- 4. The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.
- 5. The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

SIGNED by:		SIGNED by:		SIGNED by:			
Name: who warrants that he / she is duly authorised to sign for and on behalf of the first Party in the presence of		Name: who war duly aut and on	rants that he / she is horised to sign for behalf of the first he presence of	Name: who warrants that he / she is duly authorised to sign for and on behalf of the first Party in the presence of			
Witne	-		Witness		Witness		
Name	(i)		Name:		Name:		
Addre			Address:		Address:		
Date:			Date:		Date:		
Cont	ract Da	ata					
1.	upon	<u>, or in connection with</u>	n, the adjudica	ation including time sp	in respect of all time spent ent travelling.		
2.	The	Adjudicator shall be r ot restricted to:	eimbursed in	respect of all disburs	sements properly made including,		
<ul> <li>a) Printing, reproduction and purchase of documents, drawings, maps, reprotographs.</li> </ul>				drawings, maps, records and			
	b)	Telegrams, telex, fa	xes and telep	hone calls.			
	c)	Postage and similar	r delivery charges.				
	d)	Travelling, hotel exp	penses and other similar disbursements.				
	e)	Room charges.					
	f)	Charges for legal or	technical adv	vice obtained in accord	dance with the Procedure.		
The Adjudicator shall be paid an appointment fee of R			This fee shall become days of the appointment of the will be deducted from the final m 1 and/or item 2 of the Contract				
4.	The A	Adjudicator is/is not* c	urrently regis	tered for VAT.			
5.	Wher	e the Adjudicator is rates current at the date	egistered for	VAT, it shall be charg	ged additional in accordance with		
6.	All pa	ayments, other than the of invoice, thereafted	te of invoice.  The appointment fee (item 3) shall become due seven (7) days afte ter interest shall be payable at 5 % per annum above the Reserve ay the amount remains outstanding.				

### **TENDER Nº PWBS-B030/22/23**

### **C1.6: HEALTH AND SAFETY AGREEMENT**

AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS A	AGREEMENT is made between <b>DR NKOSAZANA DLAMINI ZUMA MUNICIPALITY</b> nafter called the EMPLOYER of the one part, herein represented by:
in his o	apacity as:
(hereir	nafter called the CONTRACTOR) of the other part, herein represented by
	apacity as:
	uthorised to sign on behalf of the Contractor.
WHER agreen	<b>EAS</b> the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an nent between the CONTRACTOR and the EMPLOYER in respect of
Tende	No:
	construction, completion and maintenance of the works;
terms of	WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as ed by OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);
NOW 1	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 ENGINEERS 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.

_	for and on behalf of the CONTRACTOR
on this the	day of
SIGNATURE:	
NAME AND SU	JRNAME:
CAPACITY:	
WITNESSES:	1
	2
Thus signed at	for and on behalf of the EMPLOYER on this
the	
	day of
	day of
SIGNATURE:	
SIGNATURE:	
SIGNATURE:  NAME AND SU  CAPACITY:	IRNAME:

### **TENDER Nº PWBS-B030/22/23**

#### C1.7: TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY (To be completed during construction by successful Tenderer only)

			renderer	only)		
Claim for ma	terials on s	ite, Payment Certif	ficate No	Date	: <sub></sub>	
I, the undersi	gned (name	of signatory)			in my	, canacity
fide owners	ights, title a hip is at	on behalf of the ond interest in and the tached hereto,	o the materia unto and	als and goods, f in favour of	or which evidence of F	e of bona
control of the	materials	and goods, the ric	ght of owner	multipul insorar as ti	ne Contractor retansses to the Em	ins actual ployer by
the Contractor	r's sequestra	imployer against an ation or liquidation on the for materials on	or of any def	ect in the Contra	actor's title to the	materials

and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

This transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

### This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table.

DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE	AMOUNT	SUPPLIER
TOTAL VALUE OF MATER	IALS ANI	O GOODS			

Signed by:	Date <sup>.</sup>
for and on behalf of the Contractor.	
Witnessed by:	Data
	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 2004

### **TENDER Nº PWBS-B030/22/23**

#### **C1.8: RETENTION MONEY GUARANTEE**

Emp	ployer: (name)
	lress)
Con	tract No:
(Cor	ntract title)
The	guarantee is issued on behalf of
Regi abov	istration No (hereinafter referred to as "the Contractor") in connection with the re-mentioned contract (hereinafter referred to as "the Contract").
Whe	ereas you have agreed that the Contractor may provide a guarantee in lieu of the whole or portion of etention monies provided for under the Contract.
Now	therefore we, the undersigned, being duly authorised to represent
( <i>full</i> you	name of guarantor) registration number undertake to pay you such amounts as may from time to time demand from us, immediately upon receipt of a written demand from you.
1.	Each demand shall be in writing and delivered to us at
	we shall in writing notify to you.
2.	Our liability to make the payments herein referred to shall be unconditional and not be affected or diminished by any disputes, claims or counterclaims between the Employer and the Contractor.
3.	Our aggregate liability under this guarantee is limited to R(in words
	) and is restricted to payment of monies only.
4.	This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by the Employer, becomes payable to the Contractor.
5.	This guarantee is neither negotiable nor transferable and must be returned to us against final payment of our aggregate liability or on the date of the expiry of the guarantee in terms of Clause 4 (above), whichever is the earlier.

Signed at		for a	nd on behalf of			
on this the		day of	in	the year	20	
GUARANTOR:						
WITNESSES:	1		2			
	Name		Name			

#### **TENDER Nº PWBS-B030/22/23**

### **PART C2: PRICING DATA**

C2.1 Pricing Instructions

C2.2 Bill of Quantities

#### **TENDER Nº PWBS-B030/22/23**

#### **C2.1: PRICING INSTRUCTIONS**

### PREAMBLE TO THE BILL OF QUANTITIES

- C2.1.1.1 The Contract Data, the Scope of the Work and the Site Information are to be read in conjunction with the Bill of Quantities. Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. The payment Clause of each Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Bill, the requirements of the Standardised or Scope of Work, as applicable, shall prevail.
- C2.1.1.2 The Bill of Quantities comprises items covering the Contractor's profit and costs of general liabilities and of construction of temporary and permanent Works.
- The Tenderer is at liberty to insert a rate of his own choosing for each item in the Bill but his attention is drawn to the fact that the Contractor has the right, under various circumstances, to payment for additional Works carried out and that the Employer's Agent is obliged to base his assessment of the rates to be paid for such additional work on the rates inserted in the Bill.
- C2.1.1.4 The measurement and payment clauses of each Specification, read together with the relevant clauses of the Specification Data, set out what ancillary or associated activities are included in the rate for the operations specified.
- C2.1.1.5 The Bill of Quantities has been drawn up generally in accordance with the latest issue of the SANS Standardized Specifications. Descriptions in the Bill are abbreviated and must be read in conjunction with the measurement and payment clauses of the applicable Specifications.
- C2.1.1.6 Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.
- C2.1.1.7 All the rates tendered and inserted in the Bill of Quantities shall be **exclusive** of VAT. Provision has been made on the Summary Page of the Bill of Quantities for the addition of VAT. Except that they shall not include Value Added Tax (VAT), the rates to be inserted in the Bill of Quantities are to be the full inclusive rate to the Employer for the work described under each item. Such rates shall cover all costs and expenses that may be required in and for the construction of the work described and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based.
- C2.1.1.8 Notwithstanding C2.1.1.8 above, all rates tendered and inserted in the Bill of Quantities

against each item shall be deemed to be inclusive of the Contractor's labour cost for all permanent unskilled, semi-skilled, skilled and supervisory staff. All other labour costs in terms of local labour employed in terms of Sub Clauses 4.3.5 and 4.3.6 of the Conditions of Contract, shall be payable to the Contractor as listed and detailed under Section 1: Preliminary and General of the Bill of Quantities.

- C2.1.1.9 A rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no rate has been entered will be considered to have a rate of R 0, 00.
- C2.1.1.10 The Tenderer must price and extend each item, total each page and carry the total of each section in the Bill of Quantities to the Summary page.
- C2.1.1.11 Attention is drawn to Clause 6.7 of the Conditions of Contract and the Contractor must not order the quantities of materials stated in the Bill of Quantities until he has confirmed from the construction drawings or measurement on Site that such quantities are in fact the correct quantities. The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The final Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
- C2.1.1.12

  The prices and rates to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
- C2.1.1.13 Except where rates only are required, the Tenderer shall insert all amounts to be included in his total tendered price in the "Amount" column and show the corresponding total tendered price.
- C2.1.1.14 Arithmetical errors of responsive tenders shall be corrected in the manner specified under the Standard Conditions of Tender. (Refer also CIDB Practice Note No. 2 dated August 2006)

C2.1.1.15 The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

percent hr = hour ha = hectare kg = kilogram kilolitre kl = = kilometre km km-pass = kilometre-pass kPa = kilopascal kW = kilowatt = litre = metre m = millimetre mm m² = square metre m²-pass = square metre-pass  $m^3$ cubic metre m³-km = cubic metre-kilometre MN = meganewton MN.m = meganewton-metre MPa = megapascal No. = number Prov sum = Provisional sum PC sum = Prime Cost sum R/only = Rate only L/sum = lump sum = ton (1000 kg) t W/day = work day months = months veh/month = vehicle month man-day each flagman per day

### **TENDER Nº PWBS-B030/22/23**

**C2.2: BILL OF QUANTITIES** 

Item No		Unity	Quantity	Rate	Amount
140	BILL NO. 1				
	PRELIMINARIES				
	i) These Bills of Quantities shall be read and priced in conjuction with the Specifications, Drawings and General Conditions attached. Should the Tenderer wish to price any items in connection with the work not specially mentioned in the following, he shall do so here.				
	ii) The Agreement and Schedule of Condition of Building Contract shall be the latest document issued by the Public Works Department Republic of South Africa				
	iii) Tenderers are referred to the above-mentioned documents for the full description intent and meaning of each clause whatever costs he may consider necessary for the carrying out and observance of same				
	iv) Where standard clauses or alternatives are not entirely applicable to this Contract such modification, corrections or supplemets as will apply are given under each clause heading.				
1,2	Use of local labour				
1.2.1	a) Community Liason Officer : Allowance for total remuneration paid	Month	5	R 4 600,00	R 23 000,00
1.2.2	Percentage adjustment on Sub-item a)	%		R 23 000,00	
1,3	Construction Board Rate is to include all materials, labour and plant for the production and erection of the boards as indicated	Lump Sum	1		
1,4	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS				
1.4.1	The Contractor's general obligations:				
	a) Fixed obligations	Lump Sum	1		
	b) Time-related obligation	Month	5		
	NB: The combined total tendered for sub-item 1.4.1 (a) and (b) shall not exceed 15% of the tender sum excluding contingences, CPA and VAT.				
1,5	HOUSING, OFFICES AND LABORATORY EQUIPMENT				
1.5.1	Office accomodation:				
	a) Provisional Sum for Office and laboratory accommodation, including fittings, furniture and equipment, car port and housing the for the laboratory in accordance with the details given in the project specification and on the drawings	Lump Sum	1		
	b) Mobile Chemical Ablution	Month	5		
1,7	ENVIRONMENTAL MANAGEMENT PLAN				+ <b>= . !</b>

