



TENDER DESCRIPTION:

**CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND
VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM
(CSE) IN CARNARVON, NORTHERN CAPE**

Bid No: NRF/SARAO SHAO/36/2024-25

Closing date: Monday, 30 September 2024

NAME OF TENDERER: _____

CSD NUMBER: _____

GENERAL TENDER INFORMATION

TENDER DESCRIPTION	: CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM (CSE) IN CARNARVON, NORTHERN CAPE
CIDB CONTRACTOR GRADING	: It is estimated that tenderers must have a minimum CIDB contractor grading designation of 8GB or higher
COMPULSORY VIRTUAL BID CLARIFICATION MEETING	: A compulsory bid clarification meeting will take place as follows - Date: 10 September 2024 Time: 11.00 AM Venue: Kareeberg Library, Riverside, Carnarvon, Northern Cape GPS: Latitude: -30.957417; Longitude: 22.127000
COMPULSORY SITE MEETING	: A compulsory site visit will take place as follows - Date: 10 September 2024 Time: 13.00 PM Venue: The site is located at the corner of End and Mark Streets, The Built, Carnarvon,
CLOSING DATE	: Monday, 30 SEPTEMBER 2024
CLOSING TIME	: 12:00 PM
SUBMISSION INSTRUCTIONS	: <u>Electronic submissions</u> must be sent to tenders@sarao.ac.za Bids must be submitted in two separate electronic folders, one with the compliance and technical response, and the second with the financial response. Technical submissions should preferably be in searchable PDF format

TENDERER'S REPRESENTATIVE CONTACT INFORMATION:

NAME OF TENDERER:

CONTACT PERSON:

TELEPHONE NUMBER: CODE.....NUMBER.....

CELL PHONE NUMBER:

E MAIL ADDRESS:

SOUTH AFRICAN RADIO ASTRONOMY OBSERVATORY**BID NO: NRF/SARAO SHAO/36/2024-25****CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM (CSE) IN CARNARVON, NORTHERN CAPE**

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T1: Tendering Procedures

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

SOUTH AFRICAN RADIO ASTRONOMY OBSERVATORY

BID NO: NRF/SARAO SHAO/36/2024-25

CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM (CSE) IN CARNARVON, NORTHERN CAPE

BID NOTICE

Bids are invited for the following Works published by the South African Radio Astronomy Observatory (SARAO), a business unit of the National Research Foundation (NRF) (hereinafter referred to as the "Employer").

Bid Number	Bid Description	CIDB Grading	Bid Closing Date and Time
NRF/SARAO SHAO/36/2024- 25	CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM IN CARNARVON, NORTHERN CAPE	It is estimated that tenderers must have a CIDB contractor grading designation of 8GB or higher	Monday, 30 September 2024 at 12.00 PM

COMPULSORY CLARIFICATION MEETING AND SITE VISIT

Bidders must attend both the compulsory clarification meeting and site visit in Carnarvon.

The meetings will take place as detailed below –

Bid Clarification Meeting:

Bidders will be required to attend a compulsory site visit detailed below –

Date: 10 September 2024

Time: 10:00 AM

Venue: Corner End and Mark Streets, Die Bult, Carnarvon

GPS Coordinates: Latitude: 30.967031, Longitude: 22.123836

Compulsory Site Visit:

Following the Bid Clarifications, Bidders will be required to attend a compulsory site visit detailed below –

Date: 10 September 2024

Time: 10:00 AM

Venue: Corner End and Mark Streets, Die Bult, Carnarvon

GPS Coordinates: Latitude: 30.967031, Longitude: 22.123836

NOTE - Persons attending the compulsory clarification meeting and mandatory site visit must be duly authorised to represent the tenderer. Any bid submitted by a tenderer not represented at the clarification meeting will be **rejected**.

PREFERENTIAL PROCUREMENT SYSTEM:

The 90/10 price and preference points system, as prescribed by the Preferential Procurement Regulations, 2022 issued under the Preferential Procurement Policy Framework Act, (Act No 5 of 2000) (PPPFA) will be applied to evaluate this bid.

EVALUATION CRITERIA:

Only bids achieving a minimum score of 70% for Functionality in Stage 2.1 of the Functionality Assessment, and a minimum score of 70% in Stage 2.2 will be evaluated further on price and preference. Failure to achieve this minimum score will result in a bid being held to be non-responsive and disqualified.

BID PUBLICATION:

The tender will be published on 30 August 2024 on the following websites – www.cidb.org.za; www.etenders.gov.za and www.sarao.ac.za/tender.

BID SUBMISSION:

Electronic bid submissions must be sent to tenders@sarao.ac.za

Bids must be submitted in separate electronic folders, one (or more) with the compliance and technical response, and a separate folder for the financial response. Submissions should preferably be in searchable PDF format.

BID CONDITIONS:

SARAO does not bind itself to accept the lowest or any tender and reserves the right to accept any tender or portion of a tender. SARAO reserves the right to cancel the tender without making an award.

BID ENQUIRIES:

Bid enquiries may be directed to -

Technical Queries:

Ms. Yanga Balfour, Project Manager

Email: ybalfour@sarao.ac.za

Procedural Queries:

Ms. Anwuli Okecha, SCM Specialist

Email: anwuli@sarao.ac.za

T1.1.1 LOCALITY PLAN: SITE VISIT

Figure 1 below displays an aerial photograph of the vacant site, located at the corner of End and Mark Streets, Die Bult, at the Western entrance to Carnarvon.

A compulsory site visit will be conducted as detailed below.

Please note that tenderers are responsible for arranging their own logistics to attend the compulsory site visit. All persons in attendance MUST sign the attendance register in the name of the entity that will submit the bid

Date: Tuesday, 10 September 2024

Time: 13:00 PM

Venue: Corner End and Mark Streets, Die Bult, Carnarvon

GPS Coordinates: Latitude: 30.967031, Longitude: 22.123836



Figure 1: CSE Site – Erf 431, Corner End & Mark Streets, Die Bult, Carnarvon

T1.2 TENDER DATA

T1.2.1 Standard Conditions of Tender

The conditions of tender are the Standard Conditions of Tender as contained in Board Notice 423 of 2019 in Government Gazette No 42622 of 8 August 2019, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement. (see www.cidb.org.za).

T1.2.2 Variations to the Standard Conditions of Tender

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall take precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

The following variations, amendments and additions to the Standard Conditions of Tender shall apply to this tender.

Clause No.	Variation, Amendment or Addition
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C.1.2	Tender Documents
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*Add the following to the end of **Clause C.1.2**:*

"The Tender Document for this Contract comprises the following:

Not issued to Tenderers, but available from the S.A. Federation of Civil Engineering Contractors, the S.A. Institution of Civil Engineering, the S.A. Bureau of Standards, the Government printers, the Construction Industry Development Board, and the Employer, as applicable:

1. CIDB, "The Standard for Uniformity in Construction Procurement Annex C, Standard Conditions of Tender", Board Notice 423 of 2019 of Government Gazette No. 42622 of 8 August 2019.
2. The General Conditions of Contract for this project is the Second Edition 2017 FIDIC (International Federation of Consulting Engineers) Red Book, Conditions of Contract for Building and Engineering Works, Designed by the Employer.
3. The Preferential Procurement Policy Framework Act No 5 of 2000, and the Preferential Procurement Policy Framework Act Regulations, 2022, published in Government Gazette 47452 on 4 November 2022.
4. The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations (2014)."

C.2	Tender's Obligations
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C.2.1	Eligibility
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C.2.1.1	<i>Add the following to the end of Clause C.2.1.1:</i>
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A. Construction Industry Development Board (CIDB) Registration

Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for an **8 GB** class of construction work, are eligible to have their tenders evaluated.

B. Joint Ventures and Consortia are eligible to submit a tender offer provided that:

Joint ventures are eligible to submit tenders provided that:

1. Every member of the joint venture is registered with the CIDB;
2. The lead partner has a contractor grading designation in the GB class of construction work; or not lower than one level below the required grading designation in the class of works under consideration and possesses the required recognition status;
3. The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 8GB class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations;
4. Tenders submitted by joint ventures or consortia of two or more firms must be accompanied by a document of formation of the joint venture, authenticated by a notary public or other official deputed to witness sworn statements, in which it defines precisely the conditions under which the joint venture will function, its period of duration, the persons authorised to represent and obligate it, the participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning;
5. The Tenderer, if a joint venture or consortium, must submit a signed JV or consortium agreement specific to the tendered contract and showing clearly the percentage contribution of each partner to the Joint Venture or Consortium. The value of work to be undertaken by each partner must be within their CIDB grading limit;
6. The following joint venture agreements are recommended for use or to serve as a basis for the development of an agreement –
 - (a) The CIDB Joint Venture Agreement, which is intended for use by all types of contractors, including professional service providers;
 - (b) The South African Federation of Civil Engineering Contractors (SAFCEC) Joint Venture Agreement, which is intended only for joint ventures between established contractors and is not suitable for use by professional service providers;

C. National Treasury Central Supplier Database Registration

Tenderers must register on the National Treasury Central Supplier (CSD) Database and provide their CSD registration number where required in this bid document. Tenderers who are not registered are not precluded from submitting bids, but must be registered prior to Contract Award.

In the case of Joint Venture partnerships this requirement will apply individually to each party to the Joint Venture.

Tenderers who wish to register as service providers on the CSD can register online at <https://secure.csd.gov.za/Account/Register>.

D. Attendance of Compulsory Tender Briefing

Only Tenderers who attend both the compulsory bid clarification meeting and site visit, and have Schedule A2 to this tender document (Clarification Meeting Certificate and Proof of Attendance), signed by the Employer's agent, will be eligible to submit a tender offer. Only Tenderers who are recorded as having attended the compulsory bid clarification meeting, and site visit will be eligible to submit a tender offer.

E. Tenderer's Tax Clearance Certificate

Tenderers must be registered with the South African Revenue Services (SARS) and must provide their CSD registration number and valid SARS Tax Clearance PIN Number.

At the point of contract award, the recommended tenderer must be in good standing with SARS, failing which the tenderer must be in good standing within 7 days, or such extended period as may be granted by the Employer, failing which the bid will be disqualified from further consideration.

Each party to a Joint Venture or Consortium must submit their individual CSD registration numbers and Tax Clearance PIN Numbers.

F. Letter of Good Standing with the Compensation Commissioner (COIDA)

Tenderers must submit their Letter of Good Standing with the Compensation Commissioner, in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993.

Letters of Good Standing submitted must be current and valid.

In the case of Joint Ventures or Consortia, each party must submit their respective Letters.

G. Minimum Functionality Score to be Achieved

Any tender which scores less than the minimum threshold values for the functionality evaluation, will be held to be non-responsive and disqualified.

C.2.7 Bid Clarification Meeting

*Add the following to the end of **Clause C.2.7**:*

“The arrangements for a compulsory clarification meeting and site visit are as stated in the Tender Notice and Invitation to Tender.

Tenderers should be represented by a person or persons who are suitably qualified and experienced to comprehend the aspects of the work involved.

Tenderers shall bear all costs for attendance of the clarification meeting and site visit.”

C.2.13 Submitting a Tender Offer

C.2.13.2 Add the following to the end of **Clause C.2.13.2**:

“Bid submissions must be in electronic format.

Bid submissions must comprise separate electronic folders divided as follows -

- “**Technical**” submission, and
- “**Financial**” submission

Folders must be titled with the tenderer’s company name and folder title. Attachments are limited to 25 MB per email)

Bid submissions should preferably be in searchable PDF format.

Failure to comply with these requirements may result in the tender being deemed non-responsive.”

C.2.13.3 Add the following to the end of **Clause C.2.13.3**:

Electronic bid submissions must be sent to tenders@sarao.ac.za.

C.2.13.4 Add the following after the first sentence of **Clause C.2.13.4**:

“The tender shall be signed by a person duly authorised to do so.”

C.2.13.5 Delete the contents of **Clause C.2.13.5**.

C.2.13.6 Delete the contents of **Clause C.2.13.6** and replace with the following:

“A two-envelope procedure as described in **Clause C.3.5** will be followed.

Bids must be submitted in separate electronic folders, one for the Compliance and Technical response, and another for the Financial response. Each main folder may have sub-folders, and if this is the case, each sub-folder must be clearly indicated as such.”

C.2.13.7 Delete the contents of **Clause C.2.13.7**.

C.2.13.8 Substitute the contents of **Clause C.2.13.8** with the following:

"Accept that the employer will not assume responsibility for any technological or logistical difficulties which might affect its bid submission being received on time."

C.2.13.9 Delete the contents of **Clause C.2.13.9** and replace with the following:

"Only tender offers submitted in electronic format to tenders@sarao.ac.za will be accepted by the Employer."

C.2.15 Closing Time

C.2.15.1 Add the following to the end of **Clause C.2.15.1**:

"The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender"

C.2.16 Tender Offer Validity

C.2.16.1 Add the following to the end of **Clause C.2.16.1**:

"The tender offer validity period is 120 days.

C.2.16.2 Add the following to the end of **Clause C.2.16.2**:

"The maximum extension on the tender offer validity period is 90 days."

C.2.17 Clarification of Tender Offer after Submission

Add the following to the end of **Clause C.2.17**:

"A tender may be rejected as non-responsive if the tenderer fails to provide any clarification requested by the Employer within such time as is granted by the Employer to provide such clarification. A tender may be rejected if the unit rates or lump sums for some of the items in the Pricing Schedule are, in the opinion of the Employer, unreasonable, and the tenderer fails, within such time as is granted by the Employer, to justify any specific rates or lump sums (i.e. to provide a financial breakdown of how such rates or sums were obtained) or to adjust the unit rates or lump sums for such items while retaining the total contract price."

C.3 The Employer's Undertakings

C.3.1 Respond to Requests from the Tenderer

C.3.1.1 Substitute the contents of **Clause C.3.1.1** with the following:

"The Employer will respond to requests for clarification received up to five working days before the tender closing time stated in the Tender Data and circulate responses to all tenderers who attended the compulsory bid clarification meeting and site visit."

C.3.5 Two-envelope System

C.3.5.1 Substitute the contents of **Clause C.3.5.1** with the following:

"Where it is stated in the Tender Data that a two-envelope process (two separate electronic folders) is to be followed, only the technical proposal of valid bids will be opened for evaluation by the Employer's evaluation committee. Technical proposals will not be opened in the presence of tenderers' representatives, however a list of bids received on the closing date will be published on the Employer's website within 10 days of the tender closing date."

C.3.5.2 Substitute the contents of **Clause C.3.5.2** with the following:

"Evaluate functionality of the technical proposals offered by tenderers. Only those financial proposals of tenderers who score the minimum number of the functionality points or higher will be opened.

Financial proposals will not be opened in the presence of tenderers."

C.3.7 Grounds for rejection and disqualification

Add the following to the end of **Clause C.3.7**:

"Bids will be disqualified if -

- (a) There is no evidence that the tenderer was represented at the compulsory bid clarification meeting and site visit.

- (b) Any of the tenderer's directors or shareholders are listed on the National Treasury Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004, as a person prohibited from doing business in the public sector.
- (c) If, from information given in the completed Compulsory Enterprise Questionnaire or SBD forms, the Employer considers that there is a conflict of interest concerning the tenderer which may potentially compromise the tender process.
- (d) The tenderer has been restricted from doing business with the Employer.
- (e) In a two-envelope system, the tenderer fails to submit both a technical proposal and a financial proposal."

C.3.8 Test for Responsiveness

C.3.8.2 *Add the following to the end of **Clause C.3.8.2**:*

"Bids will also be considered non-responsive if:

- (a) The bid offer does not satisfy the minimum thresholds for eligibility stipulated in the evaluation criteria summarised in clause C.3.11 below.
- (b) The Tenderer has not fully and correctly completed the Offer portion of D2.1 (Form of Offer and Acceptance), specifically, the bid price has not been completed in words and numbers, or the Tenderer has failed to sign the Offer portion of D2.1.
- (c) The Tenderer fails to respond, within such time frame granted by the Employer, to any written request for clarification, and such failure renders it impossible for the Employer to clarify any ambiguities in the bid submission, and therefore renders it impossible to evaluate the bid submission any further.
- (d) There are any other material deficiencies in the bid submission which cannot be cured by clarification.

C.3.11 Evaluation of Tender Offers

C.3.11.1 General

*Add the following clauses after **Clause C.3.11.1**:*

C.3.11.2 The Evaluation Method

Bids will be evaluated in a three-stage process, as follows –

Stage 1:

Compliance with administrative requirements in Part T2 (submission of returnable documents).

Note - In this stage, discretion may be applied by the Employer to allow tenderers to complete and/or sign returnable schedules not completed and/or signed in the first instance or to submit returnable documents not submitted in the first instance, provided that such returnable schedules or documents are of a purely administrative nature and do not pertain to the substance of the bid such as to affect the competitive position of tenderers, by giving one or more tenderers a second and unfair opportunity to augment the quality (substantive) aspects of their bid. Only bids that satisfy the requirements of Stage 1 will proceed to Stage 2.

Stage 2:

Bids will be evaluated on the functionality criteria summarised in Clause C.3.11.2.1 below. This Stage will consist of two sub-stages, namely Stage 2.1 and Stage 2.2. Only bids which –

- (i) achieve a minimum score of 63 points out of a possible 90 points (70%) in stage 2.1 - Capability & Capacity; and
- (ii) achieve a minimum score of 42 points out of a possible 60 points (70%) in Stage 2.2 - Experience & Planning

Note: Bidders must score a minimum of 63 points out of a possible 90 points in Stage 2.1 to proceed to Stage 2.2. Only bidders that score a minimum of 63 points will qualify to Stage 2.2. Qualifying bidders must score a minimum of 42 points out of a possible 60 points in Stage 2.2.

Bidders that satisfy the minimum scores for Stage 2.1 and 2.2 will be evaluated further in stage 3 (price and preference).

Stage 3:

Price offers will be scored on the 90/10 price and preference points system.

The lowest priced bid will not necessarily be accepted and the Employer reserves the right to accept the whole or part of any tender, or not to consider any tender at all.

The Employer reserves the right to reject overpriced or under-priced bids, which are outside the identified price range for the bid.

Points for Preference:

Conditions associated with the granting of preferences

Tenderers who claim a preference shall provide proof of B-BBEE status level of contributor in respect of the applicable code as at the closing time for submissions, failing which their claims for preferences will be rejected.

Proof of B-BBEE status level of contributor

Proof of B-BBEE status level of contributor shall be by means of:

- the B-BBEE status level certificate issued by an authorised body or person;
- a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice; or
- any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act

The scoring shall be as follows:

B-BBEE status level of contributor	Number of points
1	10
2	9
3	6
4	5
5	4
6	3
7	2
8	1
Non-compliant contributor	0

The Employer reserves the right to reject overpriced or under-priced bids."

C.3.11.2.1 Score Functionality

Bids will be evaluated on the Functionality Criteria summarised below -

Stage 2.1 – Capability and Capacity

Functionality Criteria	Maximum Points	Schedule
Capability – Qualifications and Experience of Construction Teams	80	Schedules B6 & B7
Project Organisational Chart for Key Construction Personnel	10	Schedule B8
Total	90	

Note: Tenderers must score a minimum of 63 points (70%) in Stage 2.1 to proceed to Stage 2.2

Stage 2.2 – Experience and Planning

Functionality Criteria	Maximum Points	Schedule
Previous Company / JV Experience and Track Record	20	Schedule B9
Method Statement based on Scope of Work specific to this project	15	Schedule B10
Preliminary Project Programme	5	Schedule B11
SHE Plan	5	Schedule B12
Quality Management System	5	Schedule B13
Local socio-economic development specific to the project	10	Schedule B14
Total	60	

Note: Tenderers must score a minimum of 42 points out of 60 points (70%) in Stage 2.2 to qualify to Stage 3

C.3.17 Provide Copies of the Contract

*Add the following to the end of **Clause C.3.17**:*

“The number of paper copies of the signed contract to be provided by the Employer is ONE.”

T1.2.3 Additional Conditions of Tender

The additional conditions of tender are:

C.4 Demonstrate Compliance with Occupational Health and Safety Act 1993 and Construction Regulations (as amended 2014)

Tenderers are to note the requirements of the Occupational Health and Safety Act No. 85 of 1993 and the latest amended Construction Regulations (2014) issued in terms of Section 43 of the Act. The tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.

In this regard the tenderer is referred to Annexure 4 in Section D4 and is to comply with the requirements contained in the Health and Safety Specification for the Works.

C.5 Claims Arising after Submission of Tender

After tender submission, the tender offer shall be deemed to be final and not subject to amendment at any point between submission and contract execution, except as otherwise instructed by the Employer within the ambit of the Tender Data, and the Tenderer shall be deemed to have:

- (a) Read and fully understood the Tender Data;
- (b) Read and fully understood the Conditions of Contract;
- (c) Read and fully understood the whole text of the Scope of Work and Pricing Data and thoroughly acquainted himself with the nature of the works proposed and generally of all matters which may influence the Contract;
- (d) Visited the site of the proposed works, carefully examined existing conditions, the means of access to the site, the conditions under which the work is to be done, and acquainted himself with any limitations or restrictions that may be imposed by the Municipal or other Authorities in regard to access and transport of materials and plant to and from the site and made the necessary provisions for any additional costs involved thereby;
- (e) Requested the Employer to make clear the actual requirements of anything contained in this bid document, the exact meaning or interpretation of which is not clearly intelligible to the Tenderer; and
- (f) Have looked at the historical data on the site including weather conditions, accommodation, and geographical data and allowed any of the possible delays on his time risk allowance planning.

C.6 Collusion, Fraud and Corruption in the Tender Process

- (a) Any effort by a tenderer to influence the evaluation of bids or the award decision in any manner will result in the disqualification of that tenderer's bid.
- (b) The NRF/SARAO would never offer payment or any other consideration in return for the favourable consideration of a bid. Please report any suspected acts of fraud or corruption to the following toll-free number - 0800 701 701 or SMS 39772.

T2: Returnable Documents

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T2.1 SCHEDULE OF RETURNABLE DOCUMENTS

T2.1.1. General

The complete Tender Document must be submitted. All schedules and forms must be properly completed as instructed, and the document shall not be altered or re-typed in any way whatsoever.

Tenderers are required to complete all schedules and forms listed below to the best of their ability, as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer.

Completion of the returnable schedules and submission of the returnable documents is mandatory. Failure to do so will result in a bid being held to be non-responsive.

T2.1.2. List of Returnable Documents

Schedule	Description	Page No.
Company Specific Schedules		
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A6	Form concerning the fulfilment of the Construction Regulations, 2014	29
Standard Bidding Documents (SBD) for Compliance Assessment		
SBD 4	Bidder's Disclosure	30
SBD 6.1	Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022	32
Returnable Documents for Compliance Assessment		
B1	CIDB Registration Number	37
B2	Tax Compliance	38
B3	National Treasury Central Supplier Database (CSD) Registration	39
B4	BBBEE Certificate or Sworn Affidavit	40
B5	Schedule of Proposed Subcontractors	41
Returnable Documents for Functionality Assessment		
B6	Schedule of Key Construction Personnel	42
B7	Curriculum Vitae of Key Construction Personnel	48
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T2.2 RETURNABLE DOCUMENTS

NB: TENDERERS MUST COMPLETE THESE DOCUMENTS / FORMS TYPED IN BLACK, OR IN BLACK INK

A1. AUTHORITY TO SIGN DOCUMENTS

I/We*, the undersigned, am/are* duly authorised to sign the form of tender on behalf of

by virtue of the Articles of Association/Resolution of the Board of Directors*, of which a copy is attached, or

*Delete whichever is inapplicable

1.					
	NAME		SIGNATURE		DATE

2.					
	NAME		SIGNATURE		DATE

WITNESSES:

1.					
	NAME		SIGNATURE		DATE

2.					
	NAME		SIGNATURE		DATE

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A3. CERTIFICATE OF AUTHORITY FOR JOINT VENTURES AND CONSORTIA

This Returnable Schedule is to be completed only if the Tenderer is a joint venture or consortium.

We, the undersigned, are submitting this tender offer as a joint venture or consortium, and hereby authorise

Mr/Ms _____, authorised signatory ofcompany,
close corporation or partnership, acting in the capacity of lead partner, to sign all documents in connection with the tender
offer and any contract resulting from it on our behalf.

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

Note:

A copy of the Joint Venture or Consortium Agreement showing clearly the percentage contribution of each partner to the Joint Venture or Consortium must be included in the bid submission.

