

HESSEQUA MUNICIPALITY

HES-TECH 06/2122

**GOURITSMOND AND JONGENFONTEIN WASTE WATER TREATMENT
WORKS: REFURBISHMENT : CIVIL WORKS**

PART C3: SCOPE OF WORKS

HESSEQUA MUNICIPALITY

CONTRACT NO: HES-TECH 06/2122

FOR

GOURITSMOND AND JONGENSFONTEIN WASTE WATER TREATMENT WORKS:
REFURBISHMENT : CIVIL WORKS

PART C3 SCOPE OF WORK

C3.1	DESCRIPTION OF WORK	C3.1 – C3.2
C3.1.1	Employer's objectives	C3.1
C3.1.2	Overview of the Works	C3.1
C3.1.3	Extent of Works	C3.1
C3.1.4	Location of the Works	C3.1
C3.1.5	Access to Works site	C3.1
C3.1.6	Services known to be crossing the site	C3.1
C3.1.7	Character of strata and materials on site	C3.2
C3.2	ENGINEERING	C3.3
C3.2.1	Design	C3.3
C3.2.2	Employer's Design	C3.3
C3.2.3	Contractor's Design	C3.3
C3.2.4	Drawings	C3.3
C3.3	PROCUREMENT	C3.4 – C3.5
C3.3.1	Preferential Procurement	C3.4
C3.3.2	Subcontracting	C3.5
C3.4	CONSTRUCTION	C3.6 – C3.20
C3.4.1	Works specifications	C3.6
C3.4.2	Site establishment	C3.6
C3.4.3	Plant and materials	C3.19
C3.4.4	Construction equipment	C3.19
C3.4.5	Existing services	C3.19
C3.5	MANAGEMENT OF THE WORKS	C3.21 – C3.23
C3.5.1	Specifications	C3.21
C3.5.2	Planning and Programme	C3.21
C3.5.3	Environmental management	C3.22
C3.6	HEALTH AND SAFETY	C3.18
C3.6.1	Health and Safety requirements and procedures	C3.18
C3.6.2	Protection of the public	C3.18
C3.6.3	Barricades and lighting	C3.18
C3.6.4	Traffic control on roads	C3.18
C3.6.5	Measures against disease and epidemics	C3.18
C3.6.6	Aids awareness	C3.18
C3.7	SPECIFICATION	C3.19 – C3.22
C3.7.1	List of Applicable Standard Specifications	C3.19
C3.7.2	Variations and additions to SANS 1200 Standardized Specifications	C3.20
C3.7.3	Particular Specifications etc	C3.21

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's objectives

The existing waste water treatment works in GOURITSMOND and Jongensfontein consist of oxidation pond systems. The works serves the towns by means of a gravity sewer system or conservancy tanks with vacuum tankers. Some of the erven are serviced by means of septic tanks.

Wastewater is pumped to the works. The oxidation pond systems can be viewed as facultative – aerobic pond systems which comprises of primary and secondary ponds. A second primary pond has also been constructed subsequent to the construction of the original oxidation pond system. Provision has been made to re-circulate effluent from the first secondary pond to the inlet works in order to ensure maximum dispersion of algae in the primary pond to prevent foul odours and obnoxious conditions from developing.

The effluent quality of both Works are poor and does not meet irrigation standards. The works are situated on a Major Acquifer and the water Act prohibits the irrigation of treated effluent on a Major Acquifer. The effluent quality does not meet General Standards and can not be discharged into a natural water course. This means that the treated effluent of both works have to be disposed off by means of evaporation.

The Hessequa Municipality intends to refurbish both the works by adding an evaporation pond and thereby avoid the overflow of the oxidation ponds into the adjacent area.

The proposed refurbishment will not add additional capacity to the existing oxidation pond system.

The capacity of the existing oxidation ponds for both works is 150 kℓ/d.

C3.1.2 Overview of the Works

The Works consist of the provision of lined earth dams, outfall sewers, manholes, fences and minor other structures.

The client, Hessequa Municipality, has stipulated that 10% of the works must be carried out by Labour Intensive Construction (LIC) methods.

C3.1.3 Extent of the Works

This Contract includes the civil works for the abovementioned scheme as follows:

- a) Bulk excavation for earth dams, foundations of structures mentioned in (b) below and pipe trenches, and backfill around structures.
- b) Construction of reinforced concrete inlet structures in existing secondary ponds.
- c) Supply and installation of interconnecting pipework and specials including a potable water supply.
- d) Construction of gravel and paved surfaced internal roads.
- e) Construction of outfall sewers and manholes.

