KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Scale: N.T.S.
Drawn: C.E
Approved: A.d.K
Date: 2017/12/05

Drawing No. 8495AG
Detail Number: 1A
KNYSNA MUNICIPALITY
KNYSNA: THE HEADS -
UPGRADING OF EXISTING WATER
NETWORK, PHASE 2

CONSULTING ENG / RAADGEWENDE ING.
UHAMBIKO CONSULT (PTY) LTD

CONTRACTORS / AANNEMERS

Gloss White on Oxford Blue background

Scale: N.T.S.
Drawn: C.E
Approved: A.d.K
Date: 2017/12/05
NOTES:
1. THESE DIMENSIONS AND THE FORM OF THE BLOCK ARE INTENDED AS A GUIDE ONLY. THE FINAL SHAPE IS TO BE DETERMINED ON SITE.
2. WHERE POSSIBLE THE BLOCK IS TO BE CAST AGAINST UNDISTURBED INSITU MATERIAL.
3. THE COUPLINGS MUST REMAIN FLEXIBLE AND REMOVABLE.
4. THRUST BLOCKS FOR PIPES LARGER THAN 300Ø TO BE INDIVIDUALLY DESIGNED.

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2
NOTES

1. These dimensions and the form of the block are intended as a guide only. The final shape is to be determined on site.

2. Where possible the block is to be cast against undisturbed insitu material.

3. The couplings must remain flexible and removable.

4. Thrust blocks for pipes larger than 300Ø to be individually designed.

<table>
<thead>
<tr>
<th>BRANCH DIAMETER</th>
<th>100Ø</th>
<th>150Ø</th>
<th>225Ø</th>
<th>300Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>400Ø</td>
<td>500Ø</td>
<td>1000Ø</td>
<td>1500Ø</td>
</tr>
<tr>
<td>B</td>
<td>600Ø</td>
<td>800Ø</td>
<td>1500Ø</td>
<td>2200Ø</td>
</tr>
<tr>
<td>C</td>
<td>200Ø</td>
<td>300Ø</td>
<td>400Ø</td>
<td>500Ø</td>
</tr>
<tr>
<td>D</td>
<td>500Ø</td>
<td>600Ø</td>
<td>700Ø</td>
<td>800Ø</td>
</tr>
</tbody>
</table>
PLAN

SECTION X-X

NOTES

1. Dimensions given are minimum sizes
2. Block is to be cast against undisturbed material.
3. The couplings must remain flexible and removable

PIPE DIAMETER

<table>
<thead>
<tr>
<th>Pipe Diameter</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Ø</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>150 Ø</td>
<td>600</td>
<td>800</td>
</tr>
<tr>
<td>225 Ø</td>
<td>700</td>
<td>1400</td>
</tr>
<tr>
<td>300 Ø</td>
<td>800</td>
<td>1900</td>
</tr>
</tbody>
</table>

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Scale: N.T.S.
Drawn: C.E
Approved: A.d.K
Date: 2017/12/05

Detail Number: 5A
KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Drawing Number: L 123
Detail Number: 6A

Scale: N.T.S.
Drawn: C.E
Approved: A.d.K
Date: 2017/12/05
NOTES:

1. "DENSO PRIMING" SOLUTION TO BE BRUSHED ONTO ALL EXTERNAL PARTS OF COUPLING, BOLTS AND AT LEAST 75mm OF PIPE EITHER SIDE OF COUPLING.

2. DENSO TAPE TO BE MOULDED FIRMLY INTO PLACE AND SMOOTHED OVER BY HAND.

N.B. - "DENSO" OR EQUAL APPROVED PRODUCTS TO UTILIZED.

