

#### **7.4-3-2 Hydraulic Analysis for Basic Plan Phase 1 (2005)**

- Junction Report (for peak time of 09:00hrs)
- Pipe Report (for peak time of 09:00hrs)
- Detailed Report for Tank (Reservoir)

Results of this analysis are applicable for the Priority Project.

**Basic Plan Phase 1 (2005)**  
**Extended Period Analysis: 9.0 hr / 72.0 hr**  
**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-1        | 5.0              | Demand         | 0.00            | 1.5               | 0.00                          | 76.82                                | 702.56            | 71.82                   |
| J-2        | 3.8              | Demand         | 0.00            | 1.5               | 0.00                          | 76.03                                | 706.59            | 72.23                   |
| J-3        | 4.3              | Demand         | 0.00            | 1.5               | 0.00                          | 75.54                                | 696.85            | 71.24                   |
| J-4        | 4.6              | Demand         | 0.00            | 1.5               | 0.00                          | 75.04                                | 689.07            | 70.44                   |
| J-5        | 4.0              | Demand         | 0.00            | 1.5               | 0.00                          | 73.27                                | 677.57            | 69.27                   |
| J-6        | 3.7              | Demand         | 0.00            | 1.5               | 0.00                          | 70.26                                | 651.11            | 66.56                   |
| J-7        | 4.0              | Demand         | 0.00            | 1.5               | 0.00                          | 67.41                                | 620.28            | 63.41                   |
| J-8        | 4.0              | Demand         | 0.00            | 1.5               | 0.00                          | 61.81                                | 565.46            | 57.81                   |
| J-9        | 6.8              | Demand         | 0.00            | 1.5               | 0.00                          | 56.55                                | 486.65            | 49.75                   |
| J-10       | 9.7              | Demand         | 0.00            | 1.5               | 0.00                          | 53.44                                | 427.86            | 43.74                   |
| J-11       | 12.8             | Demand         | 0.00            | 1.5               | 0.00                          | 50.83                                | 371.96            | 38.03                   |
| J-12       | 15.5             | Demand         | 0.00            | 1.5               | 0.00                          | 48.27                                | 320.58            | 32.77                   |
| J-13       | 21.5             | Demand         | 0.00            | 1.5               | 0.00                          | 47.97                                | 258.88            | 26.47                   |
| J-15       | 21.0             | Demand         | 18.01           | 1.5               | 26.87                         | 43.60                                | 221.10            | 22.60                   |
| J-16       | 14.0             | Demand         | 25.12           | 1.5               | 37.48                         | 40.19                                | 256.21            | 26.19                   |
| J-17       | 8.0              | Demand         | 7.11            | 1.5               | 10.61                         | 37.63                                | 289.83            | 29.63                   |
| J-18       | 8.0              | Demand         | 7.11            | 1.5               | 10.61                         | 37.29                                | 286.56            | 29.29                   |
| J-19       | 8.0              | Demand         | 7.11            | 1.5               | 10.61                         | 35.41                                | 268.12            | 27.41                   |
| J-20       | 8.0              | Demand         | 15.84           | 1.5               | 23.63                         | 32.70                                | 241.66            | 24.70                   |
| J-21       | 8.0              | Demand         | 14.55           | 1.5               | 21.71                         | 31.37                                | 228.63            | 23.37                   |
| J-22       | 8.0              | Demand         | 5.81            | 1.5               | 8.67                          | 28.30                                | 198.59            | 20.30                   |
| J-23       | 9.0              | Demand         | 5.81            | 1.5               | 8.67                          | 28.32                                | 189.02            | 19.32                   |
| J-24       | 9.0              | Demand         | 8.74            | 1.5               | 13.04                         | 28.56                                | 191.35            | 19.56                   |
| J-25       | 9.0              | Demand         | 8.74            | 1.5               | 13.04                         | 28.30                                | 188.83            | 19.30                   |
| J-26       | 9.0              | Demand         | 8.74            | 1.5               | 13.04                         | 27.99                                | 185.79            | 18.99                   |
| J-27       | 9.0              | Demand         | 27.82           | 1.5               | 41.51                         | 28.01                                | 185.99            | 19.01                   |
| J-28       | 7.0              | Demand         | 7.85            | 1.5               | 11.71                         | 27.10                                | 196.59            | 20.10                   |
| J-29       | 9.0              | Demand         | 16.93           | 1.5               | 25.26                         | 28.01                                | 185.96            | 19.01                   |
| J-30       | 9.0              | Demand         | 16.93           | 1.5               | 25.26                         | 28.16                                | 187.41            | 19.16                   |
| J-32       | 9.0              | Demand         | 16.93           | 1.5               | 25.26                         | 28.12                                | 187.03            | 19.12                   |
| J-33       | 9.0              | Demand         | 11.24           | 1.5               | 16.77                         | 27.26                                | 178.66            | 18.26                   |
| J-34       | 9.0              | Demand         | 16.93           | 1.5               | 25.26                         | 28.03                                | 186.19            | 19.03                   |
| J-36       | 9.0              | Demand         | 5.58            | 1.5               | 8.33                          | 26.60                                | 172.17            | 17.60                   |
| J-37       | 9.0              | Demand         | 5.58            | 1.5               | 8.33                          | 26.56                                | 171.80            | 17.56                   |
| J-38       | 9.0              | Demand         | 5.58            | 1.5               | 8.33                          | 26.40                                | 170.20            | 17.40                   |
| J-39       | 8.7              | Demand         | 0.00            | 1.5               | 0.00                          | 28.60                                | 194.61            | 19.90                   |
| J-41       | 11.2             | Demand         | 0.00            | 1.5               | 0.00                          | 29.13                                | 175.42            | 17.93                   |
| J-42       | 20.7             | Demand         | 0.00            | 1.5               | 0.00                          | 30.06                                | 91.60             | 9.36                    |
| J-43       | 21.5             | Demand         | 0.00            | 1.5               | 0.00                          | 30.96                                | 92.58             | 9.46                    |
| J-44       | 19.1             | Demand         | 15.23           | 1.5               | 22.72                         | 46.32                                | 266.31            | 27.22                   |
| J-45       | 20.7             | Demand         | 5.62            | 1.5               | 8.39                          | 31.42                                | 104.89            | 10.72                   |
| J-46       | 16.4             | Demand         | 20.37           | 1.5               | 30.39                         | 32.68                                | 159.23            | 16.28                   |
| J-47       | 19.0             | Demand         | 6.34            | 1.5               | 9.46                          | 32.44                                | 131.48            | 13.44                   |
| J-48       | 15.5             | Demand         | 20.37           | 1.5               | 30.39                         | 34.64                                | 187.19            | 19.14                   |
| J-49       | 21.5             | Demand         | 20.37           | 1.5               | 30.39                         | 41.67                                | 197.35            | 20.17                   |
| J-50       | 23.0             | Demand         | 6.34            | 1.5               | 9.46                          | 41.49                                | 180.88            | 18.49                   |
| J-51       | 20.0             | Demand         | 6.34            | 1.5               | 9.46                          | 44.80                                | 242.62            | 24.80                   |
| J-52       | 19.1             | Demand         | 6.34            | 1.5               | 9.46                          | 46.08                                | 263.96            | 26.98                   |
| J-53       | 15.7             | Demand         | 6.34            | 1.5               | 9.46                          | 45.64                                | 292.86            | 29.94                   |
| J-54       | 12.8             | Demand         | 6.34            | 1.5               | 9.46                          | 44.77                                | 312.76            | 31.97                   |
| J-55       | 13.0             | Demand         | 18.01           | 1.5               | 26.87                         | 43.77                                | 300.99            | 30.77                   |
| J-56       | 11.0             | Demand         | 2.78            | 1.5               | 4.15                          | 61.22                                | 491.27            | 50.22                   |
| J-57       | 7.4              | Demand         | 12.08           | 1.5               | 18.02                         | 64.35                                | 557.06            | 56.95                   |
| J-58       | 5.7              | Demand         | 6.34            | 1.5               | 9.46                          | 67.47                                | 604.23            | 61.77                   |
| J-59       | 5.1              | Demand         | 3.90            | 1.5               | 5.82                          | 69.89                                | 633.76            | 64.79                   |
| J-60       | 3.9              | Demand         | 3.90            | 1.5               | 5.82                          | 43.77                                | 390.02            | 39.87                   |
| J-61       | 3.8              | Demand         | 3.90            | 1.5               | 5.82                          | 49.59                                | 447.88            | 45.79                   |
| J-62       | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 52.46                                | 474.02            | 48.46                   |
| J-63       | 3.7              | Demand         | 27.93           | 1.5               | 41.67                         | 39.51                                | 350.25            | 35.81                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-64       | 4.0              | Demand         | 24.03           | 1.5               | 35.85                         | 38.49                                | 337.40            | 34.49                   |
| J-65       | 4.6              | Demand         | 24.03           | 1.5               | 35.85                         | 40.00                                | 346.30            | 35.40                   |
| J-73       | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 62.33                                | 570.61            | 58.33                   |
| J-74       | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 62.56                                | 572.80            | 58.56                   |
| J-77       | 7.0              | Demand         | 6.34            | 1.5               | 9.46                          | 69.94                                | 615.71            | 62.94                   |
| J-81       | 7.0              | Demand         | 8.60            | 1.5               | 12.83                         | 67.20                                | 588.86            | 60.20                   |
| J-82       | 6.0              | Demand         | 8.60            | 1.5               | 12.83                         | 63.23                                | 559.84            | 57.23                   |
| J-83       | 6.0              | Demand         | 8.60            | 1.5               | 12.83                         | 62.44                                | 552.08            | 56.44                   |
| J-84       | 7.0              | Demand         | 6.34            | 1.5               | 9.46                          | 68.68                                | 603.39            | 61.68                   |
| J-85       | 7.0              | Demand         | 2.58            | 1.5               | 3.85                          | 64.95                                | 566.88            | 57.95                   |
| J-86       | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 64.20                                | 549.76            | 56.20                   |
| J-87       | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 63.91                                | 546.91            | 55.91                   |
| J-88       | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 62.74                                | 535.45            | 54.74                   |
| J-89       | 8.0              | Demand         | 8.92            | 1.5               | 13.31                         | 61.24                                | 520.78            | 53.24                   |
| J-90       | 8.0              | Demand         | 6.34            | 1.5               | 9.46                          | 60.73                                | 515.76            | 52.73                   |
| J-91       | 8.0              | Demand         | 18.43           | 1.5               | 27.50                         | 60.55                                | 514.02            | 52.55                   |
| J-92       | 6.1              | Demand         | 12.08           | 1.5               | 18.02                         | 34.96                                | 282.34            | 28.86                   |
| J-93       | 6.7              | Demand         | 12.08           | 1.5               | 18.02                         | 30.77                                | 235.43            | 24.07                   |
| J-94       | 6.8              | Demand         | 12.08           | 1.5               | 18.02                         | 28.03                                | 207.66            | 21.23                   |
| J-95       | 8.0              | Demand         | 18.53           | 1.5               | 27.65                         | 24.61                                | 162.51            | 16.61                   |
| J-96       | 8.0              | Demand         | 18.53           | 1.5               | 27.65                         | 23.56                                | 152.24            | 15.56                   |
| J-97       | 9.0              | Demand         | 18.53           | 1.5               | 27.65                         | 21.88                                | 125.99            | 12.88                   |
| J-98       | 9.0              | Demand         | 12.08           | 1.5               | 18.02                         | 27.77                                | 183.61            | 18.77                   |
| J-99       | 10.1             | Demand         | 12.08           | 1.5               | 18.02                         | 27.59                                | 171.07            | 17.49                   |
| J-100      | 9.7              | Demand         | 12.08           | 1.5               | 18.02                         | 27.52                                | 174.28            | 17.82                   |
| J-101      | 10.0             | Demand         | 10.59           | 1.5               | 15.80                         | 27.57                                | 171.88            | 17.57                   |
| J-102      | 10.4             | Demand         | 10.59           | 1.5               | 15.80                         | 26.55                                | 157.95            | 16.15                   |
| J-103      | 11.0             | Demand         | 10.59           | 1.5               | 15.80                         | 24.89                                | 135.88            | 13.89                   |
| J-104      | 12.0             | Demand         | 10.59           | 1.5               | 15.80                         | 23.94                                | 116.80            | 11.94                   |
| J-105      | 11.6             | Demand         | 0.00            | 1.5               | 0.00                          | 28.90                                | 169.25            | 17.30                   |
| J-106      | 15.0             | Demand         | 10.59           | 1.5               | 15.80                         | 31.41                                | 160.48            | 16.41                   |
| J-107      | 16.0             | Demand         | 10.59           | 1.5               | 15.80                         | 32.79                                | 164.26            | 16.79                   |
| J-108      | 10.0             | Demand         | 10.59           | 1.5               | 15.80                         | 31.85                                | 213.73            | 21.85                   |
| J-109      | 12.6             | Demand         | 6.34            | 1.5               | 9.46                          | 35.27                                | 221.73            | 22.67                   |
| J-110      | 12.4             | Demand         | 16.93           | 1.5               | 25.26                         | 36.65                                | 237.24            | 24.25                   |
| J-111      | 10.1             | Demand         | 6.34            | 1.5               | 9.46                          | 39.04                                | 283.12            | 28.94                   |
| J-112      | 8.0              | Demand         | 9.12            | 1.5               | 13.61                         | 60.33                                | 511.93            | 52.33                   |
| J-113      | 10.0             | Demand         | 6.34            | 1.5               | 9.46                          | 38.86                                | 282.35            | 28.86                   |
| J-114      | 12.0             | Demand         | 0.00            | 1.5               | 0.00                          | 35.27                                | 227.62            | 23.27                   |
| J-115      | 12.4             | Demand         | 6.34            | 1.5               | 9.46                          | 36.67                                | 237.37            | 24.27                   |
| J-116      | 9.0              | Demand         | 9.12            | 1.5               | 13.61                         | 60.35                                | 502.34            | 51.35                   |
| J-117      | 8.0              | Demand         | 11.70           | 1.5               | 17.46                         | 60.49                                | 513.46            | 52.49                   |
| J-118      | 8.0              | Demand         | 5.36            | 1.5               | 8.00                          | 60.56                                | 514.17            | 52.56                   |
| J-119      | 9.0              | Demand         | 5.36            | 1.5               | 8.00                          | 60.53                                | 504.10            | 51.53                   |
| J-120      | 10.0             | Demand         | 2.78            | 1.5               | 4.15                          | 60.53                                | 494.30            | 50.53                   |
| J-121      | 9.0              | Demand         | 2.78            | 1.5               | 4.15                          | 60.46                                | 503.34            | 51.46                   |
| J-122      | 9.0              | Demand         | 2.78            | 1.5               | 4.15                          | 60.26                                | 501.41            | 51.26                   |
| J-123      | 10.0             | Demand         | 2.78            | 1.5               | 4.15                          | 60.12                                | 490.30            | 50.12                   |
| J-124      | 11.0             | Demand         | 2.78            | 1.5               | 4.15                          | 60.04                                | 479.70            | 49.04                   |
| J-125      | 15.1             | Demand         | 10.05           | 1.5               | 14.99                         | 59.98                                | 438.98            | 44.88                   |
| J-126      | 15.1             | Demand         | 0.00            | 1.5               | 0.00                          | 44.75                                | 290.01            | 29.65                   |
| J-127      | 14.7             | Demand         | 3.00            | 1.5               | 4.48                          | 59.91                                | 442.22            | 45.21                   |
| J-128      | 9.0              | Demand         | 8.92            | 1.5               | 13.31                         | 60.51                                | 503.91            | 51.51                   |
| J-129      | 9.0              | Demand         | 2.58            | 1.5               | 3.85                          | 61.39                                | 512.47            | 52.39                   |
| J-130      | 21.0             | Demand         | 2.58            | 1.5               | 3.85                          | 63.09                                | 411.72            | 42.09                   |
| J-131      | 9.0              | Demand         | 5.36            | 1.5               | 8.00                          | 60.13                                | 500.16            | 51.13                   |
| J-132      | 11.0             | Demand         | 5.36            | 1.5               | 8.00                          | 60.40                                | 483.18            | 49.40                   |
| J-133      | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 63.30                                | 540.90            | 55.30                   |
| J-134      | 7.0              | Demand         | 2.58            | 1.5               | 3.85                          | 63.90                                | 556.60            | 56.90                   |
| J-135      | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 63.41                                | 542.01            | 55.41                   |
| J-136      | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 63.38                                | 541.75            | 55.38                   |

### Junction Report

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-137      | 8.0              | Demand         | 2.58            | 1.5               | 3.85                          | 62.63                                | 534.36            | 54.63                   |
| J-138      | 10.0             | Demand         | 6.85            | 1.5               | 10.22                         | 61.98                                | 508.45            | 51.98                   |
| J-139      | 11.0             | Demand         | 6.85            | 1.5               | 10.22                         | 62.00                                | 498.91            | 51.00                   |
| J-140      | 8.0              | Demand         | 4.27            | 1.5               | 6.37                          | 61.30                                | 521.42            | 53.30                   |
| J-141      | 9.0              | Demand         | 4.27            | 1.5               | 6.37                          | 61.16                                | 510.18            | 52.16                   |
| J-142      | 10.0             | Demand         | 4.27            | 1.5               | 6.37                          | 61.41                                | 502.90            | 51.41                   |
| J-143      | 8.0              | Demand         | 6.85            | 1.5               | 10.22                         | 62.25                                | 530.68            | 54.25                   |
| J-144      | 7.0              | Demand         | 2.58            | 1.5               | 3.85                          | 63.56                                | 553.27            | 56.56                   |
| J-145      | 7.0              | Demand         | 2.58            | 1.5               | 3.85                          | 64.19                                | 559.47            | 57.19                   |
| J-146      | 6.8              | Demand         | 6.34            | 1.5               | 9.46                          | 68.69                                | 605.36            | 61.89                   |
| J-147      | 7.0              | Demand         | 6.34            | 1.5               | 9.46                          | 69.51                                | 611.43            | 62.51                   |
| J-150      | 6.0              | Demand         | 6.34            | 1.5               | 9.46                          | 69.71                                | 623.22            | 63.71                   |
| J-151      | 7.0              | Demand         | 13.58           | 1.5               | 20.26                         | 64.05                                | 558.02            | 57.05                   |
| J-152      | 7.0              | Demand         | 13.58           | 1.5               | 20.26                         | 63.19                                | 549.63            | 56.19                   |
| J-153      | 8.0              | Demand         | 21.61           | 1.5               | 32.24                         | 61.27                                | 521.10            | 53.27                   |
| J-154      | 10.0             | Demand         | 9.31            | 1.5               | 13.89                         | 61.15                                | 500.37            | 51.15                   |
| J-155      | 8.0              | Demand         | 9.31            | 1.5               | 13.89                         | 33.76                                | 251.97            | 25.76                   |
| J-156      | 10.0             | Demand         | 15.45           | 1.5               | 23.05                         | 33.87                                | 233.50            | 23.87                   |
| J-157      | 10.0             | Demand         | 20.67           | 1.5               | 30.84                         | 30.49                                | 200.41            | 20.49                   |
| J-158      | 9.0              | Demand         | 6.49            | 1.5               | 9.68                          | 28.59                                | 191.59            | 19.59                   |
| J-159      | 7.0              | Demand         | 5.22            | 1.5               | 7.79                          | 28.18                                | 207.19            | 21.18                   |
| J-160      | 6.0              | Demand         | 5.22            | 1.5               | 7.79                          | 28.06                                | 215.81            | 22.06                   |
| J-161      | 6.0              | Demand         | 5.22            | 1.5               | 7.79                          | 28.06                                | 215.80            | 22.06                   |
| J-162      | 10.0             | Demand         | 1.27            | 1.5               | 1.89                          | 36.51                                | 259.36            | 26.51                   |
| J-163      | 10.0             | Demand         | 1.27            | 1.5               | 1.89                          | 36.26                                | 256.86            | 26.26                   |
| J-164      | 8.0              | Demand         | 1.27            | 1.5               | 1.89                          | 35.79                                | 271.83            | 27.79                   |
| J-165      | 9.0              | Demand         | 16.24           | 1.5               | 24.23                         | 51.78                                | 418.47            | 42.78                   |
| J-166      | 8.0              | Demand         | 30.21           | 1.5               | 45.07                         | 49.21                                | 403.16            | 41.21                   |
| J-167      | 8.0              | Demand         | 30.21           | 1.5               | 45.07                         | 45.06                                | 362.49            | 37.06                   |
| J-168      | 8.0              | Demand         | 1.27            | 1.5               | 1.89                          | 35.44                                | 268.37            | 27.44                   |
| J-169      | 8.0              | Demand         | 1.27            | 1.5               | 1.89                          | 35.39                                | 267.95            | 27.39                   |
| J-170      | 10.0             | Demand         | 1.27            | 1.5               | 1.89                          | 34.01                                | 234.86            | 24.01                   |
| J-171      | 8.0              | Demand         | 1.27            | 1.5               | 1.89                          | 33.76                                | 251.97            | 25.76                   |
| J-172      | 10.0             | Demand         | 1.27            | 1.5               | 1.89                          | 34.00                                | 234.72            | 24.00                   |
| J-173      | 10.6             | Demand         | 1.27            | 1.5               | 1.89                          | 35.43                                | 242.92            | 24.83                   |
| J-175      | 9.0              | Demand         | 1.27            | 1.5               | 1.89                          | 34.17                                | 246.26            | 25.17                   |
| J-176      | 11.4             | Demand         | 0.00            | 1.5               | 0.00                          | 33.29                                | 214.14            | 21.89                   |
| J-177      | 8.0              | Demand         | 0.00            | 1.5               | 0.00                          | 29.59                                | 211.24            | 21.59                   |
| J-178      | 13.9             | Demand         | 0.00            | 1.5               | 0.00                          | 41.26                                | 267.58            | 27.36                   |
| J-179      | 10.6             | Demand         | 1.27            | 1.5               | 1.89                          | 33.76                                | 226.52            | 23.16                   |
| J-180      | 15.6             | Demand         | 3.00            | 1.5               | 4.48                          | 33.23                                | 172.50            | 17.63                   |
| J-181      | 15.5             | Demand         | 3.00            | 1.5               | 4.48                          | 33.03                                | 171.48            | 17.53                   |
| J-182      | 13.5             | Demand         | 3.00            | 1.5               | 4.48                          | 32.98                                | 190.53            | 19.48                   |
| J-183      | 11.4             | Demand         | 3.00            | 1.5               | 4.48                          | 31.78                                | 199.39            | 20.38                   |
| J-184      | 10.5             | Demand         | 6.55            | 1.5               | 9.77                          | 29.55                                | 186.34            | 19.05                   |
| J-185      | 10.5             | Demand         | 6.55            | 1.5               | 9.77                          | 28.80                                | 179.04            | 18.30                   |
| J-186      | 10.0             | Demand         | 6.55            | 1.5               | 9.77                          | 28.73                                | 183.20            | 18.73                   |
| J-187      | 13.9             | Demand         | 3.00            | 1.5               | 4.48                          | 59.90                                | 449.99            | 46.00                   |
| J-188      | 15.0             | Demand         | 5.78            | 1.5               | 8.62                          | 59.84                                | 438.64            | 44.84                   |
| J-189      | 18.0             | Demand         | 5.78            | 1.5               | 8.62                          | 59.90                                | 409.86            | 41.90                   |
| J-190      | 10.0             | Demand         | 6.55            | 1.5               | 9.77                          | 28.75                                | 183.36            | 18.75                   |
| J-191      | 10.0             | Demand         | 6.55            | 1.5               | 9.77                          | 28.77                                | 183.59            | 18.77                   |
| J-192      | 10.0             | Demand         | 6.55            | 1.5               | 9.77                          | 28.71                                | 183.01            | 18.71                   |
| J-193      | 9.3              | Demand         | 3.55            | 1.5               | 5.30                          | 29.28                                | 195.40            | 19.98                   |
| J-194      | 9.0              | Demand         | 3.55            | 1.5               | 5.30                          | 29.25                                | 198.08            | 20.25                   |
| J-195      | 7.1              | Demand         | 4.92            | 1.5               | 7.34                          | 29.27                                | 216.90            | 22.17                   |
| J-196      | 6.8              | Demand         | 4.92            | 1.5               | 7.34                          | 29.37                                | 220.81            | 22.57                   |
| J-197      | 7.9              | Demand         | 13.56           | 1.5               | 20.23                         | 29.96                                | 215.74            | 22.06                   |
| J-198      | 7.8              | Demand         | 8.65            | 1.5               | 12.91                         | 31.48                                | 231.60            | 23.68                   |
| J-199      | 3.9              | Demand         | 18.96           | 1.5               | 28.29                         | 31.48                                | 269.77            | 27.58                   |
| J-200      | 4.3              | Demand         | 10.31           | 1.5               | 15.38                         | 31.32                                | 264.35            | 27.02                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-201      | 4.0              | Demand         | 4.92            | 1.5               | 7.34                          | 32.24                                | 276.21            | 28.24                   |
| J-202      | 6.0              | Demand         | 4.92            | 1.5               | 7.34                          | 32.73                                | 261.46            | 26.73                   |
| J-203      | 9.0              | Demand         | 8.77            | 1.5               | 13.08                         | 28.06                                | 186.45            | 19.06                   |
| J-204      | 5.0              | Demand         | 3.55            | 1.5               | 5.30                          | 27.40                                | 219.12            | 22.40                   |
| J-205      | 6.0              | Demand         | 8.77            | 1.5               | 13.08                         | 27.52                                | 210.48            | 21.52                   |
| J-206      | 5.0              | Demand         | 3.55            | 1.5               | 5.30                          | 27.37                                | 218.80            | 22.37                   |
| J-207      | 6.0              | Demand         | 4.92            | 1.5               | 7.34                          | 27.33                                | 208.66            | 21.33                   |
| J-208      | 6.0              | Demand         | 13.56           | 1.5               | 20.23                         | 27.37                                | 209.07            | 21.37                   |
| J-209      | 4.0              | Demand         | 4.92            | 1.5               | 7.34                          | 26.99                                | 224.89            | 22.99                   |
| J-210      | 4.0              | Demand         | 4.92            | 1.5               | 7.34                          | 26.90                                | 224.04            | 22.90                   |
| J-211      | 4.0              | Demand         | 13.56           | 1.5               | 20.23                         | 26.88                                | 223.82            | 22.88                   |
| J-212      | 10.0             | Demand         | 15.45           | 1.5               | 23.05                         | 33.67                                | 231.53            | 23.67                   |
| J-213      | 9.0              | Demand         | 30.42           | 1.5               | 45.39                         | 49.84                                | 399.46            | 40.84                   |
| J-214      | 9.0              | Demand         | 5.54            | 1.5               | 8.27                          | 37.40                                | 277.80            | 28.40                   |
| J-215      | 9.0              | Demand         | 6.85            | 1.5               | 10.22                         | 38.82                                | 291.74            | 29.82                   |
| J-216      | 11.0             | Demand         | 7.05            | 1.5               | 10.52                         | 41.02                                | 293.69            | 30.02                   |
| J-217      | 12.0             | Demand         | 9.63            | 1.5               | 14.37                         | 60.32                                | 472.63            | 48.32                   |
| J-218      | 11.0             | Demand         | 4.27            | 1.5               | 6.37                          | 60.20                                | 481.27            | 49.20                   |
| J-219      | 9.0              | Demand         | 5.54            | 1.5               | 8.27                          | 60.24                                | 501.19            | 51.24                   |
| J-220      | 10.0             | Demand         | 5.54            | 1.5               | 8.27                          | 60.10                                | 490.11            | 50.10                   |
| J-221      | 14.0             | Demand         | 5.36            | 1.5               | 8.00                          | 60.30                                | 452.89            | 46.30                   |
| J-222      | 10.0             | Demand         | 3.55            | 1.5               | 5.30                          | 29.24                                | 188.17            | 19.24                   |
| J-223      | 11.0             | Demand         | 15.20           | 1.5               | 22.68                         | 29.22                                | 178.26            | 18.22                   |
| J-224      | 11.0             | Demand         | 25.08           | 1.5               | 37.42                         | 29.23                                | 178.36            | 18.23                   |
| J-225      | 8.0              | Demand         | 15.75           | 1.5               | 23.50                         | 33.45                                | 248.95            | 25.45                   |
| J-226      | 4.7              | Demand         | 0.00            | 1.5               | 0.00                          | 17.81                                | 128.27            | 13.11                   |
| J-227      | 4.4              | Demand         | 0.00            | 1.5               | 0.00                          | 8.77                                 | 42.75             | 4.37                    |
| J-228      | 4.7              | Demand         | 22.34           | 1.5               | 33.33                         | 27.80                                | 225.99            | 23.10                   |
| J-229      | 4.5              | Demand         | 43.37           | 1.5               | 64.71                         | 31.18                                | 260.97            | 26.68                   |
| J-230      | 6.0              | Demand         | 21.03           | 1.5               | 31.38                         | 33.31                                | 267.15            | 27.31                   |
| J-231      | 5.0              | Demand         | 10.31           | 1.5               | 15.38                         | 32.16                                | 265.65            | 27.16                   |
| J-232      | 5.0              | Demand         | 10.31           | 1.5               | 15.38                         | 31.85                                | 262.68            | 26.85                   |
| J-233      | 6.0              | Demand         | 21.03           | 1.5               | 31.38                         | 33.47                                | 268.71            | 27.47                   |
| J-234      | 7.0              | Demand         | 25.32           | 1.5               | 37.78                         | 35.28                                | 276.66            | 28.28                   |
| J-235      | 8.0              | Demand         | 17.42           | 1.5               | 25.99                         | 33.39                                | 248.36            | 25.39                   |
| J-236      | 9.0              | Demand         | 2.78            | 1.5               | 4.15                          | 60.91                                | 507.81            | 51.91                   |
| J-237      | 7.0              | Demand         | 7.91            | 1.5               | 11.80                         | 33.19                                | 256.17            | 26.19                   |
| J-238      | 6.0              | Demand         | 7.91            | 1.5               | 11.80                         | 29.32                                | 228.14            | 23.32                   |
| J-239      | 6.0              | Demand         | 18.62           | 1.5               | 27.78                         | 24.85                                | 184.38            | 18.85                   |
| J-240      | 6.0              | Demand         | 7.91            | 1.5               | 11.80                         | 24.86                                | 184.49            | 18.86                   |
| J-241      | 7.0              | Demand         | 7.91            | 1.5               | 11.80                         | 25.14                                | 177.42            | 18.14                   |
| J-242      | 7.0              | Demand         | 7.91            | 1.5               | 11.80                         | 26.56                                | 191.31            | 19.56                   |
| J-243      | 8.0              | Demand         | 14.55           | 1.5               | 21.71                         | 25.39                                | 170.12            | 17.39                   |
| J-244      | 7.0              | Demand         | 14.55           | 1.5               | 21.71                         | 25.39                                | 179.91            | 18.39                   |
| J-245      | 6.0              | Demand         | 5.81            | 1.5               | 8.67                          | 23.03                                | 166.56            | 17.03                   |
| J-246      | 7.0              | Demand         | 14.55           | 1.5               | 21.71                         | 25.39                                | 179.92            | 18.39                   |
| J-247      | 7.0              | Demand         | 16.70           | 1.5               | 24.92                         | 25.56                                | 181.58            | 18.56                   |
| J-248      | 8.0              | Demand         | 8.74            | 1.5               | 13.04                         | 26.75                                | 183.42            | 18.75                   |
| J-249      | 9.0              | Demand         | 14.43           | 1.5               | 21.53                         | 27.50                                | 180.99            | 18.50                   |
| J-250      | 6.0              | Demand         | 2.15            | 1.5               | 3.21                          | 24.00                                | 176.09            | 18.00                   |
| J-251      | 5.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.43                                | 160.71            | 16.43                   |
| J-252      | 5.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.41                                | 160.50            | 16.41                   |
| J-253      | 5.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.36                                | 160.07            | 16.36                   |
| J-254      | 5.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.31                                | 159.50            | 16.31                   |
| J-255      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.20                                | 168.27            | 17.20                   |
| J-256      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 20.19                                | 158.40            | 16.19                   |
| J-257      | 4.0              | Demand         | 28.87           | 1.5               | 43.07                         | 17.79                                | 134.91            | 13.79                   |
| J-258      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.26                                | 168.83            | 17.26                   |
| J-259      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.47                                | 170.91            | 17.47                   |
| J-260      | 4.0              | Demand         | 28.87           | 1.5               | 43.07                         | 18.92                                | 145.98            | 14.92                   |
| J-261      | 5.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.31                                | 159.50            | 16.31                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-262      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 21.27                                | 168.92            | 17.27                   |
| J-263      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 23.22                                | 188.01            | 19.22                   |
| J-264      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 22.55                                | 181.50            | 18.55                   |
| J-265      | 4.0              | Demand         | 2.15            | 1.5               | 3.21                          | 22.35                                | 179.47            | 18.35                   |
| J-266      | 5.0              | Demand         | 5.81            | 1.5               | 8.67                          | 22.29                                | 169.17            | 17.29                   |
| J-267      | 4.0              | Demand         | 5.81            | 1.5               | 8.67                          | 21.49                                | 171.07            | 17.49                   |
| J-268      | 4.0              | Demand         | 18.62           | 1.5               | 27.78                         | 20.16                                | 158.09            | 16.16                   |
| J-269      | 4.0              | Demand         | 31.99           | 1.5               | 47.73                         | 16.14                                | 118.71            | 12.14                   |
| J-270      | 4.0              | Demand         | 18.62           | 1.5               | 27.78                         | 19.59                                | 152.45            | 15.59                   |
| J-271      | 5.0              | Demand         | 18.62           | 1.5               | 27.78                         | 24.01                                | 185.97            | 19.01                   |
| J-272      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 23.66                                | 182.57            | 18.66                   |
| J-273      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 23.52                                | 181.17            | 18.52                   |
| J-274      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 23.71                                | 183.05            | 18.71                   |
| J-275      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 24.34                                | 189.16            | 19.34                   |
| J-276      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 25.95                                | 204.97            | 20.95                   |
| J-277      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 27.37                                | 218.83            | 22.37                   |
| J-278      | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 27.11                                | 216.32            | 22.11                   |
| J-279      | 5.0              | Demand         | 36.57           | 1.5               | 54.56                         | 18.90                                | 135.99            | 13.90                   |
| J-281      | 5.0              | Demand         | 0.00            | 1.5               | 0.00                          | 37.86                                | 321.40            | 32.86                   |
| J-282      | 11.0             | Demand         | 36.57           | 1.5               | 54.56                         | 35.87                                | 243.31            | 24.87                   |
| J-283      | 7.0              | Demand         | 36.57           | 1.5               | 54.56                         | 34.04                                | 264.53            | 27.04                   |
| J-284      | 6.0              | Demand         | 36.57           | 1.5               | 54.56                         | 32.29                                | 257.14            | 26.29                   |
| J-285      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 31.91                                | 253.41            | 25.91                   |
| J-286      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 29.85                                | 233.26            | 23.85                   |
| J-287      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 27.62                                | 211.47            | 21.62                   |
| J-288      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 26.19                                | 197.46            | 20.19                   |
| J-289      | 5.0              | Demand         | 17.93           | 1.5               | 26.75                         | 24.02                                | 186.07            | 19.02                   |
| J-290      | 5.0              | Demand         | 17.93           | 1.5               | 26.75                         | 21.47                                | 161.12            | 16.47                   |
| J-291      | 5.0              | Demand         | 17.93           | 1.5               | 26.75                         | 19.17                                | 138.59            | 14.17                   |
| J-292      | 4.0              | Demand         | 43.38           | 1.5               | 64.72                         | 18.48                                | 141.66            | 14.48                   |
| J-293      | 4.0              | Demand         | 25.45           | 1.5               | 37.97                         | 18.22                                | 139.07            | 14.22                   |
| J-294      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 29.89                                | 233.70            | 23.89                   |
| J-295      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 28.55                                | 220.55            | 22.55                   |
| J-296      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 28.29                                | 218.03            | 22.29                   |
| J-297      | 5.0              | Demand         | 17.93           | 1.5               | 26.75                         | 20.56                                | 152.16            | 15.56                   |
| J-298      | 5.0              | Demand         | 17.93           | 1.5               | 26.75                         | 18.64                                | 133.44            | 13.64                   |
| J-299      | 5.0              | Demand         | 43.38           | 1.5               | 64.72                         | 16.30                                | 110.56            | 11.30                   |
| J-300      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 26.15                                | 197.10            | 20.15                   |
| J-301      | 5.0              | Demand         | 29.31           | 1.5               | 43.73                         | 23.99                                | 185.74            | 18.99                   |
| J-302      | 5.0              | Demand         | 17.93           | 1.5               | 26.75                         | 21.71                                | 163.46            | 16.71                   |
| J-303      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 24.11                                | 177.13            | 18.11                   |
| J-304      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 23.63                                | 172.47            | 17.63                   |
| J-305      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 23.06                                | 166.90            | 17.06                   |
| J-306      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 23.63                                | 172.50            | 17.63                   |
| J-307      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 23.07                                | 166.93            | 17.07                   |
| J-308      | 5.0              | Demand         | 11.38           | 1.5               | 16.98                         | 21.90                                | 165.28            | 16.90                   |
| J-309      | 6.0              | Demand         | 11.38           | 1.5               | 16.98                         | 21.33                                | 149.93            | 15.33                   |
| J-310      | 5.0              | Demand         | 11.38           | 1.5               | 16.98                         | 21.38                                | 160.23            | 16.38                   |
| J-311      | 5.0              | Demand         | 0.00            | 1.5               | 0.00                          | 26.80                                | 213.20            | 21.80                   |
| J-312      | 9.0              | Demand         | 0.00            | 1.5               | 0.00                          | 28.27                                | 188.54            | 19.27                   |
| J-313      | 9.0              | Demand         | 0.00            | 1.5               | 0.00                          | 28.19                                | 187.71            | 19.19                   |
| J-314      | 20.0             | Demand         | 0.00            | 1.5               | 0.00                          | 30.62                                | 103.89            | 10.62                   |
| J-315      | 20.0             | Demand         | 0.00            | 1.5               | 0.00                          | 30.35                                | 101.20            | 10.35                   |
| J-316      | 9.0              | Demand         | 14.03           | 1.5               | 20.93                         | 29.98                                | 205.23            | 20.98                   |
| J-317      | 9.0              | Demand         | 14.03           | 1.5               | 20.93                         | 29.35                                | 199.10            | 20.35                   |
| J-319      | 4.0              | Demand         | 26.71           | 1.5               | 39.85                         | 19.57                                | 152.29            | 15.57                   |
| J-320      | 4.0              | Demand         | 31.99           | 1.5               | 47.73                         | 17.59                                | 132.91            | 13.59                   |
| J-321      | 4.0              | Demand         | 31.99           | 1.5               | 47.73                         | 16.47                                | 122.00            | 12.47                   |
| J-323      | 5.0              | Demand         | 29.31           | 1.5               | 43.73                         | 16.29                                | 110.46            | 11.29                   |
| J-324      | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 42.92                                | 380.71            | 38.92                   |
| J-325      | 5.0              | Demand         | 3.90            | 1.5               | 5.82                          | 42.74                                | 369.16            | 37.74                   |

### Junction Report

| Node Label       | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-326            | 5.0              | Demand         | 3.90            | 1.5               | 5.82                          | 42.85                                | 370.25            | 37.85                   |
| J-327            | 5.0              | Demand         | 29.31           | 1.5               | 43.73                         | 16.99                                | 117.28            | 11.99                   |
| J-328            | 6.0              | Demand         | 6.34            | 1.5               | 9.46                          | 69.74                                | 623.54            | 63.74                   |
| J-329            | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 42.72                                | 378.77            | 38.72                   |
| J-330            | 12.8             | Demand         | 15.23           | 1.5               | 22.72                         | 43.21                                | 297.43            | 30.41                   |
| J-331            | 8.0              | Demand         | 0.00            | Fixed             | 0.00                          | 33.11                                | 245.58            | 25.11                   |
| J-331-New Mohara | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 83.11                                | 764.10            | 78.11                   |
| J-332            | 8.0              | Demand         | 0.00            | Fixed             | 0.00                          | 29.27                                | 208.10            | 21.27                   |
| J-332-New Mohara | 6.0              | Inflow         | 1,052.31        | Fixed             | -1,052.31                     | 3.62                                 | -23.31            | -2.38                   |
| J-333            | 5.0              | Demand         | 3.90            | 1.5               | 5.82                          | 42.84                                | 370.12            | 37.84                   |
| J-334            | 6.0              | Demand         | 0.00            | 1.5               | 0.00                          | 59.11                                | 519.51            | 53.11                   |
| J-335            | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 73.91                                | 683.80            | 69.91                   |
| J-336            | 4.0              | Demand         | 3.90            | 1.5               | 5.82                          | 73.97                                | 684.47            | 69.97                   |
| J-337            | 9.7              | Demand         | 0.00            | 1.5               | 0.00                          | 40.01                                | 296.52            | 30.31                   |
| J-338            | 9.7              | Demand         | 0.00            | 1.5               | 0.00                          | 39.93                                | 295.67            | 30.23                   |
| J-339            | 6.8              | Demand         | 0.00            | 1.5               | 0.00                          | 37.30                                | 298.32            | 30.50                   |
| J-340            | 6.8              | Demand         | 0.00            | 1.5               | 0.00                          | 37.20                                | 297.40            | 30.40                   |
| J-341            | 5.0              | Demand         | 10.72           | 1.5               | 15.99                         | 29.75                                | 242.06            | 24.75                   |
| J-342            | 15.1             | Demand         | 0.00            | 1.5               | 0.00                          | 41.84                                | 261.60            | 26.74                   |
| J-343            | 7.0              | Demand         | 13.58           | 1.5               | 20.26                         | 64.00                                | 557.61            | 57.00                   |
| J-345            | 8.0              | Demand         | 22.00           | 1.5               | 32.82                         | 48.35                                | 394.73            | 40.35                   |
| J-346            | 8.0              | Demand         | 34.84           | 1.5               | 51.98                         | 48.59                                | 397.08            | 40.59                   |
| J-347            | 8.0              | Demand         | 23.83           | 1.5               | 35.55                         | 52.48                                | 435.06            | 44.48                   |
| J-348            | 8.0              | Demand         | 23.83           | 1.5               | 35.55                         | 57.51                                | 484.34            | 49.51                   |
| J-349            | 8.0              | Demand         | 21.44           | 1.5               | 31.99                         | 62.94                                | 537.46            | 54.94                   |
| J-350            | 3.7              | Demand         | 0.00            | 1.5               | 0.00                          | 40.43                                | 359.27            | 36.73                   |
| J-351            | 3.7              | Demand         | 0.00            | 1.5               | 0.00                          | 38.80                                | 343.35            | 35.10                   |
| J-352            | 29.0             | Demand         | 0.00            | Fixed             | 0.00                          | 52.47                                | 229.58            | 23.47                   |
| J-353            | 28.0             | Demand         | 0.00            | Fixed             | 0.00                          | 33.73                                | 56.02             | 5.73                    |
| J-354            | 15.0             | Demand         | 0.00            | Fixed             | 0.00                          | 49.86                                | 340.98            | 34.86                   |
| J-355            | 19.5             | Demand         | 0.00            | 1.5               | 0.00                          | 33.47                                | 136.63            | 13.97                   |
| J-356            | 21.5             | Demand         | 0.00            | 1.5               | 0.00                          | 30.90                                | 91.99             | 9.40                    |
| J-357            | 4.5              | Demand         | 0.00            | 1.5               | 0.00                          | 21.30                                | 164.31            | 16.80                   |
| J-358            | 4.0              | Demand         | 0.00            | 1.5               | 0.00                          | 75.04                                | 694.90            | 71.04                   |
| J-358-Madunaghat | 90.0             | Inflow         | 526.16          | Fixed             | -526.16                       | 284.28                               | 1,900.47          | 194.28                  |
| J-359            | 5.0              | Demand         | 0.00            | 1.5               | 0.00                          | 24.30                                | 188.77            | 19.30                   |
| J-360            | 4.0              | Demand         | 31.99           | 1.5               | 47.73                         | 17.43                                | 131.33            | 13.43                   |
| J-361            | 4.0              | Demand         | 31.99           | 1.5               | 47.73                         | 16.31                                | 120.40            | 12.31                   |
| J-361-Mohara     | 6.0              | Inflow         | 1,052.31        | Fixed             | -1,052.31                     | 3.62                                 | -23.30            | -2.38                   |
| J-362            | 2.0              | Demand         | 0.00            | 1.5               | 0.00                          | 4.44                                 | 23.86             | 2.44                    |
| J-362-Kal        | 4.5              | Inflow         | 631.39          | Fixed             | -631.39                       | 2.71                                 | -17.55            | -1.79                   |
| J-363            | 4.4              | Demand         | 0.00            | 1.5               | 0.00                          | 26.42                                | 215.41            | 22.02                   |
| J-364            | 28.0             | Demand         | 0.00            | Fixed             | 0.00                          | 33.81                                | 56.83             | 5.81                    |
| J-365            | 19.1             | Demand         | 0.00            | Fixed             | 0.00                          | 35.64                                | 161.84            | 16.54                   |
| J-366            | 20.0             | Demand         | 14.03           | 1.5               | 20.93                         | 31.42                                | 111.70            | 11.42                   |
| J-367            | 20.0             | Demand         | 14.03           | 1.5               | 20.93                         | 30.72                                | 104.89            | 10.72                   |
| J-368            | 14.2             | Demand         | 10.59           | 1.5               | 15.80                         | 30.36                                | 158.11            | 16.16                   |
| J-369            | 19.1             | Demand         | 0.00            | Fixed             | 0.00                          | 46.30                                | 266.03            | 27.20                   |
| J-370            | 16.9             | Demand         | 5.62            | 1.5               | 8.39                          | 31.68                                | 144.55            | 14.78                   |
| J-371            | 23.8             | Demand         | 0.00            | Fixed             | 0.00                          | 31.46                                | 74.96             | 7.66                    |
| J-372            | 0.0              | Demand         | 0.00            | Fixed             | 0.00                          | 69.93                                | 684.02            | 69.93                   |
| J-373            | 2.0              | Demand         | 0.00            | Fixed             | 0.00                          | 3.23                                 | 12.03             | 1.23                    |
| J-374            | 2.0              | Demand         | 0.00            | Fixed             | 0.00                          | 3.44                                 | 14.12             | 1.44                    |
| J-375            | 21.5             | Demand         | 0.00            | Fixed             | 0.00                          | 32.62                                | 108.73            | 11.12                   |

**Basic Plan Phase 1 (2005)**  
**Extended Period Analysis: 9.0 hr / 72.0 hr**  
**Pipe Report**

| Link Label | Start Node | End Node       | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-2        | J-2        | J-3            | 535.0         | 1,200            | Ductile Iron | 110                 | Open              | 1,138.75           | 0.50            | 0.93                        | 1.01              |
| P-3        | J-3        | J-4            | 535.0         | 1,200            | Ductile Iron | 110                 | Open              | 1,138.75           | 0.50            | 0.93                        | 1.01              |
| P-4        | J-4        | J-5            | 520.0         | 900              | Ductile Iron | 110                 | Open              | 1,080.58           | 1.78            | 3.41                        | 1.70              |
| P-5        | J-5        | J-6            | 890.0         | 900              | Ductile Iron | 110                 | Open              | 1,080.58           | 3.00            | 3.41                        | 1.70              |
| P-6        | J-6        | J-7            | 835.0         | 900              | Ductile Iron | 110                 | Open              | 1,080.58           | 2.85            | 3.41                        | 1.70              |
| P-7        | J-7        | J-8            | 2,015.0       | 900              | Ductile Iron | 110                 | Open              | 967.18             | 5.60            | 2.78                        | 1.52              |
| P-9        | J-9        | J-10           | 1,118.0       | 900              | Ductile Iron | 110                 | Open              | 967.18             | 3.11            | 2.78                        | 1.52              |
| P-10       | J-10       | J-11           | 940.0         | 900              | Ductile Iron | 110                 | Open              | 967.18             | 2.61            | 2.78                        | 1.52              |
| P-11       | J-11       | J-12           | 918.0         | 900              | Ductile Iron | 110                 | Open              | 967.18             | 2.55            | 2.78                        | 1.52              |
| P-12       | J-12       | J-13           | 455.0         | 900              | Ductile Iron | 110                 | Open              | 449.98             | 0.31            | 0.68                        | 0.71              |
| P-13       | J-13       | T-Battali Hill | 735.0         | 900              | Ductile Iron | 110                 | Open              | 449.98             | 0.50            | 0.68                        | 0.71              |
| P-15       | J-15       | J-16           | 650.0         | 600              | Asbestos Ce  | 110                 | Open              | 468.75             | 3.41            | 5.25                        | 1.66              |
| P-16       | J-16       | J-17           | 570.0         | 600              | Asbestos Ce  | 110                 | Open              | 431.27             | 2.56            | 4.50                        | 1.53              |
| P-17       | J-17       | J-18           | 80.0          | 300              | Asbestos Ce  | 110                 | Open              | 66.88              | 0.33            | 4.18                        | 0.95              |
| P-18       | J-18       | J-19           | 245.0         | 300              | Asbestos Ce  | 110                 | Open              | 92.97              | 1.88            | 7.69                        | 1.32              |
| P-19       | J-19       | J-20           | 440.0         | 300              | Asbestos Ce  | 110                 | Open              | 82.36              | 2.71            | 6.15                        | 1.17              |
| P-20       | J-20       | J-21           | 405.0         | 300              | Asbestos Ce  | 110                 | Open              | 58.73              | 1.33            | 3.29                        | 0.83              |
| P-21       | J-21       | J-22           | 100.0         | 300              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-22       | J-23       | J-22           | 230.0         | 300              | Asbestos Ce  | 110                 | Open              | 8.67               | 0.02            | 0.10                        | 0.12              |
| P-23       | J-24       | J-23           | 1,135.0       | 450              | Asbestos Ce  | 110                 | Open              | 38.61              | 0.24            | 0.21                        | 0.24              |
| P-24       | J-24       | J-25           | 290.0         | 450              | Asbestos Ce  | 110                 | Open              | 84.16              | 0.26            | 0.89                        | 0.53              |
| P-25       | J-25       | J-26           | 290.0         | 200              | PVC          | 130                 | Open              | 13.04              | 0.31            | 1.07                        | 0.42              |
| P-26       | J-25       | J-27           | 650.0         | 450              | Asbestos Ce  | 110                 | Open              | 58.08              | 0.29            | 0.45                        | 0.37              |
| P-27       | J-27       | J-28           | 1,040.0       | 200              | PVC          | 130                 | Open              | 11.71              | 0.92            | 0.88                        | 0.37              |
| P-28       | J-27       | J-29           | 570.0         | 450              | Asbestos Ce  | 110                 | Open              | 4.86               | 0.00            | 0.00                        | 0.03              |
| P-29       | J-30       | J-29           | 400.0         | 450              | Asbestos Ce  | 110                 | Open              | 52.39              | 0.15            | 0.37                        | 0.33              |
| P-32       | J-32       | J-33           | 500.0         | 200              | PVC          | 130                 | Open              | 16.77              | 0.86            | 1.71                        | 0.53              |
| P-33       | J-32       | J-34           | 250.0         | 450              | Asbestos Ce  | 110                 | Open              | 50.24              | 0.09            | 0.34                        | 0.32              |
| P-34       | J-34       | T-1            | 350.0         | 200              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-35       | J-34       | J-36           | 2,120.0       | 300              | Asbestos Ce  | 110                 | Open              | 24.98              | 1.43            | 0.68                        | 0.35              |
| P-36       | J-36       | J-37           | 430.0         | 300              | Asbestos Ce  | 110                 | Open              | 8.33               | 0.04            | 0.09                        | 0.12              |
| P-37       | J-36       | J-38           | 430.0         | 200              | PVC          | 130                 | Open              | 8.33               | 0.20            | 0.47                        | 0.27              |
| P-40       | J-30       | PMP-2-Out      | 180.0         | 150              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-41       | J-41       | J-39           | 670.0         | 600              | Ductile Iron | 110                 | Open              | 169.92             | 0.54            | 0.80                        | 0.60              |
| P-42       | J-42       | J-41           | 1,160.0       | 600              | Ductile Iron | 110                 | Open              | 169.92             | 0.93            | 0.80                        | 0.60              |
| P-43       | J-43       | J-42           | 1,121.0       | 600              | Ductile Iron | 110                 | Open              | 169.92             | 0.90            | 0.80                        | 0.60              |
| P-44       | J-355      | J-43           | 1,175.0       | 600              | Ductile Iron | 110                 | Open              | 288.00             | 2.50            | 2.13                        | 1.02              |
| P-47       | J-46       | J-47           | 400.0         | 200              | PVC          | 130                 | Open              | 9.46               | 0.24            | 0.59                        | 0.30              |
| P-48       | J-48       | J-46           | 430.0         | 200              | PVC          | 130                 | Open              | 28.46              | 1.96            | 4.55                        | 0.91              |
| P-49       | J-49       | J-48           | 500.0         | 300              | Asbestos Ce  | 110                 | Open              | 128.88             | 7.04            | 14.08                       | 1.82              |
| P-50       | J-49       | J-50           | 310.0         | 200              | PVC          | 130                 | Open              | 9.46               | 0.18            | 0.59                        | 0.30              |
| P-51       | J-51       | J-49           | 135.0         | 300              | Asbestos Ce  | 110                 | Open              | 168.73             | 3.13            | 23.17                       | 2.39              |
| P-52       | J-52       | J-51           | 50.0          | 300              | Asbestos Ce  | 110                 | Open              | 178.19             | 1.28            | 25.63                       | 2.52              |
| P-54       | J-52       | J-53           | 215.0         | 300              | Asbestos Ce  | 110                 | Open              | 45.79              | 0.45            | 2.08                        | 0.65              |
| P-55       | J-53       | J-54           | 640.0         | 300              | Asbestos Ce  | 110                 | Open              | 36.33              | 0.87            | 1.35                        | 0.51              |
| P-56       | J-54       | J-55           | 245.0         | 200              | PVC          | 130                 | Open              | 26.87              | 1.00            | 4.09                        | 0.86              |
| P-57       | J-54       | J-56           | 30.0          | 300              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-58       | J-57       | J-56           | 1,640.0       | 300              | Asbestos Ce  | 110                 | Open              | 43.73              | 3.13            | 1.91                        | 0.62              |
| P-59       | J-58       | J-57           | 865.0         | 300              | Asbestos Ce  | 110                 | Open              | 61.75              | 3.12            | 3.61                        | 0.87              |
| P-60       | J-59       | J-58           | 515.0         | 300              | Asbestos Ce  | 110                 | Open              | 71.21              | 2.42            | 4.70                        | 1.01              |
| P-62       | J-61       | J-60           | 875.0         | 200              | PVC          | 130                 | Open              | 34.91              | 5.81            | 6.65                        | 1.11              |
| P-63       | J-62       | J-61           | 325.0         | 200              | PVC          | 130                 | Open              | 40.73              | 2.87            | 8.84                        | 1.30              |
| P-64       | J-62       | J-63           | 835.0         | 200              | PVC          | 130                 | Open              | 55.21              | 12.95           | 15.51                       | 1.76              |
| P-65       | J-63       | J-64           | 880.0         | 200              | PVC          | 130                 | Open              | 13.54              | 1.01            | 1.15                        | 0.43              |
| P-66       | J-65       | J-64           | 520.0         | 200              | PVC          | 130                 | Open              | 22.32              | 1.51            | 2.90                        | 0.71              |
| P-75       | J-74       | J-73           | 925.0         | 200              | PVC          | 130                 | Open              | 5.82               | 0.22            | 0.24                        | 0.19              |
| P-76       | J-74       | J-62           | 210.0         | 200              | PVC          | 130                 | Open              | 101.76             | 10.10           | 48.08                       | 3.24              |
| P-84       | J-81       | J-82           | 1,055.0       | 200              | PVC          | 130                 | Open              | 25.66              | 3.97            | 3.76                        | 0.82              |
| P-85       | J-82       | J-83           | 760.0         | 200              | PVC          | 130                 | Open              | 12.83              | 0.79            | 1.04                        | 0.41              |
| P-86       | J-77       | J-84           | 435.0         | 600              | Asbestos Ce  | 110                 | Open              | 339.82             | 1.26            | 2.89                        | 1.20              |
| P-87       | J-84       | J-85           | 975.0         | 600              | Asbestos Ce  | 110                 | Open              | 395.32             | 3.73            | 3.83                        | 1.40              |
| P-88       | J-85       | J-86           | 100.0         | 300              | Asbestos Ce  | 110                 | Open              | 91.70              | 0.75            | 7.50                        | 1.30              |
| P-89       | J-86       | J-87           | 80.0          | 300              | Asbestos Ce  | 110                 | Open              | 62.14              | 0.29            | 3.65                        | 0.88              |
| P-90       | J-87       | J-88           | 230.0         | 300              | Asbestos Ce  | 110                 | Open              | 74.38              | 1.17            | 5.09                        | 1.05              |
| P-91       | J-88       | J-89           | 325.0         | 300              | Asbestos Ce  | 110                 | Open              | 70.53              | 1.50            | 4.62                        | 1.00              |
| P-92       | J-89       | J-90           | 295.0         | 300              | Asbestos Ce  | 110                 | Open              | 41.62              | 0.51            | 1.74                        | 0.59              |
| P-93       | J-90       | J-91           | 165.0         | 300              | Asbestos Ce  | 110                 | Open              | 32.16              | 0.18            | 1.08                        | 0.46              |
| P-95       | J-92       | J-93           | 610.0         | 300              | Asbestos Ce  | 110                 | Open              | 87.51              | 4.20            | 6.88                        | 1.24              |
| P-96       | J-93       | J-94           | 610.0         | 300              | Asbestos Ce  | 110                 | Open              | 69.49              | 2.74            | 4.49                        | 0.98              |
| P-97       | J-94       | J-95           | 390.0         | 200              | PVC          | 130                 | Open              | 40.53              | 3.42            | 8.76                        | 1.29              |
| P-98       | J-95       | J-96           | 1,000.0       | 200              | PVC          | 130                 | Open              | 12.88              | 1.05            | 1.05                        | 0.41              |
| P-99       | J-96       | J-97           | 390.0         | 200              | PVC          | 130                 | Open              | 27.65              | 1.68            | 4.32                        | 0.88              |
| P-100      | J-94       | J-98           | 240.0         | 300              | Asbestos Ce  | 110                 | Open              | 32.16              | 0.26            | 1.08                        | 0.45              |
| P-101      | J-98       | J-99           | 770.0         | 300              | Asbestos Ce  | 110                 | Open              | 14.13              | 0.18            | 0.24                        | 0.20              |