1.7.1	Compliance with Environmental Requirement as per the EMP	Lump Sum	1		
1,8	SAFETY COMPLIANCE				
1.8.1	Compliance in terms of Health & safety	Lump Sum	1		
1.8.2	Providing PPE to labourers	Prov Sum	1		
1.8.3	Monitoring Health and Safety on Site	month	5		
	Monitoring CPG Contractors	Lump Sum	1		
	CPG Monitoring	%	10		
1.8.4	Student Technician	month	5	R 7 000,00	R 35 000,00
	Handling fee for the item 1.8.4	%		R 35 000,00	
	Bill No. 1 PRELIMINARY AND GENERAL				

1	Unit	Quantity	Rate	Amount
SECTION NO. 2				
BILL NO. 1				
The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2008 Edition)				
ALTERATIONS (PROVISIONAL)				
SUPPLEMENTARY PREAMBLES				
<u>View site</u>				
Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained				
<u>Explosives</u>				
No explosives whatsoever may be used for demolition purposes unless otherwise stated				
General				
The contractor shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to adjoining premises and their users. He shall provide proper protection and provide, erect and remove when directed, any temporary tarpaulins that may be necessary during the progress of the works, all to the satisfaction of the principal agent				
Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary				
The Contractor to acknowledge that sequencing of the work will be necessary to accommodate the operational aspects of the university. The Contractor to accordingly factor the above requirement in the construction programme and pricing				
REMOVAL OF EXISTING WORK				
Taking out/off and removing sundry metalwork				
Steel pipe handrails from walls including making good plaster finish	m	577		

Stool beliefred a 1000mm high from account at in it. It.				ľ	
Steel balustrade 1000mm high from concrete stairs including making good floor finish to kerb	m	762			
Aluminium stair nosings	m	3571			
SUNDRY WORKS					
Before commencing with any work the Contractor and the Principal Agent will visit the site to mark and detail the scope of work relating to the remedial repair work required.					
Demolishing works to existing surfaces / areas, etc.					
Allow the NET SUM of R50 000.00 (Fifty Thousand Rand) for demolishing walls and floor finishes to staircases and flooring. Demolishing ablution walls and hall wall for extention.	Item	1	50000 <sup>^</sup>	R	50 000,00
Allow the NET SUM of R50 000.00 (Fifty Thousand Rand) for removing roof covering and trusses.	Item	1	100000	R	100 000,00
Carried to Summary					
Bill No. 2 EARTHWORKS					
	Ţ			1	

Item No	BILL No. 2	Unit	Quantity	Rate	Amount
	EARTHWORKS				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	SITE CLEARANCE				
	Site clearing and removal of top soil is measured under external works together with bulk excavations				
	EXCAVATION OTHER THAN BULK				
	Excavation in earth not exceeding 2m deep				
1	Trenches and holes	m³	200		
	Extra over excavations other than bulk in earth for excavation i	<u>n:</u>			
2	Soft rock	m³	30		
3	Hard rock	m³	30		
	Rock Fill	m³	500		
	Risk of collapse of excavations other than bulk:	- 1			
4	Sides of trench and hole excavations not exceeding 1.5m deep	m <sup>2</sup>	0		
	CARTING AWAY				
	Extra over all excavations for loading, carting and dumping				
	surplus excated material ( no allowance made for increase in bulk):				
5	Off site to a dumping site to be found by the Contractor	m³	125		
	EARTH FILLING, ETC.				
	Filling with material from the excavations compacted to a density of at least 95% Mod. AASHTO maximum density:				
6	Under floors, apro slabs, etc.	m³	250		
7	Backfilling to trenches, holes, etc.	m³	100		
	Carried Forward				
	Bill No. 2				
		1	1	Į.	

	EARTHWORKS			Î I
				'
	Brought Forwar	d		_ [
	Filling with approved material supplied and carted onto site by the Contractor, compacted to a density of at least 95% Mod. AASHTO maximum density:	-:		
8	Under floors, etc.	m³	178	
9	Compaction of ground surface under floors, apron slabs, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m²	125	
	Coarse river sand filling supplied by the contractor			
10	Under floors, apron slabs, etc.	m²	175	
	KEEPING EXCAVATION FREE OF WATER			
11	Allow for keeping excavation free of water		Item	
	<u>TESTS</u>			
	Prescribed density tests on filling:			
12	"Modified AASHTO Density" test	No	10	
	SOIL POISONING			
	Approved brand of anti-termite soil poison applied by a Registered Pest Control company and guaranteed against termite infestation for ten years:			
13	Under floors, etc., including forming and poisoning shallow furrows against foundation walls, etc.	m²	100	
14	To bottoms and sides of trenches, etc.	m²	100	
				1.
				1
	Carried to Summar	<b>'</b>		J,
	Bill No. 2 EARTHWORKS			

<u>lte</u>	<u>m</u>		Quantity	Rate	Amount	Ĩ	
	BILL No. 3						
	CONCRETE, FORMWORK AND REINFORCEMENT						
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities	:					
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES						
	Concrete 15MPa/ 19mm stone in:						
1	Blinding layer under wall footings	m³	12				
	REINFORCED CONCRETE						
	Concrete 30MPa/19mm stone in:						
2 3 3a	,	m³ m³ m³	25 25 263				
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES						
	Concrete 25MPa/19mm stone in:						
4	Surface beds and thickenings	m³					
	CONCRETE TESTING						
5	Allow for making set of three concrete test cubes, sending to an approved testing authority for testing and paying all charges in connection therewith ( Provisional)	s No	10				
						ν,	
	Carried Forward	١					
	Bill No. 3 CONCRETE, FORMWORK AND REINFORCEMENT						
	 Brought Forward		1		- 1		
	ROUGH FORMWORK						
	Rough formwork to:						
6	Soffits and sides of columns slabs, staircase, etc.	m²	80				
7	Sides and soffits of beams	m²	25				
8	Edges, risers, ends, etc., not exceeding 300mm high or wide	m	10				
	MOVEMENT JOINTS, ETC.				1 1 1 1	N TB	
	Expansion joint with 13mm "Masonite" bitumen impregnated insulation board between vertical surfaces:						

9	Joints not exceeding 150mm high or wide between concrete and block walls	m	60	
	REINFORCEMENT			
	Fabric reinforcement			
10	Type 193 fabric reinforcement in concrete surface beds, etc	m²	2478	
11	Type 245 fabric reinforcement in concrete wall footings, etc	m²	0	
	Mild steel reinforcement to structural concrete work:			
12	a). 8mm diameter bars b). 10mm diameter bars	t t	0,50 0,50	
	Likely wield along at all a later and a la			
	High yield stress steel reinforcement to structural concrete work	<u>c:</u>		
13	a). 12mm diameter bars b). 16mm diameter bars	t	2,00 1,00	
	c). 20mm diameter bars d). 32mm diameter bars	t	0,00	
	a, a a a a a a a a a a a a a a a a a a	١	0,00	
	One-in-the One-in-			
	Carried to Summary			
	Bill No. 3 CONCRETE, FORMWORK AND REINFORCEMENT			

Item		Unit	Quantity	<u>Rate</u>	<u>Amount</u>
	BILL No. 4	OIII	Quantity	Ixate	Amoditi
	PRECAST CONCRETE				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	PRECAST PRESTRESS FABRICATED LINTELS				
	Precast concrete lintels				
1	75x230mm lintel not exceeding 3m	m	70		
	Carried to C			:	
	Carried to Summary				-
	Bill No. 4 PRECAST CONCRETE				

<u>Item</u>			Quantity	Rate	Amount
	BILL No. 5				
	MASONRY				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	BRICKWORK				
	BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
	Foundation Bricks (Clay Stock) in Class I mortar filled solid with 15MPa concrete				
1	690mm Thick walls	m²	10		
2	230mm Thick walls	m²	114		
	BLOCKWORK IN SUPERSTRUCTURE				
	Clay Brick in Class I mortar:				
3	115mm Thick walls	m²	80		
4	230mm Thick walls	m²	325		
5	'Fabcon" BOE window cills laid in 1:3 cement mortar	m	30		
	BLOCKWORK SUNDRIES				
	Blockwork reinforcement				
6	80mm Wide reinforcement built in horizontally	m	35		
7	155mm Wide reinforcement built in horizontally	m	1267		
	"Fabcon" precast prestressed fabricated E-type lintels (Provisional)				
8	100 x 70mm Lintels in lengths not exceeding 3m	m	20		
	Air bricks, etc				
9	229 x 76mm Clay vermin proof air brick	No	25		
	Carried to Summary				
	Bill No. 5 MASONRY				

<u>Item</u>		<u>Unit</u>	Quantity	<u>Rate</u>	<u>Amount</u>
	BILL No. 6				
	WATERPROOFING				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	DAMPPROOFING OF WALLS AND FLOORS				
	One layer 375 micrometer "Gunplas Brikgrip" embossed polyethylene damp proof course:				
1	In walls	m²	48		
	One layer 250 micrometer "Gunplas USB Green " waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape":				
2	Under surface beds	m²	497		
	Carried to Summary				
	Bill No. 6 WATERPROOFING				

Item		Uni	Quantity	Rate	Amount
	BILL No. 7				
	ROOF COVERINGS, ETC				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	ROOF COVERINGS, ETC				
	0.6mm.Chromadek precoated steel roof sheeting on 410 sisalation.with and including underlay fixed strictly in accordance with the manufacturer's recommendations				
1	Roof 0.6mm chromadek precoated steel roof sheeting	$m^2$	450		
2	Ridge	m	50		
	FLASHINGS				
	0.6mm Thick welded flashings ( Galvanised sheet iron)				
4	Sidewall flashing including raking out joints and turning in	m	24		
	ROOF AND WALL INSULATION	ř			l.
	Super Sisalation Heavy Duty Industrial Grade 420 - Double sided reflective foil laminate incorporating layers of kraft paper and reinforcing scrim, laminated together with low density polyethylene (293gsm)				
	Insulation laid over timber rafters at 1000mm centres fixed concurrent with purlins	m²	310		
	RAINWATER DISPOSAL				
	0,6mm Galvanised sheet iron gutters				
	100 x 100mm Eaves gutters with beaded front edge	m	70		
	Extra over for stopped end	No	8		
	Extra over for outlet for 100 x 75mm diameter pipe	No	6		
	100 x 75mm Rainwater pipes	m	30		
	Extra over rainwater pipe for shoe	No	4		
	Extra over rainwater pipe for bend	No	8		r
	Carried to Summary				
	Bill No. 7 ROOF COVERINGS				