This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

Approximate quantities of each type of work are given in the Bill of Quantities.

C3.1.4 Location of the Works site

The site is located within the GOURITSMOND Waste Water Treatment Works and Jongensfontein Waste Water Treatment Works site as indicated on the Locality Plans. Drg NoCC-0100 and Locality Plan Drg No.....CC-0100

C3.1.5 Access to Works site

Access to the sites may be gained from streets and roads in GOURITSMOND and Jongensfontein as well as access roads at the Works.

C3.1.6 Services known to be crossing the site

The sites are crossed by services which include stormwater pipes, water pipes, sewer pipes, power cables and outfall sewers and sludge rising mains.

C3.1.7 Character of strata and materials on site

It is anticipated that the in situ material will generally consist of sandy material.

A high water table may be encountered on the Sites as surface water is visible around the existing ponds.

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

The provision of such information shall not be regarded as in any way limiting, or detracting from, the Contractor's responsibilities in terms of the General Conditions of Contract and the specifications.

DECLARATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ABOVE IS CORRECT. I ACCEPT THAT THE MUNICIPALITY MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

AUTHORISED SIGNATURE:

NAME:

CAPACITY:

DATE:

SUMMARY

SECTION A:	PRELIMINARY AND GENERAL	R
SECTION B:	GOURITZ EVAPORATION POND	R
SECTION C:	JONGENSFONTEIN EVAPORATION POND	R

TOTAL OF PRICED ITEMS R

Allow 10% contingencies to be expended as directed by the
Engineer and to be deducted in whole or in part if not
required R

NET TOTAL OF TENDER R

Add 15% for Value Added Tax R

GROSS TOTAL OF TENDER R
Carried to Tender Form

Date:

Signed on behalf
of Tenderer:

C3.2 ENGINEERING

C3.2.1 DESIGN

- (a) The Employer is responsible for the design of the permanent Works as reflected in the Contract Documents unless otherwise stated.
- (b) The Contractor is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- (c) The Contractor shall supply all details necessary to assist the Engineer in the compilation of the as-built drawings.

C3.2.2 EMPLOYER'S DESIGN

Employer is responsible for design of pipelines and relevant specials and structures.

C3.2.3 CONTRACTOR'S DESIGN

The Contractor shall be responsible for the design of:

- a) Access roads
- b) The temporary works and their compatibility with the permanent works.
- c) The trench shoring.
- d) The concrete mix.
- e) The Contractor shall supply all details necessary to assist the Engineer in the compilation of the As-Built drawings.

C3.2.4 DRAWINGS

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the Contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are listed in this volume and issued separately. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

C3.3 PROCUREMENT

C3.3.1 PREFERENTIAL PROCUREMENT

C3.3.1.1 Requirements and resource standard

The procurement process is done in accordance with the Supply Chain Management Policy of the Hessequa Municipality. Tenderers are to obtain their own copy of this document from the Hessequa Municipality. Extracts of the relevant sections have been incorporated in this document for ease of reference.

The works shall be executed in accordance with the conditions attached to preferences granted in accordance with the preferencing schedule. The preferencing schedule has been bound into the document (Returnable Documents) and must be completed and signed by tenderers.

The following must be supplied with the tender:

Certified copies of Identity Documents of all tenderer's company director's/ shareholders must be submitted with a tender.

All tenderers must be registered on the Hessequa Municipality's supplier data register. Application forms will be made available at the site inspection meeting. The tenderer can complete the form and submit it directly to the Hessequa Municipality prior to tender closing, or submit it together with the tender.

The contract (offer and acceptance) signed between the service provider and the Hessequa Municipality must indicate the tendered construction period.

C3.3.2 SUBCONTRACTING

C3.3.2.1 Scope of mandatory subcontract works

There are no mandatory sub-contract works.

C3.3.2.2 Preferred subcontractors/suppliers

None.

C3.3.2.3 Subcontracting procedures

All proposed sub-contractors shall be noted in Section T2.2 and will be approved by the Employer prior to award of Contracts.

C3.3.2.4 Attendance on subcontractors

All sub-contractors shall be attended to by Contractor.

