to the stockpile or storage area itself and not to any associated mineral extraction activity or area;
- (b) removal of, or filling with material incidental to the construction, alteration, or repair of a structure, or in landscaping works incidental thereto;
 - (c) normal agricultural operations;
 - (d) removal of stone or rock walls or foundation walls;
- (e) stripping of topsoil, which is not part of a mineral extraction operation, to a depth no greater than one metre; and
 - (f) exhausted mineral extraction operations.

Authorising of mineral extraction operation activities.

- **5.** (1) The following shall require an authorisation:
- (a) the exploration of a mineral extraction operation site;
- (b) the carrying out of a mineral extraction operation;
- (c) removal of materials from a mineral extraction operation site.

- (2) An application for an authorisation shall be made in the form and as prescribed by the Authority, and shall include all the information required by the form and any other information as may be required by the Authority.
- (3) Applications for the authorising of existing mineral extraction operations, whether active or inactive, must be submitted to the Authority on the prescribed form within 180 days from the date of the entry into force of these regulations. Failure to submit such an application in respect of a mineral extraction activity within the aforesaid 180 days will be deemed to be an intention to abandon the mineral extraction operation.

Authorising of new or expanded mineral extraction operations.

6. The Authority will only issue an authorisation for a new mineral extraction activity or for the extension of an existing mineral extraction activity on written confirmation from the Malta Environment and Planning Authority that the proposed mineral extraction operation has a valid development planning permit.

Applications for an authorisation and application fee.

- 7. Any person who wishes to:
- (a) explore for materials at a mineral extraction operation site;

- (b) carry out a mineral extraction operation;
- (c) remove materials from a mineral extraction operation site

shall submit an application in writing to the Authority in such form and manner as the Authority may prescribe.

(2) A non-refundable application fee as established in the First Schedule to these regulations shall be paid to the Authority with the application for an authorisation.

Determination procedure of applications.

- **8.** (1) The Authority shall establish its procedure for the purposes of determining an application for:
- (a) the exploration for materials at a mineral extraction operation site;
 - (b) the carrying out of a mineral extraction operation;
- (c) removal of materials from a mineral extraction operation site.
- (2) The Authority shall communicate to the applicant in writing within a reasonable time, which shall not be of more than six months from the date of receipt of a valid application, any decision taken concerning an application for an authorisation or an application for the renewal of an

authorisation or any valid reason impeding the Authority to reach such a decision.

Conditions relating to the granting and renewal of authorisations.

- **9.** (1) The Authority shall adopt fair, objective and transparent conditions relating to the granting of an authorisation in terms of the principles of natural justice.
- (2) In taking a decision in respect of the grant, issue, amendment or renewal or any other matter pertaining to an authorisation issued under these regulations, the Authority may take account of the following:
 - (a) compliance by the applicant with all other relevant permits and authorisations, however so described issued by any other public authority;
 - (b) the capability of the applicant to ensure safety conditions, in the context of the authorisation being applied for;
 - (c) private and professional integrity of the applicant;
 - (d) protection of the health and safety of employees;
 - (e) protection of the environment;
 - (f) record of compliance with these regulations and any other relevant laws by the person with regard to whom

the decision shall be made;

- (g) suitability of the site to be authorised or the quarry as the case may be and, or with regard to safety, health, security, hazardous substances, environment, land use and planning requirements;
- (h) the public interest in general.

Grounds of refusal for an authorisation.

- 10. The Authority shall have the right to refuse a request for the issue of an authorisation or, if an authorisation has been issued, a request for the renewal of an authorisation, on the grounds that:
 - (a) the Authority considers that the request does not meet one or more of the criteria referred to in regulation 9 of these regulations; or
 - (b) the application does not contain all such information requested by the Authority in the application form or any other additional information that the Authority may request from the applicant for the purpose of determining an application for the authorisation; or
 - (c) the application is not accompanied by such

application fee as specified in accordance with these regulations:

Provided that any decision taken by the Authority, including refusal or withdrawal of an authorisation, shall be fully reasoned and shall be open to challenge before the Appeals Board:

Provided further that in case of failure by the Authority to inform the applicant regarding any decision taken concerning access to an activity or the exercise thereof, including refusal or withdrawal of an authorisation, shall not mean in any manner whatsoever, that the Authority has tacitly granted such authorisation and that the applicant has automatically been granted access to a service activity or the exercise thereof.

Powers to impose conditions of authorisation.

- **11.** (1) The Authority shall have the power to include in an authorisation issued under these regulations any such conditions as the Authority considers requisite or suitable.
 - (2) Authorisations shall have a minimum set of general

conditions:

Provided that special conditions may be attached to any authorisation issued under these regulations.

