



INDEPENDENT DEVELOPMENT TRUST

BID DOCUMENT

FOR

COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION: CLUSTER: 3F – ESIGODLWENI JSS & NOZAYI SPS

BID No.: DoEEC/05/2021

**PROJECT No.: DBE01ECAR040 &
DBE01ECAR021**

CLIENT:

INDEPENDENT DEVELOPMENT TRUST
Palm Square Business Centre
Silverwood House
Bonza Bay Road
Beacon Bay
EAST LONDON

Tel: 043 711 6000

PRINCIPAL AGENT:

BOSCH PROJECTS PTY LTD
57 Western Avenue
Vincent
EAST LONDON

Tel: 043 721 1717

NOVEMBER 2021

NAME OF BIDDER :

CRS No. :

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ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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TENDER NO: DoEEC05/2021

RESPONDENTS INFORMATION SHEET

*This form **MUST** be filled in by all respondents to this Tender*

Name of Organisation / Joint Venture / Consortium	
Physical Address	
Postal Address	
Contact Name	
Telephone Number	
Fax Number	
Cell Number	
Email Address	

TENDER DOCUMENT CHECKLIST

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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Tenderers must complete this document checklist to ensure that all information is completed in the Tender Document.

ITEMS	CHECKED
1) Correct Tender Offer of Amount carried forward to Form of Offer and Acceptance in Section C1	
2) All pages requiring signatures signed by Tenderer	
3) Bills of Quantities	
i) Section Summaries and Final Summary Completed in BLACK INK	
ii) Corrections crossed out and initialled	
4) All returnable Documents and Schedules submitted	
T2.1.A: Central Supplier Database Registration Report.	
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THE TENDER

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THE TENDER: PART 1:
TENDERING PROCEDURES

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T1.1: TENDER NOTICE AND INVITATION TO TENDER

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
CLUSTER: 3F- ESIGODLWENI JSS & NOZAYI SPS
TENDER NO: DoEEC05/2021



INDEPENDENT DEVELOPMENT TRUST

BID NOTICE NO: DOEEC/05/2021: 19 NOVEMBER 2021

NOTE: BID CLOSING ON TUESDAY, 11 JANUARY 2022 @ 11:00

The Independent Development Trust (IDT) on behalf of the Department of Basic Education (DBE) hereby invites prospective service providers to submit bids for the completion of water supply construction works on the projects in the Eastern Cape Province as listed on the table below:

CIDB tender value range grading as reflected in the Register of Contractors will be used as indicated below:

Name of Cluster	Name of Projects	Town	IDT Project Number	EMIS Number	CIDB Grading	Compulsory Site Inspection Meeting	Principal Agent
3F	Esigodlweni JSS 29,69514 -31,04528 Nozayi JSS 29,42332 -31,04528	Lusikisiki Lusikisiki	DBE01ECAR040 DBE01ECAR021	200500211 200500944	3CE/G B or higher	Not Applicable	Andre Naude Bosch Projects 043 721 1717

No Compulsory Site Inspection Meeting will take place because of Covid-19 Regulations. Bidders are advised to go and view the site on their own time to assess site conditions. A Zoom meeting will be held on Friday 26 November 2021 at 10:00 am for any queries relating to this tender. The link for the Zoom meeting is as follows: Meeting ID: 940 4567 5008 Passcode: 949712

Join Zoom Meeting

<https://idt-org-za.zoom.us/j/94045675008?pwd=WjUxckwwTC9jNGVOSEk1eIJyR1dBZz09>

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Bid Documents which must be completed and submitted are available for download on IDT website: www.idt.org.za/business-opportunities/current-tenders or National Treasury eTender on: www.treasury.gov.za from Monday 22 November 2021. Due to COVID 19, no bid documents will be sold. All documents must be downloaded and printed by the bidders from the abovementioned sites.

Bidders shall meet the following compulsory requirements before being evaluated further on functionality, price and B-BBEE:

Mandatory Requirements/Documents:

1. Valid copy of a Letter of Good Standing (Workman's Compensation, COIDA) or FEM Letter of Good Standing; If a Joint Venture then all partners must submit the Compensation for Occupational Injuries and Diseases Act (COIDA) Registration Certificate.
2. Fully Completed and Signed Standard Bidding Documents
 - Invitation to Bid (SBD 1)
 - Declaration of Interest (SBD 4)
 - Preference Points Claim Forms (SBD 6.1)
 - Local Production and Content (SBD 6.2) (including all the annexures C. Bidders must return Annexure C. All blanks spaces must be completed. Bidders to indicate items that are not applicable.)
 - Declaration of Bidder's Past Supply Chain Management Practices (SBD 8)
 - Certificate of Independent Bid Determination (SBD 9)
3. Proof of National Treasury (NT) Central Supplier Database (CSD) report (Joint Ventures must submit CSD Registration for JV or for both JV partners)
4. Signed and duly completed Original Certificate/Affidavit of Authority for Signatory
5. Signed Joint Venture or consortium Agreement Between Parties showing project sharing percentage (where applicable)
6. Proof of valid and active CIDB grading designation certificate (Joint Ventures must submit valid and active consolidated CIDB grading registration certificate)
7. Record of Addenda to the tender document
8. Fully completed Signed Form of Offer and Acceptance
9. Fully priced and completed Bills of Quantities, Electrical and Mechanical Installations (in INK), inclusive of Preliminaries completed in a split format (e.g. Time related, Value related & Fixed) (original IDT document)

NB: Failure to comply with any of the above-mentioned requirements will result in automatic disqualification of the bid response.

Non-Mandatory Returnable Documents:

1. B-BBEE Certificate (Original/Original Certified Copy)
2. Tax Compliance Letter with a unique pin
3. A detailed CIPC document with all the original certified (not older than 3 months) ID's of all directors listed in CIPC.

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Local Production and Content (SBD 6.2)

1. Bidders are hereby notified that the minimum threshold for local production and content for steel construction materials is tabulated below. Bidders are to identify components relevant for the scope of work bidding for.

Steel Construction Materials	Components	Local Content Threshold
Fabricated Structural Steel	Latticed steelwork, reinforcement steel, columns beams, plate girders, rafters, bracing, cladding supports, stair stringers & treads, ladders, steel flooring, floor grating, handrailing & balustrading, scaffolding, ducting, gutters, launders, downpipes and trusses	100%
Joining / Connecting Components	Gussets, cleats, stiffeners, splices, cranks, kinks, doglegs, spacers, tabs and brackets	100%
Frames	Doors and Windows	100%
Roof and Cladding	Bare steel cladding, galvanised steel cladding, colour coated cladding	100%
Fastners	Bolts, nuts, rivets and nails	100%
Wire Products	All fencing products: all barbed wire and mesh fencing, fabric/mesh reinforcing, gabions, wire rope/strand and chains, welding electrodes, nails/tacks, spring and screws	100%
Ducting & Structural Pipework	Non-conveyance tubing fabricated from steel sheeting and plate with structural supports	100%
Gutters, downpipes & launders	Fabricated materials made from sheeting associated with roof drainage systems	100%

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2. Bidders are further notified that bids in respect of steel and components for construction must contain a specific bidding condition which states that:

2.1 Only locally produced or locally manufactured steel products and components for construction with a stipulated minimum threshold for local production and content will be considered.

2.2 If the quantity of steel products and components for construction required cannot be wholly sourced from South African (SA) based manufacturers and/or at the designated local content threshold stipulated in the above table at any time, bidders and the procuring entities should obtain a written exemption from the DTI. The DTI, in consultation with the procuring organ of state and the local industry, will consider the exemption applications on a case-by-case basis.

2.3 Bidders must clearly indicate in their bids the quantities to be supplied and the level of local content for each product.

3. The exchange rate to be used for the calculation of local production and content must be the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date of advertisement of bid; and only the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 must be used to calculate local content.

4. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the formula disclosed in SBD 6.2 inserted in the bid document

Preferences are offered to Tenderers who have a proven track record in the building industry with special emphasis on similar facilities. Only Tenderers who are competent in the advertised work, will be evaluated on an 80/20 criteria based on the Treasury Regulations of 2017, where functionality will be evaluated as follows:

Criteria Points Allocation
Evaluation Criteria

STAGE 1 – Functionality –

Bidders are to obtain a minimum of 60 points of the total functionality points to be considered for the next stage

Functionality area	Points
Capacity to Deliver	20
Previous Experience	40
Capability: Resources	30
Programme Schedule	5
Project Specific OHS	5
Total	100 Points

**ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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DESCRIPTION OF FUNCTIONALITY FOR ALLOCATION OF POINTS:

- 1. Capacity to Deliver (20 points)**
 - A. Current Commitments (10 points)
 - B. Plant (10 points)
- 2. Previous Experience: Project Specific Track Record (40 points)**
 - A. Track Record (15 points)
 - B. References (25 points)
- 3. Capability Resources: Qualification and Competencies (30 points)**
 - A. Capability Resources (5 points)
 - B. Qualification and Key Staff (15 points)
 - C. Years of Experience (10 points)
- 4. Programme Schedule (5 points)**
- 5. Project Specific OHS (5 points)**

STAGE 2 – Price and B-BBEE –

In order to claim and be awarded B-BBEE points, Bidders must submit fully completed Preference Points Claim Forms (SBD 6.1) with an original or an original certified copy of B-BBEE certificate (not older than 3 months), issued by SANAS or Accredited Verification Agency or an original Sworn Affidavit signed by a Commissioner of Oaths and Joint Ventures (JV) must submit an original certified copy of a consolidated B-BBEE Status Level Contributor Certificate obtained from SANAS Accredited Verification Agency, no consolidated Sworn Affidavit will be considered. (Note - An incomplete affidavit will not be acceptable, Sworn Affidavits for EME's and QSE's must be originals. No copies of affidavits will be accepted for claiming B-BBEE points)

(Failure to submit will render Bidder scoring Nil points in this regard)

B-BBEE points are allocated as follows:

Price	80 points
B-BBEE Status Level Contributor	20 points
TOTAL	100 points

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Allocation of points for B-BBEE Status Level Contributor:

B-BBEE Status Level Contributor	Points
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-contributor	0

Bidders that do not get a positive response from the IDT within a period of **90** days from the closing date, should understand that their Bids have not been successful.

For enquiries, please contact:

PROVINCE	CLUSTER	CONTACT PERSON FOR ENQUIRIES	CONTACT NUMBERS	EMAIL ADDRESSES
Eastern Cape				
	3F	Andre Naude (Technical)	043 721 1717 Bosch Projects	naudea@boschprojects.co.za
		Mamikie Mashele (SCM)	015 295 0000 IDT	MamikieM@idt.org.za

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COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
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TENDER NO: DoEEC05/2021**

DEPOSIT/RETURN OF BID DOCUMENTS:

- Telegraphic, telephonic, telex, facsimile, electronic and/or late bids will not be accepted
- Requirements for sealing, addressing, delivery, opening and assessment of bids are stated in the Bid Data document
- All bids must be submitted on the official forms - (not to be re-typed)
- Bids will not be opened in public

BID DOCUMENTS MAY BE	OR	DEPOSITED IN THE BID BOX AT:
POSTED TO:		
N/A		INDEPENDENT DEVELOPMENT TRUST, PALM SQUARE BUSINESS PARK, SILVERWOOD HOUSE, BONZA BAY ROAD, BEACON BAY, EAST LONDON

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SDB 1

1. PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)					
BID NUMBER:	DoEEC05/2021	CLOSING DATE:	11 JANUARY 2022	CLOSING TIME:	11:00
DESCRIPTION	ASIDI- WATER SUPPLY PROJECT IN THE OR TAMBO REGION: CONTRACT 3F ESIGODLWENI JSS & NOZAYI SPS				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
Independent Development Trust					
Palm Square Business Park					
Silverwood House, Bonza Bay Road					
Beacon Bay 5241					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON	Mamikie Mashele		CONTACT PERSON	MIS T MEMANI	
TELEPHONE NUMBER	(015) 295 0000		TELEPHONE NUMBER	043 721 1717	
FACSIMILE NUMBER			FACSIMILE NUMBER	043 721 1719	
E-MAIL ADDRESS	MamikieM@idt.org.za		E-MAIL ADDRESS	Memanit@boschprojects.co.za	
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	TICK APPLICABLE BOX] ☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		[TICK APPLICABLE BOX] ☐ Yes ☐ No
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
1 ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		2 ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?		☐ Yes ☐ No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?					☐ YES ☐ NO

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DOES THE ENTITY HAVE A BRANCH IN THE RSA?	☐ YES ☐ NO
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	☐ YES ☐ NO
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	☐ YES ☐ NO
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	☐ YES ☐ NO

IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.

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2. PART B
TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED– (NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, GENERAL CONDITIONS OF CONTRACT 2015 (GCC 2015) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
- 1.4. **THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A GCC CONTRACT.**

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
- 2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:

.....

(Proof of authority must be submitted e.g. company resolution)

DATE:

.....

T1.2 STANDARD CONDITIONS OF TENDER

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
CLUSTER: 3F– ESIGODLWENI JSS & NOZAYI SPS
TENDER NO: DoEEC05/2021

Project title:	ASIDI WATER AND SANITATION PROGRAMME: COMPLETION OF WATER PROJECTS CLUSTER: 3F – ESIGODLWENI JSS& NOZAYI SPS		
Tender No:	DoEEC05/2021		
Invitation date:	15 November 2022	Closing date:	11 January 2022
Closing time:	11:00	Validity period	90 days

T1.2 STANDARD CONDITIONS OF TENDER

Clause number (refer to Annex C)	Wording
C.1	GENERAL
C.1.1	Actions
C.1.1.1	The Independent Development Trust as the employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.
C.1.1.2	The Independent Development Trust and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate. <i>Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.</i> <i>2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.</i>
C.1.1.3	The Independent Development Trust shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with and complete the contract within the stipulated completion time. Failure to complete will result in penalties being applied and tendered being blacklisted with CIDB and National Treasury.
C.1.2	Tender documents The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

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C.1.3	Interpretation
C.1.3.1	The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.
C.1.3.2	These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.
C.1.3.3	For the purposes of these conditions of tender, the following definitions apply: a) conflict of interest means any situation in which: i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially; ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee. b) comparative offer means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration; c) corrupt practice means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; d) fraudulent practice means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;
C.1.4	Communication and Employer's Agent Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated below: The employer's representative is (Principal Agent): Bosch Projects (PTY) LTD 57 Western Avenue Vincent East London 5247 Email: memanit@boschprojects.co.za Project Director : Andre Naude Assistant Project Manager: Thabisa Memani

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C.1.5	Cancellation and re-invitation of tenders
C.1.5.1	An employer may, prior to the award of the tender, cancel a tender if a. due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation; b. funds are no longer available to cover the total envisaged expenditure; or c. no acceptable tenders are received. d. there is a material irregularity in the tender process.
C1.5.2	The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised
C1.5.3	An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.
C.1.6	Procurement procedure
C.1.6.3	Proposal procedure using two stage system - Not applicable.

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C.2	TENDERER'S OBLIGATIONS
C.2.1	Eligibility Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to 3 or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a 3 CE/GB Civil Engineering/General Building class of construction work or higher, are eligible to have their tenders evaluated. Please note that your registration should be valid on the day of evaluation as well as on the day of award. Joint ventures are eligible to submit tenders provided that: - every member of the joint venture is registered with the cidb; - the lead partner has a contractor grading designation in the 3 CE/3GB Civil Engineering/General Building or higher class of construction work; or not lower than one level below the required grading designation in the class of works construction works under considerations and possess the required recognition status. - Contractor can only submit one tender per cluster as a joint venture partner or individual company, not both. The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 3CE / 3GB Civil Engineering/General Building or higher class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.
C.2.4	Confidentiality and copyright of documents Bidder to treat confidential all matters arising in connection with the bid. Use and copy the documents issued by The Independent Development Trust only for the purpose of preparing and submitting a bid offer in response to the invitation.
C.2.5	Reference documents Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.
C.2.6	Acknowledge addenda Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.
C.2.7	Briefing meeting No Compulsory Site Inspection Meeting will take place because of Covid-19 Regulations. Bidders are advised to go and view the site on their own time to assess site conditions. A Zoom meeting will be held on Friday 26 November 2021 at 10:00 am for any queries relating to this tender. The link for the Zoom meeting is as follows: Meeting ID: 940 4567 5008 Passcode: 949712 Join Zoom Meeting

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	https://idt-org-za.zoom.us/j/94045675008?pwd=WjUxckwwTC9jNGV0SEk1eJYr1dBZz09 Bid Documents which must be completed and submitted are available for download on IDT website: www.idt.org.za/business-opportunities/current tenders or National Treasury eTender on: www.treasury.gov.za from Monday 22 November 2021. Due to COVID 19, no bid documents will be sold. All documents must be downloaded and printed by the bidders from the abovementioned sites.
C.2.8	Seek clarification Tenderers should request clarification of the tender documents, if necessary, by notifying the Employer's Representative indicated in the Tender Notice and Invitation to Tender in writing at least five working days before the closing time stated in the tender data.
C.2.9	Insurance The Independent Development Trust accepts that the submission of a Tender shall be constructed as an acknowledgment by the Tenderer that she/he will provide her/his own insurance for this contract to safe guard the works against damages and the public injuries, diseases etc.
C.2.10	Pricing of tender offer
C.2.10.3	Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data
C.2.11	Alterations to documents Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

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C.2.13	Submitting a tender offer
C.2.13.1	Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.
C.2.13.2	Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.
C.2.13.3	Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.
C.2.13.4	Sign the original of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.
C.2.13.5	Seal the original tender offer marking the as "ORIGINAL" Tender shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
C.2.13.6	Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
C.2.13.7	Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
C.2.13.8	Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
C.2.13.9	Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.
C.2.14	Information and data to be completed in all respects
	Accept that tender offers, which do not provide all the data or information requested completely and, in the form, required, may be regarded by the employer as non-responsive
C.2.15	Closing time
	The closing time for submission of tender offers is: Tuesday, 11 January 2021 @ 11:00

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C.2.16	Tender offer validity The Tender Offer validity period is 90 days “If the tender validity expires on a Saturday, Sunday or public holiday, the Tender Offer shall remain valid and open for acceptance until the closure of business on the following working day.” The validity period may be extended in writing by the Employer.
C.2.17	Clarification of tender offer after submission Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted. Note: <i>Sub-clause C.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.</i>
C.2.18 C.2.18.1 C.2.18.2	Provide other material Provide, on request by the employer, any other material or equipment that has a bearing on the tender offer, the tenderer’s commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer’s request, the employer may regard the tender offer as non-responsive. Dispose of samples of materials provided for evaluation by the employer, where required.
C.2.19	Inspections tests and analysis The Tenderer must provide access during working hours to his premises for inspections on request.
C.2.20	Submit securities, bonds and policies If requested, submit for the employer’s acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

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C.3	THE EMPLOYER'S UNDERTAKINGS
C.3.2	Issue addenda If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents
C3.3	Return late tender offers Late tenders will not be returned.
C3.4	Opening of Tender submissions
C3.4.1	Unless the two-envelope system is to be followed, open valid Tender submissions in the presence of Tenderers' agents who choose to attend at the time and place stated in the Tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.
C3.4.2	Announce at the public meeting held immediately after the opening of Tender submissions, at a venue indicated in the Tender data, the name of each Tenderer whose Tender offer is opened, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only. Make available the record outlined in C.3.4.2 to all interested persons upon request.
C.3.8	Test for responsiveness
C.3.8.1	Determine, after opening and before detailed evaluation, whether each tender offer properly received: a) complies with the requirements of these Conditions of Tender, b) has been properly and fully completed and signed, and c) is responsive to the other requirements of the tender documents.
C.3.8.2	A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would: a) Detrimentially affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work, b) Significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or c) Affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

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	Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.
C.3.9	Arithmetical errors, omissions and discrepancies
C.3.9.1	Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.
C.3.9.2	Check the tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for: a) the gross misplacement of the decimal point in any unit rate; b) omissions made in completing the pricing schedule or bills of quantities; or c) arithmetic errors in: (i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or (ii) the summation of the prices.
C.3.9.3	Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.
C.3.9.4	Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows: a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected. b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.
C.3.10	Clarification of a Tender offer
	Obtain clarification from a Tenderer on any matter that could give rise to ambiguity in a contract arising from the Tender offer.

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C.3.11	Evaluation of tender offers The tenders will be evaluated for responsiveness, price and preference. Apply the 80/20 Preference Point system where a maximum of eighty (80) points will be awarded for price and twenty (20) points will be awarded for B-BBEE. After price and preference have been scored, arithmetic check and a risk assessment will be conducted for those tenderers that are responsive. The Independent Development Trust is obligated to undertake risk assessment before accepting offers. In doing the risk assessment the following must be considered. 1. Employer is restricted in accordance with clause 4.(4) of the Construction Regulations, 2014, to only appoint a Contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely. 2. Employer is obligated by standards of uniformity to tender to evaluate if the Contractor can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract; In this contract the risk assessment will be conducted in relation to the key areas below: • Technical qualifications & Technical Competence The bidder to submit CV's and original certified qualifications, with certification date being within a period of 6 months on the date of closing bids; of the following key personnel: • Project Manager/Contracts Manager • Site Agent • Foreman • OHS officer If a company does not meet the above minimum requirements it will be considered high risk. • Capacity Current project under construction and locality of projects. If a company has more than 5 projects, it will be considered a risk after taking into consideration of current projects status and performance. • Reliability Completed at least five projects with each project having similar scope of works and value. If a company has completed less than 5 projects over the period stipulated it will be considered a high risk and It will not be passing the risk assessment.
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	• Experience and reputation At least three contactable references from three reputable organisations on similar water infrastructure projects completed (Final Completion) in the past 5 years (E.g. Implementing Agents, Municipalities and Provincial/National Government etc) If a company has less than 3 contactable references it will be considered a high risk and it will not be passing the risk assessment. • Commercial Risk and Financial resources Price offered does not pose risk to completion of the project and is market related. It will not detrimentally affect the scope, quality, time of completion of the works as identified in the Scope of Work.
	An offer that is considered to be significantly low compared to the market related price/cost norm will be considered a high risk. • Construction Implementation Plan (Brief report) A construction implementation plan must be developed to address the following “ • Human resource deployment (Contracts manager/ OHS officer/Skilled labour/unskilled labour etc) and number to be employed, and their role and responsibilities on the project. • Materials procurement plan (Which materials will procure, How, where and when will the materials be procured to support the construction programme. • How will the health and safety be implemented, managed and monitored? (COVID 19 regulations) • What plant and equipment will be used and how will they be sourced and from where? • How will quality control and assurance be managed. • Detailed Construction programme • Cash flow projections to support the detailed construction programme. A sound plan that covers all of the above key areas and is based on known information will be considered to be less of a risk. A plan that does not cover all the areas and is less detailed will be considered a high risk. Contractor may be called in to present the plan and they must be accompanied by the key staff indicated above on item 1. As part of risk assessment, the Bidders give The Independent Development Trust the right to request for enquiries from previous and/or current employers about bidder's performance
C.3.12	Insurance provided by the employer The Employer will not take out any insurance.

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C.3.13	Acceptance of tender offer Accept the tender offer; if in the opinion of the employer, it does not present any risk and only if the tenderer: a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement; b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract; c) has the legal capacity to enter into the contract; d) complies with the legal requirements, if any, stated in the tender data; and e) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.
	Add the following: A Tender Offer will only be accepted on condition that such acceptance is not prohibited in terms of the Public Finance Management Act.
C.3.14 C.3.14.1	Prepare contract documents If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the Tender documents to take account of: a) Addenda issued during the Tender period, b) Inclusion of some of the returnable documents, c) Other revisions agreed between the employer and the successful Tenderer. d) Complete the schedule of deviations attached to the form of offer and acceptance, if any.
C.3.15	Complete adjudicator's contract Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.
C.3.17	Provide copies of the contracts One signed copy of contract shall be provided by the Employer (per cluster) to the successful Tenderers. For record purposes the contractors should buy a copy of the contract for use as reference during contract administration.

T1.3 TENDER DATA

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T1.3 TENDER DATA

1. GENERAL

The Conditions of Tender in Section T1.2 are the **Standard Conditions of Tender** as contained in Annex C of CIDB Standard for Uniformity in Construction Procurement (August 2019). This standard is issued in terms of sections 4(f), 5(3)(c) and 5(4)(b) of the Construction Industry Development Board Act 38 of 2000 read with Regulation 24 of the Construction Industry Development Regulations, 2004 (as amended) issued in terms of section 33.

The Tender Data shall be read with the Standard Conditions of Tender in order to expand on the Tenderer's obligations and the Employer's undertakings in administering the Tender process in respect of the project under consideration.

The Standard Conditions of Tender make several references to the tender data for details that apply specifically to this tender.

The tender data shall have precedence in the interpretation of any ambiguity or inconsistency between the tender data and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of tender to which it mainly applies.

2. TENDER DATA APPLICABLE TO THIS TENDER

C1.1.1 The Employer for this Contract is : Independent Development Trust (IDT)

C.1.2 Tender Documents

(a) **The Tender Documents** issued by the Employer consist of the following:

TENDER

Part 1 (T1) : Tendering Procedures

T1.1 : Tender Notice and Invitation to Tender
T1.2 : Standard Conditions of Tender Annex C
T1.3 : Tender Data

Part 2 (T2) : Returnable Documents

T2.1 : List of Returnable Documents
T2.2 : Returnable schedules and forms

CONTRACT

Part 1 (C1) : Agreements and Contract Data

C1.1 : Form of Offer and Acceptance
C1.2 : Contract Data
C1.3 : Performance Of Guarantee
C1.4 : AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993)
C1.5 : ADJUDICATION BOARD MEMBER AGREEMENT
C1.6 : IDT BENEFICIARY RECONCILIATION FORM (BRF)

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Part 3 (C3) : Scope of Work

- C3.1 : Description of the Works
- C3.2 : Construction Specifications

Part 4 (C4) : Site Information

- C4.1 : Site locality plan

Part 5 (C5) : Annexure

- C5.1 : Construction Health & Safety Specification
- C5.2 : Environmental Management Plan
- C5.3 : Drawings

- (b) **“The General Conditions of Contract for Construction Works”** – 2015 as published by the South African Institution of Civil Engineering. This publication is available and tenderers must obtain copies at their own cost from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: civilinfo@saice.org.za.
- (c) **THE “STANDARD SPECIFICATION FOR CIVIL ENGINEERING CONSTRUCTION” SANS 1200.** This document is obtained separately and tenders shall obtain their copies at their own cost from the SANS offices, Private Bag X 191, Pretoria, 0001. Tel no. (012) 428 6883, Fax (012) 428 6928, email: info@SANS.co.za
- (e) **The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations 2003 (Government Gazette No 25207 of 18 July 2003, Notice No R1010).** This document is obtainable separately, and Tenderers shall obtain their own copies.

Bid Documents which must be completed and submitted are available for download on IDT website: www.idt.org.za/business-opportunities/current-tenders or National Treasury eTender on: www.treasury.gov.za from Monday 22 November 2021. Due to COVID 19, no bid documents will be sold. All documents must be downloaded and printed by the bidders from the abovementioned sites.

C.1.4 The Employer's agent is:

Company : Bosch Projects(Pty) Ltd
Name : Andre Naude / Simbongile Mdutyulwa
Address : 57 Western Avenue
: Vincent
: East London
: 5247

Tel : 043 – 721 1717
Fax : 043 – 721 1719

E-mail address : naudea@boschprojects.co.za memanit@boschprojects.co.za

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C.2.1 Eligibility

A Tenderer will not be eligible to submit a Tender if:

- (a) the Contractor submitting the Tender is under restrictions or has principals who are under restriction to participate in the Employer's procurement due to corrupt or fraudulent practices;
- (b) the Tenderer does not have the legal capacity to enter into the contract;
- (c) the Contractor submitting the Tender is insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of the foregoing;
- (d) The Tenderer does not comply with the legal requirements stated in the Employer's procurement policy;
- (e) The Tenderer cannot demonstrate that he possesses the necessary professional and technical qualifications and competent, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract;
- (f) The Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract.

Only those Tenderers who are registered with the Construction Industry Development Board, or are capable of being so registered within 10 working days from the closing date for submission of Tenders, in a contractor-grading equal to or higher than a contractor grading designation, as stated in the Tender Notice and Invitation to Tender, (**e.g. 3CE/GB etc**), and as defined in the Regulations (June 2004), in terms of the CIDB Act No 38 of 2000, are eligible to submit Tenders for this contract.

C.2.7 Clarification Meeting

No Compulsory Site Inspection Meeting will take place because of Covid-19 Regulations. Bidders are advised to go and view the site on their own time to assess site conditions. A Zoom meeting will be held on **Friday 26 November 2021 at 10:00 am** for any queries relating to this tender.

C.2.12 Alternative Tenders

If a Tenderer wishes to submit an alternative Tender offer, the only criteria permitted for such an alternative Tender offer are:

- (a) Individual Items
Individual items offered as alternatives to items in the Bill of Quantities will be considered.
- (b) Alternative Designs

Where a Tenderer desires to submit alternative Tender involving modifications to the design or method of construction that would alter the character of the Tender, the following procedure must be observed:

- (i) The alternative offer must be accompanied by supporting information, drawings, calculations and a priced alternative Bill of Quantities to enable its technical acceptability, construction time and price to be fully assessed. Such information, drawings and Bill of

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- Quantities must be sufficient for proper evaluation of the Tendered alternative, otherwise the offer will not be considered;
- (ii) Any alternative Tender involving modifications to design will be assessed on its merits and may be accepted. An accepted alternative design will become the design for the purpose of the contract.
- (iii) If an alternative design with its priced Bill of Quantities has been accepted, the sum thus Tendered for the alternative will not be subject to re-measurement and will be the final amount payable to the Contractor, except only for variations arising from:
- Changes in design parameters ordered by the Engineer;
 - Changes not arising from any failure or fault of the Contractor, but from modifications requested by the Engineer.
- (iv) A decision whether or not to adopt a technically acceptable modified design will be governed by the amount of the overall saving and the advantages to the Employer which the modified design can be reliably expected to achieve. Matters to be considered in arriving at the overall saving will include the effect of any deferment in starting date arising from extra time needed for the preparation of an amended contract for signature.
- (v) The Tenderer will be liable for all costs necessary for the Engineer to check the alternative design offered.

C.2.13 Submitting a Tender Offer

C.2.13.3 Tender offers shall be submitted as an original only.

C. 2.13.5 Delivery of Tender

The Employer's address for delivery of Tender offers and identification details to be shown on each Tender offer package are:
Location of Tender box:

East London

INDEPENDENT DEVELOPMENT TRUST,
PALM SQUARE BUSINESS PARK, SILVERWOOD HOUSE,
BONZA BAY ROAD,
BEACON BAY,
EAST LONDON

IDENTIFICATION DETAILS:

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C 2.13.6 A two-envelope procedure will not be followed.

C.2.15 Closing Time

The closing time for submission of Tender Offers is on **Tuesday, 11 January 2022 @ 11:00**. The employer reserves the right to withdraw any invitation to tender and or re-advertise or to reject any

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tender or to accept part of it. The Employer does not bind itself to accepting the lowest tender. Telephonic, telegraphic, telex, electronic or e-mailed Tenders will not be accepted.

C.2.16 Tender offer validity

The Tender Offer validity period is **90 days** from the closing time for submission of Tenders.

C.2.19 Access

Access shall be provided for inspections and testing by personnel acting on behalf of the Employer.

C.2.22 Return of Tender Documents

Where a Tenderer who received a Tender document does not submit a Tender, the tender documents issued to him must be returned to the Employer within 14 days after the closing date for submission of Tenders.

C.2.23 Certificates

The following certificates **must be provided** with the Tender:

1. Tax Compliance Letter with unique pin
2. Letter of Good Standing (COIDA)
3. Detailed Bill of Quantities (BOQ)
4. CIDB Grading Certificate
5. Owner's Identity Document.

(Provision is made in Section T2.2 for the inclusion of some of the forms listed above.)

C.3.4 Opening of Tender Submissions

Bids will not be opened in public

C.3.11 Tender Evaluation of Tender Offers

F3.11.1 The procedure for evaluation of responsive Tender Offers will be Method 2: Financial Offer and Preferences.

Evaluations of responsive Tenderers will be based on two (2) stages for points scoring as detailed hereunder:

Stage 1 - Functionality

Tenderers are to obtain a minimum of 60% (60 Points) of the functionality points to be considered for the next stage.

❑ Breakdown of the functionality points:

Functionality area	Points
Capacity to Deliver	20
Previous Experience	40
Capability: Resources	30
Programme Schedule	5
Project Specific: OHS	5
Total	100 points

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Stage 2 – Price and B-BBEE Status Level Contributor

Evaluations will be based on a points system 80/20 system

Price	80 points
B-BBEE status Level Contributor	20 points
TOTAL	100 points

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T1.1: ALLOCATION OF FUNCTIONALITY POINTS

Project title:	ASIDI WATER PROJECTS
Bid No.:	DoEEC05/2021

ALLOCATION OF FUNCTIONALITY POINTS		
1. Capacity to Deliver (20 points)	Current Commitments (10 points)	Between 5 and more = 5 points
	Contractors are to specify current workload and the value of projects. Use the provided pages in returnable document and include contactable details for each project	Between 1 and 4 = 10 points
	Plant (10 points)	Bakkie = 2 points
		Truck = 2 points
	Proof of ownership for plant should be valid registration papers	Bomag / tamping hammer = 2 points
	For Hiring/Leasing valid proof of leasing/hiring letter from hiring/leasing company and valid form of agreement would be acceptable, specify plant if hiring	TLB / Excavator = 2 points
	Plant to be used to be relevant scope of work and specific to the project and proof to be attached	Concrete mixer = 2 points
	If NO proof of ownership is provided then no points will be allocated.	No proof = 0 points

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	If NO proof of hiring/leasing letter from hiring/leasing company no points will be allocated	
2. Previous Experience: Project Specific Track Record (40 points)	Track Record (15 points)	5 or more similar projects and value = 15 points
		4 similar projects and value = 12 points
	Profile or track record of previous work done not older than 5 years which must include relevant projects in nature and value. Use the provided pages in returnable document and include contactable details for each project	3 similar projects and value = 9 points
	Bidders must submit final completion certificates for completed projects.	2 similar projects and value = 6 points
		1 similar project and value = 3 points
	Failure to submit final completion certificates will result in no points being awarded	0 similar projects and value = 0 points
	References (25 points)	5 or more references = 25 points
		4 references = 20 points
	Projects listed under track recorder are the only ones to be referenced.	3 references = 15 points
		2 references = 10 points
	Reference letter must be from a Client, must indicate the value of project as well as the time frame allocation in completing the project and must be signed and stamped and scored	1 reference = 5 points

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	Use only the provided pages in returnable document for references	0 references = 0 points
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3. Capability Resources: Qualification and Competencies (30 points)	A. Resources (5 points)	Project specific organogram submitted with clearly defined roles and responsibilities not a company organogram = 5 points
	Contractors are required to submit a project specific organogram	Project specific organogram submitted with no clearly defined roles and responsibilities = 3 points
		Project specific organogram not submitted = 0 points
	B. Qualification of Key staff (15 points)	
	There must be CV's and original certified qualifications, with certification date being within a period of 6 months on the date of closing bids; of relevant individuals to the project eg. Project Manager/Construction Manager, Site Manager/Agent and Foreman, of the relevant project	
	Project Manager/Construction Manager	Holding a Degree related to the construction environment = 5 points
		Holding Diploma related to the construction environment = 3 points

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		Holding a Certificate related to the construction environment = 1 points
		None submission of original certified qualifications = 0 points
	Site Agent	Holding a Degree related to the construction environment = 5 points
		Holding Diploma related to the construction environment = 3 points
		Holding a Certificate related to the construction environment = 1 point
		None submission of original certified qualifications = 0 points
	Foreman	Holding a Degree related to the construction environment = 5 points
		Holding Diploma related to the construction environment = 3 points
		Holding a Certificate related to the construction environment = 1 point
		Recognition for Prior Learning (RPL) = 0.5 points

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		None submission of original certified qualifications or RPL = 0 points
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3. Capability Resources: Qualification and Competencies (30 points) (Continued)	C. Years of Experience (10 points)	
	Relevant individuals must possess the relevant experience must be clearly reflected in the CV.	
	Project Manager/Contracts Manager	Over 6 Years of experience = 2 points
		Less than 6 Years of experience = 1 point
	Site Agent	Over 6 Years of experience = 4 points
		Less than 6 Years of experience = 2 points
	Foreman	Over 6 Years of experience = 4 points
		Less than 6 Years of experience = 2 points
4. Programme Schedule (5 points)	Programme Schedule (5 points)	
	Programme schedule must be project specific submitted with the below:	
	Construction Activities	2 points
	Activity duration and overall project duration	2 points
	Construction sequence	1 point
	Program schedule not submitted	0 points
	Project Specific OHS (5 points)	

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5. Project Specific OHS (5 points)	Bidders must provide a project specific OHS plan complying with the latest act in line with the scope of works, must adhere to COVID 19 precautionary measures and protocols, in-line with regulations issued in terms of section 27(2) of the Disaster Management Act of 2002, and must outline the following:	
	Legal requirement and regulations	1 point
	Safety Management Plan	1 point
	Brief CV's with original certified qualification of relevant individual to the project	2 points
	Risk Management	1 point
	If project Specific OHS plan not submitted / OHS plan submitted is generic and not project specific then no points will be awarded	0 points

C.3.13 Acceptance of Tender Offer

C.3.13.1 Tender Offers will only be accepted on condition that:

- (a) the Tender offer is signed by a person authorised to sign on behalf of the Tenderer;
- (b) a valid original Tax Clearance Certificate, or a photocopy of the original certificate, certified by a commissioner of oaths, is included with this Tender;
- (c) Tenderer's declaration of compliance with the Occupational Health and Safety Act No 85 of 1993 and the Construction Regulations 2003 as well as the Tenderer's health and safety plan, is included with his Tender submission;
- (d) a Tenderer who submitted a Tender as a Joint Venture has included an acceptable Joint Venture Agreement with his Tender;
- (e) the Tenderer or a competent authorised representative of the Contractor who submitted the Tender has attended the compulsory clarification meeting or site inspection;
- (f) the Contractor who submits the Tender has been registered with the Construction Industry Development Board in accordance with the Construction Industry Development Board Act No 38 of 2000 and the Regulations 2003 promulgated in

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- terms of the Act, or if the Contractor can submit proof or evidence that he will be able to register within 10 days of the closing date for submission of Tenders.
- (g) The Tenderer or any of its principals is not listed on the register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector.
 - (h) The Tenderer has not abused the Employer's Supply Chain Management System or has failed to perform on any previous contract and has been given a written notice to this effect.
 - (i) The Tenderer has indicated and declared where or not a spouse, child or parent of the Tenderer is in the service of the State.
 - (j) The Employer is satisfied that the Tenderer or any of his principals have not influenced the Tender offer and acceptance by the following criteria:
 - (i) having offered, promised or given a bribe or other gift or remuneration to any person in connection with the obtaining or execution of this Contract;
 - (ii) having acted in a fraudulent or corrupt manner in obtaining or executing this Contract;
 - (iii) having approached an officer or employee of the Employer or the Employers Agent with the object of influencing the award of a Contract in the Tenderer's favour;
 - (iv) having entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company to refrain from Tendering for this Contract or as to the amount of the Tender to be submitted by either party;
 - (v) having disclosed to any other person, firm or company other than the Employer, the exact or approximate amount of this proposed Tender;

The Employer may, in addition to using any other legal remedies, repudiate the Tender Offer and Acceptance and declare the Contract invalid should it have been concluded already.

C.3.17 Copies of contract

The number of paper copies of the signed contract to be provided by the Employer is one.

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THE TENDER

RETURNABLE DOCUMENTS AND SCHEDULES

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T2.1 LIST OF RETURNABLE DOCUMENTS

T.2.1 List of returnable documents

1. Statutory Returnable documents

- T2.1.A: Central Supplier Database Registration Report. (If not registered on day of award, tenderer will be disqualified)
- T2.1.B: CIDB registration print out (Registration will be verified on line and if not valid on day of award, tenderer will be disqualified)
- T2.1.C: Certificate of Good Standing with Workman Compensation Commissioner (COIDA/FEM). (Registration will be verified on line and if not valid on day of award, tenderer will be disqualified).

Non-Mandatory Returnable Documents

- T2.1. D: Proof of Company Registration
- T2.1. E: Certified Copies of ID's Owners/Directors

T.2.2 List of compulsory returnable schedules

**The tenderer is required to fully complete and/or submit the following documents with the tender.
Tenderer to note non-completion of SBD 6.2 will result into disqualification**

2. Returnable schedules that will be used for Evaluation:

- T2.2.A: Record of Addenda to Tender Documents
- T2.2.B: Compulsory Questionnaire
- T2.2.C: Resolution for signatory
- T2.2.D: Schedule of Proposed Sub-Contractors.
- T2.2.E: Valid Tax Compliance Status Pin. (Validity will be verified on- line during supply chain management processes)
- T2.2.F: Additional Particulars Concerning Tenders.
- T2.2.G: Preference schedule: Broad Based Black Economic Empowerment Status
- SBD 1: Invitation To Bid
- SBD 4: Declaration of Interest.
- SBD 6.1: Preference Point Claim Form in terms of the Preferential Procurement regulations 2017.
- SBD 6.2: Declaration Certificate for Local Production and Content for Designated sectors. Tenderer to ensure the form is completed and signed. Failure to complete and sign will result into disqualification.
- SBD 8: Declaration of Bidders Past Supply Chain Management Practices.
- SBD 9: Certificate of Independent Bid Determination.
- C1.1 Form of Offer and Acceptance (must be completed per cluster - Failure to complete and sign will result into disqualification.)

T2.3 Objective Risk Assessment Criteria

- T2.3.1: Technical Qualifications & Technical Competence
- T2.3.2: Company Capacity
- T2.3.3: Reliability
- T2.3.4: Plant and Equipment Schedule
- T2.3.5: Construction Implementation Plan (Brief report)

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3. Returnable schedules that will be incorporated into the contract:

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee or Deduction on Payment
- C1.4 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993)
- C1.5 ADJUDICATION BOARD MEMBER AGREEMENT
- C1.6 IDT BENEFICIARY RECONCILIATION FORM (BRF)
- C2.2 Bill of Quantities

T2.1. A: Central Supplier Database (CSD) Registration Summary Report.

If not registered on day of award, tenderer will be disqualified.

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T2.1. B: Copy of CIDB print-out

Tenderer to attached CIDB print-out. Registration will be verified on line and if not valid on day of award, tenderer will be disqualified)

T2.1. C: Certificate of Good Standing with Workman's Compensation Commissioner. (COIDA)

Tender to attached Certificate of Good Standing with Workman's Compensation Commissioner. Validity of certificate will be verified online

T2.1. D: Proof of Company Registration

Tenderer to attach certify copy of Company Registration (CIPRO CERTIFICATE)

T2.1. E: Certified Copies of ID's Owners/Directors

Tenderer to attach Certify Copy Owner/Director's certified copies of Identity Document

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T 2.2.A - Record of Addenda to tender documents

We confirm that the following communications received from The Independent Development Trust before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer: Addenda to be attached with tender documents is compulsory.

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

Signed	_____	Date	_____
Name	_____	Position	_____
Enterprise name	_____		

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T.2.2. B - Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- | | |
|--|---|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the National Assembly or the National Council of Province | ☐ an employee of Parliament or a provincial legislature |
| ☐ a member of the board of directors of any municipal entity | |
| ☐ an official of any municipality or municipal entity | |

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

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Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- | | |
|--|---|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the National Assembly or the National Council of Province | ☐ an employee of Parliament or a provincial legislature |
| ☐ a member of the board of directors of any municipal entity | |
| ☐ an official of any municipality or municipal entity | |

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) authorizes The Independent Development Trust to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Date

Signed

Name

Position

Enterprise
name

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T.2.2.C: Resolution for Signatory

Project title:	ASIDI WATER AND SANITATION PROGRAMME: COMPLETION OF WATER PROJECTS CLUSTER: 3F – ESIGODLWENI JSS& NOZAYI SPS
Tender No:	DoEEC05/2021

A: CERTIFICATE OF AUTHORITY FOR SIGNATORY (COMPULSORY FOR COMPLETION)

Signatory for companies shall confirm their authority hereto by attaching a duly signed and dated copy of the relevant resolution of the board of directors to this form on the company letter head.

An example is given below:

"By resolution of the board of directors passed at a meeting held on _____

Mr/Ms _____, whose signature appears below, has been duly authorised to

sign all documents in connection with the tender for Contract No. **DoEEC05/2021**

and any Contract which may arise there from on behalf of (Block Capitals) _____

SIGNED ON BEHALF OF THE COMPANY: _____

IN HIS/HER CAPACITY AS: _____

DATE: _____

SIGNATURE OF SIGNATORY: _____

WITNESSES:

1. _____ SIGNATURE: _____

2. _____ SIGNATURE: _____

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T.2.2.D: Schedule of Proposed Subcontractors

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

Contractor is required not to subcontract more than 25% of the work and the contractor has to attach subcontractor BBBEE & CK documents.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor.
1.			
2.			
3.			
4.			
5.			

Signed	_____	Date	_____
Name	_____	Position	_____
Enterprise name	_____		

T2.2.E: Tax Compliance Status and Pin Requirements

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations.

- Tender to attach Tax compliance status and pin number document. Validity will be verified online during supply chain management processes.

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T.2.2.F: Additional Particulars Concerning Tenderers

Project title:	ASIDI WATER AND SANITATION PROGRAMME: COMPLETION OF WATER PROJECTS CLUSTER 3F – ESIGODLWENI JSS& NOZAYI SPS
Tender No:	DoEEC05/2021

a) **SURETIES AS SECURITY (OPTIONAL FOR THOSE THAT CHOOSE TO PROVIDE CONSTRUCTION GUARANTEE AS SECURITY)**

Since I/we propose to furnish one surety as security, the following particulars are provided:

1.1 Name _____ of _____ surety:
.....
.....
Address _____ of _____ surety:
.....
.....
Bank _____ of _____ surety:
.....
Branch: _____
.....

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b) Bank Details and Bank Rating

Contractor's Bank Details –

Bank Name:

Address:

Account Number:

Contact Person:

Tel No.:

Fax No.:

A letter of intent from the proposed Guarantor is attached to this page.

The tenderer's Bank Rating must also be attached to this page.

T2.2.G: Preference schedule: Broad - Based Black Economic Empowerment Status.

SBD4: Declaration of Interest

DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes an advertised competitive bid, a limited bid, a proposal or written price quotation). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-

- the bidder is employed by the state; and/or
- the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.

2. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

2.1 Full Name of bidder or his or her representative:

2.2 Identity Number.....

2.3 Position occupied in the Company (director, trustee, shareholder²):

.....

2.4 Registration number of company, enterprise, close corporation, partnership agreement
or trust.....

2.5 Tax Reference Number:

2.6 VAT Registration Number:

2.7

2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / PERSAL numbers must be indicated in paragraph 3 below.

¹"State" means –

- (a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or
- (e) Parliament.

²"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

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2.7 Are you or any person connected with the bidder presently employed by the state? **YES / NO**

2.7.1 If so, furnish the following particulars:

Name of person / director / trustee / shareholder/ member:
Name of state institution at which you or the person connected to the bidder is employed:
Position occupied in the state institution:

Any other particulars:

.....
.....
.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? **YES / NO**

2.7.2.1 If yes, did you attach proof of such authority to the bid document? **YES / NO**

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:

.....
.....
.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? **YES / NO**

2.8.1 If so, furnish particulars:

.....
.....
.....

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

2.9.1 If so, furnish particulars.

.....
.....
.....

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? **YES/NO**

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2.10.1 If so, furnish particulars.

.....
.....
.....

2.11 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract? **YES/NO**

2.11.1 If so, furnish particulars:

.....
.....
.....

3 Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	Personal Income Tax Reference Number	State Number / Employee Persal Number

4 DECLARATION

I, THE UNDERSIGNED (NAME).....

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF
PARAGRAPH 23 OF THE GENERAL CONDITIONS OF CONTRACT SHOULD THIS DECLARATION
PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SBD 6.1: Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2

- a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable; or
- b) Either the 80/20 or 90/10 preference point system will be applicable to this tender (*delete whichever is not applicable for this tender*).

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

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- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5. BID DECLARATION

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor: . = 20 (maximum of 10 or 20 points)
 (Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

- 7.1 Will any portion of the contract be sub-contracted?

(Tick applicable box)

YES	☐	NO	☐
-----	--------------------------	----	--------------------------

- 7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE

(Tick applicable box)

YES	☐	NO	☐
-----	--------------------------	----	--------------------------

- v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2017:

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a)	Designated Group: An EME or QSE which is at last 51% owned by:	b) EME c) √	d) QSE e) √
f)	Black people	g)	h)
i)	Black people who are youth	j)	k)
l)	Black people who are women	m)	n)
o)	Black people with disabilities	p)	q)
r)	Black people living in rural or underdeveloped areas or townships	s)	t)
u)	Cooperative owned by black people	v)	w)
x)	Black people who are military veterans	y)	z)
aa) OR			
bb)	Any EME	cc)	dd)
ee)	Any QSE	ff)	gg)

8. DECLARATION WITH REGARD TO COMPANY/FIRM

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....
.....
.....
.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

8.7 Total number of years the company/firm has been in business:.....

8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificates, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

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- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

WITNESSES

- 1.
- 2.

.....
SIGNATURE(S) OF BIDDERS(S)

DATE:

SBD 6.2: Declaration Certificate for Local Production and Content for Designated Sectors

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.
- 1.2. Regulation 9. (1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two-stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.

- 1.6 A bid may be disqualified if –
 - (a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
 - (b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

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- 2.1. **“bid”** includes written price quotations, advertised competitive bids or proposals;
- 2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
- 2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 2.5. **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).
- 2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour or intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 2.7. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- 2.9. **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.
3. **The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:**

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Steel products and components	100%
PVC pipes and components	100%
Valves	100%

4. Does any portion of the services, works or goods offered have any imported content?
(*Tick applicable box*)

YES	☐	NO	☐
-----	--------------------------	----	--------------------------

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.
- The relevant rates of exchange information are accessible on www.reservebank.co.za.

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Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?
(**Tick applicable box**)

YES		NO	
-----	--	----	--

5.1. If yes, provide the following particulars:

- (a) Full name of auditor:
- (b) Practice number:
- (c) Telephone and cell number:
- (d) Email address:

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO.

ISSUED BY: (Procurement Authority / Name of Institution):

.....

NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thdti.gov.za/industrialdevelopment/ip.jsp>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The

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successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, (full names),
do hereby declare, in my capacity as
of(name of bidder entity), the
following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:

- (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (ii) the declaration templates have been audited and certified to be correct.

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

Local Content Declaration - Summary Schedule

Note: VAT to be excluded from all calculations

GBP

Date:

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Annex D

Imported Content Declaration - Supporting Schedule to Annex C

(D1) Tender No. _____
(D2) Tender description: _____
(D3) Designated Products: _____
(D4) Tender Authority: _____
(D5) Tendering Entity name: _____
(D6) Tender Exchange Rate: _____ Pula _____

Note: VAT to be excluded
from all calculations

EU R 9.00 GBP R 12.00

A. Exempted imported content

				Calculation of imported content						Summary	
Tender item no's	Description of imported content	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D14)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value										R 0	

This total must correspond with
Annex C - C 21

B. Imported directly by the Tenderer

				Calculation of imported content						Summary	
Tender item no's	Description of imported content	Unit of measure	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total imported value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total imported value by tenderer										R 0	

C. Imported by a 3rd party and supplied to the Tenderer

				Calculation of imported content						Summary	
Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Quantity imported	Total imported value
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)
(D45) Total imported value by 3rd party										R 0	

D. Other foreign currency payments

			Calculation of foreign currency payments		Summary of payments	
Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange	Local value of payments	
(D46)	(D47)	(D48)	(D49)	(D50)	(D51)	
(D52) Total of foreign currency payments declared by tenderer and/or 3rd party					R 0	

Signature of tenderer from Annex B

(D53) Total of imported content & foreign currency payments - (D32), (D45) & (D52) above R 0

This total must correspond with
Annex C - C 23

Date: _____

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Annex E

Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.	
(E2)	Tender description:	
(E3)	Designated products:	
(E4)	Tender Authority:	
(E5)	Tendering Entity name:	

Note: VAT to be excluded from all calculations

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
	(E9) Total local products (Goods, Services and Works)		R 0

(E10)	Manpower costs	(Tenderer's manpower cost)	R 0
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R 0
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc.)	R 0

(E13) Total local content R 0

This total must correspond with Annex C - C24

Signature of tenderer from Annex B

Date: _____

SBD8: Declaration of Bidder's Past Supply Chain Management Practices

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
 - a. abused the institution's supply chain management system;
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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CLUSTER: 3F – ESIGODLWENI JSS & NOZAYI SPS

TENDER NO: DoEEC05/2021

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND
CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN
AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

SBD9: Certificate of Independent Bid Determination

- 1 This Standard Bidding Document (SBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
 - a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

SBD 9: Certificate of Independent Bid Determination

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: _____ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

SBD 9

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

SBD 9

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

T2.3 Objective Risk Assessment Criteria

The Independent Development Trust is obligated to undertake risk assessment before accepting offers. In doing the risk assessment the following must be considered.

Employer is restricted in accordance with clause 4.(4) of the Construction Regulations, 2014, to only appoint a Contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely.

Employer is obligated by standards of uniformity to tender to evaluate if the Contractor can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract

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T2.3.1: Technical Qualifications & Technical Competence

The bidder to submit the following key person CV's and qualifications

- Project Manager/Construction Manager
- Site Agent
- Foreman
- OHS officer

If a company does not meet the above minimum requirements it will be considered high risk.

Provide details of key personnel below

Name and Surname	Position	Qualification	CV attached	Certified certificate attached	No. of years of relevant experience
	Contract Manager				
	Site Agent				
	Foreman				
	OHS Office				

Failure to attach CV and certified qualification copies may result in NOT passing the risk assessment. INDEPENDENT DEVELOPMENT TRUST reserves the right to request the Tender to provide the documentation within 24 hrs failing which it will result in the tenderer not passing the risk assessment.

Signed on behalf of the Tenderer		Date	
----------------------------------	--	------	--

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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T2.3.2: Company Capacity

List current project under construction and locality of projects.

If a company has more than 5 projects, it will be considered a risk after taking into consideration of current projects status and performance.

Provide details of current projects

Name of Project	Locality of Project (nearest town)	Client	Duration of Project	Current Progress (%) at time of submission of Tender	Client Contact Person & Contact No.	Contractual Completion date

Failure to declare all current projects may result in NOT passing the risk assessment. INDEPENDENT DEVELOPMENT TRUST reserves the right to request other Employers to provide the information on current projects being undertaken by the company.

Signed on behalf of the Tenderer		Date	
----------------------------------	--	------	--

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T2.3.3: Reliability

Completed at least five projects with each project having a value of at least R 1000 000.00 and above.

If a company has completed less than 5 projects over the period stipulated it will be considered a risk.

Provide details of completed projects

Name of Project	Locality of Project	Value of Project	Original Completion date	Revised Completion date	Actual Completion date

Tenderer to attached Practical Completion Certificate. Failure to provide requested documentation may result in NOT passing the risk assessment. INDEPENDENT DEVELOPMENT TRUST reserves the right to request the Tender to provide the documentation within 24 hrs failing which it will result in the tenderer not passing the risk assessment.

Signed on behalf of the Tenderer		Date	
----------------------------------	--	------	--

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T2.3.4: Plant and Equipment Schedule

The Tenderer must state below what items of construction plant will be immediately available for this Contract, what construction plant will become available by virtue of outstanding orders, and what further construction plant will be acquired or hired for the work should he be awarded the Contract. The Contractor must also state which plant is owned by him, and which is leased or subject to hire purchase agreement. Additional sheets may be attached if necessary.

(a) Construction Plant Immediately Available

DESCRIPTION, SIZE, CAPACITY	NUMBER

SIGNED ON BEHALF OF TENDERER

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T2.3.4: Plant and Equipment Schedule (cont.)

(b) Construction Plant that will be Hired or Acquired

The TENDERER must state the arrangements made and the intended delivery date.

DESCRIPTION, SIZE, CAPACITY	OWNED OR HIRED	NUMBER

SIGNED ON BEHALF OF TENDERER

T2.3.5: Experience and Reputation

At least three contactable references from five reputable organisations on similar water infrastructure projects completed (Final Completion) in the past 5 years (E.g Implementing Agents, Municipalities and Provincial/National Government etc)

If a company has less than 5 contactable references it will be considered a high risk and will result in the company NOT passing the risk assessment.

The following form (next page) is to be completed by the client and is to be supported in each case accompanied by Signed Appointment Letter; Final Completion Certificate and is to be signed and stamped by the client

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PROJECT # 1

PROJECT NAME:

Type of project:

Client:

Project Amount:

Contract Duration and Actual Contract Duration:

DESCRIPTION	INDICATE YES/NO
Has the above-mentioned project reached final completion within reasonable as stipulated in the contract	

Any other remarks considered necessary to assist in evaluation of the Contractor?

Client's contact person: **Telephone:**

I hereby declare that to the best of my knowledge, information completed above is true and correct and I understand that I will be held responsible for any misrepresentation.

Client's Signature: **Date:**

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STAMP



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PROJECT # 2

PROJECT NAME:

Type of project:

Client:

Project Amount:

Contract Duration and Actual Contract Duration:

DESCRIPTION	INDICATE YES/NO
Has the above-mentioned project reached final completion within reasonable as stipulated in the contract	

Any other remarks considered necessary to assist in evaluation of the Contractor?

Client's contact person: **Telephone:**

I hereby declare that to the best of my knowledge, information completed above is true and correct and I understand that I will be held responsible for any misrepresentation.

Client's Signature:

Date:

STAMP

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PROJECT # 3

PROJECT NAME:

Type of project:

Client:

Project Amount:

Contract Duration and Actual Contract Duration:

DESCRIPTION	INDICATE YES/NO
Has the above-mentioned project reached final completion within reasonable as stipulated in the contract	

Any other remarks considered necessary to assist in evaluation of the Contractor?

Client's contact person: **Telephone:**

I hereby declare that to the best of my knowledge, information completed above is true and correct and I understand that I will be held responsible for any misrepresentation.

Client's Signature: **Date:**

STAMP

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PROJECT # 4

PROJECT NAME:

Type of project:

Client:

Project Amount:

Contract Duration and Actual Contract Duration:

DESCRIPTION	INDICATE YES/NO
Has the above-mentioned project reached final completion within reasonable as stipulated in the contract	

Any other remarks considered necessary to assist in evaluation of the Contractor?

Client's contact person: **Telephone:**

I hereby declare that to the best of my knowledge, information completed above is true and correct and I understand that I will be held responsible for any misrepresentation.

Client's Signature: **Date:**

STAMP

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PROJECT # 5

PROJECT NAME:

Type of project:

Client:

Project Amount:

Contract Duration and Actual Contract Duration:

DESCRIPTION	INDICATE YES/NO
Has the above-mentioned project reached final completion within reasonable as stipulated in the contract	

Any other remarks considered necessary to assist in evaluation of the Contractor?

Client's contact person: **Telephone:**

I hereby declare that to the best of my knowledge, information completed above is true and correct and I understand that I will be held responsible for any misrepresentation.

Client's Signature:

Date:

STAMP

T2.3.5: Construction Implementation Plan (Brief report)

A construction implementation plan must be developed to address the following:

- Human resource deployment (Contracts manager/ OHS officer/Skilled labour/unskilled labour etc) and number to be employed, and their role and responsibilities on the project.
- Materials procurement plan (Which materials will procure, How, where and when will the materials be procured to support the construction programme.
- How will the health and safety be implemented, managed and monitored? (COVID 19 Regulations)
- What plant and equipment will be used and how will they be sourced and from where?
- How will quality control and assurance be managed.
- Detailed Construction programme
- Cash flow projections to support the detailed construction programme.

