



AMMONIUM NITRATE STORAGE FACILITY PROJECT



TERMS OF REFERENCE CIVIL WORKS FOR AMMONIUM NITRATE STORAGE

RUBiS Project Number :
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Date: 19 July 2022

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1. INTRODUCTION

1.1. General

Rosebel Goldmines NV (RGM) is a subsidiary of IAMGOLD and is established since 2002. Transportation of gold ore from the concessions is being delivered to the Rosebel mill

The project ANS RGM Ammonium Nitrate Storage (ANS) has the objective to create a safe storage facility and according to legislation. To create the safe storage, one new building is to be constructed. The new stores is built on the RGM premises in Brokopondo, Suriname.

This document outlines the terms of reference for execution of the Civil and Structural Works required to allow for Building of the storage facility.

1.2. Purpose of document

These terms of reference aim:

- To give bidders in the tender process good insight and overview of the scope of Works and associated requirements, to allow for appropriate bid preparation. The goal is to select a proper Contractor for relevant scope.
- To be an unambiguous, crucial contract element defining the obligations between parties during execution of the Works.

1.3. Project information

Project Name : AMMONIUM NITRATE STORAGE FACILITY PROJECT
RGM Project No. : 2202320
FIRM Project No. : 1157-ANS
Type of Works : Civil Works
Site location : Rosebel Gold Mines, situated in the district of Brokopondo.
RGM Project Manager : Mr. Suradj Mohan
Telephone : +597 8281010
e-mail : Suradj_Mohan @iamgold.com

The Project Manager is the official Employer contact for the Works Contractor

2. CONDITIONS OF CONTRACT

2.1. Contract data

The conditions of Contract comprise the "General Conditions": ROSEBEL GOLD MINES N.V. STANDARD TERMS AND CONDITIONS GOODS & SERVICES-RGM-TC-STD-2018-08 and must be read in conjunction with this document.

2.2. General

The scope of Works comprises of Civil Works required for the installation and commissioning of concrete footings and slab edge at Rosebel Gold Mines, Brokopondo Suriname.

In general, the identified activities of the Works are listed as follow:

- Mobilization and demobilization
- Temporary construction site facilities
- Earthworks

- Concrete works
- Building drainage system
- Mobilization and stacking of 54 each container

2.3. **Measurements**

The International System of Units (SI), is the system of measurement to be used for performance of relevant scope of Works. It comprises a coherent metric system of units of measurement built on seven base units, which are the ampere, kelvin, second, metre, kilogram, candela, mole, and a set of twenty prefixes to the unit names and unit symbols that may be used when specifying multiples and fractions of the units.

For survey measurements the following is applicable.

- Elevation measurements from a predetermined bench mark (survey monument);
- Relevant survey monument is installed by Client on the job site;
- Elevation measurements will be reported in NSP-notation;
- Elevation measurements will be done using suitable surveying equipment and instruments (i.e. total stations, survey levels etc.);
- The Contractor shall make a draft of a surveying scheme by which the elevation surveying of all Works will be performed. The surveying scheme requires prior approval from the Engineer.

2.4. **Applicable codes and standards**

The following technical codes and standards apply:

- NEN 6700 : General basic requirements
- NEN 6702 : Load
- NEN 6720 : Concrete specifications
- Cutting and welding of connection and foot plates to the required containers in accordance with the governing AWS D1.1 Structural Welding Code
- Standards, codes and guidelines of the Employer.

The Codes and Standard must be read in conjunction with the relevant Codes and Standards given elsewhere in this scope of works. It's the Contractors responsibility to mitigate all arising issues due to conflicting requirements in the reference Codes and Standards. Whenever such a case arises, the most stringent requirement will be adhered to.

2.5. **Description of Work Area**

The Work Area is located on the premises of Rosebel Gold Mines, Brokopondo. Storage area of materials and equipment and supply routes to the work area will be situated on the premises of RGM.

2.6. **Precautions**

Before commencement of any activity at the work area, the Contractor must ensure that no damage can be done to distribution lines, objects, structures, buildings or any other items during execution of any part of the Works. To this end the Contractor shall submit for approval to the Engineer an Operations Scheme which will include the following:

- Description of all locations where materials and equipment are to be stored;
- Description of all routes to and from the Work Area;
- Description of the established (physical or verbally agreed-upon) demarcation of the Work Area.
- All necessary signage (signs, marking-, warning-, caution tape etc.) that will be used to demarcate locations or to increase visibility of objects where extra caution is to be taken.

The Operations Scheme will meet the approval of the Engineer before implementation is to occur. In the event of any damage to any item of RGM due to actions of the Contractor, all incurring costs will be at the expense of the Contractor.

3. HEALTH, SAFETY, ENVIROMENT AND COMMUNITY

Zero harm to Health, Safety, Environment and Community (HSEC) is of utmost importance to FIRM Engineering and the Employer; the same is expected from the Contractor and all parties involved in performance of relevant scope of works. Therefore, all parties must be familiar with, understand and agree to obey the governing procedures in this regard. Contractors must at least comply with the Employer's HSEC requirements. The Contractor is responsible to assure all his personnel has good understanding of and acts in compliance with the valid requirements.

3.1. Contractor's HSE Plan

Contractors shall develop a project-specific HSE plan (including requisite and appropriate forms) which shall be maintained at all times during performance of the Work.

The HSE plan must be submitted to the Engineer for approval prior to implementing. The HSE plan shall at least incorporate valid requirements from the Employer and items mentioned in this Terms of Reference.

The HSE plan shall address the risks specific to the Work and the management and implementation of control measures to eliminate, reduce or mitigate those risks throughout the full lifecycle of the Contract.

As a minimum, the HSE plan shall include the following:

- A project organization chart identifying the HSE responsible person;
- A section identifying any Contractor HSE plans, procedures, rules and working practices to be applied throughout the Contract;
- A description of the HSE reporting and management arrangements.

