



STORM MANHOLE STRUCTURE TABLE

| MH # | TOP OF GRATE | INVERTS | REFERENCE | FRAME | COVER |
|--------|--------------|--|--------------|-------|-------|
| CEPTOR | 1/0=114.10 | W=111.270 (375mm) E=111.245 (375mm) | OPSD 701.010 | S25 | S24.1 |
| 200 | 1/0=113.80 | W=111.195 (375mm) N=111.136 (375mm) S=111.132 (450mm) | OPSD 701.010 | S25 | S24.1 |
| 201 | 1/0=113.88 | NW=111.420 (300mm) E=111.356 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 202 | 1/0=113.90 | N=111.487 (300mm) SE=111.450 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 203 | 1/0=114.15 | W=111.670 (300mm) S=111.610 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 204 | 1/0=114.05 | SW=111.730 (300mm) E=111.700 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 205 | 1/0=114.15 | SW=111.899 (250mm) SE=112.247 (250mm) NE=111.880 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 206 | 1/0=114.72 | SE=112.470 (250mm) NE=112.410 (250mm) | OPSD 701.010 | S25 | S24.1 |
| 207 | 1/0=115.25 | NW=113.000 (250mm) | OPSD 701.010 | S25 | S24.1 |
| 208 | 1/0=114.38 | NW=112.720 (300mm) NE=112.760 (300mm) SE=112.680 (375mm) | OPSD 701.010 | S25 | S24.1 |
| 210 | 1/0=114.28 | N=112.310 (300mm) SE=112.278 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 211 | 1/0=114.05 | NW=112.120 (300mm) NE=112.180 (300mm) SW=111.810 (600mm) | OPSD 701.010 | S25 | S24.1 |
| 212 | 1/0=114.12 | SW=111.710 (300mm) N=111.420 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 214 | 1/0=114.58 | NW=112.606 (375mm) NE=112.989 (250mm) SE=112.600 (600mm) | OPSD 701.010 | S25 | S24.1 |
| 215 | 1/0=114.43 | SW=112.500 (300mm) NW=112.440 (300mm) | OPSD 701.010 | S25 | S24.1 |
| 216 | 1/0=113.83 | S=111.360 (300mm) W=111.320 (300mm) E=111.319 (375mm) | OPSD 701.010 | S25 | S24.1 |

UNDERGROUND STORMWATER REQUIRED=86.81m³ MC-3500 STORMWATER CHAMBERS OR EQUIVALENT FINISHED GRADE=114.50(W), 114.5(E) TOP OF GRANULAR BASE=114.00(W), 113.95(E) BOTTOM OF CHAMBERS=112.56(W), 112.51(W) BOTTOM OF GRANULAR BASE FOR CHAMBERS=112.27(W), 112.22(E) SHOP DRAWINGS TO BE PROVIDED BY MANUFACTURER

UNDERGROUND STORMWATER REQUIRED=86.81m³ MC-3500 STORMWATER CHAMBERS OR EQUIVALENT FINISHED GRADE=114.00(N), 114.00(S) TOP OF CHAMBERS=113.00(N), 112.96(S) BOTTOM OF CHAMBERS=111.56(N), 111.52(S) BOTTOM OF GRANULAR BASE FOR CHAMBERS=111.27(N), 111.23(S) SHOP DRAWINGS TO BE PROVIDED BY MANUFACTURER

SANITARY SEWER TABLE

| U/S | D/S | MH | U/S INVERT | D/S INVERT | DIAMETER | LENGTH | SLOPE |
|-----|-----|---------|------------|------------|----------|--------|-------|
| 104 | 103 | 111.008 | 110.998 | 200mm | 31.49m | 0.35% | |
| 103 | 102 | 110.888 | 110.823 | 200mm | 12.72m | 0.35% | |
| 102 | 101 | 110.793 | 110.700 | 200mm | 26.68m | 0.35% | |
| 109 | 106 | 112.761 | 111.670 | 200mm | 26.45m | 4.12% | |
| 108 | 107 | 112.050 | 111.870 | 200mm | 9.07m | 1.98% | |
| 107 | 106 | 111.840 | 111.670 | 200mm | 8.08m | 2.12% | |
| 106 | 105 | 111.644 | 111.096 | 200mm | 92.96m | 0.59% | |
| 105 | 104 | 111.066 | 111.038 | 200mm | 7.95m | 0.35% | |
| 110 | 101 | 110.970 | 110.700 | 200mm | 41.50m | 0.65% | |
| 101 | 100 | 110.661 | 110.650 | 200mm | 3.26m | 0.35% | |