C3.4 CONSTRUCTION

C3.4.1 WORKS SPECIFICATIONS

C3.4.1.1 Applicable SANS 1200 Standardized Specifications

The SANS 1200 Standardized Specifications for civil engineering construction that are applicable are listed in C3.7.1.

C3.4.1.2 Particular Specifications

The Particular Specifications for work not covered by the SANS 1200 Standardized Specifications are listed in C3.7.1 and included in C3.7.3.

C3.4.1.3 National and International Standards

See Item 2.1 Particular Specification GRP : Glass Reinforced Pipes.

C3.4.1.4 Variations and Additions to the SANS 1200 Standardized Specifications

Variations and additions to the following SANS 1200 Standardized Specifications listed in C3.7.1 are given in section C3.7.2.

C3.4.2 SITE ESTABLISHMENT

C3.4.2.1 Services and facilities provided by the Employer

(a) Water sources

There is reticulated water supply available in close proximity to the Site.

The Contractor shall, in accordance with the provisions of subclause C3.4.2.2(b), and at his own cost, make all arrangements necessary for the supply and distribution of water required for construction purposes as well as for use in and about his site establishment and for human consumption. It shall be noted that Hessequa Municipality has water restrictions that forbid the use of potable water except for human consumption.

Structural Concrete shall not be mixed on Site. The Contractor shall make their own arrangement to acquire treated effluent for construction purposes. The cost thereof shall be deemed to be include in the tendered rates of items.

(b) Electricity

There is reticulated electrical power supply available in close proximity to the Site.

The Contractor shall, in accordance with the provisions of subclause C3.4.2.2(c), and at his own cost, make all arrangements necessary for the supply and distribution of electrical power required for construction purposes as well as for use in and about site establishment.

The Contractor shall comply with all prevailing legislation in respect of the generation and distribution of electricity and shall, when required by the Engineer, produce proof of such compliance.

(c) Excrement disposal

No water-borne sewage or other off-site excrement disposal systems are available in the vicinity of the Site.

(d) **Area for Contractor's site establishment**

The Site of the Works is restricted and the Employer has suitable areas available where the Contractor may erect offices, workshops, stores and other facilities that he requires for the purposes of the Contract. The Contractor shall, at his own cost, be responsible for locating and making all arrangements necessary for securing an area suitable to meet his needs in respect of the erection of the Contractor's offices, stores and other facilities, including the facilities to be provided for the Engineer in accordance with the Contract.

Any potential area proposed by the Contractor shall be within reasonable proximity to the Site of the Works and its location shall be subject to the approval of the Engineer, which approval shall not be unreasonably withheld.

(e) **Rail facilities**

The nearest goods station is Albertinia, which is located approximately 35 km by road from the Site.

(f) **Disposal sites**

The Contractor shall locate suitable sites, off site, for the disposal of cleared vegetation, rubble, unsuitable material or surplus material.

The Contractor shall inform the Engineer of any site he proposes to use.

C3.4.2.2 Facilities provided by the Contractor

(a) **Facilities for the Engineer**

The Contractor shall provide on the Site, for the duration of the Contract and for the exclusive use of the Engineer and/or his Representative (as applicable), the various facilities described hereunder. All such facilities shall be provided promptly on the commencement of the Contract and failure on the part of the Contractor to provide any facility required in terms of this specification shall constitute grounds for the Engineer to withhold payment of the Contractor's tendered Preliminary and General items until the facility has been provided or restored as the case may be.

(i) **Office accommodation**

The Contractor shall provide on the Site *one* office for the exclusive use of the Engineer. Such office shall comply with and be furnished in accordance with all the facilities and requirements of subclause 3.2 of SANS 1200 AB. The Contractor shall maintain the office in accordance with the requirements of subclause 5.2 of SANS 1200 AB.

Such office accommodation shall be provided within the Contractor's site establishment facilities.

(ii) **Carports**

The Contractor shall provide on Site for the duration of the Contract, one carport for the sole use of the Engineer and his staff. Each carport shall be constructed so that the vehicle parked under it is always protected against the direct rays of the sun. The carport area shall be at least 20 m² and the floor shall be covered with a layer of crushed stone to alleviate dusty and muddy conditions. The carport(s) shall be positioned so as to provide easy and convenient access to the Engineer's office.

(iii) Site meeting venue

The Contractor shall provide within his own site establishment facilities, a suitably furnished office or other venue capable of comfortably accommodating a minimum of six (6) persons at site meetings. The Engineer shall be allowed free use of such venue for conducting any other meetings concerning the Contract at all reasonable times.

