Project Number	:	XDN.E.0037
Project Description	:	Port of Durban: Refurbishment of Queens Warehouse
Document Title	:	Works Information
Discipline	:	Civil

TNPA ENGINEERING DESIGN: SIGNATORIES

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Rev	Date	Revision Details
00	2025-09-19	Issued for Tender

4.2 Civil Engineering Works

This scope of work covers all civil aspects relating to the Queens Warehouse refurbishment. This includes sewer connections for the new kitchen on the ground floor, roadmarkings and painting of new parking bays, and removal of existing carport structures as indicated in the drawings.

4.2.1 Supporting specifications

All work done, and materials supplied, must conform to the requirements of the relevant standards AND specifications, not necessarily comprehensive, as set out in the following schedules:

Title	Document No.	Revision/Date
Earthworks (general)	SANS 2001-BE1	*
Site Clearance	SANS 2001-BS1	*
Concrete Works (Structural)	SANS 2001-CC1	*
Concrete Works (Minor works)	SANS 2001-CC2	*
Masonry walling	SANS 2001-CM1	*
Earthworks for buried pipelines and prefabricated culverts	SANS 2001-DP1	*
Medium Pressure Pipelines	SANS 2001-DP2	*
Cable Ducts	SANS 2001-DP3	*
Sewers	SANS 2001-DP4	*
Stormwater Drainage	SANS 2001-DP5	*
Below-ground water installations	SANS 2001-DP6	*
Sewers for buildings	SANS 2001-DP7	*
Cement plaster	SANS 2001-EM1	*

4.2.2 Demolition

4.2.2.1 Scope of Work

This scope covers the demolition of existing structures viz. damaged carports and sewer pipes, as indicated in the design drawings.

4.2.2.2 Existing services

All known services are provided on the drawing, however, due to the lack of adequate as-built records, the *Contractor* will be required to prove services prior to removal/construction. The *Contractor* shall take the necessary precautions to ensure that the services are not damaged.

As soon as any underground service not shown on the drawings is discovered, it shall be brought to the attention of the *Supervisor*. The *Contractor* must in collaboration with the *Supervisor*, ascertain whether or not the service is live. The *Contractor* shall not uplift any such service unless he is instructed to do so.

The *Contractor* shall be held responsible for any damage to known services (i.e., services that are within the site of the works and are shown on the drawing) and he shall take all necessary measures to protect them. In the event of a service being damaged, the *Contractor* shall immediately notify the *Supervisor*. The *Contractor* shall not repair any such service unless he is instructed to do so.

4.2.2.3 Removal of existing carport structures

Any damage to the adjacent structures shall be repaired by the *Contractor* to the satisfaction of the *Supervisor*. The *Contractor* is required to undertake the complete removal of existing carport structures, as per the drawings. This includes dismantling all structural components and disposing of them in accordance with applicable waste management regulations. Vertical support poles are to be cut flush with ground level, ensuring no protrusions remain. The affected surface areas must be restored to a safe and visually acceptable condition, including filling, levelling, and making good any damage caused during removal. All work shall be executed with minimal disruption to surrounding infrastructure and in compliance with relevant safety standards.

Shadecloths shall be visually inspected together with the *Project Manager* and those deemed in good condition shall be used to reinstate the missing shadecloths on carports as specified in the drawings, on approval of the *Project Manager.* The shadecloths are to be removed with care to prevent damage. Aany damage will result in shadecloth replacement at the *Contractor*'s expense.

4.2.2.4 Demolition of existing sewer pipes

Existing sewer pipes and associated fittings shall be demolished where indicated in the drawings, uplifted and removed off site.

4.2.2.5 Removal of existing roadmarkings

The *Contractor* shall remove all existing roadmarkings, including painted lines, directional arrows and symbols as indicated on the drawings. Removal shall be carried out using an approved method (such as mechanical grinding, high pressure water blasting, or other low-dust methods suitable for enclosed environments. The method shall minimize dust, fumes and noise and not cause damage to the surfacing. The *Contractor* shall submit the proposed removal method and equipment for acceptance by the *Project Manager*, prior to commencement.

The *Contractor* shall ensure that all removed markings are rendered non-visible and non-reflective. Any surface damage resulting from the removal shall be made good by the *Contractor* at no additional cost to the *Employer*. The *Contractor* shall maintain safe access routes for building users and vehicles throughout the works, and work areas clearly cordoned off.

All waste material including dust, paint or slurry shall be collected and disposed of at a licenced facility. No waste residues shall be permitted to enter building drainage systems.

