



drdar

Department:
Rural Development & Agrarian Reform
PROVINCE OF THE EASTERN CAPE

BID DOCUMENT

SUPPLY, DELIVERY AND INSTALLATION OF 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

LOCATION: KANANO

SCMU8-23/24-0023

Directorate: Supply Chain Management Assistant Director: Acquisition DRDAR OR Tambo District Private Bag X5002 Mthatha, 5099 Contact: Name: Ms. N. Futshane Telephone: 047 502 7835/ 081 035 0379	Directorate: Engineering Services Chief Engineer DRDAR OR Tambo District Private Bag X5002 Mthatha, 5099 Contact: Name: Mr. MT Kondlo Telephone: 047 502 7781 / 083 265 3437		
Closing Date:	21 August 2023	Time:	11H00
Tenderer:			
CSD Number:			
LOGIS Number:			
Preference Points Claimed:			
Proposed Period for Completion:			
Total of the prices inclusive of applicable taxes: R			

The Tender

BID FOR THE SUPPLY, DELIVERY AND INSTALLATION OF 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

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PART T1: TENDERING PROCEDURES

BID FOR THE SUPPLY, DELIVERY AND INSTALLATION OF 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

T1.1 Tender Notice and Invitation to Tender

1.	<p>The Department of Rural Development and Agrarian Reform, Eastern Cape Provincial Government, invites tenders for BID FOR THE SUPPLY, DELIVERY AND INSTALLATION OF 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT</p> <p>The installation works shall include the following:</p> <p>Dragline Irrigation System</p> <ul style="list-style-type: none"> • Excavation and trenching for mainline and sub-main lines • Supply, delivery and installation of mainline, sub-main lines, laterals and sprinklers • Supply, delivery and installation of diesel pump • Excavation and construction of open channel drainage • Demonstration of irrigation system <p>Time of completion for this contract is 4 Months</p>								
2.	<p>All tenderers must submit proof of valid registration with the CIDB in a CE class of construction works: It is estimated that tenderers must have a cidb designation of level 3CE or higher. Bidders exceeding their threshold of CIDB grading by more than 15% in combination with any other contract awarded to the contractor, which will be executed simultaneously, could be regarded as non-responsive.</p>								
3.	<p>Tender documents will be available during working hours after 08:00 as of 28 July 2023 until the day before the tenders close and can be downloaded free of charge from the Departmental website (www.drddar.gov.za) or https://etenders.treasury.gov.za/.</p>								
4.	<p>A compulsory site inspection and clarification meeting will be held on 08 August 2023 at 11:00 at Dept of Rural Development and Agrarian Reform ,Lusikisiki College at Lusikisiki. After the Clarification meeting the prospective tenderers will be taken to the site to familiarize themselves with the conditions of the roads and site. No documents will be sold at the site inspection meeting. No late attendance will be entertained.</p>								
5.	<p>The completed tender document and any supporting documentation shall be placed in a single sealed envelope clearly marked “CONTRACT NO: SCMU8-23/24-0023: THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT” and deposited in the tender box at:</p> <p>THE DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM, 4TH FLOOR OFFICE 17, BOTH SIGCAU BUILDING, MTHATHA 5099, SCM OFFICES not later than 11:00 on 21 August 2023 when the tender box will close.</p> <p>Tenderers should ensure that tender documents are delivered timeously to the correct address. If the tender is late, it will not be accepted for consideration.</p>								
6.	<p>Tenders will be opened in public immediately after closing time where the name of the tenderer, the financial offer will be read out loud.</p>								
7.	<p>All submitted certificates must be valid for 90 days after the Tender Closing Date.</p>								
8.	<p>In terms of Preferential Procurement Regulation of 2022 the 80/20 preference point system is applicable.</p>								
9.	<p>The Department is targeting specific goals in accordance to the Supply Chain Management Policy 2023 with reference to the Preferential Procurement Regulations 2022 The tenderers must submit verification documentation in proof of the preferential points claimed on SDB 6.1, according to table below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No</th> <th style="width: 30%;">Specific Goals</th> <th style="width: 15%;">Preference Points allocated out of the 20</th> <th style="width: 50%;">Documentation to be submitted by bidders to validate their claim for points</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>An EME or QSE which is at least 51% owned by black people</td> <td style="text-align: center;">5</td> <td> <ul style="list-style-type: none"> • ID Copy • CIPC (Company registration)' • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points) </td> </tr> </tbody> </table>	No	Specific Goals	Preference Points allocated out of the 20	Documentation to be submitted by bidders to validate their claim for points	1	An EME or QSE which is at least 51% owned by black people	5	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration)' • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points)
No	Specific Goals	Preference Points allocated out of the 20	Documentation to be submitted by bidders to validate their claim for points						
1	An EME or QSE which is at least 51% owned by black people	5	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration)' • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points) 						

	2	Located in the municipal area or District municipality or Metro	2	<ul style="list-style-type: none"> • Municipal rates account OR • Letter from councilor confirming residence OR • Lease Agreement
	3	An EME or QSE which is at least 51% owned by women	7	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration)' • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points)
	4	An EME or QSE which is at least 51% owned by youth (up to 35 years of age)	4	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration)' • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points)
	5	An EME or QSE which is at least 51% owned by people with disability	2	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration) • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points) • Medical certificate • SASSA registration or confirmation of disability from a relevant authority.
<p>A trust, consortium or joint venture must obtain and submit documented proof for each party of such trust, consortium or joint venture.</p>				
10.	<p>All tenderers must be registered on the National Treasury Centralized Suppliers Data Base, the CIDB before the closing date of tenders and provide the information.</p> <p>Invalid or non-submission of the following documents will render the Bidder disqualified:</p> <ul style="list-style-type: none"> ➢ Tax compliance status and company directors of bidders will be verified on <u>CSD</u> for all price quotations and bids. <u>Therefore, Hard copies of Tax Certificate are no more required.</u> ➢ CK documents must be attached in the bid. ➢ Copy of CIDB contractor grading certificate ➢ JV Agreement (if Applicable) ➢ Proof of CSD registration (active & recently updated) ➢ CIDB Grading 3CE ➢ Bidders must be accredited with South African Irrigation Institute (SABI) 			
11.	Part of the works cannot be sub contracted without prior approval from the Engineer.			
12.	The tender with the lowest price or any tender offer will not necessarily be accepted.			
13.	For a project to the value of R 3.0 million and more, a Bidder/Contractor who is not from the Eastern Cape Province, must sub-contract 25% of the contract value to a Bidder/Contractor within the Eastern Cape Province.			
14.	All tenders must be submitted on the official forms – (not to be re-typed). Telephonic, telegraphic, e-mail or facsimile will not be accepted.			
15.	Failure to supply all supplementary information, certificates and documentation may result in the tender being rendered non-responsive.			
16.	This tender is subject to the General Conditions of Contract (GCC 2015) and, if applicable, any other Special Conditions of Contract (SCC).			
17.	Bidders must submit in terms of point 15 above, the following with the bid submission: <ul style="list-style-type: none"> i) CIDB certificate of the subcontractor(s). ii) Bidders must be accredited with South African Irrigation Institute (SABI) iii) Proof of the CSD registration of the subcontractor(s). iv) Provide details of which items in the bill of quantities will be part of the subcontracting agreement. 			
18.	NB: Bidders should note that this forms part of a batch of tenders included into the DRDAR infrastructure program within the Eastern Cape; the employer reserves the right not to award more than TWO projects to be executed simultaneously within the province. The department as a procuring entity will conduct a risk assessment based on amounts and nature of the commodity for the final decision vs the bidder's capacity.			
19.	Administrative enquiries should be directed to: Ms. N. Futshane Tel: 047 502 7771/081 035 0379 Email: Nosive.Futshane@drdar.gov.za			
20.	Technical enquiries should be directed to: Mr. S. Makalima Tel: 047 502 7764/083 262 2636 Email: Siviwe.Makalima@drdar.gov.za			

**PART A
INVITATION TO BID**

SBD 1

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)					
BID NUMBER:	SCMU8-23/24-0023	CLOSING DATE:	21 August 2023	CLOSING TIME:	11:00
DESCRIPTION	THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM					
SUPPLY CHAIN MANAGEMENT OFFICES, 4th FLOOR OFFICE 17, BOTHA SIGCAU BUILDING					
MTHATHA, 5099					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON	Ms. N. Futshane		CONTACT PERSON	Mr. S. Makalima	
TELEPHONE NUMBER	047 502 7771/081 035 0379		TELEPHONE NUMBER	047 502 7764/083 262 2636	
FACSIMILE NUMBER	045 807 7058		FACSIMILE NUMBER	045 807 8022	
E-MAIL ADDRESS	Nosive.Futshane@drdar.gov.za		E-MAIL ADDRESS	Siviwe.Makalima@drdar.gov.za	
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELL PHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA _____
SPECIFIC GOALS CLAIMED	TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No		ALL SUPPORTING DOCUMENTATION FOR THE GOALS CLAIMED ATTACHED	[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No	
[ALL DOCUMENTATION REQUIRED FOR THE CLAIM OF PREFERENCE POINTS AS PER THE SPECIFIC GOALS DETAILED IN THE EVALUATION CRITERIA.]					
1.1 ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		1.2 ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]	
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?			<input type="checkbox"/> YES		
<input type="checkbox"/> NO					
DOES THE ENTITY HAVE A BRANCH IN THE RSA?			<input type="checkbox"/> YES		
<input type="checkbox"/> NO					
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?			<input type="checkbox"/> YES		
<input type="checkbox"/> NO					
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?			<input type="checkbox"/> YES		
<input type="checkbox"/> 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.

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, 2022, THE 2010 GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
1.4.	THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).
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 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:

POPI - CONSENT FORM

Contractor/Service Provider/Supplier:	
Bid/Quotation No.:	
Project Description:	
Duration of Contract:	
Contract Value:	

CONSENT TO PROCESS PERSONAL INFORMATION IN TERMS OF THE PROTECTION OF PERSONAL INFORMATION ACT, NO. 4 OF 2013 (POPIA)

The purpose of the POPIA is to protect personal information of individuals and businesses and to give effect to their right of privacy as provided for in the Constitution. By signing this form, you consent to your personal information to be processed by the Department of Rural Development and Agrarian Reform (DRDAR) and consent is effective immediately and will remain effective until such consent is withdrawn.

1. I a natural person “herein referred to as the Data Subject” with ID no..... hereby give my consent to the DRDAR “herein referred to as the Responsible Party” to collect, process and distribute my personal information where DRDAR is legally required to do so.
2. I understand my right to privacy and the right to have my personal information processed in accordance with the conditions for the lawful processing of personal information.
3. I understand the purposes for which my personal information is required and for which it will be used and consent to third parties accessing my personal information and to DRDAR sharing my personal information strictly for reporting purposes.
4. I understand that, should I refuse to provide DRDAR with the required consent and/ or information, the DRDAR will be unable to assist me.
5. I declare that all my personal information supplied to DRDAR is accurate, up to date, not misleading and that it is complete in all respects and will be held and/ or stored securely for the purpose for which it was collected and that I will immediately advise DRDAR of any changes to my Personal Information should any of these details change.
6. I also understand that I have the right to request that my personal information be corrected or deleted, if it is inaccurate, irrelevant, excessive, out of date, incomplete, misleading, or obtained unlawfully or that the personal information or record be destroyed or deleted if the responsible party is no longer authorized to retain it.

Signed at..... On this day of20...

.....

Signature of data subject/ designated person

.....

Name & Surname/Departmental Responsible Party Signature Date

T 1.2

Tender Data

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Construction Procurement (August 2019). (See www.cidb.org.za).

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 it 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.

The additional conditions of tender are:

Clause number	Tender Data
F.1.1	The employer is the Department of Rural Development and Agrarian Reform, Eastern Cape Provincial Government.
F.1.2	The tender documents issued by the employer comprise: <ul style="list-style-type: none">T1.1 Tender notice and invitation to tenderT1.2 Tender dataT2.1 List of returnable documents <p>Part 1: Agreements and contract data</p> <ul style="list-style-type: none">C1.1 Form of offer and acceptanceC1.2 Contract dataC1.3 Form of GuaranteeC1.4 Adjudicator's Contract <p>Part 2: Pricing data</p> <ul style="list-style-type: none">C2.1 Pricing instructionsC2.2 Activity schedules / Bills of Quantities <p>Part 3: Scope of work</p> <ul style="list-style-type: none">C3.1 Scope of workC3.2 Specifications <p>Part 4: Site information</p> <ul style="list-style-type: none">C4.1 Site informationC4.2 Drawings

Additional documents of which the Contractor are to obtain their own copies are:

“General Conditions of Contract for Construction Works – 3rd Edition 2015”.

This document is issued by the South African Institution of Civil Engineering. (Short title “General Conditions of Contract for Construction Works 2015”), and is obtainable separately. Tenderers shall obtain their own copies.

“South African National Standards”.

These documents are obtainable separately, and tenderers shall obtain their own copies of the applicable sections.

“The Occupational Health and Safety Act No 85 of 1993 and Amendment Act No 181 of 1993, and the Construction Regulations 2014”.

This document is obtainable separately, and tenderers shall obtain their own copies.

In addition, tenderers are advised, in their own interest, to obtain their own copies of the following acts, regulations and standards referred to in this document as they are essential for the tenderer to get acquainted with the basics of construction management, the implementation of preferential construction procurement policies and participation of targeted enterprise and labour.

The Construction Industry Development Board Act No 38 of 2000 and the Regulations in terms of the CIDB Act 38/2000, Government Notice No 692 of 9 June 2004,

SANS 1921:2004 Construction and Management

Part 1: General Engineering and Construction Works;
Part 6: HIV/AIDS Awareness.

SANS 10396:2003 Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures

SANS 1914:2003 Targeted Construction Procurement, Parts 1 to 6, dealing with Participation of Targeted Enterprises, Joint Ventures, Targeted Labour etc.

The Department of Rural Development and Agrarian Reform Procurement Policy.

The Tender Document and the drawings shall be obtained from the Employer or his authorized representative at the physical address stated in the Tender Notice, upon payment of the deposit stated in the Tender Notice.

Clause	Data
C.1.4	The employer's agent is: TG Tekle 047 502 7704/063 693 0644 Tefagzghi.Tekle@drdar.gov.za
C.2.1	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 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 3CE class of construction work, are eligible to have their tenders evaluated. Bidders exceeding the threshold of CIDB grade 3 in combination with any other contract awarded to the contractor which will be executed simultaneously could be regarded as non-responsive. Joint ventures are eligible to submit tenders provided that: 1. every member of the joint venture is registered with the CIDB; 2. the lead partner has a contractor grading designation in the 3CE class of construction work; and 3. 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 class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

C.2.2	The employer will not compensate the tenderer for any costs incurred during the tender process.
C.2.7	The arrangements for a clarification meeting are as stated in the Tender Notice and Invitation to Tender.
C.2.13.2	<p>Submit one original document completed in black ink.</p> <p>The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.</p> <p>Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Proof of posting shall not be accepted as proof of delivery.</p> <p>Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of the standard conditions of tender in this part of SANS 10845 apply equally to the extended deadline.</p>
C.2.13.5	<p>The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are:</p> <p>Location of tender box: THE DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM, SCM OFFICES 4th FLOOR OFFICE 17, BOTHA SIGCAU BUILDING, MTHATHA 5099,</p> <p>Physical address: SCM OFFICES 4th FLOOR OFFICE 17, BOTHA SIGCAU BUILDING, MTHATHA 5099.</p> <p>Identification details: Reference number, title of tender and the closing date and time of the tender.</p> <p>Postal address: Department of Rural Development and Agrarian Reform Supply Chain Management Directorate Private Bag X5002 Mthatha, 5099</p>
C.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
C.2.15.	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
C.2.17.	<p>Additional information/clarification could be requested after closure of the bid. Non-submission / late submission of such information/clarification, could result in the bid being declared non-responsive.</p> <p>The employer may also request additional information / bank ratings, in order to establish the financial capacity of the bidder. Non-submission / late submission of such information / bank ratings, could result in the bid being declared non-responsive.</p>
C.2.16.	The tender offer validity period is 90 days
C.2.23.	<p>The tenderer is required to submit with his tender</p> <ul style="list-style-type: none"> • a Certificate of Contractor Registration issued by the Construction Industry Development Board and where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner. • a Copy of CSD registration Proof (Active & Recently updated). • Bidders must be accredited with South African Irrigation Institute (SABI) • Joint Venture Agreement and Power of attorney in case of a Joint Venture. • ID certificates in case of one-man concerns. • Workman's Compensation Registration Certificate.

	<ul style="list-style-type: none"> • Documentation to proof preferential points claimed. 									
C.3.4	<p>Tenders will be opened in public immediately after closing time where the name of the tenderer, the financial offer will be read out loud.</p>									
C.3.11.	<p>This bid will be evaluated in Four (4) phases as follows:</p> <p>Phase One: Prequalification: Only bids of bidders adhering to the minimum cidb grading designation, and whose CIDB registration is active on date of closure will be further considered.</p> <p>Phase Two: Compliance, responsiveness to the bid rules and conditions, thereafter they will be evaluated on PPPFA.</p> <p>Phase Three: Bidders passing all stages above will thereafter be evaluated on PPPFA.</p> <p>PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT (PPPFA) POINTS WILL BE AWARDED AS FOLLOWS:</p> <table border="0"> <tr> <td>Maximum points on price</td> <td>-</td> <td>80 points</td> </tr> <tr> <td>Maximum points for Specific goals</td> <td>-</td> <td>20 points</td> </tr> <tr> <td>Maximum points</td> <td>-</td> <td>100 points</td> </tr> </table> <p>Important:</p> <ul style="list-style-type: none"> • Failure to submit a fully completed and signed bid document such as Bill of Quantities, work program etc. will result in the bid not being further considered. • Gross calculation errors, and omissions in the Bill of Quantities, will render the bid non-responsive. 	Maximum points on price	-	80 points	Maximum points for Specific goals	-	20 points	Maximum points	-	100 points
Maximum points on price	-	80 points								
Maximum points for Specific goals	-	20 points								
Maximum points	-	100 points								
	<p>1. <u>PHASE ONE: PRE-QUALIFICATION</u></p> <p>1. Prequalification: Only bids of bidders adhering to the minimum cidb grading designation, and who's cidb registration is active on the closing date will be considered further.</p> <p>2. <u>PHASE TWO: RESPONSIVENESS TO THE BID REQUIREMENTS AND RULES</u></p> <p>A. Bidders' proposals must meet the following minimum requirements and supporting documents must be submitted with the completed bid document in a sealed envelope in the bid box at the closing date and time. Failure to comply will automatically eliminate the bid for further consideration:</p> <ol style="list-style-type: none"> 1. Bid Document (This Document must be submitted in its original format) 2. Bids which are late, incomplete, unsigned or submitted by facsimile or electronically, will not be accepted. 3. Bidder must be registered with CIDB in the correct grading and class of works as per the tender notice and requirements. And must the status on CIDB be active during award stage. It is the responsibility of the bidder to keep the status on CIDB active throughout bidding process (advert till award stage). 4. Bidders must be a legal entity or partnership or joint venture or consortia. 5. Form of offer and Acceptance (fully completed and signed) 6. SBD 4- Declaration of Interest (fully completed and signed) 7. Compulsory Enterprise Questionnaire (Completed and signed) 8. Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data. Bidders are not entitled add VAT to the tender price, nor to claim the VAT if they are not VAT registered vendors. 9. Certificate of Authority for Joint Ventures (if applicable). In the case of a joint venture, a signed JV agreement stating the share interest or percentage of each partner should also be made available to the department by the JV. 10. Resolution to Sign (if applicable) 11. Attendance of compulsory briefing meeting (where applicable) 12. Only one offer per item per bidder is allowed and alternative offers will not be considered. If more than one offer per item is received, none of the offers will be considered. Bidders 									

are also not allowed to submit a bid/ quotation whilst they are in agreements with other bidders in the form of joint ventures or consortiums.

13. This tender will be awarded as a whole. All trades listed in the Bills of Quantities or Pricing schedule must be priced for (except provisional sums and allowances), failure to do so will result in increase commercial risk of the bid and may lead to elimination or passing over of the bidder.
14. Past experience reports (Refer to Annexure K and H)
15. List of Key personnel and their CVs
16. Work program

B. Other Conditions of bid/ Non eliminating

1. DRDAR Policy applies.
2. Returnable Schedule: SBD1 – Invitation to bid must be completed and signed
3. The bidder must be registered on the Central Supplier Database (CSD) prior to the award
4. All bidders' tax matters must be in order prior to award. Bidders' tax matters will be verified through CSD.
5. Declaration of Employees of the State or other State Institutions.
6. Bidders must submit a minimum of three (3) written contactable references for projects successfully completed in the past (clearly indicating client name, contract value, contract term, contact person, contact details). Refer to Annexure I and Annexure M. This is not an elimination factor, but important for the department to make a decision. Unless it is used for Quality/functionality Points.
7. Bidders must submit a list of projects where he or she has submitted tender offers but tender results have not been confirmed by the client.
8. Bidders must submit their company profiles, list of available resources, plant and machinery and any other additional capacity with the bid. This is not an elimination factor, but important for the department to make a decision. Unless it is used for Quality/functionality Points.
9. The bidder must also list all projects where there are pending litigations or litigations have been concluded. The form for this is also attached after Annexure J.
10. Bidders must submit all the required documented proof to validate the preferential points claimed on SBD 6.1. (Refer to Point 9 of the Tender Notice)
11. The Department will contract with the successful bidder by signing a formal contract.
12. This tender will be awarded as a whole. All trades listed in the Bills of Quantities or Pricing schedule must be priced for (except provisional sums and allowances which also need to be added to the total), failure to do so will increase commercial risk of the bid and may lead to elimination or passing over of the bidder.
13. Wherever a brand name is specified in this document (i.e. specifications, pricing schedule, bill of quantities or anywhere), the department requires an item similar/equivalent or better.

3. PHASE THREE: EVALUATION POINTS ON PRICE AND REGULATIONS OF 2022

The **80/20 preference point system** shall be applied for the purposes of this bid as per the requirements of the *Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000)* and SPECIFIC GOALS/ PPPFA Regulations of 2022

Criteria	Points
POINTS ON PRICE	80
SPECIFIC GOALS	20
TOTAL	100

The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R50 million:

- (a) The following formula must be used to calculate the points for price in respect of tenders (including price quotation) with a Rand value equal to, or above R 30 000 and up to Rand value of R 50 000 000 (all applicable taxes included):

The financial offer will be scored using the following formula:

$$A = (1 - \frac{P - P_m}{P_m})$$

The value of value of W_1 is:

- 1) 90 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R 50 000 000 or
- 2) 80 where the financial value inclusive of VAT of one or more responsive tender offers have a value that equals or is less than R 50 000 000.

C.3.13.

Tender offers will only be accepted if:

- a) the tenderer is registered on the Central Supplier Database (CSD) for the South African government (see <https://secure.csd.gov.za/>) unless it is a foreign supplier with no local registered entity
- b) the tenderer is in good standing with SARS according to the Central Supplier Database. Bidders must submit a CSD no. or tax status compliance pin.
- c) the preferred tenderer will be required to submit an approved insurer undertaking to provide the Performance Bond / Guarantee / Surety / Security to the format and/or standard as per contract data.
- d) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;
- e) the tenderer or any of its directors/shareholders 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;
- f) the tenderer has not:
 - i) abused the Employer's Supply Chain Management System; or
 - ii) failed to perform on any previous contract and has been given a written notice to this effect;
- g) the tenderer has completed the Compulsory Declaration and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process;
- h) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract;
- i) Bids which are late, incomplete, unsigned or submitted by facsimile or electronically will not be accepted.
- j) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer;
- k) The tenderer undertakes to maximize the sourcing of building material or infrastructure input material from Eastern Cape based suppliers or manufacturers.
- l) the employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.
- m) A Resolution of signatory form has been completed and signed by director/s or a letter bearing a letterhead of the tenderer has been attached (specific to this bid) to the bid submission; it must be duly signed by all directors and submitted the bid. Only a duly authorized official can sign the bid.
- n) Prospective bidders must register on CSD prior submitting bids (open tenders). Any prospective bidder found to have Tax matters not in order with SARS (verified through CSD) during the evaluation process (after being given an opportunity to rectify tax matters) will be eliminated and not be considered further in the process. Preferred bidder/s will be afforded an opportunity to rectify their tax affairs within 7 days. A bidder that fails to rectify its tax matters with SARS will be eliminated.

- o) **NOTE:** The amount reflected on the Form of Offer and Acceptance takes precedence over any other total amount indicated elsewhere in bidder's tender submission. If the Form of Offer and Acceptance has no value or figure, the bidder will be regarded as having made no offer.
- p) The department reserves the right not to award the bid to the most favorable tenderer, if any of the situations occur: if it is not assisting in the advancement of designated groups; risk profile of the favorable firm is too high; the bidder has been awarded a considerable number of projects by the department or provincial government; has performed unsatisfactorily in the past, etc.
- q) Documents required for the specific goals:

No	Specific Goals	Documentation to be submitted by bidders to validate their claim for points
1	An EME or QSE which is at least 51% owned by black people	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration) • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points)
2	Located in the municipal area or District municipality or Metro.	<ul style="list-style-type: none"> • Municipal rates account OR • Letter from councilor confirming residence OR • Lease Agreement
3	An EME or QSE which is at least 51% owned by women	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration) • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points)
4	An EME or QSE which is at least 51% owned by youth (up to 35 years of age)	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration) • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points)
5	An EME or QSE which is at least 51% owned by people with disability	<ul style="list-style-type: none"> • ID Copy • CIPC (Company registration) • CSD report (the ownership status of the 2 documents must correspond in order to be awarded points) • Medical certificate • SASSA registration or confirmation of disability from a relevant authority.

C.3.17. The number of paper copies of the signed contract to be provided by the employer is one.

T1.3 STANDARD CONDITIONS OF TENDER

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Construction Procurement (August 2019). (See www.cidb.org.za).

C.1 General

C.1.1 Actions

C.1.1.1 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 employer 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.

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.

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.

C.1.1.3 The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

C.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

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 fulfill 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 in the tender data.

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.

C.1.5.2 The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised

C.1.5.3 An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

C.1.6 Procurement procedures

a) C.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

b) C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the tender data shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information.

Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

c) C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

C.1.6.3.2 Option 2

C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

C.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

C.2 Tenderer's obligations

C.2.1 Eligibility

C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

C.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

C.2.2 Cost of tendering

C.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

C.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender 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 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the tender data.

C.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

C.2.10 Pricing the tender offer

C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.

C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

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.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

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.

C.2.12 Alternative tender offers

C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

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 and all copies 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 and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package 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

C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

C.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 Tender offer validity

C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

C.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).

C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

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: 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.

C.2.18 Provide other material

C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), referencing 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.

C.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

C.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

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.

C.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

C.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within twenty-eight (28) days after the expiry of the validity period stated in the tender data.

C.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

C.3 *The employer's undertakings*

C.3.1 Respond to requests from the tenderer

C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

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.

C.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

C.3.4 Opening of tender submissions

C.3.4.1 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.

C.3.4.2 Announce at the 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 and, where applicable, the total of his prices, number of points claimed for its specific goals and time for completion for the main tender offer only.

C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.

C.3.5 Two-envelope system

C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed based on specific goals set out by the department. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

C.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

C.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

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) detrimentally 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.

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.

Important:

- **Failure to submit a fully completed and signed bid document such as Bill of Quantities, work program etc. will result in the bid not being further considered.**
- **Gross calculation errors, and omissions in the Bill of Quantities, will render the bid non-responsive.**
- **Gross under and over pricing will also render the bid as non-responsive.**

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 highest ranked tender or 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.

Important:

- **Gross calculation errors, and omissions in the Bill of Quantities, will render the bid non-responsive.**
- **Gross under and over pricing will also render the bid as non-responsive.**

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.

C.3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

- a) Open and record tender offers received
- b) Determine whether or not tender offers are complete
- c) Determine whether or not tender offers are responsive
- d) Evaluate tender offers
- e) Determine if there are any grounds for disqualification
- f) Determine acceptability of preferred tenderer
- g) Prepare a tender evaluation report
- h) Confirm the recommendation contained in the tender evaluation report

d) C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

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) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the tender data; and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

C.3.14.1 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 and
 - c) other revisions agreed between the employer and the successful tenderer.
- C.3.14.2 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.3.16 Registration of the award

An employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the cidb Register of Projects.

C.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

C.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

PART T2 - RETURNABLE DOCUMENTS

**EASTERN CAPE PROVINCIAL GOVERNMENT
DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM**

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

T2.1 List of Returnable Documents

The tenderer must complete the following returnable documents:

1 Returnable Schedules required only for tender evaluation purposes

- Certificate of authority for joint ventures (where applicable)
- Compulsory Enterprise Questionnaire
- Record of Addenda to Tender Documents
- Proposed Amendments and Qualifications
- Schedule of Subcontractors
- Schedule of Plant and Equipment
- Schedule of the Tenderer's Experience
- Schedule of current projects

2 Other documents required only for tender evaluation purposes

- Proof of registration on the CSD and copy of active and updated certificate attached.
- Certificate of Contractor Registration issued by the Construction Industry Development Board.
- Documented proof of points claimed for Specific goals.

3 Returnable Schedules that will be incorporated into the contract

- Preferencing Schedule SBD 6.1

4 Other documents that will be incorporated into the contract

- Declaration of validity of information.
- Declaration of Interest - SBD 4.
- Certificate of tenderer's visit to site.
- Tenderer's financial standing.
- Surety and Bank details.
- Form of intent to provide a Performance Guarantee.
- Key personnel for project.
- Curriculum Vitae of key personnel.
- Preliminary Construction Programme.
- Alteration by tenderer.
- Contractor's Health and Safety declaration.
- Contractor's Health and Safety Plan.

5 The offer portion of the C1.1 Offer and Acceptance

6 C1.2 Contract Data (Part 2)

7 C2.2 Bills of quantities

CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms
 , authorised signatory of the company
 , acting in the capacity of lead partner, to sign all documents in connection with the tender offer
 and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature Name Designation
		Signature Name Designation
		Signature Name Designation
		Signature Name Designation

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: CSD number: _____

Section 5: 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 6: Particulars of companies and close corporations

Company registration number: _____

Close corporation number: _____

Tax reference number: _____

Section 7: SBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 8: SBD 6 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

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

- i) Authorize the employer to verify the tenderers tax clearance status from the South African Revenue Service that it is in order;
- ii) Confirms that neither the name of the enterprise or the name of any partner, manager, director or any 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 Corruption Activities Act of 2004;
- iii) Confirms that no partner, manager, director or any other person, who wholly or partly exercises or may exercise control over the enterprise, 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 rendering 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
- v) Confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed		Date	
--------	--	------	--

Name		Position	
------	--	----------	--

Enterprise name	
-----------------	--

RECORD OF ADDENDA TO TENDER DOCUMENTS

The undersigned confirm that the following communications received from the employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

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

Attach additional pages if more space is required.

Signed		Date	
Name		Position	
Tenderer			

PROPOSED AMENDMENTS AND QUALIFICATIONS

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause C.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

Signed Date

Name Position

Tenderer

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.