A4. COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise

Section 2: VAT registration number, if any

Section 3: CIDB registration number, if any

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: The attached SBD 4 must be completed for each attender and be attached as a tender requirement

Section 7: The attached SBD 6.1 must be completed for each attender and be attached as a tender requirement

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

- authorises the Employer to obtain a tax Clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- confirms that neither the name of the enterprise nor the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise, has within the last five years been convicted of fraud or corruption;
- confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

SIGNED:

	ENTERPRISE NAME		DATE	

	NAME		POSITION		SIGNATURE

A5. TENDERER'S BANK ACCOUNT DETAILS

Notes to Tenderer:

1. The Tenderer shall attach to this form a letter from the bank at which he declares he conducts his account. The contents of the bank's letter must state the credit rating that it, in addition to the information required below, accords to the Tenderer for the business envisaged by this tender. Failure to provide the required letter with the tender submission may render the Tenderer's offer unresponsive.
2. The Tenderer's banking details as they appear below must be completed.
3. In the event that the Tenderer is a joint venture or consortium, each party must complete this form.

The Tenderer must provide the following information:

(i)	Name of Account Holder:	
(ii)	Account Number:	
(iii)	Bank Name:	
(iv)	Branch Number:	
(v)	Bank and Branch Contact Details:	

SIGNED BY/ON BEHALF OF TENDERER:

[illegible]

A6. FORM CONCERNING THE FULFILLMENT OF THE CONSTRUCTION REGULATIONS, 2014

In terms of regulation 4(3) of the Construction Regulations, 2014, as amended (hereinafter referred to as the Regulations), promulgated on 18 July 2003 in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) and the Construction Regulations (2014) the Employer shall not appoint a contractor to perform construction work unless the Contractor can satisfy the Employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

1. I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the requirements of the Regulations.

YES	
NO	

2. Proposed approach to achieve compliance with the Regulations (Tick)

Own resources, competent in terms of the Regulations (refer to 3 below)	
Own resources, still to be hired and/or trained (until competency is achieved)	
Specialist subcontract resources (competent) – specify:	

3. Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the team as specified in the Regulations (CVs to be attached):

4. Provide details of proposed training (if any) that will be undergone:

5. Potential key risks identified and measures for addressing risks:

I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period.

YES	
NO	

SIGNED BY/ON BEHALF OF TENDERER:

[illegible]

SBD 4 BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

- 1.1 Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.
Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. BIDDER'S DECLARATION

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

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

Full Name	Identity Number	Name of State Institution

- 2.2 Do you, or any person connected with the bidder, have a relationship with any person employed by the procuring entity? **YES / NO**

- 2.2.1 If so, furnish particulars

.....
.....

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

- 2.3.1 If so, furnish particulars

.....
.....

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

3. DECLARATION

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

- 3.1 I have read and understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding;
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates;
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid;
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

CERTIFICATION

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

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

.....
Date

.....
Signature

.....
Position

.....
Name of bidder

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

SBD 6.1 PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

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

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

1. GENERAL CONDITIONS

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

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

1.2 **To be completed by the organ of state:**

a) The applicable preference point system for this tender is the 90/10 preference point system.

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

- (a) Price; and
- (b) Specific Goals (namely, BBBEE status level of contributor)

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

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

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

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

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

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

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

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
- (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system, then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

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

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

B-BBEE Status Level of Contribution	Number of points allocated (90/10 system) (To be completed by organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)
BBBEE status level of contributor (Note: Tenderers are required to submit their BBBEE certificates or sworn affidavits (in the case of EMES/QSEs) in order to be eligible to claim points)	10	
Non-compliant contributor	0	

DECLARATION WITH REGARD TO COMPANY/FIRM

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

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

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

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

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

SURNAME AND NAME:

.....

DATE:

.....

ADDRESS:

.....

.....

.....

B1. CIDB REGISTRATION NUMBER

Tenderers must be registered with the Construction Industry Development Board (CIDB) register of contractors in the contractor grade designation 8GB or higher.

Where a tenderer satisfies the CIDB Contractor grading designation requirements through a joint venture or consortium, such tenderer must submit its joint CIDB grading certificate, and certificates of contractor registration for each partner.

--

NAME OF TENDERER

--

COMPANY REGISTRATION NUMBER

--

CRS NUMBER

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

B2. TAX COMPLIANCE

Tenderers must be registered and in good standing with the South African Revenue Services (SARS), and must provide their CSD registration number and valid SARS Tax Compliance PIN Number in this Schedule.

Tenderers who are not registered with, or in good standing with SARS are not precluded from submitting bids, but must be registered and in good standing prior to Contract Award.

Each party to a Consortium or Joint Venture shall submit a separate Tax Compliance PIN Number and CSD Supplier Number.

	TAX PIN NUMBER	
--	----------------	--

[illegible]

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

B3. NATIONAL TREASURY CENTRAL SUPPLIER DATABASE (CSD) REGISTRATION

Tenderers must be registered with the National Treasury Central Supplier Database (CSD) and must provide their CSD Registration Number issued by National Treasury.

Tenderers who are not so registered are not precluded from submitting bids, but must be registered prior to Contract Award.

Each party to a Consortium or Joint Venture must submit their individual CSD Registration Number.

--

CSD REGISTRATION NUMBER

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE		DATE

B4. B-BBEE CERTIFICATE OR SWORN AFFIDAVIT

In order to claim points for 'specific goals' in terms of the Preferential Procurement Regulations (2022), tenderers must submit a Valid BBBEE certificate issued by a Verification Agency accredited by SANAS; or in the case of Exempted Micro Enterprises (EMEs), a sworn affidavit confirming annual total revenue and level of black ownership or a BBBEE certificate issued by the Companies and Intellectual Property Commission; and in the case of Qualifying Small Enterprises (QSEs), a sworn affidavit confirming annual total revenue and level of black ownership.

Unincorporated joint ventures and consortia must submit a consolidated B-BBEE certificate, failing which the tenderer will not be awarded preference points.

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

B5. SCHEDULE OF PROPOSED WORK PACKAGES TO BE UNDERTAKEN BY SUBCONTRACTOR

To be linked with Local Participation Guidelines. Refer to D1.2 Scope of Works under **Contractor and Labour Participation Goals (CLPG)**

The Main Contractor must subcontract a minimum of 20% of the final accepted contract amount. (Local Exempted Micro Enterprises (EME), Local Qualifying Small Enterprises (QSE) & Local Suppliers).

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

Category/type	Items of work (pay items) to be undertaken by the Subcontractor	% sub-contracted	Local EME's or Local QSE's

NB: If there is insufficient space above, the Tenderer may include the additional sheets in the Supporting Documentation file.

Number of additional sheets submitted by the Tenderer to this Schedule (If nil, enter NIL)

Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any of the subcontractors not be approved subsequent to acceptance of the tender, this shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed above being approved by the Engineer.

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

B6. SCHEDULE OF KEY CONSTRUCTION PERSONNEL

The tender offer shall include an organogram clearly showing the team of key construction personnel the tenderer proposes to assign to the Contract and how responsibilities for the various disciplines or work and components of the Works will be assigned. The appointed contractor may not replace the key construction personnel provided in this schedule without the prior written approval of the Employer.

The Personnel identified in Schedule B6 will be incorporated into the Contract as the “**Contractor’s Representative**” (Clause 1.1.18 and Clause 4.3) and “**Key Personnel**” (Clause 1.1.48 and deemed to be included in the specifications) as defined in the **FIDIC RED BOOK Second Edition 2017 Contract**.

In the case of a Joint Venture or where major sub-contractors are made use of, the organogram must show how respective responsibilities are to be allocated.

Schedules B6–B8 contains the Stage 2.1 functionality assessment of tenderers’ capability and capacity.

Note: Tenderers must score a minimum of 70% in Stage 2.1 (Functionality Assessment – Capability and Capacity (Schedules B6-B8)) in order to be qualify for further evaluation in Stage 2.2.

STAGE 2.1 - CAPABILITY AND CAPACITY CRITERIA (KEY CONSTRUCTION PERSONNEL) (All Key Personnel will be required during the Construction Phase of the Project)			
No.	Criteria	Score Allocation	Maximum Score
1.	Site Management: Key Personnel		80
1.1	Contracts Manager / Contractor's Representative (Part Time)		
1.1.1	Qualifications		6
	Bachelor’s Degree (B-Tech, BSc) in Building / Civils	6	
	National Diploma in Building / Civils	5	
	Other technical qualification in Building / Civils	2	
	No technical qualification	0	
1.1.2	Demonstrable Experience		6
	10 years or more experience in the commercial building industry	6	
	5-9 years’ experience in the commercial building industry	5	
	1-4 years’ experience in the commercial building industry	2	
	No experience in commercial construction	0	
1.2	Construction Manager (Full Time)		
1.2.1	Qualifications		6
	Bachelor’s Degree (B-Tech, BSc) in Building / Civils	6	
	National Diploma in Building / Civils	5	
	Other technical qualification in Building / Civils	2	

STAGE 2.1 - CAPABILITY AND CAPACITY CRITERIA (KEY CONSTRUCTION PERSONNEL) (All Key Personnel will be required during the Construction Phase of the Project)			
No.	Criteria	Score Allocation	Maximum Score
	No technical qualification	0	
1.2.2	Demonstrable Experience		6
	10 years or more experience in the commercial building industry	6	
	5-9 years' experience in the commercial building industry	5	
	1-4 years' experience in the commercial building industry	2	
	No experience in commercial construction	0	
1.3	Building Foreman (Full Time)		
1.3.1	Qualifications		5
	Bachelor's Degree (B-Tech, BSc) in Building / Civils	5	
	National Diploma in Building / Civils / Any other Built Environment qualification	4	
	No technical qualification	0	
1.3.2	Demonstrable Experience		5
	10 years or more experience in the commercial building industry	5	
	5-9 years' experience in the commercial building industry	4	
	1-4 years' experience in the commercial building industry	2	
	No experience in commercial construction	0	
1.4	Quantity Surveyor (Part Time)		
1.4.1	Qualifications		6
	Bachelor's Degree (B-Tech, BSc) in Building / Civils	6	
	National Diploma in Building / Civils	5	
	Other technical qualification in Building / Civils	2	
	No technical qualification	0	
1.4.2	Demonstrable Experience		5
	10 years or more experience in the commercial building industry	5	
	5-9 years' experience in the commercial building industry	4	

STAGE 2.1 - CAPABILITY AND CAPACITY CRITERIA (KEY CONSTRUCTION PERSONNEL) (All Key Personnel will be required during the Construction Phase of the Project)			
No.	Criteria	Score Allocation	Maximum Score
	1-4 years' experience in the commercial building industry	2	
	No experience in commercial construction	0	
1.5	Site Engineer (Part Time)		5
1.5.1	Professional Qualifications		
	Professional Engineer/Technologist, Civil Engineering (PrEng / Pr Tech)	5	
	Professional Certificated Engineer / Technician, Civil Engineering	4	
	Candidate Engineer/Technologist, Civil Engineering	2	
	No professional qualification	0	
1.5.2	Demonstrable Experience		5
	10 years or more experience in the building industry	5	
	5-9 years' experience in the building industry	4	
	1-4 years' experience in the building industry	2	
	No experience in construction	0	
1.6	Quality Assurance Officer (Full-Time)		5
1.6.1	Professional Qualifications		
	Bachelor's Degree (B-Tech, BSC) in Construction Management/Built Environment/Quality Control or any related field	5	
	National Higher Diploma in Construction/ Building / Built Environment / Quality Control or any related field	4	
	Other technical qualification in Building / Civils	3.5	
	No professional qualification	0	
1.6.2	Demonstrable Experience		5
	Minimum of 5 years or more experience in commercial building industry - ensuring that construction activities meet the required quality standards, codes and specifications. Must have in Experience in: ISO 9001:2015 Implementation Certificate (For the implementation of Quality Management Systems). ISO 19011:2018 Auditors course (To conduct 2nd Party Audits on Suppliers, and Internal Audits). ISO 10006:2017 (Quality management — Guidelines for quality	5	

STAGE 2.1 - CAPABILITY AND CAPACITY CRITERIA (KEY CONSTRUCTION PERSONNEL) (All Key Personnel will be required during the Construction Phase of the Project)			
No.	Criteria	Score Allocation	Maximum Score
	management in projects, to setup and review Quality Plans).		
	Minimum of 3 -4 Years' experience in commercial building industry - ensuring that construction activities meet the required quality standards, codes and specifications. Must have in Experience in: ISO 9001:2015 Implementation Certificate (For the implementation of Quality Management Systems). ISO 19011:2018 Auditors course (To conduct 2nd Party Audits on Suppliers, and Internal Audits). ISO 10006:2017 (Quality management — Guidelines for quality management in projects, to setup and review Quality Plans).	4	
	1 -2 Years' experience in commercial building industry - ensuring that construction activities meet the required quality standards, codes and specifications.	2	
	No experience in commercial building industry	0	
1.7	Environmental Officer (Full-Time)		5
1.7.1	Professional Qualifications		
	Bachelor's Degree / B-Tech in Environmental Sciences / Management or any related field	5	
	National Diploma or Equivalent in Environmental Sciences / Management or related field	4	
	Any other qualification	2	
	No professional qualification	0	
1.7.2	Registration with Professional Bodies		5
	Registered with EAPASA (Environmental Assessment Practitioner Association of South Africa)	5	
	Other in related field in Environmental Studies	4	
	Not registered with EAPASA	0	
1.7.3	Demonstrable Experience		5
	5 or more years' experience drafting environmental management plans, method statements, implementation of environmental management plans and method statements, including undertaking environmental	5	

STAGE 2.1 - CAPABILITY AND CAPACITY CRITERIA (KEY CONSTRUCTION PERSONNEL) (All Key Personnel will be required during the Construction Phase of the Project)			
No.	Criteria	Score Allocation	Maximum Score
	inspections/audits.		
	1-4 years' experience drafting environmental management plans, method statements, implementation of environmental management plans and method statements, including undertaking environmental inspections/audits	3	
	No experience drafting environmental management plans, method statements, implementation of environmental management plans and method statements, including undertaking environmental inspections/audits.	0	
2.	Organogram		10
2.1	Project Organisational Chart for Key Construction Personnel		
	The organogram meets the requirements of this bid, showing the hierarchy of all the key construction roles on the project team, reporting lines and confirms the Tenderer's capacity to undertake this project	10	
	The organogram is provided but indicates 50% of key personnel as listed on schedule B6. However, possess all required qualifications & experience demonstrate limited compliance to the requirements of this bid, showing limited hierarchy of all the key construction roles on the project team, and reporting lines and limited demonstration of Tenderer's capacity to undertake this project	8	
	The organogram shows an unclear hierarchy of all the key construction roles on the project team, and reporting lines and no demonstration of Tenderer's capacity to undertake this project	4	
	No Organogram submitted	0	
	Sub-total		90

Note: Tenderers must score a minimum of 63 points (70%) out of a possible 90 points, in the above Functionality Assessment (Schedules B6-B10) in order to qualify for further evaluation in Stage 2.2.

Table 1: Schedule of Key Construction Personnel

Note: In addition to Table 1, Tenderers must submit a Project Organisational Chart identifying all resources indicated above and all support staff required to ensure successful delivery of the project, including interfaces with SARAO

Construction Personnel	Name	Qualifications	No of years' experience in terms of required skills	Company Name & Physical address and contact details of local office
Construction Team:				
Contracts Manager / Contractor's Representative (Part-time)				
Construction Manager (Full time on site)				
Building Foreman (Full time on site)				
Quantity Surveyor (Part time on site)				
Civil Engineer (Part-Time)				
Environmental Officer (Full time on site)				
Quality Assurance Officer (Full time on site)				

B7. CURRICULUM VITAE OF KEY CONSTRUCTION PERSONNEL

CVs must be submitted in the required format.

Only include CVs for the required personnel as listed in the above table and in the format of the CV template provided in this schedule. Attach CVs in the order that the key Construction Personnel are listed in Schedule B6.

CVs must include the following information -

- (i) Surname (and maiden name in brackets where applicable);
- (ii) First name/s;
- (iii) Date of birth;
- (iv) Nationality;
- (v) Education and Specialist training;
- (vi) Membership with Professional Bodies;
- (vii) Key Qualifications relevant to this project;
- (viii) Key skills and expertise relevant to this project;
- (ix) High-level overview of professional experience directly related to the role of the team member in this project.

Any changes are made to any personnel from the initial approved lists at the time of the tender award, written communication of all changes should be submitted to SARAO for approval to minimise any unforeseen risks.

Do NOT include CVs for support staff.

Please Note:

The Tenderer should respond to the requirements listed in Table 1 and insert the details of the required personnel in the Schedule of Key Construction Personnel and attach the supporting documentation and sub-contracting agreements (where applicable);

The Tenderer must clearly indicate in the Table where one person can fulfil various roles;

Do not include support staff in the Schedule of Key Construction Personnel. Only key personnel will be assessed. Support staff will therefore not be assessed. However, it is the responsibility of the Tenderer to ensure that the project is provided with adequate support capacity;

Where there are no names next to the suggested Key Construction Personnel, it will be assumed that the Tenderer does not have the personnel included in the team;

In order to qualify, the team must include all the Key Construction Personnel (or indicate where one person fulfils other roles) and each Team Member must meet the minimum requirements in relation to qualification, registration and number of years' experience as stated in Table 1.

B8. PROJECT ORGANISATIONAL CHART FOR KEY CONSTRUCTION PERSONNEL

Tenderers must attach to this Schedule, an organisational chart for the key design and construction personnel, detailing their respective roles and responsibilities on the project.

B9. TENDERER'S PREVIOUS EXPERIENCE

Schedules B9–B16 contains the Stage 2.2 functionality assessment of tenderers' experience and planning.

Tenderers must score a minimum of 42 points out of 60 points (70%) in Stage 2.2 to qualify to Stage 3.

Note:

- (i) In this Schedule (B9), Tenderers will be assessed on their previous experience and track record detailed below.
- (ii) Table 2 below (next page), must be completed with a list of tenderers' previous, completed projects. Projects listed must be relevant to the scope of work of this tender.
- (iii) Supporting documentation evidencing tenderer's experience must be attached to this Schedule.

Criteria	Sub criteria	Indicators	Score Allocation
Previous experience and Track Record	Past experience in delivering construction contracts	The tenderer has experience in delivering commercial buildings / offices/multi-use spaces - (i.e. 5 or more construction contracts with a value of at least R50 million, each, completed in the preceding 10 years to this tender)	20
		The tenderer has experience in delivering commercial buildings / offices/multi-use spaces - (i.e. 4 construction contracts with a value of at least R50 million, each, completed in the preceding 10 years to this tender)	15
		The tenderer has experience in delivering commercial buildings / offices/multi-use spaces - (i.e. 3 or less construction contracts with a value of at least R50 million, each, completed in the preceding 10 years to this tender)	10
		The tenderer has <u>no</u> experience in delivering similar construction contracts of similar scale	0
Sub-total			20

Table 2: List of Previous and Completed Projects

PROJECT/EMPLOYER (Name, Tel. No and Fax No.)	NATURE OF WORK	VALUE OF WORK	YEAR OF COMPLETION

B10. METHOD STATEMENT

Tenderers must submit a detailed method statement relevant to the scope of work of this tender, including any requirement equipment shutdowns.

Method statements submitted will be evaluated on the criteria detailed below.

Criteria	Indicators	Sub-criteria	Score Allocation
Method Statement	The method statement must as a minimum address the following aspects specific to the project : 1. Planning; 2. Lead time for manufactured products & transportation to site; 3. Construction process (including all testing); 4. Safety, Health, Environmental & Quality compliance during the construction phase; 5. Testing and Verification; 6. Completion and handover.	The method statement provides a clear and detailed overview and all of the aspects (6) discussed under the heading indicators addressed <u>specific to the project</u> .	15
		The method statement provides 5 of the aspects discussed under the heading indicators addressed specific to the project.	11
		The method statement is generic and provides limited overview with less than 4 (or below) aspects discussed under the heading indicators.	5
		No method statement submitted	0
Sub-total			15

B11. PRELIMINARY PROGRAMME

Tenderers must provide a preliminary proposed programme below (refer to section D1.2), or refer to their proposed programme and attach it to this schedule. Tenderer's attention is drawn to Clause 8.3 of the **Second Edition FIDIC Contract (Red Book) 2017**, regarding the items to be shown on a programme, as well as the Specific Requirements attached hereto.

Tenderers must provide a in soft copy and pdf complying with, but not limited to, in bar-chart format with the minimum requirements, as follows:

- Activity ID
- Activity Description
- Activity Duration
- Start and Finish dates (assuming C0)
- Baseline
- Total Float

The Programme should clearly demonstrate alignment with the project management plan including, but not limited to resources, time risk allowances, et cetera.

NOTE: The Preliminary Programme is merely for Evaluation Purposes and will not be binding on both parties

Criteria	Indicators	Sub-criteria	Score Allocation
Preliminary Programme	Provide a Preliminary Programme for the duration of this contract A comprehensive programme will include: • All activities listed from the appointment, lead-in, documentation planning, site establishment, enablement, hoardings, construction work, with all activities clearly referenced and linked (dependencies shown) • Programme reflects the key aspects of the works chronologically • programme reflects a critical path • Programme complies with overall start and completion dates • Programme clearly reflects completion of the services and exhibition content	The Programme is <u>Comprehensive as described in the indicator</u>	5
		The Programme is <u>Sufficient as described in the indicator</u>	4
	A SUFFICIENT Programme will include: • Programme reflects the key aspects of the works chronologically • Programme complies with overall start and completion dates • Programme clearly reflects completion of the services and exhibition content	The Programme is <u>Partial as described in the indicator</u>	2
	A PARTIAL Programme will include: • Programme does not reflect the above information clearly and omits key information	The Tenderer has submitted no preliminary programme	0
Sub-total			5

B12. HEALTH AND SAFETY MANAGEMENT PLAN

Tenderers must familiarise themselves with the evaluation criteria listed below and submit Health & Safety management activities for the execution of this project.

The following criteria will be used to assess this criterion –

Criteria	Indicators	Sub-criteria	Score Allocation
Health & Safety Management Plan for the Execution of this Contract	Provide the following: - A detailed Health & Safety plan <u>specific to this project as a minimum must address the following:</u> - Applicable Health & Safety standards - Health & Safety measures during the contract - Health & Safety Compliance management - Health & Safety meetings - Communication and reporting - Checklist of Health and Safety File: Include a checklist as per Annexure F in the health & safety specification. - Risk Management Plan - A complete and signed Prequalifying questionnaires Template – Annexure A	The Health & Safety Plan <u>exceeds</u> requirements with all the aspects as described in the indicators addressed as is specific to the project.	5
		The Health & Safety Plan provides a limited overview where indicators not sufficiently addressed	3,5
		The Health & Safety Plan is generic and does not address project specific requirements	1
		The Tenderer has submitted no Health & Safety Plan	0
Sub-total			5

B13. QUALITY MANAGEMENT PLAN

Tenderers must familiarise themselves with the evaluation criteria listed below and submit Health & Safety management activities for the execution of this project.

The following criteria will be used to assess this criterion –

Criteria	Indicators	Sub-criteria	Score Allocation
Quality Management System or equivalent, based on Quality Management principals, Certification and Compliance Standard	Submit a Quality Management System or equivalent, based on the following principals – - Quality Policy: Statement of commitment to quality from the contractor. - Organizational Structure: Description of the structure and roles related to quality management. - Procedures and Processes: Detailed procedures for managing and ensuring quality. - Document Control: Systems for managing quality-related documents. - Audit and Review: Processes for conducting internal audits and implementing improvements.	The Quality Management System meets the requirements with all the 5 aspects as described in the indicator addressed.	5
		The Quality Management System provides a limited overview with less 4 or aspects discussed under the heading indicators	3.5
		The Tenderer has submitted no Quality Management Plan	0
Sub-total			5

B14. EVIDENCE OF THE EXISTING SOCIO-ECONOMIC DEVELOPMENT ACTIVITIES

Tenderers must submit evidence of its existing socio-economic development activities to support the allocation of points.

