STORM MANHOLE SCHEDULE

LOCATION	INVERT ELEVATIONS (m)				TOP COVER (m)	MANHOLE TYPE
	NORTH	SOUTH	EAST	WEST		
EX.	*EX.97.453*	97.410 ~~*EX.97.483*~~				1800ø
MH 1	97.520 ~~97.556~~		97.580 ~~97.616~~	98.304	101.530	1520X1830
MH 2			98.631	98.716	101.640	1500ø
MH 3			98.850	99.400	102.200	1200ø
MH 4		97.630 ~~97.704~~	98.790 ~~98.855~~	97.620 ~~97.644~~	101.550	1520X1830
MH 5		99.710		99.480 ~~99.465~~	101.790	1200ø
MH 6		98.603	98.250 ~~98.168~~	98.260 ~~98.178~~	101.910	1520X1830
MH 8		98.360 ~~98.334~~	98.350 ~~98.274~~	98.580 ~~98.584~~	101.920	1520X1830
CBMH 9		100.070 ~~100.069~~	98.640 ~~98.637~~	98.860 ~~98.850~~	101.700	1500ø
CBMH 10		99.030 ~~99.040~~	98.910 ~~98.905~~		101.700	1500ø
CBMH 11	99.130 ~~99.117~~	100.080 ~~100.060~~		100.080 ~~100.058~~	101.700	1200ø
MH 14	98.600 ~~98.439~~		98.590 ~~98.589~~	98.900 ~~98.874~~	102.330	1520X1830
MH 15		99.170 ~~99.137~~	98.960 ~~98.927~~	99.190 ~~99.162~~	102.140	1200ø
MH 16			99.480 ~~99.441~~		103.140	1200ø
MH 17		99.020 ~~99.076~~	98.750 ~~98.801~~	98.610 ~~98.641~~	102.010	1220X1220
CBMH 18	99.070 ~~99.128~~	100.200 ~~100.247~~	100.050 ~~100.089~~		101.750	1200ø
MH 19		99.160 ~~99.174~~	99.020 ~~99.049~~	98.860 ~~98.889~~	102.400	1200ø
MH 20	99.320 ~~99.321~~				102.415	1200ø
MH 21				99.230 ~~99.237~~	102.060	1200ø
MH 22	98.000 ~~97.945~~	98.250 ~~98.190~~		98.140 ~~98.080~~	101.750	1520X1830
MH 23	98.260 ~~98.202~~	98.390 ~~98.370~~	98.460 ~~98.400~~		101.705	1220X1220
CBMH 24		98.850 ~~98.850~~	100.016	98.670 ~~98.671~~	101.750	1500ø
CBMH 25	98.92 ~~98.923~~		99.99 ~~100.016~~	100.000 ~~100.016~~	101.600	1200ø
MH 26	98.500 ~~98.442~~		98.750 ~~98.727~~	98.810 ~~98.802~~	101.930	1500ø
MH 27		100.070 ~~100.027~~	100.060 ~~100.011~~	98.89 ~~98.853~~	101.950	1200ø
MH 28		100.190 ~~100.182~~	99.000 ~~98.993~~		102.080	1200ø
CBMH 29	98.617	98.817	100.035 ~~100.053~~	100.040 ~~100.053~~	101.650	1200ø
CBMH 30	98.877		100.050 ~~100.050~~	100.010 ~~100.034~~	101.650	1200ø
CBMH 31	99.210 ~~99.184~~	100.310 ~~100.278~~		99.610 ~~99.575~~	101.900	1200ø
CBMH 32			98.600 ~~98.612~~	98.470 ~~98.412~~	101.650	1200ø
MH 33	*EX.99.342*	*EX.99.342*		99.492	±103.070	1520X1830
MH 34	100.360	100.282	99.607	99.678	102.98	1800ø
CBMH35	100.354	100.510			102.650	1200ø
CBMH36	100.850	100.466			102.650	1200ø
BOX MH37	100.475		99.811	99.840	102.890	1520X1830
MH 39	99.96		99.90		101.90	1200ø
MH 40	100.22	100.19	100.22	100.22	102.23	1200ø
MH 41	100.03		100.06		102.00	1200ø
MH 42	99.30	99.90		99.36	102.10	1200ø
MH 63		99.46	99.40	100.13	101.70	1200ø
MH 64	99.52		100.17	100.06	101.60	1200ø