Works shall be categorized as low, medium or high risk where after the proper HSE requirements are determined. The following Employer requirements are highlighted in this regard.

| # | Contract HSE Requirements | Applicable Instructions | Risk Category | | |
|-----|--|---------------------------------|---------------|----------|----------|
| | | | Low | Medium | High |
| 1. | Legislative compliance | RGM Legislation and regulations | Required | Required | Required |
| 2. | Medical Examination and Physical fitness | See RGM Safety manual | Required | Required | Required |
| 3. | Alcohol and drug testing | See RGM Safety manual | Required | Required | Required |
| 4. | Near miss/Incident reporting and investigation | See RGM Safety manual | Required | Required | Required |
| 5. | First Aid | See RGM Safety manual | Required | Required | Required |
| 6. | Personal Protective Equipment (PPE) | See RGM Safety manual | Required | Required | Required |
| 7. | Public Safety | See RGM Safety manual | Required | Required | Required |
| 8. | Personnel and Equipment Certification | See RGM Safety manual | Required | Required | Required |
| 9. | Sanitary and Hygiene | See RGM Safety manual | Required | Required | Required |
| 10. | Work HSE requirements | See RGM Safety manual | Required | Required | Required |
| 11. | Contractor HSE Management plant | See RGM Safety manual | Required | Required | Required |
| 12. | Emergency Planning | See RGM Safety manual | Required | Required | Required |

Public Safety

For task impacting RGM employees or people in the vicinity, the contract requires that necessary barricades, guards, signs and flagging procedures must be in place for the protection of the RUBiS and contractor employees or in public working areas.

Personnel and Equipment Certification

Contractor must provide proof of certification for all employees and equipment to be used in executing contract. These certifications must be in accordance with RGM Standards and submitted to Project Manager.

Sanitary and Hygiene

Contractor must provide Sanitary and Hygienic facilities at the job site acceptable to RGM.

3.2. Compliance

The Contractor shall ensure safe working conditions for all personnel during the execution of the Works.

Any breach of the HSE requirements shall be deemed by FIRM Engineering/Employer to be a breach of the terms of the contract and shall be entitled to take appropriate action including instructing Contractor to a) remedy the breach, b) suspend the Work or c) terminate the Contract.

FIRM Engineering/Employer reserves the right to suspend the Work or any part thereof without compensation if FIRM Engineering/Employer becomes aware that Contractor is performing Work that is imminently unsafe, in breach of this chapter or otherwise deemed unsafe by FIRM Engineering/Employer for HSE reasons. Before the Work is suspended, FIRM Engineering/Employer shall liaise with Contractor the opportunity to rectify any non-conformances within an acceptable timescale.

Contractor may at any time suspend the Work for HSE reasons; in such event however Contractor shall immediately inform FIRM Engineering/Employer in writing of those reasons and details of actions to be taken before Work can be resumed.

Should any individual Contractor personnel not comply fully with the HSE requirements of the Contract then Contractor shall be expected to apply appropriate disciplinary procedures. FIRM Engineering/Employer in its sole discretion may request any Contractor personnel to be removed from the Work Site on the grounds of failure to comply with Contractor's HSE requirements.

3.3. Legal requirements and regulation

Contractor shall ensure that all activities undertaken in relation to the Works to be done by Contractor comply with applicable requirements and regulations, particularly those relating to the protection of the HSE. Contractor warrants that he is familiar with the contents and implications of all applicable HSE legislation and regulations.

3.4. HSEC Management

Contractors shall ensure that all activities undertaken in relation to the Work by Contractor are carried out in such a manner as to:

- Safeguard the environment;
- Protect the health and safety of all people involved and other stakeholders;
- Protect the property of the Employer, Work Site, Contractor and all third parties.

Contractors must collaborate with FIRM Engineering/Employer to ensure that the roles and responsibilities in Contractors HSE system are clearly defined and allocated and are clearly understood by all parties.

Contractor shall provide sufficient and competent manpower and supervision within the Works Site to manage the HSE aspects of the Work to be undertaken. Contractor shall be responsible for keeping FIRM Engineering/Employer informed of all HSE matters including meetings, activities, initiatives and incidents. In addition, Contractor will adhere to the Employer HSEC requirements, including ensuring that all subcontractors are aware of, and follow the requirements.

3.5. HSEC awareness

Contractor shall be responsible for maintaining and enhancing the HSE awareness of Contractor personnel including arranging regular HSE meetings and participating training/emergency drills organized by FIRM Engineering/Employer or any of the other Contractors on site.

Copies of minutes of Contractors HSE meetings and records of emergency drills shall be sent to FIRM Engineering/Employer upon request. Contractor personnel are required to actively contribute to the HSE meetings and to identify for inclusion in the agenda for an HSE meeting.

3.6. Accident, incident and near miss reporting

Contractor shall have an accident, incident and near miss reporting system which shall be compatible with FIRM Engineering/Employer's reporting and investigation system.

3.7. Safety equipment

Contractor shall at its own expense provide adequate first aid equipment, fire extinguishers and other safety equipment of an approved type and appropriate amount, as may be specified (or expected in accordance with good working practice), in connection with the Work and shall maintain this equipment in a professional manner as indicated by recognized international legal and industry standards. In addition, Contractor shall keep up-to-date records of all said equipment.

3.8. Personal Protective Equipment (PPE)

Contractor shall, at its own expense, supply Contractors personnel with adequate protective clothing and other protective equipment, required in connection with the safe performance of the Work, which shall be maintained in good condition or replaced, and shall be worn on all relevant occasions as indicated by notices, instructions and good practice.

3.9. Housekeeping

Contractors shall ensure that good housekeeping is maintained continuously throughout the duration of the Work with due regard being paid to access ways, disposal of waste and scrap material and general tidiness.

4. CIVIL SCOPE OF WORKS

4.1. General

This scope of works, shall be used as basis for the tender procedure to select a proper Work Contractor. The scope shall be read in conjunction with other information submitted in the Tender Documents including:

the Design Drawings,
the Technical Specifications and
the Price Schedule

Only selected main items to realize the works are described in this Scope of Works and in the aforementioned documents. All other activities reasonably required to realize the design as presented while respecting the Technical Specifications, are deemed to be included in the proposed price and thus in the Accepted Contract Amount. The contractor is expected to include all costs to perform the entire works in his proposal, divided over the selected line items of the Price Schedule.