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

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract or will acquire or hire for this contract if my / our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my / our tender is acceptable.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signed _____

Date

Name _____

Position

Tenderer _____

SCHEDULE OF THE TENDERER'S EXPERIENCE

The following is a statement of similar work in respect of this tender successfully executed by myself / ourselves during the past three (3) years:

Employer, contact person and telephone number.	Description of contract	Value of work inclusive of VAT (Rand)	Date contract started	Date contract completed (Date on Completion Certificate)

Signed Date

Name Position

Tenderer

SCHEDULE OF CURRENT PROJECTS

Tenderers must submit a max one-page description of all projects under construction/ on hold/ just handed over/ towards completion (if they exist). **Attach an Appointment letter for each of the project provided.**

The description of each project must include the following information:

1. Essential introductory information:
 - 1.1. Name of project.
 - 1.2. Name of client.
 - 1.3. Contact details of client.
 - 1.4. Contact details (including telephone numbers and email addresses) of currently contactable references.
 - 1.5. The period during which the project was performed, and also, if this is different, the period during which the tenderer's team members were contracted.
 - 1.6. Cost of works and/or contract value (making it clear in broad terms what this cost/value purchased, and to what extent (if any) this cost/value was part of a larger project budget or programme budget).

NO.	NAME OF PROJECT.	NAME OF CLIENT.	CONTACT DETAILS OF CLIENT.	PROJECT VALUE	STAGE OF PROJECT
1					
2					
3					

Attach a separate page to address this issue (the above table is just for reference purposes).

The undersigned, who warrants that she/ he is duly authorised to do so on behalf of the enterprise, confirms that the content of this schedule that presented by the tenderer are within my personal knowledge and are to the best of my knowledge both true and correct.

Signed _____ Date _____

Name _____ Position _____

Enterprise name _____

CONTRACTORS CERTIFICATE OF REGISTRATION ON CSD

[The tenderer shall submit the Contractor's Certificate of Registration on the CSD. Failure to submit the certificate with the tender document will lead to the conclusion that the tenderer is not registered on the National Treasury Central Suppliers Database and therefore not eligible to tender].

CONTRACTORS CERTIFICATE OF REGISTRATION WITH CIDB

[The tenderer shall submit the Contractor's Certificate of Registration with CIDB. Failure to submit the certificate with the tender document will lead to the conclusion that the tenderer is not registered with the CIDB and therefore not eligible to tender].

CONTRACTORS CERTIFICATE OF REGISTRATION WITH SABI

[The tenderer shall submit the Contractor's Certificate of Registration with SABI. Failure to submit the certificate with the tender document will lead to the conclusion that the tenderer is not registered with the SABI and therefore not eligible to tender].

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- 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 To be completed by the organ of state

(delete whichever is not applicable for this tender).

a) The applicable preference point system for this tender is the **80/20** preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \\ \mathbf{Ps} = \mathbf{80} \left(\mathbf{1} - \frac{\mathbf{Pt} - \mathbf{P min}}{\mathbf{P min}} \right) & \mathbf{or} & \mathbf{Ps} = \mathbf{90} \left(\mathbf{1} - \frac{\mathbf{Pt} - \mathbf{P min}}{\mathbf{P min}} \right) \end{array}$$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmin = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \\ \mathbf{Ps} = \mathbf{80} \left(\mathbf{1} + \frac{\mathbf{Pt} - \mathbf{P max}}{\mathbf{P max}} \right) & \mathbf{or} & \mathbf{Ps} = \mathbf{90} \left(\mathbf{1} + \frac{\mathbf{Pt} - \mathbf{P max}}{\mathbf{P max}} \right) \end{array}$$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
 - (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
 then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
An EME or QSE which is at least 51% owned by black people	N.A.	5		
Located in the municipal area or District municipality or Metro	N.A.	2		
An EME or QSE which is at least 51% owned by women	N.A.	7		
An EME or QSE which is at least 51% owned by youth (up to 35 years of age)	N.A.	4		
An EME or QSE which is at least 51% owned by people with disability	N.A.	2		
Total	N.A.	20		

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

- Partnership/Joint Venture / Consortium
- One-person business/sole propriety
- Close corporation
- Public Company
- Personal Liability Company
- (Pty) Limited
- Non-Profit Company
- State Owned Company

[TICK APPLICABLE BOX

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- 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 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering 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 tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed necessary.

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

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

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? YES/NO

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

1.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? YES/NO

2.2.1 If so, furnish particulars:
.....
.....

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? YES/NO

2.3.1 If so, furnish particulars:

.....
.....

3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

3.1 I have read and I understand the contents of this disclosure;

3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;

3.3 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 consortium² will not be construed as collusive bidding.

3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.

3.4 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.

3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

3.6 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.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature Date

.....
Position Name of bidder

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

CERTIFICATE OF TENDERER'S VISIT TO SITE

This is to certify that, I

representative of (tenderer)

.....

.....

of (address)

.....

.....

.....

Telephone number:

Fax number:

in the company of (Engineer's representative)

visited and examined the site on (date)

I further certify that I have made myself familiar with all local conditions likely to influence the work and the cost thereof, that I am satisfied with the description of the work and the explanations given by the said Engineer's Representative and that I understand perfectly the work to be done, as specified and implied, in the execution of this contract.

TENDERER'S REPRESENTATIVE: (Signature).....

(Name).....

ENGINEER'S REPRESENTATIVE: (Signature).....

(Name).....

FORM OF INTENT TO PROVIDE A PERFORMANCE GUARANTEE

[The tenderer must provide a letter from the bank or institution. with whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required performance guarantee when asked to do so].

KEY PERSONNEL

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local municipality if such personnel are not available locally.

The tenderer shall list below the personnel, which he intends to utilise on the Works, including key personnel, which may have to be brought in from outside if not available locally.

EMPLOYEE SKILLS TEAM No ____	NUMBER OF PERSONS			YEARS EXPERIENCE
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION	KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY	UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
Director				
Contracts Manager				
Site Agent				
Skilled Worker				
Semi-skilled Worker				
Unskilled Worker				
Other				

DATE **SIGNATURE OF TENDERER**
(of person authorised to sign on behalf of the Tenderer)

PRELIMINARY CONSTRUCTION PROGRAM

The tenderer shall submit a preliminary program reflecting the proposed sequence and duration of the various activities comprising the work for this Contract to include the projected cash flow for each activity. The program shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of his tender.

[Note: The program must be based on the completion time as specified in the Contract Data.]

Schedule	Abbreviated description	Days per action	Cumulative project construction days
1	Site Establishment		
2	Installation of mainline, sub-main lines, laterals		
3	Electrical cables for valves		
4	Installation of sprinklers		
5	Open channel drainage construction		
6	Commissioning of Diesel Pump		
7	De-establishment		

PROPOSED CONSTRUCTION PERIOD _____ WEEKS

DATE SIGNATURE OF TENDERER
(of person authorised to sign on behalf of the Tenderer)

BASELINE RISK ASSESSMENT

PROJECT TITLE	THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT
SCMU NUMBER	SCMU8-22/23-0023
PLEASE NOTE THAT THIS IS A BASELINE RISK ASSESSMENT AND NOT A DETAILED RISK ASSESSMENT OF ALL ANTICIPATED ACTIVITIES ON SITE	

<i>Activity</i>	<i>Risk to Safety</i>	<i>Risk to Health</i>	<i>Risk to Environmental</i>	<i>Risk to Public Safety</i>	<i>Control Measures</i>
<i>Excavations and fill for pipeline, open channel drainage and cables</i>	<i>Medium</i>	<i>Low</i>	<i>N.A.</i>	<i>Medium</i>	<i>Adhere to safety measurements</i>
<i>Installation of Dragline Irrigation</i>	<i>Medium</i>	<i>Low</i>	<i>N.A.</i>	<i>Low</i>	<i>Adhere to safety measurements</i>
<i>Mechanical installation</i>	<i>Medium</i>	<i>Low</i>	<i>N.A.</i>	<i>Low</i>	<i>Adhere to safety measurements</i>
<i>Movement of machinery and vehicles on site</i>	<i>Low</i>	<i>Low</i>	<i>N.A.</i>	<i>Medium</i>	<i>Put access control measures in place</i>

You can list all activities on a separate page to address this issue (the above table is just for reference purposes).

Signed _____ **Date** _____
Name _____ **Position** _____
Enterprise name _____

CONTRACTORS HEALTH AND SAFETY PLAN

[Not applicable for tender purposes]

[The successful Tenderer, only, shall be required to submit the Contractor's Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014, and referred to in T2.1, List of Returnable Documents point 4 (other documents that will be incorporated into the contract) after acceptance of the tender]

EVALUATION SCHEDULE 1 – PROJECT REFERENCE FORMS - 1

Project title:	THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT
Project Number:	SCMU8-22/23-0023

NOTE:
This

returnable document must be completed by the person who was the Engineer/Project Manager on a project of similar value and complexity that was completed successfully by the tenderer.

I, _____ (name and surname) of _____ (company name) declare that I was the Project Manager on the following building construction project successfully executed by _____ (name of tenderer):

Project name: _____

Project location: _____

Construction period: _____ Completion date: _____

Contract value: _____

- Please evaluate the performance of the Tenderer on the abovementioned project, on which you were the principal agent, by inserting "Yes" in the relevant box below:

Key Performance Indicators	Very Poor 1	Poor 2	Fair 3	Good 4	Excellent 5	Total
1. Project performance						
2. Quality of Service						
3. Resources: Personnel						
4. Time management / programming						
5. Financial management / Project budget management/cash flow, etc.						
TOTAL						

- Would you consider / recommend this tenderer again:

YES	NO

- Any other comments:

- My contact details are:

Telephone: _____ Cellphone: _____ Fax: _____

E-mail: _____

Thus signed at _____ on this _____ day of _____ 20____

Signature of principal agent



NOTE:

If reference cannot be verified due to the inability to get hold of the referee or failure on his/her part to respond to a written request to do so, that reference will not score any points. It is the responsibility of the tenderer to put referees who are reachable.

Name of Tenderer

Signature of Tenderer

EVALUATION SCHEDULE 1 – PROJECT REFERENCE FORMS - 2

Project title:	THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT
Project Number:	SCMU8-22/23-0023

NOTE: This returnable document must be completed by the person who was the Engineer/Project Manager on a project of similar value and complexity that was completed successfully by the tenderer.

I, _____ (name and surname) of _____ (company name) declare that I was the Project Manager on the following building construction project successfully executed by _____ (name of tenderer):

Project name: _____

Project location: _____

Construction period: _____ Completion date: _____

Contract value: _____

- Please evaluate the performance of the Tenderer on the abovementioned project, on which you were the principal agent, by inserting "Yes" in the relevant box below:

Key Performance Indicators	Very Poor 1	Poor 2	Fair 3	Good 4	Excellent 5	Total
6. Project performance						
7. Quality of Service						
8. Resources: Personnel						
9. Time management / programming						
10. Financial management / Project budget management/cash flow, etc.						
TOTAL						

- Would you consider / recommend this tenderer again:

YES	NO

- Any other comments:

- My contact details are:

Telephone: _____ Cellphone: _____ Fax: _____

E-mail: _____

Thus signed at _____ on this _____ day of _____ 20____

Signature of principal agent



NOTE:

If reference cannot be verified due to the inability to get hold of the referee or failure on his/her part to respond to a written request to do so, that reference will not score any points. It is the responsibility of the tenderer to put referees who are reachable.

Name of Tenderer

Signature of Tenderer

EVALUATION SCHEDULE 1 – PROJECT REFERENCE FORMS - 3

Project title:	THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT
Project Number:	SCMU8-22/23-0023

NOTE: This returnable document must be completed by the person who was the Engineer/Project Manager on a project of similar value and complexity that was completed successfully by the tenderer.

I, _____ (name and surname) of _____ (company name) declare that I was the Project Manager on the following building construction project successfully executed by _____ (name of tenderer):

Project name: _____

Project location: _____

Construction period: _____ Completion date: _____

Contract value: _____

- Please evaluate the performance of the Tenderer on the abovementioned project, on which you were the principal agent, by inserting "Yes" in the relevant box below:

Key Performance Indicators	Very Poor 1	Poor 2	Fair 3	Good 4	Excellent 5	Total
11. Project performance						
12. Quality of Service						
13. Resources: Personnel						
14. Time management / programming						
15. Financial management / Project budget management/cash flow, etc.						
TOTAL						

- Would you consider / recommend this tenderer again:

YES	NO

- Any other comments:

- My contact details are:

Telephone: _____ Cellphone: _____ Fax: _____

E-mail: _____

Thus signed at _____ on this _____ day of _____ 20____

Signature of principal agent



NOTE:

If reference cannot be verified due to the inability to get hold of the referee or failure on his/her part to respond to a written request to do so, that reference will not score any points. It is the responsibility of the tenderer to put referees who are reachable.

Name of Tenderer

Signature of Tenderer

The Contract

PART C1: AGREEMENT AND CONTRACT DATA

C 1.1

Form of Offer and Acceptance

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C1.1 Form of Offer and Acceptance

Note: 1 This form of offer and acceptance is identical to that contained in Annex F of SANS 10845 - 1: Construction Procurement Processes, Procedures and Methods.

2 SAICE's Practice Manual #1, The use of South African National Standards in Construction Procurement, provides guidance on the formulation of the wording for the actual offer where it is not based on the offered total of prices.

Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of: **SCMU8-22/23-0023: THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT**. 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) (or other suitable wording)

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.

Signature(s)		Date:	
Name(s)			
Capacity:			
For tenderer: (Name and address)			
Name & Signature of witness:		Date:	

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 C1 Agreements and contract data, (which includes this agreement)

Part C2 Pricing data

Part C3 Scope of work

Part C4 Site information and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable 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 form of offer and acceptance. 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 securities, 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 on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five (5) working days of the date of such receipt notifies the employer in writing of any reason why he/she cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature(s)		Date:	
Name(s)			
Capacity:			
For the employer: (Name and address)			
Name & Signature of witness:		Date:	

SCHEDULE OF DEVIATIONS

Notes:

1. *The extent of deviations from the tender documents issued by the employer before 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: _____

4 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 returnable 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.

For the Tenderer:

For the Employer:

..... Signature

..... Name

..... Capacity

Name and address of organization:

Name and address of organization:

.....

.....

.....

.....

..... Witness Signature

..... Witness Name

..... Date

CONFIRMATION OF RECEIPT

The Tenderer, (now Contractor), identified in the form of Offer part of the Agreement, hereby confirms receipt from the Employer. Identified in the Acceptance part of the 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:

C 1.2

Contract Data

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C1.2 Contract Data

The General Conditions of Contract for Construction Works (2015) published by the South African Institution of Civil Engineering, is applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel 011-805 5947).

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 90 days .
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 DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM
1.1.1.16	The name of the Employer's Agent is Mr. TG Tekle (Chief Engineer – DRDAR)
1.1.1.17	The name of the Employer's Agent Representative is Mr. S. Makalima
1.1.1.26	The Pricing Strategy is Re-measurement Contract
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 any like communication irrespective of it being during office hours or otherwise. Fax: 045 807 8022

1.2.1.4	Posted to the addressee for certified delivery by the postal Authorities The Chief Engineer OR Tambo District 4th FLOOR OFFICE 17 BOTHA SIGCAU BUILDING
1.2.1.5	Delivered by a courier service and signed for by the addressee
1.2.1.2	The Employer's address for receipt of communications is: The Chief Engineer DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM OR Tambo District 4th FLOOR OFFICE 17 BOTHA SIGCAU BUILDING
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 him/herself as to all circumstances and local conditions which may influence or affect his Tender."
2.4.1	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 Particular Specifications 2. Special Conditions of Contract 3. General Conditions of Contract 4. Conditions of Tender 5. Generic Specifications 6. Contract Drawings 7. Bill of Quantities

2.5.1	<p>The following additional clause applies: -</p> <p>The Employer may make direct payments to suppliers on behalf of the Contractor subject to the receipt of a specific request from the Contractor and subject to the following conditions:</p> <ul style="list-style-type: none"> - an original of the invoice together with a signed Cession Form is submitted together with a certificate approved by the Engineer. - the contractor cedes, transfers and assigns all the rights, title and interest in and to the materials and goods to the total value of the invoice. - the cession shall become effective as soon as payment is made by the Employer or on behalf of the Employer - the Contractor indemnifies the Employer against any loss or damage whatsoever to the said material and goods whilst they are in the Contractors possession and in transit to the site and until such time as they are safely and properly stored on the site, and the Contractor undertakes to effect adequate insurance against these risks. Such insurance shall be for the full value of the materials and goods and goods certified for payment and the insurance policy ceded in full to the Employer.
3.2.3	<p>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:</p> <p>Clause 3.3.1 Nomination of Employer's Agent Representative Clause 3.3.4 Employer's Agent authority to delegate Clause 5.8.1 Non-working times Clause 5.11.2 Suspension of the Works Clause 5.12.4 Acceleration instead of extension of time</p>
3.3.7	<p>The following additional clause applies: -</p> <p>The onus rests with the Contractor to raise any item about which the Contractor may be uncertain, with the Engineer's Representative. Any advice given to the Contractor by the Engineer's Representative in response to matters so raised shall not be construed as instructions and shall be held to have been given without prejudice.</p>
3.3.8	<p>The following additional clause applies: -</p> <p>The Employer or the Employer's Agent under delegated authority, reserves the right to obtain the services of consultants on any matter pertaining to this contract; the employment of such consultants forms no part of this contract; a consultant's advice and/or documentation is to be followed only if the Employer's Agent or the Employer's Agent Representative so instructs.</p>
4.1	<p>All references to "design" are deemed to be deleted and the Contractor shall bear no liability in respect of the Projects design, other than the temporary works and items clearly indicated to design on drawings.</p>
4.3.3	<p>The following additional clause applies: -</p> <p>The Employer and the Contractor shall enter into an agreement to complete the work required for the construction of the works in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act (Act 85 of 1993) and the Construction Regulations promulgated there under.</p> <p>An agreement is included in the Contract Document (at the end of Contract Data) and shall be completed and submitted to the Employer together with a letter of good standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer) within fourteen (14) days after the Commencement Date. The Contractor shall ensure that any letter of good standing shall be timeously renewed in order that it remains in full force for the duration of the Contract.</p>

5.3.1	<p>The documentation required before commencement with the Works execution are:</p> <ol style="list-style-type: none"> 1 Health and Safety Plan (Refer to Clause 4.3) 2 Risk Mitigation Plan for Construction; COVID 19 3 Initial programme (Refer to Clause 5.6) 4 Security (Refer to Clause 6.2) 5 Insurance (Refer to Clause 8.6) 6 Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer)
5.3.2	<p>The time to submit the documentation required before commencement with the Works execution is 14 days.</p>
5.3.3	<p>The Contractor shall commence with execution of the Works within 7 days after receiving an instruction to commence with the Works.</p>
5.4.1	<p>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.</p>
5.5.1	<p>The Works shall be completed (Practical Completion) within 4 Months.</p>
5.8.1	<p>The non-working days are Sundays.</p> <p>The special non-working days are:</p> <ol style="list-style-type: none"> (1) All gazetted public holidays falling outside the year end break. (2) The year end break commencing on 15 December and ending on 9 January
5.8.3	<p>The following additional clause shall apply:</p> <p>Should the Employer's Agent permit work outside of normal Employer working hours (viz Mondays to Fridays inclusive sunrise to sunset) and on Saturdays, Sundays or on any of the non-working days stated in the Appendix and if he deems the presence of the Employer's Agent Representative or other duly authorised representative to be necessary, the Contractor will be liable for the cost of such supervision (calculated at a daily rate of 1/130 of the annual salary of such representative). Where the Employer's Agent has ordered such work, the salary of the representative will be to the account of the Employer.</p> <p>A minimum of 24 hours notification of intent to work outside normal working hours shall be regarded as sufficient notice as set out in 5.8.1"</p>

5.12.2.2	<p>No extension of time will be granted in respect of any delays attributed to normal climatic conditions. Normal climatic conditions shall be deemed to include normal rainfall and associated wet conditions and materials, strong winds and extremes of temperature.</p> <p>However, in the event that delays to critical activities exceed 2 consecutive working days for each month, then abnormal climatic conditions shall be deemed to exist, and an extension of time may be claimed in accordance with the provisions of Clause 5.12.</p> <p>Claims for delays for abnormal climatic conditions shall be accompanied by substantiating facts and evidence, which shall be submitted timeously by the Contractor as each day or half-day delay is experienced.</p> <p>It shall be further noted that where the critical path is not affected, no extension of time for abnormal climatic conditions or for any other reason will be entertained</p>
5.13.1	<p>The penalty for failing to complete the Works is 8,5c/R100 of contract amount per day. No claim for bonus payments in respect of early completion will be entertained.</p>
5.14.1	<p>Practical Completion: In terms of this contract, practical completion will be reached, once all the works have been completed in full, according to the bill of quantities and project specifications, and dually been approved by the Employers agent representative.</p>
5.16.3	<p>The latent defect period is 5 Years.</p>
6.2.1	<p>The security to be provided by the Contractor shall be 10 % performance guarantee, or 5% Retention and 5% performance guarantee, or 10% Retention. The performance guarantee shall contain the wording of the document included in C1.3.</p>
6.6.1	<p>The provisional sums stated in the Schedule of Quantities are net amounts covering the actual expenditure which the Employer may incur.</p>
6.7.6	<p>The following additional clause shall apply:</p> <p>The Works are measured in accordance with the current SANS 1200 and the standard system of measurement of Civil Engineering quantities for South Africa, published by the South African Institution of Civil Engineers. No claims arising from the method of measurement will be entertained.</p>
6.8.1	<p>Should the rated tendered be unrealistically high or low, the Employer's Agent may instruct the contractor to balance the rates while the contract sum will stay firm, before commencement of construction. The revised balanced rates will be final and binding. And the value of the payment certificates is to be calculated in accordance with the revised rates and/or prices of the tender throughout the period of the Contract.</p>
6.10.1.5	<p>The percentage advance on materials not yet built into the Permanent Works is 80%.</p>
6.10.3	<p>The percentage retention on amounts due to the contractor is 10% and the limit on retention is 5% of the Contract Price if guarantees of an insurance company or bank that are provided are equal to or greater than 10% of the contract price.</p>

6.10.4	<p>Add the following to clause:</p> <p>Notwithstanding the above, the Employer's Agent shall be empowered to withhold the delivery of the payment certificate until the Contractor has complied with his obligations to report in terms of Clause 4.10.2 and as described in the Scope of Work.</p>
8.5.2	<p>The following additional clause shall apply:</p> <p>If the Contractor receives any claim in respect of any loss or injury or damage to any person or property, then the Contractor shall immediately report the same to the Employer's Agent and, if at the end of ninety days from the date of receipt of such claim the Contractor cannot satisfy the Employer's Agent that the claim has been settled or that valid reasons for the non-settlement of the claim exist, then the Employer may, without limiting the obligations and responsibilities of the Contractor, negotiate a settlement and deduct all sums due in respect of such claim from payments due to the Contractor.</p>
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 R 80 000.00 .
8.6.1.3	The limit of indemnity for liability insurance is R 2 000 000.00 per claim for projects under R 5 000 000.00 and R 5 000 000.00 for projects over R 5 000 000.00.
9.2.1.3.8	<p>Add the following to clause:</p> <p>The Contractor committed a corrupt or fraudulent act during the procurement process or the execution of the contract.</p>
9.2.1.3.8	<p>Add the following to clause:</p> <p>An official or other role player committed any corrupt or fraudulent act during the procurement process or in the execution of the contract that benefited the Contractor.</p>
10.4.1	The parties may at any time agree to settle disputes with the help of an impartial third party.
10.5.3	The number of Adjudication Board Members to be appointed is THREE.
2. CLAUSES APPLICABLE TO EPWP CONTRACTS	
4.1	<p>Variations to the Conditions of Contract are:</p> <p><i>Add the following at the end of sub clause 4.1.2.</i></p>

4.1.3	<p>The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Amendment Act, 1993 (Act 85 of 1993), hereinafter referred to as 'the Act', that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act:</p> <ul style="list-style-type: none"> (i) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the Regulations promulgated in terms of the Act. (ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with. (iii) The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations. (iv) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor. (v) The Contractor shall be obliged to report forthwith to the Employer and Engineer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract, and shall, on written demand, provide full details in writing, to the Employer and Engineer, of such investigation, complaint or criminal charge.
4.1.4	<p>The Contractor shall furthermore, in compliance with Construction Regulations 2014 to the Act:</p> <ul style="list-style-type: none"> (i) Acquaint himself with the requirements of the Employer's health and safety specification as laid down in regulation 5(1) of the Construction Regulation 2014, and prepare a suitably and sufficiently documented health and safety plan as contemplated in regulation 7(1) (a) of the Construction Regulation 2014 for approval by the Employer or his assigned agent. The Contractor's health and safety plan and risk assessment shall be submitted to the Employer for approval within fourteen (14) days after receiving a completed copy of the Agreement and shall be implemented and maintained from the Commencement of the Works. (ii) The Employer, or his assigned agent, reserves the right to conduct periodic audits, as contemplated in the Construction Regulations 2014, to ensure that the Contractor is compliant in respect of his obligations. Failure by the Contractor to comply with the requirements of these Regulations shall entitle the Engineer, at the request of the Employer or his agent, to suspend all or any part of the Works, with no recourse whatsoever by the Contractor for any damages incurred as a result of such suspension, until such time that the Employer or his agents are satisfied that the issues in which the Contractor has been in default have been rectified.
6.7.6	<p><i>Add new subclause 6.7.6:</i></p> <p>"Payment for the labour-intensive component of the works</p> <p>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations in contract.</p>
<p>3. ADDITIONAL CONDITIONS OF CONTRACT:</p>	
<p>Clause</p>	
4.13	<p>Add new sub clause 4.13:</p> <p>Applicable labour laws</p> <p>The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No R63 of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled or semi-skilled workers.</p>

4.13 (cont.)	<p>1 Introduction</p> <p>1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on a Special Public Works Programme (SPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a SPWP.</p>
4.13 (cont.)	<p>1.2 In this document –</p> <ul style="list-style-type: none"> (a) “department” means any department of the State, implementing agent or contractor; (b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on a SPWP; (c) “worker” means any person working in an elementary occupation on a SPWP; (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work; (e) “management” means any person employed by a department or implementing agency to administer or execute an SPWP; (f) “task” means a fixed quantity of work; (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task; (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed; (i) “time-rated worker” means a worker paid on the basis of the length of time worked. <p>2 Terms of work</p> <p>2.1 Workers on a Special Public Works Programme (SPWP) are employed on a temporary basis.</p> <p>2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a SPWP.</p> <p>2.3 Employment on a SPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.</p> <p>3 Normal hours of work</p> <p>3.1 An employer may not set tasks or hours of work that require a worker to work–</p> <ul style="list-style-type: none"> (a) more than forty hours in any week; (b) on more than five days in any week; and (c) for more than eight hours on any day. <p>3.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.</p> <p>3.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.</p> <p>4 Meal breaks</p> <p>4.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.</p> <p>4.2 An employer and worker may agree on longer meal breaks.</p> <p>4.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.</p> <p>4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.</p>
4.13 (cont)	<p>5 Special conditions for security guards</p> <p>5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.</p> <p>5.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.</p> <p>6 Daily rest period</p>

<p>4.13 (cont)</p>	<p>Every worker is entitled to a daily rest period of at least eight consecutive hours.</p> <p>The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.</p> <p>7 Weekly rest period</p> <p>Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work (“emergency work”).</p> <p>8 Work on Sundays and public holidays</p> <p>8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.</p> <p>8.2 Work on Sundays is paid at the ordinary rate of pay.</p> <p>8.3 A task-rated worker who works on a public holiday must be paid –</p> <p>(a) the worker’s daily task rate, if the worker works for less than four hours;</p> <p>(b) double the worker’s daily task rate, if the worker works for more than four hours.</p> <p>8.4 A time-rated worker who works on a public holiday must be paid –</p> <p>(a) the worker’s daily rate of pay, if the worker works for less than four hours on the public holiday;</p> <p>(b) double the worker’s daily rate of pay, if the worker works for more than four hours on the public holiday.</p> <p>9 Sick leave</p> <p>9.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.</p> <p>9.2 A worker who is unable to work on account of illness or injury is entitled to claim one day’s paid sick leave for every full month that the worker has worked in terms of a contract.</p> <p>9.3 A worker may accumulate a maximum of twelve days sick leave in a year.</p> <p>9.4 Accumulated sick leave may not be transferred from one contract to another contract.</p> <p>9.5 An employer must pay a task-rated worker the worker’s daily task rate for a day’s sick leave.</p> <p>9.6 An employer must pay a time-rated worker the worker’s daily rate of pay for a day’s sick leave.</p> <p>9.7 An employer must pay a worker sick pay on the worker’s usual pay day.</p> <p>9.8 Before paying sick pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –</p> <p>(a) absent from work for more than two consecutive days; or</p> <p>(b) absent from work on more than two occasions in any eight-week period.</p> <p>9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.</p> <p>9.10 A worker is not entitled to paid sick leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.</p>
<p>4.13 (cont)</p>	<p>10 Maternity leave</p> <p>10.1 A worker may take up to four consecutive months unpaid maternity leave.</p> <p>10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.</p> <p>10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.</p> <p>10.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.</p> <p>10.5 A worker may begin maternity leave –</p> <p>(a) four weeks before the expected date of birth; or</p> <p>(b) on an earlier date –</p> <p>(i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or</p> <p>(ii) if agreed to between employer and worker; or</p>

	<p>(c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.</p> <p>10.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.</p> <p>10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the SPWP on which she was employed has ended.</p> <p>11 Family responsibility leave</p> <p>11.1 Workers who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances:</p> <p>(a) when the employee's child is born;</p> <p>(b) when the employee's child is sick;</p> <p>(c) in the event of a death of</p> <p>(i) the employee's spouse or life partner;</p> <p>(ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.</p> <p>12 Statement of conditions</p> <p>12.1 An employer must give a worker a statement containing the following details at the start of employment:</p> <p>(a) the employer's name and address and the name of the SPWP;</p> <p>(b) the tasks or job that the worker is to perform; and</p> <p>(c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;</p> <p>(d) the worker's rate of pay and how this is to be calculated;</p> <p>(e) the training that the worker will receive during the SPWP.</p> <p>12.2 An employer must supply each worker with a copy of these conditions of employment.</p>
<p>4.13 (cont)</p>	<p>13 Keeping records</p> <p>13.1 Every employer must keep a written record of at least the following:</p> <p>(a) the worker's name and position;</p> <p>(b) in the case of a task-rated worker, the number of tasks completed by the worker;</p> <p>(c) in the case of a time-rated worker, the time worked by the worker;</p> <p>(d) payments made to each worker.</p> <p>13.2 The employer must keep this record for a period of at least three years after the completion of the SPWP.</p> <p>14 Payment</p> <p>14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.</p> <p>14.2 A task-rated worker will only be paid for tasks that have been completed.</p> <p>14.3 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.</p> <p>14.4 A time-rated worker will be paid at the end of each month.</p> <p>14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.</p> <p>14.6 Payment in cash or by cheque must take place –</p> <p>(a) at the workplace or at a place agreed to by the worker;</p> <p>(b) during the worker's working hours or within fifteen minutes of the start or finish of work;</p> <p>(c) in a sealed envelope which becomes the property of the worker.</p> <p>14.7 An employer must give a worker the following information in writing:</p> <p>(a) the period for which payment is made;</p> <p>(b) the numbers of tasks completed or hours worked;</p>

	<p>(c) the worker's earnings;</p> <p>(d) any money deducted from the payment;</p> <p>(e) the actual amount paid to the worker.</p> <p>14.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.</p> <p>14.9 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.</p> <p>15 Deductions</p> <p>15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.</p> <p>15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.</p> <p>15.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.</p> <p>15.4 An employer may not require or allow a worker to –</p> <p>(a) repay any payment except an overpayment previously made by the employer by mistake;</p> <p>(b) state that the worker received a greater amount of money than the employer actually paid to the worker; or</p> <p>(c) pay the employer or any other person for having been employed.</p>
4.13 (cont)	<p>16 Health and safety</p> <p>16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.</p> <p>16.2 A worker must –</p> <p>(a) work in a way that does not endanger his/her health and safety or that of any other person;</p> <p>(b) obey any health and safety instruction;</p> <p>(c) obey all health and safety rules of the SPWP;</p> <p>(d) use any personal protective equipment or clothing issued by the employer;</p> <p>(e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.</p> <p>17 Compensation for injuries and diseases</p> <p>17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a SPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.</p> <p>17.2 A worker must report any work-related injury or occupational disease to their employer or manager.</p> <p>17.3 The employer must report the accident or disease to the Compensation Commissioner.</p> <p>17.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.</p> <p>18 Termination</p> <p>18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.</p> <p>18.2 A worker will not receive severance pay on termination.</p> <p>18.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.</p>

<p>18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.</p> <p>18.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.</p> <p>19 Certificate of service</p> <p>19.1 On termination of employment, a worker is entitled to a certificate stating –</p> <ul style="list-style-type: none">(a) the worker’s full name;(b) the name and address of the employer;(c) the SPWP on which the worker worked;(d) the work performed by the worker;(e) any training received by the worker as part of the SPWP;(f) the period for which the worker worked on the SPWP;(g) any other information agreed on by the employer and worker.
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AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 OF 1993

THIS AGREEMENT is made between

(hereinafter called the EMPLOYER) of the one part, herein represented by:

in his capacity as:

AND:

(hereinafter called the CONTRACTOR) of the other part, herein represented by

in his capacity as:

duly authorised to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of

CONTRACT No.: **SCMU8-22/23-0023: THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT** for the construction, completion and maintenance of the works;

NOW THEREFORE the parties agree as follows:

1. **The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.**
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING EMPLOYER'S AGENTS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.
5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at for and on behalf of the **CONTRACTOR**

on this day..... day of 20_____

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESS: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER**

on this day..... day of 20_____

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESS: 1.