A sound plan that covers all of the above key areas and is based on known information will be considered to be less of a risk. A plan that does not cover all the areas and is less detailed will be considered a high risk. Contractor may be called in to present the plan and they must be accompanied by the key staff indicated above on item 1.

INDEPENDENT DEVELOPMENT TRUST reserves the right to request the Tender to provide the documentation within 24 hrs failing which it will result in the tenderer being eliminated

THE CONTRACT

**ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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C1.1 Form of Offer and Acceptance

Offer

The Employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

COMPLETION OF WATER PROJECTS IN THE OR TAMBO DISTRICT MUNICIPALITY: CLUSTER: 3F – ESIGODLWENI JSS & NOZAYI SPS TENDER NO: DoEEC05/2021

The Tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

Rand.....

..... (in words); R.....(in figures)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

for the tenderer

Signature:.....Date.....

Name:.....

Capacity:

Name and address of organization.....

.....

.....

Name and signature of witness:

Signature:.....Date.....

Name:.....

**ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
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THIS OFFER IS MADE BY THE FOLLOWING LEGAL ENTITY: (cross out block which is not applicable)

Company or Close Corporation: And: Whose Registration Number is: And: Whose Income Tax Reference Number is: 	OR	Natural Person or Partnership: Whose Identity Number(s) is/are: Whose Income Tax Reference Number is/are:
--	----	--

(if applicable):

Trading under the name and style of:

.....

AND WHO IS:

Represented herein, and who is duly authorised to do so, by:
Mr/Mrs/Ms:

.....
In his/her capacity as:

.....

Note:

A Resolution / Power of Attorney, signed by all the Directors / Members / Partners of the Legal Entity must accompany this Offer, authorising the Representative to make this offer.

SIGNED FOR THE TENDERER:

Name of Representative	Signature	Date

WITNESSED BY:

Name of Witness	Signature	Date

This Offer is in respect of: (Please indicate with an "X" in the appropriate block)

The official documents..... ☒

The official alternative..... ☐

Own alternative (only if documentation makes provision therefore) ☐

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SECURITY OFFERED:

- a) the Tenderer accepts that in respect of contracts up to R1 million, a payment reduction of 5% of the contact value (excluding VAT) will be applicable and will be deducted by the Employer in terms of the applicable conditions of contract
- b) in respect of contracts above R1 million, the Tenderer offers to provide security as indicated below:
- i. cash deposit of 10 % of the Contract Sum. Yes ☐ No ☐
 - ii. fixed performance guarantee of 10% of the contract sum . Yes ☐ No ☐
 - iii. cash deposit of 10% of the Contract Sum and a payment reduction of 5% of the value certified in the payment certificate. Yes ☐ No ☐
 - iv. fixed performance guarantee of 10% of the Contract Sum and a payment reduction of 5% of the value certified in the payment certificate. Yes ☐ No ☐
 - v. If the Contractor fails to select the security to be provided in this Contract, Clause 6.2.2 of General Conditions of Contract, 2015 shall apply. Also, the Employer reserves the right to select the type of security to be provided in this Contract.

NB. Guarantees submitted must be issued by either an insurance company duly registered in terms of the Short-Term Insurance Act, 1998 (Act 35 of 1998) or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

The Tenderer elects as its domicilium citandi et executandi in the Republic of South Africa, where any and all legal notices may be served, as (physical address):

.....
.....

Other Contact Details of the Tenderer are:

Telephone No.: Cellular Phone No.:

Fax No.:

Postal address:

Banker : Branch :

Branch Code : Account number :

Registration No of Tenderer at Department of Labour :

CIDB Registration Number :

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Acceptance

By signing this part of this form of offer and acceptance, the Employer identified below accepts the Tenderer's offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the Tenderer's offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

- Part 1 Agreement and contract data, (which includes this agreement)
- Part 2 Pricing data
- Part 3 Scope of work.
- Part 4 Site information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect, if delivered by hand on the day of delivery, or if delivered by courier within two working days after submission by the Employer to the courier services for a door-to-door delivery to the Tenderer, provided that the Employer notifies the Tenderer of the tracking number within 24 hours of such submission. Unless the Tenderer (now Contractor) within seven working days of the date of such submission notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

FOR THE EMPLOYER:

Signature:.....Date.....

Name:.....

Capacity:

Name of Employer: The Independent Development Trust (IDT)
 Palm Square Business Park
 Silverwood House
 Beacon Bay
 East London
 5241

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As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 1

Signature:.....Date.....

Name:.....

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SCHEDULE OF DEVIATIONS:

Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender,
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of Agreements reached during the process of offer and acceptance, the outcome of such Agreement shall be recorded here,
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here,
4. Any change or addition to the tender documents arising from the above Agreements and recorded here, shall also be incorporated into the final draft of the Contract,

1. Subject.....

Details.....

.....

.....

2. Subject.....

Details.....

.....

.....

3. Subject.....

Details.....

.....

.....

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

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For the Tenderer:

Signature:.....Date.....

Name:.....

Capacity:

Name and address of organization.....

.....

.....

As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

For the Employer:

Signature:.....Date.....

Name:.....

Capacity:

Name of Employer: The Independent Development Trust (IDT)
 Palm Square Business Park
 Silverwood House
 Beacon Bay
 East London
 5241

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As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

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Confirmation of Receipt

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the.....(day)

of(month)

20.....(year)

at(place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

C1.2 Contract Data

Part 1: Data provided by the Employer

Conditions of Contract

The General Conditions of Contract 2015 for Construction Works, Third Edition (GCC 2015) published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this contract and is obtainable from www.saice.org.za.

The General Conditions of Contract for Construction Works make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

The Contract Data and General Conditions of Contract shall have precedence over the Drawings, Scope of Work and Standardised Specifications in the interpretation of any ambiguity or inconsistency.

Contract Specific Data

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition (2015), are applicable to this Contract:

Clause	Data
1.1.1.13	The Defects Liability Period is 12 months .
1.1.1.14	The time for achieving Practical Completion is 4 months , inclusive of the 14 day period referred to in Clause 5.3.2 below, and inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1).
1.1.1.15	The name of the Employer is Independent Development Trust
1.1.1.16	The name of the Employer's Agent is Bosch Projects (Pty) Ltd.
1.1.1.35	"Drawings" means all drawings, calculations and technical information forming part of the Contract Documents and any modifications thereof or additions thereto from time to time approved in writing by the Employer's Agent or delivered to the Contractor by the Employer's Agent.
1.1.1.36	Letter of Notification means the letters of formal notification, signed by the Employer, of the decision of the Supply Chain Management Bid Adjudication Committee sent to all tenderers. The notification of the decision does not form part of the Employer's Acceptance of the successful tenderer's Offer and no rights shall accrue.
1.2.1	DELIVERY OF NOTICES The following three additional sub-clauses, covering alternative methods of communication, apply:
1.2.1.3	Sent by facsimile or email during office hours or otherwise.

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1.2.1.4	Posted to the addressee for certified delivery by the postal Authorities.										
1.2.1.5	Delivered by a courier service and signed by addressee.										
1.2.1.2	The Employer's address for receipt of communications is: <table border="0"> <tr> <td>Physical address:</td><td>Postal address:</td></tr> <tr> <td>Palm Square Business Park</td><td>P O Box 2679</td></tr> <tr> <td>Silverwood House</td><td>Beacon Bay</td></tr> <tr> <td>Beacon Bay</td><td>East London</td></tr> <tr> <td>5241</td><td>5241</td></tr> </table> Telephone No: (043 711 6000) Fax No: (043) 748 5370 Email: GregA@idt.org.za	Physical address:	Postal address:	Palm Square Business Park	P O Box 2679	Silverwood House	Beacon Bay	Beacon Bay	East London	5241	5241
Physical address:	Postal address:										
Palm Square Business Park	P O Box 2679										
Silverwood House	Beacon Bay										
Beacon Bay	East London										
5241	5241										
1.2.1.2	The Employer's Agent's address for receipt of communications is: <table border="0"> <tr> <td colspan="2">Bosch Projects (Pty) Ltd</td></tr> <tr> <td>Physical address:</td><td>Postal address:</td></tr> <tr> <td>57 Western Avenue</td><td>PO Box 13530</td></tr> <tr> <td>Vincent</td><td>East London</td></tr> <tr> <td>East London, 5247</td><td>5217</td></tr> </table> Telephone No: (043) 721 1717 Fax No: (043) 721 1719 Email: naudea@boschprojects.co.za / memanit@boschprojects.co.za	Bosch Projects (Pty) Ltd		Physical address:	Postal address:	57 Western Avenue	PO Box 13530	Vincent	East London	East London, 5247	5217
Bosch Projects (Pty) Ltd											
Physical address:	Postal address:										
57 Western Avenue	PO Box 13530										
Vincent	East London										
East London, 5247	5217										
2.1.4	The following additional clause applies:- "Without limiting the generality of the afore going, the Schedule of Rates and Prices shall include : (a) The provision and use of all labour, plant, tools instruments, templates, materials, transport and all other appliances that may be required for satisfactorily protecting and efficiently carrying out the works without interruption or delay. (b) The provision and housing of adequate staff and labour force and the provision of false work of every kind and description necessary for the due and proper performance of the Contract. (c) The execution of the Works in orderly and progressive manner until it has been completed. Time being of the essence of the Contract the progressive development of the Works shall be arranged so that the time from the start to the finish of the construction of the said Works shall not exceed the time laid down in the Tender. (d) The inclusion in the tendered rates for all and any of the general liabilities such as Establishment Charges, legal contingencies, regulations, risks or damage, Royalties and all other overhead charges. The submission of a tender shall be considered prima facie evidence that the Contractor has complied with the requirements of this clause and has satisfied himself as to all circumstances and local conditions which may influence or affect his Tender."										

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2.4.3	The following additional clause applies:- In the event of any discrepancy or conflict between any parts of the Contract Documents, the order of precedence shall be as follows: 1. Project Specifications 2. Special Conditions of Contract 3. General Conditions of Contract 4. Conditions of Tender 5. Standardised/Particular Specifications 6. Contract Drawings 7. Schedule of Quantities
3.1.3	The Employer's Agent shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract: 1. Clause 3.2.1 Nomination of Employer's Agent's Representative 2. Clause 3.2.4 Employer's Agent's authority to delegate 3. Clause 5.8.1 Non-working times 4. Clause 5.11.1 Suspension of the Works 5. Clause 5.12.4 Acceleration instead of extension of time
4.5.2	The Occupational Health and Safety Act (Act No. 85 and Amendment Act No. 181) of 1993 and Construction Regulations 2003 will in all respects be applicable to this contract and the Contractor, as Mandatory in terms of clause 1(1) (xxviii) of the Act, shall assume full responsibility for compliance with the Act and the Regulations." (See Clause 5.2 in Part 5 of the Contract).
5.3.1	The documentation required before commencement with the Works Instruction is issued are: 1 Approved Works Permit (In terms with Construction Regulations, 2014, Reg 3 and 5) 2 Initial programme (Refer to Clause 5.6) 3 Security (Refer to Clause 6.2) 4 Insurance (Refer to Clause 8.6) 5 Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer)
5.3.2	The time to submit the documentation required in points 2 to 5 in Clause 5.3.1 above (excluding the approved Works Permit) is 14 days before commencement with the Works.
5.4.3	The Contractor shall bear all costs and charges for special and temporary rights of way required by him in connection with access to the Site.
5.5.1	The Works shall be completed within Four Months.
5.6.1	The Contractor shall deliver his <u>programme of work within 14 days</u> from the Commencement Date.
5.8.1	The non-working days are Sundays. The special non-working days are: (1) All gazetted public holidays falling outside the year end break. (2) The year end break commencing after the 15 December and ending after the first Monday after the 3rd of January.
5.13.1	The penalty for failing to complete the Works is 0.1% of the contract value per day.

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5.14.5.2	The Defects Liability Period is 12 months measured from the date of the Certificates of Completion.
5.16.3	The latent defect period is 10 years.
6.2.1	The Contractor shall deliver to the Engineer, as part of the documentation required commencement with the Works execution in accordance with Clause 5.3.1, at his cost, the type of security for the due performance of the Contract, as selected in the Contract Data.
6.2.2	If the Contractor fails to select the security to be provided or if the Contractor fails to provide the selected security within the time period stated in Clause 5.3.2, or if the performance guarantee shall differ substantially from the pro forma, it shall be deemed that the Contractor has selected a security of 10 per cent retention of the value of the Works.
6.5.1.2.3	The percentage allowances to cover overhead charges for daywork are as follows: • 15% of the gross remuneration of workmen and foremen actually engaged in the daywork; • 15% on the net cost of materials actually used
6.10.1.5	No allowance will be made for work done, or for materials and equipment for which daywork rates have been quoted at tender stage.
6.10.3	The percentage retention on amounts due to the contractor is 10% and the limit on retention is 5% of the Contract Price.
8.2.1	From the date of the on which the Site is handed over to the Contractor to the date of the issue of a Certificate of Completion, the Contractor shall take full responsibility for the care of the Works and of all Plant intended for incorporation into the Works and materials on site intended for incorporation into the Works; Provided that, if in terms of Clause 5.14.7 the Engineer shall issue a Certificate of Completion in respect of any part of the Works, the Contractor shall cease to be responsible for the care of such part and responsibility therefor shall pass to the Employer.
8.6.1	Insurance to be effected by Contractor.
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is NIL
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is Nil
8.6.1.2	Special risk insurance issued by SASRIA is required.
8.6.1.3	The limit of indemnity for liability insurance is R 2 000 000.00

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10.5.3	1. The Adjudicator shall be paid at the negotiated hourly rate in respect of all time spent upon or in connection with the adjudication including time spent travelling. 2. The Adjudicator shall be reimbursed in respect of all disbursements properly made including, but not restrict to: (a) Printing, reproduction and purchase of documents, drawings, maps, records and photographs (b) Telegrams, telex, faxes and telephone calls (c) Postage and similar delivery charges (d) Travelling, hotel expenses and other similar disbursements (e) Room charges (f) Charges for legal or technical advice obtained in accordance with the Procedure 3. The Adjudicator shall be paid an appointment fee of R7,500.00. This fee shall become payable in equal amounts by each Party within 14 days of the appointment of the Adjudicator, subject to an Invoice being provided. This fee will be deducted from the final statement of any sums which shall become payable under item 1 and/or item 2 of the Contract Data. If the final statement is less than the appointment fee the balance shall be refunded to the Parties. 4. The Adjudicator is currently registered for VAT. 5. Where the Adjudicator is registered for VAT it shall be charged additionally in accordance with the rates current at the date of invoice. 6. All payments other than the appointment fee (item 3) shall become due 14 days after receipt of invoice thereafter interest shall be payable at 5% per annum above the Reserve Bank base rate for every day the amount remains outstanding.
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Part 2: Data provided by the Contractor

The contractor is advised to read *The General Conditions of Contract for Construction Works, Third Edition, 2015* published by the South African institution of civil engineering, Private Bag X200, Halfway House, 1685, in order to understand the implications of this data which is required to be completed. Copies of these conditions of contract may be obtained from www.saice.org.za

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

Clause	Data										
1.1.1.9	The name of the Contractor is:										
1.2.1.2	The address of the Contractor is: Address (physical): Address (postal): Telephone: Facsimile: e-mail:										
1.1.1.14	The time for achieving Practical Completion is as stipulated in Clause 1.1.1.14 under Part 1: Data provided by the Employer										
6.2.1	The security to be provided by the Contractor shall be: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 70%;">Type of security</th><th style="width: 30%;">Contractor's Choice. Indicate "Yes" or "No"</th></tr> </thead> <tbody> <tr> <td>Cash Deposit of 10% of the Contract Sum</td><td></td></tr> <tr> <td>Performance Guarantee of 10% of the Contract Sum</td><td></td></tr> <tr> <td>Cash deposit of 10% of the Contract Sum plus retention of 5% of the value of the Works.</td><td></td></tr> <tr> <td>Performance guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.</td><td></td></tr> </tbody> </table>	Type of security	Contractor's Choice. Indicate "Yes" or "No"	Cash Deposit of 10% of the Contract Sum		Performance Guarantee of 10% of the Contract Sum		Cash deposit of 10% of the Contract Sum plus retention of 5% of the value of the Works.		Performance guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.	
Type of security	Contractor's Choice. Indicate "Yes" or "No"										
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6.5.1.2.3	The percentage allowance to cover overhead charges is%.			
6.8.3	The variation in cost of special materials is:			
	Special material	Unit on which variation will be determined*		Price for base month ex-factory, excluding transport, labour or any other costs.++
		Containers	Delivered in bulk	
*State unit in appropriate column ++ When called upon to do so, the contractor shall substantiate the above rates or prices with acceptable documentary evidence from the supplier.				

C1.3 PERFORMANCE GUARANTEE

The performance guarantee is to contain the wording of the pro-forma document included in ***The General Conditions of Contract for Construction Works***, published by the South African institution of civil engineering. Copies of these conditions of contract may be obtained from the South African institution of Civil Engineering, Private Bag x200, Halfway House, 1685, at www.saice.org.za

Herewith a copy of the pro-forma document.

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, 2015:

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

Physical Address:

"Employer" means:

"Contractor" means:

"Employer's Agent" means:

"Works" means:

"Site" means:

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R

Amount in words:

.....

"Guaranteed Sum" means: The maximum aggregate amount of R

Amount in words:

.....

"Expiry Date" means:

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CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

1. FIXED PERFORMANCE GUARANTEE

- 1.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 1.2 The Guarantor's period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.
- 1.3 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

2. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

- 2.1 The Guarantor hereby acknowledges that:
 - 2.1.1 Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
 - 2.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
- 2.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:
 - 2.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2.2;
 - 2.2.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 3.2.1 and the sum certified has still not been paid;
 - 2.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.
- 2.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 2.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or
 - 2.3.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 3.3; and
 - 2.3.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
- 2.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.
- 2.5 Where the Guarantor has made payment in terms of 3.3, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly

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- and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
- 2.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 2.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.
- 2.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
- 2.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 2.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 1.1.2 or 2.2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 2.11 This Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 2.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrates' Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

C1.4 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993)

THIS **AGREEMENT** made between:

.....
(hereinafter referred to as "the Employer") of the one part, herein represented by:

.....
in his capacity as

AND:

.....
(hereinafter referred to as "the Mandatory") of the other part, herein represented by:

.....
In his capacity as

.....
and being duly authorized to act as Mandatory on behalf of the Contractor; WHEREAS the Employer is desirous that certain works be constructed, viz

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and has accepted a tender by the Mandatory for the construction, completion and defects correction of such works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The Mandatory shall execute the work in accordance with the contract documents pertaining to this Contract.
2. This Agreement shall hold good from its commencement date, which shall be the date on which the site is handed over to the Mandatory by an order in writing from the Employer's Agent, to either:
 - (a) The date of the final certificate issued in terms of **clause 5.16.1 of the General Conditions of Contract 2015** (hereinafter referred to as "the GCC"), as applicable to this Contract, or
 - (b) The date of termination of the contract in terms of **clause 9** of the GCC.
3. The Mandatory declares himself to be conversant with the following:

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(a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:

- (i) Section 8: General duties of employers to their employees;
- (ii) Section 9: General duties of employers and self-employed persons to persons other than employees;
- (iii) Section 37: Acts or omissions by employees or mandatories; and
- (iv) Sub-section 37(2) relating to the purpose and meaning of this Agreement.

(b) The procedure and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.

4. In addition to the requirements of Clause 6.3 of the General Conditions of Contract and all relevant requirements of the Contract, the Mandatory agrees to execute all the works forming part of this Contract and to operate and utilize all machinery, plant and equipment in accordance with the Act.
5. The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

At For and on behalf of the **EMPLOYER** on

this the day of20.....

SIGNATURE:

CAPACITY:

As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

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NAMES: (1)

.....

(2)

.....

At for and on behalf of the **MANDATORY** on

this the day of20.....

SIGNATURE:

CAPACITY:

As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

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C1.5 ADJUDICATION BOARD MEMBER AGREEMENT

This **Agreement** is entered into between:

.....
Adjudication Board Member: (Name)

physical address: *postal address:*.....

.....

.....

e-mail address:

telephone number and mobile number:.....

.....
Contractor: (Name)

physical address: *postal address:*.....

.....

.....

e-mail address:

telephone number and mobile number:.....

.....
Employer: (Name)

physical address: *postal address:*.....

.....

.....

e-mail address:

telephone number and mobile number:.....

The Contractor and the Employer will hereinafter be collectively referred to as the Parties.

The Parties entered into a Contract for **ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI) COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION: CLUSTER: 3F – ESIGODLWENI JSS& NOZAYI SPS**

which provides that a dispute under or in connection with the General Conditions of Contract for Construction Works, Third Edition (2015) must be referred to (*ad-hoc adjudication/standing adjudication*).

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The undersigned natural person has been appointed to serve as Adjudication Board Member and together with the undersigned Parties agree as follows:

1. The Adjudication Board Member accepts to perform his duties in accordance with the terms of the Contract, the General Conditions of Contract for Construction Works' Adjudication Board Rules and this Agreement.
2. The Adjudicator undertakes to remain independent and impartial of the Contractor, Employer and Employer's Agent for the duration of the Adjudication Board proceedings.
3. The Adjudication Board Member agrees to serve for the duration of the Adjudication Board proceedings.
4. The Parties may at any time, without cause and with immediate effect, jointly terminate this Agreement.
5. Unless the Parties agree, the Adjudication Board Member shall not act as arbitrator or representative of either Party in any subsequent proceedings between the Parties under the Contract. No Party may call the Adjudication Board Member as a witness in any such subsequent proceedings.
6. The standing Adjudication Board's duties shall end upon the Adjudication Board Member(s) receiving notice from the Parties of their joint decision to disband the Adjudication Board.
7. The Adjudication Board Member shall be paid in respect of time spent upon or in connection with the adjudication including time spent traveling:
 - 7.1 A monthly retainer of R..... for..... months, and/or
 - 7.2 A daily fee of R.....based on ahour day, and/or
 - 7.3 An hourly fee of R.....and/or
 - 7.4 A non-recurrent appointment fee of R..... which shall be accounted for in the final sums payable.
8. The Adjudication Board Member's expenses incurred in adjudication work shall be reimbursed at cost.

On submission of an invoice for fees and expenses to the Parties, the Parties shall pay the full amount within 28 days of receipt of the invoice. Late payment of such invoice shall attract interest at prime plus 3% points compounded monthly at the prime rate charged by the Adjudication Board Member's bank.

**ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
CLUSTER: 3F- ESIGODLWENI JSS & NOZAYI SPS**

TENDER NO: DoEEC05/2021

This Agreement is entered into by:

CONTRACTOR

Contractor's signature:

Contractor's name:

Place:

Date:

EMPLOYER

Employer's signature:

Employer's name:

Place:

Date:

ADJUDICATION BOARD MEMBER

Adjudication Board Member's signature:

Adjudication Board Member's name:

Place:

Date:

C1.6 IDT BENEFICIARY RECONCILIATION FORM (BRF)

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
CLUSTER: 3F- ESIGODLWENI JSS & NOZAYI SPS
TENDER NO: DoEEC05/2021

A : Project Information	IDT Beneficiary Reconciliation Form (BRF)																		
	Programme Name _____ Programme Number _____ Month _____ Year _____ Project Name _____ Project Number _____ Site name (if applicable) _____																		
	Contractor Stamp/Logo																		
B : Accountability	<u>CONTRACTOR REPRESENTATIVE</u> Name _____ Signature _____ Date _____ Please print Name and Surname																		
	<u>IDT REPRESENTATIVE</u> Name _____ Signature _____ Date _____ Please print Name and Surname																		
C : Beneficiary Information	No.	Name	Surname	Gender	New	ID Number										RSA ID	OTHER	No. of Days Worked	Signature
	1																		
	2																		
	3																		
	4																		
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	14																		
PAGE 1		Please print Name and Surname			Tick	Please insert 13 digit ID										Please Tick		Please print	

THE CONTRACT

PART C2 : PRICING DATA

C2.1 PRICING INSTRUCTIONS

1. The Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.
2. The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works

Although the Bidder is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill. Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations.

3. Measurement and payment shall be in accordance with the relevant provisions of clause 8 of each of the SANS 1200 Standardised Specifications for Civil Engineering Construction referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of SANS 1200-A, General.

Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the SANS 1200 Standardised Specifications.

4. Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill or, when relevant, to the Civil Engineering Quantities, the requirement of the appropriate Standardized, Project, or Particular Specification as the case may be, shall prevail.
5. Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.
6. The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Bid is based.
7. An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

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TENDER NO: DoEEC05/2021

The Bidder shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the bided rates shall apply should work under these items actually be required.

Should the Bidder group a number of items together and bid one sum for such group of items, the single bided sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.

The bided rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

8. The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment. Ordering of materials is not to be based on the Bill of Quantities.
9. For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:
 - a. Unit: The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
 - b. Quantity: The number of units of work for each item
 - c. Rate: The payment per unit of work at which the Bidder bids to do the work
 - d. Amount: The quantity of an item multiplied by the bided rate of the (same) item
 - e. Sum: An amount bided for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units
10. The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre-pass
h	=	hour
ha	=	hectare
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
kW	=	kilowatt
kN	=	kilonewton
l	=	litre
kl	=	kilolitre
kPa	=	kilopascal
MPa	=	megapascal

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No	=	number
kg	=	kilogram
t	=	ton (1 000 kg)
W/day	=	Work Day
%	=	percent
PC Sum	=	Prime Cost Sum
Prov Sum	=	Provisional Sum

11. The cost of all samples and tests as may be required to ascertain and check the quality of materials and workmanship or any part of the works are deemed to be included in the relevant rates in the Bill of Quantities. The Contractor shall at his/her own expense take levels and prepare cross sections as required for the measurement and computation of excavation and fill quantities etc.
12. Value Added Tax (VAT) shall not be included in the individual rates but is to be added as a total at the end of the summary.
13. All materials to be provided by the Contractor will be SANS, ISO or JASWIC approved where such a specification exists, whether specifically stated in the schedule or not.
14. Where a particular make of item is specified, the words “or similar approved” shall mean approval by the Engineer in writing.

C2.2 BILL OF QUANTINTIES

**INDEPENDENT DEVELOPMENT TRUST
ASIDI WATER SUPPLY PROJECT IN OR TAMBO REGION
CLUSTER 3F: NOZAYI SPS AND ESIGODLWENI JSS
TENDER NO.: DoEEC/05/2021**

BILL 1 -NOZAYI SPS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	SABS 1200A	SECTION A : PRELIMINARY AND GENERAL				
A1	8,3	FIXED CHARGED ITEMS				
A1,1	8.3.1	Contractual Requirements	Sum	1		
A1,2	8.3.2	Establish Facilities on the Site:	Sum	1		
	8.3.2.1	a) Facilities for Engineer (SABS 1200 AB) :				
A1,3		Nameboard (1No.)	Sum	1		
	8.3.2.2	b) Facilities for Contractor				
A1,4		Offices and storage sheds	Sum	1		
A1,5		Workshop	Sum	1		
A1,6		Plant	Sum	1		
A1,7		Ablution and latrine facilities	Sum	1		
A1,8		Tools and equipment	Sum	1		
A1,9		Water supplies, electric power and communications	Sum	1		
A1,10		Dealing with water (Subclause 5.5)	Sum	1		
A1,11		Access (Subclause 5.8)	Sum	1		
A1,12	8.3.3	Other fixed-charged obligations	Sum	1		
A1.13		Occupational Health & Safety Obligations				
		Compilation and submission of Health & Safety Plan for approval by the client				
A1.13.1		Preparation of the Contractor's site specific Health and Safety Plan & Risk Assessment	Sum	1		
A1.13.2		Principal Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Sum	1		
Carried forward						R -

INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A1.13.3		Provision of Personal Protective Equipment (PPE)	Sum	1		
A1.13.4		Cost of medical certificates and medical surveillance	Sum	1		
A1.13.5		Induction training	No	1		
A1.13.6		Provision of First Aid Boxes to GSR requirements	No	1		
A1.13.7		Submission of a Health and Safety File in electronic format.	Sum	1		
		Occupational Health & Safety Obligations for COVID-19				
A1.13.8		Update of the Contractor's site specific COVID-19 Health and Safety Plan	Sum	1		
A1.13.9		Principal Contractor's initial obligations in respect of the COVID-19 Workplace Regulations and COVID-19 Construction Sector Regulations	Sum	1		
A1.13.10		Provision of Personal Protective Equipment (PPE)	Sum	1		
A1.13.11		Cost of medical certificates and medical surveillance	Sum	1		
A1.13.12		Initial (baseline) medical examinations (quantity to be aligned with risk assessment and scaling in employment)	Sum	1		
A1.13.13		Periodic and exit examinations (quantity to be aligned with risk assessment and scaling in employment)	Sum	1		
A1.13.14		Supply and fix COVID-19 signs	Sum	1		
A1.13.15		Cleaning materials and Hand sanitizers	Sum	1		
Carried forward						R -

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BILL 1 -NOZAYI SPS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A1.13.16		Other COVID-19 requirements not mentioned above	Sum	1		
A1.13.17		Compilation and submission of Health & Safety Plan for approval by the client	Sum	1		
A1.13.18		Supply to labour force all protective clothing and equipment necessary for compliance with the Health & Safety Plan	Sum	1		
A1.13.19		Principal Contractor's initial obligations in respect of the COVID-19 Workplace Regulations and COVID-19 Construction Sector Regulations	Sum	1		
A1.13.20		Separate office (16m2) with windows and a door for use by COVID-19 Compliance Officer including electricity connection and supply	Sum	1		
A1.13.21		Supply to labour force all protective clothing and equipment necessary for compliance with the Health & Safety Plan	Sum	1		
A1.14		As built drawings	Sum	1		
A1.15		Provision and erection on Site of the Project Nameboard (1No) complete	Sum	1		
A1.16	8.3.4	Remove Contractor's Site establishment on completion	Sum	1		
A2	8.4	TIME-RELATED ITEMS				
A2.1	8.4.1	Contractual Requirements	Months	4		
A2.2	8.4.2	Operate and maintain facilities on the Site for duration of construction, except where otherwise stated:	Months	4		
A2.2.1	8.4.2.1	Facilities for Engineer :	Sum	1		
	8.4.2.2	Facilities for Contractor :				
A2.2.2		a) Offices and storage sheds	Sum	1		
A2.2.3		b) Workshops	Sum	1		
A2.2.4		c) Laboratories	Sum	1		
A2.2.5		d) Living accommodation	Sum	1		
Carried forward						R -

INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		Brought forward				R -
A2.2.6		e) Ablution and latrine facilities	Sum	1		
A2.2.7		f) Tools and equipment	Sum	1		
A2.2.8		g) Water supplies, electric power and communications	Sum	1		
A2.2.9		h) Dealing with water (Subclause 5.5)	Sum	1		
A2.3		j) Compliance with Construction Regulations (OHS Act) and COVID-19 regulations				
		Comply with Health and Safety Requirements including COVID-19 regulations for the duration of the contract				
A2.3.1		Monthly disinfection of facilities	Month	4		
A2.3.2		Supply and upkeep of hand sanitizer dispensors and consumables (paper towel)	Month	4		
		COVID-19 Compliance Officer (In Addition to H&S Officer)				
A2.3.3		Provision of a full time COVID-19 Compliance Officer (Anticipated Period)	Month	4		
A2.3.4		Principal Contractor's time related obligations in respect of the COVID-19 Workplace Regulations (Anticipated Period)	Month	4		
A2.3.5		Principal Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Month	4		
A2.3.6		Provision of a full time Construction Health and Safety Officer (SACPCMP Registered)	Month	4		
A2.3.7		Weekly COVID-19 toolbox talks	Month	4		
A2.3.8		Provision and upkeep of infrared handheld thermometer	Month	4		
		Carried forward				R -

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BILL 1 -NOZAYI SPS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A2.4		k) Compliance with requirements of the Environmental Regulations				
A2.4.1		1. Attend to all matters relating to the implementation and compliance with the environmental regulations for the project except where separately specified.	Sum	1		
A2.4.2		2. Marking out of project work sites.	Sum	1		
A2.4.3		3. Provision of fire fighting equipment.	Sum	1		
A2.4.4		4. Provision of spill control equipment.	Sum	1		
A2.4.5		5. Provision and appointment of an Environmental Control Officer for the site and carrying out of audits at fortnightly intervals and reporting at monthly meetings.	Sum	1		
A2.6	8.4.3	Supervision	Months	4		
A2.6	8.4.3	C.L.O	Months	5	R 5 000,00	R 25 000,00
A2.6	8.4.3	Inservice-Trainee Technician	Months	5	R 6 500,00	R 32 500,00
A2.8	8.4.5	Other time-related obligations	Sum	1		
A2.9	8.3.4	Remove Contractor's Site establishment on completion	Sum	1		
A3		Compliance with requirements of the Environmental Regulations				
A3.1		1. Providing information and Method Statements as directed by the Project Environmental Control Officer (PECO) or Engineer.	each	1		
A3.2		2. Provision of specific seed mix and application to areas for application as directed by the PECO or Engineer.	kg	1		
A3.3		3. Provision of training to contract staff on environmental compliance.	Sum	1		
Carried forward						

INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A4		DAYWORKS				
A4.1		Labour during normal working hours				
A4.1.1		Supervisor	hr	160		
A4.1.2		Pipelayer/Plumber	hr	160		
A4.1.3		Bricklayer	hr	10		
A4.1.4		Unskilled labour	hr	320		
A4.1.5		Skilled labour	hr	80		
A4.2		Plant inclusive of operator, fuel, establishment on				
A4.2.1		TLB	hr	10		
A4.2.2		Tipper Truck	hr	10		
A4.2.3		Wacker	hr	10		
A4.2.4		Water tanker	hr	10		
A4.2.5		Plate compactor	hr	10		
A4.2.6		Pressure test pump	hr	10		
A4.2.7		Excavator	hr	10		
A5		Compliance with SANS 1921 - 6 Part 6 HIV/AIDS				
A5.1		Conduct HIV/AIDS Awareness Programme on site	Sum	1		
A5.2		Provide and maintain condom dispenser.	No.	1		
A5.3		Provide and maintain HIV/AIDS awareness posters.	No.	1		
A5.4		Provide information regarding the voluntary testing of construction workers, and counselling, support and care.	Sum	1		
A6		Groundwater source Investigation and Development				
A6,1		Provision of appointing Geohydrologist and borehole testing Contractor	Prov Sum	1	100 000,00	R 100 000,00
A6,2		Handling cost and charges for Contractor	%		100 000,00	
TOTAL CARRIED TO SUMMARY						

**INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION C : RETICULATION AND FITTINGS						
ITEM NO	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION C : RETICULATION AND FITTINGS				
C1	SANS 1200 DB (PSDB)	RECTICULATION PIPELINE				
		Contractor to supply material equipment for pressure testing.	No	1		
C1.2		Inspect ,test and evaluate by carefully exposing by hand existing services including backfill and reinstate.Provide list of material to reinstate for recticulation.	m3	3		
C1.3		Provisional Sum for materials	Prov Sum	20000		
C.2		MISCELLANEOUS				
C.2.1.		Supply, deliver, handle, install initialise and commission standpipes complete inclusive of all concrete, fittings, pipes and valves as per drawing 6035/045/008. The rate includes stencilling of standpipe numbers using 75mm lettering/numbers	No	0		
C.2.2		Fix and make good existing standpipe including related drainage as per drawing No 6035/045/008	No	2		
C2.3		Drainage trench complete as per drawing 6035/045/008	No	2		
C2.4		Pressure test, sterilize reticulation and commissioning	No	1		
TOTAL CARRIED TO SUMMARY						R -

**INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION D : ELEVATED WATER TANK						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION D : ELEVATED WATER TANK				
D1	SANS 1200 D (PSD)	ELEVATED POLYETHYLENE WATER TANK				
	8.4.4	Fix and make good 10 000L circular water tank 2.200m diameter x 3.080m high, complete with a 40ND MGI plug fitted to opening above inlet and sufficient 4mm diameter galvanised steel wire for anchoring to the tank stand platform . Tank to be erected complete with inlet and outlet pipework and brackets, all as detailed on Drawing No. 6035/045/005	No	1		
D2		Corrosion Protection				
		Remove all rust, loose paint and make good as per the original specification including application of the final coat as per Drawing No. 6035/045/005.	No	1		
D3		CHLORINATION				
		Supply and install klorman inline chlorination including cartridges to elevated tanks according to supplier specifications.	No	Rate Only		
Carried forward						R -

INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION D : ELEVATED WATER TANK						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
		RAIN WATER POLYETHYLENE TANK				
D3.2	8,4,4	1x5000L circular water tank 1.810 diameter x 2.275m high, complete with tie-down wire, lid, inlet, outlet etc. Tank to be set on a 100mm thick slab reinforced with Ref.193 mesh, cast on backfilled concrete block surround of 9" blocks laid on 600x200mm deep concrete footings, including concrete gulley slab with metal outlet grating securely fixed into concrete. All constructed as detailed on Drawing No. 6035/045/007	No	1		
D4		DEMOLISH TANK BASE				
D4.1		Demolish existing tank base structure including rainwater tank gulley and related soakaway as per Drawing No 6035/045/007 and Drawing No 6035/045/017.	No	1		
D4.2		Dispose rubble material to a site comply to environmental requirements as ordered by engineer.	Sum	1		
D5		FIX JOJO TANKS				
D5.1		Fix existing tanks and make good tank base, complete with 6mm galvanised tie-down wire, lid, inlet, outlet, tap, down pipes etc All as Drawing No. 6035/045/004 & 020	No	2		
D6		MISCELLANEOUS				
D6.2		Soakaway, as detailed on Drawing No 6035/045/017.	m	12		
D6.3		Seamless epoxy coated aluminium rainwater gutters, etc, fixed strictly in accordance with manufacturer's instructions as per Drawing No. 6035/045/005	m	60		
D6.4		15 x 125mm "Everite" pressed fibre cement fascia board drilled and brass screwed to and including 38 x 50 x 114mm long S.A.P cleats screwed to rafter sprockets, including steel H-profile between lengths. 125mm x 85mm x 0.6mm Thick "Ogee" eaves gutter, on and including gutter brackets fixed at not exceeding 1m centres. And include removal of existing rainwater gutters and fascia boards.	m	60		
TOTAL CARRIED TO SUMMARY						R -

INDEPENDENT DEVELOPMENT TRUST
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BILL 1 -NOZAYI SPS

SECTION E : BOREHOLE PUMP WORKS						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
E1		BOREHOLE PUMP HOUSE Refer To drawing 6035/045/004				
		All construction works shall comply with project specifications and relevant SANS 1200 requirements.				
	SANS 1200 C	STRUCTURE				
E1.1	8.2.8	Demolish and remove structures/buildings	Sum	1		
E1.2	8.2.9	Cart materials and debris to unspecified sites and dump (provisional)	t.km	10		
E1.3		Construct new top structure as per drawing 6035/045/004. Rate shall make provision of site preparation.	Sum	1		
		PIPEWORK				
E1.4		Dismantle and discard all equipment from existing borehole structure.				
E1.5	8.2.9	Cart materials and debris to unspecified sites and dump (provisional)	t.km	10		
E1.6		Equip borehole with all mechanical equipment and pipework as indicated on drawing 6035/045/004 WIND TURBINE	Sum	1		
E1.7		Supply and install e300i Wind Turbine on 12m monopole tower on a concrete base according to the manufacturer's specifications, complete with CU200 in a lockable interphase box	Sum	1		
E1.8		Supply and install Grundfos or similar approved borehole pump complete with riser, specials, electric cabling and base plate as per drawing 6035/045/004	Sum	1		
E1.9		Supply and install all cabling and accessories as per the manufacturers specification to connect the wind turbine output to the borehole pump, including control panel.	Sum	1		
TOTAL CARRIED TO SUMMARY						R -

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BILL 1 -NOZAYI SPS

SECTION F : FENCING						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F		FENCING				
F1.1		Supply and erect 1.8m high security fencing around Elevated tank with galvanised post cast into concrete blocks as detailed on Drawing No. 6035/045/014	m	20		
F1.2		Supply and erect 1.8m high security fencing with razor wire around pump house with galvanised post cast into concrete blocks as detailed on Drawing No. 6035/045/014	m	20		
F1.3		Supply and fit 1.2 m wide pedestrian galvanised gate complete with hinges, locking device, posts and padlock	No	2		
F1.4		PADLOCKS				
F1.4.1		Supply 50 mm "Viro" Padlocks and Keys (or equal approved)	No	2		
TOTAL CARRIED TO SUMMARY						R -

**INDEPENDENT DEVELOPMENT TRUST
ASIDI WATER SUPPLY PROJECT IN OR TAMBO REGION
CLUSTER 3F: NOZAYI SPS AND ESIGODLWENI JSS
TENDER NO.: DoEEC/05/2021**

BILL 2: ESIGODLWENI JSS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	SABS 1200A	SECTION A : PRELIMINARY AND GENERAL				
A1	8.3	FIXED CHARGED ITEMS				
1.1	8.3.1	Contractual Requirements	Sum	1		
1.2	8.3.2	Establish Facilities on the Site:	Sum	1		
	8.3.2.1	a) Facilities for Engineer (SABS 1200 AB) :				
1.3		Nameboard (1No.)	Sum	1		
	8.3.2.2	b) Facilities for Contractor				
1.4		Offices and storage sheds	Sum	1		
1.5		Workshop	Sum	1		
1.6		Plant	Sum	1		
1.7		Ablution and latrine facilities	Sum	1		
1.8		Tools and equipment	Sum	1		
1.9		Water supplies, electric power and communications	Sum	1		
1.1		Dealing with water (Subclause 5.5)	Sum	1		
1.11		Access (Subclause 5.8)	Sum	1		
1.12	8.3.3	Other fixed-charged obligations	Sum	1		
A1.13		Occupational Health & Safety Obligations				
		Compilation and submission of Health & Safety Plan for approval by the Client				
A1.13.1		Preparation of the Contractor's site specific Health and Safety Plan & Risk Assessment	Sum	1		
A1.13.2		Principal Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Sum	1		
A1.13.3		Provision of Personal Protective Equipment (PPE)	Sum	1		
Carried forward						R -

**INDEPENDENT DEVELOPMENT TRUST
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TENDER NO.: DoEEC/05/2021**

BILL 2: ESIGODLWENI JSS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A1.13.4		Cost of medical certificates and medical surveillance	Sum	1		
A1.13.5		Induction training	No	1		
A1.13.6		Provision of First Aid Boxes to GSR requirements	No	1		
A1.13.7		Submission of a Health and Safety File in electronic format.	Sum	1		
		Occupational Health & Safety Obligations for COVID-19				
A1.13.8		Update of the Contractor's site specific COVID-19 Health and Safety Plan	Sum	1		
A1.13.9		Principal Contractor's initial obligations in respect of the COVID-19 Workplace Regulations and COVID-19 Construction Sector Regulations	Sum	1		
A1.13.10		Provision of Personal Protective Equipment (PPE)	Sum	1		
A1.13.11		Cost of medical certificates and medical surveillance	Sum	1		
A1.13.12		Initial (baseline) medical examinations (quantity to be aligned with risk assessment and scaling in employment)	Sum	1		
A1.13.13		Periodic and exit examinations (quantity to be aligned with risk assessment and scaling in employment)	Sum	1		
A1.13.14		Supply and fix COVID-19 signs	Sum	1		
A1.13.15		Cleaning materials and Hand sanitizers	Sum	1		
A1.13.16		Other COVID-19 requirements not mentioned above	Sum	1		
A1.13.17		Compilation and submission of Health & Safety Plan for approval by the client	Sum	1		
A1.13.18		Supply to labour force all protective clothing and equipment necessary for compliance with the Health & Safety Plan	Sum	1		
Carried forward						R -

INDEPENDENT DEVELOPMENT TRUST
ASIDI WATER SUPPLY PROJECT IN OR TAMBO REGION
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BILL 2: ESIGODLWENI JSS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A1.13.19		Principal Contractor's initial obligations in respect of the COVID-19 Workplace Regulations and COVID-19 Construction Sector Regulations	Sum	1		
A1.13.20		Separate office (16m2) with windows and a door for use by COVID-19 Compliance Officer including electricity connection and supply	Sum	1		
A1.13.21		Supply to labour force all protective clothing and equipment necessary for compliance with the Health & Safety Plan	Sum	1		
A1.14		As built drawings	Sum	1		
A1.15		Provision and erection on Site of the Project Nameboard (1No) complete	Sum	1		
A1.16	8.3.4	Remove Contractor's Site establishment on completion	Sum	1		
A2	8.4	TIME-RELATED ITEMS				
A2.1	8.4.1	Contractual Requirements	Months	4		
A2.2	8.4.2	Operate and maintain facilities on the Site for duration of construction, except where otherwise stated:	Months	4		
A2.2.1	8.4.2.1	Facilities for Engineer :	Sum	1		
	8.4.2.2	Facilities for Contractor :				
A2.2.2		a) Offices and storage sheds	Sum	1		
A2.2.3		b) Workshops	Sum	1		
A2.2.4		c) Laboratories	Sum	1		
A2.2.5		d) Living accommodation	Sum	1		
A2.2.6		e) Ablution and latrine facilities	Sum	1		
A2.2.7		f) Tools and equipment	Sum	1		
A2.2.8		g) Water supplies, electric power and communications	Sum	1		
A2.2.9		h) Dealing with water (Subclause 5.5)	Sum	1		
Carried forward						R -

**INDEPENDENT DEVELOPMENT TRUST
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BILL 2: ESIGODLWENI JSS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A2.3		j) Compliance with Construction Regulations (OHS Act) and COVID-19 regulations				
		Comply with Health and Safety Requirements including COVID-19 regulations for the duration of the contract				
A2.3.1		Monthly disinfection of facilities	Month	4		
A2.3.2		Supply and upkeep of hand sanitizer dispensers and consumables (paper towel)	Month	4		
		COVID-19 Compliance Officer (In Addition to H&S Officer)				
A2.3.3		Provision of a full time COVID-19 Compliance Officer (Anticipated Period)	Month	4		
A2.3.4		Principal Contractor's time related obligations in respect of the COVID-19 Workplace Regulations (Anticipated Period)	Month	4		
A2.3.5		Principal Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Month	4		
A2.3.6		Provision of a full time Construction Health and Safety Officer (SACPCMP Registered)	Month	4		
A2.3.7		Weekly COVID-19 toolbox talks	Month	4		
A2.3.8		Provision and upkeep of infrared handheld thermometer	Month	4		
A2.4		k) Compliance with requirements of the Environmental Regulations				
A2.4.1		1. Attend to all matters relating to the implementation and compliance with the environmental regulations for the project except where separately specified.	Sum	1		
A2.4.2		2. Marking out of project work sites.	Sum	1		
A2.4.3		3. Provision of fire fighting equipment.	Sum	1		
A2.4.4		4. Provision of spill control equipment.	Sum	1		
Carried forward						R -

**INDEPENDENT DEVELOPMENT TRUST
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BILL 2: ESIGODLWENI JSS

SECTION A : PRELIMINARY AND GENERAL						
ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
A2.4.5		5. Provision and appointment of an Environmental Control Officer for the site and carrying out of audits at fortnightly intervals and reporting at monthly meetings.	Sum	1		
A2.5	8.4.3	Supervision	Months	4		
A2.7	8.4.3	C.L.O	Months	5	R 5 000,00	R 25 000,00
A2.8	8.4.3	Inservice-Trainee Technician	Months	5	R 6 500,00	R 32 500,00
A2.9	8.4.5	Other time-related obligations	Sum	1		
A2.10	8.3.4	Remove Contractor's Site establishment on completion	Sum	1		
A3		Compliance with requirements of the Environmental Regulations				
A3.1		1. Providing information and Method Statements as directed by the Project Environmental Control Officer (PECO) or Engineer.	each	1		
A3.2		2. Provision of specific seed mix and application to areas for application as directed by the PECO or Engineer.	kg	1		
A3.3		3. Provision of training to contract staff on environmental compliance.	Sum	1		
A4		DAYWORKS				
A4.1		Labour during normal working hours				
A4.1.1		Supervisor	hr	160		
A4.1.2		Pipelayer/Plumber	hr	160		
A4.1.3		Bricklayer	hr	10		
A4.1.4		Unskilled labour	hr	320		
A4.1.5		Skilled labour	hr	80		
A4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
A4.2.1		TLB	hr	10		
A4.2.2		Tipper Truck	hr	10		
Carried forward						

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BILL 2: ESIGODLWENI JSS

SECTION B : BULK PUMPING MAIN FROM BOREHOLE						
ITEM NO.	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B1	SANS 1200 DB(PSDB)	SECTION B : BULK PUMPING MAIN FROM BOREHOLE				
B1.1		Contractor to supply material equipment for pressure testing.	No	1		
B1.2		Inspect ,test and evaluate by carefully exposing by hand existing services including backfill and reinstate.Provide list of material to reinstate for rising main.	m3	3		
B1.3		Provisional Sum for materials	Prov Sum	20000		
		STERILIZATION & HYDROTESTING				
B1.4		Pressure test sterilize bulk rising main and commissioning	No	1		
TOTAL CARRIED TO SUMMARY						R -

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BILL 2: ESIGODLWENI JSS

SECTION C : RETICULATION AND FITTINGS						
ITEM NO	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION C : RETICULATION AND FITTINGS				
C1	SANS 1200 DB(PSDB	RECTICULATION PIPELINE				
		Contractor to supply material equipment for pressure testing.	No	1		
C1.2		Inspect ,test and evaluate by carefully exposing by hand existing services including backfill and reinstate.Provide list of material to reinstate for recticulation.	m3	3		
C1.3		Provisional Sum for materials	Prov Sum	20000		
C.2.1		MISCELLANEOUS				
C.2.1		Supply, deliver, handle, install initialise and commission standpipes complete inclusive of all concrete, fittings, pipes and valves as per drawing 6035/045/008. The rate includes stencilling of standpipe numbers using 75mm lettering/numbers	No	Rate Only		
C.2.2		Fix and make good existing standpipe including related drainage as per drawing No 6035/045/008	No	2		
C2.3		Drainage trench complete as per drawing 6035/045/008	No	3		
C2.		Pressure test a, sterilize reticulation and commissioning	No	1		
TOTAL CARRIED TO SUMMARY						

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BILL 2: ESIGODLWENI JSS

SECTION D : ELEVATED WATER TANK						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION D : ELEVATED WATER TANK				
D1	SANS 1200 D (PSD)	ELEVATED POLYETHYLENE WATER TANK				
D1.1	8.4.4	Fix and make good 10 000L circular water tank 2.200m diameter x 3.080m high, complete with a 40ND MGI plug fitted to opening above inlet and sufficient 4mm diameter galvanised steel wire for anchoring to the tank stand platform . Tank to be erected complete with inlet and outlet pipework and brackets, all as detailed on Drawing No. 6035/045/005	No	3		
D2		Corrosion Protection				
D2.1		Remove all rust, loose paint and make good as per the original specification including application of the final coat as per Drawing No. 6035/045/005.	No	3		
D3		CHLORINATION				
D3.1		Supply and install klorman inline chlorination including cartridges to elevated tanks according to supplier specifications.	No	Rate Only		
Carried forward						R -

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BILL 2: ESIGODLWENI JSS

SECTION D : ELEVATED WATER TANK						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward						R -
D3.2		RAIN WATER POLYETHYLENE TANK 1x5000L circular water tank 1.810 diameter x 2.275m high, complete with tie-down wire, lid, inlet, outlet etc. Tank to be set on a 100mm thick slab reinforced with Ref.193 mesh, cast on backfilled concrete block surround of 9" blocks laid on 600x200mm deep concrete footings, including concrete gulley slab with metal outlet grating securely fixed into concrete. All constructed as detailed on Drawing No. 6035/045/007	No	Rate Only		
D4		DEMOLISH TANK BASE				
D4.1		Demolish existing tank base structure including rainwater tank gulley and related soakaway as per Drawing No 6035/045/007 and Drawing No 6035/045/017.	No	Rate Only		
D4.2		Dispose rubble material to a site comply to environmental requirements pr as ordered by engineer.	Sum	1		
D5		FIX JOJO TANKS				
D5.1		Fix existing tanks and make good tank base, complete with 6mm galvanised tie-down wire, lid, inlet, outlet, tap, down pipes etc All as Drawing No. 6035/045/004 & 020	No	2		
D6		MISCELLANEOUS				
D6.2		Soakaway, as detailed on Drawing No 6035/045/017.	m	6		
D6.3		Seamless epoxy coated aluminium rainwater gutters, etc, fixed strictly in accordance with manufacturer's instructions Drawing No.6035/045/007.	m	50		
D6.4		15 x 125mm "Everite" pressed fibre cement fascia board drilled and brass screwed to and including 38 x 50 x 114mm long S.A.P cleats screwed to rafter sprockets, including steel H-profile between lengths. 125mm x 85mm x 0.6mm Thick "Ogee" eaves gutter, on and including gutter brackets fixed at not exceeding 1m centres. And include removal of existing rainwater gutters and fascia boards.	m	50		
TOTAL CARRIED TO SUMMARY						

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BILL 2: ESIGODLWENI JSS

SECTION E : PUMP STATION: CIVIL AND BUILDING WORKS						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
E	SANS 1200	SECTION F: BOREHOLE PUMP HOUSE Refer To drawing 6035/045/004				
		All construction works shall comply with project specifications and relevant SANS 1200 requirements.				
		SUPER-STRUCTURE				
E1.1		Construct new top structure as per drawing 6035/045/004. Rate shall make provision of site preparation.	Sum	1		
		PIPEWORK				
E1.2		Equip borehole with all mechanical equipment and pipework as indicated on drawing 6035/045/004	Sum	1		
		WIND TURBINE				
E1.3		Supply and install e300i Wind Turbine on 12m monopole tower on a concrete base according to the manufacturer's specifications, complete with CU200 in a lockable interphase box	Sum	1		
E1.4		Supply and install Grundfos or similar approved borehole pump complete with riser, specials, electric cabling and base plate as per drawing 6035/045/004	Sum	1		
E1.5		Supply and install all cabling and accessories as per the manufacturers specification to connect the wind turbine output to the borehole pump, including control panel.	Sum	1		
TOTAL CARRIED TO SUMMARY						R -

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BILL 2: ESIGODLWENI JSS

SECTION F : FENCING						
ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F		FENCING				
F1.1		Supply and erect 1.8m high security fencing around Elevated tank with galvanised post cast into concrete blocks as detailed on Drawing No. 6035/045/014	m	20		
F1.2		Supply and erect 1.8m high security fencing around Turbine & Borehole pump house and Turbine with galvanised post cast into concrete blocks as detailed on Drawing No. 6035/045/014	m	20		
F1.3		Supply and fit 1.2 m wide pedestrian galvanised steel gate complete with hinges, locking device, posts and padlock	No	2		
F2		PADLOCKS				
F2.1		Supply 50 mm "Viro" Padlocks and Keys (or equal approved)	No	2		
TOTAL CARRIED TO SUMMARY						

INDEPENDENT DEVELOPMENT TRUST
ASIDI WATER SUPPLY PROJECT IN OR TAMBO REGION
CLUSTER 3F: NOZAYI SPS AND ESIGODLWENI JSS
TENDER NO.: DoEEC/05/2021

BILL 1: NOZAYI SPS		
SECTION	DESCRIPTION	AMOUNT (R)
A	PRELIMINARY AND GENERAL	
B	BULK PUMPING MAIN FROM BOREHOLE	R -
C	RETICULATION AND FITTINGS	R -
D	ELEVATED WATER TANK	R -
E	BOREHOLE PUMP WORKS	R -
F	FENCING	R -
BILL 2: ESIGODLWENI JSS		
A	PRELIMINARY AND GENERAL	
B	BULK PUMPING MAIN FROM BOREHOLE	R -
C	RETICULATION AND FITTINGS	R -
D	ELEVATED WATER TANK	R -
E	PUMP STATION: CIVIL AND BUILDING WORKS	R -
F	FENCING	R -
	SUB-TOTAL A (BILL 1+2)	R -
	ADD: 10% CONTINGENCIES	R -
	SUB-TOTAL B	R -
	ADD: 15% VAT	R -
TENDER AMOUNT: CARRIED TO FORM OF OFFER		-

PART C3: SCOPE OF WORKS

C3.1: DESCRIPTION OF THE WORKS

1.1 EMPLOYER'S OBJECTIVES

The ASIDI Water and Sanitation Programme is aimed at providing bulk water supply and proper sanitation facilities to schools in and around OR Tambo District Municipality region in the Eastern Cape.

The provision of water infrastructure to targeted schools is to provide basic levels of service to the Department of Basic Education's ASIDI standards. It also promotes rainwater harvesting as a secondary water supply for the schools.

The Contract entails the construction of water supply infrastructure at:

Esigodlweni JSS and Nozayi SPS

1.2 OVERVIEW OF THE WORKS

No detailed geological investigation has been undertaken, other than that undertaken for the borehole investigations.

The report indicates that the area is largely underlain by fractured and weathered mudstone shale. Dolerite intrusions in the form of dykes and sheets are present.

1.3 EXTENT OF THE WORKS

The major items of construction are described below in general terms, with more details provided on the construction specifications and tender drawings.

1.3.1 ESIGODLWENI JSS

Below is the work required to complete the project.

Pump Station:

Borehole

- Supply and Install complete e300 Wind Turbine cw 12m Monopole Tower on a concrete base with complete with pump house. Contractor to fetch the Wind Turbine at Emdikisweni JSS School.
- Supply and install galvanised fence around pump house.

Pumping main:

- Complete compaction and backfill at rising main pipeline.
- Supply, install pipeline, fittings where necessary and make good all leakages.

Storage reservoir (Elevated water tank)

- Recoat elevated tank stand, fix and make good the stands.
- Supply install Klorman inline Chlorination cartridge and float switch.
- Supply and install galvanised fence around elevated tank.

Reticulation Pipelines:

- Fix reticulation pipeline including all fittings.
- Fix and make good standpipes.
- Install soakaways in all standpipes.

Rainwater Harvestings:

- Demolish and make good poor tank base.
- Fix tanks and all tank fittings.
- Fix leaks on rainwater tanks taps.
- Supply and install aluminium gutters and downpipes.
- Fix damaged gutters and downpipes.
- Fix all remedial work on rainwater harvesting.

1.3.2 NOZAYI SPS

Pump Station:

Borehole

- Equipping 1 No new production borehole.
- Commissioning No. electrical driven submersible borehole pump installation.
- Supply and Install complete e300 Wind Turbine cw 12m Monopole Tower on a concrete base complete.
- Supply and install complete pipework and fittings.
- Replace gate and reinstall galvanise fence with razor wire.
- Fix all remedial work required on pump house.
- Fix pump house structure and doors

Pumping main:

- Complete compaction and backfill at rising main pipeline.
- Supply, install pipeline and fittings where necessary.

Storage reservoir (Elevated water tank)

- Recoat elevated tank stand and fix stands.
- Supply and Install fittings, chlorination cartridge and float switch.
- Supply and Install galvanised fencing for elevated tank.

Reticulation Pipelines:

- Supply, install and fix reticulation pipeline including fittings.
- Fix and make good all standpipes.
- Install soakaways in all standpipes.

ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
CLUSTER: 3F – ESIGODLWENI JSS & NOZAYI SPS
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Rainwater Harvestings:

- Demolish and reconstruct poor tank stand.
- Fix tanks and make good all tank fittings.
- Fix leaks on rainwater taps tanks.
- Supply and install or fix aluminium gutters and downpipes.
- Remedial work on rainwater harvesting.
- Install soakaways in all rainwater tanks.

1.4 LOCATION OF THE WORKS

Cluster 3D					
Project Type	Contract	ID	School Name	East	South
Water	3F	12	ESIGODLWENI JSS	29.695140	-31.045280
Water	3F	26	NOZAYI SPS	29.423320	-31.258450

C3.2: ENGINEERING

2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Table 2.1 : Design Services and Activity Matrix

Description	Responsible
Concept, feasibility and overall process	Employer
Basic Engineering and detail layout to tender stage	Employer's representative
Final design to approved for construction stage	Employer's representative
Preparation of as built drawings	Employer's representative

2.2 DRAWINGS

2.2.1 General

The drawings as listed in *Table 2.2* form part of the tender documents and shall be used for tender purposes only. Revised drawings will have issued for construction purposes.