The activities identified in the relevant works required for the Civil and structural works are described in this section in the following order:

- Mobilization and demobilization
- Temporary construction site facilities
- Earthworks
- Concrete works
- Building drainage system
- Mobilization, stacking and welding of 54 each container

4.2. Duration and Delivery

The entire work shall be fully completed within 35 days (including possible days off). The Contractor shall determine the execution time of the following activities to the Engineer for approval and will be included in the contract.

- Material order and delivery.
- Mobilize equipment and materials
- Prefab footings for container
- Prepare ground/compact/level
- Install footings onsite
- install insitu concrete ramp and edge beam
- mobilize containers to site
- stack containers
- Installation of drains.

4.3. Breakdown of activities

The civil works include in general the following activities:

- Mobilization and demobilization;
- Supply and installation of the temporary construction site facilities;
- Execution of earthworks for:
 - The construction of the concrete footings for containers
 - The installation of the underground PVC conduits;
 - The installation of the drainage system;
 - Install liner
 - Backfill, level and compact to new ground level with gravel 040mm;
 - Any other cut, fill, levelling and compaction works that are required in this project.
- Execution of soil treatment;
- Execution of soil treatment 1 m outside the building over the entire perimeter;

- Backfill and compaction of the foundation;
- Supply and installation of the building drainage system;
 - Construction of the rainwater and collection pits;
 - Supply and installation of the drainage pipe to ditch;
- Supply and installation of concrete edge beam, footing and ramp
- All the works that are necessary to finish the project.

The activities described in the Scope of Works and the materials to be supplied therefore part of the contract. If certain activities and / or materials are not described or mentioned in the Scope of Works and drawings, but apparently belong to the complete handover, these shall be supplied by the Contractor without settlement. If Scope of Works and drawings are mutually contradictory, the Engineer will decide what will prevail.

04.3.1. Mobilization and Demobilisation

Preparation activities to have the Contractor resources and Contractor organisation ready to perform the works and to demobilise the same after successful performance of the scope.

04.3.2. Temporary construction site facilities

The Contractor shall ensure all the temporary site facilities as mentioned below. These facilities shall also be made available for the Sub-contractors and third parties. All costs for making available, managing, coordinating and maintaining these facilities are for the Contractor. A general layout of the construction site with all the facilities shall be submitted by the Contractor. All these facilities shall be removed after the first handover of the project.

04.3.2.1. **Construction site**

The Contractor shall take in the general site layout the following facilities into account:

- Road for light and heavy vehicles.
- Unloading area for materials and equipment
- Pedestrian walkway
- Temporary site drainage
- Construction signs

04.3.2.2. **Temporary technical installation**

Water and power needed for the construction shall be supplied by the contractor in consultation with the Employer. All costs for the request, installation, commissioning and consumption for these temporary facilities are for the account of the Contractor until the first handover of the project.

04.3.2.3. **Storage of materials**

A properly close shed shall be used for the storage of moisture-sensitive materials.

Storage of non-moisture sensitive materials (such as sand, gravels, wood etc.) shall be stored outside the building.

04.3.2.4. **Waste management**

The Contractor is responsible for the waste management on-site during the project. Waste bins, that are easy for disposal, shall be used for construction debris. Separate bins shall be used for household waste and plastic bottles.

04.3.2.5. **Sanitary conveniences**

The Contractor is responsible for temporary sanitary facilities on site.

04.3.2.6. **Emergency**

The Contractor will have at least two first aid kit and an emergency response team on the construction site. A muster point shall be indicated clearly.

04.3.2.7. **Maintenance of the construction site**

The Contractor is responsible for the maintenance of the construction site during the project till the first handover. The Contractor shall ensure good housekeeping at the end of the day.

04.3.3. **Earth works**

04.3.3.1. The Contractor shall execute all the earthworks (cut, fill, levelling and compaction) that are required for the construction of the concrete foundation, the construction of the ground floor, the installation of the drainage system, pavement construction and the new ground level.

04.3.3.2. The Contractor shall supply and install all underground PVC piping for roof water drainage according to the drawings. During the earthworks, the Contractor shall take into account that there will be a minimum of 500 - 600 mm coverage with sand above the underground drainage pipes.

04.3.3.3. Excavated materials shall be moved to a designated stockpile area on the construction site. All excavated materials shall be segregated and material suitable for backfill shall be stored separately. The quality of excavated material to be used for backfill shall be subject to approval by the Engineer. Unsited soil shall be disposed of by the Contractor.

04.3.3.4. Install 0.12mm thick liner on ground level before backfill of crushed stone. Liner may be installed in two layers of 0.06mm.

04.3.3.5. Backfill to the proper elevations shown on the design drawings, shall not commence before inspection and approval by the Engineer. Backfilling and compacting will be done with 0-40mm crushed stone with a depth of 200mm. RGM will deliver approximately 760m³ of 040mm to the construction site.

04.3.3.6. Backfill will be done only for levelling of the construction area. Top layer will be compacted separately with or without the addition of water to obtain the correct moisture content. The degree of compaction shall be measured against modified Proctor values being the maximum density obtained in the laboratory at optimum moisture content using ASTM D1557.

04.3.3.7. Each backfilled layer will be compacted to at least 95% of the maximum density obtained in the laboratory (MDD) at optimum moisture content by test specification ASTM D1557. The average

compaction shall be 98%. If the required values of the field density test are not achieved, the compaction shall be continued until the above-mentioned values have been met.

- 04.3.3.8. The Contractor shall execute at least three field density test per layer per 100 m² showing that the required values are met. The costs of all tests to execute are for the account of the Contractor.
- 04.3.3.9. Ditches and trenches for drainage systems and other utilities shall be closed as quickly as possible. Approval of the Engineer is required before this commences.
- 04.3.3.10. Shall irregularities occur with ground conditions during earthworks on site, the Contractor shall, on the instructions of the Engineer, execute the necessary soil improvement with clean sand. Soil improvements can be settled if the Contractor has been instructed in advance by the Engineer.