WATERMAIN TABLE

| STATION | DESCRIPTION | GROUND ELEV. | TWM |
|---------|----------------|--------------|--------|
| 1+000 | 200X200 TEE | 113.90 | 111.50 |
| 1+010 | | 113.85 | 111.45 |
| 1+014.9 | V&VC | 113.92 | 111.82 |
| 1+020 | | 113.93 | 111.83 |
| 1+022.4 | 200X150 TEE | 113.94 | 111.84 |
| 1+022.4 | 150 V&VB | 113.94 | 111.84 |
| 1+022.4 | HYDRANT | 113.94 | 111.84 |
| 1+024.5 | 45° Vert. up | 113.94 | 111.84 |
| 1+025.1 | 45° Vert. down | 113.94 | 112.16 |
| 1+027.4 | 45° Vert. down | 113.94 | 112.16 |
| 1+028.0 | 45° Vert. up | 113.94 | 111.84 |
| 1+030 | | 113.95 | 111.85 |
| 1+034.0 | 45° Vert. down | 113.97 | 111.85 |
| 1+034.5 | 45° Vert. up | 113.98 | 111.09 |
| 1+035.1 | 45° HORIZ. | 113.99 | 111.09 |
| 1+038.8 | 45° Vert. up | 113.99 | 111.09 |
| 1+037.3 | 45° Vert. down | 114.01 | 111.61 |
| 1+040 | | 114.08 | 111.68 |
| 1+080.3 | 22.8° HORIZ. | 114.32 | 111.92 |
| 1+080 | | 113.93 | 111.83 |
| 1+070 | | 113.88 | 111.85 |
| 1+079.2 | 22.8° HORIZ. | 113.91 | 111.61 |
| 1+080.8 | 45° HORIZ. | 113.93 | 111.83 |
| 1+083.6 | 45° HORIZ. | 113.94 | 111.84 |
| 1+090 | | 113.99 | 111.89 |
| 1+100 | | 114.03 | 111.83 |
| 1+110 | | 114.18 | 111.78 |
| 1+120 | | 114.14 | 111.73 |
| 1+121.2 | 200X150 TEE | 114.14 | 111.73 |
| 1+121.2 | 150 V&VB | 114.14 | 111.73 |
| 1+121.2 | HYDRANT | 114.14 | 111.73 |
| 1+130 | | 114.18 | 111.75 |
| 1+140 | | 114.29 | 111.89 |
| 1+150 | | 114.30 | 111.95 |
| 1+160 | | 114.41 | 112.01 |
| 1+162 | 45° HORIZ. | 114.47 | 112.07 |
| 1+165.4 | 45° HORIZ. | 114.51 | 112.11 |
| 1+166.0 | 45° Vert. down | 114.53 | 111.81 |
| 1+166.3 | 45° Vert. up | 114.55 | 111.81 |
| 1+166.6 | 45° Vert. up | 114.73 | 112.33 |
| 1+169.1 | 45° Vert. down | 114.74 | 112.34 |
| 1+170 | | 114.75 | 112.35 |
| 1+180 | | 114.84 | 112.54 |
| 1+190 | | 114.72 | 112.32 |
| 1+191.6 | V&VC | 114.64 | 112.24 |
| 1+200 | | 114.71 | 112.31 |
| 1+205 | 300X200 TVS | 114.68 | 112.31 |

