

## KZN DEPARTMENT OF HEALTH

**MESELENI HOSPITAL:**

## 72 HOURWATER STORAGE

## SECTION 1: PRELIMINARY AND GENERAL

**CONTRACT NO.: MSEL001**

| ITEM NO               | PAYMENT                                     | DESCRIPTION                                                                                                                                                                                       | UNIT | QTY  | RATE | AMOUNT R |
|-----------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|----------|
| 1                     | SANS<br>1200 A<br>PS1-3<br>PSA              | <b>SECTION 1: PRELIMINARY AND GENERAL</b>                                                                                                                                                         |      |      |      |          |
|                       | 8.3                                         | FIXED CHARGES AND VALUE RELATED ITEMS                                                                                                                                                             |      |      |      |          |
| 1.1                   | 8.3.1                                       | Contractual Requirements                                                                                                                                                                          | Sum  | 1,00 |      |          |
| 1.2                   | 8.3.2<br>PS3.6                              | Establishment of facilities on site:                                                                                                                                                              |      |      |      |          |
| 1.2.1                 | 8.3.2.1<br>PSAB1-5<br>PS3.6.2               | Facilities required by Engineer                                                                                                                                                                   |      |      |      |          |
| 1.2.1.1               |                                             | (a) Furnished Office (one)                                                                                                                                                                        | Sum  | 1,00 |      |          |
| 1.2.1.2               |                                             | (b) Telephone and Email                                                                                                                                                                           | Sum  | 1,00 |      |          |
| 1.2.1.3               |                                             | (c) Name board (two)                                                                                                                                                                              | Sum  | 1,00 |      |          |
| 1.2.1.4               |                                             | (d) Survey equipment as specified                                                                                                                                                                 | Sum  | 1,00 |      |          |
| 1.2.1.5               |                                             | (e) Provision of survey assistant as specified                                                                                                                                                    | Sum  | 1,00 |      |          |
| 1.2.2                 | PS3.6<br>PS3.6.2<br>8.3.2.2<br>8.3.3<br>PSA | Facilities required by Contractor                                                                                                                                                                 |      |      |      |          |
| 1.2.2.1               |                                             | a) Offices and storage sheds                                                                                                                                                                      | Sum  | 1,00 |      |          |
| 1.2.2.2               |                                             | b) Workshops                                                                                                                                                                                      | Sum  | 1,00 |      |          |
| 1.2.2.3               |                                             | c) Laboratories                                                                                                                                                                                   | Sum  | 1,00 |      |          |
| 1.2.2.4               |                                             | d) Living accommodation                                                                                                                                                                           | Sum  | 1,00 |      |          |
| 1.2.2.5               |                                             | e) Ablution and latrine facilities                                                                                                                                                                | Sum  | 1,00 |      |          |
| 1.2.2.6               |                                             | f) Tools and equipment                                                                                                                                                                            | Sum  | 1,00 |      |          |
| 1.2.2.7               |                                             | g) Water supplies, electric power and communications                                                                                                                                              | Sum  | 1,00 |      |          |
| 1.2.2.8               | PS3.7.3A<br>PSA6                            | h) Dealing with water from any source on the works                                                                                                                                                | Sum  | 1,00 |      |          |
| 1.2.2.9               |                                             | i) Access                                                                                                                                                                                         | Sum  | 1,00 |      |          |
| 1.2.2.10              |                                             | j) Plant                                                                                                                                                                                          | Sum  | 1,00 |      |          |
| 1.3                   | PS3.10<br>8.3.3                             | Supply and Installation of Electronic rain gauge complete including applicable software to capture and record rainfall on an hourly basis. Level of accuracy of meter to be at least 2% or better | No.  | 1,00 |      |          |
| Total Carried Forward |                                             |                                                                                                                                                                                                   |      |      |      |          |

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| Brought Forward       |                           |                                                                                                                                                                                                                                                                               |      |      |      |          |
| 1.4                   | 8.3.3<br>PSPC<br>PS3.9    | Compliance with the Environmental Management Act (107 of 1998), the Environmental Conservation Act (No. 73 of 1989) and the implementation of the Environmental Management Plan, Environmental Management Programme as specified.                                             | Sum  | 1,00 |      |          |
| 1.5                   | PSHS<br>8.3.3             | Compliance with the Health & Safety Act (Act 85 of 1993) & Construction Regulations (2014) as amended, Specifications for Occupational Health and Safety and the Baseline Risk Assessment, including all risk assessments and requirements specific to the COVID-19 epidemic. | Sum  | 1,00 |      |          |
| 1.6                   | 8.3.3                     | Provision of HIV/Aids Awareness Plan and all necessary fixed charge items to achieve compliance                                                                                                                                                                               | Sum  | 1,00 |      |          |
| 1.7                   | 8.8                       | Provision of access to the Works:                                                                                                                                                                                                                                             |      |      |      |          |
| 1.7.1                 | 8.8.1<br>PSA9<br>PSPC9    | Access to the Works including all temporary roads, excavations and ramps, etc.                                                                                                                                                                                                | Sum  | 1,00 |      |          |
| 1.7.2                 | 8.8.2<br>PS3.7.19         | Accommodation and management of traffic (also refer to SANS 1921-2)                                                                                                                                                                                                           | Sum  | 1,00 |      |          |
| 1.8                   | PS 3.4                    | Supply of 'As-Built' information as required by the Engineer in suitable electronic format by Engineering Surveyor including as-built survey, plan drawings and                                                                                                               | Sum  | 1,00 |      |          |
| 1.9                   | PSHA<br>5.1.2<br>PS PB 15 | Preparation and submission for approval of shop drawings of mechanical pipework and structural steelwork as required within the specifications                                                                                                                                | Sum  | 1,00 |      |          |
| 1.10                  | PSC<br>8.3.4              | Removal of site establishment on completion                                                                                                                                                                                                                                   | Sum  | 1,00 |      |          |
| Total Carried Forward |                           |                                                                                                                                                                                                                                                                               |      |      |      |          |

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| ITEM NO               | PAYMENT                            | DESCRIPTION                                          | UNIT  | QTY   | RATE | AMOUNT R |
|-----------------------|------------------------------------|------------------------------------------------------|-------|-------|------|----------|
| Brought Forward       |                                    |                                                      |       |       |      |          |
|                       | 8.4                                | TIME RELATED CHARGES                                 |       |       |      |          |
| 1.11                  | 8.4.1                              | Contractual Requirements                             | Weeks | 20,00 |      |          |
| 1.12                  | 8.4.2<br>PS3.6<br>PSAB1-5          | Operation and maintenance of facilities              |       |       |      |          |
| 1.12.1                | 8.4.2.1                            | Maintenance of facilities for the Engineer           |       |       |      |          |
| 1.12.1.1              |                                    | (a) Furnished Office (one)                           | Weeks | 20,00 |      |          |
| 1.12.1.2              |                                    | (b) Telephone and Email                              | Weeks | 20,00 |      |          |
| 1.12.1.3              |                                    | (c) Name board (two)                                 | Weeks | 20,00 |      |          |
| 1.12.1.4              |                                    | (d) Survey equipment as specified                    | Weeks | 20,00 |      |          |
| 1.12.1.5              |                                    | (e) Provision of survey assistant as specified       | Weeks | 20,00 |      |          |
| 1.12.2                | 8.4.2.2<br>PS3.6.2<br>PS3.6<br>PSA | Maintenance of facilities for the Contractor         |       |       |      |          |
| 1.12.2.1              |                                    | a) Offices and storage sheds                         | Weeks | 20,00 |      |          |
| 1.12.2.2              |                                    | b) Workshops                                         | Weeks | 20,00 |      |          |
| 1.12.2.3              |                                    | c) Laboratories                                      | Weeks | 20,00 |      |          |
| 1.12.2.4              |                                    | d) Living accommodation                              | Weeks | 20,00 |      |          |
| 1.12.2.5              |                                    | e) Ablution and latrine facilities                   | Weeks | 20,00 |      |          |
| 1.12.2.6              |                                    | f) Tools and equipment                               | Weeks | 20,00 |      |          |
| 1.12.2.7              |                                    | g) Water supplies, electric power and communications | Weeks | 20,00 |      |          |
| 1.12.2.8              | PS3.7.3A<br>PSA6                   | h) Dealing with water from any source on the works   | Weeks | 20,00 |      |          |
| 1.12.2.9              |                                    | i) Access                                            | Weeks | 20,00 |      |          |
| 1.12.2.10             |                                    | j) Plant                                             | Weeks | 20,00 |      |          |
| 1.13                  | 8.4.3                              | Supervision for the duration of the Contract         | Weeks | 20,00 |      |          |
| 1.14                  | 8.4.4                              | Company and Head Office overhead costs.              | Weeks | 20,00 |      |          |
| 1.15                  | 8.4.2.1<br>PSAB4                   | Survey equipment and Survey assistant                | Weeks | 20,00 |      |          |
| Total Carried Forward |                                    |                                                      |       |       |      |          |

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SECTION 1: PRELIMINARY AND GENERAL

| ITEM NO                          | PAYMENT | DESCRIPTION                                           | UNIT  | QTY      | Rate | AMOUNT R |
|----------------------------------|---------|-------------------------------------------------------|-------|----------|------|----------|
| Brought Forward                  |         |                                                       |       |          |      |          |
| 1,16                             | 8.7     | DAYWORKS                                              |       |          |      |          |
| 1.16.1                           |         | Provide the following categories of plant. Rate shall |       |          |      |          |
| 1.16.1.1                         | 8.7     | Compactor: Pedestrian vibratory roller 0,5 ton        | hours | 20,00    |      |          |
| 1.16.1.2                         | 8.7     | Compressor: 250 cfm (7m3/min) capacity complete       | hours | 20,00    |      |          |
| 1.16.1.3                         | 8.7     | Concrete Mixers: Up to 0.6 m3 dry capacity            | hours | 12,00    |      |          |
| 1.16.1.4                         | 8.7     | Excavator/TLB: Rubber tyred up to 45 kW and mass      | hours | 15,00    |      |          |
| 1.16.1.5                         | 8.7     | Tracked excavator: CAT 220 or equivalent              | hours | 10,00    |      |          |
| 1.16.1.6                         | 8.7     | Hand guided vibrating plate compactor (Wacker)        | hours | 80,00    |      |          |
| 1.16.1.7                         | 8.7     | 1 ton LDV                                             | km    | 1 000,00 |      |          |
| 1.16.1.8                         | 8.7     | 5 ton flat bed truck with hoist                       | hours | 6,00     |      |          |
| 1.16.1.9                         | 8.7     | Tip Truck (10m3 double diff capacity)                 | hours | 6,00     |      |          |
| 1.16.1.10                        | 8.7     | Tip Truck (5 m3 capacity)                             | hours | 6,00     |      |          |
| 1.16.1.11                        | 8.7     | Oxy-acetylene cutting torch                           | hours | 12,00    |      |          |
| 1.16.1.12                        | 8.7     | Pipe welding unit complete with generator             | hours | 10,00    |      |          |
| 1.16.1.13                        | 8.7     | Submersible pump for dewatering, complete with        | hours | 10,00    |      |          |
| 1.16.1.14                        | 8.7     | 6" dewatering pump, complete with engine (>70L/s)     | hours | 6,00     |      |          |
| 1.16.1.15                        | 8.7     | Water tanker (10 000 L)                               | hours | 25,00    |      |          |
| 1.16.1.16                        | 8.7     | Road Grader                                           | hours | 5,00     |      |          |
| Total Carried Forward To Summary |         |                                                       |       |          |      |          |