2.

CESSION OF RIGHTS FOR MATERIALS ON SITE

Claim for materials on site

Payment Certificate No. Date:

Contract:

Employer:

Contract No:.....

Contractor:

I / We, the undersigned,.....
(Print name)

in my / our capacity asof
(Print capacity) (Company)

hereby confirm that the Contractor is the bona fide owner of the goods and materials described in the attached schedule and the Contractor hereby cedes assigns and transfers all the right, title and interest claim and demand in and due to the materials and goods described in the attached schedule in favour of the Employer.

All rights of the Employer in and to this Cession shall become effective immediately upon the Contractor obtaining payment for the goods referred to on the attached schedule (less payment of retention monies that may be validly retained in respect thereof) from which time forward the ownership of all the stated goods and materials will vest in and pass irrevocably to the Employer.

Notwithstanding the foregoing all risk or loss and/or damage to the said goods and materials whilst in the Contractor's stores up until the time that all the goods and materials have been installed in the Works shall be the responsibility of the Contractor.

This Cession shall neither constitute a novation of nor amend the terms of the Contract existing between the Employer and the Contractor nor shall it in any manner vitiate any of the rights and obligations imposed on either party.

Signed by: Date:
for and on behalf of the Contractor.

Witnessed by:Date:

(NOTE: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of Clause 49.1.5 of the General Conditions of Contract Third Edition 2015).

C 1.3

Form of Guarantee

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C1.3 Form of Guarantee: Contract No. SCMU8-22/23-0023

For use with the General Conditions of Contract of Construction Works, Third Edition (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 Officer 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: _____

Type of performance Guarantee: _____ (insert Variable or Fixed)

“Expiry Date” means _____ (Give date) or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here

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. VARIABLE PERFORMANCE GUARANTEE

1.1 Where a Variable Performance Guarantee has been selected, the Guarantor’s liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:

1.1.1 From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:

R _____

(Amount in words _____)

1.1.2 From the day following the date of the said interim payment certificate up to and including the Expiry Date, or the date of issue by the Employer’s Agent of the Certification of Completion of the Works, whichever occurs first?

R _____

(Amount in words _____)

1.2 The employer’s Agent and/or the Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more 50% of the Contract Sum, has been used and the date on which the Certificate of Completion of the Works has been issued.

2. FIXED PERFORMANCE GUARANTEE

- 2.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 2.2 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.
- 2.3 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.

3. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

- 3.1 The Guarantor hereby acknowledges that:
 - 3.1.1 Any reference in this Performance Guarantee to the Contract is made of 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 surety ship.
 - 3.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
- 3.2 Subject to the Guarantors maximum liability reoffered 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:
 - 3.2.1 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,
 - 3.2.2 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 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,
 - 3.2.3 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
- 3.3 Subject to the Guarantor's maximum liability reoffered 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's physical address calling up this Performance Guarantee, such demand stating that:
 - 3.3.1 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
 - 3.3.2 a provincial 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
 - 3.3.3 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.
- 3.4 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.
- 3.5 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 and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
- 3.6 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.
- 3.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.

- 3.8 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.
- 3.9 The Guarantor chooses the physical address as stated above for the services of all notices for all purpose in connection herewith.
- 3.10 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.
- 3.11 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.
- 3.12 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 1994, 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) _____

PART C2 – PRICING DATA

C 2.1

Pricing Instructions

**EASTERN CAPE PROVINCIAL GOVERNMENT
DEPARTMENT OF RURAL DEVELOPMENT AND AGRARIAN REFORM**

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C2.1 Pricing Instructions

1. Measurement and payment shall be in accordance with the relevant provisions of clause 8 of each of the SABS 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 SABS 1200-A, *General*.
2. The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m ²	=	square metre
m ² -pass	=	square metre-pass
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
month	=	month
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day

3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
4. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
5. It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards)
3. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items
7. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.

8. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.
9. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
10. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the SABS 1200 Standardised Specifications.

Important:

- **Gross calculation errors, and omissions in the Bill of Quantities, will render the bid non-responsive.**

C 2.2

Bill of Quantities

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION A: PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
	SANS 1200 AA	SECTION A: PRELIMINARY AND GENERAL					
A .1	8.3	FIXED-CHARGE ITEMS					
A .1.1	8.3.1	Contractual Requirements	Sum	=====	=====		
	8.3.2	Establish Facilities on the Site :					
		a) Facilities for Contractor					
A.1.2		Offices and storage sheds	Sum	=====	=====		
A.1.3		Ablution and latrine facilities	Sum	=====	=====		
A.1.4	8.3.3	General responsibilities and other fixed-charge obligations	Sum	=====	=====		
A.1.5	8.3.4	Removal of Site Establishment	Sum	=====	=====		
A.2	8.4	TIME-RELATED ITEMS					
A.2.1	8.4.1	Contractual Requirements	Sum	=====	=====		
	8.4.2	Operate and maintain facilities on the Site:					
	8.4.2.1	a) Facilities for Contractor for duration of construction, except where otherwise stated	Sum	1.0			
A.2.2	8.4.3	General responsibilities and other fixed-charge obligations	Sum	=====	=====		
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION A: PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
A.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER					
	8.5	For work to be done by Contractor					
A.3.1		a) Allow for provisional sum for repairs to damaged services which could have been reasonably foreseen	Prov. Sum	=====	=====	10,000	00
A.3.2		b) Overheads, charges and profit on item A.3.1	%	10,000.00			
A.3.3		a) Allow for provisional sum for infield drainage which could have been reasonably foreseen	Prov. Sum	=====	=====	150,000	00
A.3.4	8.5	b) Overheads, charges and profit on item A.3.3	%	150,000.0			
A.3.5		Remuneration of Community Liaison Officer and remuneration of PSC member	Prov. Sum	=====	=====	35,000	00
A.3.6		Overheads, charges and profit on item A.3.3	%	35,000.00			
A.4	PAM	OCCUPATIONAL HELATH AND SAFETY ACT					
A.4.1	PAM 8.2.1	All costs and obligations to comply with the OHS Act Construction Regulations	Sum	=====	=====		
A.4.2	PAM 8.2.1	Time related obligations to comply with the OHS Act Construction Regulations	Sum	1.0			
Total Carried Forward To Summary							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
		SECTION B: IRRIGATION SYSTEM					
		Earthworks: Solid set Sub-man , Block Controls Feeder and Laterals					
B.1	SABS 1200DB	EARTHWORKS(PIPE TRENCHES)					
	8.3.2	Excavate in all materials for trenches, backfill, compact and dispose of surplus materials for pipes					
B.1.1		Trench depth of 0.6m and width of 0.6m(1410m)	m ³	1,410.0			
B.1.2		Extra- over items B.1.1 TO B1.2 above for hard rock	m ³	10.0			
B.1.3	8.3.3	Excavation Ancillaries					
B.1.5		Make up deficiency in back-fill material(provisional)	m ³	10.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.2	SABS 1200L	MEDIUM PRESSURE PIPELINES					
B.2.1	PPS S19.2	Supply, lay, bed test and disinfect pipes complete with couplings for:					
B.2.2.1	PPS S19.1	75mm uPVC Class 6	m	354.0			
B.2.1.2	PPS S19.1	63mm uPVC Class 6	m	336.0			
B.2.1.3	PPS S19.1	50mm uPVC Class 6	m	720.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.2.2	SANS 966	Supply and place pipes, Valves and Special fittings for Submain					
B.2.2.1	PPS S 19.1	75mm PVC Elbow GO1	No.	10.0			
B.2.2.2	PPS S19.1	125mm PVC Tee T11	No.	10.0			
B.2.2.3	PPS S19.1	Bush 125mm x 75mm PVC	No.	10.0			
B.2.2.4	PPS S19.1	Reducing Socket MR1 63X 50mm	No.	10.0			
B.2.2.5	PPS S19.1	Reducing Socket MR1 75X 63mm	No.	10.0			
B.2.2.6	PPS S19.1	50mm END Cap	No.	10.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.3		DRAGLINE SPRINKLER SYSTEM					
B.3.1	PPS S19.11	4mm nozzle(0.743m ³ /h@210KPa) plastic smooth Rotator type non-Impact Sprinkler with 20mm Male BSP Connection	No.	54.0			
B.3.1.1	PPS S19.1	50mm x1" Saddle with reinforcing ring	No.	30.0			
B.3.1.2	PPS S19.1	63mm x 1" saddle with reinforcing ring	No.	30.0			
B.3.1.3	PPS S19.1	PVC Riser 1000mm x 1" threded both sides	No.	115.0			
B.3.1.4	PPS S19.1	Reducing Bush female 20mm x 15mm Emjay	No.	54.0			
B.3.1.5	PPS S19.1	75mm x 1" saddle with reinforcing ring	No.	30.0			
B.3.1.6	PPS S19.11	Hydromatic valve 25mm Nylon	No.	115.0			
B.3.1.7	PPS S19.11	20mm x 25m Dragline Hose (5 YEAR)	No.	54.0			
B.3.1.8	PPS S19.11	20mm Riser piplet Nylon	No.	54.0			
B.3.1.9	PPS S19.11	GS Clamps for 20mm dragline hose	No.	110.0			
B.3.1.10	PPS S19.11	Tripod Dragline Stand 600mm	No.	54.0			
3.2		MISCELLANEOUS					
B.2.1	PPS CC9.1	Anchor/Thrust Blocks and Pedestal					
B.3.2.1		Concrete 25MPa/19mm	m ³	0.5			
B.3.2.2		Formwork	m ²	0.2			
3.2.2.3	PPS S19.1	Pipe Cleaner	ℓ	2.0			
B.2.2.4	PPS S19.1	Tangit cemet	ℓ	2.0			
B.3.2.5	PPS S19.1	Pipe Lubricant	ℓ	2.0			
B.3.2.3		PTFE Tape	No.	20.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.4.1.1							
B.4.1.2		Excavate in all materials for trenches backfill, compact and dispose of surplus material for : trench depth of 1.0m and width of 1.0m(1146m)	m ³	280.0			
B.4.1.3		Extra -over 8.3.2(a) above for Hard rock	m ³	10.0			
B.4.1.4		Excavate and dispose of unsuitable material from trench bottom(Provisional)	Prov. Sum	1.0			
B.4.1.5		Excavation Ancillaries: make up deficiency in back filling material	m ³	5.0			
B.4.1.6		MEDIUM PRESSURE PIPELINES					
B.4.1.7		Supply, lay, bed test and disinfect pipes complete with couplings for: 125mm uPVC Class 6	m	280.0			
B.2.1.8	SABS 1200LB	BEDDING FOR PIPES					
B.4.1.9	8.2.5	a) Selected Granular material	m ³	140.0			
B.4.1.10		b) Selected fill material	m ³	140.0			
B.4.2	SABS 1200L	MISCELLANEOUS					
B.4.2.1	PPS CC9.1	ANCHOR/Thrust Blocks and Pedestals					
B.4.2.2		Concrete 25MPA/19mm	m ³	0.5			
B.4.2.3		Formwork	m ²	0.2			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.5.0		PUMP AND FITTINGS					
B.5.1	PPS S19.7	Kirloskar Diesel Engine fitted with KSB Pump/ any other similar pump (provide the pump curve): to deliver 45m ³ /h @ 54m head which includes a safety factor at minimum efficiency of 70%	No.	1.0			
B.5.2		FENNER Coupling F80	No.	1.0			
B.5.3		SUCTION FITTINGS					
B.5.4	PPS S19.10	Flomax FOOTVALVE 108mm	No.	1.0			
B.5.5	PPS S19.10	Black Rubber Hose Pipe 108 x 6m	No.	2.0			
B.5.6	PPS S19.10	Perrot Bend 108mm x 45 degrees	No.	1.0			
B.5.7	PPS S19.10	Perrot KMF 108mm x 80mm	No.	1.0			
B.5.8	PPS S19.10	Bolts/Nuts +I/R Rings	Sum	1.0			
B.5.9		DISCHARGE FITTINGS					
B.5.9.1	PPS S19.9	PERROT KMF 108mm x 65mm	No.	1.0			
B.5.9.2	PPS S19.9	Elbow FL 80mm x 90 DEGREES	No.	1.0			
B.5.9.3	PPS S19.9	Butterfly Valve 80mm	No.	1.0			
B.5.9.4	PPS S19.9	Flange 80	No.	1.0			
B.5.9.5	PPS S19.9	Perrot KMG 89mm x 80mm	No.	1.0			
B.5.9.6	PPS S19.9	Perrot KVS 89mm	No.	1.0			
B.5.9.7	PPS S19.9	Perrot Bend 89mm x 90 degrees	No.	1.0			
B.5.9.8	PPS S19.9	Rubber pipe 80mm x 6m	No.	1.0			
B.5.9.9	PPS S19.9	28mm polycopper pipe x 2m	No.	1.0			
B.5.9.10	PPS S19.9	PVC Elbow 125mm	No.	1.0			
B.5.9.11	PPS S19.9	Non Return Valve 125mm	No.	1.0			
B.5.9.12	PPS S19.9	PVC Stub + 125mm	No.	2.0			
B.5.9.13	PPS S19.9	Reducing Bush 125mm x 110 PVC	No.	2.0			
B.5.9.14	PPS S19.9	Heavy Duty clamps 150mm	No.	4.0			
B.5.9.15	PPS S19.9	Bolts/Nuts +I/R Rings	Sum	1.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.5.9.16	PPS S19.9	Manual Priming Pump	No.	1.0			
B.5.9.17	PPS S19.9	Funnel	No.	1.0			
B.5.9.18	PPS S19.9	BI-pass	No.	1.0			
B.5.9.19	PPS S19.9	125mm x 1" Saddle	No.	2.0			
B.5.9.20	PPS S19.9	28mm Copper to copper bend	No.	1.0			
B.5.9.21	PPS S19.9	25mm Lever type ball valve	No.	1.0			
B.6.0	PPS S19.12	PUMP TRAILER					
B.6.1		Pump to be mounted on a two wheeled trailer with roof & tyres (roof full length and width of trailer). all steelwork to be treated against rust and paint with a rust resistant paint, easy to move with tractor or small truck in flood situation	Sum	1.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.7.0	SABS 1200L	AIRVALVES					
B.7.1	PPS S19.6	Supply and place Pipes, Valves and Special fittings : 125mm x 125mm Fabricated GMS	No.	2.0			
B.7.2	PPS S19.6	Air trap Tee Flanged T/D as per Detail	No.	2.0			
B.7.3	PPS S19.6	PVC COUPLING 160mm	No.	2.0			
B.7.4	PPS S19.6	125mm PVC Stub QR1	No.	4.0			
B.7.5	PPS S19.6	125mm Galvanised backing Ring T/D	No.	4.0			
B.7.6	PPS S19.6	100mm DOUBLE ORIFICE AIR RELEASE AND VACUUM BREAKER (VENT-O-MAT RBX SERIES O.E.A)	No.	1.0			
B.8.0		MISCELLANEOUS					
B.8.1	PPS CC9.1	Concrete / Thrust blocks and pedestals: Concrete 25MPa/19mm	m ³	2.0			
B.8.2	PPS CC9.1	FORMWORK	m ²	3.0			
B.8.2.1	PPS CC9.2	Supply, install & paint precast type Route Markers	No.	12.0			
Total Carried Forward							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION B: IRRIGATION SYSTEM

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
Brought Forward							
B.9..0		TESTING AND COMMISSIONING OF IRRIGATION SYSTEM					
B.9.2.1	PPS S21.15	Training of Farmer on operation and Maintenance of Pump for period not less than three hours	Sum	1.0			
B.9.2.2	PPS S21.15	Training the beneficiaries the operation and maintenance of the irrigation pump and the whole irrigation system. Provide operation Guide DOCUMENTS THAT SHOW THE IRRIGATION SETTING, IRRIGATION SCHEDULE AND SOIL MOISTURE ASSESSMENT PRIOR TO IRRIGATION	Days	2.0			
Total Carried Forward To Summary							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SECTION C: DRAINAGE

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	c
		SECTION C: CONSTRUCTION OF CONTOURS					
		EARTH MOVING					
C		EARTH MOVING EQUIPMENT					
C1		Excavator:					
C.1.1		Minimum specification: Track driven, operating weight rating = 20ton,					
C.1.2	PPS PM3.1	Net power rating = 110kW, Boom reach length = 9,5m, and bucket capacity at least 1m3 (Do not tender this item, if offering an alternative)	hours	36.0			
C.1.3		Movement of Machinery:					
C.1.4	PPS PM3.2	Move machinery between construction site with low-bed truck.:Mthatha to Lusikisiki	km	580.0			
Total Carried Forward To Summary							

SCMU8-23/24-0023
BILL OF QUANTITIES
AMABANGQA IRRIGATION

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
1	SECTION A: PRELIMINARY AND GENERAL
2	SECTION B: IRRIGATION SYSTEM
4	SECTION C: CONSTRUCTION OF CONTOURS
Total Carried Forward To Summary Of Schedules	

SCMU8-23/24-0023
BILL OF QUANTITIES
AMAJABANGQA IRRIGATION

SUMMARY OF SCHEDULES

SCHEDULE	DESCRIPTION	AMOUNT (RAND)
1	AMABANGQA IRRIGATION
SUBTOTAL	
1	Contingencies 10%
2	VAT 15%
Total	

C 3.1

Scope of Work

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C3.1 Scope of Work

1. Scope of Work and Management

TOPIC	SUB TOPIC
DESCRIPTION OF THE WORKS	
Employer's objective	To appoint a contractor for the Supply, Delivery and Installation of a Dragline Irrigation System in the Amajabanqa Farm in Ingquza Hill Local Municipality in the OR Tambo.
Overview and extent of works	<p>This contract entails the Supply, Delivery and Installation of Dragline Irrigation with a diesel pump.</p> <p>The installation works shall include the following:</p> <p>Dragline Irrigation System</p> <ul style="list-style-type: none"> • Excavation and trenching for mainline and sub-main lines • Supply, delivery and installation of mainline, sub-main lines, laterals and sprinklers • Supply, delivery and installation of diesel pump • Demonstration of irrigation system
Location of the works	Kanano village in the Ingquza Hill local municipality. Refer to locality drawings for co-ordinates. 31° 18' 57.92" S and 29° 34' 11.02"E
ENGINEERING	
Design + Drawings + Specifications	Done + Will be issued + Compiled by the division Engineering Services of DRDAR
PROCUREMENT	
Preferential procurement procedures	Method 1 – Price Preference
Sub-contracting	Sub-contracting will be allowed. The Contractor must however indicate at tender stage which portions of the work will be sub-contracted and to whom.
CONSTRUCTION	
Works specifications	<ol style="list-style-type: none"> 1. The standards specifications will apply, as stated in: "Specifications of Construction Materials and methods to be used for Agricultural on-farm Infrastructure", Second Edition, April 2022, Revision "DRDAR SCMM-02/2022". 2. Applicable SANS 1200 standards for the building works. 3. Attached Project Particular Specifications will apply.
Plant and materials	<ol style="list-style-type: none"> 1. The Employer will not provide any plant or material. 2. The Contractor shall inform the Engineer in good time, to inspect and approve the plant and materials that will be used before construction commences or on arrival of material on site.
Construction equipment	<ol style="list-style-type: none"> 1. The Employer will not provide any equipment. 2. The Contractor shall provide all suitable construction equipment necessary to complete the project.
Existing services	Care should be taken by the contractor not to damage any existing services. The Engineer shall show the position of all existing infrastructure both above ground and below ground to the Contractor and the contractor are to ensure that no excavations shall commence without consent of the Engineer.
Site establishment	<ol style="list-style-type: none"> 1. The Employer will not provide any facilities on site. 2. The Contractor shall provide an office, storage shed, toilets, security, vehicles, labour and accommodation.
Site usage	The Contractor shall not utilize the site for any other purpose than the construction of the agreed works.
Permits and way leaves	The Contractor will negotiate all necessary permits and way leaves with the local community.
Survey control and Setting out works	The Contractor will be responsible for the survey and setting out of all construction levels. After setting out the levels the Contractor will inform the

	Engineer to inspect the levels before any excavation work or construction work may commence.
MANAGEMENT	
Management of works	<ol style="list-style-type: none"> 1. Applicable SANS 1200, SANS 10400 standards will apply. 2. Attached generic standards will apply. 3. The standards specifications will apply, as stated in: "Specifications of Construction Materials and methods to be used for Agricultural on-farm Infrastructure", Second Edition, April 2022, Revision "DRDAR SCMM-02/2022", will apply. 4. Drawings and specifications will be provided by the Employer and shall be the only acceptable drawings for the agreed works. 5. The Engineer will be available to perform inspections every day on request, but will perform at least one scheduled inspection per week. 6. The Contract type is measured where payments to the Contractor will be made after measurement of the work done by the Engineer according to the following payment schedule. <ol style="list-style-type: none"> 6.1. The Contractor shall submit invoices according to the agreed claims and the Engineer will recommend the payment. 6.2. The Engineer will inspect the work at the Contractor's request to measure the progress and determine the part payment that is due when both parties are in agreement about the claim. 6.3. All payments can include materials that are secured on site under control of the Contractor. Materials on site which are not yet built into the works will be compensated at 80% of the value as per the invoice from the material suppliers. 6.4. The Employer allows for monthly interim payments for the project that can be used, 1 practical and 1 final payment. 6.5. The practical completion of the construction work implies the work is complete and the beneficiaries can use the infrastructure. 6.6. The final and last payment is the retention money that will be paid after a predetermined period after all construction work is done. This is the defects liability period. 6.7. Certificates of Completion and Final Approval will be issued by the Engineer for practical and final construction completion. 7. The Contractor shall provide the Engineer with proof that Insurance has been obtained for the contract period. 8. The Contractor shall keep a daily record of all labour related matters, weather occurrences, all incidents that influenced construction. 9. Communications between the Employer and Contractor will be in writing with copies to all stakeholders. 10. The Contractor shall be responsible for testing the works after completion to ensure compliance with the Employer's requirements. 11. The Employer will commission the works during a public handing over ceremony. 12. The Contractor shall repair all defects of workmanship and materials during the liability period.
Health and safety	<ol style="list-style-type: none"> 1. Attached Generic Occupational Health and Safety Specifications will apply. 2. Applicable SANS 1200, SANS 10400 and 10142 standards will apply; 3. Occupational Health and Safety Act (Act No. 85 of 1993) will apply; 4. The Contractor shall appoint a person that will be responsible for health and safety issues on site and provide the Engineer with the name and credentials of this person. This person must also be trained in First Aid and must have a comprehensive First Aid Kit on site. 5. The Contractor shall be responsible to design and apply measures to prevent accidents or injury to any person or property during construction.

C 3.2

Specifications

PARTICULAR / GENERIC SPECIFICATIONS

PROJECT SPECIFICATIONS FOR BID FOR THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

SCOPE

PS SCOPE

THIS BID FOR THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT.

PS 1 DISCLAIMER

The information regarding subsurface conditions, materials on site and site information supplied, is provided in good faith for the contractor's convenience as an indication of conditions likely to be encountered. No responsibility will be accepted for, and there is no guarantee of the information being representative of the whole area of the works or materials.

The information provided will not be regarded as in way limiting. The contractor will be held to have satisfied himself of all conditions to be encountered on site and to allow accordingly in his tendered rates.

PS 2 APPLICABLE STANDARDS

The South African Bureau of Standards, Standard Specifications for Civil Engineering Construction (SABS 1200). It shall however be noted that reference is made in certain of the specifications to other standardized specifications which may or may not be included in this document. Where such specifications are not included, they shall however be deemed to be included in the Contract documents.

The Contractor shall have available for reference on site at all times a full set of the above specifications, together with any other to which they refer. These specifications shall remain the property of the Contractor but shall be made available to the Engineer whenever required throughout the duration of the Contract.

The South African Bureau of Standards, Standard Specifications for Civil Engineering Construction (SABS 1200) shall apply to this Contract together with additional amendments as set out herein

PS 3 PLANT AND MATERIALS

The Employer will not be providing any plant or supplying any materials for use by the Contractor in executing the works. The Contractor must provide all plant and materials of whatever nature necessary to enable him to undertake the works as specified.

The Contractor must provide all necessary samples and copies of the relevant test results required to prove compliance with the specifications, prior to utilisation of any material within the works.

PS 3.1 Construction Equipment

The provision of all tools and equipment of whatever nature, required for execution of the scheduled items, must be the responsibility of the Contractor, and the cost thereof must be included in the rates for the respective items of work.

PS 4 EXISTING SERVICES

The Contractor will be issued with drawings showing the position of existing services in the vicinity of his working area. The Contractor must contact the service authorities concerned (i.e. Water, Sanitation, Electricity and Telecommunications) to confirm the position of existing services, and must apply for the Construction Permit for work programmed within the road reserve when required.

The Contractor is required to undertake work in proximity to existing services and he must take all necessary precautions to prevent any damage to these services. In this regard, the Contractor must

excavate by hand to expose and confirm the location and depth of each existing service prior to carrying out any construction over or around the service.

Should his operations result in any damage to existing services, he must immediately notify the Engineer and the local authority, who will inspect the damage and determine what further action is required. The Contractor must be responsible for the cost of all repairs or reinstatement necessary, whether these are carried out with his own resources or by a third party.

PS 5 SITE ESTABLISHMENT

PS 5.1 Services and Facilities Provided by the Employer

The Employer will not provide any facilities or services.

PS 5.2 Facilities Provided by the Contractor

Due to the extremely constricted nature of the site, the Contractor must be required to determine the most convenient location for his camp site in consultation with the Community/Owner such that this will cause the least disruption and interference with his activities. Dependent on his actual space requirement, different components of the camp could be located in different areas.

Should the Contractor elect to locate any or all of his facilities in one area for a certain duration, and then relocate them later, any associated costs must be solely for his account, and no claims of any nature for additional costs will be entertained.

The Contractor will be required to provide certain facilities for the exclusive use of the Engineer and his staff, all as defined in SABS 1200 AB, and as amended by any variations / additions in clause C3.4.1.6.

PS 5.3 Storage and Laboratory Facilities

The employer has no specific requirements for any storage or laboratory facilities, and the Contractor should provide whatever he deems to be necessary to support his activities.

PS 5.4 Other Facilities and Services

Should the Contractor require a supply of municipal water to enable him to undertake any of his activities on the site then he must make his own arrangements with the Community/Owner or Municipality for a suitable point of supply. The Contractor must agree the details of both the position and the size of connection required with the relevant officials, and must be responsible for the cost of the connection, the cost of water used, and the cost of removal and reinstatement on completion.

Should the Contractor require an electrical connection to his campsite then he must submit an application to the Community/Owner, Municipality's electricity department or Eskom as might be applicable to obtain a supply with the necessary capacity at a suitable position. The Contractor must be responsible for the cost of the connection, the cost of electricity used, and the cost of removal and reinstatement on completion.

The Contractor must:

- i) make his own arrangements for whatever telephone and facsimile services he may require.
- ii) provide sufficient serviced, portable toilets at convenient locations for the use of his staff during their time spent on site.
- iii) supply a first aid kit to be available at the site office, and re-stock the contents as and when necessary.
- iv) make available a list of emergency contact numbers for ambulance, police and fire services.
- v) provide the necessary facilities on site to temporarily store refuse, and make arrangements with the Municipality for regular refuse removals. Refuse storage facilities must make allowance for waste separation, re-cycling and re-use wherever possible

All costs associated with any of the above aspects must be included in the relevant preliminary and general items.

PS 5.5 Vehicles and Equipment

No vehicles or specialised equipment is required for the employer and his agents.

PS 5.6 Advertising Rights

No advertising of any kind will be allowed on the site.

PS 5.7 Notice Boards

Two project notice boards will be required in accordance with SABS 1200 AB, and as amended by any variations/additions in clause C3.4.1.6.

PS 6 SITE USAGE

The Contractor must restrict his operations to the boundaries of the site and he must not be allowed to occupy or impact on any other adjacent areas.

PS 7 PERMITS AND WAY LEAVES

The Contractor will be required to provide copies of permits for any borrow pits or quarries from which he intends to obtain bedding material or aggregate.

The Contractor must be responsible for obtaining all of the necessary way leaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and must ensure that any way leaves, permissions or permits obtained by the Employer's Agent prior to the award of the Contract are transferred into the Contractor's name. (Refer also to clause C3.4.4 above.)

The Contractor must abide by any conditions imposed by such way leaves, permissions or permits.

The Contractor must ensure that all way leaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand.

PS 8 ALTERATION, ADDITIONS, EXTENSIONS AND MODIFICATIONS TO EXISTING WORKS

Wherever the Contractor is required to carry out construction to lines and levels based on or tying into existing infrastructure, he must first check that the information provided for the existing works is accurate and correct. Should there be any discrepancies as regards position, or defects in the quality of the existing work which may affect the proposed work, then the Contractor must report these to the Engineer and request clarification prior to proceeding with the new construction.

PS 9 INSPECTION OF ADJOINING PROPERTIES

The Contractor and the Engineer must together inspect and record the condition of all adjoining properties or existing services, prior to the commencement of any work that may impact on these existing facilities in any way.

PS 10 WATER FOR CONSTRUCTION PURPOSES

The Contractor must make his own arrangements with the Community/Owner or Municipality to obtain water for construction purposes.

PS 11 SURVEY CONTROL AND SETTING OUT OF THE WORKS

The Contractor must be solely responsible for the setting out of his work, and will be provided with the necessary bench marks and co-ordinated pegs on which to base the setting out.

All other control points and benchmarks required for construction or computation of quantities must be set out by the Contractor in consultation with the Engineer. Points set out must be clearly marked and the position and all other relevant data placed on a site plan. A copy of the plan must be handed to the Engineer immediately, for control purposes.

Any existing beacons disturbed or removed during the course of the Contract will be replaced at the Contractor's cost. Only a land surveyor or the Engineer's Surveyor who originally installed the beacons will be allowed to replace them.

PS 12 MANAGEMENT

PS 12.1 Management of the Works

PS 12.1.1 Applicable SANS Standards

The applicable standards are listed in clause PPS 2.

PS 12.1.2 Particular / Generic Specifications

Particular or generic specifications are included for all parts of the work.