(iv) Contract nameboards (Compulsory)

The Contractor shall provide, erect and maintain two Contract nameboards at such positions and locations directed by the Engineer, which nameboards shall, unless otherwise specified elsewhere in the Contract, comply with the recommendations for the standard board of the South African Association of Consulting Engineers, with regard to size, painting, decorating and detail, and the requirements described hereunder.

Each nameboard shall be made of tempered hardboard with a thickness of at least 12 mm, so braced on the reverse side as to prevent warping and shall be mounted on two or more, as necessary, firmly planted poles. The painting of the boards shall comply with the relevant requirements of CKS 193 and the colours of the paints shall be an acceptable match to the applicable colours given in SANS 1091.

The Contractor shall keep the Contract nameboards in good state of repair for the duration of the Contract and shall remove them on completion of the Contract.

(v) Survey equipment and assistants

• Survey equipment

The Contractor shall, in accordance with the requirements of SANS 1200 AB (as amended) provide the following survey equipment for the exclusive use of the Engineer and his staff:

- 1 upright reading automatic level with tripod;
- 1 metric levelling staff with protective cover bag;
- 6 ranging rods;
- 1 100 metre Stilon tape measure;
- 1 ± 2 kg hammer.

Survey assistants

The Contractor shall, in accordance with the requirements of subclause 5.5 of SANS 1200 AB, make available to the Engineer, two (2) survey assistants.

All such survey equipment provided by the Contractor shall be in good condition, properly calibrated and fit for the purpose and shall be kept fully serviceable at all times by the Contractor at his own cost. The Contractor shall have any defective equipment repaired or replaced at his own cost within 12 hours after notification by the Engineer's staff.

Where required by the Engineer, the Contractor shall at his own cost, promptly arrange for the recalibration of survey equipment provided.

(vi) Telephone facilities

No telephone or cellphone facilities are required. A provisional sum has been allowed in Bill of Quantities for the cost of cellphone calls made by the Engineer's Representative.

(vii) **Site instruction book**

The Contractor shall keep a triplicate book for site instructions on the Site at all times.

(b) Water

The Contractor shall, at his own expense, be responsible for obtaining and distributing all water as may be required for the purposes of executing the Contract, including water for both construction purposes and domestic use, as well as for making all arrangements in connection therewith. The Contractor shall further, at his own expense, be responsible for providing all necessities for procuring, storing, transporting and applying water required for the execution of the Contract, including but not limited to all piping, valves, tanks, pumps, meters and other plant and equipment, as well as for all work and superintendence associated therewith.

The sources of all water utilised for the purposes of the Contract shall be subject to the prior approval of the Engineer, which approval shall not be unreasonably withheld.

The Contractor shall comply with all prevailing legislation in respect of drawing water from natural and other sources and shall, when required by the Engineer, produce proof of such compliance. The distribution of water shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

All water provided by the Contractor for construction purposes shall be clean, free from undesirable concentrations of deleterious salts and other materials and shall comply with any further relevant specifications of the Contract. The Contractor shall, whenever reasonably required by the Engineer, produce test results demonstrating such compliance. Water provided by the Contractor for human consumption shall be healthy and potable to the satisfaction of the health authorities in the area of the Site.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of water, the costs of which will be deemed to be included in the Contractor's tendered rates.

(c) Electricity

The Contractor shall, at his own expense, be responsible for obtaining and distributing all electricity as he may require for the purposes of executing the Contract, including electricity for both construction purposes and domestic use, as well as for making all arrangements in connection therewith.

The distribution of electricity shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of electricity, the costs of which will be deemed to be in the Contractor's tendered rates and prices.

(d) Excrement disposal

The Contractor shall, at his own expense, be responsible for safely and hygienically dealing with and disposing of all human excrement and similar matter generated on the Site during the course of the Contract, to the satisfaction of the responsible health authorities in the area of the Site and the Engineer. All such excrement shall be removed from the Site and shall not be disposed of by the Contractor on the Site.

The Contractor shall further comply with any other requirements in this regard as may be stated in the Contract.

No separate payment will be made to the Contractor in respect of discharging his obligations in terms of this subclause and the costs thereof shall be deemed to be included within the Contractor's tendered Preliminary and General Items.