- (3) The authorised provider shall at all times comply with these regulations and with the conditions of an authorisation.
- (4) The conditions included in an authorisation may contain, but not necessarily be limited to, provisions regarding:
 - (a) the grant and term of the authorisation;
 - (b) suspension, variation and transfer conditions of the authorisation;
 - (c) compliance requirements to conditions, directions, management letters, standards, guidelines, codes of practice or rules given by the Authority or as may be established at law;
 - (d) monitoring and recording of the authorised operations;
 - (e) reporting, auditing and submission of information to

the Authority;

- (f) inspection, making copies and taking extracts from books and records held by the authorised provider and the carrying out of measurements and tests;
- (g) assessment and auditing of operations, activities and practices and their compliance to authorisation conditions; and
- (h) regulation of subsidiary companies and, or companies executing part of the regulated operations, activities and practices.
- (5) Any person granted an authorisation under these regulations shall:
 - (a) comply with any direction given by the Authority as to such matters as are specified in the authorisation or are of a description so specified;
 - (b) execute the regulated operations, activities and practices in accordance with such authorisation conditions;
 - (c) act in accordance with any requirements as are specified in the authorisation or are of a description so specified; and
 - (d) comply with the decisions or directions issued by the

Authority.

(6) The authorised provider shall inform the Authority of any changes relating to his activity which result in the conditions for his authorisation no longer being met and the creation of subsidiaries whose activities fall within the scope of the authorisation.

Suspension, revocation or cancellation of authorisations.

- 12. The Authority may, at any time in the course of the period for which an authorisation is valid, order its suspension, revocation or cancellation where the Authority is satisfied that:
 - (a) the authorised person or the authorised provider has failed or is failing to comply with any condition of the authorisation or with these regulations; or
 - (b) the authorised person or the authorised provider does not possess all other relevant permits and authorisations that are required by any other public authority; or
 - (c) the authorised person or the authorised provider is contravening any requirement imposed by law; or
 - (d) the authorised person or the authorised provider fails to comply with any directive given by the Authority as to

- such matters as are specified in the authorisation or are of a description so specified; or
- (e) any information submitted in the application for an authorisation or the application for renewal of an authorisation and for which the authorisation has been issued or renewed, as the case may be, is determined to be false; or
- (f) the authorised person or the authorised provider does not meet any criteria in respect to one or more of the criteria referred to in regulation 9 of these regulations:

Provided that in exercising the powers for suspension, revocation or cancellation of authorisations the Authority may take into account the nature of the failure, or the fact that the authorised person or the authorised provider is taking the appropriate steps which the Authority considers to be necessary in order to comply with the conditions of the authorisation or any other requirement that the Authority may deem relevant.

Modification of authorisations.

- 13. (1) Subject to the following provisions in this regulation, the Authority may at any time in the course of the period for which an authorisation is valid, modify, amend, replace, or delete the conditions of the authorisation as it considers requisite or suitable:
- (2) Before making any amendments, replacement, modifications or deletions to the authorisation, the Authority shall:
 - (a) communicate to the authorised provider, such amendments, replacement, modifications or deletions to the authorisation it proposes to make;
 - (b) state the reasons why such amendments, replacement, modifications or deletions are being proposed; and
 - (c) specify the period within which representations or objections have to be made with respect to the proposals being made:

Provided that the Authority in doing so shall consider any representations made.

Termination of authorisation.

- **14. (1)** When an authorised provider, decides either to suspend or terminate his authorisation, the authorised provider shall promptly notify the Authority in the form prescribed by the Authority, to notify such a termination or suspension.
- (2) Upon acknowledgment by the Authority to the authorised provider of the notification mentioned in sub-regulation (1) hereof, the authorisation shall be considered to have ceased to be in force and with immediate effect from the date of such acknowledgment the operation of the quarry, shall be deemed to be unauthorised.
- (3) Notwithstanding any notification for the termination or suspension of an authorisation, the authorised provider shall remain liable for the payment of any authorisation fees due prior to such notification.

Transfer of authorisation.

- **15.** (1) An authorisation issued by the Authority under these regulations shall not be validly transferred *inter vivos* to any other natural or legal person unless:
 - (a) the transferor informs in writing the Authority in such form and manner as the Authority shall prescribe;
 - (b) the Authority is satisfied that at least the same conditions

- as listed in regulation 9 of these regulations are complied with;
- (c) the transfer is subject to the conditions prescribed in the authorisation; and
- (d) the Authority approves in writing the transfer of the authorisation:

Provided that the leasing or sale of a quarry shall require the issue of a new authorisation in the name of the person leasing or buying the quarry.

