

Annexure A

The provision of construction management services to the CSIR

The following sub-contractors will be managed by the successful CCM bidder in accordance with their determined scope and their determined subcontract value. This project is a highly innovative project, with a number of alternative technologies applied. Therefore requiring the consultant team to investigate beyond the normal confines of building construction. The team to be managed include Quantity Surveyor: Clarence Bobie Inc., Engineers: Element Consulting Engineers (PTY) Ltd, project manager: Royal Haskoning DHV, Health and Safety: Occumed Close Corporation, Architect: Ngonyama Okpanum Associates, Contractor: Helm Construction Projects.

1. Quantity Surveyor: Clarence Bobie Inc.:
2. Engineers: Element Consulting Engineers (PTY) Ltd,
Civil & Structural
Electrical & Mechanical
Fire Protection
Additional project related service:
3. Project manager: Royal Haskoning DHV:
4. Health and Safety: Occumed Close Corporation:
5. Architect: Ngonyama Okpanum Associates:
Total value of professional fees: **R 2 630 742.07 (excl VAT)**
6. Contractor: Helm Construction Projects:
Total value of construction cost: **R 5 013 955.40 (excl VAT)**

The work scope to be completed and therefore managed by the successful CCM bidder for each of the subcontractor are broadly specified below: Works related to the professional service fees include design, development and coordination works currently on site, and works that are still to commence towards closure and completion of the construction project and post construction. Again we note: This project is a highly innovative project, with a number of alternative technologies applied. Therefore requiring the consultant team to investigate beyond the normal confines of building construction.

1. Quantity Surveyor: Clarence Bobie Inc.:

Preparing schedules of predicted construction cash flow. Preparing pro-active estimates for proposed variations for client decision-making. Adjudicating and resolving financial claims by the contractors. Assisting in the resolution of contractual claims by the contractors. Establishing and maintaining a financial control system. Preparing valuations for payment certificates to be issued by the principal agent. Preparing final accounts for the works on a progressive basis. The quantity surveyor will prepare and issue the final payment certificate. All financial and contractual claims will be finalized including concluding the final accounts for the principal contractor as well as all the subcontractors.

2. Engineers: Element Consulting Engineers (PTY) Ltd,

Civil and Structural: Attend the site handover meeting. Issue construction documentation in accordance with the documentation programme. Attend regular site, technical and progress meetings. Inspect the works for conformity to contract documentation. Assist in the resolution of contractual claims by subcontractors. Clarify details and descriptions during construction as required. Witness and review of all tests and mock-ups carried out both on and off site. Check and approve subcontract shop drawings for design intent. Issue contract instructions as and when required. Review and comment on guarantees, certificates and warranties. Inspect the works and issue practical completion and defects lists. Assist in obtaining statutory certificates. Update and issue drawings register. Deliverables: Attendance at meetings. Issued construction documentation. Written reports on works inspection. Written report on tests and mock-ups. Written approval of subcontract shop drawings. Written report on suitability of guarantee's, certificates and warranties. Assistance in obtaining statutory certificates. Liaise, cooperate and provide necessary information to the Construction and Project Manager and other consultants. Inspect and verify rectification of defects. Prepare and procure guarantees and warranties. Prepare and/or procure as-built drawings and documentation. Deliverables: Written defects report. Handover of guarantees and warranties. Submission of as-built drawings and documentation.

Electrical and Mechanical: Attend the site handover meeting. Issue construction documentation in accordance with the documentation programme. Attend regular site, technical and progress meetings. Inspect the works for conformity to contract documentation. Assist in the resolution of contractual claims by subcontractors. Clarify details and descriptions during installation as required. Manage, witness and review all test and mock-ups carried out both on and off site. Check and approve subcontract shop drawings for design intent. Issue contract instructions as and when required. Review and comment on operation and maintenance manuals, guarantees, certificates and warranties. Inspect the installations and issue practical completion and defects lists. Assist in obtaining statutory certificates

Deliverables: Attendance at meetings. Issued construction documentation. Written reports on works inspection. Written report on tests and mock-ups. Written approval of subcontract shop drawings. Written report on suitability of guarantees, certificates and warranties. Assistance in obtaining statutory certificates. Liaise, cooperate and provide necessary information to the Construction and Project Manager and other consultants. Inspect and verify rectification of defects. Prepare and procure operations and maintenance manuals, guarantees and warranties. Prepare and/or procure as-built drawings and documentation. Deliverables: Written defects report. Handover of guarantees and warranties. Submission of as-built drawings and documentation.