SANITARY MANHOLE SCHEDULE

LOCATION	INVERT ELEVATIONS (m)				TOP COVER (m)	MANHOLE TYPE
	NORTH	SOUTH	EAST	WEST		
MH1A	*EX.98.30*	*EX.98.30*	98.92 ~~98.90~~		±102.750	1500ø
MH2A			99.050 ~~99.060~~	99.040 ~~99.049~~	103.030	1200ø
MH3A			99.260 ~~99.270~~	99.250 ~~99.260~~	101.630	1200ø
MH4A		99.550 ~~99.535~~	99.550 ~~99.535~~	99.500 ~~99.475~~	101.500	1200ø*
MH5A				99.670 ~~99.648~~	101.750	1200ø*
MH6A	99.715 ~~99.706~~	99.715 ~~99.716~~			101.790	1200ø*
MH7A	99.750 ~~99.752~~	99.750 ~~99.762~~			101.760	1200ø*
MH8A	99.940 ~~99.949~~	100.050 ~~100.059~~	100.010 ~~100.009~~	100.010 ~~100.009~~	102.420	1200ø
MH9A				100.300 ~~100.250~~	102.090	1200ø
MH10A	100.320 ~~100.290~~				102.430	1200ø
MH11A			100.220 ~~100.219~~	100.280 ~~100.279~~	102.360	1200ø
MH12A			100.510 ~~100.517~~		102.980	1200ø
MH13A			99.216	99.226	102.950	1200ø
MH14A		99.468	99.356	99.366	102.900	1200ø
MH15A	99.884				102.920	1200ø
MH16A			99.477	99.487	102.950	1200ø
MH17A	*EX.98.466*	*EX.98.466*		99.066	±103.060	1500ø
MH18A	100.01	100.04			102.06	1200ø

* COMPLETE WITH WATER TIGHT FRAME & COVER

STORM CATCHBASIN SCHEDULE

LOCATION	INVERT ELEVATIONS (m)				TOP COVER (m)
	NORTH	SOUTH	EAST	WEST	
TRENCH DRAIN CB	99.65				101.05
CICB 2		99.95 ~~99.90~~			101.30
CICB 3		100.18 ~~100.00~~			101.40
CICB 4		99.87			101.40
CICB 5		100.02 ~~99.95~~			101.55
CB 6	100.20 ~~100.20~~			100.30 ~~100.30~~	101.80
CB 7			100.40 ~~100.40~~		101.80
CB 8	100.20 ~~100.20~~				101.70
CB 9			100.25 ~~100.25~~		101.85
CB 10	100.20 ~~100.20~~			100.30 ~~100.30~~	101.80
CB 11			100.40 ~~100.40~~		101.80
CICB 12	100.15 ~~100.15~~				101.80
CB 14	100.88 ~~100.88~~				102.08
CB 15		100.78 ~~100.78~~	100.43 ~~100.43~~		102.08
CB 16	100.90 ~~100.88~~				102.08
CB 17		100.80 ~~100.78~~	100.43 ~~100.41~~		102.08
CB 18			99.85 ~~99.80~~		101.45
CB 19	100.45 ~~100.40~~				101.90
CB 20	100.75 ~~100.72~~			100.85 ~~100.82~~	102.32
CB 21			100.95 ~~100.92~~		102.32
CB 22		100.58 ~~100.58~~		100.38 ~~100.38~~	101.98
CB 23	100.68 ~~100.68~~				101.98
CB 24	100.35 ~~100.35~~				101.85
CB 25	100.84 ~~100.84~~			100.94 ~~100.94~~	102.44
CB 26			101.08 ~~101.04~~		102.44
CB 27		100.28 ~~100.53~~		100.18 ~~100.18~~	101.83
CB 28	100.65 ~~100.63~~				101.83
CB 29	~~99.95~~ ~~99.975~~			~~101.19~~ ~~101.13~~	~~101.55~~
CB 30				100.20	101.65
CB 31				100.27 ~~100.20~~	101.65
CB 32			100.18 ~~100.20~~		101.65
CB 33	100.02 ~~100.00~~			100.11 ~~100.10~~	101.60
CB 34			100.19 ~~100.20~~		101.60
CB 35	100.06 ~~100.00~~			100.38 ~~100.30~~	101.60
CB 36			100.39 ~~100.40~~		101.60
CB 39	100.11 ~~100.08~~				101.65
CB 40				100.22 ~~100.20~~	101.65
CB 41	100.25 ~~100.25~~				101.75
CB 42				100.20 ~~100.20~~	101.65
CB 43			100.18 ~~100.20~~		101.65
CB 44				100.27 ~~100.20~~	101.65
CB 45			100.19 ~~100.15~~		101.65
CB 46	100.60				102.65
CB 47			101.15		102.65
CB 48		100.945			102.52
CB 49	101.15		101.05		102.65
CB 50		101.25			102.65
RYCB 51		100.50			102.00
CB 52				100.25	101.80
CB 53				100.22 ~~100.20~~	101.75
CB 54	99.69 ~~100.05~~				101.47
CB 55	99.66 ~~100.03~~				101.45
CB 56	99.80 ~~99.81~~				101.05
TRENCH CB 57	99.81 ~~99.83~~				101.05
CB 58	100.62 ~~100.66~~			100.73 ~~100.76~~	102.26
CB 59			100.90 ~~100.86~~		102.26
CB 60	100.35	REUSE ROTATE EX. CB	~~100.35~~ ~~100.35~~	100.01	101.75
CB 61		99.90		100.00	101.35
CB 62		99.90		100.00	101.35
CB 61A	100.00				101.49
CB 62A	100.00				101.47
ECB					101.95
CB63			100.20		101.60
CB64			100.15	99.77	101.55
CB65			100.30		101.75