**Pipe Report**

| Link Label | Start Node | End Node | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-102      | J-99       | J-100    | 470.0         | 300              | Asbestos Ce  | 110                 | Open              | 11.22              | 0.07            | 0.15                        | 0.16              |
| P-103      | J-101      | J-100    | 125.0         | 200              | Asbestos Ce  | 110                 | Open              | 6.80               | 0.05            | 0.44                        | 0.22              |
| P-104      | J-101      | J-102    | 870.0         | 200              | PVC          | 130                 | Open              | 13.70              | 1.02            | 1.18                        | 0.44              |
| P-105      | J-102      | J-103    | 1,080.0       | 200              | PVC          | 130                 | Open              | 15.80              | 1.66            | 1.53                        | 0.50              |
| P-106      | J-103      | J-104    | 620.0         | 200              | PVC          | 130                 | Open              | 15.80              | 0.95            | 1.53                        | 0.50              |
| P-107      | J-105      | J-101    | 195.0         | 200              | Asbestos Ce  | 110                 | Open              | 29.98              | 1.33            | 6.83                        | 0.95              |
| P-109      | J-107      | J-106    | 460.0         | 300              | Asbestos Ce  | 110                 | Open              | 56.03              | 1.39            | 3.01                        | 0.79              |
| P-110      | J-107      | J-108    | 615.0         | 200              | PVC          | 130                 | Open              | 15.80              | 0.94            | 1.53                        | 0.50              |
| P-111      | J-109      | J-107    | 895.0         | 300              | Asbestos Ce  | 110                 | Open              | 53.47              | 2.47            | 2.77                        | 0.76              |
| P-112      | J-110      | J-109    | 385.0         | 300              | Asbestos Ce  | 110                 | Open              | 61.67              | 1.39            | 3.60                        | 0.87              |
| P-113      | J-111      | J-110    | 805.0         | 300              | Asbestos Ce  | 110                 | Open              | 55.57              | 2.39            | 2.97                        | 0.79              |
| P-115      | J-111      | J-113    | 300.0         | 200              | PVC          | 130                 | Open              | 9.46               | 0.18            | 0.59                        | 0.30              |
| P-116      | J-110      | J-114    | 570.0         | 200              | PVC          | 130                 | Open              | 20.26              | 1.38            | 2.43                        | 0.64              |
| P-117      | J-114      | J-107    | 1,150.0       | 200              | PVC          | 130                 | Open              | 18.99              | 2.48            | 2.15                        | 0.60              |
| P-119      | J-115      | J-110    | 5.0           | 300              | Ductile Iron | 110                 | Open              | 51.61              | 0.01            | 2.59                        | 0.73              |
| P-120      | J-116      | J-112    | 195.0         | 300              | Asbestos Ce  | 110                 | Open              | 8.94               | 0.02            | 0.10                        | 0.13              |
| P-121      | J-117      | J-116    | 245.0         | 300              | Asbestos Ce  | 110                 | Open              | 22.55              | 0.14            | 0.56                        | 0.32              |
| P-122      | J-118      | J-117    | 50.0          | 300              | Asbestos Ce  | 110                 | Open              | 37.71              | 0.07            | 1.45                        | 0.53              |
| P-123      | J-118      | J-119    | 230.0         | 300              | Asbestos Ce  | 110                 | Open              | 10.23              | 0.03            | 0.13                        | 0.14              |
| P-124      | J-119      | J-120    | 165.0         | 300              | Asbestos Ce  | 110                 | Open              | 2.23               | 0.00            | 0.01                        | 0.03              |
| P-125      | J-120      | J-121    | 65.0          | 300              | Asbestos Ce  | 110                 | Open              | 33.52              | 0.08            | 1.17                        | 0.47              |
| P-126      | J-121      | J-122    | 340.0         | 300              | Asbestos Ce  | 110                 | Open              | 22.99              | 0.20            | 0.58                        | 0.33              |
| P-127      | J-122      | J-123    | 340.0         | 300              | Asbestos Ce  | 110                 | Open              | 18.85              | 0.14            | 0.40                        | 0.27              |
| P-128      | J-123      | J-124    | 275.0         | 300              | Asbestos Ce  | 110                 | Open              | 16.19              | 0.08            | 0.30                        | 0.23              |
| P-129      | J-124      | J-125    | 355.0         | 300              | Asbestos Ce  | 110                 | Open              | 12.04              | 0.06            | 0.18                        | 0.17              |
| P-130      | J-12       | J-126    | 560.0         | 600              | Ductile Iron | 110                 | Open              | 517.20             | 3.52            | 6.29                        | 1.83              |
| P-131      | J-125      | J-127    | 335.0         | 300              | Asbestos Ce  | 110                 | Open              | 13.12              | 0.07            | 0.21                        | 0.19              |
| P-132      | J-91       | J-112    | 975.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.67               | 0.21            | 0.22                        | 0.15              |
| P-133      | J-128      | J-117    | 405.0         | 200              | Asbestos Ce  | 110                 | Open              | 2.29               | 0.02            | 0.06                        | 0.07              |
| P-134      | J-89       | J-128    | 355.0         | 200              | Asbestos Ce  | 110                 | Open              | 15.60              | 0.72            | 2.04                        | 0.50              |
| P-135      | J-129      | J-118    | 275.0         | 300              | Asbestos Ce  | 110                 | Open              | 55.94              | 0.83            | 3.01                        | 0.79              |
| P-136      | J-130      | J-129    | 500.0         | 300              | Asbestos Ce  | 110                 | Open              | 59.79              | 1.70            | 3.40                        | 0.85              |
| P-137      | J-87       | J-130    | 215.0         | 300              | Asbestos Ce  | 110                 | Open              | 63.64              | 0.82            | 3.82                        | 0.90              |
| P-138      | J-131      | J-123    | 325.0         | 200              | Asbestos Ce  | 110                 | Open              | 1.49               | 0.01            | 0.03                        | 0.05              |
| P-139      | J-132      | J-131    | 325.0         | 200              | Asbestos Ce  | 110                 | Open              | 9.49               | 0.26            | 0.81                        | 0.30              |
| P-140      | J-133      | J-132    | 760.0         | 200              | Asbestos Ce  | 110                 | Open              | 21.89              | 2.90            | 3.82                        | 0.70              |
| P-141      | J-134      | J-133    | 160.0         | 200              | PVC          | 130                 | Open              | 25.74              | 0.61            | 3.78                        | 0.82              |
| P-142      | J-86       | J-135    | 210.0         | 200              | PVC          | 130                 | Open              | 25.71              | 0.79            | 3.77                        | 0.82              |
| P-143      | J-135      | J-136    | 50.0          | 300              | Asbestos Ce  | 110                 | Open              | 21.87              | 0.03            | 0.53                        | 0.31              |
| P-144      | J-136      | J-137    | 325.0         | 300              | Asbestos Ce  | 110                 | Open              | 48.69              | 0.76            | 2.32                        | 0.69              |
| P-145      | J-137      | J-138    | 325.0         | 300              | Asbestos Ce  | 110                 | Open              | 44.84              | 0.65            | 2.00                        | 0.63              |
| P-146      | J-139      | J-138    | 130.0         | 300              | Asbestos Ce  | 110                 | Open              | 12.49              | 0.02            | 0.19                        | 0.18              |
| P-147      | J-139      | J-140    | 420.0         | 200              | Asbestos Ce  | 110                 | Open              | 13.98              | 0.70            | 1.66                        | 0.44              |
| P-148      | J-140      | J-141    | 275.0         | 200              | Asbestos Ce  | 110                 | Open              | 7.60               | 0.15            | 0.54                        | 0.24              |
| P-149      | J-142      | J-141    | 130.0         | 200              | Asbestos Ce  | 110                 | Open              | 15.30              | 0.26            | 1.97                        | 0.49              |
| P-150      | J-143      | J-142    | 730.0         | 600              | Asbestos Ce  | 110                 | Open              | 206.35             | 0.84            | 1.15                        | 0.73              |
| P-151      | J-143      | J-139    | 180.0         | 300              | Asbestos Ce  | 110                 | Open              | 36.68              | 0.25            | 1.38                        | 0.52              |
| P-152      | J-144      | J-143    | 780.0         | 600              | Asbestos Ce  | 110                 | Open              | 253.26             | 1.31            | 1.68                        | 0.90              |
| P-153      | J-144      | J-136    | 180.0         | 300              | Asbestos Ce  | 110                 | Open              | 30.67              | 0.18            | 0.99                        | 0.43              |
| P-154      | J-134      | J-144    | 160.0         | 600              | Asbestos Ce  | 110                 | Open              | 287.78             | 0.34            | 2.13                        | 1.02              |
| P-155      | J-145      | J-134    | 115.0         | 600              | Asbestos Ce  | 110                 | Open              | 317.37             | 0.29            | 2.55                        | 1.12              |
| P-156      | J-85       | J-145    | 20.0          | 300              | Asbestos Ce  | 110                 | Open              | 220.04             | 0.76            | 37.87                       | 3.11              |
| P-157      | J-146      | J-145    | 970.0         | 450              | Asbestos Ce  | 110                 | Open              | 205.45             | 4.49            | 4.63                        | 1.29              |
| P-158      | J-147      | J-146    | 100.0         | 450              | Asbestos Ce  | 110                 | Open              | 279.87             | 0.82            | 8.20                        | 1.76              |
| P-163      | J-152      | J-153    | 990.0         | 300              | Asbestos Ce  | 110                 | Open              | 44.10              | 1.92            | 1.94                        | 0.62              |
| P-164      | J-153      | J-154    | 700.0         | 300              | Asbestos Ce  | 110                 | Open              | 11.85              | 0.12            | 0.17                        | 0.17              |
| P-165      | J-154      | J-155    | 405.0         | 300              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-166      | J-156      | J-155    | 195.0         | 300              | Asbestos Ce  | 110                 | Open              | 22.86              | 0.11            | 0.57                        | 0.32              |
| P-167      | J-156      | J-157    | 245.0         | 300              | Asbestos Ce  | 110                 | Open              | 127.53             | 3.38            | 13.80                       | 1.80              |
| P-168      | J-157      | J-158    | 230.0         | 300              | Asbestos Ce  | 110                 | Open              | 96.69              | 1.90            | 8.27                        | 1.37              |
| P-169      | J-158      | J-159    | 230.0         | 300              | Asbestos Ce  | 110                 | Open              | 41.87              | 0.40            | 1.76                        | 0.59              |
| P-170      | J-159      | J-160    | 160.0         | 300              | Asbestos Ce  | 110                 | Open              | 26.29              | 0.12            | 0.74                        | 0.37              |
| P-171      | J-159      | J-161    | 290.0         | 200              | PVC          | 130                 | Open              | 7.79               | 0.12            | 0.41                        | 0.25              |
| P-172      | J-142      | J-162    | 20.0          | 600              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-173      | J-162      | J-163    | 95.0          | 600              | Asbestos Ce  | 110                 | Open              | 326.93             | 0.26            | 2.69                        | 1.16              |
| P-174      | J-163      | J-164    | 210.0         | 600              | Asbestos Ce  | 110                 | Open              | 295.49             | 0.47            | 2.23                        | 1.05              |
| P-175      | J-164      | J-165    | 420.0         | 200              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-176      | J-165      | J-166    | 295.0         | 200              | PVC          | 130                 | Open              | 40.38              | 2.57            | 8.70                        | 1.29              |
| P-177      | J-166      | J-167    | 390.0         | 200              | PVC          | 130                 | Open              | 45.07              | 4.16            | 10.66                       | 1.43              |
| P-178      | J-164      | J-168    | 160.0         | 600              | Asbestos Ce  | 110                 | Open              | 293.60             | 0.35            | 2.21                        | 1.04              |
| P-179      | J-168      | J-169    | 20.0          | 600              | Asbestos Ce  | 110                 | Open              | 289.81             | 0.04            | 2.16                        | 1.02              |
| P-180      | J-169      | J-170    | 160.0         | 450              | Asbestos Ce  | 110                 | Open              | 287.91             | 1.38            | 8.64                        | 1.81              |
| P-181      | J-155      | J-171    | 150.0         | 300              | Asbestos Ce  | 110                 | Open              | 0.29               | 0.00            | 0.00                        | 0.00              |
| P-182      | J-172      | J-171    | 195.0         | 200              | Asbestos Ce  | 110                 | Open              | 11.79              | 0.24            | 1.21                        | 0.38              |
| P-183      | J-170      | J-172    | 65.0          | 300              | Asbestos Ce  | 110                 | Open              | 13.68              | 0.01            | 0.22                        | 0.19              |
| P-184      | J-168      | J-173    | 295.0         | 300              | Ductile Iron | 110                 | Open              | 1.89               | 0.00            | 0.01                        | 0.03              |

**Pipe Report**

| Link Label | Start Node | End Node | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-185      | T-ADC Hill | J-173    | 200.0         | 200              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-186      | J-169      | J-175    | 295.0         | 450              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-187      | J-175      | J-176    | 150.0         | 600              | Ductile Iron | 110                 | Open              | 499.04             | 0.88            | 5.89                        | 1.76              |
| P-188      | J-176      | J-177    | 1,860.0       | 750              | Ductile Iron | 110                 | Open              | 499.04             | 3.70            | 1.99                        | 1.13              |
| P-189      | J-178      | J-175    | 1,125.0       | 600              | Ductile Iron | 110                 | Open              | 517.20             | 7.08            | 6.29                        | 1.83              |
| P-190      | J-126      | J-178    | 555.0         | 600              | Ductile Iron | 110                 | Open              | 517.20             | 3.49            | 6.29                        | 1.83              |
| P-191      | J-171      | J-179    | 100.0         | 450              | Asbestos Ce  | 110                 | Open              | 10.18              | 0.00            | 0.02                        | 0.06              |
| P-192      | J-179      | J-180    | 280.0         | 200              | Asbestos Ce  | 110                 | Open              | 14.86              | 0.52            | 1.86                        | 0.47              |
| P-193      | J-180      | J-181    | 280.0         | 200              | Asbestos Ce  | 110                 | Open              | 8.95               | 0.20            | 0.73                        | 0.28              |
| P-194      | J-181      | J-182    | 260.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.48               | 0.05            | 0.20                        | 0.14              |
| P-195      | J-179      | J-183    | 210.0         | 200              | Asbestos Ce  | 110                 | Open              | 35.62              | 1.97            | 9.39                        | 1.13              |
| P-196      | J-180      | J-183    | 200.0         | 200              | Asbestos Ce  | 110                 | Open              | 30.97              | 1.45            | 7.25                        | 0.99              |
| P-197      | J-163      | J-180    | 455.0         | 200              | Asbestos Ce  | 110                 | Open              | 29.54              | 3.02            | 6.65                        | 0.94              |
| P-198      | J-183      | J-184    | 85.0          | 200              | Asbestos Ce  | 110                 | Open              | 62.12              | 2.23            | 26.28                       | 1.98              |
| P-199      | J-184      | J-185    | 115.0         | 200              | Asbestos Ce  | 110                 | Open              | 29.16              | 0.75            | 6.49                        | 0.93              |
| P-200      | J-185      | J-186    | 420.0         | 300              | Asbestos Ce  | 110                 | Open              | 12.12              | 0.07            | 0.18                        | 0.17              |
| P-201      | J-186      | J-187    | 340.0         | 300              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-202      | J-127      | J-187    | 220.0         | 300              | Asbestos Ce  | 110                 | Open              | 4.48               | 0.01            | 0.03                        | 0.06              |
| P-203      | J-127      | J-188    | 375.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.16               | 0.07            | 0.18                        | 0.13              |
| P-204      | J-189      | J-188    | 290.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.46               | 0.06            | 0.20                        | 0.14              |
| P-205      | J-185      | J-190    | 160.0         | 200              | PVC          | 130                 | Open              | 7.27               | 0.06            | 0.36                        | 0.23              |
| P-206      | J-191      | J-190    | 455.0         | 200              | PVC          | 130                 | Open              | 2.51               | 0.02            | 0.05                        | 0.08              |
| P-207      | J-191      | J-192    | 115.0         | 200              | Asbestos Ce  | 110                 | Open              | 7.42               | 0.06            | 0.52                        | 0.24              |
| P-208      | J-186      | J-192    | 325.0         | 200              | Asbestos Ce  | 110                 | Open              | 2.35               | 0.02            | 0.06                        | 0.07              |
| P-209      | J-184      | J-193    | 465.0         | 300              | Asbestos Ce  | 110                 | Open              | 23.19              | 0.27            | 0.59                        | 0.33              |
| P-210      | J-193      | J-194    | 130.0         | 200              | PVC          | 130                 | Open              | 5.30               | 0.03            | 0.20                        | 0.17              |
| P-212      | J-196      | J-195    | 590.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.06               | 0.10            | 0.17                        | 0.13              |
| P-213      | J-197      | J-196    | 510.0         | 200              | Asbestos Ce  | 110                 | Open              | 11.40              | 0.58            | 1.14                        | 0.36              |
| P-214      | J-198      | J-197    | 50.0          | 200              | Asbestos Ce  | 110                 | Open              | 67.24              | 1.52            | 30.43                       | 2.14              |
| P-215      | J-199      | J-198    | 1,020.0       | 200              | Asbestos Ce  | 110                 | Open              | 0.30               | 0.00            | 0.00                        | 0.01              |
| P-216      | J-199      | J-200    | 670.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.78               | 0.15            | 0.23                        | 0.15              |
| P-217      | J-201      | J-200    | 1,450.0       | 450              | Asbestos Ce  | 110                 | Open              | 69.85              | 0.91            | 0.63                        | 0.44              |
| P-218      | J-202      | J-201    | 650.0         | 450              | Asbestos Ce  | 110                 | Open              | 77.19              | 0.49            | 0.76                        | 0.49              |
| P-220      | J-158      | J-203    | 260.0         | 300              | Asbestos Ce  | 110                 | Open              | 45.14              | 0.53            | 2.02                        | 0.84              |
| P-221      | J-203      | J-204    | 615.0         | 300              | Asbestos Ce  | 110                 | Open              | 32.05              | 0.66            | 1.07                        | 0.45              |
| P-222      | J-205      | J-204    | 405.0         | 200              | Asbestos Ce  | 110                 | Open              | 5.42               | 0.12            | 0.29                        | 0.17              |
| P-223      | J-160      | J-205    | 195.0         | 200              | Asbestos Ce  | 110                 | Open              | 18.50              | 0.55            | 2.80                        | 0.59              |
| P-224      | J-204      | J-206    | 30.0          | 300              | Asbestos Ce  | 110                 | Open              | 32.17              | 0.03            | 1.08                        | 0.46              |
| P-225      | J-206      | J-207    | 730.0         | 200              | PVC          | 130                 | Open              | 2.50               | 0.04            | 0.05                        | 0.08              |
| P-226      | J-208      | J-207    | 245.0         | 200              | PVC          | 130                 | Open              | 4.84               | 0.04            | 0.17                        | 0.15              |
| P-227      | J-197      | J-208    | 275.0         | 200              | Asbestos Ce  | 110                 | Open              | 35.61              | 2.58            | 9.39                        | 1.13              |
| P-228      | J-206      | J-209    | 585.0         | 300              | Asbestos Ce  | 110                 | Open              | 24.37              | 0.38            | 0.65                        | 0.34              |
| P-229      | J-209      | J-210    | 260.0         | 300              | Asbestos Ce  | 110                 | Open              | 17.03              | 0.09            | 0.33                        | 0.24              |
| P-230      | J-210      | J-211    | 195.0         | 300              | Asbestos Ce  | 110                 | Open              | 9.69               | 0.02            | 0.12                        | 0.14              |
| P-231      | J-208      | J-211    | 680.0         | 200              | PVC          | 130                 | Open              | 10.54              | 0.49            | 0.72                        | 0.34              |
| P-232      | J-156      | J-212    | 115.0         | 200              | Asbestos Ce  | 110                 | Open              | 14.37              | 0.20            | 1.75                        | 0.46              |
| P-233      | J-155      | J-212    | 130.0         | 200              | Asbestos Ce  | 110                 | Open              | 8.68               | 0.09            | 0.69                        | 0.28              |
| P-234      | J-212      | J-213    | 275.0         | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-235      | J-165      | J-213    | 180.0         | 200              | PVC          | 130                 | Open              | 45.39              | 1.94            | 10.80                       | 1.44              |
| P-236      | J-214      | J-182    | 325.0         | 600              | Asbestos Ce  | 110                 | Open              | 328.82             | 0.88            | 2.72                        | 1.16              |
| P-237      | J-215      | J-214    | 500.0         | 600              | Asbestos Ce  | 110                 | Open              | 337.09             | 1.43            | 2.85                        | 1.19              |
| P-238      | J-216      | J-215    | 730.0         | 600              | Asbestos Ce  | 110                 | Open              | 347.31             | 2.20            | 3.01                        | 1.23              |
| P-240      | J-138      | J-217    | 760.0         | 300              | Asbestos Ce  | 110                 | Open              | 47.11              | 1.66            | 2.19                        | 0.67              |
| P-241      | J-217      | J-218    | 130.0         | 300              | Asbestos Ce  | 110                 | Open              | 29.15              | 0.12            | 0.90                        | 0.41              |
| P-242      | J-218      | J-125    | 390.0         | 300              | Asbestos Ce  | 110                 | Open              | 22.78              | 0.22            | 0.57                        | 0.32              |
| P-243      | J-141      | J-219    | 405.0         | 200              | Asbestos Ce  | 110                 | Open              | 16.53              | 0.92            | 2.27                        | 0.53              |
| P-244      | J-219      | J-220    | 210.0         | 200              | Asbestos Ce  | 110                 | Open              | 8.27               | 0.13            | 0.63                        | 0.26              |
| P-245      | J-220      | J-186    | 405.0         | 200              | Asbestos Ce  | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-246      | J-217      | J-221    | 130.0         | 200              | Asbestos Ce  | 110                 | Open              | 3.59               | 0.02            | 0.13                        | 0.11              |
| P-247      | J-132      | J-221    | 490.0         | 200              | Asbestos Ce  | 110                 | Open              | 4.41               | 0.10            | 0.20                        | 0.14              |
| P-248      | J-193      | J-222    | 355.0         | 300              | Asbestos Ce  | 110                 | Open              | 9.31               | 0.04            | 0.11                        | 0.13              |
| P-249      | J-222      | J-223    | 570.0         | 300              | Asbestos Ce  | 110                 | Open              | 4.02               | 0.01            | 0.02                        | 0.06              |
| P-250      | J-223      | J-191    | 145.0         | 200              | Asbestos Ce  | 110                 | Open              | 19.70              | 0.46            | 3.14                        | 0.63              |
| P-251      | J-224      | J-223    | 245.0         | 200              | Asbestos Ce  | 110                 | Open              | 1.84               | 0.01            | 0.04                        | 0.06              |
| P-252      | J-225      | J-224    | 375.0         | 200              | Asbestos Ce  | 110                 | Open              | 39.26              | 4.22            | 11.25                       | 1.25              |
| P-253      | J-225      | J-223    | 585.0         | 200              | PVC          | 130                 | Open              | 36.53              | 4.23            | 7.22                        | 1.16              |
| P-254      | J-225      | J-198    | 340.0         | 300              | Asbestos Ce  | 110                 | Open              | 79.84              | 1.97            | 5.80                        | 1.13              |
| P-256      | J-226      | J-227    | 1,535.0       | 600              | Asbestos Ce  | 110                 | Open              | 499.04             | 9.04            | 5.89                        | 1.76              |
| P-258      | J-229      | J-228    | 860.0         | 450              | Asbestos Ce  | 110                 | Open              | 187.89             | 3.38            | 3.92                        | 1.18              |
| P-259      | J-200      | J-229    | 315.0         | 450              | Ductile Iron | 110                 | Open              | 59.24              | 0.15            | 0.46                        | 0.37              |
| P-260      | J-230      | J-229    | 890.0         | 300              | Asbestos Ce  | 110                 | Open              | 49.48              | 2.13            | 2.40                        | 0.70              |
| P-261      | J-230      | J-231    | 520.0         | 300              | Asbestos Ce  | 110                 | Open              | 47.47              | 1.15            | 2.22                        | 0.67              |
| P-262      | J-231      | J-232    | 130.0         | 300              | Asbestos Ce  | 110                 | Open              | 48.76              | 0.30            | 2.33                        | 0.69              |
| P-263      | J-232      | J-199    | 325.0         | 300              | Asbestos Ce  | 110                 | Open              | 33.37              | 0.38            | 1.16                        | 0.47              |
| P-264      | J-233      | J-230    | 65.0          | 300              | Asbestos Ce  | 110                 | Open              | 50.19              | 0.16            | 2.46                        | 0.71              |
| P-265      | J-233      | J-231    | 570.0         | 200              | Asbestos Ce  | 110                 | Open              | 16.67              | 1.31            | 2.30                        | 0.53              |

**Pipe Report**

| Link Label | Start Node | End Node | Length<br>(m) | Diameter<br>(mm) | Material    | Roughness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------|---------------|------------------|-------------|----------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-266      | J-234      | J-233    | 585.0         | 300              | Asbestos Ce | 110            | Open              | 56.87              | 1.81            | 3.10                        | 0.80              |
| P-267      | J-18       | J-234    | 650.0         | 300              | Asbestos Ce | 110            | Open              | 56.83              | 2.01            | 3.09                        | 0.80              |
| P-268      | J-234      | J-235    | 490.0         | 200              | Asbestos Ce | 110            | Open              | 22.04              | 1.89            | 3.86                        | 0.70              |
| P-269      | J-225      | J-235    | 375.0         | 200              | Asbestos Ce | 110            | Open              | 3.96               | 0.06            | 0.16                        | 0.13              |
| P-270      | J-17       | J-225    | 845.0         | 300              | Asbestos Ce | 110            | Open              | 73.22              | 4.18            | 4.95                        | 1.04              |
| P-271      | J-125      | J-189    | 245.0         | 200              | PVC         | 130            | Open              | 6.71               | 0.08            | 0.31                        | 0.21              |
| P-272      | J-121      | J-189    | 1,945.0       | 200              | PVC         | 130            | Open              | 6.38               | 0.56            | 0.29                        | 0.20              |
| P-273      | J-236      | J-120    | 295.0         | 300              | Asbestos Ce | 110            | Open              | 35.43              | 0.38            | 1.29                        | 0.50              |
| P-274      | J-56       | J-236    | 195.0         | 300              | Asbestos Ce | 110            | Open              | 39.58              | 0.31            | 1.58                        | 0.56              |
| P-275      | J-234      | J-237    | 180.0         | 300              | Asbestos Ce | 110            | Open              | 116.27             | 2.09            | 11.64                       | 1.64              |
| P-276      | J-237      | J-238    | 405.0         | 300              | Asbestos Ce | 110            | Open              | 104.47             | 3.87            | 9.55                        | 1.48              |
| P-277      | J-238      | J-239    | 585.0         | 300              | Asbestos Ce | 110            | Open              | 92.67              | 4.47            | 7.65                        | 1.31              |
| P-278      | J-240      | J-239    | 500.0         | 200              | PVC         | 130            | Open              | 1.62               | 0.01            | 0.02                        | 0.05              |
| P-279      | J-241      | J-240    | 245.0         | 200              | PVC         | 130            | Open              | 13.42              | 0.28            | 1.13                        | 0.43              |
| P-280      | J-242      | J-241    | 390.0         | 200              | PVC         | 130            | Open              | 25.22              | 1.42            | 3.64                        | 0.80              |
| P-281      | J-21       | J-242    | 650.0         | 200              | PVC         | 130            | Open              | 37.02              | 4.81            | 7.41                        | 1.18              |
| P-282      | J-23       | J-243    | 810.0         | 200              | Asbestos Ce | 110            | Open              | 21.27              | 2.93            | 3.62                        | 0.68              |
| P-283      | J-244      | J-243    | 490.0         | 200              | Asbestos Ce | 110            | Open              | 0.43               | 0.00            | 0.00                        | 0.01              |
| P-284      | J-244      | J-245    | 585.0         | 200              | PVC         | 130            | Open              | 26.69              | 2.37            | 4.04                        | 0.85              |
| P-285      | J-246      | J-244    | 50.0          | 200              | Asbestos Ce | 110            | Open              | 1.45               | 0.00            | 0.03                        | 0.05              |
| P-286      | J-247      | J-246    | 40.0          | 200              | Asbestos Ce | 110            | Open              | 23.16              | 0.17            | 4.24                        | 0.74              |
| P-287      | J-248      | J-247    | 700.0         | 200              | PVC         | 130            | Open              | 16.70              | 1.19            | 1.70                        | 0.53              |
| P-288      | J-249      | J-248    | 1,050.0       | 200              | PVC         | 130            | Open              | 10.46              | 0.75            | 0.72                        | 0.33              |
| P-289      | J-29       | J-249    | 90.0          | 200              | PVC         | 130            | Open              | 31.99              | 0.51            | 5.65                        | 1.02              |
| P-290      | J-247      | J-250    | 490.0         | 200              | Asbestos Ce | 110            | Open              | 19.85              | 1.56            | 3.19                        | 0.63              |
| P-291      | J-250      | J-251    | 375.0         | 200              | Asbestos Ce | 110            | Open              | 30.05              | 2.57            | 6.86                        | 0.96              |
| P-292      | J-251      | J-252    | 10.0          | 200              | Asbestos Ce | 110            | Open              | 16.11              | 0.02            | 2.16                        | 0.51              |
| P-293      | J-252      | J-253    | 405.0         | 200              | Asbestos Ce | 110            | Open              | 3.21               | 0.04            | 0.11                        | 0.10              |
| P-294      | J-252      | J-254    | 165.0         | 200              | PVC         | 130            | Open              | 9.69               | 0.10            | 0.62                        | 0.31              |
| P-295      | J-254      | J-255    | 195.0         | 200              | PVC         | 130            | Open              | 8.90               | 0.10            | 0.53                        | 0.28              |
| P-296      | J-255      | J-256    | 325.0         | 200              | PVC         | 130            | Open              | 23.14              | 1.01            | 3.11                        | 0.74              |
| P-297      | J-256      | J-257    | 245.0         | 200              | PVC         | 130            | Open              | 43.07              | 2.40            | 9.80                        | 1.37              |
| P-299      | J-259      | J-258    | 405.0         | 200              | PVC         | 130            | Open              | 8.85               | 0.21            | 0.52                        | 0.28              |
| P-300      | J-259      | J-260    | 260.0         | 200              | PVC         | 130            | Open              | 43.07              | 2.55            | 9.80                        | 1.37              |
| P-301      | J-251      | J-261    | 165.0         | 200              | PVC         | 130            | Open              | 10.74              | 0.12            | 0.75                        | 0.34              |
| P-303      | J-261      | J-262    | 195.0         | 200              | PVC         | 130            | Open              | 5.11               | 0.04            | 0.19                        | 0.16              |
| P-304      | J-263      | J-262    | 325.0         | 200              | PVC         | 130            | Open              | 33.05              | 1.95            | 6.00                        | 1.05              |
| P-305      | J-250      | J-263    | 210.0         | 200              | PVC         | 130            | Open              | 25.52              | 0.78            | 3.72                        | 0.81              |
| P-306      | J-263      | J-264    | 730.0         | 200              | PVC         | 130            | Open              | 11.93              | 0.67            | 0.91                        | 0.38              |
| P-307      | J-264      | J-265    | 405.0         | 200              | PVC         | 130            | Open              | 8.72               | 0.21            | 0.51                        | 0.28              |
| P-308      | J-265      | J-266    | 245.0         | 200              | PVC         | 130            | Open              | 5.51               | 0.05            | 0.22                        | 0.18              |
| P-309      | J-245      | J-266    | 375.0         | 200              | PVC         | 130            | Open              | 18.02              | 0.73            | 1.95                        | 0.57              |
| P-310      | J-266      | J-267    | 340.0         | 300              | Asbestos Ce | 110            | Open              | 49.19              | 0.81            | 2.37                        | 0.70              |
| P-311      | J-267      | J-268    | 600.0         | 300              | Asbestos Ce | 110            | Open              | 47.39              | 1.33            | 2.21                        | 0.67              |
| P-313      | J-268      | J-270    | 700.0         | 300              | Asbestos Ce | 110            | Open              | 27.78              | 0.58            | 0.82                        | 0.39              |
| P-314      | J-270      | J-271    | 245.0         | 300              | Asbestos Ce | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-315      | J-239      | J-271    | 420.0         | 300              | Asbestos Ce | 110            | Open              | 44.81              | 0.84            | 1.99                        | 0.63              |
| P-316      | J-271      | J-272    | 145.0         | 200              | Asbestos Ce | 110            | Open              | 17.03              | 0.35            | 2.40                        | 0.54              |
| P-317      | J-272      | J-273    | 490.0         | 200              | Asbestos Ce | 110            | Open              | 5.46               | 0.14            | 0.29                        | 0.17              |
| P-318      | J-274      | J-273    | 195.0         | 200              | Asbestos Ce | 110            | Open              | 10.53              | 0.19            | 0.99                        | 0.34              |
| P-319      | J-274      | J-272    | 245.0         | 200              | Asbestos Ce | 110            | Open              | 4.43               | 0.05            | 0.20                        | 0.14              |
| P-320-1    | J-359      | J-274    | 110.0         | 200              | PVC         | 130            | Open              | 30.96              | 0.59            | 5.32                        | 0.99              |
| P-320-2    | J-275      | J-359    | 70.0          | 200              | PVC         | 130            | Open              | 9.26               | 0.04            | 0.57                        | 0.29              |
| P-321      | J-276      | J-275    | 325.0         | 200              | Asbestos Ce | 110            | Open              | 25.25              | 1.62            | 4.97                        | 0.80              |
| P-322      | J-277      | J-276    | 115.0         | 200              | Asbestos Ce | 110            | Open              | 41.25              | 1.42            | 12.32                       | 1.31              |
| P-323      | J-277      | J-278    | 120.0         | 200              | Asbestos Ce | 110            | Open              | 15.99              | 0.26            | 2.14                        | 0.51              |
| P-324      | J-288      | J-360    | 430.0         | 200              | PVC         | 130            | Open              | 34.10              | 2.74            | 6.36                        | 1.09              |
| P-328      | J-282      | J-283    | 350.0         | 450              | Asbestos Ce | 110            | Open              | 219.40             | 1.83            | 5.23                        | 1.38              |
| P-329      | J-283      | J-284    | 570.0         | 450              | Asbestos Ce | 110            | Open              | 164.84             | 1.78            | 3.08                        | 1.04              |
| P-330      | J-284      | J-285    | 260.0         | 450              | Asbestos Ce | 110            | Open              | 110.28             | 0.38            | 1.46                        | 0.69              |
| P-331      | J-285      | J-286    | 730.0         | 450              | Asbestos Ce | 110            | Open              | 157.22             | 2.06            | 2.82                        | 0.99              |
| P-332      | J-286      | J-287    | 975.0         | 450              | Asbestos Ce | 110            | Open              | 140.24             | 2.23            | 2.28                        | 0.88              |
| P-333      | J-287      | J-288    | 535.0         | 450              | Asbestos Ce | 110            | Open              | 152.77             | 1.43            | 2.68                        | 0.96              |
| P-334      | J-288      | J-289    | 745.0         | 450              | Asbestos Ce | 110            | Open              | 159.70             | 2.16            | 2.91                        | 1.00              |
| P-335      | J-289      | J-290    | 650.0         | 450              | Asbestos Ce | 110            | Open              | 187.87             | 2.55            | 3.92                        | 1.18              |
| P-336      | J-290      | J-291    | 780.0         | 450              | Asbestos Ce | 110            | Open              | 161.12             | 2.30            | 2.95                        | 1.01              |
| P-337      | J-291      | J-292    | 325.0         | 450              | Asbestos Ce | 110            | Open              | 134.36             | 0.69            | 2.11                        | 0.84              |
| P-338      | J-292      | J-293    | 1,300.0       | 450              | Asbestos Ce | 110            | Open              | 37.97              | 0.26            | 0.20                        | 0.24              |
| P-339      | J-285      | J-294    | 780.0         | 450              | Asbestos Ce | 110            | Open              | 149.88             | 2.02            | 2.58                        | 0.94              |
| P-340      | J-294      | J-295    | 650.0         | 450              | Asbestos Ce | 110            | Open              | 132.90             | 1.34            | 2.07                        | 0.84              |
| P-341      | J-295      | J-296    | 160.0         | 450              | Asbestos Ce | 110            | Open              | 115.93             | 0.26            | 1.61                        | 0.73              |
| P-342      | J-296      | J-297    | 2,755.0       | 200              | PVC         | 130            | Open              | 21.91              | 7.73            | 2.81                        | 0.70              |
| P-343      | J-297      | J-298    | 975.0         | 200              | PVC         | 130            | Open              | 18.06              | 1.91            | 1.96                        | 0.57              |
| P-344      | J-298      | J-299    | 405.0         | 200              | PVC         | 130            | Open              | 32.36              | 2.34            | 5.78                        | 1.03              |
| P-345      | J-296      | J-300    | 700.0         | 200              | PVC         | 130            | Open              | 22.95              | 2.14            | 3.06                        | 0.73              |
| P-346      | J-300      | J-301    | 810.0         | 200              | PVC         | 130            | Open              | 21.32              | 2.16            | 2.67                        | 0.68              |

**Pipe Report**

| Link Label | Start Node        | End Node         | Length<br>(m) | Diameter<br>(mm) | Material     | Roughness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|-------------------|------------------|---------------|------------------|--------------|----------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-347      | J-301             | J-302            | 810.0         | 200              | PVC          | 130            | Open              | 21.93              | 2.28            | 2.81                        | 0.70              |
| P-348      | J-296             | J-303            | 325.0         | 200              | PVC          | 130            | Open              | 49.90              | 4.18            | 12.87                       | 1.59              |
| P-349      | J-303             | J-304            | 80.0          | 200              | PVC          | 130            | Open              | 32.92              | 0.48            | 5.96                        | 1.05              |
| P-350      | J-304             | J-305            | 325.0         | 200              | PVC          | 130            | Open              | 16.98              | 0.57            | 1.75                        | 0.54              |
| P-351      | J-306             | J-304            | 295.0         | 200              | PVC          | 130            | Open              | 1.04               | 0.00            | 0.01                        | 0.03              |
| P-352      | J-306             | J-307            | 325.0         | 200              | PVC          | 130            | Open              | 16.98              | 0.57            | 1.75                        | 0.54              |
| P-353      | J-306             | J-308            | 130.0         | 200              | PVC          | 130            | Open              | 50.94              | 1.74            | 13.37                       | 1.62              |
| P-354      | J-308             | J-309            | 325.0         | 200              | PVC          | 130            | Open              | 16.98              | 0.57            | 1.75                        | 0.54              |
| P-355      | J-308             | J-310            | 295.0         | 200              | PVC          | 130            | Open              | 16.98              | 0.52            | 1.75                        | 0.54              |
| P-357      | J-114             | J-109            | 165.0         | 200              | PVC          | 130            | Open              | 1.27               | 0.00            | 0.01                        | 0.04              |
| P-361      | J-52              | R-2              | 30.0          | 200              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-362      | R-2               | PMP-3-In         | 10.0          | 200              | PVC          | 130            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-363      | PMP-3-Out         | J-51             | 20.0          | 150              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-364      | J-122             | PMP-4-Out        | 20.0          | 150              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-365      | J-124             | PMP-5-Out        | 30.0          | 300              | Asbestos Ce  | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-368      | J-350             | J-281            | 400.0         | 450              | Ductile Iron | 110            | Open              | 245.33             | 2.57            | 6.43                        | 1.54              |
| P-369      | J-281             | J-282            | 251.5         | 450              | Asbestos Ce  | 110            | Open              | 273.97             | 1.98            | 7.89                        | 1.72              |
| P-371      | J-228             | J-311            | 368.5         | 450              | Asbestos Ce  | 110            | Open              | 154.56             | 1.01            | 2.73                        | 0.97              |
| P-372      | J-220             | PMP-8-Out        | 170.0         | 200              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-373      | J-195             | PMP-10-Out       | 50.0          | 200              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-374      | J-225             | PMP-11-Out       | 1,200.0       | 150              | PVC          | 130            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-375      | J-202             | PMP-12-Out       | 170.0         | 200              | PVC          | 130            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-376      | J-201             | PMP-13-Out       | 150.0         | 200              | PVC          | 130            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-378      | J-246             | PMP-14-Out       | 10.0          | 150              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-379      | J-262             | R-5              | 20.0          | 200              | PVC          | 130            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-380      | J-258             | T-5              | 10.0          | 150              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-382      | J-311             | TCV-8-In         | 160.0         | 450              | Asbestos Ce  | 110            | Open              | 100.00             | 0.20            | 1.22                        | 0.63              |
| P-383      | J-281             | TCV-9-In         | 100.0         | 450              | Asbestos Ce  | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-384      | TCV-9-Out         | J-311            | 100.0         | 450              | Asbestos Ce  | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-385      | J-311             | J-279            | 520.0         | 200              | PVC          | 130            | Open              | 54.56              | 7.89            | 15.18                       | 1.74              |
| P-387      | J-39              | TCV-12-Out       | 200.5         | 450              | Asbestos Ce  | 110            | Open              | 77.65              | 0.15            | 0.77                        | 0.49              |
| P-388      | J-312             | J-30             | 150.5         | 450              | Asbestos Ce  | 110            | Open              | 77.65              | 0.12            | 0.77                        | 0.49              |
| P-389      | TCV-12-In         | J-312            | 219.0         | 450              | Asbestos Ce  | 110            | Open              | 77.65              | 0.17            | 0.77                        | 0.49              |
| P-391      | J-313             | J-32             | 66.5          | 450              | Asbestos Ce  | 110            | Open              | 92.27              | 0.07            | 1.05                        | 0.58              |
| P-392      | J-312             | TCV-13-Out       | 10.0          | 450              | Asbestos Ce  | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-393      | J-313             | TCV-13-In        | 10.0          | 450              | Asbestos Ce  | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-394      | PMP-1-DhakaTR-Out | TCV-14-In        | 43.5          | 450              | Asbestos Ce  | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-395      | J-313             | TCV-14-Out       | 40.0          | 450              | Asbestos Ce  | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-404      | J-94              | J-99             | 1,010.0       | 300              | Ductile Iron | 110            | Open              | 19.71              | 0.44            | 0.44                        | 0.28              |
| P-405      | J-99              | J-101            | 595.0         | 300              | Ductile Iron | 110            | Open              | 4.59               | 0.02            | 0.03                        | 0.06              |
| P-407      | J-175             | T-ADC Hill       | 200.0         | 300              | Ductile Iron | 110            | Open              | 16.27              | 0.06            | 0.31                        | 0.23              |
| P-413      | J-60              | J-324            | 950.0         | 300              | Asbestos Ce  | 110            | Open              | 29.09              | 0.85            | 0.90                        | 0.41              |
| P-414      | J-324             | J-325            | 750.0         | 200              | PVC          | 130            | Open              | 5.82               | 0.18            | 0.24                        | 0.19              |
| P-415      | J-59              | J-326            | 550.0         | 300              | Asbestos Ce  | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-416      | J-324             | J-326            | 200.0         | 300              | Asbestos Ce  | 110            | Open              | 17.46              | 0.07            | 0.35                        | 0.25              |
| P-421      | J-77              | J-59             | 10.0          | 300              | Asbestos Ce  | 110            | Open              | 77.03              | 0.05            | 5.43                        | 1.09              |
| P-422      | J-328             | J-150            | 55.0          | 200              | PVC          | 130            | Open              | 9.46               | 0.03            | 0.59                        | 0.30              |
| P-423      | J-328             | J-151            | 1,000.0       | 200              | PVC          | 130            | Open              | 32.13              | 5.70            | 5.70                        | 1.02              |
| P-424      | J-328             | J-81             | 350.0         | 200              | PVC          | 130            | Open              | 36.66              | 2.55            | 7.27                        | 1.17              |
| P-427      | J-39              | PMP-1-DhakaTR-In | 300.0         | 450              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-429      | J-39              | J-313            | 385.0         | 450              | Ductile Iron | 110            | Open              | 92.27              | 0.41            | 1.05                        | 0.58              |
| P-431      | J-150             | J-333            | 325.0         | 200              | PVC          | 130            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-432      | J-333             | J-329            | 480.0         | 200              | PVC          | 130            | Open              | 5.82               | 0.12            | 0.24                        | 0.19              |
| P-434      | J-8               | J-334            | 970.0         | 900              | Ductile Iron | 110            | Open              | 967.18             | 2.70            | 2.78                        | 1.52              |
| P-435      | J-334             | J-9              | 920.0         | 900              | Ductile Iron | 110            | Open              | 967.18             | 2.56            | 2.78                        | 1.52              |
| P-438      | J-335             | J-77             | 900.0         | 600              | Asbestos Ce  | 110            | Open              | 426.31             | 3.96            | 4.40                        | 1.51              |
| P-440      | J-358             | J-336            | 55.0          | 600              | Ductile Iron | 110            | Open              | 950.31             | 1.07            | 19.40                       | 3.36              |
| P-446      | J-268             | J-321            | 660.0         | 300              | Ductile Iron | 110            | Open              | 78.23              | 3.69            | 5.59                        | 1.11              |
| P-447      | J-321             | J-269            | 150.0         | 300              | Ductile Iron | 110            | Open              | 47.73              | 0.34            | 2.24                        | 0.68              |
| P-453      | J-341             | J-277            | 480.0         | 300              | Asbestos Ce  | 110            | Open              | 73.24              | 2.37            | 4.95                        | 1.04              |
| P-454      | J-341             | T-4              | 20.0          | 200              | Mild Steel   | 100            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-457      | R-9               | PMP-2-In         | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-458      | R-10              | PMP-4-In         | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-459      | R-11              | PMP-5-In         | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-480      | R-12              | PMP-8-In         | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-481      | R-13              | PMP-10-In        | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-462      | R-14              | PMP-11-In        | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-463      | R-15              | PMP-12-In        | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-464      | R-16              | PMP-13-In        | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-465      | R-17              | PMP-14-In        | 10.0          | 200              | Mild Steel   | 100            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-466      | J-362             | PMP-Pat-1-In     | 5.0           | 250              | Ductile Iron | 110            | Open              | 122.66             | 0.16            | 31.22                       | 2.50              |
| P-467      | J-362             | PMP-Pat-N1-In    | 5.0           | 400              | Ductile Iron | 110            | Open              | 324.57             | 0.10            | 19.15                       | 2.58              |
| P-468      | J-373             | PMP-Mo-1-In      | 5.0           | 400              | Mild Steel   | 100            | Open              | 284.69             | 0.09            | 17.92                       | 2.27              |
| P-480      | J-44              | J-330            | 785.0         | 600              | Ductile Iron | 110            | Open              | 403.30             | 3.12            | 3.97                        | 1.43              |
| P-481      | J-330             | J-11             | 10.0          | 600              | Ductile Iron | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-482      | J-337             | J-111            | 190.0         | 300              | Ductile Iron | 110            | Open              | 74.49              | 0.97            | 5.11                        | 1.05              |

**Pipe Report**

| Link Label | Start Node         | End Node           | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|--------------------|--------------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-483      | J-337              | J-112              | 483.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-485      | J-10               | J-338              | 10.0          | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-486      | J-338              | J-115              | 995.0         | 300              | Ductile Iron | 110                 | Open              | 58.61              | 3.28            | 3.28                        | 0.83              |
| P-488      | J-91               | J-339              | 140.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-489      | J-339              | J-92               | 240.0         | 300              | Ductile Iron | 110                 | Open              | 105.53             | 2.33            | 9.73                        | 1.49              |
| P-491      | J-9                | J-340              | 10.0          | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-493      | J-258              | TCV-2-Out          | 72.0          | 200              | PVC          | 130                 | Open              | 5.64               | 0.02            | 0.23                        | 0.18              |
| P-494      | J-281              | TCV-3-In           | 2.5           | 200              | PVC          | 130                 | Open              | 2.42               | 0.00            | 0.05                        | 0.08              |
| P-495      | TCV-3-Out          | J-254              | 2.5           | 200              | PVC          | 130                 | Open              | 2.42               | 0.00            | 0.05                        | 0.08              |
| P-498      | TCV-5-In           | J-84               | 5.0           | 600              | Asbestos Ce  | 110                 | Open              | 64.96              | 0.00            | 0.14                        | 0.23              |
| P-499      | J-146              | TCV-5-Out          | 5.0           | 600              | Asbestos Ce  | 110                 | Open              | 64.96              | 0.00            | 0.14                        | 0.23              |
| P-500      | J-77               | TCV-6-In           | 82.0          | 600              | Asbestos Ce  | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-501      | TCV-6-Out          | J-334              | 118.0         | 600              | Asbestos Ce  | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-502      | TCV-7-In           | J-333              | 4.0           | 200              | PVC          | 130                 | Open              | 11.64              | 0.00            | 0.87                        | 0.37              |
| P-503      | J-326              | TCV-7-Out          | 11.0          | 200              | PVC          | 130                 | Open              | 11.64              | 0.01            | 0.87                        | 0.37              |
| P-509      | J-15               | J-342              | 552.5         | 600              | Ductile Iron | 110                 | Open              | 357.83             | 1.76            | 3.18                        | 1.27              |
| P-510      | J-342              | J-216              | 257.5         | 600              | Ductile Iron | 110                 | Open              | 357.83             | 0.82            | 3.18                        | 1.27              |
| P-514      | J-151              | J-343              | 245.5         | 300              | Ductile Iron | 110                 | Open              | 11.87              | 0.04            | 0.17                        | 0.17              |
| P-515      | J-343              | J-152              | 209.5         | 300              | Ductile Iron | 110                 | Open              | 64.36              | 0.82            | 3.90                        | 0.91              |
| P-536      | J-7                | PRV-2-In           | 20.0          | 300              | Ductile Iron | 110                 | Open              | 113.40             | 0.22            | 11.11                       | 1.60              |
| P-537      | PRV-2-Out          | J-74               | 225.0         | 300              | Ductile Iron | 110                 | Open              | 113.40             | 2.50            | 11.11                       | 1.60              |
| P-538      | J-101              | J-102              | 870.0         | 300              | Ductile Iron | 110                 | Open              | 33.70              | 1.02            | 1.18                        | 0.48              |
| P-555      | PMP-Pat-1-Out      | J-350              | 3.0           | 250              | Ductile Iron | 110                 | Open              | 122.66             | 2.00            | 667.38                      | 2.50              |
| P-556      | J-362              | PMP-Pat-2-In       | 5.0           | 250              | Ductile Iron | 110                 | Open              | 122.66             | 0.18            | 31.22                       | 2.50              |
| P-557      | PMP-Pat-2-Out      | J-350              | 3.0           | 250              | Ductile Iron | 110                 | Open              | 122.66             | 2.00            | 667.38                      | 2.50              |
| P-558      | PMP-Pat-N1-Out     | J-351              | 5.0           | 400              | Ductile Iron | 110                 | Open              | 324.57             | 2.13            | 426.93                      | 2.58              |
| P-560      | J-362              | PMP-Pat-N2-In      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 324.57             | 0.10            | 19.15                       | 2.58              |
| P-561      | PMP-Pat-N2-Out     | J-351              | 5.0           | 400              | Ductile Iron | 110                 | Open              | 324.57             | 2.13            | 426.93                      | 2.58              |
| P-579      | J-355              | TCV-15-In          | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-582      | J-177              | J-357              | 1,408.5       | 600              | Ductile Iron | 110                 | Open              | 499.04             | 8.30            | 5.89                        | 1.76              |
| P-583      | J-357              | J-226              | 591.5         | 600              | Ductile Iron | 110                 | Open              | 499.04             | 3.48            | 5.89                        | 1.76              |
| P-584      | J-358-Madunaghat   | T-Battali Hill     | 15,000.0      | 500              | Ductile Iron | 110                 | Open              | 526.16             | 236.82          | 15.79                       | 2.68              |
| P-585      | PMP-Kal-1-Out      | J-358              | 5.0           | 350              | Ductile Iron | 110                 | Open              | 124.73             | 0.54            | 108.98                      | 1.30              |
| P-587      | T-Kalurghat        | PMP-Kal-1-In       | 5.0           | 350              | Ductile Iron | 110                 | Open              | 124.73             | 0.03            | 6.25                        | 1.30              |
| P-588      | T-Kalurghat        | PMP-Kal-2-In       | 5.0           | 300              | Ductile Iron | 110                 | Open              | 169.53             | 2.17            | 433.61                      | 2.40              |
| P-589      | PMP-Kal-2-Out      | J-358              | 5.0           | 300              | Ductile Iron | 110                 | Open              | 169.53             | 1.88            | 375.00                      | 2.40              |
| P-590      | T-Kalurghat        | PMP-Kal-3-In       | 5.0           | 350              | Ductile Iron | 110                 | Open              | 193.66             | 0.07            | 14.11                       | 2.01              |
| P-591      | PMP-Kal-3-Out      | J-358              | 5.0           | 350              | Ductile Iron | 110                 | Open              | 193.66             | 1.31            | 261.77                      | 2.01              |
| P-592      | T-Kalurghat        | PMP-Kal-4-In       | 5.0           | 350              | Ductile Iron | 110                 | Open              | 193.66             | 0.07            | 14.11                       | 2.01              |
| P-593      | PMP-Kal-4-Out      | J-358              | 5.0           | 350              | Ductile Iron | 110                 | Open              | 193.66             | 1.31            | 261.77                      | 2.01              |
| P-594      | T-Kalurghat        | PMP-Kal-5-In       | 5.0           | 350              | Ductile Iron | 110                 | Open              | 268.74             | 0.13            | 25.87                       | 2.79              |
| P-595      | PMP-Kal-5-Out      | J-358              | 5.0           | 350              | Ductile Iron | 110                 | Open              | 268.74             | 2.51            | 502.78                      | 2.79              |
| P-596      | PMP-Kal-6-In       | T-Kalurghat        | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-597      | J-358              | PMP-Kal-6-Out      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-602      | PMP-Mo-1-Out       | J-1                | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 1.66            | 331.64                      | 2.27              |
| P-603      | J-1                | J-2                | 850.0         | 1,200            | Ductile Iron | 110                 | Open              | 1,138.75           | 0.79            | 0.93                        | 1.01              |
| P-604      | J-373              | PMP-Mo-2-In        | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 0.09            | 17.92                       | 2.27              |
| P-605      | PMP-Mo-2-Out       | J-1                | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 1.66            | 331.64                      | 2.27              |
| P-606      | J-373              | PMP-Mo-3-In        | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 0.09            | 17.92                       | 2.27              |
| P-607      | PMP-Mo-3-Out       | J-1                | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 1.66            | 331.64                      | 2.27              |
| P-608      | J-373              | PMP-Mo-4-In        | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 0.09            | 17.92                       | 2.27              |
| P-609      | PMP-Mo-4-Out       | J-1                | 5.0           | 400              | Mild Steel   | 100                 | Open              | 284.69             | 1.66            | 331.64                      | 2.27              |
| P-611      | J-362-Kal          | T-Kalurghat        | 5.0           | 1,000            | Ductile Iron | 110                 | Open              | 631.39             | 0.00            | 0.76                        | 0.80              |
| P-614      | J-360              | J-381              | 340.0         | 200              | PVC          | 130                 | Open              | 23.86              | 1.12            | 3.29                        | 0.76              |
| P-615      | J-361              | J-279              | 770.0         | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-619      | J-374              | PMP-N.Mohara-1-In  | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 0.26            | 51.83                       | 3.69              |
| P-621      | PMP-N.Mohara-1-Out | J-331-New Mohara   | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 4.42            | 883.47                      | 3.69              |
| P-622      | T-Patenga          | J-362              | 30.0          | 600              | Ductile Iron | 110                 | Open              | 894.47             | 0.52            | 17.34                       | 3.16              |
| P-623      | J-374              | PMP-N.Mohara-2-In  | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 0.26            | 51.83                       | 3.69              |
| P-623-2    | PSV-Dmy1-Out       | T-Khulshi-el       | 0.5           | 700              | Ductile Iron | 110                 | Open              | 730.94             | 0.00            | 5.63                        | 1.90              |
| P-629      | PMP-N.Mohara-2-Out | J-331-New Mohara   | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 4.42            | 883.47                      | 3.69              |
| P-630      | J-374              | PMP-N.Mohara-3-In  | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 0.26            | 51.83                       | 3.69              |
| P-631      | TCV-8-Out          | J-363              | 146.5         | 450              | Ductile Iron | 110                 | Open              | 100.00             | 0.18            | 1.22                        | 0.63              |
| P-632      | PMP-N.Mohara-3-Out | J-331-New Mohara   | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 4.42            | 883.47                      | 3.69              |
| P-635      | J-374              | PMP-N.Mohara-4-In  | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 0.26            | 51.83                       | 3.69              |
| P-636      | PMP-N.Mohara-4-Out | J-331-New Mohara   | 5.0           | 300              | Ductile Iron | 110                 | Open              | 260.73             | 4.42            | 883.47                      | 3.69              |
| P-637      | J-383              | FCV-2-In           | 300.0         | 450              | Ductile Iron | 110                 | Open              | 100.00             | 0.37            | 1.22                        | 0.63              |
| P-638      | FCV-2-Out          | T-Patenga          | 0.5           | 450              | Ductile Iron | 110                 | Open              | 100.00             | 0.00            | 1.22                        | 0.63              |
| P-644      | PMP-Mo-5-In        | J-373              | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-645      | J-1                | PMP-Mo-5-Out       | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-646      | PMP-N.Mohara-5-In  | J-374              | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-647      | J-331-New Mohara   | PMP-N.Mohara-5-Out | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-652      | J-227              | TCV-16-In          | 0.5           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-653      | J-383              | TCV-16-Out         | 0.5           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-656      | J-331              | J-202              | 420.0         | 450              | Ductile Iron | 110                 | Open              | 84.53              | 0.38            | 0.90                        | 0.53              |
| P-657      | J-170              | J-331              | 1,010.0       | 450              | Ductile Iron | 110                 | Open              | 84.53              | 0.90            | 0.90                        | 0.53              |