The Contractor will be supplied with an unreduced paper print of each of the drawings. These prints will be issued free of charge and the Contractor shall make any additional prints he may require at his own cost.

Any information in the possession of the Contractor necessary for the Resident Engineer to complete his as-built drawings shall be supplied to the Resident Engineer before a Certificate of Completion will be issued.

Only figured dimensions shall be used and drawings may not be scaled unless so instructed by the Engineer. The Engineer will supply and figured dimensions, which may have been omitted from the drawings.

The levels given on the structural drawings are subject to confirmation on the site, and the Contractor shall submit all levels to the Engineer for confirmation before he commences any structural construction work. The Contractor shall also check all clearances given on the drawings and shall inform the Engineer of any discrepancies.

C3.3: PROCUREMENT

3.1 PREFERRED PROCUREMENT PROCEDURES

SANS 10396: 2003 and SANS 1914-1 to 6: 2002 are applicable to this Contract, as detailed further in the Tender component of this document.

3.2 SUB-CONTRACTING

Provided that not more than 25% of the value of the work is sub-contracted and provided that the expertise, capability and appropriateness of the intended sub-contractor can be proven to the satisfaction of the Engineer, the Contractor is free to sub-contract those portions of the work as deemed appropriate by the Contractor.

C3.4 CONSTRUCTION

4.1 WORK SPECIFICATIONS

4.1.1 Applicable Standards

The standards applicable to this Contract are the SABS 1200 Standardized Specifications detailed below and the variations, amendments and additions to the variations and additions to the SABS 1200 Standardized Specifications and the Particular Specifications described elsewhere in the document.

4.1.2 List of Applicable Standards

Standardized Specifications:-

SABS 1220 A	:	General
SABS 1200 AB	:	Engineer's Office
SABS 1220 C	:	Site Clearance
SABS 1200 D	:	Earthworks
SABS 1200 DB	:	Earthworks (Pipe Trenches)
SABS 1200 G	:	Concrete (Structural)
SABS 1200 L	:	Medium Pressure Pipelines
SABS 1200 LB	:	Bedding (Pipes)

Particular Specifications:-

PTS	:	Drilling of Boreholes
PPSA	:	General Requirements for Electrical and Mechanical Works
PPSB	:	Operational Control
PPSC	:	Pump Specification
PPSD	:	Electrical Specification

4.2 PLANT AND MATERIALS

The Contractor is responsible to provide and or procure all the plant and elected material and other resources necessary for the successful completion of the Works.

4.3 EQUIPMENT

The Contractor is responsible to provide and or procure all the requisite equipment for successful completion of the Works.

4.4 EXISTING SERVICES

The Contractor is required to connect to the existing command reservoir for the off-take to the booster pump station. The Contractor is also required to provide village reticulation that has already been provided with a bulk water supply. Apart from this water services infrastructure and the associated electrical works in the vicinity of these areas, there are

no other known existing services. All known services will be indicated to the Contractor at the outset of the Contract.

The Contractor is responsible to take all measures necessary to locate and then to protect these services during the construction of the Works and to take all reasonable measures to locate any other services.

The Contractor will be responsible to repair, at his own cost, all known services damaged by the Contractor in the completion of the Works. Such repairs shall be timeously completed and to the satisfaction of the Engineer.

4.5 SITE ESTABLISHMENT

4.5.1 Services and Facilities Provided by the Employer

The Employer will not be responsible to provide any services and or facilities.

4.5.2 Facilities Provided by the Contractor

The Contractor is responsible to provide all the facilities required for the due fulfilment of his obligations in terms of the Contract.

No area has specifically been identified for the establishment of a camp site. The Contractor will therefore be required to identify and establish his own camp site. Approval by the Engineer and the local community is required prior to the establishment of the site.

On completion of the Works, the Contractor must rehabilitate the site in accordance with the requirements of the Environmental Management Plan to the satisfaction of the Engineer.

The costs of providing the above shall be deemed to be included in the rates rendered.

4.5.3 Storage and Laboratory Facilities

The Contractor shall be responsible for providing his own laboratory to undertake the process control testing for which he is responsible in terms of the Contract. Alternatively, the Contractor may make arrangements for testing to be undertaken at a laboratory approved by the Engineer.

Acceptance testing on behalf of the Employer shall be undertaken by an independent laboratory separately appointed by the Employer.

All results obtained from the Contractor's process control testing shall immediately be made available to the Engineer.

The costs of providing the above shall be deemed to be included in the rates rendered.

4.5.4 Other Facilities and Services

The Contractor shall be responsible for providing all other facilities and services required for the due fulfilment of his obligations in terms of the Contract, such as power, water, telecommunications, security services, medical, fire protection, sanitation, toilets and solid waste disposal.

The requirements of the Environmental Management Plan in this regard are to be adhered to.

The costs of providing the above shall be deemed to be included in the rates rendered.

4.5.5 Vehicles and Equipment

The Contractor shall provide for the sole use of the Engineer and his representative, the office, telecommunication, and survey facilities as detailed elsewhere in this document.

Ownership will revert to the Contractor at the end of the Contract.

4.5.6 Advertisement Rights

All advertisement rights linked to this Contract remain with the Employer.

4.5.7 Notice Boards

The Contractor is required to provide one (1) Contract Notice Boards, as specified elsewhere in this document, which are to be located at a position approved by the Engineer.

4.6 SITE USAGE

The Contractor shall take all reasonable measures to establish ownership and current usage of the land in the vicinity of the Works, prior to setting out the Works and commencing with construction. All concerns or issues which may have a bearing on the construction of the Works must be brought to the attention of the Engineer for resolution prior to construction.

Where the Contractor is required to work within or in close proximity to land used or owned by others, the Contractor shall act in a responsible manner, taking cognizance of the rights of others.

The usage of the site shall also be restricted by the requirements of the Environmental Management Plan.

4.7 ALTERATIONS, ADDITIONS, EXTENSIONS AND MODIFICATIONS TO EXISTING WORKS

The Contractor may be required to connect to the existing adjacent regional water supply scheme infrastructure. Such infrastructure constitutes an existing water supply to other rural villages and cannot be interrupted for more than 24 hours.

The Contractor shall notify the Engineer at least 1 week in advance of his intention to work on existing works.

The Contractor will also be required to prove the adequacy of the works already completed and undertake remedial works as may be required to ensure the efficient operation of the completed works.

4.8 WATER FOR CONSTRUCTION PURPOSES

The Contractor must therefore make adequate provisions in his tender for all negotiations and procurement of water for construction activities, prior to this date and all related costs will be deemed to be included in his tendered rates.

Access to these water sources may be denied if it is found that the Contractor is unduly wasting water.

4.9 SURVEY CONTROL AND SETTING OUT OF THE WORKS

The Engineer will indicate to the Contractor the positions of the reservoirs, pump stations and standpipes as well as the routes of all the pipelines. Thereafter, the Contractor will be responsible for all setting out of the Works.

C3.5: MANAGEMENT

5.1 MANAGEMENT OF THE WORKS

5.1.1 Applicable Standards

The Contractor is referred to SANS 1921: 2004 parts 1, 2 and 3: Construction and Management Requirements for Works Contracts. These specifications shall be applicable to the Contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

5.1.2 Planning and Programme

The Contractor is required to submit for approval by the Engineer, within the timeframe stipulated in the Contract Data, a programme of works. The programme must be for the full contract period stipulated in the Contract Data and must clearly indicate all the main construction activities, their sequence and the critical path. The Contractor may not proceed with construction activities until such time as the programme has been approved by the Engineer.

The Contractor is required to report on and update the programme on a monthly basis.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme, for all possible delays due to normal adverse weather conditions and special non-working days as specified in the Contract Data.

The following constraints shall be taken into account in preparing the construction programme:

- a) The Contract time is **4 months**. Plant and personnel requirements to complete the project in the contract period must be incorporated in the Tender.

If during the time for completion of the Works or any extension thereof abnormal rainfall or wet conditions occurs, then the formula below shall be used to calculate separately the delay for each calendar month or part thereof. It shall be calculated each month during the period referred to in Clause 42.1 as the time for the completion of the Works and any extension time in accordance with Clause 42 that may have been granted by the Employer, or until the issue date of the certificate of practical completion, whichever is the shorter period. The delay calculated for a given month shall be used to determine the interim extension of time granted for the month. At the end of the applicable period referred to above, the aggregate of the monthly delays will be taken into account for the final determination of the total extension of time for the Contract:

$$V = (Nw - Nn) + \frac{(Rw - Rn)}{X}$$

If any value of V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.

The delay for a part of a month shall be calculated by substituting pro-rata values for the variables in the equation.

The symbols shall have the following meanings:

V	=	Delays due to rain in calendar days in respect of the calendar month under consideration.
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Nw	=	Actual number of days during the calendar month on which a rainfall of Y mm or more per day has been recorded.
Rw	=	Actual rainfall in mm for the calendar month under consideration.
Nn	=	Average number of days in the relevant calendar month (as derived from existing rainfall records provided in the project specifications) on which a rainfall of Y mm or more per day has been recorded.
Rn	=	Average rainfall in mm for the calendar month, as derived from the rainfall records supplied in the project specifications.
X	=	20, unless otherwise provided in the project specifications.
Y	=	10, unless otherwise provided in the project specifications.

The total delay that will be taken into account for the determination of the total extension of time for the Contract shall be the algebraic sum of the monthly totals for the period under consideration. But if the grand total is negative, the time for completion shall not be reduced on account of abnormal rainfall. The total extension of time for any calendar month shall not exceed $(N_c - N_n)$ calendar days, where N_c = number of days calendar days in the month under consideration.

The factor $(N_w - N_n)$ shall be considered to represent a fair allowance for variations from the average number of days during which rainfall equals or exceeds Y mm per day.

The factor $(R_w - R_n) \div X$ shall be considered to represent a fair allowance for variations from the average for the number of days during which rainfall does not equal or exceed Y mm per day, but wet conditions prevent or disrupt work.

This formula does not take into account any flood damage, which could cause further or concurrent delays and which should be treated separately in so far as extension of time is concerned.

Accurate rain gaugings shall be taken at a suitable point on the site daily at 08H00 unless otherwise agreed to by the Engineer, and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with by unauthorised persons.

Information regarding existing rainfall records, if available from a suitable rainfall station near the site, will be supplied in the project specifications, together with calculations of rain delays for previous years in accordance with the above formula. The average of these delays will be regarded as normal rain delays which the Contractor shall accommodate in his programme, and for which no extension of time will be considered.

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CALENDAR MONTH	EXPECTED NUMBER OF WORKING DAYS LOST DUE TO NORMAL RAINFALL	AVERAGE MONTHLY RAINFALL (mm)
January	4	114
February	4	110
March	4	106
April	3	49
May	2	26
June	1	15
July	1	18
August	2	21
September	2	46
October	3	74
November	4	99
December	4	104
TOTAL	34 days	783 mm

5.1.3 Sequence of the Works

Prior to commencing with construction, the Contractor is required to obtain approval from the Engineer, of his intended sequencing of the work.

5.1.4 Methods and procedures

The Contractor is required to undertake all construction activities in an orderly fashion and to maintain the cleanliness of the site during the contract period, to the satisfaction of the Engineer.

The Contractor is required to take note of and comply with the requirements of the Environmental Management Plan contained in this document. Monthly audits will be conducted by others to ensure compliance thereto. During the setting out of the works, guidance should be sought from the Engineer prior to the removal of trees and shrubs.

No blasting operations may be undertaken without the approval of the Engineer. The requisite documentation indicating the competence of the blaster, the approvals of the relevant authorities and the method statement for each blast, are required for approval purposes.

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Adequate materials should be available from the site. The Engineer will however indicate as required, the location of suitable borrow pits. These shall be opened and managed in accordance with the requirements of the Environmental Management Plan.

All suitable excess materials may be spread over the trench width. However, no rocks or boulders greater than 0.15m³ or of mass exceeding 25kg, may be placed within 2 m of the centreline of pipeline. Such materials are to be disposed at suitable locations within the free haul distance.

The Contractor shall pay special attention to the management and disposal of water and stormwater on the site and the conservation of topsoil and the rehabilitation of the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Furthermore, portions of the Works must be completed and suitably rehabilitated before moving onto new portions of the Works.

The Engineer reserves the right to limit the number of working fronts to ensure that the above is adhered to. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure with the above or to properly manage rain and surface water will not be considered.

The Contractor shall take all reasonable measures to maintain access to properties and a free flow of traffic during the construction of the works. Where it is this required to disrupt access and the free flow of traffic, it must be kept to a minimum, be of short duration and adequate notice and traffic accommodation measures must be provided. Furthermore, the approval of the Engineer must be sought in advance of any planned disruption.

The Contractor is to undertake all reasonable measure to minimize dust, noise, water, waste and other impediments and shall comply with the requirements of the Environmental Management Plan contained in this document.

The Contractor is required to obtain permission from the Engineer prior to working outside normal working hours.

The Contractor will be obliged to comply with the QA system of the Engineer, which dictates the requirements pertaining to inspections required prior to covering works.

5.1.5 Quality plans and control

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. However, the Contractor will also be required to comply with certain QA systems imposed by the Engineer, concerning to the approval of works o temporary works.

Process Control:

The Contractor shall arrange for all tests required for process control to be done by a laboratory acceptable to and approved by the Engineer.

The Contractor may employ the services of an independent commercial laboratory and must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

Acceptance control:

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer may have further control tests carried out by a laboratory of his choice. The cost of such additional tests will be covered by the Employer, but tests that failed to confirm compliance with the specifications, will be for the account of the Contractor.

5.1.6 Environment

The Contractor is required to undertake the construction of the Works in such a manner so as to minimize its impact on the environment. To this end, the Contractor is required to comply with the requirement of the Environmental Management Plan contained in Part 5 of this document.

5.1.7 Other contractors

No other construction works are envisaged to be undertaken during the construction of this Contract.

5.1.8 Testing, completion, commissioning, and correction of defects

It is required that the reservoirs and pipelines undergo and comply with the requisite water tightness and pressure tests prior to the connection to any existing works. Only once the Engineer has satisfied himself with the adequacy on the initial tests, will the Contractor be allowed to commission the Works. A method statement for the commissioning of the works will however be required for approval in advance of the commissioning. Relevant acceptance testing will also comply to all pump stations prior to their connection to the rest of the works.

Should any components of the works not meet the requirements of the initial tests, they shall be repaired by the Contractor at his own costs, and be re-tested, prior to the commissioning of the works.

Recording of weather

It is required that a rain gauge be erected on site at an approved location and that all rainfall be recorded and agreed to on a daily basis.

5.1.9 Management meetings

It is required that a suitably qualified representative of the Contractor attend monthly site meetings for the duration of the Contract.

5.1.10 Forms for contract management

It is required that the Contractor submit the requisite progress, plant, labour and other pertinent information on a monthly basis, in the format to be provided by the Engineer, for the management of the contract and reporting to the Client and provincial and national government.

All site instructions are to be recorded in writing in triplicate on pro forma forms to be provided by the Engineer.

5.1.11 Daily records

It is required that a daily site diary of all plant and labour on site, and all details of work performed be maintained on site by the Contractor. Similar documentation will be maintained by the Engineer.

5.1.12 Bonds and guarantees

All bonds and guarantees required to be provided by the Contractor in undertaking his obligations in terms of this Contract, will be held in safe keeping by the Engineer, and returned to the Contractor as required in terms of the Contract.

5.1.13 Health and safety

It is a requirement of this contract that the Contractor provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly or indirectly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHS Act 1993 Construction Regulations 2003 issued on 18 July 2003 by the Department of Labour.

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For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act contained in the Agreement and Contract Data.

Health and Safety Specifications and Plans:

(a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification is included in Part 5 of this document.

(b) Health and Safety Plan

The Contractor shall submit his own documented Health and Safety Plan he proposes to implement for the execution of the work under the contract. His Health and Safety Plan must at least cover the following:

- i. A proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 7 to 28;
- ii. Pro-active identification of potential hazards and unsafe working conditions;
- iii. Provision of a safe working environment and equipment;
- iv. Statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 5*);
- v. Monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- vi. Details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 6 and other applicable regulations; and
- vii. Details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amended if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

C3.4 TECHNICAL SPECIFICATION

CC FENCING AND GATES

CONTENTS

CC 01	SCOPE
CC 02	STANDARD SPECIFICATIONS
CC 03	OPERATING AND MAINTENANCE MANUALS
CC 04	EXECUTION OF WORK
CC 05	QUALITY STANDARD
CC 06	MATERIALS
CC 07	MAINTENANCE
CC 08	MEASUREMENT AND PAYMENT

CC 01 SCOPE

This specification covers the materials, equipment, methods, and work required for the repair and upgrade of existing water distribution networks. This specification covers the repair and maintenance of fencing and gates.

Where a particular specification has been included in the documents to supplement Technical Specification CC: Fencing and gates, this technical specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence. The Contractor shall at all times adhere to this technical specification, unless otherwise specified in the applicable Particular Specification.

CC 02 STANDARD SPECIFICATIONS

CC 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

SABS 763	-	Hot-dip (galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire)
SABS 675	-	Zinc-coated fencing wires (plain and barbed)
SABS 1373	-	Chain-link fencing and its wire accessories

CC 02.02 OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

CC 02.03 MANUFACTURERS' SPECIFICATIONS, CODES OF PRACTICE AND INSTALLATION INSTRUCTIONS

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

CC 02.04 MUNICIPAL REGULATIONS, LAWS AND BY-LAWS

All municipal regulations laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

CC 03 OPERATING AND MAINTENANCE MANUALS

No operation and maintenance manuals will be required for fencing and gates.

CC 04 EXECUTION OF WORK

The Contractor shall investigate and inspect all areas of the installation to confirm the extent of the repair work required and shall report to the Engineer. The Engineer will thereafter demarcate any areas to be repaired and shall instruct the Contractor with regard to the repair work to be done.

Any fencing work identified either by the Contractor or during inspection by the Engineer shall be carried out on the instruction of the Engineer.

The Contractor shall ensure that the necessary materials, skilled personnel, tools and equipment are available at all times to maintain the prison fence in a state of good repair.

The Engineer shall indicate where new fences are to be erected, or where repairs are necessary.

Wherever an opening has been made in the fence while repairing it, the area shall be guarded by a guard of the User Client. Under no circumstances shall a fence be left open or unattended at any time. Whenever a part of the fence is taken down to repair/replace it, it will be replaced within the same day it has been taken down.

Unless otherwise instructed by the Engineer, similar type fencing material to that in the existing fence line shall be used where fences are to be repaired.

CC 04.01 SCOPE OF WORK

Supply and erect 1.8m high galvanised fence with standard post at 4m cast into concrete blocks consisting of the following features: barbed wire, smooth wire, diamond mesh, tubular standard post, tubular straining post including anchors and corner post including anchors. Supply and fit 1.2m wide pedestrian gate complete with hinges, locking device, posts and padlock.

CC 04.02 CLEARING THE FENCE ROUTE

The fence route shall be cleared over a width of at least 0,5 m on each side of the centre line of the fence and surface irregularities shall be levelled so that the fence will follow the general contour of the ground.

The bottom of the fence shall be located at a uniform distance above the ground line, but no more than 50 mm.

CC 04.03 INSTALLATION OF POSTS AND STANDARDS

Posts shall be accurately set in holes and be provided with concrete bases to the dimensions specified.

Holes shall be dug to their full specified depth.

Posts shall be firmly planted into the ground at the same spacing as the existing posts or as instructed by the Engineer. The spacing of posts between any two straining posts shall be uniform.

CC 04.04 ERECTING FENCE WIRES

All fencing wire shall be wired to the sides of posts in order to prevent the wires from being displaced or becoming loose. The wire shall be carefully strained and hung without sag, and with true alignment, care being exercised not to strain the wire so tightly that it will break or that end, corner, straining or gate posts will be pulled up.

Each strand of fencing wire shall be securely fastened in the correct position to each post with soft galvanised binding wire.

Splices in the fencing wire shall be permitted if made in the following manner using a splice tool. The end of each wire at the splice shall be carried at least 75 mm past the splice tool and wrapped snugly around the other wire for not less than six complete turns, the two separate wire ends being turned in opposite directions. After the splice tool is removed the space left by it in the splice wire shall be closed by pulling the wire ends together. The unused ends of wire shall be cut close so as to leave a neat splice.

CC 04.05 ERECTING DIAMOND MESH OR WIRE NETTING

Wire netting or diamond mesh shall be stretched against the fence and properly secured to the fencing wire. The diamond mesh or wire netting shall be secured by means of soft binding wire at 1,2 m centres along the top and bottom wires and at 3 m centres along each of the other fencing wires unless otherwise specified.

CC 04.06 CLOSING OPENINGS UNDER FENCES

At ditches, drainage channels or other hollows where it is not possible to erect the fence so that it follows the general contour of the ground, the Contractor shall cover the openings with wire netting or diamond mesh fixed to the fence.

CC 04.07 EXISTING FENCES

Where a new fence joins an existing fence, whether in line or at an angle, the new fence shall be erected with a new straining post positioned at the terminal of the existing fence.

CC 04.08 GATES

Gates shall be hung on gate fittings in accordance with the requirements specified. The gates shall be so erected that they swing in a horizontal plane at right angles to the gateposts, clear of the ground in all positions.

Double swing gates shall not leave a gap of more than 25 mm between them when closed and other gates shall not be further than 25 mm from the gate-post when closed. The clearance below the gates shall not exceed 75 mm with the gates closed.

CC 04.9 ERECTING NEW FENCING MATERIAL

All new material used to replace old material shall be similar to the old material replaced unless a new material is specified by the Engineer.

CC 05 QUALITY STANDARD

The completed fences shall be plumb, taut, true to line and ground contour, with all posts, standard and stays firmly set.

The Contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or netting so as not to create a hazard to grazing animals or a nuisance to the owners of the ground.

CC 06 MATERIALS

CC 06.01 POSTS

CC 06.01.01 Steel posts

New posts or posts that need to be replaced shall be of the same type and size as the existing posts. Tubular posts shall be galvanised in accordance with SABS 763 for Class B1 articles or shall be painted as specified and have a minimum wall thickness of 2,00 mm.

Tubular stays shall have a minimal bore of at least 60 mm and a wall thickness of at least 2,00 mm. These stays shall be galvanised as specified In SABS 763 or shall be painted as specified.

CC 06.02 WIRE

CC 06.02.01 Barbed wire

Barbed wire shall comply with the requirements of SABS 675 and shall be one or more of the following types:

- (a) High-tensile grade, oval shaped, single-strand wire, 3,15 mm x 2,50 mm (2,81 mm equivalent diameter), and fully galvanised;

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(b) High-tensile grade, oval shaped, single-strand wire, 2,80 mm x 1,90 mm (2,31 mm equivalent diameter), fully galvanised (first class coating). This wire shall not be used less than 500 mm above ground where there is danger of grass fires;

(c) Mild-steel grade, double strand, unidirectional twist wire, each strand 2,50 mm diameter, for use at any height above ground. The wire shall be fully galvanised;

(d) Barbs shall be manufactured from 2,0 mm galvanised wire and shall be spaced at not more than 152 mm.

CC 06.02.02 Barbed tape coil

Barbed tape coil shall comply with the requirements for type A in CKS 592 and shall consist of close-coiled, high-tensile wire with a continuous strip of flat steel barbs (barbed tape) crimped to the wire along the entire length of the wire.

The high-tensile wire shall be Class B galvanized. The barbed tape shall be made of cold-roller carbon steel and galvanized to Class 2450.

CC 06.02.03 Smooth wire

Smooth wire shall comply with the requirements of SABS 675 and shall be of the types specified below:

- (a) Straining wire shall be 4,0 mm diameter and fully galvanised.
- (b) Fencing wire shall be high-tensile grade, 2,24 mm diameter wire fully galvanised.
- (c) Tying wire shall be 2,50 mm diameter, mild steel, galvanised wire for tying fencing wire to standards and droppers, and 1,60 mm diameter, mild steel, galvanised wire for typing netting and mesh wire to fencing wire.

CC 06.03 DIAMOND MESH

- (a) Diamond mesh (chain-link) fencing shall comply with the requirements of SABS 1373. The edge finish shall be both sides clinched or barbed.
- (b) The nominal diameter of the wire shall be 2,5 mm and the mesh size shall be 64 x 64 mm.
- (c) The wire shall be fully galvanised.

CC 06.04 WELDED MESH

Wire netting shall be fully galvanised with mild steel wire with a minimum diameter of 1,8 mm and 75 mm mesh.

CC 06.05 MANUFACTURING TOLERANCES FOR WIRE

The actual diameter of wire supplied shall nowhere be less than the specified diameter by more than the following tolerances:

Specified diameter	Tolerance
1,00 - 1,8 mm	0,05 mm
2,00 - 2,8 mm	0,08 mm

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3,15 - 4,0 mm

0,10 mm

CC 06.06 GATES

New gates or gates that need to be replaced shall be the same type and size as existing gates. Gates shall be galvanised in accordance with SABS 763 for class B1 articles or shall be painted as specified.

CC 08 MEASUREMENT AND PAYMENT

CC.01 CLEARING FENCE ROUTE 1 m WIDE STRIP.....Unit: metre (m)

The unit of measurement for the clearing of the fence route shall be the metre of fence line measured along each fence line.

The tendered rate shall include full compensation for the clearing of the fence line as specified, including the removal of stones and other obstructions and the disposal as directed of all material resulting from clearing operations.

CC.02 SUPPLY AND ERECTION OF NEW FENCING MATERIAL

TO REPLACE OLD MATERIAL:

- (a) Barbed wire Unit: metre (m)
- (b) Smooth wire Unit: metre (m)
- (c) Diamond meshUnit: metre (m)
- (d) Wire netting Unit: metre (m)
- (e) Barbed tape coil.....Unit: metre (m)
- (f) Posts Unit: number
- (g) Gates Unit: number
- (h) Y-standardsUnit: number

The quantity of material used shall be determined by measuring the quantities of individual items of material installed in the completed fence. Clearing of the fence line will be paid for under item CC.01. Removal and disposing of the existing fencing material shall be deemed included in the rate for new material.

The applicable units of measurement are as follows:

- (a) Fencing wire and basked tape coil

The unit of measurement shall be the metre of each type of fencing wire measured in place and between end posts. Binding wire and wire used for bracing and anchoring of posts shall not be measured for payment. Barbed tape coil shall not be measured along the coiled wire but also between end posts.

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(b) Diamond mesh and wire netting

The unit of measurement shall be the square metre of diamond mesh or wire netting and the quantity shall be calculated using the prescribed width and the length between straining posts or gate posts, or the length of strips for covering openings under fences, or the length used for the covering of gates.

(c) Posts

The unit of measurement shall be the number of posts, as follows:

All straining posts erected in accordance with the maximum specified spacing or such lesser spacing as authorised by the Engineer, all corner and gateposts authorised by the Engineer and all end posts. Gate posts for new gates shall not be measured for payment.

(d) Gates

The unit of measurement shall be the number of each type of gate repaired or replaced.

CC.04 REDRESS, TREAT AND PAINTING OF FENCE Unit: metre (m)

The unit of measurement for the redressing (tightening, repairing and patching), treating and painting the fence line shall be the metre of fence line measured along each fence line.

The tendered rate shall include full compensation for performing minor repairs, tightening the fence, patching damaged areas, treating the existing fence with an approved rust remover/inhibitor, and then applying cold galvanising as specified by the Engineer.

CC.05 TREATING AND PAINTING OF POLESUnit: metre (m)

The unit of measurement for the treating and painting of poles shall be the metre of pole as instructed by the Engineer.

(a) For steel posts

The tendered rate shall include full compensation for treating the existing poles with an approved **rust remover/inhibitor** and the applying **cold galvanising** as specified by the Engineer.

CE WATER DISTRIBUTION NETWORKS

CONTENTS

CE 01	SCOPE
CE 02	STANDARD SPECIFICATIONS
CE 03	OPERATING AND MAINTENANCE MANUALS
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CE 06	QUALITY ASSURANCE SYSTEM

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CE 07	MAINTENANCE TO INSTALLATION SYSTEMS AND REPAIR WORK
CE 08	MEASUREMENT AND PAYMENT

CE 01 SCOPE

This specification covers the materials, equipment, methods, testing and work required for the supply of water infrastructure at the schools. Such distribution networks may comprise:

- (a) Primary and secondary distribution pipelines
- (b) Valves
- (c) Chambers
- (d) Pumping installations
- (e) Borehole installations
- (f) Elevated water tanks

This specification shall form an integral part of the new infrastructure contract document and shall be read in conjunction with portion 3: Additional Specifications included in this document.

Where a particular specification has been included in the documents to supplement Technical Specification CE: Water distribution networks, this technical specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence. The Contractor shall at all times adhere to this technical specification, unless otherwise specified in the applicable Particular Specification.

CE 02 STANDARD SPECIFICATIONS

CE 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

SANS 1200 D	- Earthworks
SANS 1200 DB	- Earthworks (pipe trenches)
SANS 1200 G	- Concrete (structural)
SANS 1200 L	- Medium-pressure pipelines
SANS 1200 LB	- Bedding (pipes)

CE 02.02 OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

CE 02.03 MANUFACTURERS' SPECIFICATIONS, CODES OF PRACTICE AND INSTALLATION INSTRUCTIONS

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

CE 02.04 MUNICIPAL REGULATIONS, LAWS AND BY-LAWS

All municipal regulations, laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

CE 03 OPERATING AND MAINTENANCE MANUALS

[Note: There is no maintenance in terms of this contract]

CE 05 DRILLING OF BOREHOLES

The Engineer shall in writing indicate or provide co-ordinate positions for the borehole positions.

The contractor shall sub-contract a drilling contractor for the drilling of one or two boreholes; yield testing and a laboratory for water quality testing.

In the event of the installation or equipping of borehole not being successful or completed because it does not give enough yield, the Engineer shall in writing instruct the Contractor to remove all its personnel or employees from the site and lock the site and provide security until further notice from the Engineer.

CE.05.01 Payment – Drilling of Borehole

The provisional sum shall include the drilling, yield testing and laboratory water quality testing of two boreholes. Should the first borehole be successful the contractor will be paid a pro-rata amount for all reasonable expenses incurred.

CE.05.02 Payment – Removal of Personnel

The provisional sum shall include the removal and bringing back of personnel and provision of security for this duration.

CE 06 TESTS AND INSPECTIONS ON COMPLETION WORK

Except where otherwise provided in the Contract, the Contractor shall provide all labour, materials, power, fuel, accessories and properly calibrated and certified instruments necessary for carrying out such tests. The Contractor shall make arrangements for such tests and he shall give at least 72 hours' notice to the Engineer, in writing, prior to commencement of the test.

In the event of the plant or installation not passing the test, the Employer shall be at liberty to deduct from the Contract price all reasonable expenses incurred by the Employer or the Engineer attending the repeated test.

Whenever any installation or equipment is operated for testing or adjusting as provided for above, the Contractor shall operate the entire system for as long a period as may be required to prove satisfactory performance at all times in the occupied space served by that system for up to twenty-four hours a day continuously until the system is handed over.

The Contractor shall provide all labour and supervision required for such operation and the Employer may assign operating personnel as observers, but such observation time shall not be counted as instruction time.

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After complete installation of the system all equipment shall be tested, adjusted and readjusted until it operates to the satisfaction and approval of the Engineer.

The Contractor shall submit certificates of tests carried out to prove the quality and proper functioning of all equipment and also certificates to be obtained from all relevant authorities and statutory bodies, etc.

CE 07 QUALITY ASSURANCE SYSTEM

The Contractor shall institute an approved quality assurance (QA) system which shall be submitted to the Employer or Engineer for approval. The records of this QA system shall be kept throughout the duration of the Contract and be submitted to the Engineer at regular intervals as required.

CE 08 MAINTENANCE TO INSTALLATION SYSTEMS AND EQUIPMENT

[Note: There is no maintenance in terms of this contract]

CE 09 MEASUREMENT AND PAYMENT

CE.01 WATER DISTRIBUTION PIPELINES

CE.01.01 New pipelines.....Unit: metre (m)

The unit of measurement shall be per metre length of pipe replaced. In each case the Contractor shall agree on the length of pipe to be replaced and the method of coupling the pipes.

The tendered rate shall include full compensation for cleaning and grubbing, excavation, removal of existing pipeline, dealing with waterlogged conditions, provision of bedding and additional backfill, logging and backfilling of replacement pipeline, finishing, repair of kerbs, road surfaces, accommodation of traffic, excavation in all materials, removal of unsuitable material from the trench, disposal of surplus materials.

The provision of the materials will be measured separately under CE 01.02.

CE.01.02 Provision of materials

(a) PipelinesUnit: metre (m)

The unit of measurement shall be the metre of pipe replaced.

(b) FittingsUnit: number

The unit of measurement shall be the number of fittings installed.

The tendered rates shall include full compensation for all transport to the place of installation, storage, labour costs.

Separate pay items shall be listed for the pipe materials and fittings per diameter and class.

CE.01.03 Manhole covers, grid inlets and the like

(a) SANS 558 Type 4 - covers, grids, etc, only:

(i) Maximum dimension up to 300 mm Unit: number

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-
- | | | |
|-------|---|--------------|
| (ii) | Maximum dimension 301 mm - 600 mm | Unit: number |
| (iii) | Maximum dimension 601 mm - 900 mm | Unit: number |
| (iv) | Maximum dimension over 900 mm | Unit: number |
| (b) | <u>SANS 558 Type 4 - frames only for covers, grids, etc:</u> | |
| (i) | Maximum dimension up to 300 mm | Unit: number |
| (ii) | Maximum dimension 301 mm - 600 mm | Unit: number |
| (iii) | Maximum dimension 601 mm - 900 mm | Unit: number |
| (iv) | Maximum dimension over 900 mm | Unit: number |
| (c) | <u>SANS 558 Type 2A - covers, grids, etc, only:</u> | |
| (i) | Maximum dimension up to 300 mm | Unit: number |
| (ii) | Maximum dimension 301 mm - 600 mm | Unit: number |
| (iii) | Maximum dimension 601 mm - 900 mm | Unit: number |
| (iv) | Maximum dimension over 900 mm | Unit: number |
| (d) | <u>SANS 558 Type 2A - frames only for covers, grids, etc:</u> | |
| (i) | Maximum dimension up to 300 mm | Unit: number |
| (ii) | Maximum dimension 301 mm - 600 mm | Unit: number |
| (iii) | Maximum dimension 601 mm - 900 mm | Unit: number |
| (iv) | Maximum dimension over 900 mm | Unit: number |

The unit of measurement shall be the number of covers or frames installed. The classification of the size of each cover or frame will be based on the nominal dimensions of the unit and not on the actual dimensions.

The tendered rates shall include full compensation for procuring, furnishing and placing the new covers, grids and/or frames. The tendered rates shall also include full compensation for removing and disposing of the damaged covers, grids and/or frames from the site.

CE.01.04 Corrosion protection

Corrosion protection of pipes with diameters of:

- | | | |
|-----|--------------------------------|-----------------|
| (a) | <u>Up to 100 mm dia</u> | Unit: metre (m) |
| (b) | <u>101 to 200 mm dia</u> | Unit: metre (m) |
| (c) | <u>201 to 300 mm dia</u> | Unit: metre (m) |
| (d) | <u>301 to 400 mm dia</u> | Unit: metre (m) |

The unit rate of measurement shall be meter length of pipe painted with corrosion protection in accordance with Specification LB: Corrosion protection.

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The tendered rate shall include full compensation for preparation of pipe fittings, application of corrosion protection and curing of corrosion protection.

Separate items shall be scheduled for different types of pipework.

THE CONTRACT

C3.7 AMENDMENTS TO THE STANDARD SPECIFICATIONS

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C3.7: **AMENDMENTS TO THE STANDARD SPECIFICATIONS AND PARTICULAR SPECIFICATIONS**

PSA: **GENERAL**

PSA 1 **ESSENTIAL CLAUSES**

PSA 1.1 **QUALITY (sub-clause 3.1)**

All materials used in the Works shall bear the SABS mark or an equivalent official standardization mark.

All samples as required in terms of the Specifications shall be delivered to a designated laboratory in East London or the Engineer's site office as directed by the Engineer.

PSA 1.2 **SETTING-OUT OF THE WORKS (sub-clause 5.1.1)**

The Engineer or his representative will indicate where the reservoirs are to be located, the routes for the rising mains and reticulation and the locations for the standpipes. Thereafter the Contractor will be responsible for all further setting out of the works.

The Contractor shall also be responsible for defining and setting of tasks for the local labour.

PSA 1.3 **WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS (SUB-CLAUSE 5.2)**

Such works shall be undertaken in accordance with the requirements of SANS 1921.

PSA 1.4 **DEGREES OF ACCURACY (sub-clause 6.2)**

Degree of Accuracy II shall be applicable throughout the Works.

PSA 1.5 **CONNECTION TO EXISTING VILLAGE WATER SUPPLY**

Service connections to the supply main for connections up to 50mm diameter shall be made using saddles unless otherwise specified, and tapping shall be at an angle of 22,5° from the horizontal plane. Unless specifically called for, ferrules will not be required in the saddle. Service connections larger than 50mm diameter and larger shall be joined to the supply main with a standard tee, and the Specifications for Medium-Pressure Pipelines shall apply to these connections.

Service connections shall be laid at right angles to the road centreline and where crossing the road hardening, shall be laid to provide a minimum cover of 800mm below finished road level unless otherwise specified.

Allowance should be made for meter, meter box, stop cork installation at the school.

PSA 5.1 **MEASUREMENT FOR PAYMENT**

The length of erf connections will be measured on plan per linear metre along the centreline of the connection and to the centreline of the supply main.

Allowance should be made for meter, meter box, stop cork installation.

PSA 2 **ESSENTIAL DATA**

PSA 2.1 **PROVISIONAL SUMS (sub-clause 8.5)**

Provisional sums have been provided in the Schedule of Quantities for contingency expenditure for unforeseen items of work and for quality assurance tests to be carried out on the instruction of the Engineer.

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PSA 3 ADDITIONAL CLAUSES

PSA 3.1 SAFETY

The Contractor shall undertake the Works in terms of the Occupational Health and Safety Act, Act No 85 of 1993 and the requirements of the Construction Regulations of 2003. The Contractor is therefore required to submit an Occupational Health and Safety Plan for approval prior to commencing with the Works.

The Department of Labour is also to be notified of the commencement of the Works and proof of receipt thereof is required prior to commencing with the Works.

PSAB 2 ESSENTIAL DATA

PSAB 2.1 NAMEBOARD (sub-clause 3.1)

One (1) name boards are required.

PSAB 2.2 SURVEY ASSISTANTS

2 No. survey assistants are required.

PSAB 3 ADDITIONAL CLAUSES

None.

PSC SITE CLEARANCE

PSC 1 ESSENTIAL CLAUSES

PSC 1.1 SCOPE (sub-clause 1.1)

Where site clearance is to be undertaken via labour intensive methods, "boulder size up to 0.15m³" shall be replaced with "boulder of mass not exceeding 25kg".

PSC 1.2 CONSERVATION OF TOP SOIL (sub-clause 5.6)

The Contractor is required to conserve top soil as required in terms of the Environmental Management Plan contained in Part 5 of this document.

PSC 1.3 LANDSCAPE PRESERVATION AND CONSERVATION OF FLORA ((sub-clause 5.7)

The Contractor is to comply with the requirements of the Environmental Management Plan contained in Part 5 of this document.

PSC 2 ESSENTIAL DATA

PSC 2.1 DISPOSAL OF MATERIAL (sub-clause 3.1)

The Contractor shall make his own arrangements for the disposal of cleared material. Disposal sites identified by the Contractor shall be approved by the Engineer and members of the local community.

All trunks and branches of girth exceeding 0.15m shall be stripped of secondary branches, sawn into manually transportable lengths and stock piled in designated sites within the village. Minor branches in girth not exceeding 0.15m and scrub shall be burnt on site.

PSC 2.2 AREAS TO BE CLEARED AND GRUBBED (sub-clause 5.1)

A strip 1.0 m wide on either side of the centre line of the rising mains shall be cleared.

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- PSC 2.3 GRUBBING (sub-clause 5.4)**
All stumps and matted roots are to be removed to a depth of 600mm below the floor level of the proposed reservoirs.
- PSC 3 ADDITIONAL CLAUSES**
Nil.
- PSD EARTHWORKS**
- PSD 1.1 CLASSIFICATION FOR EXCAVATION PURPOSES (sub-clause 3.1)**
Where labour intensive construction methods are to be used, the definition of clause 3.1.2 shall not apply and shall be replaced as follows:
- (a) "Soft excavation" shall be that excavation in material, which in the opinion of the Engineer, which can be excavated by means of hand-held tools excluding pneumatic or hydraulic breaking tools.
 - (b) "Intermediate excavation" shall be that excavation in material, which in the opinion of the Engineer, requires breaking with hand-held pneumatic or hydraulic tools before removal.
 - (c) "Hard Rock excavation" shall be that excavation, which in the opinion of the Engineer, can not be economically removed by pneumatic or hydraulic means and requires blasting or other mechanical breaking before removal.
- "Boulder excavation Classes A + B" shall not apply, irrespective of the construction method used. Boulder excavation will be classified on site by the Engineer, as either "Intermediate" or "Hard rock excavation".
- PSD 1.2 NEGLIGENCE (sub-clause 5.1.2.4)**
The Contractor shall make good at his own expense, and to the approval of the Engineer, any services negligently damaged by the Contractor.
- PSD 2 ESSENTIAL DATA**
- PSD 2.1 SELECTION (subclause 3.3)**
The Contractor shall preserve the top soil, in accordance with the requirements of the Environmental Management Plan, for later use on site.
- PSD 2.2 ROAD TRAFFIC CONTROL (sub-clauses 5.1.6)**
Appropriate road traffic signs, in accordance with SANS 1921, are required at all pipeline road crossings.
- PSD 2.3 EXCAVATION FOR GENERAL EARTHWORKS AND FOR STRUCTURES (sub-clause 5.2.2.1)**
Provision shall be made for working space for the reservoir and associated chambers.
- PSD 2.4 BORROW PITS (sub-clause 5.2.2.2)**
Sites for borrow pits have not been identified. Should borrow pits be required, they will be identified in consultation with the Engineer and shall be opened, managed and closed in accordance with the requirements of the Environmental Management Plan. Where more than 200m³ of material are to be removed from the borrow pit, it is required that the borrow pit be registered with the Department of Minerals and Energy Affairs.
- PSD 2.5 DISPOSAL OF SURPLUS MATERIAL (sub-clauses 5.1.4.3 and 5.2.2.3)**

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No designated disposal sites have been identified. Surplus material excluding rock material, shall be neatly spread, shaped and trimmed across the pipe servitude or disposed of at a site approved by the Engineer. Surplus rock or bolder material shall be disposed of at sites agreed to with the Engineer in accordance with the requirements of the Environmental Management Plan.

PSD 2.6 BACKFILLING OF TRENCHES AND BACKFILLING AGAINST STRUCTURES (sub-clause 5.2.3.2)

Each layer shall be backfilled at OMC to a density of at least 90% of modified AASHTO maximum density for cohesive soils and 98% for non cohesive soils.

PSD 2.7 TRANSPORT FOR EARTHWORKS (sub-clause 5.2.5)

A free haul distance of 1.0 km shall be applicable to this Contract.

PSD 3 ADDITIONAL CLAUSES

PSD 3.1 CROSS DRAINAGE BERMS

Earth berms of dimensions 0.3m high x 0.3m wide x 2.0 long shall be constructed across the rehabilitated pipe trench in areas of steep slope, as directed by the Engineer.

The drainage berms shall be constructed immediately after having backfilled the pipe trench.

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB 1 ESSENTIAL CLAUSES

PSDB 1.1 CLASSES OF EXCAVATION (sub-clause 3.1)

Sub-clause 3.1 of SABS 1200 DB shall not apply but shall be replaced by clause PSD 1.1 of the Project Specification.

PSDB 1.2 TRENCH DIMENSIONS

The dimensions of the trench shall be as shown on the drawings.

PSDB 1.3 TRANSPORT OF EARTHWORKS FOR TRENCHES (sub-clause 5.6.8)

A free-haul distance of 1.0 km is applicable to this project.

PSDB 1.4 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL (sub-clause 5.6.3)

Soft and surplus material may be disposed along the trench servitude. Rock and boulder material shall however be disposed at locations agreed with the Engineer and in accordance with the requirements of the Environmental Management Plan.

PSDB 2 ESSENTIAL DATA

PSDB 2.1 EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH (sub-clause 8.3.5)

No special payment, other than that allowed for in clause 8.8.4 (c) of SABS 1200 A, shall be made for working across or adjacent to and the protection of existing services.

PSDB 2.2 EXCAVATION (sub-clause 8.1.2(c), 8.3.2(a) and 8.3.2 (b))

A class C bedding with a 100mm deep bedding layer below the invert of the pipe is required for all pipe, except HDPE pipe, to be installed as part of this contract. HDPE pipe shall be installed with a class D bedding.

PSDB 3 ADDITIONAL CLAUSES

Nil.

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PSG CONCRETE

PSG 1 ESSENTIAL CLAUSES

PSG 1.1 QUALITY (subclause 5.5.1.1)

Strength concrete is required throughout the works. The Contractor shall in good time, provide the Engineer with details of his proposed aggregates and design mix, for approval. Furthermore, an approved materials laboratory shall test and approve the mix, in writing and confirm that the materials used in mix are not subject to alkali-aggregate reaction.

The mix shall be approved by the Engineer after receipt of satisfactory cube test results.

The costs of designing and approving the concrete mix shall be deemed to be included in the rates tendered.

PSG 1.2 DURABILITY (subclause 5.5.1.5)

The base, walls, roof and columns of the concrete reservoirs and all concrete work for foundations shall be considered to be subject to severe exposure conditions but in no instance shall the W/C ratio exceed 0.5. All other concrete used in the works shall be considered to be subject to moderate conditions.

PSG 1.3 CONSTRUCTION JOINTS (subclause 5.5.7.1)

Only horizontal construction joints shall be permitted in the construction of the reservoirs. Construction joints, complete with a centre - bulb water stop, are required between the floor slab and walls of each reservoir. All other construction joints in the reservoirs, required in compliance with subclause 5.5.5.5 of SABS 1200 G, shall be prepared in accordance with subclause 5.5.7.3 (c) of SABS 1200 G.

PSG 2 ESSENTIAL DATA

PSG 2.1 CONCRETE (subclause 3.2.1)

Ordinary portland cement complying to SABS 471 shall be used in the concrete throughout the works.

PSG 2.2 CLASSIFICATION OF FINISHES (sub-clause 4.5.2 and 5.2.1)

All concrete shall have a smooth finish.

PSG 2.3 STRENGTH CONCRETE (sub-clause 5.5.1.7)

The strength concrete shall be positioned in the works as follows:

Grade	Structure
30/19	foundations/ footings, slabs, columns and all other structural concrete.
25/19	foundations/footings and slabs
15/19	mass concrete, pipe encasement and blinding

PSG 2.4 READY-MIX CONCRETE (sub-clause 5.5.3.2)

The production of concrete at a central production facility shall not be permitted without the Engineers prior approval.

PSG 3 ADDITIONAL CLAUSES

PSG 3.1 STORAGE OF CEMENT (sub-clause 3.2.3)

Cement shall be used in the order in which it is received.

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PSG 3.2 DESIGN (sub-clause 4.5.1)

No formwork shall be erected without the Engineer's prior approval.

PSG 3.3 TIES (sub-clause 4.5.3)

Tie cone recesses shall be plugged with well rammed dry 3:1 mortar within 48 hours of casting the concrete. The surfaces of the recesses shall first be roughened by wire brushing. Where tie cone recesses cannot be plugged within 48 hours of casting, they shall be roughened by scabbing and a wet to dry epoxy shall be applied before plugging the recesses with 3:1 mortar.

The mortar plugs shall be properly cured.

PSG 3.4 FIXING (sub-clause 5.1.2)

PSG 3.4.1 GENERAL

Sufficient joints shall be made so that the entire reinforcement cage is rigid and to the satisfaction of the Engineer.

Tie wire shall not encroach on the specified minimum cover by more than a single strand thickness."

PSG 3.4.2 SPACERS

Welding of the reinforcement shall not be permitted.

Spacers to be used shall be of approved design.

Where mortar blocks are to be used, they shall be properly shaped so as not to slip out of position and shall be made of the same mix as the mortar of the concrete in which they are to be placed.

The mortar shall be well compacted by approved means into the moulds and the mortar blocks shall be cured in water for at least 7 days before being fixed in place.

PSG 3.5 PREPARATION OF FORMWORK (sub-clause 5.2.2)

Panel joints for formwork shall be horizontal or vertical and arranged to match symmetrically throughout the structure.

PSG 3.6 COMPACTION (sub-clause 5.5.6)

The tops of all walls and columns shall be re-vibrated within 3 hours of the concrete having been placed.

PSG 3.7 ADVERSE WEATHER CONDITIONS (sub-clause 5.5.9)

If plastic shrinkage cracking occurs, the cracks shall be closed up by re-vibrating the concrete with a poker vibrator within 3 hours of casting. Once the cracks have been closed, the concrete shall be kept thoroughly wet, or covered with plastic sheeting for at least a further 3 hours.

PSG 3.8 NO-FINES CONCRETE

No-fines concrete shall be placed in its final position within 15 minutes of having been mixed. Compaction shall be by hand rodding and tamping as directed by the Engineer.

Any no-fines concrete with loose stones or blocked voids or segregated grout shall be removed.

Protection against loss of moisture shall be accomplished by either:

- a) Covering the exposed surfaces with sacking or other approved material, which shall be kept continuously wet for at least 3 days.
- b) Covering the exposed surfaces with plastic sheeting for at least 5 days.

PSL MEDIUM PRESSURE PIPELINES

PSL 1 ESSENTIAL CLAUSES

PSL 1.1 ABBREVIATIONS (sub-clause 2.4)

Add the following:

HDPE : High Density Polyethelene PE80

mPVC : Modified Polyvinyl Chloride

PSL 1.2 STEEL PIPES, FITTINGS AND SPECIALS (sub-clauses 3.4.2 and 3.4.3)

All steel pipes and fittings for reservoirs, irrespective of their diameter, shall be fabricated from plain ended pipes. Screwed flanges and fittings shall not be permitted. The lengths of the pipes shall be as dimensioned on the drawings but shall be verified on site prior to galvanising. No cutting or welding of pipes shall be permitted on site.

PSL 1.3 POLYETHYLENE PIPES (sub-clause 3.7.2)

HDPE pipes shall be of PE80, shall comply with SABS ISO 4427 and shall bear the SAPPMA mark.

PSL 1.4 PVC PIPES (sub-clause 3.7.3)

Add new clause:

All PVC pipes shall be of the spigot and socket joint type with restraining rings and rubber seals and shall comply with the requirements of SABS 966:1 (UPVC) and SABS 996:2 (mPVC). Furthermore, all PVC pipes shall bear the SAPPMA mark.

PSL 1.5 FLANGES AND ACCESSORIES (sub-clause 3.8.3 and 3.8.4)

All flanges shall comply with the requirements of SABS1123 and all bolts and nuts shall be of the hexagonal lead type and shall comply with SABS 135.

PSL 1.6 COMPRESSION TYPE FITTINGS (sub-clause 3.8.8)

Add new clause:

Fittings for HDPE pipe shall be of the compression type complying with the requirements of ISO 3458, ISO 3459, ISO 3501 and ISO 3503 respectively.

PSL 1.7 JOINTS, BOLTS, NUTS AND WASHERS (sub-clause 3.9.5)

All joints, bolts, nuts and washers shall be hot-dip galvanised in accordance with SABS 763. Electro-plating shall not be accepted.

All bolts shall protrude between 1mm and 6mm above nut, once fastened.

PSL 1.8 CORROSIVE SOILS (sub-clause 3.9.6)

All buried steel pipe shall be treated with a compatible primer, packed with a bitumen-based or tar based mastic and wrapped in an approved plastic tape.

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The cost of this work shall be deemed to be included in the rates tendered for the supply and laying of pipes.

PSL 1.9 VALVES (sub-clause 3.10)

Valves shall comply with the requirements of SABS 644 and all gate valves shall be clockwise closing with non rising spindles.

PSL 1.10 DEPTHS AND COVER (sub-clauses 5.1.4.1 and 5.1.4.2)

The depths of cover over pipes shall not be less than 900mm in the case of all bulk mains and 600mm in the case of village reticulation, unless approved by the Engineer.

PSL 2. ESSENTIAL DATA

PSL 2.1 PIPES OF NOMINAL BORE UP TO 150MM (sub-clause 3.4.2)

All steel pipes for reservoirs shall be coupled by flanges or mechanical coupling (flange adaptors) as detailed on the drawings.

PSL 2.2 DEPTHS AND COVER (sub-clause 5.1.4.1)

The depth of cover shall generally not exceed 1.25m. This depth of cover may however be exceeded at road and river crossings.

PSL 2.3 TEST PRESSURE AND TIME OF TEST (sub-clause 7.3.1)

All bulk mains shall be tested between 1,25 and 1,1 times the allowable working pressure of the pipe, measured at the hydraulically lowest point in the main and shall be tested in the presence of the Engineer. The lowest pressure at any position of the pipe shall be 1,1 times the allowable working pressure.

A hydrostatic test certificates, see pro forma focus in section 8 of this document, shall be completed and duly signed on the successful completion of the pressure test.

PSL 3. ADDITIONAL CLAUSES

PSL 3.1 PIPELINE MARKERS (new clause)

Concrete pipe line markers, shall be erected at all horizontal changes in direction, valve boxes and on both sides of all road and river crossings at all valve chambers and at intermediate intervals ($\pm 500\text{m}$) as approved by the Engineer.

PSLB BEDDING (PIPES)

PSLB1 ESSENTIAL CLAUSES

PSLB 1.1 SELECTED GRANULAR AND SELECTED FILL MATERIAL (sub-clauses 3.1 and 3.2)

Notwithstanding the requirements of subclauses 3.1 and 3.2 of SABS 1200 LB, selected granular and selected fill material shall comply with clause PSLB 2.1 of the Project Specification.

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Such material will generally be available from the trench excavations and the nearby river beds.

PSLB 1.2 SUITABLE MATERIAL AVAILABLE FROM TRENCH EXCAVATION (sub-clause 3.4.1)

Notwithstanding the requirement of sub-clause 3.7 of SABS 1200 DB and sub-clause 3.4.1 of SABS 1200 LB, the Contractor shall use selective excavation methods to avoid burying or contaminating material suitable for bedding.

PSLB 1.3 PLACING (sub-clause 5.1.3)

All pipes under road crossings will be placed inside 75 D concrete structured wall HDPe pipe sleeves.

PSLB 1.4 CONCRETE CASING TO PIPES (sub-clause 5.4)

All pipes through river crossing will be encased in 150mm concrete surround.

PSLB 1.5 DISPOSAL OF DISPLACED MATERIAL (sub-clauses 8.1.5 and 8.1.6)

Displaced material shall be disposed off as described in clauses PSD 2.5 and 2.7 and clauses PSDB 1.3 and 1.4 of the Project Specification.

PSLB2 ESSENTIAL DATA

PSLB 2.1 SELECTED GRANULAR AND SELECTED FILL MATERIAL (sub-clauses 3.1 and 3.2)

Notwithstanding the requirements of clauses 3.1 and 3.2 of SABS 1200 LB, no distinction shall be made between selected granular and selected fill material. All material for the bedding of pipes shall comply with the following:

- have a maximum partial size of 19mm,
- have a PI not exceeding 12,
- have less than 30% by mass passing the 0.075mm sieve.

PSLB 2.2 BEDDING (sub-clause 3.3)

All PVC pipes shall be bedded in accordance with a ClassC bedding and all HDPE pipes in accordance with a Class D bedding, except where, in the opinion of the Engineer, the nature of the material in the trench bottom, precludes the use of this bedding type.

PSLB 2.3 PLACING AND COMPACTING: ALL PIPES (sub-clause 5.2 and 5.3)

The bedding material shall be firmly compacted in 100mm layers to 300mm above the crown of the pipe, using hand held tools. The tools shall be of such a nature and shape that the tampering action can in no way damage the pipe.

The bedding shall then be compacted by mechanical means before backfilling can commence. Backfilling shall be undertaken in 300 layers by mechanical means.

PSLB 3 ADDITIONAL CLAUSES

Nil.

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PARTICULAR SPECIFICATIONS

**PTS WATERTIGHTNESS TESTING AND STERILISATION OF WATER RETAINING
STRUCTURES**

PTS 1 SCOPE

This specification covers the special requirements for the hydrostatic testing and sterilisation of pressed steel and reinforced concrete water retaining structures.

PTS 2 DELIVERY/CARTING OF WATER TO THE SCHOOL

PTS 4.1 Water Quality

The quality of water being delivered or carted to the school for drinking should generally comply with SANS 241:2005 and should be of acceptable standard with regards to turbidity, colour, pH, calcium, magnesium and iron among other SANS 241:2005 parameters.

PTS 4.2 Testing of Water

Prior to carting of water to the school for drinking the Contractor shall identify a reliable source of water and notify the Engineer for approval. Once the source has been approved two samples shall be taken for testing and analysis by an accredited laboratory.

The Contractor can only start carting water to the school for drinking, once the results have been submitted and approval received from the Engineer.

The above shall apply should the contractor desire to change the source of water supply for any reason(s).

PTS 4.3 Payment

The Contractor shall be paid for transportation or carting of drinking water to the school once a week for a period of twelve (12) months including a once-off payment for sampling and testing of water.

PTS 4.4 Penalties

The Contractor shall be penalised for any non-delivery of drinking water to the school at a price which will cost the school to provide its own water. Non-delivery for a period of two (2) weeks will result to termination of the contract.

The Contractor shall be penalised for delivering untested water to the school at a price which will cost the school to provide its own water including sampling and testing.

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PPSA GENERAL REQUIREMENTS FOR ELECTRICAL AND MECHANICAL WORKS

PPSA 1 SCOPE

The clauses in this particular specification shall apply wherever electrical or mechanical equipment are installed on a project, unless they are superseded by the detailed requirements in other sections of the Project Specification.

Wherever, electrical and mechanical equipment are to be installed on a project, the scope of the work for this portion of the work shall include the design, supply, installation, commissioning and the upholding during the maintenance period of such equipment.

PPSA 2 DESIGN

PPSA 2.1 GENERAL

A high quality standard is required to ensure reliability, long life, trouble free operation, efficient, ease of maintenance and operation and neatness.

All plant and equipment shall be of robust construction and the design shall, as applicable, be based on:

- the full range of duties which can be reasonably anticipated;
- the power and torque transmitted by the driver system under full load and stalled conditions;
- the maximum pressure or vacuum which can be produced by pumps, blowers and compressors under all conditions including blocked or closed inlet and outlet circuits;
- conservative service and safety factors based on approved standards or laid down in the printed specifications of reputable and approved manufacturers;
- a safety margin of at least 20% in addition to any service or safety factors which apply;
- twenty four hour per day operation;
- a minimum life of 100 000 hours before repair or major part replacement;
- prevention of serious damage from normal operational problems such as blockages, blinding, jamming, seizure, malfunction and, as far as is practical, mal-operation, if these occurrences cannot be avoided by good design.

Machines with non-overloading characteristics shall be selected wherever possible; i.e. motors shall be sized so that they cannot be overloaded by the driven machine.

PPSA 2.2 FAIL SAFE OPERATION AND PROTECTIONS

Where damage can occur from normal operations, or from other foreseeable problems, plant, equipment and systems must be designed to fail safe i.e. must return to a safe condition in the event of failure, malfunction, mal-operation or overload where no further damage can be done.

PPSA 2.3 MOVING PARTS

The following general requirements apply not only to machines but to all equipment with moving parts such as headstocks, extension spindles, swivelling davits, heavy duty hinges, pivots and the like: -

All rotating or swivelling shafts, pins and the like, shall be adequately supported, guided and restrained by lubricated or self lubricating bearings, collars and/or bushes.