WATERMAIN SCHEDULE

STATION	DESCRIPTION	FINISHED GRADE(m)	TOP OF WATERMAIN(m)	AS BUILT WATERMAIN(m)
Ⓐ 1+100.0	400x300 TEE	*EX.102.60*	*EX.100.40*	*EX.100.40*
1+111.5	300ø V&VB	103.02	100.620	100.60
1+138.68	SERVICE CONNECTION	102.32	99.920	99.920
1+178.49	SERVICE CONNECTION	101.44	99.040	99.03
1+187.68	HYDRANT&TEE	101.54	99.140	98.99
1+229.57	SERVICE CONNECTION	101.47	99.070	99.02
1+282.18	HYDRANT&TEE	101.58	99.18	99.00
1+305.82	300ø V&VB	101.48	99.080	99.04
Ⓑ 1+312.85	300ø TEE	101.44	99.150	99.08
1+316.27	300x200 REDUCER	101.42	99.020	99.11
1+351.92	HYDRANT&TEE	101.67	99.270	99.21
1+353.96	45° BEND	101.65	99.000	99.20
1+359.52	45° BEND	101.66	98.650	98.94
Ⓒ 1+374.38	200 V&VB	101.90	99.270	99.270
Ⓑ 2+100.00	300ø TEE	101.44	99.150	99.16
2+103.00		101.50	98.950	98.96
2+103.50	VERTICAL BEND	101.51	98.950	98.96
2+103.85	VERTICAL BEND	101.54	99.300	99.26
2+110.00	300ø V&VB	101.60	99.200	99.21
2+125.00		101.60	99.300	99.28
2+175.00		102.22	99.820	99.78
Ⓕ 2+186.56	300X200ø TEE	101.84	99.440	99.440
Ⓕ 3+100.00	300X200ø TEE	101.84	99.440	99.440
3+104.69	200ø V&VB	101.90	99.500	99.48
3+152.61	HYDRANT & TEE	102.15	99.750	99.76
Ⓖ 3+201.33	200ø TEE	101.92	99.520	99.58
Ⓗ 3+240.69	HYDRANT	102.10	99.700	99.72
Ⓕ 4+100.00	300ø TEE	101.84	99.440	99.440
4+101.60	300ø V&VB	101.82	99.460	99.50
4+106.00		101.76	99.800	99.42
4+112.13	300X150ø TEE & HYD	101.85	99.600	99.39
4+114.64	22° BEND	101.87	99.600	99.42
4+123.75	22° BEND	101.73	99.330	99.35
4+167.00		101.87	99.900	99.83
4+207.97	300ø V&VB	102.25	99.850	99.36
4+209.30	VERTICAL BEND	102.25	98.300	98.28
4+209.80	VERTICAL BEND	102.27	98.300	98.300
Ⓘ 4+217.11	300ø TEE	102.38	98.300	98.300
Ⓘ 4+400.00	300ø TEE	102.38	98.300	98.300
4+403.51	300x200 REDUCER	102.38	98.300	98.300
4+411.41	SERVICE CONNECTION	102.24	98.300	98.36
4+416.08	VERTICAL BEND	102.23	98.300	98.38
4+416.58	VERTICAL BEND	102.23	99.830	99.830
4+437.57	HYDRANT&TEE	102.06	99.660	99.65
4+466.57		101.83	99.350	99.350
4+493.33	SERVICE CONNECTION	102.09	99.690	99.68
4+498.37	45° BEND	102.10	99.700	99.69
4+499.78	45° BEND	102.05	99.650	99.70
Ⓙ 4+503.78	HYDRANT	102.20	99.800	99.800
Ⓚ 5+100.00	300ø C/W 50ø SADDLE	102.38	98.300	98.28
5+105.00	45° BEND	102.27	98.300	98.300
5+107.00	45° BEND	102.30	99.900	99.86
5+137.00	SERVICE CONNECTION	102.56	100.160	100.14
Ⓛ 5+154.50	SERVICE CONNECTION	102.48	100.080	100.07
Ⓚ 6+100.00	300ø C/W 50ø SADDLE	102.38	98.300	98.300
6+100.50	VERTICAL BEND	102.26	98.300	98.300
6+102.00	VERTICAL BEND	102.26	99.860	99.860
6+103.50	300ø V&VB	102.25	99.850	99.86
6+106.75	SERVICE CONNECTION	102.26	99.860	99.90
6+130.50	HYDRANT&TEE	102.12	99.720	99.71
6+144.20	VERTICAL BEND	102.07	99.670	99.71
6+145.5	VERTICAL BEND	102.07	98.500	98.55
6+151.5	VERTICAL BEND	102.00	98.500	98.55
6+152.8	VERTICAL BEND	102.00	99.600	99.600
6+187.50	SERVICE CONNECTION	102.20	98.000	98.000
6+189.00	SERVICE CONNECTION	102.20	98.000	98.000
6+201.00	50mmø SADDLE	102.35	99.940	99.93
Ⓜ 6+202.00	300X200 TEE	102.34	99.940	99.93
Ⓜ 10+100.00	50mmø SADDLE	102.35	99.940	99.93
10+110.00		102.42	100.02	100.02
Ⓣ 10+133.00		102.53	100.13	100.13
Ⓖ 7+100.00	200ø TEE	101.92	99.520	99.59
7+106.00		101.94	99.732	99.73
7+127.63		102.01	99.610	99.60
7+177.63	HYDRANT&TEE	102.10	99.700	99.700
7+206.00	200ø V&VB	102.29	99.890	99.89
Ⓜ 7+216.63	300X200 TEE	102.34	99.940	99.95
7+222.13	300ø V&VB	102.22	99.820	99.80
7+243.63	VERTICAL BEND	102.15	99.750	99.750
7+243.89	VERTICAL BEND	102.15	100.024	100.02
7+249.37	VERTICAL BEND	102.17	100.024	100.04
7+249.63	VERTICAL BEND	102.17	99.750	99.750
7+285.88	HYDRANT&TEE	102.46	100.060	100.10
7+308.13	SERVICE CONNECTION	102.87	100.470	100.46
7+314.63	300ø V&VB	103.05	100.650	100.650
Ⓝ 7+328.63	400x300 TEE	*EX. 103.10*	*EX. 100.750*	*EX. 100.750*
Ⓞ 8+100.0	400x300 TEE	*EX.102.97*	*EX.100.71*	
8+121.7	300ø V&VB	102.95	100.550	
8+122.7	VERTICAL BEND	102.97	100.570	
8+124.7	VERTICAL BEND	103.00	98.500	
8+127.6	SERVICE CONNECTION	103.00	98.500	
8+130.6	SERVICE CONNECTION	103.07	98.500	
8+133.6	VERTICAL BEND	103.19	98.500	
8+135.6	VERTICAL BEND	103.07	100.670	
8+146.5	VERTICAL BEND	103.00	100.600	
8+147.5	VERTICAL BEND	103.00	99.786	
8+153.0	VERTICAL BEND	103.00	99.786	
8+154.0	VERTICAL BEND	103.00	98.500	
Ⓟ 8+162.9	300x200 CROSS	102.87	98.500	
8+165.9	VERTICAL BEND	102.85	98.500	
8+167.9	VERTICAL BEND	102.79	100.390	
8+185.8	SERVICE CONNECTION	102.68	100.280	
8+191.9	SERVICE CONNECTION	102.74	100.340	
8+202.5	300ø V&VB	102.85	100.450	
Ⓠ 8+204.1	300ø CAP	102.85	100.450	
Ⓡ 9+100.0	HYDRANT&TEE	103.05	100.650	
9+104.7	200x150 REDUCER	102.85	100.450	
9+141.3	VERTICAL BEND	102.90	98.500	
Ⓟ 9+144.3	300x200 CROSS	102.87	98.500	
9+155.0	VERTICAL BEND	102.90	99.500	
9+157.0	VERTICAL BEND	102.90	100.500	
9+191.0	200x150 REDUCER	102.90	100.500	
9+193.8	SERVICE CONNECTION	102.95	100.550	
Ⓢ 9+196.4	HYDRANT&TEE	103.10	100.700	