**Pipe Report**

| Link Label | Start Node       | End Node       | Length<br>(m) | Diameter<br>(mm) | Material     | Roughness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------------|----------------|---------------|------------------|--------------|----------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-658      | J-193            | J-332          | 89.0          | 300              | Ductile Iron | 110            | Open              | 3.28               | 0.00            | 0.02                        | 0.05              |
| P-659      | J-332            | J-195          | 61.0          | 300              | Ductile Iron | 110            | Open              | 3.28               | 0.00            | 0.02                        | 0.05              |
| P-660      | J-353            | PMP-Khu-1-In   | 5.0           | 300              | Ductile Iron | 110            | Open              | 243.64             | 0.23            | 45.72                       | 3.45              |
| P-662      | PMP-Khu-1-Out    | J-352          | 5.0           | 300              | Ductile Iron | 110            | Open              | 243.64             | 3.86            | 771.95                      | 3.45              |
| P-664      | J-352            | PSV-Dmy1-In    | 80.0          | 700              | Ductile Iron | 110            | Open              | 730.93             | 0.45            | 5.63                        | 1.90              |
| P-665      | J-353            | PMP-Khu-2-In   | 5.0           | 300              | Ductile Iron | 110            | Open              | 243.64             | 0.23            | 45.72                       | 3.45              |
| P-666      | PMP-Khu-2-Out    | J-352          | 5.0           | 300              | Ductile Iron | 110            | Open              | 243.64             | 3.86            | 771.95                      | 3.45              |
| P-667      | J-353            | PMP-Khu-3-In   | 5.0           | 300              | Ductile Iron | 110            | Open              | 243.64             | 0.23            | 45.72                       | 3.45              |
| P-668      | PMP-Khu-3-Out    | J-352          | 5.0           | 300              | Ductile Iron | 110            | Open              | 243.64             | 3.86            | 771.95                      | 3.45              |
| P-669      | J-353            | PMP-Khu-4-In   | 5.0           | 300              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-670      | PMP-Khu-4-Out    | J-352          | 5.0           | 300              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-672      | T-Khulshi-gr     | J-364          | 5.0           | 1,000            | Ductile Iron | 110            | Open              | 1,640.99           | 0.02            | 4.43                        | 2.09              |
| P-673      | J-364            | J-353          | 50.0          | 900              | Ductile Iron | 110            | Open              | 730.93             | 0.08            | 1.66                        | 1.15              |
| P-682      | PSV-Dmy3-Out     | T-Khulshi-gr   | 0.5           | 900              | Ductile Iron | 110            | Open              | 1,042.90           | 0.00            | 3.20                        | 1.64              |
| P-683      | J-262            | J-255          | 10.0          | 200              | PVC          | 130            | Open              | 34.95              | 0.07            | 6.66                        | 1.11              |
| P-692      | J-340            | J-94           | 1,460.0       | 300              | Ductile Iron | 110            | Open              | 83.34              | 9.17            | 6.28                        | 1.18              |
| P-693      | J-368            | J-105          | 1,005.0       | 300              | Ductile Iron | 110            | Open              | 37.78              | 1.46            | 1.45                        | 0.53              |
| P-694      | J-106            | J-368          | 480.0         | 300              | Ductile Iron | 110            | Open              | 46.91              | 1.04            | 2.17                        | 0.66              |
| P-697      | J-369            | TCV-15-Out     | 5.0           | 600              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-698      | J-44             | J-369          | 20.0          | 600              | Ductile Iron | 110            | Open              | 233.44             | 0.03            | 1.44                        | 0.83              |
| P-699      | J-369            | TCV-4-In       | 2.5           | 300              | Ductile Iron | 110            | Open              | 233.44             | 0.11            | 42.24                       | 3.30              |
| P-700      | TCV-4-Out        | J-52           | 2.5           | 300              | Ductile Iron | 110            | Open              | 233.44             | 0.11            | 42.24                       | 3.30              |
| P-701      | PMP-Pat-3-In     | J-362          | 5.0           | 250              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-702      | J-350            | PMP-Pat-3-Out  | 3.0           | 250              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-703      | PMP-Pat-N3-In    | J-362          | 5.0           | 400              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-704      | J-351            | PMP-Pat-N3-Out | 5.0           | 400              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-707      | J-46             | J-370          | 585.0         | 200              | PVC          | 130            | Open              | 16.77              | 1.00            | 1.71                        | 0.53              |
| P-708      | J-371            | J-45           | 85.0          | 200              | PVC          | 130            | Open              | 8.39               | 0.04            | 0.47                        | 0.27              |
| P-709      | J-370            | J-371          | 450.0         | 200              | PVC          | 130            | Open              | 8.39               | 0.21            | 0.47                        | 0.27              |
| P-710      | J-336            | J-372          | 654.0         | 600              | Asbestos Ce  | 110            | Open              | 512.37             | 4.05            | 6.19                        | 1.81              |
| P-711      | J-372            | J-147          | 196.0         | 600              | Asbestos Ce  | 110            | Open              | 289.33             | 0.42            | 2.15                        | 1.02              |
| P-714      | J-361-Mohara     | T-Mohara       | 5.0           | 600              | Ductile Iron | 110            | Open              | 1,052.31           | 0.12            | 23.42                       | 3.72              |
| P-715      | T-Mohara         | J-373          | 10.0          | 600              | Ductile Iron | 110            | Open              | 1,138.75           | 0.27            | 27.10                       | 4.03              |
| P-716      | J-332-New Mohara | T-New Mohara   | 5.0           | 600              | Ductile Iron | 110            | Open              | 1,052.31           | 0.12            | 23.42                       | 3.72              |
| P-717      | T-New Mohara     | J-374          | 10.0          | 800              | Ductile Iron | 110            | Open              | 1,042.90           | 0.06            | 5.67                        | 2.07              |
| P-2000T1   | J-331-New Mohara | J-354          | 10,400.0      | 900              | Ductile Iron | 110            | Open              | 1,042.90           | 33.26           | 3.20                        | 1.64              |
| P-2000T2   | J-354            | J-365          | 4,445.0       | 900              | Ductile Iron | 110            | Open              | 1,042.90           | 14.21           | 3.20                        | 1.64              |
| P-2000T3   | J-365            | PSV-Dmy3-In    | 200.0         | 900              | Ductile Iron | 110            | Open              | 1,042.90           | 0.64            | 3.20                        | 1.64              |
| P-2001-1   | J-4              | PRV-1-In       | 10.0          | 300              | Ductile Iron | 110            | Open              | 58.17              | 0.03            | 3.23                        | 0.82              |
| P-2001-2   | PRV-1-Out        | J-65           | 10.0          | 300              | Ductile Iron | 110            | Open              | 58.17              | 0.03            | 3.23                        | 0.82              |
| P-2002     | J-336            | J-335          | 15.0          | 600              | Asbestos Ce  | 110            | Open              | 432.13             | 0.07            | 4.51                        | 1.53              |
| P-2003     | J-372            | J-328          | 10.0          | 350              | Ductile Iron | 110            | Open              | 223.03             | 0.18            | 18.33                       | 2.32              |
| P-2004     | J-328            | J-81           | 350.0         | 350              | Ductile Iron | 110            | Open              | 135.33             | 2.55            | 7.27                        | 1.41              |
| P-2005     | J-81             | J-349          | 600.0         | 350              | Ductile Iron | 110            | Open              | 133.49             | 4.25            | 7.09                        | 1.39              |
| P-2006     | J-349            | J-348          | 600.0         | 300              | Ductile Iron | 110            | Open              | 101.51             | 5.43            | 9.05                        | 1.44              |
| P-2007     | J-85             | J-87           | 180.0         | 300              | Ductile Iron | 110            | Open              | 79.73              | 1.04            | 5.79                        | 1.13              |
| P-2008     | J-145            | J-343          | 20.0          | 300              | Ductile Iron | 110            | Open              | 104.27             | 0.19            | 9.51                        | 1.48              |
| P-2009     | J-343            | J-348          | 1,180.0       | 200              | PVC          | 130            | Open              | 31.52              | 6.49            | 5.50                        | 1.00              |
| P-2010     | J-348            | J-347          | 600.0         | 300              | Ductile Iron | 110            | Open              | 97.47              | 5.04            | 8.40                        | 1.38              |
| P-2011     | J-347            | J-346          | 600.0         | 250              | PVC          | 130            | Open              | 61.92              | 3.88            | 6.47                        | 1.26              |
| P-2012     | J-346            | J-345          | 1,100.0       | 250              | PVC          | 130            | Open              | 9.94               | 0.24            | 0.22                        | 0.20              |
| P-2013     | J-166            | J-345          | 840.0         | 250              | PVC          | 130            | Open              | 22.89              | 0.86            | 1.03                        | 0.47              |
| P-2014     | J-165            | J-166          | 295.0         | 250              | PVC          | 130            | Open              | 72.65              | 2.57            | 8.70                        | 1.48              |
| P-2015     | J-154            | J-165          | 740.0         | 350              | Ductile Iron | 110            | Open              | 182.65             | 9.37            | 12.67                       | 1.90              |
| P-2016     | J-142            | J-154          | 20.0          | 350              | Ductile Iron | 110            | Open              | 184.69             | 0.26            | 12.93                       | 1.92              |
| P-2017     | J-170            | J-156          | 20.0          | 400              | Ductile Iron | 110            | Open              | 187.81             | 0.14            | 6.96                        | 1.49              |
| P-2018     | T-ADC Hill       | J-179          | 200.0         | 300              | Ductile Iron | 110            | Open              | 42.19              | 0.38            | 1.78                        | 0.60              |
| P-2019     | J-94             | J-96           | 1,390.0       | 250              | PVC          | 130            | Open              | 42.41              | 4.47            | 3.21                        | 0.86              |
| P-2020     | J-102            | J-103          | 1,080.0       | 200              | PVC          | 130            | Open              | 15.80              | 1.66            | 1.53                        | 0.50              |
| P-2021     | J-105            | J-101          | 195.0         | 200              | PVC          | 130            | Open              | 35.43              | 1.33            | 6.83                        | 1.13              |
| P-2022     | J-368            | J-105          | 1,005.0       | 250              | PVC          | 130            | Open              | 27.63              | 1.46            | 1.45                        | 0.56              |
| P-2023     | J-106            | J-368          | 480.0         | 250              | PVC          | 130            | Open              | 34.30              | 1.04            | 2.17                        | 0.70              |
| P-2024     | J-107            | J-106          | 460.0         | 250              | PVC          | 130            | Open              | 40.98              | 1.39            | 3.01                        | 0.83              |
| P-2025     | J-115            | J-107          | 1,280.0       | 300              | Ductile Iron | 110            | Open              | 56.15              | 3.87            | 3.03                        | 0.79              |
| P-2026     | J-338            | J-115          | 995.0         | 300              | Ductile Iron | 110            | Open              | 58.61              | 3.26            | 3.28                        | 0.83              |
| P-2027     | J-339            | J-340          | 15.0          | 300              | Ductile Iron | 110            | Open              | 83.34              | 0.09            | 6.28                        | 1.18              |
| P-2028     | J-338            | J-339          | 1,108.0       | 500              | Ductile Iron | 110            | Open              | 188.87             | 2.63            | 2.37                        | 0.96              |
| P-2029     | J-337            | J-338          | 15.0          | 500              | Ductile Iron | 110            | Open              | 306.09             | 0.09            | 5.80                        | 1.56              |
| P-2030     | J-330            | J-337          | 895.0         | 600              | Ductile Iron | 110            | Open              | 380.58             | 3.19            | 3.57                        | 1.35              |
| P-2031     | T-Khulshi-el     | J-44           | 200.0         | 700              | Ductile Iron | 110            | Open              | 659.46             | 0.93            | 4.66                        | 1.71              |
| P-2032     | J-48             | J-46           | 430.0         | 300              | Ductile Iron | 110            | Open              | 70.03              | 1.96            | 4.55                        | 0.99              |
| P-2033     | J-46             | J-375          | 20.0          | 250              | PVC          | 130            | Open              | 41.87              | 0.06            | 3.14                        | 0.85              |
| P-2034     | J-375            | J-366          | 280.0         | 250              | Ductile Iron | 110            | Open              | 41.87              | 1.20            | 4.27                        | 0.85              |
| P-2035     | J-366            | J-367          | 270.0         | 200              | PVC          | 130            | Open              | 20.93              | 0.70            | 2.58                        | 0.67              |
| P-2036     | J-364            | J-355          | 230.0         | 1,000            | Ductile Iron | 110            | Open              | 910.06             | 0.34            | 1.49                        | 1.16              |
| P-2037     | J-355            | J-356          | 1,175.0       | 800              | Ductile Iron | 110            | Open              | 622.06             | 2.56            | 2.18                        | 1.24              |

**Pipe Report**

| Link Label | Start Node     | End Node    | Length<br>(m) | Diameter<br>(mm) | Material     | Roughness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|----------------|-------------|---------------|------------------|--------------|----------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-2038     | J-43           | J-356       | 5.0           | 300              | Ductile Iron | 110            | Open              | 118.08             | 0.06            | 11.97                       | 1.67              |
| P-2039     | J-356          | J-314       | 280.0         | 1,000            | Ductile Iron | 110            | Open              | 740.14             | 0.28            | 1.01                        | 0.94              |
| P-2040     | J-314          | J-315       | 270.0         | 1,000            | Ductile Iron | 110            | Open              | 740.14             | 0.27            | 1.02                        | 0.94              |
| P-2041     | J-315          | J-316       | 360.0         | 1,000            | Ductile Iron | 110            | Open              | 740.14             | 0.37            | 1.02                        | 0.94              |
| P-2042     | J-316          | J-317       | 390.0         | 900              | Ductile Iron | 110            | Open              | 719.21             | 0.63            | 1.61                        | 1.13              |
| P-2043     | J-317          | J-24        | 520.0         | 900              | Ductile Iron | 110            | Open              | 698.28             | 0.79            | 1.52                        | 1.10              |
| P-2044     | J-24           | J-248       | 1,000.0       | 800              | Ductile Iron | 110            | Open              | 562.46             | 1.81            | 1.81                        | 1.12              |
| P-2045     | J-248          | J-247       | 700.0         | 800              | Ductile Iron | 110            | Open              | 543.19             | 1.19            | 1.70                        | 1.08              |
| P-2046     | J-247          | J-244       | 90.0          | 600              | Ductile Iron | 110            | Open              | 270.44             | 0.17            | 1.90                        | 0.96              |
| P-2047     | J-244          | J-266       | 960.0         | 500              | Ductile Iron | 110            | Open              | 223.06             | 3.10            | 3.23                        | 1.14              |
| P-2048     | J-266          | J-267       | 340.0         | 500              | Ductile Iron | 110            | Open              | 188.74             | 0.81            | 2.37                        | 0.96              |
| P-2049     | J-267          | J-268       | 600.0         | 500              | Ductile Iron | 110            | Open              | 181.86             | 1.33            | 2.21                        | 0.93              |
| P-2050     | J-268          | J-360       | 430.0         | 250              | PVC          | 130            | Open              | 61.36              | 2.74            | 6.36                        | 1.25              |
| P-2051     | J-360          | J-361       | 340.0         | 200              | PVC          | 130            | Open              | 23.86              | 1.12            | 3.29                        | 0.76              |
| P-2052     | J-247          | J-250       | 490.0         | 500              | Ductile Iron | 110            | Open              | 221.52             | 1.56            | 3.19                        | 1.13              |
| P-2053     | J-250          | J-263       | 210.0         | 450              | Ductile Iron | 110            | Open              | 182.60             | 0.78            | 3.72                        | 1.15              |
| P-2054     | J-263          | J-259       | 600.0         | 450              | Ductile Iron | 110            | Open              | 159.94             | 1.75            | 2.91                        | 1.01              |
| P-2055     | J-259          | J-319       | 420.0         | 350              | Ductile Iron | 110            | Open              | 104.81             | 1.90            | 4.53                        | 1.09              |
| P-2056     | J-319          | J-320       | 500.0         | 300              | Ductile Iron | 110            | Open              | 64.95              | 1.98            | 3.96                        | 0.92              |
| P-2057     | J-320          | J-321       | 620.0         | 200              | PVC          | 130            | Open              | 17.22              | 1.12            | 1.80                        | 0.55              |
| P-2058     | TGV-2-In       | J-255       | 178.0         | 200              | PVC          | 130            | Open              | 5.64               | 0.04            | 0.23                        | 0.18              |
| P-2059     | J-255          | J-256       | 325.0         | 200              | PVC          | 130            | Open              | 23.14              | 1.01            | 3.11                        | 0.74              |
| P-2060-1   | J-227          | PSV-Dmy4-In | 300.0         | 600              | Ductile Iron | 110            | Open              | 499.04             | 1.77            | 5.89                        | 1.76              |
| P-2060-2   | PSV-Dmy4-Out   | T-Patenga   | 0.5           | 600              | Ductile Iron | 110            | Open              | 499.04             | 0.00            | 5.89                        | 1.76              |
| P-2061     | J-351          | J-281       | 400.0         | 800              | Ductile Iron | 110            | Open              | 649.14             | 0.94            | 2.36                        | 1.29              |
| P-2062     | J-281          | J-285       | 1,430.0       | 700              | Ductile Iron | 110            | Open              | 620.50             | 5.95            | 4.16                        | 1.61              |
| P-2063     | J-285          | J-287       | 1,705.0       | 400              | Ductile Iron | 110            | Open              | 108.34             | 4.29            | 2.51                        | 0.86              |
| P-2064     | J-287          | J-288       | 535.0         | 350              | Ductile Iron | 110            | Open              | 78.83              | 1.43            | 2.68                        | 0.82              |
| P-2065     | J-288          | J-289       | 745.0         | 300              | Ductile Iron | 110            | Open              | 54.92              | 2.16            | 2.91                        | 0.78              |
| P-2066     | J-285          | J-296       | 1,590.0       | 600              | Ductile Iron | 110            | Open              | 298.36             | 3.62            | 2.27                        | 1.06              |
| P-2067     | J-296          | J-306       | 700.0         | 300              | Ductile Iron | 110            | Open              | 85.93              | 4.66            | 6.65                        | 1.22              |
| P-2068     | J-296          | J-300       | 700.0         | 500              | Ductile Iron | 110            | Open              | 216.62             | 2.14            | 3.06                        | 1.10              |
| P-2069     | J-300          | J-301       | 810.0         | 500              | Ductile Iron | 110            | Open              | 201.27             | 2.16            | 2.67                        | 1.03              |
| P-2070     | J-301          | J-302       | 810.0         | 450              | Ductile Iron | 110            | Open              | 156.92             | 2.28            | 2.81                        | 0.99              |
| P-2071     | J-302          | J-297       | 435.0         | 450              | Ductile Iron | 110            | Open              | 152.10             | 1.15            | 2.65                        | 0.96              |
| P-2072     | J-297          | J-298       | 975.0         | 450              | Ductile Iron | 110            | Open              | 129.20             | 1.91            | 1.96                        | 0.81              |
| P-2073     | J-298          | J-299       | 405.0         | 200              | PVC          | 130            | Open              | 32.36              | 2.34            | 5.78                        | 1.03              |
| P-2074     | J-298          | J-327       | 1,170.0       | 350              | Ductile Iron | 110            | Open              | 55.79              | 1.65            | 1.41                        | 0.58              |
| P-2075     | J-327          | J-323       | 750.0         | 200              | PVC          | 130            | Open              | 12.06              | 0.70            | 0.93                        | 0.38              |
| P-2076     | J-292          | J-323       | 1,170.0       | 250              | PVC          | 130            | Open              | 31.67              | 2.19            | 1.87                        | 0.65              |
| P-2077     | T-Battali Hill | J-15        | 450.0         | 800              | Ductile Iron | 110            | Open              | 1,305.01           | 3.87            | 8.59                        | 2.60              |
| P-2078     | J-15           | J-17        | 1,220.0       | 600              | Ductile Iron | 110            | Open              | 451.57             | 5.97            | 4.90                        | 1.60              |
| P-2079     | J-17           | J-225       | 845.0         | 350              | Ductile Iron | 110            | Open              | 109.86             | 4.18            | 4.95                        | 1.14              |
| P-2080     | J-17           | J-18        | 80.0          | 700              | Ductile Iron | 110            | Open              | 622.26             | 0.33            | 4.18                        | 1.62              |
| P-2081     | J-18           | J-234       | 650.0         | 700              | Ductile Iron | 110            | Open              | 528.74             | 2.01            | 3.09                        | 1.37              |
| P-2082     | J-234          | J-233       | 585.0         | 600              | Ductile Iron | 110            | Open              | 352.61             | 1.81            | 3.10                        | 1.25              |
| P-2083     | J-233          | J-230       | 65.0          | 600              | Ductile Iron | 110            | Open              | 311.24             | 0.16            | 2.46                        | 1.10              |
| P-2084     | J-230          | J-341       | 500.0         | 300              | Ductile Iron | 110            | Open              | 89.23              | 3.57            | 7.13                        | 1.26              |
| P-2085     | J-230          | J-229       | 890.0         | 450              | Ductile Iron | 110            | Open              | 143.88             | 2.13            | 2.40                        | 0.90              |
| P-2086     | J-239          | J-359       | 200.0         | 200              | PVC          | 130            | Open              | 21.70              | 0.55            | 2.76                        | 0.69              |

## Detailed Report for Tank: T-Mohara

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                              |   |                      |                   |                        |   |                         |                          |          |
|------------------------------|------------------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|----------|
| Label                        | Base                         |   |                      |                   |                        |   |                         |                          |          |
| Demand Alternative           | Base-Average Daily           |   |                      |                   |                        |   |                         |                          |          |
| Physical Alternative         | Base-Physical                |   |                      |                   |                        |   |                         |                          |          |
| Initial Settings Alternative | Base-Initial Settings        |   |                      |                   |                        |   |                         |                          |          |
| Operational Alternative      | Base-Operational             |   |                      |                   |                        |   |                         |                          |          |
| Age Alternative              | Base-Age Alternative         |   |                      |                   |                        |   |                         |                          |          |
| Constituent Alternative      | Base-Constituent             |   |                      |                   |                        |   |                         |                          |          |
| Trace Alternative            | Base-Trace Alternative       |   |                      |                   |                        |   |                         |                          |          |
| Fire Flow Alternative        | Base-Fire Flow               |   |                      |                   |                        |   |                         |                          |          |
| Calibration Summary          |                              |   |                      |                   |                        |   |                         |                          |          |
| Demand                       | <none>                       | Roughness                               |                      |                   |                        |   |                         |                          |          |
| Geometric Summary            |                              |   |                      |                   |                        |   |                         |                          |          |
| X                            | 777.38 m                     | Base Elevation                          | 2.00                 |                   |                        |   |                         |                          |          |
| Y                            | 797.55 m                     | Zone                                    | Zone-1               |                   |                        |   |                         |                          |          |
| Connecting Pipes             |                              |   |                      |                   |                        |   |                         |                          |          |
| P-714                        |                              |   |                      |                   |                        |   |                         |                          |          |
| P-715                        |                              |   |                      |                   |                        |   |                         |                          |          |
| Operating Range Summary      |                              |   |                      |                   |                        |   |                         |                          |          |
| Maximum Elevation            | 5.33 m                       | Maximum Level                           | 3.33                 |                   |                        |   |                         |                          |          |
| Initial Elevation            | 3.50 m                       | Initial Level                           | 1.50                 |                   |                        |   |                         |                          |          |
| Minimum Elevation            | 2.45 m                       | Minimum Level                           | 0.45                 |                   |                        |   |                         |                          |          |
| Storage Summary              |                              |   |                      |                   |                        |   |                         |                          |          |
| Type                         | Constant Area                | Cross Section                           | Circular             |                   |                        |   |                         |                          |          |
| Tank Diameter                | 2,332.00 m                   | Average Area                            | 4,271,171.3          |                   |                        |   |                         |                          |          |
| Inactive Volume              | 0.00 m <sup>3</sup>          | Total Active Volume                     | 12,300,972.79        |                   |                        |   |                         |                          |          |
| Total Storage Capacity       | 12,300,972.79 m <sup>3</sup> |   |                      |                   |                        |   |                         |                          |          |
| Calculated Results Summary   |                              |   |                      |                   |                        |   |                         |                          |          |
| Time                         | Constituent<br>(mg/l)        | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status   |
| 0.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.67             | 36.5                   | 4,484,729.78                                      | 127.55                  | N/A                      | Filling  |
| 1.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.67             | 36.5                   | 4,485,196.60                                      | 132.23                  | N/A                      | Filling  |
| 2.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,485,680.80                                      | 137.40                  | N/A                      | Filling  |
| 3.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,183.63                                      | 142.66                  | N/A                      | Filling  |
| 4.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,705.07                                      | 148.27                  | N/A                      | Filling  |
| 5.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,487,242.66                                      | 150.97                  | N/A                      | Filling  |
| 6.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,487,780.25                                      | N/A                     | 58.44                    | Draining |
| 7.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,487,561.74                                      | N/A                     | 67.84                    | Draining |
| 8.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,487,304.74                                      | N/A                     | 78.81                    | Draining |
| 9.00 hr                      | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,487,012.96                                      | N/A                     | 86.44                    | Draining |
| 10.00 hr                     | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,695.14                                      | N/A                     | 90.19                    | Draining |
| 11.00 hr                     | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,367.37                                      | N/A                     | 91.77                    | Draining |
| 12.00 hr                     | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,039.61                                      | N/A                     | 89.76                    | Draining |
| 13.00 hr                     | N/A                          | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,485,718.05                                      | N/A                     | 88.37                    | Draining |
| 14.00 hr                     | N/A                          | 3.50                                    | 1.50                 | 14.67             | 36.5                   | 4,485,402.65                                      | N/A                     | 86.23                    | Draining |



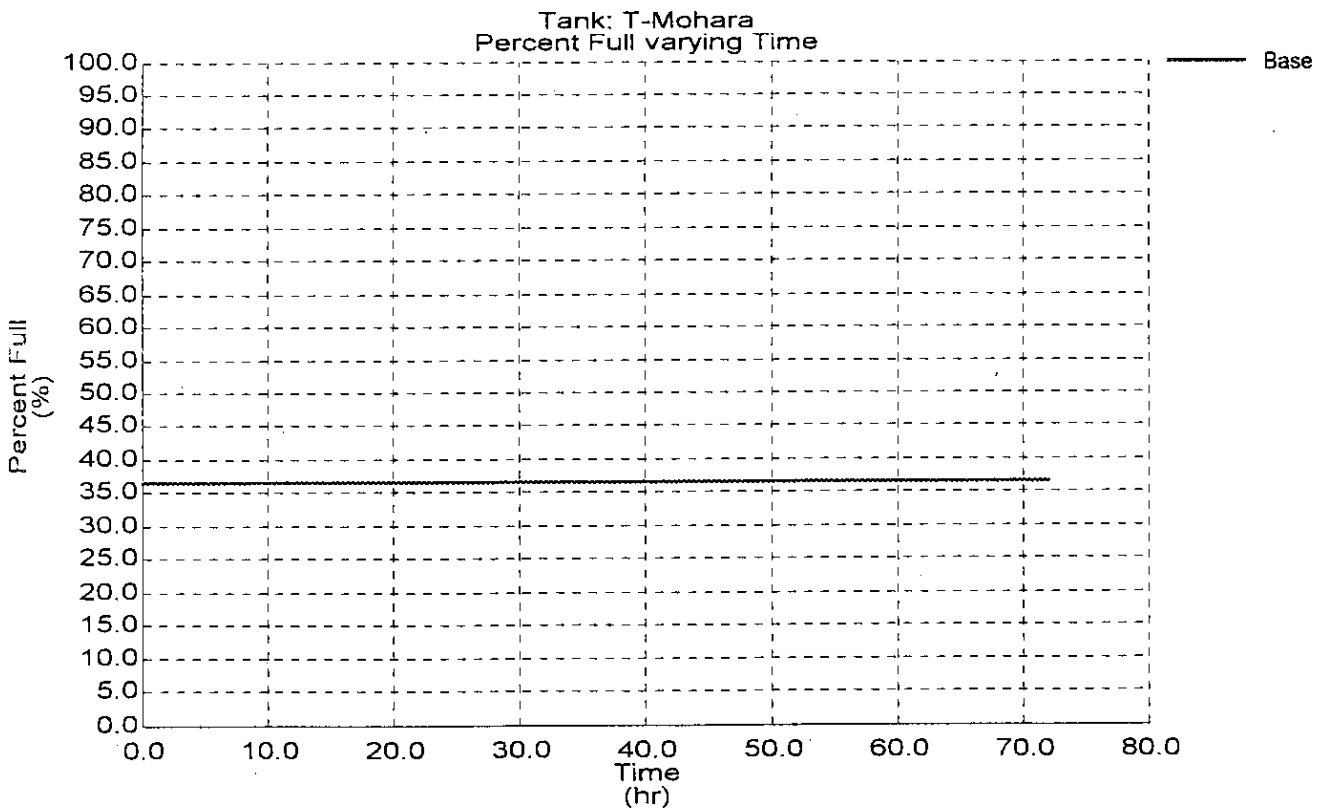
## Detailed Report for Tank: T-Mohara

| Calculated Results Summary |                    |                                |                |                |                  |  |                   |                    |          |
|----------------------------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| Time                       | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
| 15.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,094.79                             | N/A               | 84.26              | Draining |
| 16.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,788.13                             | N/A               | 86.06              | Draining |
| 17.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,470.25                             | N/A               | 92.03              | Draining |
| 18.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,131.35                             | N/A               | 98.05              | Draining |
| 19.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,483,773.79                             | N/A               | 100.34             | Draining |
| 20.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,419.95                             | N/A               | 96.35              | Draining |
| 21.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,089.70                             | N/A               | 86.43              | Draining |
| 22.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,799.18                             | N/A               | 73.91              | Draining |
| 23.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,549.63                             | 139.21            | N/A                | Filling  |
| 24.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,057.42                             | 143.74            | N/A                | Filling  |
| 25.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,580.11                             | 148.15            | N/A                | Filling  |
| 26.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,121.42                             | 152.85            | N/A                | Filling  |
| 27.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,678.87                             | 157.61            | N/A                | Filling  |
| 28.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,253.71                             | 162.88            | N/A                | Filling  |
| 29.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,859.58                             | 257.65            | N/A                | Filling  |
| 30.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,589.61                             | N/A               | 42.42              | Draining |
| 31.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,418.28                             | N/A               | 53.51              | Draining |
| 32.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,207.21                             | N/A               | 65.73              | Draining |
| 33.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,953.94                             | N/A               | 74.57              | Draining |
| 34.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,679.58                             | N/A               | 78.95              | Draining |
| 35.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,392.76                             | N/A               | 81.03              | Draining |
| 36.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,105.97                             | N/A               | 79.38              | Draining |
| 37.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,824.13                             | N/A               | 78.20              | Draining |
| 38.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,547.27                             | N/A               | 76.22              | Draining |
| 39.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,276.61                             | N/A               | 74.48              | Draining |
| 40.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,004.72                             | N/A               | 76.71              | Draining |
| 41.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,483,719.16                             | N/A               | 83.24              | Draining |
| 42.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,408.77                             | N/A               | 89.77              | Draining |
| 43.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,082.25                             | N/A               | 92.15              | Draining |
| 44.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,758.21                             | N/A               | 88.04              | Draining |
| 45.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,457.75                             | N/A               | 78.27              | Draining |
| 46.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,197.03                             | N/A               | 65.83              | Draining |
| 47.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,481,978.52                             | 144.87            | N/A                | Filling  |
| 48.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,507.41                             | 149.42            | N/A                | Filling  |
| 49.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,052.45                             | 153.80            | N/A                | Filling  |
| 50.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,612.39                             | 158.47            | N/A                | Filling  |
| 51.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,189.71                             | 163.21            | N/A                | Filling  |
| 52.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,906.08                             | 266.17            | N/A                | Filling  |
| 53.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,857.10                             | 262.16            | N/A                | Filling  |
| 54.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,760.94                             | N/A               | 42.36              | Draining |
| 55.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,671.55                             | N/A               | 53.52              | Draining |
| 56.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,464.21                             | N/A               | 65.07              | Draining |
| 57.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,220.87                             | N/A               | 73.11              | Draining |
| 58.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,952.70                             | N/A               | 77.20              | Draining |
| 59.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,670.87                             | N/A               | 79.20              | Draining |
| 60.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,387.80                             | N/A               | 77.49              | Draining |
| 61.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,110.93                             | N/A               | 76.50              | Draining |
| 62.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,837.79                             | N/A               | 74.70              | Draining |
| 63.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,570.86                             | N/A               | 73.11              | Draining |
| 64.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,303.93                             | N/A               | 75.37              | Draining |
| 65.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,484,024.58                             | N/A               | 81.69              | Draining |
| 66.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,483,724.13                             | N/A               | 87.80              | Draining |
| 67.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,403.81                             | N/A               | 90.02              | Draining |
| 68.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,483,082.25                             | N/A               | 86.06              | Draining |
| 69.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.4             | 4,482,783.04                             | N/A               | 76.77              | Draining |

## Detailed Report for Tank: T-Mohara

### Calculated Results Summary

| Time     | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status   |
|----------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|----------|
| 70.00 hr | N/A                   | 3.50                                    | 1.50                 | 14.67             | 36.4                   | 4,482,518.59                                      | N/A                     | 65.07                    | Draining |
| 71.00 hr | N/A                   | 3.50                                    | 1.50                 | 14.67             | 36.4                   | 4,482,295.11                                      | 145.13                  | N/A                      | Filling  |
| 72.00 hr | N/A                   | 3.50                                    | 1.50                 | 14.67             | 36.4                   | 4,482,822.77                                      | 149.54                  | N/A                      | Filling  |



## Detailed Report for Tank: T-New Mohara

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

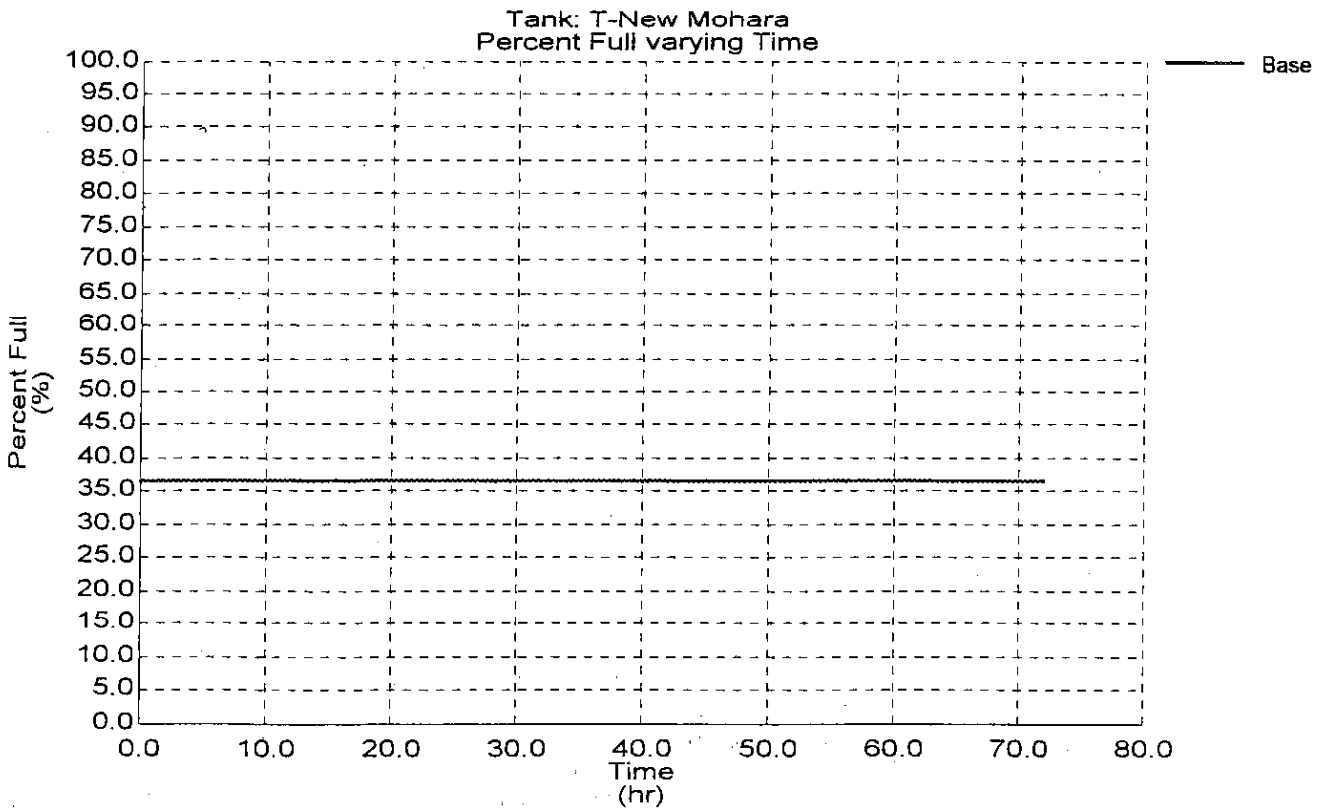
| Scenario Summary             |                              |                                |                |                     |                  |  |                   |                    |         |
|------------------------------|------------------------------|--------------------------------|----------------|---------------------|------------------|--|-------------------|--------------------|---------|
| Label                        | Base                         |                                |                |                     |                  |  |                   |                    |         |
| Demand Alternative           | Base-Average Daily           |                                |                |                     |                  |  |                   |                    |         |
| Physical Alternative         | Base-Physical                |                                |                |                     |                  |  |                   |                    |         |
| Initial Settings Alternative | Base-Initial Settings        |                                |                |                     |                  |  |                   |                    |         |
| Operational Alternative      | Base-Operational             |                                |                |                     |                  |  |                   |                    |         |
| Age Alternative              | Base-Age Alternative         |                                |                |                     |                  |  |                   |                    |         |
| Constituent Alternative      | Base-Constituent             |                                |                |                     |                  |  |                   |                    |         |
| Trace Alternative            | Base-Trace Alternative       |                                |                |                     |                  |  |                   |                    |         |
| Fire Flow Alternative        | Base-Fire Flow               |                                |                |                     |                  |  |                   |                    |         |
| Calibration Summary          |                              |                                |                |                     |                  |  |                   |                    |         |
| Demand                       | <none>                       |                                |                |                     | Roughness        |  |                   |                    |         |
| Geometric Summary            |                              |                                |                |                     |                  |  |                   |                    |         |
| X                            | 739.95 m                     |                                |                | Base Elevation      |                  | 2.00                                     |                   |                    |         |
| Y                            | 772.56 m                     |                                |                | Zone                |                  | Zone-1                                   |                   |                    |         |
| Connecting Pipes             |                              |                                |                |                     |                  |  |                   |                    |         |
| P-716                        |                              |                                |                |                     |                  |  |                   |                    |         |
| P-717                        |                              |                                |                |                     |                  |  |                   |                    |         |
| Operating Range Summary      |                              |                                |                |                     |                  |  |                   |                    |         |
| Maximum Elevation            | 5.33 m                       |                                |                | Maximum Level       |                  | 3.33                                     |                   |                    |         |
| Initial Elevation            | 3.50 m                       |                                |                | Initial Level       |                  | 1.50                                     |                   |                    |         |
| Minimum Elevation            | 2.45 m                       |                                |                | Minimum Level       |                  | 0.45                                     |                   |                    |         |
| Storage Summary              |                              |                                |                |                     |                  |  |                   |                    |         |
| Type                         | Constant Area                |                                |                | Cross Section       |                  | Circular                                 |                   |                    |         |
| Tank Diameter                | 2,332.00 m                   |                                |                | Average Area        |                  | 4,271,171.3                              |                   |                    |         |
| Inactive Volume              | 0.00 m <sup>3</sup>          |                                |                | Total Active Volume |                  | 12,300,972.79                            |                   |                    |         |
| Total Storage Capacity       | 12,300,972.79 m <sup>3</sup> |                                |                |                     |                  |  |                   |                    |         |
| Calculated Results Summary   |                              |                                |                |                     |                  |  |                   |                    |         |
| Time                         | Constituent (mg/l)           | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa)      | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status  |
| 0.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,729.78                             | 9.41              | N/A                | Filling |
| 1.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,760.82                             | 9.41              | N/A                | Filling |
| 2.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,791.85                             | 9.41              | N/A                | Filling |
| 3.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,822.89                             | 9.41              | N/A                | Filling |
| 4.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,853.93                             | 9.41              | N/A                | Filling |
| 5.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,884.97                             | 9.41              | N/A                | Filling |
| 6.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,917.25                             | 9.41              | N/A                | Filling |
| 7.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,948.29                             | 9.41              | N/A                | Filling |
| 8.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,484,980.57                             | 9.41              | N/A                | Filling |
| 9.00 hr                      | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,485,012.85                             | 9.41              | N/A                | Filling |
| 10.00 hr                     | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,485,043.89                             | 9.41              | N/A                | Filling |
| 11.00 hr                     | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,485,074.93                             | 9.41              | N/A                | Filling |
| 12.00 hr                     | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,485,105.97                             | 9.41              | N/A                | Filling |
| 13.00 hr                     | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,485,137.00                             | 9.41              | N/A                | Filling |
| 14.00 hr                     | N/A                          | 3.50                           | 1.50           | 14.67               | 36.5             | 4,485,168.04                             | 9.41              | N/A                | Filling |

## Detailed Report for Tank: T-New Mohara

| Calculated Results Summary |                    |                                |                |                |                  |  |                   |                    |         |
|----------------------------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|---------|
| Time                       | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status  |
| 15.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,200.32                             | 9.41              | N/A                | Filling |
| 16.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,232.60                             | 9.41              | N/A                | Filling |
| 17.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,263.64                             | 9.41              | N/A                | Filling |
| 18.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,294.68                             | 9.41              | N/A                | Filling |
| 19.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,325.72                             | 9.41              | N/A                | Filling |
| 20.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,356.76                             | 9.41              | N/A                | Filling |
| 21.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,387.80                             | 9.41              | N/A                | Filling |
| 22.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,418.83                             | 9.41              | N/A                | Filling |
| 23.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,449.87                             | 9.40              | N/A                | Filling |
| 24.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,480.91                             | 9.40              | N/A                | Filling |
| 25.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,511.95                             | 9.40              | N/A                | Filling |
| 26.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,542.99                             | 9.40              | N/A                | Filling |
| 27.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,574.03                             | 9.40              | N/A                | Filling |
| 28.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,605.07                             | 9.40              | N/A                | Filling |
| 29.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,636.10                             | 9.40              | N/A                | Filling |
| 30.00 hr                   | N/A                | 3.50                           | 1.50           | 14.67          | 36.5             | 4,485,668.38                             | 9.40              | N/A                | Filling |
| 31.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,699.42                             | 9.40              | N/A                | Filling |
| 32.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,730.46                             | 9.40              | N/A                | Filling |
| 33.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,762.74                             | 9.40              | N/A                | Filling |
| 34.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,793.78                             | 9.40              | N/A                | Filling |
| 35.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,824.82                             | 9.40              | N/A                | Filling |
| 36.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,855.86                             | 9.40              | N/A                | Filling |
| 37.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,886.90                             | 9.40              | N/A                | Filling |
| 38.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,917.93                             | 9.40              | N/A                | Filling |
| 39.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,950.22                             | 9.40              | N/A                | Filling |
| 40.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,485,982.50                             | 9.40              | N/A                | Filling |
| 41.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,013.53                             | 9.40              | N/A                | Filling |
| 42.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,044.57                             | 9.40              | N/A                | Filling |
| 43.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,075.61                             | 9.40              | N/A                | Filling |
| 44.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,106.65                             | 9.40              | N/A                | Filling |
| 45.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,138.93                             | 9.40              | N/A                | Filling |
| 46.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,169.97                             | 9.40              | N/A                | Filling |
| 47.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,202.25                             | 9.40              | N/A                | Filling |
| 48.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,233.29                             | 9.40              | N/A                | Filling |
| 49.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,264.33                             | 9.40              | N/A                | Filling |
| 50.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,295.36                             | 9.40              | N/A                | Filling |
| 51.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,326.40                             | 9.40              | N/A                | Filling |
| 52.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,358.68                             | 9.40              | N/A                | Filling |
| 53.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,389.72                             | 9.40              | N/A                | Filling |
| 54.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,422.00                             | 9.40              | N/A                | Filling |
| 55.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,453.04                             | 9.40              | N/A                | Filling |
| 56.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,484.08                             | 9.40              | N/A                | Filling |
| 57.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,515.12                             | 9.40              | N/A                | Filling |
| 58.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,546.16                             | 9.40              | N/A                | Filling |
| 59.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,577.19                             | 9.40              | N/A                | Filling |
| 60.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,608.23                             | 9.40              | N/A                | Filling |
| 61.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,639.27                             | 9.40              | N/A                | Filling |
| 62.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,670.31                             | 9.40              | N/A                | Filling |
| 63.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,702.59                             | 9.40              | N/A                | Filling |
| 64.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,734.87                             | 9.40              | N/A                | Filling |
| 65.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,767.15                             | 9.40              | N/A                | Filling |
| 66.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,798.19                             | 9.40              | N/A                | Filling |
| 67.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,829.23                             | 9.40              | N/A                | Filling |
| 68.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,860.27                             | 9.40              | N/A                | Filling |
| 69.00 hr                   | N/A                | 3.50                           | 1.50           | 14.68          | 36.5             | 4,486,892.55                             | 9.40              | N/A                | Filling |

## Detailed Report for Tank: T-New Mohara

| Calculated Results Summary |                       |   |                      |                   |                        |   |                         |                          |         |
|----------------------------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|---------|
| Time                       | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status  |
| 70.00 hr                   | N/A                   | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,923.59                                      | 9.40                    | N/A                      | Filling |
| 71.00 hr                   | N/A                   | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,955.87                                      | 9.40                    | N/A                      | Filling |
| 72.00 hr                   | N/A                   | 3.50                                    | 1.50                 | 14.68             | 36.5                   | 4,486,986.90                                      | 9.40                    | N/A                      | Filling |



## Detailed Report for Tank: T-Kalurghat

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                          |                                |                |                |                  |  |                   |                    |          |
|------------------------------|--------------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| Label                        | Base                     |                                |                |                |                  |  |                   |                    |          |
| Demand Alternative           | Base-Average Daily       |                                |                |                |                  |  |                   |                    |          |
| Physical Alternative         | Base-Physical            |                                |                |                |                  |  |                   |                    |          |
| Initial Settings Alternative | Base-Initial Settings    |                                |                |                |                  |  |                   |                    |          |
| Operational Alternative      | Base-Operational         |                                |                |                |                  |  |                   |                    |          |
| Age Alternative              | Base-Age Alternative     |                                |                |                |                  |  |                   |                    |          |
| Constituent Alternative      | Base-Constituent         |                                |                |                |                  |  |                   |                    |          |
| Trace Alternative            | Base-Trace Alternative   |                                |                |                |                  |  |                   |                    |          |
| Fire Flow Alternative        | Base-Fire Flow           |                                |                |                |                  |  |                   |                    |          |
| Calibration Summary          |                          |                                |                |                |                  |  |                   |                    |          |
| Demand                       | <none>                   | Roughness                      |                |                |                  |  |                   |                    |          |
| Geometric Summary            |                          |                                |                |                |                  |  |                   |                    |          |
| X                            | 647.63 m                 | Base Elevation                 | 0.00           |                |                  |  |                   |                    |          |
| Y                            | 476.00 m                 | Zone                           | Zone-1         |                |                  |  |                   |                    |          |
| Connecting Pipes             |                          |                                |                |                |                  |  |                   |                    |          |
| P-587                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-588                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-590                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-592                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-594                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-596                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-611                        |                          |                                |                |                |                  |  |                   |                    |          |
| Operating Range Summary      |                          |                                |                |                |                  |  |                   |                    |          |
| Maximum Elevation            | 3.33 m                   | Maximum Level                  | 3.33           |                |                  |  |                   |                    |          |
| Initial Elevation            | 1.50 m                   | Initial Level                  | 1.50           |                |                  |  |                   |                    |          |
| Minimum Elevation            | 0.46 m                   | Minimum Level                  | 0.46           |                |                  |  |                   |                    |          |
| Storage Summary              |                          |                                |                |                |                  |  |                   |                    |          |
| Type                         | Constant Area            |                                |                |                |                  |  |                   |                    |          |
| Cross Section                | Non-Circular             | Average Area                   | 4,410.0        |                |                  |  |                   |                    |          |
| Inactive Volume              | 0.00 m <sup>3</sup>      | Total Active Volume            | 12,656.70      |                |                  |  |                   |                    |          |
| Total Storage Capacity       | 12,656.70 m <sup>3</sup> |                                |                |                |                  |  |                   |                    |          |
| Calculated Results Summary   |                          |                                |                |                |                  |  |                   |                    |          |
| Time                         | Constituent (mg/l)       | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
| 0.00 hr                      | N/A                      | 1.50                           | 1.50           | 14.67          | 36.2             | 4,586.40                                 | 289.99            | N/A                | Filling  |
| 1.00 hr                      | N/A                      | 1.75                           | 1.75           | 17.07          | 44.8             | 5,667.05                                 | 310.37            | N/A                | Filling  |
| 2.00 hr                      | N/A                      | 2.01                           | 2.01           | 19.65          | 54.0             | 6,832.08                                 | 335.85            | N/A                | Filling  |
| 3.00 hr                      | N/A                      | 2.29                           | 2.29           | 22.41          | 63.8             | 8,072.56                                 | 354.96            | N/A                | Filling  |
| 4.00 hr                      | N/A                      | 2.59                           | 2.59           | 25.35          | 74.3             | 9,398.10                                 | 380.44            | N/A                | Filling  |
| 5.00 hr                      | N/A                      | 2.88                           | 2.88           | 28.21          | 84.4             | 10,687.18                                | 319.29            | N/A                | Filling  |
| 6.00 hr                      | N/A                      | 3.07                           | 3.07           | 30.01          | 90.9             | 11,499.10                                | 49.23             | N/A                | Filling  |
| 7.00 hr                      | N/A                      | 3.07                           | 3.07           | 30.01          | 90.9             | 11,499.52                                | N/A               | 124.02             | Draining |
| 8.00 hr                      | N/A                      | 2.93                           | 2.93           | 28.64          | 86.0             | 10,884.27                                | N/A               | 265.42             | Draining |
| 9.00 hr                      | N/A                      | 2.70                           | 2.70           | 26.43          | 78.1             | 9,888.94                                 | N/A               | 318.92             | Draining |