- Swivelling joints on linkages and the like shall be of the "universal" or fork and rod type with bearings or bushes fitted to the eyes or forks.
- On abrasive applications, abrasion resistant materials and slow speed operation shall be utilised.

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- All applications associated with waste or raw (untreated) water shall be regarded as corrosive and materials of construction shall be selected to suit.
- Susceptibility to fatigue failure shall be minimised by proper design and manufacturing procedures. In particular, changes in section shall be "radiused" and care must be taken to avoid the use of welded components in areas of fluctuating stress.
- The locking of nuts and pins in position shall be done to the approval of the Engineer.
- Wearing parts shall be designed for interchangeability and ease of removal and replacement.

PPSA 2.4 ARRANGEMENT AND MOUNTING

The arrangement and general design shall take the following requirements into consideration:

- Lifting eyes, lugs, hooks, etc. shall be provided on heavy and large items to facilitate handling.
- Castings or fabrications shall have machined pads for seating and be mounted on either soleplates or baseplates as appropriate.
- Where accurate alignment is required, positioning pins and/or jacking screws shall be provided.
- The needs of operation and maintenance including neatness, access, working space, safety, cleaning, adjustment, handling, assembly, alignment, disassembly, removal, etc. shall be taken into account.
- With plant and equipment to be mounted on or against concrete or brick structures built by others, provision shall be made for adjustment in the mechanical design. Any special accuracy requirements must be specified on the Contractor's Drawings.

PPSA 2.5 SAFETY

Safety shall be an all-important and overriding consideration and proper attention shall be paid to this aspect at the design and installation stage. The regulations of the Occupational Health and Safety Act, Act 85 of 1993, as amended, shall be strictly observed and the following must also be noted: -

- Hazards must be avoided or guarded. Nip points shall be guarded; sharp corners shall be rounded off; operating handles, supports and protrusions shall be kept clear of access ways; and so forth.
- The Contractor's Drawings and specifications shall clearly specify the structural requirements of the Works and the Contractor shall be responsible for covering all unsafe gaps and openings left in structures after installation.
- Moving parts shall be properly guarded to the satisfaction of the Engineer.
- An emergency stop button shall be installed in a convenient position next to each machine. In addition, trip wires which will stop the driving motor when pulled shall be provided along the accessible side/s of moving conveyor belts, chains and the like irrespective of operating speed and irrespective of guards provided.
- Where, in the opinion of the Engineer, an installation is not safe, the Contractor shall remedy such defect at his own cost to the satisfaction of the Engineer.

PPSA 3 INSTALLATION

All equipment shall be installed according to the manufacturer's specifications.

Furthermore, the following requirements shall apply:

- When complete, the installations shall be of a neat and workmanlike appearance, solidly and evenly supported, true to line and level and in proper working order;
- The Contractor shall provide and install all holding down bolts, supports, hangers, brackets etc. required to support and fix the equipment;
- The Contractor shall undertake all the grouting of the equipment installed under this contract;

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- The use of more than three (3) shims in the alignment of the equipment shall not be permitted;
- Fastener threads shall be coated with a nickel based anti-seize compound before assembly.

PPSA 4 GUARDS

All moving or revolving components of machinery shall be completely covered by guards complying in all respects to the Occupational Health and Safety Act of 1993 as amended.

Furthermore, guards shall comply with the following:

- Be neatly and rigidly constructed and fixed and shall not vibrate or cause noise during operation;
- Be constructed of expanded metal or similar approved mesh where belt drives are used. The openings shall not permit a circular object of 10 mm diameter or larger to penetrate;
- Mesh shall not be acceptable where chain guards are used;
- Shall be easily removable for maintenance purposes;
- Shall allow for adjustments;
- Shall be hot dip galvanised.

PPSA 5 STARTING, SITE TESTING AND COMMISSIONING

The Contractor shall start and test all installed equipment to ensure that it is operating in accordance with the specified requirements. The Engineer must witness all tests and all adjustments shall be made during this period.

The Contractor shall train the operational staff in starting, operating, stopping and undertaking routine maintenance of the installation.

Before starting any installation, the Contractor shall undertake all the necessary checks to ensure that the installation has been correctly carried out and that the equipment has been cleaned, correctly aligned, lubricated and is in all respects ready to start with safety.

The Engineer, and where applicable the sub-contractor, shall be present whenever an installation is started.

PPSA 6 INSTALLATION, OPERATION AND MAINTENANCE MANUALS

Four (4) copies of the Installation, Operation and Maintenance Manual shall be provided for each installation, prior to the commissioning of the installation.

The manuals shall be of a standard acceptable to the Engineer and shall be bound between plastic protective covers and shall contain *inter alia*, the following:

- A description of the equipment installed, as per the technical data schedules, and shall include the details of the name, manufacturer, model number, size and performance data;
- Operating instructions supported by drawings, flow diagrams and sketches;
- Dimensional arrangement and layout drawings;
- A comprehensive lubricating schedule;
- A comprehensive routine maintenance schedule;
- A comprehensive spares list;
- Electrical wiring diagrams.

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PPSA 9 PAYMENT

All costs incurred by the Contractor in complying with the requirements of this specification shall be deemed to be included in the rates tendered.

OPERATIONAL CONTROL

PPSB 1 GENERAL

The pumpstation shall have its own local motor control panel. Provision shall however be made for communications to a remote central control room. No control, other than to initiate a shut-down, shall be possible from the Remote Control Room.

Certain specified information shall be displayed at the local control panel and shall be made available for transmission to the Remote Control Room. Communications to the Remote Control Room will however be installed by others.

Once the operating instruction has been initiated by the operator, control of the pump motors shall be governed by the control system.

The Motor Control Panel will be fitted with a Rotary change over switch and a four pin welding plug for emergency generator supply.

PPSB 2 OPERATIONAL BASIS

PPSB 2.1 General:

The pump station will deliver potable water from a receiving reservoir located adjacent to the station, to a remote reservoir, via a single rising main.

The installation shall comprise of a duty and a standby pump set.

Each installation shall be able to operate in the following modes:

- Manual Operator controlled;
- Load Automatic Pressure switch and time clock controlled;
- Remote automatic Telemetry controlled.

Automatic Mode is the normal mode of operation, whilst Manual Mode is for use during testing and maintenance work.

The selection of the mode of operation shall be via an Off, Manual, Auto selector switch.

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PPSB 2.2 Automatic Control:

Local and Remote Automatic control of individual and/or combinations of duty pumps, as required to deliver the design flows, shall be available from the pump control panel. Selection of duty pump sets shall be via a selector switch, which shall make provision for alternating duty operation.

The starting and stopping of each individual pump set shall be governed by water levels in the respective reservoirs.

In Automatic Mode, the control system shall operate on the following basis:

Local Automatic:

The duty pump set shall start when in Automatic mode and continue to pump until one of the following conditions occur:

- The receiving reservoir is full (stop initiated by signal from pressure switch);
- The water level in the delivery reservoir drops below a pre-determined level (stop initiated by signal from float switch);
- Operator intervention; or
- A trip condition occurs.

The duty pump set will restart after a given time (adjustable), as determined via a time clock.

Remote Automatic:

The duty pump set shall start when called to do so via a signal from a remote telemetry transmitter (water below a pre-determined level in the receiving reservoir).

The duty pump set will continue to operate until one of the following conditions occur:

- Water level at or above a pre-determined level in the receiving reservoir (receipt of signal from a remote transmitter);
- Signal from the pressure switch;
- The water level in the delivery reservoir drops below a pre-determined level (stop initiated by signal from float switch);
- Operator intervention; or
- A trip condition occurs.

The duty and standby arrangement of the pump motors shall alternate (flip flop) after each duty cycle.

A facility for disabling a pump set and its auxiliary equipment for maintenance and repair work at the pump control panel shall be provided.

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PPSB 2.3 Manual Control:

Manual control of individual pump sets shall be available from the pump control panel. When in Manual Mode, all pumps shall be shut-down automatically and shall not be allowed to re-start automatically until back in Automatic Mode.

Operation of individual pump sets shall be via separate start and stop switches. The operation of more than one pump in Manual Mode shall be possible.

A facility for disabling pump motors and its auxiliary equipment for maintenance purposes shall be provided together with emergency stops for each pump motor.

All system protection must remain functional whilst in Manual Mode.

PPSB 2.4 Trip Conditions:

The following trip conditions, which shall contribute to the switching off of the electrical supply to a pump motor, shall exist:

- Operation of an emergency stop;
- On command from the Remote Control Room;
- A signal from the back-up low level float switch or the no-flow switch; and
- Single phasing, earth fault and over or under voltage.

Upon a trip condition, the local alarm shall be activated and a signal sent to the Remote Control Room.

The trip conditional shall only be overridden by the local operator.

PPSB 2.5 Control Valves:

All isolation valves shall be wedge gate valves and shall be manually actuated.

All non-return valves are to be flanged swing check valves.

PPSB 3 MONITORING

The following items are to be monitored, displayed and alarmed (where applicable):

- Pump available
- Pump running
- Pump trip (alarm)
- Level of receiving reservoir in increments e.g. 25%, 50%, 75%, 100%
- Level of supply reservoir in increments e.g. 25%, 50%, 75%, 100%
- Voltage / amps;
- Power demand (individual and combined); and
- Flow / instantaneous and totalized.

PPSB 4 PUMP CONTROL PANEL

The panel shall comply with the requirements of the Electrical Specification. It shall be compartmentalized and be designed for ease of operation and access to internal equipment.

Control of all pump motors and ancillary equipment functions shall be available at the control panel. The following shall be included on each control panel:

- Operation mode selection;
- Pump selection;
- Pump available;

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- Pump start;
- Pump stop;
- Pump running;
- Open / close circuit breaker for main incoming supply;
- Motor Amps;
- Motor kW;
- Pump motor amps and running hours; and
- Alarm / trip conditions if active.
- Voltage meter per phase

PPSC PUMP SPECIFICATION

PPSC 1 DEFINITIONS

- 'l/s' means litres per second
- 'pump' means the pump of a pump set
- 'pump set' means one pump, its associated motor and ancillary equipment
- 'masl' means metres above sea level
- 'suction head' means the head as defined in BS 5316 and
- 'delivery head' the method of determining these heads shall be, as far as practicable, as laid down in BS 5316 Class B testing
- 'total head'
- 'NPSH' means Net Positive Suction Head as defined in ISO 2548

and measured in metres

PPSC 2 TYPE ARRANGEMENT OF PUMPS

The pumps to be supplied shall be suitable for conveying potable water and should be arranged as shown on the drawings issued.

PPSC 3 PUMP DUTIES

The pumps are to be designed to have the best efficiency point at the duty points specified and must be suitable for efficient sustained operation over the pump total head and rate of the flow ranges specified therein.

The pump motors shall comply with requirements of the Electrical Specification and must have at least the following reserve on the continuous rated power requirement.

0-5 kW	50%
5-10 kW	30%
10-30 kW	20%

The pumps to be supplied under the Contract shall be works tested in accordance with BS 5316 Class B, ISO 2548, ISO 9906 or other internationally recognised specification to be stated on the Tenderers offer.

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PPSC 4 PUMP SET CHARACTERISTIC CURVES

The Tenderer shall submit with his tender, the following characteristic curves for each pump:

1. Pump total head characteristics
2. Impellor size
3. Pump power input characteristics
4. Pump efficiency characteristics
5. Nett positive suction head requirements

This information is to be presented to cover the normal operating speed or speed ranges of the pump, and is to be plotted against pump output in litres per second from 10 to 120 percent of the duty point flow rate.

The pump unit should preferably have a non-overloading characteristic. In the event of power demand increasing with flow rate beyond the specified duty flow rate, full information is to be submitted with the Tender.

The Tenderer is also to submit in the technical schedules the specific speed (Type Number as defined in BS 5316) at the best efficiency point.

PPSC 5 PERFORMANCE TESTS AT WORKS

PPSC 5.1 Performance Tests

After the pump set has been completed in all its parts and finished with every necessary detail, a series of performance tests are to be carried out at the Contractor's works or at the test bay of the South African Bureau of Standards to ascertain whether the work can be accepted. The Contractor is required to provide test certificates certifying that the performance of the pumpsets is in accordance with the relevant standard specifications to be stated on the certificate.

PPSC 5.2 Performance Test Outputs

The test will be conducted in order to determine the electric power demand, the delivery rate at the rated head at the conditions listed, to assess cavitation behaviour. Each official acceptance test will be carried out at a system head as close as possible to the head specified at duty point.

The measured power demand will be calculated if the pumps are not tested at the rated head. Such calculations are to be presented to the Engineer for approval prior to acceptance and delivery of the pumpset to site.

PPSC 5.3 Performance Tests Acceptance Criteria

If the performance tests prove that:

- The delivery rate of a pump set at the specified total head and designed speed falls short of the quantity specified at the designed duty by more than two (2) percent.
- The electric power demand of the pump drive exceeds the guaranteed power demand by more than four (4) percent at the rated pump duty.
- The motor rated shaft output power is less than fifteen (15) percent above the shaft power required by the pump when delivering the rated quantity at rated head.

The Employer shall have the option of rejecting the pump set and the Contractor shall take steps to immediately carry out such modification as may be necessary to make the pump set comply with the specification or, failing this, to replace the pump set.

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PPSC 6 RESPONSIBILITY FOR ACCEPTANCE TESTS AND GUARANTEES

It is the responsibility of the Contractor to conduct the tests and to provide the requisite support documentation.

PPSC 7 QUALITY OF FLUID TO BE HANDLED

The pumps are to be suitable to handle potable water.

PPSC 8 SUCTION CONDITIONS

The pumps are to be suitable for cavitation free operation over the full range of operating conditions from 10 % to 120 % of duty point flow rate.

PPSC 9 IMPELLORS

IMPELLERS SHALL BE MADE OF A CORROSION RESISTANT MATERIAL OF AN APPROVED GRADE. DETAILS OF MATERIALS ARE TO BE FURNISHED WITH THE TENDER.

The impeller castings shall be free from blowholes or other significant defects. Plugging or welding of defective castings may be permitted after examination and approval by the Engineer. Repair work done without approval will be cause for rejection.

All fluid passages are to be polished to a smooth finish. Fluid passages which cannot be machined are to be ground and hand-filed to a template.

PPSC 10 CRITICAL SPEED AND BALANCE

Each rotating element shall have a suitable margin of safety between its critical speed and the running speed. The critical speed shall be at least 20 % higher than the highest running speed.

Rotating elements shall be accurately balanced, statically and dynamically with the drive coupling fitted.

PPSC 11 PUMP CASING, BEARINGS AND FITTINGS

The pumps shall be provided with casings made in cast iron or aluminium, dependent on the stresses corresponding to the required test pressure. The pump casings shall be tested to a pressure of at least 1.5 times the maximum possible working pressure and the proposed test pressures shall be stated in this section.

The materials proposed for the pump casings shall be fully described in this section in respect of mechanical and chemical properties. Repair work done without approval shall be cause for rejection.

Through-bolting for the purpose of blanking the castings at the gland housings for pressure test purposes will not be permitted.

The casing shall be free of any internal projections or cavities and top and bottom halves shall be matched on the flange faces.

Suction and delivery branches of each pump shall have a cut made inside the bore when the flanges are being faced to ensure that the branches are concentric and to the correct dimensions.

Ball and roller bearings with oil bath lubrication are preferred and shall be selected to have a B10 life of 100 000 hours. The oil reservoirs shall have sufficient capacity to ensure continuous operation without undue temperature rise.

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All bearings shall be designed to function without overheating or damage if the pump runs in reverse.

Adequate provision shall be made to prevent damage to bearings by any stray electric current which may be produced in the pump shaft.

Adequate provision shall be made for cooling of the bearings. All cooling water pipework, valves and fittings shall be of compatible materials. The waterside of the cooler tube assembly shall be hydraulically tested after installation has been completed to 3 times the maximum working pressure. Test pressures shall be maintained for 30 minutes and shall be witnessed by the Engineer.

Any cooling water piping, filters, valves, oil pumps etc., necessary for the safe operation of the bearings or the motor(s) shall be provided under this contract.

PPSC 12 PUMP FLANGES

Pump flanges are to be drilled in accordance with SANS 1123 unless otherwise specified. If the Tenderer wishes to offer equipment having flange drillings different from the above, he shall note this point specifically and state the drilling standard which he proposes to offer.

PPSC 13 DESIGNATION AND INFORMATION PLATES

Each pump is to be provided with a plate giving substantial information of the pump and shall be securely fastened to the pump casing in an easily visible position and clearly and indelibly marked with the following details:

- Marker's name, serial number and order number;
- Client's contract number
- Year of manufacture
- Duty of pump l/sm head atrpm
- Mass of complete pump in kg

PPSC 14 PUMP SET PROTECTION DEVICES

The pump sets are to be provided with the following equipment:

- Over-load Protection
- Over and under voltage Protection
- Surge Protection
- Mercury float switch (Starting and Stop pump sets)
- Pressure switch (stop pump set)
- No-flow switch (stop pump set).
- Timer

PPSC 15 VIBRATION LIMITS

The required vibration velocity limit of the pumpset when operated at full speed over the full pump discharge head curve shall not exceed 4 mm/s.

PSC 16 ESTIMATED PUMP DUTY SPECIFICATIONS

- | | | | |
|---|---------------------------|---|--------------------------------------|
| • | Type | : | Electrically driven submersible pump |
| • | No. | : | 01 |
| • | Fluid | : | Potable water |
| • | Design Flow | : | 1 l/s |
| • | Total static head | : | 202 m |
| • | Delivery pipeline | : | 63mm (PVC) |
| • | Total pipeline length | : | 500 m |
| • | Calculated TMH | : | 214 metres |
| • | Specified duty conditions | : | 1 x duty pump set |

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CLUSTER: 3F – ESIGODLWENI JSS & NOZAYI SPS
TENDER NO: DoEEC05/2021

- Expected velocity range : 0,7 – 1,5 m/s
- Pump size : 4kW
- Control methodology : As set per timer

PPSC 17 **PERFORMANCE TESTING OF PUMPING PLANT ON SITE**

On completion of the installation of the pump sets, the Contractor shall test the pumps in the presence of the Engineer.

Each pump will be individually tested over its whole range of delivery. Where pumps operate in parallel, tests shall be carried out to check these operating conditions.

Should the tests prove that the pumps do not meet specification the Employer shall have the option of rejecting the pump set and the Contractor shall take steps immediately to carry out such modifications as may be deemed necessary to allow for the pump set to comply with the specification, or failing this, to replace the pump set.

PPSD 1 **ELECTRICAL SPECIFICATION**

PPSD 1.1 **MOTOR CONTROL PANELS**

The electrical distribution boards are to be manufactured by a reputable company, with relevant experience in the manufacturing of electrical distribution boards, control panels, etc. Approval of the manufacturing company should be obtained from the Engineer prior to the placing of any orders / commencement of Works.

Detailed wiring diagrams and shop (manufacturing) drawings of the proposed electrical distribution board is to be submitted to the Engineer for approval, prior to manufacture.

Approval of the wiring diagrams and shop (manufacturing) drawings by the Engineer does not remove any responsibility from the contractor to ensure the completeness and compliance of the distribution board.

The contractor shall ensure that the respective electrical distribution boards are constructed to fit into the spaces provided, that sufficient space is allowed for the cable ends and termination thereof and that the board is provided with an architrave and a hinged lockable door. All electrical distribution boards shall have a protection rating of no less than IP55.

All gland plates, as well as top or side plates used for the termination of cables shall be easily removable to facilitate the drilling and punching of holes. Panels (fascia) and cover plates are to be fixed to the framework by means of "Quicklock" or other similar captive fasteners. Self-tapping screws or dome nuts will not be accepted. Panels (fascia) and cover plates are to be fitted with chrome plated handles to facilitate removal.

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Where applicable, the front panels of normal supply, standby power supply and uninterruptible power supply sections shall be painted in distinctive colours, namely :

- ☐ External : White
- ☐ Normal supply : Light Orange, colour B26 of SABS 1091
- ☐ Standby power supply : Signal Red, colour A11 of SABS 1091
- ☐ Un-interruptible power supply : Dark Violet, colour F06 or Olive Green, colour H05 of SABS 1091

PPSD 1.2 Conduit and Conduit Accessories

Conduit for the general lighting and small power installations shall be PVC type conduit. Wherever, the conduit installation is exposed, or surface mounted, galvanised conduit shall be utilised.

Conduit accessories shall be galvanised conduit type in accordance with SANS 162, 763 and 1007 respectively.

The conduit and conduit accessories shall comply fully with the applicable SABS specifications as set out below and the conduit shall bear the mark of approval of the South African Bureau of Standards.

- ☐ Plain-end metallic conduit and accessories: SANS 1065, Parts 1 and 2
- ☐ Non-metallic conduit and accessories: SANS 950

The Specialist Sub-contractor shall ensure that conduit installation shall, wherever possible, be installed within the ceiling voids / roof space. Wherever necessary, the services shall be chased, or cast into, the concrete slabs and brick walls.

Should flush mounting not be practical (or possible), the Contractor shall obtain prior approval from the Engineer, for the installation of surface mounted conduit and / or accessories. If approved, surface mounted conduits shall be installed using galvanised spacer brackets, allowing a clear space of 25 mm. Conduit accessories shall be mounted on similar brackets, ensuring an aesthetic installation.

PPSD 1.3 Conductors

All low voltage single core conductors shall be of the PVC insulated type with stranded copper conductors, rated at 600 V general service duty and manufactured to SANS 1507 - 1990.

The colour coding for the PVC insulation shall be red, white and blue for phases, black for neutral and green and / or yellow for earth.

No openly installed (i.e. surface mounted) "surfix" or twin and earth will be permitted unless otherwise authorised by the Engineer prior to installation.

No single core conductors will be permitted on open channels and cable ladders.

The drawing in of more than two circuits per conduit shall not be allowed.

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PPSD 1.4 Lighting Installation

Light outlet points shall be installed generally in positions as indicated. They shall be as symmetrical as possible within the area in which they are fitted. Cognisance must be taken of the finishes and structural components to avoid clashes of services.

Ceiling mounted fluorescent fittings shall be secured to the concrete ceiling by means of expansion bolts, or “Hilti” fixings, and to the ceiling boards by means of galvanised “Butterfly” expansion nuts.

The Specialist Sub-contractor is to include in the Tender Price the provision of fixing additional branding where needed.

Light switches shall be a fully modular system comprising a strong, universal steel support frame, an easy clip-on assembly and a white screwless cover plate i.e. Mosaic™ product range, or Lumex Clipsal S2000 series, or Crabtree Diamond Range, etc.

Light switches, unless otherwise indicated, shall be installed at 1 400 mm AFFL, and shall be installed generally in positions as indicated.

The light switches, and associated outlets, shall be of the same type and manufacture as the flush-mounted and the power skirting / flush floor / under-screed small and large power, telephone and data outlets.

All lamp types shall be guaranteed for the full duration of the guarantee period and / or the stipulated lamp life, as stated by the lamp Manufacturers, whichever is the greater.

Ballasts of fluorescent type fittings shall be of the electronic type, and shall bear the relevant SANS mark.

The Contractor shall, upon completion of the Contract, issue to the Employer, for their maintenance purposes, the spare lamps as specified in the Schedule of Quantities.

Photo-electric daylight switches shall be supplied and installed in accordance with Part 5 of this Tender Document.

PPSD1.5 Earthing System

The earthing system shall comply with SANS 0142 - 1987 and shall comprise a continuous main copper earth bar together with connections to all items of electrical, electronic and mechanical equipment.

Bonding of the earth system to metal work in buildings, concrete reinforcing, roofs or pipework, etc. shall also be supplied under this contract.

The clamping surfaces of all connections shall be properly tinned to prevent oxidation.

Where earthing conductors are run on walls or vertical surfaces they shall be secured by “stand-off” bolted saddles at intervals not exceeding 1 268 mm.

Earth electrodes to be supplied and installed under this contract shall consist of 16 mm diameter extensible molecular bonded copper clad steel rods 1 800 mm long, complete with coupling and terminal. These electrodes must comply with SANS 0163 - 1985.

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The Contractor shall be responsible for the supply and installation of the required earthing system.

PPSD1.6 Surge Protection System

All electrical distribution boards are to be fitted with surge protection, as is required by the relevant regulations.

The Contractor shall be responsible for the supply and installation of the required surge protection equipment.

PPSD1.7 Lightning Protection System

A provisional sum has been allowed in the Schedules of Quantities for the lightning protection system, to be undertaken by a Contractor.

The Engineer shall prepare detailed design drawings for the required lightning protection system.

The Engineer shall, in consultation with the Specialist Sub-contractor, invite tenders from prospective Specialist Sub-contractors, for the required lightning protection system.

The Contractor shall be responsible for the liaison with and co-ordination of the Specialist Sub-contractor appointed for the lightning protection system.

General

Earthing systems to protect buildings against lightning shall be in accordance with SANS 03 - 1985, as amended.

The components of the lightning protection system shall be installed such that they are not visible; surface mounting of the components shall be kept to an absolute minimum and only where absolutely necessary.

Roofs

Metallic roof sections shall be connected to down conductors to form the overall air termination network, and metallic gutters and drainpipes shall be bonded to this.

Non-metallic (e.g. concrete) sections of roofs shall be fitted with edge or ridge conductors of coastal quality aluminium alloy, which shall be bonded to steel reinforcing by means of bimetallic bonding terminals.

These conductors shall be supported by suitable cleats or clamps, which must allow for thermal expansion. The mounting thereof shall be such as to prevent corrosion due to direct contact with the concrete.

The air termination network shall be connected to the ground earth electrodes by down conductors.

Parts of the building, e.g. chimneys protruding above the general level of the roof shall be protected either by lightning masts or edge conductors, connected to the air termination network.

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Down Conductors

The concrete reinforcing, steel columns or similar metal work in the walls of the building shall normally be used as down conductors, connected to the air termination network ground electrode systems through bonding terminals.

Where connected to reinforcing, these terminals shall be cast into the concrete and the reinforcing bars shall be bonded together with mild steel wire prior to casting the concrete.

Where separate external copper or aluminium down conductors are used these shall be bonded to the metal structure of the building to prevent flashing puncturing the concrete or brickwork.

There shall be a minimum of two down conductors (maximum spacing 30 m of building perimeter) preferably located at opposite building corners.

Down conductors shall be connected to the ground system with (if aluminium, bimetallic) bonding terminals 500 mm above ground level.

These terminals shall also be useable as test terminals. The down conductor shall be sleeved below the terminal to a depth of 400 mm below ground level by PVC pipe fixed to the building wall.

Ground Earth Electrodes

The steel reinforcing in the foundation of the building shall be bonded to the ground electrode system.

The steel reinforcement of the building foundation slab shall be earthed by means of driven or pre-drilled rods prior to casting of the concrete. The reinforcing bars shall be bonded together with mild steel wire.

The ground earth electrode shall consist of a trench earth around the building with a single 70 mm² copper conductor or 25 mm x 3 mm strip, buried at a minimum depth of 1 000 mm not more than 1 000 from the building, unless necessary to increase locally to avoid pipes or other fixtures.

The conductor shall be buried in riddled earth to improve conductivity.

The earth resistance of the ground electrode shall not exceed 30 ohms when isolated from the rest of the low voltage electrical system and down leads and shall be supplemented as necessary with driven molecular bonded copper clad steel rods manufactured to SABS 0163 - 1985.

source

C4 SITE INFORMATION

C4.1: SITE INFORMATION

The schools are located in and around Lusikisiki areas of the OR Tambo District Municipality region. The Tenderers are expected to familiarise themselves with the areas during tender period. No claims would be considered from a Contractor during construction as a result of failure to familiarise themselves with the sites.

Contractors should note that this programme also includes sanitation projects in some of the schools that the provision of water infrastructure to schools is being carried out. It is therefore, likely to that the construction of the sanitation projects would be taking place during the implementation of this contract.

PART C5 : ANNEXURES

C5.1 OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

C5.2 ENVIRONMENTAL MANAGEMENT PLAN

CLIENT OHS SPECIFICATION

ESIGODLWENI JSS

INDEPENDENT DEVELOPMENT TRUST

12/11/2021

ABBREVIATIONS

AIA: Approved Inspection Authority
CHSO: Construction Health & Safety Officer
CC: Compensation Commissioner
CR: Construction Regulations 2014
DME: Department of Mineral and Energy
DMR: Driven Machinery Regulations
DoL: Department of Labour
FEMA: Federated Employers Mutual Association
GAR: General Administration Regulations
GSR: General Safety Regulations
HIRA: Hazard Identification & Risk Assessment
H&S: Health and Safety
OHSA: Occupational Health and Safety Act No. 85 of 1993 (as amended)
OHSS: Occupational Health and Safety Specification
PSHSS: Project Specific Health and Safety Specification
PC: Principal Contractor
PPE: Personal Protective Equipment
PPC: Personal Protective Clothing
ER: Engineer's Representative
RHCS: Regulations for Hazardous Chemical Substances
SANS: South African National Standards (Authority)
SMME: Small, Micro, Medium Enterprise
SWP: Safe Work Procedure
HCS: Hazardous chemical substances

General Statement and Interpretations

Occupational Health and Safety Act, Act 85 of 1993 shall apply to this Contract. The Construction Regulations promulgated on 7 February 2014 and incorporated into the said Act by Government Notice R. 84, published in Government Gazette 37305 apply to any person involved in construction work. These regulations are hereinafter referred to as “the Construction Regulations” and the said Act as “the Act”.

The scope of this Occupational Health and Safety Specification is to address the reasonable and foreseeable aspects of occupational health and safety management which will be affected by the contract work.

The specification will provide the requirements that the Principal Contractor and other contractors shall comply with in order to reduce the risks associated with the contract work which may lead to incidents causing injury and/or ill health or degradation of the environment, to a level as low as reasonably practicable and possible.

This Specification is not intended to supersede the Act nor the Construction Regulations. Those sections of the Act and the Construction Regulations, which apply to the scope of work to be performed by the Contractor in terms of this Contract, continue to be a legal requirement of the Contractor. The principal Contractor will be appointed in writing to be in overall control of the Construction site.

Definitions

Definitions as the Construction Regulations 2014 applicable to this Health and Safety Specification:

"Agent" means a competent person who acts as a representative or a client;

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"Bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;

"Client" means any person for whom construction work is being performed;

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act;

"construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"construction site" means a workplace where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and *off* the construction site for the purposes of performing construction work" construction work" means any work in connection with-

1. the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to 5 a building or any similar structure; or
2. the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;

"design" in relation to any structure, including drawings, calculations, design details and specification

- "designer" means a competent person who:-

1. prepares a design;
2. checks and approves a design;
3. arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
4. designs temporary work, including its components;
5. an architect or engineer contributing to, or having overall responsibility for a design;
6. a building services engineer designing details for fixed plant;
7. a surveyor specifying articles or drawing up specifications;
8. a contractor carrying out design work as part of a design and building project; or
9. an interior designer, shop-fitter or landscape architect;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guard-rails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for -

1. all risks relating to working from a fall risk position, considering the nature of work undertaken;
2. the procedures and methods to be applied in order to eliminate the risk of falling;
3. and a rescue plan and procedures;

"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file" means a file, or other record containing the information in writing required by these Regulations "health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"person day" means one normal working shift of carrying out construction work by a person on a construction site

"principal contractor" means an employer appointed by the client to perform construction work;
"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as Professional Engineering Technologist in terms of the Engineering Profession Act, 2000.

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

"structure" means-

1. any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or *any* structure designed to preserve or alter any natural feature, and any other similar structure;
2. any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
3. any fixed plant in' respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"temporary works" means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

Refer to Occupational Health and Safety Act, Act 85 of 1993 and regulations for more definitions

Health and Safety Specifications and Plans

(a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification will be included in the tender documents as part of the Project Specifications. The Employer is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications.

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor) with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work. The Principal Contractor (and his /her contractor) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

- 1) Safety considerations affecting the site of the project and its environment;
- 2) Health and safety aspects of the associated structures and equipment;
- 3) Submissions on health and safety matters required from the Principal Contractor (and his /her contractor); and
- 4) the Principal Contractor's (and his /her contractor) health & safety plan.

Serve to ensure that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

To inform the Principal Contractor that the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification document applies.

(b) The Contractor's Health and Safety Plan

The successful Tenderer shall, on receipt of notification that he has been awarded the contract, submit without delay his own documented Health and Safety Plan for the execution of the work under the contract. His Health and Safety Plan must at least cover the following:

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Construction Regulations 2014;
- (ii) Pro-active identification of potential hazards and unsafe working conditions;
- (iii) Provision of a safe working environment and equipment;
- (iv) Statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas; monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (v) Details of the Construction manager, alternate construction manager, Construction Supervisor, Risk assessor, Construction Safety Officer, First aider and other competent persons he intends to appoint for the construction works in terms of Construction Regulation and other applicable regulations; and details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not

be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

The Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and the Construction Regulations.

The Contractor shall consistently demonstrate his competence and adequacy of resources to perform the duties imposed on the Contractor in terms of this Specification, the Act and the Construction Regulations.

Indemnity of Employer and his Agents (Mandatory agreement OHS Act 37(2))

- a) The annexures to this Contract Document contain a "Mandatory Form of Authority and Agreement in terms of Section 37(2) of the Occupational Health and Safety Act, No. 85 of 1993" which agreement shall be entered into and duly signed by both the Employer and Contractor prior to commencement with work. A copy of the signed agreement shall be included in the Contractor's health and safety plan.
- b) Any acceptance, approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by either the Employer, any of his agents or the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, the Act and the Construction Regulations, including responsibility for errors, omissions, discrepancies and non-compliances.

Scope of Works

Below is the work required to complete the project.

Pump Station:

Borehole

- Supply and Install complete e300 Wind Turbine cw 12m Monopole Tower on a concrete base with complete with pump house.
- Supply and install galvanised fence around pump house.

Pumping main:

- Complete compaction and backfill at rising main pipeline.
- Supply, install pipeline, fittings where necessary and make good all leakages.

Storage reservoir (Elevated water tank)

- Recoat elevated tank stand, fix and make good the stands.
- Supply install Klorman inline Chlorination cartridge and float switch.
- Supply and install galvanised fence around elevated tank.

Reticulation Pipelines:

- Fix reticulation pipeline including all fittings.
- Fix and make good standpipes.
- Install soakaways in all standpipes.

Rainwater Harvestings:

- Demolish and make good poor tank base.
- Fix tanks and all tank fittings.
- Fix leaks on rainwater tanks taps.
- Supply and install aluminium gutters and downpipes.
- Fix damaged gutters and downpipes.
- Fix all remedial work on rainwater harvesting.

Responsibilities

Client

- The Client or his appointed Agent on his behalf will appoint each Principal Contractor for this project or phase/section of the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations and determined by the Bills of Quantities.
- The base line risk assessment will be issued to the appointed contractor on request
- The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.
- The Client or his appointed Agent on his behalf will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month and such visits may be done without any form of notification to the PC to ensure continuous compliance.
- **The Client or his appointed Agent on his behalf will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:**
 - o have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;
 - o have failed to implement or maintain their health and safety plan;
 - o have executed construction work which is not in accordance with their health and safety plan; or
 - o act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.
- o **The Client SHE agent reserves the right to stop any construction activities which may pose a threat to the health and safety of persons on site.**

Principal Contractor:

- The Principal contractor is urged to conduct its base line risk assessment during the briefing session/clarification meeting.
- The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 4 of the Construction Regulations. Annexure 2 of the Construction regulations 2014 contains a "Notification of Construction Work" form. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.
- The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract (entirely or in part) will continue to be legally required of the Principal Contractor to comply with. The Principal Contractor will in no manner or means be absolved from the responsibility to

comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.

- The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.
- The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.
- The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.
- The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is presented upon request to the Client, an Inspector, Employee or Sub-contractor.
- The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.
- The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.
- The Principal Contractor shall from time to time evaluate the relevance of the Health and Safety Plan and revise the same as required, following which revised plan shall be submitted to the Client and/or his/her Agent for approval.

Policies and Procedures

The Contractor shall submit their Health and Safety Policy, prior to construction commencement, signed by the Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented within the company operations. The PC shall also ensure that the following policies and procedures but not limited to, are included in the OHS file:

- Substance abuse policy
- Disciplinary procedure
- Smoking policy
- HIV/AIDS policy
- PPE policy

Organogram

The Contractor shall submit an organogram, prior to construction commencement, outlining the Health and Safety Site Team that will be assigned to the project, if successful with the tender. In cases where appointments have not been made, the organogram shall reflect the position. The organogram shall be updated, when there is a change in the site team.

Compensation Commissioner

The Contractor shall provide **a valid** proof of registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement of construction activities.

Notification of Construction Work – CR 4

The Contractor shall notify the Provincial Director of the Department of Labour of the intention to commence construction work at least 7 days prior to the works commencing if the intended construction work will:

- Include excavation work
- Include work at height where there is a risk of falling
- Include the demolition of a structure, or
- Include the use of explosives to perform construction work.

If the construction work involves construction of a single storey dwelling for a client, and such dwelling he will be residing in such dwelling upon completion, the contractor must also notify the Provincial Director of the Department of Labour at least 7 days before the works commence. This must be done on a form similar to an Annexure 2 (template of which can be found in the Construction Regulations, 2014). A copy of the notification letter to the Provincial Director shall be forwarded to the Client for record purposes.

During the construction period

Continuous/Issue-based Risk Assessments shall be done during the construction period as and when the scope of work changes indicating new introduced hazards.

Additional appointments shall follow as required by the Risk Assessment.

The Employer's H & S Agent will take reasonable steps to ensure that the Contractor's Health and Safety plan is implemented and maintained. The steps taken will include periodic audits at mutually agreed intervals at least once every month, however, **if the Employer's Agent determines that the Principal Contractor does not comply with the provisions of the ACT or only complies when the Audit date approaches, HE/SHE reserves the right to visit the site without any form of notification to verify continuous compliance on site.**

Protective clothing as determined by the Risk Assessment shall be issued and the employees shall sign the issue register to indicate the type and number of equipment received by each employee

Proof of training in the form of a register signed by the trained employees shall be kept in the H&S file. The contents of the training shall also be displayed in the H&S file.

Please note: The SHE agent may randomly select employees on site and assess their knowledge against the material they have been trained on.

Appointments of people/workers related to Health and Safety as required by law and the Risk Assessment shall be done prior to the commencement of any work. Letters of appointment shall be kept in the H&S file for inspection by the Client, Agent or any Inspector.

Prior to builder's holiday PC shall develop a shutdown procedure and submit it to the Client agent for approval

Health and Safety Program/File

The following documentation shall be included in the Health and Safety File but not limited to:

- a) Copy of OHSAct and applicable Regulations.
- b) Copy of Client Health and Safety specification, Principal contractor's Health & Safety Plan.
- c) Copy of all Drawings – Schematics, Detail Drawings, etc.
- d) Copy of Notification of Construction work to the Department of Labour.
- e) Company Safety Policies (OHS policy, smoking policy, substance abuse policy, PPE policy, HIV/AIDS policy etc.) – To be signed by the Chief Executive Officer of the Company.
- f) Organogram indicating site specific organizational structure with reference to requirements of the construction regulations.
- g) Proof of Registration with Compensation Fund of Principal Contractor and Contractors.
- h) Method statements, risk Assessments and safe work procedures for all activities on site as per construction works programme (project scope of work).
- i) Letters of Appointment and proof of competence.
- j) Inspection registers
- k) Material safety data sheets
- l) The contents of all Training Material e.g. Formal training, Informal training, induction, DSTI's
Toolbox talks, HIV/AIDS etc.
- m) Emergency preparedness and response plan with site specific telephone numbers
- n) Section 37(2)/Mandatory agreement
- o) Site specific Fall protection plan
- P) Waste management Plan
- q) List of Contractors (Sub-Contractors)
- r) List of Local Labours with ID copies

- s) Environmental management plan
- t) All applicable permits
- u) Disciplinary procedures
- v) H & S budget
- w) Scope of work
- x) Committee meetings and SHE audit reports

Appointments

The following appointments are required for the project. Deviations will only be allowed with the approval of the Agent. Appointment of an employee for more than one responsibility may be allowed on approval by the Agent.

Basic Appointments:

- Appointment of Principal Contractor by Client.
- Appointment of Contractors (Sub Contractors) by Principal Contractor (where applicable)
- Appointment of Construction manager (Full time)
- Appointment of Alternate construction manager
- Appointment of Construction Work Supervisor (Full time)
- Appointment of Assistant Construction Work Supervisor
- Appointment of Health & Safety Officer (Full time)

Appointments of Specialists (Refer to a Specialist Company):

- Appointment of Safety Manager
- Appointment of Risk Assessor and plan developer
- Appointment of a Health and Safety Induction Trainer
- HIV/AIDS trainer
- Traffic Safety Officer (where applicable)
- Fall protection plan developer
- Blasting competent person

Appointments of full time employees on site:

- Appointment of a SHE Representative (Competent employee to control/monitor all H&S activities).
- Appointment of Emergency co-ordinator
- Appointment of an Accident and Incident Investigator.
- Appointment of the Safety Committee Members (Employees actively involved in H&S).
- Appointment of an Excavation Inspector.
- Appointment of Construction Vehicle and Mobile Plant Inspector.
- Appointment of Construction Vehicle and Mobile Plant Operators.
- Appointment of batch plant/Concrete Mixer Operator (if required).
- Appointment of Hand Tool Inspector.
- Appointment of a Portable Electrical Equipment Inspector (If required).
- Appointment of a Fall protection supervisor
- Appointment of a Ladder Inspector (If ladders are used).
- Appointment of scaffold inspector.
- Appointment of scaffold erector
- Appointment of formwork supervisor
- Appointment of demolition supervisor
- Appointment of hazardous chemical controller

- Appointment of stacking and storage supervisor
- Appointment of Flagmen
- Appointment of a Hygiene and Facility Inspector (Ablutions and eating places).
- Appointment of Fire Equipment Inspector.
- Appointment of Fire Team Members (employees trained in firefighting awareness).
- Appointment of First Aid Equipment Inspector.
- Appointment of First Aid Team Members (employees trained in first aid awareness)

Safety Officer (CR 8.7)

Due to the nature of the activities on site it is required to appoint a full-time competent Health and Safety Officer with at least 2 years' experience in SHE management. The Safety Officer shall be in possession of a minimum qualification of SAMTRAC or any other equivalent safety management programmes

The Safety Officer shall be employed by the Principal Contractor on a full time basis for the duration of the project.

The functions of the Safety Officer will be to monitor all H&S Activities on site on a daily basis.

Training and Competence

The Contractor shall quarterly conduct a training needs analysis to ascertain what health and safety training is required. A plan of action should be devised and forwarded to the Client for records, once the identified people have attended the training, the Contractor must provide the Client with copies of certificates obtained.

Induction

No Contractor may allow or permit any employee or person to enter site unless they have undergone health and safety induction training pertaining to the hazards prevalent on site at the time of entry. This includes visitors to site. The Contractor must ensure that visitors to site have the necessary protective equipment. A copy of attendance registers of all employees who attend inductions shall be kept.

Awareness

The Contractor shall conduct periodic toolbox talks on site, preferably weekly or before any hazardous work takes place. The talks shall cover the relevant activity and an attendance register must be signed by all attendees. This record of who attended and the content of the topic will be kept on the site health a safety file as evidence of training.

Competency

After the Contractor has identified the training to be conducted as part of the competency requirement, and based on Risk Assessment, he shall send the relevant persons- on appropriate courses and keep certificates of training for reference. Familiarity with the Health and Safety Act and Regulations is an integral part of the definition of competence.

Risk Assessment – CR 9

The Principal Contractor as well as all other Contractors shall appoint a competent person in writing to carry out a risk assessment before any construction work is started.

The Risk Assessment shall form part of the Health and Safety Plan.

The Risk Assessment shall include:

- Risk assessment procedure
- Identification of hazards and risks.

- Rating matrix
- Control measures to mitigate risks.
- A monitoring and review plan

Copies of the risk assessment shall be available on each site for inspection.

All employees shall be informed, instructed and trained by an appointed competent person regarding all hazards and work related procedures.

Existing Services

Contractor must establish all local services in area of excavations.

Plan of local services shall be documented in the Health and Safety file.

Local services include:

Pipe lines, Electricity Supplies and other similar services.

Safe Working Loads

The Contractor shall ensure that -

- a) The safe working loads of hoists, load-bearing beams and cranes are prominently displayed at all times.
- b) The safe working loads are not exceeded under any circumstances.
- c) All lifting gear is marked with a unique identity number and recorded in register.

Machine Guarding

All power tools and machinery driven by belts, gears, ropes, chains, couplings and similar drives shall be adequately guarded. The Contractor shall prohibit the use of any equipment with a damaged, missing or inadequate guard.

Construction Vehicles and Mobile Plant – CR 23

The Contractor shall ensure that drivers of motor vehicles are in possession of a driver's licence, valid for the class of vehicle which they are required to drive, and shall produce the licence on request.

The Contractor shall not permit any driver to be in control of a vehicle at the Works while under the influence of alcohol, drugs or other substance.

All vehicles of the Contractor shall display a name board bearing the Contractor's name. Hired vehicles shall bear an identifying sticker.

A register shall be kept of workers operating construction vehicles and mobile plant.

The register shall contain proof of training of operators to operate construction vehicles and mobile plant, certification of competency and authorization of operators to operate machinery, vehicles or plant.

Names of operators and their relevant training with date and time stamps together with name of course instructor shall be kept in the Health and Safety File on site.

Physical and psychological fitness shall be proved by way of a medical certificate of fitness of the said operators before allowing operators to operate machinery, vehicles or plant. Medical fitness certificates shall only be issued by a registered occupational medical practitioner.

The Health and Safety File shall include the written training material offered to operators for the different construction vehicles and mobile plant.

Each and every driver shall be trained on risks involved and safety procedures.

All Construction vehicles and mobile plant must be of acceptable design and construction and used according to their design.

All construction vehicles and mobile plant must be maintained in good working order.

A register of all vehicles and plant shall be kept on site together with names of operators responsible for each.

The register shall report all maintenance activities performed on these vehicles and plant as well as signatures certifying the condition of the vehicles as in a good working order.

All requirements on the vehicles and mobile plant with regard to safety and health shall be inspected and certified.

These requirements include:

- a) Portable fire extinguishers mounted in specified positions on construction vehicles – 4kg dry powder fire extinguisher
- b) Inspection for leaking fuel or gasses which can cause a fire hazard
- c) Safe and suitable means of access
- d) Adequate signalling or other control arrangements to guard against the dangers relating to movement of vehicles and plant.

Attention must be paid to

- i) Turn indicators
- ii) Stop lights x 2 – where poor visibility conditions warrant
- iii) Reverse siren or acoustic device
- iv) Tail lights
- v) Reflectors
- vi) Head lights x 2 – where poor visibility conditions warrant
- vii) Rotating amber flashing light with lens heights of at least 200mm and an Output of at least 100Watt on roof or other visible position
- viii) Warning boards mounted at least 1.5m above ground level to be clearly visible.
- ix) Inspections of appropriate structures fitted to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn
- x) Appropriate seats must be firmly secured and adequate in number on vehicles used to transport employees

During use of Construction vehicles or mobile plant the following rules shall be adhered to:

1. Construction vehicles or mobile plant must be prevented from falling into excavations, water or any other area lower than the working surface. This protection must consist of adequate edge protection e.g. guard rails and/or crash barriers.
2. No person shall be allowed to or require to ride on any Construction Vehicle or Mobile Plant in a position otherwise than a safe place provided for on the construction vehicle or mobile plant as designed for that purpose.
3. The construction site must be organized in such a way that as far as is reasonable practical, pedestrians and vehicles can move safely and without risks to health and safety.
4. Traffic routes shall be of sufficient size, sufficient in number and in suitable positions to be used safely by construction vehicles, mobile plant and pedestrians.
5. Each and every traffic route shall be indicated by suitable signs for reasons of safety and health.
6. No tools and/or material shall be transported in the same compartment as the operators/drivers/employees unless the said are secured against movement during transportation.
7. All Construction Vehicles and Mobile Plant left unattended at night adjacent to a public roads in normal use or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of vehicles or plant.
8. TLB's, Excavators and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set.

9. Reflective indicators must be provided to workers in the form of reflective yellow jackets or vests as specified and worn by workers working on/or adjacent to public roads.
10. No major plant repairs may be carried out on site

Signs and Notices

The use of colour codes, symbolic signs and notices are means of communication whereby information is visually conveyed to people and also provides early warning of dangers.

Safety signs provide for immediate recognition of danger, information, actions allowed or not allowed and procedures that have to be done.

There are 5 types of safety signs:

1. Black triangle on yellow background=> WARNING
2. Red (round) on white background => PROHIBITORY
3. White on blue background => MANDATORY
4. White on green background => INFORMATION
5. Red (square) on white background => FIRE

The following signs shall be provided for on the site:

- Warning signs - DANGER - MEN AT WORK
- Prohibitory signs - NO ENTRY, NO SMOKING
- Fire - POSITION OF EQUIPMENT ARROWS
- First Aid - INFORMATION SIGNS
- Emergency Signs - ASSEMBLY POINT, ESCAPE ROUTES SIGNS

All signs shall be new or in good condition and approved by the Engineer.

All temporary signs shall be mounted on portable supports to facilitate moving.

Defective or missing items shall be replaced immediately.

All signs shall be inspected at least twice a day.

Signs to be displayed will be determined by the H&S Plan and the Risk Assessments.

Compulsory signs will include:

Prohibited area

Men at work

A H&S board shall be displayed at the entrance with all the relevant H&S instructions and symbols eg:

Construction Site – No Entry

Hard hat area

Safety shoes shall be worn

The size of the board shall be at least 1.5m wide by 1.2m high

Excavation Work – CR 13

Excavation:

Definition: A space made by digging.

1. An excavation could be a hole or trench of any size and shape.
2. A Risk Assessment must be done prior to making an excavation.
3. The following must be taken into consideration when doing the Risk Assessment:
 - ⇒ Depth of the excavation
 - ⇒ Length of the excavation
 - ⇒ Existing services
 - ⇒ Barricading and demarcation

Depth of the excavation:

1. Should an excavation be more than chest deep (1.5m), it must be adequately shored or braced.
2. Slopes or trenches shall be as flat as possible, 1 x vertical to 2 x horizontal must be considered maximum for dry conditions. In wet conditions either a much lower slope shall be used, or if space is a constraint, shoring and de-watering shall be applied.

A competent person shall be appointed to supervise excavation work.

Stability evaluation of ground must be done by the Principal contractor and a consulting Engineer shall be notified in writing for certification.

A plan for prevention of persons being trapped due to collapse shall be provided by Contractor. The design of shoring shall be documented by Contractor in the Health and Safety file as provided by the competent designer of shoring.

The maximum loading of sides of an excavation must be documented in a usable format.

If adjacent structures and buildings are present and can be affected a design and construction of supporting details shall be represented.

Provision shall be made for access routes to the excavation. Routes must not be more than 6 meters away from worker.

Contractor must establish all local services in area of excavations.

Plan of local services shall be documented in the Health and Safety file.

Local services include:

Telkom, Water, Electricity Supplies and other similar services.

Inspection shall be done on all bracing and shoring on a

- daily basis
- prior to each shift
- after every blasting operation
- after an unexpected fall of ground
- after substantial damage to supports
- after rain

An inspection register shall be completed by the Excavation Inspector during each and every inspection.

Excavations must be provided with clearly visible boundary indicators and illuminated at night or where/when visibility is poor.

Excavations must be adequately barricaded and such barricading material shall be periodically maintained.

It is advised to use 1.2m high PVC net (barrier netting) and erected as close to the excavation as possible, when accessible by public or other employees, or adjacent to public roads or thoroughfares, **NO danger tape shall be used.**

Explosives regulations must be adhered to if explosives are required to carry out the excavation. Competent persons with blasting certificates must be in charge.

Warning signs must be posted next to an excavation in which persons are working or carrying out inspections or tests.

Barricading and Demarcation

The construction site shall be sealed off with a fence of at least 2 m covered with mash nett to contain dust. Signage must be displayed in all four corners of the site to prevent unauthorized entry by members of the public and vehicles.

Ladders – GSR 13A

You are only to use ladders that are undamaged and are of sound construction.

Ladders must be placed on a register and inspected on a monthly basis by an appointed person.

Ladders are to be secured during use. If it is necessary to use a ladder before it can be secured, a second person must hold it steady at all times. Place the ladder's feet on a level base. (wooden blocks or bricks are not to be used).

Ladders are not to be used as scaffolds or work platforms.

When used as access to trenches and work areas, the ladder must extend one meter above the step off point and be placed at an angle where the base of the ladder is one quarter of the ladder height away from the base of the structure, and must be fitted with non-skid devices.

Ladders must not be used nearer than 3m to any exposed electrical power source and never in substations or on electrical installation work.

Ladders are not to be used in a horizontal position.

Maintain 3-point contact by keeping two hands and one foot or two feet and one hand on the ladder at all times.

Do not carry objects in your hands while on a ladder.

Ladders must be fitted with non-skid devices at the bottom ends and hooks or similar devices at the upper ends.

Ladders with damaged stiles, or damaged or missing runs should never be used.

Ladders must never be fastened together to increase the reach.

Wooden ladders must never be painted.

Bulk mixing/Concrete Mixers – CR 20

The Contractor shall ensure that all concrete mixers are operated and supervised by a competent person who has been appointed in writing.

The Contractor shall ensure that all devices to start and stop the concrete mixers are provided and that these devices are:

1. Placed in an easily accessible position; and
2. Constructed in such a manner to prevent accidental starting

All dangerous moving parts of a mixer must be placed beyond the reach of persons by means of covers.

No person shall be permitted to remove or modify any guard or safety component unless authorized to do so by the appointed person

A Contractor shall ensure that all persons authorized to operate the concrete mixers are fully:

1. Aware of all dangers involved in the operation thereof
2. conversant with the precautionary measures to be taken in the interest of health and safety

No person supervising or operating a concrete mixer shall authorize any other person to operate the plant, unless such a person is competent to operate such machinery.

In case the concrete is supplied by the an external service provider PC shall ensure that there are fully inducted and compliant with the provisions of the OHS act and its regulation. Furthermore, PC's employees shall not be allowed to operate the ready mix truck chutter in any circumstances

Scaffolding – CR 16

All scaffolding must be in compliance to SANS 10085.

A competent person shall be appointed in writing to supervise the erection of all scaffolding operations. The Scaffolding erector shall have the required accredited qualifications for scaffold erecting.

A competent scaffold inspector shall be appointed in writing to inspect the erected scaffolds and shall not be the same person as the erector.

An Inspection Register on scaffolding shall be kept in the Health and Safety File.

A copy of SANS 10085 as amended shall be available on site and kept in the Health and Safety File.

House Keeping and Construction Sites – CR 27

The Contractor shall at all-time carry out the Works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. The Contractor shall take all precautions, which are necessary and adequate to eliminate any conditions, which contribute to the risk of injury to persons or damage to property. The Contractor shall continuously inspect all work, materials and equipment to discover and determine any such conditions and shall be solely responsible for the discovery, determination and elimination of such conditions.

During the period of this Contract, the Contractor shall be responsible for the safe storage of all materials and equipment required for execution of the Contract, and for disposal of all non-usable waste material in an orderly manner.

All materials, whether stored on the construction site or within the Contractor's designated area, shall be stored neatly and safely to prevent possible injury to any personnel. The material shall be stored to facilitate safe access to, and removal of the material from the storage area.

Any flammable material, such as paint, diesel fuel and oil, shall be stored in lockable non-combustible structures, which shall be clearly marked to indicate the hazardous nature of the materials stored within. The flammable materials stores shall be located in safe areas away from hazardous surroundings and adequate and suitable fire-fighting equipment shall be provided within easy reach of the materials stores.

Loose material need for use shall not accumulate so as to obstruct means of access to and egress from the workplace.

Scrap and waste shall not be allowed on site and must be removed daily.

The construction sites adjacent to build up area or public way shall be effectively fenced and controlled with access points.

HCS stored on site shall be stored in containers located in a dedicated area. The area shall be surrounded by a band wall.

Stacking and Storage on Construction Sites – CR 28

A competent person shall be appointed in writing with the duty of supervising all stacking and storage of material on site.

Adequate storage areas shall be provided which includes demarcated areas.

All storage areas shall be kept neat and under control.

Fall Protection – CR 10

A contractor shall cause-

- a) The designation of a competent person, responsible for the preparation of a fall protection plan;
- b) The fall protection plan contemplated in paragraph (a) to be implemented, amended where and when necessary and maintained as required;
- c) Steps to be taken in order to ensure the continued adherence to the fall protection plan.

The fall protection plan contemplated in sub-regulation (1), shall include-

- a) Scope
- b) A risk assessment of all work carried out from an elevated position which shall include the procedures and methods used to address all the risks identified per location;
- c) Fall prevention outlook: Fall elimination, fall prevention, fall arrest equipment
- d) Emergency response and fall rescue plan
- e) Appointments and training need analysis
- f) Site activities/conditions e.g. open holes, excavations, ladders, scaffolds, lifting equipment etc.
- h) Monitoring and review
- i) Medical surveillance procedure
- j) Accident/incident reporting, investigation and record keeping

- k) Approvals and reviews
- l) fall protection training register

NOTE:

The wearing of an approved type of safety harness fitted with a shock absorber and correctly secured to any approved anchorage is compulsory for personnel working at heights.

Safety harnesses must be worn where a leaning bar cannot be installed, where handrails are not available, in instances where there is a risk of injury due to falling, and generally whenever work is undertaken at a height of more than “a person’s height”.

It is the contractor’s responsibility to train his employees on the correct use of harnesses.

Safety belts may only be used as a fall restraint and not as a fall protection device.

On windy/rain days, special precautions are to be taken when working at.

No workers are to be allowed to work at height during inclement weather

Structures – CR 11

1. A contractor shall ensure that:
 - a) all reasonable practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work: and
 - b) No structure or part of a structure is loaded in a manner which would render it unsafe.
2. A contractor shall ensure that all drawings pertaining to the design of the relevant structure are kept on site and are available on request by an inspector, contractors, client, client’s agent or employee.
3. Any owner of a structure shall ensure that inspections of that structure upon completion are carried out periodically by competent persons in order to render the structure safe for continued use: Provided that the inspections are carried out at least once every six months for the first two years and thereafter yearly and records of such inspections are kept and made available to an inspector upon request.
4. Any owner of a structure shall ensure that the structure upon completion is maintained in such a manner that the structure remains safe for continued use and such maintenance records shall be kept and made available to an inspector upon request.

Temporary Works – CR 12

A competent person shall be appointed in writing to supervise all formwork and support work.

The name and address of such a person shall be included in the Health and Safety Plan of the Principal Contractor.

The contractor must ensure that all formwork and support work structures are adequately designed, erected, supported, braced and maintained so that they will be able to support all anticipated loads.

All drawings pertaining to formwork and support work must be kept on site and available for inspection by an inspector, contractor, client, client’s agent or employee.

All formwork and support work must be inspected and checked for suitability by a competent person under the following conditions:

1. Before use
2. During placement of concrete or any other imposed load
3. After placement of concrete or any other imposed load
4. On a daily basis after placement of concrete until the structure is removed.
5. Ensure that concrete gains sufficient strength before the support work is removed.

Record must be kept of these inspections.

Weakened formwork or support work must be immediately reinforced.

Persons must be prevented from slipping on support work.

Persons must not be affected by the use of solvents or any other similar substances.

Safe access must be provided for all support work.

Employees involved must be adequately trained and instructed to perform the work in a safe manner.

Foundations of formwork must be adequate to sustain the applied load.

Material Hoisting – CR 19

A contractor must ensure that every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.

A contractor must ensure that the tower of every material hoist is

- erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and extends to a distance above the highest landing to allow a clear and unobstructed space of at least 900 mm for over travel;
- enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means to a height of at least 2100 mm from the ground or floor level; and
- Provided with a door or *gate* at least 2100mm in height at each landing, and that door or gate must be kept closed except when the platform is at rest at such a landing.

A contractor must cause-

- the platform of every material hoist to be designed in a manner that it safely contains the loads being conveyed and that the combined mass of the platform and the load does not exceed the designed lifting capacity of the hoist;
- the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and
- Every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when power is not being supplied to the hoisting machinery.