Bids will be evaluated on the following criteria -

Criteria	Indicators	Sub-criteria	Score Allocation
Evidence of the Tenderer's, its subcontractors, and JV or consortium partners <u>existing Socio-Economic development activities and proposed Skills Transfer development plan specific for this contract</u>	Existing Socio-Economic development activities or plans with a focus on core areas namely, • Education & Skills Development • Community & Cultural Investment • Business & Enterprise Development.	Tenderer provided evidence of their company Socio-Economic development activities or plans providing evidence of core focus areas	3
		Tenderer provided generic company Socio-Economic development activities or plans	2.5
		No Socio-Economic development activities or plan submitted	0
	Skills Transfer development plan (Training, Local Labour, community approved CSI*, Subcontracting, Suppliers) specific for this contract. [*any of the local towns may be selected for a CSI project]	The Skills Transfer development plan is <u>specifically tailored to this project and details ways</u> on how to transfer skills through this specific project.	7
		The Skills Transfer development plan is <u>generic</u> on how to transfer skills through this project	5
		No Skills Transfer development plan submitted	0
	Sub-total		

Table 4: Evidence of the Socio-Economic Development Activities and Proposed Activities of the Tenderer, its Sub-Contractors and Joint Venture / Consortium Partners

The tenderer, its joint venture or consortium partners and sub-contractors must provide evidence of the entities implementing skills development, and /or mentorship programmes and corporate social investment programmes within each entity and the value of all entity's investment into skills development and /or mentorship programmes. The tenderer must provide information on these programmes as part of its response to this bid as well as what skills development programme / corporate social investment programme will be proposed for the scope of this project. The response must be provided in the following format:

Tenderer Name / Joint Venture Name / Subcontractor	
Description of skills development programme/s & number of staff participating	
Description of mentorship programmes (if any) and number of people in programme	
Monetary value of programmes to date & awards	
Description of corporate social investment (CSI) programmes implemented by bidding entities	
Number of people impacted by implementation of CSI programme	
Total monetary value of CSI programmes implemented	

B15. AMENDMENTS/ ALTERNATIVES AND QUALIFICATIONS BY TENDERER

The schedules below are not an invitation for amendments, deviations or alternatives but should the Tenderer desire to make any departures from the provisions of this contract he shall set out his proposals clearly hereunder.

I / We herewith propose the amendments, alternatives and discounts as set out in the tables below:

(1) AMENDMENTS

PAGE, CLAUSE OR ITEM NO	PROPOSED AMENDMENT

- (a) *Amendments to the General and Special Conditions of Contract are not acceptable;*
(b) *The Tenderer must give full details of all the financial implications of the amendments and qualifications in a covering letter attached to his tender.*

(2) ALTERNATIVES

PROPOSED ALTERNATIVE	DESCRIPTION OF ALTERNATIVE

- (a) *Individual alternative items that do not justify an alternative tender and an alternative offer for time for completion should be listed here.*
(b) *In the case of a major alternative to any part of the work, a separate Bill of Quantities, programme, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.*
(c) *Alternative tenders involving technical modifications to the design of the works and methods of construction shall be treated separately from the main tender offer.*

(3) QUALIFICATIONS

ITEM ON WHICH QUALIFICATION IS MADE	DESCRIPTION OF QUALIFICATION

- (a) *The Tenderer must give full details of the discounts offered in a covering letter attached to his tender, failing which, the offer will be prejudiced.*

If there is insufficient space above, the Tenderer may append additional sheets.

Number of additional sheets appended to this Schedule by the Tenderer (If nil, enter NIL)

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

B16. RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been considered in this tender offer:

No.	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

If there is insufficient space above, the Tenderer may include the additional sheets in the Supporting Documentation file.

Number of additional sheets submitted by the Tenderer in respect of this Schedule (If nil, enter NIL)

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

B17. JOINT VENTURE AGREEMENT

In the event that the tenderer is a Joint Venture or Consortium, attach a signed Joint Venture or Consortium Agreement to this Schedule.

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE	DATE

**B18. LETTER OF GOOD STANDING WITH THE COMPENSATION COMMISSIONER
(COIDA)**

Attach to this Schedule, a valid Letter of Good Standing with the Compensation Commissioner in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 (as amended).

SIGNED BY/ON BEHALF OF TENDERER:

NAME		SIGNATURE		DATE

D1: Statement of Works

Number	Heading	Page No.
D1.1	Background to the National Research Foundation and the South African Radio Astronomy Observatory (SARAO)	
D1.2	Summary of Statement of Works	

D1.1 BACKGROUND TO THE NATIONAL RESEARCH FOUNDATION AND THE SOUTH AFRICAN RADIO ASTRONOMY OBSERVATORY

The National Research Foundation (“NRF”) is a juristic person established in terms of section 2 National Research Foundation Act as amended, Act 19 of 2018. The NRF supports and promotes research and human capital development through funding, the provision of National Research Facilities and science outreach platforms and programmes to the broader community in all fields of science and technology, including natural science, engineering, social science and humanities. The South African Radio Astronomy Observatory (SARAO), a facility of the National Research Foundation, is responsible for managing all radio astronomy initiatives and facilities in South Africa, including the MeerKAT Radio Telescope in the Karoo, and the Geodesy and VLBI activities at the HartRAO facility. SARAO also coordinates the African Very Long Baseline Interferometry Network (AVN) for the eight SKA partner countries in Africa, as well as South Africa’s contribution to the infrastructure and engineering planning for the Square Kilometre Array (SKA) Radio Telescope. To maximise the return on South Africa’s investment in radio astronomy, SARAO is managing programmes to create capacity in radio astronomy science and engineering research, and the technical capacity required to support site operations. In the reference documentation, SKA SA is understood to mean SARAO.

South Africa and its 8 African partner countries were jointly awarded the SKA together with Australia. The SKA will be Africa’s largest science project which will be a hub for both local and international collaboration. The SKA Organisation has been established with its headquarters at Jodrell Bank in Manchester, United Kingdom. The five key science projects that will be undertaken by the SKA include:

- Probing the Dark Ages
- Galaxy Evolution
- The Origin and Evolution of Cosmic Magnetism
- Strong Field Tests of Gravity using Pulsars and Black Holes
- The Cradle of Life.

The first phase of the SKA1-MID project includes the addition of 133 antennas to the 64-dish MeerKAT radio telescope and the second phase of the project and will include up to 2000 antennas distributed across South Africa and its eight African partner countries.

SARAO has offices based in Johannesburg and Cape Town, as well as the HartRAO facility at Hartebeesthoek and radio-quiet SKA host site in the Karoo, 90km from Carnarvon in the Northern Cape, which hosts the Square Kilometre Array mid-frequency telescopes, MeerKAT, and KAT-7 radio telescope installations, as well as a number of guest instruments, including the HERA telescope.

Further information about SARAO can be found on www.ska.ac.za and the international SKA on www.skatelescope.org.za

D1.2 SUMMARY STATEMENT OF WORKS (EMPLOYER'S REQUIREMENTS)

OVERVIEW

SARAO has embarked on an initiative to establish a SKA Visitor Centre to be located in Carnarvon. The intention is for the Carnarvon Science Exploratorium (CSE) to showcase the KAT-7, MeerKAT and SKA projects, as well as other local attractions, and particularly those related to the natural and human history of the Carnarvon area and region. The exhibition content, through state-of-the-art interactive displays, will explain and demonstrate the difference between optical and radio telescopes, and provide an overview of the KAT-7, MeerKAT, and SKA projects including guest instruments in the area. It is also intended for the CSE project to support and promote sustainable tourism growth and educational awareness in the Karoo Rural Node. Furthermore, the CSE should be structured and equipped to facilitate the conceptualization and generation of new content to respond to the changing needs of the visitors, and for the benefit of other science centres across the country and internationally. Importantly, the Centre should be a place where educational and outreach activities are hosted, and outreach content is developed, as well as a base for mobile science education units that will service the Northern Cape Province.

VISION

The vision for the centre is that of a sustainable magnet visitor and tourist attraction in Carnarvon that will also benefit local and regional communities through enhanced science education and economic opportunities, while promoting the SKA.

The primary requirement for the achievement of the vision, and the sustainability and spread of the economic and social benefits thereof, is that the Centre must:

- Attract the optimum potential number of visitors and tourists, as well as members of the community
- It must offer an authentic, compelling, educational, and entertaining experience, that will appeal to the broadest potential audience, and importantly, give them experience, knowledge and insights that they could not gain elsewhere.

SITE & LOCALITY

The site, known as Erf 431, is 4.5-hectare in extent is allocated for the establishment of the proposed centre, located at the entrance to the town of Carnarvon, Northern Cape Province.

Bidders must refer to Annexure 2 Geotechnical Report for the site geology details.



Figure 1: CSE Site – Erf 431, Corner End & Mark Streets, Die Bult, Carnarvon

SCOPE OF WORKS

The project comprises of the construction of the Carnarvon Science Exploratorium (CSE) building complex approximately 890m² in extent, including the state-of-the art digital content installed to the exhibition spaces, and all associated external works including the botanical garden, outdoor amphitheatre, playground/s, parking areas, access roads and site services as depicted below in Figure 2 (Master Development Plan).

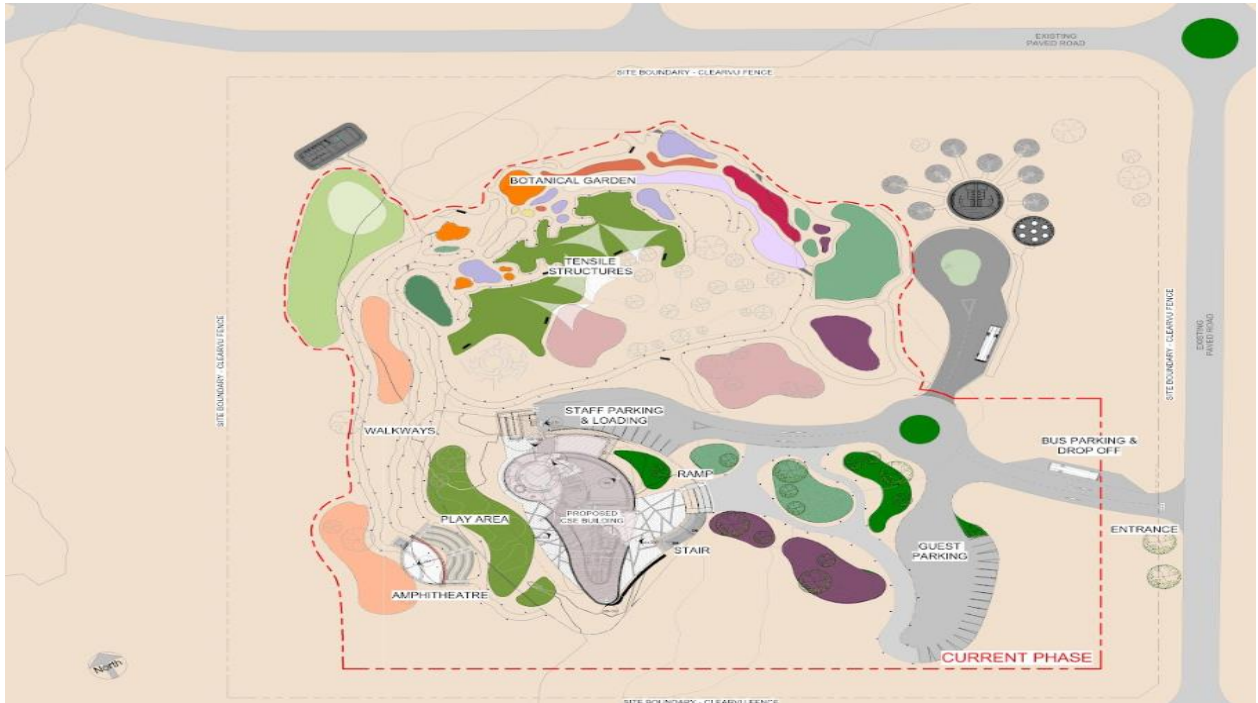


Figure 2: Master Development Plan

DRAWINGS & SPECIFICATIONS

Any reference to the Statement of Works or Drawings contained therein shall take the meaning of 'Specifications under Clause 1.1.7633' and 'Drawings under clause 1.1.303' as the case may be. Refer to Annexure 1

CONTRACTOR AND LABOUR PARTICIPATION GOALS (CLPG)

Local Participation

The bidder is solely responsible to contact the community to assess their requirements

Local: Local or local area in the context of this project means, the Northern Cape and more specifically the area in a around the CSE Site namely Carnarvon, Williston, Brandvlei, Vanwyksvlei, Loxton, Vosburg and Fraserburg;

Locals: Locals has a corresponding meaning to Local, in that it refers to the inhabitants of the area designated under local.

Local EMEs, QSEs, labour or suppliers are considered local if they are resident in the surrounding towns within a radius of a 200km radius of the project. If suitable EME and QSE contractors, Labourers or suppliers cannot be found within this area, they may be procured from the wider Northern Cape area in consultation with the Client.

Contractor's Participation Plan - Infrastructure

6 Focus Areas:

1. EME: Local Exempted Micro Enterprises
2. QSE: Qualifying Small Enterprises
3. Local Labour and/or
4. Local Suppliers
5. Mentoring/Training & Development initiatives i.e. Astro Guides, staff to maintain the botanical garden
6. Corporate Social Investment (Any CSI related costs are for the Bidders responsibility not Client

Local Contractor - Tier 1: A South African supplier, contractor, or sub-contractor, of which the business and owner/owners are South African citizens, based and registered within one of the towns/areas outlined in the localised area/primary zone of influence for a period longer than 3 years.

Local Contractor - Tier 2: A South African supplier, contractor, or sub-contractor, of which the business and owner/owners are South African citizens, based and registered within one of the towns/areas outlined in the localised area/secondary zone of influence for a period longer than 3 years.

Local Contractor - Tier 3: A South African supplier, contractor, sub-contractor, registered and based within the Northern Cape Province.

Local Contractor - Tier 4: A South African supplier, contractor, or sub-contractor, registered and based within the Republic of South Africa

It is a requirement of this contract that the Main Contractor, be it a joint venture or a consortium or a single organization must comply with the following:

- The Main Contractor must subcontract a minimum of 20% of the final accepted contract amount. (Local Exempted Micro Enterprises (EME), Local Qualifying Small Enterprises (QSE) & Local Suppliers)
- Targeted labour will be 4% of the final accepted contract amount.
- Mentoring/Training and Development initiatives

The objectives of the Employer are to:

- Preferentially employ Locals through appropriate channels to minimise the chances of an influx of other than Local work seekers, to the extent of using 100% unskilled Labour from the local community; and
- Optimise employment and business opportunities for local black people and black women in particular

It is an express requirement that the Contractor submit a Contractor Participation Plan which complies with the above referenced Employer requirements;

The *Contractor's* Participation Plan describes how the *Contractor* plans to use local

- Exempted Micro Enterprises,
- Qualifying Small Enterprises and

(1) Exempted Micro Enterprises, Qualifying Small Enterprises and black people has the meaning defined by the law of the Republic of South Africa.

- Exempted Micro Enterprises, Qualifying Small Enterprises and black people are treated as local if they are based within a 200km radius of the Site.

If a local Exempted Micro Enterprise, Qualifying Small Enterprise is not available or suitable to provide part of the works, they are treated as local if they based within the Northern Cape province.

The Engineer may instruct the Contractor to correct a failure to comply with its Participation Plan. This instruction is not a change to the Employer Requirements or otherwise, with the Contractor' attention specifically drawn to the Special Conditions Sub-Clause 4.20 Progress Reports.

D1.2.1.1 CONSTRUCTION PROCESS (375 CALENDAR DAYS)

SARAO has appointed a multidisciplinary team led by an Architectural company called The Creative Axis. The Creative Axis team has developed the detailed designs and scope of works (Annexures 2-10) for the Carnarvon Science Exploratorium.

The FIDIC Engineer shall take note the following but not limited to:

- The Engineer is appointed by the employer and is expected to act impartially when administering the contract and making decisions that affect both parties
- The delegation of authority cannot extend to any powers specifically restricted to the Engineer in the contract or where the employer's approval is required
- The Engineer has the power to issue instructions and, or variations to the works, such as changes in design, quality, or quantity to the contractor regarding the works. However, these instructions must fall within the scope of the contract. The Engineer cannot issue instructions that alter the fundamental nature of the contract unless it's a variation (subject to variation clauses 3.1) this power is also subject to financial limits or other conditions set by the employer.
- Interim Payment Certificates: The Engineer has the authority to certify interim payments to the contractor based on the progress of the works. While the Engineer can certify payments, including the final payment, this certification is subject to the employer's review and approval, especially for the release of retention or final settlement.
- The Engineer is responsible for reviewing and determining claims made by the contractor, including those related to extensions of time or additional costs. The Engineer must assess claims fairly and impartially.
- Taking-Over Certificate: The Engineer is responsible for issuing the Taking-Over Certificate when the works are substantially complete. This decision must be based on an objective assessment subject to the employer's review and approval.
- Defects Liability Period: The Engineer has the authority to instruct the contractor to rectify defects during the defect's liability period, but their power is limited by the specific terms of the contract and the nature of the defects
- The Engineer is expected to communicate with the employer regularly through bi-weekly meetings and monthly progress meetings and shall need to seek the employer's approval before making decisions that have significant financial or contractual implications.
- The Engineer must keep the employer informed about the progress of the works, potential risks, and any issues that shall require the employer's intervention at all times.
- The Engineer must avoid conflicts of interest and act in a manner that is fair and reasonable to both the employer and the contractor

High Level Programme for Completion

Time for Completion – Construction / Execution Phase (396 Calendar Days)		Defects Liability Period (365 Days)
Construction (375 Calendar Days)	Testing, Verification, Commissioning & Handover (21 Calendar Days)	

Figure 3: SARAO Project Management Process

D1.2.1.2 TEST, VERIFICATION, COMMISSIONING AND TAKE OVER (14 + 7 CALENDAR DAYS)

- During the construction phase, testing, verification, and commissioning is carried out upon completion of the construction of a specific product or stage, the contractor representative and design team promptly approve the work by conducting testing, verification, and commissioning of the product, without waiting for the takeover time. Where work has been covered before testing, verification, and commissioning has been executed, the contractor will uncover and make available for verification at his own cost. The 14 + 7 calendar days allocated for testing, verification, and commissioning an integrated CSE system
- Taking overall responsibility for coordinating the compilation of the as-built documentation in preparation for achieving an as-built baseline (ABBL):
 - (i) As-built drawings (workshop, construction, Municipal approved, other) in PDF, dwg, dxf, Visio, etc. format

both in hard copy and in soft copy. The hard copy must be signed off by the Architect/ design engineer and submitted to the SARAO;

- (ii) All test, verification and commissioning reports must be reviewed and signed by the relevant design engineer and submitted to SARAO;
 - (iii) Coordinate and supply operations, maintenance manuals and procedures from all suppliers and sub-contractors as per SARAO defined requirements. This shall include the coordination and compilation of the final hand-over package. The final hand-over package must be submitted in hard and soft copy (PDF, word, dwg, dxf, excel, etc.).
 - (iv) Coordination of the training of operational staff for all equipment and required maintenance procedures;
 - (v) All finishing schedules, samples, attic stock, etc.
 - (vi) All Certificates of Compliance which are signed off by the Architect/ design engineers and the contractor;
- Lessons learnt report, Contractor to provide SARAO with a lessons learnt report including but not limited to Technical, Installation, Management, Resource, Supplier, Supply, Site and facility issues.
 - Contractor to manage the defect-liability period by conducting an inspection on a quarterly basis for the period and prior to final handover certificates are signed to identify defects which must be addressed by the contractor.

D1.2.2 SARAO SITE CONSTRAINTS, FACILITIES AND CONDITIONS

Available Facilities and Restrictions

The Tenderer must ensure that the construction area is well maintained and regular housekeeping is done. Random audits will be conducted by The Creative Axis, to ensure this is achieved.

The Tenderer is advised that SARAO has adopted a strict **No alcohol and illegal narcotic or other drugs policy** on site and shall be enforced by the engineering team, Contractor, specialists, and the Employer, resulting in disciplinary action/removal from site for offenders.

Please refer to Annexures 3 and 4, under Section D4, for site and health and safety requirements of the site.

D1.2.3 SUPPORTING DOCUMENTS

The successful Tenderer must submit the following documents for Take Over to be certified on the construction phase.

The following shall be submitted to the Employer for the works (2 hard copies and 1 USB flash drive):

- All design files in all formats (Dwg, Word, Pdf, Visio, etc.) and versions,
- Electrical Certificate of Compliance,
- Operating and Maintenance Manuals and procedures,
- Equipment selection including manufacturer certified information,
- Shop drawings including wiring diagrams and refrigeration/ condensate piping diagram,
- Inspection record cards/checklists,

D1.2.4 PERFORMANCE LEVELS

The Employer shall require the following levels of performance from the Contractor -

Performance Area	Required Level of Performance
Construction	375 Calendar Days
Test and Verification	14 Days
Commissioning	7 Days
Completion of Defects after notification thereof	14 Days
Defects Liability Period	365 Calendar Days

NOTES:

- The successful Tenderer must provide a fulltime on-site Quality Assurance Officer (QAO) for the full duration of the contract, who's responsibility will be to check, verify and approve quality based on the agreed standards.
- Should the quality results of the Tenderer/Contractor QAO not meet/deviate from the quality standards as tested by the SARAO QAO, then all remedial work will be for the Tenderer's expense.

D2: Agreements and Contract Data

Number	Heading	Page No.
D2.1	Form of Offer and Acceptance	
D2.2	Contract Data	

D2.1 Form of Offer and Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

BID NO: NRF/SARAO SHAO/36/2024-25 – CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM (CSE) IN CARNARVON, NORTHERN CAPE

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

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

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

RAND (in words);

R(in figures)

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

SIGNED ON BEHALF OF/BY THE TENDERER:

	NAME	SIGNATURE	
	CAPACITY	DATE	

Name and Address of Organisation:

SIGNED BY WITNESS:

	NAME	SIGNATURE	DATE	

Acceptance

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

The terms of the contract are contained in:

Part D1: Scope of Work

Part D2 Agreements and Contract Data (which includes this Agreement)

Part D3: Pricing Data

and drawings and documents or parts thereof, which may be incorporated by reference into the above listed parts.

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

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

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five (5) working days of the date of such receipt notifies the employer in writing of any reason why he/she cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

SIGNED ON BEHALF OF/BY THE EMPLOYER:

	NAME		SIGNATURE
	CAPACITY		DATE

Name and Address of Organisation

SIGNED BY WITNESS:

	NAME		SIGNATURE	DATE

Schedule of Deviations

Notes:

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

1. Subject

Details

2. Subject

Details

3. Subject

Details

4. Subject

Details

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

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

Schedule of Deviations (continued)

SIGNED ON BEHALF OF/BY THE TENDERER *(only on award of Contract):*

	NAME		SIGNATURE
	CAPACITY		DATE

SIGNED BY WITNESS *(only on award of Contract):*

	NAME		SIGNATURE	DATE

SIGNED ON BEHALF OF/BY THE EMPLOYER:

	NAME		SIGNATURE
	CAPACITY		DATE

SIGNED BY WITNESS:

	NAME		SIGNATURE	DATE

CONFIRMATION OF RECEIPT

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

the (day) of(month)(year)

at (place)

SIGNED ON BEHALF OF/BY THE CONTRACTOR *(only on award of Contract):*

[illegible]

SIGNED BY WITNESS (*only on award of Contract*):

NAME	SIGNATURE

D2.2 Contract Data

Part 1: Contract Data Provided by the Employer

CONDITIONS OF CONTRACT

The following **FIDIC Conditions of Contract** are applicable for this Contract:

Conditions which form part of the Conditions of Contract for Building and Engineering Works, designed by the Employer, Second Edition 2017 (Red Book) published by the International Federation of Consulting Engineers.

Copies of these FIDIC General Conditions (Red Book) second edition 2017, may be obtained from the South African Institution of Civil Engineering (SAICE) (tel. 011 805 5947) or Consulting Engineers South Africa (CESA) (tel. 011 463 2022).

The Contractor must obtain his own copy of these Conditions of Contract (FIDIC "Red Book")

The Annexes and Forms bound in the Conditions of Contract (Red Book) shall not apply to this Contract and shall be replaced with the documentation bound into this Tender document.

The Contract Data (Particular Conditions and Special Conditions) shall have precedence in interpreting any ambiguity or inconsistency between it and the general conditions of contract.