C3.4.2.3 Site usage

C3.4.2.4 Permits and wayleaves

The Contractor shall be responsible to obtain all the wayleave required under this Contract. A separate payment item has been included under Section 1200 A of the Bill of Quantities to compensate the Contractor for all his expenses to obtain the wayleave.

The wayleave to be obtained by the Contractor consists mainly of the following:

- Working in the vicinity of ESKOM overhead electricity lines.
- Working in the vicinity of Telkom cables and overhead lines.

C3.4.2.5 Features requiring special attention

(a) Site maintenance

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

(b) Testing and quality control

(i) Contractor to engage services of an independent laboratory

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Engineer in deciding whether the quality of materials utilised and workmanship achieved by the Contractor comply with the requirements of the Specifications. The foregoing shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Engineer or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Engineer with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean an "approved laboratory" (as defined in subclause PSA 7.2) which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

(ii) Additional testing required by the Engineer

In addition to the provisions of subclause C3.4.2.5(b)(i): Contractor to engage services of an independent laboratory, the Engineer shall be entitled at times during the Contract to require that the Contractor arrange with the independent laboratory to carry out any such tests, additional to those described in subclause C3.4.2.5(b)(i), at such times and at such locations in the Works as the Engineer shall prescribe. The Contractor shall promptly and without delay arrange with the independent laboratory for carrying out all such additional testing as required by the Engineer, and copies of the test results shall be promptly submitted to the Engineer.

(iii) Costs of testing

(a) Tests in terms of subclause C3.4.2.5(b)(i)

The costs of all testing carried out by the independent laboratory in accordance with the requirements of subclause C3.4.2.5(b)(i), above shall be borne by the Contractor and shall be deemed to be included in the tendered rates and prices for the respective items of work as listed in the Bill of Quantities and which require testing in terms of the Specifications. No separate payments will be made by the Employer to the Contractor in respect of any testing carried out in terms of subclause C3.4.2.5(b)(i).

Where, as a result of the consistency of the materials varying or as a result of failure to meet the required specifications for the work, it becomes necessary to carry out additional tests (e.g. re-tests on rectified work and/or replacement materials), the costs of such additional testing shall be for the Contractor's account.

(b) Additional tests required by the Engineer

The costs of any additional tests required by the Engineer in terms of subclause C3.4.2.5(b)(i): Additional testing required by the Engineer, shall be reimbursed to the Contractor against substitution of the Provisional Sum allowed therefore in the Bill of Quantities; provided always that the costs of any such additional tests ordered by the Engineer, the results of which indicate that the quality of the materials utilised and/or the standard of workmanship achieved are/is not in accordance with the specifications, shall not be reimbursable to the Contractor.

(c) Contractor supplied equipment

The Contractor shall when required to supply any testing, measuring and/or survey equipment for the Engineer's use provide calibration certificates or verification certificates (as appropriate) for all equipment. This shall apply for both shared equipment as well as for equipment specified to be provided for the Engineer's use on site.

Calibration or verification, by certified authorities shall be subject to the Engineer's approval:

- prior to the delivery of any equipment to the Engineer; and
- thereafter at intervals as prescribed for the relevant equipment but not less than every twelve (12) months.

The calibration/verification certificate for each item of equipment shall be submitted to the Engineer for approval prior to its use or within seven (7) days of subsequent re-calibration/verification.

Unless otherwise provided for in the bill of quantities the cost of providing the above specified equipment.

Failure to submit certificates shall result in payment for the equipment being withheld.

(d) Subcontractors

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Engineer and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Engineer will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Engineer will not become involved.

(e) Opening up and closing down of designated borrow pits

Measurement and payment for opening up and closing down designated borrow pits, including removing and stockpiling overburden and restoring the Site, shall be made under item 8.3.4 of SANS 1200 D. This item applies to all borrow material required under this Contract.

The requirements of subclause 5.2.2.2 of SANS 1200 D regarding the opening up, maintenance and closing down of borrow pits shall be adhered to.

(f) Access to properties

The Contractor shall organise the work to cause the least possible inconvenience to the public and to the property owners adjacent to or affected by the work, and except as hereunder provided, shall at all times provide and allow pedestrian and vehicular access to properties within or adjoining or affected by the area in which he is working. In this respect the Contractor's attention is drawn to Clause 8.1.2 (GCC 2015) of the Conditions of Contract.

If, as a result of restricted road reserve widths and the nature of the work, the construction of bypasses is not feasible, construction shall be carried out under traffic conditions to provide access to erven and properties.