04.3.4. Concrete Works

04.3.4.1. **Concrete mortar quality for reinforced concrete works**

- For all the concrete works such as concrete foundation, slabs, beams, columns, walls and floors, concrete quality C20/25 (B25) shall be used according to VB 1990, concrete class 1, cement content min. 350 kg/m³ and consistency area 3.
- The cement to be used shall be approved by the Engineer. Portland cement class A that complies with NEN 3550 shall be used for all the concrete works.
- The Contractor is responsible for the quality test of the concrete and all the cost arising from this.
- At each pour, at least 6 concrete blocks will be made by the Contractor to test the concrete quality on 7, 14, 21 and 28 days.
- At each pour and at each batch, the slump test of the concrete will be checked and approved by the Engineer before the pour will be started.
- The Contractor is responsible for submitting all the concrete test reports to the Engineer

04.3.4.2. **Rebar**

- Rebar FeB 400 and 150kg/m³ shall be used for the reinforced concrete works unless otherwise indicated on the drawings.
- At the request of the Engineer, certificates of the rebar shall be submitted of all the supplied rebar.

04.3.4.3. **Formwork**

- The Contractor shall use new or undamaged plywood for the construction of the concrete works. The seams shall be finished properly after the pour. Any pour breaks shall be determined in consultation with the Engineer. To obtain the required concrete cover and to support the wire mesh, the contractor shall use concrete cover blocks, steel supporters or plastic spacers.
- The Contractor shall take all the required drips, chamfered edges, joints and expansions joints into consideration as indicated on the drawings or by instruction of the Engineer.
- The formwork shall not be removed without approval of the Engineer and only after reaching the applicable compressive strength according to VD1990.

04.3.4.4. **Preparations and Transport of concrete**

- The preparations of concrete in the field can be done in a concrete mixer with a minimum capacity of 0.5 m³. Enough concrete mixer shall be available to proceed with the execution of the concrete works quickly.
- The concrete can also be supplied from a concrete batch plant. The concrete supplier shall be submitted to the Engineer for approval.
- The transport of the concrete shall take place in suitable concrete trucks and shall be processed with suitable equipment and tools.
- Concrete mixes older than 1 hour after water has been added shall not be used for the construction (according to VB1990) unless proper provisions (use of retarders) have been taken.

04.3.4.5. **Concrete processing**

- The pouring of concrete shall not take place without the permission and/or presence of the Engineer. The Engineer shall be informed beforehand by the Contractor about the part of the construction to be poured, in order to check the formwork and reinforcement. Any interruption in pouring will only take place with the approval of the Engineer.
- The concrete shall be compacted mechanically with a needle vibrator or a power screed according to the guidelines for vibrating concrete indicated in NEN 3051

04.3.4.6. **Concrete finish and provision**

- All floors with a flat concrete finish, as indicated on drawings, shall be finished with a power troweling machine; flatness tolerance: 3mm / 2 meters.
- The Contractor shall take all precautions into consideration during the troweling of the floors.
-

04.3.4.7. **The Contractor shall execute reinforced concrete works for:**

- The prefabricated or cast in situ concrete footings
 - The Contractor shall supply 32 pieces prefabricated concrete footings. The Contractor is free to bid for cast in situ piles. All detailed drawings required for a proper execution for cast in situ piles shall be provided by the Contractor. The footings are to be installed to the depth as presented on the design drawings or as instructed by the Engineer.

04.3.5. **Drainage system**

The building drainage system shall be connected to the existing ditch. All the pipes including the fittings shall be of PVC SN4, all in compliance with the KOMO quality certification. The Contractor shall provide the necessary equipment and tools for inspection of the drainage system. A water test shall be executed in order to check the slope, leakage and the outflow speed.

04.3.6. **Mobilization and Stacking of Containers**

There are 54 each 40 ft shipping containers supplied by RGM on the RGM laydown area. The containers shall be transported from the laydown area to the construction site which is approximately 5.5km. Stack containers according drawings.

5. **QUALITY CONTROL**

5.1. **Introduction**

The Contractor is solely responsible for the quality of delivered Works. In subsequent paragraphs the tools will be presented to assist in establishing a method for communication and quality control management of all Works.

5.2. **Quality Control Schedule (QCS)**

Quality control to be performed by the Engineer, will be conducted by means of a QCS with corresponding inspection forms. The QCS is a table stating all tests and inspections to be performed. It will also include a table stating the responsibilities of all relevant parties involved.

An important part of the QCS are the "Hold points" whereby written permission is required from the Engineer for commence of the Works. Furthermore, the table addresses which verification document is required for approval by the Engineer. A verification document is an appendix noting the findings of the Contractor. This document requires the written approval of the Engineer.

It is important to note that the Contractor is required to conduct all inspections, tests and reporting as prove that all Works have been executed in accordance with the Scope of Works. The Contractor is responsible for the administration of all documents.

6.1 Communication Form (CF)

The Communication Form (CF) will be used by the Contractor to make note of all relevant occurrences during the execution of the Works. Proposed variations to the Scope of Works will be submitted through written CF to the Engineer who will either approve or reject said proposal for variation.

Also, any occurrence that may be influential to the progress of the execution of the Works may be brought to the attention of the Engineer by means of the CF.

The CF is designed to promote, streamline and document all communications between Contractor and Engineer. The CF is beneficial in enabling the Contractor to submit any and all queries regarding project execution. Through the CF all communication between Contractor and Engineer is well documented.

CF's are submitted by the Contractor by serial number. An example of a CF is included in the attachments.

5.3. Technical Instruction (TI)

If the Engineer deems it necessary to issue a technical instruction it will do so by means of a Technical Instruction (TI) form. In this TI the technical instruction will be formulated and will be written prove of issuance of said instructions to both the Engineer and the Contractor.

Unlike the CS and the SS, the TI is submitted by the Engineer to the Contractor.