## Detailed Report for Tank: T-Kalurghat

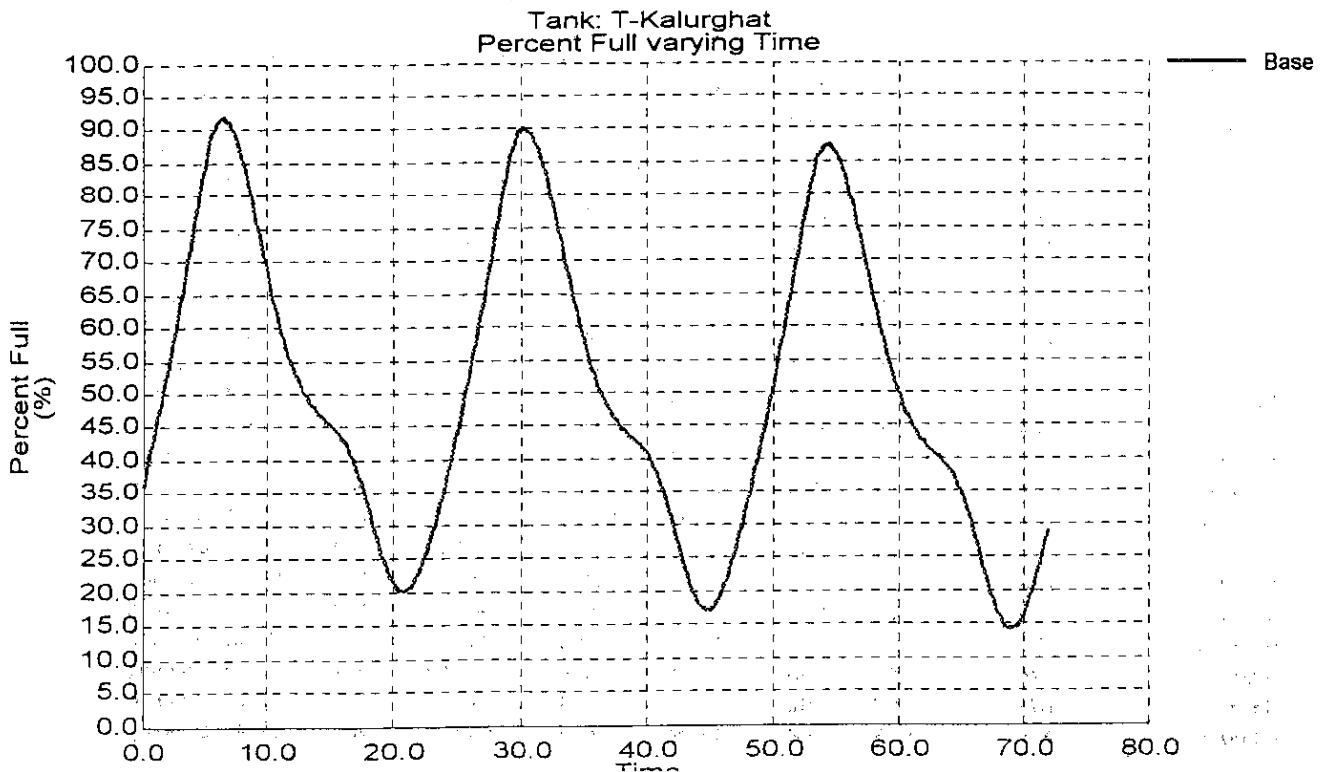
### Calculated Results Summary

| Time     | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
|----------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| 10.00 hr | N/A                | 2.45                           | 2.45           | 23.92          | 69.2             | 8,755.48                                 | N/A               | 301.09             | Draining |
| 11.00 hr | N/A                | 2.21                           | 2.21           | 21.63          | 61.0             | 7,724.98                                 | N/A               | 259.05             | Draining |
| 12.00 hr | N/A                | 2.03                           | 2.03           | 19.85          | 54.7             | 6,919.52                                 | N/A               | 173.70             | Draining |
| 13.00 hr | N/A                | 1.91                           | 1.91           | 18.64          | 50.4             | 6,376.51                                 | N/A               | 124.02             | Draining |
| 14.00 hr | N/A                | 1.82                           | 1.82           | 17.80          | 47.4             | 5,997.67                                 | N/A               | 79.44              | Draining |
| 15.00 hr | N/A                | 1.76                           | 1.76           | 17.26          | 45.5             | 5,753.90                                 | N/A               | 52.68              | Draining |
| 16.00 hr | N/A                | 1.71                           | 1.71           | 16.72          | 43.5             | 5,511.38                                 | N/A               | 90.90              | Draining |
| 17.00 hr | N/A                | 1.61                           | 1.61           | 15.72          | 40.0             | 5,056.96                                 | N/A               | 180.07             | Draining |
| 18.00 hr | N/A                | 1.44                           | 1.44           | 14.05          | 34.0             | 4,305.97                                 | N/A               | 247.59             | Draining |
| 19.00 hr | N/A                | 1.23                           | 1.23           | 12.07          | 27.0             | 3,414.96                                 | N/A               | 237.40             | Draining |
| 20.00 hr | N/A                | 1.08                           | 1.08           | 10.60          | 21.7             | 2,749.28                                 | N/A               | 131.66             | Draining |
| 21.00 hr | N/A                | 1.04                           | 1.04           | 10.19          | 20.3             | 2,565.12                                 | 23.75             | N/A                | Filling  |
| 22.00 hr | N/A                | 1.12                           | 1.12           | 10.97          | 23.0             | 2,916.60                                 | 165.15            | N/A                | Filling  |
| 23.00 hr | N/A                | 1.29                           | 1.29           | 12.60          | 28.9             | 3,652.39                                 | 236.49            | N/A                | Filling  |
| 24.00 hr | N/A                | 1.50                           | 1.50           | 14.70          | 36.3             | 4,597.29                                 | 283.62            | N/A                | Filling  |
| 25.00 hr | N/A                | 1.75                           | 1.75           | 17.08          | 44.8             | 5,669.69                                 | 310.37            | N/A                | Filling  |
| 26.00 hr | N/A                | 2.01                           | 2.01           | 19.66          | 54.0             | 6,834.72                                 | 335.85            | N/A                | Filling  |
| 27.00 hr | N/A                | 2.29                           | 2.29           | 22.41          | 63.8             | 8,073.36                                 | 354.96            | N/A                | Filling  |
| 28.00 hr | N/A                | 2.59                           | 2.59           | 25.34          | 74.2             | 9,395.23                                 | 380.44            | N/A                | Filling  |
| 29.00 hr | N/A                | 2.88                           | 2.88           | 28.16          | 84.3             | 10,665.97                                | 319.29            | N/A                | Filling  |
| 30.00 hr | N/A                | 3.03                           | 3.03           | 29.68          | 89.7             | 11,352.09                                | 49.23             | N/A                | Filling  |
| 31.00 hr | N/A                | 3.00                           | 3.00           | 29.37          | 88.6             | 11,210.35                                | N/A               | 124.02             | Draining |
| 32.00 hr | N/A                | 2.85                           | 2.85           | 27.83          | 83.1             | 10,518.07                                | N/A               | 265.42             | Draining |
| 33.00 hr | N/A                | 2.60                           | 2.60           | 25.46          | 74.7             | 9,448.88                                 | N/A               | 318.92             | Draining |
| 34.00 hr | N/A                | 2.35                           | 2.35           | 22.97          | 65.8             | 8,326.43                                 | N/A               | 301.09             | Draining |
| 35.00 hr | N/A                | 2.12                           | 2.12           | 20.72          | 57.8             | 7,314.28                                 | N/A               | 259.05             | Draining |
| 36.00 hr | N/A                | 1.94                           | 1.94           | 19.00          | 51.7             | 6,537.62                                 | N/A               | 173.70             | Draining |
| 37.00 hr | N/A                | 1.82                           | 1.82           | 17.84          | 47.5             | 6,014.78                                 | N/A               | 124.02             | Draining |
| 38.00 hr | N/A                | 1.74                           | 1.74           | 17.05          | 44.7             | 5,656.13                                 | N/A               | 79.44              | Draining |
| 39.00 hr | N/A                | 1.69                           | 1.69           | 16.53          | 42.8             | 5,421.53                                 | N/A               | 52.68              | Draining |
| 40.00 hr | N/A                | 1.63                           | 1.63           | 15.95          | 40.8             | 5,162.39                                 | N/A               | 90.90              | Draining |
| 41.00 hr | N/A                | 1.52                           | 1.52           | 14.88          | 37.0             | 4,679.00                                 | N/A               | 180.07             | Draining |
| 42.00 hr | N/A                | 1.34                           | 1.34           | 13.15          | 30.8             | 3,900.50                                 | N/A               | 247.59             | Draining |
| 43.00 hr | N/A                | 1.14                           | 1.14           | 11.19          | 23.8             | 3,014.92                                 | N/A               | 237.40             | Draining |
| 44.00 hr | N/A                | 0.99                           | 0.99           | 9.71           | 18.6             | 2,349.24                                 | N/A               | 131.66             | Draining |
| 45.00 hr | N/A                | 0.95                           | 0.95           | 9.31           | 17.1             | 2,166.69                                 | 23.75             | N/A                | Filling  |
| 46.00 hr | N/A                | 1.03                           | 1.03           | 10.09          | 19.9             | 2,518.17                                 | 165.15            | N/A                | Filling  |
| 47.00 hr | N/A                | 1.20                           | 1.20           | 11.72          | 25.7             | 3,253.95                                 | 236.49            | N/A                | Filling  |
| 48.00 hr | N/A                | 1.41                           | 1.41           | 13.82          | 33.2             | 4,200.46                                 | 283.62            | N/A                | Filling  |
| 49.00 hr | N/A                | 1.66                           | 1.66           | 16.20          | 41.7             | 5,272.86                                 | 310.37            | N/A                | Filling  |
| 50.00 hr | N/A                | 1.92                           | 1.92           | 18.78          | 50.9             | 6,437.89                                 | 335.85            | N/A                | Filling  |
| 51.00 hr | N/A                | 2.20                           | 2.20           | 21.53          | 60.7             | 7,678.36                                 | 354.96            | N/A                | Filling  |
| 52.00 hr | N/A                | 2.50                           | 2.50           | 24.47          | 71.1             | 9,003.90                                 | 380.44            | N/A                | Filling  |
| 53.00 hr | N/A                | 2.79                           | 2.79           | 27.29          | 81.2             | 10,272.80                                | 319.29            | N/A                | Filling  |
| 54.00 hr | N/A                | 2.95                           | 2.95           | 28.87          | 86.8             | 10,988.83                                | 49.23             | N/A                | Filling  |
| 55.00 hr | N/A                | 2.93                           | 2.93           | 28.66          | 86.1             | 10,892.07                                | N/A               | 124.02             | Draining |
| 56.00 hr | N/A                | 2.79                           | 2.79           | 27.24          | 81.0             | 10,253.90                                | N/A               | 265.42             | Draining |
| 57.00 hr | N/A                | 2.56                           | 2.56           | 25.04          | 73.2             | 9,260.87                                 | N/A               | 318.92             | Draining |
| 58.00 hr | N/A                | 2.31                           | 2.31           | 22.57          | 64.4             | 8,147.60                                 | N/A               | 301.09             | Draining |
| 59.00 hr | N/A                | 2.07                           | 2.07           | 20.29          | 56.3             | 7,119.85                                 | N/A               | 259.05             | Draining |
| 60.00 hr | N/A                | 1.89                           | 1.89           | 18.49          | 49.8             | 6,309.25                                 | N/A               | 173.70             | Draining |
| 61.00 hr | N/A                | 1.76                           | 1.76           | 17.25          | 45.4             | 5,749.73                                 | N/A               | 124.02             | Draining |
| 62.00 hr | N/A                | 1.68                           | 1.68           | 16.41          | 42.4             | 5,369.06                                 | N/A               | 79.44              | Draining |
| 63.00 hr | N/A                | 1.62                           | 1.62           | 15.85          | 40.4             | 5,117.95                                 | N/A               | 52.68              | Draining |
| 64.00 hr | N/A                | 1.56                           | 1.56           | 15.29          | 38.4             | 4,862.48                                 | N/A               | 90.90              | Draining |

## Detailed Report for Tank: T-Kalurghat

### Calculated Results Summary

| Time     | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
|----------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| 65.00 hr | N/A                | 1.46                           | 1.46           | 14.29          | 34.9             | 4,414.19                                 | N/A               | 180.07             | Draining |
| 66.00 hr | N/A                | 1.30                           | 1.30           | 12.70          | 29.2             | 3,697.14                                 | N/A               | 247.59             | Draining |
| 67.00 hr | N/A                | 1.10                           | 1.10           | 10.76          | 22.3             | 2,821.64                                 | N/A               | 237.40             | Draining |
| 68.00 hr | N/A                | 0.93                           | 0.93           | 9.14           | 16.5             | 2,090.84                                 | N/A               | 131.66             | Draining |
| 69.00 hr | N/A                | 0.87                           | 0.87           | 8.52           | 14.3             | 1,812.26                                 | 23.75             | N/A                | Filling  |
| 70.00 hr | N/A                | 0.92                           | 0.92           | 9.04           | 16.2             | 2,049.10                                 | 165.15            | N/A                | Filling  |
| 71.00 hr | N/A                | 1.08                           | 1.08           | 10.54          | 21.5             | 2,724.56                                 | 236.49            | N/A                | Filling  |
| 72.00 hr | N/A                | 1.28                           | 1.28           | 12.55          | 28.7             | 3,628.88                                 | 283.62            | N/A                | Filling  |





## Detailed Report for Tank: T-Khulshi-gr

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                          |                                |                |                     |                  |  |                   |                    |          |
|------------------------------|--------------------------|--------------------------------|----------------|---------------------|------------------|--|-------------------|--------------------|----------|
| Label                        | Base                     |                                |                |                     |                  |  |                   |                    |          |
| Demand Alternative           | Base-Average Daily       |                                |                |                     |                  |  |                   |                    |          |
| Physical Alternative         | Base-Physical            |                                |                |                     |                  |  |                   |                    |          |
| Initial Settings Alternative | Base-Initial Settings    |                                |                |                     |                  |  |                   |                    |          |
| Operational Alternative      | Base-Operational         |                                |                |                     |                  |  |                   |                    |          |
| Age Alternative              | Base-Age Alternative     |                                |                |                     |                  |  |                   |                    |          |
| Constituent Alternative      | Base-Constituent         |                                |                |                     |                  |  |                   |                    |          |
| Trace Alternative            | Base-Trace Alternative   |                                |                |                     |                  |  |                   |                    |          |
| Fire Flow Alternative        | Base-Fire Flow           |                                |                |                     |                  |  |                   |                    |          |
| Calibration Summary          |                          |                                |                |                     |                  |  |                   |                    |          |
| Demand                       | <none>                   |                                |                |                     | Roughness        |  |                   |                    |          |
| Geometric Summary            |                          |                                |                |                     |                  |  |                   |                    |          |
| X                            | 345.72 m                 |                                |                | Base Elevation      |                  | 28.00                                    |                   |                    |          |
| Y                            | 364.81 m                 |                                |                | Zone                |                  | Zone-1                                   |                   |                    |          |
| Connecting Pipes             |                          |                                |                |                     |                  |  |                   |                    |          |
| P-682                        |                          |                                |                |                     |                  |  |                   |                    |          |
| P-672                        |                          |                                |                |                     |                  |  |                   |                    |          |
| Operating Range Summary      |                          |                                |                |                     |                  |  |                   |                    |          |
| Maximum Elevation            | 35.00 m                  |                                |                | Maximum Level       |                  | 7.00                                     |                   |                    |          |
| Initial Elevation            | 30.50 m                  |                                |                | Initial Level       |                  | 2.50                                     |                   |                    |          |
| Minimum Elevation            | 28.00 m                  |                                |                | Minimum Level       |                  | 0.00                                     |                   |                    |          |
| Storage Summary              |                          |                                |                |                     |                  |  |                   |                    |          |
| Type                         | Constant Area            |                                |                |                     |                  |  |                   |                    |          |
| Cross Section                | Non-Circular             |                                |                | Average Area        |                  | 2,800.0                                  |                   |                    |          |
| Inactive Volume              | 0.00 m <sup>3</sup>      |                                |                | Total Active Volume |                  | 19,600.00                                |                   |                    |          |
| Total Storage Capacity       | 19,600.00 m <sup>3</sup> |                                |                |                     |                  |  |                   |                    |          |
| Calculated Results Summary   |                          |                                |                |                     |                  |  |                   |                    |          |
| Time                         | Constituent (mg/l)       | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa)      | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
| 0.00 hr                      | N/A                      | 30.50                          | 2.50           | 24.45               | 35.7             | 7,000.00                                 | 496.62            | N/A                | Filling  |
| 1.00 hr                      | N/A                      | 31.15                          | 3.15           | 30.79               | 45.0             | 8,814.34                                 | 510.16            | N/A                | Filling  |
| 2.00 hr                      | N/A                      | 31.82                          | 3.82           | 37.34               | 54.5             | 10,688.16                                | 528.70            | N/A                | Filling  |
| 3.00 hr                      | N/A                      | 32.50                          | 4.50           | 44.06               | 64.4             | 12,613.23                                | 541.25            | N/A                | Filling  |
| 4.00 hr                      | N/A                      | 33.21                          | 5.21           | 51.00               | 74.5             | 14,599.22                                | 559.98            | N/A                | Filling  |
| 5.00 hr                      | N/A                      | 33.90                          | 5.90           | 57.75               | 84.3             | 16,530.25                                | 496.16            | N/A                | Filling  |
| 6.00 hr                      | N/A                      | 34.42                          | 6.42           | 62.84               | 91.8             | 17,986.73                                | 233.72            | N/A                | Filling  |
| 7.00 hr                      | N/A                      | 34.66                          | 6.66           | 65.17               | 95.2             | 18,655.71                                | 66.10             | N/A                | Filling  |
| 8.00 hr                      | N/A                      | 34.51                          | 6.51           | 63.64               | 92.9             | 18,215.93                                | N/A               | 317.53             | Draining |
| 9.00 hr                      | N/A                      | 33.83                          | 5.83           | 57.05               | 83.3             | 16,329.87                                | N/A               | 598.08             | Draining |
| 10.00 hr                     | N/A                      | 33.08                          | 5.08           | 49.66               | 72.5             | 14,216.00                                | N/A               | 563.56             | Draining |
| 11.00 hr                     | N/A                      | 32.38                          | 4.38           | 42.84               | 62.6             | 12,262.87                                | N/A               | 506.46             | Draining |
| 12.00 hr                     | N/A                      | 31.88                          | 3.88           | 37.96               | 55.4             | 10,867.17                                | N/A               | 188.56             | Draining |
| 13.00 hr                     | N/A                      | 31.67                          | 3.67           | 35.89               | 52.4             | 10,272.75                                | N/A               | 137.35             | Draining |
| 14.00 hr                     | N/A                      | 31.52                          | 3.52           | 34.40               | 50.2             | 9,847.16                                 | N/A               | 92.02              | Draining |

## Detailed Report for Tank: T-Khulshi-gr

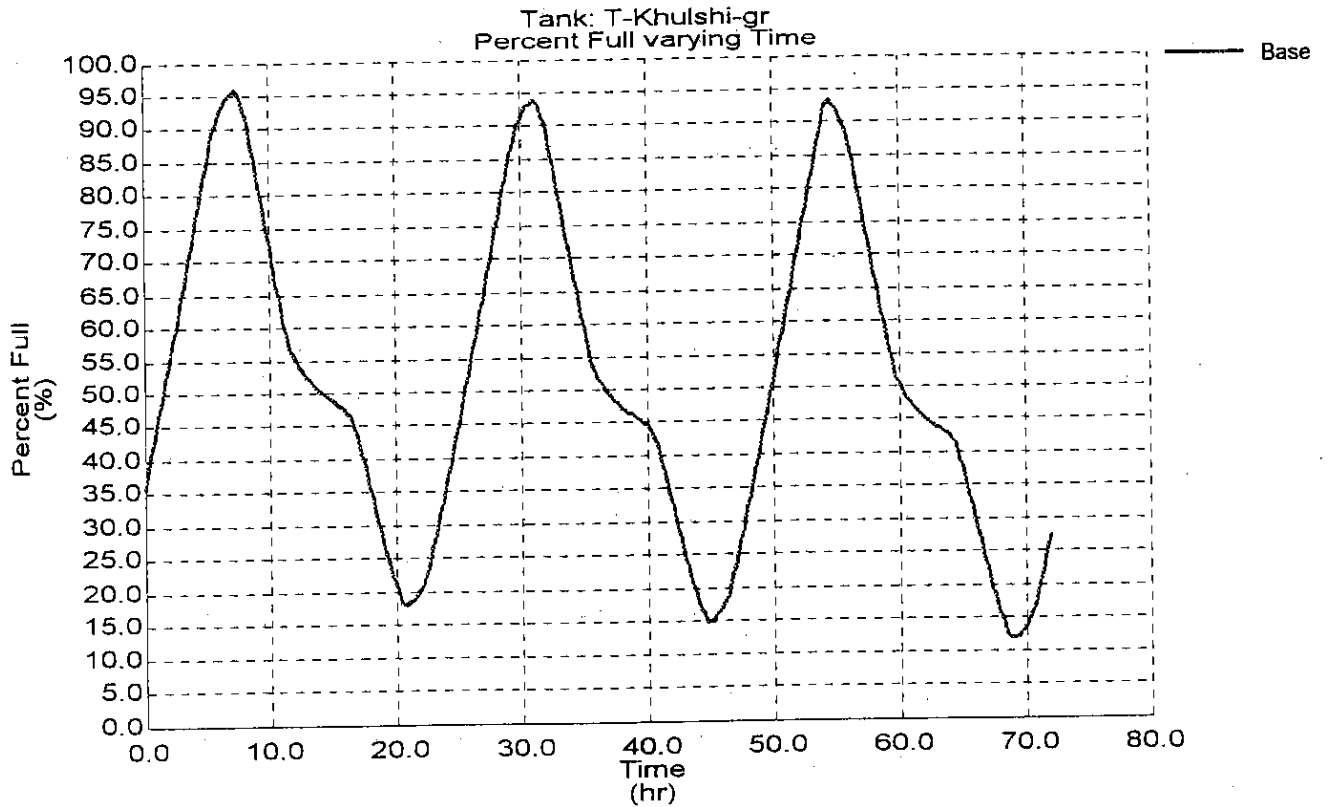
### Calculated Results Summary

| Time     | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
|----------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| 15.00 hr | N/A                | 31.41                          | 3.41           | 33.40          | 48.8             | 9,559.11                                 | N/A               | 64.61              | Draining |
| 16.00 hr | N/A                | 31.31                          | 3.31           | 32.41          | 47.3             | 9,278.30                                 | N/A               | 99.42              | Draining |
| 17.00 hr | N/A                | 31.04                          | 3.04           | 29.78          | 43.5             | 8,522.97                                 | N/A               | 396.27             | Draining |
| 18.00 hr | N/A                | 30.51                          | 2.51           | 24.52          | 35.8             | 7,018.86                                 | N/A               | 445.97             | Draining |
| 19.00 hr | N/A                | 29.94                          | 1.94           | 19.00          | 27.7             | 5,437.87                                 | N/A               | 419.84             | Draining |
| 20.00 hr | N/A                | 29.47                          | 1.47           | 14.43          | 21.1             | 4,129.06                                 | N/A               | 304.47             | Draining |
| 21.00 hr | N/A                | 29.28                          | 1.28           | 12.48          | 18.2             | 3,572.30                                 | 49.63             | N/A                | Filling  |
| 22.00 hr | N/A                | 29.43                          | 1.43           | 13.98          | 20.4             | 4,002.20                                 | 181.79            | N/A                | Filling  |
| 23.00 hr | N/A                | 29.88                          | 1.88           | 18.40          | 26.9             | 5,267.18                                 | 451.39            | N/A                | Filling  |
| 24.00 hr | N/A                | 30.49                          | 2.49           | 24.36          | 35.6             | 6,973.31                                 | 490.61            | N/A                | Filling  |
| 25.00 hr | N/A                | 31.14                          | 3.14           | 30.67          | 44.8             | 8,780.11                                 | 510.27            | N/A                | Filling  |
| 26.00 hr | N/A                | 31.81                          | 3.81           | 37.22          | 54.4             | 10,654.31                                | 528.80            | N/A                | Filling  |
| 27.00 hr | N/A                | 32.49                          | 4.49           | 43.94          | 64.2             | 12,578.00                                | 541.35            | N/A                | Filling  |
| 28.00 hr | N/A                | 33.20                          | 5.20           | 50.87          | 74.3             | 14,560.87                                | 560.09            | N/A                | Filling  |
| 29.00 hr | N/A                | 33.88                          | 5.88           | 57.55          | 84.1             | 16,474.63                                | 496.31            | N/A                | Filling  |
| 30.00 hr | N/A                | 34.36                          | 6.36           | 62.22          | 90.9             | 17,811.50                                | 234.17            | N/A                | Filling  |
| 31.00 hr | N/A                | 34.55                          | 6.55           | 64.09          | 93.6             | 18,346.62                                | 66.90             | N/A                | Filling  |
| 32.00 hr | N/A                | 34.31                          | 6.31           | 61.73          | 90.2             | 17,670.40                                | N/A               | 314.69             | Draining |
| 33.00 hr | N/A                | 33.58                          | 5.58           | 54.61          | 79.8             | 15,631.06                                | N/A               | 592.40             | Draining |
| 34.00 hr | N/A                | 32.84                          | 4.84           | 47.33          | 69.1             | 13,548.20                                | N/A               | 557.88             | Draining |
| 35.00 hr | N/A                | 32.15                          | 4.15           | 40.64          | 59.4             | 11,632.99                                | N/A               | 500.86             | Draining |
| 36.00 hr | N/A                | 31.65                          | 3.65           | 35.70          | 52.1             | 10,219.10                                | N/A               | 184.58             | Draining |
| 37.00 hr | N/A                | 31.45                          | 3.45           | 33.74          | 49.3             | 9,658.10                                 | N/A               | 133.52             | Draining |
| 38.00 hr | N/A                | 31.31                          | 3.31           | 32.37          | 47.3             | 9,265.37                                 | N/A               | 88.36              | Draining |
| 39.00 hr | N/A                | 31.21                          | 3.21           | 31.44          | 45.9             | 8,999.13                                 | N/A               | 61.05              | Draining |
| 40.00 hr | N/A                | 31.11                          | 3.11           | 30.45          | 44.5             | 8,715.26                                 | N/A               | 95.82              | Draining |
| 41.00 hr | N/A                | 30.81                          | 2.81           | 27.52          | 40.2             | 7,878.07                                 | N/A               | 389.95             | Draining |
| 42.00 hr | N/A                | 30.28                          | 2.28           | 22.26          | 32.5             | 6,370.80                                 | N/A               | 439.35             | Draining |
| 43.00 hr | N/A                | 29.72                          | 1.72           | 16.83          | 24.6             | 4,818.28                                 | N/A               | 413.20             | Draining |
| 44.00 hr | N/A                | 29.26                          | 1.26           | 12.34          | 18.0             | 3,533.19                                 | N/A               | 297.81             | Draining |
| 45.00 hr | N/A                | 29.05                          | 1.05           | 10.26          | 15.0             | 2,936.31                                 | 54.46             | N/A                | Filling  |
| 46.00 hr | N/A                | 29.21                          | 1.21           | 11.82          | 17.3             | 3,383.13                                 | 186.42            | N/A                | Filling  |
| 47.00 hr | N/A                | 29.64                          | 1.64           | 16.08          | 23.5             | 4,601.55                                 | 453.78            | N/A                | Filling  |
| 48.00 hr | N/A                | 30.26                          | 2.26           | 22.07          | 32.2             | 6,317.57                                 | 492.85            | N/A                | Filling  |
| 49.00 hr | N/A                | 30.90                          | 2.90           | 28.41          | 41.5             | 8,132.21                                 | 512.38            | N/A                | Filling  |
| 50.00 hr | N/A                | 31.58                          | 3.58           | 34.98          | 51.1             | 10,013.77                                | 530.78            | N/A                | Filling  |
| 51.00 hr | N/A                | 32.27                          | 4.27           | 41.73          | 60.9             | 11,946.16                                | 543.21            | N/A                | Filling  |
| 52.00 hr | N/A                | 32.98                          | 4.98           | 48.70          | 71.1             | 13,938.89                                | 561.84            | N/A                | Filling  |
| 53.00 hr | N/A                | 33.66                          | 5.66           | 55.40          | 80.9             | 15,857.19                                | 497.97            | N/A                | Filling  |
| 54.00 hr | N/A                | 34.35                          | 6.35           | 62.07          | 90.7             | 17,767.82                                | 485.40            | N/A                | Filling  |
| 55.00 hr | N/A                | 34.45                          | 6.45           | 63.14          | 92.2             | 18,073.49                                | N/A               | 181.42             | Draining |
| 56.00 hr | N/A                | 34.16                          | 6.16           | 60.24          | 88.0             | 17,242.12                                | N/A               | 312.44             | Draining |
| 57.00 hr | N/A                | 33.46                          | 5.46           | 53.45          | 78.1             | 15,299.09                                | N/A               | 589.67             | Draining |
| 58.00 hr | N/A                | 32.73                          | 4.73           | 46.24          | 67.5             | 13,234.73                                | N/A               | 555.18             | Draining |
| 59.00 hr | N/A                | 32.04                          | 4.04           | 39.53          | 57.7             | 11,314.64                                | N/A               | 497.99             | Draining |
| 60.00 hr | N/A                | 31.52                          | 3.52           | 34.44          | 50.3             | 9,857.08                                 | N/A               | 182.33             | Draining |
| 61.00 hr | N/A                | 31.31                          | 3.31           | 32.38          | 47.3             | 9,269.52                                 | N/A               | 131.07             | Draining |
| 62.00 hr | N/A                | 31.17                          | 3.17           | 30.97          | 45.2             | 8,864.79                                 | N/A               | 85.80              | Draining |
| 63.00 hr | N/A                | 31.07                          | 3.07           | 30.02          | 43.8             | 8,592.10                                 | N/A               | 58.44              | Draining |
| 64.00 hr | N/A                | 30.97                          | 2.97           | 29.07          | 42.5             | 8,321.05                                 | N/A               | 93.27              | Draining |
| 65.00 hr | N/A                | 30.63                          | 2.63           | 25.73          | 37.6             | 7,363.97                                 | N/A               | 384.83             | Draining |
| 66.00 hr | N/A                | 30.12                          | 2.12           | 20.73          | 30.3             | 5,932.88                                 | N/A               | 434.80             | Draining |
| 67.00 hr | N/A                | 29.57                          | 1.57           | 15.39          | 22.5             | 4,406.18                                 | N/A               | 408.71             | Draining |
| 68.00 hr | N/A                | 29.10                          | 1.10           | 10.75          | 15.7             | 3,076.09                                 | N/A               | 292.61             | Draining |
| 69.00 hr | N/A                | 28.84                          | 0.84           | 8.19           | 12.0             | 2,344.94                                 | 59.05             | N/A                | Filling  |

## Detailed Report for Tank: T-Khulshi-gr

**Calculated Results Summary**

| Time     | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status  |
|----------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|---------|
| 70.00 hr | N/A                   | 28.96                                   | 0.96                 | 9.43              | 13.8                   | 2,699.75  | 191.65                  | N/A                      | Filling |
| 71.00 hr | N/A                   | 29.30                                   | 1.30                 | 12.76             | 18.6                   | 3,652.51  | 457.28                  | N/A                      | Filling |
| 72.00 hr | N/A                   | 29.91                                   | 1.91                 | 18.66             | 27.2                   | 5,340.68  | 496.26                  | N/A                      | Filling |



## Detailed Report for Tank: T-Khulshi-el

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                         |                                |                |                     |                  |  |                   |                    |          |
|------------------------------|-------------------------|--------------------------------|----------------|---------------------|------------------|--|-------------------|--------------------|----------|
| Label                        | Base                    |                                |                |                     |                  |  |                   |                    |          |
| Demand Alternative           | Base-Average Daily      |                                |                |                     |                  |  |                   |                    |          |
| Physical Alternative         | Base-Physical           |                                |                |                     |                  |  |                   |                    |          |
| Initial Settings Alternative | Base-Initial Settings   |                                |                |                     |                  |  |                   |                    |          |
| Operational Alternative      | Base-Operational        |                                |                |                     |                  |  |                   |                    |          |
| Age Alternative              | Base-Age Alternative    |                                |                |                     |                  |  |                   |                    |          |
| Constituent Alternative      | Base-Constituent        |                                |                |                     |                  |  |                   |                    |          |
| Trace Alternative            | Base-Trace Alternative  |                                |                |                     |                  |  |                   |                    |          |
| Fire Flow Alternative        | Base-Fire Flow          |                                |                |                     |                  |  |                   |                    |          |
| Calibration Summary          |                         |                                |                |                     |                  |  |                   |                    |          |
| Demand                       | <none>                  |                                |                | Roughness           |                  |  |                   |                    |          |
| Geometric Summary            |                         |                                |                |                     |                  |  |                   |                    |          |
| X                            | 384.96 m                |                                |                | Base Elevation      |                  |  |                   | 29.00              |          |
| Y                            | 364.39 m                |                                |                | Zone                |                  |  |                   | Zone-KhH           |          |
| Connecting Pipes             |                         |                                |                |                     |                  |  |                   |                    |          |
| P-623-2                      |                         |                                |                |                     |                  |  |                   |                    |          |
| P-2031                       |                         |                                |                |                     |                  |  |                   |                    |          |
| Operating Range Summary      |                         |                                |                |                     |                  |  |                   |                    |          |
| Maximum Elevation            | 52.00 m                 |                                |                | Maximum Level       |                  |  |                   | 23.00              |          |
| Initial Elevation            | 49.50 m                 |                                |                | Initial Level       |                  |  |                   | 20.50              |          |
| Minimum Elevation            | 45.00 m                 |                                |                | Minimum Level       |                  |  |                   | 16.00              |          |
| Storage Summary              |                         |                                |                |                     |                  |  |                   |                    |          |
| Type                         | Constant Area           |                                |                | Cross Section       |                  |  |                   | Circular           |          |
| Tank Diameter                | 18.00 m                 |                                |                | Average Area        |                  |  |                   | 254.5              |          |
| Inactive Volume              | 0.00 m <sup>3</sup>     |                                |                | Total Active Volume |                  |  |                   | 1,781.28           |          |
| Total Storage Capacity       | 1,781.28 m <sup>3</sup> |                                |                |                     |                  |  |                   |                    |          |
| Calculated Results Summary   |                         |                                |                |                     |                  |  |                   |                    |          |
| Time                         | Constituent (mg/l)      | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa)      | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
| 0.00 hr                      | N/A                     | 49.50                          | 20.50          | 200.53              | 64.3             | 1,145.11                                 | N/A               | 17.56              | Draining |
| 1.00 hr                      | N/A                     | 49.39                          | 20.39          | 199.41              | 62.7             | 1,115.98                                 | 1.36              | N/A                | Filling  |
| 2.00 hr                      | N/A                     | 49.58                          | 20.58          | 201.29              | 65.4             | 1,165.02                                 | 26.10             | N/A                | Filling  |
| 3.00 hr                      | N/A                     | 50.06                          | 21.06          | 206.03              | 72.3             | 1,288.27                                 | 45.10             | N/A                | Filling  |
| 4.00 hr                      | N/A                     | 50.86                          | 21.86          | 213.83              | 83.7             | 1,491.12                                 | 68.45             | N/A                | Filling  |
| 5.00 hr                      | N/A                     | 51.64                          | 22.64          | 221.46              | 94.8             | 1,689.53                                 | 31.29             | N/A                | Filling  |
| 6.00 hr                      | N/A                     | 51.19                          | 22.19          | 217.02              | 88.4             | 1,574.16                                 | N/A               | 152.30             | Draining |
| 7.00 hr                      | N/A                     | 48.56                          | 19.56          | 191.35              | 50.9             | 906.28                                   | N/A               | 270.82             | Draining |
| 8.00 hr                      | N/A                     | 46.30                          | 17.30          | 169.24              | 18.6             | 331.28                                   | N/A               | 120.72             | Draining |
| 9.00 hr                      | N/A                     | 47.26                          | 18.26          | 178.58              | 32.2             | 574.16                                   | 71.48             | N/A                | Filling  |
| 10.00 hr                     | N/A                     | 48.21                          | 19.21          | 187.90              | 45.8             | 816.48                                   | 66.42             | N/A                | Filling  |
| 11.00 hr                     | N/A                     | 49.20                          | 20.20          | 197.57              | 60.0             | 1,068.12                                 | 78.74             | N/A                | Filling  |
| 12.00 hr                     | N/A                     | 49.46                          | 20.46          | 200.12              | 63.7             | 1,134.43                                 | N/A               | 98.22              | Draining |
| 13.00 hr                     | N/A                     | 48.27                          | 19.27          | 188.51              | 46.7             | 832.44                                   | N/A               | 67.37              | Draining |
| 14.00 hr                     | N/A                     | 47.49                          | 18.49          | 180.83              | 35.5             | 632.76                                   | N/A               | 39.06              | Draining |

## Detailed Report for Tank: T-Khulshi-el

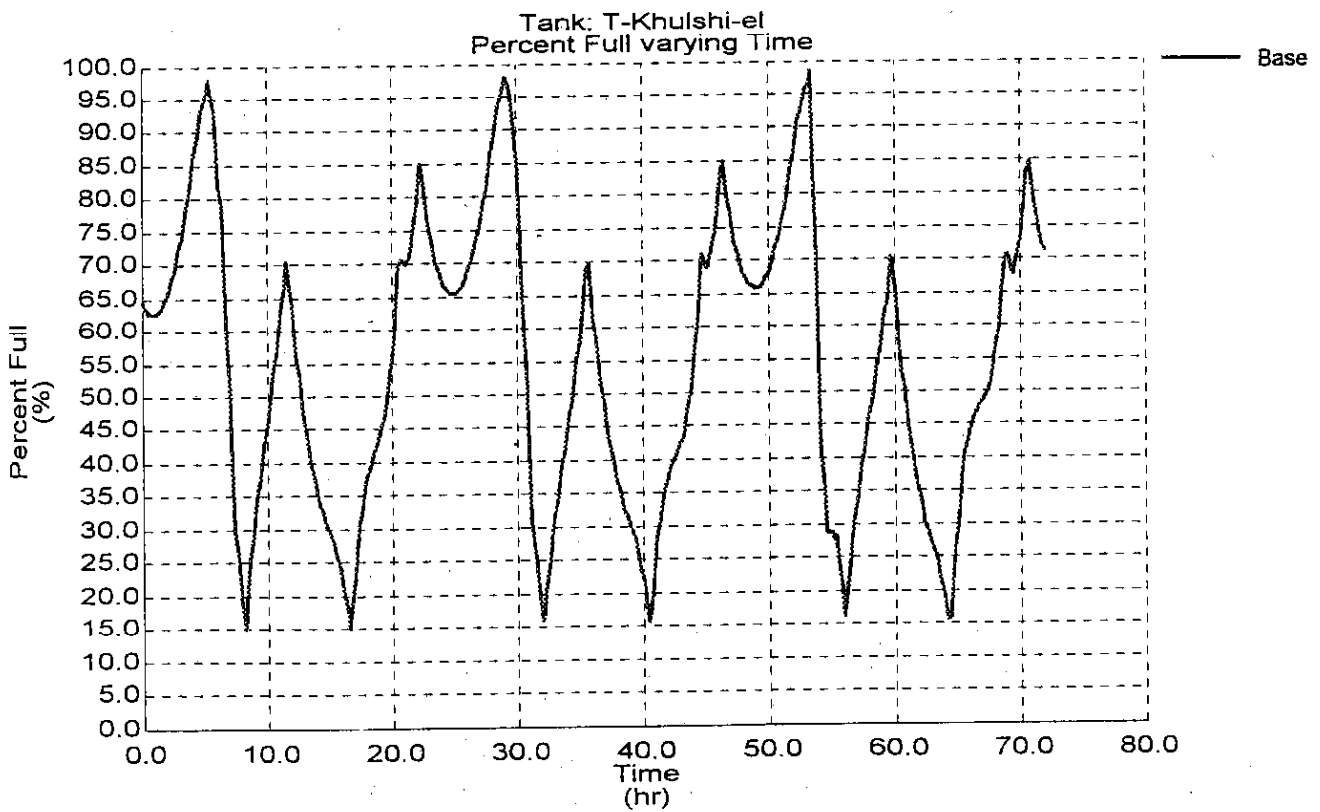
### Calculated Results Summary

| Time     | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
|----------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| 15.00 hr | N/A                | 47.04                          | 18.04          | 176.45         | 29.1             | 518.72                                   | N/A               | 22.29              | Draining |
| 16.00 hr | N/A                | 46.57                          | 17.57          | 171.87         | 22.4             | 399.53                                   | N/A               | 50.60              | Draining |
| 17.00 hr | N/A                | 46.60                          | 17.60          | 172.13         | 22.8             | 406.34                                   | 98.98             | N/A                | Filling  |
| 18.00 hr | N/A                | 47.64                          | 18.64          | 182.29         | 37.6             | 670.57                                   | 37.19             | N/A                | Filling  |
| 19.00 hr | N/A                | 48.07                          | 19.07          | 186.56         | 43.9             | 781.72                                   | 27.88             | N/A                | Filling  |
| 20.00 hr | N/A                | 48.90                          | 19.90          | 194.71         | 55.8             | 993.63                                   | 87.14             | N/A                | Filling  |
| 21.00 hr | N/A                | 49.90                          | 20.90          | 204.49         | 70.1             | 1,248.05                                 | N/A               | 10.29              | Draining |
| 22.00 hr | N/A                | 50.50                          | 21.50          | 210.27         | 78.5             | 1,398.65                                 | 91.08             | N/A                | Filling  |
| 23.00 hr | N/A                | 50.30                          | 21.30          | 208.37         | 75.7             | 1,349.11                                 | N/A               | 60.70              | Draining |
| 24.00 hr | N/A                | 49.73                          | 20.73          | 202.76         | 67.5             | 1,203.12                                 | N/A               | 22.07              | Draining |
| 25.00 hr | N/A                | 49.59                          | 20.59          | 201.37         | 65.5             | 1,167.02                                 | 1.25              | N/A                | Filling  |
| 26.00 hr | N/A                | 49.78                          | 20.78          | 203.24         | 68.2             | 1,215.67                                 | 26.00             | N/A                | Filling  |
| 27.00 hr | N/A                | 50.26                          | 21.26          | 207.92         | 75.1             | 1,337.27                                 | 43.86             | N/A                | Filling  |
| 28.00 hr | N/A                | 51.04                          | 22.04          | 215.57         | 86.2             | 1,536.35                                 | 67.21             | N/A                | Filling  |
| 29.00 hr | N/A                | 51.76                          | 22.76          | 222.63         | 96.6             | 1,720.14                                 | 31.14             | N/A                | Filling  |
| 30.00 hr | N/A                | 50.96                          | 21.96          | 214.82         | 85.2             | 1,516.78                                 | N/A               | 152.76             | Draining |
| 31.00 hr | N/A                | 47.94                          | 18.94          | 185.25         | 42.0             | 747.75                                   | N/A               | 271.61             | Draining |
| 32.00 hr | N/A                | 46.11                          | 17.11          | 167.34         | 15.8             | 281.85                                   | N/A               | 123.56             | Draining |
| 33.00 hr | N/A                | 47.18                          | 18.18          | 177.88         | 31.2             | 555.97                                   | 65.80             | N/A                | Filling  |
| 34.00 hr | N/A                | 48.09                          | 19.09          | 186.70         | 44.1             | 785.47                                   | 60.73             | N/A                | Filling  |
| 35.00 hr | N/A                | 49.05                          | 20.05          | 196.08         | 57.8             | 1,029.48                                 | 73.14             | N/A                | Filling  |
| 36.00 hr | N/A                | 49.56                          | 20.56          | 201.15         | 65.2             | 1,161.31                                 | N/A               | 102.19             | Draining |
| 37.00 hr | N/A                | 48.38                          | 19.38          | 189.56         | 48.3             | 859.68                                   | N/A               | 71.20              | Draining |
| 38.00 hr | N/A                | 47.60                          | 18.60          | 181.91         | 37.1             | 660.79                                   | N/A               | 42.72              | Draining |
| 39.00 hr | N/A                | 47.12                          | 18.12          | 177.28         | 30.3             | 540.19                                   | N/A               | 25.84              | Draining |
| 40.00 hr | N/A                | 46.56                          | 17.56          | 171.76         | 22.3             | 396.77                                   | N/A               | 54.20              | Draining |
| 41.00 hr | N/A                | 46.72                          | 17.72          | 173.34         | 24.6             | 437.92                                   | 92.66             | N/A                | Filling  |
| 42.00 hr | N/A                | 47.60                          | 18.60          | 181.96         | 37.2             | 662.15                                   | 30.57             | N/A                | Filling  |
| 43.00 hr | N/A                | 47.97                          | 18.97          | 185.53         | 42.4             | 754.84                                   | 21.24             | N/A                | Filling  |
| 44.00 hr | N/A                | 48.71                          | 19.71          | 192.75         | 52.9             | 942.81                                   | 80.47             | N/A                | Filling  |
| 45.00 hr | N/A                | 49.87                          | 20.87          | 204.12         | 69.5             | 1,238.57                                 | N/A               | 15.12              | Draining |
| 46.00 hr | N/A                | 50.39                          | 21.39          | 209.25         | 77.0             | 1,372.04                                 | 86.45             | N/A                | Filling  |
| 47.00 hr | N/A                | 50.38                          | 21.38          | 209.14         | 76.9             | 1,369.25                                 | N/A               | 63.09              | Draining |
| 48.00 hr | N/A                | 49.78                          | 20.78          | 203.25         | 68.3             | 1,215.98                                 | N/A               | 24.30              | Draining |
| 49.00 hr | N/A                | 49.61                          | 20.61          | 201.56         | 65.8             | 1,172.04                                 | 0.35              | N/A                | Filling  |
| 50.00 hr | N/A                | 49.77                          | 20.77          | 203.18         | 68.2             | 1,214.18                                 | 24.02             | N/A                | Filling  |
| 51.00 hr | N/A                | 50.23                          | 21.23          | 207.64         | 74.7             | 1,330.12                                 | 43.15             | N/A                | Filling  |
| 52.00 hr | N/A                | 51.00                          | 22.00          | 215.19         | 85.7             | 1,526.46                                 | 66.60             | N/A                | Filling  |
| 53.00 hr | N/A                | 51.69                          | 22.69          | 221.99         | 95.6             | 1,703.54                                 | 29.47             | N/A                | Filling  |
| 54.00 hr | N/A                | 48.84                          | 19.84          | 194.02         | 54.8             | 975.90                                   | N/A               | 403.99             | Draining |
| 55.00 hr | N/A                | 47.01                          | 18.01          | 176.17         | 28.7             | 511.39                                   | N/A               | 23.30              | Draining |
| 56.00 hr | N/A                | 46.14                          | 17.14          | 167.63         | 16.2             | 289.19                                   | N/A               | 125.81             | Draining |
| 57.00 hr | N/A                | 47.34                          | 18.34          | 179.44         | 33.5             | 596.51                                   | 63.07             | N/A                | Filling  |
| 58.00 hr | N/A                | 48.24                          | 19.24          | 188.23         | 46.3             | 825.16                                   | 58.04             | N/A                | Filling  |
| 59.00 hr | N/A                | 49.13                          | 20.13          | 196.90         | 59.0             | 1,050.66                                 | 70.27             | N/A                | Filling  |
| 60.00 hr | N/A                | 49.60                          | 20.60          | 201.49         | 65.7             | 1,170.03                                 | N/A               | 104.44             | Draining |
| 61.00 hr | N/A                | 48.28                          | 19.28          | 188.58         | 46.8             | 834.37                                   | N/A               | 73.65              | Draining |
| 62.00 hr | N/A                | 47.40                          | 18.40          | 180.00         | 34.3             | 611.11                                   | N/A               | 45.28              | Draining |
| 63.00 hr | N/A                | 46.85                          | 17.85          | 174.57         | 26.4             | 469.69                                   | N/A               | 28.46              | Draining |
| 64.00 hr | N/A                | 46.26                          | 17.26          | 168.79         | 17.9             | 319.51                                   | N/A               | 56.75              | Draining |
| 65.00 hr | N/A                | 47.11                          | 18.11          | 177.14         | 30.1             | 536.65                                   | 87.54             | N/A                | Filling  |
| 66.00 hr | N/A                | 48.08                          | 19.08          | 186.64         | 44.0             | 783.92                                   | 26.02             | N/A                | Filling  |
| 67.00 hr | N/A                | 48.40                          | 19.40          | 189.77         | 48.6             | 865.13                                   | 16.76             | N/A                | Filling  |
| 68.00 hr | N/A                | 48.89                          | 19.89          | 194.52         | 55.5             | 988.68                                   | 75.28             | N/A                | Filling  |
| 69.00 hr | N/A                | 49.95                          | 20.95          | 204.95         | 70.7             | 1,260.16                                 | N/A               | 19.71              | Draining |

## Detailed Report for Tank: T-Khulshi-el

Calculated Results Summary

| Time     | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status   |
|----------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|----------|
| 70.00 hr | N/A                   | 50.10                                   | 21.10                | 206.36            | 72.8                   | 1,296.91  | 81.22                   | N/A                      | Filling  |
| 71.00 hr | N/A                   | 50.74                                   | 21.74                | 212.64            | 82.0                   | 1,460.15  | N/A                     | 66.58                    | Draining |
| 72.00 hr | N/A                   | 49.97                                   | 20.97                | 205.17            | 71.1                   | 1,265.96  | N/A                     | 27.72                    | Draining |



## Detailed Report for Tank: T-Battali Hill

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                          |                                |                |                |                  |  |                   |                    |          |
|------------------------------|--------------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| Label                        | Base                     |                                |                |                |                  |  |                   |                    |          |
| Demand Alternative           | Base-Average Daily       |                                |                |                |                  |  |                   |                    |          |
| Physical Alternative         | Base-Physical            |                                |                |                |                  |  |                   |                    |          |
| Initial Settings Alternative | Base-Initial Settings    |                                |                |                |                  |  |                   |                    |          |
| Operational Alternative      | Base-Operational         |                                |                |                |                  |  |                   |                    |          |
| Age Alternative              | Base-Age Alternative     |                                |                |                |                  |  |                   |                    |          |
| Constituent Alternative      | Base-Constituent         |                                |                |                |                  |  |                   |                    |          |
| Trace Alternative            | Base-Trace Alternative   |                                |                |                |                  |  |                   |                    |          |
| Fire Flow Alternative        | Base-Fire Flow           |                                |                |                |                  |  |                   |                    |          |
| Calibration Summary          |                          |                                |                |                |                  |  |                   |                    |          |
| Demand                       | <none>                   | Roughness                      |                |                |                  |  |                   |                    |          |
| Geometric Summary            |                          |                                |                |                |                  |  |                   |                    |          |
| X                            | 376.50 m                 | Base Elevation                 | 42.00          |                |                  |  |                   |                    |          |
| Y                            | 299.46 m                 | Zone                           | Zone-1         |                |                  |  |                   |                    |          |
| Connecting Pipes             |                          |                                |                |                |                  |  |                   |                    |          |
| P-584                        |                          |                                |                |                |                  |  |                   |                    |          |
| P-13                         |                          |                                |                |                |                  |  |                   |                    |          |
| P-2077                       |                          |                                |                |                |                  |  |                   |                    |          |
| Operating Range Summary      |                          |                                |                |                |                  |  |                   |                    |          |
| Maximum Elevation            | 51.50 m                  | Maximum Level                  | 9.50           |                |                  |  |                   |                    |          |
| Initial Elevation            | 43.00 m                  | Initial Level                  | 1.00           |                |                  |  |                   |                    |          |
| Minimum Elevation            | 42.70 m                  | Minimum Level                  | 0.70           |                |                  |  |                   |                    |          |
| Storage Summary              |                          |                                |                |                |                  |  |                   |                    |          |
| Type                         | Constant Area            |                                |                |                |                  |  |                   |                    |          |
| Cross Section                | Non-Circular             | Average Area                   | 1,450.0        |                |                  |  |                   |                    |          |
| inactive Volume              | 151.00 m <sup>3</sup>    | Total Active Volume            | 12,760.00      |                |                  |  |                   |                    |          |
| Total Storage Capacity       | 12,911.00 m <sup>3</sup> |                                |                |                |                  |  |                   |                    |          |
| <b>battali hill top tank</b> |                          |                                |                |                |                  |  |                   |                    |          |
| Calculated Results Summary   |                          |                                |                |                |                  |  |                   |                    |          |
| Time                         | Constituent (mg/l)       | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
| 0.00 hr                      | N/A                      | 43.00                          | 1.00           | 9.78           | 4.5              | 586.00                                   | 367.39            | N/A                | Filling  |
| 1.00 hr                      | N/A                      | 43.94                          | 1.94           | 18.97          | 15.1             | 1,947.46                                 | 386.78            | N/A                | Filling  |
| 2.00 hr                      | N/A                      | 44.94                          | 2.94           | 28.72          | 26.3             | 3,393.97                                 | 412.98            | N/A                | Filling  |
| 3.00 hr                      | N/A                      | 45.98                          | 3.98           | 38.95          | 38.0             | 4,910.05                                 | 427.60            | N/A                | Filling  |
| 4.00 hr                      | N/A                      | 47.07                          | 5.07           | 49.58          | 50.2             | 6,484.89                                 | 441.66            | N/A                | Filling  |
| 5.00 hr                      | N/A                      | 48.06                          | 6.06           | 59.32          | 61.4             | 7,928.50                                 | 333.77            | N/A                | Filling  |
| 6.00 hr                      | N/A                      | 48.54                          | 6.54           | 63.99          | 66.8             | 8,621.14                                 | 127.49            | N/A                | Filling  |
| 7.00 hr                      | N/A                      | 48.68                          | 6.68           | 65.34          | 68.3             | 8,821.48                                 | N/A               | 120.66             | Draining |
| 8.00 hr                      | N/A                      | 48.22                          | 6.22           | 60.87          | 63.2             | 8,158.87                                 | N/A               | 310.25             | Draining |
| 9.00 hr                      | N/A                      | 47.47                          | 5.47           | 53.50          | 54.7             | 7,066.02                                 | N/A               | 328.87             | Draining |
| 10.00 hr                     | N/A                      | 46.69                          | 4.69           | 45.88          | 46.0             | 5,936.46                                 | N/A               | 284.68             | Draining |
| 11.00 hr                     | N/A                      | 46.04                          | 4.04           | 39.53          | 38.7             | 4,996.32                                 | N/A               | 222.20             | Draining |
| 12.00 hr                     | N/A                      | 45.59                          | 3.59           | 35.09          | 33.6             | 4,338.15                                 | N/A               | 128.49             | Draining |