STORM SEWER TABLE

| U/S STRUCTURE | D/S STRUCTURE | U/S INVERT | D/S INVERT | DIAMETER | LENGTH | SLOPE |
|---------------|---------------|------------|------------|----------|--------|-------|
| 207 | 206 | 113.000 | 112.470 | 250mm | 15.82m | 3.35% |
| 206 | 205 | 112.410 | 111.899 | 250mm | 51.09m | 1.00% |
| 205 | 204 | 111.880 | 111.730 | 300mm | 41.62m | 0.36% |
| 204 | 203 | 111.700 | 111.670 | 300mm | 8.55m | 0.35% |
| 203 | 202 | 111.610 | 111.487 | 300mm | 35.07m | 0.35% |
| 202 | 201 | 111.460 | 111.420 | 300mm | 11.46m | 0.35% |
| 216 | CEPTOR | 111.319 | 111.270 | 375mm | 10.41m | 0.47% |
| CB3 | 208 | 112.850 | 112.720 | 300mm | 9.92m | 1.31% |
| 208 | 214 | 112.680 | 112.606 | 375mm | 13.47m | 0.55% |
| 210 | 211 | 112.278 | 112.120 | 300mm | 15.33m | 1.03% |
| CB1 | 211 | 112.400 | 112.190 | 300mm | 14.96m | 1.40% |
| 212 | 216 | 111.420 | 111.380 | 300mm | 6.74m | 0.59% |
| CB2 | 214 | 113.462 | 112.909 | 250mm | 13.01m | 4.25% |
| CHMB1-OUT | 212 | 111.769 | 111.710 | 300mm | 12.28m | 0.48% |
| 211 | CHMB1-IN | 111.810 | 112.010 | 600mm | 2.61m | 7.65% |
| CB41 | CB13 | 114.260 | 114.113 | 250mm | 22.23m | 0.62% |
| CB2 | CB5 | 114.113 | 114.004 | 250mm | 21.70m | 0.50% |
| CB5 | CB13 | 113.974 | 113.780 | 250mm | 34.51m | 0.56% |
| CB13 | CB2 | 113.780 | 113.512 | 250mm | 20.52m | 0.31% |
| CB4 | 208 | 112.800 | 112.700 | 300mm | 13.17m | 1.76% |
| 215 | 205 | 112.440 | 112.247 | 300mm | 18.39m | 1.05% |
| CB6 | 210 | 112.502 | 112.310 | 300mm | 18.61m | 1.03% |
| 214 | CHMB2-IN | 112.600 | 112.560 | 600mm | 0.97m | 4.11% |
| CHMB2-OUT | 215 | 112.510 | 112.500 | 300mm | 1.20m | 0.83% |
| 201 | 216 | 111.356 | 111.320 | 300mm | 6.31m | 0.57% |
| EX.CONN. | 200 | 111.150 | 111.136 | 375mm | 5.07m | 0.27% |
| 200 | MHST09004 | 111.132 | 111.097 | 450mm | 11.52m | 0.30% |
| CEPTOR | 200 | 111.245 | 111.195 | 375mm | 10.73m | 0.47% |

SANITARY MANHOLE STRUCTURE TABLE

| MH # | TOP OF GRATE | INVERTS | REFERENCE | FRAME | COVER |
|------|--------------|--|--------------|-------|-------|
| 100 | 1/0=113.90 | W=110.650 (200mm) N=110.610 (250mm) SE=110.590 (250mm) | OPSD 701.010 | S25 | S24 |
| 101 | 1/0=113.85 | W=110.700 (200mm) N=110.700 (200mm) E=110.661 (200mm) | OPSD 701.010 | S25 | S24 |
| 102 | 1/0=113.90 | NW=110.823 (200mm) S=110.793 (200mm) | OPSD 701.010 | S25 | S24 |
| 103 | 1/0=113.93 | N=110.898 (200mm) SE=110.868 (200mm) | OPSD 701.010 | S25 | S24 |
| 104 | 1/0=114.20 | W=111.038 (200mm) S=111.008 (200mm) | OPSD 701.010 | S25 | S24 |
| 105 | 1/0=114.00 | SW=111.096 (200mm) E=111.066 (200mm) | OPSD 701.010 | S25 | S24 |
| 106 | 1/0=114.92 | NW=111.670 (200mm) SE=111.670 (200mm) NE=111.644 (200mm) | OPSD 701.010 | S25 | S24 |
| 107 | 1/0=114.95 | SW=111.870 (200mm) SE=111.840 (200mm) | OPSD 701.010 | S25 | S24 |
| 108 | 1/0=115.03 | NE=112.050 (200mm) OPSD 701.010 | S25 | S24 | |
| 109 | 1/0=115.45 | NW=112.761 (200mm) | OPSD 701.010 | S25 | S24 |
| 110 | 1/0=113.20 | S=110.970 (200mm) | OPSD 701.010 | S25 | S24 |