PS 12.1.3 Planning and Programming

Within 14 days of the Commencement Date the Contractor must prepare and submit to the Engineer for approval a fully detailed programme showing:

- the sequence and duration of all activities required to undertake the scheduled work.
- the linkage between activities deemed to be on the critical path.
- critical dates for receipt of information and drawings.
- milestone date for Completion of different sections of the work.

Whenever the work deviates significantly from the proposed programme for whatever reason, the Contractor must, following a request from the Engineer, must prepare a new programme that shows how the work will be re-scheduled so as to achieve the original Completion Date.

The Contractor must take cognisance of the exploration work which has to be executed prior repairing or replacing of existing pipelines.

PS 12.1.4 Sequence of the Works

The sequence of work must be carried out strictly in accordance with the approved programme as detailed above.

PS 12.1.5 Methods and Procedures

Prior to the commencement of any work on the Site the Contractor must submit method statements for each separate construction activity that he is required to undertake. The method statements must be submitted to the Engineer for approval at least 10 days prior to the scheduled start of the activity. The method statements must set out the technical procedures to be followed in carrying out the activity and must include details of compliance with both Occupational Health and Safety and Environmental aspects.

The Contractor must ensure that his staff and workers are properly trained in the safe and effective use of any equipment, plant or materials necessary to undertake the work.

PS 12.1.6 Quality Control

The Contractor must provide whatever samples of materials are required for approval prior to commencement, together with the applicable test results to prove compliance with the relevant specification. He must undertake all necessary tests that are stipulated in terms of the applicable specification to ensure that his workmanship meets the required standard.

PS 12.1.7 Environment

The Contractor must ensure that he is fully aware of the requirements of the CEMP and that he understands his responsibilities regarding both his management of the project and the actual construction activities on Site.

PS 12.1.8 Accommodation of Traffic

The Contractor is responsible for the safety of all vehicular and pedestrian traffic affected by his work and must provide all the necessary warning signs, barricading and lighting as necessary, fully in compliance with the requirements of the SADC Road Traffic Signs Manual and with the approval of the Traffic Department.

PS 12.1.9 Other Contractors

The Contractor has sole possession of the site and does not have to deal with other contractors.

PS 12.1.10 Testing, Completion, Commissioning

Each aspect of the work included in the Contract must be fully tested in accordance with the requirements of the relevant standard specification, as amended by the Specification Data as applicable, prior to completion of the works as a whole. All outstanding work must be completed and substandard work must be corrected prior to completion taking place.

PS 12.1.11 Recording of weather

The Contractor is required to keep a detailed record of daily weather conditions on the Site. The information must include rainfall, wind speed and direction, cloud cover and temperature. The format and extent of detail required must be agreed with the Engineer prior to commencement. (Refer to clause PS 12.1.17) below). A summary of inclement weather shall be recorded in the minutes of site meetings.

PS 12.1.12 Format of Communications

All communication of whatever nature is through the Engineer. Only under circumstances that relate to health and safety can the Contractor act on instructions issued by any other party. These instructions must then be immediately communicated to the Engineer with a request for confirmation of the instruction.

The Contractor is required to provide a suitable triplicate book which is used for communication between the Engineer or his representative and the Contractor. The book may be used for the issue of site instructions, the request for information or inspections, or merely to record aspects of contractual importance.

PS 12.1.13 Key Personnel

Within 14 days of the Commencement Date and prior to commencement of any operations on site, the Contractor shall submit to the Employer's Agent detailed CV's of his key personnel together with their relevant contact details. Should the key personnel not be the same as those included in the tender submission, then the Contractor shall be required to provide personnel with equivalent or better qualifications and experience.

The Contractor keeps a site representative competent to administer and control the works continuously in the Working Areas during the execution of the works. The Contractor informs the Engineer of the name of the site representative, and any instruction given to the site representative by the Engineer is deemed to be given to the Contractor.

PS 12.1.14 Management Meetings

The Contractor is required to attend a monthly site meeting during which all aspects relating to the progress, scope, expenditure, OHS, environmental and general administration of the Contract is discussed. The Contractor must ensure that his representative at the meeting has the necessary understanding and authority to make decisions regarding these issues.

In addition, technical meetings are held on monthly, during which time aspects of a more technical nature relating to the actual construction process and quality of the work are addressed.

PS 12.1.15 Forms for Contract administration

The Contractor will keep all records as stated below as well as the following:

- EPWP forms to be submitted together with all Payment Certificates.
- Report on progress and labour at site meetings.

PS 12.1.16 Payments

All payments to the Contractor are by means of direct electronic transfer and the Contractor must provide his banking details to the Engineer together with the initial payment claim.

PS 12.1.17 Daily Records

The Contractor is required to maintain a daily record of all construction activities taking place on Site which includes details of plant, personnel, and visitors as well as other events such as weather conditions or any circumstances that may have a bearing on the nature and progress of his operations.

The Contractor is required to provide a detailed report at each site meeting. The report must be in a format to be agreed with the Engineer and contain the following:

- Details of actual progress versus programme for each construction activity.
- A daily record of rainfall and other weather events that could affect the work.
- Details of any delays that have occurred due to weather or any other cause.
- A record of resources (people, plant and equipment) present on Site.
- Details of any accidents or lost time incidents that have occurred.
- A list of information required.

PS 12.1.18 Payment Certificates

Payment Certificates shall be drawn up in an agreed format based on the bills of quantities and any variation orders authorised. The date for submission of each payment claim shall be agreed with the Employer's Agent. The procedure for preparation of Payment Certificates shall be as follows:

- The actual quantity for each item shall be agreed with the Employer's Agent or his representative based on the cumulative total of the previous monthly quantity and the additional work carried out during the month.

- The Contractor shall draw up and submit his claim using the agreed quantities.
- The Employer's Agent shall check the claim and confirm the amount to be paid.
- The Contractor shall provide a VAT invoice to the Employer's Agent for the agreed amount.
- The Employer's Agent shall prepare the payment certificate and submit the claim, accompanied by the VAT invoice.

PS 12.1.19 Proof of Compliance with the Law

The Contractor is required to comply with all regulations and laws of whatever nature which are applicable to his operations throughout the duration of the Contract, and produce documentary evidence when requested for all aspects, including, but not limited to:

- Valid proof of registration with the Compensation Commissioner.
- Proof of registration for income tax and VAT.
- Compliance with the Occupational Health and Safety Act and Construction Regulations.

PS 12.2 Health and Safety

The Contractor must comply with all relevant aspects of the Occupational Health and Safety Act together with the Regulations referred to therein, as applicable to the scope of his activities.

Particular attention must be paid to the issuing of the relevant Notices, appointment of responsible people, undertaking Hazard Identification and Risk Assessments, and preparation of a Health and Safety Plan. All necessary documentation must be prepared and submitted for comment and approval immediately after the Contract award.

Specific Health and Safety considerations applicable to this project are detailed in the Occupational Health and Safety Specification, attached to this document.

Method statements submitted for the Contractor's construction activities include details of compliance with Occupational Health and Safety, and must be submitted immediately after the Contract award and prior to commencement with any work on Site.

The Contractor must provide the necessary personal protective equipment and clothing to all staff as relevant for the type of work being carried out.

Whenever the Contractor's staff are subjected to hazardous substances, excessive dust or noise, he must arrange for pre and post-employment medical examinations on the affected employees.

No member of the Contractor's staff is allowed on Site while under the influence of alcohol or drugs. Any member of his staff who exhibit signs of alcohol or drug usage must be immediately removed from the premises.

The Contractor is responsible for the protection of the public in the areas in which he is working and must provide barricades and lighting as necessary to ensure their safety. He is also responsible for the safe control of traffic wherever his works impact on the existing roadways.

Project Health and Safety Specification

In terms of Construction Regulations 2014

PROJECT HEALTH AND SAFETY SPECIFICATION

1.0 SPECIFIC PROJECT INFORMATION

1.1 INTRODUCTION AND DEFINITIONS

This Health and Safety Specification contains clauses that are generally applicable to construction activities, as well as imposing pro-active controls associated with activities that impact on Health and Safety as it relates to work on site. Compliance to the requirements of the Occupational Health and Safety Act 1993 is an additional requirement of this Health and Safety Specification and is part of the Contractor's responsibility. The Client, and/or their agents, will monitor that all Contractors comply with the requirements of such legislation.

ALL REFERENCES TO CLIENT IN THIS HEALTH AND SAFETY SPECIFICATION ALSO REFER TO SAFETY AGENT, WHERE SO APPOINTED.

Definitions (as per the Construction Regulations 2014) applicable to this Health and Safety Specification:

"agent" means a competent person who acts as a representative for a Client;

"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 work" means any work in connection with -

- the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- 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;
-

"contractor" means an employer who performs construction work;

"design" in relation to any structure, includes drawings, calculations, design details and specifications;

"designer" means a competent person who-

- prepares a design;
- checks and approves a design;
- 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
- designs temporary work, including its components;
- an architect or engineer contributing to, or having overall responsibility for a design;
- a building services engineer designing details for fixed plant;
- a surveyor specifying articles or drawing up specifications;
- a contractor carrying out design work as part of a design and building project; or
- an interior designer, shopfitter, or landscape architect;

"ergonomics" means the scientific discipline concerned with the fundamental understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data, and methods to design in order to optimise human well-being and overall system performance;

"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 -

- all risks relating to working from a fall risk position, considering the nature of work undertaken;
- the procedures and methods to be applied in order to eliminate the risk of falling; 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;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

"principal contractor" means an employer appointed by the Client to perform construction work;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"structure" means:

- 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;
- any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or
- 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;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

- **Reference should be made to the following documentation in conjunction with this Safety Specification (including existing surveys, drawings, and reports):**

1. Tender documents including the Approved drawing and Terrain Surveys

IMPORTANT NOTE:

This Health and Safety Specification has been prepared to comply with the requirements of the Construction Regulations 2014.

1.2 BACKGROUND TO THE HEALTH AND SAFETY SPECIFICATION

The Client is committed to ensuring the highest Health and Safety standards for all work undertaken within the Contract.

Contractors as employers are fully responsible and accountable for compliance with all Health and Safety requirements.

IMPORTANT NOTE:

Compliance with the Occupational Health and Safety Act and Regulations shall not be limited to this Health and Safety Specification and definitions contained in this document.

Contractors shall be conversant with the requirements and effects of Health and Safety legislation upon their activities, in particular the Construction Regulations, 2014, and the Occupational Health and Safety Act, 1993, and to have made adequate resource in their tender submission to comply with all legislative requirements.

Failure to comply with the requirements of this Safety Specification will result in severe sanction and the severity of the sanction will depend on the severity of the non compliance

The Contractor's personnel will be responsible for the auditing of the implementation of the Health and Safety Specification and maintaining the document control and record systems associated with the Health and Safety Specification. The Client will arrange for Health and Safety audits to be conducted on site on their behalf to monitor health and safety compliance by contractors.

1.3 PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION

The purpose of this site-specific Health and Safety Specification is to comply with legal requirements and to provide health and safety information about specific project risks known by the Client, Designer and Safety Agent to be applicable to this project. This document also provides minimum health and safety requirements, standards, and expectations that the contractor must adhere to.

The Contractor must take into account all information in this specification and ensure that their tenders include adequate resource and competence to deal with the matters detailed herein so that all relevant contents are dealt with in a way

which is in compliance with legislation and the ethical concerns for the safeguarding of employees, contractors and other persons affected by the construction activities.

The Health and Safety Specification will be implemented during construction of the works and any construction activity that the Client has control over.

This will also assist in ensuring that all the costs related to the compliance with Occupational Health Act 85 of 1993 and the Construction Regulations 2014, as well as this Health and Safety Specification, are taken into consideration at Tender stage.

No advice, approval of any document required by the Health and Safety Specification such as hazard identification and risk assessment action plans or any other form shall be construed as an acceptance by the Client of any obligation that absolves the Contractor from achieving the required level of performance and compliance with legal requirements.

Further, there is no acceptance of liability by the Client which may result from the Contractor failing to comply with the Health and Safety Specification unless the Client has issued an instruction to any requirement, i.e., the Contractor remains responsible for achieving the required performance levels.

1.4 IMPLEMENTATION OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification forms an integral part of the Contract, and Contractors shall make it an integral part of their Contracts with other Contractors and Suppliers. Contractors employed by the Client are to ensure that the provisions of the Health and Safety Specification are applied both on the site and in respect of all off site activities relating to the project, in particular in transport activities and project dedicated off site fabrication works.

The Contractor shall enforce the provisions of the Health and Safety Specification amongst all Contractors and suppliers for the project.

The successful Contractor will be required to compile a Health and Safety Plan based on the requirements of the Occupational Health Act 85 of 1993 and these Specifications, which will need to be approved by Client (or their appointed safety agent) prior to commencement with construction work.

2.0 OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS

2.1 GENERAL REQUIREMENTS

The contractor shall:

1. create and maintain as reasonably practicable a safe and healthy work environment,
2. execute the work in a manner that complies with all the requirements of the Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring.
3. respond to the Safety audit report and notices issued by the employer's health and safety agent as follows:
 - a) Section 1 of the Safety audit report states the Aspects of the Safety audit and this report Positive and first time non or partial conformances which must be attended to.
 - b) Section 2 of of the Safety audit report states the items which has not been addressed from the previous audit report and must be rectify contravention as soon as possible.
 - c) Section 3 of of the Safety audit report states the significant OHS contravention which should be addressed immediately.
 - d) Section 4 of of the Safety audit report states Contraventions/Improvements are required to be addressed within fourteen days or within time period specified in the report. An action report must be send to the Safety Agent with the action to be taken on the contraventions noted.
 - e) If the site has scored less than our minimum standard of 80%, the Principal Contractor or Contractors will be required to give an action plan to advise on how the non and partial compliances will be adhered to.
 - f) If the Principal Contractor or Contractors cannot (or will not) comply with this requirement for an action plan, then the Health and Safety agent will advise the Client that the site activities should be stopped until the Principal Contractor or Contractors adheres to all non-compliances and until Safe Working Practice is happy that the site is in compliance with the legal requirements.
 - g) Stop work instruction: terminate affected activities with immediate effect and only recommence activities when it is safe to do so and Revoke of stop work is issued by the Safety Agent.

Note: Financial penalties can be applied should Stop work instruction be issued. This should be dealt with in the Contract Data.

2.1.1 Non-Conformance Penalty

Should, at any time, the works, or part of the works, be stopped due to unsafe acts or non-compliance with the Clients or PCs H&S Plan; neither the PC nor any other Contractor shall have a claim for extension of time or any other compensation.

The following constitute examples of the types of non-conformances that will attract penalties

Minor: Penalty: R50/count	Medium: Penalty: R500/count and a non-conformance	Severe Penalty: R5000/count, a non-conformance and/or activity stoppage
Non-use of PPE supplied	Toilets not supplied or regularly serviced; lack of drinking water	Contractors working without Health and Safety Plan approval
Non completion of registers for plant and equipment on site	Contractors not audited	Workers transported in contravention of the OHS plan or legal requirements
Lack of H&S signage at work areas	Working without training or the appropriate H&S method statements	Invalid Letters of Good Standing
Tools and equipment identified in poor condition during inspections	Legal non-conformances identified during the previous audit and not addressed within the agreed time frame	Non-compliance with traffic accommodation requirements: layout or physical conditions
	No monthly OHS report at site meeting to report on	Fall protection harness not tied off / not worn
	No certificates of fitness for workers as required	Any breach of legal requirements

2.2 ADMINISTRATION

2.2.1 Notification of Intention to Commence Construction Work

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 Client 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.

Keep in consideration the dates for practical, works and final Completion, this must be included in the duration of the contract.

It is the responsibility of the Principal Contractor to update the notification of construction before the expiry date, failure to keep the notification up to date can result in a Stop work instruction.

If the project continues over 12 months, the notification of construction will change to a construction work permit. Although work will continue, an application for a construction work permit will be done by the Safety Agent at the Department of Employment and Labour. All needed documents must be supplied to the Safety Agent by the Principal Contractor within a week of the expiry of the Notification of Construction. The Department of Employment and Labour has 30 days to issue a construction work permit.

2.2.2 Copy of Act and Regulations

The contractor shall ensure that a copy of the Act and Construction 2014 regulations is available on site for inspection by any person engaged in any activity on the site.

2.2.3 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The successful Contractor shall submit to the Client a valid letter of good standing with the Compensation Insurer prior to appointment. All contractor the Principal contractor appoint of the Project must have proof of a valid letter of good standing with the Compensation Insurer prior to appointment.

2.2.4 Emergency Procedure

The Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following:

- List of key personnel;
- Details of emergency services; in the nearby area. Including contact numbers and addresses.

- Actions or steps to be taken in the event of the emergency; and
- Information on hazardous materials / situations, including each material's hazardous potential impact or risk on the environment or human and measures to be taken in the event of an accident.

Emergency procedure(s) shall include, but shall not be limited to, fire, spills, accidents to employees, use of hazardous substances, dangers as a result of riot / service delivery protests / intimidation, etc. The Contractor shall advise the Client in writing of any on-site emergencies, together with a record of action taken, within 24 hours of the emergency occurring. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and available to site personnel.

The Contractor shall submit a detailed procedure and risk assessment for serious criminal offences, riots, violent actions by employee or public. The procedure must include trauma counselling thereafter (if required). This must include but is not limited to:

- Security or any employees held at gun point.
- Security or any employee's treatment with their lives.

Security of any employees obstructed to perform any duties onsite.

2.2.5 Safety File requirement

The health and Safety file must be assessed and approved by the Safety Agent before work can commence on site.

Consolidated Health and Safety close out file requirements include:

- Health and safety policies.
- Health and safety specification (most recent version)
- Principal Contractor's health and safety plan/s
- Fall and Rescue Plan
- Site safety organograms
- Appointment must be accompanied by the following documents (Refer to section of the Specification)
 - CV
 - Training certificates
 - Medical surveillance certificates of fitness
 - SACPCMP registration (where applicable)
- Notification to Department of Labour of commencement of work
- Workman's Compensation Letters of Good Standing
- List of all contractors on site, including the following documents
 - Copy of the Signed Mandatory agreement between Principal Contractor and the Contractor
 - Copy of the signed Construction regulation 7.1.C.V appointment.
 - Copy of the Letter of Good standing at CIODA.
- Mandatory agreements (section 37.2 agreements) between the Client and the Principal Contractor
- Construction regulation 5.1.k Principal Contractors agreement.
- Incident and accident records / Occupational Disease records
- Safety agent's audit reports
- Safety Officer reports
- Method Statements
- Risk assessments
- Safe work procedures
- Induction of employees and subcontractors with proof of induction conducted.
- Proof of Toolbox talks conducted.
- All temporary works drawings (suspended beams/scaffolds, etc.)
- MSDS
- Copies of all Checklists and registers

The Health and Safety files for the Principal Contractors and all Contractors require closure and handover to the Client at the completion of the project in the form of a consolidated safety file. The following list is an example of what should be included but is not exhaustive. The Safety Agent or the Client may require further information at the time of completion and the Principal Contractor is to ensure that all instructions are responded to. Documentation would include all health and safety related records from the start of the project. All records to be in hard copy or electronic format and submitted to the Safety Agent for approval in adequately formatted lists and folders. Layout should be logical and in the same order as in the site files.

2.2.6 Health and Safety Committee

Where two or more health and safety representatives have been appointed on site, the Contractor shall ensure that monthly health and safety meetings are held with such representatives and minutes are kept on record. Meetings must be organized and chaired by the Contractor's Health and Safety Committee Chairperson. Minutes of these meetings must be available for the employees of the contractor to refer to.

PLEASE NOTE THAT THE SAFETY AGENT MAY REQUIRE THAT THE PRINCIPAL CONTRACTOR CONVENES A SAFETY COMMITTEE MEETING ON SITE IN THE INTERESTS OF HEALTH AND SAFETY ON SITE. SUCH

COMMITTEE MEETING MAY REQUIRE ATTENDANCE OF CONTRACTORS SAFETY OFFICERS/SAFETY REPRESENTATIVES, CONSTRUCTION SUPERVISION AND THE SAFETY AGENT.

2.2.7 Accident / Incident Reporting and Investigation

The Contractor shall, in addition to the prescribed requirements of the Occupational Health and Safety Act and General Safety Regulations, investigate, record, and report all Section 24 reportable incidents to the Client within 24 hours of the incident occurring. Incident investigations shall be conducted by the Contractor's appointed Accident Investigator – this Investigator must be a competent person or persons who have sufficient knowledge to carry out an investigation.

In the event of a fatality or a permanent disabling injury the Contractor must submit proof of reporting of incident to Department of Labour as well as proof of preventative measures to the Client. The Client reserves the right to conduct investigations into any incidents that they deem fit, and the Contractor is required to provide full co-operation in this regard.

2.2.8 Personal Protective Equipment (PPE)

The Client requires the Contractor to ensure that employees (and others under his/her control) wear the following minimum PPE:

Overalls:	Yes
Safety Harnesses:	Yes
Hard Hats:	Yes
Reflective Vests:	Yes
Safety Footwear:	Yes
Goggles / gloves / ear defenders / respiratory protection:	Yes
Specialist Equipment (e.g. for confined Spaces):	Yes, if Applicable

The Contractor shall carry out PPE or clothing needs analysis in accordance with his risk assessment, to determine the necessary PPE or clothing to be used during construction. The Contractor shall make provision to keep adequate quantities of appropriate, SABS approved PPE or clothing on site at all times.

The Contractor must ensure that personnel are trained in the correct use of PPE to be used.

The Contractor must ensure that lost, stolen, worn out or damaged PPE is replaced as required and receipt signed for by employees on site. A PPE issue register is required in the file for all PPE issued to employees.

2.3 APPOINTMENTS

2.3.1 Construction Manager (CR8.1)

A principal contractor must, in writing, appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate competent person must be appointed by the principal contractor. Proof of an all-inclusive assessment by the Principal Contractor of the Construction Manager's Competency in construction management and health and safety competency must be available in the Safety File.

The Construction Manager, Alternate Construction Managers, Assistant Construction Managers, and designated construction supervisor/s must, as a minimum, have training in Legal Liability, Construction Regulation 2014 and the OHS Act.

2.3.2 Contractor Safety Officer (CR8.5)

No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved (SACPCMP) by the Chief Inspector and has necessary competencies and resources to assist the contractor.

Records of safety audits undertaken by the Contractor's Safety Officer must be kept on site in the safety file and non-conformances reported by the Safety Officer to the Contractor's management team. All nonconformances identified by the Safety Officer and Client's Safety Agent must be investigated and corrective action taken by the Contractor to prevent re-occurrence.

The requirement for this site is that a full-time safety officer be appointed by the Contractor.

2.3.3 Contractor Supervisor (CR8.7)

The construction manager shall in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

A contractor shall after considering the size of the project and if considered necessary, appoint in writing one or more competent employees for different sections of the work to assist the construction supervisor.

The Construction Manager, Alternate Construction Managers, Assistant Construction Managers, and designated construction supervisor/s must, as a minimum, have training in Legal Liability, Construction Regulation 2014 and the OHS Act.

2.3.4 Additional Competent Appointments for the project (appointment is not limited to noted appointments)

Chief Executive Officer (OSH Act 16(1))
Contract Director/Manager (OSH Act 16(2))
Construction Manager (CR 8(1))
Construction Supervisor (CR 8(7))
Assistant Construction Supervisor (CR 8(8))
Construction Risk Assessor (CR 9(1))
First Aider (GSR3)
Excavation Supervisor (CR13(1)(a))
Scaffold Supervisor, Erector, Inspector & Team Leader (CR16(1))
Incident Investigator (OSH Act 9(2))
Safety Representative (where > 20 employees on site)
Construction Vehicle and Mobile Plant Operator (CR23(1)(d)(i))
Controller of Temporary Electrical Installations (CR24(c))
Stacking & Storage Supervisor (CR28(a))
Fire Extinguishing Equipment Inspector (CR29(h))
Fall Protection Plan Developer (CR 10(1)(a))
Fire and Emergency Coordinator CR(29)
Material Hoist Inspector (CR19(8)(a))
Material Hoist Operator (CR19(6))
Controller of Explosive Actuated Fastening Devices Nails, Cartridges or Studs Issue and Collection (CR21(2)(g)(1))

2.3.5 Health and Safety Representative(s)

The Contractor shall ensure that Health and Safety Representative(s) is/are elected and trained to carry out his / her functions. The Safety Representative(s) must be democratically nominated, elected, and appointed in writing. The Health and Safety Representative(s) shall carry out regular inspections, keep records and report to the supervisor to take appropriate action. The Safety Representative(s) shall attend Health and Safety Committee Meetings. The Health and Safety Representative shall be part of the team that will investigate incidents, accidents, and non-conformances. The Safety Representative(s) must be (a) full time employee(s) who is/are acquainted with conditions and activities at that workplace or section thereof. The Safety Representatives must have Safety Representative training and must be capable of performing their duties.

2.3.6 Medical Certificate Of Fitness (Annexure 3)

The contractor must ensure that their employees on site have a valid medical certificate of fitness, specific to the construction work being performed, issued by an occupational health practitioner in the form of an Annexure 3 template. A list of employees with expiry date of medical is required in the file.

2.3.7 Competency for Contractor's Responsible Persons

The Contractor's responsible persons shall be competent in health and safety and be familiar with the Occupational Health and Safety Act 1993, and applicable regulations. Valid proof of pertinent health and safety courses attended by such persons will be required to be presented to the Client.

A list of employees with expiry date of training certificates is required in the file.

2.3.8 Requirements for The Safety Plan Assessment

The Contractor must note that the information below is pertinent to the compilation of their safety plan response to this site-specific safety specification and it would be preferred if the Safety Plan is written in the order of the assessment documented below.

No	Item	Notes
1	Project Directory	Please state details of Project Client, Project Manager / Principal Agent, Safety Agent, Consulting Engineer, etc. (Name, address, contact details).
2	Contractors Directory	Please indicate if you will be using Contractors on this project, if yes, include their details, trade, and FEM details.
3	Other Parties Directory	Please indicate contact details for any services applicable (electricity, water, etc.) as well as Department of Labour and Emergency Services.
4	Project Safety Statement	The Project Safety Statement must be included in the Safety Plan.
5	Health and Safety standards for the project (OHS Act, construction regulations, basic conditions of employment, etc.)	Health and Safety standards must be included in the Safety Plan.
6	Project Particulars	Scope of works must be included in the Safety Plan. This is critical.
7	Existing environment – Structures and Surroundings, Services (Electrical, Water, Sewerage, etc.), Traffic Arrangements, Parking, Access to Site, Storage of Plant and Materials	Please include these items in the plan. The items must be Site Specific, the location of services and services that will be affected must be mentioned.

No	Item	Notes
8	Management Structure for safety on the Project	A structured organogram with names of the responsible people must be included.
9	Appointed Persons, Supervision	The required appointments must be identified. A list of the appointed persons must be included in the Safety Plan.
10	Security Procedures	Please indicate if a security company will be appointed and include the contact information in the Safety Plan.
11	Registers list and inspection frequency	A list of the Inspection Registers that will be on file must be included in the Safety Plan.
12	Design Co-ordination	Please indicate your procedure for implementation of design changes by designer on the project, and the procedures for liaison and implementation of temporary works design on the project.
13	Contractor Co-ordination	Mention must be made of how Contractors will be co-ordinated on site to ensure that they work together and not adversely affected health and safety.
14	Housekeeping, stacking and storage	Housekeeping policies and procedures must be included in the Safety Plan.
15	Waste Disposal Arrangements	Waste disposal arrangements procedures must be included in the Safety Plan.
16	Noise and dust control	Please indicate if any noisy operations (more than 85 decibels) will be carried out and what measures will be used to reduce noise exposure to workforce.
17	Training Requirements	Training requirements must be identified and recorded.
18	Plant and Equipment	A list of plant and equipment to be used on site must be included in the Safety Plan.
19	Safety Monitoring Arrangements	The name, contact details and SACPCMP registration status of the Safety Officer must be included in the Safety Plan. State how often the Safety officer will be on site (note safety specification requirement in section 1.7).
20	Information for Contractors	State how information will be given to Contractors on site.
21	Consultation/communication arrangements with Employees	State how information will be given to employees e.g., notice board.
22	Selection of Contractors Procedures	Principal contractor must state what health and safety procedures they will use to assess the competence and resources of their contractors on site.
23	Activities with risk to Health and Safety (Risk Assessment)	A Baseline Risk Assessment must be included in the Safety Plan, it must address the Risks identified in the Safety Specification as well as the risk of any other hazards that the Principal Contractor is aware of that are relevant to the site.
24	Hazardous Substances	Must be listed in the Safety Plan and addressed in the Risk Assessment.
25	First Aid and Medical Procedures	Please indicate name of first aider, position of first aid box, location of nearest medical facility and emergency numbers.
26	Fire and Emergency Procedures	List of emergency telephone numbers must be drawn up and included in the Safety Plan. The position of Fire Extinguishers, Assembly Point location, fire drill frequencies, numbers of fire marshals, etc.
27	Accident and Incident Reporting and investigation	State the Accident and Incident Reporting and investigation procedures of your company.
28	Welfare and Site Facilities	Elaborate on toilets and eating areas, water provision, how will workers be protected during wet weather conditions etc.
29	Site Rules	The Site Rules must be included in the Safety Plan.
30	Personal Protective Equipment	The necessity must be identified by Risk Assessments.
31	Health & Safety File arrangements	Please indicate arrangements for the return of the Health and Safety File to the safety agent at the end of the project.
32	Method Statements/Safe System of Works	A list of Method Statements/Safe System of Works must be included in Safety Plan for all High-risk activities
33	Permits and wayleaves	List of activities that Principal Contractor anticipates will require permits and wayleaves (including those stated in the safety specification) to be included.
34	Fall Prevention and Protection Plan and Fall Rescue Plan	A copy of the Fall Prevention and Protection Plan, fall rescue plan and fall risk assessment must be included in the Safety Plan.
37	Safety Representatives and Safety Committees	When a project has more than 20 employees a designated employee must be chosen by the labourers to represent them. A safety committee must be established if 2 or more safety representatives are appointed.
38	Have the significant hazards from the safety specification been addressed?	See section 1.9 of the Specifications and ensure practical measures have been detailed in the safety plan.

2.3.9 Fall protection

The Contractor must:

- designate a competent person to be responsible for the preparation of a fall protection plan
- ensure that the fall protection plan contemplated above is implemented, amended where and when necessary and maintained as required; and
- take steps to ensure continued adherence to the fall protection plan.

A fall protection plan contemplated above must include-

- a risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location;
- the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
- a programme for the training of employees working from a fall risk position and the records thereof;
- the procedure addressing the inspection, testing, and maintenance of all fall protection equipment; and
- a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

A contractor must ensure that a construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

A contractor must ensure that all unprotected openings in floors, edges, slabs, hatchways, and stairways are adequately guarded, fenced, or barricaded or that similar means are used to safeguard any person from falling through such openings;

Also that no person is required to work in a fall risk position, unless such work is performed safely as contemplated in above and fall prevention and fall arrest equipment are approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and securely attached to a structure or plant, and the structure of plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and person who could fall, and fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

2.3.10 Risk Assessments

Baseline Risk Assessment

The Client shall cause a baseline risk assessment to be conducted by a competent person before the design process and tender process commence, and the assessed risks shall form part of the health and safety specifications.

The Contractor must, before commencement of any construction work, and during construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site and must include:

- The identification of the risks and hazards to which persons may be exposed to;
- An analysis and evaluation of the risks and hazards identified; based on a documented method
- A documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
- A monitoring plan; and
- A review plan

The Contractor must ensure that, as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated, and addressed in a risk assessment.