No contractor may require or permit barrows or material to be conveyed on the platform of a material hoist and no person may so convey barrows or material unless those articles are secured or contained in a manner that displacement thereof cannot take place during movement.

A contractor must cause a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material host, to be affixed around the base of the tower and at each landing.

A contractor of a material hoist may not require or permit any person to operate unless a hoist, person is competent in the operation of that hoist. .

No contractor may require or permit any person to ride on a material hoist. A contractor must ensure that every material hoist-

- is inspected on daily basis by a competent person appointed in writing by the contractor and such competent person must have the experience pertaining to the erection and maintenance of material hoists or similar machinery;
- inspection contemplated above, includes the determination of the serviceability of the entire material hoist, including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices;
- inspection results are entered and signed in a record book by a competent person, which book must be kept on the premises for that purpose;

- Is properly maintained and the maintenance records in this regard are kept on site.

First Aid - GSR 3

Safety Notice Board

The Contractor shall provide a Safety Notice Board where safety notices, site regulations concerning safe working practices and information on the location of the nearest first aid station, can be conspicuously displayed to all staff. The size of the notice board shall be at least 600 mm x 800 mm.

First Aid Equipment

The Contractor shall provide for its employees a stretcher for emergencies and an approved first aid box. The first aid box shall be checked monthly by a responsible person, who shall be appointed by the Contractor, and a record shall be kept of the contents. Any deficient medical supplies shall be promptly replenished by the Contractor.

Hazard Notices

The Contractor shall display hazard notices in all areas where hazardous conditions prevail or may occur.

Reporting of Incidents and/or Injuries

All incidents in respect of damage to Works, property or machinery, or injury to persons, shall be reported by the Contractor's SHE Rep by the quickest means possible.

A mandatory incident report form, containing full details of the incident, shall be completed and submitted to the Site Agent within twenty four (24) hours of the occurrence of the incident.

Fire Precautions on Construction Sites – CR 29

A register shall be kept on all Acetylene and Oxygen cylinders used on the site.

Condition of components, sub-components and safety components (e.g. Flame back arrestors) shall be listed in the register and signed by the construction supervisor at regular intervals as required with time and date stamp.

Acetylene, Oxygen and LP Gas cylinders shall be stored in suitable places to minimize the risk of fire.

Suitable storage to be provided for flammable liquids, e.g. petrol, diesel, paraffin.

Smoking shall be prohibited in the workplace and notices posted accordingly.

Suitable and sufficient firefighting equipment shall be placed in strategic positions in the work place.

(On vehicles and other positions as deemed necessary).

A register shall be kept on type and number of equipment for each site in the Health and Safety File.

A competent person shall inspect all firefighting equipment.

A sufficient number of employees shall be trained in the use of firefighting equipment.

A register shall be kept in the Health and Safety File on site with names of employees and type of firefighting training completed with date.

Suitable signs shall be erected in work places indicating escape routes.

Escape routes shall be kept clear. Evacuation plans shall be in Health and Safety File as part of Induction Training.

Combustible materials shall not accumulate on site.

Construction Welfare Facilities – CR 30

PC shall provide clean drinking water for its workers

On each site where existing facilities are not present, at least one sanitary facility shall be erected for every 30 workers, a changing facility for each sex and sheltered eating areas.

Separate toilets shall be erected for each sex.

Mobile toilets with bucket system shall be installed at the site.

Cleaning of buckets shall be arranged with an approved service provider approved by the municipality. To be at least once every week and disposal certificate shall be kept in the file.

Portable electrical tools & equipment - EMR 9

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 amp. plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etc. In addition electrical appliances such as fridges, hotplates, heaters, etc. shall be inspected and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorized persons are allowed to use portable electrical tools and equipment;
- The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.

PORTABLE ELECTRICAL TOOLS shall be maintained in good condition at all times to prevent an electrical shock to the user. The main source shall incorporate an earth leakage protection device.

All equipment shall be fitted with a switch to allow for safe & easy starting and stopping.

Use & storage of flammables & HCS - CR 25

The Principal Contractor / Contractor to ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapors being present unless adequate precautions are taken;
- The workplace is effectively ventilated. Where this cannot be achieved:
 - Employees must wear suitable respiratory equipment
 - No smoking or other sources of ignition is allowed in the area
 - The area is conspicuously demarcated as “flammable”
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place and sufficient fire-fighting equipment installed and fire prevention methods practiced e.g. proper housekeeping;
- Flammables stored in a permanent flammables store are stored so that no fire or explosion is caused i.e.:
 - stored in a locked well-ventilated reasonably fire resistant container, cage or room conspicuously demarcated as “Flammable Store – No Smoking or Naked Lights”;
 - the flammables store to be constructed of two-hour fire retardant walls and roof and separated from adjoining rooms or workplaces by means of a two-hour fire retardant fire wall;

- Adequate and suitable fire-fighting equipment installed around the flammables store and marked with the prescribed signs;
 - All electrical switches and fittings to be of a flameproof design;
 - Any work done with tools in a flammables store or work areas to be of a non-sparking nature;
 - No Class A combustibles such as paper, cardboard, wood, plastic, straw etc. to be stored together with Flammables;
 - The flammable store to be designed and constructed to, in the event of spillage of liquids in the store, to contain the full quantity + 10% of the liquids stored;
 - A sign indicating the capacity of the store to be displayed on the door;
- Containers (including empty containers) to be kept closed to prevent fumes/vapors from escaping and accumulating in low lying areas;
 - Metal containers to be bonded to earth whilst decanting to prevent build-up of static;
 - Welding and other flammable gases to be stored segregated as to type of gas and empty and full cylinders.

Hazardous Chemicals and Materials

- a) The Contractor shall provide suitable and adequate protective equipment when work in an area where hazardous chemicals and materials are being used.
- b) The Contractor shall ensure that its employees have familiarised themselves with the hazardous material data sheets applicable to the specific site as well as the location of firefighting equipment, safety showers/baths and other washing facilities, prior to commencement of work
- c) Hazardous chemical substances shall be stored in a well ventilated area.
- d) Spillage procedures shall be developed and spill kits shall be provided.
- e) All HCS containers shall be labelled
- f) Where HCS are stored PC to ensure that there are serviced fire extinguisher in close proximity

Public H & S

The Contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

Night work

The Contractor shall not undertake any night work without prior arrangement and a written permit from the Client. The Contractor shall ensure that adequate lighting is provided for all night work and failure to do so shall result in work being stopped.

Environmental Conditions

The Contractor must be mindful of adverse weather conditions upon the health and safety of the workforce. This includes inclement weather, strong wind, heat stress, extreme cold, etc. The Contractor's risk assessment process must take into account the risks associated with such weather conditions. The same is true when working in an environment where there is a risk to

employees' health and safety from presence of poisonous flora, or wildlife (including bees, snakes, etc.). The Contractor's risk assessment process must take these risks into account.

Furthermore the Contractor shall ensure that the environmental specification is adhered to at all times.

Occupational Health

Exposure of workers to occupational health hazards and risks are very common in any work environment, especially in construction. Occupational health hazards and risks exposure is a major problem and all Contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks. The occupational hazards and risks may enter the body in four ways:

- Inhalation through breathing e.g. cements dust;
- Ingestion through swallowing maybe through food intake;
- Absorption through the skin (pores) e.g. hazardous chemicals.

The contractor is required to ensure that all his personnel are medically fit prior to being allowed onto the work site. All Contractors should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk Assessments should identify areas where survey has been conducted.

- Noise induced hearing loss

Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included / referred to in the Health and Safety Plan:

- Proof of training with regards to these regulations.
 - Risk assessment done within 1 month of commencement of work,
 - That monitoring carried out by an AIA and done according to SABS 083.
 - Medical surveillance programme established and maintained for the necessary employees.
-
- Control of noise by referring to:
 - Engineering methods considered
 - Admin control (number of employees exposed) considered
 - Personal protective equipment considered/decided on
 - Describe how records are going to be kept for 40 years.

Commissioning and Safety Precautions

The Contractor shall ensure that wherever repairs, adjustments or any other work are undertaken on any plant or machinery, the power supply is switched off, disconnected or the plant / machinery disengaged until the work or repairs have been completed.

Monitoring and Review: Registers Required on Site

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

- Personal Protective Clothing and Equipment issued, PPE condition Monthly checklist

MACHINERY

- Daily Checklist - Compaction Machinery

- Daily Checklist – Concrete mixer
- Daily Checklist – Generator/pump
- Daily checklist (before and after use) – Troxler (If applicable)
- Daily Construction Vehicle Pre-ignition Checklist – Excavator (If applicable)
- Daily Construction Vehicle Pre-ignition Checklist – TLB
- Daily Construction Vehicle Pre-ignition Checklist – Truck
- Daily Construction Vehicle Pre-ignition Checklist – LDV
- Operators on Construction Vehicles and Mobile Plant Training and Fitness Register

EQUIPMENT

- Ladder Inspection Register
- Daily Stacking Inspection Register
- Daily Scaffold Inspection Register
- Daily Formwork Inspection Register

TOOLS

- Monthly Checklist on Hand Tools
- Monthly Checklist on Portable Electrical Equipment

GENERAL

- Monthly Environmental Checklist and Deviation
- Weekly Hygiene Facility Inspection Register – Mobile Ablutions and Eating areas
- Stacking & Storage inspection registers
- Housekeeping inspection registers

FIRE

- Fire Extinguishing Equipment Register
- Register of Trained Employees in Fire Fighting
- Fire Awareness Attendance Training Register

EMERGENCY

- First Aid Box and Equipment Checklist
- Register of Trained Employees in Basic First Aid
- First Aid Awareness Attendance Training Register
- Incident Register (Injury/ occupational disease record book (Recording and investigation of incidents))
- Motor Vehicle Accident Register

TRAINING

- Induction Training Attendance Registers
- Toolbox talks Training Attendance Registers
- Community Training Attendance Registers
- Fall protection plan training attendance register
- Risk assessment & Safe work procedure attendance register
- Emergency/evacuation Training attendance register

PERMITS

- Blasting
- Bulk fuel storage
- Lock-out Permits (Water and Electricity)

- Radiation equipment (troxler)

INSPECTIONS

- Daily Excavations Inspection Register with specific reference to barricading
- Safety officer internal audit - Monthly
- SHE Rep Inspection Register – Monthly checklist and deviations
- Minutes of Safety Committee Monthly meetings

Safe Work Procedures Required in Health and Safety File

- Stacking of material
- Working with Portable electrical equipment
- Working with cement and concrete mixers
- Scaffolding activities
- Formwork activities
- Working at heights
- Working in inclement weather
- Excavating of trenches
- Steel fixing
- Use of Troxler
- Blasting
- Loading and transportation of material
- Transportation of workers
- Operation of construction vehicles
- Refuelling of Plant
- Use of hand tools
- Electrical installations
- Use of Ladders
- Public safety
- Ergonomics

Written Training Course Material to be filed in Health and Safety File and presented

- Induction Training (Workplace awareness)
- Training of operators on Construction Vehicles and Mobile Plant
- First Aid Awareness
- Fire Fighting Awareness
- HIV/AIDS Training
- Toolbox talks on Hand Tools
- Toolbox talks on Stacking of material
- Toolbox talks on working at heights
- Toolbox talks on Maintaining Scaffolding
- Toolbox talks on Traffic management
- Toolbox talks on Driving company vehicles
- Toolbox talks on Working with cement and concrete mixers
- Toolbox talks on working with portable electrical equipment
- Toolbox talks on Excavating of trenches
- Toolbox talks on Machine Guarding
- Toolbox talks on Hand Tool Accidents
- Toolbox talks on Ten Commandments of Safety
- Toolbox talks on Fire prevention

- Toolbox talks on Ergonomics
- Toolbox talks on lifting materials by hand
- Toolbox talks on safe loading
- Toolbox talks on substance abuse
- Toolbox talks on public safety
- Toolbox talks on facilities and hygiene
- Toolbox talks on Environmental influences

Emergency Equipment to be kept on site but not limited to:

First Aid Kits with splinters and the minimum required contents

Stretcher

Fire Extinguishers

Emergency Siren

Emergency contact details

Cell phone with airtime of at least R20

Personal Protective Clothing

The Contractor shall provide the necessary personal protective clothing free of charge for its employees in hazardous areas, appropriate to the nature of the hazard. PPE must be maintained and kept in a good condition.

Proposed Personal Protective Equipment & Clothing required on this project but not limited to:

	TYPE	WHEN TO WEAR
1.	Hard Hats	When there is work carried above 2m from ground level or in deep excavations
2.	PVC Gloves	Working with cement, steel
3.	Reflective clothing	Working adjacent to public roads or in close proximity to construction vehicles
4.	Safety Goggles	Grinding, Cutting Cement, mixing cement
5.	Gumboots	Working in water, concrete casting
6.	Safety shoes	Offloading, working with heavy loads, positioning of materials etc.
7.	Dust Masks	Working with HCS, windy conditions, cement
8.	Ear protection	Grinding, compaction etc.
9.	Safety harness	Working at heights
10.	Life-line	Working at heights
11.	Kidney belts	Plant operators

Sub-Contractor Management

Contractor control

PRINCIPAL CONTRACTOR shall enter into a Contractors Agreement in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993, with all appointed contractors.

PRINCIPAL CONTRACTOR shall take reasonable steps as are necessary to ensure co-operation between all contractors to enable each of those contractors to comply with the provisions of these regulations.

This would include the following:

- to appoint each contractor contemplated in writing for the part of the project on a construction site;
- ensure that contractors comply to the directives of the PRINCIPAL CONTRACTOR health and safety plan;
- to stop any contractor from executing construction work, which is not in accordance with the health and safety plan, and or the clients health and safety specification;
- to ensure that where changes are brought about to the design and construction, sufficient health and safety information and appropriate resources are made available to the contractor to execute the work safely;
- to ensure that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site;
- to ensure that potential sub-contractors have made provision for the cost of health and safety measures during the construction process;
- ensure that a comprehensive and updated list of all the contractors accountable to PRINCIPAL CONTRACTOR is maintained and that the section 37.2 agreements between the parties and the type of work being done are included and available;
- Ensure that the contractors to be used have the necessary competencies and resources to perform the construction work safely;
- Ensure that all other contractors are warned of hazardous or potentially hazardous situations, which may prevent them from effectively performing their duties, which includes the placement of adequate warning signs.
- As far as reasonably practicable, PRINCIPAL CONTRACTOR is to audit contractors at least once for the duration that the contractors are on site. Should the contractor be on site for longer than a month, then the audit must be conducted at least once every month.

Medical surveillance procedures

All employees:

- Working at heights,
- Operators of plant/machinery,
- Exposed to noise,
- Exposed to cement and dust,
- General labour,
- Handling Hazardous Chemicals

Are to undergo pre-employment and exit medical assessments performed by a registered occupational medical practitioner.

Incident reporting

Reporting of accidents and incidents - OHSACT, Sec. 24 & GAR 8

The Principal Contractor shall report all reportable incidents to the Dept. of Labour (in terms of the Act and Regulations) and shall provide the Client with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring. The Principal Contractor shall provide the Client with copies of all internal and external accident / incident investigation reports including the reports contemplated above and below within 7 days of the incident occurring.

Accident and incident investigation - GAR 9

The Principal Contractor / Contractor shall investigate all accidents / incidents where employees and non-employees were injured to the extent that he / she / they had to be referred for medical treatment by a doctor, hospital or clinic and results recorded on file.

The Principal Contractor / Contractor shall investigate all minor and non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keep a record of the results of such investigations including the steps taken to prevent similar incidents in future.

The Principal Contractor / Contractor shall investigate all road traffic accidents and keep a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Client reserves the right to hold its own Investigation into any incident or call for an independent external investigation.

Emergency preparedness, Contingency planning & response

The Principal Contractor / Contractor shall appoint a competent person to act as Emergency Controller/Coordinator.

The Principal Contractor / Contractor shall conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she shall then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the Client may have in place.

The Principal Contractor / Contractor shall hold regular practice drills of contingency plans and emergency procedures to test them and familiarize employees with them **(every 3 months)**.

Security and access control

The Principal Contractor / Contractor shall establish site access rules, implement and maintain these throughout the construction period. Access control procedure shall ensure that non-employees do not proceed on to work areas unaccompanied by a senior site responsible person or other.

Construction site shall be adequately hoarded (fenced) with temporary gate

manned to prevent unauthorised access. Warning signage shall be displayed on all four sides of the construction site

Public Safety

The Principal Contractor / Contractor shall be responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimize these dangers. This includes:

- Non- employees entering the site for whatever reason;
- The surrounding community;
- Passers-by.

Appropriate signage shall be posted to this effect and all employees on site shall be instructed on ensuring that non-employees are protected at all times.

All non-employees entering the site shall receive induction into the hazards and risks and the control measures for these.

All unattended excavations are to be backfilled, if not possible, they are to be adequately barricaded with PVC orange net of at least 1.2m high (NO DANGER TAPE)

Audit, Reporting & Corrective actions

Monthly audit by the Client SHE agent

Occupational Health and Safety Audits will be conducted monthly to comply with Construction Regulation 4(1) (d) to ensure that the Principal Contractor / Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

Contractor's audits and inspections

The Principal Contractor / Contractor shall conduct monthly internal audits to verify compliance with his own occupational health and safety management systems and procedures.

Consultations, Communication and Liaison

All occupational health and safety liaison between the Client, the Principal Contractor, other Contractors, the Designer and other concerned parties shall be through the OH&S committee. In addition to the above, communication may be directly to the Client or his appointed Agent, in writing, as and when the need arises.

Consultation with the workforce on OH&S matters shall be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any. The Principal Contractor / Contractor shall be responsible for the dissemination of all relevant OH&S information to other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her Agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

Record keeping

The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with the Health and Safety Specification and the Occupational Health and Safety Act. The contractor shall ensure that all records of incidents, spot fines, training etc. are kept on site. All documents shall be available for inspection by the Client, or the Department of Labour's Inspectors.

Close-out

Upon completion of the Works (at zero man hours), the Contractor shall hand over a consolidated Health and Safety file (Hard & Soft copy) to the Client SHE agent.

Health and Safety close out SHE file requirements include:

- a) Client H&S Specification
- b) Principal Contractor's OHS Plan(s)
- c) Organograms
- d) Legal Appointments
- e) Notification to Department of Labour of commencement of work
- f) Letters of Good Standing for the Project
- g) Full files for all Contractors as well as their close out reports
 - List of Contractors
 - Letters of Approval of Contractors
 - Mandatory Agreements
 - Letters of Good Standing
 - Appointments
- h) Incident Records
- i) Non- Conformance records
- j) Agent's Audits

- k) Method Statements
- l) Risk assessments
- m) Safe work procedures
- n) Medical surveillance certificates of fitness. Medical records are to be kept according to the OH&S Act as amended.
- o) All drawings for temporary structures (suspended beams/scaffolds etc.)
- p) Copies of test results, policies and procedures for environmental monitoring (silica, noise, dusts etc.)

Penalty Enforcement

Penalties may be imposed on Contractors who do not comply with this health and safety Specification.

The list of offences that attract penalties and how much it would cost per offence is listed on the below table and such fines will be deducted from the contractor's payment certificate.

Note: In the event whereby the contractor has completed construction work and there are still outstanding critical non-conformances, the Employer reserves the right not to release an amount of not less than 5% of the final payment certificate or retention amount.

LIST OF OFFENCES AND PENALTIES

NON-CONFORMANCES	FIRST TRANSGRESSION	SECOND TRANSGRESSION
1. Expired Letter of good standing	Written warning	R 5000 or Site closure
2. Notification of Construction work	Written warning	R 500
3. Mandatory agreement	Written warning	R 500
4. Accident/incident management	Written warning	R 2000 – R 10000/Site closure
5. Pollution	Written warning	R 500 – R 5000
6. Inspections	Written warning	R 50 per item
7. Appointments & Competence	Written warning	R 50 per appointment
8. Risk assessment & safe work procedure	Written warning	R 200 per activity
9. Training (induction, toolbox talks etc.)	Written warning	R 50 per employee
10. PPE	Written warning	R 50 per employee
11. Unsafely working at heights	Written warning/Halt activity	R 500 – R 5000
12. Pre-employment Medicals	Written warning	R 100 per employee
13. Faulty/sub-standard tool	Written warning	R 50 per tool
14. Unsafe use & storage of Troxler	Site closure	Site closure + minimum of R10 000
15. Blasting (permits/notification)	Halt operation	Minimum of R5 000
16. Exit medicals	Written warning	R 250 per employee
16. File consolidation/ close out report	Written warning	5% of retention

CLIENT OHS SPECIFICATION

NOZAYI SPS

INDEPENDENT DEVELOPMENT TRUST

12/11/2021

ABBREVIATIONS

AIA: Approved Inspection Authority
CHSO: Construction Health & Safety Officer
CC: Compensation Commissioner
CR: Construction Regulations 2014
DME: Department of Mineral and Energy
DMR: Driven Machinery Regulations
DoL: Department of Labour
FEMA: Federated Employers Mutual Association
GAR: General Administration Regulations
GSR: General Safety Regulations
HIRA: Hazard Identification & Risk Assessment
H&S: Health and Safety
OHSA: Occupational Health and Safety Act No. 85 of 1993 (as amended)
OHSS: Occupational Health and Safety Specification
PSHSS: Project Specific Health and Safety Specification
PC: Principal Contractor
PPE: Personal Protective Equipment
PPC: Personal Protective Clothing
ER: Engineer's Representative
RHCS: Regulations for Hazardous Chemical Substances
SANS: South African National Standards (Authority)
SMME: Small, Micro, Medium Enterprise
SWP: Safe Work Procedure
HCS: Hazardous chemical substances

General Statement and Interpretations

Occupational Health and Safety Act, Act 85 of 1993 shall apply to this Contract. The Construction Regulations promulgated on 7 February 2014 and incorporated into the said Act by Government Notice R. 84, published in Government Gazette 37305 apply to any person involved in construction work. These regulations are hereinafter referred to as “the Construction Regulations” and the said Act as “the Act”.

The scope of this Occupational Health and Safety Specification is to address the reasonable and foreseeable aspects of occupational health and safety management which will be affected by the contract work.

The specification will provide the requirements that the Principal Contractor and other contractors shall comply with in order to reduce the risks associated with the contract work which may lead to incidents causing injury and/or ill health or degradation of the environment, to a level as low as reasonably practicable and possible.

This Specification is not intended to supersede the Act nor the Construction Regulations. Those sections of the Act and the Construction Regulations, which apply to the scope of work to be performed by the Contractor in terms of this Contract, continue to be a legal requirement of the Contractor. The principal Contractor will be appointed in writing to be in overall control of the Construction site.

Definitions

Definitions as the Construction Regulations 2014 applicable to this Health and Safety Specification:

"Agent" means a competent person who acts as a representative or a client;

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"Bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;

"Client" means any person for whom construction work is being performed;

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act;

"construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"construction site" means a workplace where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and *off* the construction site for the purposes of performing construction work" construction work" means any work in connection with-

1. the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to 5 a building or any similar structure; or
2. the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;

"design" in relation to any structure, including drawings, calculations, design details and specification

- "designer" means a competent person who:-

1. prepares a design;
2. checks and approves a design;
3. arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
4. designs temporary work, including its components;
5. an architect or engineer contributing to, or having overall responsibility for a design;
6. a building services engineer designing details for fixed plant;
7. a surveyor specifying articles or drawing up specifications;
8. a contractor carrying out design work as part of a design and building project; or
9. an interior designer, shop-fitter or landscape architect;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guard-rails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for -

1. all risks relating to working from a fall risk position, considering the nature of work undertaken;
2. the procedures and methods to be applied in order to eliminate the risk of falling;
3. and a rescue plan and procedures;

"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file" means a file, or other record containing the information in writing required by these Regulations "health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"person day" means one normal working shift of carrying out construction work by a person on a construction site

"principal contractor" means an employer appointed by the client to perform construction work;
"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as Professional Engineering Technologist in terms of the Engineering Profession Act, 2000.

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

"structure" means-

1. any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or *any* structure designed to preserve or alter any natural feature, and any other similar structure;
2. any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
3. any fixed plant in' respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"temporary works" means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

Refer to Occupational Health and Safety Act, Act 85 of 1993 and regulations for more definitions

Health and Safety Specifications and Plans

(a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification will be included in the tender documents as part of the Project Specifications. The Employer is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications.

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor) with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work. The Principal Contractor (and his /her contractor) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

- 1) Safety considerations affecting the site of the project and its environment;
- 2) Health and safety aspects of the associated structures and equipment;
- 3) Submissions on health and safety matters required from the Principal Contractor (and his /her contractor); and
- 4) the Principal Contractor's (and his /her contractor) health & safety plan.

Serve to ensure that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

To inform the Principal Contractor that the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification document applies.

(b) The Contractor's Health and Safety Plan

The successful Tenderer shall, on receipt of notification that he has been awarded the contract, submit without delay his own documented Health and Safety Plan for the execution of the work under the contract. His Health and Safety Plan must at least cover the following:

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Construction Regulations 2014;
- (ii) Pro-active identification of potential hazards and unsafe working conditions;
- (iii) Provision of a safe working environment and equipment;
- (iv) Statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas; monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (v) Details of the Construction manager, alternate construction manager, Construction Supervisor, Risk assessor, Construction Safety Officer, First aider and other competent persons he intends to appoint for the construction works in terms of Construction Regulation and other applicable regulations; and details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not

be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

The Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and the Construction Regulations.

The Contractor shall consistently demonstrate his competence and adequacy of resources to perform the duties imposed on the Contractor in terms of this Specification, the Act and the Construction Regulations.

Indemnity of Employer and his Agents (Mandatory agreement OHS Act 37(2))

- a) The annexures to this Contract Document contain a "Mandatory Form of Authority and Agreement in terms of Section 37(2) of the Occupational Health and Safety Act, No. 85 of 1993" which agreement shall be entered into and duly signed by both the Employer and Contractor prior to commencement with work. A copy of the signed agreement shall be included in the Contractor's health and safety plan.
- b) Any acceptance, approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by either the Employer, any of his agents or the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, the Act and the Construction Regulations, including responsibility for errors, omissions, discrepancies and non-compliances.

Scope of Works

Below is the work required to complete the project.

Pump Station:

- Supply and Install complete e300 Wind Turbine cw 12m Monopole Tower on a concrete base complete.
- Supply and install complete pipework and fittings.
- Replace gate and reinstall galvanise fence with razor wire.
- Fix all remedial work required on pump house.
- Fix pump house structure and doors

Pumping main:

- Complete compaction and backfill at rising main pipeline.
- Supply, install pipeline and fittings where necessary.

Storage reservoir (Elevated water tank)

- Recoat elevated tank stand and fix stands.
- Supply and Install fittings, chlorination cartridge and float switch.
- Supply and Install galvanised fencing for elevated tank.

Reticulation Pipelines:

- Supply, install and fix reticulation pipeline including fittings.
- Fix and make good all standpipes.
- Install soakaways in all standpipes.

Rainwater Harvestings:

- Demolish and reconstruct poor tank stand.
- Fix tanks and make good all tank fittings.
- Fix leaks on rainwater taps tanks.
- Supply and install or fix aluminium gutters and downpipes.
- Remedial work on rainwater harvesting.
- Install soakaways in all rainwater tanks.

Responsibilities

Client

- The Client or his appointed Agent on his behalf will appoint each Principal Contractor for this project or phase/section of the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations and determined by the Bills of Quantities.
- The base line risk assessment will be issued to the appointed contractor on request
- The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.
- The Client or his appointed Agent on his behalf will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month and such visits may be done without any form of notification to the PC to ensure continuous compliance.
- **The Client or his appointed Agent on his behalf will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:**
 - o have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;
 - o have failed to implement or maintain their health and safety plan;
 - o have executed construction work which is not in accordance with their health and safety plan; or
 - o act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.
- o **The Client SHE agent reserves the right to stop any construction activities which may pose a threat to the health and safety of persons on site.**

Principal Contractor:

- The Principal contractor is urged to conduct its base line risk assessment during the briefing session/clarification meeting.
- The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 4 of the Construction Regulations. Annexure 2 of the Construction regulations 2014 contains a "Notification of Construction Work" form. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.
- The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract (entirely or in part) will continue to be legally required of the Principal Contractor to comply with. The Principal Contractor will in no manner or means be absolved from the responsibility to

comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.

- The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.
- The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.
- The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.
- The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is presented upon request to the Client, an Inspector, Employee or Sub-contractor.
- The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.
- The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.
- The Principal Contractor shall from time to time evaluate the relevance of the Health and Safety Plan and revise the same as required, following which revised plan shall be submitted to the Client and/or his/her Agent for approval.

Policies and Procedures

The Contractor shall submit their Health and Safety Policy, prior to construction commencement, signed by the Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented within the company operations. The PC shall also ensure that the following policies and procedures but not limited to, are included in the OHS file:

- Substance abuse policy
- Disciplinary procedure
- Smoking policy
- HIV/AIDS policy
- PPE policy

Organogram

The Contractor shall submit an organogram, prior to construction commencement, outlining the Health and Safety Site Team that will be assigned to the project, if successful with the tender. In cases where appointments have not been made, the organogram shall reflect the position. The organogram shall be updated, when there is a change in the site team.

Compensation Commissioner

The Contractor shall provide **a valid** proof of registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement of construction activities.

Notification of Construction Work – CR 4

The Contractor shall notify the Provincial Director of the Department of Labour of the intention to commence construction work at least 7 days prior to the works commencing if the intended construction work will:

- Include excavation work
- Include work at height where there is a risk of falling
- Include the demolition of a structure, or
- Include the use of explosives to perform construction work.

If the construction work involves construction of a single storey dwelling for a client, and such dwelling he will be residing in such dwelling upon completion, the contractor must also notify the Provincial Director of the Department of Labour at least 7 days before the works commence. This must be done on a form similar to an Annexure 2 (template of which can be found in the Construction Regulations, 2014). A copy of the notification letter to the Provincial Director shall be forwarded to the Client for record purposes.

During the construction period

Continuous/Issue-based Risk Assessments shall be done during the construction period as and when the scope of work changes indicating new introduced hazards.

Additional appointments shall follow as required by the Risk Assessment.

The Employer's H & S Agent will take reasonable steps to ensure that the Contractor's Health and Safety plan is implemented and maintained. The steps taken will include periodic audits at mutually agreed intervals at least once every month, however, **if the Employer's Agent determines that the Principal Contractor does not comply with the provisions of the ACT or only complies when the Audit date approaches, HE/SHE reserves the right to visit the site without any form of notification to verify continuous compliance on site.**

Protective clothing as determined by the Risk Assessment shall be issued and the employees shall sign the issue register to indicate the type and number of equipment received by each employee

Proof of training in the form of a register signed by the trained employees shall be kept in the H&S file. The contents of the training shall also be displayed in the H&S file.

Please note: The SHE agent may randomly select employees on site and assess their knowledge against the material they have been trained on.

Appointments of people/workers related to Health and Safety as required by law and the Risk Assessment shall be done prior to the commencement of any work. Letters of appointment shall be kept in the H&S file for inspection by the Client, Agent or any Inspector.

Prior to builder's holiday PC shall develop a shutdown procedure and submit it to the Client agent for approval

Health and Safety Program/File

The following documentation shall be included in the Health and Safety File but not limited to:

- a) Copy of OHSAct and applicable Regulations.
- b) Copy of Client Health and Safety specification, Principal contractor's Health & Safety Plan.
- c) Copy of all Drawings – Schematics, Detail Drawings, etc.
- d) Copy of Notification of Construction work to the Department of Labour.
- e) Company Safety Policies (OHS policy, smoking policy, substance abuse policy, PPE policy, HIV/AIDS policy etc.) – To be signed by the Chief Executive Officer of the Company.
- f) Organogram indicating site specific organizational structure with reference to requirements of the construction regulations.
- g) Proof of Registration with Compensation Fund of Principal Contractor and Contractors.
- h) Method statements, risk Assessments and safe work procedures for all activities on site as per construction works programme (project scope of work).
- i) Letters of Appointment and proof of competence.
- j) Inspection registers
- k) Material safety data sheets
- l) The contents of all Training Material e.g. Formal training, Informal training, induction, DSTI's
Toolbox talks, HIV/AIDS etc.
- m) Emergency preparedness and response plan with site specific telephone numbers
- n) Section 37(2)/Mandatory agreement
- o) Site specific Fall protection plan
- P) Waste management Plan
- q) List of Contractors (Sub-Contractors)
- r) List of Local Labours with ID copies

- s) Environmental management plan
- t) All applicable permits
- u) Disciplinary procedures
- v) H & S budget
- w) Scope of work
- x) Committee meetings and SHE audit reports

Appointments

The following appointments are required for the project. Deviations will only be allowed with the approval of the Agent. Appointment of an employee for more than one responsibility may be allowed on approval by the Agent.

Basic Appointments:

- Appointment of Principal Contractor by Client.
- Appointment of Contractors (Sub Contractors) by Principal Contractor (where applicable)
- Appointment of Construction manager (Full time)
- Appointment of Alternate construction manager
- Appointment of Construction Work Supervisor (Full time)
- Appointment of Assistant Construction Work Supervisor
- Appointment of Health & Safety Officer (Full time)

Appointments of Specialists (Refer to a Specialist Company):

- Appointment of Safety Manager
- Appointment of Risk Assessor and plan developer
- Appointment of a Health and Safety Induction Trainer
- HIV/AIDS trainer
- Traffic Safety Officer (where applicable)
- Fall protection plan developer
- Blasting competent person

Appointments of full time employees on site:

- Appointment of a SHE Representative (Competent employee to control/monitor all H&S activities).
- Appointment of Emergency co-ordinator
- Appointment of an Accident and Incident Investigator.
- Appointment of the Safety Committee Members (Employees actively involved in H&S).
- Appointment of an Excavation Inspector.
- Appointment of Construction Vehicle and Mobile Plant Inspector.
- Appointment of Construction Vehicle and Mobile Plant Operators.
- Appointment of batch plant/Concrete Mixer Operator (if required).
- Appointment of Hand Tool Inspector.
- Appointment of a Portable Electrical Equipment Inspector (If required).
- Appointment of a Fall protection supervisor
- Appointment of a Ladder Inspector (If ladders are used).
- Appointment of scaffold inspector.
- Appointment of scaffold erector
- Appointment of formwork supervisor
- Appointment of demolition supervisor
- Appointment of hazardous chemical controller

- Appointment of stacking and storage supervisor
- Appointment of Flagmen
- Appointment of a Hygiene and Facility Inspector (Ablutions and eating places).
- Appointment of Fire Equipment Inspector.
- Appointment of Fire Team Members (employees trained in firefighting awareness).
- Appointment of First Aid Equipment Inspector.
- Appointment of First Aid Team Members (employees trained in first aid awareness)

Safety Officer (CR 8.7)

Due to the nature of the activities on site it is required to appoint a full-time competent Health and Safety Officer with at least 2 years' experience in SHE management. The Safety Officer shall be in possession of a minimum qualification of SAMTRAC or any other equivalent safety management programmes

The Safety Officer shall be employed by the Principal Contractor on a full time basis for the duration of the project.

The functions of the Safety Officer will be to monitor all H&S Activities on site on a daily basis.

Training and Competence

The Contractor shall quarterly conduct a training needs analysis to ascertain what health and safety training is required. A plan of action should be devised and forwarded to the Client for records, once the identified people have attended the training, the Contractor must provide the Client with copies of certificates obtained.

Induction

No Contractor may allow or permit any employee or person to enter site unless they have undergone health and safety induction training pertaining to the hazards prevalent on site at the time of entry. This includes visitors to site. The Contractor must ensure that visitors to site have the necessary protective equipment. A copy of attendance registers of all employees who attend inductions shall be kept.

Awareness

The Contractor shall conduct periodic toolbox talks on site, preferably weekly or before any hazardous work takes place. The talks shall cover the relevant activity and an attendance register must be signed by all attendees. This record of who attended and the content of the topic will be kept on the site health a safety file as evidence of training.

Competency

After the Contractor has identified the training to be conducted as part of the competency requirement, and based on Risk Assessment, he shall send the relevant persons- on appropriate courses and keep certificates of training for reference. Familiarity with the Health and Safety Act and Regulations is an integral part of the definition of competence.

Risk Assessment – CR 9

The Principal Contractor as well as all other Contractors shall appoint a competent person in writing to carry out a risk assessment before any construction work is started.

The Risk Assessment shall form part of the Health and Safety Plan.

The Risk Assessment shall include:

- Risk assessment procedure
- Identification of hazards and risks.

- Rating matrix
- Control measures to mitigate risks.
- A monitoring and review plan

Copies of the risk assessment shall be available on each site for inspection.

All employees shall be informed, instructed and trained by an appointed competent person regarding all hazards and work related procedures.

Existing Services

Contractor must establish all local services in area of excavations.

Plan of local services shall be documented in the Health and Safety file.

Local services include:

Pipe lines, Electricity Supplies and other similar services.

Safe Working Loads

The Contractor shall ensure that -

- a) The safe working loads of hoists, load-bearing beams and cranes are prominently displayed at all times.
- b) The safe working loads are not exceeded under any circumstances.
- c) All lifting gear is marked with a unique identity number and recorded in register.

Machine Guarding

All power tools and machinery driven by belts, gears, ropes, chains, couplings and similar drives shall be adequately guarded. The Contractor shall prohibit the use of any equipment with a damaged, missing or inadequate guard.

Construction Vehicles and Mobile Plant – CR 23

The Contractor shall ensure that drivers of motor vehicles are in possession of a driver's licence, valid for the class of vehicle which they are required to drive, and shall produce the licence on request.

The Contractor shall not permit any driver to be in control of a vehicle at the Works while under the influence of alcohol, drugs or other substance.

All vehicles of the Contractor shall display a name board bearing the Contractor's name. Hired vehicles shall bear an identifying sticker.

A register shall be kept of workers operating construction vehicles and mobile plant.

The register shall contain proof of training of operators to operate construction vehicles and mobile plant, certification of competency and authorization of operators to operate machinery, vehicles or plant.

Names of operators and their relevant training with date and time stamps together with name of course instructor shall be kept in the Health and Safety File on site.

Physical and psychological fitness shall be proved by way of a medical certificate of fitness of the said operators before allowing operators to operate machinery, vehicles or plant. Medical fitness certificates shall only be issued by a registered occupational medical practitioner.

The Health and Safety File shall include the written training material offered to operators for the different construction vehicles and mobile plant.

Each and every driver shall be trained on risks involved and safety procedures.

All Construction vehicles and mobile plant must be of acceptable design and construction and used according to their design.

All construction vehicles and mobile plant must be maintained in good working order.

A register of all vehicles and plant shall be kept on site together with names of operators responsible for each.

The register shall report all maintenance activities performed on these vehicles and plant as well as signatures certifying the condition of the vehicles as in a good working order.

All requirements on the vehicles and mobile plant with regard to safety and health shall be inspected and certified.

These requirements include:

- a) Portable fire extinguishers mounted in specified positions on construction vehicles – 4kg dry powder fire extinguisher
- b) Inspection for leaking fuel or gasses which can cause a fire hazard
- c) Safe and suitable means of access
- d) Adequate signalling or other control arrangements to guard against the dangers relating to movement of vehicles and plant.

Attention must be paid to

- i) Turn indicators
- ii) Stop lights x 2 – where poor visibility conditions warrant
- iii) Reverse siren or acoustic device
- iv) Tail lights
- v) Reflectors
- vi) Head lights x 2 – where poor visibility conditions warrant
- vii) Rotating amber flashing light with lens heights of at least 200mm and an Output of at least 100Watt on roof or other visible position
- viii) Warning boards mounted at least 1.5m above ground level to be clearly visible.
- ix) Inspections of appropriate structures fitted to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn
- x) Appropriate seats must be firmly secured and adequate in number on vehicles used to transport employees

During use of Construction vehicles or mobile plant the following rules shall be adhered to:

1. Construction vehicles or mobile plant must be prevented from falling into excavations, water or any other area lower than the working surface. This protection must consist of adequate edge protection e.g. guard rails and/or crash barriers.
2. No person shall be allowed to or require to ride on any Construction Vehicle or Mobile Plant in a position otherwise than a safe place provided for on the construction vehicle or mobile plant as designed for that purpose.
3. The construction site must be organized in such a way that as far as is reasonable practical, pedestrians and vehicles can move safely and without risks to health and safety.
4. Traffic routes shall be of sufficient size, sufficient in number and in suitable positions to be used safely by construction vehicles, mobile plant and pedestrians.
5. Each and every traffic route shall be indicated by suitable signs for reasons of safety and health.
6. No tools and/or material shall be transported in the same compartment as the operators/drivers/employees unless the said are secured against movement during transportation.
7. All Construction Vehicles and Mobile Plant left unattended at night adjacent to a public roads in normal use or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of vehicles or plant.
8. TLB's, Excavators and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set.

9. Reflective indicators must be provided to workers in the form of reflective yellow jackets or vests as specified and worn by workers working on/or adjacent to public roads.
10. No major plant repairs may be carried out on site

Signs and Notices

The use of colour codes, symbolic signs and notices are means of communication whereby information is visually conveyed to people and also provides early warning of dangers.

Safety signs provide for immediate recognition of danger, information, actions allowed or not allowed and procedures that have to be done.

There are 5 types of safety signs:

1. Black triangle on yellow background=> WARNING
2. Red (round) on white background => PROHIBITORY
3. White on blue background => MANDATORY
4. White on green background => INFORMATION
5. Red (square) on white background => FIRE

The following signs shall be provided for on the site:

- Warning signs - DANGER - MEN AT WORK
- Prohibitory signs - NO ENTRY, NO SMOKING
- Fire - POSITION OF EQUIPMENT ARROWS
- First Aid - INFORMATION SIGNS
- Emergency Signs - ASSEMBLY POINT, ESCAPE ROUTES SIGNS

All signs shall be new or in good condition and approved by the Engineer.

All temporary signs shall be mounted on portable supports to facilitate moving.

Defective or missing items shall be replaced immediately.

All signs shall be inspected at least twice a day.

Signs to be displayed will be determined by the H&S Plan and the Risk Assessments.

Compulsory signs will include:

Prohibited area

Men at work

A H&S board shall be displayed at the entrance with all the relevant H&S instructions and symbols eg:

Construction Site – No Entry

Hard hat area

Safety shoes shall be worn

The size of the board shall be at least 1.5m wide by 1.2m high

Excavation Work – CR 13

Excavation:

Definition: A space made by digging.

1. An excavation could be a hole or trench of any size and shape.
2. A Risk Assessment must be done prior to making an excavation.
3. The following must be taken into consideration when doing the Risk Assessment:
 - ⇒ Depth of the excavation
 - ⇒ Length of the excavation
 - ⇒ Existing services
 - ⇒ Barricading and demarcation

Depth of the excavation:

1. Should an excavation be more than chest deep (1.5m), it must be adequately shored or braced.
2. Slopes or trenches shall be as flat as possible, 1 x vertical to 2 x horizontal must be considered maximum for dry conditions. In wet conditions either a much lower slope shall be used, or if space is a constraint, shoring and de-watering shall be applied.

A competent person shall be appointed to supervise excavation work.

Stability evaluation of ground must be done by the Principal contractor and a consulting Engineer shall be notified in writing for certification.

A plan for prevention of persons being trapped due to collapse shall be provided by Contractor. The design of shoring shall be documented by Contractor in the Health and Safety file as provided by the competent designer of shoring.

The maximum loading of sides of an excavation must be documented in a usable format.

If adjacent structures and buildings are present and can be affected a design and construction of supporting details shall be represented.

Provision shall be made for access routes to the excavation. Routes must not be more than 6 meters away from worker.

Contractor must establish all local services in area of excavations.

Plan of local services shall be documented in the Health and Safety file.

Local services include:

Telkom, Water, Electricity Supplies and other similar services.

Inspection shall be done on all bracing and shoring on a

- daily basis
- prior to each shift
- after every blasting operation
- after an unexpected fall of ground
- after substantial damage to supports
- after rain

An inspection register shall be completed by the Excavation Inspector during each and every inspection.

Excavations must be provided with clearly visible boundary indicators and illuminated at night or where/when visibility is poor.

Excavations must be adequately barricaded and such barricading material shall be periodically maintained.

It is advised to use 1.2m high PVC net (barrier netting) and erected as close to the excavation as possible, when accessible by public or other employees, or adjacent to public roads or thoroughfares, **NO danger tape shall be used.**

Explosives regulations must be adhered to if explosives are required to carry out the excavation. Competent persons with blasting certificates must be in charge.

Warning signs must be posted next to an excavation in which persons are working or carrying out inspections or tests.

Barricading and Demarcation

The construction site shall be sealed off with a fence of at least 2 m covered with mash nett to contain dust. Signage must be displayed in all four corners of the site to prevent unauthorized entry by members of the public and vehicles.

Ladders – GSR 13A

You are only to use ladders that are undamaged and are of sound construction.

Ladders must be placed on a register and inspected on a monthly basis by an appointed person.

Ladders are to be secured during use. If it is necessary to use a ladder before it can be secured, a second person must hold it steady at all times. Place the ladder's feet on a level base. (wooden blocks or bricks are not to be used).

Ladders are not to be used as scaffolds or work platforms.

When used as access to trenches and work areas, the ladder must extend one meter above the step off point and be placed at an angle where the base of the ladder is one quarter of the ladder height away from the base of the structure, and must be fitted with non-skid devices.

Ladders must not be used nearer than 3m to any exposed electrical power source and never in substations or on electrical installation work.

Ladders are not to be used in a horizontal position.

Maintain 3-point contact by keeping two hands and one foot or two feet and one hand on the ladder at all times.

Do not carry objects in your hands while on a ladder.

Ladders must be fitted with non-skid devices at the bottom ends and hooks or similar devices at the upper ends.

Ladders with damaged stiles, or damaged or missing runs should never be used.

Ladders must never be fastened together to increase the reach.

Wooden ladders must never be painted.

Bulk mixing/Concrete Mixers – CR 20

The Contractor shall ensure that all concrete mixers are operated and supervised by a competent person who has been appointed in writing.

The Contractor shall ensure that all devices to start and stop the concrete mixers are provided and that these devices are:

1. Placed in an easily accessible position; and
2. Constructed in such a manner to prevent accidental starting

All dangerous moving parts of a mixer must be placed beyond the reach of persons by means of covers.

No person shall be permitted to remove or modify any guard or safety component unless authorized to do so by the appointed person

A Contractor shall ensure that all persons authorized to operate the concrete mixers are fully:

1. Aware of all dangers involved in the operation thereof
2. conversant with the precautionary measures to be taken in the interest of health and safety

No person supervising or operating a concrete mixer shall authorize any other person to operate the plant, unless such a person is competent to operate such machinery.

In case the concrete is supplied by the an external service provider PC shall ensure that there are fully inducted and compliant with the provisions of the OHS act and its regulation. Furthermore, PC's employees shall not be allowed to operate the ready mix truck chutter in any circumstances

Scaffolding – CR 16

All scaffolding must be in compliance to SANS 10085.

A competent person shall be appointed in writing to supervise the erection of all scaffolding operations. The Scaffolding erector shall have the required accredited qualifications for scaffold erecting.

A competent scaffold inspector shall be appointed in writing to inspect the erected scaffolds and shall not be the same person as the erector.

An Inspection Register on scaffolding shall be kept in the Health and Safety File.

A copy of SANS 10085 as amended shall be available on site and kept in the Health and Safety File.

House Keeping and Construction Sites – CR 27

The Contractor shall at all-time carry out the Works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. The Contractor shall take all precautions, which are necessary and adequate to eliminate any conditions, which contribute to the risk of injury to persons or damage to property. The Contractor shall continuously inspect all work, materials and equipment to discover and determine any such conditions and shall be solely responsible for the discovery, determination and elimination of such conditions.

During the period of this Contract, the Contractor shall be responsible for the safe storage of all materials and equipment required for execution of the Contract, and for disposal of all non-usable waste material in an orderly manner.

All materials, whether stored on the construction site or within the Contractor's designated area, shall be stored neatly and safely to prevent possible injury to any personnel. The material shall be stored to facilitate safe access to, and removal of the material from the storage area.

Any flammable material, such as paint, diesel fuel and oil, shall be stored in lockable non-combustible structures, which shall be clearly marked to indicate the hazardous nature of the materials stored within. The flammable materials stores shall be located in safe areas away from hazardous surroundings and adequate and suitable fire-fighting equipment shall be provided within easy reach of the materials stores.

Loose material need for use shall not accumulate so as to obstruct means of access to and egress from the workplace.

Scrap and waste shall not be allowed on site and must be removed daily.

The construction sites adjacent to build up area or public way shall be effectively fenced and controlled with access points.

HCS stored on site shall be stored in containers located in a dedicated area. The area shall be surrounded by a band wall.

Stacking and Storage on Construction Sites – CR 28

A competent person shall be appointed in writing with the duty of supervising all stacking and storage of material on site.

Adequate storage areas shall be provided which includes demarcated areas.

All storage areas shall be kept neat and under control.

Fall Protection – CR 10

A contractor shall cause-

- a) The designation of a competent person, responsible for the preparation of a fall protection plan;
- b) The fall protection plan contemplated in paragraph (a) to be implemented, amended where and when necessary and maintained as required;
- c) Steps to be taken in order to ensure the continued adherence to the fall protection plan.

The fall protection plan contemplated in sub-regulation (1), shall include-

- a) Scope
- b) A risk assessment of all work carried out from an elevated position which shall include the procedures and methods used to address all the risks identified per location;
- c) Fall prevention outlook: Fall elimination, fall prevention, fall arrest equipment
- d) Emergency response and fall rescue plan
- e) Appointments and training need analysis
- f) Site activities/conditions e.g. open holes, excavations, ladders, scaffolds, lifting equipment etc.
- h) Monitoring and review
- i) Medical surveillance procedure
- j) Accident/incident reporting, investigation and record keeping

- k) Approvals and reviews
- l) fall protection training register

NOTE:

The wearing of an approved type of safety harness fitted with a shock absorber and correctly secured to any approved anchorage is compulsory for personnel working at heights.

Safety harnesses must be worn where a leaning bar cannot be installed, where handrails are not available, in instances where there is a risk of injury due to falling, and generally whenever work is undertaken at a height of more than “a person’s height”.

It is the contractor’s responsibility to train his employees on the correct use of harnesses.

Safety belts may only be used as a fall restraint and not as a fall protection device.

On windy/rain days, special precautions are to be taken when working at.

No workers are to be allowed to work at height during inclement weather

Structures – CR 11

1. A contractor shall ensure that:
 - a) all reasonable practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work: and
 - b) No structure or part of a structure is loaded in a manner which would render it unsafe.
2. A contractor shall ensure that all drawings pertaining to the design of the relevant structure are kept on site and are available on request by an inspector, contractors, client, client’s agent or employee.
3. Any owner of a structure shall ensure that inspections of that structure upon completion are carried out periodically by competent persons in order to render the structure safe for continued use: Provided that the inspections are carried out at least once every six months for the first two years and thereafter yearly and records of such inspections are kept and made available to an inspector upon request.
4. Any owner of a structure shall ensure that the structure upon completion is maintained in such a manner that the structure remains safe for continued use and such maintenance records shall be kept and made available to an inspector upon request.

Temporary Works – CR 12

A competent person shall be appointed in writing to supervise all formwork and support work.

The name and address of such a person shall be included in the Health and Safety Plan of the Principal Contractor.

The contractor must ensure that all formwork and support work structures are adequately designed, erected, supported, braced and maintained so that they will be able to support all anticipated loads.

All drawings pertaining to formwork and support work must be kept on site and available for inspection by an inspector, contractor, client, client’s agent or employee.

All formwork and support work must be inspected and checked for suitability by a competent person under the following conditions:

1. Before use
2. During placement of concrete or any other imposed load
3. After placement of concrete or any other imposed load
4. On a daily basis after placement of concrete until the structure is removed.
5. Ensure that concrete gains sufficient strength before the support work is removed.

Record must be kept of these inspections.

Weakened formwork or support work must be immediately reinforced.

Persons must be prevented from slipping on support work.

Persons must not be affected by the use of solvents or any other similar substances.

Safe access must be provided for all support work.

Employees involved must be adequately trained and instructed to perform the work in a safe manner.

Foundations of formwork must be adequate to sustain the applied load.

Material Hoisting – CR 19

A contractor must ensure that every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.

A contractor must ensure that the tower of every material hoist is

- erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and extends to a distance above the highest landing to allow a clear and unobstructed space of at least 900 mm for over travel;
- enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means to a height of at least 2100 mm from the ground or floor level; and
- Provided with a door or *gate* at least 2100mm in height at each landing, and that door or gate must be kept closed except when the platform is at rest at such a landing.

A contractor must cause-

- the platform of every material hoist to be designed in a manner that it safely contains the loads being conveyed and that the combined mass of the platform and the load does not exceed the designed lifting capacity of the hoist;
- the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and
- Every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when power is not being supplied to the hoisting machinery.

No contractor may require or permit barrows or material to be conveyed on the platform of a material hoist and no person may so convey barrows or material unless those articles are secured or contained in a manner that displacement thereof cannot take place during movement.

A contractor must cause a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material host, to be affixed around the base of the tower and at each landing.

A contractor of a material hoist may not require or permit any person to operate unless a hoist, person is competent in the operation of that hoist. .

No contractor may require or permit any person to ride on a material hoist. A contractor must ensure that every material hoist-

- is inspected on daily basis by a competent person appointed in writing by the contractor and such competent person must have the experience pertaining to the erection and maintenance of material hoists or similar machinery;
- inspection contemplated above, includes the determination of the serviceability of the entire material hoist, including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices;
- inspection results are entered and signed in a record book by a competent person, which book must be kept on the premises for that purpose;

- Is properly maintained and the maintenance records in this regard are kept on site.

First Aid - GSR 3

Safety Notice Board

The Contractor shall provide a Safety Notice Board where safety notices, site regulations concerning safe working practices and information on the location of the nearest first aid station, can be conspicuously displayed to all staff. The size of the notice board shall be at least 600 mm x 800 mm.

First Aid Equipment

The Contractor shall provide for its employees a stretcher for emergencies and an approved first aid box. The first aid box shall be checked monthly by a responsible person, who shall be appointed by the Contractor, and a record shall be kept of the contents. Any deficient medical supplies shall be promptly replenished by the Contractor.

Hazard Notices

The Contractor shall display hazard notices in all areas where hazardous conditions prevail or may occur.

Reporting of Incidents and/or Injuries

All incidents in respect of damage to Works, property or machinery, or injury to persons, shall be reported by the Contractor's SHE Rep by the quickest means possible.

A mandatory incident report form, containing full details of the incident, shall be completed and submitted to the Site Agent within twenty four (24) hours of the occurrence of the incident.

Fire Precautions on Construction Sites – CR 29

A register shall be kept on all Acetylene and Oxygen cylinders used on the site.

Condition of components, sub-components and safety components (e.g. Flame back arrestors) shall be listed in the register and signed by the construction supervisor at regular intervals as required with time and date stamp.

Acetylene, Oxygen and LP Gas cylinders shall be stored in suitable places to minimize the risk of fire.

Suitable storage to be provided for flammable liquids, e.g. petrol, diesel, paraffin.

Smoking shall be prohibited in the workplace and notices posted accordingly.

Suitable and sufficient firefighting equipment shall be placed in strategic positions in the work place.

(On vehicles and other positions as deemed necessary).

A register shall be kept on type and number of equipment for each site in the Health and Safety File.

A competent person shall inspect all firefighting equipment.

A sufficient number of employees shall be trained in the use of firefighting equipment.

A register shall be kept in the Health and Safety File on site with names of employees and type of firefighting training completed with date.

Suitable signs shall be erected in work places indicating escape routes.

Escape routes shall be kept clear. Evacuation plans shall be in Health and Safety File as part of Induction Training.

Combustible materials shall not accumulate on site.

Construction Welfare Facilities – CR 30

PC shall provide clean drinking water for its workers

On each site where existing facilities are not present, at least one sanitary facility shall be erected for every 30 workers, a changing facility for each sex and sheltered eating areas.

Separate toilets shall be erected for each sex.

Mobile toilets with bucket system shall be installed at the site.

Cleaning of buckets shall be arranged with an approved service provider approved by the municipality. To be at least once every week and disposal certificate shall be kept in the file.

Portable electrical tools & equipment - EMR 9

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 amp. plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etc. In addition electrical appliances such as fridges, hotplates, heaters, etc. shall be inspected and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorized persons are allowed to use portable electrical tools and equipment;
- The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.

PORTABLE ELECTRICAL TOOLS shall be maintained in good condition at all times to prevent an electrical shock to the user. The main source shall incorporate an earth leakage protection device.

All equipment shall be fitted with a switch to allow for safe & easy starting and stopping.

Use & storage of flammables & HCS - CR 25

The Principal Contractor / Contractor to ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapors being present unless adequate precautions are taken;
- The workplace is effectively ventilated. Where this cannot be achieved:
 - Employees must wear suitable respiratory equipment
 - No smoking or other sources of ignition is allowed in the area
 - The area is conspicuously demarcated as “flammable”
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place and sufficient fire-fighting equipment installed and fire prevention methods practiced e.g. proper housekeeping;
- Flammables stored in a permanent flammables store are stored so that no fire or explosion is caused i.e.:
 - stored in a locked well-ventilated reasonably fire resistant container, cage or room conspicuously demarcated as “Flammable Store – No Smoking or Naked Lights”;
 - the flammables store to be constructed of two-hour fire retardant walls and roof and separated from adjoining rooms or workplaces by means of a two-hour fire retardant fire wall;

- Adequate and suitable fire-fighting equipment installed around the flammables store and marked with the prescribed signs;
 - All electrical switches and fittings to be of a flameproof design;
 - Any work done with tools in a flammables store or work areas to be of a non-sparking nature;
 - No Class A combustibles such as paper, cardboard, wood, plastic, straw etc. to be stored together with Flammables;
 - The flammable store to be designed and constructed to, in the event of spillage of liquids in the store, to contain the full quantity + 10% of the liquids stored;
 - A sign indicating the capacity of the store to be displayed on the door;
- Containers (including empty containers) to be kept closed to prevent fumes/vapors from escaping and accumulating in low lying areas;
 - Metal containers to be bonded to earth whilst decanting to prevent build-up of static;
 - Welding and other flammable gases to be stored segregated as to type of gas and empty and full cylinders.

Hazardous Chemicals and Materials

- a) The Contractor shall provide suitable and adequate protective equipment when work in an area where hazardous chemicals and materials are being used.
- b) The Contractor shall ensure that its employees have familiarised themselves with the hazardous material data sheets applicable to the specific site as well as the location of firefighting equipment, safety showers/baths and other washing facilities, prior to commencement of work
- c) Hazardous chemical substances shall be stored in a well ventilated area.
- d) Spillage procedures shall be developed and spill kits shall be provided.
- e) All HCS containers shall be labelled
- f) Where HCS are stored PC to ensure that there are serviced fire extinguisher in close proximity

Public H & S

The Contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

Night work

The Contractor shall not undertake any night work without prior arrangement and a written permit from the Client. The Contractor shall ensure that adequate lighting is provided for all night work and failure to do so shall result in work being stopped.

Environmental Conditions

The Contractor must be mindful of adverse weather conditions upon the health and safety of the workforce. This includes inclement weather, strong wind, heat stress, extreme cold, etc. The Contractor's risk assessment process must take into account the risks associated with such weather conditions. The same is true when working in an environment where there is a risk to

employees' health and safety from presence of poisonous flora, or wildlife (including bees, snakes, etc.). The Contractor's risk assessment process must take these risks into account.

Furthermore the Contractor shall ensure that the environmental specification is adhered to at all times.

Occupational Health

Exposure of workers to occupational health hazards and risks are very common in any work environment, especially in construction. Occupational health hazards and risks exposure is a major problem and all Contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks. The occupational hazards and risks may enter the body in four ways:

- Inhalation through breathing e.g. cements dust;
- Ingestion through swallowing maybe through food intake;
- Absorption through the skin (pores) e.g. hazardous chemicals.

