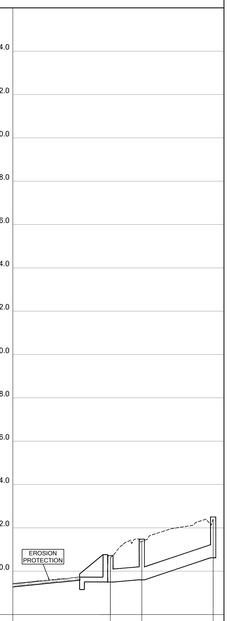
## HW 23 - GI 53/54

Flow shown is design flow (l/s)
Velocity shown is at design flow (m/s)

Crossing at CH 6475

SCALE : Vert 1 :100
Hor 1 :500



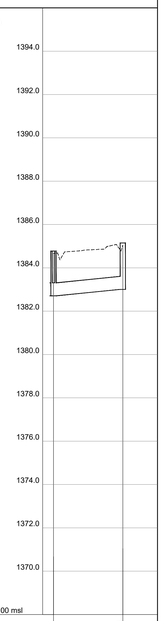

| | | | |
|---|---|---|---|
| Peg Distance (m) | 0.00 | 7.25 | 23.72 |
| Ground level (m) | 1370.62 | 1371.38 | 1372.40 |
| Invert Level (m) | 1369.50 | 1369.60 | 1370.62 |
| Depth (m) | 1.12 | 1.78 | 1.78 |
| Grade (1:_) | | 60.00 | 15.00 |
| Capacity(80%D) (l/s) | | 728.66 | 1457.33 |
| Flow (l/s) | | 300 | |
| Horizontal Align. | | 287:01:34 | 283:39:42 |
| Pipe description | | 600mm dia./Class100D - Storm | |
| Reference | HW 23 | MH 19 | GI 53/54 |
| Velocity (m/s) | | 2.8 | 4.6 |

## MH 20 - GI 56/57

Flow shown is design flow (l/s)
Velocity shown is at design flow (m/s)

Crossing at CH 6635

SCALE : Vert 1 :100
Hor 1 :500



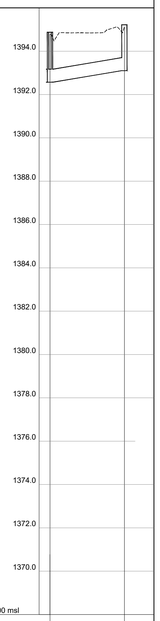

| | | | |
|---|---|---|---|
| Peg Distance (m) | 0.00 | 15.99 | |
| Ground level (m) | 1384.67 | 1385.05 | |
| Invert Level (m) | 1382.71 | 1383.00 | |
| Depth (m) | 1.97 | 2.05 | |
| Grade (1:_) | | 50.00 | |
| Capacity(80%D) (l/s) | | 798.21 | |
| Flow (l/s) | | 305 | |
| Horizontal Align. | | 293:40:43 | |
| Pipe description | | 600mm dia./Class100D - Storm | |
| Reference | MH 20 | GI 56/57 | |
| Velocity (m/s) | | 3.0 | |

## GI 58 - GI 59/60

Flow shown is design flow (l/s)
Velocity shown is at design flow (m/s)

Crossing at CH 6775

SCALE : Vert 1 :100
Hor 1 :500



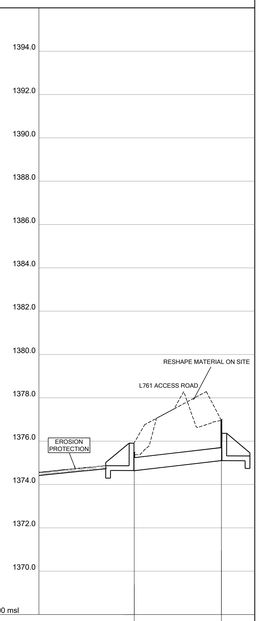

| | | | |
|---|---|---|---|
| Peg Distance (m) | 0.00 | 17.17 | |
| Ground level (m) | 1394.78 | 1395.12 | |
| Invert Level (m) | 1392.57 | 1393.10 | |
| Depth (m) | 2.21 | 2.02 | |
| Grade (1:_) | | 30.00 | |
| Capacity(80%D) (l/s) | | 1030.49 | |
| Flow (l/s) | | 290 | |
| Horizontal Align. | | 317:24:51 | |
| Pipe description | | 600mm dia./Class100D - Storm | |
| Reference | GI 58 | GI 59/60 | |
| Velocity (m/s) | | 3.5 | |

## HW 17 - HW 16

Flow shown is design flow (l/s)
Velocity shown is at design flow (m/s)