## Detailed Report for Tank: T-Battali Hill

### Calculated Results Summary

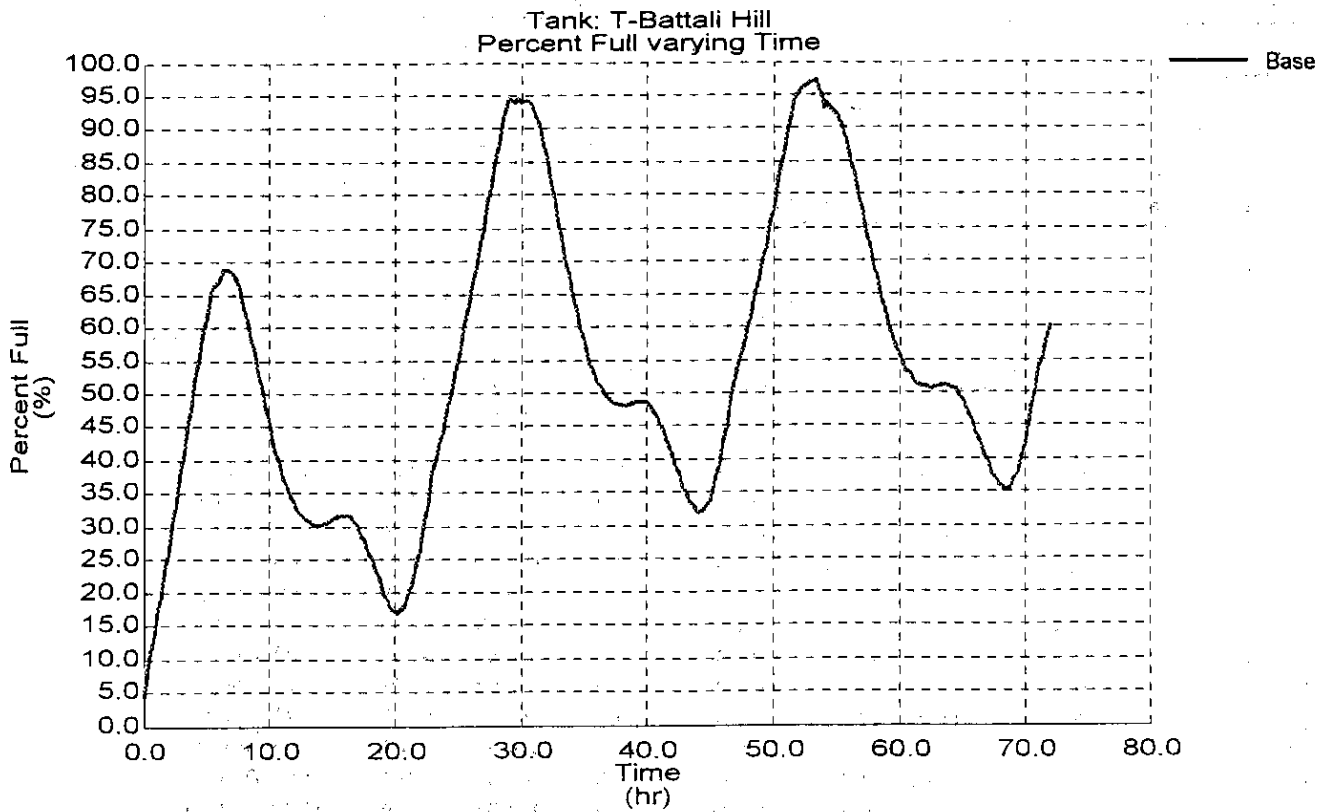
| Time     | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
|----------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| 13.00 hr | N/A                | 45.35                          | 3.35           | 32.80          | 31.0             | 3,998.62                                 | N/A               | 54.28              | Draining |
| 14.00 hr | N/A                | 45.29                          | 3.29           | 32.15          | 30.2             | 3,902.04                                 | 10.49             | N/A                | Filling  |
| 15.00 hr | N/A                | 45.35                          | 3.35           | 32.81          | 31.0             | 3,999.38                                 | 47.99             | N/A                | Filling  |
| 16.00 hr | N/A                | 45.42                          | 3.42           | 33.45          | 31.7             | 4,094.61                                 | N/A               | 7.62               | Draining |
| 17.00 hr | N/A                | 45.28                          | 3.28           | 32.05          | 30.1             | 3,886.24                                 | N/A               | 124.17             | Draining |
| 18.00 hr | N/A                | 44.91                          | 2.91           | 28.47          | 26.0             | 3,355.94                                 | N/A               | 179.42             | Draining |
| 19.00 hr | N/A                | 44.44                          | 2.44           | 23.85          | 20.7             | 2,671.70                                 | N/A               | 205.45             | Draining |
| 20.00 hr | N/A                | 44.12                          | 2.12           | 20.74          | 17.1             | 2,210.76                                 | N/A               | 49.70              | Draining |
| 21.00 hr | N/A                | 44.28                          | 2.28           | 22.33          | 19.0             | 2,446.77                                 | 171.06            | N/A                | Filling  |
| 22.00 hr | N/A                | 44.96                          | 2.96           | 28.99          | 26.6             | 3,433.37                                 | 364.98            | N/A                | Filling  |
| 23.00 hr | N/A                | 45.99                          | 3.99           | 39.05          | 38.1             | 4,923.86                                 | 255.19            | N/A                | Filling  |
| 24.00 hr | N/A                | 46.70                          | 4.70           | 46.01          | 46.1             | 5,956.93                                 | 308.35            | N/A                | Filling  |
| 25.00 hr | N/A                | 47.51                          | 5.51           | 53.86          | 55.1             | 7,119.22                                 | 331.60            | N/A                | Filling  |
| 26.00 hr | N/A                | 48.36                          | 6.36           | 62.23          | 64.8             | 8,360.17                                 | 353.15            | N/A                | Filling  |
| 27.00 hr | N/A                | 49.25                          | 7.25           | 70.95          | 74.8             | 9,652.48                                 | 365.65            | N/A                | Filling  |
| 28.00 hr | N/A                | 50.19                          | 8.19           | 80.11          | 85.3             | 11,010.87                                | 387.32            | N/A                | Filling  |
| 29.00 hr | N/A                | 51.00                          | 9.00           | 88.06          | 94.4             | 12,189.14                                | 16.55             | N/A                | Filling  |
| 30.00 hr | N/A                | 50.94                          | 8.94           | 87.48          | 93.7             | 12,103.64                                | 90.24             | N/A                | Filling  |
| 31.00 hr | N/A                | 50.85                          | 8.85           | 86.62          | 92.8             | 11,975.50                                | N/A               | 152.91             | Draining |
| 32.00 hr | N/A                | 50.25                          | 8.25           | 80.66          | 85.9             | 11,092.10                                | N/A               | 340.34             | Draining |
| 33.00 hr | N/A                | 49.33                          | 7.33           | 71.72          | 75.7             | 9,767.74                                 | N/A               | 367.43             | Draining |
| 34.00 hr | N/A                | 48.47                          | 6.47           | 63.29          | 66.0             | 8,518.00                                 | N/A               | 317.99             | Draining |
| 35.00 hr | N/A                | 47.76                          | 5.76           | 56.30          | 57.9             | 7,481.23                                 | N/A               | 252.97             | Draining |
| 36.00 hr | N/A                | 47.25                          | 5.25           | 51.32          | 52.2             | 6,742.65                                 | N/A               | 149.45             | Draining |
| 37.00 hr | N/A                | 46.98                          | 4.98           | 48.71          | 49.2             | 6,357.14                                 | N/A               | 74.85              | Draining |
| 38.00 hr | N/A                | 46.88                          | 4.88           | 47.76          | 48.1             | 6,215.92                                 | N/A               | 9.72               | Draining |
| 39.00 hr | N/A                | 46.91                          | 4.91           | 48.02          | 48.4             | 6,254.39                                 | 28.28             | N/A                | Filling  |
| 40.00 hr | N/A                | 46.91                          | 4.91           | 48.03          | 48.5             | 6,256.10                                 | N/A               | 26.50              | Draining |
| 41.00 hr | N/A                | 46.69                          | 4.69           | 45.90          | 46.0             | 5,939.82                                 | N/A               | 145.67             | Draining |
| 42.00 hr | N/A                | 46.26                          | 4.26           | 41.65          | 41.1             | 5,310.17                                 | N/A               | 198.18             | Draining |
| 43.00 hr | N/A                | 45.78                          | 3.78           | 36.99          | 35.8             | 4,618.86                                 | N/A               | 176.90             | Draining |
| 44.00 hr | N/A                | 45.48                          | 3.48           | 34.01          | 32.4             | 4,177.31                                 | N/A               | 66.80              | Draining |
| 45.00 hr | N/A                | 45.60                          | 3.60           | 35.20          | 33.7             | 4,354.31                                 | 154.40            | N/A                | Filling  |
| 46.00 hr | N/A                | 46.24                          | 4.24           | 41.46          | 40.9             | 5,281.16                                 | 348.74            | N/A                | Filling  |
| 47.00 hr | N/A                | 47.23                          | 5.23           | 51.17          | 52.1             | 6,721.07                                 | 242.28            | N/A                | Filling  |
| 48.00 hr | N/A                | 47.92                          | 5.92           | 57.91          | 59.8             | 7,719.64                                 | 299.49            | N/A                | Filling  |
| 49.00 hr | N/A                | 48.70                          | 6.70           | 65.53          | 68.5             | 8,849.23                                 | 322.34            | N/A                | Filling  |
| 50.00 hr | N/A                | 49.53                          | 7.53           | 73.67          | 77.9             | 10,056.39                                | 343.70            | N/A                | Filling  |
| 51.00 hr | N/A                | 50.40                          | 8.40           | 82.18          | 87.7             | 11,317.14                                | 356.11            | N/A                | Filling  |
| 52.00 hr | N/A                | 51.08                          | 9.08           | 88.78          | 95.2             | 12,296.72                                | 96.80             | N/A                | Filling  |
| 53.00 hr | N/A                | 51.23                          | 9.23           | 90.24          | 96.9             | 12,513.10                                | 16.55             | N/A                | Filling  |
| 54.00 hr | N/A                | 50.87                          | 8.87           | 86.81          | 93.0             | 12,003.88                                | 116.10            | N/A                | Filling  |
| 55.00 hr | N/A                | 50.77                          | 8.77           | 85.80          | 91.8             | 11,853.68                                | N/A               | 126.43             | Draining |
| 56.00 hr | N/A                | 50.28                          | 8.28           | 80.96          | 86.3             | 11,136.70                                | N/A               | 305.91             | Draining |
| 57.00 hr | N/A                | 49.52                          | 7.52           | 73.54          | 77.7             | 10,036.34                                | N/A               | 336.10             | Draining |
| 58.00 hr | N/A                | 48.73                          | 6.73           | 65.80          | 68.9             | 8,890.44                                 | N/A               | 298.49             | Draining |
| 59.00 hr | N/A                | 48.04                          | 6.04           | 59.11          | 61.2             | 7,897.56                                 | N/A               | 239.50             | Draining |
| 60.00 hr | N/A                | 47.54                          | 5.54           | 54.22          | 55.6             | 7,173.80                                 | N/A               | 144.51             | Draining |
| 61.00 hr | N/A                | 47.25                          | 5.25           | 51.34          | 52.3             | 6,746.00                                 | N/A               | 78.25              | Draining |
| 62.00 hr | N/A                | 47.12                          | 5.12           | 50.09          | 50.8             | 6,561.73                                 | N/A               | 12.74              | Draining |
| 63.00 hr | N/A                | 47.12                          | 5.12           | 50.13          | 50.9             | 6,566.23                                 | 25.54             | N/A                | Filling  |
| 64.00 hr | N/A                | 47.12                          | 5.12           | 50.11          | 50.8             | 6,563.40                                 | N/A               | 29.19              | Draining |
| 65.00 hr | N/A                | 46.94                          | 4.94           | 48.31          | 48.8             | 6,296.74                                 | N/A               | 131.00             | Draining |
| 66.00 hr | N/A                | 46.57                          | 4.57           | 44.75          | 44.7             | 5,768.87                                 | N/A               | 189.28             | Draining |
| 67.00 hr | N/A                | 46.12                          | 4.12           | 40.35          | 39.6             | 5,117.20                                 | N/A               | 169.51             | Draining |



## Detailed Report for Tank: T-Battali Hill

### Calculated Results Summary

| Time     | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status   |
|----------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|----------|
| 68.00 hr | N/A                   | 45.80                                   | 3.80                 | 37.15             | 36.0                   | 4,642.31  | N/A                     | 58.83                    | Draining |
| 69.00 hr | N/A                   | 45.84                                   | 3.84                 | 37.53             | 36.4                   | 4,698.83  | 151.38                  | N/A                      | Filling  |
| 70.00 hr | N/A                   | 46.36                                   | 4.36                 | 42.62             | 42.2                   | 5,453.27  | 347.23                  | N/A                      | Filling  |
| 71.00 hr | N/A                   | 47.29                                   | 5.29                 | 51.72             | 52.7                   | 6,803.05  | 241.67                  | N/A                      | Filling  |
| 72.00 hr | N/A                   | 47.93                                   | 5.93                 | 58.05             | 60.0                   | 7,740.86  | 303.41                  | N/A                      | Filling  |



## Detailed Report for Tank: T-ADC Hill

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                         |                     |          |
|------------------------------|-------------------------|---------------------|----------|
| Label                        | Base                    |                     |          |
| Demand Alternative           | Base-Average Daily      |                     |          |
| Physical Alternative         | Base-Physical           |                     |          |
| Initial Settings Alternative | Base-Initial Settings   |                     |          |
| Operational Alternative      | Base-Operational        |                     |          |
| Age Alternative              | Base-Age Alternative    |                     |          |
| Constituent Alternative      | Base-Constituent        |                     |          |
| Trace Alternative            | Base-Trace Alternative  |                     |          |
| Fire Flow Alternative        | Base-Fire Flow          |                     |          |
| Calibration Summary          |                         |                     |          |
| Demand                       | <none>                  | Roughness           |          |
| Geometric Summary            |                         |                     |          |
| X                            | 519.65 m                | Base Elevation      | 12.00    |
| Y                            | 221.50 m                | Zone                | Zone-1   |
| Connecting Pipes             |                         |                     |          |
| P-407                        |                         |                     |          |
| P-2018                       |                         |                     |          |
| P-185                        |                         |                     |          |
| Operating Range Summary      |                         |                     |          |
| Maximum Elevation            | 38.50 m                 | Maximum Level       | 26.50    |
| Initial Elevation            | 33.50 m                 | Initial Level       | 21.50    |
| Minimum Elevation            | 33.50 m                 | Minimum Level       | 21.50    |
| Storage Summary              |                         |                     |          |
| Type                         | Constant Area           |                     |          |
| Cross Section                | Non-Circular            | Average Area        | 880.0    |
| Inactive Volume              | 145.00 m <sup>3</sup>   | Total Active Volume | 4,400.00 |
| Total Storage Capacity       | 4,545.00 m <sup>3</sup> |                     |          |

adc hill top tank,

| Calculated Results Summary |                    |                                |                |                |                  |  |                   |                    |          |
|----------------------------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| Time                       | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
| 0.00 hr                    | N/A                | 33.50                          | 21.50          | 210.31         | 3.2              | 145.00                                   | 0.00              | 0.00               | Empty    |
| 1.00 hr                    | N/A                | 33.50                          | 21.50          | 210.31         | 3.2              | 145.00                                   | 0.00              | 0.00               | Empty    |
| 2.00 hr                    | N/A                | 33.50                          | 21.50          | 210.31         | 3.2              | 145.00                                   | 0.00              | 0.00               | Empty    |
| 3.00 hr                    | N/A                | 33.50                          | 21.50          | 210.31         | 3.2              | 145.00                                   | 2.64              | N/A                | Filling  |
| 4.00 hr                    | N/A                | 33.54                          | 21.54          | 210.71         | 4.0              | 180.65                                   | 19.79             | N/A                | Filling  |
| 5.00 hr                    | N/A                | 33.64                          | 21.64          | 211.70         | 5.9              | 270.39                                   | 31.36             | N/A                | Filling  |
| 6.00 hr                    | N/A                | 33.78                          | 21.78          | 213.04         | 8.6              | 390.84                                   | 40.69             | N/A                | Filling  |
| 7.00 hr                    | N/A                | 33.95                          | 21.95          | 214.67         | 11.8             | 536.97                                   | 37.99             | N/A                | Filling  |
| 8.00 hr                    | N/A                | 34.09                          | 22.09          | 216.06         | 14.6             | 661.88                                   | 27.00             | N/A                | Filling  |
| 9.00 hr                    | N/A                | 34.11                          | 22.11          | 216.31         | 15.1             | 684.85                                   | N/A               | 25.93              | Draining |
| 10.00 hr                   | N/A                | 33.98                          | 21.98          | 215.01         | 12.5             | 567.85                                   | N/A               | 37.92              | Draining |
| 11.00 hr                   | N/A                | 33.83                          | 21.83          | 213.50         | 9.5              | 431.97                                   | N/A               | 34.30              | Draining |
| 12.00 hr                   | N/A                | 33.74                          | 21.74          | 212.68         | 7.9              | 357.90                                   | 0.00              | 0.00               | Steady   |

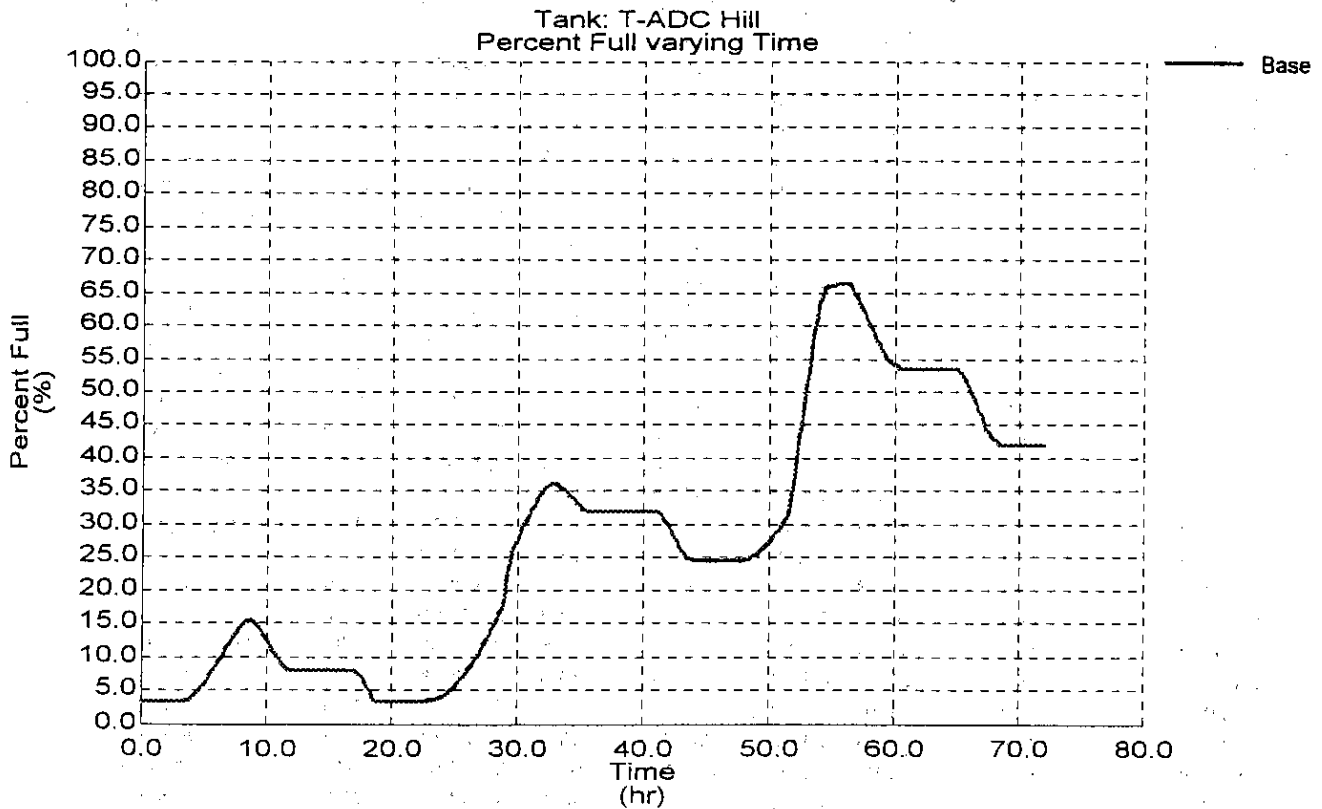
## Detailed Report for Tank: T-ADC Hill

| Calculated Results Summary |                       |   |                      |                   |                        |   |                         |                          |          |
|----------------------------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|----------|
| Time                       | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status   |
| 13.00 hr                   | N/A                   | 33.74                                   | 21.74                | 212.68            | 7.9                    | 357.90  | 0.00                    | 0.00                     | Steady   |
| 14.00 hr                   | N/A                   | 33.74                                   | 21.74                | 212.68            | 7.9                    | 357.90  | 0.00                    | 0.00                     | Steady   |
| 15.00 hr                   | N/A                   | 33.74                                   | 21.74                | 212.68            | 7.9                    | 357.90  | 0.00                    | 0.00                     | Steady   |
| 16.00 hr                   | N/A                   | 33.74                                   | 21.74                | 212.68            | 7.9                    | 357.90  | 0.00                    | 0.00                     | Steady   |
| 17.00 hr                   | N/A                   | 33.74                                   | 21.74                | 212.68            | 7.9                    | 357.90  | N/A                     | 9.54                     | Draining |
| 18.00 hr                   | N/A                   | 33.64                                   | 21.64                | 211.65            | 5.8                    | 265.58  | N/A                     | 46.58                    | Draining |
| 19.00 hr                   | N/A                   | 33.50                                   | 21.50                | 210.31            | 3.2                    | 145.00  | 0.00                    | 0.00                     | Empty    |
| 20.00 hr                   | N/A                   | 33.50                                   | 21.50                | 210.31            | 3.2                    | 145.00  | 0.00                    | 0.00                     | Empty    |
| 21.00 hr                   | N/A                   | 33.50                                   | 21.50                | 210.31            | 3.2                    | 145.00  | 0.00                    | 0.00                     | Empty    |
| 22.00 hr                   | N/A                   | 33.50                                   | 21.50                | 210.31            | 3.2                    | 145.00  | 0.00                    | 0.00                     | Empty    |
| 23.00 hr                   | N/A                   | 33.51                                   | 21.51                | 210.45            | 3.5                    | 157.49  | 1.26                    | N/A                      | Filling  |
| 24.00 hr                   | N/A                   | 33.54                                   | 21.54                | 210.70            | 4.0                    | 179.80  | 13.36                   | N/A                      | Filling  |
| 25.00 hr                   | N/A                   | 33.61                                   | 21.61                | 211.41            | 5.4                    | 243.79  | 24.13                   | N/A                      | Filling  |
| 26.00 hr                   | N/A                   | 33.73                                   | 21.73                | 212.53            | 7.6                    | 344.70  | 33.72                   | N/A                      | Filling  |
| 27.00 hr                   | N/A                   | 33.88                                   | 21.88                | 214.02            | 10.5                   | 478.69  | 42.30                   | N/A                      | Filling  |
| 28.00 hr                   | N/A                   | 34.07                                   | 22.07                | 215.84            | 14.1                   | 642.57  | 50.28                   | N/A                      | Filling  |
| 29.00 hr                   | N/A                   | 34.31                                   | 22.31                | 218.23            | 18.9                   | 857.39  | 185.12                  | N/A                      | Filling  |
| 30.00 hr                   | N/A                   | 34.76                                   | 22.76                | 222.67            | 27.7                   | 1,256.71  | 50.60                   | N/A                      | Filling  |
| 31.00 hr                   | N/A                   | 34.96                                   | 22.96                | 224.62            | 31.5                   | 1,432.41  | 44.87                   | N/A                      | Filling  |
| 32.00 hr                   | N/A                   | 35.13                                   | 23.13                | 226.25            | 34.7                   | 1,578.53  | 33.19                   | N/A                      | Filling  |
| 33.00 hr                   | N/A                   | 35.20                                   | 23.20                | 226.96            | 36.2                   | 1,643.06  | N/A                     | 10.12                    | Draining |
| 34.00 hr                   | N/A                   | 35.13                                   | 23.13                | 226.27            | 34.8                   | 1,580.46  | N/A                     | 27.19                    | Draining |
| 35.00 hr                   | N/A                   | 35.02                                   | 23.02                | 225.22            | 32.7                   | 1,486.45  | N/A                     | 25.35                    | Draining |
| 36.00 hr                   | N/A                   | 34.99                                   | 22.99                | 224.90            | 32.1                   | 1,457.08  | 0.00                    | 0.00                     | Steady   |
| 37.00 hr                   | N/A                   | 34.99                                   | 22.99                | 224.90            | 32.1                   | 1,457.08  | 0.00                    | 0.00                     | Steady   |
| 38.00 hr                   | N/A                   | 34.99                                   | 22.99                | 224.90            | 32.1                   | 1,457.08  | 0.00                    | 0.00                     | Steady   |
| 39.00 hr                   | N/A                   | 34.99                                   | 22.99                | 224.90            | 32.1                   | 1,457.08  | 0.00                    | 0.00                     | Steady   |
| 40.00 hr                   | N/A                   | 34.99                                   | 22.99                | 224.90            | 32.1                   | 1,457.08  | 0.00                    | 0.00                     | Steady   |
| 41.00 hr                   | N/A                   | 34.99                                   | 22.99                | 224.90            | 32.1                   | 1,457.08  | N/A                     | 5.91                     | Draining |
| 42.00 hr                   | N/A                   | 34.88                                   | 22.88                | 223.83            | 30.0                   | 1,361.63  | N/A                     | 44.79                    | Draining |
| 43.00 hr                   | N/A                   | 34.69                                   | 22.69                | 221.99            | 26.3                   | 1,195.32  | N/A                     | 45.43                    | Draining |
| 44.00 hr                   | N/A                   | 34.60                                   | 22.60                | 221.08            | 24.5                   | 1,114.10  | 0.00                    | 0.00                     | Steady   |
| 45.00 hr                   | N/A                   | 34.60                                   | 22.60                | 221.08            | 24.5                   | 1,114.10  | 0.00                    | 0.00                     | Steady   |
| 46.00 hr                   | N/A                   | 34.60                                   | 22.60                | 221.08            | 24.5                   | 1,114.10  | 0.00                    | 0.00                     | Steady   |
| 47.00 hr                   | N/A                   | 34.60                                   | 22.60                | 221.09            | 24.5                   | 1,115.08  | 0.00                    | 0.00                     | Steady   |
| 48.00 hr                   | N/A                   | 34.61                                   | 22.61                | 221.13            | 24.6                   | 1,118.58  | 6.26                    | N/A                      | Filling  |
| 49.00 hr                   | N/A                   | 34.65                                   | 22.65                | 221.58            | 25.5                   | 1,158.58  | 17.95                   | N/A                      | Filling  |
| 50.00 hr                   | N/A                   | 34.74                                   | 22.74                | 222.46            | 27.2                   | 1,238.33  | 28.17                   | N/A                      | Filling  |
| 51.00 hr                   | N/A                   | 34.87                                   | 22.87                | 223.74            | 29.8                   | 1,353.10  | 37.20                   | N/A                      | Filling  |
| 52.00 hr                   | N/A                   | 35.23                                   | 23.23                | 227.27            | 36.8                   | 1,670.36  | 181.29                  | N/A                      | Filling  |
| 53.00 hr                   | N/A                   | 35.96                                   | 23.96                | 234.36            | 50.8                   | 2,308.88  | 172.01                  | N/A                      | Filling  |
| 54.00 hr                   | N/A                   | 36.62                                   | 24.62                | 240.87            | 63.7                   | 2,894.02  | 11.29                   | N/A                      | Filling  |
| 55.00 hr                   | N/A                   | 36.75                                   | 24.75                | 242.09            | 66.1                   | 3,003.92  | 4.99                    | N/A                      | Filling  |
| 56.00 hr                   | N/A                   | 36.76                                   | 24.76                | 242.18            | 66.3                   | 3,012.37  | N/A                     | 13.59                    | Draining |
| 57.00 hr                   | N/A                   | 36.66                                   | 24.66                | 241.18            | 64.3                   | 2,922.13  | N/A                     | 50.48                    | Draining |
| 58.00 hr                   | N/A                   | 36.45                                   | 24.45                | 239.17            | 60.3                   | 2,741.11  | N/A                     | 52.46                    | Draining |
| 59.00 hr                   | N/A                   | 36.25                                   | 24.25                | 237.20            | 56.4                   | 2,564.28  | N/A                     | 42.46                    | Draining |
| 60.00 hr                   | N/A                   | 36.13                                   | 24.13                | 236.02            | 54.1                   | 2,458.27  | N/A                     | 8.70                     | Draining |
| 61.00 hr                   | N/A                   | 36.10                                   | 24.10                | 235.77            | 53.6                   | 2,435.06  | 0.00                    | 0.00                     | Steady   |
| 62.00 hr                   | N/A                   | 36.10                                   | 24.10                | 235.77            | 53.6                   | 2,435.06  | 0.00                    | 0.00                     | Steady   |
| 63.00 hr                   | N/A                   | 36.10                                   | 24.10                | 235.77            | 53.6                   | 2,435.06  | 0.00                    | 0.00                     | Steady   |
| 64.00 hr                   | N/A                   | 36.10                                   | 24.10                | 235.77            | 53.6                   | 2,435.06  | 0.00                    | 0.00                     | Steady   |
| 65.00 hr                   | N/A                   | 36.09                                   | 24.09                | 235.66            | 53.4                   | 2,425.44  | N/A                     | 23.69                    | Draining |
| 66.00 hr                   | N/A                   | 35.95                                   | 23.95                | 234.31            | 50.7                   | 2,303.63  | N/A                     | 57.68                    | Draining |
| 67.00 hr                   | N/A                   | 35.72                                   | 23.72                | 232.01            | 46.1                   | 2,097.16  | N/A                     | 57.15                    | Draining |

## Detailed Report for Tank: T-ADC Hill

### Calculated Results Summary

| Time     | Constituent<br>(mg/l) | Calculated<br>Hydraulic<br>Grade<br>(m) | Tank<br>Level<br>(m) | Pressure<br>(kPa) | Percent<br>Full<br>(%) | Current<br>Storage<br>Volume<br>(m <sup>3</sup> ) | Tank<br>Inflow<br>(l/s) | Tank<br>Outflow<br>(l/s) | Status   |
|----------|-----------------------|---|----------------------|-------------------|------------------------|---|-------------------------|--------------------------|----------|
| 68.00 hr | N/A                   | 35.54                                   | 23.54                | 230.27            | 42.7                   | 1,940.79  | N/A                     | 12.02                    | Draining |
| 69.00 hr | N/A                   | 35.51                                   | 23.51                | 229.94            | 42.0                   | 1,911.10  | 0.00                    | 0.00                     | Steady   |
| 70.00 hr | N/A                   | 35.51                                   | 23.51                | 229.94            | 42.0                   | 1,911.10  | 0.00                    | 0.00                     | Steady   |
| 71.00 hr | N/A                   | 35.51                                   | 23.51                | 229.94            | 42.0                   | 1,911.10  | 0.00                    | 0.00                     | Steady   |
| 72.00 hr | N/A                   | 35.51                                   | 23.51                | 229.94            | 42.0                   | 1,911.10  | 0.00                    | 0.00                     | Steady   |



## Detailed Report for Tank: T-Patenga

**Note:**

The input data may have been modified since the last calculation was performed.  
The calculated results may be outdated.

| Scenario Summary             |                          |                                |                |                     |                  |  |                   |                    |          |  |
|------------------------------|--------------------------|--------------------------------|----------------|---------------------|------------------|--|-------------------|--------------------|----------|--|
| Label                        | Base                     |                                |                |                     |                  |  |                   |                    |          |  |
| Demand Alternative           | Base-Average Daily       |                                |                |                     |                  |  |                   |                    |          |  |
| Physical Alternative         | Base-Physical            |                                |                |                     |                  |  |                   |                    |          |  |
| Initial Settings Alternative | Base-Initial Settings    |                                |                |                     |                  |  |                   |                    |          |  |
| Operational Alternative      | Base-Operational         |                                |                |                     |                  |  |                   |                    |          |  |
| Age Alternative              | Base-Age Alternative     |                                |                |                     |                  |  |                   |                    |          |  |
| Constituent Alternative      | Base-Constituent         |                                |                |                     |                  |  |                   |                    |          |  |
| Trace Alternative            | Base-Trace Alternative   |                                |                |                     |                  |  |                   |                    |          |  |
| Fire Flow Alternative        | Base-Fire Flow           |                                |                |                     |                  |  |                   |                    |          |  |
| Calibration Summary          |                          |                                |                |                     |                  |  |                   |                    |          |  |
| Demand                       | <none>                   |                                |                | Roughness           |                  |  |                   |                    |          |  |
| Geometric Summary            |                          |                                |                |                     |                  |  |                   |                    |          |  |
| X                            | 263.37 m                 |                                | Base Elevation |                     |                  |  | 1.00              |                    |          |  |
| Y                            | 45.58 m                  |                                | Zone           |                     |                  |  | Zone-Pat          |                    |          |  |
| Connecting Pipes             |                          |                                |                |                     |                  |  |                   |                    |          |  |
| P-638                        |                          |                                |                |                     |                  |  |                   |                    |          |  |
| P-2060-2                     |                          |                                |                |                     |                  |  |                   |                    |          |  |
| P-622                        |                          |                                |                |                     |                  |  |                   |                    |          |  |
| Operating Range Summary      |                          |                                |                |                     |                  |  |                   |                    |          |  |
| Maximum Elevation            | 7.00 m                   |                                | Maximum Level  |                     |                  |  | 6.00              |                    |          |  |
| Initial Elevation            | 2.50 m                   |                                | Initial Level  |                     |                  |  | 1.50              |                    |          |  |
| Minimum Elevation            | 1.00 m                   |                                | Minimum Level  |                     |                  |  | 0.00              |                    |          |  |
| Storage Summary              |                          |                                |                |                     |                  |  |                   |                    |          |  |
| Type                         | Constant Area            |                                |                |                     |                  |  |                   |                    |          |  |
| Cross Section                | Non-Circular             |                                |                | Average Area        |                  |  |                   | 2,000.0            |          |  |
| Inactive Volume              | 0.00 m <sup>3</sup>      |                                |                | Total Active Volume |                  |  |                   | 12,000.00          |          |  |
| Total Storage Capacity       | 12,000.00 m <sup>3</sup> |                                |                |                     |                  |  |                   |                    |          |  |
| Calculated Results Summary   |                          |                                |                |                     |                  |  |                   |                    |          |  |
| Time                         | Constituent (mg/l)       | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa)      | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |  |
| 0.00 hr                      | N/A                      | 2.50                           | 1.50           | 14.67               | 25.0             | 3,000.00                                 | 251.82            | N/A                | Filling  |  |
| 1.00 hr                      | N/A                      | 2.98                           | 1.98           | 19.32               | 32.9             | 3,950.21                                 | 276.10            | N/A                | Filling  |  |
| 2.00 hr                      | N/A                      | 3.50                           | 2.50           | 24.46               | 41.7             | 5,001.42                                 | 308.10            | N/A                | Filling  |  |
| 3.00 hr                      | N/A                      | 4.07                           | 3.07           | 30.08               | 51.2             | 6,149.13                                 | 331.67            | N/A                | Filling  |  |
| 4.00 hr                      | N/A                      | 4.70                           | 3.70           | 36.15               | 61.6             | 7,390.45                                 | 357.37            | N/A                | Filling  |  |
| 5.00 hr                      | N/A                      | 5.30                           | 4.30           | 42.08               | 71.7             | 8,604.34                                 | 302.03            | N/A                | Filling  |  |
| 6.00 hr                      | N/A                      | 5.69                           | 4.69           | 45.86               | 78.1             | 9,376.79                                 | 50.47             | N/A                | Filling  |  |
| 7.00 hr                      | N/A                      | 5.70                           | 4.70           | 45.95               | 78.3             | 9,394.48                                 | N/A               | 111.34             | Draining |  |
| 8.00 hr                      | N/A                      | 5.42                           | 4.42           | 43.21               | 73.6             | 8,835.39                                 | N/A               | 244.27             | Draining |  |
| 9.00 hr                      | N/A                      | 4.96                           | 3.96           | 38.73               | 66.0             | 7,917.92                                 | N/A               | 295.43             | Draining |  |
| 10.00 hr                     | N/A                      | 4.43                           | 3.43           | 33.58               | 57.2             | 6,865.61                                 | N/A               | 280.44             | Draining |  |
| 11.00 hr                     | N/A                      | 3.95                           | 2.95           | 28.88               | 49.2             | 5,903.80                                 | N/A               | 242.55             | Draining |  |
| 12.00 hr                     | N/A                      | 3.57                           | 2.57           | 25.17               | 42.9             | 5,146.77                                 | N/A               | 164.63             | Draining |  |
| 13.00 hr                     | N/A                      | 3.31                           | 2.31           | 22.64               | 38.6             | 4,629.26                                 | N/A               | 119.22             | Draining |  |

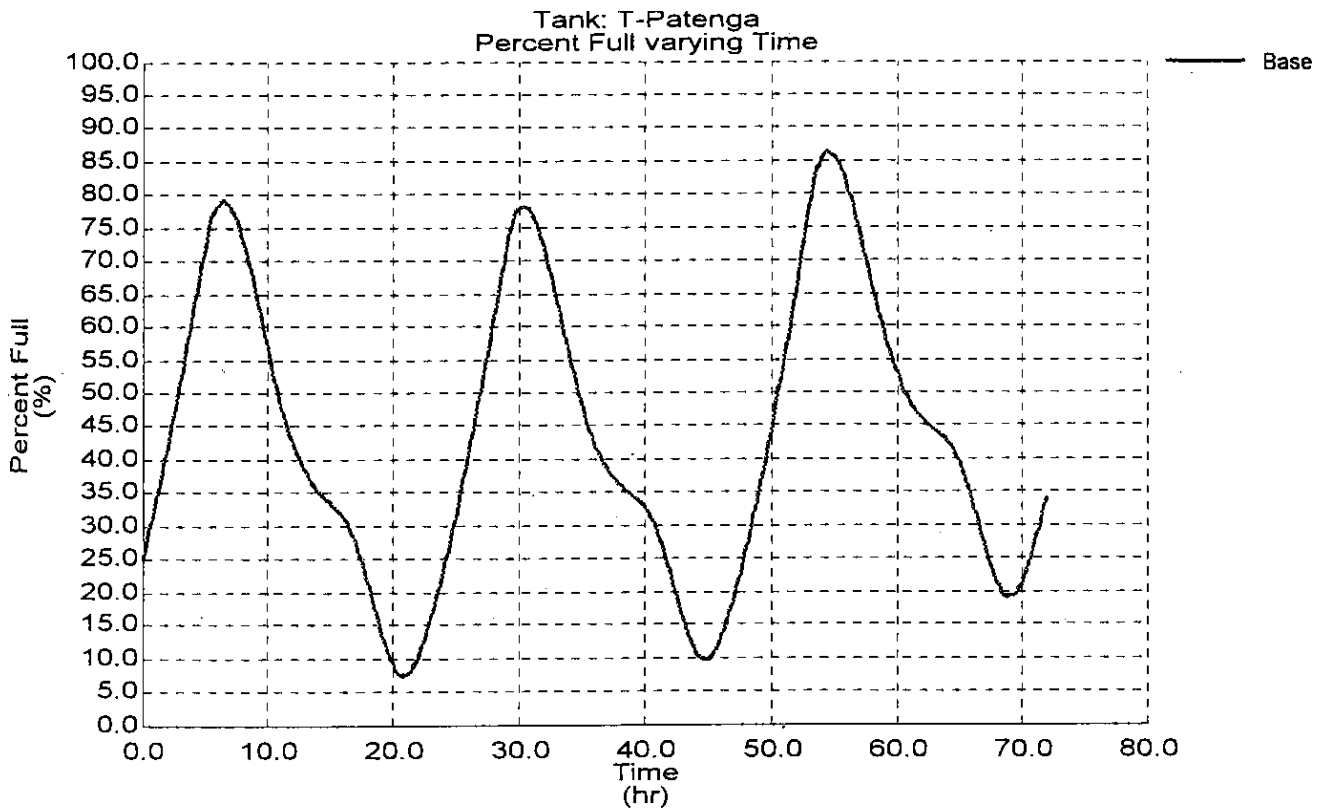
## Detailed Report for Tank: T-Patenga

### Calculated Results Summary

| Time     | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status   |
|----------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|----------|
| 14.00 hr | N/A                | 3.13                           | 2.13           | 20.85          | 35.5             | 4,263.04                                 | N/A               | 77.52              | Draining |
| 15.00 hr | N/A                | 3.01                           | 2.01           | 19.68          | 33.5             | 4,024.31                                 | N/A               | 51.80              | Draining |
| 16.00 hr | N/A                | 2.89                           | 1.89           | 18.53          | 31.6             | 3,788.86                                 | N/A               | 87.45              | Draining |
| 17.00 hr | N/A                | 2.68                           | 1.68           | 16.40          | 27.9             | 3,353.32                                 | N/A               | 172.66             | Draining |
| 18.00 hr | N/A                | 2.32                           | 1.32           | 12.87          | 21.9             | 2,631.65                                 | N/A               | 238.78             | Draining |
| 19.00 hr | N/A                | 1.88                           | 0.88           | 8.65           | 14.7             | 1,768.16                                 | N/A               | 232.28             | Draining |
| 20.00 hr | N/A                | 1.55                           | 0.55           | 5.41           | 9.2              | 1,106.91                                 | N/A               | 134.42             | Draining |
| 21.00 hr | N/A                | 1.45                           | 0.45           | 4.39           | 7.5              | 897.11                                   | 13.52             | N/A                | Filling  |
| 22.00 hr | N/A                | 1.60                           | 0.60           | 5.88           | 10.0             | 1,201.77                                 | 151.56            | N/A                | Filling  |
| 23.00 hr | N/A                | 1.94                           | 0.94           | 9.22           | 15.7             | 1,885.67                                 | 220.75            | N/A                | Filling  |
| 24.00 hr | N/A                | 2.38                           | 1.38           | 13.54          | 23.1             | 2,769.01                                 | 265.79            | N/A                | Filling  |
| 25.00 hr | N/A                | 2.89                           | 1.89           | 18.47          | 31.5             | 3,776.03                                 | 292.17            | N/A                | Filling  |
| 26.00 hr | N/A                | 3.44                           | 2.44           | 23.85          | 40.6             | 4,876.55                                 | 318.75            | N/A                | Filling  |
| 27.00 hr | N/A                | 4.03                           | 3.03           | 29.62          | 50.5             | 6,055.33                                 | 338.89            | N/A                | Filling  |
| 28.00 hr | N/A                | 4.66                           | 3.66           | 35.81          | 61.0             | 7,322.47                                 | 365.96            | N/A                | Filling  |
| 29.00 hr | N/A                | 5.28                           | 4.28           | 41.88          | 71.3             | 8,561.89                                 | 358.81            | N/A                | Filling  |
| 30.00 hr | N/A                | 5.67                           | 4.67           | 45.64          | 77.8             | 9,331.42                                 | 61.79             | N/A                | Filling  |
| 31.00 hr | N/A                | 5.63                           | 4.63           | 45.27          | 77.1             | 9,255.24                                 | N/A               | 100.30             | Draining |
| 32.00 hr | N/A                | 5.33                           | 4.33           | 42.37          | 72.2             | 8,662.96                                 | N/A               | 233.44             | Draining |
| 33.00 hr | N/A                | 4.86                           | 3.86           | 37.73          | 64.3             | 7,714.70                                 | N/A               | 284.55             | Draining |
| 34.00 hr | N/A                | 4.36                           | 3.36           | 32.83          | 55.9             | 6,712.58                                 | N/A               | 269.10             | Draining |
| 35.00 hr | N/A                | 3.90                           | 2.90           | 28.41          | 48.4             | 5,809.45                                 | N/A               | 231.48             | Draining |
| 36.00 hr | N/A                | 3.56                           | 2.56           | 25.03          | 42.7             | 5,118.37                                 | N/A               | 154.10             | Draining |
| 37.00 hr | N/A                | 3.33                           | 2.33           | 22.78          | 38.8             | 4,657.94                                 | N/A               | 108.82             | Draining |
| 38.00 hr | N/A                | 3.17                           | 2.17           | 21.27          | 36.2             | 4,348.00                                 | N/A               | 67.31              | Draining |
| 39.00 hr | N/A                | 3.08                           | 2.08           | 20.32          | 34.6             | 4,154.26                                 | N/A               | 41.86              | Draining |
| 40.00 hr | N/A                | 2.97                           | 1.97           | 19.26          | 32.8             | 3,938.30                                 | N/A               | 77.93              | Draining |
| 41.00 hr | N/A                | 2.75                           | 1.75           | 17.16          | 29.2             | 3,509.13                                 | N/A               | 163.58             | Draining |
| 42.00 hr | N/A                | 2.40                           | 1.40           | 13.67          | 23.3             | 2,793.99                                 | N/A               | 230.10             | Draining |
| 43.00 hr | N/A                | 1.98                           | 0.98           | 9.62           | 16.4             | 1,966.87                                 | N/A               | 223.58             | Draining |
| 44.00 hr | N/A                | 1.67                           | 0.67           | 6.54           | 11.1             | 1,337.33                                 | N/A               | 125.62             | Draining |
| 45.00 hr | N/A                | 1.58                           | 0.58           | 5.68           | 9.7              | 1,160.44                                 | 21.92             | N/A                | Filling  |
| 46.00 hr | N/A                | 1.75                           | 0.75           | 7.31           | 12.5             | 1,495.12                                 | 159.71            | N/A                | Filling  |
| 47.00 hr | N/A                | 2.11                           | 1.11           | 10.82          | 18.4             | 2,211.76                                 | 231.47            | N/A                | Filling  |
| 48.00 hr | N/A                | 2.57                           | 1.57           | 15.32          | 26.1             | 3,133.28                                 | 276.07            | N/A                | Filling  |
| 49.00 hr | N/A                | 3.09                           | 2.09           | 20.43          | 34.8             | 4,176.59                                 | 302.32            | N/A                | Filling  |
| 50.00 hr | N/A                | 3.66                           | 2.66           | 25.98          | 44.3             | 5,312.01                                 | 328.13            | N/A                | Filling  |
| 51.00 hr | N/A                | 4.26                           | 3.26           | 31.92          | 54.4             | 6,525.80                                 | 348.50            | N/A                | Filling  |
| 52.00 hr | N/A                | 4.94                           | 3.94           | 38.57          | 65.7             | 7,886.91                                 | 422.70            | N/A                | Filling  |
| 53.00 hr | N/A                | 5.66                           | 4.66           | 45.57          | 77.6             | 9,316.88                                 | 367.41            | N/A                | Filling  |
| 54.00 hr | N/A                | 6.11                           | 5.11           | 50.01          | 85.2             | 10,225.18                                | 73.89             | N/A                | Filling  |
| 55.00 hr | N/A                | 6.13                           | 5.13           | 50.20          | 85.5             | 10,262.87                                | N/A               | 86.89              | Draining |
| 56.00 hr | N/A                | 5.88                           | 4.88           | 47.78          | 81.4             | 9,769.08                                 | N/A               | 221.76             | Draining |
| 57.00 hr | N/A                | 5.46                           | 4.46           | 43.68          | 74.4             | 8,929.94                                 | N/A               | 276.95             | Draining |
| 58.00 hr | N/A                | 4.98                           | 3.98           | 38.93          | 66.3             | 7,959.21                                 | N/A               | 265.07             | Draining |
| 59.00 hr | N/A                | 4.53                           | 3.53           | 34.49          | 58.8             | 7,052.08                                 | N/A               | 229.67             | Draining |
| 60.00 hr | N/A                | 4.17                           | 3.17           | 30.99          | 52.8             | 6,335.52                                 | N/A               | 152.22             | Draining |
| 61.00 hr | N/A                | 3.92                           | 2.92           | 28.60          | 48.7             | 5,846.99                                 | N/A               | 107.12             | Draining |
| 62.00 hr | N/A                | 3.76                           | 2.76           | 27.01          | 46.0             | 5,522.09                                 | N/A               | 65.80              | Draining |
| 63.00 hr | N/A                | 3.66                           | 2.66           | 26.01          | 44.3             | 5,317.92                                 | N/A               | 40.50              | Draining |
| 64.00 hr | N/A                | 3.56                           | 2.56           | 24.99          | 42.6             | 5,110.33                                 | N/A               | 76.58              | Draining |
| 65.00 hr | N/A                | 3.36                           | 2.36           | 23.08          | 39.3             | 4,719.11                                 | N/A               | 162.01             | Draining |
| 66.00 hr | N/A                | 3.03                           | 2.03           | 19.90          | 33.9             | 4,067.89                                 | N/A               | 228.08             | Draining |
| 67.00 hr | N/A                | 2.63                           | 1.63           | 15.93          | 27.1             | 3,257.48                                 | N/A               | 221.38             | Draining |
| 68.00 hr | N/A                | 2.29                           | 1.29           | 12.59          | 21.4             | 2,573.89                                 | N/A               | 123.63             | Draining |

## Detailed Report for Tank: T-Patenga

| Calculated Results Summary |                    |                                |                |                |                  |  |                   |                    |         |
|----------------------------|--------------------|--------------------------------|----------------|----------------|------------------|--|-------------------|--------------------|---------|
| Time                       | Constituent (mg/l) | Calculated Hydraulic Grade (m) | Tank Level (m) | Pressure (kPa) | Percent Full (%) | Current Storage Volume (m <sup>3</sup> ) | Tank Inflow (l/s) | Tank Outflow (l/s) | Status  |
| 69.00 hr                   | N/A                | 2.16                           | 1.16           | 11.31          | 19.3             | 2,312.68                                 | 23.54             | N/A                | Filling |
| 70.00 hr                   | N/A                | 2.27                           | 1.27           | 12.44          | 21.2             | 2,543.93                                 | 160.46            | N/A                | Filling |
| 71.00 hr                   | N/A                | 2.60                           | 1.60           | 15.68          | 26.7             | 3,205.99                                 | 229.62            | N/A                | Filling |
| 72.00 hr                   | N/A                | 3.04                           | 2.04           | 20.00          | 34.1             | 4,088.24                                 | 278.30            | N/A                | Filling |



### **7.4-3-3 Hydraulic Analysis for Basic Plan Phase 2 (2010)**

- Junction Report (for peak time of 09:00hrs)
- Pipe Report (for peak time of 09:00hrs)
- Detailed Report for Tank (Reservoir)



**Basic Plan Phase 2 (2010)**  
**Extended Period Analysis: 9.0 hr / 72.0 hr**  
**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-1T       | 3.8              | Demand         | 0.00            | Fixed             | 0.00                          | 74.63                                | 692.85            | 70.83                   |
| J-2T       | 4.3              | Demand         | 0.00            | Fixed             | 0.00                          | 74.12                                | 682.96            | 69.82                   |
| J-3T       | 4.6              | Demand         | 0.00            | Fixed             | 0.00                          | 73.61                                | 675.03            | 69.01                   |
| J-4T       | 4.0              | Demand         | 0.00            | Fixed             | 0.00                          | 71.59                                | 661.19            | 67.59                   |
| J-5T       | 3.7              | Demand         | 0.00            | Fixed             | 0.00                          | 68.18                                | 630.77            | 64.48                   |
| J-6T       | 4.0              | Demand         | 0.00            | Fixed             | 0.00                          | 64.95                                | 596.18            | 60.95                   |
| J-7T       | 4.0              | Demand         | 0.00            | Fixed             | 0.00                          | 57.14                                | 519.80            | 53.14                   |
| J-8T       | 6.0              | Demand         | 0.00            | Fixed             | 0.00                          | 53.38                                | 463.46            | 47.38                   |
| J-9T       | 6.8              | Demand         | 0.00            | Fixed             | 0.00                          | 49.81                                | 420.76            | 43.01                   |
| J-10T      | 9.0              | Demand         | 0.00            | Fixed             | 0.00                          | 47.56                                | 377.15            | 38.56                   |
| J-11T      | 12.8             | Demand         | 0.00            | Fixed             | 0.00                          | 45.33                                | 318.23            | 32.53                   |
| J-12T      | 15.5             | Demand         | 0.00            | Fixed             | 0.00                          | 44.14                                | 280.15            | 28.64                   |
| J-13T      | 21.5             | Demand         | 0.00            | Fixed             | 0.00                          | 44.14                                | 221.46            | 22.64                   |
| J-14T      | 15.1             | Demand         | 0.00            | Fixed             | 0.00                          | 38.90                                | 232.79            | 23.80                   |
| J-15T      | 13.9             | Demand         | 0.00            | Fixed             | 0.00                          | 37.98                                | 235.51            | 24.08                   |
| J-16T      | 9.0              | Demand         | 0.00            | Fixed             | 0.00                          | 36.11                                | 265.16            | 27.11                   |
| J-17T-1    | 11.4             | Demand         | 0.00            | Fixed             | 0.00                          | 36.11                                | 241.68            | 24.71                   |
| J-17T-2    | 10.5             | Demand         | 0.00            | Fixed             | 0.00                          | 38.29                                | 271.89            | 27.79                   |
| J-18T      | 8.0              | Demand         | 0.00            | Fixed             | 0.00                          | 37.82                                | 291.72            | 29.82                   |
| J-19T      | 8.0              | Demand         | 0.00            | Fixed             | 0.00                          | 36.64                                | 280.14            | 28.64                   |
| J-20T      | 3.9              | Demand         | 0.00            | Fixed             | 0.00                          | 34.63                                | 300.55            | 30.73                   |
| J-21T1     | 4.5              | Demand         | 0.00            | Fixed             | 0.00                          | 33.94                                | 287.95            | 29.44                   |
| J-21T2     | 4.5              | Demand         | 0.00            | Fixed             | 0.00                          | 19.94                                | 151.07            | 15.44                   |
| J-22T      | 4.7              | Demand         | 0.00            | Fixed             | 0.00                          | 17.85                                | 128.61            | 13.15                   |
| J-23T      | 4.4              | Demand         | 0.00            | Fixed             | 0.00                          | 12.30                                | 77.28             | 7.90                    |
| J-31T      | 10.0             | Demand         | 0.00            | Fixed             | 0.00                          | 45.94                                | 351.60            | 35.94                   |
| J-32T      | 10.0             | Demand         | 0.00            | Fixed             | 0.00                          | 44.55                                | 337.95            | 34.55                   |
| J-33T      | 12.3             | Demand         | 0.00            | Fixed             | 0.00                          | 40.60                                | 276.85            | 28.30                   |
| J-34T      | 9.0              | Demand         | 0.00            | Fixed             | 0.00                          | 37.57                                | 279.45            | 28.57                   |
| J-35T      | 12.8             | Demand         | 0.00            | Fixed             | 0.00                          | 34.75                                | 214.67            | 21.95                   |
| J-36T      | 15.5             | Demand         | 0.00            | Fixed             | 0.00                          | 31.95                                | 160.94            | 16.45                   |
| J-37T      | 8.0              | Demand         | 0.00            | Fixed             | 0.00                          | 26.87                                | 184.58            | 18.87                   |
| J-38T      | 6.0              | Demand         | 0.00            | Fixed             | 0.00                          | 22.88                                | 165.10            | 16.88                   |
| J-39T      | 6.0              | Demand         | 0.00            | Fixed             | 0.00                          | 22.68                                | 163.17            | 16.68                   |
| J-40T      | 4.5              | Demand         | 0.00            | Fixed             | 0.00                          | 19.98                                | 151.42            | 15.48                   |
| J-41T      | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 14.05                                | 88.55             | 9.05                    |
| J-100-     | 4.6              | Demand         | 53.27           | 1.5               | 79.53                         | 19.94                                | 150.03            | 15.34                   |
| J-101-     | 4.0              | Demand         | 53.27           | 1.5               | 79.53                         | 21.53                                | 171.49            | 17.53                   |
| J-102-     | 3.7              | Demand         | 33.19           | 1.5               | 49.55                         | 24.79                                | 206.33            | 21.09                   |
| J-103-     | 4.0              | Demand         | 6.55            | 1.5               | 9.78                          | 22.66                                | 182.52            | 18.66                   |
| J-104-     | 4.0              | Demand         | 6.55            | 1.5               | 9.78                          | 22.66                                | 182.53            | 18.66                   |
| J-105-     | 4.0              | Demand         | 53.27           | 1.5               | 79.53                         | 18.46                                | 141.46            | 14.46                   |
| J-106-     | 3.8              | Demand         | 13.10           | 1.5               | 19.56                         | 22.38                                | 181.75            | 18.58                   |
| J-107-     | 3.9              | Demand         | 13.10           | 1.5               | 19.56                         | 20.74                                | 164.77            | 16.84                   |
| J-108-     | 4.0              | Demand         | 13.10           | 1.5               | 19.56                         | 19.07                                | 147.37            | 15.07                   |
| J-109-     | 5.0              | Demand         | 13.10           | 1.5               | 19.56                         | 17.36                                | 120.90            | 12.36                   |
| J-110-     | 4.0              | Demand         | 13.10           | 1.5               | 19.56                         | 17.36                                | 130.72            | 13.36                   |
| J-111-1    | 5.0              | Demand         | 6.55            | 1.5               | 9.78                          | 18.58                                | 132.82            | 13.58                   |
| J-111-2    | 5.0              | Demand         | 6.55            | 1.5               | 9.78                          | 18.45                                | 131.61            | 13.45                   |
| J-111-3    | 6.0              | Demand         | 6.55            | 1.5               | 9.78                          | 18.25                                | 119.83            | 12.25                   |
| J-112-     | 5.1              | Demand         | 6.55            | 1.5               | 9.78                          | 17.99                                | 126.05            | 12.89                   |
| J-113-     | 4.0              | Demand         | 0.00            | 1.5               | 0.00                          | 52.61                                | 475.50            | 48.61                   |
| J-114-     | 4.0              | Demand         | 13.10           | 1.5               | 19.56                         | 52.51                                | 474.54            | 48.51                   |
| J-115-     | 7.0              | Demand         | 7.01            | 1.5               | 10.47                         | 46.98                                | 391.09            | 39.98                   |
| J-116-     | 6.0              | Demand         | 0.00            | 1.5               | 0.00                          | 46.25                                | 393.69            | 40.25                   |