The General Conditions shall be read in conjunction with the variations, amendments and additions in the Particular Conditions and Special Conditions below. Each data item given below is cross-referenced to the Clause or Sub-Clause in the General Conditions to which it mainly applies

C2.2.2 PARTICULAR CONDITIONS

Part A: References from Clauses in the General Conditions:

Sub-Clause

1.1	Definitions	
1.1.31 & 1.3(d)	Employer's Name and Address	The Employer (interchangeably, "the Client") is the National Research Foundation, represented by Project Manager of the business unit South African Radio Astronomy Observatory (SARAO)
	Email	
	Telephone number	
1.1.33	Employer's Personnel	
1.3(a)(ii)	Agreed methods of electronic transmission:	Email
1.3(d)	Contractor's name and address	
	Email	
	Telephone number	
	Contractor's Representative's name	
1.1.27	Defects Notification Period	365 Calendar Days
1.1.35	Engineer's Name and address	Clients Representative
1.1.76	Specification	Refer Part D4 – Annexures for the specification for the Works
1.1.84	Time for Completion	396 Calendar Days after the 'Commencement Date' Note: The Employer shall provide formal acceptance and approval of the Works
1.4	Contract shall be governed by the law of:	Republic of South Africa
1.4	Ruling Language	English
1.4	Language for communications:	English
1.8	Number of additional paper copies of Contractor's Documents	One (1)

1.9	Period for notification of errors, faults or other defects in the Employer's Requirements	14 days
2.1	Time for access to the site	21 Days of the Commencement Date, unless otherwise agreed in writing by SARAO. Subject to the Contractor's H&S Plan, Contractor and Labour Participation Goals (CLPG) Plan, along with the first programme for acceptance, which complies with the contract has been accepted
4.2	Amount of Performance Security	10% of the Accepted Contract Amount until the date the Taking-Over Certificate is issued in accordance with clause 10; and 5% until the date the Performance Certificate is issued in accordance with clause 11.9
4.7.2	period for notification of errors in the items of reference	14 days
6.5	Normal working Hours	08:00 to 17:00 Monday to Friday, excluding weekends and Public Holidays (unless otherwise agreed in writing by the Employer)
8.2	Time for Completion	396 Calendar Days after the 'Commencement Date' Note: The Employer shall provide formal acceptance and approval of Completion
8.8	Delay Damages payable for each day of delay	Delay Damages amount calculated in accordance with percentages (%) of the Contract Price in the proportions of the currencies in which the Contract Price is payable, detailed in the schedule below and capped at ten percent (10%) of the Contract Price at the Time for Completion Date. And will be payable in the following increments: • 0.1% per day of 30% of the total of the Accepted Contract Amount, for the first 10 days of delay. • 0.2% per day of 30% of the total of the Contract Amount Date, for the 11th to the 20th day of delay, • 0.4% per day of 30% of the total of the Contract Amount, for the 21st to the 25th day of delay, • 1% per day of 30% of the total of the Contract Amount, for the 26th to the 30th day of delay,
8.8	Maximum amount of Delay Damages	Delay Damages is limited to 3% of the Accepted Contract Amount.
13.7	FIXED PRICE Tender	The prices will be fixed and firm for the whole duration of the Contract, with the provisions of Clause 13.7 NOT applicable to this Contract
14.1	The Contract Price	The Contract Price is the sum total of the lump sum prices for each of the rated items on the Priced Schedule
14.3	Application for Payment	Each Application for payment shall be made on the 23rd day of each Calendar Month
14.3 (iii)	Percentage of retention	10%
14.3 (iii)	Limit of Retention Money	10% of the Accepted Contract Amount

14.6.2	Minimum amount of Interim Payment Certificates	R50,000.00
14.7(b)	Period of payment	The longer of 30 days after the issue of the Interim Payment Certificate, or 30 days after the receipt of a valid Tax Invoice with the amounts reflected in the issued IPC.
14.15	Currency/Currencies of Payment	South African Rands
19.1	Permitted deductible limits: • Insurance required for the Works • Insurance required for Goods • Insurance required against liability for fitness for purpose (if any is required) • Insurance required for injury to persons and damage to property • Insurance required for injury to employees • Other insurances required by Laws and by local practice: • Force Majeure	As per the Contractor's insurance policies
19.2.3	Professional Indemnity Insurance	Not applicable
21.1	Time for appointment of DAAB	30 days after the notification of a Dispute
21.1	List of proposed members of the DAAB	The list of DAAB members shall comprise the list available from the Association of Arbitrators of SouthAfrica.
21.2	Failure to appoint DAAB Member	The Association of Arbitrators of South Africa shall nominate and appoint the DAAB member after a dispute has been notified, following the failure by the Parties to agree on a DAAB member within 30 days after a dispute has been notified in connection with this contract

PART B: ADDITIONAL CLAUSES:

The FIDIC Conditions of Contract for Construction for Building and Engineering Works Designed by The Employer Second Edition 2017 (Red Book) published by the International Federation of Consulting Engineers (FIDIC) shall be amended as follows:

1 General Provisions

1.1 Definitions

1.1 General Provisions		
1.1.9	Contract:	Deleted and replace 1.1.9 with: “Contract” means the Form of Offer and Acceptance, Contract Data, these Conditions, the Employer’s Requirements, the Specifications (Statement of Work), the Annexures, the Drawings, the Schedules, and the further documents (if any) which are listed in the Form of Offer and Acceptance, and further includes drawings and documents or parts thereof which any of the aforesaid documents incorporate by reference.
1.1.10	Contract Agreement	Deleted and replace 1.1.10 with: “Contract Agreement” means the Form of Offer and Acceptance.
1.1.50	Letter of Acceptance	Deleted and replace 1.1.50 with: “Letter of Acceptance” means the Form of Acceptance as contained in part C1.1 of the contract documents.”
1.1.51	Letter of Tender	Deleted and replace 1.1.51 with: means the Form of Offer as contained in part C1.1 of the contract document
1.1.71	Schedules	Deleted and replace 1.1.71 with: “Schedules” means the document(s) completed by the Contractor and submitted with his tender offer, as included in the Contract. Such document(s) may include Price Schedule, data lists and schedules of rates and/or prices”, and will include Tender Returnable B6: Key Personnel.
1.1.81	Tender	Deleted and replace 1.1.81 with: “Tender” means that section of the Form of Offer and all other documents which the Contractor submitted as the proposal and Returnable Documents, as included in the Contract. Add the following to 1.1.81:

		"The word 'Tender' is synonymous with 'Bid', and the words 'Letter of Tender' with 'Letter of Bid', and the words 'Appendix to Tender' with 'Appendix to Bid', and the words 'Tender Documents' with 'Bidding Documents'."
1.1.89	Defect	Add Clause 1.1.89" Defect" 'Defect' means a part of the works which is not in accordance with the Scope
1.1.90	Priced Schedule	Add Clause 1.1.90" Priced Schedule" 'Priced Schedule' means •The Priced Schedule at Part D3.2 of the Pricing Data.
1.1.91	Reasonable Profit	Add Clause 1.1.91" Reasonable Profit" 'Reasonable Profit' means• an amount not exceeding 10% of the Cost of any item or activity."
1.5 Priority of Documents		
1.5	Priority of Documents:	Sub-Clause 1.5 Priority of Documents Deleted and replace with: The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence: a) The Form of Offer and Acceptance; b) Part A - Contract Data; c) The Particular Conditions Part B – Special Conditions; d) These General Conditions; e) The Specifications; f) The Drawings; g) The Annexures; h) The Schedules; and i) Any other documents forming part of the Contract. If any ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.
1.6 Contract Agreement		
1.6	Contract Agreement	1..6 is deleted and replaced by: "The Parties shall enter into a Contract Agreement after the Contractor is called upon to do so by the Employer. The Agreement shall be the fully completed Form of Offer and Acceptance, including the

		Schedule of Deviations and the Contract Agreement Page contained in the Contract Document at Part C1.1, C1.2, C1.3 and C1.4"
2.The Employer		
2.4	Employer's Financial Arrangements	Delete this sub-clause and any reference to the Employer's Financial Arrangements in the rest of the contract.
3.The Engineer		
3.6	Replacement of the Engineer	Delete the reference to "42 days" in the first paragraph of this sub-clause and replace with "21 days".
4.The Contractor		
4.2	The Contractor	Sub-Clause 4.2 Performance Security Delete the first sentence of the second paragraph and replace with: "The Contractor shall deliver the Performance Security to the Employer within 14 days from the Contract Date." Add the following at the end of the second paragraph: "The form of Performance Security shall contain the precise wording of the document included in Part C1.7 of the Contract Data: Form of Performance Guarantee, and it shall be issued by a financial institution which shall be one of the major banks in South Africa approved by the Employer at the date when the guarantee is to be issued." Replace the '42 days' under Sub-Clause 4.2.2 (b) and (c) with 21 days.
4.17	Contractors Equipment	Add the following at the end of this Sub-Clause: "The Contractor shall provide all necessary storage facilities on Site."
4.20	Progress Reports	Add the following at the end of this Sub-Clause: i) "Contractor and Labour participation goals ('CLPG'), sub-contractors and suppliers, including their percentage participation in the Contract indicating the targets that have been met, those targets that have not been met and the reasons therefore." i) The Contractor shall submit a monthly report indicating the targets that have been met, those that have not been met and the reasons thereof. The Engineer will determine whether the reasons for the variations are valid and justifiable. The Engineer shall after making the determination inform the

		contractor of such determination and the implications thereof. Failure to reach the CLPG shall render the Contractor liable for an amount equal to 10% of the amount certified by the Engineer in the IPC relative to the applicable month of the Contractor's failure.
4.21	Security of the Site	Add the following to the Sub-Clause: The Contractor shall in connection with the Works provide and maintain at his own cost all lights, guards, fencing, watching and other appropriate security measures when and where necessary or required by the Employer or by a competent statutory or other authority for the protection and security of the Works and the Contractor's Equipment, or for the safety and convenience of the public and for the protection of life and property.
5.Subcontractor		
5.1	Subcontractors	Add the following clause: "c) The Contractor shall supply the Employer with proof of all orders placed with subcontractors upon request by the Engineer. Information is to be provided on each sub-order, sufficient to identify the material or equipment to which the sub-order relates."
6.Staff and Labour		
6.5	Staff and Labour	Sub-Clause 6.5 Working Hours Add the following after the last paragraph: The days of rest are, Saturdays, Sundays and all gazetted South African public holidays.
6.13	Contract Participation Goal: EME / QSE Obligations	Add the following new Clause 6.14: "The Contractor shall comply with the Local Labour provision to the extent of employing 100% of its Unskilled Labour as defined in the Scope D1, and it is agreed that 10% of the Certified value per month will be retained until proof of compliance for the said month is provided"
6.14	Local Labour Requirements	Add the following new Clause 6.14: "The Contractor shall comply with the Local Labour provision to the extent of employing 100% of its Unskilled Labour as defined in the Scope D1, and it is agreed that 10% of the Certified value per month will be retained until proof of compliance for the said month is provided"
8. Commencement, Delays and Suspension		
8.3	Programme	Replace "28 days" referred to in the first paragraph with "14 days": Add the following after the first paragraph: "The Contractor shall incorporate any programming restrictions that

		may be specified in Sub-Clause 2.1 in the Particular Conditions and any programming restrictions as instructed by the Employer.” Add the following: (‘I’) “The Contractor” Planned Completion.
10 Employer’s Taking Over		
10.2	Taking Over Parts of the Works	Delete this Sub-Clause and Replace with: “The Employer will not take over any parts of the works.
11. Defects After Taking Over		
11.1	Completion of Outstanding Work and Remedying Defects	Add the following before the first paragraph: “A Defects Notification Period shall commence on the date stated in the Taking-Over Certificate for the Works or a Section, or the date that Taking-Over is deemed to have occurred under Sub-Clause 10.1 in the Particular Conditions (as the case may be).
11.3	Extension of Defects Notification Period	Delete the first paragraph and replace with: “The Employer shall be entitled subject to Sub-Clause 20.2 [Claims for Payment and/or EOT] to an extension of the relevant Defects Notification Period for the Works or a Section if and to the extent that the Works or Section (as the case may be, and after taking-over) cannot be used for the purposes for which they are intended by reason of a defect or damage. However, a Defects Notification Period shall not be extended by more than five years.
13. Variations and Adjustments		
13.4	Provisional Sums	Sub-Clause 13.4 Provisional Sums Add the following to the last paragraph: “It shall also include a fully detailed tender Adjudication Report, which shall include and be based on three (3) quotations. Quotations shall include full technical descriptions as well as a breakdown of prices.”
14. Contract Price and Payment		
14.6	Issue of Interim Payment Certificates	Insert the following at the end of the last sentence of the first paragraph: ‘, and shall include any amounts due to or from the Contractor in accordance with a decision by the DAB made under Sub-Clause 20.4 [Obtaining Dispute Adjudication Board’s Decision]’
14.10	Statement at Completion	Delete “Within 84 days” in the first paragraph and replace it with “Within 56 days”.

14.11	Final Statement:	Delete "Within 56 days" in the first paragraph and replace it with "Within 28 days".
14.16	New Sub-Clause: Tax Invoices	"Section 20(1) of the Value Added Tax Act, 89 of 1991 requires that a supplier (person supplying goods or services) who is registered as a VAT vendor issue to the recipient a tax invoice within 21 days of the date of a supply whether requested or not. The Contractor shall provide a tax invoice (VAT invoice) which shall be included with each Payment Certificate and a Final Payment Certificate delivered to the Employer by the Engineer in terms of Sub-Clause 14.6 [Issue of IPC], and Sub-Clause 14.13 [Issue of FPC], respectively. Failure by the Contractor to provide a tax invoice (VAT invoice) timeously may delay delivery of the payment certificate by the Engineer. The Contractor shall not be entitled to interest as a result of this delay." Tax invoices may only be dated on or after the date of the relevant Payment Certificate as issued by the Engineer."
14.7	Payment	Insert the following before 'and': 'including any amounts due in accordance with a decision by the DAB which have been included in the Interim Payment Certificate'
15 Termination by Employer		
15.2	Termination for Contractor's Default:	Add the following to 15.2 (i): "Reaches the limit of the Delay Damages as stated in the Contract Data at Clause 8.8. " Delete and replace the second paragraph under Clause 15.2.2 with: The Employer shall be entitled to give a Notice (which shall state that it is given under this Sub-Clause 15.2.1) to the Contractor of the Employer's intention to terminate the Contract or, in the case of subparagraphs (f), (g), (h), or (i) below a Notice of termination, if the Contractor:"
19.1 Insurances to be affected by the Contractor		
19.1	Insurance to be provided by the Contractor:	19.1.1. The Contractor, at their own cost, effect and maintain the insurances listed below in the joint names of the NRF and the contractor. The NRF as the Client requires proof of the following insurances. 19.1.1.1 Contract Works insurance The minimum amount of cover for insurance against loss of or damage to the works Plant, Materials and Equipment. The recommended

		insurance sum is The Full Value of the Contract plus 25%. A coupon policy for Special Risks insurance issued by SASRIA must also be provided. 19.1.1.2 Public Liability Insurance The minimum amount of cover for insurance against loss of or damage to property (except the works, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) arising from or in connection with the Contractor Providing the Works. The limit of indemnity for Public Liability Insurance must be R10 million. 19.1.2. Special Insurances In addition to the insurances required above, the following must be in place in the Contractors' name: 19.1.2.1. Personal Accident The minimum amount of cover for insurance against death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with the contract for any one event is as prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the Contractor's common law liability for people falling outside the scope of the Act.
19.1	Insurances to be affected by the Employer	None
21.6 Arbitration & Disputes		
21.6 (a)	Arbitration	Delete sub-clause 21.6(a) and replace with the following sentence: "the Dispute shall be finally settled under the Rules of the Association of Arbitrations (Southern Africa) NPC, current at the time of the Dispute;"

Clause 1.2.1: Delivery of Notices

Data Provided by the Contractor – Schedule 1 Data to apply

Item	Sub-Clause Entry	Entry
The Contractor is:	1.1.14	
The Contractor Representative is:	4.3	B6. SCHEDULE OF KEY CONSTRUCTION
The Contractor's address for receipt of communications is:	1.3d	e-mail: Address:
Percentage rate to be applied to Provisional Sums for overhead charges and profit:	13.4 (b)(ii)	% (max 10% and if not filled in, it is deemed to be 5%)

The name of the Contractor is

The address of the Contractor is

SIGNED ON BEHALF OF/BY THE TENDERER:

	NAME		SIGNATURE
	CAPACITY		DATE

D3: Pricing Data

Number	Heading	Page No.
D3.1	Pricing Instructions	
D3.2	Bill of Quantities Summary	
D3.3	Bill of Quantities	

D3.1 Pricing Instructions

- 1.1.1. Prices and tendered rates are deemed to be fully inclusive of all costs including delivery to the specified NRF site; Value Added Tax (VAT) and other taxes (this includes all disbursement and travel costs) and Consumer Price Adjustment (CPA) per annum.
- 1.1.2. Hence the Prices tendered by the Contractor in the Bill of Quantities are inclusive of everything necessary and incidental to Providing the Works in accordance with the Employers Requirements, as it was at the time of tender, as well as correct any Defects not caused by an Employer's risk.
- 1.1.3. Only a Fixed and Firm price will be accepted. Non-fixed and firm prices (including prices subject to rates of exchange variations) will not be considered.
- 1.1.4. A full breakdown of costs, including the fully rated Bills of Quantities, contingencies, must be submitted with the Tender Offer in format as set out below and, where applicable, in supporting schedules and provided.
- 1.1.5. The Conditions of Contract, the Contract Data and the Scope of Work shall be read in conjunction with the Bill of Quantities.
- 1.1.6. Bid price in South African currency, foreign exchange risk is for the account of the tenderer.
- 1.1.7. It will be assumed that prices included in the Pricing Schedules are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date of bids (refer to www.stanza.org.za or www.iso.org for information on standards).
- 1.1.8. All costs associated with compliance to the Occupational Health and Safety Act, the National Environmental Management Act and the Water Act must be included in the bidding price where applicable.

D3.2 Bill of Quantities Summary

SUMMARY FOR BID OPENING PURPOSES

NOTE: ALL SUMMARY COSTS CARRIED FROM THE BILL OF QUANTITIES. THE COMPLETED DETAILED BILL OF QUANTITIES SHALL FORM PART OF THIS TENDER SUBMISSION

ALL BILL OF QUANTITIES INCLUDED IN ANNEXURES ARE RETURNABLE DOCUMENTS

Item	Description	Bid Amount
1	Section 1: Preliminaries and General	R
2	Section 2: Building Works	R
3	Section 3: Civil Works and Site Services	R
4	Section 4: Specialist Building Installation Works	R
5	Section 5: Specialist Exhibition and Content Installations	R
6	Sub-Total (Excluding VAT)	R
7	Value Added Tax (15 %)	R
8	TOTAL (Including VAT) CARRIED TO FORM D2.1 FORM OF OFFER AND ACCEPTANCE	R

NAME OF TENDERER:

OFFERED TOTAL: R.....

(Amount brought forward from
The Form of Offer) *

* Should any discrepancy occur between this figure and that stated in the Form of Offer and Acceptance, the latter shall apply.

SIGNED BY/ON BEHALF OF TENDERER:

NAME	SIGNATURE	DATE	
COMPANY STAMP			

Item No	Quantity	Rate	Amount
SECTION 1 BILL NO 1 PRELIMINARY AND GENERAL (Applicable to the whole of the Works) ----- PART I : GENERAL CONDITIONS OF CONTRACT BUILDING AGREEMENT AND PRELIMINARIES The Conditions of Contract will be International Federation of Consulting Engineers (FIDIC) Red Book for Construction for Building and Engineering Works Designed by Employer Conditions of Contract for Construction Second Edition published in 2017 by the International Federation of Consulting Engineers (FIDIC), World Trade Centre II, P.O. Box 311, 1215 Geneva 15, Switzerland. The General Conditions (Part I) shall be amended as stated in the Particular Conditions of Contract, as listed below. PREAMBLES FOR TRADES The General Preambles for Trades (2017 edition) as published by The Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained Supplementary preambles are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles Carried to Trade Summary Section No. 1 Section 1 - Preliminaries & General Bill No. 1 Preliminaries and General New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
		R	

Item No		Quantity	Rate	Amount
	Where Engineer's specifications or drawings (where issued) are in conflict with the Model Preambles for Trades 2008 or any Supplementary Preambles, the Engineer's specification and drawings, as the case may be, are to take preference. Where the drawings and Engineer's specifications are in conflict, the Contractor is to obtain written clarification from the Engineer prior to the closing of tenders. The Contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles METHOD OF MEASUREMENT The Bills of Quantities have been drawn up in accordance with the "Standard System of Measuring Building Work Seventh Edition (Revised 2015)" published by The South African Association of Quantity Surveyors unless mentioned otherwise. The quantities or specifications contained in these bills of quantities are not to be used for the calculation or ordering of materials. ENGINEER'S PARTICULARS Engineer: (As defined in the contract, Clause 1.1.2.4) (1) Architect: The Creative Axis Architects 62 CENTRAL STREET HOUGHTON ESTATE JOHANNESBURG 2198 SOUTH AFRICA Telephone: +27 11 339 1217 Email: bhavik@creativeaxis.co.za			
	Carried to Trade Summary		R	
	Section No. 1 Section 1 - Preliminaries & General Bill No. 1 Preliminaries and General New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
	(2) Construction Project Manager Alwyn Laubscher & Associates 54 OXFORD STREET DURBANVILLE 7551 CAPE TOWN Telephone: +27 21 979 4984 E-mail: bonke@al-a.co.za (3) Quantity Surveyor: Talani Quantity Surveyors (Pty) Ltd PO Box 6003 ROGGEBAAI 8012 CAPE TOWN 8000 SOUTH AFRICA Telephone: +27 21 424 7742 Email: admin@talani.co.za (4) Structural & Civil Engineer: iXEngineers 31 ALLEN DRIVE LOEVENSTEIN, BELLVILLE 7535 CAPE TOWN Telephone: +27 (0)21 912 3000 E-mail: fritz.vl@ixengineers.co.za (Civils) Email: rudi.v@ixengineers.co.za (Structural)			
	Carried to Trade Summary Section No. 1 Section 1 - Preliminaries & General Bill No. 1 Preliminaries and General New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No	Quantity	Rate	Amount
(8) Museum / Content Designer: Library Special Projects OFFICE 201, PARKTOWN QUARTER 7th AVENUE, PARKTOWN NORTH 2193 JOHANNESBURG Telephone: +27 (0) 10 203 9456 E-mail: fstewart@lib.co.za (9) Other Consultants: As required, to be appointed by the Engineer PARTICULAR CONDITIONS OF CONTRACT The Contractor is referred to Section D2.2 Contract Data, for relevant amendments to the Conditions of Contract -----			
Carried to Trade Summary Section No. 1 Section 1 - Preliminaries & General Bill No. 1 Preliminaries and General New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
33	Survey assistants and materials.	Item		Not required
	<u>Facilities for Contractor</u>			
34	Offices and storage sheds.	Item		
35	Workshops.	Item		
36	Laboratories.	Item		
37	Living accommodation.	Item		
38	Ablution and latrine facilities.	Item		
39	Tools and equipment	Item		
40	Water supplies, electric power, communications, dealing with water, and access.	Item		
41	Plant.	Item		
42	Supervision for duration of construction.	Item		
43	Company and head office overhead costs for duration of construction.	Item		
44	Other time related obligations.	Item		
Carried to Trade Summary				R
Section No. 1				
Section 1 - Preliminaries & General				
Bill No. 1				
Preliminaries and General				
New Carnarvon Science Exploratorium (CSE), Carnarvon				
QS Ref: P20220155				

Section No. 1
Bill No. 1
Preliminaries and General

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Section 1 - Preliminaries & General
Bill No. 1
Preliminaries and General
New Carnarvon Science Exploratorium (CSE), Carnarvon
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Item No	Quantity	Rate	Amount
SECTION 1 BILL NO 2 OCCUPATIONAL HEALTH AND SAFETY ----- GENERAL The requirements of the Occupational Health and Safety Act, 1993, Construction Regulations, 2014 shall be the applicable to this contract and deemed to be incorporated in these bills of quantities This section should be read and priced in conjunction with the Project Health and Safety Specification accompanying these bills of quantities The Contractor is deemed to have referred to the abovementioned documents for the full intent and meaning of each clause thereof Where any item is not relevant to this specific contract such item is marked N/A, signifying "not applicable" -----			
Carried to Trade Summary			R
Section No. 1 Section 1 - Preliminaries & General Bill No. 2 Occupational Health and Safety New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
1	Preparation of the following site related documents: ·Health and Safety Plan ·Health and Safety Specification ·Baseline Risk Assessment F: V: T:	Item		
2	Provision of Personal Protective Equipment (PPE) – including visitors: ·Hard hats ·Reflective vests ·Ear plugs ·Safety shoes ·Safety harnesses F: V: T:	Item		
3	Provision of part time/full time CHSA & CHSO F: V: T:	Item		
4	Medical Examinations F: V: T:	Item		
5	Induction training – Time spent F: V: T:	Item		
6	Provision of First Aid Boxes F: V: T:	Item		
7	Training (working at heights etc.) F: V: T:	Item		
8	Barricade Material F: V: T:	Item		
9	Notices and Signage F: V: T:	Item		
Carried to Trade Summary				R
Section No. 1 Section 1 - Preliminaries & General Bill No. 2 Occupational Health and Safety New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155				