CROSSING SCHEDULE

1	300mmø	SAN. 0.730m	CLEARANCE UNDER	EX.400mmø W/M
2	200mmø	W/M 0.500m	CLEARANCE OVER	300mmø STM
3	300mmø	W/M 1.000m	CLEARANCE UNDER	200mmø STM
	300mmø	SAN. 0.400m	CLEARANCE UNDER	200mmø STM
5	200mmø	W/M 0.500m	CLEARANCE UNDER	600mmø STM
	200mmø	W/M 1.300m	CLEARANCE UNDER	300mmø SAN.
	200mmø	SAN. 0.150m	CLEARANCE OVER	600mmø STM.
6	300mmø	W/M 1.000m	CLEARANCE UNDER	200mmø STM.
	200mmø	STM. 0.250m	CLEARANCE OVER	300mmø SAN.
7	975mmø	STM. 0.500m	CLEARANCE UNDER	300mmø W/M
	975mmø	STM. 0.850m	CLEARANCE UNDER	300mmø W/M
8	300mmø	W/M 0.500m	CLEARANCE UNDER	300mmø SAN.
	300mmø	W/M 0.300m	CLEARANCE OVER	975mmø STM.
	300mmø	SAN. 0.800m	CLEARANCE OVER	975mmø STM.
9	200mmø	W/M 0.970m	CLEARANCE UNDER	250mmø SAN.
	200mmø	W/M 0.500m	CLEARANCE UNDER	450mmø STM.
	200mmø	SAN. 0.200m	CLEARANCE OVER	450mmø STM.
10	150mmø	W/M 0.800m	CLEARANCE UNDER	250mmø SAN.
	450mmø	STM. 0.500m	CLEARANCE OVER	150mmø W/M
	200mmø	SAN. 0.200m	CLEARANCE OVER	450mmø STM.
11	200mmø	SAN. 0.200m	CLEARANCE OVER	525mmø STM.
	150mmø	W/M 0.500m	CLEARANCE UNDER	525mmø STM
	300mmø	W/M 1.000m	CLEARANCE UNDER	300mmø SAN
12	900mmø	STM. 0.825m	CLEARANCE UNDER	250mmø SAN.
13	900mmø	STM. 0.200m	CLEARANCE UNDER	300mmø SAN.
14	300mmø	W/M 0.500m	CLEARANCE OVER	900mmø STM.
	300mmø	SAN 0.650m	CLEARANCE OVER	900mmø STM.
15	300mmø	SAN. 0.500m	CLEARANCE OVER	150mmø W/M.
	150mmø	W/M 0.500m	CLEARANCE OVER	750mmø STM.
16	300mmø	SAN. 0.200m	CLEARANCE UNDER	200mmø STM.
	300mmø	W/M 1.200m	CLEARANCE UNDER	200mmø STM.
	600mmø	STM 1.210m	CLEARANCE UNDER	200mmø STM.
17	300mmø	STM. 0.710m	CLEARANCE UNDER	300mmø SAN.
	300mmø	STM. 0.500m	CLEARANCE UNDER	300mmø W/M
18	300mmø	W/M 1.740m	CLEARANCE UNDER	200mmø SAN.
	300mmø	W/M 0.700m	CLEARANCE UNDER	375mmø SAN.
	375mmø	STM. 0.480m	CLEARANCE UNDER	750mmø SAN.
19	525mmø	STM. 0.403m	CLEARANCE UNDER	300mmø SAN.
	300mmø	W/M 1.690m	CLEARANCE UNDER	300mmø STM.
	300mmø	W/M 0.500m	CLEARANCE UNDER	525mmø SAN.
20	50mmø	W/M 0.500m	CLEARANCE UNDER	250mmø SAN.
	50mmø	W/M 0.500m	CLEARANCE OVER	450mmø STM.
	450mmø	STM. 0.790m	CLEARANCE UNDER	150mmø SAN.
21	450mmø	STM. 0.940m	CLEARANCE UNDER	200mmø STM.
	250mmø	SAN. 0.150m	CLEARANCE UNDER	200mmø STM.
	200mmø	W/M 1.100m	CLEARANCE UNDER	200mmø STM.
22	375mmø	STM. 0.484m	CLEARANCE UNDER	250mmø SAN.