- (2) An authorisation issued by the Authority under these regulations shall not be validly transmitted *causa mortis* to any other natural or legal person unless:
 - (a) the transferee informs in writing the Authority in such form and manner as the Authority shall prescribe;
 - (b) the Authority is satisfied that at least the same conditions as listed in regulation 9 of these regulations are being complied with;
 - (c) the transfer is subject to the conditions prescribed in the authorisation; and
 - (d) the Authority approves in writing the transfer of the authorisation:

Provided that in the event that the Authority approves the transfer of the authorisation as aforesaid, the transfer shall have retrospective effect from the date of the death of the *decujus*.

Inspection of a quarry.

- **16.** (1) Inspectors duly appointed by the Authority shall be authorised to:
 - (a) enter and inspect any quarry;
 - (b) inspect a quarry; and
 - (c) inspect all equipment, drainage, ancillary equipment and assets directly or indirectly connected with the carrying out of the authorisation conditions in order to ascertain whether they are in compliance with the conditions as prescribed in an authorisation or with any direction of the Authority.
- (2) Every inspector of the Authority shall at all reasonable times be allowed unrestricted access to quarries for the purpose of ascertaining whether these regulations or the conditions attached to the authorisation are being duly observed. The authorised provider shall give all reasonable assistance which such inspector may require for that purpose.

Requirement of insurance.

17. Authorised persons or authorised providers may be required to insure, to the satisfaction of the Authority, the quarry or the activity to which their authorisation refers.

Geo-technical assessment.

- **18.** (1) A geotechnical assessment shall be prepared by, or under the supervision of, a geotechnical specialist in accordance with the Third Schedule, and shall include a statement by the geotechnical specialist regarding:
- (a) the safety and stability of the proposed or existing excavation operation being assessed, including whether the said excavation represents a significant hazard by way of instability or movement;
- (b) whether any remedial work is required in relation to the safety and stability of the excavation being assessed and the date by which such work should be completed; and
- (c) the date by which the next geotechnical assessment should be undertaken.
 - (2) The licensee shall ensure that:
- (a) any information available to him which may be relevant for the purposes of a geotechnical assessment is made available to the geotechnical specialist undertaking that assessment;
 - (b) any significant findings made during a geotechnical

assessment and any conclusions reached in accordance with sub-regulations (1)(a), (1)(b), and (1)(c) of this regulation, and the reasons for those conclusions are recorded by the geotechnical specialist undertaking the assessment;

- (c) the geotechnical specialist signs and dates any such record and records his professional qualifications thereon; and
- (d) any remedial works identified during the geotechnical assessment in accordance with sub-regulation (1)(b) of this regulation are undertaken by the date specified.
- (3) Notwithstanding the provisions of sub-regulation 1 of this regulation, the Authority may allow an existing mineral extraction operation to continue operating even in the absence of a full geo-technical assessment as long as the authorised provider submits a preliminary geo-technical opinion of the active mineral extraction operation prepared and signed by a geo-technical specialist and commits to submit the full geo-technical assessment in line with sub-regulation 1 of this regulation and the Third Schedule within a maximum period of 6 months from the issue of the authorisation or some other time frame as agreed with the date of the Authority, which in

no case shall be greater than 12 months from the issue of the authorisation. No further renewal shall be allowed until compliance. Failure to submit such the full geo-technical assessment will be a breach of these regulations and will result in the automatic revocation of the authorisation.

- (4) Where the conclusion recorded by a geotechnical specialist following a geotechnical assessment of a proposed or existing excavation is that the excavation represents a significant hazard by way of instability or movement, the authorised provider shall ensure that the said excavation is subject to a further geotechnical assessment at least every two years.
- (5) Without prejudice to sub-regulation (4) of this regulation, the authorised provider of the mineral extraction activity shall ensure that a further geotechnical assessment is undertaken as soon as is reasonably practicable where, in relation to an excavation that falls within the scope of that sub-regulation, there is any reason:

- (a) to suspect that there has been or will be a significant change:
- (i) to the matters to which the geotechnical assessment relates, or
- (ii) to any neighbouring land which may be affected by movement by or instability of the excavation;
- (b) to doubt the validity of the conclusion of the current assessment.
- (6) Where the conclusion reached by a geotechnical specialist in following a geotechnical assessment of a proposed or existing excavation is that it presents no significant hazard, the authorised provider shall ensure that:
- (a) the said geotechnical specialist specifies the frequency with which appraisals pursuant to paragraph (c) of sub-regulation (1) of this regulation are to be conducted in order to ensure the continued safety and stability of the excavation; and
 - (b) a record of that specification is made.