Item No		Quantity	Rate	Amount
10	Provision for Waste disposal			
	F: V: T:	Item		
11	Emergency Equipment ·Rescue kit			
	F: V: T:	Item		
12	Fire Fighting Equipment			
	F: V: T:	Item		
13	IT , laptops, printers			
	F: V: T:	Item		
14	Stationery			
	F: V: T:	Item		
15	Communication – two-way radios			
	F: V: T:	Item		
16	Construction Works Permit			
	F: V: T:	Item		
17	Spill kits			
	F: V: T:	Item		
SUMMARY OF CATEGORIES				
Category : Fixed				
R.....				
Category : Value				
R.....				
Category : Time				
R.....				
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New Carnarvon Science Exploratorium (CSE), Carnarvon				
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Section No. 1
Bill No. 2
Occupational Health and Safety

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Section No. 1
Section 1 - Preliminaries & General
Bill No. 2
Occupational Health and Safety
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

Item No	Quantity	Rate	Amount
SECTION 1 BILL NO 3 DAYWORKS SCHEDULE ----- GENERAL NOTES Dayworks will be administered strictly in accordance with the Contract The Contractor will be paid for Dayworks carried out during the course of the Works, while other operations are in progress, at the rates set out in this Schedule. Profit and Overheads are not to be included in the actual rates but stated as a percentage addition at the Item provided for same at the end of the Labour, Materials and Plant sections of the Dayworks Schedule. The basic unit rates to be inserted in the Dayworks Schedule shall be the rates which the Contractor has used in determining his unit rates inserted elsewhere in this Tender Document. Time engaged on the actual works only will be allowed. In the event of Labour or Plant having to be brought to the Site specifically for the item of Daywork, then a reasonable allowance for travelling time shall be considered, any such allowance to be agreed before the Daywork Item is executed. GENERAL NOTES ON RATES FOR LABOUR The Daywork rates quoted for Labour are to be the inclusive net amounts payable, including wages, bonuses and all allowances paid to operatives directly engaged on dayworks (including those operating mechanical plant and equipment). The Daywork rates shall include for use of hand tools and consumables, ordinary non-mechanical plant, stagings, scaffolding, tarpaulin, use of electric power, light and water for the works, etc.			
Carried to Trade Summary			R
Section No. 1 Section 1 - Preliminaries & General Bill No. 3 Dayworks Schedule New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
	The rates shall also be deemed to include for the extra cost of public holidays, other holidays with pay, medical costs, bonuses, sick leave, termination indemnity pay and the like. Unless specifically authorized in writing by the Engineer, non-productive overtime or special rates for overtime will not be admissible. The cost of all supervisory and administrative staff, including Engineers, Foremen, Clerks, Storemen, Secretaries, Assistants and the like, is to be included in the percentage addition for profit and overheads. GENERAL NOTES ON RATES FOR MATERIALS Materials used on Daywork shall be as specified elsewhere for the Works. The rates are to be the net invoice price including delivery to the Site. Should materials be required for use on Dayworks which are not included in the Schedule, the lowest current net market prices shall apply, plus a reasonable allowance for collecting, loading, off loading and transporting to the Site. GENERAL NOTES ON RATES FOR PLANT Plant hire rates shall include for the cost of maintaining in proper working order, repairs, maintenance, insurance, attendance in starting up and shutting down, fuel, re-fueling, power, oils, grease, cleaning materials, replacement and / or sharpening of tools, provision of tools and all other ancillary items, including consumables. Idle time in waiting or maintenance or travelling to the Site will not be considered. Drivers and attendants shall be charged for, at the rates set out in the Schedule of Rates for Labour.			
	Carried to Trade Summary			
	Section No. 1 Section 1 - Preliminaries & General Bill No. 3 Dayworks Schedule New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No	Quantity	Rate	Amount
The reasonable cost of hiring plant and equipment shall be paid, for any items not listed in the Schedule. These costs shall be based upon the Contractors Invoices. Competitive Quotations must be obtained for all Plant hire. In the case of plant and equipment owned by the Contractor being used, a fair value, based upon market hire rates applicable at the time, will be used. GENERAL NOTES ON PERCENTAGE ADDITION The percentage inserted at the Item provided at the end of each section shall, in addition to any items referred previously, include for the following ; profit and overheads, supervisory and administrative staff, establishment, all costs related to the employment of labour, costs related to the storage of materials (including handling and waste in storage), costs associated with the Contractor's administrative arrangements, constructional plant (except plant employed exclusively on Dayworks), Contractor's facilities, equipment, temporary works and all other sundry items -----			
Carried to Trade Summary		R	
Section No. 1 Section 1 - Preliminaries & General Bill No. 3 Dayworks Schedule New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
SCHEDULE OF RATES FOR LABOUR				
Generally				
1	Labourer (unskilled)	Hrs		Rate Only
2	Labourer (skilled)	Hrs		Rate Only
3	Steelworker	Hrs		Rate Only
4	Mason / Brick / Blocklayer	Hrs		Rate Only
5	Metalworker	Hrs		Rate Only
6	Carpenter / Joiner	Hrs		Rate Only
7	Rofer	Hrs		Rate Only
8	Plasterer	Hrs		Rate Only
9	Plumber	Hrs		Rate Only
10	Electrician	Hrs		Rate Only
11	Decorator / Painter	Hrs		Rate Only
12	Chargehand	Hrs		Rate Only
13	Light Duty Driver / Plant Operator	Hrs		Rate Only
14	Heavy Duty Driver / Plant Operator	Hrs		Rate Only
15	Foreman	Hrs		Rate Only
16	Skilled Artisan	Hrs		Rate Only
Percentage Addition				
17	Allow for all other costs and charges		%	
Carried to Trade Summary				R
Section No. 1 Section 1 - Preliminaries & General Bill No. 3 Dayworks Schedule New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155				

Section No. 1

Bill No. 3

Dayworks Schedule

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Section 1 - Preliminaries & General

Bill No. 3

Dayworks Schedule

New Carnarvon Science Exploratorium (CSE), Carnarvon

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SECTION SUMMARY - Section 1 - Preliminaries & General				
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Section 1 - Preliminaries & General				
New Carnarvon Science Exploratorium (CSE), Carnarvon				
QS Ref: P20220155				

Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 1 FOUNDATIONS (PROVISIONAL) ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Nature of ground: A soils investigation has been carried out on the site by the Engineer and the report is annexed to these bills of quantities. Refer to Annexure 3 included herewith. Should the Contractor encounter any "soft" or "hard" rock in the excavations, he shall immediately notify the Engineer who shall be the sole arbiter as to what constitutes "soft" or "hard" rock for final account purposes Subterranean water: No subterranean water is expected Should the Contractor however, encounter any subterranean water on the site, he shall immediately notify the Engineer thereof and submit recommendations for keeping the works free from subterranean water together with all costs involved therewith			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 1 Foundations (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	Excavation for working space in rock: Notwithstanding clause 10 of the Standard System of Measuring Building Work (Seventh Edition), excavation for working space in material of a more difficult character (e.g. soft or hard rock, etc) will be measured in cubic metres to the extent executed and given as "extra over" bulk excavation or trench and hole excavation as the case may be Carting away of excavated material: Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site Filling: Notwithstanding the reference to prescribed multiple handling in Clause 1 of the Standard System of Measuring Building Work (Seventh Edition), prices for filling and backfilling shall include for all selection and any necessary multiple handling of material Testing: <i>Prices for backfilling to trenches and holes only are to include for all necessary density tests in accordance with SANS 1200D</i> Formwork: Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the Engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks" -----			
	Carried to Trade Summary			
	Section No. 2 Section 2 - Building Works Bill No. 1 Foundations (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	EARTHWORKS			
	EXCAVATION, FILLING, ETC OTHER THAN BULK			
	Excavate in earth not exceeding 2m deep:			
1	Reduced levels under floors	m3	325	
2	Trenches	m3	597	
3	Holes	m3	6	
	Excavation in earth exceeding 2m and not exceeding 4m deep:			
4	Trenches	m3		Rate only
5	Holes	m3		Rate only
	Back excavation of vertical sides of excavations in earth for working space, including backfilling compacted to 95% Mod AASHTO density:			
6	Not exceeding 500mm deep for placing and removing formwork to footings, beams, etc against excavated face	m2	408	
7	Exceeding 500mm and not exceeding 1500mm deep for placing and removing formwork to footings, beams, etc against excavated face	m2	736	
	Extra over all excavations in earth for excavations in:			
8	Soft rock	m3	93	
9	Hard rock	m3	46	
	Extra over all excavations in earth for breaking up and removing:			
10	Brickwork	m3	18	
11	Unreinforced concrete	m3	18	
12	Reinforced concrete	m3	18	
	Carried to Trade Summary			
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	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No		Quantity	Rate	Amount
	Extra over all excavations for carting away:			
13	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor	m3 602		
	Risk of collapse of excavations:			
14	Sides of trench and hole excavations not exceeding 1,5m deep	m2 1,154		
15	Sides of trench and hole excavations exceeding 1,5m deep	m2		Rate only
	Keeping excavations free of water:			
16	Keeping excavations free of all water other than subterranean water	Item		
	FILLING, ETC OTHER THAN BULK			
	Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 98% Mod AASHTO density:			
17	Backfilling to trenches, holes, etc	m3 327		
	Coarse river sand filling supplied by the Contractor:			
18	Under floors, steps, pavings, etc	m3 104		
	LAYER WORK			
	G5 filling material supplied by the Contractor, compacted in layers not exceeding 150mm to 98% Mod AASHTO density:			
19	Under floors, steps, pavings, etc	m3 104		
	Compaction of surfaces:			
20	Compaction of existing ground surface under floors, paving, etc including scarifying for a depth of 300mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2 691		
	Carried to Trade Summary		R	
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Item No			Quantity	Rate	Amount
	Prescribed density tests on filling:				
21	"Modified AASHTO Density" test	No	8		
	SOIL POISONING				
	Soil insecticide in accordance with SANS 5859:				
22	Soil insecticide (protection against termites) applied as specified under floors, etc including forming and poisoning shallow furrows against foundation walls, etc filling in furrows and ramming	m2	691		
23	To bottoms and sides of trenches, etc	m2	1,611		
	CONCRETE WORK				
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	15MPa/19mm concrete:				
24	Surface blinding under footings and bases	m3	23		
	REINFORCED CONCRETE CAST ON/IN FORMWORK				
	35MPa/19mm concrete:				
25	Strip footings	m3	146		
26	Bases	m3	4		
27	Surface beds cast in panels on waterproofing	m3	118		
28	Stub columns	m3	1		
29	Walls	m3	10		
	TEST CUBES				
30	Making and testing sets of three 150 x 150 x 150mm concrete strength test cubes	Sets	50		
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Item No		Quantity	Rate	Amount
	REINFORCEMENT			
	Mild steel reinforcement to structural concrete work:			
41	Mild steel bar reinforcement (8 to 40mm diameter bars)	t 11.18		
	High tensile steel reinforcement to structural concrete work:			
42	High tensile steel bar reinforcement (8 to 40mm diameter bars)	t 11.18		
	Fabric reinforcement:			
43	Type 617 fabric reinforcement in concrete surface beds etc.	m2 691		
	BRICKWORK			
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar:			
44	One brick walls	m2 149		
45	One brick walls, circular on plan	m2 178		
46	280mm Solid walls of two half brick skin including wire ties and with cavity filled solid with 15Mpa /15mm concrete as the work proceeds	m2 14		
47	280mm Solid walls of two half brick skin including wire ties and with cavity filled solid with 15Mpa /15mm concrete as the work proceeds, circular on plan	m2 168		
	Sundries:			
48	Splayed mortar fillets one course high in 60mm cavities	m 9		
49	Splayed mortar fillets one course high in 60mm cavities, circular on plan	m 113		
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Item No			Quantity	Rate	Amount
	2,5mm Galvanised brick reinforcement:				
50	75mm Wide reinforcement built in horizontally	m	321		
51	75mm Wide reinforcement built in horizontally, circular on plan	m	3,951		
52	150mm Wide reinforcement built in horizontally	m	1,748		
53	150mm Wide reinforcement built in horizontally, circular on plan	m	2,090		
	Galvanised hoop iron cramps, ties, etc:				
54	32 x 1,6mm Wall tie 400mm long with one end shot pinned to concrete and other end built into brickwork	No	76		
	WATERPROOFING				
	DAMPPROOFING OF WALLS AND FLOORS				
	One layer 250 micron green polyethylene damp proof membrane (SANS 952-1985 type C) sealed at laps with self-adhesive pressure sensitive tape:				
55	In walls	m2	91		
56	Under surface beds	m2	691		
	SEALING STRIPS, JOINT SEALANTS, ETC				
	"Thioflex 600" or similar and approved two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc:				
57	10 x 20mm In expansion joints in floors including raking out expansion joint filler as necessary	m	633		
58	10 x 15mm In slip joints vertically between brickwork and concrete surfaces	m	30		
	"Sikaflex PRO-2HP" or equal approved polyurethane sealing compound, including backing cord, bond breaker, primer, etc:				
59	3 x 10mm In saw cut joints in floors	m	751		
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Foundations (Provisional)

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Foundations (Provisional)
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

Item No	Quantity	Rate	Amount
SECTION 2 BILL NO 2 CONCRETE, FORMWORK AND REINFORCEMENT ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Cost of tests: The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SANS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Engineer. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Engineer. (Test cubes are measured separately)			
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Section No. 2 Section 2 - Building Works Bill No. 2 Concrete, Formwork and Reinforcement New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
	Waterproof concrete: "Waterproof concrete" shall have the same properties as normal concrete, but the following shall be modified to make the concrete more water-tight: 1. a cement/water ratio of minimum 1.9 and maximum 2.1 2. minimum OPC content of 300kg/m³ 3. Polypropylene micro fibres added to concrete at rate of 182 million per m³ Formwork: Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself Formwork to soffits of solid slabs, etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described Formwork to soffits of slabs, beams, etc shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described -----			
	Carried to Trade Summary			
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Item No		Quantity	Rate	Amount
	SMOOTH FORMWORK (DEGREE OF ACCURACY II)			
	Smooth formwork to sides:			
16	Walls	m2	3	
17	Walls with total height exceeding 1,5m and not exceeding 3,5m above bearing level	m2	9	
18	Walls with total height exceeding 6,5m and not exceeding 8m above bearing level	m2	50	
19	Rectangular columns	m2	60	
20	Beams circular on plan	m2	77	
21	Inverted beams	m2	21	
22	Inverted beams circular on plan	m2	43	
23	Isolated beams circular on plan	m2	66	
24	Edges exceeding 300mm high	m2	8	
25	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	57	
26	Edges, risers, ends and reveals not exceeding 300mm high or wide circular to exceeding 1m radius	m	48	
	Smooth formwork to soffits:			
27	Slabs	m2	334	
28	Slabs with sloping soffits	m2	9	
29	Slabs, propped up exceeding 5m and not exceeding 6.5m high	m2	24	
30	Slabs exceeding 250mm and not exceeding 500mm thick	m2	5	
31	Stairs with sloping soffits	m2	30	
32	Isolated beams	m2	32	
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	Concrete, Formwork and Reinforcement			
	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No			Quantity	Rate	Amount
	Special formwork to form:				
42	Curved horizontal junction at internal angle between soffit and wall, to an internal radius of approximately 150mm	m	19		
43	Curved horizontal junction at internal angle between soffit and wall, to an internal radius of approximately 400mm	m	5		
44	Half bullnose along top edges of slabs, 650mm radius	m	5		
45	Half bullnose along top edges of slabs, radius exceeding 500mm and not exceeding 730mm overall	m	19		
46	Door opening 2000 x 2725mm high through 300mm wall	No	1		
47	Door opening 2150 x 2725mm high through 230mm wall	No	1		
48	Door opening 5690 x 2380mm high through 300mm wall	No	1		
	PERMANENT FORMWORK				
	1,2mm Thick galvanised steel permanent decking system to soffits:				
49	Decking for ramps with ends laid on brick walls	m2	9		
50	Decking for ramps, circular on plan with ends laid on brick walls	m2	51		
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Item No		Quantity	Rate	Amount
	MOVEMENT JOINTS, ETC			
	"Technoslide" or similar approved movement joints:			
51	"Kilcher Teflon sliding bearings in expanded polyethylene strips in joints between concrete surfaces, with a capacity of 9 tonnes per meter, circular on plan	m	34	
	Two layers of 250 micron dampproof course in slip joints between horizontal concrete and brick surfaces, including cement mortar bed:			
52	Not exceeding 300mm wide	m	70	
53	Not exceeding 300mm wide, circular on plan	m	84	
	10mm "Sondor Jointex " polyethylene joint filler with tear-off strip built in slip joints between vertical concrete and brick surfaces:			
54	Not exceeding 300mm wide, circular on plan	m	58	
	20mm "Sondor Jointex " polyethylene joint filler with tear-off strip built in slip joints between vertical concrete surfaces:			
55	Not exceeding 300mm high, circular on plan	m	34	
	REINFORCEMENT			
	Mild steel reinforcement to structural concrete work:			
56	Mild steel bar reinforcement (8 to 40mm diameter bars)	t	12.01	
	High tensile steel reinforcement to structural concrete work:			
57	High tensile steel bar reinforcement (8 to 40mm diameter bars)	t	12.01	
	Fabric reinforcement:			
58	Type 392 fabric reinforcement in concrete surface beds etc.	m2	60	
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	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Bill No. 2
Concrete, Formwork and Reinforcement

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 3 MASONRY ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES BRICKWORK General: Non-load bearing brickwork is to be built to full height less 20mm gap next to the ceiling and is to be left for 14 days before grouting up in 1:3 cement mortar. Sizes in descriptions: Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick Hollow walls: Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 3 Masonry New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

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	BRICKWORK			
	SUPERSTRUCTURE			
	Brickwork of NFP bricks in class II mortar:			
1	Half brick walls	m2	108	
2	Half brick walls, circular on plan	m2	14	
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar in loadbearing walls etc:			
3	One brick walls	m2	382	
4	One brick walls circular-on-plan	m2	546	
5	280mm Hollow walls of two half brick skins including wire ties	m2	32	
6	280mm Hollow walls of two half brick skins including wire ties, circular on plan	m2	703	
7	280mm Solid walls of two half brick skin including wire ties and with cavity filled solid with 15Mpa /15mm concrete as the work proceeds, circular on plan	m2	51	
	BRICKWORK SUNDRIES			
8	Splayed mortar fillets one course high in 60mm cavities	m	88	
9	Closing 280mm cavities of hollow walls vertically with brickwork half brick wide	m	87	
10	Closing 280mm cavities of hollow walls horizontally with brickwork half brick wide, circular on plan	m	56	
11	Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 110mm soffit, circular on plan	m	4	
12	Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 230mm soffit, circular on plan	m	8	
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13	Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 280mm soffit, circular on plan	m	60		
	Bagging of 1:3 cement and sand mixture:				
14	On brick walls, piers, etc	m2	108		
15	On brick walls, piers, etc, circular on plan	m2	696		
	Joint forming material in movement joints:				
16	10mm "Sondor Jointex " polyethylene joint filler with tear-off strip built in vertically between brickwork and or concrete not exceeding 300mm wide or high	m	88		
	2,5mm Galvanised brick reinforcement:				
17	75mm Wide reinforcement built in horizontally	m	506		
18	75mm Wide reinforcement built in horizontally, circular-on-plan	m	5,377		
19	150mm Wide reinforcement built in horizontally	m	1,123		
20	150mm Wide reinforcement built in horizontally, circular-on-plan	m	1,604		
	Steel bar reinforcement:				
21	12mm Diameter high tensile steel bars built in horizontally	t	0.14		
	Prestressed fabricated concrete lintels, including necessary temporary supports:				
22	110 x 75mm Lintels in lengths not exceeding 3m	m	68		
23	110 x 75mm Lintels in lengths in lengths exceeding 3m and not exceeding 4,5m	m	14		
24	150 x 75mm Lintels in lengths not exceeding 3m	m	25		
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Item No			Quantity	Rate	Amount
	Turning pieces to lintels, etc:				
25	110mm Wide turning pieces, circular on plan	m	4		
26	230mm Wide turning pieces, circular on plan	m	8		
27	280mm Wide turning pieces, circular on plan	m	60		
	Cavity closers, etc :				
28	1,6mm Galvanised flat section drip plate 220mm girth, three times bent along length to form drip and built horizontally into hollow wall	m	5		
29	1,6mm Galvanised flat section drip plate 220mm girth, three times bent along length to form drip and built horizontally into hollow wall, circular on plan	m	184		
	Galvanised hoop iron cramps, ties, etc:				
30	32 x 1,6mm Wall tie 400mm long with one end shot pinned to concrete and other end built into brickwork	No	439		
31	32 x 1,6mm Wall tie 300mm long with one end shot pinned to concrete and other end built into brickwork	No	220		
	PRECAST CONCRETE COPINGS, ETC				
	"LG Green" or similar approved precast concrete finished smooth on exposed surfaces, including bedding, jointing and pointing:				
32	"Code CCB20" 370 x 100mm Thick overall copings weathered on top to 70mm thick along one edge, with drip groove in bottom along one edge	m	9		
33	"Code CCB20" 370 x 100mm Thick overall copings weathered on top to 70mm thick along one edge, with drip groove in bottom along one edge, circular on plan	m	79		
	Carried to Trade Summary				
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Item No		Quantity	Rate	Amount
	STONework			
	SUPPLEMENTARY PREAMBLES			
	Sandstone, etc: Sandstone, etc is to be best quality from an approved quarry free from cracks and other defects and equal to samples to be submitted to and approved by the Engineer. Each stone is to hold its full size, square to the back and to be set on its natural quarry bed where applicable Setting out: Care shall be exercised in setting out the work, the preparation of templates and the checking of the detail drawings. All measurements shall be taken on the site where necessary and the full size setting out shall be done at the yard so as to ensure the proper fitting of each stone Before putting any work in hand the Contractor is to submit to the Engineer for his approval, details of the manner in which he proposes to set out the stones and joints in all wall facings, sills, reveals, etc together with samples of grain or pattern matching. Face labours: Face labours are to match samples to be submitted to and approved by the Engineer Arrises are to be clean and sharp except to treads and thresholds where they are to be slightly rounded Unless otherwise described, all exposed edges, projections, etc shall be finished to match the face finish			
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Item No		Quantity	Rate	Amount
	Bedding and jointing: Where wall linings are to be mechanically fixed, phosfor bronze rods, expanding bolts, etc are to be used with solid lime cement mortar bedding (composed of one part cement, two parts lime and nine parts sand). The fixing system shall be concealed and shall be submitted to the Engineer for approval before the work commences. Such approval will not release the Contractor from his responsibility for the work Damaged work: Damaged stonework shall be discarded and replaced at the Contractor's expense. No touching up will be permitted except in exceptional cases with the Engineer's consent Descriptions: Descriptions of stonework shall be deemed to include preparatory work, labours to backs, beds and joints, templates, mortices for bolts etc and for hoisting and setting in position, bedding, jointing and pointing, casing and protecting from injury and cleaning down at completion and sealing of stone surfaces with two coats "Tile and Floor Care (TFC) Deep Seal" twin pack urethane sealer with matt finish Descriptions of recessed pointing to stonework shall be deemed to include square recessed, hollow recessed, weathered pointing, etc Drawings: The Tenderer is referred to the Architects Elevations for the indicative extent of scope of works			
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Masonry

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	SECTION 2 BILL NO 4 WATERPROOFING ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Waterproofing: Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets, etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs -----			
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Item No		Quantity	Rate	Amount
	PROTECTIVE ROOFING PAINT			
	Two coats bituminous aluminium paint:			
17	On waterproofing to sides and tops of parapet walls	m2	114	
	PROTECTIVE SHEETING			
	"Kaytech Bidim A5" or equal approved nonwoven continuous filament needle-punched polyester geotextile membrane with 150mm end laps			
18	On waterproofing to roofs	m2	327	
	SEALING STRIPS, JOINT SEALANTS, ETC			
	'Sikaflex Pro 3' or equal approved silicone sealing compound including backing cord, bond breaker, primer, etc.			
19	10 x 10mm In slip joints horizontally between brickwork and concrete surfaces	m	140	
20	10 x 10mm In slip joints horizontally between brickwork and concrete surfaces, circular on plan	m	110	
21	10 x 10mm In slip joints vertically between brickwork and concrete surfaces	m	176	
	Pre-compressed bitumen impregnated foam plastic joint sealing strips:			
22	10 x 20mm In joints between frames and walls (provisional)	m	313	
	ROOF INSULATION			
	"Iso-Board" or similar approved high density 35-37kg/m3 rigid extruded polystyrene 100% closed cell insulation board with "Vee" grooved joints:			
23	50mm Thick laid loose over waterproofing membrane (elsewhere) on concrete roof slab	m2	146	
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Waterproofing