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2
FINISHED FOOTPATH / ROAD LEVEL

SOIL COMPACTED TO 100% MOD AASHTO

PRECAST CONCRETE (TO BE APPROVED BY ENGINEER BEFORE USING)

BRICKS CORBELLED RADIANLLY AROUND VALVE BODY

SOIL COMPACTED TO 100% MOD AASHTO

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2
PLAN: VALVE CHAMBER AT LOCALITY / POSITION A IN GEORGE REX DRIVE: PLAN

PIPE SPECIALS - SCHEDULE

<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100mm Ø VIKING JOHNSON COUPLING</td>
</tr>
<tr>
<td>2</td>
<td>100mm Ø HOT DIPPED GALVANISED STEEL ADAPTOR</td>
</tr>
<tr>
<td>3</td>
<td>100mm Ø x 600mm LONG HOT DIPPED GALVANISED STEEL PUDDLE PIPE WITH PUDDLE IN MIDDLE</td>
</tr>
<tr>
<td>4</td>
<td>100mm Ø FLANGED AVK RESILIANT SEAL GATE VALVE</td>
</tr>
<tr>
<td>5</td>
<td>100mm Ø x 200mm LONG HOT DIPPED GALVANISED STEEL PIPE WITH BOTH ENDS FLANGED</td>
</tr>
<tr>
<td>6</td>
<td>100mm x 100mm x 100mm Ø HOT DIPPED GALVANISED T-PIECE WITH ALL THREE ENDS FLANGED</td>
</tr>
<tr>
<td>7</td>
<td>100mm Ø x 90° HOT DIPPED GALVANISED STEEL BEND WITH ENDS FLANGED</td>
</tr>
<tr>
<td>8</td>
<td>110mm Ø CAST IRON FLANGED ADAPTOR TO FIT uPVC PIPE</td>
</tr>
</tbody>
</table>

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Scale: 1:20
Drawn: C.E
Approved: A.d.K.
Date: 2018/01/15

Drawing Number: 8495AG
Detail Number: 9B
Detail of VALVE CHAMBER AT LOCALITY / POSITION A IN GEORGE REX DRIVE: SECTION

25 MPa Concrete

Mesh Ref. 395

6 x Y10-02-200

Steel as per Bending Schedule

Type 9D (450 x 600) Polymer Concrete Cover and Frame

25 MPa/19

SECTION A-A

<table>
<thead>
<tr>
<th>ITEM &amp; NO. OFF.</th>
<th>BARS EACH</th>
<th>DIA. Ø</th>
<th>MARK</th>
<th>LENGTH</th>
<th>TOTAL BARS</th>
<th>Shape Code</th>
<th>MASS</th>
</tr>
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<tbody>
<tr>
<td>8</td>
<td>Y10</td>
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<td></td>
<td>1240</td>
<td>8</td>
<td>20</td>
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<tr>
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<td>Y10</td>
<td>02</td>
<td></td>
<td>1820</td>
<td>6</td>
<td>55</td>
<td>400</td>
</tr>
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KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Scale: 1:20

Drawn: C.E

Approved: A.d.K.

Date: 2018/01/15

Drawing Number: 10B

Detail Number: 10B
**PLAN: VALVE CHAMBER AT LOCALITY / POSITION B IN GEORGE REX DRIVE: PLAN**

**PIPE SPECIALS - SCHEDULE**

<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100mm Ø VIKING JOHNSON COUPLING</td>
</tr>
<tr>
<td>2</td>
<td>100mm Ø HOT DIPPED GALVANISED STEEL ADAPTOR</td>
</tr>
<tr>
<td>3</td>
<td>100mm Ø x 600mm LONG HOT DIPPED GALVANISED STEEL PUDDLE PIPE WITH PUDDLE IN MIDDLE</td>
</tr>
<tr>
<td>4</td>
<td>100mm Ø FLANGED AVK RESILIENT SEAL GATE VALVE</td>
</tr>
<tr>
<td>5</td>
<td>100mm Ø x 200mm LONG HOT DIPPED GALVANISED STEEL PIPE WITH BOTH ENDS FLANGED</td>
</tr>
<tr>
<td>6</td>
<td>100mm x 100mm x 100mm Ø HOT DIPPED GALVANISED T-PIECE WITH ALL THREE ENDS FLANGED</td>
</tr>
<tr>
<td>7</td>
<td>110mm Ø x 600mm LONG HOT DIPPED GALVANISED STEEL STRAIGHT PIPE WITH ONE END FLANGED AND ONE SMOOTH END</td>
</tr>
<tr>
<td>8</td>
<td>110mm Ø CAST IRON FLANGED ADAPTOR TO FIT 110m Ø uPVC PIPE</td>
</tr>
</tbody>
</table>

**KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2**

Scale: 1:20
Drawn: C.E
Approved: A.d.K.
Date: 2018/01/15

Drawing Number: 230
Detail Number: 11B
Detail of VALVE CHAMBER AT LOCALITY / POSITION B IN GEORGE REX DRIVE: SECTION

SECTION A-A

<table>
<thead>
<tr>
<th>ITEM &amp; NO. OFF</th>
<th>BARS EACH</th>
<th>DIA. Ø</th>
<th>MARK</th>
<th>LENGTH</th>
<th>TOTAL BARS</th>
<th>Shape Code</th>
<th>BENDING</th>
<th>MASS kg</th>
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<tr>
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<td></td>
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<td>Y10</td>
<td>01</td>
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<td>8</td>
<td>20</td>
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<td>Y10</td>
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<td>1820</td>
<td>6</td>
<td>55</td>
<td></td>
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</tr>
</tbody>
</table>

25 MPa/19 Type 9D (450 x 600) Polymer Concrete Cover and Frame

25 MPa Concrete

Mesh Ref. 395

6 x Y10-02-200

To be Determined on site (1000mm Min.)

Steel as per Bending Schedule

25 MPa Concrete 400

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Scale: 1:20
Drawn: C.E
Approved: A.d.K.
Date: 2018/01/15

Detail Number: 12B
PLAN: VALVE CHAMBER AT LOCALITY / POSITION C IN GEORGE REX DRIVE: PLAN

PIPE SPECIALS - SCHEDULE

<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100mm Ø VIKING JOHNSON COUPLING</td>
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<td>2</td>
<td>100mm Ø HOT DIPPED GALVANISED STEEL ADAPTOR</td>
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<tr>
<td>3</td>
<td>100mm Ø x 600mm LONG HOT DIPPED GALVANISED STEEL PUDDLE PIPE WITH PUDDLE IN MIDDLE</td>
</tr>
<tr>
<td>4</td>
<td>100mm Ø FLANCED AVK RESILIENT SEAL GATE VALVE</td>
</tr>
<tr>
<td>5</td>
<td>100mm Ø x 200mm LONG HOT DIPPED GALVANISED STEEL PIPE WITH BOTH ENDS FLANGED</td>
</tr>
<tr>
<td>6</td>
<td>100mm x 100mm x 100mm Ø HOT DIPPED GALVANISED T-PIECE WITH ALL THREE ENDS FLANGED</td>
</tr>
<tr>
<td>7</td>
<td>100mm Ø x 90° HOT DIPPED GALVANISED STEEL BEND WITH ENDS FLANGED</td>
</tr>
<tr>
<td>8</td>
<td>110mm Ø CAST IRON FLANGED ADAPTOR TO FIT uPVC PIPE</td>
</tr>
</tbody>
</table>

KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Scale: 1:20
Drawn: C.E
Approved: A.d.K.
Date: 2018/01/15

Drawing Number: 8495AG
Detail Number: 13B
Detail of VALVE CHAMBER AT LOCALITY / POSITION C IN GEORGE REX DRIVE: SECTION

**SECTION A-A**

- **Type 9D (450 x 600)** Polyurethane Concrete Cover and Frame
- **25 MPa Concrete**
- **50 Cover**
- **150 Hook on ends**
- **Mesh Ref. 395**
- **6 x Y10-02-200**
- **Steel as per Bending Schedule**

### BENDING SCHEDULE

<table>
<thead>
<tr>
<th>ITEM &amp; NO. OF.</th>
<th>BARS EACH</th>
<th>DIA. Ø</th>
<th>MARK</th>
<th>LENGTH</th>
<th>TOTAL BARS</th>
<th>SHAPE CODE</th>
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<td></td>
<td>8</td>
<td>Y10</td>
<td>01</td>
<td>1240</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Y10</td>
<td>02</td>
<td>1820</td>
<td>6</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MASS kg</th>
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</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>1240</td>
</tr>
<tr>
<td>400</td>
</tr>
</tbody>
</table>