### Junction Report

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-117-     | 6.0              | Demand         | 9.92            | 1.5               | 14.81                         | 45.93                                | 390.62            | 39.93                   |
| J-118-1    | 7.0              | Demand         | 6.18            | 1.5               | 9.23                          | 41.09                                | 333.48            | 34.09                   |
| J-118-2    | 6.0              | Demand         | 6.18            | 1.5               | 9.23                          | 18.55                                | 122.77            | 12.55                   |
| J-119-     | 6.0              | Demand         | 11.62           | 1.5               | 17.35                         | 17.65                                | 113.92            | 11.65                   |
| J-120-     | 6.0              | Demand         | 11.62           | 1.5               | 17.35                         | 17.26                                | 110.17            | 11.26                   |
| J-121-     | 7.0              | Demand         | 6.64            | 1.5               | 9.91                          | 45.63                                | 377.85            | 38.63                   |
| J-122-     | 7.0              | Demand         | 14.96           | 1.5               | 22.34                         | 44.41                                | 365.93            | 37.41                   |
| J-123-     | 6.8              | Demand         | 6.64            | 1.5               | 9.91                          | 44.41                                | 367.90            | 37.61                   |
| J-124-     | 7.0              | Demand         | 10.15           | 1.5               | 15.15                         | 37.38                                | 297.17            | 30.38                   |
| J-125-     | 8.0              | Demand         | 11.62           | 1.5               | 17.35                         | 36.41                                | 277.92            | 28.41                   |
| J-126-     | 8.0              | Demand         | 43.24           | 1.5               | 64.56                         | 30.28                                | 217.91            | 22.28                   |
| J-127-     | 7.0              | Demand         | 47.59           | 1.5               | 71.05                         | 37.21                                | 295.56            | 30.21                   |
| J-128-     | 8.0              | Demand         | 115.64          | 1.5               | 172.65                        | 25.82                                | 174.33            | 17.82                   |
| J-129-     | 8.0              | Demand         | 107.29          | 1.5               | 160.18                        | 19.92                                | 116.63            | 11.92                   |
| J-130-     | 7.0              | Demand         | 2.17            | 1.5               | 3.24                          | 37.22                                | 295.56            | 30.22                   |
| J-131-     | 7.0              | Demand         | 2.17            | 1.5               | 3.24                          | 37.55                                | 298.85            | 30.55                   |
| J-132-     | 7.0              | Demand         | 8.69            | 1.5               | 12.97                         | 36.76                                | 291.14            | 29.76                   |
| J-133-     | 7.0              | Demand         | 41.78           | 1.5               | 62.38                         | 34.68                                | 270.80            | 27.68                   |
| J-134-     | 7.0              | Demand         | 8.69            | 1.5               | 12.97                         | 36.26                                | 286.27            | 29.26                   |
| J-135-     | 8.0              | Demand         | 10.73           | 1.5               | 16.02                         | 34.45                                | 258.75            | 26.45                   |
| J-136-     | 8.0              | Demand         | 67.22           | 1.5               | 100.36                        | 31.67                                | 231.57            | 23.67                   |
| J-137-     | 8.0              | Demand         | 2.17            | 1.5               | 3.24                          | 37.41                                | 287.65            | 29.41                   |
| J-138-     | 8.0              | Demand         | 2.17            | 1.5               | 3.24                          | 39.85                                | 311.51            | 31.85                   |
| J-139-     | 8.0              | Demand         | 8.69            | 1.5               | 12.97                         | 40.16                                | 314.59            | 32.16                   |
| J-140-     | 8.0              | Demand         | 11.82           | 1.5               | 17.65                         | 40.94                                | 322.23            | 32.94                   |
| J-141-     | 8.0              | Demand         | 14.96           | 1.5               | 22.34                         | 43.10                                | 343.30            | 35.10                   |
| J-142-     | 8.0              | Demand         | 18.40           | 1.5               | 27.47                         | 44.91                                | 361.03            | 36.91                   |
| J-143-     | 5.7              | Demand         | 14.96           | 1.5               | 22.34                         | 17.70                                | 117.41            | 12.00                   |
| J-144-     | 7.4              | Demand         | 18.40           | 1.5               | 27.47                         | 43.84                                | 356.44            | 36.44                   |
| J-145-     | 6.8              | Demand         | 21.84           | 1.5               | 32.61                         | 48.95                                | 412.33            | 42.15                   |
| J-146-     | 6.8              | Demand         | 21.84           | 1.5               | 32.61                         | 48.11                                | 404.13            | 41.31                   |
| J-147-     | 7.2              | Demand         | 21.84           | 1.5               | 32.61                         | 48.14                                | 400.44            | 40.94                   |
| J-148-     | 6.5              | Demand         | 21.84           | 1.5               | 32.61                         | 20.16                                | 133.61            | 13.66                   |
| J-149-     | 6.8              | Demand         | 21.84           | 1.5               | 32.61                         | 20.38                                | 132.88            | 13.58                   |
| J-150-     | 8.0              | Demand         | 30.99           | 1.5               | 46.27                         | 20.24                                | 119.74            | 12.24                   |
| J-151-     | 8.0              | Demand         | 40.13           | 1.5               | 59.91                         | 20.81                                | 125.29            | 12.81                   |
| J-152-     | 9.0              | Demand         | 40.13           | 1.5               | 59.91                         | 22.18                                | 128.95            | 13.18                   |
| J-153-     | 9.0              | Demand         | 30.99           | 1.5               | 46.27                         | 20.82                                | 115.66            | 11.82                   |
| J-154-     | 10.1             | Demand         | 30.99           | 1.5               | 46.27                         | 23.96                                | 135.61            | 13.86                   |
| J-155-     | 9.7              | Demand         | 25.60           | 1.5               | 38.22                         | 24.91                                | 148.78            | 15.21                   |
| J-156-     | 9.6              | Demand         | 18.57           | 1.5               | 27.73                         | 25.92                                | 159.64            | 16.32                   |
| J-157-     | 11.0             | Demand         | 18.57           | 1.5               | 27.73                         | 26.83                                | 154.83            | 15.83                   |
| J-158-     | 11.0             | Demand         | 18.57           | 1.5               | 27.73                         | 28.70                                | 173.18            | 17.70                   |
| J-159-     | 12.0             | Demand         | 24.60           | 1.5               | 36.73                         | 30.25                                | 178.48            | 18.25                   |
| J-160-     | 15.0             | Demand         | 30.64           | 1.5               | 45.75                         | 31.52                                | 161.57            | 16.52                   |
| J-161-     | 15.0             | Demand         | 30.64           | 1.5               | 45.75                         | 33.69                                | 182.80            | 18.69                   |
| J-162-     | 15.0             | Demand         | 30.64           | 1.5               | 45.75                         | 36.83                                | 213.57            | 21.83                   |
| J-163-     | 15.0             | Demand         | 30.64           | 1.5               | 45.75                         | 38.80                                | 232.79            | 23.80                   |
| J-164-     | 15.0             | Demand         | 30.64           | 1.5               | 45.75                         | 39.87                                | 243.31            | 24.87                   |
| J-165-     | 15.0             | Demand         | 30.64           | 1.5               | 45.75                         | 41.85                                | 262.66            | 26.85                   |
| J-166-     | 10.0             | Demand         | 20.97           | 1.5               | 31.31                         | 25.58                                | 152.39            | 15.58                   |
| J-167-     | 10.0             | Demand         | 218.54          | 1.5               | 326.28                        | 33.98                                | 234.60            | 23.98                   |
| J-168-     | 10.0             | Demand         | 18.57           | 1.5               | 27.73                         | 47.63                                | 368.09            | 37.63                   |
| J-169-     | 10.0             | Demand         | 18.57           | 1.5               | 27.73                         | 44.27                                | 335.24            | 34.27                   |
| J-170-     | 10.0             | Demand         | 18.57           | 1.5               | 27.73                         | 46.94                                | 361.34            | 36.94                   |
| J-171-     | 10.0             | Demand         | 16.76           | 1.5               | 25.02                         | 45.27                                | 345.00            | 35.27                   |
| J-172-     | 10.0             | Demand         | 16.76           | 1.5               | 25.02                         | 45.20                                | 344.35            | 35.20                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-173-     | 12.3             | Demand         | 14.96           | 1.5               | 22.34                         | 45.22                                | 321.99            | 32.92                   |
| J-174-     | 9.7              | Demand         | 14.96           | 1.5               | 22.34                         | 43.93                                | 334.85            | 34.23                   |
| J-175-     | 10.0             | Demand         | 3.74            | 1.5               | 5.58                          | 43.86                                | 331.26            | 33.86                   |
| J-176-     | 9.0              | Demand         | 3.74            | 1.5               | 5.58                          | 47.60                                | 377.62            | 38.60                   |
| J-177-     | 9.0              | Demand         | 14.96           | 1.5               | 22.34                         | 43.90                                | 341.39            | 34.90                   |
| J-178-     | 8.0              | Demand         | 14.96           | 1.5               | 22.34                         | 39.24                                | 305.59            | 31.24                   |
| J-179-     | 9.0              | Demand         | 14.96           | 1.5               | 22.34                         | 39.23                                | 295.73            | 30.23                   |
| J-180-     | 9.0              | Demand         | 11.82           | 1.5               | 17.65                         | 39.44                                | 297.73            | 30.44                   |
| J-181-     | 8.0              | Demand         | 7.80            | 1.5               | 11.65                         | 39.32                                | 306.33            | 31.32                   |
| J-182-     | 21.0             | Demand         | 8.69            | 1.5               | 12.97                         | 39.60                                | 181.92            | 18.60                   |
| J-183-     | 9.0              | Demand         | 8.69            | 1.5               | 12.97                         | 39.37                                | 297.03            | 30.37                   |
| J-184-     | 8.0              | Demand         | 8.11            | 1.5               | 12.11                         | 39.35                                | 306.62            | 31.35                   |
| J-185-     | 9.0              | Demand         | 8.11            | 1.5               | 12.11                         | 39.54                                | 298.72            | 30.54                   |
| J-186-     | 10.0             | Demand         | 7.54            | 1.5               | 11.26                         | 39.81                                | 291.56            | 29.81                   |
| J-187-     | 9.0              | Demand         | 7.54            | 1.5               | 11.26                         | 42.79                                | 330.54            | 33.79                   |
| J-188-     | 12.8             | Demand         | 11.25           | 1.5               | 16.80                         | 45.16                                | 316.56            | 32.36                   |
| J-189-     | 12.8             | Demand         | 0.00            | 1.5               | 0.00                          | 42.64                                | 291.89            | 29.84                   |
| J-190-     | 9.0              | Demand         | 7.54            | 1.5               | 11.26                         | 39.61                                | 299.40            | 30.61                   |
| J-191-     | 9.0              | Demand         | 7.54            | 1.5               | 11.26                         | 39.14                                | 294.86            | 30.14                   |
| J-192-     | 10.0             | Demand         | 7.54            | 1.5               | 11.26                         | 38.91                                | 282.79            | 28.91                   |
| J-193-     | 11.0             | Demand         | 7.54            | 1.5               | 11.26                         | 38.85                                | 272.38            | 27.85                   |
| J-194-     | 9.0              | Demand         | 8.11            | 1.5               | 12.11                         | 32.54                                | 230.22            | 23.54                   |
| J-195-     | 11.0             | Demand         | 8.11            | 1.5               | 12.11                         | 32.95                                | 214.71            | 21.95                   |
| J-196-     | 8.0              | Demand         | 8.69            | 1.5               | 12.97                         | 35.73                                | 271.25            | 27.73                   |
| J-197-     | 8.0              | Demand         | 4.34            | 1.5               | 6.48                          | 36.03                                | 274.21            | 28.03                   |
| J-198-     | 8.0              | Demand         | 4.34            | 1.5               | 6.48                          | 35.99                                | 273.80            | 27.99                   |
| J-199-     | 8.0              | Demand         | 8.69            | 1.5               | 12.97                         | 34.87                                | 262.79            | 26.87                   |
| J-200-     | 10.0             | Demand         | 10.73           | 1.5               | 16.02                         | 34.15                                | 236.19            | 24.15                   |
| J-201-     | 11.0             | Demand         | 10.73           | 1.5               | 16.02                         | 34.15                                | 226.42            | 23.15                   |
| J-202-     | 8.0              | Demand         | 12.77           | 1.5               | 19.07                         | 32.47                                | 239.38            | 24.47                   |
| J-203-     | 9.0              | Demand         | 7.33            | 1.5               | 10.94                         | 32.44                                | 229.28            | 23.44                   |
| J-204-     | 9.0              | Demand         | 1.89            | 1.5               | 2.82                          | 35.37                                | 257.92            | 26.37                   |
| J-205-     | 9.0              | Demand         | 10.73           | 1.5               | 16.02                         | 36.43                                | 268.34            | 27.43                   |
| J-206-     | 12.0             | Demand         | 12.77           | 1.5               | 19.07                         | 33.24                                | 207.73            | 21.24                   |
| J-207-     | 14.0             | Demand         | 8.11            | 1.5               | 12.11                         | 32.99                                | 185.78            | 18.99                   |
| J-208-     | 11.0             | Demand         | 12.77           | 1.5               | 19.07                         | 38.68                                | 270.78            | 27.68                   |
| J-209-     | 11.0             | Demand         | 7.54            | 1.5               | 11.26                         | 38.15                                | 265.60            | 27.15                   |
| J-210-     | 15.1             | Demand         | 7.48            | 1.5               | 11.17                         | 38.84                                | 232.24            | 23.74                   |
| J-211-     | 15.1             | Demand         | 7.54            | 1.5               | 11.26                         | 38.80                                | 231.84            | 23.70                   |
| J-212-     | 15.1             | Demand         | 0.00            | 1.5               | 0.00                          | 40.99                                | 253.21            | 25.89                   |
| J-213-     | 14.7             | Demand         | 11.18           | 1.5               | 16.69                         | 38.64                                | 234.17            | 23.94                   |
| J-214-     | 15.0             | Demand         | 9.60            | 1.5               | 14.33                         | 38.47                                | 229.62            | 23.47                   |
| J-215-     | 18.0             | Demand         | 8.57            | 1.5               | 12.80                         | 38.63                                | 201.78            | 20.63                   |
| J-216-     | 15.5             | Demand         | 0.00            | 1.5               | 0.00                          | 41.45                                | 253.80            | 25.95                   |
| J-217-1    | 12.8             | Demand         | 28.50           | 1.5               | 42.55                         | 46.56                                | 330.26            | 33.76                   |
| J-217-2    | 0.0              | Demand         | 0.00            | Fixed             | 0.00                          | 42.65                                | 417.24            | 42.65                   |
| J-218-     | 12.8             | Demand         | 11.25           | 1.5               | 16.80                         | 44.98                                | 314.78            | 32.18                   |
| J-219-     | 13.0             | Demand         | 28.50           | 1.5               | 42.55                         | 42.63                                | 289.86            | 29.63                   |
| J-220-     | 15.7             | Demand         | 14.96           | 1.5               | 22.34                         | 44.63                                | 282.97            | 28.93                   |
| J-221-     | 9.0              | Demand         | 7.33            | 1.5               | 10.94                         | 30.89                                | 214.16            | 21.89                   |
| J-222-     | 10.0             | Demand         | 7.33            | 1.5               | 10.94                         | 30.67                                | 202.21            | 20.67                   |
| J-223-     | 10.0             | Demand         | 9.60            | 1.5               | 14.33                         | 39.82                                | 291.74            | 29.82                   |
| J-224-     | 13.9             | Demand         | 11.18           | 1.5               | 16.69                         | 39.72                                | 252.52            | 25.82                   |
| J-225-     | 21.0             | Demand         | 7.54            | 1.5               | 11.26                         | 48.00                                | 264.10            | 27.00                   |
| J-226-     | 14.0             | Demand         | 28.50           | 1.5               | 42.55                         | 45.49                                | 307.99            | 31.49                   |
| J-227-     | 10.0             | Demand         | 9.60            | 1.5               | 14.33                         | 37.14                                | 265.51            | 27.14                   |
| J-228-     | 10.0             | Demand         | 8.96            | 1.5               | 13.38                         | 36.81                                | 262.25            | 26.81                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-229-     | 10.0             | Demand         | 8.96            | 1.5               | 13.38                         | 37.06                                | 264.69            | 27.06                   |
| J-230-     | 10.5             | Demand         | 8.96            | 1.5               | 13.38                         | 37.53                                | 264.39            | 27.03                   |
| J-231-     | 13.5             | Demand         | 9.60            | 1.5               | 14.33                         | 31.36                                | 174.70            | 17.86                   |
| J-232-     | 15.5             | Demand         | 9.60            | 1.5               | 14.33                         | 31.81                                | 159.57            | 16.31                   |
| J-233-     | 15.6             | Demand         | 9.60            | 1.5               | 14.33                         | 33.57                                | 175.80            | 17.97                   |
| J-234-     | 11.4             | Demand         | 4.95            | 1.5               | 7.39                          | 33.75                                | 218.65            | 22.35                   |
| J-235-     | 10.6             | Demand         | 1.89            | 1.5               | 2.82                          | 34.28                                | 231.61            | 23.68                   |
| J-236-     | 10.0             | Demand         | 1.89            | 1.5               | 2.82                          | 34.49                                | 239.55            | 24.49                   |
| J-237-     | 10.0             | Demand         | 0.94            | 1.5               | 1.40                          | 34.69                                | 241.48            | 24.69                   |
| J-238-     | 10.0             | Demand         | 16.86           | 1.5               | 25.17                         | 33.30                                | 227.92            | 23.30                   |
| J-239-     | 10.0             | Demand         | 26.39           | 1.5               | 39.40                         | 33.03                                | 225.25            | 23.03                   |
| J-240-     | 8.0              | Demand         | 1.89            | 1.5               | 2.82                          | 34.10                                | 255.35            | 26.10                   |
| J-241-1    | 8.0              | Demand         | 29.09           | 1.5               | 43.43                         | 24.35                                | 159.95            | 16.35                   |
| J-241-2    | 8.0              | Demand         | 55.62           | 1.5               | 83.04                         | 26.70                                | 182.88            | 18.70                   |
| J-242-     | 8.0              | Demand         | 58.18           | 1.5               | 86.86                         | 18.73                                | 104.95            | 10.73                   |
| J-243-1    | 9.0              | Demand         | 58.18           | 1.5               | 86.86                         | 28.39                                | 189.68            | 19.39                   |
| J-243-2    | 9.0              | Demand         | 0.00            | Fixed             | 0.00                          | 25.78                                | 164.15            | 16.78                   |
| J-244-     | 8.0              | Demand         | 84.72           | 1.5               | 126.49                        | 23.87                                | 155.28            | 15.87                   |
| J-245-     | 9.0              | Demand         | 48.87           | 1.5               | 72.96                         | 28.08                                | 186.62            | 19.08                   |
| J-246-     | 10.0             | Demand         | 1.89            | 1.5               | 2.82                          | 32.46                                | 219.74            | 22.46                   |
| J-247-     | 10.0             | Demand         | 1.89            | 1.5               | 2.82                          | 33.13                                | 226.30            | 23.13                   |
| J-248-     | 8.0              | Demand         | 1.89            | 1.5               | 2.82                          | 33.43                                | 248.71            | 25.43                   |
| J-249-     | 8.0              | Demand         | 1.89            | 1.5               | 2.82                          | 34.15                                | 255.83            | 26.15                   |
| J-250-     | 8.0              | Demand         | 1.89            | 1.5               | 2.82                          | 34.12                                | 255.48            | 26.12                   |
| J-251-     | 8.0              | Demand         | 1.89            | 1.5               | 2.82                          | 34.12                                | 255.49            | 26.12                   |
| J-252-     | 10.0             | Demand         | 1.89            | 1.5               | 2.82                          | 33.19                                | 226.82            | 23.19                   |
| J-253-     | 10.0             | Demand         | 1.89            | 1.5               | 2.82                          | 33.15                                | 226.47            | 23.15                   |
| J-254-     | 10.6             | Demand         | 1.89            | 1.5               | 2.82                          | 34.63                                | 235.10            | 24.03                   |
| J-255-     | 10.0             | Demand         | 1.89            | 1.5               | 2.82                          | 32.09                                | 216.10            | 22.09                   |
| J-256-     | 9.0              | Demand         | 36.54           | 1.5               | 54.55                         | 31.19                                | 217.03            | 22.19                   |
| J-257-     | 9.0              | Demand         | 1.89            | 1.5               | 2.82                          | 31.29                                | 218.00            | 22.29                   |
| J-258-     | 7.0              | Demand         | 21.22           | 1.5               | 31.68                         | 28.25                                | 207.86            | 21.25                   |
| J-259-     | 6.0              | Demand         | 34.66           | 1.5               | 51.75                         | 24.26                                | 178.60            | 18.26                   |
| J-260-     | 6.0              | Demand         | 21.22           | 1.5               | 31.68                         | 28.00                                | 215.24            | 22.00                   |
| J-261-     | 6.0              | Demand         | 21.22           | 1.5               | 31.68                         | 27.91                                | 214.32            | 21.91                   |
| J-262-     | 9.0              | Demand         | 5.10            | 1.5               | 7.61                          | 30.67                                | 212.01            | 21.67                   |
| J-263-     | 5.0              | Demand         | 8.32            | 1.5               | 12.42                         | 29.82                                | 242.75            | 24.82                   |
| J-264-     | 9.0              | Demand         | 5.10            | 1.5               | 7.61                          | 31.23                                | 217.44            | 22.23                   |
| J-265-     | 8.0              | Demand         | 8.32            | 1.5               | 12.42                         | 31.19                                | 226.85            | 23.19                   |
| J-266-     | 6.0              | Demand         | 11.85           | 1.5               | 17.69                         | 31.17                                | 246.21            | 25.17                   |
| J-267-     | 5.0              | Demand         | 11.85           | 1.5               | 17.69                         | 30.54                                | 249.84            | 25.54                   |
| J-268-     | 4.0              | Demand         | 7.69            | 1.5               | 11.48                         | 31.09                                | 264.95            | 27.09                   |
| J-269-     | 4.0              | Demand         | 7.69            | 1.5               | 11.48                         | 31.12                                | 265.25            | 27.12                   |
| J-270-     | 4.0              | Demand         | 15.38           | 1.5               | 22.96                         | 30.29                                | 257.16            | 26.29                   |
| J-271-     | 4.0              | Demand         | 22.35           | 1.5               | 33.37                         | 30.06                                | 254.94            | 26.06                   |
| J-272-     | 6.0              | Demand         | 15.38           | 1.5               | 22.96                         | 29.87                                | 233.50            | 23.87                   |
| J-273-     | 6.0              | Demand         | 22.35           | 1.5               | 33.37                         | 30.06                                | 235.37            | 24.06                   |
| J-274-     | 9.0              | Demand         | 5.10            | 1.5               | 7.61                          | 35.63                                | 260.47            | 26.63                   |
| J-275-     | 9.3              | Demand         | 8.32            | 1.5               | 12.42                         | 35.68                                | 258.04            | 26.38                   |
| J-276-     | 10.5             | Demand         | 8.32            | 1.5               | 12.42                         | 36.10                                | 250.37            | 25.60                   |
| J-277-     | 10.0             | Demand         | 8.32            | 1.5               | 12.42                         | 35.86                                | 253.00            | 25.86                   |
| J-278-     | 11.0             | Demand         | 8.32            | 1.5               | 12.42                         | 36.55                                | 249.93            | 25.55                   |
| J-279-     | 7.1              | Demand         | 8.32            | 1.5               | 12.42                         | 35.53                                | 278.10            | 28.43                   |
| J-280-     | 6.8              | Demand         | 11.85           | 1.5               | 17.69                         | 33.91                                | 265.23            | 27.11                   |
| J-281-     | 7.9              | Demand         | 14.66           | 1.5               | 21.89                         | 33.91                                | 254.45            | 26.01                   |
| J-282-     | 7.8              | Demand         | 14.66           | 1.5               | 21.89                         | 35.36                                | 269.60            | 27.56                   |
| J-283-     | 8.0              | Demand         | 29.32           | 1.5               | 43.77                         | 37.72                                | 290.71            | 29.72                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-284-     | 8.0              | Demand         | 31.66           | 1.5               | 47.27                         | 38.17                                | 295.08            | 30.17                   |
| J-285-     | 11.0             | Demand         | 7.54            | 1.5               | 11.26                         | 36.78                                | 252.18            | 25.78                   |
| J-286-     | 8.0              | Demand         | 36.92           | 1.5               | 55.12                         | 30.26                                | 217.79            | 22.26                   |
| J-287-     | 3.9              | Demand         | 28.45           | 1.5               | 42.48                         | 36.28                                | 316.72            | 32.38                   |
| J-288-     | 3.9              | Demand         | 28.45           | 1.5               | 42.48                         | 34.58                                | 300.11            | 30.68                   |
| J-289-     | 5.0              | Demand         | 27.58           | 1.5               | 41.18                         | 31.74                                | 261.54            | 26.74                   |
| J-290-     | 5.0              | Demand         | 27.58           | 1.5               | 41.18                         | 31.31                                | 257.39            | 26.31                   |
| J-291-     | 4.3              | Demand         | 27.58           | 1.5               | 41.18                         | 33.20                                | 282.69            | 28.90                   |
| J-292-     | 19.1             | Demand         | 49.45           | 1.5               | 73.83                         | 46.61                                | 269.11            | 27.51                   |
| J-293-1    | 19.1             | Demand         | 0.00            | 1.5               | 0.00                          | 46.55                                | 268.54            | 27.45                   |
| J-293-2    | 20.0             | Demand         | 0.00            | 1.5               | 0.00                          | 32.78                                | 125.03            | 12.78                   |
| J-294-     | 19.1             | Demand         | 7.48            | 1.5               | 11.17                         | 46.49                                | 267.93            | 27.39                   |
| J-295-     | 20.0             | Demand         | 7.48            | 1.5               | 11.17                         | 45.96                                | 253.98            | 25.96                   |
| J-296-     | 21.5             | Demand         | 14.96           | 1.5               | 22.34                         | 44.80                                | 227.92            | 23.30                   |
| J-297-     | 23.0             | Demand         | 14.96           | 1.5               | 22.34                         | 43.90                                | 204.43            | 20.90                   |
| J-298-     | 15.5             | Demand         | 14.96           | 1.5               | 22.34                         | 41.39                                | 253.23            | 25.89                   |
| J-299-     | 16.4             | Demand         | 14.96           | 1.5               | 22.34                         | 37.31                                | 204.49            | 20.91                   |
| J-300-     | 19.0             | Demand         | 14.96           | 1.5               | 22.34                         | 36.14                                | 167.68            | 17.14                   |
| J-301-1    | 21.5             | Demand         | 0.00            | 1.5               | 0.00                          | 29.37                                | 76.95             | 7.87                    |
| J-301-2    | 21.5             | Demand         | 0.00            | 1.5               | 0.00                          | 28.94                                | 72.80             | 7.44                    |
| J-302-     | 20.0             | Demand         | 0.00            | 1.5               | 0.00                          | 28.34                                | 81.54             | 8.34                    |
| J-303-     | 20.0             | Demand         | 0.00            | 1.5               | 0.00                          | 27.75                                | 75.83             | 7.75                    |
| J-304-     | 9.0              | Demand         | 80.25           | 1.5               | 119.81                        | 26.97                                | 175.81            | 17.97                   |
| J-305-     | 9.0              | Demand         | 30.80           | 1.5               | 45.98                         | 25.83                                | 164.63            | 16.83                   |
| J-306-     | 21.5             | Demand         | 30.80           | 1.5               | 45.98                         | 36.74                                | 149.03            | 15.24                   |
| J-307-     | 20.0             | Demand         | 30.80           | 1.5               | 45.98                         | 32.97                                | 126.86            | 12.97                   |
| J-308-     | 20.0             | Demand         | 30.80           | 1.5               | 45.98                         | 29.98                                | 97.64             | 9.98                    |
| J-309-     | 16.9             | Demand         | 14.96           | 1.5               | 22.34                         | 35.28                                | 179.81            | 18.38                   |
| J-310-     | 20.7             | Demand         | 30.80           | 1.5               | 45.98                         | 34.99                                | 139.80            | 14.29                   |
| J-311-     | 23.8             | Demand         | 3.74            | 1.5               | 5.58                          | 33.92                                | 98.96             | 10.12                   |
| J-312-     | 20.7             | Demand         | 26.87           | 1.5               | 40.12                         | 33.19                                | 122.14            | 12.49                   |
| J-313-     | 11.2             | Demand         | 38.78           | 1.5               | 57.90                         | 35.07                                | 233.54            | 23.87                   |
| J-314-     | 8.7              | Demand         | 32.93           | 1.5               | 49.16                         | 35.29                                | 260.11            | 26.59                   |
| J-315-     | 9.0              | Demand         | 32.93           | 1.5               | 49.16                         | 35.73                                | 261.50            | 26.73                   |
| J-316-     | 9.0              | Demand         | 32.93           | 1.5               | 49.16                         | 35.95                                | 263.61            | 26.95                   |
| J-317-     | 9.0              | Demand         | 38.78           | 1.5               | 57.90                         | 27.48                                | 180.76            | 18.48                   |
| J-318-     | 9.0              | Demand         | 16.37           | 1.5               | 24.44                         | 37.96                                | 283.29            | 28.96                   |
| J-319-     | 9.0              | Demand         | 19.21           | 1.5               | 28.68                         | 45.68                                | 358.82            | 36.68                   |
| J-320-     | 9.0              | Demand         | 19.21           | 1.5               | 28.68                         | 43.70                                | 339.39            | 34.70                   |
| J-321-     | 9.0              | Demand         | 19.21           | 1.5               | 28.68                         | 47.52                                | 376.77            | 38.52                   |
| J-322-     | 10.0             | Demand         | 19.21           | 1.5               | 28.68                         | 49.74                                | 388.73            | 39.74                   |
| J-323-     | 10.0             | Demand         | 19.21           | 1.5               | 28.68                         | 47.56                                | 367.39            | 37.56                   |
| J-324-     | 10.0             | Demand         | 17.52           | 1.5               | 26.16                         | 44.49                                | 337.34            | 34.49                   |
| J-325-     | 10.0             | Demand         | 15.83           | 1.5               | 23.63                         | 40.74                                | 300.71            | 30.74                   |
| J-326-     | 10.0             | Demand         | 15.83           | 1.5               | 23.63                         | 36.08                                | 255.12            | 26.08                   |
| J-327-     | 10.0             | Demand         | 15.83           | 1.5               | 23.63                         | 32.15                                | 216.72            | 22.15                   |
| J-328-     | 10.0             | Demand         | 15.83           | 1.5               | 23.63                         | 28.93                                | 185.13            | 18.93                   |
| J-329-     | 9.0              | Demand         | 32.93           | 1.5               | 49.16                         | 35.47                                | 258.91            | 26.47                   |
| J-330-     | 9.0              | Demand         | 32.93           | 1.5               | 49.16                         | 34.42                                | 248.63            | 25.42                   |
| J-331-     | 9.0              | Demand         | 32.93           | 1.5               | 49.16                         | 32.53                                | 230.19            | 23.53                   |
| J-332-     | 9.0              | Demand         | 13.54           | 1.5               | 20.22                         | 32.31                                | 228.06            | 23.31                   |
| J-333-     | 9.0              | Demand         | 39.77           | 1.5               | 59.38                         | 31.27                                | 217.82            | 22.27                   |
| J-334-     | 7.0              | Demand         | 13.35           | 1.5               | 19.93                         | 28.82                                | 213.42            | 21.82                   |
| J-335-     | 9.0              | Demand         | 25.72           | 1.5               | 38.40                         | 30.97                                | 214.92            | 21.97                   |
| J-336-     | 9.0              | Demand         | 13.61           | 1.5               | 20.32                         | 30.26                                | 207.99            | 21.26                   |
| J-337-     | 9.0              | Demand         | 28.72           | 1.5               | 42.88                         | 24.43                                | 150.98            | 15.43                   |
| J-338-     | 9.0              | Demand         | 21.75           | 1.5               | 32.47                         | 23.98                                | 146.51            | 14.98                   |

**Junction Report**

| Node Label | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-339-     | 8.0              | Demand         | 21.75           | 1.5               | 32.47                         | 29.63                                | 211.59            | 21.63                   |
| J-340-     | 8.0              | Demand         | 21.75           | 1.5               | 32.47                         | 20.75                                | 124.72            | 12.75                   |
| J-341-     | 8.0              | Demand         | 40.38           | 1.5               | 60.29                         | 22.46                                | 141.47            | 14.46                   |
| J-342-     | 7.0              | Demand         | 14.16           | 1.5               | 21.14                         | 21.39                                | 140.80            | 14.39                   |
| J-343-     | 7.0              | Demand         | 0.00            | 1.5               | 0.00                          | 21.31                                | 139.94            | 14.31                   |
| J-344-     | 7.0              | Demand         | 21.75           | 1.5               | 32.47                         | 21.20                                | 138.86            | 14.20                   |
| J-345-     | 6.0              | Demand         | 16.28           | 1.5               | 24.31                         | 17.91                                | 116.48            | 11.91                   |
| J-346-     | 5.0              | Demand         | 16.28           | 1.5               | 24.31                         | 17.76                                | 124.82            | 12.76                   |
| J-347-     | 4.0              | Demand         | 18.17           | 1.5               | 27.13                         | 17.18                                | 128.93            | 13.18                   |
| J-348-     | 4.0              | Demand         | 16.28           | 1.5               | 24.31                         | 17.18                                | 128.94            | 13.18                   |
| J-349-     | 4.0              | Demand         | 14.72           | 1.5               | 21.98                         | 17.24                                | 129.50            | 13.24                   |
| J-350-     | 6.0              | Demand         | 14.72           | 1.5               | 21.98                         | 20.35                                | 140.37            | 14.35                   |
| J-351-     | 5.0              | Demand         | 6.58            | 1.5               | 9.82                          | 19.50                                | 141.86            | 14.50                   |
| J-352-     | 5.0              | Demand         | 6.58            | 1.5               | 9.82                          | 19.51                                | 141.89            | 14.51                   |
| J-353-     | 5.0              | Demand         | 13.16           | 1.5               | 19.65                         | 18.24                                | 129.51            | 13.24                   |
| J-354-     | 5.0              | Demand         | 6.58            | 1.5               | 9.82                          | 19.35                                | 140.34            | 14.35                   |
| J-355-     | 5.0              | Demand         | 6.58            | 1.5               | 9.82                          | 19.35                                | 140.34            | 14.35                   |
| J-356-     | 4.0              | Demand         | 13.16           | 1.5               | 19.65                         | 20.12                                | 157.64            | 16.12                   |
| J-357-     | 4.0              | Demand         | 6.58            | 1.5               | 9.82                          | 19.34                                | 150.08            | 15.34                   |
| J-358-     | 4.0              | Demand         | 6.58            | 1.5               | 9.82                          | 19.33                                | 149.99            | 15.33                   |
| J-359-     | 4.0              | Demand         | 12.76           | 1.5               | 19.05                         | 17.84                                | 135.39            | 13.84                   |
| J-360-     | 4.0              | Demand         | 25.53           | 1.5               | 38.12                         | 17.56                                | 132.60            | 13.56                   |
| J-361-     | 4.0              | Demand         | 19.34           | 1.5               | 28.87                         | 18.67                                | 143.52            | 14.67                   |
| J-362-     | 4.0              | Demand         | 19.34           | 1.5               | 28.87                         | 18.84                                | 145.12            | 14.84                   |
| J-363-     | 4.0              | Demand         | 12.76           | 1.5               | 19.05                         | 18.39                                | 140.73            | 14.39                   |
| J-364-     | 4.0              | Demand         | 12.76           | 1.5               | 19.05                         | 18.13                                | 138.21            | 14.13                   |
| J-365-     | 4.0              | Demand         | 25.53           | 1.5               | 38.12                         | 16.86                                | 125.84            | 12.86                   |
| J-366-     | 4.0              | Demand         | 37.16           | 1.5               | 55.48                         | 16.40                                | 121.30            | 12.40                   |
| J-367-     | 4.0              | Demand         | 53.16           | 1.5               | 79.37                         | 15.47                                | 112.17            | 11.47                   |
| J-368-     | 4.0              | Demand         | 106.32          | 1.5               | 158.74                        | 15.09                                | 108.50            | 11.09                   |
| J-369-     | 4.0              | Demand         | 80.80           | 1.5               | 120.63                        | 16.74                                | 124.63            | 12.74                   |
| J-370-     | 4.0              | Demand         | 80.80           | 1.5               | 120.63                        | 23.95                                | 195.11            | 19.95                   |
| J-371-     | 8.0              | Demand         | 21.75           | 1.5               | 32.47                         | 29.74                                | 212.66            | 21.74                   |
| J-372-     | 8.0              | Demand         | 20.91           | 1.5               | 31.22                         | 32.56                                | 240.21            | 24.56                   |
| J-373-     | 8.0              | Demand         | 30.42           | 1.5               | 45.42                         | 37.92                                | 292.70            | 29.92                   |
| J-374-     | 8.0              | Demand         | 30.42           | 1.5               | 45.42                         | 43.35                                | 345.78            | 35.35                   |
| J-375-     | 8.0              | Demand         | 17.90           | 1.5               | 26.72                         | 43.70                                | 349.21            | 35.70                   |
| J-376-     | 7.0              | Demand         | 14.60           | 1.5               | 21.80                         | 27.73                                | 202.78            | 20.73                   |
| J-377-     | 7.0              | Demand         | 14.60           | 1.5               | 21.80                         | 27.72                                | 202.73            | 20.72                   |
| J-378-     | 6.0              | Demand         | 14.60           | 1.5               | 21.80                         | 28.33                                | 218.46            | 22.33                   |
| J-379-     | 7.0              | Demand         | 51.51           | 1.5               | 76.90                         | 41.87                                | 341.09            | 34.87                   |
| J-380-     | 7.0              | Demand         | 14.60           | 1.5               | 21.80                         | 39.98                                | 322.56            | 32.98                   |
| J-381-     | 6.0              | Demand         | 14.60           | 1.5               | 21.80                         | 37.14                                | 304.64            | 31.14                   |
| J-382-     | 6.0              | Demand         | 21.16           | 1.5               | 31.59                         | 33.07                                | 264.83            | 27.07                   |
| J-383-     | 5.0              | Demand         | 21.16           | 1.5               | 31.59                         | 25.61                                | 201.63            | 20.61                   |
| J-384-     | 4.0              | Demand         | 21.16           | 1.5               | 31.59                         | 25.36                                | 208.91            | 21.36                   |
| J-385-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 19.10                                | 137.96            | 14.10                   |
| J-386-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 17.50                                | 122.28            | 12.50                   |
| J-387-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 18.21                                | 129.18            | 13.21                   |
| J-388-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 19.20                                | 138.91            | 14.20                   |
| J-389-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 18.56                                | 132.67            | 13.56                   |
| J-390-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 20.29                                | 149.59            | 15.29                   |
| J-391-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 21.72                                | 163.55            | 16.72                   |
| J-392-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 20.23                                | 148.99            | 15.23                   |
| J-393-     | 5.0              | Demand         | 27.73           | 1.5               | 41.40                         | 28.03                                | 225.28            | 23.03                   |
| J-394-     | 6.0              | Demand         | 21.09           | 1.5               | 31.49                         | 41.85                                | 350.71            | 35.85                   |
| J-395-     | 6.0              | Demand         | 48.75           | 1.5               | 72.78                         | 31.13                                | 245.86            | 25.13                   |

**Junction Report**

| Node Label      | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|-----------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-396-          | 4.5              | Demand         | 26.20           | 1.5               | 39.12                         | 33.87                                | 287.26            | 29.37                   |
| J-397-1         | 4.7              | Demand         | 24.81           | 1.5               | 37.04                         | 30.70                                | 254.36            | 26.00                   |
| J-397-2         | 4.7              | Demand         | 0.00            | Fixed             | 0.00                          | 31.03                                | 257.57            | 26.33                   |
| J-398-          | 5.0              | Demand         | 24.81           | 1.5               | 37.04                         | 29.81                                | 242.70            | 24.81                   |
| J-399-          | 5.0              | Demand         | 24.81           | 1.5               | 37.04                         | 27.71                                | 222.18            | 22.71                   |
| J-400-          | 4.4              | Demand         | 0.00            | 1.5               | 0.00                          | 12.56                                | 79.80             | 8.16                    |
| J-401-          | 5.0              | Demand         | 43.05           | 1.5               | 64.27                         | 35.35                                | 296.91            | 30.35                   |
| J-402-          | 11.0             | Demand         | 43.05           | 1.5               | 64.27                         | 33.48                                | 219.89            | 22.48                   |
| J-403-          | 7.0              | Demand         | 43.05           | 1.5               | 64.27                         | 31.92                                | 243.74            | 24.92                   |
| J-404-          | 6.0              | Demand         | 43.05           | 1.5               | 64.27                         | 30.67                                | 241.30            | 24.67                   |
| J-405-          | 6.0              | Demand         | 36.36           | 1.5               | 54.29                         | 30.49                                | 239.57            | 24.49                   |
| J-406-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 27.82                                | 213.39            | 21.82                   |
| J-407-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 25.69                                | 192.59            | 19.69                   |
| J-408-          | 6.0              | Demand         | 38.21           | 1.5               | 57.05                         | 24.20                                | 178.00            | 18.20                   |
| J-409-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 22.64                                | 172.54            | 17.64                   |
| J-410-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 21.30                                | 159.42            | 16.30                   |
| J-411-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 19.05                                | 137.42            | 14.05                   |
| J-412-          | 4.0              | Demand         | 66.88           | 1.5               | 99.85                         | 18.73                                | 144.05            | 14.73                   |
| J-413-          | 4.0              | Demand         | 87.01           | 1.5               | 129.91                        | 16.15                                | 118.84            | 12.15                   |
| J-414-          | 5.0              | Demand         | 21.75           | 1.5               | 32.47                         | 17.30                                | 120.29            | 12.30                   |
| J-415-          | 5.0              | Demand         | 43.50           | 1.5               | 64.95                         | 16.38                                | 111.36            | 11.38                   |
| J-416-          | 6.0              | Demand         | 36.36           | 1.5               | 54.29                         | 26.45                                | 199.99            | 20.45                   |
| J-417-          | 6.0              | Demand         | 36.36           | 1.5               | 54.29                         | 24.46                                | 180.55            | 18.46                   |
| J-418-          | 6.0              | Demand         | 36.36           | 1.5               | 54.29                         | 24.22                                | 178.27            | 18.22                   |
| J-419-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 20.75                                | 144.23            | 14.75                   |
| J-420-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 20.74                                | 144.23            | 14.74                   |
| J-421-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 17.39                                | 111.41            | 11.39                   |
| J-422-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 19.43                                | 131.39            | 13.43                   |
| J-423-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 16.08                                | 98.58             | 10.08                   |
| J-424-          | 5.0              | Demand         | 29.67           | 1.5               | 44.30                         | 19.37                                | 140.54            | 14.37                   |
| J-425-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 16.01                                | 97.94             | 10.01                   |
| J-426-          | 5.0              | Demand         | 29.67           | 1.5               | 44.30                         | 16.32                                | 110.75            | 11.32                   |
| J-427-          | 6.0              | Demand         | 29.67           | 1.5               | 44.30                         | 22.54                                | 161.77            | 16.54                   |
| J-428-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 21.28                                | 159.21            | 16.28                   |
| J-429-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 18.94                                | 136.36            | 13.94                   |
| J-430-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 18.29                                | 130.00            | 13.29                   |
| J-431-          | 5.0              | Demand         | 46.75           | 1.5               | 69.80                         | 17.06                                | 117.93            | 12.06                   |
| J-432-          | 5.0              | Demand         | 87.01           | 1.5               | 129.91                        | 15.83                                | 105.93            | 10.83                   |
| J-433-          | 5.0              | Demand         | 14.30           | 1.5               | 21.35                         | 32.09                                | 264.94            | 27.09                   |
| J-434-          | 5.0              | Demand         | 14.30           | 1.5               | 21.35                         | 29.19                                | 236.62            | 24.19                   |
| J-435-          | 5.0              | Demand         | 14.30           | 1.5               | 21.35                         | 23.50                                | 180.93            | 18.50                   |
| J-436-          | 5.0              | Demand         | 14.30           | 1.5               | 21.35                         | 21.09                                | 157.37            | 16.09                   |
| J-437-          | 5.0              | Demand         | 33.31           | 1.5               | 49.73                         | 29.78                                | 242.35            | 24.78                   |
| J-438-          | 5.0              | Demand         | 52.33           | 1.5               | 78.13                         | 27.76                                | 222.63            | 22.76                   |
| J-439-          | 4.2              | Demand         | 42.76           | 1.5               | 63.84                         | 26.16                                | 214.79            | 21.96                   |
| J-Fatehabad     | 12.0             | Demand         | 0.00            | Fixed             | 0.00                          | 15.97                                | 38.82             | 3.97                    |
| J-FatehabadIRP  | 15.0             | Inflow         | 526.16          | Fixed             | -526.16                       | 16.01                                | 9.85              | 1.01                    |
| J-FatPS         | 15.0             | Demand         | 0.00            | Fixed             | 0.00                          | 46.60                                | 309.11            | 31.60                   |
| J-KalurghatBPS  | 4.0              | Demand         | 0.00            | Fixed             | 0.00                          | 54.21                                | 491.19            | 50.21                   |
| J-KalurghatIRP  | 4.5              | Inflow         | 789.24          | Fixed             | -789.24                       | 2.79                                 | -16.70            | -1.71                   |
| J-Karnaphuli    | 1.0              | Demand         | 0.00            | Fixed             | 0.00                          | 3.53                                 | 24.73             | 2.53                    |
| J-KarnaphuliWTP | 10.0             | Inflow         | 3157.00         | Fixed             | -3,157.00                     | 3.68                                 | -61.81            | -6.32                   |
| J-KarPS         | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 72.71                                | 662.35            | 67.71                   |
| J-Khu-1         | 28.0             | Demand         | 0.00            | Fixed             | 0.00                          | 33.28                                | 51.64             | 5.28                    |
| J-Khu-2         | 28.0             | Demand         | 0.00            | Fixed             | 0.00                          | 33.24                                | 51.26             | 5.24                    |
| J-KhuPS         | 29.0             | Demand         | 0.00            | Fixed             | 0.00                          | 52.20                                | 226.97            | 23.20                   |
| J-Mad2          | 2.0              | Demand         | 0.00            | Fixed             | 0.00                          | 5.91                                 | 38.26             | 3.91                    |

**Junction Report**

| Node Label      | Elevation<br>(m) | Demand<br>Type | Demand<br>(l/s) | Demand<br>Pattern | Calculated<br>Demand<br>(l/s) | Calculated<br>Hydraulic Grade<br>(m) | Pressure<br>(kPa) | Pressure<br>Head<br>(m) |
|-----------------|------------------|----------------|-----------------|-------------------|-------------------------------|--------------------------------------|-------------------|-------------------------|
| J-Mad2-PS       | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 36.59                                | 309.05            | 31.59                   |
| J-Mad2WTP       | 5.0              | Inflow         | 526.16          | Fixed             | -526.16                       | 5.98                                 | 9.61              | 0.98                    |
| J-MadunaghatWTP | 90.0             | Inflow         | 526.16          | Fixed             | -526.16                       | 286.33                               | 1,920.48          | 196.33                  |
| J-Mohara        | 2.0              | Demand         | 0.00            | Fixed             | 0.00                          | 3.72                                 | 16.85             | 1.72                    |
| J-MoharaWTP     | 6.0              | Inflow         | 1052.31         | Fixed             | -1,052.31                     | 4.00                                 | -19.53            | -2.00                   |
| J-MohPS         | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 75.44                                | 689.05            | 70.44                   |
| J-N Mohara      | 2.0              | Demand         | 0.00            | Fixed             | 0.00                          | 4.29                                 | 22.38             | 2.29                    |
| J-N MoharaWTP   | 6.0              | Inflow         | 1052.31         | Fixed             | -1,052.31                     | 4.52                                 | -14.44            | -1.48                   |
| J-Nas1          | 23.0             | Demand         | 0.00            | Fixed             | 0.00                          | 26.95                                | 38.64             | 3.95                    |
| J-Nas2          | 23.0             | Demand         | 0.00            | Fixed             | 0.00                          | 27.08                                | 39.95             | 4.08                    |
| J-NasPS         | 20.0             | Demand         | 0.00            | Fixed             | 0.00                          | 53.31                                | 325.84            | 33.31                   |
| J-NasTPS        | 20.0             | Demand         | 0.00            | Fixed             | 0.00                          | 47.16                                | 265.66            | 27.16                   |
| J-NMoPS         | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 83.86                                | 771.39            | 78.86                   |
| J-PatBPS1       | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 37.48                                | 317.74            | 32.48                   |
| J-PatBPS2       | 5.0              | Demand         | 0.00            | Fixed             | 0.00                          | 37.29                                | 315.83            | 32.29                   |
| J-Patenga       | 1.0              | Demand         | 0.00            | Fixed             | 0.00                          | 3.29                                 | 22.43             | 2.29                    |
| J-SalimpurPS    | 20.0             | Demand         | 0.00            | Fixed             | 0.00                          | 61.86                                | 409.50            | 41.86                   |



**Basic Plan Phase 2 (2010)**  
**Extended Period Analysis: 9.0 hr / 72.0 hr**  
**Pipe Report**

| Link Label | Start Node | End Node       | Length<br>(m) | Diameter<br>(mm) | Material     | Roughness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------------|---------------|------------------|--------------|----------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-1T       | J-MohPS    | J-1T           | 850.0         | 1,200            | Ductile Iron | 110            | Open              | 1,157.08           | 0.81            | 0.95                        | 1.02              |
| P-2T       | J-1T       | J-2T           | 535.0         | 1,200            | Ductile Iron | 110            | Open              | 1,157.08           | 0.51            | 0.95                        | 1.02              |
| P-3T       | J-2T       | J-3T           | 535.0         | 1,200            | Ductile Iron | 110            | Open              | 1,157.08           | 0.51            | 0.95                        | 1.02              |
| P-4T       | J-3T       | J-4T           | 520.0         | 900              | Ductile Iron | 110            | Open              | 1,157.08           | 2.02            | 3.88                        | 1.82              |
| P-5T       | J-4T       | J-5T           | 880.0         | 900              | Ductile Iron | 110            | Open              | 1,157.08           | 3.41            | 3.88                        | 1.82              |
| P-6T       | J-5T       | J-6T           | 835.0         | 900              | Ductile Iron | 110            | Open              | 1,157.08           | 3.24            | 3.88                        | 1.82              |
| P-7T       | J-6T       | J-7T           | 2,015.0       | 900              | Ductile Iron | 110            | Open              | 1,157.08           | 7.81            | 3.88                        | 1.82              |
| P-8T       | J-7T       | J-8T           | 970.0         | 900              | Ductile Iron | 110            | Open              | 1,157.08           | 3.76            | 3.88                        | 1.82              |
| P-9T       | J-8T       | J-9T           | 920.0         | 900              | Ductile Iron | 110            | Open              | 1,157.08           | 3.57            | 3.88                        | 1.82              |
| P-10T      | J-9T       | J-10T          | 1,118.0       | 900              | Ductile Iron | 110            | Open              | 813.75             | 2.26            | 2.02                        | 1.28              |
| P-11T      | J-10T      | J-11T          | 940.0         | 900              | Ductile Iron | 110            | Open              | 886.01             | 2.22            | 2.37                        | 1.39              |
| P-12T      | J-11T      | J-12T          | 918.0         | 900              | Ductile Iron | 110            | Open              | 640.99             | 1.19            | 1.30                        | 1.01              |
| P-13T      | J-12T      | J-13T          | 455.0         | 900              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-14T      | J-13T      | T-Battall Hill | 735.0         | 900              | Ductile Iron | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-15T      | J-12T      | J-14T          | 560.0         | 600              | Ductile Iron | 110            | Open              | 640.99             | 5.24            | 9.36                        | 2.27              |
| P-16T      | J-14T      | J-15T          | 555.0         | 600              | Ductile Iron | 110            | Open              | 251.73             | 0.92            | 1.66                        | 0.89              |
| P-17T      | J-15T      | J-16T          | 1,125.0       | 600              | Ductile Iron | 110            | Open              | 251.73             | 1.87            | 1.66                        | 0.89              |
| P-18T      | J-16T      | J-17T-1        | 150.0         | 600              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-20T      | J-18T      | J-19T          | 1,227.5       | 750              | Ductile Iron | 110            | Open              | 337.64             | 1.18            | 0.96                        | 0.76              |
| P-21T      | J-19T      | J-20T          | 704.0         | 600              | Ductile Iron | 110            | Open              | 337.64             | 2.01            | 2.86                        | 1.19              |
| P-22T      | J-20T      | J-21T          | 704.5         | 600              | Ductile Iron | 110            | Open              | 189.00             | 0.69            | 0.98                        | 0.67              |
| P-23T1     | J-21T      | TCV-17-In      | 5.0           | 600              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-23T2     | TCV-17-Out | J-21T2         | 5.0           | 600              | Ductile Iron | 110            | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-23T3     | J-21T2     | J-22T          | 580.0         | 600              | Ductile Iron | 110            | Open              | 383.21             | 2.10            | 3.61                        | 1.36              |
| P-24T      | J-22T      | J-23T          | 1,535.0       | 600              | Asbestos Cem | 110            | Open              | 383.21             | 5.55            | 3.61                        | 1.36              |
| P-15       | J-225-     | J-228-         | 650.0         | 600              | Asbestos Cem | 110            | Open              | 397.40             | 2.51            | 3.87                        | 1.41              |
| P-16       | J-226-     | J-375-         | 570.0         | 600              | Asbestos Cem | 110            | Open              | 354.85             | 1.79            | 3.13                        | 1.26              |
| P-17       | J-375-     | J-374-         | 80.0          | 300              | Asbestos Cem | 110            | Open              | 68.53              | 0.35            | 4.38                        | 0.97              |
| P-18       | J-374-     | J-373-         | 245.0         | 300              | Asbestos Cem | 110            | Open              | 164.67             | 5.43            | 22.15                       | 2.33              |
| P-19       | J-373-     | J-372-         | 440.0         | 300              | Asbestos Cem | 110            | Open              | 119.25             | 5.37            | 12.19                       | 1.69              |
| P-20       | J-372-     | J-371-         | 405.0         | 300              | Asbestos Cem | 110            | Open              | 88.03              | 2.82            | 6.95                        | 1.25              |
| P-21       | J-371-     | J-339-         | 100.0         | 300              | Asbestos Cem | 110            | Open              | 32.47              | 0.11            | 1.10                        | 0.46              |
| P-22       | J-339-     | J-338-         | 230.0         | 300              | Asbestos Cem | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-23       | J-337-     | J-338-         | 1,135.0       | 450              | Asbestos Cem | 110            | Open              | 54.88              | 0.46            | 0.40                        | 0.35              |
| P-24       | J-337-     | J-335-         | 290.0         | 450              | Asbestos Cem | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-25       | J-335-     | J-336-         | 290.0         | 200              | PVC          | 130            | Open              | 20.32              | 0.71            | 2.44                        | 0.65              |
| P-26       | J-333-     | J-335-         | 650.0         | 450              | Asbestos Cem | 110            | Open              | 58.72              | 0.30            | 0.46                        | 0.37              |
| P-27       | J-333-     | J-334-         | 1,040.0       | 200              | PVC          | 130            | Open              | 19.93              | 2.45            | 2.36                        | 0.63              |
| P-28       | J-331-     | J-333-         | 570.0         | 450              | Asbestos Cem | 110            | Open              | 138.03             | 1.26            | 2.22                        | 0.87              |
| P-29       | J-330-     | J-331-         | 400.0         | 450              | Asbestos Cem | 110            | Open              | 207.41             | 1.88            | 4.71                        | 1.30              |
| P-32       | J-316-     | J-317-         | 500.0         | 200              | PVC          | 130            | Open              | 57.90              | 8.47            | 16.94                       | 1.84              |
| P-33       | J-318-     | J-316-         | 250.0         | 450              | Asbestos Cem | 110            | Open              | 276.98             | 2.01            | 8.05                        | 1.74              |
| P-35       | J-319-     | J-318-         | 2,120.0       | 300              | Asbestos Cem | 110            | Open              | 62.06              | 7.72            | 3.64                        | 0.88              |
| P-36       | J-321-     | J-319-         | 430.0         | 300              | Asbestos Cem | 110            | Open              | 67.62              | 1.84            | 4.27                        | 0.96              |
| P-37       | J-319-     | J-320-         | 430.0         | 200              | PVC          | 130            | Open              | 28.68              | 1.99            | 4.62                        | 0.91              |
| P-41       | J-314-     | J-313-         | 670.0         | 600              | Ductile Iron | 110            | Open              | 103.88             | 0.22            | 0.32                        | 0.37              |
| P-42       | J-313-     | J-310-         | 1,160.0       | 600              | Ductile Iron | 110            | Open              | 45.98              | 0.08            | 0.07                        | 0.16              |
| P-43       | J-301-1    | J-310-         | 1,121.0       | 600              | Ductile Iron | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-44       | J-293-2    | J-301-1        | 1,175.0       | 600              | Ductile Iron | 110            | Open              | 340.60             | 3.41            | 2.91                        | 1.20              |
| P-45-1     | J-311-     | J-312-         | 85.0          | 200              | PVC          | 130            | Open              | 40.12              | 0.73            | 8.59                        | 1.28              |
| P-45-2     | J-309-     | J-311-         | 450.0         | 200              | PVC          | 130            | Open              | 22.85              | 1.37            | 3.03                        | 0.73              |
| P-46       | J-299-     | J-309-         | 595.0         | 200              | PVC          | 130            | Open              | 24.30              | 2.02            | 3.40                        | 0.77              |
| P-47       | J-299-     | J-300-         | 400.0         | 200              | PVC          | 130            | Open              | 22.34              | 1.16            | 2.91                        | 0.71              |
| P-48       | J-298-     | J-299-         | 430.0         | 200              | PVC          | 130            | Open              | 42.34              | 4.08            | 9.49                        | 1.35              |
| P-49       | J-296-     | J-298-         | 500.0         | 300              | Asbestos Cem | 110            | Open              | 87.15              | 3.41            | 6.83                        | 1.23              |
| P-50       | J-296-     | J-297-         | 310.0         | 200              | PVC          | 130            | Open              | 22.34              | 0.90            | 2.91                        | 0.71              |
| P-51       | J-295-     | J-296-         | 135.0         | 300              | Asbestos Cem | 110            | Open              | 98.91              | 1.16            | 8.63                        | 1.40              |
| P-52       | J-294-     | J-295-         | 50.0          | 300              | Asbestos Cem | 110            | Open              | 110.08             | 0.53            | 10.52                       | 1.56              |
| P-54       | J-294-     | J-220-         | 215.0         | 300              | Asbestos Cem | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-55       | J-218-     | J-220-         | 640.0         | 300              | Asbestos Cem | 110            | Open              | 22.34              | 0.35            | 0.55                        | 0.32              |
| P-56       | J-218-     | J-219-         | 245.0         | 200              | PVC          | 130            | Open              | 42.55              | 2.35            | 9.58                        | 1.35              |
| P-57       | J-188-     | J-218-         | 30.0          | 300              | Asbestos Cem | 110            | Open              | 81.68              | 0.18            | 6.05                        | 1.16              |
| P-58       | J-188-     | J-144-         | 1,640.0       | 300              | Asbestos Cem | 110            | Open              | 27.47              | 1.32            | 0.81                        | 0.39              |
| P-59       | J-144-     | J-143-         | 865.0         | 300              | Asbestos Cem | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-60       | J-112-     | J-143-         | 515.0         | 300              | Asbestos Cem | 110            | Open              | 22.34              | 0.28            | 0.55                        | 0.32              |
| P-62       | J-106-     | J-107-         | 875.0         | 200              | PVC          | 130            | Open              | 17.59              | 1.64            | 1.87                        | 0.56              |
| P-63       | J-103-     | J-106-         | 325.0         | 200              | PVC          | 130            | Open              | 11.56              | 0.28            | 0.86                        | 0.37              |
| P-64       | J-102-     | J-103-         | 835.0         | 200              | PVC          | 130            | Open              | 20.83              | 2.13            | 2.56                        | 0.66              |
| P-65       | J-102-     | J-101-         | 880.0         | 200              | PVC          | 130            | Open              | 25.46              | 3.26            | 3.71                        | 0.81              |
| P-66       | J-101-     | J-100-         | 520.0         | 200              | PVC          | 130            | Open              | 22.98              | 1.59            | 3.07                        | 0.73              |
| P-75       | J-104-     | J-105-         | 925.0         | 200              | PVC          | 130            | Open              | 28.41              | 4.20            | 4.54                        | 0.90              |
| P-76       | J-104-     | J-103-         | 210.0         | 200              | PVC          | 130            | Open              | 0.51               | 0.00            | 0.00                        | 0.02              |
| P-84-1     | J-118-1    | J-118-2        | 132.0         | 200              | PVC          | 130            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-84-2     | J-118-2    | J-119-         | 923.0         | 200              | PVC          | 130            | Open              | 12.40              | 0.90            | 0.98                        | 0.39              |
| P-85       | J-119-     | J-120-         | 760.0         | 200              | PVC          | 130            | Open              | 8.67               | 0.38            | 0.51                        | 0.28              |
| P-86       | J-115-     | J-122-         | 435.0         | 600              | Asbestos Cem | 110            | Open              | 500.10             | 2.57            | 5.91                        | 1.77              |
| P-87       | J-122-     | J-131-         | 975.0         | 600              | Asbestos Cem | 110            | Open              | 549.19             | 6.86            | 7.03                        | 1.94              |
| P-88       | J-131-     | J-137-         | 100.0         | 300              | Asbestos Cem | 110            | Open              | 37.85              | 0.15            | 1.46                        | 0.54              |
| P-89       | J-137-     | J-138-         | 80.0          | 300              | Asbestos Cem | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |

**Pipe Report**

| Link Label | Start Node | End Node | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-90       | J-139-     | J-138-   | 230.0         | 300              | Asbestos Cem | 110                 | Open              | 35.59              | 0.32            | 1.97                        | 0.52              |
| P-91       | J-140-     | J-139-   | 325.0         | 300              | Asbestos Cem | 110                 | Open              | 49.56              | 0.78            | 2.40                        | 0.70              |
| P-92       | J-141-     | J-140-   | 295.0         | 300              | Asbestos Cem | 110                 | Open              | 90.38              | 2.15            | 7.30                        | 1.28              |
| P-93       | J-142-     | J-141-   | 165.0         | 300              | Asbestos Cem | 110                 | Open              | 112.71             | 1.81            | 10.99                       | 1.59              |
| P-95       | J-147-     | J-148-   | 465.0         | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-96       | J-149-     | J-148-   | 735.0         | 300              | Asbestos Cem | 110                 | Open              | 16.30              | 0.23            | 0.31                        | 0.23              |
| P-97       | J-149-     | J-150-   | 390.0         | 200              | PVC          | 130                 | Open              | 7.30               | 0.14            | 0.37                        | 0.23              |
| P-98       | J-151-     | J-150-   | 1,000.0       | 200              | PVC          | 130                 | Open              | 9.23               | 0.57            | 0.57                        | 0.29              |
| P-99       | J-152-     | J-151-   | 390.0         | 200              | PVC          | 130                 | Open              | 24.78              | 1.37            | 3.52                        | 0.79              |
| P-100      | J-153-     | J-149-   | 240.0         | 300              | Asbestos Cem | 110                 | Open              | 42.82              | 0.44            | 1.83                        | 0.61              |
| P-101      | J-154-     | J-153-   | 770.0         | 300              | Asbestos Cem | 110                 | Open              | 65.96              | 3.14            | 4.08                        | 0.93              |
| P-102      | J-155-     | J-154-   | 470.0         | 300              | Asbestos Cem | 110                 | Open              | 45.04              | 0.95            | 2.01                        | 0.64              |
| P-103      | J-156-     | J-155-   | 125.0         | 200              | Asbestos Cem | 110                 | Open              | 32.83              | 1.01            | 8.08                        | 1.05              |
| P-104      | J-157-     | J-156-   | 870.0         | 200              | PVC          | 130                 | Open              | 12.84              | 0.91            | 1.04                        | 0.41              |
| P-105      | J-158-     | J-157-   | 1,080.0       | 200              | PVC          | 130                 | Open              | 16.90              | 1.88            | 1.74                        | 0.54              |
| P-106      | J-159-     | J-158-   | 585.0         | 200              | PVC          | 130                 | Open              | 21.18              | 1.54            | 2.64                        | 0.67              |
| P-107      | J-156-     | J-166-   | 195.0         | 200              | Asbestos Cem | 110                 | Open              | 14.35              | 0.34            | 1.75                        | 0.46              |
| P-108-1    | J-166-     | J-167-   | 1,005.0       | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-108-2    | J-168-     | J-167-   | 480.0         | 300              | Ductile Iron | 110                 | Open              | 188.46             | 13.65           | 28.43                       | 2.67              |
| P-109      | J-166-     | J-170-   | 460.0         | 300              | Asbestos Cem | 110                 | Open              | 38.42              | 0.69            | 1.50                        | 0.54              |
| P-110      | J-170-     | J-169-   | 615.0         | 200              | PVC          | 130                 | Open              | 27.73              | 2.67            | 4.34                        | 0.88              |
| P-111      | J-170-     | J-171-   | 895.0         | 300              | Asbestos Cem | 110                 | Open              | 43.24              | 1.67            | 1.87                        | 0.61              |
| P-112      | J-171-     | J-173-   | 385.0         | 300              | Asbestos Cem | 110                 | Open              | 10.54              | 0.05            | 0.14                        | 0.15              |
| P-113      | J-173-     | J-174-   | 810.0         | 300              | Asbestos Cem | 110                 | Open              | 39.60              | 1.29            | 1.59                        | 0.56              |
| P-115      | J-174-     | J-175-   | 300.0         | 200              | PVC          | 130                 | Open              | 5.58               | 0.07            | 0.22                        | 0.18              |
| P-116      | J-173-     | J-172-   | 570.0         | 200              | PVC          | 130                 | Open              | 1.67               | 0.01            | 0.02                        | 0.05              |
| P-117      | J-170-     | J-172-   | 1,150.0       | 200              | PVC          | 130                 | Open              | 15.67              | 1.74            | 1.51                        | 0.50              |
| P-120      | J-178-     | J-179-   | 195.0         | 300              | Asbestos Cem | 110                 | Open              | 5.14               | 0.01            | 0.04                        | 0.07              |
| P-121      | J-181-     | J-179-   | 245.0         | 300              | Asbestos Cem | 110                 | Open              | 17.19              | 0.08            | 0.34                        | 0.24              |
| P-122      | J-184-     | J-181-   | 50.0          | 300              | Asbestos Cem | 110                 | Open              | 23.32              | 0.03            | 0.60                        | 0.33              |
| P-123      | J-185-     | J-184-   | 230.0         | 300              | Asbestos Cem | 110                 | Open              | 28.02              | 0.19            | 0.84                        | 0.40              |
| P-124      | J-186-     | J-185-   | 165.0         | 300              | Asbestos Cem | 110                 | Open              | 40.13              | 0.27            | 1.63                        | 0.57              |
| P-125      | J-186-     | J-190-   | 65.0          | 300              | Asbestos Cem | 110                 | Open              | 56.42              | 0.20            | 3.05                        | 0.80              |
| P-126      | J-190-     | J-191-   | 340.0         | 300              | Asbestos Cem | 110                 | Open              | 36.50              | 0.46            | 1.36                        | 0.52              |
| P-127      | J-191-     | J-192-   | 340.0         | 300              | Asbestos Cem | 110                 | Open              | 25.25              | 0.23            | 0.69                        | 0.36              |
| P-128      | J-192-     | J-193-   | 275.0         | 300              | Asbestos Cem | 110                 | Open              | 13.99              | 0.06            | 0.23                        | 0.20              |
| P-129      | J-193-     | J-210-   | 355.0         | 300              | Asbestos Cem | 110                 | Open              | 2.73               | 0.00            | 0.01                        | 0.04              |
| P-131      | J-210-     | J-213-   | 335.0         | 300              | Asbestos Cem | 110                 | Open              | 23.50              | 0.20            | 0.60                        | 0.33              |
| P-132      | J-142-     | J-178-   | 975.0         | 200              | Asbestos Cem | 110                 | Open              | 27.48              | 5.67            | 5.81                        | 0.87              |
| P-133      | J-180-     | J-181-   | 405.0         | 200              | Asbestos Cem | 110                 | Open              | 5.52               | 0.12            | 0.30                        | 0.18              |
| P-134      | J-140-     | J-180-   | 355.0         | 200              | Asbestos Cem | 110                 | Open              | 23.17              | 1.50            | 4.24                        | 0.74              |
| P-135      | J-183-     | J-184-   | 275.0         | 300              | Asbestos Cem | 110                 | Open              | 7.40               | 0.02            | 0.07                        | 0.10              |
| P-136      | J-182-     | J-183-   | 500.0         | 300              | Asbestos Cem | 110                 | Open              | 20.37              | 0.23            | 0.46                        | 0.29              |
| P-137      | J-138-     | J-182-   | 215.0         | 300              | Asbestos Cem | 110                 | Open              | 33.35              | 0.25            | 1.15                        | 0.47              |
| P-138      | J-192-     | J-194-   | 325.0         | 200              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-139      | J-195-     | J-194-   | 325.0         | 200              | Asbestos Cem | 110                 | Open              | 12.11              | 0.41            | 1.28                        | 0.39              |
| P-140      | J-196-     | J-195-   | 760.0         | 200              | Asbestos Cem | 110                 | Open              | 21.40              | 2.78            | 3.66                        | 0.68              |
| P-141      | J-132-     | J-196-   | 160.0         | 200              | PVC          | 130                 | Open              | 34.37              | 1.03            | 6.46                        | 1.09              |
| P-142      | J-137-     | J-197-   | 210.0         | 200              | PVC          | 130                 | Open              | 34.61              | 1.37            | 6.54                        | 1.10              |
| P-143      | J-197-     | J-198-   | 50.0          | 300              | Asbestos Cem | 110                 | Open              | 28.13              | 0.04            | 0.84                        | 0.40              |
| P-144      | J-198-     | J-199-   | 325.0         | 300              | Asbestos Cem | 110                 | Open              | 60.39              | 1.13            | 3.46                        | 0.85              |
| P-145      | J-199-     | J-200-   | 325.0         | 300              | Asbestos Cem | 110                 | Open              | 47.42              | 0.72            | 2.21                        | 0.67              |
| P-146      | J-201-     | J-200-   | 130.0         | 300              | Asbestos Cem | 110                 | Open              | 2.60               | 0.00            | 0.01                        | 0.04              |
| P-147      | J-201-     | J-202-   | 420.0         | 200              | Asbestos Cem | 110                 | Open              | 22.42              | 1.67            | 3.99                        | 0.71              |
| P-148      | J-202-     | J-203-   | 275.0         | 200              | Asbestos Cem | 110                 | Open              | 3.35               | 0.03            | 0.12                        | 0.11              |
| P-149      | J-238-     | J-203-   | 130.0         | 200              | Asbestos Cem | 110                 | Open              | 29.48              | 0.86            | 6.62                        | 0.94              |
| P-150      | J-135-     | J-238-   | 730.0         | 600              | Asbestos Cem | 110                 | Open              | 244.83             | 1.15            | 1.58                        | 0.87              |
| P-151      | J-135-     | J-201-   | 180.0         | 300              | Asbestos Cem | 110                 | Open              | 41.03              | 0.30            | 1.69                        | 0.58              |
| P-152      | J-134-     | J-135-   | 780.0         | 600              | Asbestos Cem | 110                 | Open              | 301.88             | 1.81            | 2.32                        | 1.07              |
| P-153      | J-134-     | J-198-   | 180.0         | 300              | Asbestos Cem | 110                 | Open              | 38.74              | 0.27            | 1.52                        | 0.55              |
| P-154      | J-132-     | J-134-   | 160.0         | 600              | Asbestos Cem | 110                 | Open              | 353.60             | 0.50            | 3.11                        | 1.25              |
| P-155      | J-130-     | J-132-   | 115.0         | 600              | Asbestos Cem | 110                 | Open              | 400.94             | 0.45            | 3.93                        | 1.42              |
| P-156      | J-131-     | J-130-   | 20.0          | 300              | Asbestos Cem | 110                 | Open              | 141.99             | 0.34            | 16.84                       | 2.01              |
| P-157      | J-123-     | J-130-   | 970.0         | 450              | Asbestos Cem | 110                 | Open              | 265.06             | 7.20            | 7.42                        | 1.67              |
| P-158      | J-121-     | J-123-   | 100.0         | 450              | Asbestos Cem | 110                 | Open              | 346.40             | 1.22            | 12.17                       | 2.18              |
| P-163      | J-133-     | J-136-   | 990.0         | 300              | Asbestos Cem | 110                 | Open              | 56.29              | 3.01            | 3.04                        | 0.80              |
| P-164      | J-239-     | J-136-   | 700.0         | 300              | Asbestos Cem | 110                 | Open              | 44.07              | 1.35            | 1.93                        | 0.62              |
| P-165      | J-239-     | J-248-   | 405.0         | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-166      | J-248-     | J-247-   | 195.0         | 300              | Asbestos Cem | 110                 | Open              | 38.32              | 0.29            | 1.49                        | 0.54              |
| P-167      | J-247-     | J-255-   | 245.0         | 300              | Asbestos Cem | 110                 | Open              | 67.53              | 1.04            | 4.26                        | 0.96              |
| P-168      | J-255-     | J-256-   | 230.0         | 300              | Asbestos Cem | 110                 | Open              | 64.71              | 0.91            | 3.93                        | 0.92              |
| P-169      | J-256-     | J-258-   | 230.0         | 300              | Asbestos Cem | 110                 | Open              | 122.28             | 2.94            | 12.77                       | 1.73              |
| P-170      | J-258-     | J-260-   | 160.0         | 300              | Asbestos Cem | 110                 | Open              | 38.85              | 0.24            | 1.53                        | 0.55              |
| P-171      | J-258-     | J-259-   | 290.0         | 200              | PVC          | 130                 | Open              | 51.75              | 3.99            | 13.76                       | 1.85              |
| P-172      | J-238-     | J-237-   | 20.0          | 600              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-173      | J-237-     | J-236-   | 95.0          | 600              | Asbestos Cem | 110                 | Open              | 283.85             | 0.20            | 2.07                        | 1.00              |
| P-174      | J-236-     | J-240-   | 210.0         | 600              | Asbestos Cem | 110                 | Open              | 265.52             | 0.38            | 1.83                        | 0.94              |
| P-175      | J-240-     | J-243-1  | 420.0         | 200              | Asbestos Cem | 110                 | Open              | 43.51              | 5.71            | 13.60                       | 1.39              |
| P-176      | J-243-1    | J-241-2  | 295.0         | 200              | PVC          | 130                 | Open              | 32.28              | 1.70            | 5.75                        | 1.03              |
| P-177      | J-241-2    | J-244-   | 390.0         | 200              | PVC          | 130                 | Open              | 36.55              | 2.82            | 7.23                        | 1.16              |
| P-178      | J-250-     | J-240-   | 160.0         | 600              | Asbestos Cem | 110                 | Open              | 50.61              | 0.01            | 0.09                        | 0.18              |

Pipe Report

| Link Label | Start Node | End Node | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-179      | J-251-     | J-250-   | 20.0          | 600              | Asbestos Cem | 110                 | Open              | 11.67              | 0.00            | 0.01                        | 0.04              |
| P-180      | J-251-     | J-253-   | 160.0         | 450              | Asbestos Cem | 110                 | Open              | 237.23             | 0.97            | 6.04                        | 1.49              |
| P-181      | J-249-     | J-248-   | 150.0         | 300              | Asbestos Cem | 110                 | Open              | 72.46              | 0.73            | 4.85                        | 1.03              |
| P-182      | J-249-     | J-252-   | 195.0         | 200              | Asbestos Cem | 110                 | Open              | 25.21              | 0.97            | 4.96                        | 0.80              |
| P-183      | J-252-     | J-253-   | 65.0          | 300              | Asbestos Cem | 110                 | Open              | 22.39              | 0.04            | 0.55                        | 0.32              |
| P-184      | J-254-     | J-250-   | 295.0         | 300              | Ductile Iron | 110                 | Open              | 41.76              | 0.52            | 1.75                        | 0.59              |
| P-186      | J-16T      | J-251-   | 295.0         | 450              | Ductile Iron | 110                 | Open              | 251.73             | 1.99            | 6.74                        | 1.58              |
| P-191      | J-235-     | J-249-   | 100.0         | 450              | Asbestos Cem | 110                 | Open              | 100.49             | 0.12            | 1.23                        | 0.63              |
| P-192      | J-235-     | J-233-   | 280.0         | 200              | Asbestos Cem | 110                 | Open              | 17.48              | 0.70            | 2.52                        | 0.56              |
| P-193      | J-233-     | J-232-   | 280.0         | 200              | Asbestos Cem | 110                 | Open              | 28.67              | 1.76            | 6.29                        | 0.91              |
| P-194      | J-232-     | J-231-   | 260.0         | 200              | Asbestos Cem | 110                 | Open              | 14.33              | 0.45            | 1.74                        | 0.46              |
| P-195      | J-235-     | J-234-   | 210.0         | 200              | Asbestos Cem | 110                 | Open              | 17.41              | 0.52            | 2.50                        | 0.55              |
| P-196      | J-234-     | J-233-   | 200.0         | 200              | Asbestos Cem | 110                 | Open              | 10.02              | 0.18            | 0.90                        | 0.32              |
| P-197      | J-236-     | J-233-   | 455.0         | 200              | Asbestos Cem | 110                 | Open              | 15.50              | 0.92            | 2.02                        | 0.49              |
| P-198      | J-234-     | J-276-   | 85.0          | 200              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-199      | J-230-     | J-276-   | 115.0         | 200              | Asbestos Cem | 110                 | Open              | 41.49              | 1.43            | 12.46                       | 1.32              |
| P-200      | J-223-     | J-230-   | 420.0         | 300              | Asbestos Cem | 110                 | Open              | 77.30              | 2.30            | 5.47                        | 1.09              |
| P-201      | J-223-     | J-224-   | 340.0         | 300              | Asbestos Cem | 110                 | Open              | 16.69              | 0.11            | 0.32                        | 0.24              |
| P-202      | J-224-     | J-213-   | 220.0         | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-203      | J-213-     | J-214-   | 375.0         | 200              | Asbestos Cem | 110                 | Open              | 6.81               | 0.17            | 0.44                        | 0.22              |
| P-204      | J-215-     | J-214-   | 290.0         | 200              | Asbestos Cem | 110                 | Open              | 7.52               | 0.15            | 0.53                        | 0.24              |
| P-205      | J-230-     | J-229-   | 160.0         | 200              | PVC          | 130                 | Open              | 22.43              | 0.47            | 2.93                        | 0.71              |
| P-206      | J-229-     | J-228-   | 455.0         | 200              | PVC          | 130                 | Open              | 9.06               | 0.25            | 0.55                        | 0.29              |
| P-207      | J-227-     | J-228-   | 115.0         | 200              | Asbestos Cem | 110                 | Open              | 18.87              | 0.33            | 2.90                        | 0.60              |
| P-208      | J-223-     | J-227-   | 325.0         | 200              | Asbestos Cem | 110                 | Open              | 33.20              | 2.68            | 8.25                        | 1.06              |
| P-209      | J-276-     | J-275-   | 465.0         | 300              | Asbestos Cem | 110                 | Open              | 29.07              | 0.42            | 0.90                        | 0.41              |
| P-210      | J-275-     | J-274-   | 130.0         | 200              | PVC          | 130                 | Open              | 7.61               | 0.05            | 0.40                        | 0.24              |
| P-211      | J-275-     | J-279-   | 150.0         | 300              | Asbestos Cem | 110                 | Open              | 30.72              | 0.15            | 0.99                        | 0.43              |
| P-212      | J-279-     | J-280-   | 590.0         | 200              | Asbestos Cem | 110                 | Open              | 18.29              | 1.62            | 2.74                        | 0.58              |
| P-213      | J-280-     | J-281-   | 510.0         | 200              | Asbestos Cem | 110                 | Open              | 0.60               | 0.00            | 0.01                        | 0.02              |
| P-214      | J-282-     | J-281-   | 50.0          | 200              | Asbestos Cem | 110                 | Open              | 65.48              | 1.45            | 28.97                       | 2.08              |
| P-215      | J-282-     | J-288-   | 1,020.0       | 200              | Asbestos Cem | 110                 | Open              | 9.19               | 0.78            | 0.77                        | 0.29              |
| P-216      | J-288-     | J-291-   | 670.0         | 200              | Asbestos Cem | 110                 | Open              | 15.69              | 1.38            | 2.06                        | 0.50              |
| P-217      | J-291-     | J-269-   | 1,450.0       | 450              | Asbestos Cem | 110                 | Open              | 109.12             | 2.08            | 1.44                        | 0.69              |
| P-218      | J-269-     | J-266-   | 650.0         | 450              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-220      | J-256-     | J-262-   | 260.0         | 300              | Asbestos Cem | 110                 | Open              | 44.55              | 0.51            | 1.97                        | 0.63              |
| P-221      | J-262-     | J-263-   | 615.0         | 300              | Asbestos Cem | 110                 | Open              | 36.94              | 0.86            | 1.39                        | 0.52              |
| P-222      | J-263-     | J-261-   | 405.0         | 200              | Asbestos Cem | 110                 | Open              | 24.52              | 1.91            | 4.71                        | 0.78              |
| P-223      | J-260-     | J-261-   | 195.0         | 200              | Asbestos Cem | 110                 | Open              | 7.17               | 0.09            | 0.48                        | 0.23              |
| P-224      | J-263-     | J-267-   | 30.0          | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-225      | J-267-     | J-272-   | 730.0         | 200              | PVC          | 130                 | Open              | 11.98              | 0.67            | 0.92                        | 0.36              |
| P-226      | J-273-     | J-272-   | 245.0         | 200              | PVC          | 130                 | Open              | 10.98              | 0.19            | 0.78                        | 0.35              |
| P-227      | J-281-     | J-273-   | 275.0         | 200              | Asbestos Cem | 110                 | Open              | 44.19              | 3.85            | 14.00                       | 1.41              |
| P-228      | J-268-     | J-267-   | 585.0         | 300              | Asbestos Cem | 110                 | Open              | 29.67              | 0.54            | 0.93                        | 0.42              |
| P-229      | J-268-     | J-270-   | 260.0         | 300              | Asbestos Cem | 110                 | Open              | 56.49              | 0.80            | 3.06                        | 0.80              |
| P-230      | J-270-     | J-271-   | 195.0         | 300              | Asbestos Cem | 110                 | Open              | 33.52              | 0.23            | 1.17                        | 0.47              |
| P-231      | J-271-     | J-273-   | 680.0         | 200              | PVC          | 130                 | Open              | 0.16               | 0.00            | 0.00                        | 0.01              |
| P-232      | J-247-     | J-246-   | 115.0         | 200              | Asbestos Cem | 110                 | Open              | 27.54              | 0.67            | 5.84                        | 0.88              |
| P-233      | J-248-     | J-246-   | 130.0         | 200              | Asbestos Cem | 110                 | Open              | 31.32              | 0.96            | 7.40                        | 1.00              |
| P-234      | J-246-     | J-245-   | 275.0         | 200              | PVC          | 130                 | Open              | 56.04              | 4.39            | 15.95                       | 1.78              |
| P-235      | J-243-1    | J-245-   | 180.0         | 200              | PVC          | 130                 | Open              | 16.92              | 0.31            | 1.74                        | 0.54              |
| P-236      | J-204-     | J-237-   | 325.0         | 600              | Asbestos Cem | 110                 | Open              | 285.25             | 0.68            | 2.09                        | 1.01              |
| P-237      | J-205-     | J-204-   | 500.0         | 600              | Asbestos Cem | 110                 | Open              | 288.07             | 1.07            | 2.13                        | 1.02              |
| P-238      | J-209-     | J-205-   | 730.0         | 600              | Asbestos Cem | 110                 | Open              | 304.09             | 1.72            | 2.36                        | 1.08              |
| P-240      | J-200-     | J-206-   | 760.0         | 300              | Asbestos Cem | 110                 | Open              | 33.99              | 0.91            | 1.20                        | 0.48              |
| P-241      | J-206-     | J-208-   | 130.0         | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-242      | J-210-     | J-208-   | 390.0         | 300              | Asbestos Cem | 110                 | Open              | 19.07              | 0.16            | 0.41                        | 0.27              |
| P-243      | J-203-     | J-221-   | 405.0         | 200              | Asbestos Cem | 110                 | Open              | 21.89              | 1.55            | 3.82                        | 0.70              |
| P-244      | J-221-     | J-222-   | 210.0         | 200              | Asbestos Cem | 110                 | Open              | 10.94              | 0.22            | 1.06                        | 0.35              |
| P-245      | J-222-     | J-223-   | 405.0         | 200              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-246      | J-206-     | J-207-   | 130.0         | 200              | Asbestos Cem | 110                 | Open              | 14.93              | 0.24            | 1.88                        | 0.48              |
| P-247      | J-207-     | J-195-   | 490.0         | 200              | Asbestos Cem | 110                 | Open              | 2.82               | 0.04            | 0.09                        | 0.09              |
| P-248      | J-277-     | J-275-   | 355.0         | 300              | Asbestos Cem | 110                 | Open              | 21.68              | 0.18            | 0.52                        | 0.31              |
| P-249      | J-278-     | J-277-   | 570.0         | 300              | Asbestos Cem | 110                 | Open              | 34.11              | 0.69            | 1.20                        | 0.48              |
| P-250      | J-228-     | J-278-   | 145.0         | 200              | Asbestos Cem | 110                 | Open              | 14.55              | 0.26            | 1.79                        | 0.46              |
| P-251      | J-285-     | J-278-   | 245.0         | 200              | Asbestos Cem | 110                 | Open              | 10.26              | 0.23            | 0.94                        | 0.33              |
| P-252      | J-284-     | J-285-   | 375.0         | 200              | Asbestos Cem | 110                 | Open              | 21.51              | 1.39            | 3.70                        | 0.68              |
| P-253      | J-284-     | J-278-   | 585.0         | 200              | PVC          | 130                 | Open              | 21.72              | 1.62            | 2.76                        | 0.69              |
| P-254      | J-284-     | J-282-   | 340.0         | 300              | Asbestos Cem | 110                 | Open              | 96.55              | 2.81            | 8.25                        | 1.37              |
| P-258      | J-396-     | J-397-1  | 860.0         | 450              | Asbestos Cem | 110                 | Open              | 181.41             | 3.16            | 3.68                        | 1.14              |
| P-259      | J-396-     | J-291-   | 315.0         | 450              | Ductile Iron | 110                 | Open              | 134.61             | 0.67            | 2.12                        | 0.85              |
| P-260      | J-396-     | J-395-   | 890.0         | 300              | Asbestos Cem | 110                 | Open              | 56.58              | 2.73            | 3.07                        | 0.80              |
| P-261      | J-290-     | J-395-   | 520.0         | 300              | Asbestos Cem | 110                 | Open              | 17.30              | 0.18            | 0.34                        | 0.24              |
| P-262      | J-289-     | J-290-   | 130.0         | 300              | Asbestos Cem | 110                 | Open              | 58.48              | 0.42            | 3.26                        | 0.83              |
| P-263      | J-288-     | J-289-   | 325.0         | 300              | Asbestos Cem | 110                 | Open              | 99.66              | 2.84            | 8.75                        | 1.41              |
| P-264      | J-395-     | J-394-   | 65.0          | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-265      | J-394-     | J-290-   | 570.0         | 200              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-266      | J-379-     | J-394-   | 585.0         | 300              | Asbestos Cem | 110                 | Open              | 4.37               | 0.02            | 0.03                        | 0.06              |
| P-267      | J-374-     | J-379-   | 650.0         | 300              | Asbestos Cem | 110                 | Open              | 48.14              | 1.48            | 2.28                        | 0.68              |
| P-268      | J-379-     | J-286-   | 490.0         | 200              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-269      | J-284-     | J-286-   | 375.0         | 200              | Asbestos Cem | 110                 | Open              | 55.12              | 7.90            | 21.07                       | 1.75              |

Pipe Report

| Link Label | Start Node | End Node | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|------------|----------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-270      | J-284      | J-375    | 845.0         | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-271      | J-210      | J-215    | 245.0         | 200              | PVC          | 130                 | Open              | 11.66              | 0.21            | 0.87                        | 0.37              |
| P-272      | J-190      | J-215    | 1,945.0       | 200              | PVC          | 130                 | Open              | 8.66               | 0.98            | 0.50                        | 0.28              |
| P-273      | J-187      | J-188    | 295.0         | 300              | Asbestos Cem | 110                 | Open              | 107.81             | 2.98            | 10.12                       | 1.53              |
| P-274      | J-188      | J-187    | 195.0         | 300              | Asbestos Cem | 110                 | Open              | 119.07             | 2.37            | 12.16                       | 1.68              |
| P-275      | J-379      | J-380    | 180.0         | 300              | Asbestos Cem | 110                 | Open              | 110.10             | 1.89            | 10.52                       | 1.56              |
| P-276      | J-380      | J-381    | 405.0         | 300              | Asbestos Cem | 110                 | Open              | 88.31              | 2.83            | 6.99                        | 1.25              |
| P-277      | J-381      | J-382    | 585.0         | 300              | Asbestos Cem | 110                 | Open              | 88.05              | 4.07            | 6.96                        | 1.25              |
| P-278      | J-382      | J-378    | 500.0         | 200              | PVC          | 130                 | Open              | 42.30              | 4.74            | 9.48                        | 1.35              |
| P-279      | J-378      | J-377    | 245.0         | 200              | PVC          | 130                 | Open              | 20.51              | 0.61            | 2.48                        | 0.65              |
| P-280      | J-376      | J-377    | 390.0         | 200              | PVC          | 130                 | Open              | 1.29               | 0.01            | 0.01                        | 0.04              |
| P-281      | J-371      | J-376    | 650.0         | 200              | PVC          | 130                 | Open              | 23.09              | 2.01            | 3.09                        | 0.73              |
| P-282      | J-338      | J-340    | 810.0         | 200              | Asbestos Cem | 110                 | Open              | 22.40              | 3.23            | 3.98                        | 0.71              |
| P-283      | J-344      | J-340    | 490.0         | 200              | Asbestos Cem | 110                 | Open              | 10.07              | 0.44            | 0.91                        | 0.32              |
| P-284      | J-344      | J-345    | 585.0         | 200              | PVC          | 130                 | Open              | 31.89              | 3.29            | 5.62                        | 1.01              |
| P-285      | J-343      | J-344    | 50.0          | 200              | Asbestos Cem | 110                 | Open              | 16.31              | 0.11            | 2.21                        | 0.52              |
| P-286      | J-342      | J-343    | 40.0          | 200              | Asbestos Cem | 110                 | Open              | 16.31              | 0.09            | 2.21                        | 0.52              |
| P-287      | J-341      | J-342    | 700.0         | 200              | PVC          | 130                 | Open              | 15.76              | 1.07            | 1.53                        | 0.50              |
| P-288      | J-341      | J-332    | 1,050.0       | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-289      | J-331      | J-332    | 90.0          | 200              | PVC          | 130                 | Open              | 20.22              | 0.22            | 2.42                        | 0.64              |
| P-290      | J-342      | J-350    | 490.0         | 200              | Asbestos Cem | 110                 | Open              | 15.98              | 1.04            | 2.13                        | 0.51              |
| P-291      | J-350      | J-351    | 375.0         | 200              | Asbestos Cem | 110                 | Open              | 16.49              | 0.85            | 2.26                        | 0.53              |
| P-292      | J-352      | J-351    | 10.0          | 200              | Asbestos Cem | 110                 | Open              | 5.46               | 0.00            | 0.29                        | 0.17              |
| P-293      | J-352      | J-353    | 405.0         | 200              | Asbestos Cem | 110                 | Open              | 19.65              | 1.27            | 3.13                        | 0.63              |
| P-294      | J-352      | J-355    | 165.0         | 200              | PVC          | 130                 | Open              | 12.26              | 0.16            | 0.96                        | 0.39              |
| P-295      | J-355      | J-358    | 195.0         | 200              | PVC          | 130                 | Open              | 3.02               | 0.01            | 0.07                        | 0.10              |
| P-298      | J-358      | J-359    | 325.0         | 200              | PVC          | 130                 | Open              | 28.59              | 1.49            | 4.59                        | 0.91              |
| P-297      | J-359      | J-360    | 245.0         | 200              | PVC          | 130                 | Open              | 13.62              | 0.29            | 1.16                        | 0.43              |
| P-299      | J-362      | J-361    | 405.0         | 200              | PVC          | 130                 | Open              | 7.66               | 0.16            | 0.40                        | 0.24              |
| P-300      | J-362      | J-363    | 260.0         | 200              | PVC          | 130                 | Open              | 16.83              | 0.45            | 1.72                        | 0.54              |
| P-301      | J-351      | J-364    | 165.0         | 200              | PVC          | 130                 | Open              | 12.13              | 0.16            | 0.94                        | 0.39              |
| P-303      | J-354      | J-357    | 195.0         | 200              | PVC          | 130                 | Open              | 1.72               | 0.00            | 0.03                        | 0.05              |
| P-304      | J-356      | J-357    | 325.0         | 200              | PVC          | 130                 | Open              | 20.04              | 0.77            | 2.38                        | 0.64              |
| P-305      | J-350      | J-356    | 210.0         | 200              | PVC          | 130                 | Open              | 13.31              | 0.23            | 1.12                        | 0.42              |
| P-306      | J-356      | J-349    | 730.0         | 200              | PVC          | 130                 | Open              | 26.32              | 2.88            | 3.94                        | 0.84              |
| P-307      | J-349      | J-348    | 405.0         | 200              | PVC          | 130                 | Open              | 4.35               | 0.06            | 0.14                        | 0.14              |
| P-308      | J-346      | J-348    | 245.0         | 200              | PVC          | 130                 | Open              | 19.96              | 0.58            | 2.36                        | 0.64              |
| P-309      | J-345      | J-346    | 375.0         | 200              | PVC          | 130                 | Open              | 7.58               | 0.15            | 0.39                        | 0.24              |
| P-310      | J-346      | J-347    | 340.0         | 300              | Asbestos Cem | 110                 | Open              | 41.17              | 0.58            | 1.71                        | 0.58              |
| P-311      | J-347      | J-366    | 600.0         | 300              | Asbestos Cem | 110                 | Open              | 35.57              | 0.78            | 1.30                        | 0.50              |
| P-313      | J-366      | J-384    | 700.0         | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-314      | J-383      | J-384    | 245.0         | 300              | Asbestos Cem | 110                 | Open              | 31.59              | 0.26            | 1.04                        | 0.45              |
| P-315      | J-382      | J-383    | 420.0         | 300              | Asbestos Cem | 110                 | Open              | 146.14             | 7.46            | 17.76                       | 2.07              |
| P-316      | J-383      | J-385    | 145.0         | 200              | Asbestos Cem | 110                 | Open              | 82.96              | 6.51            | 44.89                       | 2.64              |
| P-317      | J-385      | J-386    | 490.0         | 200              | Asbestos Cem | 110                 | Open              | 20.14              | 1.60            | 3.27                        | 0.64              |
| P-318      | J-387      | J-386    | 195.0         | 200              | Asbestos Cem | 110                 | Open              | 21.26              | 0.71            | 3.62                        | 0.68              |
| P-319      | J-385      | J-387    | 245.0         | 200              | Asbestos Cem | 110                 | Open              | 21.42              | 0.90            | 3.67                        | 0.68              |
| P-320-1    | J-388      | J-387    | 110.0         | 200              | PVC          | 130                 | Open              | 41.24              | 0.99            | 9.04                        | 1.31              |
| P-320-2    | J-388      | J-389    | 70.0          | 200              | PVC          | 130                 | Open              | 41.40              | 0.64            | 9.11                        | 1.32              |
| P-321      | J-389      | J-390    | 325.0         | 200              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-322      | J-391      | J-390    | 115.0         | 200              | Asbestos Cem | 110                 | Open              | 41.40              | 1.43            | 12.41                       | 1.32              |
| P-323      | J-391      | J-392    | 120.0         | 200              | Asbestos Cem | 110                 | Open              | 41.40              | 1.49            | 12.41                       | 1.32              |
| P-324      | J-366      | J-369    | 430.0         | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-328      | J-402      | J-403    | 350.0         | 450              | Asbestos Cem | 110                 | Open              | 201.39             | 1.56            | 4.46                        | 1.27              |
| P-329      | J-403      | J-404    | 570.0         | 450              | Asbestos Cem | 110                 | Open              | 137.12             | 1.25            | 2.19                        | 0.86              |
| P-330      | J-404      | J-405    | 260.0         | 450              | Asbestos Cem | 110                 | Open              | 72.85              | 0.18            | 0.68                        | 0.46              |
| P-331      | J-405      | J-406    | 730.0         | 450              | Asbestos Cem | 110                 | Open              | 181.09             | 2.68            | 3.67                        | 1.14              |
| P-332      | J-406      | J-407    | 975.0         | 450              | Asbestos Cem | 110                 | Open              | 136.79             | 2.13            | 2.18                        | 0.86              |
| P-333      | J-407      | J-408    | 595.0         | 450              | Asbestos Cem | 110                 | Open              | 156.15             | 1.49            | 2.79                        | 0.98              |
| P-334      | J-408      | J-409    | 745.0         | 450              | Asbestos Cem | 110                 | Open              | 133.70             | 1.56            | 2.09                        | 0.84              |
| P-335      | J-409      | J-410    | 650.0         | 450              | Asbestos Cem | 110                 | Open              | 132.73             | 1.34            | 2.06                        | 0.83              |
| P-336      | J-410      | J-411    | 780.0         | 450              | Asbestos Cem | 110                 | Open              | 159.06             | 2.25            | 2.88                        | 1.00              |
| P-337      | J-411      | J-412    | 325.0         | 450              | Asbestos Cem | 110                 | Open              | 89.26              | 0.32            | 0.99                        | 0.56              |
| P-338      | J-412      | J-413    | 1,300.0       | 450              | Asbestos Cem | 110                 | Open              | 129.91             | 2.58            | 1.98                        | 0.82              |
| P-339      | J-405      | J-416    | 780.0         | 450              | Asbestos Cem | 110                 | Open              | 218.46             | 4.05            | 5.19                        | 1.97              |
| P-340      | J-416      | J-417    | 650.0         | 450              | Asbestos Cem | 110                 | Open              | 164.18             | 1.99            | 3.06                        | 1.03              |
| P-341      | J-417      | J-418    | 160.0         | 450              | Asbestos Cem | 110                 | Open              | 109.89             | 0.23            | 1.46                        | 0.69              |
| P-342      | J-418      | J-430    | 2,755.0       | 200              | PVC          | 130                 | Open              | 18.99              | 5.93            | 2.15                        | 0.60              |
| P-343      | J-430      | J-431    | 975.0         | 200              | PVC          | 130                 | Open              | 14.25              | 1.23            | 1.27                        | 0.45              |
| P-344      | J-431      | J-432    | 405.0         | 200              | PVC          | 130                 | Open              | 22.82              | 1.23            | 3.03                        | 0.73              |
| P-345      | J-418      | J-427    | 700.0         | 200              | PVC          | 130                 | Open              | 20.18              | 1.69            | 2.41                        | 0.64              |
| P-346      | J-427      | J-428    | 810.0         | 200              | PVC          | 130                 | Open              | 15.94              | 1.26            | 1.56                        | 0.51              |
| P-347      | J-428      | J-429    | 810.0         | 200              | PVC          | 130                 | Open              | 22.23              | 2.34            | 2.88                        | 0.71              |
| P-348      | J-418      | J-419    | 325.0         | 200              | PVC          | 130                 | Open              | 45.18              | 3.48            | 10.71                       | 1.44              |
| P-349      | J-419      | J-420    | 80.0          | 200              | PVC          | 130                 | Open              | 0.88               | 0.00            | 0.01                        | 0.03              |
| P-350      | J-420      | J-421    | 325.0         | 200              | PVC          | 130                 | Open              | 44.30              | 3.35            | 10.32                       | 1.41              |
| P-351      | J-420      | J-422    | 295.0         | 200              | PVC          | 130                 | Open              | 28.10              | 1.31            | 4.45                        | 0.89              |
| P-352      | J-422      | J-423    | 325.0         | 200              | PVC          | 130                 | Open              | 44.30              | 3.35            | 10.32                       | 1.41              |
| P-353      | J-422      | J-424    | 130.0         | 200              | PVC          | 130                 | Open              | 8.64               | 0.07            | 0.50                        | 0.28              |
| P-354      | J-424      | J-425    | 325.0         | 200              | PVC          | 130                 | Open              | 44.30              | 3.35            | 10.32                       | 1.41              |
| P-355      | J-424      | J-428    | 295.0         | 200              | PVC          | 130                 | Open              | 44.30              | 3.05            | 10.32                       | 1.41              |

Pipe Report

| Link Label | Start Node          | End Node           | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|---------------------|--------------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-357      | J-171-              | J-172-             | 165.0         | 200              | PVC          | 130                 | Open              | 7.67               | 0.07            | 0.40                        | 0.24              |
| P-369      | J-401-              | J-402-             | 251.5         | 450              | Asbestos Cem | 110                 | Open              | 265.67             | 1.87            | 7.45                        | 1.67              |
| P-371      | J-397-1             | J-398-             | 370.0         | 450              | Asbestos Cem | 110                 | Open              | 144.37             | 0.89            | 2.41                        | 0.91              |
| P-382      | TCV-8-In            | J-398-             | 160.0         | 450              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-383      | J-401-              | TCV-9-In           | 100.0         | 450              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-384      | TCV-9-Out           | J-398-             | 100.0         | 450              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-385      | J-398-              | J-399-             | 520.0         | 200              | PVC          | 130                 | Open              | 26.66              | 2.10            | 4.03                        | 0.85              |
| P-387      | TCV-12-Out          | J-314-             | 200.5         | 450              | Asbestos Cem | 110                 | Open              | 56.38              | 0.08            | 0.42                        | 0.35              |
| P-388      | J-329-              | J-330-             | 150.5         | 450              | Asbestos Cem | 110                 | Open              | 256.57             | 1.05            | 6.98                        | 1.61              |
| P-389      | J-329-              | TCV-12-In          | 219.0         | 450              | Asbestos Cem | 110                 | Open              | 56.38              | 0.09            | 0.42                        | 0.35              |
| P-391      | J-316-              | J-315-             | 66.5          | 450              | Asbestos Cem | 110                 | Open              | 169.91             | 0.22            | 3.26                        | 1.07              |
| P-392      | TCV-13-Out          | J-329-             | 10.0          | 450              | Asbestos Cem | 110                 | Open              | 362.12             | 0.13            | 13.21                       | 2.28              |
| P-393      | J-315-              | TCV-13-In          | 10.0          | 450              | Asbestos Cem | 110                 | Open              | 362.12             | 0.13            | 13.21                       | 2.28              |
| P-394      | PMP-DhakaTR-BPS-Out | TCV-14-In          | 43.5          | 450              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-395      | J-315-              | TCV-14-Out         | 40.0          | 450              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-403-1    | J-148-              | J-147-             | 465.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-404-1    | J-154-              | J-153-             | 770.0         | 300              | Ductile Iron | 110                 | Open              | 65.96              | 3.14            | 4.08                        | 0.93              |
| P-404-2    | J-153-              | J-148-             | 240.0         | 300              | Ductile Iron | 110                 | Open              | 42.82              | 0.44            | 1.83                        | 0.61              |
| P-413      | J-107-              | J-108-             | 950.0         | 300              | Asbestos Cem | 110                 | Open              | 41.98              | 1.68            | 1.77                        | 0.59              |
| P-414      | J-108-              | J-109-             | 750.0         | 200              | PVC          | 130                 | Open              | 19.56              | 1.71            | 2.27                        | 0.62              |
| P-415      | J-111-1             | J-112-             | 550.0         | 300              | Asbestos Cem | 110                 | Open              | 32.11              | 0.59            | 1.08                        | 0.45              |
| P-416      | J-108-              | J-111-1            | 200.0         | 300              | Asbestos Cem | 110                 | Open              | 49.96              | 0.49            | 2.44                        | 0.71              |
| P-421      | J-115-              | J-112-             | 10.0          | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-422      | J-111-3             | J-117-             | 55.0          | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-423      | J-117-              | J-124-             | 1,000.0       | 200              | PVC          | 130                 | Open              | 40.02              | 8.55            | 8.55                        | 1.27              |
| P-424      | J-117-              | J-118-1            | 350.0         | 200              | PVC          | 130                 | Open              | 51.89              | 4.84            | 13.83                       | 1.65              |
| P-427      | J-314-              | PMP-DhakaTR-BPS-In | 300.0         | 450              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-429      | J-315-              | J-314-             | 385.0         | 450              | Ductile Iron | 110                 | Open              | 96.66              | 0.44            | 1.15                        | 0.61              |
| P-431      | J-111-2             | J-111-3            | 325.0         | 200              | PVC          | 130                 | Open              | 9.78               | 0.21            | 0.63                        | 0.31              |
| P-432      | J-111-2             | J-110-             | 480.0         | 200              | PVC          | 130                 | Open              | 19.56              | 1.09            | 2.27                        | 0.62              |
| P-438      | J-114-              | J-115-             | 900.0         | 600              | Asbestos Cem | 110                 | Open              | 510.56             | 5.53            | 6.15                        | 1.81              |
| P-440      | J-KalunghatBPS      | J-113-             | 55.0          | 600              | Ductile Iron | 110                 | Open              | 1,184.70           | 1.60            | 29.16                       | 4.19              |
| P-442      | J-356-              | J-362-             | 600.0         | 450              | Ductile Iron | 110                 | Open              | 135.17             | 1.28            | 2.13                        | 0.85              |
| P-446      | J-366-              | J-367-             | 660.0         | 300              | Ductile Iron | 110                 | Open              | 37.21              | 0.93            | 1.41                        | 0.53              |
| P-447      | J-367-              | J-368-             | 150.0         | 300              | Ductile Iron | 110                 | Open              | 50.67              | 0.38            | 2.50                        | 0.72              |
| P-453      | J-393-              | J-391-             | 480.0         | 300              | Asbestos Cem | 110                 | Open              | 124.20             | 6.31            | 13.15                       | 1.76              |
| P-481      | J-217-1             | J-11T              | 10.0          | 600              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-482      | J-174-              | J-177-             | 187.0         | 300              | Ductile Iron | 110                 | Open              | 11.69              | 0.03            | 0.17                        | 0.17              |
| P-483      | J-177-              | J-178-             | 483.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-485      | J-176-              | J-10T              | 10.0          | 300              | Ductile Iron | 110                 | Open              | 72.26              | 0.05            | 4.83                        | 1.02              |
| P-488      | J-146-              | J-142-             | 140.0         | 300              | Ductile Iron | 110                 | Open              | 167.66             | 3.21            | 22.90                       | 2.37              |
| P-489      | J-147-              | J-146-             | 395.0         | 300              | Ductile Iron | 110                 | Open              | 6.55               | 0.02            | 0.06                        | 0.09              |
| P-492      | J-358-              | TCV-2-In           | 178.0         | 200              | PVC          | 130                 | Open              | 21.21              | 0.47            | 2.64                        | 0.68              |
| P-493      | TCV-2-Out           | J-361-             | 72.0          | 200              | PVC          | 130                 | Open              | 21.21              | 0.19            | 2.64                        | 0.68              |
| P-494      | J-354-              | TCV-3-In           | 2.5           | 200              | PVC          | 130                 | Open              | 0.59               | 0.00            | 0.00                        | 0.02              |
| P-495      | TCV-3-Out           | J-355-             | 2.5           | 200              | PVC          | 130                 | Open              | 0.59               | 0.00            | 0.00                        | 0.02              |
| P-497      | J-293-1             | TCV-4-Out          | 2.5           | 300              | Asbestos Cem | 110                 | Open              | 121.25             | 0.03            | 12.57                       | 1.72              |
| P-498      | TCV-5-In            | J-122-             | 5.0           | 600              | Asbestos Cem | 110                 | Open              | 71.43              | 0.00            | 0.16                        | 0.25              |
| P-499      | J-123-              | TCV-5-Out          | 5.0           | 600              | Asbestos Cem | 110                 | Open              | 71.43              | 0.00            | 0.16                        | 0.25              |
| P-500      | J-115-              | TCV-6-In           | 82.0          | 600              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-501      | TCV-6-Out           | J-8T               | 118.0         | 600              | Asbestos Cem | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-502      | TCV-7-In            | J-111-2            | 4.0           | 200              | PVC          | 130                 | Open              | 39.12              | 0.03            | 8.20                        | 1.25              |
| P-503      | J-111-1             | TCV-7-Out          | 11.0          | 200              | PVC          | 130                 | Open              | 39.12              | 0.09            | 8.20                        | 1.25              |
| P-505      | J-145-              | J-147-             | 525.0         | 300              | Ductile Iron | 110                 | Open              | 39.16              | 0.82            | 1.55                        | 0.55              |
| P-509      | J-225-              | J-211-             | 552.5         | 600              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-510      | J-211-              | J-209-             | 257.5         | 600              | Ductile Iron | 110                 | Open              | 315.35             | 0.65            | 2.52                        | 1.12              |
| P-514      | J-124-              | J-127-             | 245.5         | 300              | Ductile Iron | 110                 | Open              | 24.86              | 0.16            | 0.67                        | 0.35              |
| P-515      | J-127-              | J-133-             | 209.5         | 300              | Ductile Iron | 110                 | Open              | 118.67             | 2.53            | 12.08                       | 1.68              |
| P-536      | J-6T                | PRV-2-In           | 20.0          | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-537      | PRV-2-Out           | J-104-             | 225.0         | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-538      | J-157-              | J-156-             | 870.0         | 300              | Ductile Iron | 110                 | Open              | 31.59              | 0.91            | 1.04                        | 0.45              |
| P-579      | J-293-2             | TCV-15-In          | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-580      | J-293-1             | TCV-15-Out         | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-614      | J-370-              | J-368-             | 340.0         | 200              | PVC          | 130                 | Open              | 65.34              | 7.20            | 21.19                       | 2.08              |
| P-615      | J-399-              | J-370-             | 770.0         | 200              | PVC          | 130                 | Open              | 29.59              | 3.77            | 4.89                        | 0.94              |
| P-631      | TCV-8-Out           | J-400-             | 146.5         | 450              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-656      | J-Fatehabad         | PMP-Fat-1-In       | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.49             | 0.07            | 14.33                       | 2.21              |
| P-667      | PMP-Fat-1-Out       | J-FatPS            | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.49             | 1.56            | 312.39                      | 2.21              |
| P-668      | J-Fatehabad         | PMP-Fat-2-In       | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.49             | 0.07            | 14.33                       | 2.21              |
| P-669      | PMP-Fat-2-Out       | J-FatPS            | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.49             | 1.56            | 312.39                      | 2.21              |
| P-670      | J-Fatehabad         | PMP-Fat-3-In       | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.49             | 0.07            | 14.33                       | 2.21              |
| P-671      | PMP-Fat-3-Out       | J-FatPS            | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.49             | 1.56            | 312.39                      | 2.21              |
| P-759      | J-149-              | J-148-             | 735.0         | 300              | Ductile Iron | 110                 | Open              | 16.30              | 0.23            | 0.31                        | 0.23              |
| P-883      | J-257-              | J-264-             | 285.5         | 450              | Ductile Iron | 110                 | Open              | 37.73              | 0.06            | 0.20                        | 0.24              |
| P-864      | J-253-              | J-257-             | 434.5         | 450              | Ductile Iron | 110                 | Open              | 197.22             | 1.87            | 4.29                        | 1.24              |
| P-866      | J-265-              | J-266-             | 425.5         | 450              | Ductile Iron | 110                 | Open              | 17.69              | 0.02            | 0.05                        | 0.11              |
| P-869      | J-264-              | J-265-             | 284.5         | 450              | Ductile Iron | 110                 | Open              | 30.11              | 0.04            | 0.13                        | 0.19              |
| P-873      | J-Fatehabad         | PMP-Fat-4-In       | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-874      | PMP-Fat-4-Out       | J-FatPS            | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-882      | J-9T                | J-145-             | 10.0          | 300              | Ductile Iron | 110                 | Open              | 343.33             | 0.86            | 86.24                       | 4.86              |
| P-817      | J-113-              | J-116-             | 654.0         | 600              | Ductile Iron | 110                 | Open              | 654.58             | 6.36            | 9.73                        | 2.32              |