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Waterproofing

New Carnarvon Science Exploratorium (CSE), Carnarvon

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 5 ROOF COVERINGS ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Profiled metal roof sheeting and accessories shall be supplied with a five (5) year guarantee and be installed by an approved installer All fixing holes shall be drilled and not punched Roof covering accessories shall be manufactured from the same material as used for roof covering -----			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 5 Roof Coverings, Claddings Etc New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	PROFILED METAL SHEETING AND ACCESSORIES			
	STEEL ROOFING			
	0,55mm Concealed fix "Klip-Lok 406" or similar approved light industrial Z200 spelter galvanised ISQ 500 steel sheeting in single lengths, with "Sandstone Beige" topcoat finish one side and "Pebble Grey" backing coat finish on other side, and accessories fixed to steel purlins or rails at maximum 2500mm centres and eaves and ridge purlins at maximum 2100mm centres (Final spacing to be calculated by an Engineer):			
1	Roof covering with pitches not exceeding 25 degrees	m2	592	
2	Circular cutting	m	146	
3	Extra over roof covering for ridge vents to prevent deflection due to heat build up above "Isoboard" insulation boards	No	9	
4	Rolled edges at verge	m	76	
	Accessories:			
5	Cover flashings 185mm girth	m	29	
6	Cover flashings 185mm girth circular on plan	m	92	
7	Side wall flashings 408mm girth	m	13	
8	Side wall flashing 408mm girth circular on plan	m	33	
9	Head wall flashings 375mm girth	m	17	
10	Headwall flashing 375mm girth circular on plan	m	59	
11	External corner trims 616mm girth	m	5	
12	Internal corner trims 616mm girth	m	5	
13	Barge flashings 580mm girth	m	5	
14	Barge flashings 580mm girth circular onplan	m	54	
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Item No			Quantity	Rate	Amount
15	Drip Flashings 231mm girth circular on plan	m	54		
16	0,58mm Under sheet flashings 300mm girth circular on plan	m	54		
17	Broad flute serrated closers	m	17		
18	Broad flute serrated closers circular on plan	m	259		
ROOF AND WALL INSULATION					
"ISOBoard/E high density 34-36kg/m3 rigid extruded polystyrene 100% closed cell insulation board with polyethylene treated kraft slip sheet factory-applied to upper surface and tongue and groove joints:					
19	60mm Thick insulation board fixed concurrent with roof covering over steel purlins, purlins at maximum 1500mm centres with 5mm gap between boards butt-joined over purlins	m2	436		
SHEET METAL FASCIAS, FLASHINGS, LININGS, COPINGS, ETC					
4mm "Alubond" or similar approved sheet aluminium:					
20	Curved fascia panel 1460mm girth circular on plan, 2 times bent including drip grove and fixing rails fixed to structural steel sub-frame support structure (sub-frame support structure elsewhere measured)	m	54		
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Bill No. 5

Roof Coverings, Claddings Etc

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Roof Coverings, Claddings Etc

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 6 CARPENTRY AND JOINERY ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Fixing: Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given separately elsewhere Joinery: Descriptions of frames shall be deemed to include frames, transomes, rails, etc Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts			
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Item No		Quantity	Rate	Amount
	Particle board All particle board shall comply with SANS 50312 having the required marking as per SANS 50312/EN 312 Decorative thermosetting plastic laminate covering: Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish Sizes: Sizes are nominal and the Contractor shall make allowance in his prices for minor variances in stated finished sizes of timber doors, door members, door frames, architraves, etc Prices Prices for all joinery work are to include for general framing, housing and notching, arris rounded angles, glueing, blocking, planting on, screwing, adhesives, dowels, pellets, cross tongues, screws and nails and setting up complete and also for all square cutting and waste. Tops shall be secured with metal or hardwood buttons. -----			
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Item No			Quantity	Rate	Amount
	DOORS, ETC				
	"Bitcon Industries" or equal approved solid chipcore flush doors with commercial veneer, hung to steel frames:				
1	40mm Door 813 x 2 032mm high (Type D02)	No	5		
2	Extra over for 200 x 450mm framed opening for metal louvre unit (louvre unit elsewhere)	No	5		
	Solid chipcore flush doors with commercial veneer, hung to steel frames:				
3	40mm Door 762 x 2 032mm high, with door leaf undercut by 15mm (Type D03)	No	8		
4	40mm Door 900 x 2 032mm high (Type D04)	No	1		
	FIRE DOORS				
	SUPPLEMENTARY PREAMBLES				
	Fire doors:				
	Fire doors are to be in accordance with SANS 1253				
	"Bitcon Industries" or similar fire doors with commercial veneer:				
5	Class B fire door, size 900 x 2 032mm high, including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D01)	No	2		
6	Class B acoustic fire door, size 910 x 2 032mm high, including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D05)	No	1		
7	Class B acoustic fire double door, size 1 359 x 2 032mm high, including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D06)	No	1		
8	Class B fire double door, size 1 359 x 2 032mm high, including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D08)	No	2		
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Item No		Quantity	Rate	Amount
9	Class B fire door, size 900 x 2 032mm high, with cut-out for clear glass pane (glass e/m) including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D09)	No	2	
10	Class B fire door, size 750 x 1862mm high, including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D10)	No	1	
11	Class B acoustic fire double door, size 1 210 x 2 032mm high, including pressed steel frame for one brick wall and preparing frame for door closer and lock (Type D12)	No	1	
JOINERY FITTINGS, SUNDRIES ETC				
Worktops and counters				
12	32mm Thick "Fomica Lifeseal" or equal approved worktop 600mm wide with and including Comet Granite, including wall fixing brackets (refer to Architects drawing WC028-209 Rev 2)	m	3	
Shelving				
13	Shelving wall fixed unit, overall size 2 400mm wide x 1 800mm high extreme, comprising of 16mm melamine board shelving with 2mm impact edging to all edges, fixed with double slotted brackets for 400mm wide shelves on 1 800mm wide wall band uprights, screw fixed to wall, complete (refer Arch drawing WC 028 209 Rev 2)	No	1	
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Bill No. 6

Carpentry and Joinery

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Carpentry and Joinery

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 7 CEILINGS, PARTITIONS AND ACCESS FLOORING ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Fixing: Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given separately elsewhere Ceilings: Unless otherwise described, ceilings shall be deemed to be horizontal			
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Item No	Quantity	Rate	Amount
Bulkheads: Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features Bulkheads have only been described as such where they conform to the above definition and where the horizontal, vertical or sloping dimensions do not exceed 1200mm. Where these dimensions are more than 1200mm such portions of ceilings have been included in the appropriate general items of ceilings Unless otherwise described, bulkheads shall be deemed to be horizontal along the length Openings: Prices for openings for light fittings, ventilation grilles, air conditioning diffusers, etc are to include for any necessary additional support, trimming around, etc Steel components: All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121 -----			
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Item No		Quantity	Rate	Amount
	Flush plastered gypsum plasterboard suspended bulkheads:			
	Bulkheads shall comprise galvanised steel studding of 63,5mm top and bottom tracks with vertical studs at maximum 400mm centres, pop-riveted to the top and bottom tracks with similar additional vertical studs as necessary at abutments, ends, etc and covered as described with plasterboard screwed to studding with drywall screws at maximum 300mm centres. Boards shall be butt jointed and finished with tape and jointing compound and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer Descriptions shall be deemed to include any additional studs at ends and intersections, corner beads, cornices at junctions with ceilings, jointing compound, tape, etc -----			
	12,5mm Thick "Gyprex" gypsum plasterboard on screw-up tee suspension grid including hangers, etc. with tape fixed over joints and the whole finished with gypsum plaster trowelled to a smooth polished surface:			
2	Ceilings suspended not exceeding 1m below concrete soffits	m2	47	
3	Ceilings suspended exceeding 1m and not exceeding 2m below concrete soffits	m2		Rate Only
4	Ceilings suspended not exceeding 1m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	72	
5	Ceilings suspended exceeding 1m and not exceeding 2m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	79	
6	Sloping ceilings suspended exceeding 1m and not exceeding 2m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	13	
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7	Ceilings suspended exceeding 2m and not exceeding 3m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	20		
8	Ceilings suspended exceeding 3m and not exceeding 4m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	27		
9	Extra over for suspended ceilings for dropped circular bulkhead panel, 800mm diameter x 200mm high	No	4		
10	Extra over for suspended ceilings for dropped circular bulkhead panel, 1 000mm diameter x 200mm high	No	2		
11	Extra over suspended ceilings for dropped circular bulkhead panel, 1 100mm diameter x 200mm high	No	1		
12	Extra over suspended ceilings for dropped circular bulkhead panel, 1 200mm diameter x 200mm high	No	1		
13	Extra over suspended ceilings for dropped circular bulkhead panel, 1 400mm diameter x 200mm high	No	3		
14	Extra over suspended ceilings for recessed circular bulkhead panel, 2 460mm diameter x 200mm high	No	1		
15	Vertical flush plastered ceiling bulkheads, 200mm high	m	6		
16	Vertical flush plastered ceiling bulkheads, 200mm high, circular on plan	m	26		
17	Horizontal flush plastered ceiling bulkheads, 450mm wide	m	6		
18	Horizontal flush plastered ceiling bulkheads, 450mm wide, circular on plan	m	26		
19	Horizontal flush plastered ceiling bulkheads, 485mm wide	m	8		
20	Vertical flush plastered ceiling bulkheads, 1 000mm high	m	8		
21	Extra over ceiling for opening for 80mm diameter downlighter	No	25		
22	Extra over ceiling for opening for 600 x 600mm light fitting	No	10		
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Item No		Quantity	Rate	Amount
	1 200 x 600 x 15mm "OWAcoustic Sinfonia®" black biologically absorbable and fleece covered mineral wool ceiling tiles, with square edges and painted finish, laid on and including fire rated "S3" exposed T24 suspension grid system including main tees, cross tees, hold-down clips, wedges, etc:			
32	Ceilings suspended not exceeding 1m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	110	
33	Ceilings suspended exceeding 1m and not exceeding 2m below steel purlins at maximum 1 000mm centres (trusses at 1 500mm centres)	m2	31	
34	Circular cutting	m	57	
	Aluminium pre-painted cornices, perimeter trims, etc to suspended ceilings:			
35	25mm Aluminium pre-painted cornices, plugged to wall (colour: White)	m	201	
36	25mm Aluminium pre-painted cornices, plugged to wall, circular on plan (colour: White)	m	295	
37	25mm Aluminium pre-painted cornices, plugged to wall (colour: Black)	m		Rate Only
38	25mm Aluminium pre-painted cornices, plugged to wall, circular on plan (colour: Black)	m	32	
	Gypsum plasterboard cornices:			
39	75mm Coved cornices	m	20	
40	75mm Coved cornices, circular on plan	m	18	
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Ceilings, Partitions and Access Flooring

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Section 2 - Building Works
Bill No. 7
Ceilings, Partitions and Access Flooring
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Item No	Quantity	Rate	Amount
SECTION 2 BILL NO 8 FLOOR COVERINGS, WALL LININGS, ETC ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Fixing: Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc -----			
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Section No. 2 Section 2 - Building Works Bill No. 8 Floor Coverings, Wall Linings, Etc New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
	FLOOR COVERINGS			
	"Belgotex Accelerate-Boost" heavy commercial tufted loop carpet tiles, comprising 500 x 500 x 5mm thick carpet tiles laid to "Tessellated" pattern, including "NexBac SX" backing all laid in strict accordance with the manufacturers specifications.			
1	On floors	m2	119	
2	Circular cutting	m	55	
	WALL LININGS			
	"Belgotex Accelerate-Boost" heavy commercial tufted loop carpet tiles, comprising 500 x 500 x 5mm thick carpet tiles laid to "Tessellated" pattern, including "NexBac SX" backing all laid in strict accordance with the manufacturers specifications.			
3	On walls	m2		Rate only
4	On circular walls	m2		Rate only
5	Circular cutting	m		Rate only
	"Saint-Gobain Ecophon Akusto One" acoustic wall panels, fixed to plastered brick walls with and including "Connect One trim" system in strict accordance with the manufacturers specifications.			
6	1192 x 592 x 40mm thick panels on walls	No	12	
	SKIRTINGS, NOSINGS, ETC			
	"FlexiSkirt" or similar approved skirtings, nosings, etc:			
7	95 x 10mm Thick bull nose skirting boards	m	95	
8	95 x 10mm Thick bull nose skirting boards circular on plan	m	122	
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	Floor Coverings, Wall Linings, Etc			
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Bill No. 8

Floor Coverings, Wall Linings, Etc

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Floor Coverings, Wall Linings, Etc
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Item No	Quantity	Rate	Amount
SECTION 2 BILL NO 9 IRONMONGERY ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Proprietary items: Where applicable, the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Prices are to be based on the specific products/articles specified. Should tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures, etc clarifying the features of the products/articles offered On request, returnable samples are to be provided to the Engineer for consideration Locks: Notwithstanding Clause 2, Item 3 of the "Ironmongery" trade of the "Standard System of Measuring Building Work, Seventh Edition", descriptions of locks shall be deemed to include two keys per lock Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 9 Ironmongery New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No			Quantity	Rate	Amount
	HINGES, BOLTS, ETC				
	"Fortis" or similar approved:				
1	150 x 32mm Chromium plated heavy duty barrel bolt	No	6		
2	150 x 32mm Chromium plated heavy duty necked barrel bolt	No	6		
	"Dormakaba" or similar approved:				
3	"Ref. DWC-006" WC indicator bolt set	No	1		
	LOCKS				
	"EN-SUITE" LOCKS				
	The following locks are to be suitable for master key operation				
	The following locks are to be suitable for master and grand master key operation				
	"Dormakaba" or similar approved:				
4	"Ref. D032D SS" bathroom lockset	No	1		
5	"Ref. D035S SS" bathroom lockset	No	7		
6	"Ref. D036S SS" cylinder sash lock	No	5		
7	"Ref. D037D SS" single cylinder deadlock	No	14		
8	"Ref. DSC204101 GMK" 5 pin single cylinder suitable for master key	No	5		
9	"Ref. DDC206301 GMK" 5 pin double cylinder suitable for master key	No	5		
10	"Ref. DKC206301 GMK" 5 pin knob cylinder suitable for master key	No	9		
11	"Ref. DCE-002 SS" cylinder escutcheon	No	1		
12	"Ref. DPL2000 GMK" 45mm E-SP chrome padlock with 8mm stainless steel shackle, 30mm clearance suitable for grand masterkey	No	1		
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	Ironmongery				
	New Carnarvon Science Exploratorium (CSE), Carnarvon				
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Item No			Quantity	Rate	Amount
	PUSH PLATES AND KICK PLATES				
	"Dormakaba" or similar approved:				
20	"Ref. DPP-430-BL-SF" 150 x 300 x 1.2mm Thick Grade 430 brushed stainless steel push plate, including six countersunk holes for screw fixing	No	4		
21	"Ref. DPP-430-CL-SF" 150 x 300 x 1.2mm Thick Grade 430 brushed stainless steel push plate with cylinder cutout left, including six countersunk holes for screw fixing	No	7		
22	"Ref. DPP-430-CR-SF" 150 x 300 x 1.2mm Thick Grade 430 brushed stainless steel push plate with cylinder cutout right, including six countersunk holes for screw fixing	No	6		
23	"Ref. DKP-430-SF 200" 200 x 813 x 1.2mm Thick Grade 430 brushed stainless steel kick plate, including ten countersunk holes for screw fixing	No	40		
	DOOR CLOSERS				
	"Dormakaba" or similar approved:				
24	"Ref. TS73V-PA-SL" EN 2-4 paralld arm delayed action door closer	No	1		
25	"Ref. TS90-SL" EN 3/4 Cam action slide channel door closer	No	9		
26	"Ref. TS91B G-SR" EN 3 double co-ordinator door closer	No	4		
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Bill No. 9

Ironmongery

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Ironmongery

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Item No	Quantity	Rate	Amount
SECTION 2 BILL NO 10 STRUCTURAL STEELWORK ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Specification: All structural steel must comply with SANS 1200H (Degree of Accuracy II) All hot rolled structural steel sections must comply with SANS 1431 grade 300W, unless otherwise specified on the drawings Unless otherwise designated, all bolts and nuts will be grade 4.6 to SANS 135 and BS 916. Descriptions of bolts shall be deemed to include nuts and washers. Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete. Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete All connections must be welded all round with a 6mm fillet weld, unless otherwise specified on the drawings			
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Item No	Quantity	Rate	Amount
Drawings and shop details: The Contractor shall be responsible for preparing shop drawings and details which must be submitted to the Engineer for approval prior to commencement of fabrication. Before commencing any fabrication, the steel fabricator must check the accessibility of the site and design the sizes of individual parts accordingly Hot-dipped galvanizing: After fabrication and prior to delivery to site, all steelwork described as hot-dipped galvanized, is to be descaled and thoroughly cleaned by pickling, after which it is to be hot dip galvanized in accordance with the requirements of SANS 121/1501461 Descriptions: Descriptions of bolts shall be deemed to include nuts and washers Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete -----			
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Item No		Quantity	Rate	Amount
	HOT DIP GALVANISED STEEL TRUSSES			
	Welded roof trusses of angle rafters, tie beams, rails, struts, braces, cleats, etc and flat bearer, gusset and connection plates, bolted to steel:			
1	Lattice trusses 1,53m long x 0.72m high extreme (In No 1)	t 0.06		
2	Lattice trusses 2,27m long x 0.72m high extreme (In No 10)	t 0.55		
3	Lattice trusses 2,80m long x 0.72m high extreme (In No 1)	t 0.08		
4	Lattice trusses 2,83m long x 0.72m high extreme (In No 16)	t 1.14		
5	Lattice trusses 3,56m long x 0.72m high extreme (In No 1)	t 0.10		
6	Lattice trusses 4,18m long x 0.72m high extreme (In No 1)	t 0.12		
7	Lattice trusses 4,40m long x 0.72m high extreme (In No 1)	t 0.12		
8	Lattice trusses 4,46m long x 0.72m high extreme (In No 1)	t 0.12		
9	Lattice trusses 5,00m long x 0.72m high extreme (In No 1)	t 0.14		
10	Lattice trusses 5,18m long x 0.72m high extreme (In No 1)	t 0.14		
11	Lattice trusses 5,40m long x 0.72m high extreme (In No 1)	t 0.15		
12	Lattice trusses 5,44m long x 0.72m high extreme (In No 1)	t 0.16		
13	Lattice trusses 5,70m long x 0.72m high extreme (In No 1)	t 0.16		
14	Lattice trusses 6,04m long x 0.72m high extreme (In No 1)	t 0.16		
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Item No		Quantity	Rate	Amount
15	Lattice trusses 6,06m long x 0.72m high extreme (In No 1)	t 0.16		
16	Lattice trusses 6,10m long x 0.72m high extreme (In No 1)	t 0.17		
17	Lattice trusses 6,20m long x 0.72m high extreme (In No 1)	t 0.17		
18	Lattice trusses 6,40m long x 0.72m high extreme (In No 1)	t 0.18		
19	Lattice trusses 6,52m long x 0.72m high extreme (In No 1)	t 0.18		
20	Lattice trusses 6,60m long x 0.72m high extreme (In No 1)	t 0.18		
21	Lattice trusses 6,63m long x 0.72m high extreme (In No 1)	t 0.18		
22	Lattice trusses 6,70m long x 0.72m high extreme (In No 1)	t 0.18		
23	Lattice trusses 6,80m long x 0.72m high extreme (In No 1)	t 0.19		
24	Lattice trusses 6,82m long x 0.72m high extreme (In No 1)	t 0.19		
25	Lattice trusses 7,30m long x 0.72m high extreme (In No 1)	t 0.20		
26	Lattice trusses 7,60m long x 1.21m high extreme (In No 1)	t 0.24		
27	Lattice trusses 8,06m long x 0.72m high extreme (In No 1)	t 0.21		
28	Lattice trusses 8,30m long x 1.21m high extreme (In No 1)	t 0.26		
29	Lattice trusses 8,40m long x 0.72m high extreme (In No 1)	t 0.23		
30	Lattice trusses 8,44m long x 0.72m high extreme (In No 1)	t 0.23		
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Item No		Quantity	Rate	Amount
31	Lattice trusses 8,45m long x 0.72m high extreme (In No 1)	t 0.23		
32	Lattice trusses 8,60m long x 1.21m high extreme (In No 1)	t 0.27		
33	Lattice trusses 8,62m long x 0.72m high extreme (In No 1)	t 0.23		
34	Lattice trusses 8,70m long x 1.21m high extreme (In No 1)	t 0.27		
35	Lattice trusses 9,46m long x 0.72m high extreme (In No 1)	t 0.26		
36	Lattice trusses 9,77m long x 0.72m high extreme (In No 1)	t 0.26		
37	Lattice trusses 9,98m long x 1.21m high extreme (In No 1)	t 0.31		
38	Lattice trusses 10,08m long x 1.21m high extreme (In No 1)	t 0.31		
39	Lattice trusses 10,10m long x 0.72m high extreme (In No 1)	t 0.28		
40	Lattice trusses 10,27m long x 1.21m high extreme (In No 1)	t 0.32		
41	Lattice trusses 10,40m long x 1.21m high extreme (In No 1)	t 0.32		
42	Lattice trusses 10,52m long x 1.21m high extreme (In No 1)	t 0.32		
43	Lattice trusses 10,60m long x 1.21m high extreme (In No 1)	t 0.32		
44	Lattice trusses 10,78m long x 0.72m high extreme (In No 1)	t 0.28		
45	Lattice trusses 10,86m long x 1.21m high extreme (In No 1)	t 0.34		
46	Lattice trusses 11,18m long x 1.21m high extreme (In No 1)	t 0.34		
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Item No		Quantity	Rate	Amount
47	Lattice trusses 11,88m long x 1.21m high extreme (In No 1)	t 0.36		
	HOT DIP GALVANISED STEEL SUPPORT STRUCTURES, ETC			
	Welded beams, etc with flat connection plates, bolted to concrete or brickwork:			
48	IPE 200 x 100 x 22kg/m I-section cantilever roof support structure (In No 1)	t 0.79		
	HOT DIP GALVANISED STEEL PURLINS, GIRTS, BRACING, ETC			
	Purlins and girts, bolted to steel:			
49	75 x 50 x 20 x 2.0mm Thick cold-formed lipped channel purlins	t 2.89		
50	125 x 50 x 20 x 2.0mm Thick cold-formed lipped channel purlins	t		Rate only
51	125 x 50 x 20 x 2.5mm Thick cold-formed lipped channel purlins	t		Rate only
52	125 x 50 x 20 x 3.0mm Thick cold-formed lipped channel purlins	t		Rate only
53	125 x 65 x 20 x 2.0mm Thick cold-formed lipped channel purlins	t		Rate only
54	125 x 65 x 20 x 2.5mm Thick cold-formed lipped channel purlins	t		Rate only
55	125 x 65 x 20 x 3.0mm Thick cold-formed lipped channel purlins	t		Rate only
56	125 x 75 x 20 x 2.0mm Thick cold-formed lipped channel purlins	t 1.55		
57	125 x 75 x 20 x 2.5mm Thick cold-formed lipped channel purlins	t		Rate only
58	125 x 75 x 20 x 3.0mm Thick cold-formed lipped channel purlins	t		Rate only
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Bill No. 10

Structural Steelwork

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 11 METALWORK ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Descriptions of bolts, anchors, etc: Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Items described as "holed for bolt(s)" shall be deemed to exclude the bolts, unless otherwise described Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 11 Metalwork New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	STAINLESS STEEL & GLASS BALUSTRADES			
	Welded balustrades with and including 8mm thick toughened safety glass infill panels to stairs:			
9	Raking 8mm thick toughened safety glass balustrades to staircases, formed of 50mm diameter stainless steel continuous handrail welded to and included 15mm diameter stainless steel pins welded to post, including 50mm diameter stainless steel posts at approximately 1000mm centres and with bottom end welded to and including 150 x 100 x 6mm thick flat section bracket twice holed for and bolted in position (bolts elsewhere measured) (as per Architects "Main Stair Details" drawing No. WC 028-304, Rev. 2)	m	6	
10	12mm Chemical anchor	No	14	
	FRAMELESS GLASS BALUSTRADES			
	<u>Supplementary preambles:</u>			
	Glazing shall comply with SAGGA regulations			
	Glass thicknesses shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings and/or described in these bills of quantities			
	The following certificates shall be provided prior to commencement of site work:			
1	A Certificate of Conformance confirming that the glazing has been installed in accordance with SANS 10400-N, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual panel of safety glazing materials has been permanently marked			
2	A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years			
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Metalwork