5.4. Specifications Submittal (SS)

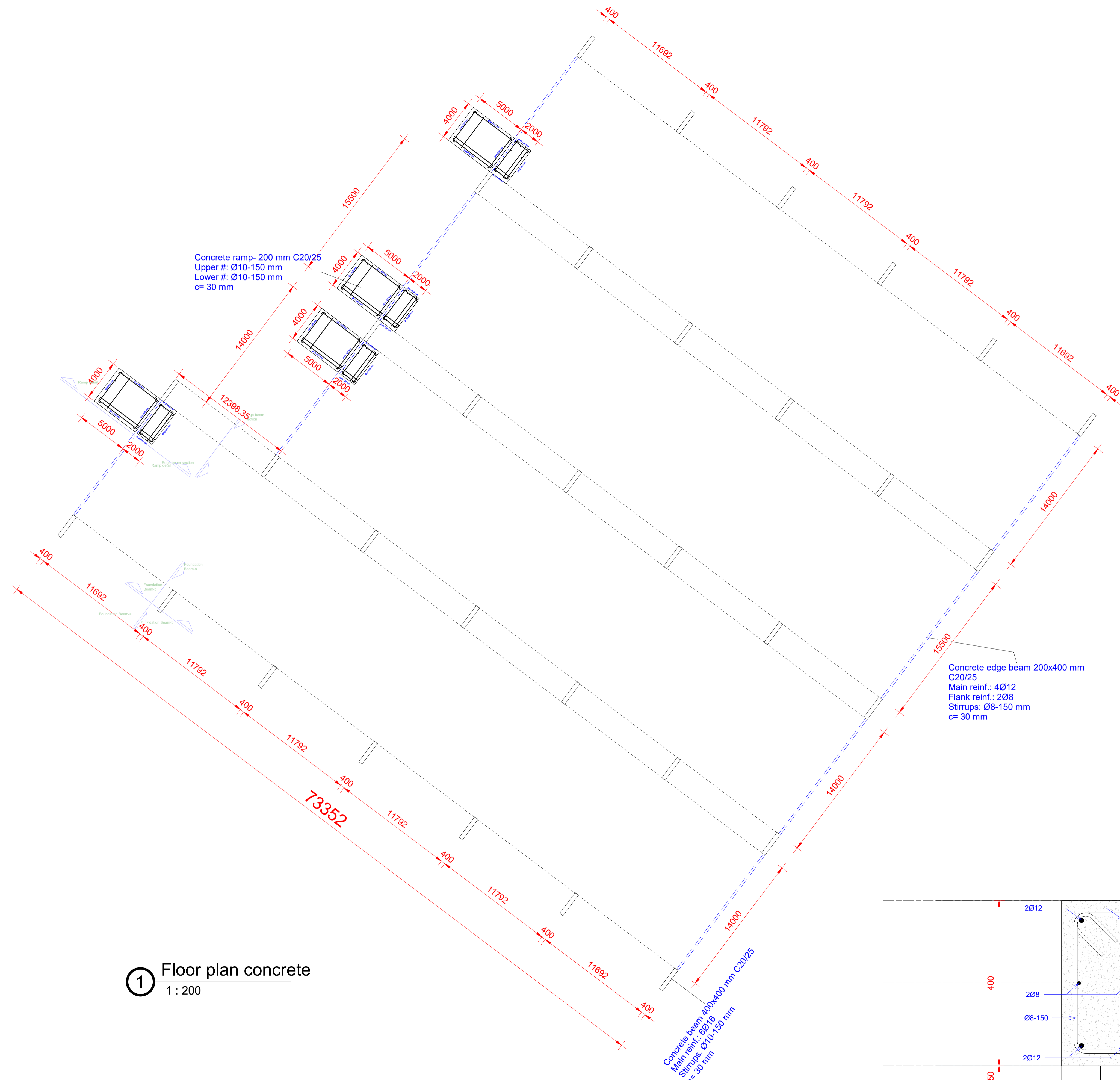
It is the sole responsibility of the Contractor at all times that all used materials comply with the quality requirements set forth in the Scope of Works. Usage of materials will however require pre-approval by the Engineer.

A Specifications Submittal (SS) form will be used by the Contractor to offer materials to be used in the execution of Works. An example of an SS is supplied in the attachments. The SS will be returned by the Engineer with an approval or rejection of the offered materials, after which the Contractor can take appropriate measures: purchase of approved materials or submission of alternative materials in case of rejection.