Pipe Report

| Link Label | Start Node      | End Node       | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|-----------------|----------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-918      | J-116-          | J-121-         | 196.0         | 600              | Ductile Iron | 110                 | Open              | 356.31             | 0.62            | 3.16                        | 1.26              |
| P-923      | J-292-          | J-293-1        | 20.0          | 600              | Ductile Iron | 110                 | Open              | 340.00             | 0.06            | 2.90                        | 1.20              |
| P-924      | J-292-          | J-217-1        | 785.0         | 600              | Ductile Iron | 110                 | Open              | 42.55              | 0.05            | 0.06                        | 0.15              |
| P-929      | TCV-4-In        | J-294-         | 2.5           | 300              | Ductile Iron | 110                 | Open              | 121.25             | 0.03            | 12.57                       | 1.72              |
| P-932      | J-400-          | PSV-DmyPat2-In | 300.0         | 450              | Ductile Iron | 110                 | Open              | 434.63             | 5.56            | 18.52                       | 2.73              |
| P-933      | PSV-DmyPat2-Out | T-Patenga      | 0.5           | 450              | Ductile Iron | 110                 | Open              | 434.87             | 0.01            | 18.54                       | 2.73              |
| P-934      | TCV-16-In       | J-23T          | 5.0           | 450              | Ductile Iron | 110                 | Open              | 520.12             | 0.13            | 25.82                       | 3.27              |
| P-935      | J-400-          | TCV-16-Out     | 5.0           | 450              | Ductile Iron | 110                 | Open              | 520.12             | 0.13            | 25.82                       | 3.27              |
| P-986      | J-159-          | J-156-         | 2,535.0       | 600              | Ductile Iron | 110                 | Open              | 255.44             | 4.33            | 1.71                        | 0.90              |
| P-988      | J-176-          | J-173-         | 995.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-989      | PSV-DmyNs1-Out  | T-Nas-gr       | 0.5           | 1,200            | Ductile Iron | 110                 | Open              | 1,590.48           | 0.00            | 1.72                        | 1.41              |
| P-991      | PSV-DmyNs2-Out  | T-Nas-gr       | 0.5           | 1,200            | Ductile Iron | 110                 | Open              | 1,590.48           | 0.00            | 1.72                        | 1.41              |
| P-992      | T-Nas-gr        | J-Nas1         | 100.0         | 1,600            | Ductile Iron | 110                 | Open              | 3,302.46           | 0.16            | 1.64                        | 1.64              |
| P-993      | T-Nas-gr        | J-Nas2         | 100.0         | 1,000            | Ductile Iron | 110                 | Open              | 384.28             | 0.03            | 0.30                        | 0.49              |
| P-1018     | J-171-1         | J-171-2        | 144.0         | 750              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-1019     | J-177-2         | J-18T          | 490.0         | 750              | Ductile Iron | 110                 | Open              | 337.64             | 0.47            | 0.96                        | 0.76              |
| P-1023     | J-162-          | J-159-         | 3,200.0       | 600              | Ductile Iron | 110                 | Open              | 282.68             | 6.59            | 2.06                        | 1.00              |
| P-1026     | J-156-          | J-155-         | 125.0         | 300              | Ductile Iron | 110                 | Open              | 95.47              | 1.01            | 8.08                        | 1.35              |
| P-1027     | J-155-          | J-154-         | 470.0         | 300              | Ductile Iron | 110                 | Open              | 45.04              | 0.95            | 2.01                        | 0.84              |
| P-1029     | T-Fat-el        | J-165-         | 100.0         | 600              | Ductile Iron | 110                 | Open              | 315.04             | 0.25            | 2.52                        | 1.11              |
| P-1030     | J-165-          | J-162-         | 2,150.0       | 600              | Ductile Iron | 110                 | Open              | 302.57             | 5.02            | 2.33                        | 1.07              |
| P-2000T    | J-NMoPS         | PSV-DmyKhut-In | 15,045.0      | 900              | Ductile Iron | 110                 | Open              | 1,051.61           | 48.85           | 3.25                        | 1.65              |
| P-2001-1   | J-3T            | PRV-2001-In    | 10.0          | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2001-2   | PRV-2001-Out    | J-100-         | 10.0          | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2002     | J-113-          | J-114-         | 15.0          | 600              | Asbestos Cem | 110                 | Open              | 530.12             | 0.10            | 6.59                        | 1.87              |
| P-2003     | J-116-          | J-117-         | 10.0          | 350              | Ductile Iron | 110                 | Open              | 298.26             | 0.31            | 31.38                       | 3.10              |
| P-2004     | J-117-          | J-118-1        | 350.0         | 350              | Ductile Iron | 110                 | Open              | 191.55             | 4.84            | 13.83                       | 1.99              |
| P-2005     | J-118-1         | J-125-         | 600.0         | 350              | Ductile Iron | 110                 | Open              | 140.54             | 4.68            | 7.80                        | 1.46              |
| P-2006     | J-125-          | J-126-         | 600.0         | 300              | Ductile Iron | 110                 | Open              | 108.43             | 6.14            | 10.23                       | 1.53              |
| P-2007     | J-131-          | J-138-         | 180.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2008     | J-130-          | J-127-         | 20.0          | 300              | Ductile Iron | 110                 | Open              | 2.87               | 0.00            | 0.01                        | 0.04              |
| P-2009     | J-127-          | J-126-         | 1,180.0       | 200              | PVC          | 130                 | Open              | 32.68              | 6.94            | 5.88                        | 1.04              |
| P-2010     | J-126-          | J-128-         | 600.0         | 300              | Ductile Iron | 110                 | Open              | 91.21              | 4.46            | 7.43                        | 1.29              |
| P-2011     | J-128-          | J-129-         | 600.0         | 250              | PVC          | 130                 | Open              | 77.63              | 5.90            | 9.83                        | 1.58              |
| P-2012     | J-129-          | J-242-         | 1,100.0       | 250              | PVC          | 130                 | Open              | 23.59              | 1.19            | 1.09                        | 0.48              |
| P-2013-1   | J-241-1         | J-242-         | 835.0         | 250              | PVC          | 130                 | Open              | 63.27              | 5.62            | 6.73                        | 1.29              |
| P-2013-2   | J-241-1         | J-241-2        | 5.0           | 250              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2014     | J-243-1         | J-241-2        | 295.0         | 250              | PVC          | 130                 | Open              | 58.08              | 1.70            | 5.75                        | 1.18              |
| P-2015-1   | J-239-          | J-243-2        | 730.0         | 300              | Ductile Iron | 110                 | Open              | 106.70             | 7.25            | 9.93                        | 1.51              |
| P-2015-2   | J-243-2         | J-243-1        | 10.0          | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2016     | J-238-          | J-239-         | 20.0          | 350              | Ductile Iron | 110                 | Open              | 190.17             | 0.27            | 13.65                       | 1.98              |
| P-2017     | J-253-          | J-247-         | 20.0          | 400              | Ductile Iron | 110                 | Open              | 59.57              | 0.02            | 0.83                        | 0.47              |
| P-2018     | T-ADC Hill      | J-235-         | 200.0         | 300              | Ductile Iron | 110                 | Open              | 138.20             | 3.20            | 16.02                       | 1.96              |
| P-2019-1   | J-149-          | J-150-         | 390.0         | 250              | PVC          | 130                 | Open              | 13.14              | 0.14            | 0.37                        | 0.27              |
| P-2019-2   | J-151-          | J-150-         | 1,000.0       | 250              | PVC          | 130                 | Open              | 16.60              | 0.57            | 0.57                        | 0.34              |
| P-2020     | J-158-          | J-157-         | 1,080.0       | 200              | PVC          | 130                 | Open              | 16.90              | 1.88            | 1.74                        | 0.54              |
| P-2021     | J-156-          | J-166-         | 195.0         | 200              | PVC          | 130                 | Open              | 16.96              | 0.34            | 1.75                        | 0.54              |
| P-2022     | J-167-          | J-166-         | 1,005.0       | 250              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2023     | J-168-          | J-167-         | 480.0         | 250              | PVC          | 130                 | Open              | 137.82             | 13.65           | 28.43                       | 2.81              |
| P-2024     | J-168-          | J-170-         | 460.0         | 250              | PVC          | 130                 | Open              | 28.10              | 0.69            | 1.50                        | 0.57              |
| P-2025     | J-170-          | J-173-         | 1,280.0       | 300              | Ductile Iron | 110                 | Open              | 36.24              | 1.72            | 1.35                        | 0.51              |
| P-2026     | J-176-          | J-173-         | 995.0         | 300              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2027     | J-145-          | J-146-         | 15.0          | 300              | Ductile Iron | 110                 | Open              | 271.56             | 0.84            | 55.89                       | 3.84              |
| P-2028     | J-146-          | J-176-         | 1,108.0       | 500              | Ductile Iron | 110                 | Open              | 77.85              | 0.51            | 0.46                        | 0.40              |
| P-2029     | J-177-          | J-176-         | 15.0          | 500              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2030-1   | J-177-          | J-217-2        | 885.0         | 600              | Ductile Iron | 110                 | Open              | 230.27             | 1.25            | 1.41                        | 0.81              |
| P-2030-2   | J-217-2         | J-217-1        | 10.0          | 600              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2031     | T-Kulsh-el      | J-292-         | 200.0         | 700              | Ductile Iron | 110                 | Open              | 456.38             | 0.47            | 2.36                        | 1.19              |
| P-2032     | J-298-          | J-299-         | 430.0         | 300              | Ductile Iron | 110                 | Open              | 104.16             | 4.08            | 9.49                        | 1.47              |
| P-2033     | J-299-          | J-306-         | 20.0          | 250              | PVC          | 130                 | Open              | 137.95             | 0.57            | 28.48                       | 2.81              |
| P-2034     | J-306-          | J-307-         | 280.0         | 250              | PVC          | 130                 | Open              | 91.97              | 3.77            | 13.45                       | 1.87              |
| P-2035     | J-307-          | J-308-         | 270.0         | 200              | PVC          | 130                 | Open              | 45.98              | 2.99            | 11.06                       | 1.46              |
| P-2036     | J-Khu-1         | J-293-2        | 230.0         | 1,000            | Ductile Iron | 110                 | Open              | 1,114.48           | 0.50            | 2.16                        | 1.42              |
| P-2037     | J-293-2         | J-301-2        | 1,175.0       | 800              | Ductile Iron | 110                 | Open              | 773.88             | 3.84            | 3.27                        | 1.54              |
| P-2038     | J-301-1         | J-301-2        | 5.0           | 300              | Ductile Iron | 110                 | Open              | 340.60             | 0.42            | 84.98                       | 4.82              |
| P-2039     | J-301-2         | J-302-         | 280.0         | 1,000            | Ductile Iron | 110                 | Open              | 1,114.48           | 0.61            | 2.16                        | 1.42              |
| P-2040     | J-302-          | J-303-         | 270.0         | 1,000            | Ductile Iron | 110                 | Open              | 1,114.48           | 0.58            | 2.16                        | 1.42              |
| P-2041     | J-303-          | J-304-         | 360.0         | 1,000            | Ductile Iron | 110                 | Open              | 1,114.48           | 0.78            | 2.16                        | 1.42              |
| P-2042     | J-304-          | J-305-         | 390.0         | 900              | Ductile Iron | 110                 | Open              | 994.67             | 1.14            | 2.93                        | 1.56              |
| P-2043     | J-305-          | J-337-         | 520.0         | 900              | Ductile Iron | 110                 | Open              | 948.68             | 1.40            | 2.68                        | 1.49              |
| P-2044     | J-337-          | J-341-         | 1,000.0       | 800              | Ductile Iron | 110                 | Open              | 588.94             | 1.97            | 1.97                        | 1.17              |
| P-2045     | J-341-          | J-342-         | 700.0         | 800              | Ductile Iron | 110                 | Open              | 512.89             | 1.07            | 1.53                        | 1.02              |
| P-2046     | J-342-          | J-344-         | 90.0          | 600              | Ductile Iron | 110                 | Open              | 293.98             | 0.20            | 2.21                        | 1.04              |
| P-2047     | J-344-          | J-346-         | 990.0         | 500              | Ductile Iron | 110                 | Open              | 235.85             | 3.43            | 3.58                        | 1.20              |
| P-2048     | J-346-          | J-347-         | 340.0         | 500              | Ductile Iron | 110                 | Open              | 157.99             | 0.58            | 1.71                        | 0.80              |
| P-2049     | J-347-          | J-366-         | 600.0         | 500              | Ductile Iron | 110                 | Open              | 136.47             | 0.78            | 1.30                        | 0.70              |
| P-2050     | J-366-          | J-369-         | 430.0         | 250              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2051     | J-370-          | J-369-         | 340.0         | 200              | Ductile Iron | 110                 | Open              | 55.29              | 7.20            | 21.19                       | 1.76              |
| P-2052     | J-342-          | J-350-         | 490.0         | 500              | Ductile Iron | 110                 | Open              | 178.24             | 1.04            | 2.13                        | 0.91              |
| P-2053     | J-350-          | J-356-         | 210.0         | 450              | Ductile Iron | 110                 | Open              | 95.24              | 0.23            | 1.12                        | 0.60              |
| P-2054     | J-356-          | J-362-         | 600.0         | 400              | Ductile Iron | 110                 | Open              | 99.13              | 1.28            | 2.13                        | 0.79              |

**Pipe Report**

| Link Label | Start Node      | End Node       | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|-----------------|----------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-2055-1   | J-362           | J-363          | 250.0         | 350              | Ductile Iron | 110                 | Open              | 62.14              | 0.45            | 1.72                        | 0.65              |
| P-2055-2   | J-363           | J-364          | 160.0         | 350              | Ductile Iron | 110                 | Open              | 59.92              | 0.26            | 1.61                        | 0.62              |
| P-2056     | J-364           | J-365          | 500.0         | 300              | Ductile Iron | 110                 | Open              | 50.97              | 1.27            | 2.53                        | 0.72              |
| P-2057     | J-365           | J-367          | 620.0         | 200              | PVC          | 130                 | Open              | 19.46              | 1.40            | 2.25                        | 0.62              |
| P-2058     | J-357           | J-358          | 10.0          | 200              | PVC          | 130                 | Open              | 11.93              | 0.01            | 0.91                        | 0.38              |
| P-2059     | J-358           | J-359          | 325.0         | 200              | PVC          | 130                 | Open              | 28.58              | 1.49            | 4.59                        | 0.91              |
| P-2060T1   | J-23T           | PSV-DmyPat1-In | 300.0         | 600              | Ductile Iron | 110                 | Open              | 903.33             | 5.30            | 17.66                       | 3.19              |
| P-2060T2   | PSV-DmyPat1-Out | T-Patenga      | 0.5           | 600              | Ductile Iron | 110                 | Open              | 903.81             | 0.01            | 17.68                       | 3.20              |
| P-2061     | J-PatBPS1       | J-401          | 400.0         | 800              | Ductile Iron | 110                 | Open              | 1,007.68           | 2.13            | 5.33                        | 2.00              |
| P-2062     | J-401           | J-405          | 1,430.0       | 700              | Ductile Iron | 110                 | Open              | 556.29             | 4.86            | 3.40                        | 1.45              |
| P-2063     | J-405           | J-407          | 1,705.0       | 400              | Ductile Iron | 110                 | Open              | 115.19             | 4.80            | 2.82                        | 0.92              |
| P-2064     | J-407           | J-408          | 535.0         | 350              | Ductile Iron | 110                 | Open              | 80.58              | 1.49            | 2.79                        | 0.84              |
| P-2065     | J-408           | J-409          | 745.0         | 300              | Ductile Iron | 110                 | Open              | 45.96              | 1.56            | 2.09                        | 0.65              |
| P-2066     | J-405           | J-418          | 1,590.0       | 600              | Ductile Iron | 110                 | Open              | 401.58             | 6.27            | 3.94                        | 1.42              |
| P-2067-1   | J-418           | J-420          | 405.0         | 300              | Ductile Iron | 110                 | Open              | 98.71              | 3.48            | 8.59                        | 1.40              |
| P-2067-2   | J-420           | J-422          | 295.0         | 300              | Ductile Iron | 110                 | Open              | 69.14              | 1.31            | 4.45                        | 0.98              |
| P-2068     | J-418           | J-427          | 700.0         | 500              | Ductile Iron | 110                 | Open              | 190.49             | 1.69            | 2.41                        | 0.97              |
| P-2069     | J-427           | J-428          | 810.0         | 500              | Ductile Iron | 110                 | Open              | 150.44             | 1.26            | 1.56                        | 0.77              |
| P-2070     | J-428           | J-429          | 810.0         | 450              | Ductile Iron | 110                 | Open              | 159.07             | 2.34            | 2.88                        | 1.00              |
| P-2071     | J-429           | J-430          | 435.0         | 450              | Ductile Iron | 110                 | Open              | 111.50             | 0.65            | 1.49                        | 0.70              |
| P-2072     | J-430           | J-431          | 975.0         | 450              | Ductile Iron | 110                 | Open              | 101.94             | 1.23            | 1.27                        | 0.64              |
| P-2073     | J-431           | J-432          | 405.0         | 200              | PVC          | 130                 | Open              | 22.82              | 1.23            | 3.03                        | 0.73              |
| P-2074     | J-431           | J-415          | 1,170.0       | 350              | Ductile Iron | 110                 | Open              | 34.29              | 0.67            | 0.57                        | 0.36              |
| P-2075     | J-414           | J-415          | 750.0         | 200              | PVC          | 130                 | Open              | 13.95              | 0.91            | 1.22                        | 0.44              |
| P-2076     | J-412           | J-414          | 1,170.0       | 250              | PVC          | 130                 | Open              | 25.14              | 1.43            | 1.22                        | 0.51              |
| P-2077     | T-Battali Hill  | J-225          | 450.0         | 800              | Ductile Iron | 110                 | Open              | 786.69             | 1.52            | 3.37                        | 1.57              |
| P-2078     | J-225           | J-375          | 1,220.0       | 600              | Ductile Iron | 110                 | Open              | 378.03             | 4.30            | 3.52                        | 1.34              |
| P-2079     | J-375           | J-284          | 845.0         | 350              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2080     | J-375           | J-374          | 80.0          | 700              | Ductile Iron | 110                 | Open              | 637.63             | 0.35            | 4.38                        | 1.66              |
| P-2081     | J-374           | J-379          | 650.0         | 700              | Ductile Iron | 110                 | Open              | 447.93             | 1.48            | 2.28                        | 1.16              |
| P-2082     | J-379           | J-394          | 585.0         | 600              | Ductile Iron | 110                 | Open              | 27.11              | 0.02            | 0.03                        | 0.10              |
| P-2083     | J-394           | J-395          | 65.0          | 600              | Ductile Iron | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-2084     | J-395           | J-393          | 500.0         | 300              | Ductile Iron | 110                 | Open              | 82.80              | 3.10            | 6.21                        | 1.17              |
| P-2085     | J-396           | J-395          | 890.0         | 450              | Ductile Iron | 110                 | Open              | 164.51             | 2.73            | 3.07                        | 1.03              |
| P-2086     | J-382           | J-388          | 200.0         | 200              | PVC          | 130                 | Open              | 124.04             | 13.87           | 69.36                       | 3.95              |
| P-3001     | T-Mad2-el       | J-433          | 100.0         | 900              | Ductile Iron | 110                 | Open              | 787.98             | 0.19            | 1.90                        | 1.24              |
| P-3002     | J-433           | J-434          | 750.0         | 300              | Ductile Iron | 110                 | Open              | 64.05              | 2.90            | 3.86                        | 0.91              |
| P-3003     | J-434           | J-435          | 1,750.0       | 250              | PVC          | 130                 | Open              | 42.70              | 5.69            | 3.25                        | 0.87              |
| P-3004     | J-435           | J-436          | 900.0         | 200              | PVC          | 130                 | Open              | 21.35              | 2.41            | 2.68                        | 0.68              |
| P-3005     | J-433           | J-437          | 1,500.0       | 900              | Ductile Iron | 110                 | Open              | 702.58             | 2.31            | 1.54                        | 1.10              |
| P-3006     | J-437           | J-438          | 1,500.0       | 900              | Ductile Iron | 110                 | Open              | 652.84             | 2.02            | 1.34                        | 1.03              |
| P-3007     | J-438           | J-439          | 850.0         | 800              | Ductile Iron | 110                 | Open              | 574.72             | 1.60            | 1.88                        | 1.14              |
| P-3008     | J-439           | J-102          | 900.0         | 800              | Ductile Iron | 110                 | Open              | 510.87             | 1.36            | 1.52                        | 1.02              |
| P-3009     | J-102           | J-101          | 880.0         | 400              | Ductile Iron | 110                 | Open              | 133.60             | 3.26            | 3.71                        | 1.06              |
| P-3010     | J-101           | J-100          | 520.0         | 300              | Ductile Iron | 110                 | Open              | 56.55              | 1.59            | 3.07                        | 0.80              |
| P-3011     | J-102           | J-104          | 1,045.0       | 600              | Ductile Iron | 110                 | Open              | 281.43             | 2.13            | 2.04                        | 1.00              |
| P-3012     | J-104           | J-105          | 925.0         | 250              | PVC          | 130                 | Open              | 51.12              | 4.20            | 4.54                        | 1.04              |
| P-3013     | J-104           | J-106          | 115.0         | 500              | Ductile Iron | 110                 | Open              | 191.60             | 0.28            | 2.44                        | 0.98              |
| P-3014     | J-106           | J-107          | 875.0         | 500              | Ductile Iron | 110                 | Open              | 166.02             | 1.64            | 1.87                        | 0.85              |
| P-3015     | J-107           | J-108          | 950.0         | 450              | Ductile Iron | 110                 | Open              | 122.07             | 1.68            | 1.77                        | 0.77              |
| P-3016     | J-108           | J-111-1        | 200.0         | 350              | Ductile Iron | 110                 | Open              | 74.97              | 0.49            | 2.44                        | 0.78              |
| P-3017     | J-111-1         | J-118-2        | 30.0          | 350              | Ductile Iron | 110                 | Open              | 43.92              | 0.03            | 0.91                        | 0.46              |
| P-3018     | J-118-2         | J-119          | 925.0         | 250              | PVC          | 130                 | Open              | 22.29              | 0.90            | 0.98                        | 0.45              |
| P-3019     | J-119           | J-120          | 760.0         | 200              | PVC          | 130                 | Open              | 8.67               | 0.38            | 0.51                        | 0.28              |
| P-3020     | J-118-1         | J-125          | 600.0         | 300              | Ductile Iron | 110                 | Open              | 93.67              | 4.68            | 7.80                        | 1.33              |
| P-3021     | J-125           | J-126          | 600.0         | 300              | Ductile Iron | 110                 | Open              | 108.43             | 6.14            | 10.23                       | 1.53              |
| P-3022     | J-131           | J-127          | 25.0          | 450              | Ductile Iron | 110                 | Open              | 366.10             | 0.34            | 13.48                       | 2.30              |
| P-3023     | J-127           | J-126          | 1,180.0       | 400              | Ductile Iron | 110                 | Open              | 171.45             | 6.94            | 5.88                        | 1.36              |
| P-3024     | J-126           | J-128          | 600.0         | 450              | Ductile Iron | 110                 | Open              | 265.21             | 4.46            | 7.43                        | 1.67              |
| P-3025     | J-128           | J-129          | 600.0         | 300              | Ductile Iron | 110                 | Open              | 106.15             | 5.90            | 9.83                        | 1.50              |
| P-3026     | J-243-2         | J-241-1        | 305.0         | 350              | Ductile Iron | 110                 | Open              | 106.70             | 1.43            | 4.69                        | 1.11              |
| P-3027     | J-240           | J-243-1        | 420.0         | 400              | Ductile Iron | 110                 | Open              | 269.80             | 5.71            | 13.60                       | 2.15              |
| P-3028     | J-243-1         | J-241-2        | 295.0         | 350              | Ductile Iron | 110                 | Open              | 119.17             | 1.70            | 5.75                        | 1.24              |
| P-3029     | J-241-2         | J-244          | 390.0         | 300              | Ductile Iron | 110                 | Open              | 89.93              | 2.82            | 7.23                        | 1.27              |
| P-3030     | J-257           | J-256          | 20.0          | 400              | Ductile Iron | 110                 | Open              | 156.67             | 0.10            | 4.98                        | 1.25              |
| P-3031     | J-269           | J-268          | 15.0          | 400              | Ductile Iron | 110                 | Open              | 97.64              | 0.03            | 2.08                        | 0.78              |
| P-3032     | T-Fat-el        | J-165          | 100.0         | 700              | Ductile Iron | 110                 | Open              | 472.71             | 0.25            | 2.52                        | 1.23              |
| P-3033     | J-165           | J-164          | 900.0         | 700              | Ductile Iron | 110                 | Open              | 439.44             | 1.98            | 2.20                        | 1.14              |
| P-3034     | J-164           | J-163          | 600.0         | 700              | Ductile Iron | 110                 | Open              | 393.69             | 1.08            | 1.79                        | 1.02              |
| P-3035     | J-163           | J-162          | 650.0         | 600              | Ductile Iron | 110                 | Open              | 347.95             | 1.96            | 3.02                        | 1.23              |
| P-3036     | J-162           | J-161          | 1,200.0       | 600              | Ductile Iron | 110                 | Open              | 322.09             | 3.14            | 2.62                        | 1.14              |
| P-3037     | J-161           | J-160          | 1,100.0       | 600              | Ductile Iron | 110                 | Open              | 276.34             | 2.17            | 1.97                        | 0.98              |
| P-3038     | J-160           | J-159          | 900.0         | 600              | Ductile Iron | 110                 | Open              | 230.60             | 1.27            | 1.41                        | 0.82              |
| P-3039     | J-159           | J-158          | 585.0         | 500              | Ductile Iron | 110                 | Open              | 199.93             | 1.54            | 2.64                        | 1.02              |
| P-3040     | J-158           | J-157          | 1,080.0       | 500              | Ductile Iron | 110                 | Open              | 159.58             | 1.88            | 1.74                        | 0.81              |
| P-3041     | J-157           | J-156          | 870.0         | 500              | Ductile Iron | 110                 | Open              | 121.22             | 0.91            | 1.04                        | 0.62              |
| P-3042     | J-156           | J-152          | 1,525.0       | 450              | Ductile Iron | 110                 | Open              | 145.66             | 3.74            | 2.45                        | 0.92              |
| P-3043     | J-152           | J-151          | 390.0         | 300              | Ductile Iron | 110                 | Open              | 60.97              | 1.37            | 3.52                        | 0.86              |
| P-3044     | J-156           | J-154          | 595.0         | 350              | Ductile Iron | 110                 | Open              | 88.10              | 1.96            | 3.29                        | 0.92              |
| P-3045     | T-Nas-el        | J-188          | 400.0         | 1,400            | Ductile Iron | 110                 | Open              | 1,897.89           | 0.45            | 1.13                        | 1.23              |
| P-3046     | J-188           | J-170          | 460.0         | 1,200            | Ductile Iron | 110                 | Open              | 1,477.36           | 0.69            | 1.50                        | 1.31              |

Pipe Report

| Link Label | Start Node   | End Node      | Length<br>(m) | Diameter<br>(mm) | Material     | Roughness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|------------|--------------|---------------|---------------|------------------|--------------|----------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-3047     | J-170-       | J-173-        | 1,280.0       | 1,200            | Ductile Iron | 110            | Open              | 1,393.28           | 1.72            | 1.35                        | 1.23              |
| P-3048     | J-173-       | J-177-        | 1,000.0       | 1,200            | Ductile Iron | 110            | Open              | 1,376.45           | 1.32            | 1.32                        | 1.22              |
| P-3049     | J-177-       | J-189-        | 895.0         | 1,100            | Ductile Iron | 110            | Open              | 1,135.53           | 1.26            | 1.41                        | 1.19              |
| P-3050     | J-217-2      | J-189-        | 10.0          | 600              | Ductile Iron | 110            | Open              | 230.27             | 0.01            | 1.41                        | 0.81              |
| P-3051     | J-11T        | J-188-        | 15.0          | 400              | Ductile Iron | 110            | Open              | 245.02             | 0.17            | 11.38                       | 1.95              |
| P-3052     | J-189-       | J-216-        | 920.0         | 1,200            | Ductile Iron | 110            | Open              | 1,365.80           | 1.19            | 1.30                        | 1.21              |
| P-3053     | J-216-       | J-212-        | 355.0         | 1,200            | Ductile Iron | 110            | Open              | 1,365.80           | 0.46            | 1.30                        | 1.21              |
| P-3054     | J-212-       | J-223-        | 895.0         | 1,200            | Ductile Iron | 110            | Open              | 1,365.80           | 1.16            | 1.30                        | 1.21              |
| P-3055     | J-223-       | J-177-2       | 535.0         | 600              | Ductile Iron | 110            | Open              | 337.64             | 1.53            | 2.86                        | 1.19              |
| P-3056     | J-223-       | J-284-        | 1,170.0       | 1,000            | Ductile Iron | 110            | Open              | 886.63             | 1.66            | 1.42                        | 1.13              |
| P-3057     | J-284-       | J-283-        | 340.0         | 900              | Ductile Iron | 110            | Open              | 644.45             | 0.45            | 1.31                        | 1.01              |
| P-3058     | J-283-       | J-287-        | 705.0         | 800              | Ductile Iron | 110            | Open              | 600.68             | 1.44            | 2.04                        | 1.20              |
| P-3059     | J-20T        | J-288-        | 10.0          | 400              | Ductile Iron | 110            | Open              | 148.64             | 0.05            | 4.51                        | 1.18              |
| P-3060     | J-287-       | J-396-        | 705.0         | 700              | Ductile Iron | 110            | Open              | 558.20             | 2.41            | 3.42                        | 1.45              |
| P-3061     | J-21T1       | J-396-        | 10.0          | 400              | Ductile Iron | 110            | Open              | 189.00             | 0.07            | 7.04                        | 1.50              |
| P-3062     | J-379-       | J-381-        | 585.0         | 450              | Ductile Iron | 110            | Open              | 277.58             | 4.73            | 8.08                        | 1.75              |
| P-3063     | J-381-       | J-382-        | 585.0         | 450              | Ductile Iron | 110            | Open              | 256.03             | 4.07            | 6.96                        | 1.61              |
| P-3064     | J-396-       | J-393-        | 500.0         | 300              | Ductile Iron | 110            | Open              | 82.80              | 3.10            | 6.21                        | 1.17              |
| P-3065T    | J-NasTPS     | J-31T         | 400.0         | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 1.21            | 3.03                        | 1.70              |
| P-3066T    | J-31T        | J-32T         | 460.0         | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 1.40            | 3.03                        | 1.70              |
| P-3067T    | J-32T        | J-33T         | 1,300.0       | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 3.95            | 3.03                        | 1.70              |
| P-3068T    | J-33T        | J-34T         | 1,000.0       | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 3.03            | 3.03                        | 1.70              |
| P-3069T    | J-34T        | J-35T         | 930.0         | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 2.82            | 3.03                        | 1.70              |
| P-3070T    | J-35T        | J-36T         | 920.0         | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 2.79            | 3.03                        | 1.70              |
| P-3071T    | J-36T        | J-37T         | 1,675.0       | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 5.08            | 3.03                        | 1.70              |
| P-3072T    | J-37T        | J-38T         | 1,315.0       | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 3.99            | 3.03                        | 1.70              |
| P-3073T    | J-38T        | J-39T         | 65.0          | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 0.20            | 3.03                        | 1.70              |
| P-3074T    | J-39T        | J-40T         | 890.0         | 1,000            | Ductile Iron | 110            | Open              | 1,337.96           | 2.70            | 3.03                        | 1.70              |
| P-3075T    | J-40T        | J-21T2        | 10.0          | 600              | Ductile Iron | 110            | Open              | 383.21             | 0.04            | 3.61                        | 1.36              |
| P-3076T    | J-40T        | J-41T         | 1,230.0       | 800              | Ductile Iron | 110            | Open              | 954.75             | 5.93            | 4.82                        | 1.90              |
| P-3077T    | J-41T        | J-400-        | 310.0         | 800              | Ductile Iron | 110            | Open              | 954.75             | 1.49            | 4.82                        | 1.90              |
| P-3078     | J-396-       | J-397-2       | 860.0         | 450              | Ductile Iron | 110            | Open              | 170.99             | 2.84            | 3.30                        | 1.08              |
| P-3079     | J-397-2      | J-398-        | 370.0         | 450              | Ductile Iron | 110            | Open              | 170.99             | 1.22            | 3.30                        | 1.08              |
| P-3080     | J-398-       | J-399-        | 520.0         | 500              | Ductile Iron | 110            | Open              | 251.65             | 2.10            | 4.03                        | 1.28              |
| P-3081     | J-399-       | J-370-        | 770.0         | 450              | Ductile Iron | 110            | Open              | 211.68             | 3.77            | 4.89                        | 1.33              |
| P-3082     | J-ParBPS2    | J-401-        | 400.0         | 800              | Ductile Iron | 110            | Open              | 958.54             | 1.93            | 4.84                        | 1.90              |
| P-3083     | J-401-       | J-405-        | 1,430.0       | 900              | Ductile Iron | 110            | Open              | 1,077.99           | 4.86            | 3.40                        | 1.69              |
| P-3084     | J-405-       | J-407-        | 1,705.0       | 600              | Ductile Iron | 110            | Open              | 334.94             | 4.80            | 2.82                        | 1.18              |
| P-3085     | J-407-       | J-408-        | 1,280.0       | 600              | Ductile Iron | 110            | Open              | 305.90             | 3.05            | 2.38                        | 1.08              |
| P-3086     | J-409-       | J-410-        | 650.0         | 600              | Ductile Iron | 110            | Open              | 283.05             | 1.34            | 2.06                        | 1.00              |
| P-3087     | J-410-       | J-412-        | 1,105.0       | 500              | Ductile Iron | 110            | Open              | 186.92             | 2.57            | 2.33                        | 0.95              |
| P-3088     | J-405-       | J-418-        | 1,590.0       | 600              | Ductile Iron | 110            | Open              | 401.58             | 6.27            | 3.94                        | 1.42              |
| P-3089     | J-418-       | J-420-        | 405.0         | 400              | Ductile Iron | 110            | Open              | 210.49             | 3.48            | 8.59                        | 1.68              |
| P-3090     | J-420-       | J-424-        | 425.0         | 400              | Ductile Iron | 110            | Open              | 124.25             | 1.38            | 3.24                        | 0.99              |
| P-3091     | J-418-       | J-428-        | 1,510.0       | 600              | Ductile Iron | 110            | Open              | 274.73             | 2.95            | 1.95                        | 0.97              |
| P-3092     | J-428-       | J-430-        | 1,245.0       | 500              | Ductile Iron | 110            | Open              | 190.01             | 2.99            | 2.40                        | 0.97              |
| P-3093     | J-430-       | J-431-        | 975.0         | 500              | Ductile Iron | 110            | Open              | 134.52             | 1.23            | 1.27                        | 0.69              |
| P-3094     | J-431-       | J-432-        | 405.0         | 350              | Ductile Iron | 110            | Open              | 84.26              | 1.23            | 3.03                        | 0.88              |
| P-3095     | J-431-       | J-415-        | 1,170.0       | 250              | PVC          | 130            | Open              | 16.71              | 0.67            | 0.57                        | 0.34              |
| P-3096     | J-412-       | J-414-        | 1,170.0       | 250              | PVC          | 110            | Open              | 21.28              | 1.43            | 1.22                        | 0.43              |
| P-3097     | J-283-1      | J-296-        | 190.0         | 400              | Ductile Iron | 110            | Open              | 218.75             | 1.75            | 9.23                        | 1.74              |
| P-3098     | J-296-       | J-298-        | 500.0         | 400              | Ductile Iron | 110            | Open              | 185.85             | 3.41            | 6.83                        | 1.48              |
| P-3099     | J-298-       | J-299-        | 430.0         | 300              | Ductile Iron | 110            | Open              | 104.16             | 4.08            | 9.49                        | 1.47              |
| P-3100     | J-299-       | J-309-        | 595.0         | 250              | PVC          | 130            | Open              | 43.73              | 2.02            | 3.40                        | 0.89              |
| P-3101     | J-309-       | J-311-        | 450.0         | 200              | PVC          | 130            | Open              | 22.85              | 1.37            | 3.03                        | 0.73              |
| P-3102     | J-337-       | J-342-        | 1,700.0       | 600              | Ductile Iron | 110            | Open              | 261.99             | 3.04            | 1.79                        | 0.93              |
| P-3103     | J-350-       | J-352-        | 385.0         | 300              | Ductile Iron | 110            | Open              | 47.19              | 0.84            | 2.19                        | 0.67              |
| P-3104     | J-342-       | J-356-        | 700.0         | 600              | Ductile Iron | 110            | Open              | 265.01             | 1.28            | 1.83                        | 0.94              |
| P-3105     | J-356-       | J-358-        | 335.0         | 350              | Ductile Iron | 110            | Open              | 73.24              | 0.78            | 2.34                        | 0.76              |
| P-3106     | J-359-       | J-360-        | 245.0         | 250              | PVC          | 130            | Open              | 24.50              | 0.29            | 1.16                        | 0.50              |
| P-3107     | J-362-       | J-364-        | 420.0         | 450              | Ductile Iron | 110            | Open              | 118.79             | 0.71            | 1.68                        | 0.75              |
| P-3108     | J-364-       | J-365-        | 500.0         | 400              | Ductile Iron | 110            | Open              | 108.69             | 1.27            | 2.53                        | 0.86              |
| P-3109     | J-365-       | J-367-        | 620.0         | 400              | Ductile Iron | 110            | Open              | 102.09             | 1.40            | 2.25                        | 0.81              |
| P-3110     | J-366-       | J-367-        | 660.0         | 400              | Ductile Iron | 110            | Open              | 79.35              | 0.93            | 1.41                        | 0.63              |
| P-3112     | J-367-       | J-368-        | 150.0         | 400              | Ductile Iron | 110            | Open              | 108.06             | 0.38            | 2.50                        | 0.86              |
| P-3113T    | J-SalimpurPS | PSV-DmySal-In | 4,000.0       | 700              | Ductile Iron | 110            | Open              | 384.28             | 6.86            | 1.71                        | 1.00              |
| P-3114     | T-Salimpur   | J-322-        | 1,000.0       | 900              | Ductile Iron | 110            | Open              | 903.55             | 2.45            | 2.45                        | 1.42              |
| P-3115     | J-322-       | J-323-        | 850.0         | 450              | Ductile Iron | 110            | Open              | 149.37             | 2.18            | 2.57                        | 0.94              |
| P-3116     | J-323-       | J-324-        | 1,000.0       | 400              | Ductile Iron | 110            | Open              | 120.63             | 3.07            | 3.07                        | 0.96              |
| P-3117     | J-324-       | J-325-        | 1,000.0       | 350              | Ductile Iron | 110            | Open              | 94.54              | 3.75            | 3.75                        | 0.98              |
| P-3118     | J-325-       | J-328-        | 1,000.0       | 300              | Ductile Iron | 110            | Open              | 70.90              | 4.66            | 4.66                        | 1.00              |
| P-3119     | J-326-       | J-327-        | 1,000.0       | 250              | PVC          | 130            | Open              | 47.27              | 3.93            | 3.93                        | 0.96              |
| P-3120     | J-327-       | J-328-        | 1,000.0       | 200              | PVC          | 130            | Open              | 23.63              | 3.23            | 3.23                        | 0.75              |
| P-3121     | J-322-       | J-321-        | 400.0         | 700              | Ductile Iron | 110            | Open              | 725.49             | 2.22            | 5.56                        | 1.89              |
| P-3122     | J-321-       | J-319-        | 430.0         | 700              | Ductile Iron | 110            | Open              | 629.19             | 1.84            | 4.27                        | 1.63              |
| P-3123     | J-319-       | J-318-        | 2,120.0       | 700              | Ductile Iron | 110            | Open              | 577.39             | 7.72            | 3.64                        | 1.50              |
| P-3124     | J-318-       | J-315-        | 320.0         | 500              | Ductile Iron | 110            | Open              | 338.03             | 2.23            | 6.96                        | 1.72              |
| P-3125     | J-14T        | J-210-        | 15.0          | 600              | Ductile Iron | 110            | Open              | 389.27             | 0.06            | 3.72                        | 1.38              |
| P-3126     | J-210-       | J-211-        | 15.0          | 600              | Ductile Iron | 110            | Open              | 326.61             | 0.04            | 2.69                        | 1.16              |
| P-ADCin    | J-16T        | T-ADC Hill    | 200.0         | 300              | Ductile Iron | 110            | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-ADCout   | T-ADC Hill   | J-254-        | 200.0         | 200              | Asbestos Cem | 110            | Open              | 44.58              | 2.85            | 14.23                       | 1.42              |



Pipe Report

| Link Label        | Start Node        | End Node          | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|-------------------|-------------------|-------------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-Agrabad         | J-383-            | T-Agrabad         | 20.0          | 200              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-CS1             | R-CollegiateScool | PMP-CS-In         | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-CS2             | J-284-            | PMP-CS-Out        | 1,200.0       | 150              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Dampara1        | R-Dampara         | PMP-Dampara-In    | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Dampara2        | J-193-            | PMP-Dampara-Out   | 30.0          | 300              | Asbestos Cem | 110                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-FatP1           | J-FatehabadIRP    | T-Fatehabad       | 1.0           | 1,000            | Ductile Iron | 110                 | Open              | 526.16             | 0.00            | 0.54                        | 0.67              |
| P-FatP2           | T-Fatehabad       | J-Fatehabad       | 10.0          | 800              | Ductile Iron | 110                 | Open              | 832.48             | 0.04            | 3.74                        | 1.66              |
| P-FatP3           | J-FatPS           | PSV-DmyFat-In     | 80.0          | 700              | Ductile Iron | 110                 | Open              | 832.48             | 0.57            | 7.17                        | 2.16              |
| P-FatP4           | PSV-DmyFat-Out    | T-Fat-el          | 0.5           | 700              | Ductile Iron | 110                 | Open              | 833.80             | 0.00            | 7.18                        | 2.17              |
| P-Ferozshah1      | R-Ferozshah       | PMP-Ferozshah-In  | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Ferozshah2      | J-330-            | PMP-Ferozshah-Out | 180.0         | 150              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Hai1            | R-Hai             | PMP-Hai-In        | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Hai2            | J-343-            | PMP-Hai-Out       | 10.0          | 150              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Halisha1        | J-361-            | T-Halishahar      | 10.0          | 150              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Halisha2        | J-357-            | R-Halishahar      | 20.0          | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-IF1             | R-IceFactory      | PMP-IF-In         | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-IF2             | J-279-            | PMP-IF-Out        | 50.0          | 200              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KalP1           | J-KalughatIRP     | T-Kalughat        | 5.0           | 1,000            | Ductile Iron | 110                 | Open              | 789.24             | 0.01            | 1.14                        | 1.00              |
| P-KalP1i          | T-Kalughat        | PMP-Kal-1-In      | 5.0           | 350              | Ductile Iron | 110                 | Open              | 336.72             | 0.20            | 39.27                       | 3.50              |
| P-KalP1o          | PMP-Kal-1-Out     | J-KalughatBPS     | 5.0           | 350              | Ductile Iron | 110                 | Open              | 336.72             | 3.94            | 787.99                      | 3.50              |
| P-KalP2i          | PMP-Kal-2-In      | T-Kalughat        | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KalP2o          | J-KalughatBPS     | PMP-Kal-2-Out     | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KalP3i          | T-Kalughat        | PMP-Kal-3-In      | 5.0           | 350              | Ductile Iron | 110                 | Open              | 255.63             | 0.12            | 23.59                       | 2.66              |
| P-KalP3o          | PMP-Kal-3-Out     | J-KalughatBPS     | 5.0           | 350              | Ductile Iron | 110                 | Open              | 255.63             | 2.28            | 455.10                      | 2.66              |
| P-KalP4i          | T-Kalughat        | PMP-Kal-4-In      | 5.0           | 350              | Ductile Iron | 110                 | Open              | 255.63             | 0.12            | 23.59                       | 2.66              |
| P-KalP4o          | PMP-Kal-4-Out     | J-KalughatBPS     | 5.0           | 350              | Ductile Iron | 110                 | Open              | 255.63             | 2.28            | 455.10                      | 2.66              |
| P-KalP5i          | T-Kalughat        | PMP-Kal-5-In      | 5.0           | 350              | Ductile Iron | 110                 | Open              | 336.72             | 0.20            | 39.27                       | 3.50              |
| P-KalP5o          | PMP-Kal-5-Out     | J-KalughatBPS     | 5.0           | 350              | Ductile Iron | 110                 | Open              | 336.72             | 3.94            | 787.99                      | 3.50              |
| P-KalP6i          | PMP-Kal-6-In      | T-Kalughat        | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KalP6o          | J-KalughatBPS     | PMP-Kal-6-Out     | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KarP1           | J-KarnaphuliWTP   | T-Karnaphuli      | 1.0           | 1,500            | Ductile Iron | 110                 | Open              | 3,157.00           | 0.00            | 2.06                        | 1.79              |
| P-KarP2           | T-Karnaphuli      | J-Karnaphuli      | 10.0          | 1,000            | Ductile Iron | 110                 | Open              | 3,180.85           | 0.15            | 15.06                       | 4.05              |
| P-KarP11          | J-Karnaphuli      | PMP-Karna-1-In    | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 0.07            | 13.95                       | 2.81              |
| P-KarP1o          | PMP-Karna-1-Out   | J-KarPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 2.49            | 497.47                      | 2.81              |
| P-KarP2i          | J-Karnaphuli      | PMP-Karna-2-In    | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 0.07            | 13.95                       | 2.81              |
| P-KarP2o          | PMP-Karna-2-Out   | J-KarPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 2.49            | 497.47                      | 2.81              |
| P-KarP3i          | J-Karnaphuli      | PMP-Karna-3-In    | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 0.07            | 13.95                       | 2.81              |
| P-KarP3o          | PMP-Karna-3-Out   | J-KarPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 2.49            | 497.47                      | 2.81              |
| P-KarP4i          | J-Karnaphuli      | PMP-Karna-4-In    | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 0.07            | 13.95                       | 2.81              |
| P-KarP4o          | PMP-Karna-4-Out   | J-KarPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 795.21             | 2.49            | 497.47                      | 2.81              |
| P-KarP5i          | PMP-Karna-5-In    | J-Karnaphuli      | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KarP5o          | J-KarPS           | PMP-Karna-5-Out   | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KarTrans1       | J-KarPS           | PSV-DmyNs1-In     | 26,000.0      | 1,200            | Ductile Iron | 110                 | Open              | 1,590.42           | 44.71           | 1.72                        | 1.41              |
| P-KarTrans2       | J-KarPS           | PSV-DmyNs2-In     | 26,000.0      | 1,200            | Ductile Iron | 110                 | Open              | 1,590.42           | 44.71           | 1.72                        | 1.41              |
| P-KhuH1           | J-294-            | R-Khulshih        | 30.0          | 200              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KhuH2           | R-Khulshih        | PMP-Khulshih-In   | 10.0          | 200              | PVC          | 130                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KhuH3           | PMP-Khulshih-Out  | J-295-            | 20.0          | 150              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KhuP1           | T-Khulsh-gr       | J-Khu-1           | 5.0           | 1,000            | Ductile Iron | 110                 | Open              | 1,598.33           | 0.02            | 4.22                        | 2.04              |
| P-KhuP2           | J-Khu-1           | J-Khu-2           | 50.0          | 900              | Ductile Iron | 110                 | Open              | 483.85             | 0.04            | 0.77                        | 0.76              |
| P-KhuP3           | J-KhuPS           | PSV-DmyKhu2-In    | 80.0          | 700              | Ductile Iron | 110                 | Open              | 483.85             | 0.21            | 2.63                        | 1.26              |
| P-KhuP4           | PSV-DmyKhu2-Out   | T-Khulsh-el       | 0.5           | 700              | Ductile Iron | 110                 | Open              | 485.86             | 0.00            | 2.64                        | 1.26              |
| P-KhuP11          | J-Khu-2           | PMP-Khu-1-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 241.92             | 0.23            | 45.13                       | 3.42              |
| P-KhuP1o          | PMP-Khu-1-Out     | J-KhuPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 241.92             | 3.81            | 761.14                      | 3.42              |
| P-KhuP2i          | J-Khu-2           | PMP-Khu-2-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 241.93             | 0.23            | 45.13                       | 3.42              |
| P-KhuP2o          | PMP-Khu-2-Out     | J-KhuPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 241.93             | 3.81            | 761.15                      | 3.42              |
| P-KhuP3i          | J-Khu-2           | PMP-Khu-3-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KhuP3o          | PMP-Khu-3-Out     | J-KhuPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KhuP4i          | J-Khu-2           | PMP-Khu-4-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-KhuP4o          | PMP-Khu-4-Out     | J-KhuPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-LL1             | R-Love Lane       | PMP-LoveLane-In   | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-LL2             | J-222-            | PMP-LoveLane-Out  | 170.0         | 200              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Mad2IP1         | J-Mad2WTP         | T-Mad2-gr         | 1.0           | 1,000            | Ductile Iron | 110                 | Open              | 526.16             | 0.00            | 0.54                        | 0.67              |
| P-Mad2IP2         | T-Mad2-gr         | J-Mad2            | 10.0          | 700              | Ductile Iron | 110                 | Open              | 828.11             | 0.07            | 7.10                        | 2.15              |
| P-Mad2IP3         | J-Mad2-PS         | PSV-DmyMad2-In    | 80.0          | 700              | Ductile Iron | 110                 | Open              | 828.11             | 0.57            | 7.10                        | 2.15              |
| P-Mad2IP4         | PSV-DmyMad2-Out   | T-Mad2-el         | 0.5           | 800              | Ductile Iron | 110                 | Open              | 829.53             | 0.00            | 3.71                        | 1.65              |
| P-Mad2P1i         | J-Mad2            | PMP-Mad2-1-In     | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.21             | 0.07            | 14.30                       | 2.21              |
| P-Mad2P1o         | PMP-Mad2-1-Out    | J-Mad2-PS         | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.21             | 1.56            | 311.75                      | 2.21              |
| P-Mad2P2i         | J-Mad2            | PMP-Mad2-2-In     | 5.0           | 400              | Ductile Iron | 110                 | Open              | 273.70             | 0.07            | 13.97                       | 2.18              |
| P-Mad2P2o         | PMP-Mad2-2-Out    | J-Mad2-PS         | 5.0           | 400              | Ductile Iron | 110                 | Open              | 273.70             | 1.52            | 303.94                      | 2.18              |
| P-Mad2P3i         | J-Mad2            | PMP-Mad2-3-In     | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.21             | 0.07            | 14.30                       | 2.21              |
| P-Mad2P3o         | PMP-Mad2-3-Out    | J-Mad2-PS         | 5.0           | 400              | Ductile Iron | 110                 | Open              | 277.21             | 1.56            | 311.75                      | 2.21              |
| P-Mad2P4i         | J-Mad2            | PMP-Mad2-4-In     | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Mad2P4o         | J-Mad2-PS         | PMP-Mad2-4-Out    | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-MadunaghatTrans | J-MadunaghatWTP   | T-Bettai Hill     | 15,000.0      | 500              | Ductile Iron | 110                 | Open              | 526.16             | 236.82          | 15.79                       | 2.68              |
| P-MohP1           | J-MoharaWTP       | T-Mohara          | 1.0           | 1,000            | Ductile Iron | 110                 | Open              | 1,052.31           | 0.00            | 1.95                        | 1.34              |
| P-MohP2           | T-Mohara          | J-Mohara          | 10.0          | 600              | Ductile Iron | 110                 | Open              | 1,157.08           | 0.28            | 27.92                       | 4.09              |
| P-MoP1i           | J-Mohara          | PMP-Mo-1-In       | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 0.09            | 18.46                       | 2.30              |
| P-MoP1o           | PMP-Mo-1-Out      | J-MohPS           | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 1.71            | 342.36                      | 2.30              |
| P-MoP2i           | J-Mohara          | PMP-Mo-2-In       | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 0.09            | 18.46                       | 2.30              |
| P-MoP2o           | PMP-Mo-2-Out      | J-MohPS           | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 1.71            | 342.36                      | 2.30              |
| P-MoP3i           | J-Mohara          | PMP-Mo-3-In       | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 0.09            | 18.46                       | 2.30              |

**Pipe Report**

| Link Label  | Start Node      | End Node          | Length<br>(m) | Diameter<br>(mm) | Material     | Rough-<br>ness<br>C | Current<br>Status | Discharge<br>(l/s) | Headloss<br>(m) | Friction<br>Slope<br>(m/km) | Velocity<br>(m/s) |
|-------------|-----------------|-------------------|---------------|------------------|--------------|---------------------|-------------------|--------------------|-----------------|-----------------------------|-------------------|
| P-MoP3o     | PMP-Mo-3-Out    | J-MohPS           | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 1.71            | 342.36                      | 2.30              |
| P-MoP4i     | J-Mohara        | PMP-Mo-4-In       | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 0.09            | 18.46                       | 2.30              |
| P-MoP4o     | PMP-Mo-4-Out    | J-MohPS           | 5.0           | 400              | Mild Steel   | 100                 | Open              | 289.27             | 1.71            | 342.36                      | 2.30              |
| P-MoP5i     | PMP-Mo-5-In     | J-Mohara          | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-MoP5o     | J-MohPS         | PMP-Mo-5-Out      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Nalapara2 | J-266-          | PMP-Nalapara-Out  | 170.0         | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Nalapara1 | R-Nalapara      | PMP-Nalapara-In   | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-NasiP2    | J-NasPS         | PSV-DryNas-In     | 80.0          | 1,100            | Ductile Iron | 110                 | Open              | 1,964.50           | 0.31            | 3.88                        | 2.07              |
| P-NasiP3    | PSV-DryNas-Out  | T-Nas-el          | 0.5           | 1,100            | Ductile Iron | 110                 | Open              | 1,968.85           | 0.00            | 3.90                        | 2.07              |
| P-NasiP1i   | J-Nas1          | PMP-Nas-1-In      | 5.0           | 600              | Ductile Iron | 110                 | Open              | 654.83             | 0.05            | 9.74                        | 2.32              |
| P-NasiP1o   | PMP-Nas-1-Out   | J-NasPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 654.83             | 1.69            | 337.61                      | 2.32              |
| P-NasiP2i   | J-Nas1          | PMP-Nas-2-In      | 5.0           | 600              | Ductile Iron | 110                 | Open              | 654.83             | 0.05            | 9.74                        | 2.32              |
| P-NasiP2o   | PMP-Nas-2-Out   | J-NasPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 654.83             | 1.69            | 337.61                      | 2.32              |
| P-NasiP3i   | J-Nas1          | PMP-Nas-3-In      | 5.0           | 600              | Ductile Iron | 110                 | Open              | 654.83             | 0.05            | 9.74                        | 2.32              |
| P-NasiP3o   | PMP-Nas-3-Out   | J-NasPS           | 5.0           | 600              | Ductile Iron | 110                 | Open              | 654.83             | 1.69            | 337.61                      | 2.32              |
| P-NasiP4i   | J-Nas1          | PMP-Nas-4-In      | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-NasiP4o   | J-NasPS         | PMP-Nas-4-Out     | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-NasiTP1i  | J-Nas1          | PMP-Nas-T1-In     | 5.0           | 600              | Ductile Iron | 110                 | Open              | 668.98             | 0.05            | 10.13                       | 2.37              |
| P-NasiTP1o  | PMP-Nas-T1-Out  | J-NasTPS          | 5.0           | 600              | Ductile Iron | 110                 | Open              | 668.98             | 1.76            | 352.32                      | 2.37              |
| P-NasiTP2i  | J-Nas1          | PMP-Nas-T2-In     | 5.0           | 600              | Ductile Iron | 110                 | Open              | 668.98             | 0.05            | 10.13                       | 2.37              |
| P-NasiTP2o  | PMP-Nas-T2-Out  | J-NasTPS          | 5.0           | 600              | Ductile Iron | 110                 | Open              | 668.98             | 1.76            | 352.32                      | 2.37              |
| P-NasiTP3i  | J-Nas1          | PMP-Nas-T3-In     | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-NasiTP3o  | J-NasTPS        | PMP-Nas-T3-Out    | 5.0           | 600              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-NMoIP1    | J-N MoharaWTP   | T-New Mohara      | 1.0           | 1,000            | Ductile Iron | 110                 | Open              | 1,052.31           | 0.00            | 1.95                        | 1.34              |
| P-NMoIP2    | T-New Mohara    | J-N Mohara        | 10.0          | 600              | Ductile Iron | 110                 | Open              | 1,051.61           | 0.23            | 23.39                       | 3.72              |
| P-NMoP1i    | J-N Mohara      | PMP-NMo-1-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 0.26            | 52.64                       | 3.72              |
| P-NMoP1o    | PMP-NMo-1-Out   | J-NMoPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 4.49            | 898.21                      | 3.72              |
| P-NMoP2i    | J-N Mohara      | PMP-NMo-2-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 0.26            | 52.64                       | 3.72              |
| P-NMoP2o    | PMP-NMo-2-Out   | J-NMoPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 4.49            | 898.21                      | 3.72              |
| P-NMoP3i    | J-N Mohara      | PMP-NMo-3-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 0.26            | 52.64                       | 3.72              |
| P-NMoP3o    | PMP-NMo-3-Out   | J-NMoPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 4.49            | 898.21                      | 3.72              |
| P-NMoP4i    | J-N Mohara      | PMP-NMo-4-In      | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 0.26            | 52.64                       | 3.72              |
| P-NMoP4o    | PMP-NMo-4-Out   | J-NMoPS           | 5.0           | 300              | Ductile Iron | 110                 | Open              | 262.90             | 4.49            | 898.21                      | 3.72              |
| P-NMoP5i    | PMP-NMo-5-In    | J-N Mohara        | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-NMoP5o    | J-NMoPS         | PMP-NMo-5-Out     | 5.0           | 300              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-PatIP     | T-Patenga       | J-Patenga         | 30.0          | 600              | Ductile Iron | 110                 | Open              | 1,964.22           | 2.23            | 74.31                       | 6.95              |
| P-PatNNP1i  | J-Patenga       | PMP-Pat-NN1-In    | 5.0           | 500              | Ductile Iron | 110                 | Open              | 478.27             | 0.07            | 13.23                       | 2.44              |
| P-PatNNP1o  | PMP-Pat-NN1-Out | J-PatBPS2         | 5.0           | 500              | Ductile Iron | 110                 | Open              | 478.27             | 1.88            | 375.91                      | 2.44              |
| P-PatNNP2i  | J-Patenga       | PMP-Pat-NN2-In    | 5.0           | 500              | Ductile Iron | 110                 | Open              | 478.27             | 0.07            | 13.23                       | 2.44              |
| P-PatNNP2o  | PMP-Pat-NN2-Out | J-PatBPS2         | 5.0           | 500              | Ductile Iron | 110                 | Open              | 478.27             | 1.88            | 375.91                      | 2.44              |
| P-PatNNP3i  | PMP-Pat-NN3-In  | J-Patenga         | 5.0           | 500              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-PatNNP3o  | J-PatBPS2       | PMP-Pat-NN3-Out   | 5.0           | 500              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-PatNP1i   | J-Patenga       | PMP-Pat-N1-In     | 5.0           | 450              | Ductile Iron | 110                 | Open              | 335.89             | 0.06            | 11.50                       | 2.11              |
| P-PatNP1o   | PMP-Pat-N1-Out  | J-PatBPS1         | 5.0           | 450              | Ductile Iron | 110                 | Open              | 335.89             | 1.42            | 284.14                      | 2.11              |
| P-PatNP2i   | J-Patenga       | PMP-Pat-N2-In     | 5.0           | 450              | Ductile Iron | 110                 | Open              | 335.89             | 0.06            | 11.50                       | 2.11              |
| P-PatNP2o   | PMP-Pat-N2-Out  | J-PatBPS1         | 5.0           | 450              | Ductile Iron | 110                 | Open              | 335.89             | 1.42            | 284.14                      | 2.11              |
| P-PatNP3i   | J-Patenga       | PMP-Pat-N3-In     | 5.0           | 450              | Ductile Iron | 110                 | Open              | 335.89             | 0.06            | 11.50                       | 2.11              |
| P-PatNP3o   | PMP-Pat-N3-Out  | J-PatBPS1         | 5.0           | 450              | Ductile Iron | 110                 | Open              | 335.89             | 1.42            | 284.14                      | 2.11              |
| P-per1      | R-Perchival     | PMP-Perchival-In  | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-per2      | J-191-          | PMP-Perchival-Out | 20.0          | 150              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-PSVKhu1   | PSV-DryKhu1-Out | T-Khulshi-gr      | 0.5           | 900              | Ductile Iron | 110                 | Open              | 1,051.61           | 0.00            | 3.25                        | 1.65              |
| P-Sadar1    | R-sadarghat     | PMP-Sadarghat-In  | 10.0          | 200              | Mild Steel   | 100                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-Sadar2    | J-266-          | PMP-Sadarghat-Out | 150.0         | 200              | PVC          | 130                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-SaP1i     | J-Nas2          | PMP-Sal-1-In      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 384.28             | 0.13            | 26.17                       | 3.06              |
| P-SaP1o     | PMP-Sal-1-Out   | J-SalimpurPS      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 384.28             | 2.99            | 597.79                      | 3.06              |
| P-SaP2i     | J-Nas2          | PMP-Sal-2-In      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-SaP2o     | PMP-Sal-2-Out   | J-SalimpurPS      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-SaP3i     | J-Nas2          | PMP-Sal-3-In      | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-SaP3o     | J-SalimpurPS    | PMP-Sal-3-Out     | 5.0           | 400              | Ductile Iron | 110                 | Open              | 0.00               | 0.00            | 0.00                        | 0.00              |
| P-SaPSV     | PSV-DrySal-Out  | T-Salimpur        | 0.5           | 600              | Ductile Iron | 110                 | Open              | 384.50             | 0.00            | 3.64                        | 1.96              |
| P-T-Feroz   | J-318-          | T-Ferozshah       | 350.0         | 200              | Mild Steel   | 100                 | Closed            | 0.00               | 0.00            | 0.00                        | 0.00              |