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Section 2 - Building Works

Bill No. 11

Metalwork

New Carnarvon Science Exploratorium (CSE), Carnarvon

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 12 ALUMINIUM WORK ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Descriptions of bolts, anchors, etc: Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Items described as "holed for bolt(s)" shall be deemed to exclude the bolts, unless otherwise described Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres			
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Item No		Quantity	Rate	Amount
ALUMINIUM WINDOWS, DOORS, ETC				
Aluminium windows, doors, etc:				
The successful contractor shall be responsible for the complete design work including determining required section sizes and fixing details, all subject to the Engineers approval				
Doors, windows, etc shall be designed and constructed to withstand wind pressures of 2kn/m2 in accordance with SANS 0160				
All calculations shall be submitted to the Engineer Agent for approval				
Doors and windows shall comply with AAAMSA A3 rated performance design criteria				
Glazing shall comply with SAGGA regulations. Glass thicknesses shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings				
Doors and windows shall be supplied with "Protectapeel" film which shall be removed only once surrounding trades have been completed				
The following certificates shall be provided prior to commencement of site work:				
1	A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product			
2	A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively			
3	A copy of the relevant Performance Compliance Report from the system suppliers			
4	A copy of the relevant Safiera Energy Rating Certification			
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Item No		Quantity	Rate	Amount
5	A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process			
6	A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 10400-N, SANS 0137 and SANS 1263, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked			
7	A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years			
All windows and door joints must be sealed to the inside with "Dow Corning" silicone during manufacturing				
All dimensions shall be verified on site before commencing the work and a full set of shop drawings showing all relevant details shall be submitted to the Architect for his approval, prior to the manufacture of the units				
Sizes				
Where sizes are given these are nominal sizes				
Ironmongery				
The tenderer must allow in his pricing for supply and fixing of ALL ironmongery				
Heavy duty high quality fittings must be allowed for and samples will be required for approval by the Engineer				
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Item No		Quantity	Rate	Amount
ALUMINIUM SHOPFRONTS				
<u>NOTE:</u>				
The Contractor to refer to the following Shopfront Schedules for details and references:				
WC028 804 Rev 3				
WC028 805 Rev 3				
Powder coated aluminium shopfront system [colour Charcoal Grey] with and including 6,28mm laminated safety glass, pvc gaskets, ironmongery, woolpile weather seals, packing pieces, coverstrips and sealing all round on both sides with polysulphide or similar approved sealant:				
13	Purpose made shopfront, overall size 7 625mm x 6 450mm high with and including one double door 1 800 x 2 100mm high [SF-01]	No	1	
14	Purpose made shopfront, overall size 6 262mm x 3 690mm high with and including folding stacking door size 4 472 x 2 100mm high [SF-02]	No	1	
15	Purpose made shopfront, overall size 5 359mm x 2 600mm high, with and including sliding stacking door 3 530 x 2 100mm high [SF-03]	No	1	
16	Purpose made shopfront, overall size 2 820mm x 2 400mm high, with and including single door 721 x 2 100mm high [SF-06]	No	1	
17	Purpose made shopfront, overall size 1 441mm x 2 400mm high, with and including single door 721 x 2 100mm high [SF-07]	No	1	
18	Purpose made curved shopfront, overall size 7 529mm girth x 2 600mm high with and including one double door 1 450 x 2 100mm high [SF-08]	No	1	
19	Purpose made curved shopfront, overall size 2 605mm girth x 850mm high with [SF-09]	No	1	
20	Purpose made curved shopfront, overall size 4 728mm girth x 850mm high with [SF-10]	No	1	
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Item No			Quantity	Rate	Amount
21	Purpose made curved shopfront, overall size 2 214mm girth x 850mm high with [SF-11]	No	1		
22	Purpose made curved shopfront, overall size 5 636mm girth x 850mm high with [SF-12]	No	1		
23	Purpose made curved shopfront, overall size 5 380mm girth x 1 000mm high with [SF-13]	No	1		
24	Purpose made curved shopfront, overall size 5 380mm girth x 1 000mm high with [SF-14]	No	1		
25	Purpose made curved shopfront, overall size 3 137mm girth x 1 000mm high with [SF-15]	No	1		
26	Purpose made curved shopfront, overall size 5 146mm girth x 1 000mm high with [SF-16]	No	1		
27	Purpose made curved shopfront, overall size 3 810mm girth x 1 000mm high with [SF-17]	No	1		
28	Purpose made curved shopfront, overall size 2 557mm girth x 1 000mm high with [SF-18]	No	1		
29	Purpose made curved shopfront, overall size 1 517mm girth x 1 000mm high with [SF-19]	No	1		
30	Purpose made curved shopfront, overall size 2 633mm girth x 1 000mm high with [SF-20]	No	1		
ALUMINIUM LOUVRE UNITS					
Powder coated aluminium horizontal aluminium louvre units to doors					
31	Purpose-made louvre unit for 200 x 450mm high opening	No	5		
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Bill No. 12

Aluminium Work

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Section No. 2
Section 2 - Building Works
Bill No. 12
Aluminium Work
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 13 PLASTERING ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Moisture tests: Before any finishes, coverings, etc are applied to screeds, plastering, etc or any other in-situ finish, moisture tests are to be carried out to the complete satisfaction of the Engineer to ensure that these surfaces have the correct moisture content for the finish to be applied Labours, etc Labours such as fair, rounded and chamfered edges, trowel cuts, throats, V-joints, angles, etc shall be deemed to be included in the descriptions			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 13 Plastering New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	Sample Panels A sample panel size 1m x1m, of each of the various plaster type wall and floor finishes in this contract, shall be prepared for the approval of the Engineer and the cost of the sample panel(s) shall be deemed to be included in the overall costs of the <u>relevant</u> wall and floor finishes GRANOLITHIC Method: The method to be used shall be either the monolithic method or the bonded method Preparation: For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic Mix: Unless otherwise described, granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 13 Plastering New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	Panels: Granolithic shall be laid in panels not exceeding 14m² for monolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints Laying: Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated Curing, seasoning and protection: Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying Colour: Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour			
	Carried to Trade Summary			
	Section No. 2 Section 2 - Building Works Bill No. 13 Plastering New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	TERRAZZO			
	All surfaces should be a minimum of 25N/mm ² , free from laitance, dust and other contamination, dry to 75% RH as per BS8204 and free from rising damp and ground water pressure. Prime surface with one coat "Flowprime" solvent free epoxy primer and base coat (Spread rate - 4m ² /Litre) with a maximum overcoating time of 24 hours and apply "Natural Quartz"B & E 1,1mm scatter layer (Spread rate - 1kg/m ²). Apply one coat "Glacier Mondeco Crystal" layer and coat with "Thixogrout" coating and apply "Flowseal LS" topcoat or similar approved. Applied in accordance with approved "Flowcrete" specifications by approved specialist, on:			
8	On floors and landings	m2	317	
9	On ramps	m2	57	
10	On treads and risers of stairs	m2	26	
11	150mm High turn-up coved skirting against walls	m	57	
12	150mm High turn-up coved skirting against walls circular on plan	m	128	
13	150mm High turn-up coved skirtings stepped over treads and risers	m	13	
14	150mm High turn-up coved skirting stepped over treads and risers circular on plan	m	16	
	INTERNAL PLASTER			
	Two coat plaster with gypsum finish, on brickwork:			
15	On walls	m2	474	
16	On circular walls	m2	949	
17	On narrow widths	m2	52	
	Two coat plaster with gypsum finish, on concrete:			
18	On walls	m2	58	
	Carried to Trade Summary			
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	Section 2 - Building Works			
	Bill No. 13			
	Plastering			
	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Bill No. 13

Plastering

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Section No. 2
Section 2 - Building Works
Bill No. 13
Plastering
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 14 TILING ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Fixing: Unless described as "fixed with adhesive to plaster (plaster elsewhere)", descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors, etc shall be deemed to include 1:3 cement plaster bedding Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the "Tal Goldstar" or similar approved range of products as recommended by the manufacturer of the tiles -----			
	Carried to Trade Summary			
	Section No. 2 Section 2 - Building Works Bill No. 14 Tiling New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	WALL TILING			
	197 x 197 x 6mm "Johnson" or similar and approved white glazed ceramic tiles (Allow a Prime Cost Amount of R 240/m2 excluding delivery to site) fixed with adhesive to plaster (plaster elsewhere) and flush pointing with and including tinted grout:			
1	On walls in isolated panels, splashbacks, etc	m2	1	
	600 x 600 x 10mm Porcelain tiles (Allow a Prime Cost Amount of R 550/m2 excluding delivery to site) fixed with adhesive to plaster (plaster elsewhere) and flush pointing with tinted grout:			
2	On walls	m2	132	
3	On walls circular to exceeding 300mm radius	m2	29	
4	On narrow widths	m2	9	
	300 x 300 x 6mm "Buccherio Biscuit" Porcelain mosaic wall tiles (Allow a Prime Cost Amount of R 825/m2 excluding delivery to site) fixed with adhesive to plaster (plaster elsewhere) and flush pointing with tinted grout:			
5	On walls circular to exceeding 300mm radius	m2	14	
	FLOOR TILING			
	600 x 600 x 10mm porcelain floor tiles (Allow a Prime Cost Amount of R 450/m2 delivered to site) fixed with adhesive to screed (screed elsewhere) and flush pointing with and including tinted grout:			
6	On floors and landings	m2	35	
7	Skirting 150mm high of fair cut tiles	m	54	
8	Skirting 150mm high of fair cut tiles circular on plan	m	15	
	Carried to Trade Summary			
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Bill No. 14

Tiling

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Section 2 - Building Works

Bill No. 14

Tiling

New Carnarvon Science Exploratorium (CSE), Carnarvon

QS Ref: P20220155

Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 15 PLUMBING AND DRAINAGE ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Wire gratings: Descriptions of gutter outlets, etc shall be deemed to include wire balloon gratings Stainless steel basins, sinks, wash troughs, urinals, etc: Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0) Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be Type 304 (18/8) Stainless steel for laboratory sinks, photographic equipment, etc shall be Type 316 (18/8) Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable			
	Carried to Trade Summary			
	Section No. 2 Section 2 - Building Works Bill No. 15 Plumbing and Drainage New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	Sealing of edges: Outer edges of sinks, basins, baths, urinals, etc are to be sealed against adjacent surfaces with approved mildew resistant silicone sealant and prices must include therefor General: Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately) Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured) and shall have straight or side outlets and "P" or "S" traps as necessary Description of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings. As-built drawings: Where required, the Contractor shall prepare an updated set of as-built drawings. At completion of the contract the Contractor shall hand these drawings to the Engineer for reproducing onto the originals for handing over to the Employer (provision for allowance of as-built drawings elsewhere) -----			
	Carried to Trade Summary			
	Section No. 2 Section 2 - Building Works Bill No. 15 Plumbing and Drainage New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	RAINWATER DISPOSAL			
	Purpose-made seamless industrial aluminium preainted gutters and rainwater pipes:			
1	150 x 150 x 1.2mm Roof gutters with beaded front edge	m		Rate Only
2	150 x 150 x 1.2mm Roof gutters with beaded front edge, circular on plan	m	85	
3	Extra over gutter for stopped end	No	4	
4	Extra over gutter for angle	No	5	
5	Extra over gutter for outlet for 100mm diameter uPVC pipe	No	10	
	"Class 9" uPVC gutters and rainwater pipes:			
6	100mm Diameter rainwater pipes	m	88	
7	100mm Diameter rainwater pipes cast into concrete walls	m	22	
8	100mm Diameter rainwater pipes cast into concrete slabs	m	13	
	Extra over uPVC pipes for fittings:			
9	Extra over rainwater pipe for bend	No	42	
10	Extra over rainwater pipe for shoe	No	18	
	"Saint Gobain Pipelines" or equal approved cast iron outlets:			
11	150mm 180° Centre bolt vertical roof outlet with dome grate (code 03530)	No	5	
12	150mm 90° Side full-flow eared dome roof outlet with dome grate (code 3630)	No	4	
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	Section 2 - Building Works			
	Bill No. 15			
	Plumbing and Drainage			
	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No		Quantity	Rate	Amount
	SANITARY FITTINGS			
	"Franke" or similar approved stainless steel:			
13	900 x 460mm Code 1030004 Model SA94 polished stainless steel single bowl drop on sink	No	1	
	"Plumline" or similar approved:			
14	530 x 400mm Code 032045 "Amaro" drop-in vanity basin set on counter top	No	4	
	"Duravit" or similar approved:			
15	Code 2562090000 Durastyle wall hung WC suite, overall size 585 x 376 x 380mm, including matching toilet seat	No	6	
16	245 x 300mm Code 827250000 "Starck 3" wall mounted urinal	No	3	
17	710 x 410mm Code 8500000000 "Starck 3" ceramic urinal partition, fixed to wall (colour: White Alpin)	No	2	
18	450 x 340mm Code 7054500002 Ceramic D-code wash hand basin, fixed to wall (colour: White)	No	2	
	"Geberit" or similar approved:			
19	"Kombifix" code 110.798.00.1 concealed cistern with "Alpha 15" code 115.045.21.1 actuator plate (colour: Chrome)	No	6	
	"Lecico Atlas" or similar approved:			
20	Code SPASETDFLE200BE "Rimless Space Saver" closed coupled WC suite comprising pan with seat cover and matching cistern	No	2	
21	Code ATLBASMED0500UE 50cm "Medical" basin bolted to wall	No	1	
	Carried to Trade Summary			
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	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No			Quantity	Rate	Amount
	WASTE UNIONS, ETC				
	"Plumline" or similar approved:				
22	32mm Code 032231 slotted chrome-plated basin waste	No	7		
	"Cobra Watertech" or similar approved:				
23	32mm Code 303 CP basin waste union and code 309CP anti-theft plug	No	1		
	TRAPS, ETC				
	"Plumline" or similar approved:				
24	32mm Code 035383 chromium plate bottle trap	No	11		
	TAPS, VALVES, ETC				
	"Hansgrohe" or equal approved:				
25	15mm Code 71161003 Logis E chrome 100 single lever basin mixer	No	7		
	"Franke" or similar approved:				
26	Code 1150021 Single lever mixer	No	1		
	"Cobra Watertech" or similar approved:				
27	Code FJ6.000CP "Flushmaster Junior" urinal flush valve	No	3		
28	15mm Code 832/350F angle regulating valve and connection pipe with a 350mm braided flexi hose	No	9		
29	15mm Code 107EC-15 "Star" hose bib-tap	No	5		

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Bill No. 15

Plumbing and Drainage

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Section 2 - Building Works

Bill No. 15

Plumbing and Drainage

New Carnarvon Science Exploratorium (CSE), Carnarvon

QS Ref: P20220155

Item No	Quantity	Rate	Amount
SECTION 2 BILL NO 16 GLAZING ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Float glass: The term "float glass" is used for monolithic annealed glass Laminated glass: Laminated glass to have polyvinyl butyral (PVB) interlayer(s) -----			
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Section No. 2 Section 2 - Building Works Bill No. 16 Glazing New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

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Bill No. 16

Glazing

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Section 2 - Building Works

Bill No. 16

Glazing

New Carnarvon Science Exploratorium (CSE), Carnarvon

QS Ref: P20220155

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Item No		Quantity	Rate	Amount
	SECTION 2 BILL NO 17 PAINTWORK ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES PAINT SPECIFICATIONS All painting shall be done in accordance with "Plascon" specifications, unless otherwise described COLOURS When staining timber, the resultant colour or shade must be to the complete satisfaction of the Engineer before any overcoating or preservative is applied Paintwork is classified in the following different colour groups: "White", "Pastel", "Deep" and "Transparent" in accordance with the "Natural Colour System" (NCS) adopted by the SA National Standards Unless otherwise described, all paintwork shall be deemed to be classified in the "White" colour group -----			
	Carried to Trade Summary Section No. 2 Section 2 - Building Works Bill No. 17 Paintwork New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	PAINTWORK, ETC TO NEW WORK			
	ON INTERNAL FLOATED PLASTER SURFACES			
	One coat "Plascon Plaster Primer" and two coats "Plascon Double Velvet" superior quality acrylic emulsion paint for interior and exterior use, on:			
1	Walls	m2	1,533	
2	Extra over for paintwork in the "Pastel" colour group	m2	767	
3	Ditto, but for paintwork in the "Deep" colour group	m2	767	
	One coat "Plascon Plaster Primer" and two coats "Plascon Enamel" superior quality acrylic emulsion paint for interior and exterior use, on:			
4	Walls	m2	880	
5	Extra over for paintwork in the "Pastel" colour group	m2	440	
6	Ditto, but for paintwork in the "Deep" colour group	m2	440	
	ON EXTERNAL FLOATED PLASTER SURFACES			
	One coat "Plascon Plaster Primer" and two coats "Plascon Double Velvet" superior quality acrylic emulsion paint for interior and exterior use, on:			
7	Ceilings and beams	m2		Rate only
	One coat "Plascon Plaster Primer" and two coats "Plascon Double Velvet" superior quality acrylic emulsion paint for interior and exterior use, on:			
8	Walls	m2	406	
9	Extra over for paintwork in the "Pastel" colour group	m2	203	
10	Ditto, but for paintwork in the "Deep" colour group	m2	203	
	Carried to Trade Summary			
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	Bill No. 17			
	Paintwork			
	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No		Quantity	Rate	Amount
	ON INTERNAL GYPSUM PLASTER SURFACES			
	One coat "Plascon Plaster Primer" and two coats "Plascon Double Velvet" superior quality acrylic emulsion paint for interior and exterior use, on:			
11	Ceilings and bulkheads	m2	319	
12	Extra over for paintwork in the "Pastel" colour group	m2	160	
13	Ditto, but for paintwork in the "Deep" colour group	m2	160	
	ON SMOOTH CONCRETE SURFACES			
	One coat "Plascon Plaster Primer" and two coats "Plascon Double Velvet" superior quality acrylic emulsion paint for interior and exterior use, on:			
14	Ceilings and beams	m2		Rate only
	ON METAL SURFACES			
	One coat "Plascon Galvanised Iron Primer" and two coats "Plascon Velvagro" premium quality enamel paint on galvanised steel:			
15	Door frames	m2	42	
16	Extra over for paintwork in the "Pastel" colour group	m2	21	
17	Ditto, but for paintwork in the "Deep" colour group	m2	21	
	One coat "Plascon Metal Primer" and two coats "Plascon Velvagro" premium quality enamel paint on:			
18	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	12	
19	Extra over for paintwork in the "Pastel" colour group	m2	6	
20	Ditto, but for paintwork in the "Deep" colour group	m2	6	
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Bill No. 17

Paintwork

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Section 2 - Building Works

Bill No. 17

Paintwork

New Carnarvon Science Exploratorium (CSE), Carnarvon

QS Ref: P20220155

Item No	Quantity	Rate	Amount
SECTION 2 BILL NO 18 BUILDER'S WORK IN CONNECTION WITH SPECIALIST INSTALLATIONS ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES Prices for chases, holes, openings, sleeves, etc through or into brickwork, concrete, etc must include for making good same as well as any disturbed work or finishes in all other trades, unless otherwise described Making good finishes: Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary -----			
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Section No. 2 Section 2 - Building Works Bill No. 18 Builder's Work in connection with Specialist Installations New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No			Quantity	Rate	Amount
	SLEEVES				
	PVC sleeves for pipes not exceeding 100mm diameter:				
1	Sleeve not exceeding 250mm long and built through one-brick wall	No	6		
2	Ditto, but sleeve exceeding 250mm and not exceeding 500mm long	No	4		
3	Ditto, but cast horizontally through 150mm thick reinforced concrete wall, slab, etc including holes through formwork	No	2		
	PVC sleeves for pipes exceeding 100mm and not exceeding 200mm diameter:				
4	Sleeve not exceeding 250mm long and built through one-brick wall	No	4		
5	Ditto, but sleeve exceeding 250mm and not exceeding 500mm long	No	3		
6	Ditto, but cast horizontally through 150mm thick reinforced concrete wall, slab etc including holes through formwork	No	1		
	OPENINGS, ETC				
	Leave or form openings:				
7	Opening 200 x 200mm high through half brick wall	No	5		
8	Ditto, but through one brick wall	No	5		
9	Ditto, but through 280mm cavity brick wall including closing cavities all round	No	10		
10	Opening 300 x 300mm high through half brick wall	No	4		
11	Ditto, but in one brick wall	No	4		
12	Ditto, but in 250mm cavity brick wall including closing cavities all round	No	4		
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	Builder's Work in connection with Specialist Installations				
	New Carnarvon Science Exploratorium (CSE), Carnarvon				
	QS Ref: P20220155				

Item No			Quantity	Rate	Amount
	CORE DRILLING, ETC				
	Core drilling through brickwork:				
13	50mm Diameter hole through half brick wall	No	5		
14	Ditto, but 150mm diameter hole	No	6		
15	50mm Diameter hole through one brick wall	No	5		
16	Ditto, but 150mm diameter hole	No	5		
17	50mm Diameter hole through 280mm hollow wall formed of two half brick skins	No	10		
18	Ditto, but 150mm diameter hole	No	5		
19	Ditto, but 200mm diameter hole	No	5		
20	Ditto, but 250mm diameter hole	No	5		
	Core drilling through reinforced concrete :				
21	100 mm Diameter hole through not exceeding 300 mm wall	No	10		
22	Ditto, but 150 mm diameter hole	No	5		
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	Builder's Work in connection with Specialist Installations				
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Bill No. 18
Builder's Work in connection with Specialist Installations

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Bill No. 18
Builder's Work in connection with Specialist Installations
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

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Item No		Quantity	Rate	Amount
	ACOUSTIC WALL TREATMENT TO SQUARE KILOMETER ARRAY (SKA)			
1	Provisional Sum of Two Million Two Hundred Thousand Rand (R2,200,000.00) for the supply and installation of acoustic wall cladding, etc to Square Kilometer Array (SKA) walls	Item		2,200,000.00
2	Overhead charges and Profit (.....%)		%	
	ACOUSTIC WALL TREATMENT TO PLANETARIUM / AUDITORIUM			
3	Provisional Sum of Five Hundred and Forty Thousand Rand (R540,000.00) for the supply and installation of acoustic wall cladding, etc to Planetarium / Auditorium walls	Item		540,000.00
4	Overhead charges and Profit (.....%)		%	
	ACOUSTIC CEILINGS TO OFFICES			
5	Provisional Sum of One Hundred and Twenty Thousand Rand (R120,000.00) for the supply and installation of acoustic ceilings to Offices	Item		120,000.00
6	Overhead charges and Profit (.....%)		%	
	ACOUSTIC CEILINGS TO PLANETARIUM / AUDITORIUM			
7	Provisional Sum of Five Hundred and Eighty Thousand Rand (R580,000.00) for the supply and installation of acoustic cladding, etc to Planetarium / Auditorium dome ceiling	Item		580,000.00
8	Overhead charges and Profit (.....%)		%	
	PLANETARIUM / AUDITORIUM SEATING			
9	Provisional Sum of Two Hundred and Sixty Thousand Rand (R260,000.00) for the supply and installation of seating to the Planetarium / Auditorium	Item		260,000.00
10	Overhead charges and Profit (.....%)		%	
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	Section No. 2 Section 2 - Building Works Bill No. 19 Provisional Sums New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