Item		Unit	Quantity	Rate	Amount	E
-	BILL No. 8	01111	guaritity	<u>ivate</u>	Amount	
	CARPENTRY AND JOINERY					
	Preambles					
	Tenderers are referred to the Model Preambles for all trades as published by the South African Quantity Surveyors and the Architectural and Structural Works Information before pricing this Bill of Quantities					
	PREFABRICATED ROOF TRUSSES					
	a. All the roof trusses to be designed and constructed with softwood structural timber to include for live loads, wind loads and to take profiled metal roof covering, purlins and fibre cement or gypsum pasterboard ceilings with brandering. Each roof truss shall have all its members accurately cut and close butted together and rigidly fixed by CSIR approved patented galvanised metal spike connectors, fixed on both sides of each intersection by an approved method, all in accordance with the manufacturer's instructions.					
	b. Unless otherwise described all rafter feet are to extend approximatly 600mm beyond the length of the tie beam, with ends twice splay cut.					
	c. The design, manufacture and transportation of the roof trusses, bracing, etc. shall be under the control of a registered Engineer and it shall be required from the manufacturer of the trusses to lodge a written guarantee that his construction has been designed by a qualified Structural Engineer and that he is in possesion of a capability certificate issued by the Instutute for Timber Construction and approved by the Representitive/Agent					
	d. All timber shall be stress-graded pine or glued laminated timber for construction or engineering purposes in accordance with the specifications of SABS Specification No 563 or as defined in SABS Specification No.1245. Stress-grades shall be marked as specified, vix V4, M4, V6, M6, etc.					
	e. Erection must be carried out as described in "The Erection and Bracing of Timber Roof Trusses" published by the Truss Plate Association of South Africa Ltd. and the National Timber Research Institute, CSIR.					
	Welded Columns in Single lengths with flat section base top bearer and connection plates bolted on concrete					
	203x113x30kg/m I Section Columns Welded beams in single lengths with flat section bearer and connection plates bolted on concrete columns	Kg	192			
	ROOF TIMBERS					
	Sawn South African Pine					
	38 x 114mm Wali plates	m	50			
	50 x 75mm Purlins					
		m	140		26	
	38 x 114mm Trusses	m	600			

600mm long wrought end to 38mm x 114mm sawn timber a sprayed cut	and No	100		
2.5mm diameter galvanised wire tie 400 girth wrapped arourafter and purlin with ends tie together	ınd No	100		
EAVES, VERGES, ETC				
Pressed fibre-cement				
225 x 12mm Fascias and barge boards, including galvanise steel H-profile jointing strips	ed m	55		
225 x 80mm x 12mm angle section barge boards, including galvanised steel H-profile jointing strips	m	40		
Carried to Summa	агу			
Bill No. 8 Carpentry and Joinery				

<u>Item</u>	1	Unit	Quantity	Rate	Amount
	BILL No. 10				
	IRONMONGERY				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	LOCKS				
1	"Union" Two lever mortice lockset as "Union CZ 80941SC"	No	4		
2	Three lever mortice lockset as "Union Radius CZ 692 - 24CH 2252 - 76SC"	No	13		
	PELMENTS AND CURTAIN TRACKS				
3	Double curtain track for face fixing with 150mm projection including 14no. rollers per metre, brackets, stop end, etc plugged	m	17		
4	Single curtain track for face fixing with 150mm projection including rollers, brackets, stop end, etc plugged	m	17		
	BATHROOM & CUPBOARD FITTINGS Towel rails				
5	19mm diameter chromium plated towel rail 600mm long including end brackets, plugged	No	2		
	Ceramic				
6	Toilet paper holder	No	7		
	SUNDRIES				
7	Door stop as "Union AL 8730"	No	13		
8	Allow for Security Doors & Lock	Item	1		
	Carried to Summary				
	Bill No. 10 IRONMONGERY				

<u>Item</u>		<u>Uni</u>	Quantity	Rate	Amount
	BILL No. 11				
	METALWORK				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	STEEL HANDRAILS, BALUSTRADES, ETC.				
1	Steel bulustrades 600mm high	m	15		
	PRESSED STEEL DOOR FRAMES				
	1.2mm Double rebated frames suitable for half brick walls:				
2	Frame for door 813 x 2032mm high	No	0		
	1.2mm Double rebated frames suitable for one brick walls:				
3	Frame for door 813 x 2032mm high	No	9		
4	Frame for door 813 x 2032mm high	No	5		
	BATHROOM & CUPBOARD FITTINGS Towel rails				
5	19mm diameter chromium plated towel rail 600mm long including end brackets, plugged	No	2		
	Ceramic				
6	Toilet paper holder	No	7		
	SUNDRIES				
7	Door stop as "Union AL 8730"	No	15		
	LETTERS, NAMEPLATES, ETC. (PROVISIONAL)				
	Stainless steel plate 160 x 160 x 0.9mm engraved fire extinguiser symbol (Code 079/160E/FHR)	No	2		
	Stainless steel plate 160 x 160 x 0.9mm engraved female symbol (Code 079/160E/FEM)	No	1		
	Stainless steel plate 160 x 160 x 0.9mm engraved male symbol (Code 079/160E/MALE)	No	1		
	Stainless steel plate 160 x 160 x 0.9mm paraplegic symbol (Code 079/160E)	No	1		
	Comind to Community				
	Carried to Summary				
	Bill No. 11 METALWORK				

ltem		Uni	Quantity	<u>Rate</u>	<u>Amount</u>
	BILL No. 12				
	PLASTERING				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	SCREEDS				
	Screed (1:3) as desribed on concrete:				
1	25mm thick on floors and landings	m²	431		
2	25mm thick on treads and risers of stairs	m²	40		
	DIVING STRIPS				
4	3 x 25mm brass strip cut to lengths and set in position on edge in floor screed between differing floor finishes $\frac{1}{2}$	m	25		
	INTERNAL PLASTER				
	One coat cement plaster (1:5) as desribed on blockwork on:				
5	Walls	m²	285		
6	Narrow widths	m²	25		
	Bill No. 12 PLASTERING				

<u>Item</u>		<u>Unit</u>	Quantity	<u>Rate</u>	Amount
	BILL No. 15				
	GLAZING				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	GLAZING TO STEEL WITH PUTTY				
1	4mm Clear float glass in panes	m²	25		
2	4mm Pacific obscure in panes	m²	15		
	MIRRORS				
	Mirrors shall be silvered float glass with polished edges round and holed for and fixed with brass mirror screws with chromium plated domes and felt washers to plugs in wall:				
3	Mirror 6mm size $450 \times 450 \text{mm}$ , four times holed and fixed to plastered wall	No	8		
	Camila d 4 a Our un				
	Carried to Summary				
	Bill No. 15				
	GLAZING				
		1.8	1	- 1	1

Item		Uni	Quantity	Rate	Amount
	BILL No. 16				
	PAINTING				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	PAINT ON PLASTER, ETC.				
	One coat acrylic fillercoat and two finishing coats interior quality PVA emulsion paint on:				
1	Plastered walls internally	m²	300		
	One coat acrylic fillercoat and two finishing coats exterior quality PVA emulsion paint on:				
2	Plastered walls externally	m²	300		
	One coat acrylic sealer and two finishing coats pure acrylic emulsion paint on:				
3	Plastered ceilings	m²	430		
4	Fascia boards and A/C cills	m <sup>2</sup>	0		
5	Rhino ceilings	m²	0		
	PAINT ON METAL				
	One coat wash primer, one coat calcium plumpate primer, one coat undercoat and two coats gloss enamel on steel:				
6	Door frames and linings	m²	35		
7	Apply one coat zinc chromate primer in accordance with SABS 679, One coat multipurpose undercoat in accordance with SABS 681 (Type II paint) and two coats of alkyd base enamel to the Architect colour specification in accordance with SABS 630 (Type I paint) On Structural Steel Members	m²	100		
	PAINT ON WOOD				
	One coat pink primer, one undercoat and two coats gloss enamel on:				
8	General surfaces of doors	m²	150		
	Carried to Summary				
	Bill No. 16 PAINTING				

ELL No. 17  EXTERNAL WORKS (ALL TRADES)  The Tendeur in referred to the relevant clauses in the separate document Model Preembles for Trades and to the Supplementary Preambles with are recoporated at the back of these Bits of Quantities  Where possible abthrovisted description have been used in the following Bill and except where otherwise described all preambles and the full descriptions of the tiens appearing in the preceding Bill and except where otherwise described all preambles and the full descriptions of the tiens appearing in the preceding Bills are to apply equally to this Bill GENERAL SITEWORKS, EARTHWOKS, ETC.  Removal of trees are.  1 Tree not exceeding 500mm girth  No  3 Tree exceeding 500 and not exceeding 2500mm girth  No  Site clearance  4 Allow for clearing the whole area of the site of all grass, weeds, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trees with trunts not exceeding 200mm girth, debris, shrabs, trunts not exceeding 200mm girth, debris	Item No		Unit	Quantity	Rate	Amount	
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Open face excavation in earth over sloping site:  6  Open face excavation	5	Strip average 150mm thick layer of top soil and stock pile on site	m²	500			
6 Open face excavition m³ 135  Extra over open face excavations in earth for excavation in: 7 Soft rock m³ 20 8 Hard rock m³ 10  Carried Forward  Bill No. 17 EXTERNAL WORKS (ALL TRADES)  Brought Forward  Earth filling, etc. 9 Filling with material from the excavations to form slopes, platforms, etc. compacted to a density of at least 90% Mod. AASHTO maximum density m³ 25  Carting away  10 Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in		Bulk Excavation					
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8 Hard rock m³ 10  Carried Forward  Bill No. 17 EXTERNAL WORKS (ALL TRADES)  Brought Forward  Earth filling_etc.  9 Filling with material from the excavations to form slopes, platforms, etc. compacted to a density of at least 90% Mod. AASHTO maximum density m³ 25  Carting away  10 Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in		Extra over open face excavations in earth for excavation in:					
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Carried Forward  Bill No. 17 EXTERNAL WORKS (ALL TRADES)  Brought Forward  Earth filling, etc.  Filling with material from the excavations to form slopes, platforms, etc. compacted to a density of at least 90% Mod. AASHTO maximum density  Carting away  Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in	8	Hard rock	m³	10			
Bill No. 17 EXTERNAL WORKS (ALL TRADES)  Brought Forward  Earth filling, etc.  9 Filling with material from the excavations to form slopes, platforms, etc. compacted to a density of at least 90% Mod. AASHTO maximum density  Carting away  10 Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in							
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platforms, etc. compacted to a density of at least 90% Mod.  AASHTO maximum density m³ 25  Carting away  10 Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in		Earth filling, etc.					
10 Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in		platforms, etc. compacted to a density of at least 90% Mod.	m³	25			
surplus excavated material off site to a dumping site to be located by the Contractor (no allowance made for increase in		Carting away					
located by the Contractor (no allowance made for increase in	10	Extra over all excavations for loading, carting and dumping					
m° 33		located by the Contractor (no allowance made for increase in	2	00			
A A B A A		puik oi excavated material)	m"	33		_	

	Keeping excavation free of water		ľ	l	ř - 11
11	Allow for keeping excavation free of water by hand or				-
'''	machinery		Item	5 000,00	5 000,00
	DRIVEWAYS AND PARKINGS				-
	Earth filling supplied by the Contractor sourced from commercial sources, under pavings, etc.				-
	Roadbed Preparation				-
12	Rip & Recompact base to 93% ModAASHTO	m³	163		
22	Base Supply and Deliver Gravel base (G5) compacted to 98% MOD	m³	163		
	Compaction of surfaces				
24	Compaction of ground surface under pavings, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% MOD AASHTO density	m²	225		
	Soil insecticide				
25	Pentachlorophenol to surface of excavations		0		
	<u>Tests</u>				
26	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted filling and backfilling to ensure that the required compactions are being attained and for submitting resuls to the Architect		Item	15 000,00	15 000,00
	Carried Forward				1
	Bill No. 17 EXTERNAL WORKS (ALL TRADES)				
	Brought Forward				
	Paving of "Corobrik Nutmeg" paving bricks size 222 x 106 x 80mm with butt joints on 25mm thick river sand bed with sand cement mixture swept into joints and hosed down including preparation of ground or filling:				
27	Paving in strecher bond	m²	125		
	Precast Concrete Kerbs:				
30	"Sizeze Type 3" barrier kerb set on and on and including 350 x 50mm thick 15Mpa concrete footing and 150 x 150mm 15Mpa concrete haunching at back jointed in cement mortar including all necessary excavation and formwork	m	100		
	Carried to Summary				
	Bill No. 17 EXTERNAL WORKS (ALL TRADES)				