STORM CATCHBASIN STRUCTURE TABLE

| CB # | TOP OF GRATE | INVERTS | REFERENCE | FRAME | COVER |
|------|--------------|--|--------------|-------|-------|
| CB1 | 1/0=113.80 | SW=112.400 (300mm) | OPSD 705.010 | S19 | S19 |
| CB2 | 1/0=114.57 | SW=113.512 (250mm) NW=113.462 (250mm) | OPSD 705.010 | S19 | S19 |
| CB3 | 1/0=114.25 | SE=112.850 (300mm) | OPSD 705.010 | S19 | S19 |
| CB4 | 1/0=114.00 | SW=112.800 (300mm) | OPSD 705.010 | S19 | S19 |
| CB5 | 1/0=115.06 | NW=114.004 (250mm) NE=113.974 (250mm) | OPSD 705.010 | S19 | S19 |
| CB6 | 1/0=113.90 | SE=112.502 (300mm) | OPSD 705.010 | S19 | S19 |
| CB11 | 1/0=114.91 | SE=114.250 (250mm) | S31 | S31 | S31 |
| CB12 | 1/0=115.17 | NW=114.113 (250mm) SE=114.113 (250mm) | S30 | S30 | S30 |
| CB13 | 1/0=114.84 | NW=113.780 (250mm) NE=113.780 (250mm) | S30 | S30 | S30 |

WATERMAIN / SEWER CROSSING TABLE

| LOCATION | FINISHED GRADE (m) | SANITARY SEWER INV. ELEV. (m) | DIAM. (mm) | OBV. ELEV. (m) | STORM SEWER INV. ELEV. (m) | DIAM. (mm) | OBV. ELEV. (m) | WATERMAIN INV. ELEV. (m) | DIAM. (mm) | OBV. ELEV. (m) | CLEARANCES (mm) |
|----------|--------------------|-------------------------------|------------|----------------|----------------------------|------------|----------------|--------------------------|------------|----------------|-----------------|
| 0 | 113.9 | 110.679 | 200 | 110.879 | 111.249 | 375 | 111.624 | | | | 370 |
| 1 | 113.86 | 110.717 | 200 | 110.917 | 111.219 | 375 | 111.594 | | | | 362 |
| 2 | 113.90 | | | | 111.497 | 300 | 111.707 | 111.96 | 200 | 112.16 | 253 |
| 3 | 113.90 | 110.779 | 200 | 110.979 | 111.236 | 300 | 112.658 | | | | 410 |
| 4 | 113.83 | | | | 111.335 | 300 | 111.645 | | | | 719 |
| 5 | 113.88 | 110.797 | 200 | 110.997 | 112.31 | 300 | 112.61 | | | | 1311 |
| 6 | 114 | | | | 111.59 | 300 | 111.89 | 110.89 | 200 | 111.09 | 500 |
| 7 | 114.1 | | | | 111.88 | 300 | 112.28 | 111.83 | 200 | 111.73 | 253 |
| 8 | 114.1 | 111.28 | 200 | 111.481 | 111.95 | 300 | 112.25 | | | | 470 |
| 9 | 114.2 | | | | 112.815 | 300 | 113.12 | 111.89 | 200 | 111.89 | 828 |
| 10 | 114.51 | 111.90 | 200 | 111.7 | 112.317 | 250 | 112.97 | 111.81 | 200 | 111.81 | 260 |
| 11 | 114.55 | | | | 112.317 | 250 | 112.97 | 111.81 | 200 | 111.81 | 260 |
| 12 | 114.73 | 111.56 | 200 | 111.757 | 112.524 | 250 | 112.77 | | | | 767 |

CAUTION
THE POSITION OF ALL POLE LINES, CONDUITS, WATERM