Fire Protection: Attend the site handover meeting. Issue construction documentation in accordance with the documentation programme. Attend regular site, technical and progress meetings. Inspect the works for conformity to contract documentation on average once every two weeks during the course of construction. Assist in the resolution of contractual claims by subcontractors. Clarify details and descriptions during installation as required. Witness and review all test and mock-ups carried out both

on and off site. Check and approve subcontract shop drawings for design intent. Issue contract instructions as and when required. Review and comment on operation and maintenance manuals, guarantees, certificates and warranties. Inspect the installations and issue practical completion and defects lists. Assist in obtaining statutory certificates. Deliverables: Attendance at meetings. Issued construction documentation. Written reports on works inspection. Written report on tests and mock-ups. Written approval of subcontract shop drawings. Written report on suitability of guarantee's, certificates and warranties. Assistance in obtaining statutory certificates. Liaise, cooperate and provide necessary information to the Construction and Project Manager and other consultants. Inspect and verify rectification of defects. Prepare and procure operations and maintenance manuals, guarantees and warranties. Prepare and/or procure as-built drawings and documentation. Deliverables: Written defects report. Handover of guarantees and warranties. Submission of as-built drawings and documentation.

3. Project manager: Royal Haskoning DHV:

The management and administration of the construction contracts and processes, including the preparation and coordination of the necessary documentation to facilitate effective execution of the works. Appoint contractor(s) on behalf of the CSIR including the finalization of all agreements. Instruct the contractor on behalf of the CSIR to appoint subcontractors. Receive, coordinate, review and obtain approval of all documentation provided by the contractor, subcontractors, and suppliers for compliance with all of the contract requirements. Monitor the ongoing projects insurance requirements. Facilitate the handover of the site to the contractor. Establish and coordinate the formal and informal communication structure and procedures for the construction process. Regularly conduct and record the necessary site meetings. Monitor, review and approve the preparation of the Contract Programme by the contractor. Regularly monitor the performance of the contractor against the Contract Programme. Review and adjudicate circumstances and entitlements that may arise from any changes required to the Contract Programme. Monitor the preparation of the contractor's Health and Safety Plan and approval thereof by the Health and Safety Consultant. Monitor the auditing of the Contractor's Health and Safety Plan by the Health and Safety Consultant. Monitor the compliance by the contractors of the requirements of the Health and Safety Consultant. Monitor the production of the Health and Safety File by the Health and Safety Consultant and contractors. Monitor the preparation of the contractor's Environmental Management Plan and approval thereof by the Environmental Consultant. Monitor the auditing of the Contractors' Environmental Management Plan by the Environmental Consultant. Monitor the compliance by the contractors of the requirements of the Environmental Management Plan by the Environmental Consultant. Monitor the production of the Environmental Management File by the Environmental Consultants and contractors. Establish the construction information distribution procedures. Agree and monitor the Construction Documentation Schedule for timeous delivery of required information to the contractors. Expedite, review and monitor the timeous issue of construction information to the contractors. Manage the review and approval of all necessary shop details and product propriety information by the design consultants. Establish procedures for monitoring, controlling and agreeing all scope and cost variations. Agree the quality assurance procedures and monitor the implementation thereof by the consultants and contractors. Monitor, review and approve and certify monthly progress payments. Receive, review and adjudicate any contractual claims. Monitor the preparation of monthly cost reports by the cost consultants. Monitor long lead items and off-site production by the contractors and suppliers. Prepare monthly project reports including submission to the CSIR. Manage, coordinate and monitor compliance by the contractors with relevant quality control manuals. Manage, coordinate and monitor all necessary testing and commissioning by consultants and contractors. Coordinate, monitor and issue the Practical Completion Lists and the Certificate of Practical Completion. Coordinate and monitor the preparation and issue of the Works Completion List by the consultants to the contractors. Monitor the execution by the contractors of the

defect items to achieve Works Completion. Facilitate and coordinate adequate access with the occupant for the rectification of defects by the contractors. Deliverables: Signed Contractor(s) Agreements. Agreed Contract Programme. Adjudication and award of contractual claims. Construction Documentation Schedule. Monthly progress payment certificates. Monthly project progress reports. Record of all meetings. Certificates of Practical Completion. The process of managing and administering the project closeout, including preparation and coordination of the necessary documentation to facilitate the effective operation of the project.

Issue the Works Completion Certificate. Manage, coordinate and expedite the preparation by the design consultants of all as-built drawings and design documentation. Manage and expedite the procurement of all statutory compliance certificates and documentation. Manage the finalization of the Health and Safety File for submission to the CSIR. Manage the finalization of the Environmental Management File for submission to the CSIR. Coordinate, monitor and manage the rectification of defects during the Defects Liability Period. Manage, coordinate and expedite the preparation and agreement of the final account by the cost consultants with the relevant contractors. Coordinate, monitor and issue the Final Completion Defects list and Certificate of Final Completion. Prepare and present Project Closeout Report to the CSIR. Deliverables: Works Completion Certificate. Certificate of Final Completion. Handover of as-built drawings, design documentation and all relevant and applicable warranties and operating manuals. Record of all meetings. Project Closeout Report