The Contractor must ensure that all employees under his control are informed, instructed, and trained by a competent person regarding any hazard and the related work procedures and/or control measures **before any work commences** and thereafter **at the times determined in the risk assessment monitoring and review plan of the relevant site.**

The Principal Contractor must ensure that all contractors are informed regarding any hazard that is stipulated in the risk assessment **before any work commences** and thereafter **at the times determined in the risk assessment monitoring and review plan of the relevant site.**

The Contractor must consult with the health and safety committee or with a representative trade union or representative group of employees if no health and safety committee exists, on the monitoring and review of the risk assessments for the site.

The Contractor must ensure that copies of risk assessment for this site are available on site for inspection purposes by interested parties (inspector, the Client, Client's Safety Agent, any contractor, any employee, a representative trade union, a health and safety representative or safety committee member.

A Contractor must review the relevant risk assessment where changes are affected to the design and/or construction that result in a change to the risk profile, or when an incident has occurred.

Preventative measures must first address the elimination of the hazard or risk. Should PPE be required to reduce risk, the equipment or clothing to be used must be SABS approved.

In general, the Contractor must ensure that the Risk Assessment involves identifying the hazards present in a work activity on site. This is followed by an evaluation of the extent of the risk involved taking into account those precautions already being taken.

The following general principle should be followed when conducting a risk assessment:

- All relevant risks and/or hazards should be systematically addressed.
- The risk assessment should address what actually happens in the workplace during the work activity.
- All employees and those who may be affected must be considered, including maintenance staff, security guards, visitors, and Contractors.
- The risk assessment should highlight those groups and individuals who may be required to work alone or who have disabilities.
- The risk assessment process should take into account the existing safety measures and controls.
- The level of detail on a risk assessment should be appropriate to the level of risk.

2.3.11 OTHER HEALTH AND SAFETY SPECIFICATION REQUIREMENTS

The contractor must be aware of the following additional requirements:

What	When	Output
Awareness training (Toolbox Talks)	At least weekly and before hazardous work is carried out	Attendance Register
Health and Safety Committee Meetings	Monthly	Minutes signed by the employer (Contractor) covering: a) Health and Safety Representative Checklist b) Safety report from Safety Officer and Safety Agent
Health and Safety Reports	Monthly	Report covering: a) Incidents/Accidents and Investigations b) Non-conformance c) Health and Safety Training d) HIRA Updates e) Internal and External Audits
General Inspections	As per Health and Safety Specification and OHSA	Report on Health and Safety Specification and OHSA compliance: a) Scaffolding b) Lifting Machinery c) Excavation
General Inspections	Monthly	Covering: a) Firefighting Equipment b) Portable Electrical Equipment c) Ladders
Record keeping	Ongoing	Covering: a) General complaints b) Fines c) General incidents d) MSDS e) Surveillance Medicals f) Inspection Register g) Dept of Labour Notices
Permits	Before commencement with certain activities	As stipulated by the Health and Safety Specification and the OHSA / Construction Regulations

Key:

OHSA – Occupational Health and Safety Act, 1993

2.4 Employer's health and safety agent

The employer's health and safety agent shall:

- a) audit the contractor's compliance with the requirements of this specification prior to the commencement of any physical construction activities on the site;
- b) accept or reject the contractor's health and safety plans, giving reasons for rejecting such plans;
- c) monitor the effective implementation of all safety plans;

- d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this specification;
- e) visit the site at regular monthly intervals to conduct site inspections, and based upon such visits issue, a Safety Audit report, or where necessary a stop work instruction to the contractor or any of the contractor's subcontractors with a copy to the contract manager and, where relevant, to the contractor.

2..5 Creating a safe working environment

2.5.1 General Inspection, Monitoring and Reporting

The Contractor shall carry out inspections as required by this Health and Safety Specification, as well as by health and safety legislation.

2.5.2 Environmental Conditions

Contractor must take into account adverse weather conditions on site activities and implement control measures to mitigate risk. This includes risk of exposure to excessive heat, cold, rain, lightning, and wind. The open nature of the site works will not preclude any of the above.

2.5.3 Arrangements For Access, Parking, Deliveries, Etc.

Reverse Parking must be implemented in the site camp area and on site.

All service providers must have the following in place below:

1. A signed service level Agreement / 37.2 Mandatory Agreement and,
2. Plant Operators or Truck / Vehicle material deliveries must have a brag file which consists of the following:
 - a. Operators Appointment Letter CR23.
 - b. Proof of Competency, Driver's License or PrDp.
 - c. Valid medical certificate of fitness in the form of Annexure 3.
 - d. Inspection Plant or Vehicle Checklist.
3. Inducted before they can be allowed on site.
4. Valid Letter of Good Standing

2.5.4 Arrangements For Site Camp, Ablutions And Yard

Site camp location and set up

- **Restrictions / requirements:** } Contractor to advise in consultation
- **Storage areas:** } with Engineer / Professional Team
- **Security:** }

Ablutions and Welfare Arrangements

Contractor to supply ablutions and facilities in line with the Construction Regulations 2014, refer to section 2.31 of this health and safety specification regarding the below. Toilets should be provided with built in facilities for hand washing.

- **Toilets:** } Contractor to provide as per Regulations
- **Washing facilities:** }
- **Drinking Water:** }
- **Shelter:** } Contractor to provide as per Regulations

Mobile site facilities requirements:

A camping toilet/mobile toilet will be required for sites that cannot facilitate a permanent location for ablution units and must be available for each gender per location.

The use of a camping toilet must be prepared and setup correctly with additional anchors and available toiletries prior to each working day and to be first priority when changing location of works along a set working path.

Teams are to ensure that the toilets are cleaned correctly and suitable for easy and hygienic uses and recorded on a daily register.

2.5.5 Excavation Fencing:

Note that excavations accessible to public, or adjacent to public roads / thoroughfares, must have (1) barrier / fence of at least 1m in height, and (2) warning illuminants at night or when visibility is poor, or have other suitable precautionary measures if of both these are not practicable.

General Fencing of Site: Note that construction sites in built up areas adjacent to public walkway must be fenced off and have controlled access points with the correct signs to indicate the site office for any relevant enquiries.

Warning Notices: Yes, warning notices must be displayed.

Lookouts: Yes, lookouts can be posted, especially at excavations.

2.5.6 Hazardous Substances

The following materials and substances have, or may have, to be used in the works and are identified as potentially posing special health and / or safety hazards during the project. Appropriate measures will need to be specified for their control:

1. Petrol & Diesel
2. Paint and Thinners
3. Cement
4. Oils
5. Hand Sanitisers

If there are additional hazardous substances that is not noted above, please ensure that the Principal Contractors Safety officer identifies the hazardous substances and capture them on a list and Material Safety Data Sheets must be provided for each hazardous substance.

2.5.7 INTERFACE AND RESTRICTIONS BY CLIENT

Contractor must note that the following Client activities will continue during construction:

The Existing farmhouse will be occupied, the Principal contractor is to ensure that the members of public cannot access the site. If there is any activities at the old shed or arable land, it is the Principal contractors responsibility to communicate and inform the employees of the old shed and land of risks and restrictions to the Construction work being done.

The following Client safety rules and/or requirements are to be observed:

- a. All workers are to receive induction prior to commencement of work on site.
- b. Other safety rules and requirements to be advised at induction.
- c. Please also refer to tender document.

Restrictions on times, access, or other restrictions by Client

- a. Please refer to tender document.
- b. Other restrictions may be advised at induction.

2.5.8 First Aid Box and First Aid Equipment

At least one competent First Aider must be appointed before work on site can commence. There after the Contractor shall provide first aid box/es and appoint, in writing, First Aider(s) for this project in line with the results of the Contractor's risk assessment for the project, this health and safety specification as well as the provisions of the General Safety Regulations. The appointed First Aider(s) are to be sent for accredited first aid training before starting on site. Valid certificates are to be kept on site.

- First Aid Level 1: Unit Standard 119567.
- First Aid Level 2: Unit Standard 120496.
- First Aid Level 3: Unit Standard 376480.
- First Aid box/es must be adequately stocked at all times, accessible and be controlled by a qualified First Aider.
- Perishables to be checked and replaced when expired.
- Stock per content list as per the General Safety Regulations Annexure.
- Signage to be in place.
- To be numbered and sealed with name of first aider on or above the First aid box.
- Dressing logbook to be available in the first aid box.
- If more than 5 employees are present, there must be a first aid box available.
- Register to be checked by a Competent person.

If required by the Client, the Contractor shall have a stretcher on site to be used in case of a serious incident.

2.5.9 Hazards and Potential Situations

The Contractor shall immediately notify other Contractors of any hazardous or potentially hazardous situations, which may arise during performance of the activities.

2.5.10 Occupational Health and Safety Signage

The Contractor shall ascertain and provide adequate on-site health and safety signage. This signage shall include, but shall not be limited to, Hard Hat / Helmet Area; Safety Shoes to be worn on site; Dust Masks to be worn in areas where there might be exposure to excessive dust; Ear Plugs / Muffs to be worn where there might be noise exposure over 85 dB; Gloves; Safety Goggles; Safety Harness, Workers in Excavation, traffic management, etc. The Contractor shall be responsible to maintain the quality and replacement of signage. Signage must comply with the requirements of SABS.

2.5.11 Management of Contractors by Principal Contractor

The Principal Contractor shall ensure that all contractors under his control are complying with the respective Health and Safety Plans, as well as Health and Safety Legislation.

2.5.12 Stacking of Materials

In addition to the provisions for the stacking of articles in the General Safety Regulations, 2003, the contractor must ensure that –

- a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
- adequate storage areas are provided.
- there are demarcated storage areas; and
- storage areas are kept neat and under control.

2.5.13 Housekeeping and General Safeguarding on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R. 2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including-

- the proper storage of materials and equipment.
- the removal of scrap, waste, and debris at appropriate intervals.
- ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways.
- ensuring that materials which are no longer required for use, do not accumulate on, and are removed from the site at appropriate intervals.
- ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in the regulations.
- ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and
- ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.
- All waste bins provided, must be lined with plastic bags and must have properly fitted lids to prevent general waste to be blown out of the bins.

2.5.13 Construction Vehicles and Mobile Plant

A contractor must ensure that all construction vehicles and mobile plant -

- are of an acceptable design and construction.
- are maintained in a good working order.
- are used in accordance with their design and the intention for which they were designed, having due regard to safety and health.
- are operated by a person who-
 - has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant.
 - has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3.
- have safe and suitable means of access and egress.
- are properly organized and controlled in any work situation by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- are prevented from falling into excavations, water, or any other area lower than the working surface by installing adequate edge protection, which may include guard-rails and crash barriers;
- are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- are equipped with an acoustic warning device which can be activated by the operator;
- are equipped with an automatic acoustic reversing alarm.
- are equipped with fire extinguishers (4.5 kg); and
- are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

A contractor must ensure that -

- no person rides or is required or permitted to ride on a construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
- every construction site is organized in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
- the traffic routes are suitable for the persons, construction vehicles or mobile plant using them, are sufficient in number, in suitable positions and of sufficient size;
- every traffic route is, where necessary, indicated by suitable signs;
- all construction vehicles and mobile plant left unattended at night, adjacent to a public road in normal use or adjacent to construction areas where work is in progress, have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;
- all construction vehicles or mobile plant when not in use, have buckets, booms, or similar appendages, fully

lowered, or blocked, controls in a neutral position, motors stopped, wheels chocked, brakes set, and ignition secured;

- whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- tools, material, and equipment are secured and separated by means of a physical barrier in order to prevent movement when transported in the same compartment with employees;
- vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
- all construction vehicles or mobile plant travelling, working, or operating on public roads comply with the requirements of the National Road Traffic Act, 1996.
- all plant and vehicles are fitted with amber rotating beacons and reverse alarms.
- ALL construction site vehicles must be inspected daily especially if it has dangerous "items" (fuel, explosives, etc.) on vehicle, completed inspection registers must also be available for inspection.
- the vehicles must resemble the original manufacturer's product. Levers, alarms, and amber lights to be fitted to construction vehicle for notification of vehicle.
- fire extinguishers, signage, and licence disc to be correctly mounted and displayed.
- when the vehicle is stationary no key to be left in or on vehicle or plant.
- Drip tray must be present when stationary.

A List of Construction vehicles and mobile plant must be included in the Health and Safety Plan.

2.5.14 Electrical Installations and Machinery on Construction Sites

A contractor must, in addition to compliance with the Electrical Installation Regulations and the Electrical Machinery Regulations, ensure that –

- before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
- all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
- the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;
- all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and
- all electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

2.5.15 Use and Temporary Storage of Flammable Liquids on Construction Sites

A contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that –

- where flammable liquids are being used, applied, or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard, and that the workplace is effectively ventilated;
- no person smokes in any place in which flammable liquid is used or stored, and the contractor must affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
- an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
- only the quantity of flammable liquid needed for work on one day is taken out of the store for use;
- all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site, and safely disposed of;
- where flammable liquids are decanted, the metal containers are bonded and earthed; and
- no flammable material, including cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids
- proper containers are to be used for fuel. Marked and labelled as per the content.
- diesel on site; more than 800 litres must have a certificate, fire safe certificate. Locked in a ventilated, secure area with a drip tray and have a designated, responsible person to use it.

2.5.16 Fire precautions on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that –

- all appropriate measures are taken to avoid the risk of fire;
- sufficient and suitable storage is provided for flammable liquids, solids, and gases;
- smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
- in confined spaces and other places in which flammable gases, vapours or dust can cause danger-
 - only suitably protected electrical installations and equipment, including portable lights, are used;
 - there are no flames or similar means of ignition;
 - there are conspicuous notices prohibiting smoking;
 - oily rags, waste, and other substances liable to ignite are without delay removed to a safe place; and
 - adequate ventilation is provided;

- combustible materials do not accumulate on the construction site;
- welding, flame cutting, and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;
- suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
- the fire equipment contemplated above is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;
- a sufficient number of workers are trained in the use of fire-extinguishing equipment;
- where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- the means of escape is kept clear at all times;
- there is an effective evacuation plan providing for all -
 - persons to be evacuated speedily without panic;
 - persons to be accounted for; and
 - plant and processes to be shut down; and
- a siren is installed and sounded in the event of a fire.

2.5.16.1 Fire Extinguishers and Fire Fighting Equipment

- The Contractor shall provide adequate, regularly serviced fire extinguishers located at strategic points on site. The Contractor shall keep spare serviced portable fire extinguishers. The Contractor shall have adequate persons trained or competent to use the Fire Fighting Equipment.
-
- Safety signage shall be posted up in all areas where fire extinguishers are located.

2.5.17 Construction Employees' Facilities

A contractor must, in terms of the Construction Regulations 2014, provide:

- at least one sanitary facility for each sex and for every 30 workers;
- Toilets to be within walking distance
- Hygiene registers to be completed
- Proof of safe disposal of effluent waste disposal certificates to be obtained
- changing facilities for each sex;
- and sheltered/shaded eating area.
- Protection from the Elements and raised off the ground.
- Every employer shall provide sanitary facilities at the workplace in accordance with the provisions of Parts F, P and Q of the National Building Regulations.
- Sufficient clean water for all employees. 500ml to each employee every hour.

A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

2.5.18 Temporary works

A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.

A contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.

A contractor must ensure that-

- all temporary works structures are adequately erected, supported, braced and maintained by a competent person so that they are capable of supporting all anticipated vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand;
- all temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted;
- detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other contractors, the Client, the Client's Safety Agent, or any employee;
- all persons required to erect, move, or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
- all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
- all temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;
- no person may cast concrete, until authorization in writing has been given by the competent person contemplated above;
- if, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately;
- adequate precautionary measures are taken in order to-

- secure any deck panels against displacement; and
- prevent any person from slipping on temporary works due to the application of release agents;
- as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
- upon casting concrete, the temporary works structure is left in place until the concrete has acquired sufficient strength to safely support its own weight and any imposed load, and is not removed until authorization in writing has been given by the competent person
- the foundation conditions are suitable to withstand the loads caused by the temporary works structure and any imposed load in accordance with the temporary works design.
- provision is made for safe access by means of secured ladders or staircases for all work to be carried out above the foundation bearing level;
- a temporary works drawing, or any other relevant document includes construction sequences and methods statements;
- the temporary works designer has been issued with the latest revision of any relevant structural design drawing;
- a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and
- the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.

No contractor may use a temporary works design and drawing for any work other than its intended purpose.

2.5.19 Excavation

A contractor must-

- ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose; and
- evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.

A contractor who performs excavation work-

- must take reasonable and sufficient steps in order to prevent, as far as is reasonably practicable, any person from being buried or trapped by a fall or dislodgement of material in an excavation;
 - may not require or permit any person to work in an excavation which has not been adequately shored or braced: Provided that shoring and bracing may not be necessary where-
 - the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
 - such an excavation is in stable material: Provided that-
 - permission has been given in writing by the appointed competent person contemplated above upon evaluation by him or her of the site conditions; and
 - where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations is decisive and such a decision must be noted in writing and signed by both the competent person and the professional engineer or technologist, as the case may be;
 - must take steps to ensure that the shoring or bracing contemplated above is designed and constructed in a manner that renders it strong enough to support the sides of the excavation in question;
 - must ensure that no load, material, plant, or equipment is placed or moved near the edge of any excavation where it may cause its collapse and consequently endangers the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;
 - must ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken to ensure the stability of such building, structure or road and the safety of persons;
 - must cause convenient and safe means of access to be provided to every excavation in which persons are required to work, and such access may not be further than six metres from the point where any worker within the excavation is working;
 - must ascertain, as far as is reasonably practicable, the location and nature of electricity, water, gas, or other similar services which may in any way be affected by the work to be performed, and must before the commencement of excavation work that may affect any such service, take the steps that are necessary to render the circumstances safe for all persons involved;
 - must ensure that every excavation, including all bracing and shoring, is inspected-
 - daily, prior to the commencement of each shift;
 - after every blasting operation;
 - after an unexpected fall of ground;
 - after damage to supports; and
 - after rain,
- by the competent person, in order to ensure the safety of the excavation and of persons, and those results must be recorded in a register kept on site and made available on request to an inspector, the Client, the Client's Safety Agent, any other contractor or any employee;

- must cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be –
 - adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
 - provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor, or have resort to any other suitable and sufficient precautionary measure where this is not practicable;
- must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with by any person entering any excavation;
- must, where the excavation work involves the use of explosives, appoint a competent person in the use of explosives for excavation, and must ensure that a method statement is developed by that person in accordance with the applicable explosive's legislation; and
- must cause warning signs to be positioned next to an excavation within which or where persons are working or carrying out inspections or tests.

2.5.20 Scaffolding

A contractor must appoint a competent person in writing who must ensure that all scaffolding work operations are carried out under his or her supervision and that all scaffold erectors, team leaders and inspectors are competent to carry out their work as per the SANS 10085 of 2004.

A contractor using access scaffolding must ensure that such scaffolding, when in use, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act and SANS 10085. Scaffold must be;

- Level and balanced upon the correct footing such as base jacks, U-Jacks, and mobile wheels
- Have the correct Ledgers and bracing methods to secure the frames and Standards
- To be fully boarded with the correct edge protection on both the 0.500m and 1 metre height per working platforms.
- Working platforms to be in accordance with the Tables 4 and 5 of the SANS 10085 for weight restrictions
- Have the correct access that is fitted within the scaffold and grants access to the working platforms and must be fitted with a trap door system.
- Secured with fastening methods such Reveal and fixed ties according to table 7 of SANS 10085. Buttresses to be used when required.
- signage must be displayed to indicate if the scaffold is safe or unsafe to use.
- Trestles to be built in accordance with section 10.16.1 of the SANS 10085 and safety requirements to be met by the scaffolding inspector and scaffold supervisors on site.
 - Section 10.16.1 of SANS10085 as follow :
 - Timber trestles shall be constructed generally in accordance with figure 9(A) and steel trestles shall be constructed generally in accordance with figure 9(b). Timber trestles shall not exceed 1,5 m in height. Steel trestles shall have an extended height not exceeding 2,35 m and a closed height not less than 1,30 m.
 - The minimum width of the trestle legs when opened and locked in position shall be 780 mm.
 - Trestles shall not be used on slopes exceeding 1:12.
 - The platform supported by the trestles shall be level within 1:50 in all directions.
 - NOTE 1 Trestles may be so constructed that they can be folded for storage and transportation.
 - NOTE 2 Trestle ladders may also be used instead of trestles.
 - NOTE 3 The maximum height of 2,35 m enables an average platform height of 2 m to be attained when trestles are used on sloping ground.

2.5.21 Hazardous Chemical Substances (HCS)

In addition to the requirements in the HCS Regulations, the principal contractor must provide proof in the Health and Safety Plan that:

- Material Safety Data Sheets (MSDS's) of the relevant materials / hazardous chemical substances are available prior to use by the contractor. All MSDS's shall be available for inspection by the agent at all times.
- Risk assessments are done at least once every 6 months.
- Exposure monitoring is done according to OESSM and by an Approved Inspection Authority (AIA) and that the medical surveillance programme is based on the outcomes of the exposure monitoring.
- How the relevant HCS's are being/going to be controlled by referring to:
 - Limiting the amount of HCS
 - Limiting the number of employees
 - Limiting the period of exposure
 - Substituting the HCS
 - Using engineering controls
 - Using appropriate written work procedures
- The correct PPE is being used.
- HCS are stored and transported according to SABS 072 and 0228.
- Training with regards to these regulations was given.

The Health and Safety plan should make reference to the disposal of hazardous waste on classified sites and the location thereof (where applicable).

The First Aider must be made aware of the MSDS and trained in how to treat HCS incidents appropriately.

2.5.22 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.

2.5.23 Pressure Equipment (Including Gas Bottles)

The Contractor shall comply with Pressure Equipment Regulations, including:

- Providing competency and awareness training to the operators;
- Providing PPE or clothing;
- Providing and maintain appropriate signage in areas where pressure equipment is used, as applicable;
- Inspect equipment regularly and keep records of inspections;
- Providing appropriate firefighting equipment (Fire Extinguishers).
- Under pressure equipment to have the following in place:
 - Service date
 - Seals on valves with no leaks and not broken
 - flash arrestors
 - Should be stored and chained together
 - Oxygen / Acetylene bottles to have clips
 - Signage to be visible
 - Gauges in working condition and be visible
 - Permits for use
 - Pressure equip Regs 6. (1) The user shall ensure that the pressure equipment is operated and maintained within its design and operating parameters.

2.5.24 EXISTING ENVIROMENT

Hazards particular to this project by virtue of location:

- a. Members of the Public
- b. Gravel Road Users
- c. Livestock
- d. Snakes

Overhead, Above Ground and Underground Services crossing the site:

- a. **Overhead:** Electricity; Telkom
- b. **Underground:** Water / Sewer Pipeline
- c. **Ground level:** Water
- d. **Service Drawings available:** Yes, refer to tender document.
- e. **Wayleaves required:** Yes, request from the engineers.
- f. **Permits required:** Yes, Hot works, please consult your OHS Agent for additional permits.
- g. **Isolations required:** Yes

Existing structures on site and surrounding land use (with a significant impact on Health & Safety):

Please refer to the Preliminary Design Report.

Existing Traffic Systems

- a. **Condition:** Gravel Road adjacent to the site.
- b. **Restrictions to access:** Yes, Principal Contractor to have controlled access for unauthorised personnel at site camp and on site.
- c. **Speed restrictions:** 20 – 40 km/h

2.5.25 Lifting Machinery and Tackle

The Contractor shall ensure that lifting machinery and tackle is inspected before use and on a monthly basis. The Contractor shall have lifting machinery and tackle inspector who will inspect the equipment at intervals required by the Driven Machinery Regulations, taking into account that:

- All lifting machinery and tackle have a safe working load clearly indicated.

- Regular inspection and servicing are carried out.
- Records are kept of inspections and of service certificates.
- Thorough examinations are carried out by competent personnel at the frequencies required by legislation.
- There is proper supervision in terms of guiding the loads which includes a trained banks man to direct and check lifting tackle if it is safe for use.
- Forklift to be inspected every year and lift plan every 2 years.
- Load test certificate to be no older than 6 months.
- Sufficient props to be used and max weight to be displayed.
- Slings to be checked regarding integrity, chains, serial numbers, checked for tears, cuts links and all other materials.
- Hooks to be oiled, not in a fixed position and closed to prevent materials from slipping/falling off.
- Lifting equipment must be used for the scope of work carried out.

2.5.26 Ladders and Ladder work

The Contractor shall ensure that all ladders are numbered and inspected regularly keeping record of inspections. It should be noted that Aluminium ladders are preferred to wooden ladders.

2.5.27 General Machinery

The Contractor shall comply with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing and training those that use machinery and enforce compliance.

2.5.28 Portable Electrical Tools

The Contractor shall ensure that use and storage of all explosive actuating fastening devices and portable electrical tools are in compliance with relevant legislation.

The Contractor shall consider that:

- A competent person undertakes routine inspections;
- Only authorised persons use the tools;
- There are safe working procedures applied;
- Awareness training is carried out and compliance is enforced at all times; and
- PPE and clothing are provided and maintained.

2.5.29 Public Health and Safety

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.

2.5.30 Environmental Conditions and Flora and Fauna

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.

2.5.31 Occupational Health

Exposure of workers to occupational health hazards and risks are quite 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 three ways:

- Inhalation through breathing e.g., cement dust;
- Ingestion through swallowing maybe through food intake;
- Absorption through the skin (pores) e.g., painting or use of thinners.

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 surveys are to be conducted.

2.5.32 Material Hoists

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 trucks, barrows, or material to be conveyed on the platform of a material hoist and no person may so convey trucks, 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 hoist, 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 a hoist unless the 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.

2.5.33 Alcohol and drugs (GSR 2)

1. A contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a site.

2. No employee shall be under the influence of or have in his or her possession or partake of or offer any other person intoxicating liquor or drugs.

3. An employer or a user, as the case may be, shall, in the case where a person is taking medicines, only allow such person to perform duties at the site if the side effects of such medicine do not constitute a threat to the health or safety of the person concerned or other persons at such site.

2.5.34 COVID-19 (CODE OF PRACTICE)

REPEAL OF COVID REGULATIONS

On the 22nd of June 2022 the Minister of Health issued a Gazette repealing the regulations on notifiable medical conditions with immediate effect. The wearing of masks in public indoor places, restrictions on gatherings and events as well as the restrictions on people entering South Africa's borders have been repealed with immediate effect. Importantly, the repealing of these regulations under the Department of Health do not repeal the Labour Laws that are still applicable to employers under the provisions of the Occupational Health and Safety Act as well as under the provisions of the Labour Relations Act.

Effectively this means that although there is no general requirement to wear masks in public, employers must still comply with the code of practice on managing Covid-19 at the workplace. A workplace Risk Assessment must be conducted, and the employer must take the necessary precautionary measures to ensure the Health and Safety of their employees as well as other parties that may be affected. Similarly, the Hazardous Biological Agents Regulations continue to apply, which means that organisations still need to have measures in place and in line with the Risk Assessments i.e., ventilation, sanitisation, screening, and medical surveillance.

2.5.35 General Practices when Working at Heights

- No Homemade structures or ladders will be permitted on the project.
- Trestle tables are not to be fully extended and must be fully boarded, no drums to be used.
- Surroundings to be clear of rubble.

- Fall protection, fall prevention, and fall rescue plans to be in place and communicated to site employees.
- Ladders to be structurally sound and not broken and in accordance with GSR 13A.
- Only competent persons may be allowed to work at heights
- Correct personal protective equipment to be used (safety harness and lanyard) and edge protection / lifelines to be used.
- Anchor points to be in place and determined by an engineer. Anchor points must be pull tested prior to use.
- GSR (6) 6. No employer shall require or permit any person to work in an elevated position and no person shall work in an elevated position, unless such work is performed safely from a ladder or scaffolding, or from a position where such person has been made as safe as if they were working from scaffolding.
- Construction regulation 10 of 2014 to be implemented when working at heights and to prevent any person from falling from heights.
- Employees required to perform work at heights or from fall risk position must be medically fit to perform such work, such employee's medicals must specify "Fall Risk" or "Working at heights" in the exposure section of the annexure 3 template.

2.5.36 Ventilation and Lighting in the Workplace

Every employer shall cause every workplace in his undertaking to be lighted in accordance with the illuminance values specified in the Schedule to the General Safety Regulations:

Provided that where specialised lighting is necessary for the performance of any particular type of work, irrespective of whether that type of work is listed in the Schedule or not, the employer of those employees who perform such work shall ensure that such specialised lighting is available to and is used by such employees.

The Contractor must ensure that:

- the average illuminance at any floor level in a workplace within five meters of a task is not less than one fifth of the average illuminance on that task;
- glare in any workplace is reduced to a level that does not impair vision;
- lighting on rotating machinery in such that the hazard of stroboscopic effects is eliminated; and
- luminaires and lamps are kept clean and, when defective, are replaced or repaired forthwith.

With a view to the emergency evacuation of indoor workplaces without natural lighting or in which persons habitually work at night, every employer shall, in such workplaces, provide emergency sources of lighting which are such that, when activated, an illuminance of not less than 0.3 lux is obtained at floor level to enable employees to evacuate such workplaces: Provided that where it is necessary to stop machinery or shut down plant or processes before evacuating the workplace, or where dangerous materials are present or dangerous processes are carried out, the illuminance shall be not less than 20 lux.

The contractor must ensure that the emergency sources of lighting prescribed above:

- are capable of being activated within 15 seconds of the failure of the lighting prescribed by subregulation (1);
- will last long enough to ensure the safe evacuation of all indoor workplaces;
- are kept in good working order and tested for efficient operation at intervals of not more than three months; and
- where directional luminaires are installed, these are mounted at a height of not less than two meters above floor level and are not aimed between 10° above and 45° below the horizontal line on which they are installed.

The contractor must ensure that all rooms, stairways, passageways, gangways, basements, and other places where danger may exist through lack of natural light, to be lighted such that it will be safe.

The contractor must ensure that every workplace in his undertaking is ventilated either by natural or mechanical means in such a way that –

- the air breathed by employees does not endanger their safety;
- the time-weighted average concentration of carbon dioxide therein, taken over an eight-hour period, does not exceed one half per cent by volume of air;
- the carbon dioxide content thereof does not at any time exceed three per cent by volume of air;
- the prescribed exposure limits for airborne substances therein are not exceeded; and
- the concentration therein of any explosive or flammable gas, vapour or dust does not exceed the lower explosive limit of that gas, vapour, or dust.

2.5.37 Ergonomics Regulation of 2019

"competent person" in relation to ergonomics, means a person who– (a) has in respect of the work or task to be performed the required knowledge, training and experience in ergonomics and, where applicable, qualifications specific to ergonomics: provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act, 2008 (Act No. 67 of 2008), those qualifications and that training must be regarded as the required qualifications and training; and (b) is familiar with the Act and the applicable regulations made under the Act;

"ergonomic risk" means a characteristic or action in the workplace, workplace conditions, or a combination thereof that may impair overall system performance and human well-being;

"ergonomic risk assessment" means a programme, process, or investigation to identify, analyse, value and prioritise any risk from exposure to ergonomic risks associated with the workplace;

"ergonomics" means the scientific discipline concerned with the fundamental understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimise human well-being and overall system performance;

The ergonomics regulations will apply to any employer or self-employed person who carries out work at the workplace who may expose any person to an ergonomic risk in the workplace and any designer, manufacturer, importer or supplier of machinery, plant, or work systems for the work place.

An employer must, before the commencement of any work that may expose employees to ergonomic risks, have an ergonomic risk assessment performed by a competent person.

The ergonomic risk assessment must be done at intervals not exceeding two years and must include the following;

- a complete hazard identification and all persons who may be affected by the ergonomic risk.
- how employees may be affected by the ergonomic risks;
- the analysis and evaluation of the ergonomic risks;
- the prioritisation of ergonomic risks.