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SECTION 2: PIPELINES AND RETICULATION

| ITEM NO               | PAYMENT                              | DESCRIPTION                                                                                                 | UNIT | QTY    | RATE | AMOUNT R |
|-----------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------|------|--------|------|----------|
| 2                     |                                      | <b>SECTION 2: PIPELINES AND RETICULATION</b>                                                                |      |        |      |          |
| 2.1                   | SANS 1200C<br>PSC<br>PSPC            | SITE CLEARANCE                                                                                              |      |        |      |          |
| 2.1.1                 | 8.2.1<br>PSC1<br>PSPC                | Clear and grub 5m wide working servitude along pipeline routes as specified in the EMP                      | m    | 400,00 |      |          |
| 2.1.2                 | PSC1                                 | Extra over item 2.1.1 including and all costs associated with working in a 5m restricted working servitude. | m    | 400,00 |      |          |
|                       | 8.2.2<br>PSC 2                       | Remove and grub large trees and tree stumps of girth:                                                       |      |        |      |          |
| 2.1.3                 |                                      | (a) Over 1m up to and including 2m                                                                          | No.  | 2,00   |      |          |
| 2.1.4                 |                                      | (b) Over 2m up to and including 3m                                                                          | No.  | 1,00   |      |          |
| 2.1.5                 |                                      | (c) Over 3m                                                                                                 | No.  | 0,00   |      |          |
| 2.1.6                 | 8.2.5<br>PSC 3<br>PSC6.2             | Take down existing fences and reinstate                                                                     | m    | 30,00  |      |          |
| 2.1.7                 | PSC 6.1-6.3<br>PSHS                  | DEMARCATION FENCING & BARRICADING REQUIREMENTS                                                              |      |        |      |          |
| 2.1.7.1               | PSC 6.2                              | Demarcation of route with stakes                                                                            | m    | 400,00 |      |          |
|                       | SANS 1200DA<br>PSDA,<br>PSPC<br>PSDB | EARTHWORKS (SMALL WORKS)                                                                                    |      |        |      |          |
| Total Carried Forward |                                      |                                                                                                             |      |        |      |          |

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| ITEM NO               | PAYMENT                        | DESCRIPTION                                                                                                                                                                                                                                                                                | UNIT               | QTY      | RATE | AMOUNT R |
|-----------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|------|----------|
| Brought Forward       |                                |                                                                                                                                                                                                                                                                                            |                    |          |      |          |
| 2.2                   |                                | RESTRICTED EXCAVATION                                                                                                                                                                                                                                                                      |                    |          |      |          |
| 2.2.1                 | 1200DB<br>8.3.1 c)             | Remove topsoil to nominal depth of 150mm stockpile & maintain (strip width 5m)                                                                                                                                                                                                             | m <sup>2</sup>     | 2 000,00 |      |          |
| 2.2.2                 | 1200DA<br>8.3.5                | Excavate for proving of existing services                                                                                                                                                                                                                                                  | m <sup>3</sup>     | 200,00   |      |          |
| 2.2.3                 | 8.3.6<br>PSDB 7                | Top soiling:                                                                                                                                                                                                                                                                               |                    |          |      |          |
| 2.2.3.1               |                                | a) from stockpile provided under item 2.2.1                                                                                                                                                                                                                                                | m <sup>2</sup>     | 150,00   |      |          |
| 2.2.3.2               |                                | b) from commercial source (landed rate)                                                                                                                                                                                                                                                    | m <sup>2</sup>     | 3 150,00 |      |          |
|                       | SANS<br>1200DB<br>PSDB<br>PSPC | EARTHWORKS (PIPE TRENCHES)                                                                                                                                                                                                                                                                 |                    |          |      |          |
| 2.3                   | 8.3.2<br>PSDB1-4<br>PSDB2      | Excavate in all materials for trench base width in accordance with SANS 1200DB, for up to and including a DN80 pipeline, including benching, sloping, shoring of trench sides and provision of foxholes at joints as required, backfill, compact & dispose of surplus material for depths: |                    |          |      |          |
| 2.3.1                 |                                | Trench of depth not exceeding 1.5m                                                                                                                                                                                                                                                         | m                  | 300,00   |      |          |
| 2.3.2                 |                                | Trench of depth exceeding 1.5m but not exceeding 2.0m                                                                                                                                                                                                                                      | m                  | 300,00   |      |          |
| 2.3.3                 |                                | Trench of depth exceeding 2.0m but not exceeding 2.5m                                                                                                                                                                                                                                      | m                  | 50,00    |      |          |
| 2.3.4                 |                                | Trench of depth exceeding 2.5m but not exceeding 3.0m                                                                                                                                                                                                                                      | m                  | 10,00    |      |          |
| 2.3.5                 |                                | Trench of depth exceeding 3.0m but not exceeding 3.5m                                                                                                                                                                                                                                      | m                  | 5,00     |      |          |
| 2.3.6                 |                                | Trench of depth exceeding 3.5m but not exceeding 4.0m                                                                                                                                                                                                                                      | m                  | 5,00     |      |          |
| 2.3.7                 |                                | Trench of depth exceeding 4.0m but not exceeding 4.5m                                                                                                                                                                                                                                      | m                  | 5,00     |      |          |
| 2.3.8                 | 8.3.3.4 (b)                    | Overhaul for spoil material under item 2.3.1-2.3.7 (Note: freehaul is 1.0km)                                                                                                                                                                                                               | m <sup>3</sup> .km | 1 500,00 |      |          |
| 2.4                   | PSDB/PSDA1<br>8.3.2 b) 2)      | Extra over items 2.3.1-2.3.7 for excavation in hard rock                                                                                                                                                                                                                                   |                    |          |      |          |
| 2.4.1                 |                                | Provisional Quantities                                                                                                                                                                                                                                                                     | m <sup>3</sup>     | 250,00   |      |          |
| Total Carried Forward |                                |                                                                                                                                                                                                                                                                                            |                    |          |      |          |

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| ITEM NO               | PAYMENT            | DESCRIPTION                                                                                                                                                                                         | UNIT               | QTY      | RATE | AMOUNT R |
|-----------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|------|----------|
| Brought Forward       |                    |                                                                                                                                                                                                     |                    |          |      |          |
| 2.5                   | 8.3.2 c)           | Excavate and dispose of unsuitable material (freehaul up to 1km to approved spoil site)                                                                                                             | m <sup>3</sup>     | 100,00   |      |          |
| 2.5.1                 |                    | Extra over item 2.4.1 & 2.5 for overhaul in respect of unsuitable material for disposal at approved spoil site(Note: freehaul is 1.0km)                                                             | m <sup>3</sup> .km | 200,00   |      |          |
| 2.5.2                 |                    | Extra over item 2.3 for the supply of backfill material to make up deficiency from trench or approved borrow area.                                                                                  | m <sup>3</sup>     | 1 440,00 |      |          |
| 2.6                   | 8.3.3.3 PSDB 6     | Reinstatement and compaction at road crossings complete to DOT specifications                                                                                                                       | m <sup>3</sup>     | 500,00   |      |          |
| 2,7                   | 8.3.5              | Services that intersect or adjoin a trench                                                                                                                                                          |                    |          |      |          |
| 2.7.1                 |                    | a) Services that intersect a trench                                                                                                                                                                 | No.                | 15,00    |      |          |
| 2.7.2                 |                    | b) Services that adjoin a trench                                                                                                                                                                    | m                  | 100,00   |      |          |
| 2.7.3                 |                    | Extra over 2.8.1 for temporary support of Electricity & Telecom poles and protection of overhead on route to the service owners specifications                                                      | No.                | 4,00     |      |          |
| 2,8                   | 8.3.6 PSDB 6 PS DM | FINISHING<br><br>Re-instatement of road surfaces, including all layer works as per Local Authority requirements                                                                                     |                    |          |      |          |
| 2.8.1                 | 8.3.6.1            | a) 150mm thick G6 wearing course compacted to 95% Mod AASTHO from commercial source                                                                                                                 | m <sup>2</sup>     | 100,00   |      |          |
| 2.8.2                 | 8.3.6.1            | b) 150mm thick G7 sub base compacted to 93% Mod AASTHO from commercial source                                                                                                                       | m <sup>2</sup>     | 100,00   |      |          |
| 2.8.3                 | 8.3.6.1            | c) Approved sand/ gravel from commercial source stabilized with 3% portland cement placed in 150mm layers as per DOT's specifications                                                               | m <sup>3</sup>     | 25,00    |      |          |
| 2.8.4                 | 8.3.6.1            | d) Reinstatement of 100mm thick 25MPA concrete accesses including 100mm crusher run mesh ref 395,shuttering , finishing, etc.                                                                       | m <sup>2</sup>     | 100,00   |      |          |
| 2.8.5                 | 8.3.6.1            | e) 40mm wearing course of approved asphalt as per DOT's specifications                                                                                                                              | m <sup>2</sup>     | 100,00   |      |          |
| 2.8.6                 | 8.3.6.1            | f) Supply and placement of 150mm G6 gravel wearing course to roads as directed by the Engineer, including supply, placement, spreading, shaping and compaction to minimum of 95% Mod AASHTO density | m <sup>2</sup>     | 100,00   |      |          |
| Total Carried Forward |                    |                                                                                                                                                                                                     |                    |          |      |          |