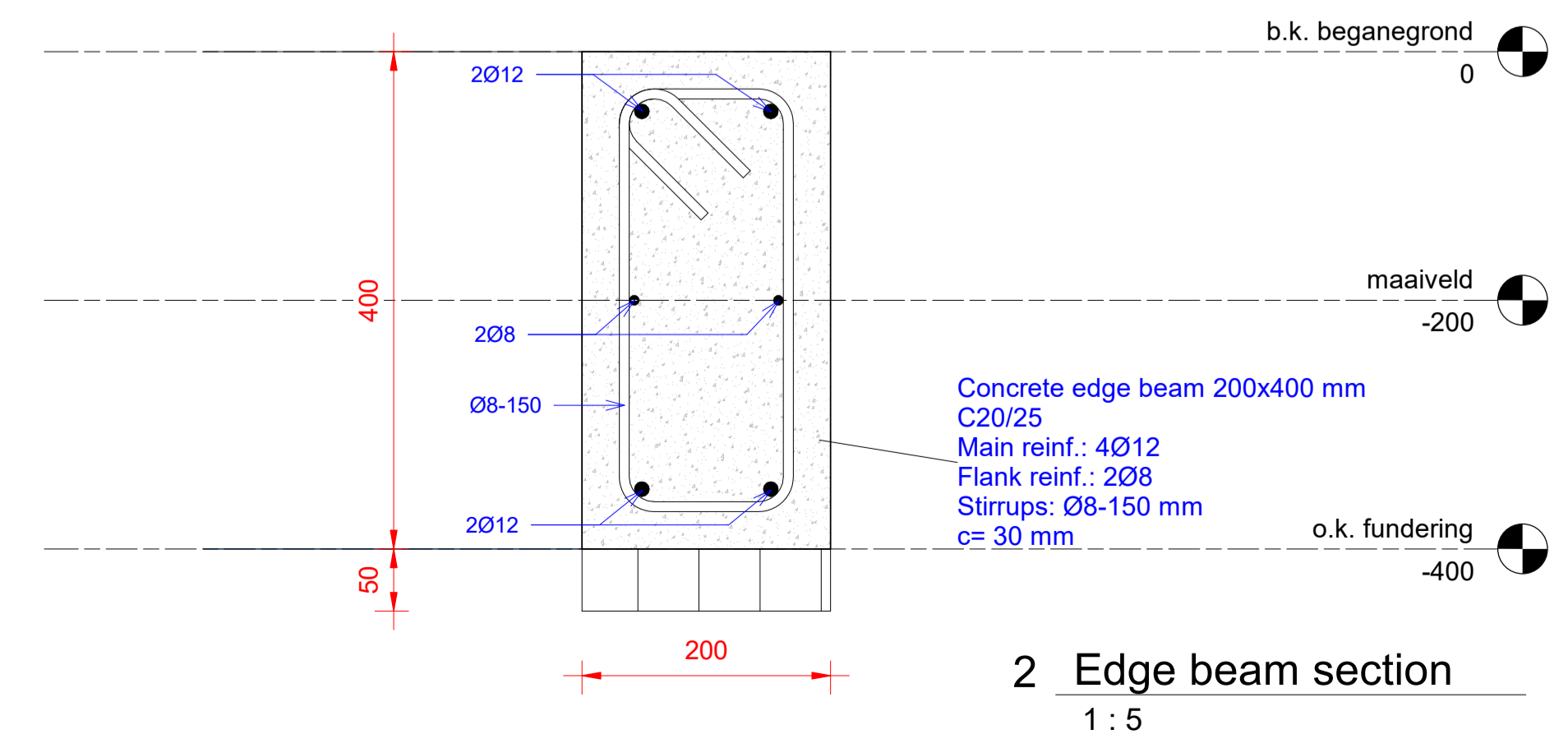
6. ATTACHMENTS

- Design Drawings
- Price Schedule
- Communication Form (example)
- Technical Instruction (example)
- Specifications Submittal (example)

Design Drawings



1 Floor plan concrete
1 : 200



2 Edge beam section
1 : 5

| 200 mm concrete ramp schedule | |
|-------------------------------|----------------------|
| Type | Volume |
| Concrete ramp- 200 mm C20/25 | 22.42 m ³ |

| Concrete beam schedule | |
|--------------------------------------|----------------------|
| Type | Volume |
| Concrete edge beam 200x400 mm C20/25 | 9.42 m ³ |
| Concrete beam 400x400 mm C20/25 | 12.78 m ³ |
| | 22.20 m ³ |

LAYOUT/OVERZICHT

NOTES/NOTITIES

95% soil compaction is mandatory prior to construction

LEGEND/LEGENDA

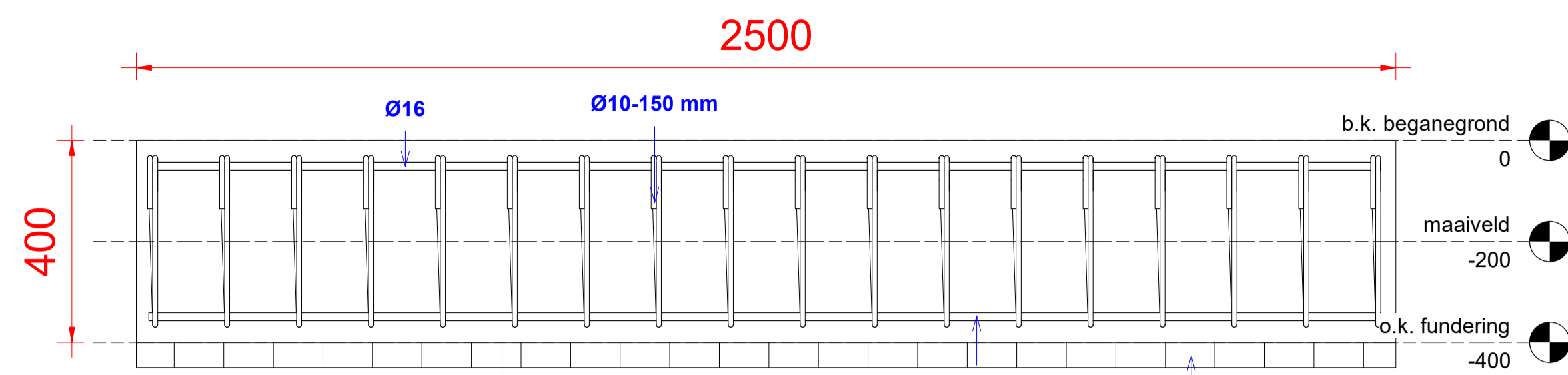
Concrete slab edge 200x400 mm C20/25
Main reinf.: 4Ø12
Flank reinf.: 2Ø8
Stirrups: Ø8-150 mm
c= 30 mm

| | | | |
|---|-----------------------|--|----------|
| 20 juli 2022 | Rev. B - Slab removed | RSH | OSM |
| 19 juli 2022 | Rev. A | RSH | OSM |
| REVISION DATE | DESCRIPTION | DESIGNED | DRAWN |
| REVISIE DATUM | OBSCHRIJVING | TEKENAAR | TREKKEUR |
| | | | |
| FIRM Engineering N.V. Vergoedingstraat 12 Paramaribo, SURINAME WWW.FIRMGOLDENGINEERING.COM | | TEL: 597-402402 FAX: 597-402420 KVK# 42013 | |
| CLIENT/OORZACHTGEVER IAMGOLD Corporation | | | |
| PHASE/FASE | | | |
| Detail Design | | | |
| PROJECT/PROJECT | | UNITS/EENHEID | |
| Ammonium Nitrate Storage | | mm | |
| CONTENTS/TEKENINGNAAM | | SCALESCHAAL | |
| Details - sheet 1 | | PAPER/PAPIER | |
| PROJECT NUMBER/PROJECT NUMMER | | DRAWING NUMBER/TEKENINGNUMMER | |
| 1157-ANS | | A-03 | |