The contractor is required to ensure that all his personnel are medically fit prior to being allowed onto the work site. All Contractors should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk Assessments should identify areas where survey has been conducted.

- Noise induced hearing loss

Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included / referred to in the Health and Safety Plan:

- Proof of training with regards to these regulations.
 - Risk assessment done within 1 month of commencement of work,
 - That monitoring carried out by an AIA and done according to SABS 083.
 - Medical surveillance programme established and maintained for the necessary employees.
-
- Control of noise by referring to:
 - Engineering methods considered
 - Admin control (number of employees exposed) considered
 - Personal protective equipment considered/decided on
 - Describe how records are going to be kept for 40 years.

Commissioning and Safety Precautions

The Contractor shall ensure that wherever repairs, adjustments or any other work are undertaken on any plant or machinery, the power supply is switched off, disconnected or the plant / machinery disengaged until the work or repairs have been completed.

Monitoring and Review: Registers Required on Site

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

- Personal Protective Clothing and Equipment issued, PPE condition Monthly checklist

MACHINERY

- Daily Checklist - Compaction Machinery

- Daily Checklist – Concrete mixer
- Daily Checklist – Generator/pump
- Daily checklist (before and after use) – Troxler (If applicable)
- Daily Construction Vehicle Pre-ignition Checklist – Excavator (If applicable)
- Daily Construction Vehicle Pre-ignition Checklist – TLB
- Daily Construction Vehicle Pre-ignition Checklist – Truck
- Daily Construction Vehicle Pre-ignition Checklist – LDV
- Operators on Construction Vehicles and Mobile Plant Training and Fitness Register

EQUIPMENT

- Ladder Inspection Register
- Daily Stacking Inspection Register
- Daily Scaffold Inspection Register
- Daily Formwork Inspection Register

TOOLS

- Monthly Checklist on Hand Tools
- Monthly Checklist on Portable Electrical Equipment

GENERAL

- Monthly Environmental Checklist and Deviation
- Weekly Hygiene Facility Inspection Register – Mobile Ablutions and Eating areas
- Stacking & Storage inspection registers
- Housekeeping inspection registers

FIRE

- Fire Extinguishing Equipment Register
- Register of Trained Employees in Fire Fighting
- Fire Awareness Attendance Training Register

EMERGENCY

- First Aid Box and Equipment Checklist
- Register of Trained Employees in Basic First Aid
- First Aid Awareness Attendance Training Register
- Incident Register (Injury/ occupational disease record book (Recording and investigation of incidents))
- Motor Vehicle Accident Register

TRAINING

- Induction Training Attendance Registers
- Toolbox talks Training Attendance Registers
- Community Training Attendance Registers
- Fall protection plan training attendance register
- Risk assessment & Safe work procedure attendance register
- Emergency/evacuation Training attendance register

PERMITS

- Blasting
- Bulk fuel storage
- Lock-out Permits (Water and Electricity)

- Radiation equipment (troxler)

INSPECTIONS

- Daily Excavations Inspection Register with specific reference to barricading
- Safety officer internal audit - Monthly
- SHE Rep Inspection Register – Monthly checklist and deviations
- Minutes of Safety Committee Monthly meetings

Safe Work Procedures Required in Health and Safety File

- Stacking of material
- Working with Portable electrical equipment
- Working with cement and concrete mixers
- Scaffolding activities
- Formwork activities
- Working at heights
- Working in inclement weather
- Excavating of trenches
- Steel fixing
- Use of Troxler
- Blasting
- Loading and transportation of material
- Transportation of workers
- Operation of construction vehicles
- Refuelling of Plant
- Use of hand tools
- Electrical installations
- Use of Ladders
- Public safety
- Ergonomics

Written Training Course Material to be filed in Health and Safety File and presented

- Induction Training (Workplace awareness)
- Training of operators on Construction Vehicles and Mobile Plant
- First Aid Awareness
- Fire Fighting Awareness
- HIV/AIDS Training
- Toolbox talks on Hand Tools
- Toolbox talks on Stacking of material
- Toolbox talks on working at heights
- Toolbox talks on Maintaining Scaffolding
- Toolbox talks on Traffic management
- Toolbox talks on Driving company vehicles
- Toolbox talks on Working with cement and concrete mixers
- Toolbox talks on working with portable electrical equipment
- Toolbox talks on Excavating of trenches
- Toolbox talks on Machine Guarding
- Toolbox talks on Hand Tool Accidents
- Toolbox talks on Ten Commandments of Safety
- Toolbox talks on Fire prevention

- Toolbox talks on Ergonomics
- Toolbox talks on lifting materials by hand
- Toolbox talks on safe loading
- Toolbox talks on substance abuse
- Toolbox talks on public safety
- Toolbox talks on facilities and hygiene
- Toolbox talks on Environmental influences

Emergency Equipment to be kept on site but not limited to:

First Aid Kits with splinters and the minimum required contents

Stretcher

Fire Extinguishers

Emergency Siren

Emergency contact details

Cell phone with airtime of at least R20

Personal Protective Clothing

The Contractor shall provide the necessary personal protective clothing free of charge for its employees in hazardous areas, appropriate to the nature of the hazard. PPE must be maintained and kept in a good condition.

Proposed Personal Protective Equipment & Clothing required on this project but not limited to:

	TYPE	WHEN TO WEAR
1.	Hard Hats	When there is work carried above 2m from ground level or in deep excavations
2.	PVC Gloves	Working with cement, steel
3.	Reflective clothing	Working adjacent to public roads or in close proximity to construction vehicles
4.	Safety Goggles	Grinding, Cutting Cement, mixing cement
5.	Gumboots	Working in water, concrete casting
6.	Safety shoes	Offloading, working with heavy loads, positioning of materials etc.
7.	Dust Masks	Working with HCS, windy conditions, cement
8.	Ear protection	Grinding, compaction etc.
9.	Safety harness	Working at heights
10.	Life-line	Working at heights
11.	Kidney belts	Plant operators

Sub-Contractor Management

Contractor control

PRINCIPAL CONTRACTOR shall enter into a Contractors Agreement in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993, with all appointed contractors.

PRINCIPAL CONTRACTOR shall take reasonable steps as are necessary to ensure co-operation between all contractors to enable each of those contractors to comply with the provisions of these regulations.

This would include the following:

- to appoint each contractor contemplated in writing for the part of the project on a construction site;
- ensure that contractors comply to the directives of the PRINCIPAL CONTRACTOR health and safety plan;
- to stop any contractor from executing construction work, which is not in accordance with the health and safety plan, and or the clients health and safety specification;
- to ensure that where changes are brought about to the design and construction, sufficient health and safety information and appropriate resources are made available to the contractor to execute the work safely;
- to ensure that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site;
- to ensure that potential sub-contractors have made provision for the cost of health and safety measures during the construction process;
- ensure that a comprehensive and updated list of all the contractors accountable to PRINCIPAL CONTRACTOR is maintained and that the section 37.2 agreements between the parties and the type of work being done are included and available;
- Ensure that the contractors to be used have the necessary competencies and resources to perform the construction work safely;
- Ensure that all other contractors are warned of hazardous or potentially hazardous situations, which may prevent them from effectively performing their duties, which includes the placement of adequate warning signs.
- As far as reasonably practicable, PRINCIPAL CONTRACTOR is to audit contractors at least once for the duration that the contractors are on site. Should the contractor be on site for longer than a month, then the audit must be conducted at least once every month.

Medical surveillance procedures

All employees:

- Working at heights,
- Operators of plant/machinery,
- Exposed to noise,
- Exposed to cement and dust,
- General labour,
- Handling Hazardous Chemicals

Are to undergo pre-employment and exit medical assessments performed by a registered occupational medical practitioner.

Incident reporting

Reporting of accidents and incidents - OHSACT, Sec. 24 & GAR 8

The Principal Contractor shall report all reportable incidents to the Dept. of Labour (in terms of the Act and Regulations) and shall provide the Client with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring. The Principal Contractor shall provide the Client with copies of all internal and external accident / incident investigation reports including the reports contemplated above and below within 7 days of the incident occurring.

Accident and incident investigation - GAR 9

The Principal Contractor / Contractor shall investigate all accidents / incidents where employees and non-employees were injured to the extent that he / she / they had to be referred for medical treatment by a doctor, hospital or clinic and results recorded on file.

The Principal Contractor / Contractor shall investigate all minor and non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keep a record of the results of such investigations including the steps taken to prevent similar incidents in future.

The Principal Contractor / Contractor shall investigate all road traffic accidents and keep a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Client reserves the right to hold its own Investigation into any incident or call for an independent external investigation.

Emergency preparedness, Contingency planning & response

The Principal Contractor / Contractor shall appoint a competent person to act as Emergency Controller/Coordinator.

The Principal Contractor / Contractor shall conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she shall then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the Client may have in place.

The Principal Contractor / Contractor shall hold regular practice drills of contingency plans and emergency procedures to test them and familiarize employees with them **(every 3 months)**.

Security and access control

The Principal Contractor / Contractor shall establish site access rules, implement and maintain these throughout the construction period. Access control procedure shall ensure that non-employees do not proceed on to work areas unaccompanied by a senior site responsible person or other.

Construction site shall be adequately hoarded (fenced) with temporary gate

manned to prevent unauthorised access. Warning signage shall be displayed on all four sides of the construction site

Public Safety

The Principal Contractor / Contractor shall be responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimize these dangers. This includes:

- Non- employees entering the site for whatever reason;
- The surrounding community;
- Passers-by.

Appropriate signage shall be posted to this effect and all employees on site shall be instructed on ensuring that non-employees are protected at all times.

All non-employees entering the site shall receive induction into the hazards and risks and the control measures for these.

All unattended excavations are to be backfilled, if not possible, they are to be adequately barricaded with PVC orange net of at least 1.2m high (NO DANGER TAPE)

Audit, Reporting & Corrective actions

Monthly audit by the Client SHE agent

Occupational Health and Safety Audits will be conducted monthly to comply with Construction Regulation 4(1) (d) to ensure that the Principal Contractor / Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

Contractor's audits and inspections

The Principal Contractor / Contractor shall conduct monthly internal audits to verify compliance with his own occupational health and safety management systems and procedures.

Consultations, Communication and Liaison

All occupational health and safety liaison between the Client, the Principal Contractor, other Contractors, the Designer and other concerned parties shall be through the OH&S committee. In addition to the above, communication may be directly to the Client or his appointed Agent, in writing, as and when the need arises.

Consultation with the workforce on OH&S matters shall be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any. The Principal Contractor / Contractor shall be responsible for the dissemination of all relevant OH&S information to other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her Agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

Record keeping

The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with the Health and Safety Specification and the Occupational Health and Safety Act. The contractor shall ensure that all records of incidents, spot fines, training etc. are kept on site. All documents shall be available for inspection by the Client, or the Department of Labour's Inspectors.

Close-out

Upon completion of the Works (at zero man hours), the Contractor shall hand over a consolidated Health and Safety file (Hard & Soft copy) to the Client SHE agent.

Health and Safety close out SHE file requirements include:

- a) Client H&S Specification
- b) Principal Contractor's OHS Plan(s)
- c) Organograms
- d) Legal Appointments
- e) Notification to Department of Labour of commencement of work
- f) Letters of Good Standing for the Project
- g) Full files for all Contractors as well as their close out reports
 - List of Contractors
 - Letters of Approval of Contractors
 - Mandatory Agreements
 - Letters of Good Standing
 - Appointments
- h) Incident Records
- i) Non- Conformance records
- j) Agent's Audits

- k) Method Statements
- l) Risk assessments
- m) Safe work procedures
- n) Medical surveillance certificates of fitness. Medical records are to be kept according to the OH&S Act as amended.
- o) All drawings for temporary structures (suspended beams/scaffolds etc.)
- p) Copies of test results, policies and procedures for environmental monitoring (silica, noise, dusts etc.)

Penalty Enforcement

Penalties may be imposed on Contractors who do not comply with this health and safety Specification.

The list of offences that attract penalties and how much it would cost per offence is listed on the below table and such fines will be deducted from the contractor's payment certificate.

Note: In the event whereby the contractor has completed construction work and there are still outstanding critical non-conformances, the Employer reserves the right not to release an amount of not less than 5% of the final payment certificate or retention amount.

LIST OF OFFENCES AND PENALTIES

NON-CONFORMANCES	FIRST TRANSGRESSION	SECOND TRANSGRESSION
1. Expired Letter of good standing	Written warning	R 5000 or Site closure
2. Notification of Construction work	Written warning	R 500
3. Mandatory agreement	Written warning	R 500
4. Accident/incident management	Written warning	R 2000 – R 10000/Site closure
5. Pollution	Written warning	R 500 – R 5000
6. Inspections	Written warning	R 50 per item
7. Appointments & Competence	Written warning	R 50 per appointment
8. Risk assessment & safe work procedure	Written warning	R 200 per activity
9. Training (induction, toolbox talks etc.)	Written warning	R 50 per employee
10. PPE	Written warning	R 50 per employee
11. Unsafely working at heights	Written warning/Halt activity	R 500 – R 5000
12. Pre-employment Medicals	Written warning	R 100 per employee
13. Faulty/sub-standard tool	Written warning	R 50 per tool
14. Unsafe use & storage of Troxler	Site closure	Site closure + minimum of R10 000
15. Blasting (permits/notification)	Halt operation	Minimum of R5 000
16. Exit medicals	Written warning	R 250 per employee
16. File consolidation/ close out report	Written warning	5% of retention

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COVID-19 SPECIFICATION

Introduction

Construction sites operating during the Coronavirus (COVID-19) pandemic need to ensure they are protecting their workforce and minimising the risk of spread of infection. This includes an establishment if all employees are fit for works with no COVID-19 symptoms, considering how personnel travel to and from site and a range of other applicable matters to manage the spread of the virus on site on a daily basis.

These COVID-19 responds requirements form part of the project specific construction health and safety specification to introduce control measures on the construction site that is in line with the Government's recommendations on social distancing and ensure employers and employees make every effort to comply by adhering to the implementation good hygiene practises and constantly monitoring and reviewing the required control measure for the project. These requirements are applicable for all employers and employees working on site including the client, Consulting Engineers and all contractors.

The principal contractor should ensure the requirements are implemented, a COVID-19 site management plan must be developed by the principal contractor taking into consideration the requirements stipulated in this document under item 12 and the requirements stipulated under Disaster Management Act (57/2002): COVID-19 Occupational Health and Safety Measures in Workplaces COVID-19 (C19 OHS), 2020. The COVID-19 site management plan should specify amongst other how the principal contractor intend to return to work consideration at this stage Government specified only one third of the workforce are allowed.

These COVID-19 site management plan are to be approved by the Consulting Engineers prior to work commencing on site. Principal Contractor will also be required to submit risk assessment together with a written policy concerning the protection of the health and safety of its employees from COVID-19 as contemplated in section 7(1) of OHSA. This police must notify Principal Contractor employees that if they are sick or have symptoms associated with the COVID-19 that they must not come to work and to be on self-isolation in terms of section 7 of Regulations issued in Terms of Section 27(2) of Disaster Management Act, 2002.

It must be noted matters relating to COVID-19 may change as and when Government introduce further requirement and adherence to all government requirements and Regulations during the times of this pandemic is crucially important.

Definitions

"COVID-19" means Coronavirus Disease 2019

"Self-isolation" means anyone who either has a high temperature or a new persistent cough or is within 14 days of the day when the first member of their household showed symptoms of Coronavirus (COVID-19) should not come to site but must follow the guidance on self-isolation.

“Social distancing” means Workers in the construction industry should follow the guidance on staying at home and away from others (social distancing). Where they cannot work from home, they must follow the same principles of social distancing while travelling to and from work and while at work.

“Person at increased risk” means anyone who is at increased risk of severe illness from Coronavirus (COVID-19) is strongly advised to work at home and should be particularly stringent about following social distancing measures.

“Living with a person in one of the above groups” means Anyone living with a person who is at increased risk of severe illness, or an extremely vulnerable person who is shielding from Coronavirus (COVID-19), should stringently follow the guidance on social distancing and minimise contact outside the home.

“If someone falls ill” means If a worker develops a high temperature or a persistent cough while at work, they should:

- Ensure their manager or supervisor is informed. Employer is responsible to take the employee to the Doctor.
- Employer to investigate possible other contacts, implement isolation measure and ensure those employees are taken for medical examination.
- Avoid touching anything
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow.

They must then follow the guidance on self-isolation and not return to work until their period of self-isolation has been completed and declared clear to work by medical professional.

Travel to work

Principal Contractor is required to provide a safe transportation of its employees to and from the work place. Strict instructions to be given to the responsible driver not to give rides to any other person than the principal contractor Employees

All employees must wear appropriate face Cloth mask

- Hands to be sanitized before entering the transport and when journey ends.
- Employer must ensure that records of all his employees travelling with the transport are kept and no changing in travelling team for traceability should any of them test positive.
- Journeys should be shared with the same individuals and with the minimum number of people at any one time as prescribed by the Regulations.
- Good ventilation (i.e. keeping the windows open) and facing away from each other may help to reduce the risk of transmission
- The vehicle should be cleaned regularly using gloves and standard cleaning products, with particular emphasis on handles and other areas where passengers may touch surfaces
- Social distancing should be practice all time during transportation.

Appropriate Personal Protective Equipment

The principal contractor must ensure that:

- All his employees are provided with a correct PPE that meet all the requirements prescribed by minister of Health, this include but Face Cloth Masks, surgical Gloves, Facial shields/ Safety Glasses.
- Provide each employee with hand sanitizers, soap and clean water to wash their hands and disinfectants to sanitize their workstations.
- All employees will be required to sanitize or wash hand at the entry and exit point of the site.
- Employer is responsible to issue the appropriate PPE as per the job description to each employee.
- No employees are allowed to share any of their PPE.
- Employers should consider locations of works to be performed strategically and arrange for specific work intervals.
- PPE must be worn at all times on site.
- PPE such as face masks is required by all employees or member entering the site, the said masks are to be worn on site.
 - Masks should fit properly, completely covering the face from bridge of nose to chin.
 - Always clean hands before putting on of removing face masks.
 - Only touch the cord or elastic at the back when removing the masks.

Site access and exit points

- Access to site must be managed at all times.
- Site access and exit points should enable social distancing and screening of all workers must be done daily before entering and when leaving site. Please refer to questionnaire included in this plan.
- Screening Methods
 - Visual assessment-Prior to entering the site gate, employers should conduct a visual assessment verifying and checking symptoms of the virus. If symptoms are evident go ahead to conduct infrared temperature testing
 - The average normal body temperature is generally accepted as (37°C).
 - The infrared beam sensor is placed approximately 0 - 5 cm's from the persons forehead, the thermometer will beep twice if within range. The thermometer will record the temperature and light green, displaying the temperature of the person.
 - At no stage must the infrared beam be directed to the eyes of the employees, as there is a risk of injury and damage to the eyes.
 - Any person displaying a temperature between 37.1°C and 37.9°C will be isolated and place either next to the Security Guardhouse or in his/her vehicle until second temperature testing is done.

- The person's temperature will be taken again after 15 min. If the temperature has increased the person will be required to leave, access to site will be denied.
- If the person's temperature has decreased to an acceptable/normal level, access will be granted.
- Any person with a temperature of 37.5°C or above will be denied access and will be required to leave immediately and be advised to visit a Doctor;
- All cases where persons were denied access a detailed register kept on site of the date, name of contractor, name of employee, contact number.
- The screening table must be made of a washable surface that can easily be disinfected– no linen is to be used to cover the table.
- Face Shields and masks will be made available to screening personnel.
- All required items to operate safely must be available at the screening desk, these includes, hand sanitizers, pens for filling in registers and a bucket filled with 1000 ppm hypochlorite solution to soak pencils, employee/visitor's questionnaire for screening and determination of symptoms, Perspex sheet separating screening. Should employees or visitors fail the questionnaire to be completed they should not be allowed to enter site.
- A site access control attendance register must be complete, it is recommended that lists of various company employees be kept at security to tick off the attendance as and when entering site.
- Allow plenty of space between people waiting to enter site.

Use signage:

- Such as floor markings, to ensure 2 metre distance is maintained between people when queuing
- Reminding workers not to attend if they have symptoms of Coronavirus (COVID-19) and to follow guidelines
- Require all workers to wash their hands for 20- 40 seconds using soap and water when entering and leaving the site
- Regularly clean common contact surfaces in reception, office, access control and delivery areas e.g. scanners,
- Telephone handsets and desks, particularly during peak flow times
- Reduce the number of people in attendance at site inductions and consider holding them outdoors
- Where loading and offloading arrangements on site will allow it, drivers should remain in their vehicles. Where drivers are required to exit their vehicle, they should wash or sanitise their hands before handling any materials
- Consider arrangements for monitoring compliance on site by principal contractor.

Washing hands

The principal contractor must:

- Allow regular breaks to wash hands. Breaks should be divided between employee groups.
- Provide additional hand washing facilities (e.g. pop ups) to the usual welfare facilities.
- Ensure adequate supplies of soap and fresh water are readily available and kept topped up at all times.
- Provide hand sanitizer (minimum 70% alcohol based) where hand washing facilities are unavailable.
- Regularly clean the hand washing facilities on site.
- Provide suitable and sufficient bins with to dispose hand paper towels.

Toilet facilities

- Restrict the number of people using toilet facilities at any one time.
- Use signage, such as floor markings, to ensure 2 metre distance is maintained between people when queuing
- Wash or sanitise hands before and after using the facilities
- Enhance the cleaning regimes for toilet facilities, particularly door handles, locks and the toilet flush
- Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently
- Provide suitable and sufficient rubbish bins with lids for hand paper towels with regular removal and disposal.

Eating areas

- Where possible, workers should be encouraged to bring their own food. They should also be required to stay on site once they have entered it and avoid using local shops.
- Consider increasing the number or size of facilities available on site if possible.
- The capacity of each eating area should be clearly identified at the entry to each facility, and where necessary attendants provided to supervise compliance with social distancing measures.
- Break times should be staggered to reduce congestion and contact at all times. Employees should not all be taking at the same time. The principal contractor should specify different intervals for breaks and ensure limited number of employees is specified as well.
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced
- Frequently clean surfaces that are touched regularly, using standard cleaning products e.g. kettles, refrigerators, microwaves
- Hand cleaning facilities or hand sanitizer should be available at the entrance to any room where people eat.

- A distance of 2 metres should be maintained between users, wherever possible
- All rubbish should be put straight in the bin and not left for someone else to clear up.
- Tables should be cleaned between each use

Changing Facilities:

- Consider increasing the number or size of facilities available on site if possible.
- Based on the size of each facility, determine how many people can use it at any one time to maintain a distance.
- Restrict the number of people using these facilities at any one time.
- Introduce staggered start and finish times to reduce congestion and contact at all times.
- Introduce enhanced cleaning of all facilities throughout the day and at the end of each day.
- Provide suitable and sufficient rubbish bins in these areas with regular removal and disposal.

Cleaning:

- Enhanced cleaning procedures should be in place across the site, particularly in communal areas and the contractors should ensure a dedicated employee is assigned to perform the activity on site and be issued with the correct PPE.
 - Taps and washing facilities
 - Toilet flush and seats
 - Door handles and push plates
 - Hand rails on staircases and corridors
 - Lift and hoist controls
 - Machinery and equipment controls
 - All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices.
 - Telephone equipment
 - Key boards, photocopiers and other office equipment
 - Rubbish collection and storage points should be increased and emptied regularly throughout and at the end.

Emergency responds

The primary responsibility is to preserve life and first aid should be administered if required and until the emergency services attend.

- When planning site activities, the provision of adequate first aid resources must be agreed.
- Provision for fast track emergency service providers must be agreed.

- Emergency plans including contact details should be kept up to date.
- Consideration must also be given to potential delays in emergency services response, due to the current pressure on resources.
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COVID-19 Waste Management

- All waste generated in respect to COVID-19, shall be managed as isolation health care risk waste.
- It is preferable to use box sets/waste bin for all COVID-19 response waste generated.
- When the box set is $\frac{3}{4}$ full it should be closed with a bio hazardous waste tape and placed in designated storage area.
 - The waste handler is required to be dressed in proper PPE before moving waste to the storage area.
 - The Waste handler must ensure that the person designated to oversee waste collection informs the service provider of the COVID-19 waste that should be removed from the facility.
 - The designated person must ensure that a separate collection of COVID-19 waste is done by the service provider, the designated vehicle complies with waste legislations and proper PPE is worn by the service provider.
 - The designated person must ensure that all waste containers containing COVID-19 waste are properly sealed and no spillages occur during external removal.

Addressing stress, Psychological Risk, Violence and Harassment

The Principal Contractor is encouraged to consider other COVID-19 risk factors: Remember, employees are your company's assets.

During this pandemic your employees could be subjected to increased stress levels with serious effects of mental health (mandatory isolation at home is imposed).

Further to this, employees can be affected by the psychosocial hazard arising from present and future uncertainty of the work situation or from changes in work processes and arrangements.

There are a number of risk factors endured by many workers that can induce stress, these include:

- fear for one's own well-being or that of family member / co-workers who might contract the disease
- lack of safety equipment for personal protection;
- lack of social support or social networks;
- tension between established safety protocols
- difficult I maintaining self-care activities such as exercises, good eating habits and getting enough rests
- Employees may be labelled, stereotyped, discriminated against (social stigma) and/or experience loss of status perceived link with a disease.

- Occupational health and safety measures must be implemented to prevent and reduce psychosocial risks, including violence and harassment, and promote mental health and well-being (in addition to preventing the risk of long-term repercussions on workers wellbeing)
- A plan in the addressing the aforesaid must be developed and implemented to prevent work-related stress amongst workers: The plan must be constant updated with reliable information: It is not limited to the below:
 - Good communication and up to date information
 - Avenue for workers to express concerns and ask questions about health risks to themselves and colleagues
 - Multidisciplinary sessions to identify concerns, wellbeing of staff and to work together on strategies to resolve
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 - Regular rest periods during work day)
 - Opportunities to promote physical health (exercises, maintain healthy eating habits)
 - Psychological support for workers share fears and worries confidentially
 - Role modelling where managers are role models for staff
 - Campaigns to reduce stigma

Screening Questionnaire

- The principal contractor should ensure a suitable screening questionnaire be developed for used on site.
- Screening should be conducted prior to entering site and well as when leaving site.
- The checklist should include the following but is not limited to:
 - Name of employee
 - Contact number of employees
 - Names of employers
 - Date of screening
 - Body temperature recorded
 - Respiratory symptoms (Yes or No)
 - Pre-entry screening
 - Access granted (yes or No)
 - Exit site screening
 - Have you traveling/ have you recently travelled to a restricted country / Have you recently travelled outside the province/ have you travelled to areas regarded as COVID-19 Epicentre?
 - Have you attended a funeral or any mass gathering?
 - Have you come into close contact or confirmed covid19 cases?
 - Person screening
 - Do you have Flu Symptoms?

- Screening records of all employees must be kept on site.
- Should the site experience any positive cases, the principal contractor should inform the Consulting Engineers and the DEPARTMENT OF BASIC EDUCATION within 24hrs via email.

Medical Surveillances

- Principal contractor to ensure that all medical surveillance renewal, new entry medicals, exit medical should include COVID-19 Symptoms Screening by OHS Doctor / OHS Nurse Practitioner, employee suspected to have symptoms or at the risk of COVID-19 shall be sent for COVID-19 testing and be asked to self-isolate at home until his/her test are confirmed. Should an employee test positive for COVID-19, and if there is evidence that the worker contracted COVID-19 as a result of occupational exposure, lodge a claim for compensation in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993) in accordance with Notice 193 published on 3 March 2020

Social distancing measures

- Every employer must arrange the workplace to ensure minimal contact between workers and as far as practicable ensure that there is a minimum of one and a half meters
- Metres between workers while they are working. Reducing the number of workers present in the workplace at any time
- Appointed Site Manager & the CHS Officer must ensure that Construction Activities are arranged at least one and a half metres apart.
- All shared construction Site offices must be arranged; physical barriers can be placed between work stations or Maintain 1 m distance.

Reporting of COVID-19 Cases

- Appointed Principal Contractor is required to immediately inform DEPARTMENT OF BASIC EDUCATION should one of its employee's experience any of the COVID-19 symptoms while at work.
- Principal Contractor is also required to immediately contact the COVID-19 hotline: 0800 02 9999 for instruction and direct the employee to act in accordance with those instructions.
- If a worker has been diagnosed with COVID-19 and isolated in accordance with the Department of Health Guidelines, an employer may only allow a worker to return to work if the worker has undergone a medical evaluation confirming that the worker has been tested negative for COVID-19.

COVID-19 Requirements to be meet by DEPARTMENT OF BASIC EDUCATION Service Providers

Before commencement of any work under Level 1 lock down all DEPARTMENT OF BASIC EDUCATION service provider will be required to;

- Principal Contractor will be required to appoint a designate a COVID - 19 compliance officer who will be responsible to oversee the implementation of COVID-19 rules at the work place.
- All DEPARTMENT OF BASIC EDUCATION appointed service provider this include professional team should adherence to the standards of hygiene and health protocols relating to COVID-19 at all DEPARTMENT OF BASIC EDUCATION Project.
- All DEPARTMENT OF BASIC EDUCATION appointed Contractors develop a plan for the phased in return of their employees to the workplace, prior to reopening the workplace for business, which plan must correspond with Annexure E of Amended Disaster Management Act and be submitted to DEPARTMENT OF BASIC EDUCATION for approval, be retained for inspection and contain the following information:
 - which employees are permitted to work;
 - (ii) what the plans for the phased-in return of their employees to the workplace are;
 - (iii) what health protocols are in place to protect employees from COVID-19; and
 - (iv) the details of the COVID-19 compliance officer:
- Contractors with large numbers of employees to ensure phase in the return of their employees to work
- DEPARTMENT OF BASIC EDUCATION Contractors are required to develop measures to ensure that the workplace meets the standards of health protocols,
- Contractors in all the projects that are accessed by the public should ensure adequate space for employees and social distancing measures for the public and service providers, as required.

Waste management for COVID-19 waste

- Contractor will be required to ensure that waste is managed and separated on site. Face Mask waste, Gloves and paper towel used to wipe hands and toilet paper used for sneezing or blowing nose to be disposed in a medical waste bin. Principal Contractor will be required to make arrangements for medical waste bins for its employees and all medical waste to be disposed accordingly. A detailed medical waste plan which includes (managing medical/COVIDID-19 related waste on site, removal and transportation of medical/COVIDID-19 related waste and disposal of medical/COVIDID-19 related waste with disposal proof or certificate from disposal medical waste site) is required.

Employees induction, training, communications

- Employer will be required to give induction to his/her employees upon returning to site. Induction syllabus to included Employers plan on how are

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COVID-19 SPECIFICATION

Introduction

Construction sites operating during the Coronavirus (COVID-19) pandemic need to ensure they are protecting their workforce and minimising the risk of spread of infection. This includes an establishment if all employees are fit for works with no COVID-19 symptoms, considering how personnel travel to and from site and a range of other applicable matters to manage the spread of the virus on site on a daily basis.

These COVID-19 responds requirements form part of the project specific construction health and safety specification to introduce control measures on the construction site that is in line with the Government's recommendations on social distancing and ensure employers and employees make every effort to comply by adhering to the implementation good hygiene practises and constantly monitoring and reviewing the required control measure for the project. These requirements are applicable for all employers and employees working on site including the client, Consulting Engineers and all contractors.

The principal contractor should ensure the requirements are implemented, a COVID-19 site management plan must be developed by the principal contractor taking into consideration the requirements stipulated in this document under item 12 and the requirements stipulated under Disaster Management Act (57/2002): COVID-19 Occupational Health and Safety Measures in Workplaces COVID-19 (C19 OHS), 2020. The COVID-19 site management plan should specify amongst other how the principal contractor intend to return to work consideration at this stage Government specified only one third of the workforce are allowed.

These COVID-19 site management plan are to be approved by the Consulting Engineers prior to work commencing on site. Principal Contractor will also be required to submit risk assessment together with a written policy concerning the protection of the health and safety of its employees from COVID-19 as contemplated in section 7(1) of OHSA. This police must notify Principal Contractor employees that if they are sick or have symptoms associated with the COVID-19 that they must not come to work and to be on self-isolation in terms of section 7 of Regulations issued in Terms of Section 27(2) of Disaster Management Act, 2002.

It must be noted matters relating to COVID-19 may change as and when Government introduce further requirement and adherence to all government requirements and Regulations during the times of this pandemic is crucially important.

Definitions

"COVID-19" means Coronavirus Disease 2019

"Self-isolation" means anyone who either has a high temperature or a new persistent cough or is within 14 days of the day when the first member of their household showed symptoms of Coronavirus (COVID-19) should not come to site but must follow the guidance on self-isolation.

“Social distancing” means Workers in the construction industry should follow the guidance on staying at home and away from others (social distancing). Where they cannot work from home, they must follow the same principles of social distancing while travelling to and from work and while at work.

“Person at increased risk” means anyone who is at increased risk of severe illness from Coronavirus (COVID-19) is strongly advised to work at home and should be particularly stringent about following social distancing measures.

“Living with a person in one of the above groups” means Anyone living with a person who is at increased risk of severe illness, or an extremely vulnerable person who is shielding from Coronavirus (COVID-19), should stringently follow the guidance on social distancing and minimise contact outside the home.

“If someone falls ill” means If a worker develops a high temperature or a persistent cough while at work, they should:

- Ensure their manager or supervisor is informed. Employer is responsible to take the employee to the Doctor.
- Employer to investigate possible other contacts, implement isolation measure and ensure those employees are taken for medical examination.
- Avoid touching anything
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow.

They must then follow the guidance on self-isolation and not return to work until their period of self-isolation has been completed and declared clear to work by medical professional.

Travel to work

Principal Contractor is required to provide a safe transportation of its employees to and from the work place. Strict instructions to be given to the responsible driver not to give rides to any other person than the principal contractor Employees

All employees must wear appropriate face Cloth mask

- Hands to be sanitized before entering the transport and when journey ends.
- Employer must ensure that records of all his employees travelling with the transport are kept and no changing in travelling team for traceability should any of them test positive.
- Journeys should be shared with the same individuals and with the minimum number of people at any one time as prescribed by the Regulations.
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- Principal contractor to ensure that all medical surveillance renewal, new entry medicals, exit medical should include COVID-19 Symptoms Screening by OHS Doctor / OHS Nurse Practitioner, employee suspected to have symptoms or at the risk of COVID-19 shall be sent for COVID-19 testing and be asked to self-isolate at home until his/her test are confirmed. Should an employee test positive for COVID-19, and if there is evidence that the worker contracted COVID-19 as a result of occupational exposure, lodge a claim for compensation in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993) in accordance with Notice 193 published on 3 March 2020

Social distancing measures

- Every employer must arrange the workplace to ensure minimal contact between workers and as far as practicable ensure that there is a minimum of one and a half meters
- Metres between workers while they are working. Reducing the number of workers present in the workplace at any time
- Appointed Site Manager & the CHS Officer must ensure that Construction Activities are arranged at least one and a half metres apart.
- All shared construction Site offices must be arranged; physical barriers can be placed between work stations or Maintain 1 m distance.

Reporting of COVID-19 Cases

- Appointed Principal Contractor is required to immediately inform DEPARTMENT OF BASIC EDUCATION should one of its employee's experience any of the COVID-19 symptoms while at work.
- Principal Contractor is also required to immediately contact the COVID-19 hotline: 0800 02 9999 for instruction and direct the employee to act in accordance with those instructions.
- If a worker has been diagnosed with COVID-19 and isolated in accordance with the Department of Health Guidelines, an employer may only allow a worker to return to work if the worker has undergone a medical evaluation confirming that the worker has been tested negative for COVID-19.

COVID-19 Requirements to be meet by DEPARTMENT OF BASIC EDUCATION Service Providers

Before commencement of any work under Level 1 lock down all DEPARTMENT OF BASIC EDUCATION service provider will be required to;

- Principal Contractor will be required to appoint a designate a COVID - 19 compliance officer who will be responsible to oversee the implementation of COVID-19 rules at the work place.
- All DEPARTMENT OF BASIC EDUCATION appointed service provider this include professional team should adherence to the standards of hygiene and health protocols relating to COVID-19 at all DEPARTMENT OF BASIC EDUCATION Project.
- All DEPARTMENT OF BASIC EDUCATION appointed Contractors develop a plan for the phased in return of their employees to the workplace, prior to reopening the workplace for business, which plan must correspond with Annexure E of Amended Disaster Management Act and be submitted to DEPARTMENT OF BASIC EDUCATION for approval, be retained for inspection and contain the following information:
 - which employees are permitted to work;
 - (ii) what the plans for the phased-in return of their employees to the workplace are;
 - (iii) what health protocols are in place to protect employees from COVID-19; and
 - (iv) the details of the COVID-19 compliance officer:
- Contractors with large numbers of employees to ensure phase in the return of their employees to work
- DEPARTMENT OF BASIC EDUCATION Contractors are required to develop measures to ensure that the workplace meets the standards of health protocols,
- Contractors in all the projects that are accessed by the public should ensure adequate space for employees and social distancing measures for the public and service providers, as required.

Waste management for COVID-19 waste

- Contractor will be required to ensure that waste is managed and separated on site. Face Mask waste, Gloves and paper towel used to wipe hands and toilet paper used for sneezing or blowing nose to be disposed in a medical waste bin. Principal Contractor will be required to make arrangements for medical waste bins for its employees and all medical waste to be disposed accordingly. A detailed medical waste plan which includes (managing medical/COVIDID-19 related waste on site, removal and transportation of medical/COVIDID-19 related waste and disposal of medical/COVIDID-19 related waste with disposal proof or certificate from disposal medical waste site) is required.

Employees induction, training, communications

- Employer will be required to give induction to his/her employees upon returning to site. Induction syllabus to included Employers plan on how are

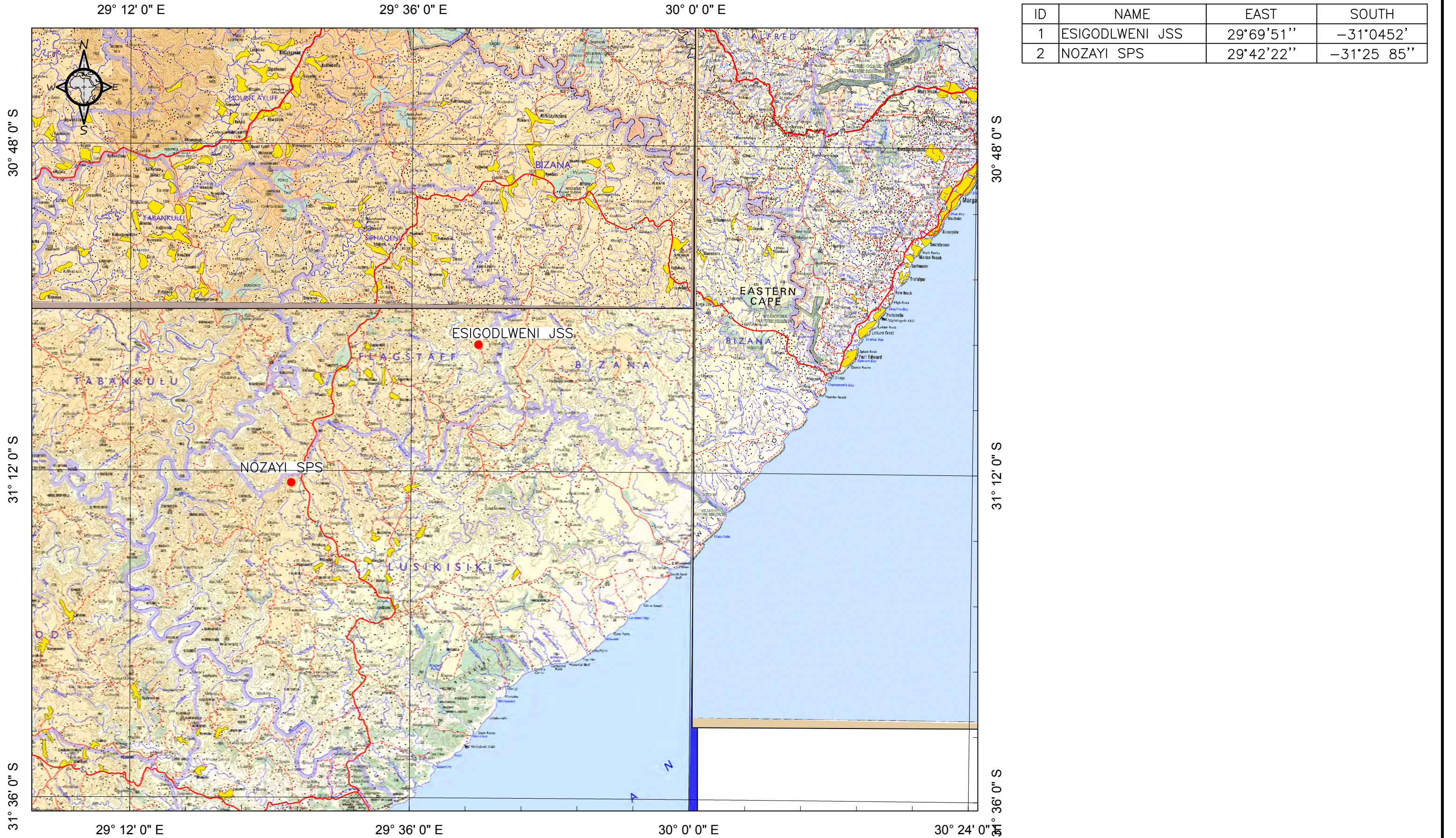
they going to manage COVID-19 on site. Employer should train employees on daily before

**ACCELERATED SCHOOLS INFRASTRUCTURE DELIVERY INITIATIVE (ASIDI)
COMPLETION OF WATER SUPPLY PROJECTS IN OR TAMBO REGION:
CLUSTER: 3F – ESIGODLWENI JSS & NOZAYI SPS**

TENDER NO: DoEEC05/2021

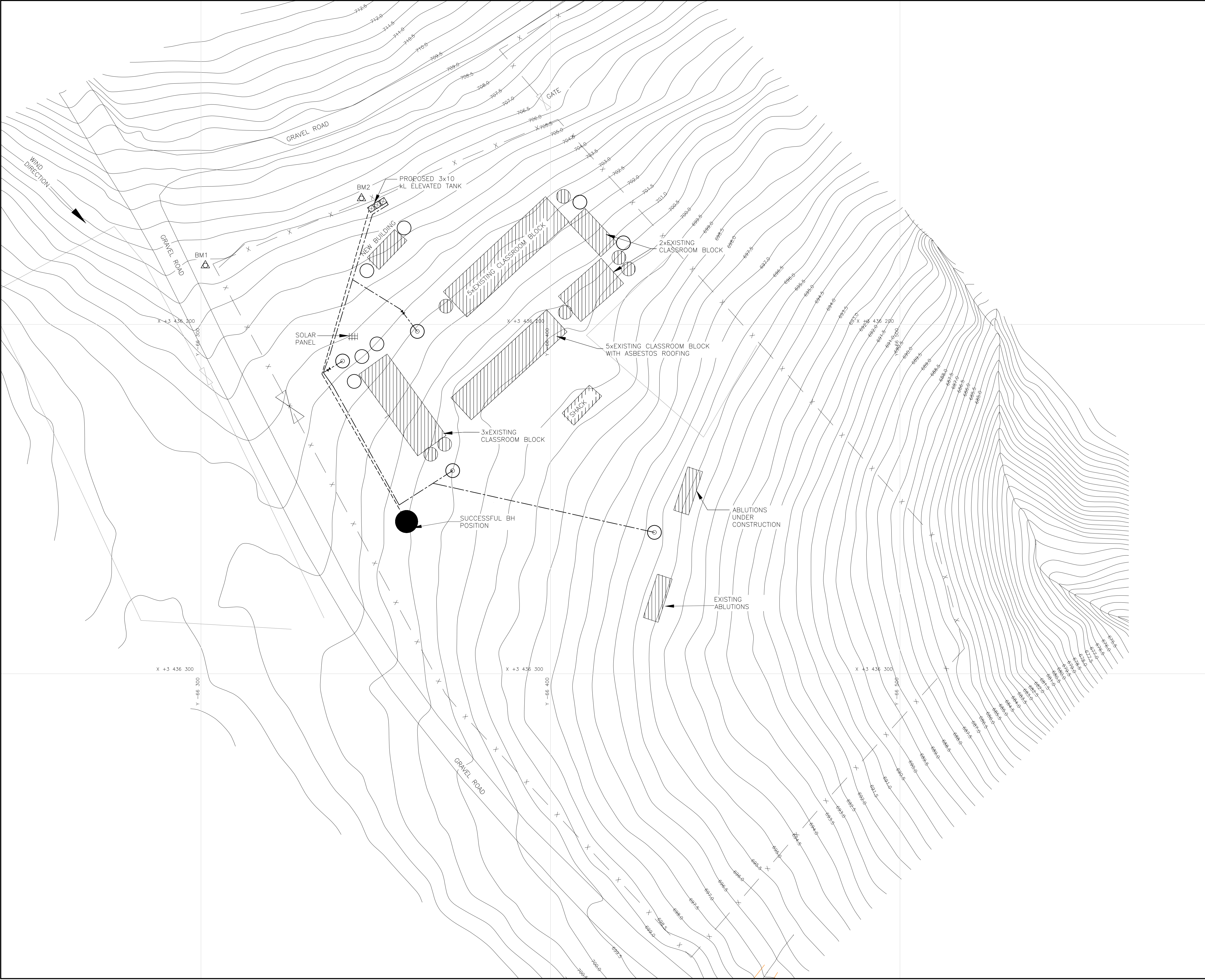
C5.3 DRAWINGS

6035/045/001	LOCALITY MAP AND WATER CLUSTER 3
6035/045/3F/002	ESIGODLWENI JSS
6035/045/3F/26/002	NOZAYI SPS
6035/045/004	TYPICAL BOREHOLE PUMP STATION
6035/045/005	4.5m HIGH ELEVATED WATER TANK (10 000 l) DETAILS AND SECTIONS
6035/045/006	4.5m HIGH ELEVATED WATER TANK (5 000 l) DETAILS AND SECTIONS
6035/045/007	DRINKING WATER RAINWATER STORAGE
6035/045/008	STANDPIPE DETAILS
6035/045/010	ROAD CROSSING, PIPE BEDDING AND CONCRETE ENCASEMENT DETAILS
6035/045/013	ISOLATION VALVE DETAILS
6035/045/014	FENCING DETAILS
6035/045/016	NAME BOARD
6035/045/20	BOOSTER PUMP
6035/045/021	DRINKING WATER LOW PROFILE RAINWATER STORAGE
BS/01	PUMP STATION ROOF SLAB REINFORCEMENT SCHEDULE



ID	NAME	EAST	SOUTH
1	ESIGODLWENI JSS	29°69'51"	-31°0452'
2	NOZAYI SPS	29°42'22"	-31°25 85"

				DESIGNED	N/A	APPROVED	SCALE	ASIDI CONSTRUCTION OF WATER AND SANITATION INFRASTRUCTURE AT SCHOOLS IN THE EASTERN CAPE PROVINCE-CLUSTER 3F LOCALITY PLAN			DRAWING NUMBER 6035/045/001			BOSCH STEMELE Consulting Engineers • Project Managers BOSCH STEMELE (PTY) LTD. P.O. BOX 13530, VINCENT EAST LONDON, 5217 57 WESTERN AVENUE, VINCENT EAST LONDON, 5274, RSA TELEPHONE: (043) 7211717 TELEFAX: (043) 7211719 E-mail: bsel@boschstemele.co.za www.boschstemele.co.za		
				DRAWN	N.W.	PROJECT MANAGER	±1:500 000									
				CHECKED			DATE									
						DIRECTOR	30/11/2021									
0	ISSUED FOR TENDER	11/2015	M.Q.	COPYRIGHT AND USE OF THIS DRAWING IS RESERVED BY BOSCH STEMELE				DRAWING NUMBER 6035/045/001			A3 REVISION					
1	FOR INTERNAL REVIEW	11/2015	M.Q.													
REV.	DESCRIPTION	DATE	APPR'D													



LEGEND:

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED RETIC MAIN 25mmØ HDPE
- PROPOSED RISING MAIN 63mmØ uPVC
- BENCHMARK
- 3x10kl PROPOSED ELEVATED TANK
- ISOLATION

North Arrow pointing North (N).

BENCHMARK TABLE			
POINTS	X	Y	Z
BM1	3436183.13	-66301.24	705.82
BM2	3436163.93	-66345.93	706.27

LEARNERS	BOYS	GIRLS	TOTAL
	349	339	688
EDUCATORS	20		
QUIRY	THE SCHOOLS FALLS UNDER WATER ONLY PROJECTS AND NO SANITATION PROVISION WILL BE MADE.		
EXISTING ABLUTIONS	4		

B	REVISED FOR BOREHOLE POSITION	09/2014	M.Q
A	FOR CONSTRUCTION	04/2014	M.Q
0	FOR TENDER REVIEW	07/2013	M.Q
1	FOR INTERNAL REVIEW	06/2013	M.Q
REV.	DESCRIPTION	DATE	APPR'D
DRG. No.	REFERENCE DRAWING		

CLIENT



basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

IMPLEMENTING AGENT	TECHNICAL SUPPORT
 IDT Palm Square Business Park Silverwood House Bonza Bay Road Beacon Bay 5241 Tel: (043) 711-6000 Fax: (043) 748-5471	 BOSCH PROJECTS (PTY) LTD. P.O. BOX 13530, Vincent, East London, 5217 28 Bickaway Drive, Mthotho, 5099, RSA Tel: (047) 532 6694 Fax: (047) 531 4974 E-mail: bsel@boschstemele.co.za

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DESIGNED	M.Q.	DRAWN	B.D
CHECKED	N.W	CIVIL ENGINEER	M.Q
STRUCTURAL ENGINEER	E.T	MECHANICAL ENGINEER	N/A
ELECTRICAL ENGINEER	N/A	CO-ORDINATION ENGINEER	N/A
APPROVED			
PROJECT MANAGER		DIRECTOR	

ASIDI: CONSTRUCTION OF WATER INFRASTRUCTURE AT SCHOOLS CLUSTER 3: CONTRACT 3F

EMIS NO.: 200500211

ESIGODLWENI JS LAYOUT PLAN

SCALE	1:500	DATE	12/11/2013
DRAWING NUMBER	6035/054/3F/002	A1	REVISION B



LEGEND:

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED RETIC MAIN 25mmØ HDPE
- PROPOSED RISING MAIN 63mmØ uPVC
- BENCHMARK
- 10ki PROPOSED ELEVATED TANK POSITION

B	REVISED FOR BOREHOLE POSITION	09/2014	G.T
A	FOR CONSTRUCTION	04/2014	G.T
0	FOR TENDER REVIEW	07/2013	G.T
1	FOR INTERNAL REVIEW	06/2013	G.T
REV.	DESCRIPTION	DATE	APPR'D

ORG. No.

REFERENCE DRAWING

CLIENT

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

IMPLEMENTING AGENT

IDT
Independent Development Trust

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DESIGNED	G.T	DRAWN	B.D
CHECKED	N.W	CIVIL ENGINEER	G.T
STRUCTURAL ENGINEER	E.T	MECHANICAL ENGINEER	N/A
ELECTRICAL ENGINEER	N/A	CO-ORDINATION ENGINEER	N/A

APPROVED

PROJECT MANAGER

DIRECTOR

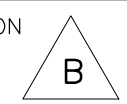
ASIDI: CONSTRUCTION OF WATER INFRASTRUCTURE AT SCHOOLS CLUSTER 3: CONTRACT 3F

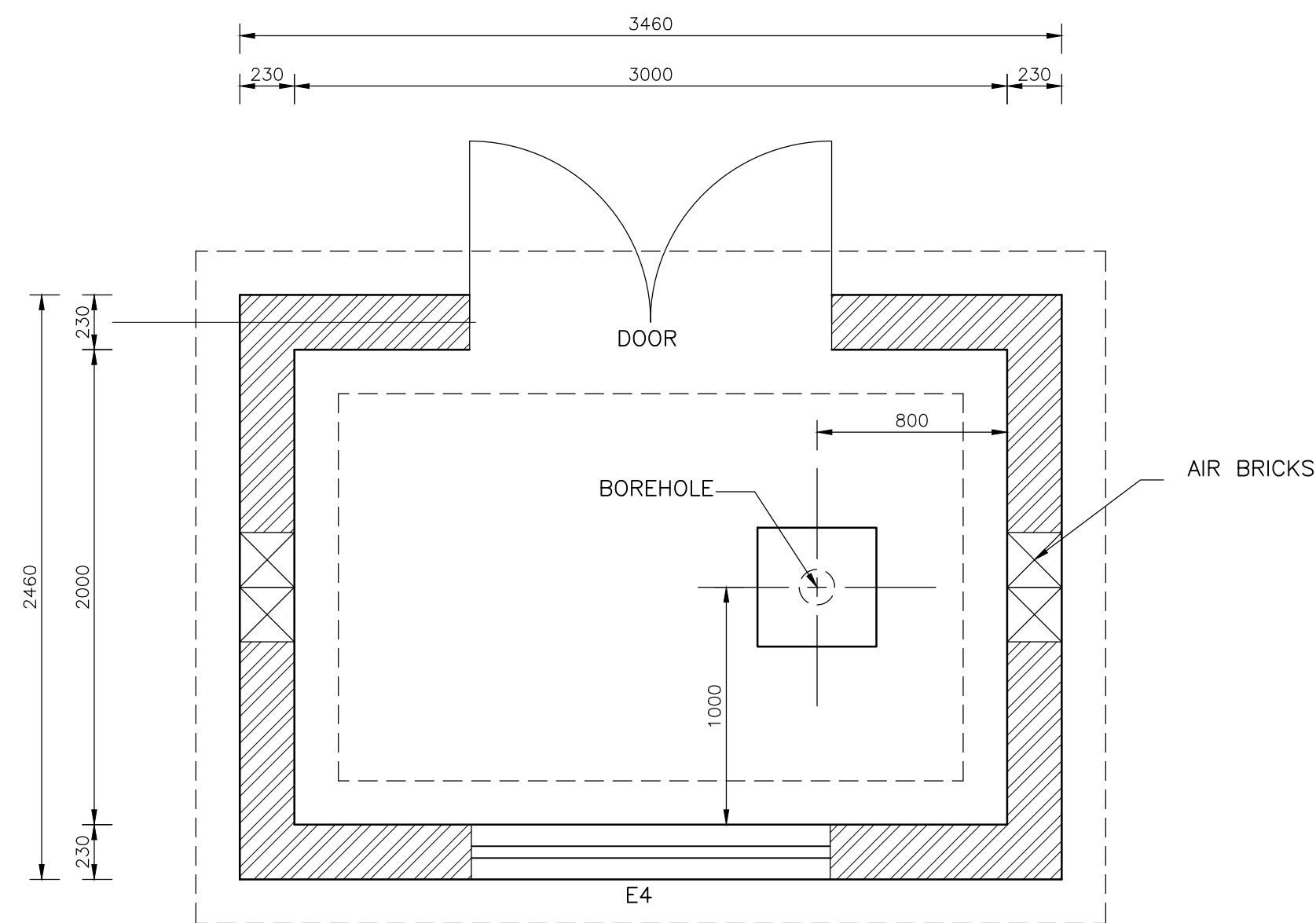
EMIS NO.: 200500944

NOZAYI SP LAYOUT PLAN

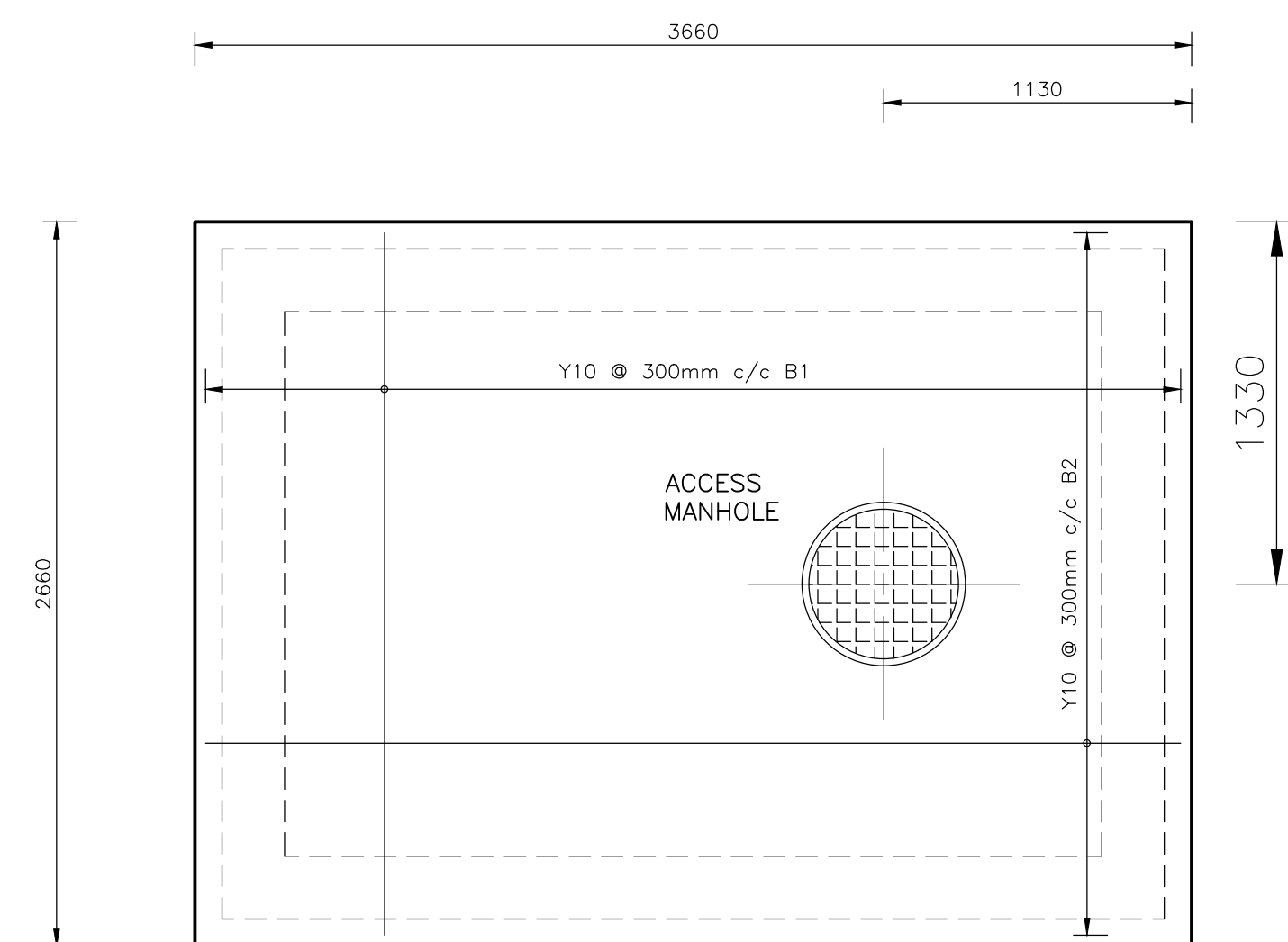
SCALE	1:500	DATE	12/11/2013
DRAWING NUMBER	6035/045/3F/26/002	REVISION	A1