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|-----------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|------|----------|
| Brought Forward       |                  |                                                                                                                                                                                                                                             |      |        |      |          |
|                       | SANS 1200LB PSLB | BEDDING (PIPES)                                                                                                                                                                                                                             |      |        |      |          |
| 2,9                   | PSLB 2           | Selected granular material as detailed for bedding and fill where ordered, obtained from:                                                                                                                                                   |      |        |      |          |
| 2.9.1                 | 8.2.1            | Trench Excavations                                                                                                                                                                                                                          | m³   | 50,00  |      |          |
| 2.9.2                 | 8.2.2.2 PSLB6    | Borrow Pits                                                                                                                                                                                                                                 | m³   | 50,00  |      |          |
| 2.9.3                 | 8.2.2.3          | Commercial sources (landed rate)                                                                                                                                                                                                            | m³   | 279,00 |      |          |
|                       | PSLB 3           | Selected fill material as detailed for bedding & fill where ordered obtained from:                                                                                                                                                          |      |        |      |          |
| 2.9.4                 | 8.2.1            | Trench Excavations                                                                                                                                                                                                                          | m³   | 55,00  |      |          |
| 2.9.5                 | 8.2.2.2 PSLB6    | Borrow Pits                                                                                                                                                                                                                                 | m³   | 85,00  |      |          |
| 2.9.6                 | 8.2.2.3          | Commercial Sources (landed rate)                                                                                                                                                                                                            | m³   | 753,20 |      |          |
| 2.9.7                 | 8.2.2.3          | Commercial sources (120mm crushed stone ballast)                                                                                                                                                                                            | m³   | 10,00  |      |          |
|                       | SANS1200L PSL    | MEDIUM PRESSURE PIPES                                                                                                                                                                                                                       |      |        |      |          |
|                       |                  | Note: The tendered prices for pipes, valves & specials to include for the cost of necessary couplings, sockets or flange jointing material and cutting, welding, jointing, lining repair and coating repair as necessary                    |      |        |      |          |
| 2.10                  | 8.2.1 PSL        | Supply, lay, bed & test pipes complete with all bends required, field welds and repairs to coating and lining the following Clas 16 HDPE pipes to specification including the manufacture, installation and testing complete of all bends : |      |        |      |          |
| 2.10.1                | 8.2.1            | DN90mm                                                                                                                                                                                                                                      | m    | 165,00 |      |          |
| 2.10.2                | 8.2.1            | DN63mm                                                                                                                                                                                                                                      | m    | 80,00  |      |          |
| 2.10.3                | 8.2.1            | DN50mm                                                                                                                                                                                                                                      | m    | 400,00 |      |          |
| Total Carried Forward |                  |                                                                                                                                                                                                                                             |      |        |      |          |



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|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|------|----------|
| Brought Forward       |              |                                                                                                                                                                                                                                          |      |       |      |          |
| 2,11                  | 8.2.1<br>PSL | Collect and transport from stores, inspect, repair, recoat, cut to suit bends, tees and fittings, lay, bed and test the following jointed K9 Ductile Iron free issue pipes stored at the designated pipeyard. (Excluding EPDM Gaskets)   |      |       |      |          |
| 2.11.1                | 8.2.1        | DN80 class K9 Ductile Iron pipes                                                                                                                                                                                                         | m    | 50,00 |      |          |
| 2.11.2                | PSL 3.3      | Extra over item 2.11.1 for application of additional bituminous coating as per specification                                                                                                                                             | m    | 50,00 |      |          |
| 2.11.3                |              | Extra over item 2.11.1 for the supply and fitment of EPDM Gaskets to suit free issue ductile iron pipe                                                                                                                                   | No.  | 16,00 |      |          |
| 2.11.4                | 8.2.15       | Extra over item 2.11.1 for additional 'Denso Ultraflex' or similar approved external pipe wrapping to areas identified as highly corrosive by specialist soil resistivity testing, as specified, including petrolatum wrapping of joints | m    | 10,00 |      |          |
| Total Carried Forward |              |                                                                                                                                                                                                                                          |      |       |      |          |

## KZN DEPARTMENT OF HEALTH

## MESELENI HOSPITAL:

72 HOURWATER STORAGE

CONTRACT NO.: MSEL001

## SECTION 2: PIPELINES AND RETICULATION

| ITEM NO               | PAYMENT                     | DESCRIPTION                                                                                                                                                                                                                                                                                        | UNIT | QTY  | RATE | AMOUNT R |
|-----------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|----------|
| Brought Forward       |                             |                                                                                                                                                                                                                                                                                                    |      |      |      |          |
|                       | PSCC                        | VALVE AND CHAMBER ASSEMBLES                                                                                                                                                                                                                                                                        |      |      |      |          |
|                       | DB 8.3.4<br>PSL             | Supply and installation of complete chamber assemblies including excavation, shoring, concrete chambers, reinforcing, valves, pipework, fittings thrust blocks, painting etc as per typical drawing details:                                                                                       |      |      |      |          |
| 2.12                  |                             | AIR VALVE DETAIL                                                                                                                                                                                                                                                                                   |      |      |      |          |
| 2.12.1                |                             | 50mm PN16 Air Valve Chamber Assemblies complete, including Vent-O-Mat Air Valve or similar approved, to suit DN90 Pipeline                                                                                                                                                                         | No.  | 1,00 |      |          |
| 2.12.2                |                             | 25mm PN16 Air Valve Chamber Assemblies complete, including Vent-O-Mat Air Valve or similar approved, to suit DN63 Pipeline                                                                                                                                                                         | No.  | 1,00 |      |          |
| 2.12.3                |                             | 25mm PN16 Air Valve Chamber Assemblies complete, including Vent-O-Mat Air Valve or similar approved, to suit DN50 Pipeline                                                                                                                                                                         | No.  | 5,00 |      |          |
| 2.13                  |                             | SCOUR VALVE DETAIL                                                                                                                                                                                                                                                                                 |      |      |      |          |
|                       |                             | Complete as per Drawing:                                                                                                                                                                                                                                                                           |      |      |      |          |
| 3.13.1                |                             | 90mm PN16 Scour Valve Chamber Assemblies complete, including all 12 fittings and jet disperser                                                                                                                                                                                                     | No.  | 1,00 |      |          |
| 2.13.1                |                             | 63mm PN16 Scour Valve Chamber Assemblies complete, including all 12 fittings and jet disperser                                                                                                                                                                                                     | No.  | 1,00 |      |          |
| 2.14                  |                             | ISOLATION VALVE DETAIL                                                                                                                                                                                                                                                                             |      |      |      |          |
|                       |                             | Complete as per Drawing:                                                                                                                                                                                                                                                                           |      |      |      |          |
| 3.14.1                |                             | 90mm PN16 Isolation Valve Chamber Assemblies                                                                                                                                                                                                                                                       | No.  | 1,00 |      |          |
| 2.14.1                |                             | 63mm PN16 Isolation Valve Chamber Assemblies                                                                                                                                                                                                                                                       | No.  | 2,00 |      |          |
| 2.14.1                |                             | 63mm PN16 Isolation Valve Chamber Assemblies                                                                                                                                                                                                                                                       | No.  | 7,00 |      |          |
| 2.15                  | 1200L                       | COMMISSIONING                                                                                                                                                                                                                                                                                      |      |      |      |          |
|                       | PSL                         | Disinfect & Commission Bulk Pipelines for:                                                                                                                                                                                                                                                         |      |      |      |          |
| 2.15.1                | PSL 7<br>8.2.1<br>PS 3.7.24 | Hydraulic Pressure Testing of Pipeline- Supply and install temporary blank flanges and/ or spade pieces as required, provide temporary anchorages and all fittings, valves and appurtenances as required for the pressure testing of the pipeline to the approval of Engineer and to specification | Sum  | 1,00 |      |          |
| Total Carried Forward |                             |                                                                                                                                                                                                                                                                                                    |      |      |      |          |

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SECTION 2: PIPELINES AND RETICULATION

| ITEM NO               | PAYMENT                  | DESCRIPTION                                                                                                                                                                                                                | UNIT | QTY    | RATE | AMOUNT R |
|-----------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|------|----------|
| Brought Forward       |                          |                                                                                                                                                                                                                            |      |        |      |          |
| 2.16                  |                          | CONCRETE PIPE SUPPORT PEDESTALS                                                                                                                                                                                            |      |        |      |          |
| 2.16.1                |                          | Construction of pipe support pedestals complete, including excavation, preparation, formwork, concrete, rebar, and steel pipe support bracket for pedestals up to 1m to suit                                               | No.  | 10,00  |      |          |
| 2.16.2                |                          | Extra over item for pedestals over 1m up to 2m in height                                                                                                                                                                   | No.  | 5,00   |      |          |
| 2,17                  |                          | ANCHOR AND THRUST BLOCKS                                                                                                                                                                                                   |      |        |      |          |
|                       | 8.2.11<br>PSL6.4         | Grade 20/19 mass concrete for anchor and thrust blocks for pipelines as detailed on drawings and as instructed by the Engineer                                                                                             |      |        |      |          |
| 2.17.1                |                          | Anchor Blocks                                                                                                                                                                                                              | m³   | 30,00  |      |          |
| 2.17.2                |                          | Thrust Blocks                                                                                                                                                                                                              | m³   | 60,00  |      |          |
| 2.17.3                |                          | Extra over for rough formwork to anchor and thrust blocks                                                                                                                                                                  | m²   | 170,00 |      |          |
| 2,18                  | PSCC<br>1200L/<br>8.2.12 | PIPE ENCASEMENT                                                                                                                                                                                                            |      |        |      |          |
| 2.18.1                | 8.4.1                    | Grade 20/19 mass concrete pipe encasement of pipe to detail as instructed by the Engineer                                                                                                                                  | m³   | 95,00  |      |          |
| 2.18.2                | 8.4.1                    | Grade 20/19 concrete slab protection of pipe to detail as instructed by the Engineer                                                                                                                                       | m³   | 50,00  |      |          |
| 2.18.3                | 8.3.1                    | High tensile steel reinforcement to pipe encasement as instructed by the Engineer                                                                                                                                          | t    | 1,50   |      |          |
| 2.18.4                | 8.3.2                    | Mesh Ref 395 to pipe cover slabs                                                                                                                                                                                           | m²   | 250,00 |      |          |
| 2.18.5                |                          | Extra over for cement stabilisation to backfilled and compacted material- up to 5% stabilisation                                                                                                                           | m³   | 35,00  |      |          |
| 2.18.6                |                          | Cement Stabiliser                                                                                                                                                                                                          | t    | 4,00   |      |          |
| 2.18.7                |                          | Extra over for rough formwork to pipe encasements                                                                                                                                                                          | m²   | 150,00 |      |          |
| 2,19                  | PSCC                     | ANCILLARIES                                                                                                                                                                                                                |      |        |      |          |
|                       |                          | Supply and position as instructed by the Engineer, precast concrete markers including concrete base and two coats approved enamel 'road marking' paint complete with lettering, as detailed on drawings for the following: |      |        |      |          |
| 2.19.1                | PSL6.6                   | Standard pipe markers to details on drawings                                                                                                                                                                               | No.  | 170,00 |      |          |
| 2.19.2                | PSL6.6                   | Stenciled black painted valve markings to valve chambers                                                                                                                                                                   | No.  | 25,00  |      |          |
| Total Carried Forward |                          |                                                                                                                                                                                                                            |      |        |      |          |