<u>lter</u> <u>No</u>		Quantity	Rate	Amount	
	PROVISIONAL AMOUNTS				
	The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades and to the Supplementary Preambles which are incorporated at the back of these Bills of Quantities				
	PROVISIONAL AMOUNTS				
	The following Provisional Amounts are for work to be executed by Sub-Contractors. The stated amounts are NET				
	Electrical Installation:				
1	Allow the NET provisional amount of R70 000.00 (Seventy Thousand Rand) for Electrical Installation executed complete	Item	1,00	70 000,00	
2	Add for profit on last item if required	Item	1,00	6 000,00	
3	Allow for attendance upon workmen executing Electrical Installation complete	Item	1,00	8 500,00	
	Kitchen Fittings				
4	Allow the NET provisional amount of R15,000.00 ( Fifteen Thousand Rand) for Kitchen Fittings executed complete	Item	1,00	15 000,00	
5	Add for profit on last item if required	Item	1,00	1 500,00	
6	Allow for attendance upon workmen executing Kitchen Fittings complete	Item	1,00	-	
	Fencing and Gates				
7	Allow the NET provisional amount of R 260,000.00 ( Two hundred and sixty thousand Rand) for boundary fencing and gates executed complete	Item	1,00	260 000,00	
8	Add for profit on last item if required	Item	1,00	46 000.00	
9	Allow for attendance upon workmen executing fencing and gates complete	Item	1,00	-	
	Carried Forward		-	407 000,00	
	Bill No. 18 PROVISIONAL SUMS				
	Brought Forward	1	Ĩ	407 000,00	
	Aluminuim Doors and Windows			107 000,00	
10	Allow the NET provisional amount of R60,000 ( Sixty Thousand Rand) for Aluminuim Doors and Windows executed complete	Item	1,00	60 000,00	
11	Add for profit on last item if required	Item	1,00	8 000,000	
12		Item	1,00	2 000,00	
13	Allow R 20,000.00 ( Twenty thousand Rand) for a Water Tank				
	10000l (5000l x 2)	Item	1,00	20 000,00	

	Landscaping including Grassing, etc.)	1	1	
15	Allow the NET provisional amount of R15,000.00 (Fifteen thousand Rand) for Landscaping executed complete	Item	1,00	15 000,00
16	Add for profit on last item if required	Item	1,00	2 500,00
17	Allow for attendance upon workmen executing Landscaping complete	Item	1,00	-
	Plumbing			
18	Allow the NET Provisional amount of R150 000,00 (One Hundred and Fifty Thousand Rand) for Plumbing & Sanitation	Item	1,00	100 000,00
	Tiling			
19	Allow the NET Provisional amount of R150000 (One Hundred and Fifty Thousand Rand) for tiling	Item	1,00	60 000,00
			1	
	Carried to Summary			674 500,00
	Bill No. 18 PROVISIONAL SUMS			

	FINAL SUMMARY			
Bill No		Page No		Amount
1	PRELIMINARY AND GENERAL	2		
	Alteration	4		
2	EARTHWORKS	20		
3	CONCRETE, FORMWORK AND REIFORCEMENT	22		
4	PRECAST CONCRETE	23		
5	MASONRY	25		
6	WATERPROOFING	26		
7	ROOF COVERINGS	27		
8	CARPENTRY AND JOINERY	29		
9	IRONMONGERY	31		
10	METALWORK	32		
11	PLASTERING	34		
12	GLAZING	41		
13	PAINTWORK	43		
14	EXTERNAL WORKS	46		
15	PROVISIONAL SUMS	48		674 500,0
				P
		1		
	Contigency and Escalation @ 10%			
	SUB-TOTA			
	Add 15% Vat			
	FINAL SUMMARY		R	

OTAL FOR	SUMMARY CARRIED FORWARD TO PAGE 1 AND PAGE	R0,00
	Add Contingencies and Escalations (5%)	R0,00
	Sub Total	R0,00
		R0,00
	Total(A)	R0,00
	CONSULTING ENGINEERING FEES	
	Civil and Structural Engineering Fees	
	Professional Fee (B)	R0,00
	Site supervision	R0,00
	Construction Stage Disbursements	R0,00
	Construction Surveyor	R0,00
	Laboratory Testing	R0,00
	Total(B)	R0,00
	TOTAL	R0,00
	VAT	R0,00
		R0.00

all states

THE DESCRIPTION

Summary for purposes of sourcing funds.

Sub-Total 
12% Prof fees 
Total 
VAT -

a distribution

Final Summary

## **TENDER Nº PWBS-B030/22/23**

## PART C3: SCOPE OF WORK

- C3.1 Description of the Works
- C3.2 Engineering
- C3.3 Procurement
- C3.4 Construction
- C3.5 Management
- **C3.6** Particular Specification

## **TENDER Nº PWBS-B030/22/23**

## **C3.1: DESCRIPTION OF THE WORKS**

## C3.1.1 EMPLOYER'S OBJECTIVES

DR. NKOSAZANA DLAMINI-ZUMA MUNICIPALITY intends to carry out the construction work on the HLABENI Community Hall. The contractor must source unskilled labourers from HLABENI community. If the contractor cannot source from within the HLABENI community, the contractor will have to motivate before appointing external unskilled labourers.

The Employer desires that the work required for the construction be of a high standard, completed in the shortest practical time whilst making maximum use of local labour in accordance with Expanded Public Works program.

The construction works shall be in accordance with the Occupational Health and Safety Act (Act 85 of 1993).

## C3.1.2 OVERVIEW OF THE WORKS

The extend of the works is construction of Community Hall with Ablution facilities, kitchen, office and fencing.

## C3.1.3 EXTENT OF THE WORKS

The work to be carried out under this contract consists mainly of the following:

- Remove existing wall and floor covering.
- Repair floor crack.
- Repair floor screed.
- Install new wall and floor tiles.
- Replace existing lighting and electrical switches.
- Paint interior sections as specified.
- Replacing toilets and basins.
- Replace roof timber.
- Replace kitchen cupboards.
- Replace internal and external doors where specified.
- Demolish existing walls in bathrooms & construct new.
- Demolish existing external concrete slab.
- Construct new concrete slab.
- Replace existing gutters and downpipes (Aluminum).
- Paint external and internal walls.
- Sanitation plumbing and reticulation.
- Health and Safety.
- Manage public access on site.
- Finish the site off and remove all excess material or building rubble.
- Site must be clearly marked and well barricaded as prescribed in the Health and Safety regulation.

310 / Jan 19

No materials may be stored at the Municipal stores.

Contractor to arrange for suitable dumping site for rubble. No rubble may be dumped at the Municipal stores. The description of the works is not necessarily complete and shall not limit the work to be carried out by the contractor, under this contract.

#### **Existing Services**

Buried services to be located and protected or re-located

#### Accommodation of traffic / pedestrians

- Temporary access or alternative routes (for both vehicles and pedestrians) are to be provided if necessary
- Appropriate temporary signage shall be displayed at all works locations

## As-built surveys

As-built survey of all permanent works, including services (relocated and/or proved)

Construction methods must be such that no property or life is endangered. The Employer accepts no responsibility for work that is done outside the site boundaries without the Engineer's approval.

The Contractor must program his work in such a way that no construction is to be done during the prescribed holiday periods as set out in the Contract Data.

The compilation of the construction program and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract.

RECOMMENDED BY:

Mr. S.V. MNGADI

SENIOR MANAGER: PWBS

APPROVED BY:

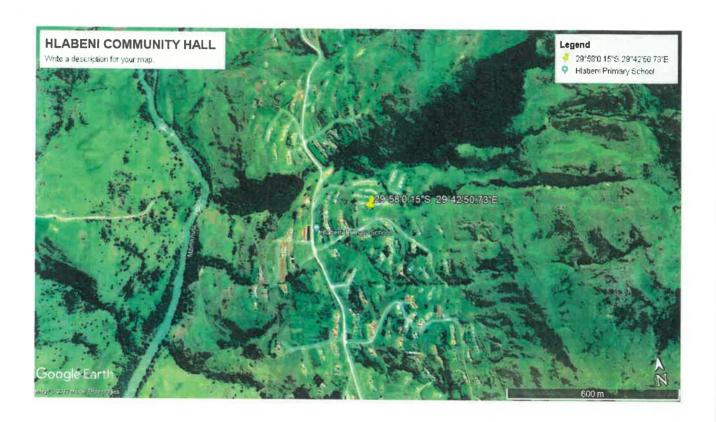
MR.N.C. VEZ

MUNICIPAL MANAGER

## C3.1.4 LOCATION OF WORKS

The site is situated in WARD 06

Refer to Locality Plan.



Pit Smile aut Will

## **TENDER Nº PWBS-B030/22/23**

C3.2 : ENGINEERING

#### C3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

## Works designed by, per design stage:

Concept, feasibility and overall process

Basic engineering and detail layout to tender stage
Final design to approved for construction stage
Temporary works
Information for preparation of "as built" drawings
Preparation of as-built drawings and closeout

Employer (Engineer)
Employer (Engineer)
Contractor
Contractor
Employer (Engineer)

## C3.2.2 DRAWINGS

The drawings listed below are provided and shall form part of the contract documentation. Additional or revised construction drawings will, in terms of Clause 13.1 of the General Conditions of Contract (2010), be issued to the Contractor by the Engineer/Employer on the commencement date and from time to time as required.

CIVIL DRAWINGS		
Drawing Number	Drawing Description	

## **TENDER Nº PWBS-B030/22/23**

## **C3.3: PROCUREMENT**

## C3.3.1 PREFERENTIAL PROCUREMENT PROCEDURES

## C3.3.1.1 Requirements

As per the Dr Nkosazana Dlamini Zuma Municipality Preferential Procurement Policy.

This document shall be made available from the Employer on the contractor's request

## **TENDER Nº PWBS-B030/22/23**

#### **C3.4: CONSTRUCTION**

#### STANDARD SPECIFICATIONS

## **C3.4.1 Standard Specifications**

For the purposes of this Contract the latest issues of the following specifications shall be applicable:

 SANS 10400: 2003: Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures.

#### **STATUS**

The Project Specification, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

Part B contains variations, amendments and additions to the Standardized Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standardized or Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The standard specifications which form part of this contract have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

## **PART A: GENERAL**

#### PS-1 GENERAL DESCRIPTION OF THE PROJECT

The Construction of HLABENI Community Hall.

## PS-2 DESCRIPTION OF THE WORK

This description is a broad outline of the contract works and does not limit the work to be executed by the Contractor in terms of the Contract. The quantities of some of the major items indicated in this section are indicative, not absolute, and are provided to define in general terms, the overall scope of the project.