BENCHMARK TABLE			
POINTS	X	Y	Z
BM1	3459640.740	-41430.700	-11.15
BM2	3459725.320	-41377.870	1.67

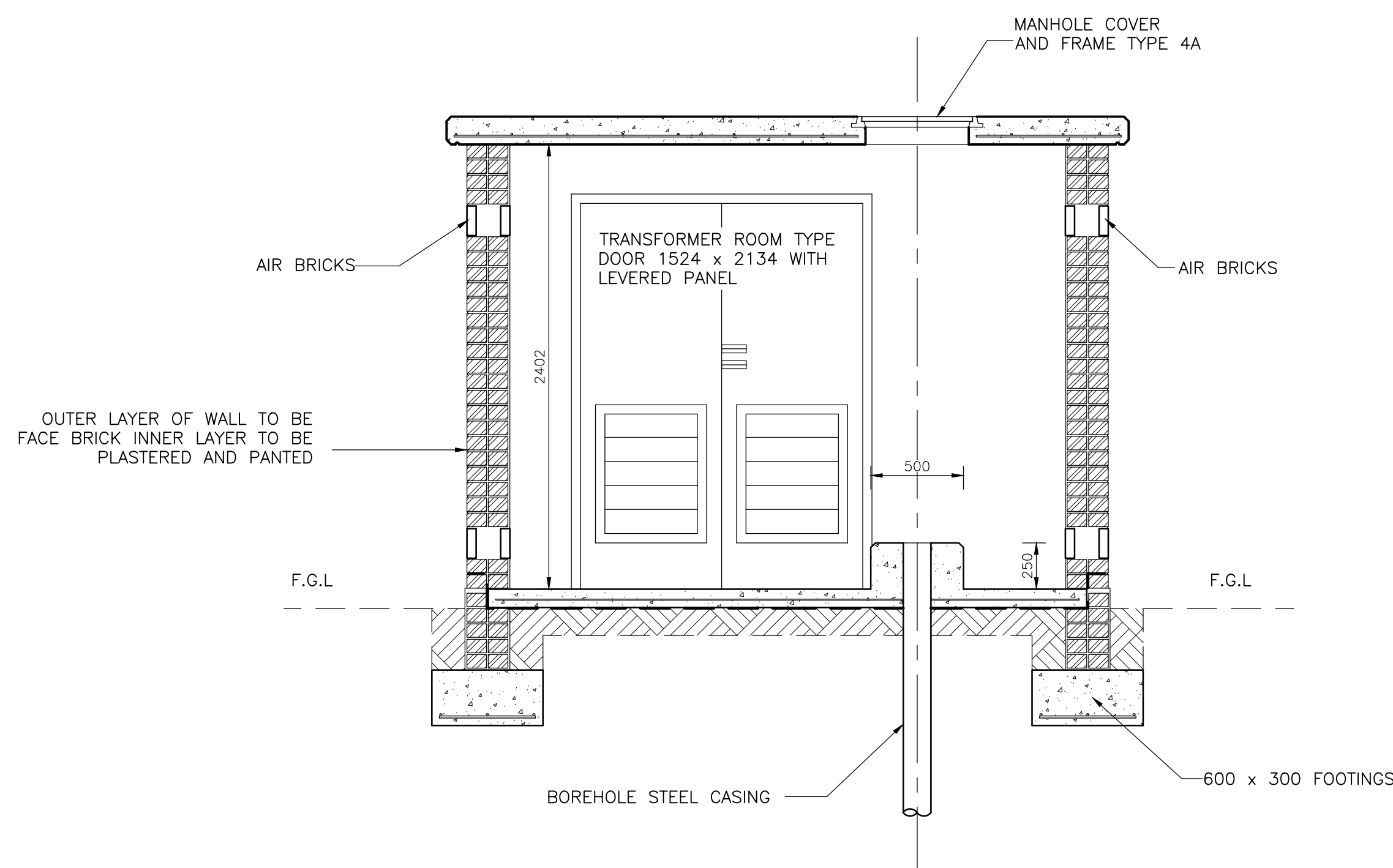




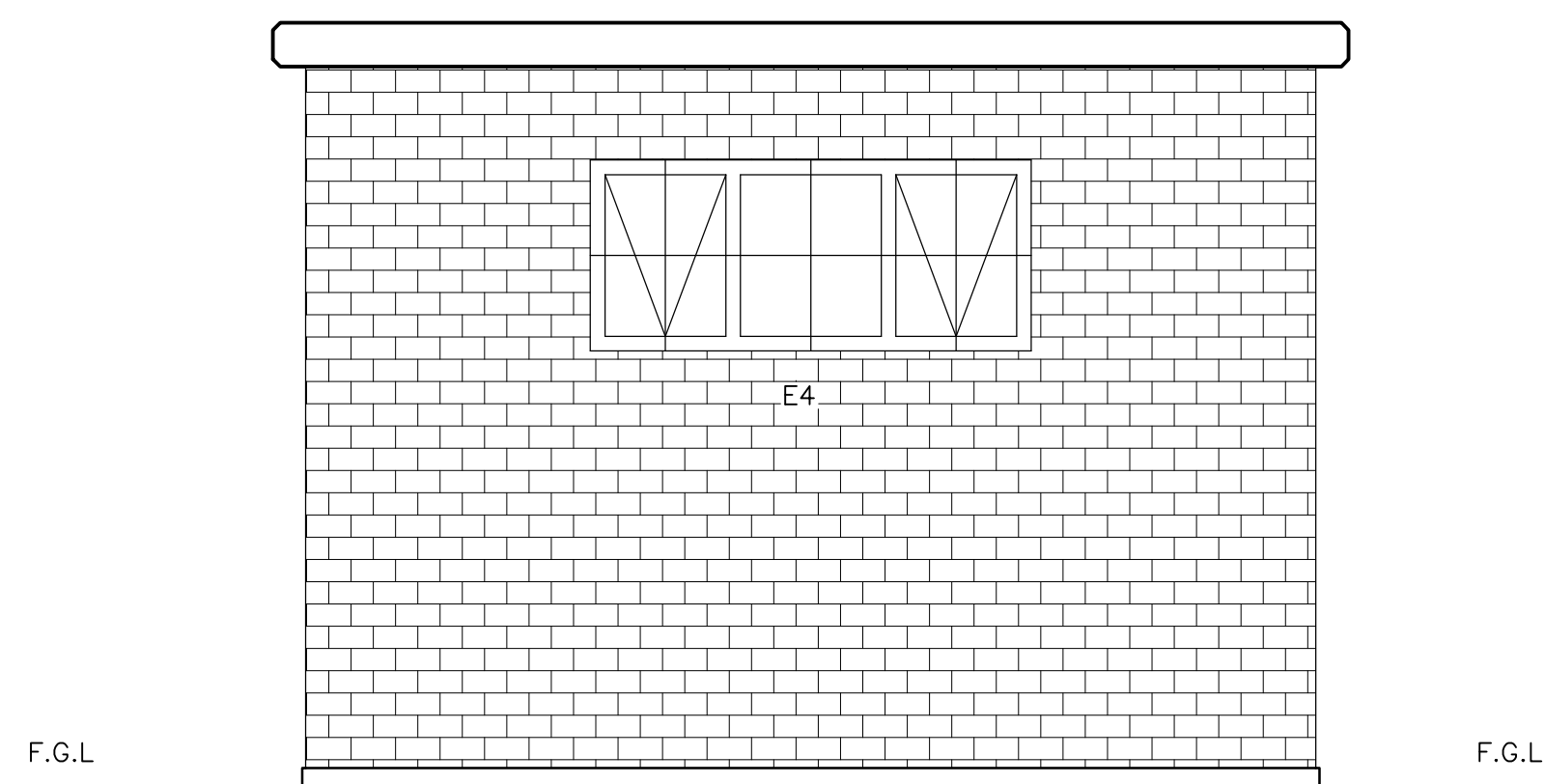
PLAN
SCALE 1:25



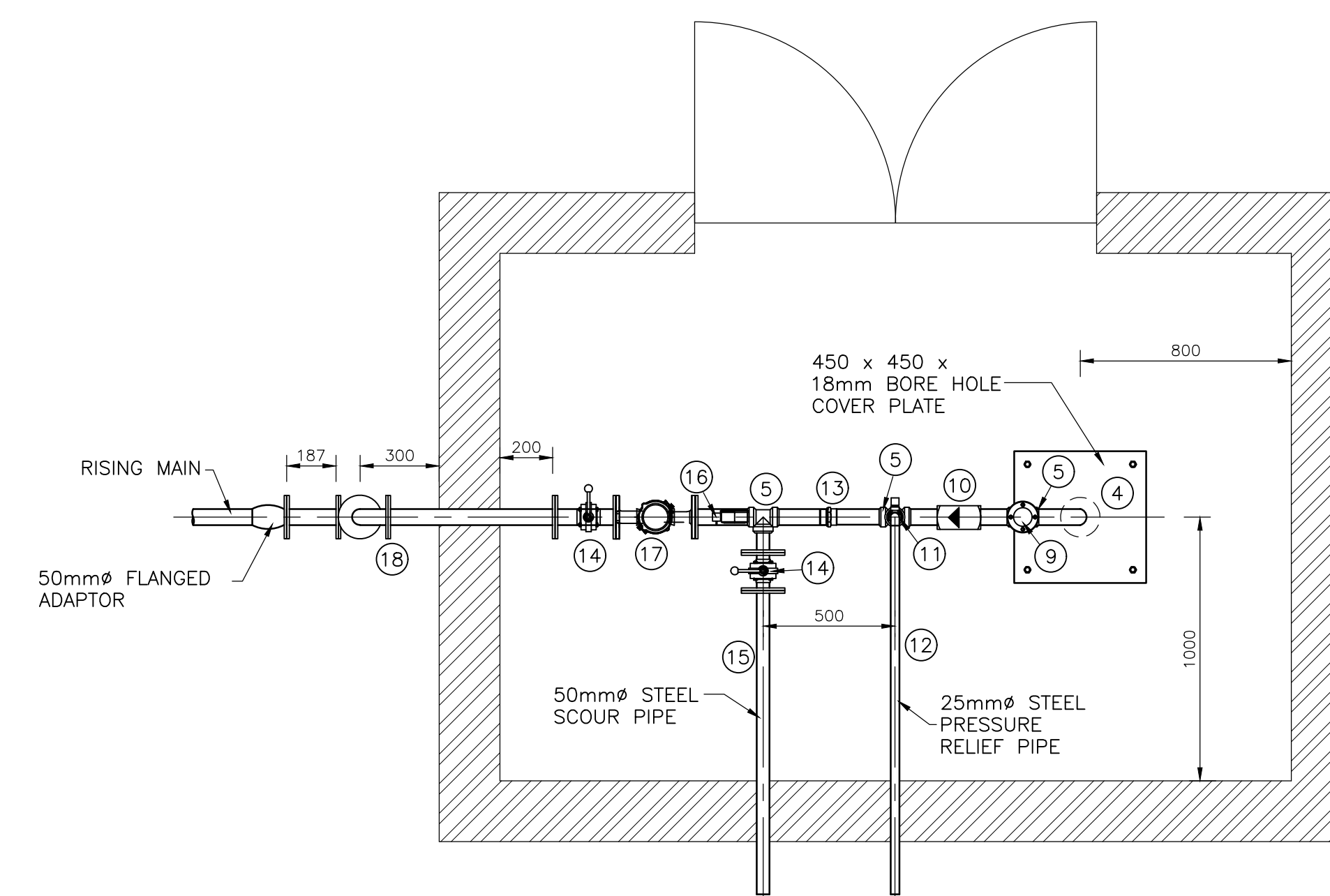
ROOF SLAB
SCALE 1:25



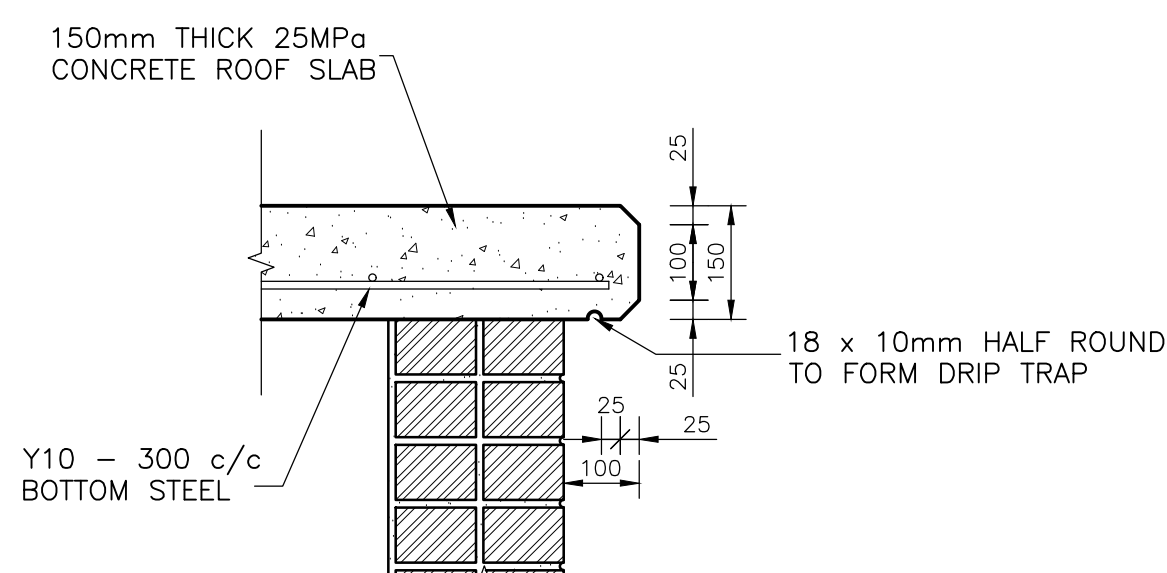
TYPICAL SECTION
SCALE 1:25



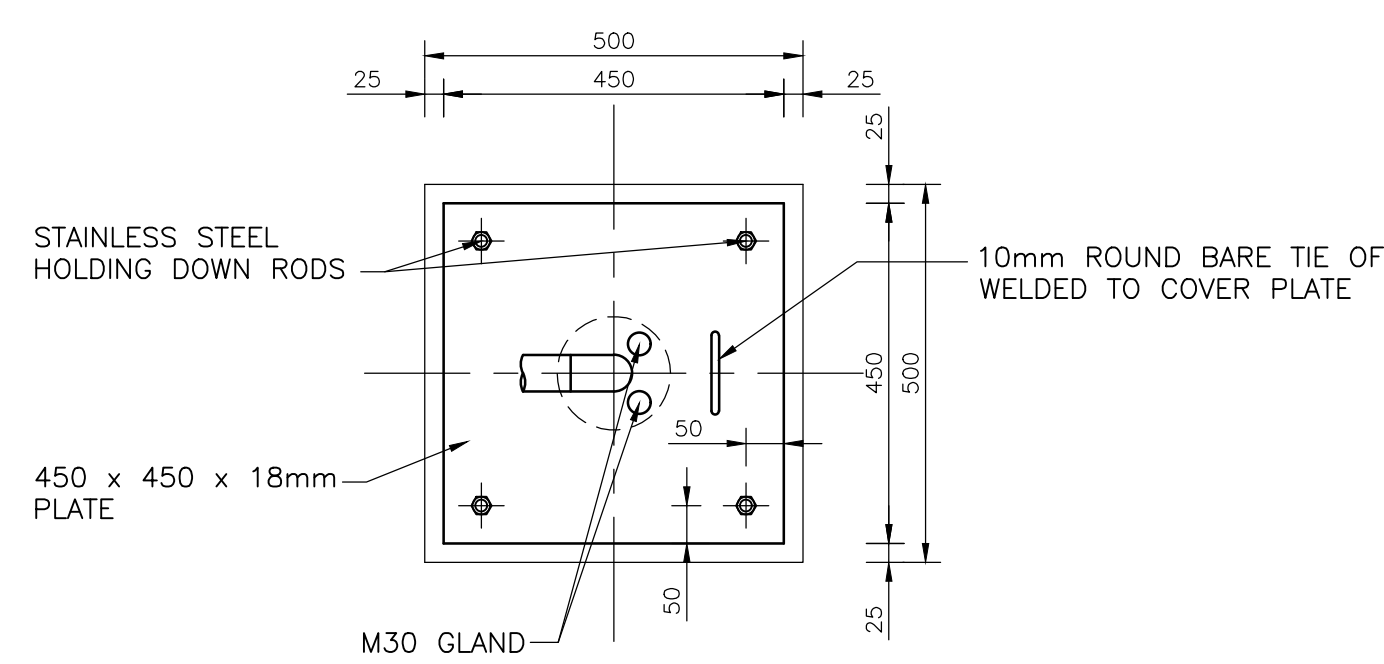
ELEVATION
SCALE 1:25



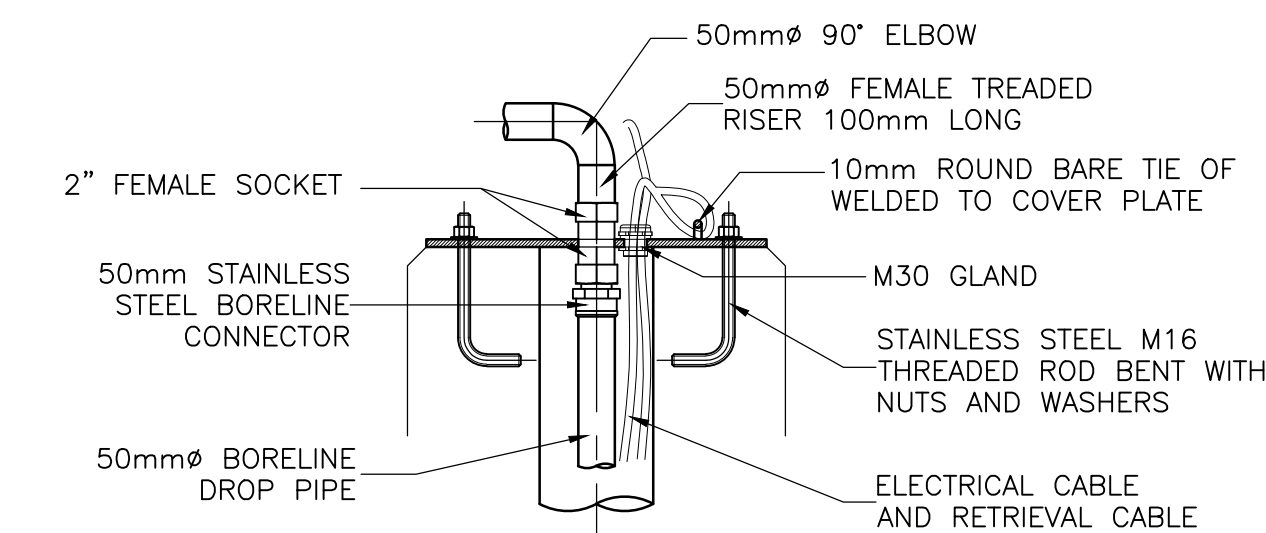
PLAN ON PIPEWORK
SCALE 1:20



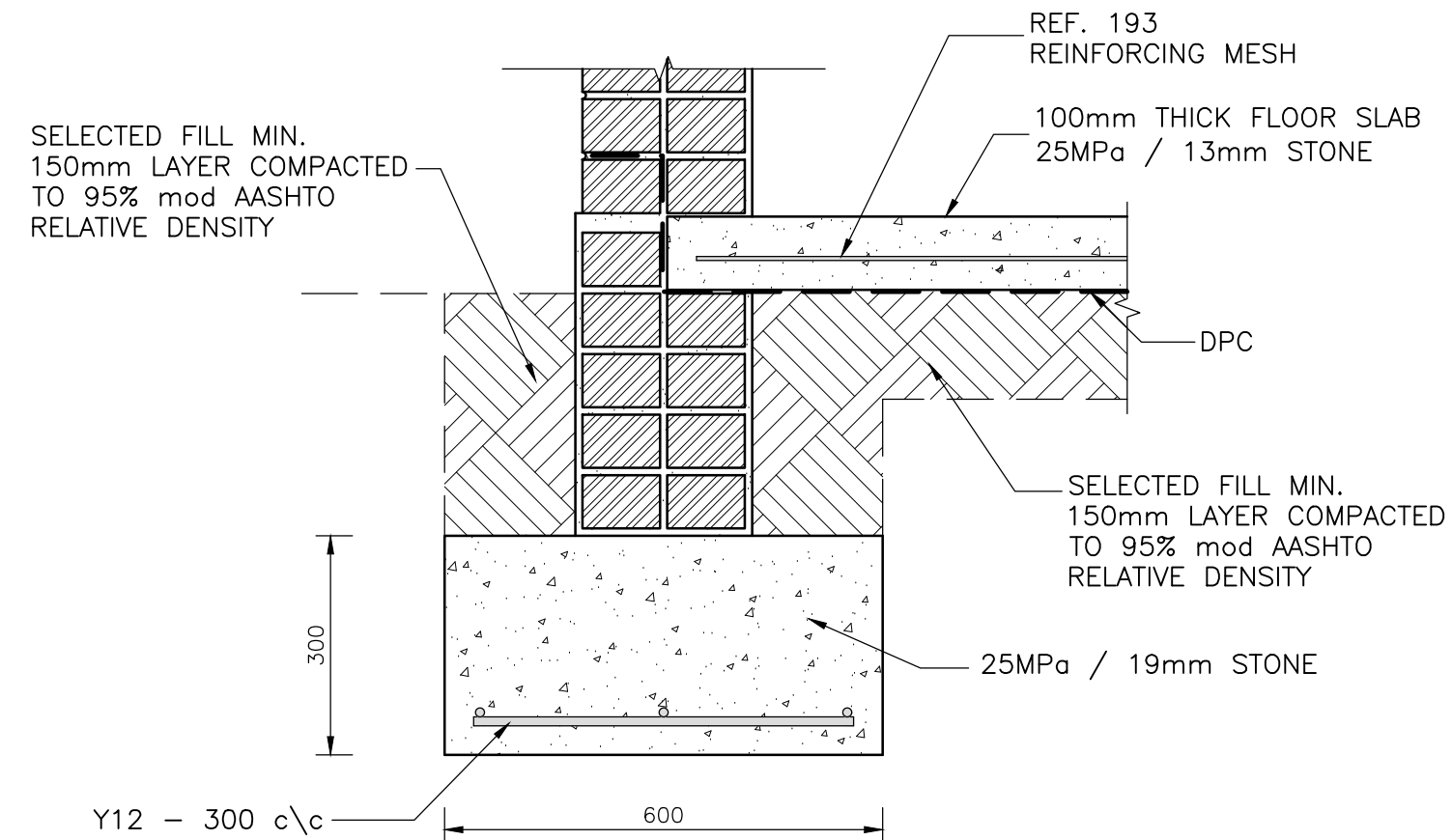
EAVE DETAIL
SCALE 1:10



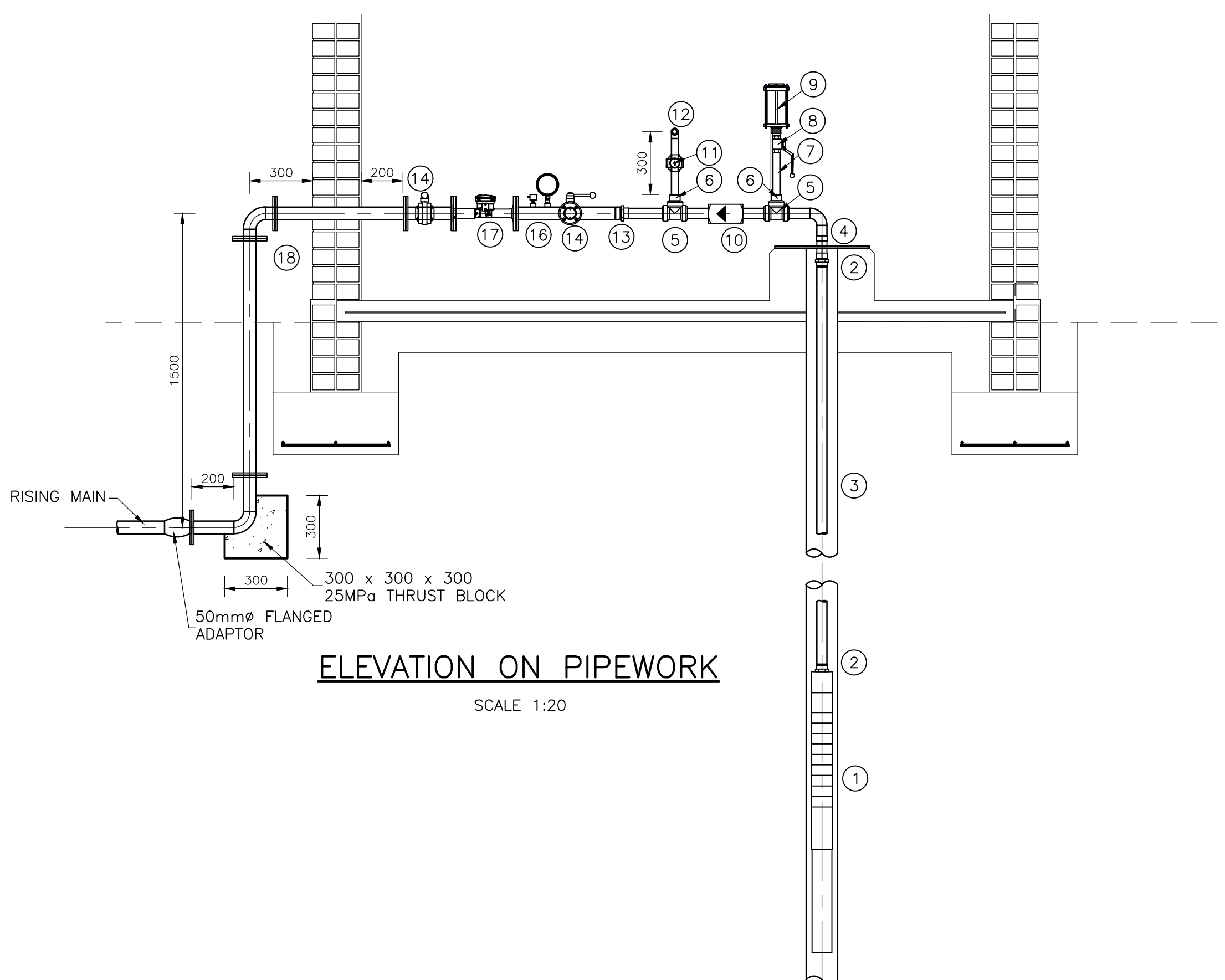
PLAN ON COVER PLATE
SCALE 1:10



SECTION
BOREHOLE COVER PLATE
DETAIL
SCALE 1:10



FOUNDATION / FLOOR
DETAIL
SCALE 1:10



ELEVATION ON PIPEWORK
SCALE 1:20

RECOMMENDED SUBMERSIBLE PUMPS (GRUNDFOS BOREHOLE PUMPS)

PIPEWORK SCHEDULE		
ITEM	DESCRIPTION	NUMBER
1	BOREHOLE SUBMERSIBLE PUMP (GRUNDFOS OR SIMILAR APPROVED)	1
2	50mm STAINLESS STEEL BORELINE CONNECTOR	2
3	50mm BORELINE DROP PIPE	1
4	BOREHOLE COVER PLATE ARRANGEMENT (SEE DETAIL)	1
5	2" GALVANISED EQUAL TEE	3
6	2"-1" GALVANISED REDUCING BUSH	2
7	1" GALVANISED RISER, 200mm LONG	1
8	1" FEMALE THREADED BALL VALVE	1
9	1" AIR VALVE	1
10	2" NON RETURN VALVE PN16 WITH NIPLES AND UNION	1
11	1" PRESSURE RELIEF VALVE, SET TO WORKING PRESSURE + 1 BAR.	1
12	1" PRESSURE RELIEF PIPEWORK TO OUTSIDE BUILDING.	1
13	2" GALVANISED UNION	1
14	2" FLANGED BUTTERFLY VALVE PN16	2
15	2" GALVANISED SCOUR PIPEWORK TO SUIT FLANGED VALVE	1
16	50mmØ STEEL DISTANCE PIECE 215mm LONG ONE END FLANGED OTHER END THREADED TO SUITE TEE. PIPE TO BE PROVIDED WITH 2 No. 2" SOCKET, WITH PRESSURE GAUGE AND CONTROL SWITCH.	1
17	2" FLANGED WATER METER (AMCO H4000 BULK WATER METER) OR SIMILAR AND APPROVED	1
18	2" FLANGED OUTLET PIPEWORK TO RISING MAIN	1

GENERAL NOTES:

ROOFSLAB
150mm THICK, 25 MPa CONCRETE, Y10Ø300 c/c IN BOTTOM, 40mm COVER, ON BRICK-GRIP WITH A SANS 558 TYPE 4A CI MANHOLE OVER BOREHOLE

BRICKWORK
WALL'S TO BE INTERNAL STOCK BRICK PLASTERED AND PAINTED WITH WITH CONTRACTORS PVA MIN. 3 COATS EXTERNAL TO BE FACE BRICK TO MATCH SCHOOL. BRICK FORCE EVERY LAYER FIRST 5 COURSE THEREAFTER EVERY THIRD COURSE. FACE BRICK EXTERNAL TREATMENT TO BE SAME AS SCHOOL FLOORS LAB

100mm THICK, 25 MPa CONCRETE SLAB WITH MESH REF 193, ON TOP OF DPC, ON TOP OF MIN. 150mm LAYER SELECTED FILL, COMPACTED TO 95% mod AASHTO IN 150mm LAYERS

FOUNDATIONS
600 x 300mm 25 MPa FOOTINGS. MIN. 4 BRICK COURSES BELOW NGL

DOOR
TRANSFORMER ROOM TYPE DOOR 813 X 2032 WITH LEVERED PANEL AND PROTECTIVE PADLOCK COVER - WITH LOCK

WINDOWS AND VENTILATING
WINDOWS TO BE TYPE E4 SMALL PAIN STEEL WINDOWS WITH BURGLAR PROOFING. AIR BRICK AS INDICATED WITH VERMIN PROOFING.

APRON
75mm THICK x 600mm WIDE 20 MPa APRON AROUND PUMP STATION ON COMPACTED INSITU MATERIAL

PIPEWORK NOTES:
(THE PIPEWORK, FITTINGS AND VALVES SHALL BE INSTALLED BY AN APPROPRIATELY QUALIFIED CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL FITTINGS, VALVES AND PIPE WORK IS CORRECT BEFORE ORDERING AND INSTALLATION)

PIPEWORK
PIPEWORK TO BE MEDIUM PRESSURE GALVANIZED STEEL PIPE CAPABLE OF WORKING PRESSURE OF 16 bar. CONTRACTOR TO ALLOW FOR CORRECTLY CUT DISTANCE PEASE'S AND PLACEMENT THEIR OFF

JOINTS
JOINTS TO BE THREADED SCREW TYPE AND FLANGED AS INDICATED. STAG AND HEMP SEAL TO ALL THREADED JOINTS.

ELECTRICAL
ELECTRICAL ENGINEER IS TO PROVIDE DETAILS FOR WIRING ELECTRONICS AND PUMP CONTROL INSTALLATION.

REV	DESCRIPTION	DATE	APPRO
B	ADDITIONAL NOTES	13/10/14	M.Q.
A	FOR CONSTRUCTION	24/2014	M.Q.
O	FOR INTERNAL TENDER	07/2013	M.Q.
01	FOR INTERNAL REVIEW	06/2013	GT

DRG. No. REFERENCE DRAWING

CLIENT



IMPLEMENTING AGENT



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PALM SQUARE BUSINESS PARK
SILVERWOOD HOUSE
BONZA BAY ROAD
BEACON BAY
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TEL: (043) 711-6000
FAX: (043) 748-5471

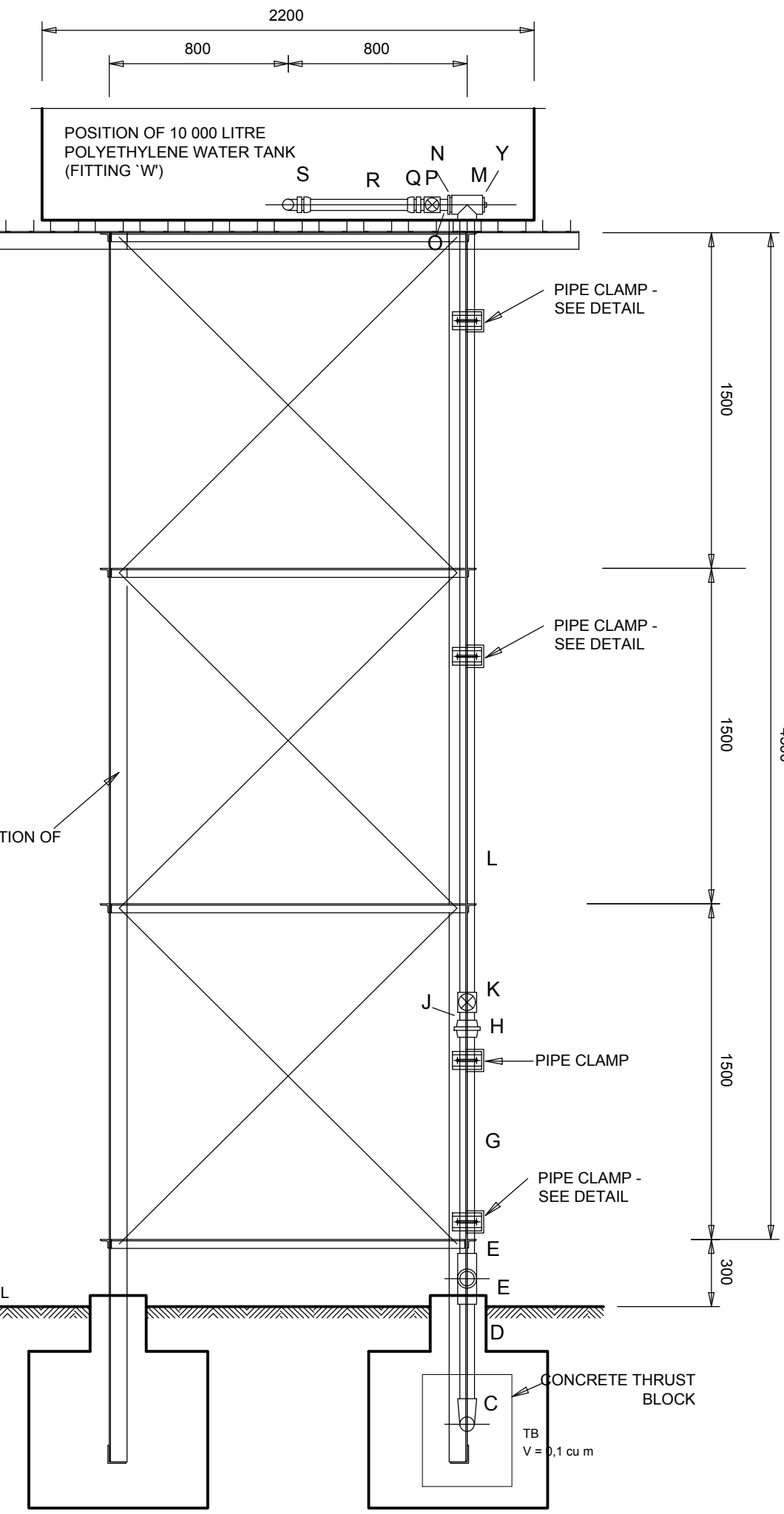


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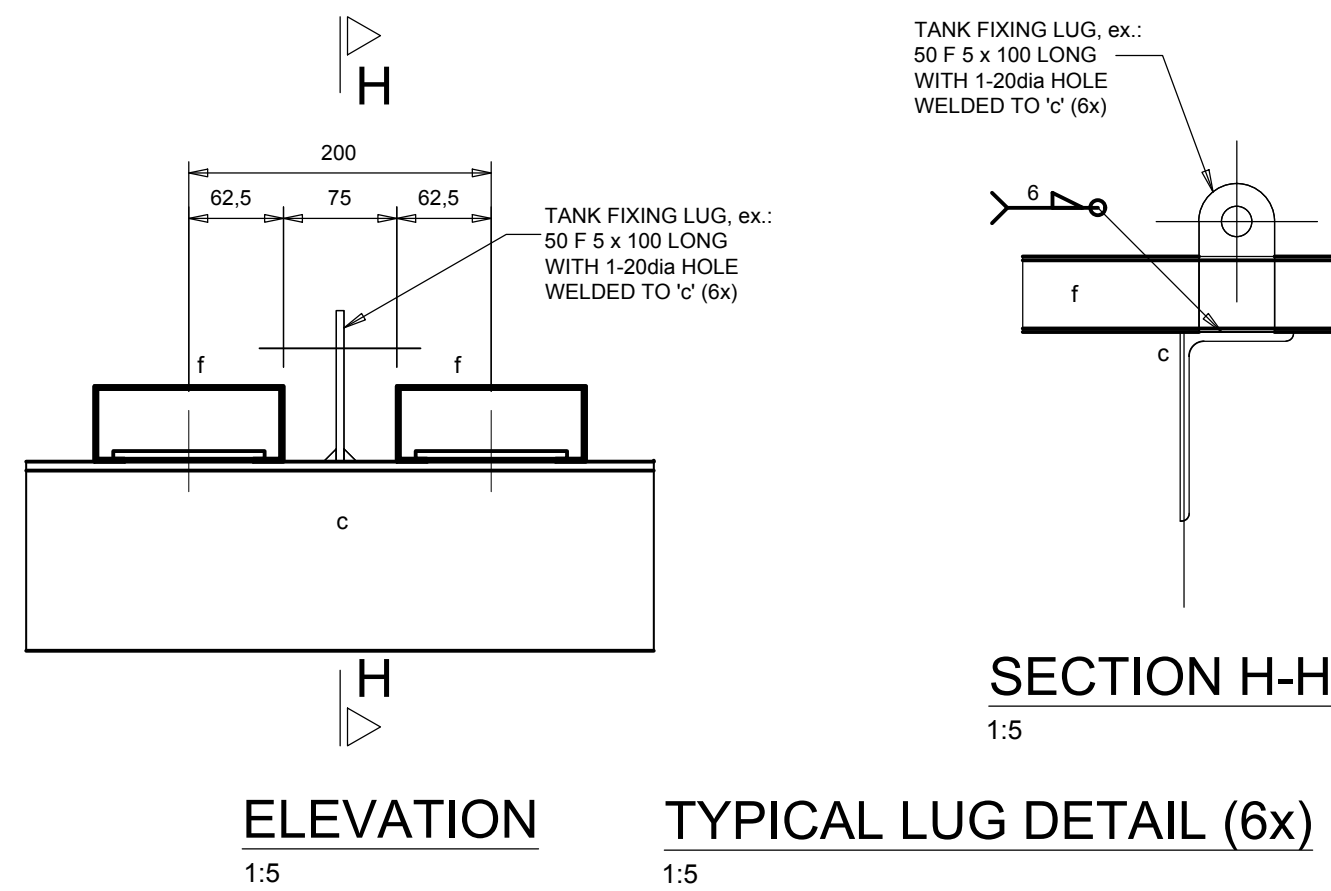
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DESIGNED	M.Q.	DRAWN	B.D.
CHECKED		CIVIL ENGINEER	M.Q.
STRUCTURAL ENGINEER	E.T.	MECHANICAL ENGINEER	N/A
ELECTRICAL ENGINEER	N/A	CO-ORDINATING ENGINEER	N/A
APPROVED		PROJECT MANAGER	DIRECTOR

ASIDI
CONSTRUCTION OF WATER AND SANITATION
INFRASTRUCTURE AT SCHOOLS IN THE
EASTERN CAPE PROVINCE.
TYPICAL BOREHOLE PUMP STATION

SCALE	AS SHOWN	DATE	26/06/2013
DRAWING NUMBER	6035/045/004	REVISION	A0



SECTION A-A
SCALE: 1:25



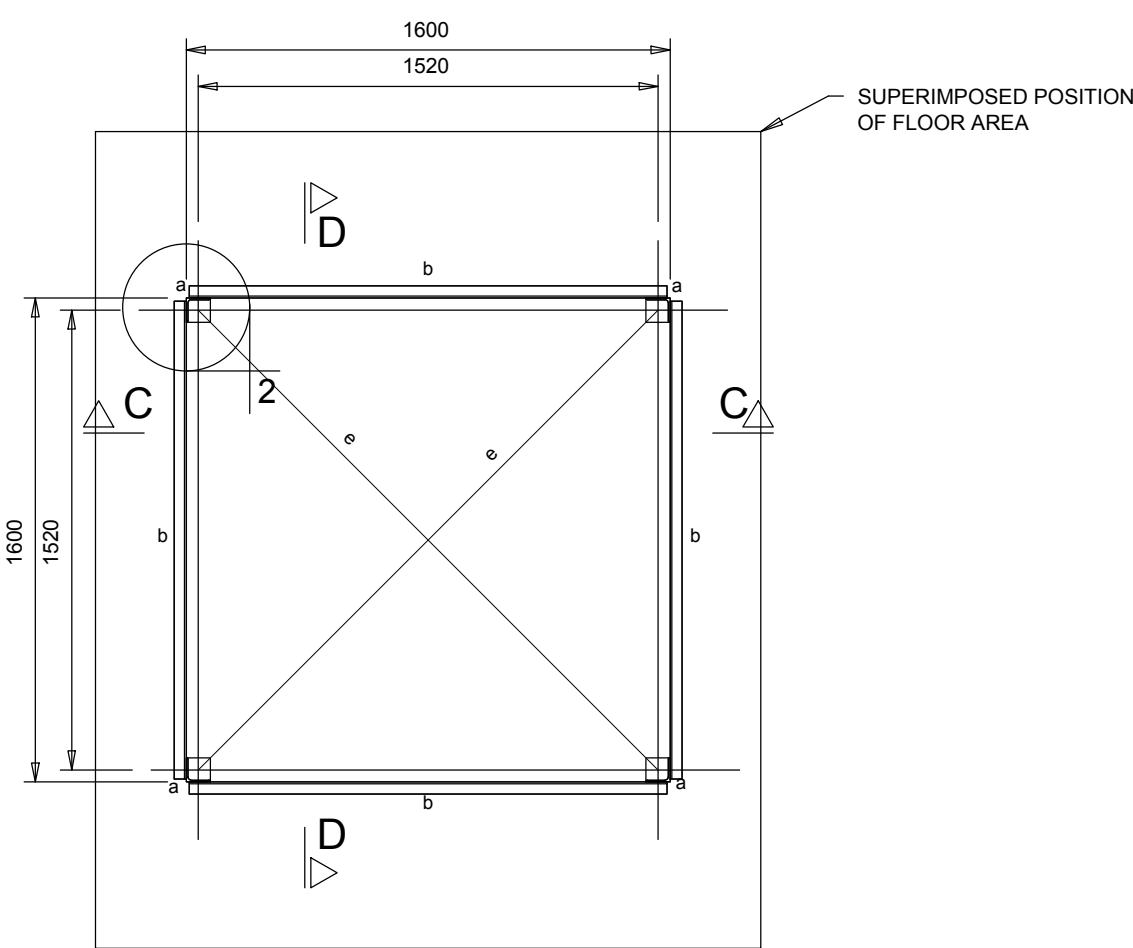
ELEVATION
1:5

TYPICAL LUG DETAIL (6x)
1:5

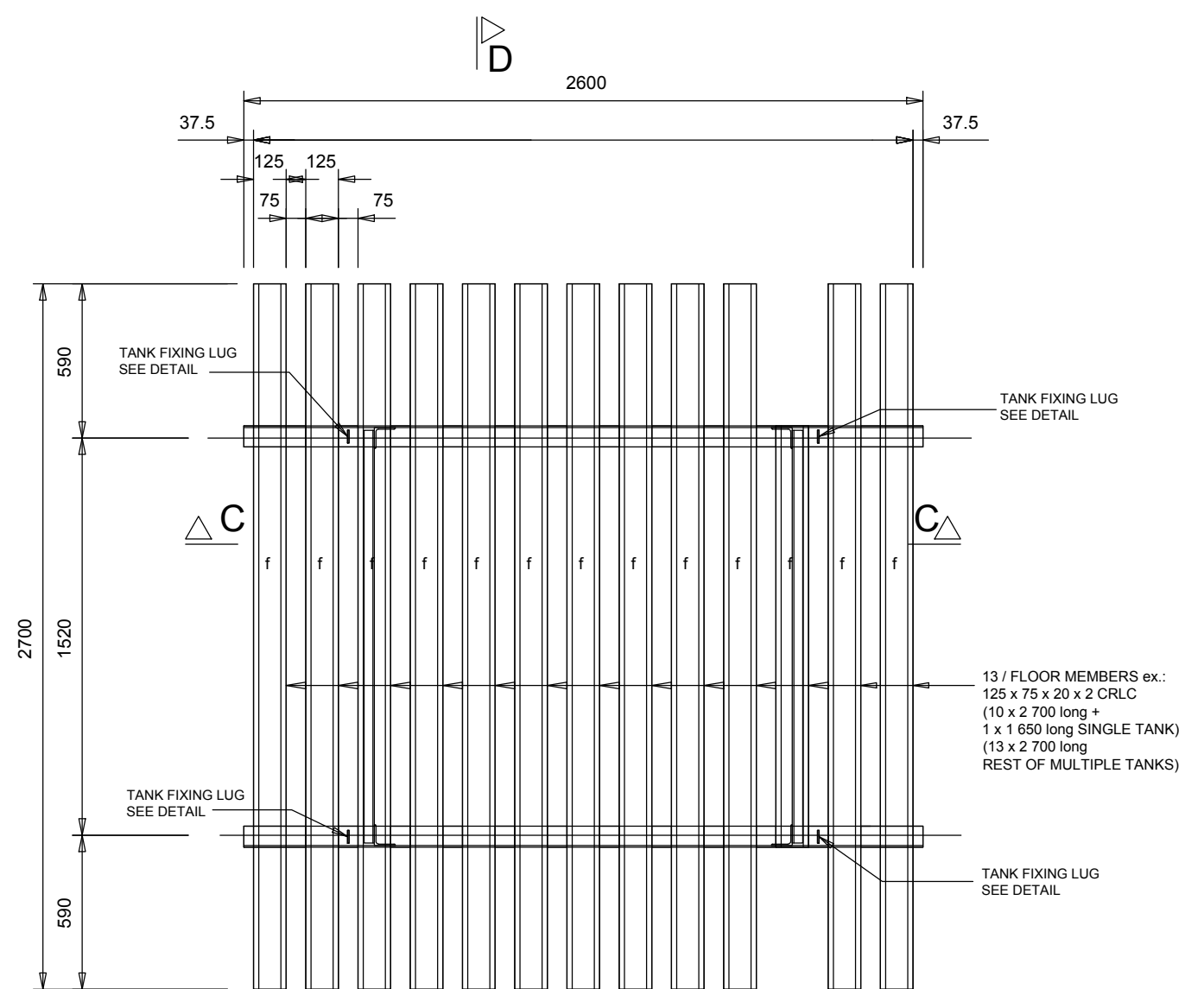
ITEM	DESCRIPTION	LENGTH	No OFF
BASE PLATE	80 x 80 x 6 HRA	300mm	4
COLUMN	80 x 80 x 6 HRA	4000mm	4
STRUT	40 x 40 x 6 HRA	1600mm	10
FLOOR BEAM	125 x 75 x 10 HRA	2200mm	2
PLANK	125 x 50 x 2 CRLC	2700mm	11
VERT BRACING	30 x 6 F	2180mm	12
HORI BRACING	40 x 40 x 3 HRA	2100mm	4
PIPE CLAMP	80 x 80 x 6 HRA	100mm	6
WOOD BLOCK	M10 U-SHAPED BOLT	140mm	6
FIXING PLATE	75 PL 6 75 LONG	75mm	8
BOLTS	M10 ST15L	55mm	64

LEGEND:
a: 80 x 80 x 6 HRA (45B/M S)
b: 40 x 40 x 6 HRA (23B/M S)
c: 125 x 75 x 10 HRA (45B/M S)
d: 30 x 6 F (25B/M S)
e: 40 x 40 x 3 HRA (23B/M S)
f: 125 x 50 x 2,5 CRLC

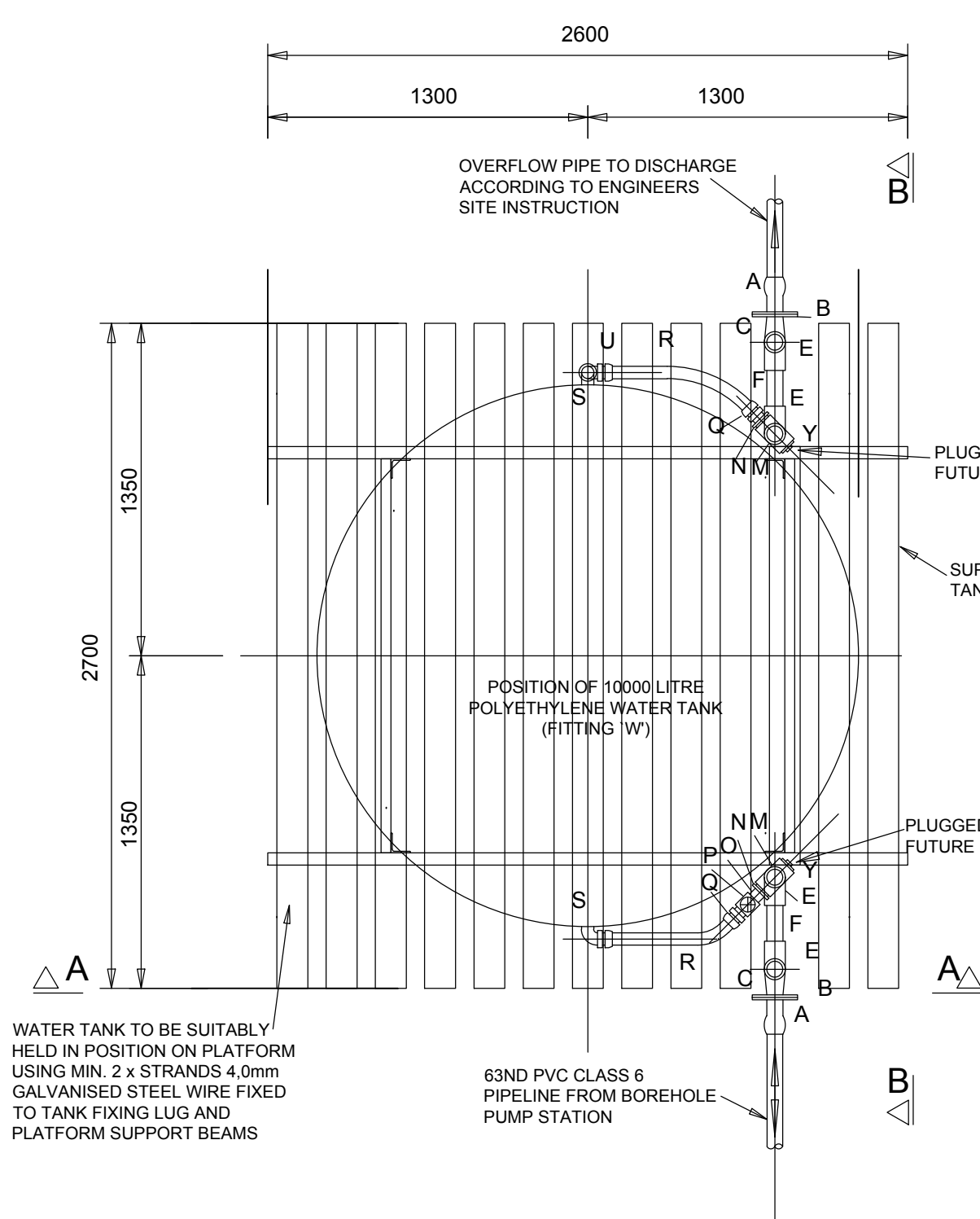
NOTE:
HRA = HOT ROLLED ANGLE
F = FLAT BAR
CRLC = COLD ROLLED LIPPED CHANNEL
B/B = BACK TO BACK ()
B/M = BACKMARK
S = UNLESS OTHERWISE SHOWN



LAYOUT PLAN E-E
1:25

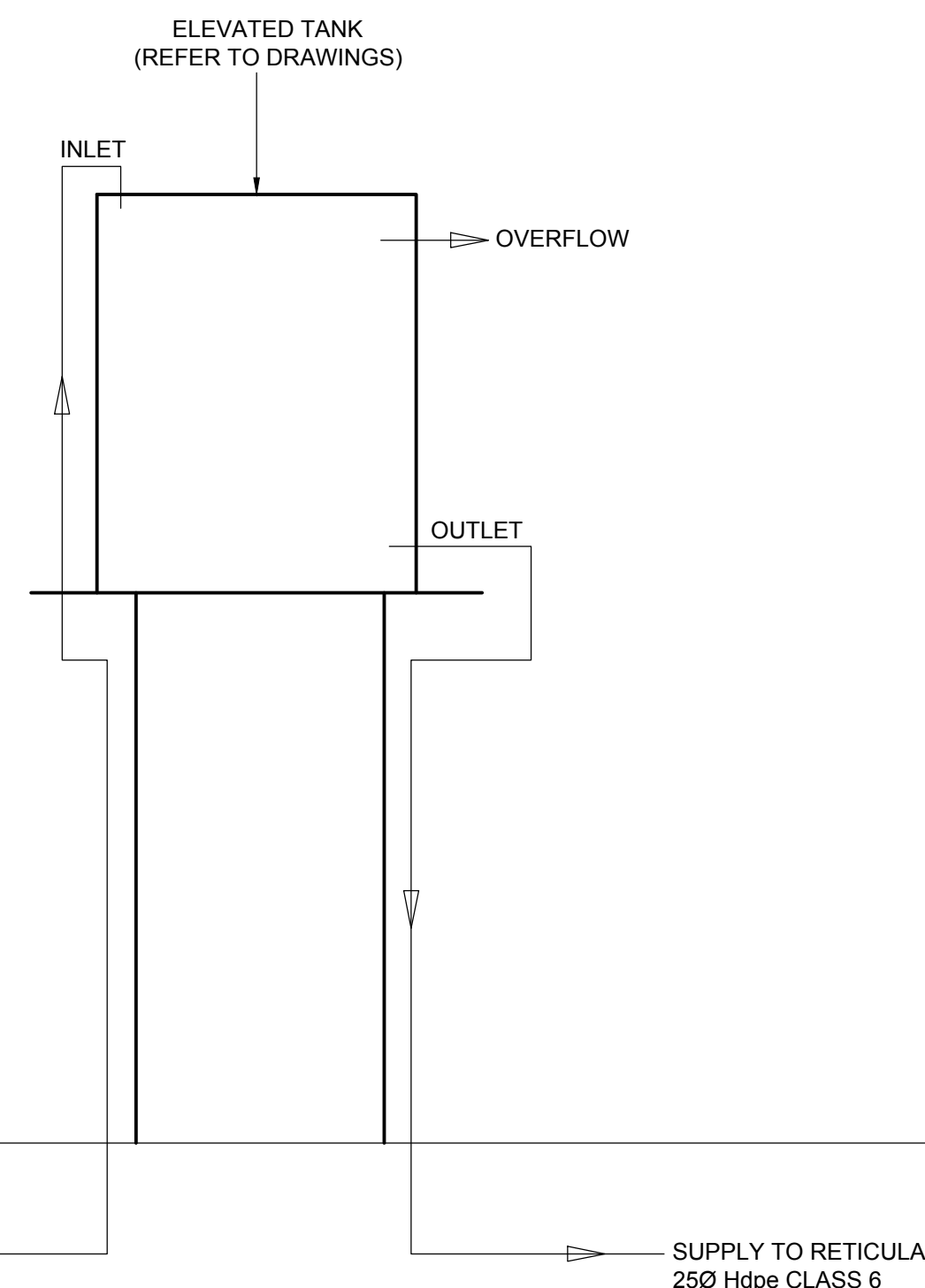


FLOOR LAYOUT
1:25

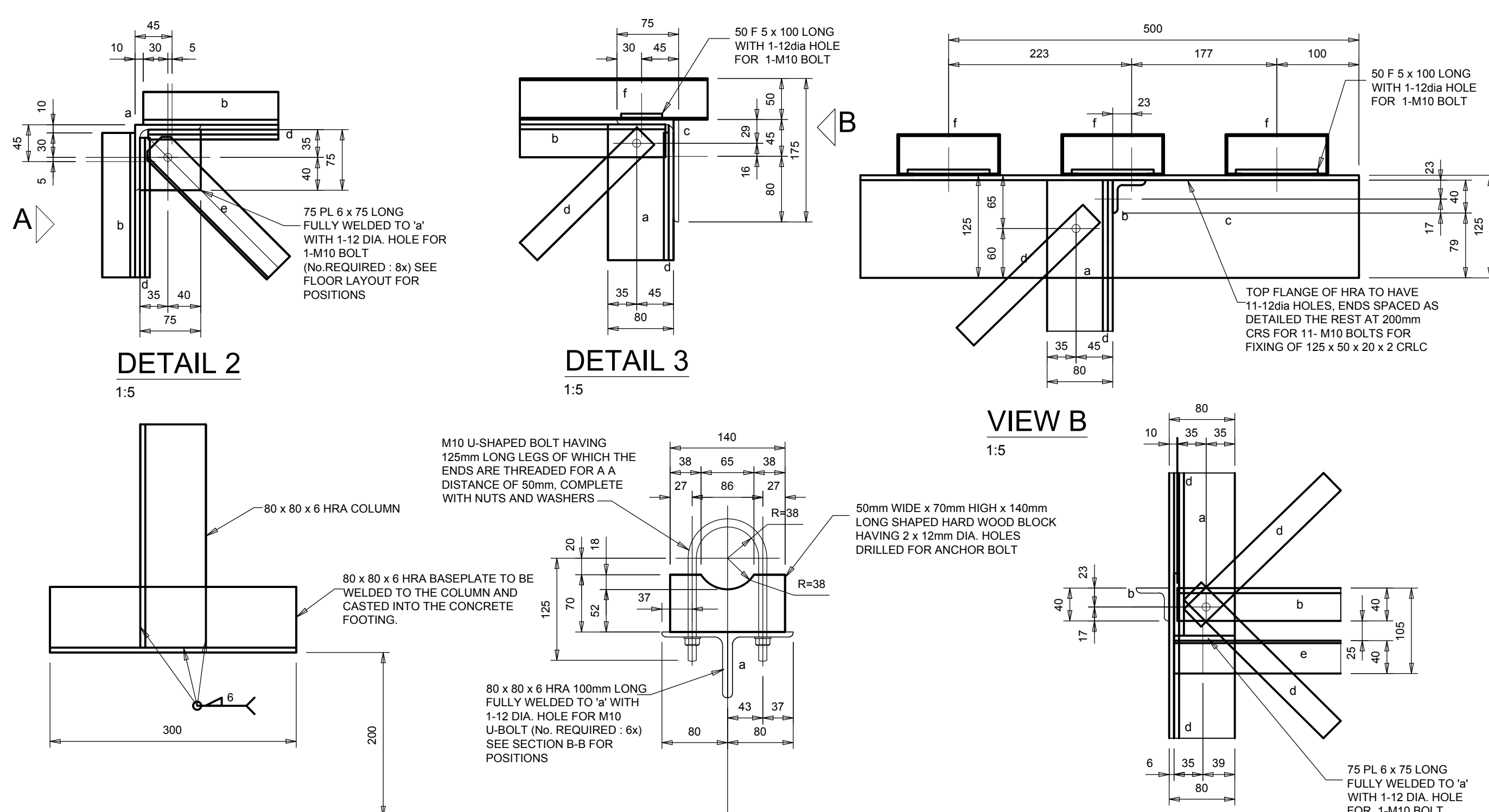


PLAN
N.T.S.