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## SECTION 2: PIPELINES AND RETICULATION

| ITEM NO                          | PAYMENT | DESCRIPTION                                                                                                                                   | UNIT           | QTY    | RATE | AMOUNT R |
|----------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|------|----------|
| Brought Forward                  |         |                                                                                                                                               |                |        |      |          |
| 2.20.1                           |         | REHABILITATION AND GRASSING                                                                                                                   |                |        |      |          |
| 2.20.1.1                         |         | Preparation for planting and grassing across full working width in accordance with the EMP, Rehabilitation Plan & re-vegetation specification | m <sup>2</sup> | 650,00 |      |          |
| 2.20.1.2                         |         | Fertilizing with approved fertilizer (2:3:2 @ 200kg/hectare) as specified in the EMP                                                          | kg             | 50,00  |      |          |
| 2.20.1.3                         |         | Approved grass sodding as specified in the EMP                                                                                                | m <sup>2</sup> | 650,00 |      |          |
| 2.20.1.4                         |         | Approved grass runners placed in 150mm centres in both directions as specified in the EMP                                                     | m <sup>2</sup> | 650,00 |      |          |
| 2.20.1.5                         |         | Hydro seed with approved grass seed mix (minimum 35kg/hectare) and maintain, as specified in the EMP                                          | m <sup>2</sup> | 650,00 |      |          |
| 2.20.1.3                         |         | Approved grass sodding as specified in the EMP                                                                                                | m <sup>2</sup> | 650,00 |      |          |
| 2.20.1.4                         |         | Approved grass runners placed in 150mm centres in both directions as specified in the EMP                                                     | m <sup>2</sup> | 650,00 |      |          |
| 2.20.1.5                         |         | Hydro seed with approved grass seed mix (minimum 35kg/hectare) and maintain, as specified in the EMP                                          | m <sup>2</sup> | 650,00 |      |          |
| Total Carried Forward To Summary |         |                                                                                                                                               |                |        |      |          |

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## SECTION 3: 400KL RESERVOIR

| ITEM NO               | PAYMENT          | DESCRIPTION                                                                                                                      | UNIT           | QTY      | RATE | AMOUNT R |
|-----------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|----------|
| 3.1                   |                  | SECTION 3: 400KL RESERVOIR                                                                                                       |                |          |      |          |
| 3.1.1                 |                  | EARTHWORKS                                                                                                                       |                |          |      |          |
| 3.1.1.1               | SANS 1200 C PSC  | Site Clearance                                                                                                                   |                |          |      |          |
| 3.1.1.1.1             | 8.2.1 PSC2       | Clear and grub site                                                                                                              | m <sup>2</sup> | 1 000,00 |      |          |
|                       |                  | Remove and grub large trees and tree stumps of girth:                                                                            |                |          |      |          |
|                       |                  | a) 1m to 2m                                                                                                                      | No.            | 0,00     |      |          |
|                       |                  | b) 2m to 3m                                                                                                                      | No.            | 0,00     |      |          |
| 3.1.2                 | SANS 1200DA PSDA | Earthworks (Small Works)                                                                                                         |                |          |      |          |
| 3.1.2.1               | 8.3.1 (a)        | Remove topsoil to a nominal depth of 150mm, stockpile and maintain (Road & Platform)                                             | m <sup>2</sup> | 980,00   |      |          |
| 3.1.2.2               | 8.3.1 (b)        | Bulk excavate in all materials for reservoir terraces and place on embankment and compact to 90% mod AASHTO                      |                |          |      |          |
|                       |                  | a) Cut to fill                                                                                                                   | m <sup>3</sup> | 30,00    |      |          |
|                       |                  | b) Cut to spoil                                                                                                                  | m <sup>3</sup> | 150,00   |      |          |
| 3.1.2.3               | 8.3.1 (c) (2)    | Extra over item 3.1.2.2 for excavation in hard rock (Provisional quantity)                                                       | m <sup>3</sup> | 50,00    |      |          |
| 3.1.2.4               | 8.3.2 PSDA 3     | Restricted excavation in all materials irrespective for depth for:                                                               |                |          |      |          |
|                       |                  | i) Reservoir foundations, floor and outlet pipework                                                                              | m <sup>3</sup> | 165,00   |      |          |
| 3.1.2.5               | 8.3.2 (b)        | Extra over item 3.1.2.4 for excavation in hard rock-Provisional Quantity                                                         | m <sup>3</sup> | 80,00    |      |          |
| 3.1.2.6               | 8.3.4            | Imported sub-base (G5 specification) below reservoir floor, compacted to 95% Mod AASHTO in 200mm layers (Provisional)            | m <sup>3</sup> | 160,00   |      |          |
| 3.1.2.7               |                  | Supply and lay double layer of Maccaferri "Roadmesh" or similar approved with galvanised 2.7mm wire and 3.9mm rods (Provisional) | m <sup>2</sup> | 197,00   |      |          |
| 3.1.3                 |                  | FINISHINGS                                                                                                                       |                |          |      |          |
| 3.1.3.1               | 8.3.6            | Topsoiling from stockpile provided under item 3.1.2.1                                                                            | m <sup>2</sup> | 890,00   |      |          |
| 3.1.3.2               | 8.3.7 PSC        | Grassing using an Indigenous Grass Seed mixture as specified in the EMP, EMPr and Environmental Rehabilitation Plan.             | m <sup>2</sup> | 890,00   |      |          |
| Total Carried Forward |                  |                                                                                                                                  |                |          |      |          |

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## SECTION 3: 400KL RESERVOIR

| ITEM NO               | PAYMENT         | DESCRIPTION                                                                                                                                                                                                                                                                  | UNIT           | QTY    | RATE | AMOUNT R |
|-----------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|------|----------|
| Brought Forward       |                 |                                                                                                                                                                                                                                                                              |                |        |      |          |
| 3.2                   |                 | 400KL RESERVOIR - SUPPLY AND INSTALLATION                                                                                                                                                                                                                                    |                |        |      |          |
| 3.2.1                 | SABS<br>1200GA  | Reinforced concrete - Foundation                                                                                                                                                                                                                                             |                |        |      |          |
| 3.2.1.1               |                 | Construct, test complete Piling Foundation with tank's reinforced concrete base in line with Geotechnical Report recommendations for high seepage sandy areas for platform area = 360m <sup>2</sup> , longest side = 27m                                                     | Sum            | 1,00   |      |          |
| 3.2.1.2               |                 | Construct Loffelstein retaining wall using L500 and L300 blocks with rock face finish. Rate to include 300mm wide granular drainage layer, 110mm diameter drainex agricultural drainage pipe and geofabric (bidum A1 or similar approved), to foundation, wall and toe drain | m <sup>2</sup> | 138,00 |      |          |
| 3.2.2                 |                 | Complete supply, install, connect, test 400KL steel tank with all mandatory accessories; access, ladder, lightning protection, earthing, pipe connection, level indicator.                                                                                                   | Sum            | 1,00   |      |          |
| 3.2.3                 | 1200LE<br>1200L | Drainage                                                                                                                                                                                                                                                                     |                |        |      |          |
|                       |                 | Supply, handle, lay and bed drainage pipes in (trench excavation measured elsewhere)                                                                                                                                                                                         |                |        |      |          |
| 3.2.3.1               |                 | Earth or grassed v-drain perimeter                                                                                                                                                                                                                                           | m              | 80,00  |      |          |
| 3.2.3.2               |                 | 250mm Ø solid PVC pipes for overflow outlet to headwall/manhole                                                                                                                                                                                                              | m              | 25,00  |      |          |
| 3.2.3.3               |                 | 75mm OD uPVC Class 4 pipe(± 300mm long) cast                                                                                                                                                                                                                                 | No.            | 4,00   |      |          |
| 3.2.3.4               |                 | 50mm ø HDPE free drain pipes laid at minimum 1:100                                                                                                                                                                                                                           | m              | 24,00  |      |          |
| 3.2.4                 |                 | Stand Pipes and Taps                                                                                                                                                                                                                                                         |                |        |      |          |
| 3.2.4.1               |                 | Sample Tap complete as per detail on drawing, including tie into delivery line and 20m of 32mmø HDPE PN10 pipework and connection detail                                                                                                                                     | No.            | 3,00   |      |          |
| 3.3                   |                 | VALVE AND CHAMBER ASSEMBLES                                                                                                                                                                                                                                                  |                |        |      |          |
|                       | DB 8.3.4<br>PSL | Supply and installation of complete chamber assemblies including excavation, shoring, ladders, precast DN2500 chambers, reinforcing, valves, pipework, fittings thrust blocks, painting etc as per typical drawing details:                                                  |                |        |      |          |
| 3.3.1                 |                 | Complete DN80mm Inlet Chamber as per drawing; PN16 fittings scheduled include flange adaptor, isolation valve, float level control valve, strainer and spool pieces to connect.                                                                                              | No.            | 1,00   |      |          |
| Total Carried Forward |                 |                                                                                                                                                                                                                                                                              |                |        |      |          |

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## SECTION 3: 400KL RESERVOIR

| ITEM NO                          | PAYMENT | DESCRIPTION                                                                                                                                                                              | UNIT  | QTY  | RATE | AMOUNT R |
|----------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|------|----------|
| Brought Forward                  |         |                                                                                                                                                                                          |       |      |      |          |
| 3.3.2                            |         | Complete DN80mm Outlet Chamber as per drawing; PN16 fittings scheduled include flange adaptor, isolation valve, DN25 Air Valve, Pressure gauge, flow meter, and spool pieces to connect. | No.   | 1,00 |      |          |
| 3.3                              |         | Test, assess, upgrade existing fire reticulation network to suit regulation.                                                                                                             | P/Sum | 1,00 |      |          |
| Total Carried Forward To Summary |         |                                                                                                                                                                                          |       |      |      |          |

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## SECTION 4: 20KL ELEVATED TANK

| ITEM NO               | PAYMENT           | DESCRIPTION                                                                                                | UNIT           | QTY    | RATE | AMOUNT R |
|-----------------------|-------------------|------------------------------------------------------------------------------------------------------------|----------------|--------|------|----------|
| 4.1                   |                   | <b>SECTION 4: 20KL ELEVATED TANK</b>                                                                       |                |        |      |          |
| 4.1.1                 |                   | <b>EARTHWORKS</b>                                                                                          |                |        |      |          |
| 4.1.1.1               | SANS 1200C PSC    | Site Clearance                                                                                             |                |        |      |          |
| 4.1.1.1.1             | 8.2.1             | Clear and grub site (Road & Platform)                                                                      | m <sup>2</sup> | 50,00  |      |          |
|                       |                   | Remove and grub large trees and tree stumps of girth:                                                      |                |        |      |          |
|                       |                   | a) 1m to 2m                                                                                                | No.            | 0,00   |      |          |
|                       |                   | b) 2m to 3m                                                                                                | No.            | 0,00   |      |          |
| 4.1.2                 | SANS 1200 DA PSDA | Earthworks (Small Works)                                                                                   |                |        |      |          |
| 4.1.2.1               | 8.3.1 (a)         | Remove topsoil to a nominal depth of 150mm stockpile & maintain (Road & Platform)                          | m <sup>2</sup> | 50,00  |      |          |
| 4.1.2.2               | 8.3.1 (b)         | Bulk excavate in all materials for reservoir terraces & place on embankment & compact to 90% mod AASHTO    |                |        |      |          |
|                       |                   | a) Cut to fill (Platform only)                                                                             | m <sup>3</sup> | 5,00   |      |          |
|                       |                   | b) Cut to spoil ( Platform)                                                                                | m <sup>3</sup> | 15,00  |      |          |
| 4.1.2.3               | 8.3.1 (c)(2)      | Extra Over item 4.1.2.2 for excavation in hard rock-Provisional Quantity                                   | m <sup>3</sup> | 3,00   |      |          |
| 4.1.2.4               | 8.3.2(a) PSDA3    | Restricted excavation in all materials irrespective of depth for:                                          |                |        |      |          |
|                       |                   | i) Reservoir foundations floors & outlet pipework                                                          | m <sup>3</sup> | 105,00 |      |          |
| 4.1.2.5               | 8.3.2 (b)(2)      | Extra over item 4.1.2.4 for excavation in hard rock-Provisional Quantity                                   | m <sup>3</sup> | 5,00   |      |          |
| 4.1.2.6               |                   | Imported subbase layer (G5 specification) below reservoir floor, compacted to 95% Mod AASHTO (Provisional) | m <sup>3</sup> | 15,00  |      |          |
| Total Carried Forward |                   |                                                                                                            |                |        |      |          |