An employer must review the relevant ergonomic risk assessment if:

- such assessment is no longer valid;
- control measures are no longer effective;
- technological or scientific advances allow for more effective control methods;
- there has been a change in –
- the work methods;
- the type of work carried out; or
- the type of equipment used to control the exposure; and
- an incident occurs or medical surveillance reveals an adverse health effect, where ergonomic risks are identified as a contributing factor.

An employer must ensure that an employee is placed under medical surveillance, which is overseen by an occupational medicine practitioner, if–

- the ergonomic risk assessment referred to in regulation 6 indicates the need for the employee to be placed under medical surveillance; or
- an occupational health practitioner recommends that relevant employees must be under medical surveillance, in which case the employer may call upon an occupational medicine practitioner to ratify the appropriateness of such recommendation.

An employer must ensure that the medical surveillance consists of–

- in the case of a new employee, an initial health examination before the employee commences employment or within 30 days of commencement of such employment;
- a periodic health examination informed by the ergonomic risk assessment, at intervals specified by an occupational medicine practitioner, but not exceeding two years; and
- an exit health examination informed by the ergonomic risk assessment.

Both the Client and the Contractor have a duty in terms of health and safety legislation to do all that is reasonably practicable to make members of the public and others being affected by the construction processes aware of possible risks and put preventative measures in place to mitigate the risks. The public and/or visitors shall go through a brief health and safety induction detailing hazards and risks they may be exposed to and what measures are in place to control these hazards and risks.

ANNEXURE C - BASELINE RISK ASSESSMENT FOR PROJECT

Irrespective of the risk presented on site, it will be ensured that sufficient supervision is in place on site, that personnel are trained in accordance with legislation, including the requirement for site specific inductions on site to inform personnel on site of the risks and hazards applicable to the site. Site supervision is responsible for ensuring that the control measures required below are implemented on site.

Probability X Frequency X Consequences = Criticality Rating

P Scale: 2 Unlikely, 4 Remote possibility, 6 Probable, 8 highly probable, 10 Inevitable

F Scale: 2 Yearly, 4 monthly, 6 weekly, 8 once a day, 10 Many times a day

C Scale: 2 Negligible, 4 Marginal, 6 Serious, 8 Critical, 10 Catastrophic

Risk Rating:

H = High – 97 >, M = Medium – 46 > 96, L= Low – 0 > 45.

Risk Assessment Methodology:

Rating the risks

Quantitative risk assessments produce a probability estimate based upon known risk information applied to the circumstances being considered. They can be found in 'safety cases' in high-risk industries where, for example, they might indicate the probability of a nuclear incident or serious chemical leak.

Qualitative assessments are subjective, based on the personal judgement of the assessor, backed by more general information about probability. These are much simpler to make, and are those normally referred to by legal requirements.

A descriptive approach simply uses words such as 'insignificant', 'low', 'medium' and 'high' in their normal sense to evaluate the product of the likely severity of the outcome and the probability of its occurrence. Most people have an appreciation of what 'Medium Risk' means for them in their business context and can appreciate that with controls in place the risk should be lowered – preferably to 'Insignificant' or at the least to 'Low'.

In this assessment, we have used a Descriptive Approach.

No	HAZARD	RISK	RISK RATING (High / Medium / Low)	MINIMUM CONTROL MEASURES
1.	Bricklaying	Caustic contamination with mortar Contact with sharp bladed tools	$P \times F \times C = 24 = L$	<ul style="list-style-type: none"> Use only trained personnel Safe means of access to be provided Safe/Suitable working platform required where working at height PPE for mortar to include gloves where practicable and goggles/ masks where there is a risk of contamination
2.	Compacting and Filling	Contact with tipping materials Contact with moving plant Vehicles/personnel falling into excavations Contact with underground services	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> Trained banksman to control vehicles movement Only trained personnel use plant Personal Protective Equipment to be worn Personnel to stand clear as materials are being tipped Use stop blocks and signs to warn vehicles of excavations, where applicable Stand clear of plant whilst materials are being compacted Establish position of underground services and protect services from damage
3.	Compactor Operations	Crushing of feet	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> Only trained and competent personnel to use the machine Ensure operative wears steel toe cap shoes or boots at all times

4.	Concrete Pumping	Sprains and strains Hit by pump Concrete burns Collapse/bursting of structure	P x F x C = 192 = H	<ul style="list-style-type: none"> Personnel to be in clear vision of pump operator Trained pump operator Personnel working with the concrete to wear the appropriate personal protective equipment to protect against cement burns Design of structure being loaded to be approved by competent designer and inspected before, during and after loading Pump to be well maintained
5.	Cutting Off Disc	Noise Cuts from machine Fire (particularly at refuelling) Flying debris Blade shattering Contamination by fume created or exhaust fume	P x F x C = 192 = H	<ul style="list-style-type: none"> Use competent personnel. Hot works control- fire extinguisher, fire watchman. (Permit may be required) PPE to include gloves, eye protection, hearing protection Solid working position. Clear working area Correct grade of blade must be used. Good ventilation to be provided (forced if necessary). Changing of wheels to be by competent persons only Cut off discs must not be used for grinding (grinding disc thicker) Bystanders to wear hearing protection, as applicable
6.	Diesel	Fire Explosion Skin disease	P x F x C = 288 = H	<ul style="list-style-type: none"> Suitable fire extinguisher to be in place prior to commencement of works Ensure competent personnel using materials and competent and trained machinery/equipment operators Ensure there is a safe place of work at all times Ensure all personnel wear suitable and sufficient personal protective equipment (PPE) Health and safety data sheet required
7.	Electrical Commissioning	Electric shock	P x F x C = 192 = H	<ul style="list-style-type: none"> Personnel to comply with permits to work issued by Client Personal protective equipment to be worn by employees to prevent electric shock First aid treatment to be readily available Only competent and trained persons may decommission or commission electrical equipment
8.	Electric Tools and Electrical Installations	Electric shock Fire	P x F x C = 192 = H	<ul style="list-style-type: none"> Electric tools and installations to be in good condition Inspect electric tools before use Do not use electric tools in wet/damp conditions Use personal protective equipment such as insulated gloves Electrical installations register to be maintained, inspected by competent person
9.	Excavations (Working in and around)	Toxic fumes Collapse of trench walls/trapping Falling into excavation Collapse of adjacent structures	P x F x C = 192 = H	<ul style="list-style-type: none"> Deep excavations / monitor air for toxic fumes Prevent collapse by battering back sides to a safe angle or install temporary support Protect vehicles from falling into excavations – provide barriers, signage, etc as necessary Beware of undermining of other structures (eg: buildings, scaffolds) Record excavation inspections by competent person on daily basis Provide suitable means of access/egress in case of emergency. Excavations formed by explosives must be accompanied by method statement approved by Client
10.	Explosive Actuated Fastening Devices	Noise Being struck by cartridge or fixing	P x F x C = 216 = H	<ul style="list-style-type: none"> Operators to be trained, competent and wear appropriate protective equipment, e.g. goggles, gloves, ear defenders, head protection. Cartridge gun to be in good condition, inspected for damage and faults regularly and results entered into register Used and unused cartridges and cartridge gun should be kept in secure place when not in use, maintain register for return and issue.
11.	Fire	Injuries to workers, pedestrians, residents, road users, damage to property through fire	P x F x C = 24 = L	<ul style="list-style-type: none"> No littering on site which could become fire hazard, maintain site in clean condition. No fires to be lit on site. Have a working fire extinguisher at hand at all times. No smoking or naked flame near flammable substances or in unauthorised areas Ensure proper storage/use of Petrol/diesel/flammable substances – post warning notices
12.	Flammable Liquids and Gases (Use of)	Fire Explosion	P x F x C = 192 = H	<ul style="list-style-type: none"> No littering on site which could become fire hazard, maintain site in clean condition. Have a working fire extinguisher at hand at all times. No smoking or naked flame near flammable substances or in unauthorised areas Ensure proper storage/use of Petrol/diesel/flammable substances – post warning notices Equipment must be in good condition, maintained Personnel using substances must be trained in safe use and risks

13.	Hand tools	Injuries caused by use of hand tool Impact with the tool Falls due to access problems Contamination with substance being worked	$P \times F \times C = 24 = L$	<p>Ensure:</p> <ul style="list-style-type: none"> • Tool is correct for job • Tool is in good order and suitably sharp • Personnel must be competent/instructed in tool usage and tool safely • Lighting is sufficient • Access is safe, working platform is secure, leading edge is guarded • Operative is wearing all necessary PPE
14.	Hazardous Substances	Injuries to workers through use of hazardous substances, eg: injuries to eyes, skin, etc	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> • Use substances in accordance with data sheet, particularly reference protective clothing required (example: gloves, goggles, etc) • Know what First Aid measures are • Have welfare facilities available for washing of hands, etc
15.	Hot Works	Burns to eyes or other parts of the body	$P \times F \times C = 96 = M$	<ul style="list-style-type: none"> • Personal Protective Equipment to include eye, skin and hearing protection • Respirator maybe be required where cutting galvanized steel or anywhere else toxic fumes and gases arise. Dust can also be a problem and forced ventilation may be required.
16.	Lifting Operations	Falling material Crushing by materials Hand injuries to the slinger Toppling crane	$P \times F \times C = 800 = H$	<ul style="list-style-type: none"> • Check test certificate • Check examination certificate • Check inspection have been carried out • Check certificates for lifting equipment (chains, slings, shackles, etc) • Ensure lifting gear is rated to carry load (SWL) • Ensure materials being lifted are properly packaged and slung. • Be aware that there should be a minimum clearance of 600mm between any slewing parts of a crane and any fixed installation to prevent being trapped. • Access to the work area during lifting operations is to be restricted to those involved with and trained in the work in hand. Do not allow members of the public to gain access to the area. • Only trained banksmen to be used. • The crane driver and the banksman are to ensure that the signals given are clearly understood.
17.	Manual Handling of General Items	Muscular skeletal injuries if the load is too heavy or awkward Operative falling/ tripping Contamination from the substance being carried Fall of material being carried	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> • Personnel should be aware of safe manual handling techniques • Personnel to wear Personal Protective Equipment when carrying items, eg: safety footwear and gloves. • Ensure good housekeeping against tripping/fall hazards. • Operative to get assistance if load too heavy- team lift if necessary. • Utilise mechanical lifting and carrying aids where possible. • Personnel to ensure access equipment, ladders will take weight of operative, and load being carried. • Personnel to ensure item being carried is properly bonded or is not liable to break apart whilst being manually handled.
18.	Material Hoist	Mechanical failure Overloading Hoist gateway being left open at landings	$P \times F \times C = 640 = H$	<ul style="list-style-type: none"> • Safe working limit to be indicated on hoist. • Hoist operator to be trained/ competent. • Regular maintenance and inspection of hoist by competent person • Records of maintenance and inspection to be maintained. • Hoist gate should be fitted with mechanical and electrical interlocking devices.
19.	Members of Public – Protection of	Injury to member of public and road users from site works	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> • Barriers and signage to be in place • Workers must warn away any members of public from the works • Footpaths and bridges which are open to public must be closed off if in area of works or otherwise made safe so that no injury occurs to members of public • Traffic turning into site – traffic management and signage as required. • Signage to be on road at site entrance warning motorists that construction traffic turning into/out of site access. Keep roads free of mud where possible • Refer to plant risk assessment for details on plant safety precautions • NOTE: SIGNAGE TO BE POSTED ON SITE TO WARN OF CONSTRUCTION TRAFFIC MOVEMENTS. SAFE MEANS OF ACCESS FOR BOTH CONSTRUCTION TRAFFIC TO SITE AND PRIVATE HOMEOWNERS MUST BE AGREED.
20.	Noise and Dust	Breathing in dust can cause long term health problems, noise can damage hearing	$P \times F \times C = 384 = H$	<ul style="list-style-type: none"> • Wear respiratory and hearing protection • Dampen down and minimise dust where possible.

21.	Overhead Services (Working near)	Contact with live services causing injury to personnel Damage caused to services	$P \times F \times C = 96 = M$	<ul style="list-style-type: none"> Maintain safe clearance levels Establish presence of any services via proper walk-through survey of site and/or means of service drawings Wear personal protective clothing Ensure height of plant/vehicles does not compromise or exceed clearance levels for overhead services Obtain information on clearance levels from service provider
22.	Painting	Contact with paint	$P \times F \times C = 96 = M$	<ul style="list-style-type: none"> Refer to safety data sheet for usage instructions, hazards and precautions required. When working at height, refer to risk assessment addressing this hazard below.
23.	Plant or Vehicles and Equipment Operation	Workers injured by passing traffic Road users and pedestrians at risk from plant operation Noise	$P \times F \times C = 640 = H$	<ul style="list-style-type: none"> Implement traffic protection measures Trained and competent operators must be used Check plant and vehicles on daily basis before use and record inspections. Maintain vehicles in safe condition. Medical certificates of fitness required for construction plant. Crossing of road by construction vehicles or machines must be limited to the practical minimum Plant and vehicles must be fitted with amber rotating beacons and reverse alarms. Wear appropriate protective clothing/equipment, eg: goggles, gloves, ear defenders, etc as appropriate.
24.	Scaffold Erection/ Dismantling / Trestles	Personnel falling from a height. Items of scaffold falling onto personnel. Scaffold collapsing onto those below.	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> Ensure scaffold is designed to take the imposed loads scaffolding is constructed properly scaffold is not overloaded scaffolders are fully trained scaffolding is regularly checked by competent person and record of inspection retained. Written inspections to be recorded on weekly basis scaffolders must adhere to the safe systems of work. all fall arrest equipment to be checked and certified in good working order that ALL understand the safe system of work
25.	Site Establishment	Injuries during off loading Damage to Property	$P \times F \times C = 64 = M$	<ul style="list-style-type: none"> competent personnel to be used in offloading personnel unauthorised personnel to be kept away from area, use barriers and signage as necessary unloading and establishment to be under control of competent supervision all equipment and tools used for unloading and site establishment to be in good condition and maintained safe access and egress to be maintained, traffic management to be considered. All electrical equipment to be in safe condition Workers to use safe manual handling techniques when unloading/loading/lifting items
26.	Site Strip	Overtuning Vehicles	$P \times F \times C = 64 = M$	<ul style="list-style-type: none"> Follow standard safety procedures Only use trained and competent personnel Ensure there is a suitable and safe means of access and egress Ensure banksman used when required Ensure all personnel wear suitable reflector vests as required
27.	Steel Erection	Falls from height Falling components Contact injuries from falling lifting equipment	$P \times F \times C = 192 = H$	<ul style="list-style-type: none"> Adhere to all general precautions for working at height (See risk assessment below) Barrier off / exclude area below work All lifting appliances to be examined and inspected Inspection registers in place and up to date All personnel to be trained and competent and wear clipped on safety harnessed when working at height Ensure that lifting equipment (slings, chains, shackles) test certificates are current and on site. Competent persons only to connect loads and direct plant
28.	Steel Fixing	Back injuries caused by manual handling Eye injuries from tie wire Trips / falls Falling form height	$P \times F \times C = 640 = H$	<ul style="list-style-type: none"> PPE must include safety boots and goggles Manual handling training may be required Care to be taken when working near overhead lines Use only trained personnel Provide safe means of access Maintain and regularly inspect all lifting appliances and equipment Cap starter bars to prevent injuries where feasible Construct scaffolds walk ways to cross reinforcing mesh, as required

29.	Temporary Works – shoring, scaffold, falsework, formwork	Collapse of form work	P x F x C = 192 = H	<ul style="list-style-type: none"> Wear personal protective equipment such as gloves and goggles Formwork must be built by trained person and also be inspected by competent person and results entered into register on site
30.	Underground Services	Striking of buried services	P x F x C = 216 = H	<ul style="list-style-type: none"> Make all necessary enquiries to establish what services are in the area. Consult drawings and advice from service provider (eg: Municipality or Eskom) when planning work. Assume all service to be live (Unless confirmation is received to confirm that services are isolated or otherwise made safe). Do not work near live services without authorisation from site management. Comply with the requirements of the safe system of work for underground services. Where available, locate services with a locator Hand dig around services
31.	Working at Height	Personnel falling from height Falling debris Those beneath being injured	P x F x C = 800 = H	<ul style="list-style-type: none"> All access equipment is properly constructed (inspections record must be maintained) Only trained personnel construct, dismantle or control the access equipment All access equipment must have full toe boards and guardrails - comply with SANS 10085 on erection, use and dismantling of scaffolding No access equipment may be loaded above the level of the guardrail No access equipment to be loaded above its safe working load Where work involves leaning out on an open leading edge, then all personnel are to be fitted with full body harness. The harness must be connected at all times All fall arrest equipment to be correctly maintained Ensure if ladders are being used for access, they are either footed or tied. Also the ladder must be set at the correct level of 1 in 4 or approximately 75°
32.	Include any other items not included in above into this section	Include any other items not included in above into this section		Include any other items not included in above into this section

**PROJECT SPECIFICATIONS FOR BID FOR THE SUPPLY, DELIVERY AND INSTALLATION OF
A 8HA DRAGLINE IRRIGATION AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE
OR TAMBO DISTRICT**

ENVIRONMENTAL MANAGEMENT PLAN

PEM ENVIRONMENTAL MANAGEMENT PLAN

PEM.1 PURPOSE

The purpose of the EMP is to encourage good management practices through planning and commitment with respect to environmental issues, and to provide rational and practical environmental guidelines to minimise disturbance of the natural environment.

PEM.2 RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT

The contractor will be responsible for environmental control on site during construction and the maintenance period. The construction activities will be monitored by an independent environmental specialist and audited against the EMP.

PEM.3 TRAINING AND INDUCTION OF EMPLOYEES

The contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.).

PEM.4 COMPLAINTS REGISTER AND ENVIRONMENTAL INCIDENT BOOK

Any complaints received by the project team from the community will be recorded. The complaint will be brought to the attention of the site manager.

All complaints received will be investigated and a response given to the complainant within 28 days.

All environmental incidents occurring on the site will also be recorded.

PEM.5 ENVIRONMENTAL SAFETY

The management of impacts associated with various categories of concern is discussed as separate topics, indicated below.

PEM.5.1 Soil

- (a) Topsoil should be temporarily stockpiled, separately from (clay) subsoil and rocky material, when areas are cleared. If mixed with clay sub-soil the usefulness of the topsoil for rehabilitation of the site will be lost.
- (b) Stockpiled topsoil should not be compacted and should be replaced as the final soil layer. No vehicles are allowed access onto the stockpiles after they have been placed.
- (c) Stockpiled soil should be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet season. The need for such measures will be indicated in the site-specific report.
- (d) Topsoil stripped from different sites must be stockpiled separately and clearly identified as such. Topsoil obtained from sites with different soil types must not be mixed.
- (e) Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and microorganisms in the soil.
- (f) Soil must not be stockpiled on drainage lines or near watercourses without prior consent from the Project Manager.

- (g) Soil should be exposed for the minimum time possible once cleared of invasive vegetation, that is the timing of clearing and grubbing should be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion. Stockpiled topsoil must be either vegetated with indigenous grasses or covered with a suitable fabric to prevent erosion and invasion by weeds.
- (h) Limited vehicular access is allowed across rocky outcrops and ridges.
- (i) All cut and fill surfaces need to be stabilized with appropriate material or measures when major civil works are complete.
- (j) Erosion and donga crossings must be dealt with as river crossings. Appropriate soil erosion and control procedures must be applied to all embankments that are disturbed and de-stabilized.
- (k) All equipment must be inspected regularly for oil or fuel leaks before it is operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakage has been repaired.
- (l) Soil contaminated with oil must be appropriately treated and disposed of at a permitted landfill site or the soil can be regenerated using bio-remediation methods.
- (m) Runoff must be reduced by channeling water into existing surface drainage system.

PEM.5.2 Water

- (a) Adequate sedimentation control measures must be instituted at any river crossings when excavations or disturbance of a riverbanks or riverbeds takes place.
- (b) Adequate sedimentation control measures must be implemented where excavations or disturbance of drainage lines of a wetland may take place.
- (c) All fuel, chemical, oil, etc. spills must be confined to areas where the drainage of water can be controlled. Use appropriate structures and methods to confine spillages such as the construction of berms and pans, or through the application of surface treatments that neutralise the toxic effects prior to the entry into a watercourse.
- (d) Oil absorbent fibres must be used to contain oil spilt in water.
- (e) During construction through a wetland, the majority of the flow of the wetland should be allowed to pass downstream.
- (f) Vehicular traffic across wetland areas must be avoided.
- (g) No dumping of foreign material in streams, rivers and/or wetland areas is allowed.
- (h) The wetland area and/or river must not be drained, filled or altered in any way including alteration of a bed and/or, banks, without prior consent from the DWAF. The necessary licenses must be obtained in terms of Section 21 and 22 of the National Water Act, 36 of 1998 from DWAF.
- (i) No fires or open flames are allowed in the vicinity of the wetland, especially during the dry season.
- (j) No swimming, washing (including vehicles and equipment), fishing or related activity is permitted in a wetland or river without written permission from the Project Manager.
- (k) Disturbances to nesting, breeding and roaming sites of animals in or adjacent to wetland areas must be minimized.

PEM.5.3 Air

- (a) Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution.

- (b) Dust must be suppressed on access roads and construction sites during dry periods by the regular application of water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that must not result in the generation of run-off.
- (c) The site-specific investigation will quantify the impact of dust on nearby wetlands, rivers and dams in terms of sedimentation. Mitigation measures identified during the site specific study must be implemented.
- (d) The Contractor must notify the Principal of all schools within 50m of the site of proposed activities. The Principal must in turn ensure that children with allergies and respiratory ailments take the necessary precautionary measures during the construction period. The Contractor must ensure that construction activities do not disturb school activities e.g. dust clouds may reduce visibility affecting sports activities.
- (e) Waste must be disposed of, as soon as possible at a municipal transfer station, skip or on a permitted landfill site. Waste must not be allowed to stand on site to decay, resulting in malodours.
- (f) Noise control measures must be implemented. All noise levels must be controlled at the source. All employees must be given the necessary ear protection gear. IAP's must be informed of the excessive noise factors.
- (g) The Contractor must inform all adjacent landowners of any after-hour construction activities and any other activity that could cause a nuisance e.g. the application of chemicals to the work surface. Normal working hours must be clearly indicated to adjacent land owners.
- (h) No loud music is allowed on site and in construction camps.
- (i) No fires are allowed if smoke from such fires will cause a nuisance to IAP's.

PEM.5.4 Social and Cultural

- (a) Access by non-construction people onto any construction sites must be restricted. The Contractors activities and movement of staff must be restricted to designated construction areas only.
- (b) The Contractors crew must be easily identifiable due to clothing, identification cards or other methods.
- (c) Rapid migration of job seekers could lead to squatting and social conflict with resident communities and increase in social pathologies if not properly addressed. The Contractor must ensure that signs indicating the availability of jobs are installed.
- (d) Criteria for selection and appointment (by the Contractor) of construction labour must be established to allow for preferential employment of local communities. The Local Authority must be actively involved in the process of appointing temporary labourers.
- (e) Sub-Contractors and their employees must comply with all the requirements of this document and supporting documents e.g. the Contract document that applies to the Contractor. Absence of specific reference to the sub-contractor in any specification does not imply that the sub-contractor is not bound by this document.
- (f) No member of the construction workforce is allowed to wander around private property, except within the immediate surroundings of the site.
- (g) The Contractor must provide suitable sanitation facilities for site staff. Sanitation provided during the construction phase should be managed so that it does not cause environmental health problems. The use of the surrounding fields or grounds for toilet purposes is not permitted under any circumstance.
- (h) The Contractor must arrange for all his employees and those of his sub-contractors to be informed of the findings of the environmental report before the commencement of construction to ensure:
 - A basic understanding of the key environmental features of the work site and environments, and
 - Familiarity with the requirements of this document and the site specific report.

- (i) Supervisory staff of the Contractor or his sub-contractors must not direct any person to undertake any activities which would place such person in contravention of the specifications of this document endanger his/her life or cause him/her to damage the environment.
- (j) The demand for construction materials and supplies will have an effect on the local economy. This impact can be optimised by sourcing and purchasing materials locally and regionally wherever possible, insofar as the material complies with the design specification.
- (k) The Contractor must maintain a detailed complaints register. This must be forwarded, together with solutions, to the authorities when requested.

PEM.5.5 Aesthetics

(a) Scenic Quality

Damage to the natural environment must be minimized.

Trees and tall woody shrubs must be protected from damage to provide a natural visual shield. Excavated material must not be placed on such plants and movement across them must not be allowed, as far as practical.

The clearing of all sites must be kept to a minimum and surrounding vegetation must, as far as possible, be left intact as a natural shield.

No painting or marking of natural features must be allowed.

- (b) All above ground structures could be treated or painted to blend in with the natural environment.
- (c) Cut and fill areas, river and stream crossings and other soil stabilisation works must be constructed to blend in with the natural environment.
- (d) Natural outcrops, rocky ridges and other natural linear features, must not be bisected. Vegetation on such features must, as far as possible, not be cut unless absolutely necessary for construction.
- (e) Excavated material must be flattened (not compacted) or removed from site. No heaps of spoil material must be left on site once the Contractor has moved off site either temporarily or permanently.
- (f) Any complaints from interest groups regarding the appearance of the construction site must be recorded and addressed promptly by the Contractor.

PEM.5.6 Archaeology and Cultural Sites

- a) All finds of human remains must be reported to the nearest police station.
- b) Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the South African Heritage and Resource Agency (SAHRA).
- c) Work in areas where artefacts are found must cease immediately.
- d) Under no circumstances must the Contractor, his/her employees, his/her sub-contractors or his/her sub-contractors' employees remove, destroy or interfere with archaeological artefacts. Any person who causes intentional damage to archaeological or historical sites and/or artefacts could be penalised or legally prosecuted in terms of the National Heritage Resources Act, 25 of 1999.
- e) A fence at least 2 m outside the extremities of the site must be erected to protect archaeological sites.
- f) All known and identified archaeological and historical sites must be left untouched.
- g) Work in the area can only be resumed once the site has been completely investigated. The Project

Manager will inform the Contractor when work can resume.

PEM.5.7 Flora

- a) All suitable and rare flora and seeds must be rescued and removed from the site. They must be suitably stored, for future use in rehabilitation.
- b) The felling and/or cutting of trees and clearing of bush must be minimised.
- c) Bush must only be cleared to provide essential access for construction purposes.
- d) The spread of alien vegetation must be minimized.
- e) Any incident of unauthorised removal of plant material, as well as accidental damage to priority plants, must be documented by the Contractor.
- f) Woody vegetative matter stripped during construction must either be spread randomly throughout the surrounding fields so as to provide biomass for other microorganisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated top soiled surface. No vegetative matter must be burnt or removed for firewood other than those removed during the grubbing and clearing phase. Such vegetation can be made available to the local inhabitants to be used as firewood.
- g) No tree outside the footprint of the Works area must be damaged.

PEM.5.8 Fauna

- a) No species of animal may be poached, snared, hunted, captured or willfully damaged or destroyed.
- b) Snakes and other reptiles that may be encountered on the construction site must not be killed unless the animal endangers the life of an employee.
- c) Anthills and/or termite nests that occur must not be disturbed unless it is unavoidable for construction purposes.
- d) Disturbances to nesting sites of birds must be minimized.
- e) The Contractor must ensure that the work site is kept clean and free from rubbish, which could attract pests.

PEM.5.9 Infrastructure

- a) The relevant authorities must be notified of any interruptions of services, especially the District Municipality, Local Municipality, National Road Agency, Spoornet, TELKOM and ESKOM. In addition, care must be taken to avoid damaging major and minor pipelines and other services.
- b) The integrity of property fences must be maintained.
- c) No telephone lines must be dropped during the construction operations, except where prior agreement by relevant parties is obtained. All crossings must be protected, raised or relocated as necessary.
- d) All complaints and/or problems related to impacts on man-made facilities and activities must be promptly addressed by the Contractor and documented.
- e) Storage Facilities
 - Proper storage facilities should be provided for the storage of oils, grease, fuels, chemicals and hazardous materials.
 - The Contractor must ensure that accidental spillage does not pollute soil and water resources.
 - Fuel stock reconciliation must be done on all underground tanks to ensure no loss of oil, which could pollute groundwater resources.

- Cement must be stored and mixed on an impermeable substratum.

f) Traffic Control

All reasonable precautions must be taken during construction to avoid severely interrupting the traffic flow on existing roads, especially during peak periods.

Before any work can start the Local Traffic Department must be consulted about measures to be taken regarding pedestrian and vehicular traffic control.

g) Access Roads

The Contractor and the affected landowner must collaborate on the planning and construction of new access routes and the repair or upgrading of existing routes.

Access to the site must be controlled such that only vehicles and persons directly associated with the work gains access to the site.

Temporary access roads must not be opened until required and must be restored to its former state as soon as the road is no longer needed.

h) Batching Plants

Concrete must be mixed only in an area demarcated for this purpose. All concrete spilled outside this area, must be promptly removed by the Contractor and taken to a permitted waste disposal site. After all concrete mixing has been completed, all waste concrete must be removed from the batching area and disposed of at an approved dumpsite. Storm water must not be allowed to flow through the batching area. Water laden with cement must be collected in a retention area for evaporation and not allowed to escape the batching area. Operators must wear suitable safety clothing.

- i) Chemical toilet facilities should be managed and serviced by a qualified company. No disposal or leakage of sewerage should occur on or near the site.

j) Blasting

Blasting must not endanger public or private property.

Noise mufflers and/or soft explosives must be used to minimize the impact on animals.

All the provisions of the Explosives Act, 26 of 1956 and the Minerals Act, 50 of 1991 must be complied with.

The Contractor must take measures to limit fly rock.

PEM.5.10 Safety

- a) Measures must be taken to prevent any interference that could result in flashover of power lines due to breaching of clearances or the collapse of power lines due to collisions by vehicles and equipment.
- b) Measures must be taken during thunderstorms to protect workers and equipment from lightning strikes.
- c) All tall structures must be properly earthed and protected against lightning strikes.
- d) The process of excavation and back filling must be carried out as a sequential process following one another as quickly as possible. Excavations must only remain open for a minimum period of time and during this time they must be clearly demarcated. If excavations place the public at risk these sites must be fenced.
- e) The residents directly affected by open trenches must be notified of the dangers. This will be done during the site-specific phase.

PEM.5.11 Waste

PEM 5.11.1 Solid Waste

- (a) Littering on site and the surrounding areas is prohibited.
- (b) Clearly marked litterbins must be provided on site. The Contractor must monitor the presence of litter on the work sites as well as the construction campsite.
- (c) All bins must be cleaned of litter regularly.
- (d) All waste removed from site must be disposed at a municipal/permitted waste disposal site.
- (e) Excess concrete, building rubble or other material must be disposed of in areas designated specifically for this purpose and not indiscriminately over the construction site.
- (f) The entire works area and all construction sites must be swept of all pieces of wire, metal, wood or other material foreign to the natural environment.
- (g) Contaminated soil must be treated and disposed of at a permitted waste disposal site, or be removed and the area rehabilitated immediately.
- (h) Waste must be recycled wherever possible.

PEM 5.11.2 Liquid Waste

- (a) The Contractor must maintain mobile toilets on site.
- (b) The Contractor must provide adequate and approved facilities for the storage and recycling of used oil and contaminated hydrocarbons. Such facilities must be designed and sited with the intention of preventing pollution of the surrounding area and environment.
- (c) All vehicles must be regularly serviced in designated area within the Contractors camp such that they do not drip oil.
- (d) All chemical spills must be contained and cleaned up by the supplier or professional pollution control personnel. Run-off from wash bays must be intercepted.

PEM 5.11.3 Hazardous Waste

- (a) No hazardous materials must be disposed of in the field or anyplace other than a registered landfill for hazardous material. Hazardous waste must be stored in containers with tight lids that must be sealed and must be disposed at an appropriately permitted hazardous waste disposal site. Such containers must not be used for purposes other than those originally designed for.
- (b) The Contractor must maintain a hazardous material register.