Access crossing at CH 5000

SCALE : Vert 1 :100
Hor 1 :500




| | | | |
|---|---|---|---|
| Peg Distance (m) | 0.00 | 20.10 | |
| Ground level (m) | 1375.38 | 1376.96 | |
| Invert Level (m) | 1374.64 | 1375.10 | |
| Depth (m) | 0.74 | 1.86 | |
| Grade (1:_) | | 43.54 | |
| Capacity(80%D) (l/s) | | 855.38 | |
| Flow (l/s) | | 240 | |
| Horizontal Align. | | 41:30:29 | |
| Pipe description | | 600mm dia./Class100D - Storm | |
| Reference | HW17 | HW16 | |
| Velocity (m/s) | | 2.9 | |

### HW 23 - GI 53/54

| Pipe lengths (m) | | |
|---|---|---|
| Reference | Horiz. | Slope |
| HW 23 - MH 19 | 7.254 | 7.255 |
| MH 19 - GI 53/54 | 16.470 | 16.501 |

Pipe design data

| Reference | Y | X | IL in / out | | DEPTH | in / out |
|---|---|---|---|---|---|---|
| HW 23 | 86946.278 | 3281937.809 | 1369.500 | 1369.500 | 1.119 | 1.119 |
| MH 19 | 86939.342 | 3281939.933 | 1369.601 | 1369.601 | 1.777 | 1.777 |
| GI 53/54 | 86923.338 | 3281943.823 | 1370.700 | 1370.617 | 1.702 | 1.784 |

### MH 20 - GI 56/57

| Pipe lengths (m) | | |
|---|---|---|
| Reference | Horiz. | Slope |
| MH 20 - GI 56/57 | 15.986 | 15.989 |

Pipe design data

| Reference | Y | X | IL in / out | | DEPTH | in / out |
|---|---|---|---|---|---|---|
| MH 20 | 86822.019 | 3281826.869 | 1382.709 | 1382.709 | 1.966 | 1.966 |
| GI 56/57 | 86807.379 | 3281833.289 | 1383.009 | 1383.004 | 2.041 | 2.045 |

### GI 58 - GI 59/60

| Pipe lengths (m) | | |
|---|---|---|
| Reference | Horiz. | Slope |
| GI 58 - GI 59/60 | 17.173 | 17.181 |

Pipe design data

| Reference | Y | X | IL in / out | | DEPTH | in / out |
|---|---|---|---|---|---|---|
| GI 58 | 86700.653 | 3281763.348 | 1392.569 | 1392.569 | 2.207 | 2.207 |
| GI 59/60 | 86689.032 | 3281775.992 | 1393.119 | 1393.101 | 1.999 | 2.018 |

### HW 17 - HW 16

| Pipe lengths (m) | | |
|---|---|---|
| Reference | Horiz. | Slope |
| HW17 - HW16 | 20.098 | 20.103 |

Pipe design data

| Reference | Y | X | IL in / out | | DEPTH | in / out |
|---|---|---|---|---|---|---|
| HW17 | 87809.084 | 3283082.901 | 1374.643 | 1374.643 | 0.738 | 0.738 |
| HW16 | 87822.403 | 3283097.951 | 1375.100 | 1375.100 | 1.860 | 1.860 |

FOR FINAL APPROVAL

| SYMBOL | DATE | DESCRIPTION | CHECKED | SIGNED |
|---|---|---|---|---|
| D | OCT 2019 | FOR FINAL APPROVAL | KG | |
| C | AUG 2018 | FOR APPROVAL | KG | |
| B | AUG 2016 | FOR APPROVAL | MM | |

AMENDMENTS

**AS BUILT**

SUPERVISING ENGINEER DATE

SUPERVISING AUTHORITY

CONTINUED FROM: C45227
CONTINUED ON: C45229
CROSS SECTION NO: C41972-C41982
PLAN NO: C41964-C41971
NAIDU CONSULTING - CONSULTING ENGINEER
K . GOVENDER SIGN : . DATE :

DESIGNED BY: M MARAIS
CHECKED BY: K GOVENDER
DRAWN BY: P RAMAUTAR
CHECKED BY: M SINGH

Designed by:-
NAIDU CONSULTING
Naidu Consulting no.:- D267/4114/D

**transport**
Department:
Transport
**Province of KwaZulu-Natal**

UPGRADE OF MAIN P402 ( HOLY FAMILY CONVENT - KWAMGWAGWA)

TRANSPORTATION ENGINEERING : CHIEF ENGINEER

HEAD : TRANSPORT

DESCRIPTION

FROM KM 0+000 - KM 7+517

PIPE LONGITUDINAL SECTION

STAKED KM DISTANCE
AS SHOWN

SHEET 5 OF 12

SCALE
HOR 1:2000
VERT 1:200

PLAN No.
C45228

C45228