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|----------|
| AMOUNT R |
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## SECTION 5: ELECTRICAL

| ITEM NO               | PAYMENT  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                  | UNIT | QTY   | RATE | AMOUNT R |
|-----------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|------|----------|
| 5                     |          | <b>SECTION 5: MECHANICAL AND ELECTRICAL</b>                                                                                                                                                                                                                                                                                                                                  |      |       |      |          |
|                       |          | <b>RESERVOIR - 400KL</b>                                                                                                                                                                                                                                                                                                                                                     |      |       |      |          |
| 5.1                   | PS E 4.0 | Telemetry and Data                                                                                                                                                                                                                                                                                                                                                           |      |       |      |          |
| 5.1.1                 |          | Pulse to 4-20mA converter unit for the water meters                                                                                                                                                                                                                                                                                                                          | No.  | 2,00  |      |          |
| 5.1.2                 |          | Indoor RTU cabinet: Wall mounted IP65, 3CR12, with glass viewing window                                                                                                                                                                                                                                                                                                      | No.  | 1,00  |      |          |
| 5.1.3                 |          | Cellular Data logger and solar panel unit, Solar system sized to suit as alternative for pump through Eskom connection and diesel generator.                                                                                                                                                                                                                                 | No.  | 1,00  |      |          |
| 5.1.4                 |          | Submersible pressure transducer for level measurement                                                                                                                                                                                                                                                                                                                        | No.  | 1,00  |      |          |
| 5.1.5                 |          | Lightning Strike and surge protection Protection system for the reservoir                                                                                                                                                                                                                                                                                                    | Sum  | 1,00  |      |          |
| 5.1.6                 |          | Lightning Strike and surge Protection system for the Inlet Chamber                                                                                                                                                                                                                                                                                                           | Sum  | 1,00  |      |          |
| 5.1.7                 |          | Lightning Strike and surge Protection system for the Reticulation Chamber                                                                                                                                                                                                                                                                                                    | Sum  | 1,00  |      |          |
| 5.1.8                 |          | Earthing & bonding                                                                                                                                                                                                                                                                                                                                                           | Sum  | 1,00  |      |          |
| 5.1.9                 |          | Operating and maintenance manuals.                                                                                                                                                                                                                                                                                                                                           | Sum  | 2,00  |      |          |
| 5.1.10                |          | Multi core instrument cable, 4 pair 1,5mm2 twisted pair individually and overall screened Mylar, SWA, PVC.                                                                                                                                                                                                                                                                   | m    | 35,00 |      |          |
| 5.1.11                |          | Surface mounted IP65 junction Box c/w terminals and IP65 glands for Reservoir level transducer to meter chamber telemetry cable                                                                                                                                                                                                                                              | No.  | 1,00  |      |          |
|                       |          | NB-Rate includes labour, materials, cable glands installation                                                                                                                                                                                                                                                                                                                |      |       |      |          |
| 5.2                   |          | <b>PUMPS FOR 20KL ELEVATED TANK</b>                                                                                                                                                                                                                                                                                                                                          |      |       |      |          |
|                       |          | <i>All rates to include for supply, welding, fabrication, procure, delivery, store, install, fitment, testing &amp; commissioning.</i>                                                                                                                                                                                                                                       |      |       |      |          |
| 5.2.1                 | PPS2     | Pump and Motor                                                                                                                                                                                                                                                                                                                                                               |      |       |      |          |
|                       |          | Supply, deliver and install approved pump (1 duty 1-standby) to suit duty point of 3.6m <sup>3</sup> /h at 16m head with minimum 80% efficiency or better. Complete with packing, nuts, bolts fixed onto pump plinth as per Platform on layout drawing. Cost to include pump protection steel cage with roof for protection against rain. Motor and pump controls inclusive. | No.  | 2     |      |          |
| 5.2.2                 |          | Supply and install diesel generator, sized to suit pumps.                                                                                                                                                                                                                                                                                                                    | No.  | 1     |      |          |
| Total Carried Forward |          |                                                                                                                                                                                                                                                                                                                                                                              |      |       |      |          |

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## SECTION 6: ELECTRICAL

| ITEM NO               | PAYMENT                                                                                                                         | DESCRIPTION                                                                                                | UNIT | QTY   | RATE | AMOUNT R |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------|-------|------|----------|
| Brought Forward       |                                                                                                                                 |                                                                                                            |      |       |      |          |
| 5.3                   | PS E 7.0                                                                                                                        | ELEVATED TANK                                                                                              |      |       |      |          |
|                       |                                                                                                                                 | Telemetry and Data                                                                                         |      |       |      |          |
| 5.3.1                 |                                                                                                                                 | Pulse to 4-20mA converter unit for the water meters                                                        | No.  | 4,00  |      |          |
| 5.3.2                 |                                                                                                                                 | Indoor RTU cabinet: Wall mounted IP65, 3CR12, with glass viewing window                                    | No.  | 1,00  |      |          |
| 5.3.3                 |                                                                                                                                 | Cellular Data logger c/w IP67 solar panel                                                                  | No.  | 1,00  |      |          |
| 5.3.4                 |                                                                                                                                 | Submersible pressure transducer for level measurement                                                      | No.  | 1,00  |      |          |
| 5.3.5                 |                                                                                                                                 | Lightning Strike and surge protection Protection system for the reservoir                                  | Sum  | 1,00  |      |          |
| 5.3.6                 |                                                                                                                                 | Lightning Strike and surge Protection system for the Inlet Chamber                                         | Sum  | 1,00  |      |          |
| 5.3.7                 |                                                                                                                                 | Lightning Strike and surge Protection system for the Reticulation Chamber                                  | Sum  | 3,00  |      |          |
| 5.3.8                 |                                                                                                                                 | Earthing & bonding                                                                                         | Sum  | 1,00  |      |          |
| 5.3.9                 |                                                                                                                                 | Operating and maintenance manuals.                                                                         | Sum  | 1,00  |      |          |
| 5.3.10                |                                                                                                                                 | Multi core instrument cable, 4 pair 1,5mm2 twisted pair individually and overall screened Mylar, SWA, PVC. | m    | 50,00 |      |          |
| 5.3.11                | Surface mounted IP65 junction Box c/w terminals and IP65 glands for Reservoir level transducer to meter chamber telemetry cable | No.                                                                                                        | 1,00 |       |      |          |
| Total Carried Forward |                                                                                                                                 |                                                                                                            |      |       |      |          |

KZN DEPARTMENT OF HEALTH  
**MESELENI HOSPITAL:**  
 72 HOURWATER STORAGE  
**CONTRACT NO.: MSEL001**

## SECTION 6: ELECTRICAL

| ITEM NO                          | PAYMENT  | DESCRIPTION                                                                                                                     | UNIT           | QTY   | RATE | AMOUNT R |
|----------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------|----------------|-------|------|----------|
| Brought Forward                  |          |                                                                                                                                 |                |       |      |          |
| 5.4                              | PS E 6.0 | RESERVOIR - ELEVATED TANK                                                                                                       |                |       |      |          |
|                                  |          | Telemetry and Data                                                                                                              |                |       |      |          |
| 5.4.1                            |          | Pulse to 4-20mA converter unit for the water meters                                                                             | No.            | 2,00  |      |          |
| 5.4.2                            |          | Indoor RTU cabinet: Wall mounted IP65, 3CR12, with glass viewing window                                                         | No.            | 1,00  |      |          |
| 5.4.3                            |          | Cellular Data logger c/w IP67 solar panel                                                                                       | No.            | 1,00  |      |          |
| 5.4.4                            |          | Submersible pressure transducer for level measurement                                                                           | No.            | 1,00  |      |          |
| 5.4.5                            |          | Lightning Strike and surge protection Protection system for the reservoir                                                       | Sum            | 1,00  |      |          |
| 5.4.6                            |          | Lightning Strike and surge Protection system for the Inlet Chamber                                                              | Sum            | 1,00  |      |          |
| 5.4.7                            |          | Lightning Strike and surge Protection system for the Reticulation Chamber                                                       | Sum            | 1,00  |      |          |
| 5.4.8                            |          | Earthing & bonding                                                                                                              | Sum            | 1,00  |      |          |
| 5.4.9                            |          | Operating and maintenance manuals.                                                                                              | Sum            | 1,00  |      |          |
| 5.4.10                           |          | Multi core instrument cable, 4 pair 1,5mm2 twisted pair individually and overall screened Mylar, SWA, PVC.                      | m              | 35,00 |      |          |
| 5.4.11                           |          | Surface mounted IP65 junction Box c/w terminals and IP65 glands for Reservoir level transducer to meter chamber telemetry cable | No.            | 1,00  |      |          |
| 5.5                              |          | TELEMETRY CABLE EXCAVATIONS                                                                                                     |                |       |      |          |
|                                  |          | Trenching 20m <sup>3</sup>                                                                                                      |                |       |      |          |
| 5.5.1                            |          | Soft                                                                                                                            | m <sup>3</sup> | 15,00 |      |          |
| 5.5.2                            |          | Medium                                                                                                                          | m <sup>3</sup> | 3,00  |      |          |
| 5.5.3                            |          | Hard                                                                                                                            | m <sup>3</sup> | 2,00  |      |          |
| 5.5.4                            |          | Imported cable bedding sand                                                                                                     | m <sup>3</sup> | 20,00 |      |          |
| 5.5.5                            |          | Cable route marker                                                                                                              | m              | 25,00 |      |          |
| Total Carried Forward To Summary |          |                                                                                                                                 |                |       |      |          |

KZN DEPARTMENT OF HEALTH  
MSELENI HOSPITAL:  
72 HOUR WATER STORAGE

**CONTRACT NO.: MSEL001**

| DESCRIPTION                                      | AMOUNT |
|--------------------------------------------------|--------|
| SECTION 1: PRELIMINARY AND GENERAL               |        |
| SECTION 2: PIPELINES AND RETICULATION            |        |
| SECTION 3: 400KI RESERVOIR                       |        |
| SECTION 4: 20KL ELEVATED TANK                    |        |
| SECTION 5: MECHANICAL AND ELECTRICAL             |        |
| <b>SUB TOTAL</b>                                 |        |
| ADD: 5 % CONTINGENCIES                           |        |
| <b>SUB TOTAL</b>                                 |        |
| VAT AT 15%                                       |        |
| <b>TOTAL TENDER SUM CARRIED TO FORM OF OFFER</b> |        |