	300mmø	W/M 0.500m	CLEARANCE UNDER	200mmø SAN.
23	50mmø	W/M 0.500m	CLEARANCE UNDER	250mmø SAN.
	450mmø	STM. 0.300m	CLEARANCE UNDER	50mmø W/M
	450mmø	STM. 0.840m	CLEARANCE UNDER	150mmø SAN.
24	200mmø	SAN. 0.430m	CLEARANCE UNDER	200mmø STM.
	375mmø	STM. 1.160m	CLEARANCE UNDER	200mmø STM.
	50mmø	W/M 0.780m	CLEARANCE UNDER	200mmø STM.
25	50mmø	W/M 0.500m	CLEARANCE UNDER	200mmø SAN.
	375mmø	STM. 0.505m	CLEARANCE UNDER	50mmø W/M
	375mmø	STM. 0.820m	CLEARANCE UNDER	150mmø SAN.
26	200mmø	STM. 0.550m	CLEARANCE UNDER	200mmø SAN.
27	50mmø	W/M 0.500m	CLEARANCE UNDER	300mmø SAN.
	50mmø	W/M 0.500m	CLEARANCE OVER	525mmø STM.
	525mmø	STM. 0.900m	CLEARANCE UNDER	150mmø SAN.
28	375mmø	STM. 0.660m	CLEARANCE UNDER	300mmø SAN.
	300mmø	W/M 0.500m	CLEARANCE UNDER	375mmø STM.
29	300mmø	W/M 1.000m	CLEARANCE UNDER	200mmø STM.
	300mmø	SAN. 0.224m	CLEARANCE UNDER	200mmø STM.
	750mmø	STM. 1.200m	CLEARANCE UNDER	200mmø STM.
30	300mmø	W/M 0.750m	CLEARANCE UNDER	150mmø SAN.
	300mmø	W/M 0.750m	CLEARANCE UNDER	200mmø STM.
	200mmø	STM. 0.300m	CLEARANCE UNDER	300mmø SAN.
31	250mmø	STM. 0.890m	CLEARANCE UNDER	300mmø SAN.
	300mmø	W/M 0.500m	CLEARANCE OVER	250mmø STM.
32	525mmø	STM. 0.300m	CLEARANCE UNDER	200mmø W/M
	200mmø	W/M 0.300m	CLEARANCE UNDER	250mmø SAN.
33	250mmø	SAN. 0.234m	CLEARANCE UNDER	200mmø STM.
	300mmø	W/M 1.130m	CLEARANCE UNDER	200mmø STM.
	525mmø	STM. 1.270m	CLEARANCE UNDER	200mmø STM.
34	375mmø	STM. 0.843m	CLEARANCE UNDER	250mmø SAN.
	300mmø	W/M 0.500m	CLEARANCE OVER	375mmø STM.
35	250mmø	SAN. 0.150m	CLEARANCE UNDER	200mmø STM.
	300mmø	W/M 1.150m	CLEARANCE UNDER	200mmø STM.
	300mmø	STM. 1.140m	CLEARANCE UNDER	200mmø STM.
36	200mmø	STM. 0.151m	CLEARANCE OVER	250mmø SAN.
	300mmø	W/M 0.500m	CLEARANCE UNDER	200mmø STM
	300mmø	W/M 0.500m	CLEARANCE UNDER	150mmø SAN.
37	900mmø	STM. 0.960m	CLEARANCE UNDER	200mmø STM.
	200mmø	W/M 1.000m	CLEARANCE UNDER	200mmø STM
38	900mmø	STM. 0.990m	CLEARANCE UNDER	200mmø STM.
	200mmø	W/M 0.700m	CLEARANCE UNDER	200mmø STM
39	600mmø	STM 0.350m	CLEARANCE UNDER	200mmø W/M
40	200mmø	STM. 0.520m	CLEARANCE OVER	200mmø W/M
	200mmØ	STM. 0.850m	CLEARANCE OVER	900mmØ STM.
41	150mmø	SAN. 0.850m	CLEARANCE OVER	300mmø STM.
	50mmØ	W/M. 0.500m	CLEARANCE OVER	300mmØ STM.
	50mmØ	W/M. 0.500m	CLEARANCE UNDER	250mmØ SAN.
42	150mmø	SAN. 0.650m	CLEARANCE OVER	200mmø W/M