The *Project Manager* shall inspect the cleaned surfaces prior to acceptance and before the application of any new markings. Surfaces not satisfactorily cleaned or repaired shall be rectified by the *Contractor*.

4.2.3 Road marking

4.2.3.1 Scope of Work

This scope covers the roadmarking and specifications for marking of new parking bays and signage, as indicated in the design drawings.

4.2.3.2 Road marking

The *Contractor* shall provide all plant required to execute the works. The lines or markings are to be painted with Plascon - Hysheen Road and Runway Paint or similar approved, at an application rate the rate of 0,42l

per m^2. The colour of paint to be used shall be as specified in the Schedule of Quantities and indicated on the drawing issued. All paint shall conform to SANS 731-1.

The following must be noted by the Contractor in terms of SANS 731-1:

- The paint shall be a Type 2 Paint
- The paint shall be suitable for use in a parking area on a segmented concrete surface
- The paint is not required to be retro reflective
- Drying time classification shall be Class 1

The colors required for the completion of the contract shall be:

- White
- Red
- Golden Yellow (BS381C-356 or CKS 279 – D26)

All the above colours to meet classifications according to SANS 1091.

4.2.4 Sewer reticulation

4.2.4.1 Scope of work

The works for the sewer include the following:

- The installation of new rodding eyes.
- Excavate, supply, bed and lay class 16 uPVC pipes.
- Connection to existing sewer network.
- Provision for interim inspections and testing to final inspection and testing for acceptance.

And any other work arising out of or incidental to the above, or required by the Contractor for the proper completion of the works in accordance with the true meaning and intent of the contract documents.

4.2.4.2 Materials

All new sewer pipes shall be 110mm diameter uPVC pipes, Class 34.

4.2.4.3 Plant

The *Contractor* shall ensure that only plant suitable for working in the confined limits of the site of works and able to obtain the required specification of layer works is used.

4.2.4.4 On-site storage

The *Contractor* shall be allocated a storage area on site and shall be responsible for all materials stored on site until such time that the network has been tested and handed over to the main *Contractor*.

Pipes should be stored on level ground that is free from stones and sharp objects, and should be so stacked (in a stack of cross formation) that the load on each pipe is uniform throughout its length.

4.2.4.5 Construction

4.2.4.5.1 Pipe-Laying Personnel

The laying of pipes and ancillary fittings shall be performed only by a qualified person who is registered by the local authority as an artisan in the plumbing, pipefitting or drain-laying trades.

4.2.4.5.2 Preparation of Trench Bottom

All trench bottoms shall be prepared in accordance with SANS 1200 DB clause 5.5.

4.2.4.5.3 Cutting of pipes

A fine-toothed hacksaw with mitre attachment set at 90º should be used to cut pipes to the required length. Each cut end should be square and the outer edge evenly chamfered by means of a rasp or file or specifically designed chamfering tool. The chamfer must not extend further than half the wall thickness. Cut ends must be free from swarf, burrs, channels, and loose material.

When the length of the pipe to be cut is determined, allowances must be made for the length of any socket attached to the pipe and for a movement of at least 6mm in any rubber ring type socket into which the pipe is to be inserted.

4.2.4.5.4 Pipe laying and jointing

The pipeline should be laid directly on to the prepared bedding in the trench, and bricks or other hard bodies must not be placed under the pipeline for either temporary or permanent support. Jointing should be done using compression fittings. The *Contractor* is to ensure that overtightening of the nut does not occur as this may cause leakages. A thin film of a recommended lubricant, by the manufacturer, should be applied to the interior of the fittings and the pipe end.

4.2.4.5.5 Depths and cover

The minimum cover above pipes shall be 900mm where possible, with encasing as indicated on the drawings to lengths with insufficient cover. At road crossings the minimum cover shall be 1200mm. The depth shall be gradually increased as specified in SANS 1200 L clause 5.1.4.2.

4.2.4.5.6 Tolerances

Tolerances shall be determined on the basis as stated in the relevant clauses of the applicable sections of SANS 2001-DP4, relevant drawings and manufacturers' specification as applicable. The *Contractor* shall ensure that tolerances are complied with.

4.2.4.5.7 Testing

Testing of the sewer system shall be in accordance with SANS 2001-DP4.

5 LIST OF DRAWINGS

5.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing Number	Rev.	Detail
XDN.E.037-1-100-C-LA-0001-01	OA	General arrangement
XDN.E.037-1-100-C-LA-0002-01	OA	External parking area
XDN.E.037-1-100-C-LA-0003-01	OA	Basement parking alterations and new kitchen waste connection