SIGNED ON BEHALF OF TENDERER \_\_\_\_\_



# health

Department:  
Health  
**PROVINCE OF KWAZULU-NATAL**

Baseline Risk Assessment: MSELENI HOSPITAL: 72 hour Emergency Water Storage please note this is a baseline risk assessment not a detailed risk assessment of all anticipated activities on site and not in order of activities of the project. The Principal contractor will be required to compile a detailed risk assessment for the project.

| Main Activity      | Sub activities               | Hazards                                                      | Risks                                                            | Category |                                    |                | Control Measures                                        | Responsible person |
|--------------------|------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|----------|------------------------------------|----------------|---------------------------------------------------------|--------------------|
|                    |                              |                                                              |                                                                  | Safety   | Health                             | Environmental  |                                                         |                    |
| Site establishment | Vegetation clearing (Manual) | Snakes<br>Insects<br>Poisonous vegetation<br>Extreme weather | Snake bites<br>Insect bites<br>Skin rashes. Death<br>Heat & cold | Injuries | Skin infections<br>Dust inhalation | Land pollution | Proper Risk assessment<br>Method statements<br>Adequate | Contractor         |

|  |                                     |                                                                                                                          |                                                                              |                       |                                    |                |                                                                                 |            |
|--|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------|------------------------------------|----------------|---------------------------------------------------------------------------------|------------|
|  |                                     | conditions                                                                                                               |                                                                              |                       |                                    |                | supervision<br>Training                                                         |            |
|  | Vegetation clearing<br>(mechanical) | Snakes<br>Insects<br>Poisonous vegetation<br>Extreme weather conditions<br>Noise<br>Dust<br>Vibration<br>Moving vehicles | Snake bites<br>Insect bites<br>Skin rashes. Death<br>Heat & cold<br>Dust     | Injuries              | Skin infections<br>Dust inhalation | Land pollution | Proper Risk assessment<br>Method statements<br>Adequate supervision<br>Training | Contractor |
|  | Site office positioning             | Manual handling<br>Struck against material<br>Struck by material<br>Sharp edges                                          | Muscular strains<br>Hand injuries<br>Cuts; abrasions<br>Bruises<br>Fractures | Injuries<br>Fractures |                                    |                | Supervision<br>HIRA<br>Method statement<br>Training proper                      | Contractor |

|  |                                          |                                                                                                    |                                                                   |                               |  |  |                                                                            |            |
|--|------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------|--|--|----------------------------------------------------------------------------|------------|
|  |                                          | Tripping<br><br>Hidden services                                                                    | electrocution                                                     |                               |  |  | barricading<br><br>PPE<br><br>Service detection                            |            |
|  | Electrical connection to the site office | Electricity<br><br>Sharp edges<br><br>Poor working postures                                        | Electrocution; death<br><br>Cuts<br><br>Muscular pains            | Injuries<br><br>Electrocution |  |  | Supervision<br><br>HIRA<br><br>Method statement<br><br>Training<br><br>PPE | Contractor |
|  | Water connection to site office          | Sharp edges<br><br>Extreme weather conditions<br><br>Physical exertion<br><br>Poor working posture | Cuts<br><br>Heat stroke<br><br>Muscle strains<br><br>Back strains | Injuries<br><br>Body strains  |  |  | Supervision<br><br>HIRA<br><br>Method statement<br><br>Training<br><br>PPE | Contractor |



|            |            |                                                         |                                                                                                  |                                                                             |                                                                       |                       |                                                                                                                                                                                                                                                                                                                                        |            |
|------------|------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Earthworks | Excavation | <p>Mechanical<br/>Excavation</p> <p>Hand excavation</p> | <p>Driven machinery</p> <p>Use of hand tools</p> <p>Awkward postures</p> <p>Weather extremes</p> | <p>Struck by/<br/>Struck against</p> <p>Collisions</p> <p>Hand injuries</p> | <p>Back aches</p> <p>Heat stress/ heat<br/>rash</p> <p>Cold hands</p> | Excavated<br>material | <p>Availability of<br/>Driven<br/>machinery<br/>competency<br/>certificate</p> <p>Medical fitness</p> <p>HIRA</p> <p>Vehicle and<br/>tool<br/>inspections</p> <p>Supervision</p> <p>Signage</p> <p>Barricade</p> <p>Trench<br/>inspections</p> <p>Availability of<br/>geotechnical<br/>reports (Where<br/>required)</p> <p>Shoring</p> | Contractor |
|------------|------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|

|                            |                    |                                                                     |                                                                |                                                               |                   |  |                                                                                                                   |            |
|----------------------------|--------------------|---------------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|-------------------|--|-------------------------------------------------------------------------------------------------------------------|------------|
|                            |                    |                                                                     |                                                                |                                                               |                   |  | approved by<br>an engineer<br>(Where<br>applicable)                                                               |            |
|                            |                    |                                                                     |                                                                |                                                               |                   |  | Temporal<br>works designer<br>report/s                                                                            |            |
| Concrete<br>works          | Concrete<br>mixing | Cement dust<br><br>Awkward<br>postures<br><br>hand tools            | Hand injuries                                                  | Respiratory<br>irritation<br><br>Musculoskeletal<br>disorders |                   |  | HIRA<br><br>Supervision<br><br>Tool<br>inspections<br><br>PPE<br><br>Medical fitness<br><br>MSDS<br>communication | Contractor |
| Steel fixing &<br>formwork | Steel<br>assembly  | Sharp edges<br><br>Hand tools<br><br>Manual handling<br><br>Bending | hand and body<br>punctures<br><br>Musculoskeletal<br>illnesses | Hand and body<br>injuries                                     | back & body pains |  | HIRA<br><br>Supervision<br><br>Form work<br>designer<br>appointment &                                             | Contractor |

|                            |                |                                        |                                                                      |                                        |  |  |                                                                                                                              |            |
|----------------------------|----------------|----------------------------------------|----------------------------------------------------------------------|----------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------|------------|
|                            |                | Lifting<br>Pulling & pushing           |                                                                      |                                        |  |  | competence<br>Ergonomics training<br>PPE<br>Medical fitness<br>Barricading<br>Protruding material risk management procedures |            |
| Elevated tank installation | Tank elevation | Working at heights<br><br>Use of crane | Fractures<br><br>Falls off the crane<br>Fractures<br>Property damage | Bodily harm<br>Strike by<br>Fatalities |  |  | HIRA<br>WAT<br>Competency certificates for crane driver<br>Medical certification<br>Supervision                              | Contractor |

|            |                                |                                                   |                                                                      |               |                                                              |  |                                                                                               |            |
|------------|--------------------------------|---------------------------------------------------|----------------------------------------------------------------------|---------------|--------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|------------|
| Pipe works | Pipe laying<br>&<br>connection | Dust<br><br>Hand tools<br><br>Awkward<br>postures | Dust inhalation<br><br>Injuries<br><br>Bending; pushing<br>& pulling | Hand injuries | Respiratory<br>irritation<br><br>Musculoskeletal<br>problems |  | HIRA<br><br>Supervision<br><br>PPE<br><br>Medical<br>certification<br><br>Tool<br>inspections | Contractor |
|------------|--------------------------------|---------------------------------------------------|----------------------------------------------------------------------|---------------|--------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|------------|



**KWAZULU-NATAL PROVINCE**

**HEALTH**  
REPUBLIC OF SOUTH AFRICA

## Occupational Health and Safety Specification

**MSELENI HOSPITAL: 72 HOUR EMERGENCY WATER STORAGE**



# KWAZULU-NATAL PROVINCE

**HEALTH**  
REPUBLIC OF SOUTH AFRICA

## **1. Introduction**

The Department of Health Kwa Zulu Natal enters into contracts with Contractors for Mseleni 72 Hour emergency water storage. This document describes the requirements of compliance to which the Principal Contractor is to adhere in relation to the scope of works. This document defines the minimum management requirement that is to be implemented by the Principal Contractor for the management of Health and Safety on the Health care facility.

The aim of this document is to present the health and safety aspects that need to be controlled and managed on this contract. The client reserves the right to make changes as and when the Client deems fit to address issues of Occupational Health & Safety (OHS) Compliance. The Client will not entertain any claim of any nature whatsoever which arises as a result of costs incurred or delays being experienced due to the Contractor not complying with the requirements of this document or any other applicable legislative requirements imposed on the contractor.

The Principal Contractor will be required to submit a Health and Safety File for approval prior to commencement of work. Arrangements for such approval shall be made with the OHS Department. The Principal Contractor shall submit proof that its appointed contractors Safety file has been approved.

## **2. Definitions & Abbreviations**

**2.1 “Client”** means KZN Department of Health

**2.2 “CR”** refers to the Construction Regulations 2014

**2.3 “OHS”** means Occupational Health and Safety

**2.4 “DoL”** refers to the Department of Labour

**2.5 “DOH”** refers to the Department of Health

**2.6 “NIHL”** refers to the Noise Induced Hearing Loss Regulations

**2.7 “HCS”** refers to the Hazardous Chemical Substances Regulations

**2.8 “GSR”** refers to the General Safety Regulations

**2.9 “GAR”** refers to the General Administrative Regulations

**2.10 “FR”** refers to Facilities Regulations

**2.11 “PPE”** means Personal Protective Equipment

**2.12 “MSDS”** means Material Safety Data Sheets

**2.13 “EIR”** refers to the Electrical Installations regulations

**2.14 “EMR”** refers to Electrical Machinery Regulations

**2.15 “ERW”** refers to Environmental Regulations for Workplaces

**2.16 Principal Contractor** means an employer appointed by a Client to perform Construction Work

**2.17 Competent Person** means a person who –

- (a) Has in respect of the work or task to be performed the required knowledge, training and experience and where applicable, qualifications, specific to that work or task. Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act, 2000 (Act No. 67 of 2000), those qualifications and training must be regarded as the required qualifications and training, and

(b) Is familiar with the Act and with the applicable regulations made under the Act

**2.18 OHS Plan** means a site, activity or project specific documented plan in accordance with the Client's Health & Safety Specification

**2.19 Health & safety File** means a file or other record containing information in writing required by Construction Regulations 2014.

**2.20 Hazard Identification and Risk Assessment and Risk Control (HIRA)** means a documented plan, which identifies hazards, assesses the risks and detailing the control measures and safe working procedures, which are to be used to mitigate and control the occurrence of hazards and risks during construction or operation phases.

**2.21 The Act** means, unless the context indicates otherwise, the Occupational Health and Safety Act, 85 of 1993 and Construction Regulations 2014 promulgated there under, (OHSA).