DRAWING NOTES

1.0 GENERAL

1.1 CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

1.2 DO NOT SCALE DRAWINGS.

1.3 CONTRACTOR TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE ARCHITECT OR DESIGN ENGINEER AS APPLICABLE.

1.4 USE ONLY THE LATEST REVISED DRAWINGS OR THOSE THAT ARE MARKED “ISSUED FOR CONSTRUCTION”.

1.5 ALL CONSTRUCTION SHALL COMPLY WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.6 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.

1.7 FOR LEGAL SURVEY INFORMATION REFER TO REGISTERED PLAN.

1.8 ALL IRON WORK ELEVATIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR ADJUSTMENTS AS DETERMINED BY THE ENGINEER.

1.9 ALL CONCRETEE CURBS AND SIDEWALKS TO CONFORM TO O.P.S. AND CONSTRUCTED TO CITY STANDARDS. ALL ONSITE CURBS TO BE BARRIER TYPE.

1.10 ALL CONCRETEE SHALL BE “NORMAL PORTLAND CEMENT” IN ACCORDANCE WITH O.P.S.S. 1350 AND SHALL ACHIEVE A MINIMUM STRENGTH OF 30MPa AT 28 DAYS.

1.11 ALL CONSTRUCTION TRAFFIC TO ACCESS SITE OFF HUNTMAR OR HAZELDEAN ROAD.

1.12 CONTRACTOR TO PROTECT EXISTING INFRASTRUCTURE AND PROPERTY SUCH AS TREES, PARKING METERS, SIDEWALKS, CURBS, ASPHALT, AND STREET SIGNS FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR TO PAY THE COST TO REINSTATE OR REPLACE ANY DAMAGED INFRASTRUCTURE OR PROPERTY TO THE SATISFACTION OF THE CITY.

1.13 THE POSITION OF POLE LINES, CONDUITS, WATERMAIN, SEWERS, AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, SHALL PROTECT ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

1.14 CONTRACTOR TO SUPPLY SUITABLE FILL MATERIAL WHERE REQUIRED TO ROUGH GRADE THE SITE.

1.15 CONTRACTOR TO HAUL EXCESS MATERIAL OFFSITE AS NECESSARY TO GRADE SITE TO MEET THE PROPOSED GRADES. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.

1.16 ALL DISTURBED BOULEVARDS TO BE REINSTATED WITH SOD ON 100mm TOPSOIL.

1.17 UTILITY DUCTS TO BE INSTALLED PRIOR TO ROAD BASE CONSTRUCTION.

2.0 SANITARY

2.1 ALL SANITARY SEWERMAINS TO BE CSA CERTIFIED PVC SDR 35, BELL AND SPIGGOT TYPE. ONLY FACTORY FITTINGS TO BE USED. SEWER TO BE INSTALLED AS PER OSPD 1005.01.