Notwithstanding the foregoing, the Contractor may, with the prior approval of the Engineer (which approval shall not be unreasonably withheld), make arrangements with and obtain the acceptance of the occupiers of erven and properties to close off part of a street, road, footpath or entrance temporarily, provided that the Contractor duly notifies the occupiers of the intended closure and its probable duration, and reopens the route as punctually as possible. Where possible, such streets, roads, footpaths and entrances shall be made safe and reopened to traffic overnight. Such closure shall not absolve the Contractor from his obligations under the Contract to provide access at all times. Barricades, traffic signs, drums and other safety measures appropriate to the circumstances shall be provided by the Contractor to suit the specific conditions.

(g) Existing residential areas

Electricity and water supply interruptions in existing residential areas shall be kept to a minimum. The Engineer's approval shall be obtained prior to such interruptions and residents shall be notified in writing at least 24 hours but not more than 48 hours in advance. Supplies shall be normalised by 16:00 on the same day.

(h) Labour-intensive competencies of supervisory and management staff

Contractor having a CIDB Contractor grading designation of 5CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the Contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a Contractor grading designation of 1CE, 2CE, 4CE and 4CE shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such Contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme, for the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader/supervisor	2	Apply Labour-intensive Construction systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour-intensive Construction Methods to Construct and Maintain roads and Stormwater Drainage	 one of these 3 unit standards be used
		Use Labour-intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-intensive Construction methods to Construct, Repair and Maintain Structures	
Foreman/supervisor	4	Implement Labour-intensive Construction systems and Techniques	This unit standard must be completed, and
		Use Labour-intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	 any one of these 3 unit standards be used
		Use Labour-intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site agent/Manager (i.e. the Contractor's most senior representative who is resident on the site)	5	Manage Labour-intensive Construction Processes	Skills Programme against this single unit standard

(i) **Employment of unskilled and semi-skilled workers in labour-intensive works**

1.1 Requirements for the sourcing and engagement of labour

1.1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

1.1.2 The rate of pay set for the SPWP is R174.00 per task or per day.

"In accordance with the Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes (clause 10.4), the public body must set a rate of pay (task-rate) for workers to be employed on the labour-intensive projects.

Clause 10.4 requires that the following should be considered when setting rates of pay for workers:

10.4.1 The rate set should take into account wages paid for comparable unskilled work in the local area per sector, if necessary.

10.4.2 The rate should be an appropriate wage to offer an incentive for work, to reward effort provided and to ensure a reasonable quality of work. It should not be more than the average local rate to ensure people are not recruited away from other employment and jobs with longer-term prospects.

10.4.3 Men, women, disabled persons and the aged must receive the same pay for work of equal value."

1.1.3 Tasks established by the Contractor must be such that:

(a) the average worker completes 5 tasks per week in 40 hours or less; and

(b) the weakest worker completes 5 tasks per week in 55 hours or less.

1.1.4 The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.

1.1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and/or who come from households:

(a) where the head of the household has less than a primary school education;

(b) that have less than one full-time person earning an income;

(c) where subsistence agriculture is the source of income;

(d) those who are not in receipt of any social security pension income.

- 1.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
- (a) 60% women;
 - (b) 20% youth who are between the ages of 18 and 25; and
 - (c) 2% on persons with disabilities.
- 1.2 Specific provisions pertaining to SANS 1914-5**
- 1.2.1 Definition**
- Targeted labour:** Unemployed persons who are employed as local labour on the project.
- 1.2.3 Contract participation goals**
- 1.2.3.1 There is no specified Contract participation goal for the Contract. The Contract participation goal shall be measured in the performance of the Contract to enable the employment provided to targeted labour to be quantified.
- 1.2.3.2 The wages and allowances used to calculate the Contract participation goal shall, with respect to both time-rated and task-rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.
- 1.2.4 Terms and conditions for the engagement of targeted labour**
- Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.
- 1.2.5 Variations to SANS 1914-5**
- 1.2.5.1 The definition for net amount shall be amended as follows:
- Financial value of the Contract upon completion, exclusive of any value-added tax or sales tax which the law requires the employer to pay the Contractor.
- 1.2.5.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.
- 1.3 Training of targeted labour**
- 1.3.1 The Contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the Contract in a manner that does not compromise worker health and safety.
- 1.3.2 The cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training will take place as close to the project site as practically possible. The Contractor must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the Contract, of the likely number of persons that will undergo training and when such training is required. The Employer must be furnished with a copy of this request.