**2.22 Hazard** means a source of or exposure to danger

**2.23 Risk** means the probability or likelihood that a hazard can result in injury or damage.

**2.24 Occupational Health Practitioner** refers to either Doctors or Nurses with the following requirements:

#### **Doctors**

(a) Registered and in good standing with the Health Professions Council of South Africa (HPCSA)

(b) has a tertiary qualification in Occupational Health or Medicine which is registered as an additional qualification with HPCSA or

(c) be registered as a specialist in Occupational Medicine with HPCSA

#### **Nurses**

(a) registered and in good standing with the South African Nursing Council (SANC) and

(b) have a tertiary qualification in Occupational Health Nursing that is recognised and registered with SANC

**2.25 dead** means at or about zero potential and isolated from any live system;

**2.26 earthed** means connected to the general mass of earth in such a manner as will ensure at all times an immediate safe discharge of electrical energy;



**2.27 "live" or "alive"** means electrically charged

**2.28 portable electric tool** means any electrically operated implement, with the exception of ordinary household electrical appliances, which is designed for use with-

- (a) a flexible cord at the supply end and which is intended for use by hand and which is to be carried by hand at the place of work; or
- (b) a flexible cable at the supply end and which is intended for use by hand and which is to be moved by hand at the place of work;

**2.29 electrical contractor** means a person who undertakes to perform electrical installation work on behalf of any other person, but exclude an employee of such first-mentioned person

**2.30 electrical installations** means any machinery, in or on any premises, used for the transmission of electricity from a point of control to a point of consumption anywhere on the premises, including any article forming part of such an electrical installation irrespective of whether or not it is part of the electrical circuit, but excluding

- (a) any machinery of the supplier related to the supply of electricity on the premises;
- (b) any machinery which transmits electrical energy in communication, control circuits, television or radio circuits
- (c) an electrical installation on a vehicle, vessel, train or aircraft; and
- (d) control circuits of 50 V or less between different parts of machinery or system components, forming a unit, that are separately installed and derived from an independent source or an isolating transformer;

**2.31 installation electrician** means a person who has been registered as an installation electrician in terms of regulation 11 (2) for the verification and certification of the construction, testing and inspection of any electrical installation, excluding specialised electrical installations;

**2.32 installation work means:-**

- (a) the installation, extension, modification or repair of an electrical installation;
- (b) the connection of machinery at the supply terminals of such machinery; or
- (e) the inspection, testing and verification of electrical installations for the purpose of issuing a certificate of compliance;

### **3.1 Leadership and Commitment**

The Contractor acknowledges the KZN Department of Health's strong commitment to Health and Safety and the Contractor affirms that it has a written Health and Safety Policy, and is actively supported and endorsed by the Contractor's management. The Contractor represents that its written policy is widely disseminated and understood among its employees, and that its policy includes a description of the Contractor's organization, procedures and methods of communication to and from personnel. The Contractor must provide copies of its policy and policy statement to Department of Health (DOH).

### **3.2 Legal Requirements and Regulations for Health and Safety**

The Contractor warrants that it is familiar with the contents and implications of the applicable Legislation; codes of practice, guidelines and standards applicable to the services to be provided. The Act and the Regulations, where applicable, require development and implementation of Work Method Statements for a range of high-risk activities, which, where applicable, the Contractor must develop and implement. The Contractor must ensure that its personnel and its subcontractor's personnel have been informed of all such laws, Acts, regulations, codes of practice, guidelines and standards.

### **3.3 Contractors' General Requirements for Health and Safety**

The Contractor is solely responsible for carrying out the work under the Contract having the highest regard for the health and safety of its employees, the KZN Department of Health's employees and persons at or in the vicinity of the Site, the Works, temporary work, materials, the property of third parties and any purpose relating to the Contractor carrying out its obligations under this Contract.

The Contractor must initiate and maintain safety precautions and programs to conform to all applicable Health and Safety laws or other requirements, including requirements of any applicable government instrumentality and DOH institutions site requirements.

The Contractor must, at its own cost, erect and maintain safeguards for the protection of workers and the public. The Contractor must manage all reasonably foreseeable hazards created by performance of the work.

**The Contractor must:**

- Provide all things and take all measures necessary for maintaining proper personal hygiene, ensuring safety of persons and property and protecting the environment at or near the Site
- Avoid unnecessary interference with the passage of people and property at or near the Site
- Prevent nuisance and excessive noises and unreasonable disturbances in performing the Services
- Be responsible for the adequacy, stability and safety of all of its site operations.
- Costs for the above are borne by the Contractor
- The Contractor must comply and is responsible for ensuring that all of its Sub-contractors comply with the relevant legislation(s) and statutory regulations for health and safety, the KZN Department of Health's Health & Safety requirements included in the Contract and other document pertaining to health & safety contained in the Program Health & Safety Management System and include standards, policies, procedures, guidelines and safe work instructions
- The contractor must appoint a Competent Safety Officer who will ensure that OHS Act and its regulations are implemented.
- The contractor must appointment a full time Safety Officer to ensure compliance on site.

**3.4 Contractor's Health and Safety Management Plan**

- The Contractor must prepare, implement and administer the Contractor's Health and Safety Management Plan.
- The Plan must be in writing and must be forwarded to the OHS Department prior to mobilisation to the site.
- The Health and Safety Management Plan must comply with this specification including Site Rules & Requirements, and applicable law relating to workplace health, safety and environmental standards.
- Any proposed amendments or revisions to the Contractor's Safety Management Plan must be submitted to DOH for acceptance.

- The Health and Safety Management Plan must provide a systematic method of managing hazards according to the risk priority and must include all mobilisation and site set-up activities.
- The Plan must be presented and accepted by DOH BEFORE permission will be granted to the Contractor to mobilise to site
- The Plan will be audited for completeness by the KZN Department of Health.
- The contractor shall comply with the requirements of CR 7

The Plan must be presented and accepted by DOH BEFORE permission will be granted to the Contractor to mobilise to site

### **3.5 Minimum requirements for a safety plan:**

- The plan shall demonstrate management's commitment to safety and include, but not be limited to, the following minimum auditable elements:
- The Contractors' Safety Policy.
- How safety responsibilities are assigned to different roles within the organisation. Identification of role of Safety Coordinator, and on-site managers
- Selection, placement and training procedures, including induction and ongoing training in 'Basic Safe Work' and Occupational Health & Safety training for newly hired or promoted supervisors.
- Occupational Health & Safety communications and meetings, including daily safe task instructions and project safety meetings.
- Assessment of sub-contractors and Service Providers, including requirements for Health & Safety Plans.
- Safety awareness.
- Nomination of personnel to carry out safety inspections.
- Contractor senior management involvement
- Rules and regulations including safety procedures the Contractor has in place for recurring work activities
- Personal protective equipment rules.
- Control of dangerous and hazardous substances

- System of hazard identification and risk control, such as Risk assessments, Daily Safe Task Instructions and communication.
- Verification procedures including
- Daily site safety inspections and audits
- Inspection of plant, tools and equipment prior to introduction to site and at least monthly thereafter
- Accident/incident reporting, recording, investigation and analysis, which ensure that corrective action, are taken and this action is communicated to report initiators
- Evacuation and emergency planning
- Rehabilitation procedures that encourage an early return to work
- Record keeping, including details of what is kept and for how long

#### **1. Hazard Identification, Risk Assessment and Risk Control**

- The development of a work scope and activity risk profile identifying and considering, safety, health and environmental hazards and exposures.
- Controls to manage risks identified within the risk profile will be formalised and implemented
- The hazard identification and risk assessment process for specific operations and activities and for new activities identified after the development of the project/work scope and activity risk profile.
- The process to be used to review the effectiveness of risk controls
- Workplace hazard inspections shall be effected
- The implementation of a safety observation and coaching process conducted as a minimum by persons in leadership roles
- Method by which daily activities will be assessed for hazards and controls defined before work commences

## **2. Risk Assessment**

- The principal contractor must, before the commencement of any work and during such work, have risk assessments performed by a competent person appointed in written.

The risk assessment should include-

- (a) the identification of risks and hazards to which persons may be exposed to
  - (b) an analysis and evaluation of the risks and hazards identified based on a documented method
  - (c) a documented plan and applicable safe work procedures to mitigate reduce or control the risks that have been identified
  - (d) a monitoring plan and
  - (e) a review plan
- Furthermore, the contractor shall conduct job/task specific risk assessment. Communication of the risk assessments shall be kept in the OHS file.
  - Risk assessment must be performed by a trained risk assessor who has been appointed in writing.
  - The principal contractor shall comply with the requirements of CR 9

### **5.1 Task Specific Risk Assessment**

- Prior to the commencement of each work activity, a Task Specific Risk Assessment (HIRA) is completed; documented and submitted to KZN Department of Health for approval prior to the task commencing.
- The purpose of this exercise is to identify all potential hazards associated with the Work and the work environment, assess the risk these hazards present and then to provide risk control action that deals with those hazards, as well as providing to the workforce involved in the particular work activity, details of any hazards and the proposed controls.

**The Task Specific Risk Assessment must:**

- Describe the operation to be performed in the sequence of the basic job steps.
- Identify the hazards or potential hazards at each step.
- Identify the possible consequences for each hazard at each step.
- Assess and rate each hazard
- Recommend measures that will be applied to minimise risk
- Identify the site rules and work instructions applicable to the task
- Describe how the hazard is controlled such that the residual risk is as low as reasonably practicable and is acceptable to the work crew.
- Be reviewed prior to each shift.
- Be acknowledged by way of signature of all personnel involved in the work activity

**3. Safety Method Statements**

- The Contractor must submit Safety Method Statements to the KZN Department of Health's OHS Department for approval prior to the task commencing.
- The Task Items listed in the Safety Method Statement must tie up with the task items being assessed in the Task Specific Risk Assessment document.
- The Safety Method Statement must detail in a step by step and methodical manner how the task is to be done from beginning to the end and must indicate what tools/equipment will be used at each stage and/or how the work area is to be accessed.

**4. Hazardous Materials**

- The Contractor must set out its policy for the use, transportation, handling and storage of fuel and hazardous materials taking into account the legislative requirements.
- The Contractor must ensure that all hazardous materials and waste products are disposed of in accordance with applicable laws and regulations.

## **5. Incident Management**

- The principal contractor must appoint in writing a competent incident investigator.
- Incident management plan must be developed and implemented by the principal contractor
- All incidents must be investigated and recorded
- Reportable incidents must be reported to the Department of Labour
- Incidents must be reported to DOH within 24 hours of occurrence
- An incident register must be kept on site.
- Incident investigation report inclusive of corrective measures must be submitted to DOH

## **6. Emergency Preparedness and Procedures**

- The principal contractor must develop an emergency procedure
- The emergency procedure must have; but not limited to:
  - A detailed response procedure; list of key personnel; details of emergency services;
  - Steps to be taken in the event of each and every specific type of emergency
- The emergency procedure must be communicated to all employees
- Emergency numbers must be known to all employees and key numbers posted on work areas.

## **7. First Aid Equipment**

- The principal contractor must appoint in writing a competent first.
- The appointed first aider must be in possession of First Aid Level 2 certificate.
- The contractor must provide his own first aid box
- First aid incidents are to be recorded on a first aid register

## **8. Unsafe Acts and Conditions**

- The Contractor must implement a system to recognise, correct, and report unsafe acts and conditions associated with all site activities.