Offences and penalties.

19. (1) Any person who:

- (a) wilfully or through negligence acts in breach of any provision of these regulations;
- (b) wilfully or through negligence breaches any condition listed in the authorisations issued under these regulations;
- (c) carries out any activity requiring an authorisation without being in possession of a valid authorisation;
- (d) fails to comply with any lawful order made by an inspector, employee or officer of the Authority in the performance of his duties;
- (e) hinders, obstructs, molests or interferes or attempts to hinder, obstruct, molest or interfere with the performance of the duties of any inspector, any employee or officer of the Authority; or
- (f) makes a declaration for any of the purposes of these regulations which is false, misleading or incorrect in any material particular,

shall be guilty of an offence against these regulations and shall, on conviction, be liable to:

imprisonment for not more than eighteen months, or to a fine (multa) of not more than sixty-nine thousand euro (£69,000) or

to one thousand three hundred euro (€1,300) for each day during which the offence persists, or to both such fine and imprisonment;

- (2) The Authority may claim reimbursement for any inspection, enforcement and monitoring costs incurred.
- (3) The liability of an offender under sub-regulation (1) thereof shall be without prejudice to the liability of the offender to pay to the Authority any cost incurred in removing the cause of the offence and to undo anything which was done without an authorisation under these regulations.
- (4) In prosecuting for offences against these regulations, officials of the Authority shall have the right to assist the police and to plead the case before the Court.
- (5) Officials of the Authority may assist the Police in the exercise of any of their powers to prevent the commission of an offence against these regulations.
- (6) The Police are to secure evidence concerning any offence against these regulations.
- (7) The provisions of these regulations shall not affect any criminal proceedings and, or any other proceedings that may be instituted under any other law.

Register of authorisations.

- **20.** The Authority shall keep a register or registers of authorisations which shall include records of:
 - (a) all authorisations granted under these regulations; and
 - (b) all applications for an authorisation received and refused.
- (2) The register or registers of authorisations shall be kept under review and up to date.

Administrative fines.

21. The Authority may impose an administrative fine upon any person who infringes any provision of these regulations or who fails to comply with any directive or decision given by the Authority in ensuring compliance with these regulations.

Compliance inspection.

- **22.** (1) The Authority shall only renew an authorisation following a satisfactory conclusion of a compliance inspection. The compliance inspection shall be carried out by an inspector prior to and within 60 days of the date of renewal of the authorisation.
- (2) The Authority shall charge a compliance inspection fee for monitoring mineral extraction operations as set out in the Second Schedule to these regulations.

- (3) The compliance inspection fee is to be paid not later than 15 days from the date of the carrying out of the compliance inspection. Failure to pay the fee shall result in the automatic suspension of the authorisation.
- (4) After the carrying out of a compliance inspection, the Authority shall issue a letter of compliance when it determines that the authorised provider is in compliance with these regulations or has infringed any of the conditions of the authorisation. If the inspector determines that the authorisation holder has violated the regulations or substantially deviated from the approved conditions, the inspector shall issue a Letter of Non-Compliance.
- (5) Both the letter of compliance and, or the letter of non-compliance shall be provided to the Authority, to the Malta Environment and Planning Authority, and to the authorised provider. The Authority may issue an immediate Stop Works Order for a specific violation, except for remedial action, until such time as compliance is achieved. A copy of the Stop Works Order shall be provided to the authorised provider, the Police Weapons Office, where extraction is carried out by means of explosives, and to the Malta Environment and Planning Authority.
 - (6) The Authority shall thereafter re-inspect the site to

determine if compliance has been achieved. If he determines that compliance has been achieved, the Authority shall issue a Letter of Compliance, in accordance with sub-regulation (4) of this regulation. If the Authority determines that compliance has not been achieved, the Authority shall issue a Second Letter of Non-Compliance which shall set out a timeframe within which the infringement has to be remedied.

- (7) Upon the issue of a second letter of non-compliance or of a Stop Works Order, the Authority shall instruct the authorised provider to remedy the infringement within the time period specified, failing which the Authority shall revoke the authorisation.
- (8) The authorised provider may terminate the above process at any time prior to revocation by demonstrating compliance with his authorisation at a subsequent compliance inspection, which he may request, followed by the issue of a letter of compliance by the Authority.
- (9) All compliance inspection visits by the Authority, whether scheduled by the Authority or requested by the authorised provider, shall be subject to the payment of the fees set out in the Second Schedule to these regulations.