- 1.3.3 A copy of this training request made by the Contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works – Cinderella Makunike, Fax: 012 328 6820 or email cinderella.makunike@dpw.gov.za, Tel: 083 677 4026.
- 1.3.4 The Contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he/she is employed for 4 months or more.
- 1.3.5 The Contractor shall do nothing to dissuade targeted labour from participating in training programmes.
- 1.3.6 An allowance equal to 100% of the task rate or daily rate shall be paid by the Contractor to workers who attend formal training, in terms of 1.3.4 above.
- 1.3.7 Proof of compliance with the requirements of 1.3.2 to 1.3.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

(j) Employment of local labour

It is the intention that this Contract should make maximum use of the local labour force that is presently underemployed. To this end the Contractor shall limit the utilisation on the Contract of non-local employees to that of key personnel only and to employ and train local labour to the extent necessary for the execution and completion of this Contract.

The Contractor shall fill in the form entitled Key Personnel in the Forms to be completed by the Tenderer. The data stated on the above-mentioned form will be strictly monitored during the Contract period and any deviations therefrom shall be subject to the prior approval of the Engineer, which approval shall not be unreasonably withheld.

The completed local labour forms shall be submitted with the monthly statements and payment certificates.

(k) Monthly statements and payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 (GCC 2015) of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal workings days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer five (5) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of Clause 6.10.4 (GCC 2015) of the Conditions of Contract to submit the signed payment certificate to the Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

(l) Construction in restricted areas

Working space is sometimes restricted. The construction method used in these restricted areas largely depends on the Contractor's Plant. Notwithstanding, measurement and payment will be strictly according to the specified cross-sections and dimensions irrespective of the method used, and the rates and prices tendered will be deemed to include full compensation for any difficulties encountered by the Contractor while working in restricted areas. No extra payment nor any claim for payment due to these difficulties will be considered.

(m) Notices, signs, barricades and advertisements

All notices, signs and barricades, as well as advertisements, may be used only if approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to instruct the Contractor to move any sign, notice or advertisement to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.

(n) Workmanship and quality control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide suitably qualified and experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardized Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination and measurement, the Contractor shall furnish the Engineer with the results of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

(o) Quality plans and control

The Contractor shall prepare a quality management plan to be followed during the course of the Contract. The Contractor shall supply the Engineer with the quality plan within 14 days after being appointed.

The quality management plan shall

- i. clearly indicate the methods, programmes, procedures and other methods that the Contractor intends using as process control to ensure compliance of materials and workmanship with the requirements of the Contract (process control testing).
- ii. Include the proof of status of calibration of all measuring devices that are to be used during the course of the Contract.

C3.4.2.6 Extension of time due to abnormal rainfall

Extension of time for completion will not be considered for normal rainfall but only for abnormal rainfall or saturated conditions and will be calculated in accordance with the following method:

- a) The Contractor shall, in his programme, allow for the anticipated number of working days on which work could be delayed - as given in the Schedule below.
- b) Extension of time will be calculated for each calendar month or part thereof over the full period for the completion of the Work, plus any approved extension thereof, as follows:
 - i) A delay caused by abnormal rainfall will only be accepted for extension of time if, in the opinion of the Engineer, it delays an item or items which lie on the critical path determined by the Contractor's programme. Only delays on working days will be considered.
 - ii) Abnormal rainfall will be considered to be days, as approved, on which rain delayed operations, less the anticipated number of days given in the Schedule below.
 - iii) The net extension of time determined for each month, which may be negative, shall accumulate algebraically to determine the net number days for extension of time due to abnormal rainfall, but a negative total at the end of the construction period will not be taken into account.
- i) Where a portion of a month is involved, a pro rata number of days shall be calculated.

SCHEDULE

Anticipated number of working days on which work could be delayed as a result of rainfall and saturated conditions.

Month	Days	Month	Days
January	1	July	2
February	1	August	2
March	1	September	2
April	2	October	2
May	2	November	2
June	2	December	2

3.4.2.7 Recording of weather

The Contractor shall establish a rain-gauge on site at a place directed by the Engineer and take daily readings.

The Contractor will be required to keep daily records of the weather including temperatures and rainfall under the supervision of the Engineer or his Representative. These records should be made available to the Engineer at every monthly site meeting. This data will be used when calculating extension of time in C3.4.2.6