2.2 ALL SANITARY MAINTENANCE HOLES TO BE 1.2m DIAMETER AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, STEPS IF REQUIRED, AND FRAME AND COVER.

2.3 SANITARY MH FRAME AND COVER TO BE CLOSED COVER TYPE, AS PER CITY STANDARD S24.

2.4 SANITARY SEWER LEAKAGE TEST AND CCTV INSPECTION SHALL BE COMPLETED AS PER CITY SPECIFICATIONS PRIOR TO INSTALLATION OF BASE COURSE ASPHALT.

2.5 ANY SANITARY SEWER WITH LESS THAN 1.8m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

2.6 CONNECTION TO THE EXISTING SANITARY SEWER TO BE INCLUDED IN THE COST FOR SANITARY SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

3.0 STORM

3.1 ALL STORM SEWER TO BE CSA CERTIFIED PVC SDR 35 OR CONCRETEE CLASS 100-D, BELL AND SPIGGOT TYPE. ALL STORM SEWERS TO BE INSTALLED PER MANUFACTURER’S INSTRUCTIONS. ONLY FACTORY FITTINGS TO BE USED.

3.2 ALL STORM MAINTENANCE HOLES TO BE SIZED IN WITH THE PLANS AND AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING FOR SEWERS 900mm OR GREATER, STEPS IF REQUIRED, AND FRAME AND COVER.

3.3 STORM MH FRAME AND COVERS TO BE OPEN TYPE, AS PER CITY STANDARD S24. CONTRACTOR TO INSTALL FILTER FABRIC UNDER STORM MH COVER UNTIL SODDING IS COMPLETE.

3.4 STORM MAINTENANCE HOLES TO BE AS PER OPSD 701.010, TAPER TOP TYPE COMPLETE WITH 300mm SUMP FOR SEWER LESS THAN 900mmØ. ALL STORM CBMH'S TO BE FLAT TOP TYPE.

3.5 ALL CATCH BASINS TO BE AS PER OPSD 705.010, FRAME & GRATE AS PER 400.02, LEAD TO BE AS PER ITEM 3.1.

3.6 ALL DITCH INLET CB'S TO BE AS PER OPSD 705.030 WITH 3:1 SLOPE. ALL DITCH INLET MANHOLES TO BE TYPE A AS PER OPSD 702.040. ALL DITCH INLET GRADE AS PER OPSD 403.010, LEAD AS PER ITEM 3.1.

3.7 150mm DIAMETER SOCK-WRAPPED PERFORATED PVC SUBDRAINS TO BE INSTALLED AT ALL CBMH’S AND CB’S. SUBDRAINS TO BE 3m LONG (EACH SIDE – CURB INLETS, AND FOUR ORTHOGONALLY OUT – SUMP INLETS) AND DISCHARGE INTO CBMH OR CB.

3.8 STORMWATER ICD'S TO BE INSTALLED IN CB'S PRIOR TO BASE ASPHALT.

3.9 ANY STORM SEWER WITH LESS THAN 1.8m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

3.10 CONNECTION TO THE EXISTING STORM SEWER TO BE INCLUDED IN THE COST FOR STORM SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUT TO CITY STANDARDS.

4.0 WATER

4.1 ALL WATERMAINS TO BE PVC DR 18, WITH MINIMUM COVER OF 2.4m AND INSTALLED PER CITY OF OTTAWA STANDARDS. ALL WATER SERVICES TO BE COPPER OR APPROVED EQUAL WITH MINIMUM COVER OF 2.4 m AND INSTALLED AS PER CITY OF OTTAWA STANDARDS.

4.2 THRUST BLOCKS TO BE INSTALLED AT ALL BENDS, TEES, AND CAPS ALL AS PER OPSD 1103.01 AND 1103.02.

4.3 CONTRACTOR TO CONDUCT PRESSURE AND LEAKAGE TESTING OF ALL WATERMAINS AND DISINFECT AND CHLORINATE ALL WATERMAINS TO THE SATISFACTION OF M.O.E.E. AND THE CITY OF OTTAWA.

4.4 TRACER WIRE TO BE INSTALLED ALONG THE FULL LENGTH OF WATERMAIN AND ATTACHED TO EACH MAIN STOP AS PER MUNICIPAL STANDARDS.

4.5 ALL COMPONENTS OF THE WATER DISTRIBUTION SYSTEM SHALL BE CATHODICALLY PROTECTED AS PER MUNICIPAL STANDARDS.

4.6 ALL VALVES & VALVE BOXES, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS.

4.7 ANY WATERMAIN WITH LESS THAN 2.4m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

4.8 CONTRACTOR IS RESPONSIBLE FOR ACQUIRING THE WATER PERMIT FROM THE CITY OF OTTAWA AND PAYMENT OF ANY FEES ASSOCIATED WITH SECURING THE WATER PERMIT. OWNER IS RESPONSIBLE FOR REIMBURSING THE CONTRACTOR FOR THE ACTUAL COST OF ACQUIRING THE WATER PERMIT.