## **9. Occupational Health & Infection control**

- The contract may expose employees to biological agents; contractors must ensure that an adequate risk assessment is prepared and identifies the biological agents and controls thereof.
- Appropriate PPE must be used at all times

## **10. Ergonomic risks**

- The contractor must identify all ergonomic risks
- The contractor must comply with Ergonomics Regulations; 2019

## **11. Extreme weather conditions**

- If weather conditions pose a threat to Health & Safety of employees, be it extreme heat, cold, lightening or any weather condition, the Principal must apply appropriate safety measures.
- For hot environments; cool portable water shall be provided.

## **12. Medical Certificates of Fitness**

- Prior to commencement of works; the principal contractor must submit valid medical certificates of fitness for all employees
- DOH will only accept Medical certificates of fitness obtained from an authorised Occupational health Practitioner
- A procedure to cater for employees with limitations must be developed and implemented by the contractor.
- Employees without valid medical certificates will not be allowed on site.

## **13. Vehicles; Plant and Equipment**

- The contractor must implement and comply with OH&S Act - Electrical Machinery Reg. 9, Driven Machinery Reg. 1 – 20, Electrical Machinery Regulations and Electrical Installation Regulations.
- The Contractor must supply, at his cost, all items of plant and equipment necessary to perform the work and must maintain all items in good order and condition.
- Plant and equipment brought into site must be subjected to inspections
- A list of all plant and equipment must be kept on site

- The contractor must ensure that vehicles and mobile plants comply with the requirements of CR 23
- Vehicles and mobile plants must be inspected daily before use and records thereof must be kept
- Competent personnel must be appointed to use and manage mobile plants.

#### **14. Personnel Protective Equipment/Clothing (PPE)**

- The contractor must provide suitable and adequate PPE to all his/her employees
- PPE must be issued to all workers free of charge and a record of issuing must be kept
- Training must be provided to all employees to ensure they know how to use and maintain their PPE
- The contractor must comply with the requirements of General Safety Regulations

#### **15. Working in Existing Operations**

- Work must be carried out such that no interference is caused.
- Any work which requires section of the Plant to be taken out of operation with resultant interruption to production and/or other activities must be carried out in the absolute minimum of time and be on the basis of the Contractor working around the clock (within legal parameters) for the duration of such work.
- The times when work of this nature can be carried out must be arranged with DOH

#### **16. Lock-out Procedures**

- In operating areas lock out procedures must be done in conjunction with the hospital's representative and communicated to affected parties timeously.
- There must be a separate set of procedures that cover the requirements for lockout, commissioning, start-up and hand over of the completed works.

#### **17. Notification of Construction Work**

- The principal contractor must notify the department of Labour in writing 7 days before commencement of construction works.

## **18. Fall Protection**

- The Principal contractor must designate a competent person to prepare a fall protection plan
- The principal contractor must implement the fall protection plan and amend when necessary and
- Ensure that there is continued adherence to the fall protection plan

### **Fall protection plan must include:**

- A risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location
- The process of evaluation of employees medical fitness necessary to work at a fall risk position and records thereof
- A programme for training of employees working from fall risk positions and records thereof
- The procedure addressing the inspection; testing and maintenance of all fall protection equipment
- A rescue plan detailing the necessary procedure; personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.
- The site manager must be in possession of the most recently updated version of the fall protection plan

### **The Principal contractor must ensure that:**

- All unprotected openings on the floors; edges; slabs; hatchways and stairways are adequately guarded; fenced or barricaded or that a similar means are used to safeguard any person from falling through such opening;
- No person/s is permitted to work in a fall risk position unless the work is performed safely as above
- Fall prevention and arrest equipment are approved as suitable and of sufficient strength for the purpose for which they are being used; with regards to the load including any person; they are intended to bear;

- Securely attached to a structure or plant and the structure or plant means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any other person who could fall and
- Fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.
- The contractor must comply with the requirements of CR 10

## **19. Use of ladders**

- The contractor must ensure that ladders are made of sound material and is suitable for the purpose for which it is used
- The contractor must ensure that ladders are fitted with non-skid devices at the bottom end and hooks
- The contractor must ensure that ladder is lashed; held or secured whilst being used to ensure stability of the ladder under all conditions and at all times
- When work is done from a ladder; the contractor must prevent articles from falling off and shall provide suitable receptacles in which hand tools shall be kept when not in use
- The contractor must comply with the requirements of GSR 13A

## **20. Housekeeping and general safeguarding on site**

- The contractor must comply with the requirements of Environmental Regulations for Workplaces (ERW) and CR 27
- The site must be kept neat and clean at all times
- Accumulated waste must be removed regularly as per the contractors waste management plan.
- The contractor must appoint in writing a competent stacking storage supervisor
- The contractor must comply with the requirements of GSR and CR 28

## **21. Fire precautions on site**

- The contractor must comply with the requirements of ERW and CR 29
- The contractor must provide compliant fire-fighting equipment
- The contractor must appoint a competent person to deal with fire outbreaks on site.

## **22. Employee Facilities on site**

- The contractor must provide adequate facilities on site i.e. toilets; eating areas; changing areas and showers etc.
- Employee facilities must be kept clean at all times
- The contractor must comply with the requirements of CR 30

## **23. Portable electric tools**

- The contractor must appoint a competent person who will be responsible for the inspection of portable electrical tools
- Electrical tool list must be kept in the file
- Tagging systems may be used to separate inspected and safe equipment and faulty equipment
- Electrical tools must be kept in a safe state and removed once noted as faulty
- The contractor must comply with the requirements of EMR 10

## **24. Management and Supervision of construction work**

- The principal contractor must appoint in writing a full time competent person as construction Manager with the duty of managing all construction works on a single site; including the duty to ensure OHS compliance.
- The principal contractor may appoint in writing one or more assistant construction managers where deemed necessary
- The appointed construction manager may not manage any other construction sites other than the site in respect of which he/she has been appointed
- The principal contractor must employ a full time competent Health and Safety Officer for this project
- A construction manager must appoint construction supervisors responsible for construction activities and ensuring health and safety compliance on site.
- The contractor must comply with the requirements of CR 8

## **25. Minimum contents of a health & safety file**

- The Principal contractor must open and keep a safety file on site
- The safety file must include all documentation required in terms of the OHS Act and the regulations
- The safety file must be made available to the DOL inspector and the client (KZN DOH representative)
- The principal contractor must comply with the requirements of CR 7

## **26. Management of Covid-19**

- The contractor must appoint in writing a covid-19 compliance officer
- The contractor must develop a covid-19 management policy & procedure
- The contractor must provide handwashing facilities; where not possible; a sanitising agent to the employees; free of charge
- The contractor must comply with the requirements of Disaster Management Act and regulations

## **27. Smoking**

- The Contractor must not permit smoking at the Site except within designated smoking areas.

## **28. Intoxicating Liquor or Drugs**

- The contractor must implement and comply with OH&S Act – General Administrative Regulation 10
- Any person found on the site or attempting to enter site, in possession of or consuming intoxicating liquor or illegal drugs or considered unfit for work from the apparent influence of intoxicating liquor or illegal drugs or prescription drugs, must be removed from the site.

## **29. Training and Competency**

- Prior to the commencement of the work, the Contractor must provide current documentation to the satisfaction of DOH verifying that the Contractor's personnel are competent and have the appropriate qualifications, job skills and training as required by this Contract and applicable laws.
- The Contractor must ensure that all his employees and his Sub-Contractors' employees working on the site are adequately trained in the type of work to be

performed, are trained in relevant procedures and have the appropriate qualifications, certificates and are under competent supervision.

- Training records are to be maintained on site.

### **30. Induction in Health and Safety**

- The Contractor must ensure that no employee of the Contractor or its subcontractors, including transport and delivery Contractors entering the site delivering materials and/or equipment, must proceed to enter the Site or any operations area until they have received all training required under applicable laws and regulations, including, but not limited to, work activity inductions and the KZN Department of Health's Site-specific induction.
- The Contractor must also prepare and present to all its employees its own Contractor Induction, explaining the Contractor's Safety Management Plan, the Contractor's Rules, the obligations imposed by the Occupational Health and Safety Act and Regulation.
- The contractor must comply with: OH&S Act - Section 8

### **31. Temporal works**

- A contractor must appoint a temporal works designer in writing to design; inspect and approve the erected temporal works on site before use.
- The contractor must comply with the requirements of CR 12

### **32. Material Hoist**

- A contractor must ensure that every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.
- The contractor must comply with the requirements of CR 19

### **33. Cranes**

- The contractor must comply with the requirements of CR 22

### **34. Fundamental health and safety requirements**

Before any work commences, proof of and the following non-negotiable deliverables are required:

- Incident investigation training by Construction Manager and or Safety Officer

- Letter of good standing with the Workman's Compensation Commissioner
- Legal liability training of all Supervisors and Construction Managers
- Original of the notification of construction work stamped by the Department of Labour
- Public Liability Insurance
- Competency training certificates of people to execute the job
- Method statements for work to be conducted
- Risk Assessments for every Job/Task
- Signed legal appointments as required by legislation
- Contractors' Safety Officer CV and competency certificates
- Health and Safety Management Plan
- Health and Safety file
- All equipment to be on a current register, backed up by relevant test certificates
- A Medical fitness certificate for each employee with Annexure 3 completed per employee
- Proof of induction (Contractor induction training)

### **35. Close out report**

- The Health & Safety file for the Principal contractor and all contractors requires closure and handover to the client at the completion of the project. Documentation required includes all records from the start of the project.
- Daily or monthly plant inspection records are not required unless they are related to an incident.
- All records to be in electronic format and submitted to DOH for approval before final submission.



**The list of documents to be submitted includes but not limited to:**

- Client specification
- Principal contractor's OHS plan
- Covid-19 management plan
- Organogram/s
- Legal appointments
- Letters of good standing for the project
- Incident records
- Non-conformance records
- Audits
- Method statements
- Risk assessments
- Safe work procedures
- Medical certificates of fitness
- And any other document that may be requested by DOH

### **36. OMISSIONS FROM HEALTH SAFETY AND REQUIREMENTS SPECIFICATION**

By drawing up this OHS specification, DOH has endeavoured to address the most critical aspects relating to OHS issues in order to assist the contractor in adequately providing for the health and safety of employees on site. Should DOH not have addressed all SHE/Q aspects pertaining to the work that is tendered for, the contractor needs to include it in the SHE plan and inform DOH of such issues when submitting.

#### **Contractor's Acceptance & Acknowledgement of the Health & Safety Specification:**

I, \_\_\_\_\_ (print name in full), the undersigned responsible person (Contractors 16.1/16.2 Appointee) for:

\_\_\_\_\_ (Company Name)

declare that I have read, understood and accept the responsibilities and requirements of this Health & Safety Specification for the project: Mseleni Hospital:- 72 Hour emergency water storage will ensure that this Health & Safety Specification is communicated to the relevant parties so that the requirements hereto can be complied with.

\_\_\_\_\_  
**Contractor's Responsible Person**  
**(16.1/ 16.2 Appointee)**

\_\_\_\_\_  
**Date**