Approximate quantities of each type of work to be carried out in accordance with the contract documents are listed in the Schedule of Quantities of this Document.

## 2.1 Location of the project

Refer to C3.1.4 Location of Works above.

#### 2.2 The Site

The Contractor shall confine his operations to the allocated site for construction of Hlabeni Community Hall. He/she shall take all necessary precautions to avoid damaging existing services, buildings, roads, fences, etc. The Contractor shall make good any damage to such services and structures at his/her own expense.

#### 2.3 Access to the Site

The site can be accessed from the R617 between HLANGANANI AREA AND BULWER TOWN.

The operation of construction vehicles on existing roads shall be limited to traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof.

The Contractor, in making use of existing roads for hauling of materials to or from the site, shall be held responsible to clear any spillage caused by his activities on or near the roads by whatever means necessary, within two (2) days of such spillage occurring. No additional payment will be made for the clearance of spillage and all relevant costs will be deemed to be covered under the relevant items.

#### 2.4 Nature of the work

The nature of the work included in this Contract is for the upgrading of gravel roads to blacktop and related stormwater. The work is to be undertaken by Contractors with the necessary expertise, resources and previous experience of constructing civil engineering works of a similar nature and order.

Labour-intensive construction methods shall be used wherever possible but especially in areas where the work can be set out in tasks. Work such as: -

- Excavation and backfilling of trenches for foundations;
- > Excavations and backfilling for trenches:
- > Laying brickworks;
- Laying floor tiles;
- Installing roof trusses and corrugated iron;
- Concrete works;
- Installation of Fencing.

In pursuance of the adoption of labour-intensive construction methods and RDP principles, the Contractor shall be required to undertake training of members of the local population. The Contractor shall train nominated community members as bricklayers, pipe-layers, skilled labourers, etc. Refer to Part G of this document. Work done under labour-intensive methods shall be done on task-based methods. Payment to the Contractor for labour-intensive methods shall however be made as per the tendered unit rates.

## 2.5 Detailed description of the project

The detailed description of the works shall be as per C3.1 above

## 2.6 Areas for Stockpiling or Spoiling of Material

Construction materials may be temporarily stockpiled in areas as agreed by the Engineer / Employer and local community.

All spoil material shall be hauled to and disposed of at sites agreed by the Engineer and local community and on completion of the work the sites are to be landscaped and vegetated.

## 2.7 Liaison with Community Leaders

In order to ensure the successful and uninterrupted completion of the Contract, liaison meetings will be held at least every two weeks with the Community Liaison Officers (CLO's) appointed by the local ward Councillors / PSC. It will be the Contractor's responsibility to arrange these formal meetings and shall distribute minutes between the CLO's, the Engineer's Representative and himself. Communications and negotiations with regard to the employment of local labour, spoil areas etc, must be maintained throughout the contract duration.

The Contractor shall be responsible to reimburse the CLO for the entire duration of the contract at the prescribed rate of R4600 per month.

#### 2.8 Materials Information

A materials investigation is being undertaken and the materials investigation report will be handed to the successful contractor on appointment.

## 2.9 Proposed Training and Construction Programme

Tenderers must submit with their Tender comprehensive details of their proposed training and construction programme for the portion of the works to be constructed by conventional methods and the portion to be constructed by labour-intensive methods.

The Tenderer shall state in the Appendix to the Form of Tender the time for completion. Within five days after awarding the contract, the Contractor shall submit his programme to the Engineer for approval, in the form of a bar chart, showing clearly in addition to the requirements of Clause 12 of the General Conditions of Contract:

- (a) the proposed rate of progress in order to complete the works within the required period as stated in the Appendix, stating the various activities and their duration for each element of the works in sufficient detail to be able to gauge construction progress;
- (b) the Contractor's plant commitment on the contract;
- (c) critical path activities:
- (d) his anticipated value of work (cash flow) to be done during each month;
- (e) the training arranged by the Contractor for the nominated persons; and
- (f) the number of trainees in each discipline.

When preparing a construction programme, the Contractor must note the following:

- (a) All work is to be completed within Four (5) months, inclusive of any number of 'Construction Industry Holidays' in December and January which may occur, and all 'Special non-working days'.
- (b) Allowance must be made for expected delays due to normal rainy weather as defined in PS 2.10.
- (c) Allowance must be made for 'Special non-working days' as described in C1.2: Contract Data Provided by the Employer.
- (d) Allowance for any time required for accommodation of vehicular or pedestrian traffic to comply with the stated requirements in terms of maintaining access

#### 2.10 Climate

The rainfall records applicable in respect of this Contract are those recorded at Underberg and shall be those used for calculating the extension of the Time for Completion on account of abnormal rainfall. The values of  $N_n$  and  $R_n$  as noted in Contract Data are to apply:

## 2.11 Minimum Local Resources Target

#### 1. Labour

It is a requirement of this contract that the minimum labour target value sourced from Local Municipal area is 15 number of the local labour. Remuneration local labour rate must be a minimum of **R 170/task/day** 

#### 2. Materials

It is a requirement of this contract that the minimum materials target value sourced from the Nkosazana Dlamini Zuma District Municipality area is 60% of the total contract value.

#### 3. Penalties

The targets stated above are the minimum. On completion of the contract the actual local resources utilised in the contract will be measured. In the event of the Contractor not meeting the target, the following penalties will be payable.

Resource	Minimum (part of total Contract value)	Deviation (less) t target	than Penalty of Total Contract value
Labour	20%	For each 1%	0.5%
Materials	38%	For each 1%	0.75%

#### 2.11.1 Labour

It is recognized that the construction of a project such as this, requires the use of skilled personnel. Where possible however, local labour is to be used for all unskilled construction operations.

A PSC has been established and is a vital means of communication between all parties involved with the project. The composition of the PSC comprises representation by the Employer, the Engineer and formal structures within all the affected communities.

The contractor shall make use of these communication channels and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PSC, and this representative may be also required to attend the monthly PSC meetings.

It is mandatory that the Contractor shall interact with the community via proactive project liaison and project participation by its leaders and constituted organisations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

Local labour is to be used and the employment of such labour is to be done in conjunction with the PSC. The PSC has formed a Labour Committee who shall assist the Contractor with the recruitment of local labourers to ensure an equal distribution of people employed between the various Amakhosi in the area.

## 2.12 Existing Services

Contractor is to prove, protect and maintain all existing services encountered on site for the duration of the contract and would be required to remove, realign or temporarily replace services as required under this contract.

Where the service owner is required to relocate their services, the contractor shall liaise with the service owner to determine the extents and timeframe of the relocation and to incorporate this information in his own programme and works methodology. The contractor may not refuse the service owner access to the site and shall provide the service owner sufficient space to do the relocations in a safe and logical method. The programming of the relocations shall be negotiated between the contractor and service provider.

Where necessary, the relocation / protection of services shall be done by the contractor under the supervision of the service owner.

## 2.13 Security

The provision of security for the Contractor's Site Establishment shall be his own responsibility, and no claims for additional security measures taken during the currency of the contract will be considered other than as provided for in Clause 54 of the Conditions of Contract.

It is the responsibility of the Contractor to provide adequate security for the material on site and the works. Together with good community liaison and involvement, it is possible to maintain the risk at an acceptable level and have a successful project.

## PS-3 ENVIRONMENTAL IMPACT CONTROL

Respect for the environment is important for this Contract. The environmental control of the site shall be governed by the Environmental Management Programme (EMPr) included in Particular Specification C3.3 of this document, which provides *inter alia*, for:

- (a) The Contractor must allow for the satisfactory combating of dust and noise nuisance over the full extent of the construction work, for the duration of the Contract.
- (b) The Contractor must make provision for the prevention of excessive erosion and siltation in the construction area and in particular on adjacent land. Should excessive erosion and/or siltation take place outside the road reserve as a direct result of the Contractor's construction activities it will be the Contractor's responsibility to make good the erosion/siltation to the satisfaction of the landowner and the Engineer, all at the cost of the Contractor.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the Engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not be allowed under any circumstances.
- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage must be set out and the responsible person made aware of the required action. The construction of temporary and or permanent dams must be done with the necessary approvals from the Department of Water Affairs and Forestry and Environmental Affairs and Tourism.
- (f) Bituminous and/or other hazardous products shall not be spoiled on site and may only be disposed of in licensed, authorised disposal facilities.
- (g) Control of invader species of plants.

(h) Clearing shall be limited to sports field area and under the relevant site clearance items in the bill of quantities

## PS-4 CONTRACTOR'S CAMP SITE

Possible sites for the Contractor's camp site will be indicated at the site inspection.

The Contractor must take full cognizance of the regulations regarding the clearing of bush and felling of trees and no tree may be removed without the written permission of the Engineer and Employer. In establishing and maintaining the camp site, due cognizance is also to be taken of COLTA 1300.

The standard of the Contractor's camp, offices, accommodation, ablutions and other facilities must comply with the regulations of the relevant authority. Details of the facilities to be provided are to be submitted to the Engineer for approval.

The Contractor is to familiarize himself and comply with, all local by-laws and Government Regulations pertaining to the employment, transport and accommodation of labour.

#### **PS-5** FACILITIES FOR THE ENGINEER

No special facilities are required for the Engineer.

All quality control tests will be undertaken by a commercial laboratory.

## PS-6 POWER SUPPLY AND OTHER SERVICES

The Contractor shall make his own arrangements for the supply of electricity and other services. No direct payment shall be made for the provision of such services. The cost thereof shall be deemed to be included in the rates tendered for the various items of work for which these services are required or in the contractors Preliminary and General items.

#### **PS-8 RECORD DRAWINGS**

As the work progresses, the Contractor shall keep full records of all amendments to and deviations from the drawings as issued to the Contractor at the start of the contract. The true positions, invert levels and ground levels of all services exposed or encountered, as well as the cover levels, shall be indicated on the drawings. Record drawings are to be completed <u>as work progresses</u> and will be signed at progress meetings. The completion certificate shall only be issued after the Engineer has received a properly marked up set of record drawings and a ground and services survey in a format to be agreed. The survey shall be based on the same datum and trigonometric points as the issued construction drawings. Should this aspect not be strictly adhered to, the Engineer may withhold payment of all related items until the Contractor complies with this clause. A separate payment has been allowed for this service, and all costs related thereto shall be deemed to be included in the related item.

## **PS-10 PROTECTION OF PRIVATE PROPERTY**

The Contractor shall take all the necessary steps to protect private property during construction. All fences, buildings, lean-tos, etc. shall be protected against damage that may arise as a result of the Contractor's operations on site. The Contractor shall bear the cost of the repair of any damage to any private property, damaged as a result of the Contractor's operations on site.

The Contractor shall also provide access to the existing dwellings / businesses at all times. Where it is necessary to restrict access, the contractor shall obtain written permission from residents / business owners describing the extents and duration of the restriction. Full access shall always be provided outside of working hours or on non-working days.

The contractor shall nominate a safety representative who shall be available at all times to deal with incidents or problems on the site, whether caused by the contractors works or not. The contact details of the representative shall be provided to the Employer, Engineer, local traffic / policing authorities and local

community representatives. This requirement shall also apply should the contract extend across any site closure periods.

## **PS-11 COMMUNICATIONS EQUIPMENT**

The Contractor is to arrange for his own telephone / cell phone / fax on site, which is to be made available to the Engineer or his representative for official purposes during working hours. All costs associated hereto shall be the responsibility of the Contractor.