NOTE:
ALL FLANGES TO BE DRILLED ACCORDING TO SABS 1123-1977 TABLE 11 (STEEL SCREWED BOSS FLANGES - 10004) AND REFERRED TO AS SABS 11 IN THE SCHEDULE OF FITTINGS

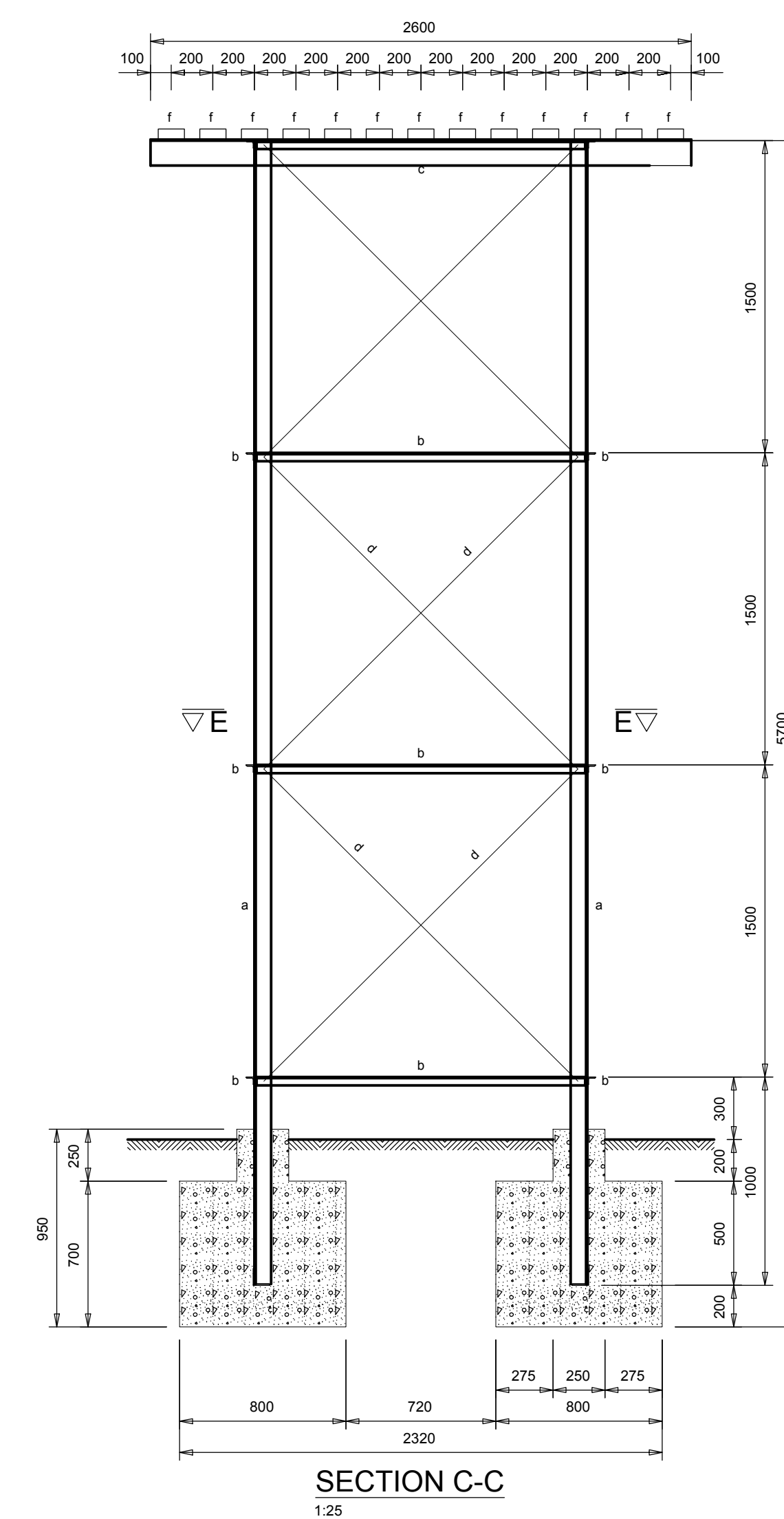


ELEVATED WATER TANK SCHEMATIC
SCALE: N.T.S.

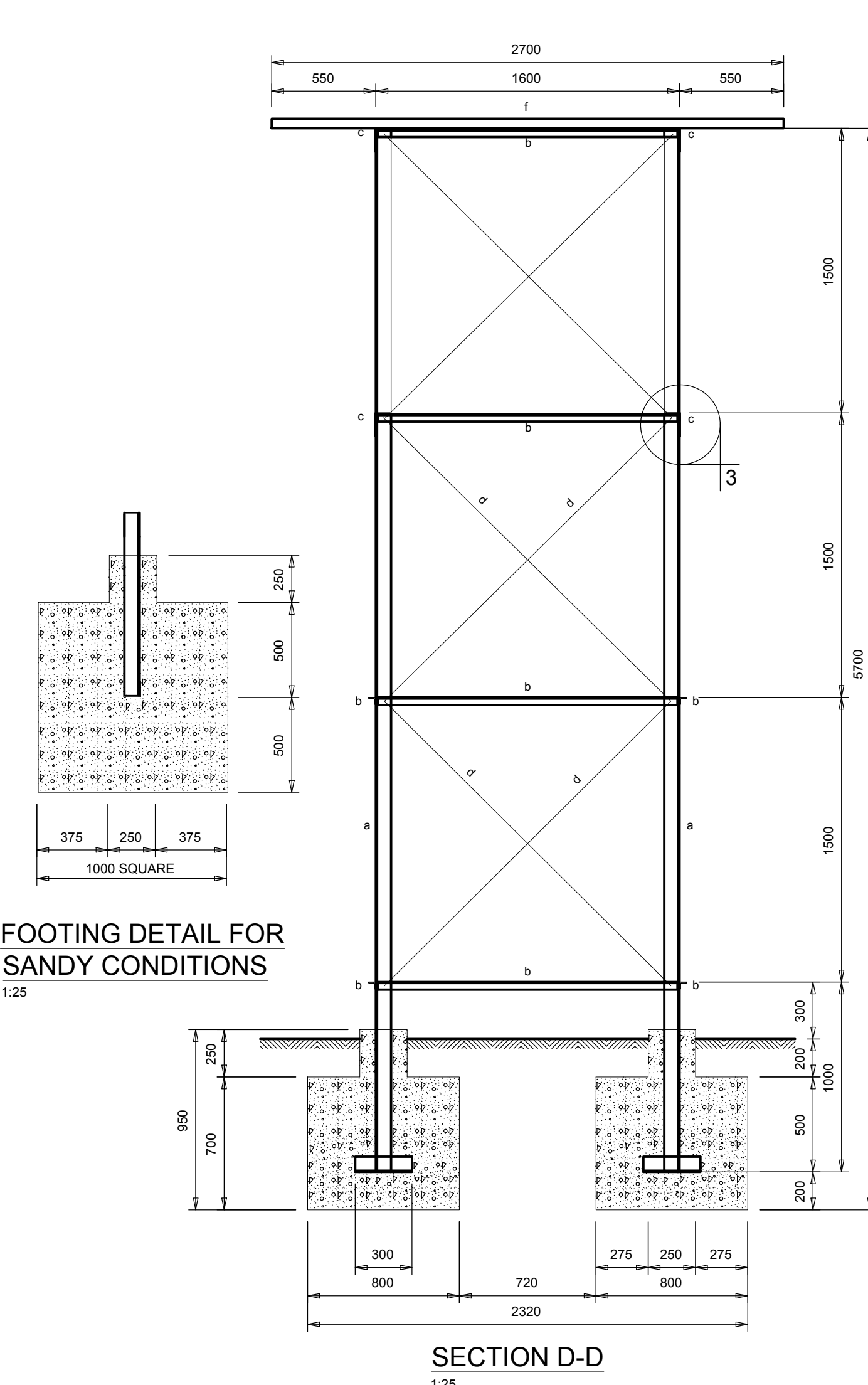


BASE PLATE DETAIL 1
(4 OFF REQUIRED)
1:5

PIPE CLAMP DETAIL
(6 OFF REQUIRED)
1:5



SECTION C-C
1:25



SECTION D-D
1:25

FOOTING DETAIL FOR SANDY CONDITIONS
1:25

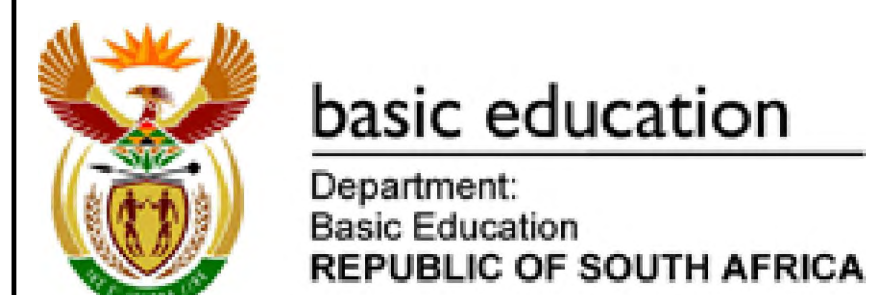
NOTE:
1. FOUNDATIONS:
1.1 DEPTHS OF ALL BASES SHALL BE DETERMINED AND APPROVED ON SITE BY THE ENGINEER PRIOR TO CONCRETING.
1.2 SAFE BEARING CAPACITY OF GROUND 200 KPa.
2. CONCRETE:
2.1 PRESCRIBED MIX 10/19 IN BUILDING LAYERS.
2.2 PRESCRIBED MIX 20/19 IN COLUMN BASES.
3. STRUCTURAL STEELWORK:
3.1 ALL STRUCTURAL STEELWORK GRADE 300M ACCORDING TO SABS 1431.
3.2 STEELWORK GENERALLY OF WELDED CONSTRUCTION WITH SITE CONNECTIONS BOLTED.
3.3 STEELWORK SHALL BE SUPPLIED, FABRICATED, DELIVERED AND ERECTED IN ACCORDANCE WITH SABS-1008 AND SABS-0104.
3.4 SITE WELDING OF STEELWORK SHALL NOT BE PERMITTED WITHOUT THE ENGINEER'S APPROVAL.
3.5 CORROSION PROTECTION:
3.5.1 PAINTWORK IN WORKSHOP:
EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, 10:1 VOLUME RATIO, COATING. IT SHALL BE APPLIED TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.
3.5.2 PAINTWORK AFTER ERECTION:
a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.
b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE 1 SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.
3.5.3 FINAL FINISHING LAYER:
A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED. TO A FINAL THICKNESS OF 25 MICRON (COLOUR AS INSTRUCTED).
4. GENERAL:
4.1 READ THIS PLAN IN CONJUNCTION WITH ALL THE RELEVANT DRAWINGS.
4.2 ALL DIMENSIONS IN MILLIMETERS.

NOTE:
• THE RAINWATER HARVESTING TANK CAN ALSO, IF POSSIBLE, BE CONNECTED TO THE MAIN SUPPLY IN THE SCHOOL, SO THAT IT MAY BE FILLED UNDER PRESSURE.
• ALL EXPOSED PIPES TO BE GALVANISED

REF	NO	DESCRIPTION	WALL	FLANGE	TREATMENT	QTY
			Y	DRILLING	NESED	
				mm	RESN	
					PAINT	
A	63	PVC FLANGE ADAPTOR (CAST IRON)	-	SABS 11	-	2no
B	65	GALVANISED STEEL SCREW ON FLANGE	-	SABS 11	-	2no
C	65	90 DEGREE MGI MALE/FEMALE BEND	-	-	-	2no
D	65	475mm LONG MGI PIPE PIECE THREADED BOTH ENDS	-	-	-	2no
E	65	90 DEGREE MGI FEMALE BEND	-	-	-	4no
F	65	330mm LONG MGI PIPE PIECE THREADED BOTH ENDS	-	-	-	2no
G	65	1020mm LONG MGI PIPE PIECE THREADED BOTH ENDS	-	-	-	1no
H	65	MGI CONICAL SEAT UNION	-	-	-	1no
J	65	MGI BARREL NIPPLE	-	-	-	1no
K	65	BRASS FEMALE THREADED FULLWAY GATE VALVE	-	-	-	1no
L	65	2000mm LONG MGI PIPE PIECE THREADED BOTH ENDS	-	-	-	1no
M	65	65x65x6mm MGI FEMALE EQUAL TEE	-	-	-	2no
N	65x50	65x50x2mm MGI REDUCING BUSH	-	-	-	2no
O	50	MGI BARREL NIPPLE	-	-	-	1no
P	50	BRASS FEMALE THREADED FULLWAY GATE VALVE	-	-	-	1no
Q	50	50x50x8mm MALE ADAPTOR COMPRESSION FITTING	-	-	-	2no
R	50	600mm LONG HIGH DENSITY POLYETHYLENE TYPE IV CLASS 6 PIPE (TO SABS 533)	-	-	-	2no
S	50x40	50x40x8mm MALE ELBOW COMPRESSION FITTING	-	-	-	2no
T	50	2800mm LONG HIGH DENSITY POLYETHYLENE TYPE IV CLASS 6 PIPE (TO SABS 533)	-	-	-	1no
U	50	90 DEGREE ELBOW COMPRESSION FITTING	-	-	-	1no
V	65	3150mm LONG MGI PIPE PIECE THREADED BOTH ENDS	-	-	-	1no
W	-	5 000 LITRE POLYETHYLENE WATER TANK (2000mm HIGH x 1800mm DIAMETER), COMPLETE WITH 50mm NILON REDUCING BUSHES SEALED INTO ALL INLETS AND OUTLETS, INCLUDING A 40mm MGI PLUG FITTED TO OPENING ABOVE INLET. TANK TO BE SUPPLIED COMPLETE WITH SUFFICIENT 4mm DIA GALVANISED STEEL WIRE FOR ANCHORING TO THE TANKSTAND PLATFORM AS DETAILED ON PLAN NO. 125 82597ME	-	-	-	1set
X	63	PVC CLASS 6 PIPING	-	-	-	12m
Y	65	MGI HOLLOW PLUG MISCELLANEOUS FITTINGS	-	-	-	2no
Z	-	1) PIPE CLAMPS AS DETAILED ON PLAN NO. 125 82597ME	-	-	-	6no

B	ADDITIONAL NOTES	13/10/14	M.Q.
A	FOR CONSTRUCTION	04/2014	M.Q.
O	FOR INTERNAL TENDER	07/2013	M.Q.
01	FOR INTERNAL REVIEW	06/2013	G.T
REV	DESCRIPTION	DATE	APPROD

DRG. No. REFERENCE DRAWING
CLIENT



IMPLEMENTING AGENT



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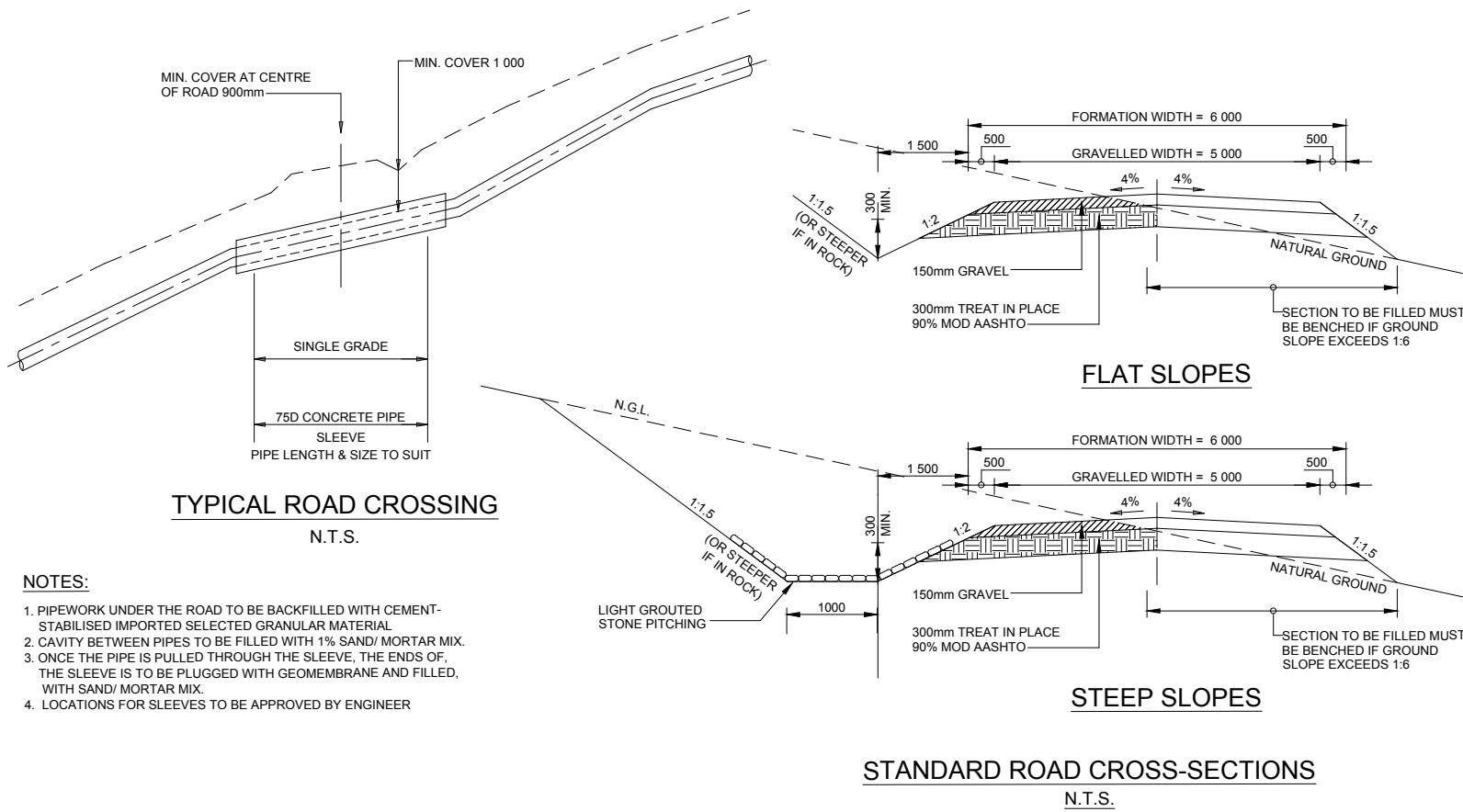
BOSCH STEMELE (PTY) LTD.
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CHECKED		CIVIL	
STRUCTURAL		MECHANICAL	
ENGINEER		ENGINEER	
ELECTRICAL		CO-ORDINATING	
ENGINEER		ENGINEER	
APPROVED		PROJECT MANAGER	DIRECTOR

AS/DI
CONSTRUCTION OF WATER AND SANITATION
INFRASTRUCTURE AT SCHOOLS IN THE
EASTERN CAPE PROVINCE.

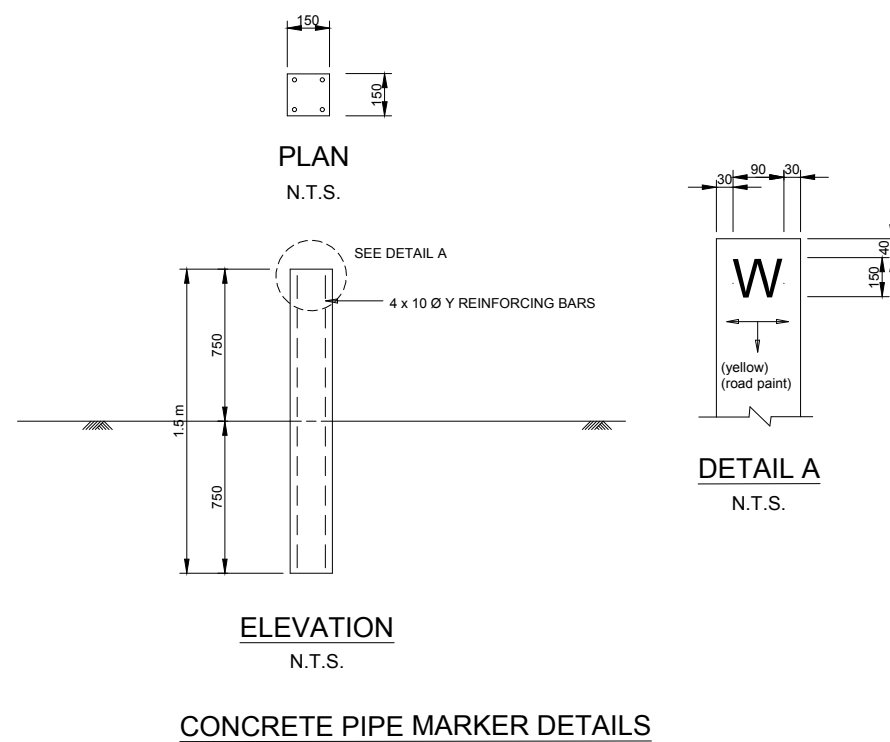
4.5m HIGH ELEVATED WATER TANK (10 000 l)
DETAILS AND SECTIONS

SCALE	AS SHOWN	DATE	26/06/2013
DRAWING NUMBER	6035/045/005	REVISION	
	A0		B



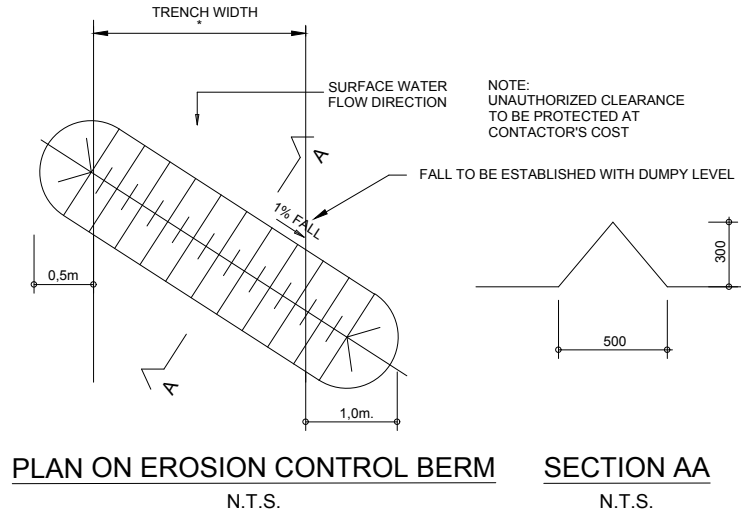
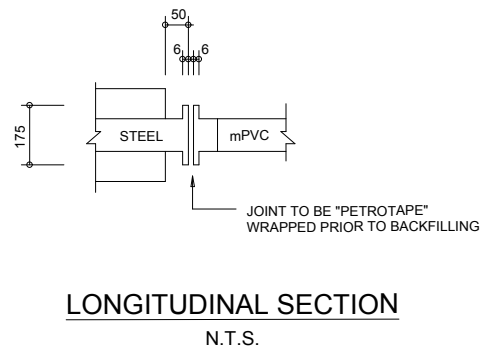
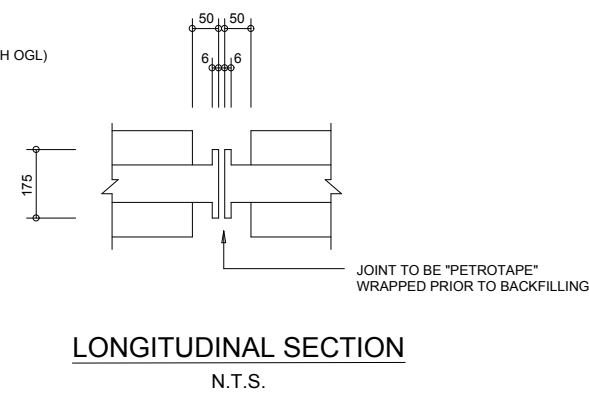
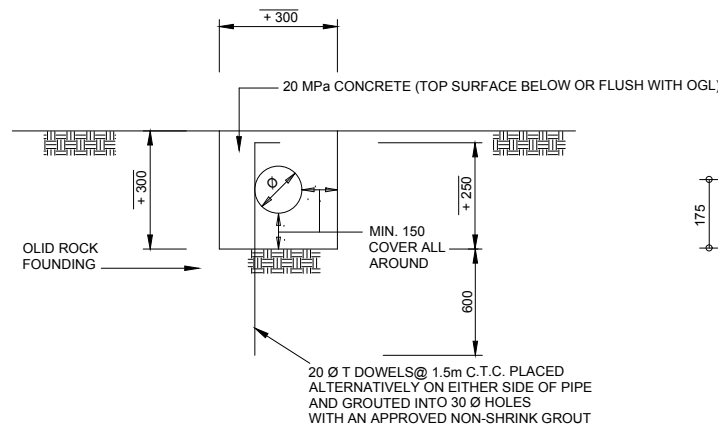
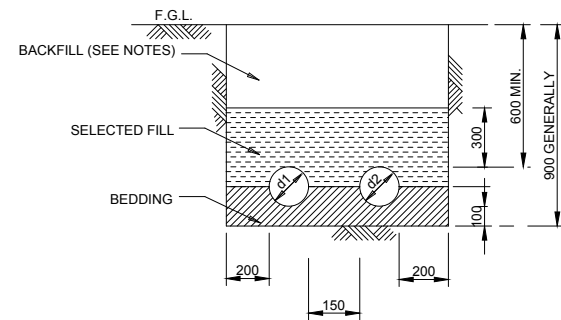
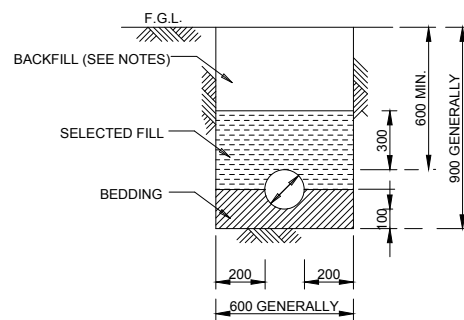
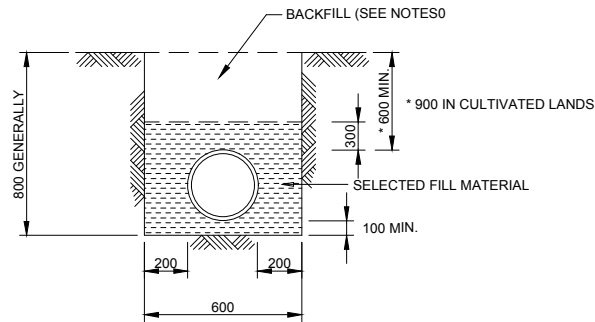
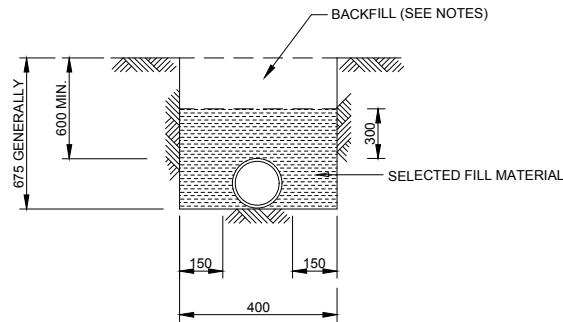
NOTES:

- PIPEWORK UNDER THE ROAD TO BE BACKFILLED WITH CEMENT-STABILISED IMPORTED SELECTED GRANULAR MATERIAL
- CAVITY BETWEEN PIPES TO BE FILLED WITH 1% SAND/ MORTAR MIX.
- ONCE THE PIPE IS PULLED THROUGH THE SLEEVE, THE ENDS OF, THE SLEEVE IS TO BE PLUGGED WITH GEOMEMBRANE AND FILLED, WITH SAND/ MORTAR MIX.
- LOCATIONS FOR SLEEVES TO BE APPROVED BY ENGINEER



NOTES:

- THE MARKER SHALL BE INSTALLED AT A ONE METER OFFSET FROM THE PIPELINE CENTRE, WITH THE PIPE BETWEEN THE MARKER AND ROAD.
- THE LABEL ON THE MARKER MUST BE ON THE UPSTREAM SIDE OF THE MARKER AND THE SIDES OF THE MARKER PARALLEL TO THE PIPE CENTRE



NOTES:

1 EXCAVATION AND BACKFILL.

ALL ENVIRONMENTAL SPECIFICATIONS ARE TO BE ADHERED TO IN RESPECT OF TOPSOIL CONSERVATION, TRENCHING, EROSION CONTROL AND VEGETATION ETC.

2 TRENCH NOTES.

MATERIALS

1.1 SELECTED GRANULAR MATERIAL. Selected granular material shall be material og a granular, non-cohesive nature that is singularly graded between 0.6mm and 19mm, is free-draining, and has a compatibility factor (as determined by the test given in Section LB of Part 3 of SABS 0120) not exceeding 0.4 or such other value as is laid down in the project specification.

1.2 SELECTED FILL MATERIAL. Selected fill material shall be material that has a PI not exceeding 6 and that is free from vegetation and from lumps and stones of diameter exceeding 30mm.

1.3 BEDDING. Bedding for rigid pipes shall be of Class B and bedding for flexible pipes shall be select granular material and select fill material. Bedding cradles for Class B bedding shall be of selected granular material. the material for the selected fill blanket shall in all cases comply with the requirements of 1.2

A	FOR CONSTRUCTION	04/2014	M.Q.
01	FOR TENDER REVIEW	06/2013	M.Q.
1	FOR INTERNAL REVIEW	06/2013	M.Q.
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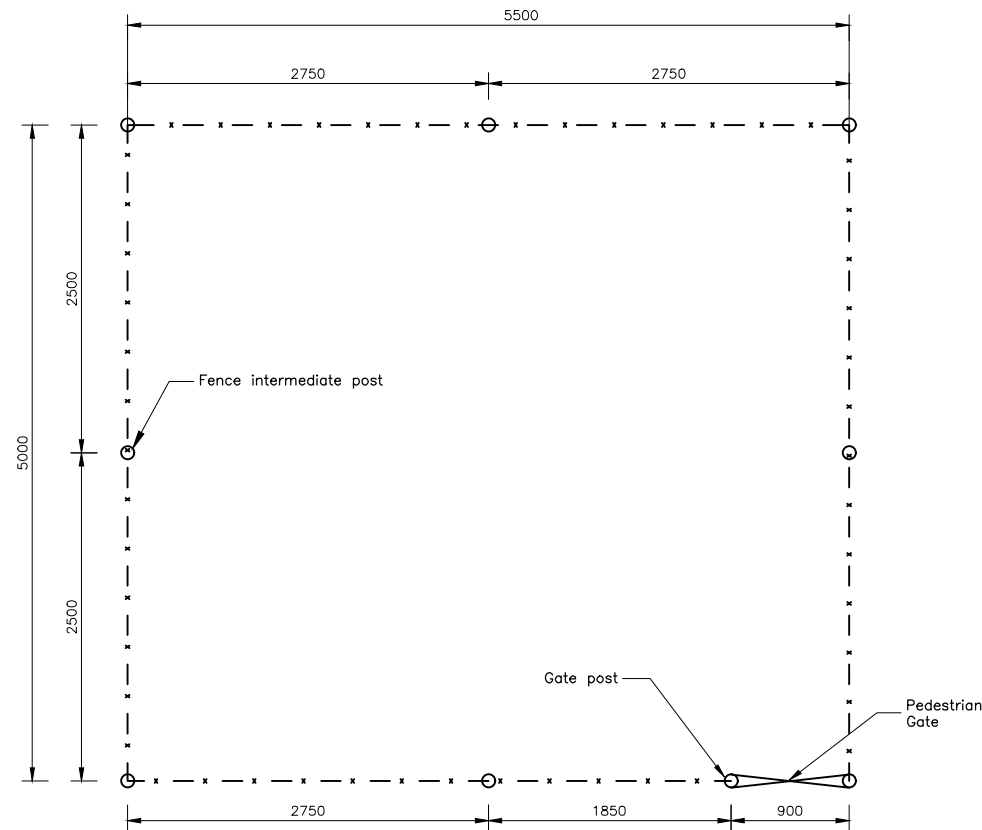
DESIGNED	M.Q.	DRAWN	B.D.
CHECKED		CIVIL ENGINEER	M.Q.
STRUCTURAL ENGINEER	E.T	MECHANICAL ENGINEER	N/A
ELECTRICAL ENGINEER	N/A	CO-ORDINATION ENGINEER	N/A

APPROVED PROJECT MANAGER DIRECTOR

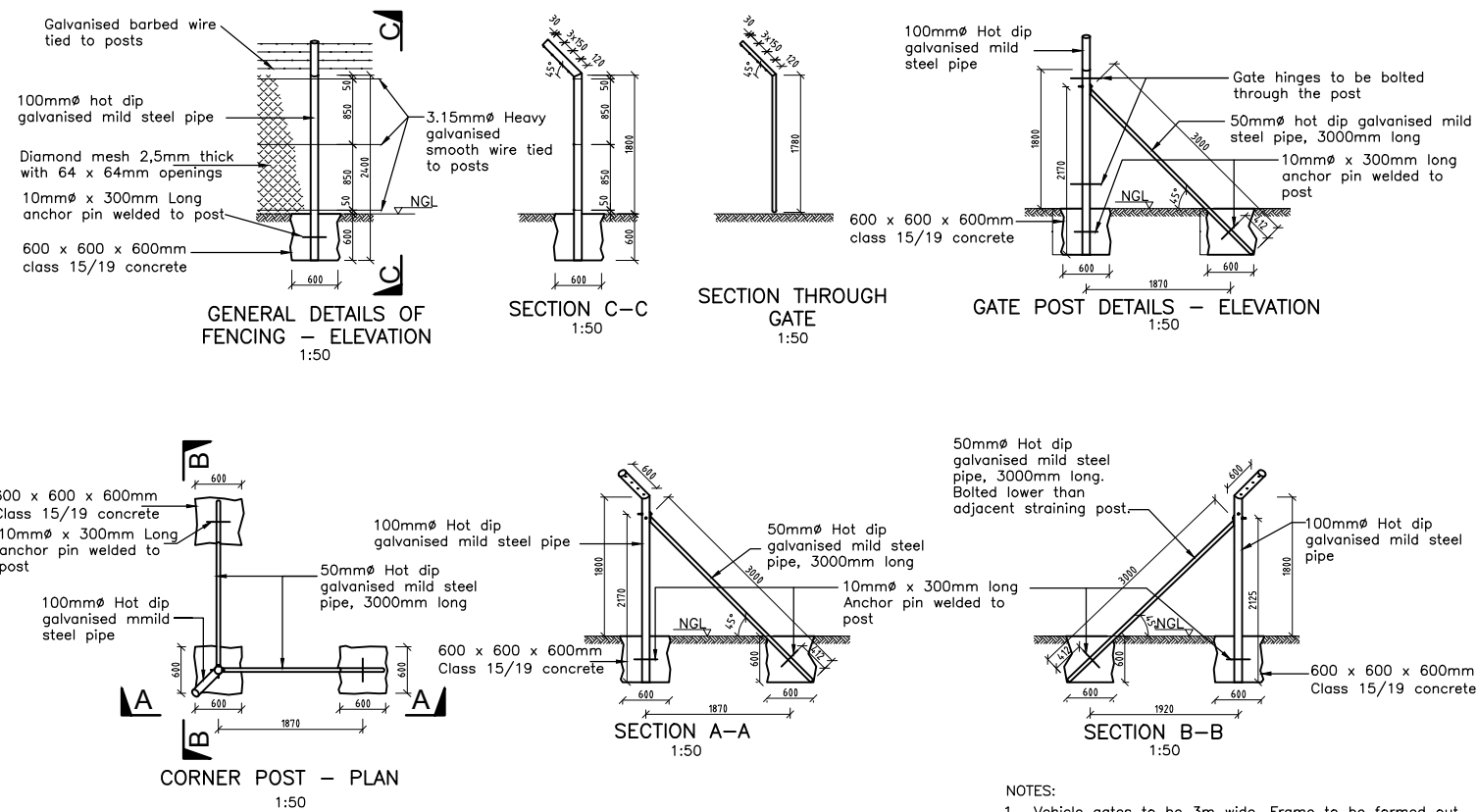
ASIDI: CONSTRUCTION OF WATER INFRASTRUCTURE AT SCHOOLS CLUSTER 3: CONTRACT 3F

ROAD CROSSING, PIPE BEDDING AND CONCRETE ENCASEMENT DETAILS

SCALE	N.T.S	DATE	26/06/2013
DRAWING NUMBER	6035/045/010	REVISION	A



FENCING LAYOUT DETAIL
SCALE: NTS



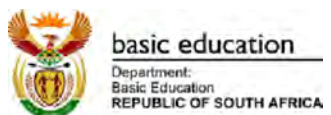
FENCING DETAILS

- NOTES:
- Vehicle gates to be 3m wide. Frame to be formed out of hot dip galvanised pipes. Gate to be covered with diamond mesh.
 - Pedestrian gates to be 900mm wide. Frame to be formed out of hot dip galvanised pipes. Gate to be covered with diamond mesh.
 - All gates to be equipped with a locking bolt mechanism.
 - All posts are to be sealed by welding a steel cap over the opening at the top.

Z	FOR CONSTRUCTION	09/2016	M.Q
A	FOR CONSTRUCTION	04/2014	M.Q
O	FOR TENDER REVIEW	07/2013	M.Q
01	FOR INTERNAL REVIEW	06/2013	G.T
REV.	DESCRIPTION	DATE	APPR'D

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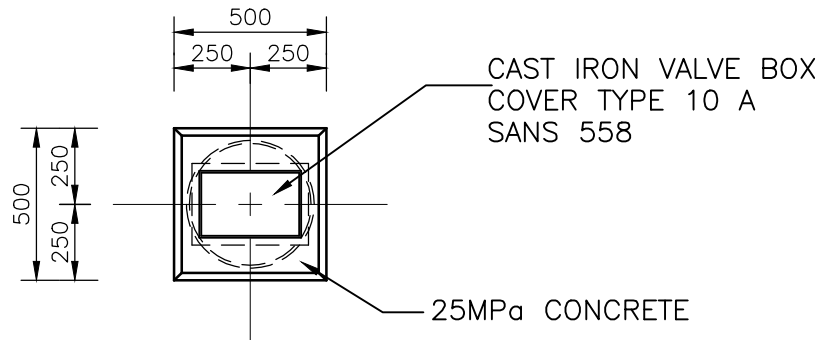
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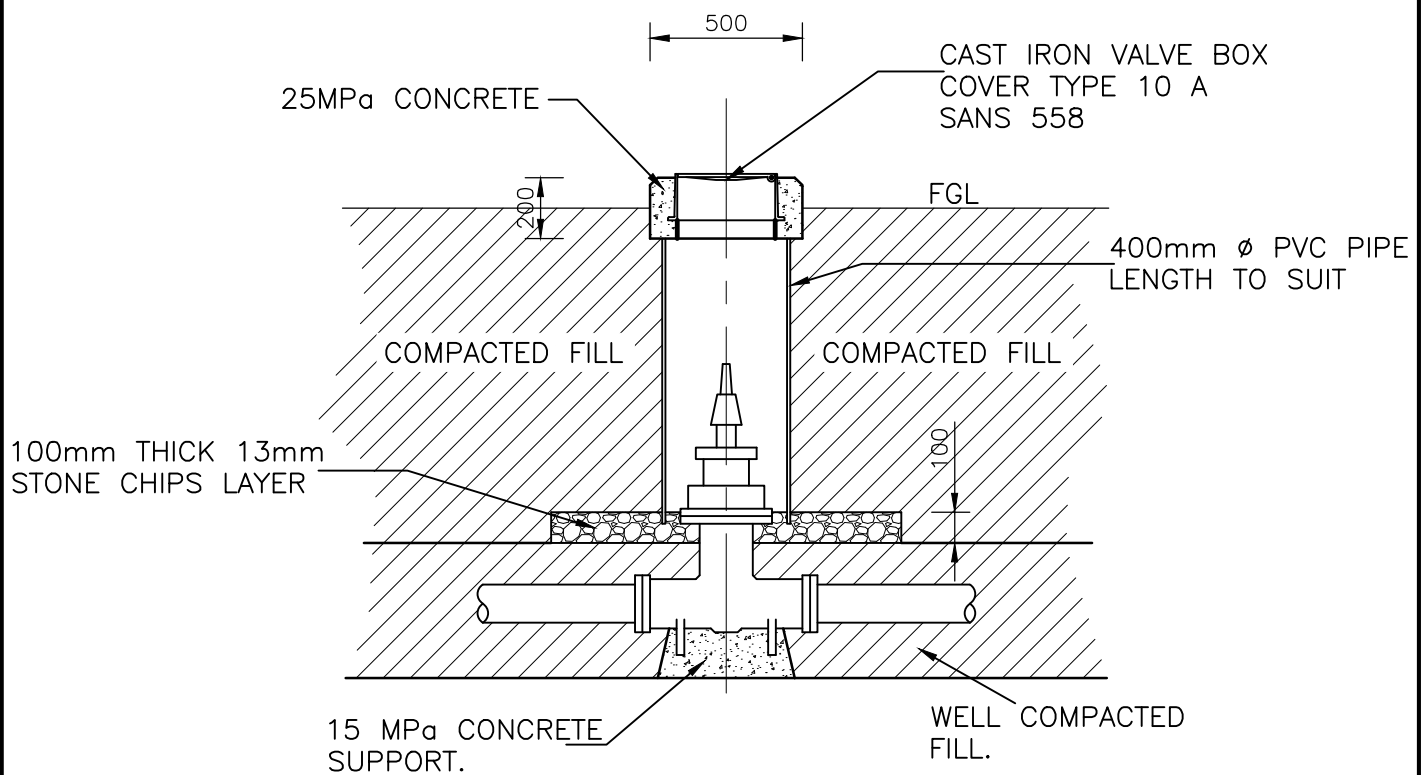
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ASIDI WATER AND SANITATION
PROGRAMME
CONSTRUCTION OF WATER
INFRASTRUCTURE AT SCHOOLS
CLUSTER 3: CONTRACT 3F
BOREHOLE
FENCING DETAILS

SCALE	AS SHOWN	DATE	26/06/2013
DRAWING NUMBER	6035/045/014 A1	REVISION	Z



PLAN ON COVER SLAB



TYPICAL SECTION

WATER CLUSTER 3

ISOLATION VALVE
DETAILS

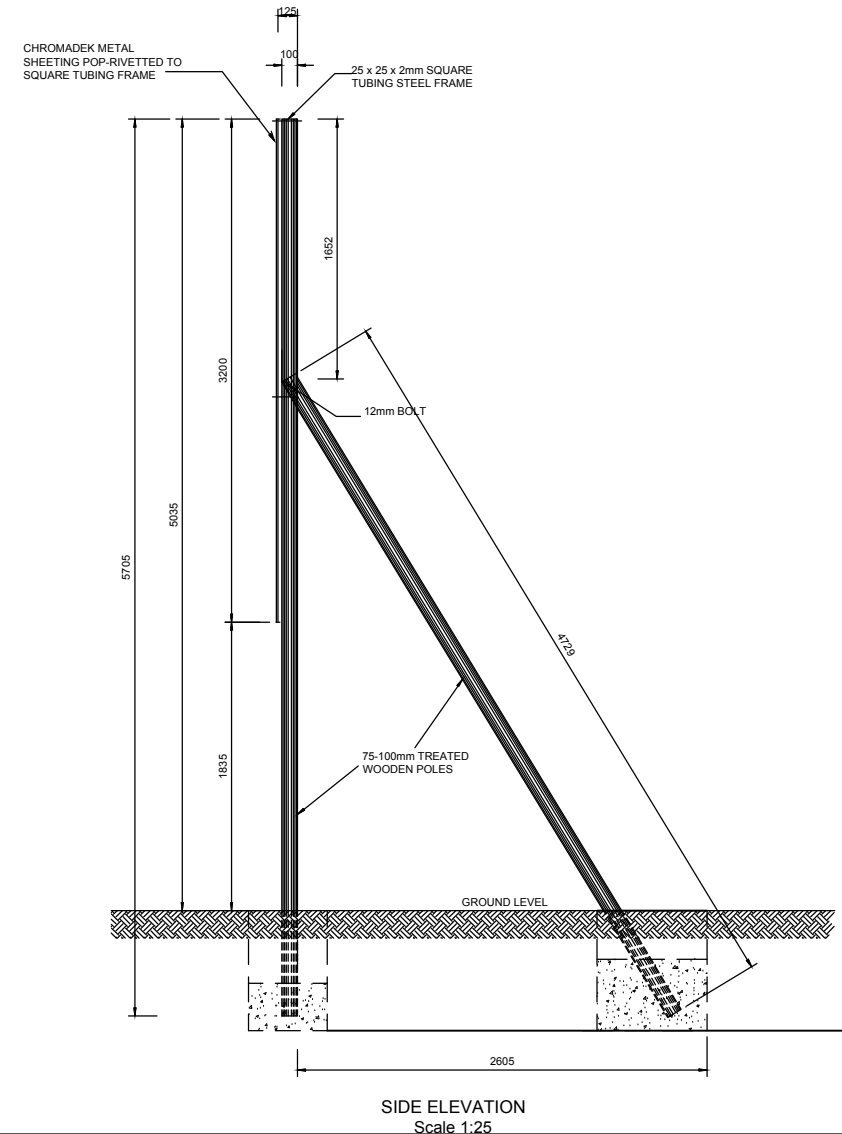
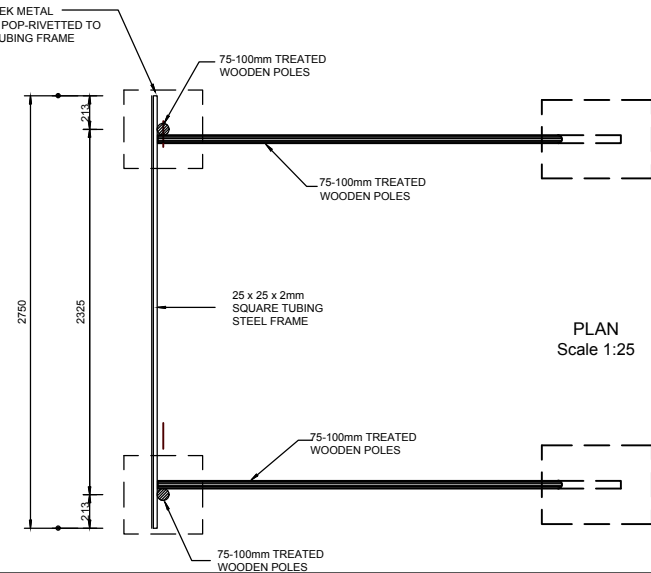
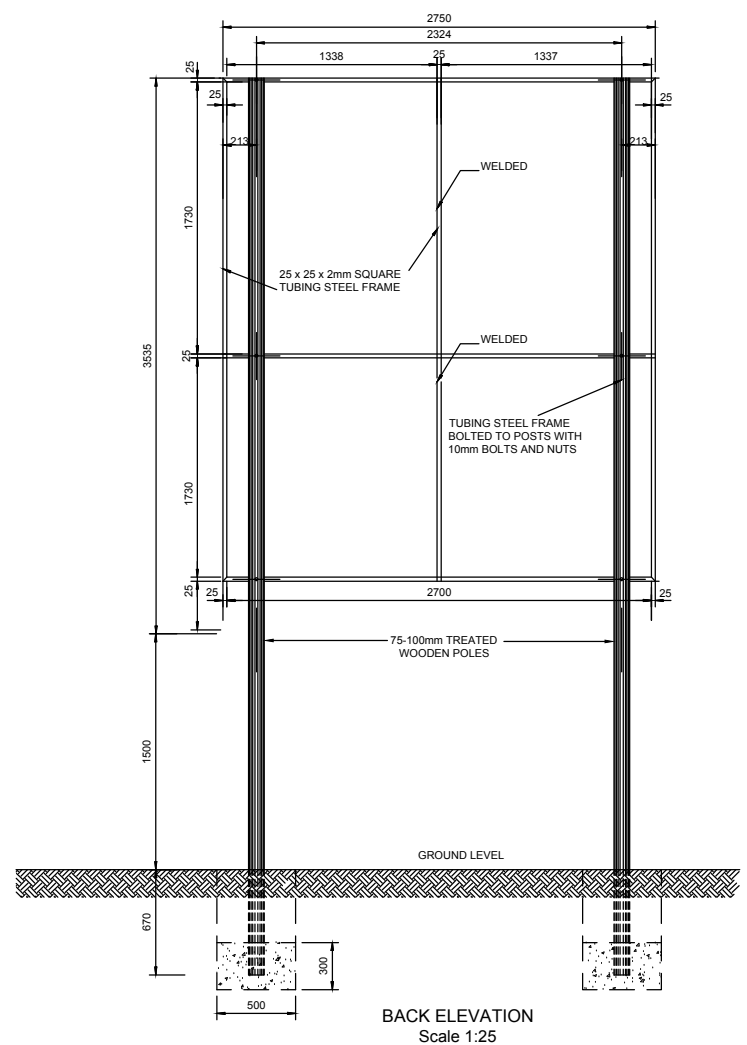
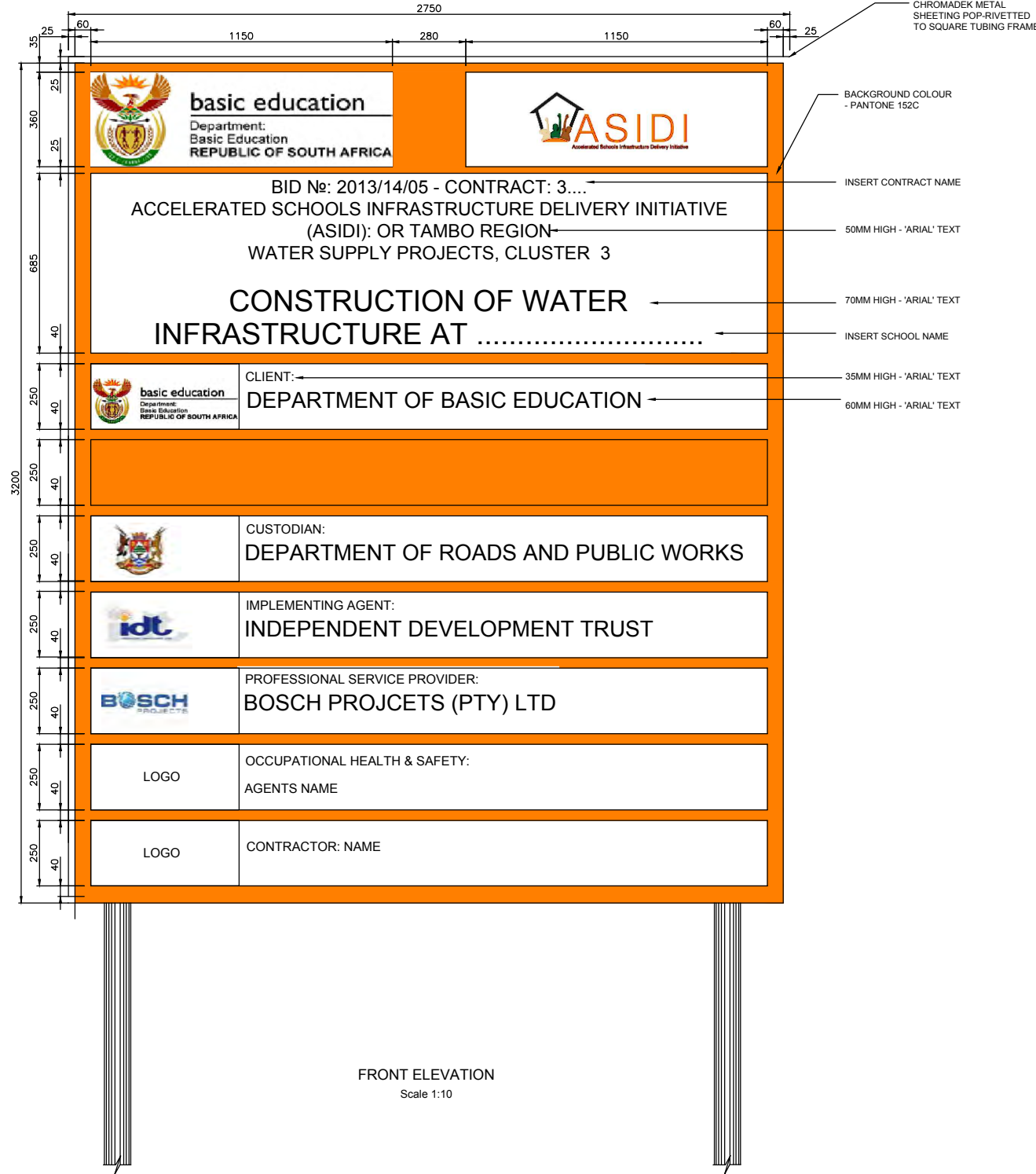
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DRAWN	B.D
CHECKED	
SCALE	1:25
DATE	20/04/2014

APPROVED

DRAWING No.	REV
6035/045/013	A



NOTE:

- CHROMADEK METAL SHEETING (RUST RESISTANT METAL)
- SPRAY PAINTED TO CUSTOMER'S SPECIFICATIONS WITH AUTOMOTIVE QUALITY DUCO PAINT

WORDING

- HIGH PERFORMANCE 5 TO 7 YEAR OUTDOOR QUALITY VINYL

LOGOS

- UV RESISTANT FULL COLOUR THERMAL PRINT ONTO A HIGH PERFORMANCE OUTDOOR GRADE VINYL SUBSTRATE
- OR
- HIGH PERFORMANCE 5 TO 7 YEAR OUTDOOR QUALITY VINYL APPLICATED DIRECTLY TO THE PREPARED CHROMADEK (IF LOGO CONSISTS OF FLAT COLOURS)

NOTE:

- THE BOARD MUST REMAIN UNTIL THE END OF THE RETENTION PERIOD

A	FOR CONSTRUCTION	05/2016	M.Q.
1	FOR INTERNAL REVIEW	01/2014	M.Q.
REV.	DESCRIPTION	DATE	APPR'D

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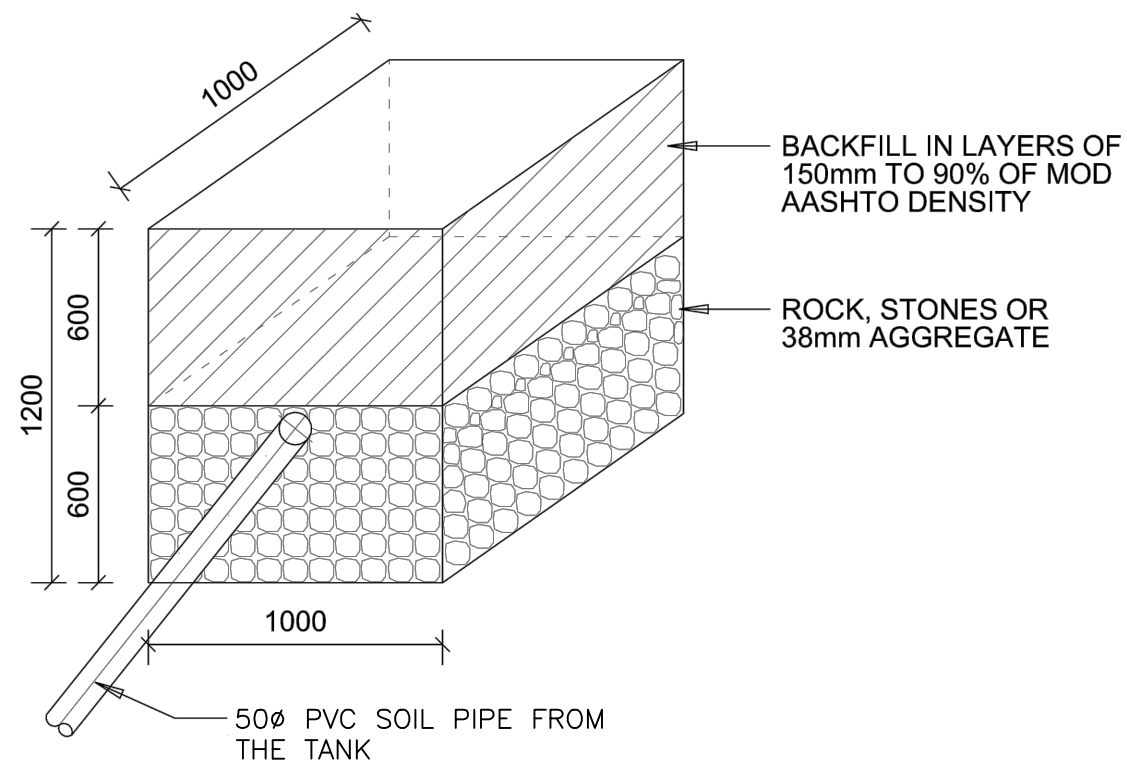
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STRUCTURAL ENGINEER		MECHANICAL ENGINEER	
ELECTRICAL ENGINEER		CO-ORDINATION ENGINEER	

APPROVED PROJECT MANAGER DIRECTOR

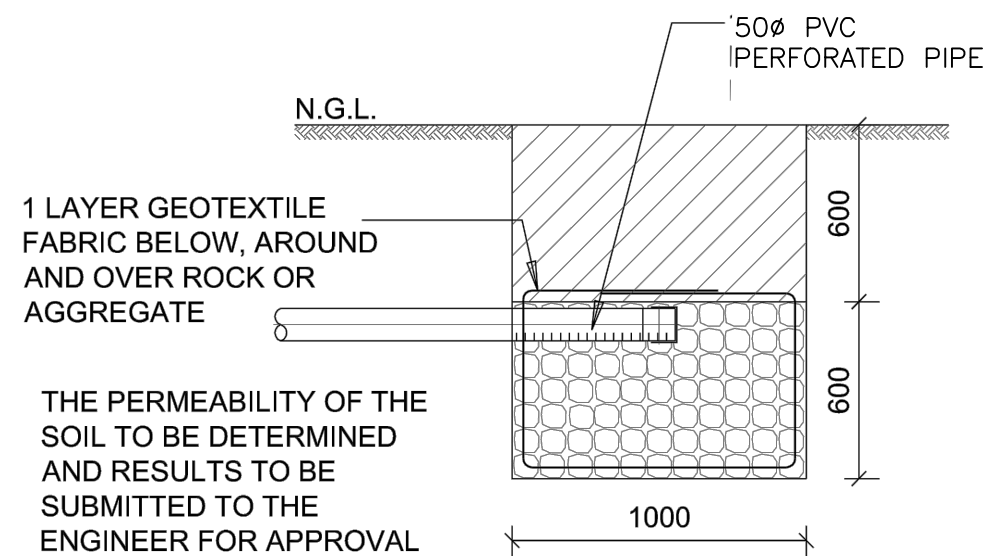
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PROJECT NAME BOARD

SCALE	AS SHOWN	DATE	26/01/2013
DRAWING NUMBER	6035/045/016	REVISION	A1



ISOMETRIC VIEW
SCALE 1:25



SECTION
SCALE 1:25

APPROVED

PROJECT MANAGER DIRECTOR

Revisions	No.	Date	Description	By	Chk	App
Z	09/16	CONSTRUCTION	MQ	MQ	MQ	
A	06/14	CONSTRUCTION	SM	GT	AN	

Designed	Drawn	Checked	Approved	Date	Scale
GT	SM			11/13	SHOWN

Client



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Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Implementing Agent



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Project
**ASIDI WATER & SANITATION
PROGRAMME**

Drawing Title
**SOAK AWAY
DETAILS**



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Drawing No.
6035/045/017

Revision
A

Cad file ref. N:\PXXX\drawings\

NOTES

BOOSTER PUMP TO BE SALMSON JETSON PAC OR SIMILAR APPROVED.

EXPANDED METAL CAGE TO BE BOLTED ON 1.2x1.0x0.1m THICK SLAB. FRAME TO BE MADE OF 40x40x5mm ANGLE SECTION

FILL TO BE COMPACTED TO 95% MOD AASHTO RELATIVE DENSITY IN LAYERS NOT EXCEEDING 150mm.

Revisions	C	29/01/21	FOUNDATION MODIFICATION	AM		
	B	02/03/17	EXPANDED METAL CAGE	M.Q		
	A	06/02/17	issued for Construction	M.Q		
	01	10/06/14	issued for Tender	M.Q		
	0	31/05/13	issued for Information	M.Q		
No.		Date	Description	By	Chk	App

Designed	Drawn	Checked	Approved	Date	Scale
M.Q	B.D			15/07/23	1:50

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Project

ASIDI: BATCH II WATER & SANITATION PROGRAMME

Drawing Title

BOOSTER PUMP

Consulting Engineer



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Drawing No.	Revision
6035/045/021	C

Cad file ref. N:\PXXX\drawings\

SHEDULE OF FITTINGS			
REF	DECRPTION	QTY	UNITS
A	90ø HDPE ELBOW 25mmø	8	No
B	90ø GALVANIZED ELBOW 50mmø	2	No
C	MALE ADAPTER	4	No
D	25mmø GALVANIZED STOP COCK	1	mm
E	25mmø NON-RETURN VALVE	1	mm
F	25mmø HDPE STRAIGHT COUPLER	2	mm
G	50mmø GALVANIZED STRAIGHT COUPLER	1	mm