NOTES/NOTITIES

95% soil compaction is mandatory prior to construction

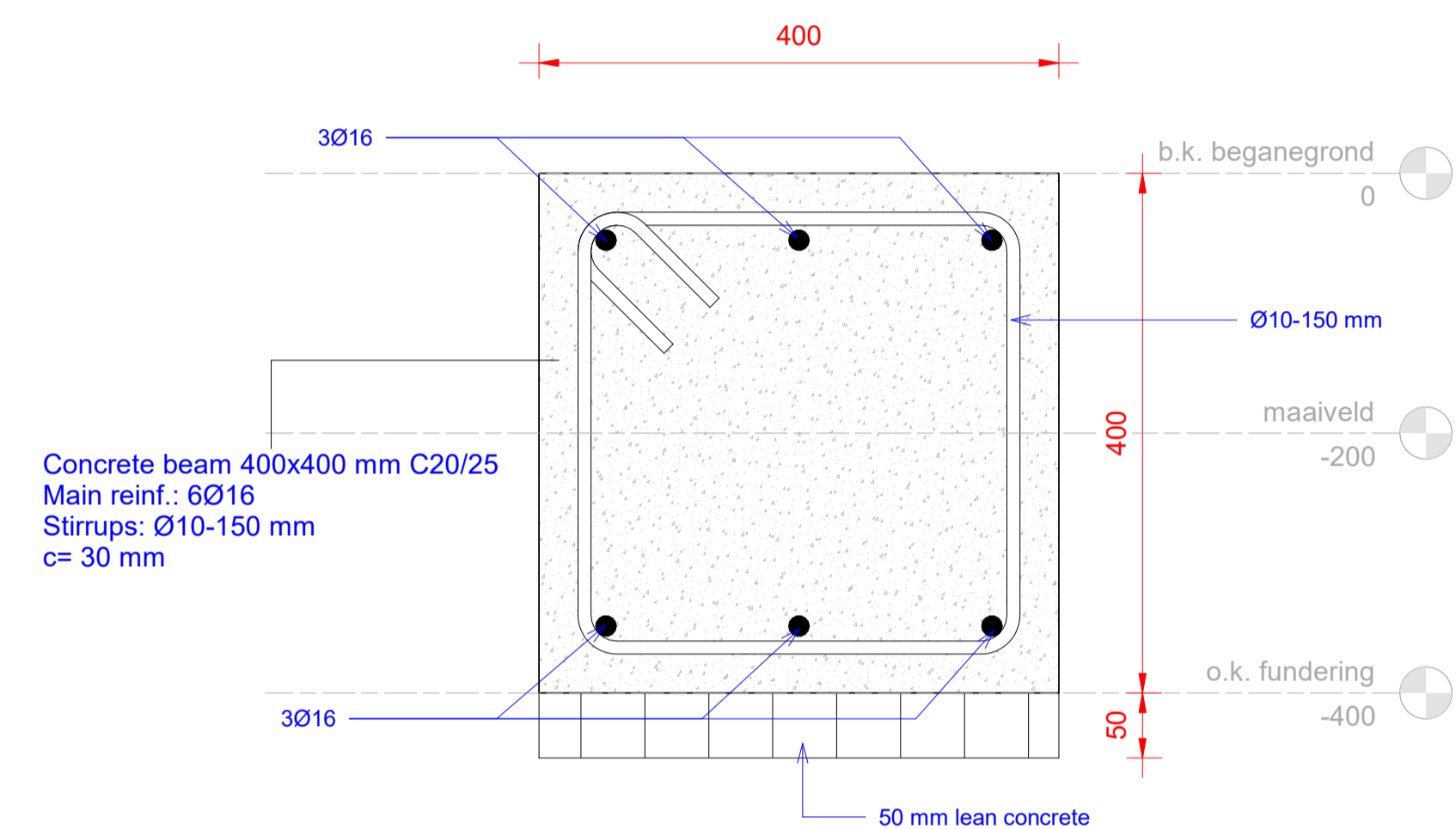
LEGEND/LEGENDA



1 Foundation Beam-a
1:10

Concrete beam 400x400 mm C20/25
Main reinf.: 6Ø16
Stirrups: Ø10-150 mm
c= 30 mm

50 mm lean concrete



2 Foundation Beam-b
1:5

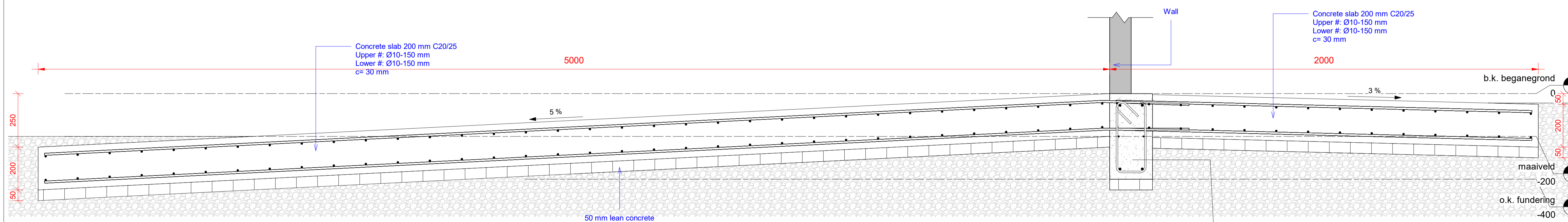
Concrete beam 400x400 mm C20/25
Main reinf.: 6Ø16
Stirrups: Ø10-150 mm
c= 30 mm

50 mm lean concrete

| 400x400 mm concrete beam schedule | | |
|-----------------------------------|----------|-------|
| Type | Volume | Count |
| Concrete beam 400x400 mm C20/25 | 12.78 m³ | 32 |

Outdoor

Indoor



3 Ramp detail
1:10

Concrete slab 200 mm C20/25
Upper #: Ø10-150 mm
Lower #: Ø10-150 mm
c= 30 mm

5000

5%

50 mm lean concrete

Concrete slab 200 mm C20/25
Upper #: Ø10-150 mm
Lower #: Ø10-150 mm
c= 30 mm

2000

3%

Concrete edge beam 200x400 mm
C20/25
Flank reinf.: 2Ø8
c= 30 mm
Main reinf.: 4Ø12
Stirrups: Ø8-150 mm

| | | | |
|--------------|-----------------------|-----|-----|
| 20 juli 2022 | Rev. B - Slab removed | RSH | OSM |
| 19 juli 2022 | Rev. A | RSH | OSM |

| | | | |
|---------------|--------------|----------|--------|
| REVISION DATE | DESCRIPTION | DESIGNED | DRAWN |
| REVISIE DATUM | BESCHRIJVING | ONTWERP | TREKKE |