#### **PS-12 DEALING WITH WATER**

The contractor shall be responsible for dealing with all water during the construction from what ever source, and the cost of all de-watering, unless otherwise itemised in the Schedule of quantities, shall be deemed to be included in the tender price if a zero rate has been submitted.

## **C3.2: PROJECT SPECIFICATIONS**

## PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

## B1 PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS

In certain clauses in the Standard Specifications, allowance is made for a choice to be specified in the Project Specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this Contract are contained in this part of the Project Specifications. It also contains the necessary additional specifications required for this Contract.

The clauses and payment items dealt with in this part of the Project Specifications are numbered 'PS' with a number corresponding to the relevant clause or item number in the Standard Specifications.

New clauses and payment items not covered by clauses or items in the Standard Specifications have been included here and have also been designated with the prefix 'PS'. Such clauses and items have been given a new number following upon the last number used in the particular section referred to in the Standard Specifications.

## COLTO Standard Specifications for Road and Bridge Works for State Road Authorities

#### B1300 CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

Add the following new item:

Number Item Description Unit

## PS B13.02 Occupational Health and Safety Act and Construction Obligations

- (a) Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations

  Lump Sum
- (b) Submission of the Health & Safety File to the Employer complete, and to the satisfaction of the Employer Lump Sum
- (c) Time-related obligations for the updating and mending the risk assessments, the safe work procedures, the project H&S file and

the H&S plan, and for full compliance with all H&S matters during construction of the works under the contract.

Payment of the rates tendered under this item shall for include full compensation for all the contractor's charges and obligations in respect of compliance with the relevant OHS Act and the Construction Regulations.

- (i) The lump sum tendered under sub item (a) shall represent full compensation for the fixed part of the contractor's obligations, ie that part which is substantially fixed and is not a function of the time required for completion of the contract and includes, but not limited to the following:
  - · Preparation of risk assessments,
  - · Safe work procedures,
  - · Project Health and Safety file,
  - · Health and Safety plan, and
  - Any other Health and Safety matters that the contractor deems necessary.

Payment shall only be made once the Employer or Engineer are satisfied that all the conditions have been put in place or approved.

(ii) The lump sum tendered under sub item (b) shall represent full compensation for the completing and checking of the Project Health and Safety file and handing over to the Employer on completion of the Works.

Payment shall only be made once the Employer or Engineer are satisfied that the file is complete and have acknowledged this in writing to the Contractor.

- (iii) The tendered rate per month for sub item (c) represents full compensation for that part of the contractor's obligations which are mainly a function of time and includes, but not limited to, the following:
  - Updating and amending
    - The risk assessment.
    - Safe work procedures.
    - o The Project Health and Safety file,
    - o The Health and Safety plan, and
  - Full compliance with all Health and Safety matters during construction of the Works.
  - Employment (or appointment) of a Safety Officer

The Safety Officer shall be available and contactable on a full-time basis to deal with any issues as they arise. The Safety Officer may have other duties on the project, but these duties shall not prohibit them from performing the requisite Health & Safety functions, as required, in a timeous and responsible way. The Safety Officer shall also attend all project and progress meetings.

#### **B1500 ACCOMMODATION OF TRAFFIC**

## **B1517 MEASUREMENT AND PAYMENT**

Add the following:

The Contractor's obligation under this Section 1500 shall not be measured or paid for directly (except as hereinafter provided for) and compensation for the work involved to comply with these obligations shall be deemed to be covered by the rates and amounts tendered for the various items of work included under this Contract.

Replace payment item 1501 item with the following:

Number Item Description

Unit

PS B15.01 Accommodating traffic and the provision and maintaining of

diversions

Lump Sum

The unit of measurement shall be lump sum and shall include full compensation for accommodating traffic and providing, and maintaining temporary diversions as stipulated under in sub clauses B1502 and B1503(g). The tendered sum shall also include full compensation for the provision of communications equipment required for regulating the traffic, the provision and reuse of all temporary traffic control signs, flagmen, barricades, and New Jersey barrier complying with the legal requirements of all authorities concerned, for providing temporary access to private property, and for the provision and maintenance of temporary drainage.

The tendered sum shall also include full compensation for the specified general requirements and all incidental items of cost which are required under the provisions of Section 1500.

The accommodation of traffic and the provisioning and maintenance of diversions shall be measured once only for a particular work area irrespective of the type of work to be executed or the number of times necessary to accommodate traffic over any particular part of the road.

The provision of signage and flagmen shall be based on the requirements of SARTSM Vol 2

Payment of the lump sum shall be made on a pro-rata monthly basis"

#### **SECTION B1800: DAYWORKS**

#### **CONTENTS**

B1801 SCOPE

B1802 GENERAL REQUIREMENTS

B1803 MEASUREMENT AND PAYMENT

B1801 SCOPE

This section covers the method of measurement and payment for work carried out on a daywork basis.

## B1802 GENERAL REQUIREMENTS

Work will be classified as daywork only if the Employer's Agent considers no other rate in the schedule of quantities appropriate for payment purposes.

An instruction regarding all work to be carried out under daywork in terms of Clause 6.5 of the General Conditions of Contract will be issued at the discretion of the Employer's Agent. Some or all of the items priced under daywork in the schedule of quantities may possibly not be required for this Contract.

Before ordering any material, the Contractor shall submit quotations to the Employer's Agent for his approval, and shall submit such receipts or vouchers to the Employer's Agent as may be necessary for proving the amount claimed.

#### B1803 MEASUREMENT AND PAYMENT

Item Unit

B18.01 Vehicles, plant and equipment:

(a)	(As specified)		hour (	(hr)
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The daywork rates submitted for vehicles, constructional plant and equipment, subitem (a), in the schedule of quantities shall be a hire charge for the use of the vehicle and driver or constructional plant/equipment and operator (excluding VAT) and shall apply only to vehicles, constructional plant and equipment approved in writing by the Employer's Agent. The rate shall include for maintenance, fuels and oils and other operating costs, establishment, insurance and other contingency costs relating to the running of the vehicle, plant or equipment.

Where there is ambiguity between the power developed at the flywheel and mass of a machine, the power shall govern the measurement category.

The Contractor and the Employer's Agent will agree on the method of recording the working hours prior to the commencement of the work. Any long period of idling at any one time which in the opinion of the Employer's Agent or his representative is beyond that required for normal operating conditions will not be paid for as working time. Non-working hours for any reason shall not be measured for payment.

The tendered rates shall also include full compensation for all administrative costs, supervision, overheads, liabilities and obligations related to the running of the vehicles, constructional plant and equipment. The tendered rates shall be subject to the Contract Price Adjustment Factor laid down in the General Conditions of Contract.

Item Unit

## B18.02 Labour:

(a) Labourer hour

(b) Artisan hour

(c) Supervisor.....hour

The daywork rates submitted for labour in the schedule of quantities shall be the cost of labour for each skill level and shall apply only to the number of workers approved in writing by the Employer's Agent.

The rates shall be for normal working hours and shall be increased pro rata for overtime at the standard rate applicable if the work performed outside working hours is approved in writing by the Employer's Agent.

The tendered rates shall also include full compensation for overhead charges, profit, liabilities, obligations, site supervision, the use of hand tools, appliances, equipment and for consumable stores. The tendered rates shall be subject to the Contract Price Adjustment Factor laid down in of the General Conditions of Contract.

## **TENDER Nº PWBS-B030/22/23**

## **C3.5: MANAGEMENT**

#### C3.5.1 MANAGEMENT OF THE WORKS

## C3.5.1.1 Applicable SANS standards

## C3.5.1.2 Particular / Generic specifications

The following particular and generic specifications are applicable to this contract:

- i) Environmental Management Plan
- ii) Occupational Health and Safety Specifications

## C3.5.1.3 Planning and programming

It is a prerequisite of this contract that minimal disruption of the public is ensured during construction. Construction methods must be of such a nature that no property or life is endangered. The Employer accepts no responsibility for any work done outside the site boundaries without the Engineer's approval.

The Contractor shall draw up his programme to ensure that no delays are experienced on contract.

The Contractor himself is responsible for liaison and arrangements with the Engineer in connection with the finalisation and approval of the construction programme.

The Contractor shall submit his programme of work to the Engineer not later than fourteen (14) days after the Contractor has been notified of the acceptance of his Tender and only after discussions with the Engineer. If necessary, the Engineer may instruct the Contractor to adjust his programme to suit other activities.

The programme shall be in the form of a bar chart only, and shall clearly show the anticipated quantities, the production rates and value of work to be performed each month.

A network-based programme according to the precedence method shall also be provided showing the various activities and critical path in such detail as may be required by the Engineer. The programme shall be updated monthly in accordance with the progress made by the Contractor.

Failure to comply with these requirements will entitle the Engineer to use a programme based on his own assumptions for the purpose of evaluating claims for extension of time or additional payments.

The compilation of the construction programme and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in the contract.

## C3.5.1.4 Methods and procedures

## C3.5.1.4.1 Maintenance of accesses and streets

The operation of construction vehicles on existing roads or streets, or on streets which have been completed to the level of sub-base or base or bituminous surface treatment, shall be limited to traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof. Hauling is strictly forbidden on sections of streets that have been completed as described above. The Contractor shall make use of temporary haul roads, or where not practically possible, programme his work in such a manner that the haulage of materials shall be restricted to that required for the particular section of street. No additional payment shall be made for the use of temporary haul roads and all relevant costs shall be deemed to be covered by the appropriate rates.

The Contractor must note that no additional payment will be made for the construction of temporary access roads to the construction site, borrow areas or to the spoil sites, except for payment made under payment item A 8.3.2.2 of SANS 1200 A.

If the Contractor does make use of existing streets for the hauling of materials to or from the site, he shall be held responsible to clear any spillage caused by his activities on or near the roads by whatever means necessary, within one (1) day after such spillage has occurred. No additional payment will be made for the clearance of spillage and all relevant costs will be deemed to be covered under the relevant items.

## C3.5.1.4.2 Blasting operation

Any blasting required shall be carried out by a competent, registered blaster. All permits required to purchase, transport, use and dispose of unused, blasting material shall be obtained and copies given to the Engineer before any blasting may take place. The commander of the local South African Police Services (SAPS) shall be informed of the time and date that blasting operations will take place at least 6 hours before blasting.

No blasting operations may take place on weekends or holidays or after 17:00 on week days.

The Contractor shall ensure that sufficient suitable cover material, to the satisfaction of the blaster, is available and in place before a blast is initiated.

## C3.5.1.4.3 Normal working hours

Normal working hours shall be between 07:00 and 17:00 on weekdays from Mondays to Fridays and between 07:00 and 13:00 on Saturdays, should the Contractor choose to work on Saturdays, excluding Public holidays.

## C3.5.1.4.4 Interference with Municipal staff and operations

Any member of the Contractors staff found to be interfering with municipal staff or operations in any way shall be removed from the site and shall not be allowed to return.

#### C3.5.1.4.5 Access for other Contractors

The Contractor shall provide reasonable access to other Contractors carrying out work on the site from time to time, as and when such access is required. The Contractor is entitled to request reasonable notification of at least 24 hrs before access by others is required.