PEM.5.12 Rehabilitation and Site clearance

- (a) When all major construction activities are completed, the site must be inspected to determine site-specific rehabilitation measures. This may be considered as unplanned work e.g. soil rehabilitation due to oil spills.
- (b) All temporary buildings and foundations, equipment, lumber, refuse, surplus materials, waste, construction rubble fencing and other materials foreign to the area must be removed.
- (c) If waste products cannot be recycled they must be disposed of at a permitted landfill site.

- (d) All drainage deficiencies including abandoned pit latrines and waste pits must be corrected.
- (e) Cut and fill areas must be restored and re-shaped.
- (f) The area must be restored to its natural vegetation condition using indigenous trees, shrubs and grasses as directed by a grassland and/or rehabilitation expert.
- (g) Borrow pits must be re-shaped into even slopes and surfaces to blend with the natural terrain and topsoil must be replaced.
- (h) The grass mix, shrubs and trees used for rehabilitation must be compatible with the species identified in the site-specific investigation.
- (i) Areas compacted by vehicles during construction must be scarified to allow penetration of plant roots and the regrowth of natural vegetation.

PEM.6 MEASUREMENTS AND PAYMENT

No additional payment will be made to the Contractor to comply with the above actions as it will be deemed to be included in the rates tendered.

PROJECT PARTICULAR SPECIFICATIONS FOR THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM IN THE OR TAMBO DISTRICT

The Department of Rural Development and Agrarian Reform, (DRDAR, hereinafter "The Department") OR District, requires a contractor for the Supply, Delivery and Installation of Dragline Irrigation System, Diesel Pump, and pipeline at Amajabanqa Farm in Ingquza Local Municipality. The Department's emphasis is **on using mainly local labour for the works** during the process in accordance with standards and norms of the Eastern Cape Department of Rural Development and Agrarian Reform/ Department of Agriculture.

PPS 1.2 Scope of Contract

EXTENT OF WORKS

Covers the installation of a diesel engine.

The Contract for installation of diesel engine will include the following works:

- Supply and delivery of SABS and all pipe fittings,
- Supply, delivery of reliable a Kirloskar Diesel Engine + KSB Pump with delivery of 45 m³/h at a 54m pumping head and all necessary pump fittings
- Installation of diesel engine and all accessories
- Testing of the diesel engine and commissioning, and
- Training the farmer and one Department's staff the operation and maintenance of the irrigation system.

PPS 2 DESCRIPTION OF SITES AND ACCESS

PSC 2.1 Amajabanqa Farm is located 20km away from Lusikisiki. Access to the site is along the Island junction on R61 from Port St Johns to Lusikisiki direction (see attached Locality Map), Irrigation System Layout Plan will be available during Clarification/Briefing meeting and directions can be obtained from the Manager Coordination Mr S. Makalima (contact at on 083 262 2636).

The GPS co-ordinates are -

AMAJABANQA FARM: 31° 18' 57.92" S and 29° 34' 11.02"E

PS 3 DISCLAIMER

The information regarding subsurface conditions, materials on site and site information supplied, is provided in good faith for the contractors' convenience as an indication of conditions likely to be encountered. No responsibility will be accepted for, and there is no guarantee of the information being representative of the whole area of the works or materials. The information provided will not be regarded as in way limiting. The contractor will be held to have satisfied themselves of all conditions to be encountered on site and to allow accordingly in his tendered rates.

PPS4 CONDITIONS APPLICABLE TO ALL PARTICULAR SPECIFICATIONS

USE OF LOCALLY MANUFACTURED MATERIALS AND PRODUCTS:

Materials and products manufactured in South Africa shall be used in carrying out the work to which this specification refers, unless an imported product is prescribed specifically, or when no suitable locally manufactured product for the specific use is available.

APPLICATION OF CLAUSES:

All clauses in this specification which describe the materials and methods to be used in carrying out the work specified in the specification of work to be done, or indicated on the drawings, or included in the bills of quantities, or in any detail drawings, or instructions issued by the Engineer to the Contractor during the progress of the work, shall be considered as applying to the performance of the contract.

SAMPLES:

The Contractor shall furnish without delay, such samples and/or certificates as called for or may be called for by the Engineer. Materials and/or workmanship not corresponding with approved samples may be rejected.

WATER:

Clean, fresh water free from vegetable or organic matter, earth, clay, acid or alkaline substances either in suspension or in solution, other than those used for purification thereof by the responsible authority, shall be used through-out. Where there is any reason to suspect the presence of impurities, the Engineer may require the Contractor to obtain a chemical analysis of the water by a competent analyst at his own cost. Should the water prove unsuitable for use the Contractor must procure water of an approved source.

STANDARD DETAIL DRAWINGS:

All standard detail drawings applying to a particular service and referred to in this document, in the specification or in the bills of quantities, may be seen by Tenderers at the office of the Engineer for the carrying out of the work.

SCALE:

The scale to which the drawings are prepared is only to be made use of when no figured dimensions are given, either on the drawings or in the specification. Figured dimensions are always to be followed though they may not coincide with the scale of the drawings. Where possible dimensions are to be taken from all relevant existing buildings.

UNITS OF MEASUREMENTS:

Units of measurements have been standardized in accordance with "Système International d'Unites" (SI).

INTERPRETATION OF DRAWINGS ETC.:

Should any part of the drawings, specification or bills of quantities not be clearly intelligible to the Contractor or that the materials or articles to be used in the execution of the works be considered insufficiently described, the Engineer shall be requested in writing, to make clear, also in writing, his requirements, failing which the Contractor shall be liable to make, at his own expense, any alterations or substitutions rendered necessary through incorrect interpretation of such drawings, specification or bills of quantities.

DETAILS:

Upon receipt of detail drawings for any work the Contractor shall, before putting that work in hand, ascertain that the dimensions given on the Detail Drawings correspond with the dimensions of any work already built which governs the sizes of the work for which the detail is given. In the event of the detail drawings not agreeing with the work already built, the drawings shall be at once returned for alterations as no claim for extra work will be entertained in this respect.

PS5. SOUTH AFRICAN STANDARD SPECIFICATIONS AND CODES OF PRACTICE:

STANDARD SPECIFICATIONS:

SABS 135 ISO metric black bolts, screws, and nuts (hexagon and square)
SANS 966 Pipes, Valves and Specials (Pipeworks)
SABS 471 Portland Cement (ordinary, rapid hardening and sulphate- resisting)
SABS 763 Hot-dip (Galvanised) Zinc Coatings other than on continuously zinc-coated sheet and wire
SABS 1200 Standardized Specifications for Civil Engineering Construction
SANS 1305 Sealing surround for the building industry, one-component Silicone-rubber based
SANS 2001-BE1 Construction Works. Part BE1: Earthworks (general)
SANS 2001-CC2 Construction Works. Part CC2: Concrete Works (Minor Works)
SABS 1200DB Earthworks (Pipe Trenches)
SABS 1200L Medium Pressure Pipeline

CODES OF PRACTICE:

SABS 0155 Accuracy in building

SABS 0040 The application of the National Building Regulations

SANS 0160 General procedures and loadings to be adopted for the design of buildings

SABS-ISO 9000 Series Quality management systems

STANDARD TEST METHODS:

STM 861 Sampling of freshly mixed concrete

STM 862 Slump of freshly mixed concrete

STM 863 Compressive strength of concrete

(IN ALL CASES THE LATEST PUBLICATION OR REVISION SHALL APPLY.)

ACCURACY IN BUILDING WORK:

The method of measurement and accuracy of dimensions required for the setting out of structures and for completed building work shall be as described in SABS Code of Practice 0155, unless otherwise specified in this document.

PPS 5 UNITS, SYMBOLS, MEANING OF TERMS

The units of measurement are metric units as standardized by the “Système International d’Unités” (SI). The following unit symbols are used in this document:

°C	degree Celsius	L	Litre
g	Gram	m	Metre
Hz	Hertz	m ²	square metre
h	Hour	m ³	cubic metre
d	Day		
kN	Kilonewton	mm	Millimeter
kPa	Kilopascal	MPa	Megapascal
kW	Kilowatt	t	Tonne

Meaning of terms

The following terms are explained as follows:

according to manufacturer’s instructions: the manufacturer’s instructions at the time of tender

applicable standard : a national recognized standard applicable to the works, implying that the relevant standard is a contract document, a copy of which has to be kept in the site office for reference

as specified : as specified in the Particular Specification or in the drawings or in the scope of work

coastal area : area between the coastline and an imaginary line 30 km inland, including the entire area of jurisdiction of any local authority falling within this region

competent person : person who is qualified by virtue of his education, training, experience and contextual knowledge to make a determination regarding the performance of a building or part thereof in relation to a functional regulation or to undertake such duties as may be assigned to him in terms of these regulations, as further defined in SANS 10400

comply : meet specified standards

drawings : the drawings forming part of the contract documents, and any modification thereof or additions thereto delivered to the contractor during the execution of the works; drawings include schedules

MOD AASHTO: An internationally accepted test to determine the density of compacted material like soil filling, expressed as a percentage of the maximum compaction of the filling at various moisture contents as determined in a laboratory

NBR: National Building Regulations

SABS: South African Bureau of Standards

SANS: South African National Standard

specification data: data required by SANS 2001 Construction Works standards without which the specification is incomplete. Specification data listed in PW371 is simplified and generally accepts default values or requirements – consult Annex A of the relevant SANS 2001 standard for the complete list

suitable: capable of fulfilling or having fulfilled the intended function, or fit for its intended purpose

PPS EARTHWORKS

PPS BE1 SITE CLEARANCE

Areas to be cleared and grubbed. Both borrow areas and the portions of the site on which excavations are to be carried out and the shed constructed, shall be cleared or grubbed, or both, the Contractor shall excavate the top 150mm of topsoil including all of the smaller vegetation (grass and shrubs, bushes) and stockpile it. The contractor shall not commence with clearing and grubbing until the Engineer has designated, in writing and in detail, the exact areas to be stripped of topsoil and the time at which the work to be started.

Cutting of trees. The contractor shall take the necessary precautions to prevent injury to persons and animals and damage to structures and other private and public property. Where necessary, trees shall be cut in sections from the top downwards.

Branches overhanging boundaries. The branches of trees to be left standing shall be so trimmed as not to encroach upon the space (of height at least 7m) vertically above any carriageway, railway formation, or other designated area.

Preservation of trees. No tree shall be cut down until the engineer has given written authorization for such work to commence.

Clearing. Clearing shall consist of:

The removal of all trees, rubbish, fences, and all other material that may interfere with the construction of the work.

The disposal of all material resulting from clearing.

The removal of rocks and boulders of size up to 0.15m³ that are lying on the surface to be cleared or exposed during the clearing operations.

Where fences have to be taken down, sorting, coiling, and stacking of the material.

The removal and stacking of other reusable materials as scheduled.

The moving of a certain amount soil or gravel may be inherent in or unavoidable during the process of clearing. No extra payment will be made for the removal such soil or gravel.

Grubbing. All stumps and roots larger than 75mm in diameter shall be removed to a depth of at least 600mm below the finished level and at least 100mm below the original ground level. Where the area has to be compacted, all stumps and roots including matted roots shall be removed to a depth of at least 200mm below the cleared surface.

Except in borrow areas, cavities resulting from grubbing shall be backfilled with approved material and compacted to a density at least equal to that of the surrounding ground.

Re-clearing of vegetation. If during the contract period vegetation should again grow on any portion of the site, borrow areas, or the areas that have been cleared in accordance with the specification, the Engineer may, if considers it necessary, order that such area be re-cleared.

Such re-clearing shall include the removal and disposal of grass, shrubs, and other vegetation, as in the first clearing operation.

Conservation of topsoil. The terms of Sub-clause 5.2.2 of SANS 1200DA: 1988 shall apply.

EXCAVATION

The permissible degree of accuracy for all excavations shall be of accuracy III (Table 2).

Table 1: Permissible deviations: excavations

	Permissible Deviation (PD)
	Degree of Accuracy III
	mm
Position on plan. Permissible deviation, PD in plan of any point measured from the nearest grid line.	±50
Dimensions on plan. PD from the design dimensions	±75
Footing level. PD in level of surface of excavation trimmed to receive concrete.	±75
Level. PD from designated level with reference to the nearest transferred bench mark of any floor slab	±20

After the topsoil has been removed, excavation shall be carried out first to any general levels to which the ground has to be reduced and after that to the depths indicated on the drawings or to such greater depths as may be ordered or approved to ensure satisfactory foundation levels.

The excavated surfaces for shall be trimmed to function as the formwork for the floor slabs and the column foundations to the dimensions as indicated on the drawing.

Immediately before any permanent construction is commenced, the bottom of each excavation shall be cleaned of all loose material and soft material shall be rammed to the level as indicated on the drawings.

Should the Contractor excavate to dimensions in excess of those stipulated or permitted, he shall fill in the excess at his own expense in the manner specified or approved by the Engineer.

Topsoil shall be stockpiled temporarily and returned to be spread over the surrounding site.

The Contractor properly deals with and disposes of water to ensure that the works are kept sufficiently dry for their proper execution. His responsibility will be held to include the provision of adequate protection against flooding and damage by storm water, flow from springs, and seepage, and to include provision for the repair, at his expense, any of the damage to the works that may arise as a result of the inadequacy of the protection provided by him. Except where the use of tremies has been approved, foundation and floor excavations shall be kept free from water at all times until they have been inspected and approved and the concrete have been cast.

The Contractor/Bidder shall drain borrow areas to prevent pools forming.

PPS BE2 MEASUREMENT AND PAYMENT: SITE CLEARANCE

Basic principles.

The items scheduled for clearance will be classified according to the nature of the materials involved and the methods of their disposal.

Only those areas designated to be cleared will be measured for payment.

The removal of topsoil from the specified area will be measured as excavation and no payment will be made for it under clearing and grubbing.

Scheduled items.

Clear and grub.....m²

The area designated by the Engineer and cleared and grubbed will be measured to the nearest 0.1m². The rate shall cover the cost of removing boulders of size up to 0.15m³, grubbing of trees and tree stumps, cutting of trunks and branches exceeding 0.5m in girth into transportable lengths, backfilling of cavities, removing, transporting, and disposing of material thus cleared, grubbed and cut. Boulders over 0.15m³ will be dealt with as excavation in terms of the items scheduled for bulk excavations. The rate is for the shed, handling facilities and toilet.

Remove and grub large trees and tree stumps of girth:

- Over 1m and up to and including 2m.....No.
- Over 2m and up to and including 3m.....No.
- Over 3m, in steps of 1m.....No.

The girth of a tree or stump will be measured at the narrowest point of the tree or stump in the first meter of its length above the ground level. Trees and stumps of girth exceeding 1m will be measured individually and classified according to the size in increments of 1m as indicated above.

The unit of measuring the site clearance will be in number as indicated.

The rate shall cover the cost of clearing and grubbing trees and stumps of all sizes, cutting branches, backfilling holes, and removing, transporting, and disposing of all such trees, stumps, and branches and associated material.

PPS BE3

MEASUREMENT AND PAYMENT: EXCAVATION

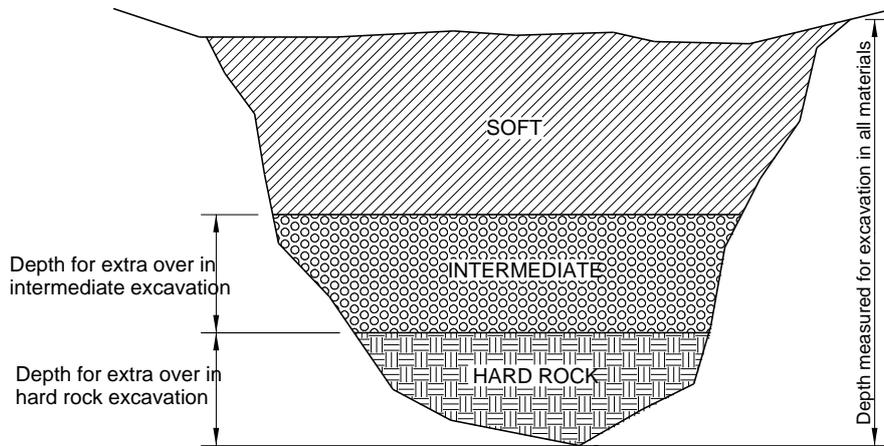


Figure 1: Classes of Excavation: Measurement and Payment

Basic principles

The basic principles for measurement and payment for all earthworks are that the rates tendered for excavation shall cover the cost of excavating and re-use of the material in backfilling and required slopes for the floor and furrow, and the cost of disposal of surplus and unsuitable material within the free haul distance of 500m. Separate additional payment will be made for filling excess excavation, forming banks or terraces, disposing of surplus material, or any other contingent work, only where specifically prescribed and scheduled.

Excavations which are required to be backfilled will be measured as if taken out with vertical sides regardless of whether they have been taken out with sloping sides. They will be measured from the net plan of the finished concrete footing except that, in the case of conical or other such structures, the volume will be measured from the finished outline of the concrete as shown on the drawings.

Where extra excavation for outside formwork or working space is specified or ordered prior to the start of bulk excavation for a structure, such excavation will be measured as part of the bulk excavation.

Computation of quantities

Earthworks will be measured by volume once only, in excavation. Measurements will be to finished shapes, sections and profiles as shown on the drawings or ordered, and no excavation outside the specified lines and levels will be included in the measurements unless such extra work has been done on the written instructions of the Engineer.

The volumes of material handled will be computed from plan dimensions and the total depth excavations. Volumes removed incidentally will be disregarded in excavation quantities but the volumes (computed from areas and depths) moved in excavation of stated depth of topsoil will be added to the scheduled "Remove topsoil" volume.

Scheduled items.

Remove Topsoil and stockpile.....m²

The rate shall cover the cost of removing the topsoil to a depth of 150mm, together with such vegetation and small roots occur within the specified depth, and of stockpiling it on designated sites. The rate is for the shed, handling facilities and toilet.

Excavation

Excavate in all materials and use for floor slope preparation and backfill and dispose of excess as ordered.....m³

Separate items will be scheduled for each type of excavation and for each type or manner of disposal of excavated material.

The rate shall cover the cost of excavation, basic selection, loading, transportation within the free haul distance of 500m, offloading, spreading or backfilling, watering, compacting, final grading, complying with the requirements for tolerances, and disposal of soil, all in accordance with the requirements given on the drawings.

Extra over for

- Intermediate excavation..... m³
- Hard rock excavation..... m³
- Boulder excavation, Class A..... m³
- Boulder excavation, Class B..... m³

The rate shall cover the additional cost of the operations enumerated in “Excavate in all materials and use for floor slope preparation and backfill and dispose of excess as ordered” above for any portion of the excavation that is classified as intermediate, hard rock, boulder class A or boulder Class B, as applicable (Figure 2)

The unit of measuring the excavation will be in cubic meter when completed.

The rate tendered shall cover the cost for all excavations, handling and transporting of all materials, as specified on the drawings to include labour and hiring of plant.

PPS BE 4 EXCAVATIONS FOR PIPEWORK TRENCHES:

4.1 EXCAVATION

Excavations shall be deemed to be in “earth” unless otherwise described. Trenches for pipelines shall be excavated to a minimum depth of 800 mm, and trenches for the electric cable to a minimum depth of 800 mm. Trench widths shall be as shown or to a minimum width that will allow for labour intensive construction.

4.2 METHOD OF EXCAVATION

In order to produce material suitable for bedding, selective methods of excavation may be used, or the excavation material may be screened, washed or otherwise treated.

Excavated material that are material of granular, non-cohesive nature that is free-draining, has maximum aggregate size of 20mm and has a compaction fraction that does not exceed 0,3 shall not be wastefully disposed of. Positive steps shall be taken to avoid burying or contaminating materials that would otherwise be suitable for use as

- a) selected fill for the blanket or selected granular material for the cradle, unless other materials are specified, or
- b) topsoil.

When otherwise suitable material from a trench is contaminated, any shortfall may be made up by obtaining suitable material from other excavations on the site, or by opening up borrow pits, or by importing from commercial or other sources.

4.3 SIZE OF EXCAVATION

Trenches shall be excavated in suitable lengths, to widths of minimum 600mm with side allowances of 300mm. The sides of each trench from the bottom up shall be as vertical as possible for at least the height of the bedding.

4.4 MINIMUM BASE WIDTH

The widths of excavations shall be sufficient to allow the proper laying, bedding and backfilling of pipelines.

Unless otherwise specified the base width of the trench shall not be less than 600mm.

Where two or more pipes are to be placed in one trench, the base width of the trench shall be adjusted to allow a space of 100mm between each pipe.

4.5 MAXIMUM BASE WIDTH

The maximum base width shall not exceed the minimum base width specified in PPS BE 4.4 above by more than 50%.

4.6 TRENCH BOTTOM

The depth of the trench shall be as specified on the drawings and the trimming and grading of the bottom of the trench shall be such that the pipe can be uniformly supported over its full length, free at the joints, and at the correct grades and levels.

Material that is unsuitable as the bottom of a trench shall be excavated and the trench shall be filled with suitable material and compacted to 90% modified AASHTO dry density.

The bottom of the trenches shall be sufficiently straight (or true to alignment in the case of curved pipelines) to enable the pipelines to be laid without reduction of the side allowances.

The trench bottom shall be kept sufficiently free from water to enable the bedding to be placed.

Excavation work shall be so executed that material

excavated and that does not contain more than 10% rock or hard fragments retained on a sieve of nominal aperture size 50 mm shall be transported directly to its final position without being stockpiled, and if stockpiling is unavoidable, materials intended for re-use shall be stockpiled separately from the other excavated materials and materials from excavations shall be used in preference to materials from borrow pits or other sources.

After an area has been stripped, excavation of trenches for pipe works shall be excavated to the several lengths, widths and levels shown on drawings to which the ground has to be reduced to the depths as shown on the drawings or to such other depths as may be directed by the Engineers Representative to ensure a good pipe works and thrust blocks.

Bottoms of trenches and holes shall be level, with sides trimmed vertical for the full width from top to bottom. The bottoms of trenches shall be stepped as shown but if the stoppings are not shown on drawings or are not otherwise directed on site, the stepping shall be of at least the thickness specified for the concrete footings but shall be adjusted downwards to conform with an exact number of brick courses where necessary. Any excavations taken out to deep shall be made up to correct levels with approved fill material by the Engineers Representative and shall be capable of sufficient compaction to avoid settlement and shall be capable of placement without significant voids all at the Contractor's expense.

Before commencing any earthworks the Contractor shall satisfy himself as to the accuracy of any levels indicated on the drawings as no claim will be entertained at a later date for any allege inaccuracy in such levels.

Degree of accuracy for excavations required is:

Position on plan:- pd in plan of any point measured from the nearest grid line ± 35 mm.

Dimensions on plan:- pd from the design dimensions ± 50 mm.

Foundation level (i.e. level of underside of concrete except floor slab):- pd in level of surface of excavation trimmed to receive concrete ± 50 mm.

Level:- pd from designed level with reference to the nearest transferred benchmark of any floor slab ± 15 mm.

Except where provision for working space has been made in the scope of work, each excavated surface on which, or against which, a permanent concrete structure will be placed shall be prepared by trimming to ensure that there is no projection outside the specific tolerance into the excavation profile. Such surface shall be cleaned by hand to remove all loose material.

Immediately before any permanent construction is commenced, the bottom of each excavation shall be cleaned of all loose material, and soft material shall be rammed or removed, as required.

PPS BE 5 BEDDING FOR PIPE LINES

Material for the bedding of uPVC and MPVC pipes shall be in strict accordance with SANS 1200LB-1983 bedding (pipes)

Bedding shall be a continuous layer of selected granular material and be carried out to the dimensions shown, as pipe laying proceeds, and shall be completed before the acceptance test is carried out.

Descriptions of excavations for working space shall be deemed to include any additional risk of collapse so incurred and the returning and compacting of the excavated material as described.

Granular material that is non-cohesive and free draining and graded between 0,6 and 13 mm shall be selected from the pipe trench excavations for placing underneath and around the pipelines. The material shall be free of stones and vegetation.

Flexible pipes shall be supported on a cradle of continuous bed of selected granular material of compacted depth of at least 100mm and that covers the full width of the trench.

The granular material shall be compacted to 90% modified AASHTO density. Additional selected granular material shall then be placed carefully and evenly between the sides of the trench and the pipeline, in layers of uncompacted thickness of approximately 100mm.

Each layer shall be compacted individually to 90% modified AASHTO density until a compacted layer of minimum 100mm thick are obtained above the pipeline. Particular care shall be exercised to prevent damage, deflection, or displacement of the pipeline.

After completion of the cradle, a 300mm thick selected fill blanket shall be placed carefully in layers of 100mm uncompacted thickness over the full width of the trench and shall be compacted to 90% modified AASHTO density up to the height of at least 300mm above the crown of the pipeline. Special care shall be taken when compacting over the pipeline.

PPS BE 6 BACKFILLING

6.1 GENERAL

Backfilling of trenches shall commence after the pipe has been laid and firmly bedded in the specified cradle and the blanket has been placed and suitably compacted.

Backfilling shall be carried out over the full extent of the actual trench excavation and to original ground level. No filling shall be placed in water.

6.2 MATERIAL FOR BACKFILLING

Material for backfilling above the bedding (cradle and blanket) shall be obtained from trench excavations. Hard material and rock material shall not be incorporated in the backfill unless suitably mixed with other backfill material.

6.3 DISPOSAL OF SOFT EXCAVATION MATERIAL

Excavation material from the trench, which is unsuitable or has become surplus, shall be disposed of along the trench servitude.

6.4 DISPOSAL OF HARD MATERIAL AND ROCK MATERIAL

Where the quantity of hard material or rock material exceeds that which can be or is required to be incorporated in the backfill, the surplus shall be disposed of as specified in PPS BE 5.3 above or removed to sites specified by the Engineers Representative.

6.5 COMPLETION OF BACKFILLING

Backfilling of trenches shall be completed expeditiously and in reasonable lengths.

PPS BE 7 MAINTENANCE OF EXCAVATIONS

7.1 Risk of collapse:

The Contractor shall maintain all excavated faces exceeding 1,5m deep in accordance with Government Regulations and all excavated faces not exceeding 1,5m deep affecting the safety of work and/or the workmen.

The Contractor shall carry the risk of collapse of excavated faces whether or not he takes any precautions, the nature of which shall be entirely at his own discretion.

7.2 WATER IN EXCAVATIONS

No water shall be allowed to accumulate in any portion of the excavations.

The excavations shall be protected against any water entering them whether by seepage, rains, storms, floods or any other means. Any water found in the excavations shall immediately be removed by pumping or baling.

It is the Contractor's responsibility to keep foundations and excavations water free and the Contractor must supply all pumps etc. that may be necessary for clearing out the water. Water must be cleared in such a way that it cannot seep or flow back into the excavations.

PPS BE 8 SURPLUS EARTH

All surplus earth, topsoil and/or other materials from excavations shall be deposited and levelled on the site, or carted away, as directed.

PPS BE 9 TOPSOILING

On completion of earthworks to the finished level and of backfilling of trenches, etc., the whole surface shall be graded, shaped and compacted to final grades and levels.

Topsoil shall be placed on level and slightly graded areas and shall be lightly compacted by wheeled vehicles or by tamping, and trimmed neatly to the required lines, grades and levels. The final thickness of the topsoil after compaction shall be at least 75 mm.

Where required or directed by the Engineers Representative, grass or other vegetation shall be planted after top soiling has been completed. On completion of planting, the planted area shall be neatly trimmed and well watered and not allowed to dry out until it is established.

PPS BE 10 MEASUREMENT AND PAYMENT

Item **Unit**
PPS BE 10.1 Pipework line Clearing metre (m)

The unit of measurement shall be the square metre for the area cleared before trenching could commence.

The tendered rates shall include full compensation for all labour and plant for the clearing of the pipeline trenches get it to an acceptable working terrain.

Item **Unit**
PPS BE 10.2 Earthwork for trenches metre (m)

The unit of measurement shall be the cubic metre for the excavation in earth for pipe trenches not exceeding 2000mm deep.

The tendered rates shall include full compensation for all labour and plant for the excavation of trenches and the re-use of excavated material for backfilling and the disposal of any surplus material along the routes of the pipeline and cable. Trench excavation will be measured in length, by meter (m), along the routes of the pipeline and cable to the specified depth as indicated on the drawings or as directed by the Engineers Representative as well as for keeping the excavations free from water.

Item

Unit

PPS BE 10.3 Bedding for pipelines m³

The unit of measurement shall be in m³, for the complete bedding for trenches.

The rates tendered for bedding shall include full compensation for all labour, material and plant cost of the provision alongside the trench, of bedding material selected from the trench excavation that complies with the relevant specification and disposing of displaced material within a freehaul distance of 0.5km.

CONCRETE WORKS

PPS CC CONCRETE

Structural Works

Applicable standard: SANS 2001 – Construction Works Part CC1: Concrete Works (structural).

Minor Works

Applicable standard: SANS 2001 – Construction Works Part CC2: Concrete Works (minor works).

Foundations

Applicable standard: SANS 2001 – Construction Works Part CM2: Strip footings, Pad footings and Slab-on-the-ground Foundations for Masonry Walling

NB: All in situ concrete work (mass and reinforced) shall comply with SABS Specification 1200G ("8. Measurement and Payment" is **not** applicable) supplemented by the clauses in this section. Where SABS Specification 1200G and the clauses in this section are in conflict the clauses in this section shall take precedence.

Where the term "plain concrete" appears in SABS Specification 1200G it shall be read as "mass concrete"

PPS CC 1 CEMENT

Cement shall be Portland cement complying with the requirements of SABS Specification 471 or PC15 complying with SABS Specification 831.

Samples of cement from any one, or from every consignment, may be required by the Representative/Agent for test purposes. Cement in any consignment from which a sample may have been taken for testing shall not be used until it has been approved. Allowance must be made for possible delay in that tests may take 10 days to carry out.

Bags of cement shall be stacked in a waterproof, solidly constructed shed with a central door and a floor rendered damp-proof with a tarpaulin. The bags of cement shall be closely stacked (but not against walls) in order to reduce air circulation in such a manner that the cement is used in the order in which it was received, i.e. first in first out.

Unless otherwise specified in the tender documents the use of ordinary Portland cement blended with ground granulated blast furnace slag complying with SABS Specification 1491, or ordinary Portland Cement blended with Pulverised Fly Ash complying with SABS Specification 1466 will be allowed in certain instances as an alternative, after acceptance of tender, but only with the approval of and at the sole discretion of **the Department**. If not so specified in the tender documents the Contractor must demonstrate a saving in favour of the Department together with his alternative tender. The saving offered will be adjudicated by the

Engineer/Quantity Surveyor for the service and acceptance of the alternative will be in accordance with the reasonableness thereof.

PPS CC 2 SAND (FINE AGGREGATE)

The fine aggregate shall comply with the requirements of SABS Specification 1083. Other aggregates may be approved if they have a satisfactory history and/or test results.

No aggregate may be used until it has been approved. Samples having a mass of 25 kg (16.5 litre) of the aggregate proposed to be used may be required by the Representative/Agent for test purposes. Samples having a mass of 25 kg shall be forwarded every 3 months during concreting work and also if the source of supply is changed. Allowance must be made for possible delay in that the tests may take 14 days to carry out.

PPS CC 3 STONE (COARSE AGGREGATE)

PPS CC 3.1

The coarse aggregate shall comply with the requirements of SABS Specification 1083.

No aggregate may be used until it has been approved. Samples having a mass of 25 kg (16.5 litre) of the aggregate it is proposed to use may be required by the Representative/Agent for test purposes. Samples shall be forwarded every three months during concreting work and also if the source of supply is changed. Allowance must be made for possible delay in that the tests may take 14 days to carry out.