FIRM Engineering N.V.
Vergoedingstraat 12
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WWW.FIRMGOLDENGINEERING.COM
KRF# 42013

IAMGOLD CORPORATION
CLIENT/OORZACHTGEVER

PHASE/FASE
Detail Design

PROJECT/PROJECT
Ammonium Nitrate Storage

CONTENTS/TEKENINGNAAM
Details - sheet 2

PROJECT NUMBER/PROJECT NUMBER
1157-ANS

DRAWING NUMBER/TEKENINGNUMMER
A-04

UNITS/EENHEID
mm
SCALESCHAL
PAPER/PAPIER
A1

Price Schedule

1157- ANS | Ammonium Nitrate Storage Project

Scope: C-01 Civil Works for AN-Storage

Rev: 0

Date: 19-Jul-22



PRICE SCHEDULE - Topsheet

| Item | Description | Amount |
|------------------------------|--|-------------|
| Civil Works | | |
| Summary of Activities | | |
| 01 | Mobilization and demobilisation | \$ - |
| 02 | Temporary construction site facilities | \$ - |
| 03 | Earth works | \$ - |
| 04 | Concrete works | \$ - |
| 05 | Drainage system | \$ - |
| 06 | Mobilization and stacking of 54 each container | \$ - |
| GRAND TOTAL: | | \$ - |

1157- ANS| Ammonium Nitrate Storage Project

Scope: C-01 Civil Works for AN-Storage



Rev: 0

Date: 19-Jul-22



Price Schedule Civil WORKS

| Item | Description | QTY | unit | rate | Amount |
|--|---|-------|----------------|------|-------------|
| 01 Mobilization and demobilisation | | | | | |
| 01 | 01 Mobilization and demobilization | 100 | % | | \$ - |
| Subtotal: | | | | | \$ - |
| 02 Temporary construction site facilities | | | | | |
| 02 | 01 Construction site | 100 | % | | \$ - |
| 02 | 02 Temporary technical installation | 100 | % | | \$ - |
| 02 | 03 Storage of materials | 100 | % | | \$ - |
| 02 | 04 Sanitary conveniences | 100 | % | | \$ - |
| Subtotal: | | | | | \$ - |
| 03 Earth works | | | | | |
| 03 | 01 Execution of soil treatment including 1 m outside building | 100 | % | | \$ - |
| 03 | 02 deliver and install liner of 0.12mm | 3900 | m ² | | |
| 03 | 03 Backfill and compaction of 040mm crushed stone (760m3) | 100 | % | | \$ - |
| Subtotal: | | | | | \$ - |
| 04 Concrete works | | | | | |
| 04 | 01 Concrete edge beam 200x400 mm C20/25 | 9.42 | m ³ | | \$ - |
| 04 | 02 Concrete beam 400x400 mm C20/25 (32 each) | 12.78 | m ³ | | \$ - |
| 04 | 03 Concrete ramp- 200 mm C20/25 | 22.42 | m ³ | | |
| Subtotal: | | | | | \$ - |
| 05 Drainage system | | | | | |
| 05 | 01 The installation of the underground PVC conduits; | 1 | nos | | \$ - |
| 05 | 02 The installation of the drainage system; | 1 | nos | | \$ - |
| Subtotal: | | | | | \$ - |
| 06 Mobilization and stacking of 54 each container | | | | | |
| 06 | 01 Mobilization and stacking of 54 each container | 1 | nos | | \$ - |
| Subtotal: | | | | | \$ - |
| TOTAL: | | | | | \$ - |

COMMUNICATION FORM (EXAMPLE)

COMMUNICATION FORM (CF)

page 1 of 1

CF #: **101**



RGM Project no.:
 FIRM Project no.: 1157-ANS
 Civil and Structural Works for Ammonium Nitrate
 Storage

Rev. #: **0**

Date:

SUBJECT: XXXXXXXX

In reference to SoW-paragraph: § x.xxx

Inquiry of Contractor: (One query per CF-form)

.....
Proposal for remedial action by Contractor:

Appendices : YES / NO

| | FUNCTION | NAME | SINGNATURE | DATE |
|----------------|----------|------|------------|------|
| Authorisation: | | | | |

Reply date:

Reply/Recommendation

ENGINEER

Appendices: YES/NO

| | FUNCTION | NAME | SINGNATURE | DATE |
|----------------|----------|------|------------|------|
| Authorisation: | | | | |

TECHNICAL INSTRUCTION (EXAMPLE)



| | | | |
|-----------------------------------|------------------------|------------------|-------------------|
| TECHNICAL INSTRUCTION (TI) | | Page: 1 + | |
| | | TI #: 01 | |
| | From: FIRM Engineering | Rev. #: 0 | |
| | To: [Contractor] | Date: | |
| Subject: XXXXXXXXXX | | | |
| | | | |
| Cc: | | FUNCTION | NAME |
| | Authorisation: | | SINGNATURE |

SPECIFICATIONS SUBMITTAL (EXAMPLE)



| | | |
|---|--------------------------------|--|
| RGM Project no.: FIRM Project no.: 1157-ANS Civil and Structural Works for Ammonium Nitrate Storage | Specification Submittal | |
|---|--------------------------------|--|

| | | |
|--|---|----------|
| Submittal Number: ANS-C-01 | | Subject: |
| Rev: | Date | |
| In reference to SoW: | Description | |
| 1157-ANS-SoW-C-01 Rev 0 § x.x | The Contractor has considered the product specifications and hereby states that these are compliant to those required by the Scope of Works, design drawings and specifications. The Contractor requests the Engineer for approval of delivery for the following material/product/item: xxx. | |
| Appendices: | | |
| Name & signature of contractor: | | Date: |

| REPLY TO SUBMITTED SPECIFICATION SUBMITTAL | | |
|--|--------------|---------------------------|
| SUPERVISION | | EMPLOYER |
| | | (optional) |
| ACTION CODE: | Action date: | Signature of Supervision: |

Action codes A - Approved; B – Conditional Approval; Improved Resubmittal Required; C – Approval Denied