Miscellaneous provisions.

- **23.** (1) The Authority may limit the type, quality, and quantity of materials that may be removed from any quarry.
- (2) The Authority at all times reserves the right to refuse to grant or to suspend an authorisation for geo-environmental reasons.
- (3) With regard to inactive, abandoned or disused, or exhausted quarries, the Authority may request the authorised provider to investigate whether there are mineral resources still available to be extracted. The Authority may issue any order or direction it deems necessary to safeguard and conserve mineral resources still available to be extracted.

Resources Appeals Board.

24. The Resources Appeals Board established by Part IX of the Act shall have jurisdiction to hear and determine appeals from decisions of the Authority made under these regulations.

First Schedule

Regulation 7(2)

SCHEDULE OF FEES FOR APPLICATIONS FOR MINERAL EXTRACTION OPERATIONS

The following fees shall apply for applications for mineral extraction operations:

Volume of mineral to be extracted	Initial Fee	Renewal fee
	(Euro)	(Euro)
< 3000 m ³	Yet to be decided	Yet to be decided
3000 m ³ – 5000 m ³	Yet to be decided	Yet to be decided
5001 m ³ – 10,000 m ³	Yet to be decided	Yet to be decided
10,001 m ³ – 25,000 m ³	Yet to be decided	Yet to be decided
>25,000 m ³	Yet to be decided	Yet to be decided

Second Schedule

Regulation 22 (2)

SCHEDULE OF FEES FOR COMPLIANCE INSPECTIONS

The following fees shall apply for compliance inspections undertaken by inspectors under the provisions of these regulations:

Type of inspection	Fee
Routine Compliance Inspection	35
Second Compliance Inspection for the	115
same offence	113
Compliance Inspection following a	230
Stop Works Order	

Third Schedule

Regulation 18 (1) (3)

CONTENT OF GEO-TECHNICAL ASSESSMENTS

GEO-TECHNICAL ASSESSMENT

A geo-technical assessment pursuant to regulation 18 of these regulations is to include the following activities:

Site survey

- 1. An accurate plan (including 5m contours) which should be prepared on a scale not less detailed than 1:2500 showing:
 - (a) the boundaries of the mineral extraction;
 - (b) any contiguous land or structures that might be affected by the excavation or proposed excavation; and
 - (c) all mineral extraction operation sites (whether abandoned or not), reclaimed former mineral extraction operation sites, known cave systems, active or former landslips, springs, artesian wells, watercourses and other natural or man-made features including tunnels, pipes, or culverts, which

might affect the safety of the excavation or proposed excavation, or which might be relevant for the purpose of determining whether excavation can be carried out safely.

Site investigation

2. A record of all relevant site investigation information including surveys, tests, boreholes, and groundwater measurements made for the purpose of the geotechnical assessment together with the results of any testing including the strength of materials within the excavated slope. The record shall include any known historical information relevant to the site investigation.

Cross-sections based on site investigation

- 3. Sufficient accurate cross-sections on a scale not less detailed than 1:1250 of the site of the excavation showing the existing ground surface and all relevant superficial materials and bedrock underlying the said site, and:
 - (a) any variation in the thickness, level or character of the superficial deposits and bedrock materials based on the site investigation; and

(b) the position of any surface whether natural or manmade that may affect the safety of the excavation.

Plans based on site investigation

4. Plans showing the position of all boreholes, wells and trial pits used in the site investigation and the location and levels of all materials and surfaces that may affect the safety of the excavation or tip or proposed excavation or tip.

Assumptions made before analysis

5. A record of any assumptions relevant to the assessment of ground conditions relating to the safety of the excavation made by the geotechnical specialist including a record of any relevant information that was not available when undertaking the assessment.

Findings of analysis

6. A record of the calculations carried out in order to determine the safety of the excavation, including any variables or parameters used in those calculations and the reasons for using them and the findings of those calculations expressed as the factor of safety or the probability of failure or other recognised basis of assessing stability.

Design coming out of analysis

7. An accurate plan on a scale not less detailed than 1:2500 recording in relation to excavations or proposed excavations, the design of the excavation, including the height or proposed height of the slope, the position and width of any benches and representative contours of the excavation at vertical intervals of not more than 5 metres.

Requirements during and after construction

8. A record of the nature and extent of inspection, supervision, and safety measures necessary to ensure the safety of the excavation and a specification of necessary engineering works and safety measures. A record of the actions to be taken regarding defects specified in the report.