**Scale:** 1:20  
**Drawn:** C.E  
**Approved:** A.d.K.  
**Date:** 2018/01/15

**KNYSNA: THE HEADS -**  
**UPGRADING OF EXISTING**  
**WATER NETWORK, PHASE 2**
NOTE:
1. 3 x Y12 REINFORCEMENT BARS
2. LETTERING HEIGHT 100mm WITH A THICKNESS OF 10mm
3. MARKERS TO BE SET ON TOP OF PIPE BEND OR OPPOSITE VALVE
Detail of LOCKING BAR FOR MANHOLE COVER

20mm Ø ROD, WELDED WITH TWO FLAT WASHERS ON THE ENDS (±3mm ALLOWANCE)

ALL FLAT IRON MUST BE 65x10mm

ALL STEEEL ITEMS MUST BE HOT DIPPED, GALVANIZED AND PAINTED, ACCORDING TO SPECIFICATIONS
**WATER ERF CONNECTION**

**Details of**

**Uhambiso Consult**

**Project Detail**

**KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2**

**Notes:**
1. Cover = 800mm Under roads
   = 600mm Under sidewalks
2. Fittings for erf connections are Polypropylene.

**Table:**

<table>
<thead>
<tr>
<th></th>
<th>Same side of street</th>
<th>Across street</th>
<th>Same side of street</th>
<th>Across street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small erven</td>
<td>20φ</td>
<td>25φ</td>
<td>32φ</td>
<td>20φ</td>
</tr>
<tr>
<td>Large erven</td>
<td>25φ</td>
<td>32φ</td>
<td>50φ</td>
<td>25φ</td>
</tr>
</tbody>
</table>

**Scale:** N.T.S.
**Drawn:** C.E
**Approved:** A.d.K
**Date:** 2017/12/05
WATER METER COMPLETE WITH BOX

Specifications
- With plastic-bodied 15mm KSM
- Mass with meter: 2.05kg
- Meter type: KSM
- Stop valve: 13mm ball valve (DZR brass)
- External connections: Inlet 20mm female, Outlet 20mm female

Code No Description
- DT200: RDP box with plastic-bodied KSM
- DZ200: RDP box with no meter
- KT200: Base plate for RDP box

Project detail
Uhambiso Consult
8495AG

Detail of
KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

1. The meterbox is moulded from a modified polypropylene compound. The box is tough, durable, UV-resistant, and light. The couplings is such that the meter can be easily reconnected and the reducing of the joint due to tension pressure in the piping can be ignored.

2. The RDP box incorporates all the features of Kent’s regular meterboxes, namely:
   - The tamper-proof locking mechanism. This requires the special Kent key to open the lid.
   - The same key can be used for the standard meterbox or the RDP box.

3. The reliable, proven KSM meter, the meter in brass-bodied counterpart. There is no shortage of spares and accuracy and reliability is assured; it is the old faithful FSM meter in a new non-metallic body, with all the latest improvements tested and approved for years.

Note: The RDP Meterbox, designed to make theft futile and can be supplied with standard brass meters.
KNYSNA: THE HEADS - UPGRADING OF EXISTING WATER NETWORK, PHASE 2

Detail of DEPRESSED KERB (EDGING) FOR REPAIR WORK TO TAR ROAD

CUT EDGE OF TAR SURFACE IN A STRAIGHT HORIZONTAL LINE PARALLEL TO EDGE KERB WITH A ANGLE GRINDER (DIAMOND EDGED BLADE)

REPAIR WORK BETWEEN EDGE OF TAR AND EDGE KERB - BACKFILL WITH IMPORTED BASE COURSE MATERIAL, 30mm THICK PREMIX TAR PLACED ON COMPACTED BASE COURSE

EXISTING TAR SURFACE

SUB-BASE

10 MPa CONCRETE FOR BACKFILLING AND BEDDING

TYPICAL SECTION