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Bill No. 19

Provisional Sums

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Section 2 - Building Works

Bill No. 19

Provisional Sums

New Carnarvon Science Exploratorium (CSE), Carnarvon

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Item No	Quantity	Rate	Amount
SECTION 3 BILL NO 1 EXTERNAL WORK (PROVISIONAL) (ALL TRADES) ----- PREAMBLES The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles SUPPLEMENTARY PREAMBLES FOUNDATIONS Nature of ground: A soils investigation has been carried out on the site by the Engineer and the report is annexed to these bills of quantities. Refer to Annexure 3 included herewith. Should the Contractor encounter any "soft" or "hard" rock in the excavations, he shall immediately notify the Engineer who shall be the sole arbiter as to what constitutes "soft" or "hard" rock for final account purposes Subterranean water: No subterranean water is expected			
Carried to Trade Summary			R
Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No	Quantity	Rate	Amount
Should the Contractor however, encounter any subterranean water on the site, he shall immediately notify the Engineer thereof and submit recommendations for keeping the works free from subterranean water together with all costs involved therewith Excavation for working space in rock: Notwithstanding clause 10 of the Standard System of Measuring Building Work (Seventh Edition), excavation for working space in material of a more difficult character (e.g. soft or hard rock, etc) will be measured in cubic metres to the extent executed and given as "extra over" bulk excavation or trench and hole excavation as the case may be Carting away of excavated material: Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site Filling: Notwithstanding the reference to prescribed multiple handling in Clause 1 of the Standard System of Measuring Building Work (Seventh Edition), prices for filling and backfilling shall include for all selection and any necessary multiple handling of material Testing: <i>Prices for backfilling to trenches and holes only are to include for all necessary density tests in accordance with SANS 1200D</i>			
Carried to Trade Summary		R	
Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
	Formwork: Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the Engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks" CONCRETE, FORMWORK AND REINFORCEMENT Cost of tests: The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SANS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Engineer. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Engineer. (Test cubes are measured separately) Waterproof concrete: "Waterproof concrete" shall have the same properties as normal concrete, but the following shall be modified to make the concrete more water-tight: 1. a cement/water ratio of minimum 1.9 and maximum 2.1 2. minimum OPC content of 300kg/m³ 3. Polypropylene micro fibres added to concrete at rate of 182 million per m³ Formwork: Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use			
	Carried to Trade Summary Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No	Quantity	Rate	Amount
METALWORK			
Descriptions of bolts, anchors, etc:			
Descriptions of bolts shall be deemed to include nuts and washers			
Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete			
Items described as "holed for bolt(s)" shall be deemed to exclude the bolts, unless otherwise described			
Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres			
Fixing:			
Unless otherwise described, descriptions of items shall be deemed to include for fixing to brickwork or concrete			
Where items are described as "bolted", the bolts are measured elsewhere as stated in clause N.7 of the Model Preambles			
PLASTERING			
Moisture tests:			
Before any finishes, coverings, etc are applied to screeds, plastering, etc or any other in-situ finish, moisture tests are to be carried out to the complete satisfaction of the Engineer to ensure that these surfaces have the correct moisture content for the finish to be applied			
Labours, etc			
Labours such as fair, rounded and chamfered edges, trowel cuts, throats, V-joints, angles, etc shall be deemed to be included in the descriptions			
Carried to Trade Summary			
Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			R

Item No		Quantity	Rate	Amount
	Sample Panels A sample panel size 1m x1m, of each of the various plaster type wall and floor finishes in this contract, shall be prepared for the approval of the Engineer and the cost of the sample panel(s) shall be deemed to be included in the overall costs of the <u>relevant</u> wall and floor finishes GRANOLITHIC Method: The method to be used shall be either the monolithic method or the bonded method Preparation: For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic Mix: Unless otherwise described, granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic			
	Carried to Trade Summary			
	Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	Panels: Granolithic shall be laid in panels not exceeding 14m² for monolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints Laying: Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated Curing, seasoning and protection: Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying Colour: Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour			
	Carried to Trade Summary Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	Risk of collapse of excavations:			
8	Sides of trench and hole excavations not exceeding 1,5m deep	m2	153	
	Keeping excavations free of water:			
9	Keeping excavations free of all water other than subterranean water	Item		
	FILLING, ETC OTHER THAN BULK			
	Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 98% Mod AASHTO density:			
10	Backfilling to trenches, holes, etc	m3	38	
	G7 filling supplied by the Contractor, compacted to 93% Mod AASHTO density:			
11	Under floors, steps, pavings, etc	m3	132	
	G7 filling supplied by the Contractor, compacted to 98% Mod AASHTO density:			
12	Behind retaining walls	m3	186	
	LAYER WORK			
	Compaction of surfaces:			
13	Compaction of existing ground surface under floors, paving, etc including scarifying for a depth of 300mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2	302	
	Prescribed density tests on filling:			
14	"Modified AASHTO Density" test	No	2	
	Carried to Trade Summary			
	Section No. 3			
	Section 3 - Civil Works and Site Services (Provisional)			
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	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No			Quantity	Rate	Amount
	CONCRETE WORK				
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	15MPa/19mm concrete:				
15	Surface blinding under footings and bases	m3	12		
	REINFORCED CONCRETE CAST ON/IN FORMWORK				
	35MPa/19mm concrete:				
16	Strip footings	m3	21		
17	Raft slabs	m3	53		
18	Ramps cast in panels on waterproofing	m3	15		
19	Landings cast in panels on waterproofing	m3	4		
20	Stairs including landings, beams and inverted beams	m3	2		
21	Walls	m3	75		
	TEST CUBES				
22	Making and testing sets of three 150 x 150 x 150mm concrete strength test cubes	Sets	29		
	CONCRETE SUNDRIES				
	Finishing top surfaces of concrete to a brushed non-slip surface finish:				
23	Surface beds, ramps, slabs, etc	m2	126		
	Carried to Trade Summary				
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	New Carnarvon Science Exploratorium (CSE), Carnarvon				
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Item No		Quantity	Rate	Amount
	SMOOTH FORMWORK (DEGREE OF ACCURACY I)			
	Smooth formwork to sides:			
35	Walls with total height exceeding 1,5m and not exceeding 3,5m above bearing level	m2	164	
36	Walls circular to exceeding 1m radius	m2	83	
	REINFORCEMENT			
	Mild steel reinforcement to structural concrete work:			
37	Mild steel bar reinforcement (8 to 40mm diameter bars)	t	7.89	
	High tensile steel reinforcement to structural concrete work:			
38	High tensile steel bar reinforcement (8 to 40mm diameter bars)	t	7.89	
	Fabric reinforcement:			
39	Type 617 fabric reinforcement in concrete surface beds etc.	m2	124	
	BRICKWORK			
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar:			
40	Mass brickwork in steps	m3	47	
	PAVING			
	Copings, sills, etc of 330 x 330 x 50mm thick precast concrete paving blocks, pointed with flush joints on all exposed faces:			
41	330mm Step copings on top of mass brickwork steps	m	35	
42	330mm Step copings on tops of mass brickwork steps, circular-on-plan to exceeding 2m radius	m	127	
	Carried to Trade Summary			
	Section No. 3			
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	Bill No. 1			
	External Work (Provisional)			
	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No		Quantity	Rate	Amount
47	Raking balustrades 1000mm high, formed of 50mm external diameter x 3mm thick continuous pipe handrail, 20 x 10mm flat section continuous top and bottom rails, 50mm diameter circular hollow section posts at approximately 1200mm centres with footplates bolted to concrete and 20mm diameter intermediate vertical balusters at approximately 120mm centres between top and bottom rails (as per "Ramp Typical Details" detail on Architects "Main Entrance Stair & Ramp Details" drawing No. WC 028-210, Rev. 1)	m	54	
48	Raking balustrades 1000mm high, formed of 50mm external diameter x 3mm thick continuous pipe handrail, 20 x 10mm flat section continuous top and bottom rails, 50mm diameter circular hollow section posts at approximately 1200mm centres with footplates bolted to concrete and 20mm diameter intermediate vertical balusters at approximately 120mm centres between top and bottom rails (as per "Ramp Typical Details" detail on Architects "Main Entrance Stair & Ramp Details" drawing No. WC 028-210, Rev. 1), circular on plan	m	47	
49	Extra over for L-intersection of horizontal balustrades	No	22	
50	Extra over for junction of end of horizontal with end of raking balustrades	No	26	
51	12mm Chemical anchor with loose bolt	No	447	
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Item No		Quantity	Rate	Amount
	THE FOLLOWING AT REFUSE BLOCK			
	EARTHWORKS			
	Excavation in earth not exceeding 2m deep:			
54	Reduced levels under floors	m3	5	
55	Trenches	m3	20	
	Back excavation of vertical sides of excavations in earth for working space, including backfilling compacted to 95% Mod AASHTO density:			
56	Not exceeding 500mm deep for placing and removing formwork to footings, beams, etc against excavated face	m2	15	
57	Exceeding 500mm and not exceeding 1500mm deep for placing and removing formwork to footings, beams, etc against excavated face	m2	29	
	Extra over all excavations in earth for excavations in:			
58	Soft rock	m3	2	
59	Hard rock	m3	1	
	Extra over all excavations for carting away:			
60	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor	m3	13	
	Risk of collapse of excavations:			
61	Sides of trench and hole excavations not exceeding 1,5m deep	m2	44	
	Keeping excavations free of water:			
62	Keeping excavations free of all water other than subterranean water	Item		
	Carried to Trade Summary			
	Section No. 3			
	Section 3 - Civil Works and Site Services (Provisional)			
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	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No		Quantity	Rate	Amount
	REINFORCED CONCRETE CAST ON/IN FORMWORK			
	35MPa/19mm concrete:			
69	Strip footings	m3	4	
70	Surface beds cast in panels on waterproofing	m3	2	
	TEST CUBES			
71	Making and testing sets of three 150 x 150 x 150mm concrete strength test cubes	Sets	1	
	FORMWORK			
	ROUGH FORMWORK (DEGREE OF ACCURACY III)			
	Rough formwork to sides:			
72	Strip footings	m2	7	
73	Strip footings, circular on plan	m2	1	
	MOVEMENT JOINTS, ETC			
	Expansion joints with "Sondor Jointex" polyethylene expansion joint filler with tear-off strips in floors:			
74	10mm Joints not exceeding 300mm high	m	14	
	REINFORCEMENT			
	Mild steel reinforcement to structural concrete work:			
75	Mild steel bar reinforcement (8 to 40mm diameter bars)	t	0.20	
	High tensile steel reinforcement to structural concrete work:			
76	High tensile steel bar reinforcement (8 to 40mm diameter bars)	t	0.20	
	Carried to Trade Summary			
	Section No. 3			
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Item No		Quantity	Rate	Amount
	Fabric reinforcement:			
77	Type 617 fabric reinforcement in concrete surface beds etc.	m2	10	
	BRICKWORK			
	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar:			
78	One brick walls	m2	18	
79	One brick walls, circular on plan	m2	4	
	Brickwork of NFP bricks in class II mortar:			
80	One brick walls	m2	20	
81	One brick walls circular-on-plan	m2	4	
	2,5mm Galvanised brick reinforcement:			
82	150mm Wide reinforcement built in horizontally	m	270	
83	150mm Wide reinforcement built in horizontally, circular on plan	m	56	
	FACE BRICKWORK			
	"Corobrik" Maize Travertine FBX face bricks pointed with flush horizontal and vertical joints:			
84	Extra over brickwork for face brickwork	m2	39	
85	Extra over brickwork for face brickwork, circular-on-plan to exceeding 2m radius.	m2	9	
	Brick-on-edge header course copings, sills, etc of "Corobrik" Maize Travertine FBX face bricks, pointed with flush joints on all exposed faces:			
86	230mm Copings on top of one brick walls	m	11	
87	230mm Copings on tops of one brick walls, circular-on-plan to exceeding 2m radius	m	2	
	Carried to Trade Summary			
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	Section 3 - Civil Works and Site Services (Provisional)			
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	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No		Quantity	Rate	Amount
	THE FOLLOWING AT TIMBER FENCING Treated timber fences comprising 150mm diameter x 1500mm long vertical posts at 1800mm centres, erected complete including concrete bases with four (4) 90mm diameter timber horizontal railings fixed to vertical posts at 270mm centres, as per "Typical Post and Rail" detail on Architects "Main Entrance Stair & Ramp Details" drawing No. WC 028-210, Rev. 1			
92	Timber fence approximately 1100mm high, circular on plan ----- THE FOLLOWING AT BOUNDARY FENCING AND GATES "Cochrane ClearVu Invisible Wall" or similar approved high density anti-climbing and anti-cut pressed mesh panel fencing formed of 3mm diameter horizontal and 4mm diameter vertical high tensile wires galvanised with "Marine Fusion Bond" coating with aperture size 76,2mm x 12,7mm and reinforcing V-section ribs, bolted with vandal resistant bolts and clamping plates to 85 x 45mm Taper locking post 2,7m high including locking recess mechanism at 3,382m centres with sealed end caps and 30 x 3mm x 250mm long angle section base anchors with posts bedded in 25MPa concrete bases size 400 x 400 x 600mm deep with and including bitumen coated ClearVu underdig, 600mm deep:	m	18	
93	Fence 2100mm high	m	831	
94	Hot-dipped galvanised shark-tooth anti-climb spike, 100mm high bolted at 150mm centres with anti-vandal bolts	m	831	
Carried to Trade Summary				R
Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155				

Item No		Quantity	Rate	Amount
	THE FOLLOWING AT OUTDOOR AMPHITHEATRE PREAMBLES General: A Budgetary Allowance is a sum of money included in the contract sum for work intended for execution by the Contractor, the extent of which is identified but not detailed Work for which budgetary allowances are provided will be measured and valued in accordance with clause 12.2 and 12.3 of the FIDIC Conditions of Contract for Construction, Second Edition 2017 and deducted in whole or in part if not required without any compensation for loss or profit on the said allowances Each Budgetary Allowance may comprise more than one element of work ----- AMPHITHEATRE STRUCTURE			
98	Budgetary Allowance of Two Million Two Hundred and Fifty Five Thousand Rand (R2,255,000.00) for the construction of the Amphitheatre structure, including foundations, seating, steps, lower level stage area and retaining walls, including civil works for the shaping of the area, balustrading, handrails, etc	Item		2,255,000.00
	Carried to Trade Summary Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 1 External Work (Provisional) New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Section No. 3

Bill No. 1

External Work (Provisional)

TRADE SUMMARY

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Section 3 - Civil Works and Site Services (Provisional)

Bill No. 1

External Work (Provisional)

New Carnarvon Science Exploratorium (CSE), Carnarvon

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Section No. 3

Bill No. 1

External Work (Provisional)

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Section 3 - Civil Works and Site Services (Provisional)
Bill No. 1
External Work (Provisional)
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

Item No		Quantity	Rate	Amount
	SECTION 3 BILL NO 2 CIVIL ENGINEERING SERVICES ----- PREAMBLES General: Rates in these Bills of Quantities are to be priced nett. The rates contained in these Bills of Quantities are for material and equipment supplied and installed complete by firms of specialists Overhead Charges and Profit: The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below ----- CIVIL ENGINEERING WORKS			
1	Total of the Provision of Civil Engineering Services for the SARAO Science Centre Bills of Quantities contained in Annexure 5 attached hereto (Excluding VAT)	Item		
2	Overhead charges and Profit (.....%)		%	
	Carried Forward to Summary of Section No. 3 Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 2 Civil Engineering Services New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
OUTDOOR AMPHITHEATRE				
AMPHITHEATRE TENSILE DOME ROOF				
9	Provisional Sum of Five Hundred and Thirty Thousand Rand (R530,000.00) for the design, supply and installation of the Amphitheatre Tensile Dome Roof structure, including structural steel support	Item		530,000.00
10	Overhead charges and Profit (.....%)		%	
AMPHITHEATRE EQUIPMENT				
11	Provisional Sum of Eighty Thousand Rand (R80,000.00) for the supply and installation of a Projector and Pull-down screen	Item		80,000.00
12	Overhead charges and Profit (.....%)		%	
AMPHITHEATRE ELECTRICAL AND LIGHTING INSTALLATION				
13	Provisional Sum of Fifty Eight Thousand Rand (R58,000.00) for Electrical Installation works at the Amphitheatre, including lighting and power points	Item		58,000.00
14	Overhead charges and Profit (.....%)		%	
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Section No. 3 Section 3 - Civil Works and Site Services (Provisional) Bill No. 3 Provisional Sums New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155				

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Bill No. 3

Provisional Sums

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Section 3 - Civil Works and Site Services (Provisional)
Bill No. 3
Provisional Sums
New Carnarvon Science Exploratorium (CSE), Carnarvon
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Item No		Quantity	Rate	Amount
SECTION 4				
BILL NO 2				
ELECTRONIC SERVICES INSTALLATION				

PREAMBLES				
General:				
Rates in these Bills of Quantities are to be priced nett.				
The rates contained in these Bills of Quantities are for material and equipment supplied and installed complete by firms of specialists				
Overhead Charges and Profit:				
The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below				

ELECTRONIC INSTALLATION WORKS				
1	Total of Electronic Services Installation for the SARAO Science Centre Bills of Quantities contained in Annexure 7 attached hereto (Excluding VAT)	Item		
2	Overhead charges and Profit (.....%)		%	
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Section No. 4 Section 4 - Specialist Building Installation Works Bill No. 2 Electronic Services Installation New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155				

Item No		Quantity	Rate	Amount
	SECTION 4 BILL NO 3 HVAC INSTALLATION ----- PREAMBLES General: Rates in these Bills of Quantities are to be priced nett. The rates contained in these Bills of Quantities are for material and equipment supplied and installed complete by firms of specialists Overhead Charges and Profit: The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below ----- HVAC INSTALLATION WORKS			
1	Total of the SARAO Carnarvon: HVAC Installation Bills of Quantities contained in Annexure 8 attached hereto (Excluding VAT)	Item	%	
2	Overhead charges and Profit (.....%)			
	Carried Forward to Summary of Section No. 4		R	
	Section No. 4 Section 4 - Specialist Building Installation Works Bill No. 3 HVAC Installation New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			

Item No		Quantity	Rate	Amount
	SECTION 4 BILL NO 4 WET SERVICES INSTALLATION ----- PREAMBLES General: Rates in these Bills of Quantities are to be priced nett. The rates contained in these Bills of Quantities are for material and equipment supplied and installed complete by firms of specialists Overhead Charges and Profit: The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below ----- WET-SERVICES INSTALLATION WORKS			
1	Total of the SARAO Carnarvon Centre: Wet-Services Bills of Quantities contained in Annexure 9 attached hereto (Excluding VAT)	Item		
2	Overhead charges and Profit (.....%)		%	
	Carried Forward to Summary of Section No. 4 Section No. 4 Section 4 - Specialist Building Installation Works Bill No. 4 Wet Services Installation New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Item No		Quantity	Rate	Amount
	SECTION 4 BILL NO 5 FIRE PROTECTION WORKS ----- PREAMBLES General: Rates in these Bills of Quantities are to be priced nett. The rates contained in these Bills of Quantities are for material and equipment supplied and installed complete by firms of specialists Overhead Charges and Profit: The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below ----- FIRE PROTECTION WORKS			
1	Total of the SARAO Carnarvon Fire Protection Supply and Installation Bills of Quantities contained in Annexure 10 attached hereto (Excluding VAT)	Item		
2	Overhead charges and Profit (.....%)		%	
	Carried Forward to Summary of Section No. 4 Section No. 4 Section 4 - Specialist Building Installation Works Bill No. 5 Fire Protection Works New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155		R	

Section No. 4

Section 4 - Specialist Building Installation Works

SECTION SUMMARY - Section 4 - Specialist Building Installation Works

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Section 4 - Specialist Building Installation Works			
New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Item No	Quantity	Rate	Amount
SECTION 5 BILL NO 1 CSE - CONTENT FIT-OUT ----- PREAMBLES General: A Provisional Sum is a sum of money included in the contract sum for work intended for execution by Specialist subcontractors, the extent of which is identified but not detailed Each Provisional Sum may comprise more than one element of work Overhead Charges and Profit: The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below -----			
Carried to Trade Summary Section No. 5 Section 5 - Specialist Exhibition and Content Installations Bill No. 1 CSE - Content Fit-out New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			R

Item No		Quantity	Rate	Amount
	CARNARVON SCIENCE EXPLORATORIUM (CSE) - CONTENT FIT-OUT PROVISIONAL SUMS			
	PLANETARIUM CONTENT DEVELOPMENT			
1	Provisional Sum of Five Million Seven Hundred and Fifty Thousand Rand (R5,750,000.00) for the Planetarium Content Development content fit-out	Item		5,750,000.00
2	Overhead charges and Profit (.....%)		%	
	THE SQUARE KILOMETRE ARRAY - SKA			
3	Provisional Sum of Seven Million Six Hundred and Sixty Thousand Rand (R7,660,000.00) for the Square Kilometer Array (SKA) content fit-out	Item		7,660,000.00
4	Overhead charges and Profit (.....%)		%	
	YOUNG LEARNER PLAYGROUND			
5	Provisional Sum of Three Million Six Hundred and Seventy Thousand Rand (R3,670,000.00) for the Young Learner Playground, including for required grading, excavation and filling to area, foundations, Wet Rubber Pour floor coverings, lighting, information signage and eight (8) play structures	Item		3,670,000.00
6	Overhead charges and Profit (.....%)		%	
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	Bill No. 1			
	CSE - Content Fit-out			
	New Carnarvon Science Exploratorium (CSE), Carnarvon			
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Bill No. 1

CSE - Content Fit-out

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New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

Item No	Quantity	Rate	Amount
SECTION 5 BILL NO 2 CSE PLANETARIUM: AV & SCREEN FIT-OUT ----- PREAMBLES General: A Provisional Sum is a sum of money included in the contract sum for work intended for execution by Specialist subcontractors, the extent of which is identified but not detailed Each Provisional Sum may comprise more than one element of work Overhead Charges and Profit: The Contractor's overhead charges and profit for the above specialist works are to be priced separately in the item provided below ----- Carried to Trade Summary Section No. 5 Section 5 - Specialist Exhibition and Content Installations Bill No. 2 CSE Planetarium: AV & Screen Fit-out New Carnarvon Science Exploratorium (CSE), Carnarvon QS Ref: P20220155			
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Item No		Quantity	Rate	Amount
	CSE PLANETARIUM: SPECIALIST AUDIO VISUAL & SCREEN FIT-OUT PROVISIONAL SUMS			
	VIDEO SYSTEM (8M DOME)			
1	Provisional Sum of Nine Million Six Hundred and Sixty Thousand Rand (R9,660,000.00) for the Video System for the 8m dome, including the Dome screen, Projection System, Media Playback System and the Presentation Equipment	Item		9,660,000.00
2	Overhead charges and Profit (.....%)		%	
	AUDIO SYSTEM (8M DOME)			
3	Provisional Sum of Nine Hundred Thousand Rand (R900,000.00) for the Audio System for the 8m dome, including Main and Live Audio	Item		900,000.00
4	Overhead charges and Profit (.....%)		%	
	LIGHTING SYSTEM (8M DOME)			
5	Provisional Sum of Three Hundred and Sixty Thousand Rand (R360,000.00) for the Lighting System for the 8m dome	Item		360,000.00
6	Overhead charges and Profit (.....%)		%	
	CONTROL SYSTEM			
7	Provisional Sum of Six Hundred and Forty Thousand Rand (R640,000.00) for the Control System	Item		640,000.00
8	Overhead charges and Profit (.....%)		%	
	CONTENT DESIGN AND MANAGEMENT SERVICES			
9	Provisional Sum of Three Million and Forty Thousand Rand (R3,040,000.00) for the Design, Project Management & Pre-Assembly, Supervision, Installation & Commissioning Services	Item		3,040,000.00
10	Overhead charges and Profit (.....%)		%	
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Bill No. 2
CSE Planetarium: AV & Screen Fit-out

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Bill No. 2
CSE Planetarium: AV & Screen Fit-out
New Carnarvon Science Exploratorium (CSE), Carnarvon
QS Ref: P20220155

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Declaration

(In respect of completeness of Tender)

I/we, the undersigned, do hereby declare that these are the properly priced Bill of Quantities forming Part D2 of this Contract Document in consecutive order upon which my/our tender for the **BID NO: NRF/SARAO SHAO/36/202425 – CONSTRUCTION, INSTALLATION, TESTING, COMMISSIONING AND VERIFICATION OF THE NEW CARNARVON SCIENCE EXPLORATORIUM (CSE) IN CARNARVON, NORTHERN CAPE**, has been based.

SIGNED BY/ON BEHALF OF TENDERER:

	NAME		SIGNATURE	DATE

D4: Annexures

Annexure No.	Annexure Title
Annexure 1	Contractor She Pre-Qualifying Questionnaire
Annexure 2	Schedule of Drawings and Specifications
Annexure 3	Geo-technical Report
Annexure 4	Occupational Health and Safety Specification
Annexure 5	Civil Engineering Works Tender Package
Annexure 6	Electrical Installation Tender Package
Annexure 7	Electronic Installation Tender Package
Annexure 8	HVAC Installation Tender Package
Annexure 9	Wet Services Installation Tender Package
Annexure 10	Fire Protection Installation Tender Package
Annexure 11	Bill of Quantities Excel Sheet