#### C3.5.1.4.6 Giving notice of work to be covered up

The Contractor shall give the Engineer reasonable time to accommodate examinations in his program, in which case times for inspections can be agreed on. Requests for examination of work shall be made in the site request book, and via email or sms to the Engineer, at least 72 hrs before the examination is required.

If the Engineer attends with the purpose of examining any part or materials of the works at the time and date as agreed upon with the Contractor, and it is found that the works or materials are not yet ready for inspection, the Contractor shall be responsible for the costs of such a visit by the Engineer.

## C3.5.1.4.7 Cost of test specimens and tests

It is deemed that the Contractor has made provision in his tender for all such services and tests that are required from him. It is the duty of the Contractor to, at his own cost and by means of the necessary tests, prove to the Engineer that the works and compaction where prescribed, comply with the specification.

## C3.5.1.5 Sequence of the works

Sequencing of the works shall be agreed to between the Contractor, the Engineer and the relevant Municipal or service provider representatives

## C3.5.1.6 Quality plans and control (Testing)

Refer SANS 1200 A: Environmental Management Plan

In addition to the items listed here, the EMP shall also be considered to be part of the contractual documentation, and the requirements therein shall be adhered to.

#### C3.5.1.6.1 Demarcation of the site

For the purpose of the EMP, the site shall be divided into two areas identified by the Engineer and the Contractor:

- (i) The construction camp comprising all buildings, hostels, offices, lay down yards, vehicle wash areas, fuel and material storage areas, batching areas and other infrastructure that is required for the running of the job.
- (ii) The working area in which construction activity is permitted to take place. No infrastructure, permanent lay down or storage areas shall be established in this working area unless specified in the project specification or prior approval is obtained from the Engineer.

#### C3.5.1.6.2 Construction camp

The Contractor shall provide the Engineer with a plan showing the positions of all buildings, yards, vehicle wash areas, batching areas and other infrastructure for approval by the Engineer at least ten (10) days prior to the commencement date. The construction camp shall be planned in such a way so as to affect as small an area as practically possible. The Engineer shall approve the location and layout of the construction camp prior to establishment.

## C3.5.1.6.3 Fencing of the site

If a temporary fence is required, the Contractor shall erect and maintain such a fence (demarcating the boundary of the working area, construction camp and access roads) to the satisfaction of the Engineer. The erection of this fence shall be one of the first tasks undertaken by the Contractor after the commencement date. The boundaries between the construction camp area and the working area within the site shall also be fenced. The

Contractor shall ensure that the erection of the fencing causes minimal disturbance to flora, fauna, natural, historical and cultural features. A method statement shall be submitted to the Engineer prior to erection to ensure proper positioning of the fence.

All material left over from fencing operations shall be collected after the fence has been erected and removed from site. Fences shall not be moved or removed without the written consent of the Engineer. The Contractor throughout the construction period shall maintain fences.

## C3.5.1.6.4 Workshops

Any workshops shall be located inside the demarcated construction camp area. The exact location and design of the workshop shall be as approved by the Engineer prior to establishment. The workshop shall have a smooth impermeable (concrete) floor. The floor shall be bunded and sloped towards an oil trap or sump to contain any spillages of substances (e.g. oil). When servicing equipment, drip trays shall be used to collect the waste oil and other lubricants. All waste material shall be disposed of in accordance with national, regional and local laws, regulations and by-laws. This waste material shall be regularly removed off site and disposed of at an approved waste site.

## C3.5.1.6.5 Eating areas

The Contractor's employees shall eat in the designated eating area indicated on the Contractor's drawing of the construction camp that has been approved by the Engineer. No changes to the eating area shall be made without the approval of the Engineer. The Contractor shall provide shade and adequate scavenger-proof and weatherproof refuse bins in this area. Any cooking on site shall only be undertaken in the eating area and be done on well maintained gas cookers with fire extinguishers present. No cooking shall be done anywhere else on site and no fires are permitted.

#### C3.5.1.6.6 Watchmen

The Contractor shall ensure that a watchman is present on site during all non-working hours, including public holidays unless otherwise agreed with the Engineer to ensure the safety of sensitive areas.

#### C3.5.1.6.7 Ablution facilities

The exact location of the toilets shall be as approved by the Engineer. The Contractor shall provide toilets and shall be responsible for their maintenance and servicing on a daily basis. The contractor shall ensure that no spillage occurs when the toilets are cleaned or emptied. Burial of waste from toilets on site is strictly prohibited. The toilets shall be maintained in a clean state. Performing ablutions anywhere other than in toilets is strictly prohibited. Leaking toilets shall be repaired immediately or removed from site.

#### C3.5.1.6.8 Solid waste collection areas

"Solid waste" refers to all solid waste, including construction debris, chemical waste, excess cement/concrete, wrapping materials, timber, tins and cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).

The Contractor shall set up a waste control and removal system. The Contractor shall submit a method statement for waste control and removal to the Engineer for approval prior to commencement. Bins shall be closed, weatherproof and scavenger-proof.

Waste shall be collected from these bins on a daily basis and shall be stored in a central collection area prior to removal off-site. This central collection area shall have appropriate storage containers (closed and weatherproof) bunded and lined with plastic or concrete. The waste from this central collection area shall be disposed of off-site at an approved waste site. Waste shall be removed from site on a regular basis as approved by the Engineer. Waste shall not be burnt or buried on site or in the surrounding area. Where possible, appropriate material shall be reused or recycled.

#### C3.5.1.6.9 Wastewater

Water shall be used sparingly on site and where possible wastewater shall be recycled. A wastewater management plan shall be submitted to the Engineer for approval 10 days prior to commencement date. This management plan shall detail the expected extent of contamination of each wastewater stream and how the Contractor plans to deal with each wastewater stream.

#### C3.5.1.6.10 Fuel storage areas

Fuels required for use during construction shall be stored in a depot at the construction camp at a location as agreed upon by the Engineer. The Contractor shall ensure that all liquid fuels (petrol and diesel) are stored in tanks with lids, which are kept firmly shut. The tanks shall be situated on a smooth impermeable (plastic or concrete) base with an earth bund. The impermeable lining shall extend to the crest of the bund and the volume inside the bund shall be 1,5 x the total capacity of the storage tanks. The bunded area shall be emptied of water following rainfall events. The floor of the bund shall be sloped towards an oil trap or sump to enable any spilled fuel and / or fuel-soaked water to be removed.

The Contractor shall keep fuel under lock and key at all times.

#### C3.5.1.6.11 Concrete batching area

Cement and concrete are regarded as hazardous to the environment due to the high pH of the material and the chemicals it contains.

The Contractor shall submit a method statement for mixing of concrete for approval by the Engineer indicating where the mixing will take place and the methods to ensure that waste water and materials are contained in the batching area and disposed of correctly. Concrete shall not be mixed directly on the ground.

## C3.5.1.6.12 Equipment maintenance and storage

All vehicles and equipment shall be kept in good working order and serviced regularly. Leaking equipment shall be repaired immediately or removed from the site. Where possible, all maintenance of equipment and vehicles shall be performed in the workshop. If it is necessary to do maintenance outside of the workshop area, the Contractor shall obtain agreement from the Engineer prior to commencing activities.

The Contractor shall demarcate an area in which equipment and vehicles may be stored. The location of this area shall be as approved by the Engineer. The Contractor shall take measures to ensure that there is no pollution of this storage area by leaks or drips.

#### C3.5.1.6.13 Materials handling, use and storage

The Contractor is responsible for ensuring that any material delivery drivers are informed of all procedures and restrictions (e.g. which access roads to use, "no go" areas, speed limits, dust control, etc) required to comply with the EMP before they arrive at site and off load any materials. The Contractor shall ensure that the delivery drivers are supervised during off-loading by someone with an adequate understanding of the requirements of the EMP, so as to ensure that all relevant requirements of the EMP are followed.

#### **Hazardous Substances**

The Contractor shall comply with all relevant national, regional and local legislation with regard to the transport, use and disposal of hazardous materials.

The Contractor shall provide the Engineer with a list of all hazardous materials to be used on site, together with the storage, handling and disposal procedures of the materials. This information shall be available to all personnel on site.

The location of the hazardous material store shall be within the demarcated construction camp area. The location and design of the store within this area shall be approved by the Engineer prior to establishment.

#### Fuel (Petrol and Diesel) and Oil

Where possible, the Contractor shall ensure the refuelling of vehicles takes place only at the fuel storage area in the construction camp. Where this is not possible, the Contractor shall notify the Engineer to get his approval of the refuelling method to be used. The surface under the refuelling area shall be protected against pollution to the satisfaction of the Engineer prior to any refuelling activities. All equipment that leaks shall be repaired immediately or removed from the site. Refuelling shall be carried out by means of pumps, rather than funnels.

## C3.5.1.6.14 Emergency procedures

The Contractor shall ensure that emergency procedures for the following situations are submitted for approval to the Engineer prior to establishment of the site.

#### Fire

The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall ensure that his staff and the staff of Subcontractors are aware of the procedure to be followed in the event of a fire.

#### Accidental leaks and spillages

The Contractor shall ensure that his staff and the staff of Subcontractors are aware of the procedure to be followed for dealing with spills and leaks, which will include notifying the Engineer and relevant authorities. The Contractor shall also ensure that the necessary materials and equipment for dealing with spills and leaks are present on site at all times. The clean-up of spills and any damage caused by the spill or leak shall be for the Contractor's account. The Contractor shall submit a method statement for management of accidental leaks and spillages of any liquid material to the Engineer for approval.

## C3.5.1.6.15 Care of surrounding areas

The Contractor shall ensure that no contamination of or damage to the surrounding areas or watercourses shall occur as a result of any of his activities during construction.

Care shall be taken to ensure no accidental spillage or leakage occurs whilst temporary bypass facilities are in use. Should any spillage or leakage occur the Contractor shall immediately stop his operations and clean up the spillage. He shall then rectify the cause of the spillage or leakage before proceeding further to ensure that no further spillages occur.

The clean-up of spillage and any damage caused by the spillage or leakage shall be for the Contractor's account. The Contractor shall submit a method statement for management of accidental leaks and spillages of any sewage to the Engineer for approval.

The Contractor shall ensure that no pollution of the surrounding areas occurs due to windblown or other litter emanating from the site or from his activities during construction. No fires are permitted, neither is the cutting down of or any damage to trees and other vegetation (especially Camel Thorn Trees) outside of the demarcated site.

## C3.5.1.7 Format of communications

All communication regarding the contract shall be channelled through the Engineer and/or his duly authorised representative.

The General Conditions of Contract (GCC) for Construction Works (1st edition) 2015 clauses 1.1.24 and 1.2 shall prevail in terms of format of communications.

## C3.5.1.8 Key personnel

The contractor shall furnish satisfactory evidence that they dispose of sufficient staff and workmen with the necessary experience in work of a similar nature as that described in this document. For this purpose, the contractor shall duly complete Schedule 1E: Personnel and Schedule 1G: Past Experience.

## C3.5.1.9 Management meeting

Monthly site meetings will take place at the site office of the Contractor at dates and time to be communicated at the award of the contract. The Employer, Engineer, Contractor and Project Steering Committee will attend the monthly site meetings. The Engineer will act as the chair for the monthly site meetings. Other planning meetings between the Contractor's personnel and the Engineer's Representative can take place on a fortnightly basis or as required in terms of the contract progress.