4. Health and Safety: Occumed Close Corporation:

Assess, discuss, negotiate and approve the contractor(s) construction project health and safety plans. Submit necessary construction health and safety documentation to authorities and facilitate permits that may be required to commence the construction work. Attend site handover meetings and lead construction project health and safety mobilization and access plans. Attend regular site, technical and progress meetings Prepare revised construction project health and safety risk profile, specifications and cost estimates/budgets where there is scope of work changes. Monitor the implementation of the construction project health and safety plans in accordance with the construction project health and safety specification and further scope of work changes and recommend stop work orders where necessary. Monitor design risk management Perform incident and accident investigations where necessary. Audit compliance with the construction project health and safety plans and brief the project management team and contractor(s) following site audits. Conduct construction health and safety management system audits Facilitate construction health and safety system and plans reviews for continual improvement. Monitor the compilation of the construction project health and safety file by the contractor(s). Prepare and maintain the consolidated health and safety file. Prepare the structure commissioning health and safety plans. Review, discuss and approve the health and safety file with the contractor(s) and manage the construction project health and safety during the defects liability period. Cancel all construction project health and safety legal appointments. Prepare the health and safety operations and maintenance report. Prepare the consolidated construction project health and safety close - out report

5. Architect: Ngonyama Okpanum Associates:

Attend the site handover meeting. Attend regular site, technical and progress meetings. Monitor and report on the ongoing projects insurance requirements. Monitor and report on the preparation of the contractor's Health and Safety Plan and approval thereof by the Health and Safety Consultant. Monitor and report on the auditing of the Contractor's Health and Safety Plan by the Health and Safety Consultant. Monitor and report on the compliance by the contractors of the requirements of the Health

and Safety Consultant. Monitor and report on the production of the Health and Safety File by the Health and Safety Consultant and contractors. Monitor and report on the preparation of the contractor's Environmental Management Plan and approval thereof by the Environmental Consultant. Monitor and report on the auditing of the Contractors' Environmental Management Plan by the Environmental Consultant. Monitor and report on the compliance by the contractors of the requirements of the Environmental Management Plan by the Environmental Consultant. Monitor and report on the production of the Environmental Management File by the Environmental Consultants and contractors. Inspect and report on the works for conformity to contract documentation and acceptable quality in terms of industry standards. Assist in the resolution of contractual claims by subcontractors. Agree the quality assurance procedures and monitor the implementation thereof by the consultants and contractors. Clarify details and descriptions during construction as required. Manage the review and approval of all necessary shop details and product propriety information by the design consultants. Issue contract instructions as and when required. Monitor, review and approve and certify monthly progress payments. Receive, review and report on any contractual claims. Receive, coordinate, review and obtain approval of all documentation provided by the contractor, subcontractors, and suppliers for compliance with all of the contract requirements. Inspect the works and issue practical completion and defects lists. Assist in obtaining occupation certificate and other required statutory certificates. Issue construction documentation to the Construction and Project Manager. Initiate and/or check sub-contract design and documentation and acceptable quality in terms of industry standards. Manage, coordinate and monitor compliance by the contractors with relevant quality control manuals. Manage, coordinate and monitor all necessary testing and commissioning by consultants and contractors. Coordinate, monitor and issue the Practical Completion Lists and the Certificate of Practical Completion. Coordinate and monitor the preparation and issue of the Works Completion List by the consultants to the contractors. Monitor the execution by the contractors of the defect items to achieve Works Completion. Facilitate and coordinate adequate access with the occupant for the rectification of defects by the contractors. Deliverables: Attendance at all site and consultant meetings. Signed Contractor(s) Agreements. Audited report of the Contractors Health and Safety Plan, and Environmental Management Plan. Monthly quality assessment reports. Agreed Contract Programme. Practical Completion List. Defects List. Works Completion List.: Adjudication and award of contractual claims. Construction Documentation Schedule. Monthly progress payment certificates. Monthly project progress reports. Record of all meetings. Certificates of Practical Completion. Issue the Works Completion Certificate. Manage, coordinate and expedite the preparation by the design consultants of all as-built drawings and design documentation for submission to the CSIR. Manage and expedite the procurement of all statutory compliance certificates and documentation for submission to the CSIR. Manage the finalization of the Health and Safety File for submission to the CSIR. Manage the finalization of the Environmental Management File for submission to the CSIR. Coordinate, monitor and manage the rectification of defects during the Defects Liability Period. Manage, coordinate and expedite the preparation and agreement of the final account by the cost consultants with the relevant contractors. Coordinate, monitor and issue the Final Completion Defects list and Certificate of Final Completion. Prepare and present Project Closeout Report, with lessons learnt, to the CSIR. Deliverables: Certificate of Final Completion. Handover of as-built drawings, design documentation and all relevant and applicable warranties and operating manuals. Project Close-out Report.

6. Contractor: Helm Construction Projects:

The contractor to start and complete works related to: Road/parking layer work and surfacing and kerbing. Security fencing. Floor finishing. Local SMME sub contract oversight and works completion. Planetarium seating. Fuel cell building construction. Guard House construction. Pathway construction. High level water tank and stand construction. Wind turbine Tower and bases construction.

Amphitheatre/pavilion construction. Storm water works. Worktops joinery. Workstation joinery. Sewer line works. Chess board construction. Site finishing and project site clearance. Works are outlined in Quantity surveyors bill to be administered by PM and oversight provided by appointed CCM