NB: Certain fine grained sand and stone originating from the Beaufort Series and Karoo Systems which are known by reputation, local experience or tests, to exhibit excessive shrinkage when used in concrete, may be deemed unacceptable by the Representative/Agent.

PPS CC 3.2

A certificate of proof is required from the Contractor that the aggregates are not alkali reactive. The cost of testing and certification are to be borne by the Contractor.

PPS CC 4 CONCRETE

Concrete shall be of the classes given in the following table. The proportions of the ingredients and the nominal size of the coarse aggregate for each class shall be as laid down therein, viz:

CLASS	CEMENT	AGGREGATES			STRENGTH (MPa)
	PART	FINE	COARSE	SIZE	
		PART	PART		
A	1	4	8	50	10
B	1	3	6	38	15
C	1	3	6	19	15
D	1	2	4	38	25
E	1	2	4	19	25
F	1	1½	3	19	30
G	1	1	2	19	40

The strength given in the above table shall be the minimum required at 28 days.

Unless otherwise specified. Class C concrete shall be used for mass concrete and Class E concrete for reinforced concrete.

Maximum concrete slumps acceptable for different types of construction concrete are as follows:

Vibrated reinforced concrete = 50 mm

Unvibrated reinforced concrete = 75 mm

Mass concrete = 75 mm

When so required by the Engineers Representative, and whilst concreting is in progress, the consistency of the mixture shall be ascertained by means of the slump test as later described herein.

PPS CC 5 VOLUME BATCHING

The coarse and fine aggregate shall be measured by volume and, unless otherwise directed, cement shall be measured by mass: the volume of a 50 kg bag of cement shall be taken as 33 litre. Suitable measuring boxes for the coarse and fine aggregates shall be provided to the approval of the Engineers Representative.

The proportions given above are approximate only, and should the Engineers Representative consider that the voids in the coarse aggregate require more or less matrix than is formed by the proportions specified, he may vary the quantities of coarse and fine aggregates to obtain the required density and workability of the concrete, provided that the proportion of cement to the total volume of the aggregate shall not be less than that specified.

When the sand is not completely dry, allowance must be made for bulking due to the moisture content. The amount of bulking shall be determined by the Contractor in the presence of the Engineers Representative.

The proportion of water used for mixing concrete shall be determined by the Engineers Representative and once the water-cement ratio has been fixed, it shall be rigidly adhered to. On no account shall the amount of water exceed 34 litres to every bag of cement used. This figure includes the water contained in the sand.

The length of time each batch shall be mixed in the mixing machine shall be decided by the Engineers Representative.

Effective screens shall be provided to protect the mixing of concrete during windy weather.

PPS CC CONCRETE

Structural Works

Applicable standard: SANS 2001 – Construction Works Part CC1: Concrete Works (structural).

Minor Works

Applicable standard: SANS 2001 – Construction Works Part CC2: Concrete Works (minor works).

Thrust Blocks

Applicable standard: SANS 2001 – Construction Works Part CM2: Strip footings, Pad footings and Slab-on-the-ground Foundations for Masonry Walling

NB: All in situ concrete work (mass and reinforced) shall comply with SABS Specification 1200G ("8. Measurement and Payment" is **not** applicable) supplemented by the clauses in this section. Where SABS Specification 1200G and the clauses in this section are in conflict the clauses in this section shall take precedence.

Where the term "plain concrete" appears in SABS Specification 1200G it shall be read as "mass concrete"

PPS CC 1 CEMENT

Cement shall be Portland cement complying with the requirements of SABS Specification 471 or PC15 complying with SABS Specification 831.

Samples of cement from any one, or from every consignment, may be required by the Representative/Agent for test purposes. Cement in any consignment from which a sample may have been taken for testing shall not be used until it has been approved. Allowance must be made for possible delay in that tests may take 10 days to carry out.

Bags of cement shall be stacked in a waterproof, solidly constructed shed with a central door and a floor rendered damp-proof with a tarpaulin. The bags of cement shall be closely stacked (but not against walls) in

order to reduce air circulation in such a manner that the cement is used in the order in which it was received, i.e. first in first out.

Unless otherwise specified in the tender documents the use of ordinary Portland cement blended with ground granulated blast furnace slag complying with SABS Specification 1491, or ordinary Portland Cement blended with Pulverised Fly Ash complying with SABS Specification 1466 will be allowed in certain instances as an alternative, after acceptance of tender, but only with the approval of and at the sole discretion of **the Department**. If not so specified in the tender documents the Contractor must demonstrate a saving in favour of the Department together with his alternative tender. The saving offered will be adjudicated by the Engineer/Quantity Surveyor for the service and acceptance of the alternative will be in accordance with the reasonableness thereof.

PPS CC 2 SAND (FINE AGGREGATE)

The fine aggregate shall comply with the requirements of SABS Specification 1083. Other aggregates may be approved if they have a satisfactory history and/or test results.

No aggregate may be used until it has been approved. Samples having a mass of 25 kg (16.5 litre) of the aggregate proposed to be used may be required by the Representative/Agent for test purposes. Samples having a mass of 25 kg shall be forwarded every 3 months during concreting work and also if the source of supply is changed. Allowance must be made for possible delay in that the tests may take 14 days to carry out.

PPS CC 3 STONE (COARSE AGGREGATE)

3.1 The coarse aggregate shall comply with the requirements of SABS Specification 1083.

No aggregate may be used until it has been approved. Samples having a mass of 25 kg (16.5 litre) of the aggregate it is proposed to use may be required by the Representative/Agent for test purposes. Samples shall be forwarded every three months during concreting work and also if the source of supply is changed. Allowance must be made for possible delay in that the tests may take 14 days to carry out.

NB: Certain fine grained sand and stone originating from the Beaufort Series and Karoo Systems which are known by reputation, local experience or tests, to exhibit excessive shrinkage when used in concrete, may be deemed unacceptable by the Representative/Agent.

3.2 A certificate of proof is required from the Contractor that the aggregates are not alkali reactive. The cost of testing and certification are to be borne by the Contractor.

PPS CC 4 CONCRETE

Concrete shall be of the classes given in the following table. The proportions of the ingredients and the nominal size of the coarse aggregate for each class shall be as laid down therein, viz:

CLASS	CEMENT		AGGREGATES			STRENGTH (MPa)
	PART	PART	FINE	COARSE	SIZE	
			PART	PART		
A	1	4	8	50	10	
B	1	3	6	38	15	
C	1	3	6	19	15	
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The strength given in the above table shall be the minimum required at 28 days.

Unless otherwise specified. Class C concrete shall be used for mass concrete and Class E concrete for reinforced concrete.

Maximum concrete slumps acceptable for different types of construction concrete are as follows:

Vibrated reinforced concrete = 50 mm

Unvibrated reinforced concrete = 75 mm

Mass concrete = 75 mm

When so required by the Engineers Representative, and whilst concreting is in progress, the consistency of the mixture shall be ascertained by means of the slump test as later described herein.

PPS CC 5 STRENGTH CONCRETE

The Contractor shall be responsible for the design of strength concrete and for the measurement of the constituent materials to produce concrete that complies with the specified requirements.

PPS CC 6 CONCRETE QUALITY

Should the Contractor dispute any results obtained from concrete test cubes, the concrete represented by the cubes will be considered acceptable if the Contractor, at his own cost, proves to the satisfaction of the Engineers Representative that the estimated actual strength of cores taken from the structure (by an approved independent testing laboratory and determined in accordance with SABS STM 865) is not less than the specified strength. If the concrete fails to meet the strength criteria stipulated, the Engineers Representative may at his sole discretion and in addition to the options listed in SABS Specification 1200G

PPS CC 7 CURING OF CONCRETE

After the concrete has been placed, all exposed surfaces shall be kept continuously damp for at least 10 days by methods as may be approved by the Engineer, such as covering with approved building paper, or by means of wet canvas, wet sacks, wet sand, by continuous hosing or ponding with water.

PPS CC 8 ANCHOR/THRUST BLOCKS

To resist the horizontal or downward thrust developed at a fitting, the thrust block should have a bearing surface large enough to enable the thrust to be distributed over an area of soil or rock that is capable of absorbing this pressure.

Pipe size	90° Bends A X B	45° Bends A X B	Tees A X B	End Caps Sluice Valves Reducers A X B
50 – 90mm	0,2 x 0,2	0,2 x 0,2	0,25 x 0,25	0,25 x 0,6
110mm	0,3 x 0,3	0,3 x 0,25	0,3 x 0,3	0,3 x 0,6
125 - 140mm	0,3 x 0,45	0,3 x 0,3	0,3 x 0,4	0,3 x 0,65
160mm	0,3 x 0,6	0,3 x 0,4	0,3 x 0,45	0,3 x 0,7
200mm	0,45 x 0,7	0,3 x 0,7	0,45 x 0,6	0,45 x 0,8
250mm	0,6 x 0,9	0,6 x 0,6	0,45 x 0,8	0,45 x 0,85
315mm	0,6 x 1,3	0,6 x 0,9	0,6 x 0,9	0,6 x 1,0
355mm	0,8 x 1,5	0,6 x 1,2	0,6 x 1,4	0,6 x 1,4

400mm	1,0 x 1,6	1,0 x 1,2	0,8 x 1,5	0,8 x 1,5
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For vertical thrusts acting downward, the safe bearing loads of the various soils may be taken as twice those for horizontal thrusts.

In very soft ground, special measures should be taken in transmitting the thrusts by use of piles or rods to solid foundations or by replacement of the poor bearing soil with more stable materials.

For a vertical bend which induces a thrust acting upwards, the concrete block should be such that its mass is sufficient to counteract the thrust

PPS CC 9 MEASUREMENT AND PAYMENT

Item

Unit

PPS CC9.1 Miscellaneous: Anchor/Thrust Blocks.....
m³

The unit of measurement shall be in volume of concrete and formwork for constructing all anchor/thrust blocks of required size, for the complete anchor/thrust blocks.

The rates tendered for anchor/thrust blocks shall cover the full compensation for all labour, materials and plant/equipment for supplying and mixing of materials, placing of concrete, and screeding of top surfaces.

Item

Unit

PPS CC9.2 Miscellaneous: Precast Route Markers.....
number (No)

The unit of measurement shall be in number of standard precast concrete route markers of required size, for marking the route of main and submain pipelines.

The rates tendered for precast concrete route markers shall cover the full compensation for all labour, materials and plant/equipment for supplying and placing of route markers

PPS PM PLANT MANAGEMENT

PPS PM1 MANAGEMENT OF PLANT AND CLAIM PROCEDURES

PPS PM1.1 CONTRACTOR'S LIABILITY

The Contractor shall be responsible for all wear and tear and breakage's occurring during operation or transport of the Plant.

PPS PM1.2 MACHINE PERFORMANCE

Machine performance must reasonably comply with the manufacturer's specifications. Additional governing of the motors beyond that required by the manufacturer, or any other means of reducing machines performance will not be permitted.

If the Employer considers that any items of Plant does not reasonably comply with the manufacturers specifications the Employer shall be entitled to call for an assessment from an accredited agent. If the plant so assessed is found to comply with the performance specification, the cost of the assessment shall be borne by the Employer. If the opposite is true, the cost of the assessment shall be borne by the Contractor.

Plant assessed as not being able to comply with the manufacturer's specifications in terms of performance, due to age or other defect, shall be removed from the site and all costs for replacement of the item so removed shall be the Contractor's account including the cost of any difference in hire rate which may arise out of such replacement.

Bidders are warned that the Employer will not tolerate any plant not conforming to the required specifications.

Any machine broken down or not able to work due to the contractor's problem for more than 85% of the time that it is required to work, must be removed from site at the contractors cost.

PPS PM1.3 PLANT BREAKDOWNS

Whenever the plant is unable to work because of breakdowns, for whatever reason these breakdowns occur, the plant shall be off hire for that duration.

PPS PM1.4 MAINTENANCE, SERVICING & FUELLING

Whenever the plant is unable to work because of fuelling or routine maintenance and servicing, the plant shall be off hire for that duration.

PPS PM1.5 SECURITY OF PLANT OUTSIDE OF NORMAL WORKING HOURS

The Contractor shall be responsible for parking, guarding and general security of the Plant after working hours. The time taken to travel to and from such secure area as the Contractor may choose shall not be for the Employer's account.

PPS PM1.6 STANDING TIME

The purpose of the contract is not to hire plant, but to execute the renovation and de-silting of earth dams as stated. Therefore, the contractor should choose which plant is suited for each respective site, and only move the required machinery to site, in order to eliminate non-productive machine hours. Stand time would only be applicable in extra-ordinary situation, where machines are standing for reasons beyond the contractor's control, for example:

- i) When the contractor is awaiting instructions / specifications from the engineer for unreasonably long periods.
- ii) Claims for standing will be processed

PPS PM1.7 CLAIMS

- 1) Claims to be submitted monthly on a payment certificate to be compiled in co-operation with the Engineer's Representative.
- 2) Claims must be supported with log sheets for each machine, dually signed off, and certified by both the contractor and the Engineer's Representative, on the format as agreed with the Employer.
- 3) No claims for unauthorized work done, unauthorized claims for stand times, unauthorized movement of machines, or unauthorized day work will be considered.

PPS PM2 PRICING INSTRUCTIONS

PM2.1 This tender is based on **fixed "wet rates"** as determined by the DRDAR. **This rate** is defined as the hire rate, including insurance, operator, fuel, oil and lubricants, as well as all materials, labour and plant required for the transport of fuel and all lubricants to site and the filling of Plant at any location within the Boundaries of the specific District.

PM2.2 The bill of quantities is based on estimated machine hours and kilometres. This is likely to change during the course of the contract, depending on specific site conditions. Payments will be calculated according to actual machine hours and kilometres. Under no circumstances may the total contract value be exceeded.

PPS PM2.3 The list of dams as per site information, subject to change, depending on site conditions, and the cost of the work during execution.

PPM2.4 Specific machines have been specified in the bill of quantities. These machines are the minimum requirement and fixed rates will apply.

PPS PM3 MEASUREMENT AND PAYMENT

Item:

Rate:

PPS PM3.1 Measurement and payment: Earthmoving MachinesFixed Rate/hour
The unit of measurement for all earthmoving equipment will be actual machine hours logged, and agreed upon with the engineer.

The rate shall be a fixed **“Wet Rate”**. **This rate** is defined as the hire rate, including insurance, operator, fuel, oil and lubricants, as well as for all materials, labour and plant required for the transport of the fuel and lubricants to site and the filling of Plant at any location within the Boundaries of the specific District.

PPS PM3.2 Measurement and payment: Moving of machinery (Low-bed)Fixed Rate/km
This item is strictly for the moving of machinery between sites, and does not include the initial site establishment cost. The unit of measurement is rate per kilometre for distances travelled.
The rate shall be fixed and all inclusive, including the machine hire, fuel, operator, and all running costs.

IRRIGATION SYSTEM EQUIPMENT AND MATERIALS

SCOPE

This section covers the installation of a main line for dragline sprinkler irrigation system complete and electrical installation as indicated on the drawings or as directed by the Engineer or his representative.

MATERIALS

PPS S1 PIPES

All distribution pipelines and laterals shall be of Unplasticised PVC with socket and socket joints containing an integral rubber ring seal, in accordance to SABS 966 part 1.

1.1 All PVC distribution pipes shall be in accordance with SANS 1200 L - 1983 (medium-pressure pipelines) section 3.7 para 3.7.1

1.2 Both uPVC and MPVC pipes shall further comply with the relevant requirements of SANS 966

1.3 Low density polyethylene pipes (LDPE) shall be manufactured to SANS 533 standards and shall be provided with a 12 year written warrantee.

1.4 Steel piping at the filter in and outlet shall comply with the relevant requirements of SANS 1200L-1983 (medium pressure pipelines)

1.5 Piping at the filter in and outlet shall be 200mm black mild steel with a minimum wall thickness of 4.5mm

1.6 Steel piping and flanges at the filter in and outlet shall be hot dipped galvanized according to SANS 32 for heavy duty applications

PPS S2 SUBMAIN CONTROL VALVE

2.1 Wrench operated butterfly valves shall have cast iron bodies, SG iron discs and nitrile seats. The rated working pressure shall be PN10.

2.2 Butterfly valves shall be secured between two PVC serrated stubs of pressure rating PN10 and two galvanized backing rings.

2.3 PVC solvent weld elbows shall have a pressure rating of PN10.

2.4 The 80mm combination air and vacuum release valve shall have a cast iron body and pressure rating of PN10

PPS 3 BLOCK CLUSTER VALVES

PPS 3.1 Hydraulic Control Valve

3.1.1 The manually operated Y-pattern hydraulic control valves shall be of the glass filled nylon type. (Bermad 100 series or equivalent)

3.1.2 The diaphragm shall be nylon fabric reinforced.

3.1.3 The diaphragm springs and cover bolts shall be stainless steel.

3.1.4 The pressure rating shall be PN10 and the operating pressure 0.5 to 10 bar

3.1.5 End connections shall be male threaded for 20mm and female threaded for 25mm diameter control valves.

PPS 3.2 Pressure Reducing Pilot Valve

3.2.1 The 3 way pressure reducing servo (or equivalent) pilot valve shall reduce the upstream pressure to a constant downstream pressure at each block as indicated on drawing number DRDAR/2019/1/R5

3.2.2 The valve body and cover shall be plastic. The end connections shall be female threaded.

3.2.3 The rated operating pressure shall be PN10.

PPS 3.3 Air Valve

3.3.1 The 50mm combination air and vacuum release valve shall have a plastic body and pressure rating of PN10

PPS S4 SPECIALS AND FITTINGS

4.1 All specials and fittings shall be in accordance with SANS 1200 L - 1983

(medium-pressure pipelines) section 3.7 para 3.8.3, 3.8.4 and 3.8.6. All uPVC injection moulded fittings shall be in accordance with SANS 966-

4.2 Sprinklers shall be of the non-Impact sprinkler type (or equivalent) with a flow controller capable of discharging a flow rate of 743 l.p.h at a pressure of 2.1 bar

4.3 Dragline sprinklers shall be supplied with a saddle for attachment to the 50mm PVC laterals. .

4.4 Steel fittings for the filter shall be hot dipped galvanized according to SANS 32 for heavy duty applications.

4.5 All bolts, nuts and washers for the filter shall be hot dipped galvanized to SANS 763 after threading

PPS S5 AIR VALVE CHAMBERS

5.1 Infield valve chambers shall be of the circular prefabricated concrete type and 800mm in diameter. Each chamber shall be supplied with a prefabricated concrete cover.

5.2 The 50mm dual purpose air valve shall have a plastic body and pressure rating of PN10

5.3 The 80mm dual purpose air valve shall have a plastic body and pressure rating of PN10

5.4 The polypropylene valve saddle shall have a reinforcing ring and flat gasket and pressure rating of PN10

PPS S6 PRIME MOVER: CENTRIFUGAL PUMP

The prime mover shall be a single stage centrifugal pump shall have a cast iron impellor. The duty point (safety allowance included) of the pump shall be 45m³/hr @ 54m. The efficiency of the pump at the given duty point shall be not less than 70%. A pump curve shall be attached to the tender document

PPS S7 DIESEL ENGINE

7.1 The diesel engine of 10kW rated capacity shall be a horizontal, single cylinder, air-cooled, four-stroke cycle, compression ignition diesel engine with a 1500 rpm and 20-litre fuel tank capacity.

7.2 The diesel engine shall be directly coupled to the pump by means of a flexible coupling.

PPS S8 TRAILER

The pump, motor and starter shall be mounted on a steel frame trailer with solid rubber wheels and canopy covering the starter and motor. All steelwork shall be painted with a rust resistant paint. The trailer shall be fitted with a set of wheels and a tow-hitch compatible to that of a standard agricultural tractor.

All steel work are to be treated against corrosion and painted with a rust resistant paint.

PPS S10 SUCTION ASSEMBLY

10.1 The suction pipes for the pump shall be 6 x 108mm black rubber hose pipe.

10.2 ONE (1) x 45 degree quick couple steel bends shall be supplied and fitted to the suction pipes to accommodate the river bank.

10.3 A 108mm x 80mm painted flanged quick couple eccentric reducer shall be supplied and fitted to the pump inlet.

10.4 One (1) x 108mm footvalve and strainers shall be supplied and fitted to the suction lines

PPS S11 DELIVERY ASSEMBLY

- 11.1 The pump shall be provided with a 108mm x 65 mm galvanized flanged concentric reducer.
- 11.2 The pump shall be provided with a 80 mm cast iron butterfly valve complete with gaskets, nuts and bolts. The valve pressure rating shall be PN10
- 11.3 A 80mm flanged, galvanized make-up piece, 200mm in length, shall be supplied and fitted between the flanged elbow and butterfly valve.

PPS 12 SCREEN FILTER

- 12.1 The screen filter shall be of the semi-automatic type.
- 12.2 The filtration unit shall be manufactured from polyester coated carbon steel.
- 12.3 The filtration grade of the unit shall be 800micron
- 12.4 The inlet and outlet connection diameters shall be 200mm

PPS S13 PIPELINES AND FITTINGS

Pipelines shall be laid and bedded centrally in the trench to even grades and to the depth required, with the manufacturer's markings visible from above.

Each pipe and each special/fitting shall be thoroughly cleaned and carefully examined for damage and defects immediately before laying. Should any damaged or defective pipe or fitting be laid, it shall be removed and replaced by the Contractor at his expense.

Every reasonable precaution shall be taken to prevent the entry of foreign matter or water into the pipes. During laying and jointing of pipes the trenches shall be kept reasonably dry.

Pipelines shall be jointed in accordance with the manufacturer's instructions and with their recommended jointing solvents.

All specials and fittings shall be correctly set, supported, and placed in position as the work proceeds, and shall be properly jointed to their respective pipes.

Anchor/thrust blocks where directed shall be constructed to dimensions shown, of strength 15 MPa/37.5 mm. The concrete shall be well punned round the pipe and against the undisturbed faces and bottom of the trench. Backfilling behind or under thrust faces is not permitted.

PPS S14 TESTING OF IRRIGATION SYSTEM AND COMMISSIONING

The irrigation system shall be tested for pipeline pressure tightness, pump high performance, functioning of water and pressure controls, sprinkler performance distribution uniformity. Commissioning and handing over to the beneficiaries in the presence of all stakeholders

Testing and commissioning of the system shall be carried out by the Contractor at his expense, in the presence of the engineer's representative.

Before carrying out the pressure test of water reticulation and pipelines the entire system must be filled with water and all air evacuated.

The test shall be carried out by pressurising the water in the system to one and a half times the expected working pressure that the installation is designed for, by means of a pump. The pressure shall be maintained at that level for a period of at least two hours during which time all pipes, joints and fittings are to be thoroughly inspected.

Any leakages that may appear must be repaired to the satisfaction of the Engineers Representative. When the system is connected to the main water supply and is operational a final inspection must be carried out under normal working pressure and any defects shall be rectified.

PPS S15 TRAINING ON OPERATION AND MAINTENANCE

The Contractor and/or Pumpset Supplier/Installer shall provide one-week hands-on training to at least two beneficiaries of the irrigation system and two Departmental staff (an Engineering Technician/Mechanic and Extension Officer). Training will for the operation and maintenance of the whole system. Farmer are trained on operation and maintenance including pump operation, taking soil moisture measurements, scheduling of the irrigation, trouble shoot and repair of minor sprinkle malfunction, fitting leakages

PPS S 16. VT Combo Automatic Weather Station or similar

The irrigation scheduling unit shall consist of an Irricom (GPRS communicator), a temperature and humidity (TH) sensor in a radiation shield, a continuous logging soil moisture probe in each irrigation block or zone of 1 ha, a 200mm diameter tipping bucket rain gauge with a resolution of 0.33mm/tip, a cup anemometer and a 2.7m x 50mm diameter aluminium pole.

PPS S17 PAYMENT AND GENERAL

The Contractor shall arrange with the engineer’s representative for inspecting and measurement of the various items of work scheduled for measurement and payment. No work shall be covered before the inspections and measurement have been done and agreed upon. The Contractor shall be obliged to uncover any work not inspected and measured, at his expense, prior to the finalization of any payments.

The Contractor shall hand-over after completion a complete functional irrigation system as specified, installed from new materials and in mint condition. The site shall be left in the state it was at the start of the contract

PPS S18 GROUTED STONE PITCHING

The excavated open channel must be cleaned and compacted to a slope indicated on the plan. An A4 geotextile membrane (bidum) must be placed after the cleaning of the open channel. After the clearance of all the organic material, rocks of a diameter 100 mm -150 mm must be placed on the base and walls of the open channel as indicated on the plan. After the rocks have been placed you compile a mortar mixture of 1:150 and place it on top and in between the rocks that are placed. The mortar mixture must be smoothed on top of the placed rock.

PPS S19 MEASUREMENT AND PAYMENT

**Item
Unit**

PPS S19.1 Fittings and specials..... No

The unit of measurement shall be in number, for the complete pipe works.

The tendered rate shall cover the cost of the provision of the pipes, complete with couplings, the costs of the handling, inspecting, transporting, bedding, laying, jointing, cutting, painting and testing as well as extra over items for the supplying, laying, bedding of specials complete with couplings

PPS S19.2 PVC Pipes..... No

The unit of measurement shall be in number, for the complete PVC pipes.

The rates tender rate shall include full compensation for supplying and assembly of PVC pipes, jointing, jointing material, and testing each pipework.

PPS S19.3 SUBMAIN CONTROL VALVES..... No

The unit of measurement shall be in number, for the complete set of control valves.

The rates tendered for the Sub-main control valve assemblies shall cover the cost of supplying, assembling, jointing, jointing material, and testing each sub main unit complete. Measurement will be by number (no), for each item required as specified

PPS S19.4 BLOCK CONTROL VALVES..... No

The unit of measurement shall be in number, for the complete set of control valves at each block of irrigated lands.

The rates tendered for the Block control valve assemblies shall cover the cost of supplying, assembling, jointing, jointing material, and testing each block valve unit complete. Measurement will be by number (no), for each item required as specified

PPS S19.5 ISOLATION VALVES..... No

The unit of measurement shall be in number, for the complete set of isolation valves at each block of irrigated lands.

The rates tendered for the Isolation Valve assemblies shall cover the cost of supplying, assembling, jointing, jointing material, and testing each valve unit complete. Measurement will be by number (no), for each item required as specified

PPS S19.6 AIR VALVES..... No

The unit of measurement shall be in number, for the complete set of air valves at various points in block of irrigated lands.

The rates tendered for the Sub-main control valve assemblies shall cover the cost of supplying, assembling, jointing, jointing material, and testing each Air Valve unit complete. Measurement will be by number (no), for each item required as specified

PPS S19.7 DIESEL ENGINE.....No

The unit of measurement shall be in number, for the complete diesel engine.

The tendered rate shall include full compensation for the supplying, handling, inspecting, transporting, assembling, mounting, assembling materials and commissioning the diesel engine assembly as specified as well as all extra over item features and accessories as indicated

PPS S19.8 CENTRIFUGAL PUMP AND FITTINGS No

The unit of measurement shall be in number, for the complete pumpset with fittings.

The tendered rate shall include full compensation for the supplying, handling, inspecting, transporting, assembling, mounting, assembling materials and commissioning the pump assembly as specified as well as all extra over item suction and discharge pipes, valves, fittings and couplings.

The rate tendered shall cover the costs of supplying, handling, inspecting, transporting, assembling, mounting, assembling materials, and commissioning one (1) pump assembly as specified, complete with all suction- and delivery fittings as indicated.

PPS S19.9 Discharge Fittings No

The unit of measurement shall be in number, for the complete pump discharge fittings.

The rates tender rate shall include full compensation for supplying and assembly of the concentric reducers, elbow, butterfly valve, flange, Perrot KMVs, bends, pipes, adapter, elbow, Non-return valves, reducers, clamps, rubber delivery hose and accessories as specified.

PPS S19.10 Suction Fittings No

The unit of measurement shall be in number, for the complete pump suction fittings.

The rates tender rate shall include full compensation for supplying and assembly of the concentric reducers, elbow, foot valve, flange, bends, pipes, adapter, elbow, reducers, clamps and accessories as specified.

PPS S19.11 Dragline Sprinkler..... No

The unit of measurement shall be in number, for the complete set of sprinklers.

The rate tendered shall cover the costs of supplying, handling, assembling, mounting, Risers PVC stand, Reducing Bush, PVC Riser, sprinkler head, saddles, Tees, Elbows, Bush, Reducing socket, End caps, AM3 as specified.

PPS S19.12 Trailer for pump/motor assemble..... No

The unit of measurement shall be in number, for the complete trailer for the pump/motor assembly. The rate tendered for the trailer shall include all costs of supplying, installing and commissioning one (1) trailer complete with accessories as specified.

PPS S19.13 VT Combo Automatic Weather StationSum

The unit of measurement shall be in lump sum, for the complete irrigation scheduling unit, a combined weather station and soil moisture monitoring sensor installed and tested functional.

The rate tendered for the irrigation scheduling unit shall include all costs of supplying, installing and testing one (1) unit complete with continuous logging moisture probes in each 1 ha irrigation block or zone as specified by the manufacturer.

PPS S19.14 TESTING AND COMMISSIONING OF WHOLE SYSTEM.....Sum

The unit of measurement shall be lump sum.

Tendered rates shall cover labour, material and equipment for testing the system to full functionality and hand over to beneficiary

PPS S19.15 Training (Operation and Maintenance).....Days

The unit of measurement shall be training days.

Tendered rates shall cover training to the project beneficiary for four days spread within one month of the system operation in one production season.

PPS S19.16 Construction of contour lines.....square meters(m²)

The unit of measurement for the laying of the grouted stone pitching shall be square metre area of the stone pitching.

The tender shall be in full compensation for supply, delivery of all materials, labour and plant for the complete laying of the stone pitching as per the specifications.

PART C4 – SITE INFORMATION

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C4 Site Information

ITEM	DESCRIPTION
Site Location	Kanano village is ±20km from Lusikisiki.
GPS co ordinates	Kanano village co-ordinates – 31° 18' 57.92" S and 29° 34' 11.02"E
General geography	Rough terrain
Road conditions	Tarred road and fair gravel road
Site extent	8ha
Site clearance required	Yes
Site soil properties	Sandy/loam
Site vegetation	Grass
Site fenced	Yes
Site access	Community / Employees of DRDAR / Animals
Services available	Old dragline sprinkler irrigation with old diesel pump
Accommodation	Provide own
Labour	Negotiate local labour with the community
Storage of materials	Provide own
Security	Provide own
Construction difficulty	Medium difficulty
Plant required	TLB for pipe trenches
Equipment / tools required for	Contractor to identify specific tools for various tasks
Transport required	For all materials For all plant, equipment and tools For contractor's personnel
Testing of works	None
Commissioning of works	None

THE SUPPLY, DELIVERY AND INSTALLATION OF A 8HA DRAGLINE IRRIGATION SYSTEM AT AMAJABANQA FARM IN THE INGQUZA HILL LM OF THE OR TAMBO DISTRICT

C.4.2 Schedule of contract Drawings

The following drawings form part of this contract:

DRAGLINE IRRIGATION:

DRAWING NUMBER	DESCRIPTION
DRW1	GOOGLE EARTH LOCALITY MAP
DRW2	IRRIGATION LAYOUT WITH CONTOURS
DRW3	IRRIGATION LAYOUT WITHOUT CONTOURS
DRW4	DETAILS OF AIR VALVE
DRW5	DETAILS OF THRUST BLOCKS ON PIPE FITTINGS
DRW6	DETAILS OF PIPE TRENCHES
DRW7	DETAILS OF PUMP DISCHARGE FITTINGS
DRW8	DETAILS OF PUMP SUCTION FITTINGS

IRIGATION