#### C3.5.1.10 Daily records

The Contractor will be required to keep a daily record of the site activities (including plant, personnel, site and weather conditions) in the Site Diary which will be inspected during each management meeting and when the Engineer or Employer visits the site.

#### C3.5.1.11 Bonds and guarantees

The Bond required on the project is the Form of Guarantee as described in the GCC 2015 Clause 7 and Pro Forma appended in the GCC 2015 on pages 57-58. The liability of the Guarantee shall be for 10% of the Tender Sum.

## C3.5.1.12 Payment certificates

Payment on this contract will be made in accordance with Clause 49 of the General Conditions of Contract of 2015. The Contractor and the Engineer's Representative shall compile and agree on the quantity of work certified for payment and submit the payment certificate to the Engineer 3 days before the monthly site meeting. The Engineer will draw up the payment certificate to be certified at the monthly site meeting by the Engineer and the Employer. Payment certificates will only be certified at the site meeting if the Engineer and Employer are in agreement as to work certified, contractual obligations fulfilled by the contractor, etc. following a site inspection on the day of the site meeting. Payment certificates will be certified by the Engineer and Employer should there be an agreement as to the issues previous mentioned or the payment certificate will be edited. All certified payment certificates will be dealt with as stipulated in clause 49.4: Employer's obligation to pay of the GCC 2004.

No retention money will be certified for payment unless the list setting out the work to be completed to justify the issue of the Certificate of Completion has been fully complied with.

The quantities in the Bill of Quantities are provisional only and do not necessarily represent the actual and final amount of work to be done. Unless otherwise stated, items will be measured nett in accordance with the drawings and no allowance will be made for waste.

The Contract amount for the complete contract shall be computed from the actual measured quantities of authorised work done to the satisfaction of the Engineer, valued at prices tendered against the respective items in the Bill of Quantities.

## C3.5.2 OCCUPATIONAL HEALTH AND SAFETY SPECIFICATIONS

## C3.5.2.1 Background

In terms of the Construction Regulations [Regulation 4 (1) (a)] of the Occupational Health and Safety Act, No 85 of 1993, the Employer is required to compile an Occupational Health and Safety specification for each of its projects and the Principle Contractor, appointed by the Employer in terms of Regulation 4 (1) (c), is required to prepare an Occupational Health and Safety plan. This plan has to be prepared in terms of Regulation 5 (1) as well as the Employer's Occupational Health & Safety specification. In terms of Regulation 4 (2), the Employer and the Principle Contractor are required to agree on the Occupational Health and Safety Plan before any work may commence.

## C3.5.2.2 Framework for an occupational health and safety plan

#### C3.5.2.2.1 Introduction

The Principal Contractor has to demonstrate to the Employer that it has a suitable and sufficiently documented Occupational Health and Safety plan as well as the necessary competencies, experience and resources to perform the construction work safely.

The Principle Contractor could be required to submit the following documentation for perusal and verification by the Employer:

- · Management structure.
- · Quality plan.
- Human resources plan.
- Registered workplace skills plan.
- "Letter of good standing" from the Compensation Commissioner or licensed compensation insurer.
- · Proof of Induction and other training of employees.
- Example copy minutes of previous Occupational Health and Safety Committee meetings and copies of Incident Investigation reports.

The following specifications are supplied as a guide only. The Employer's Health and Safety Agent may amend and/or expand on the specifications by means of an addendum to Tender or after the award of the Contract.

## C3.5.2.2.2 OH&S plan at tender stage

Tenderers shall submit an OH&S plan with their tender document. This shall be a preliminary plan that may be expanded on and finalised after the award of the contract. The OH&S Plan should be based on the following principles:

- · A proper risk assessment of the construction work.
- Pro-active identification of potential hazards and unsafe working conditions.
- Informing and/or training of employees in hazards and risk areas.

- Provision of a safe-working environment and safety equipment.
- Ensuring the safety of sub-contractors through their safety plans.
- Monitoring the health and safety on the construction works on a regular basis.
- · Using competent safety officers.

## C3.5.2.3 Contents of an occupational health and safety plan

## C3.5.2.3.1 Occupational Health and Safety Management Programme

- Management of Occupational Health and Safety risks.
- Occupational Health and Safety structures and appointments.
- Programme of Occupational Health and Safety inspections.
- Occupational Health and Safety Representatives.
- · Occupational Health and Safety committee.

## C3.5.2.3.2 Communication and management of the work

- Management structure and responsibilities.
- Details of the construction supervision and his appointed assistants.
- Details of the Construction Safety Officer.
- Occupational Health and Safety goals for the project and arrangements for monitoring and review of Occupational Health and Safety performance.
- Arrangements for:
  - Regular liaison between parties on site.
  - Consultation with the workforce.
  - > The exchange of design information between the Employer, designers, supervisors and contractors on site.
  - > Handling design changes during the project.
  - Selection and control of contractors.
  - > The exchange of Occupational Health and Safety information between all contractors.
  - Security.
  - > Site induction and onsite training.
  - > Facilities and first-aid.
  - The reporting and investigation of accidents and incidents.
  - > The production and approval of risk assessments and method statements.
  - Site OH&S rules.
  - Fire and emergency procedures.

- Reporting to the Employer i.e. results of Occupational Health and Safety inspections, incident and incident investigations and committee meetings.
- Reporting of incidents to the Department of Labour and Compensation insurer where appropriate.

## C3.5.2.3.3 Arrangements for controlling significant site risks

The following are some examples of the arrangements for controlling the most significant site risks:

## C3.5.2.3.4 Safety risks

- Services, including temporary electrical installations.
- Preventing employees from falling into excavations, from trucks etc.
- · Work with, on or near fragile materials.
- Control of lifting operations.
- · The maintenance of plant and equipment.
- Traffic routes and segregation of vehicles and pedestrians.
- Traffic control during pipeline crossing of existing roads.
- Handling and storage of hazardous materials.
- Dealing with existing unstable structures/land.
- · Working in confined spaces.
- Working at elevated heights (> 3,0 m).
- Other significant safety risks as and when identified.
- Working in excavations to a depth of 7,0 metres.

## C3.5.2.3.5 Health risks

- Working environment.
- Handling, storage and use of hazardous chemical substances.
- Dust containing cement, silica and other hazardous substances.
- Dealing with contaminated land or material.
- Manual handling.
- Reducing noise and vibration.
- Provision of adequate lighting.
- Ventilation considerations.
- Extreme heat and cold temperature considerations.
- Dealing with HIV/Aids and other illnesses.
- · Provision of and maintaining ablution and eating facilities.

· Other significant health risks as and when identified.

## C3.5.2.4 Special risks

Contractors are to take note of the special risks that may be encountered during the project and to include these special risks in the OH&S plan.

## C3.5.2.4.1 Working environment

- Trench excavations and bulk earthworks ranging between 1 and 1.5 metres in depth.
- Rotating machinery (and pumps if required).
- Electrical infrastructure not indicated on "As Built" drawings.
- · Electrical storms during summer months.
- Traffic control during pipeline crossings of existing roads.

## C3.5.2.4.2 Installation work

- Use of electricity may be hazardous in wet conditions.
- · Working space may be limited.
- Lifting and placing of heavy equipment, pipes and manhole rings and covers.

## C3.5.2.5 Preparation of an occupational health and safety operational reference file/manual

The Principal Contractor shall open and maintain an OH&S file for the duration of the contract. On completion of the contract the Principal Contractor shall hand the OH&S file to the Employer.

## C3.5.2.5.1 The following are some of the requirements to be addressed

- · Layout, format and content requirements.
- Arrangement for the collection and gathering of information.
- Storage and archiving of all the information.
- · Copy to the Client at completion of project.
- Appointment of a health and safety officer in writing.

## C3.5.2.5.2 Contents of an OH&S file/manual

- · OH&S Policy.
- Notice of new project.
- Site start-up.
- Security measures.
- Written designations and appointments.
- Arrangements with contractors/mandatories.

- OH&S rules and procedures.
- Induction.
- · OH&S training.
- OH&S promotion.
- OH&S representatives.
- OH&S committees.
- Workplace facilities e.g. ablutions, sheltered eating areas etc.
- Protective equipment.
- · Workplace inspections and audits.
- Investigation and reporting of incidents/accidents.
- · Mechanical safeguarding.
- · Electrical safeguarding.
- Safeguarding against trench excavations with depths ranging between 2 to 7 metres.
- Safeguarding against hazardous substances.
- Lifting machinery and equipment.
- Construction vehicles and mobile plant.
- · Welding, heating and flame cutting.
- Protection of the environment affected by construction activities.
- Keeping of records in terms of the OH&S Act (85 of 1993).
- General details of construction methods and materials used.
- Details of equipment and maintenance facilities within the structures.
- Maintenance requirements and procedures for structures / equipment / plant.
- Manuals produced by suppliers and specialist contractors, including operating and maintenance procedures and schedules for plant and equipment.
- Details of the location and nature of utilities and services, including emergency and firefighting systems.

## C3.5.2.6 Notice of construction work

The Contractor shall complete Annexure A – Notification of Construction Work of Regulation 3 of the Construction Regulations 2003.

The original shall be forwarded to the office of the Department of Labour closest to the site. A copy of the original must be kept on site at all times.

## C3.5.2.6.1 Protection of the public

The Contractor shall at all times ensure that his operations do not endanger any member of the public.

As the area surrounding the site is populated, the Contractor shall take special precautions to prevent public access to any danger areas on the Works, e.g. by temporary barricades and/or fencing.

## C3.5.3 SAFETY ON SITE

## C3.5.3.1 Access to site by public

The Contractor shall erect fences and employ sufficient security personnel to prevent unauthorised access to the site by members of the public. Notices prohibiting access to the site shall be clearly displayed at all access points.

The notices shall be in English, Zulu and the most commonly used local language.

## C3.5.3.2 Barricades and lighting

All excavations and openings in walls and slabs into or through which a person may fall shall be securely barricaded at all times in accordance with the requirements of the applicable OH&S regulations.

## **TENDER Nº PWBS-B030/22/23**

## **PART C4: SITE INFORMATION**

## C4.1 Locality Plan



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## **TENDER Nº PWBS-B030/22/23**

**PART C5: ANNEXURES** 

**Annexure A** 

**Drawings** 

Annexure B

**Environmental Management Programme** 

#### **PART C5 ANNEXURE A**

#### **DRAWINGS**

The drawings issued to tenders as part of the tender documents must be regarded as provisional and preliminary for the tenderer's benefit to generally assess the scope of work. The drawings are issued separately.

The work shall be carried out in accordance with the latest available revision of the drawings approved for construction (AFC)

At commencement of the contract, the Engineer shall deliver to the Contractor copies of the AFC drawings and any instructions required for the commencement of the works. From time to time thereafter during the progress of the works, the Engineer may issue further drawings for construction purposes as may be necessary for adequate construction, completion and defects correction of the works.

All drawings and specifications and copies thereof remain the property of the Employer, and the Contractor shall return all drawings and copies thereof to the Employer at the completion of the contract.

Tender drawings are issued separately and are listed hereunder:

CIVIL DRAWINGS		
Drawing Number	Drawing Description	

## PART C5 ANNEXURE B

## **ENVIRONMENTAL MANAGEMENT PLAN**

The flowing documents are to be forwarded to successful Contractor