4.9 CONNECTION TO EXISTING WATERMAIN TO BE CITY FORCES, EXCAVATION AND BACKFILLING AND REINSTATEMENT BY CONTRACTOR, COST TO BE INCLUDING THE COST FOR THE WATERMAIN INSTALLATION. THIS COST INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

5.0 ROAD AND WORK IN THE RIGHT OF WAY

5.1 CONTRACTOR TO REINSTATE ROAD CUTS PER CITY OF OTTAWA STANDARD R-10.

5.2 THE CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND APPROVAL BY THE CITY OF OTTAWA. CONTRACTOR TO MAINTAIN TRAFFIC FLOW DURING THE ENTIRE CONSTRUCTION PERIOD. MAINTENANCE OF ROAD CUTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVISION OF FLAGMEN, DETOURS AS NECESSARY, BARRICADES AND SIGNS TO THE FULL SATISFACTION OF THE ENGINEER AND ROAD AUTHORITY SHALL BE THE CONTRACTOR’S RESPONSIBILITY.

5.3 CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.

5.4 FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.

5.5 CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOETCHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.6 GRANULAR A MATERIAL ONLY TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR B PLACEMENT.

5.7 CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR A MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOETCHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR A MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.8 ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR A PLACEMENT.

5.9 CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.10 CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE ENGINEER WITH VERIFICATION PRIOR TO PLACEMENT.

5.11 DITCHES DISTURBED DURING CULVERT INSTALLATION AND GRADING OPERATIONS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION AND FLOWLINE GRADES.

5.12 CULVERTS TO CONSIST OF 2.8MM THICKNESS MATERIAL AND BE INSTALLED PER CITY OF OTTAWA STANDARDS.

5.13 CONTRACTOR TO REINSTATE ANY DISTURBED AREA WITHIN EXISTING ROW OR ADJACENT LANDS TO THE BETTER OF IMPORTED SOD ON 100MM TOPSOIL, OR TO MATCH ORIGINAL CONDITION.

5.14 ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.

5.15 PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESSES) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

6.0 SEDIMENT AND EROSION CONTROL

6.1 CONTRACTOR TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES AS IDENTIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.). DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION THE MEASURES ARE TO BE MAINTAINED TO THE SATISFACTION OF THE ENGINEER AND CITY OF OTTAWA IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL. SHOULD ANY ADDITIONAL MEASURES BE REQUIRED TO ADDRESS FIELD CONDITIONS THEY SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE CITY OF OTTAWA. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

6.2 ANY GROUND WATER PUMPING IS LIMITED TO 10 000l/d, AND SHALL BE DISCHARGED IN TO AN APPROVED FILTER MECHANISM PRIOR TO RELEASE TO THE ENVIRONMENT.

6.3 SEEPAGE BARRIERS WILL BE CONSTRUCTED IN ANY TEMPORARY DRAINAGE DITCH.

6.4 FILLER CLOTHS WILL BE PLACED ON OPEN INFRASTRUCTURES SUCH AS MANHOLE AND CATCH BASIN UNTIL STRUCTURES ARE COMMISSIONED AND PUT IN USE.

7.0 GEOTECHNICAL.

7.1 FOR DETAILS OF TEST PITS AND VARIOUS CONSTRUCTION REQUIREMENTS SEE GEOTECHNICAL REPORT, GEOTECHNICAL INVESTIGATION PROPOSAL COMMERCIAL DEVELOPMENT HAZELDEAN ROAD AT HUNTMAR DRIVE, OTTAWA ONTARIO, BY PATERSON GROUP DATED FEBRUARY 24, 2012.

7.2 FILL MATERIAL WITHIN THE PARKING LOT AND BUILDING PAD AREAS, AND SUPPORTING BUILDING FOUNDATIONS SHALL BE COMPACTED TO 98% STANDARD MODIFIED PROCTOR DENSITY AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.

7.3 ALL FILL MATERIAL TO BE CERTIFIED AS ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.

7.4 ALL COMPACTION METHODS TO BE PERFORMED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO INCLUDE BUT NOT BE LIMITED TO THE THICKNESS OF LIFTS, AND COMPACTION EQUIPMENT USED.

7.5 CLAY SEALS TO BE INSTALLED WHERE INDICATED ON THE DRAWINGS OR AS APPROVED AND DIRECTED BY THE GEOTECHNICAL ENGINEER ALL IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

7.6 PIPE BEDDING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH LATEST CITY OF OTTAWA STANDARD. AT A MINIMUM BEDDING FOR SEWER AND WATERMAIN SHALL BE 150mm OPSS GRANULAR A, COMPACTED TO 95% SPMDD AND EXTEND TO SPRINGLINE OF PIPE. COVER MATERIAL SHALL CONSIST OF OPSS GRANULAR A AND SHALL EXTEND FROM SPRINGLINE TO MINIMUM 300mm ABOVE OBVERT OF PIPE, AND COMPACTED TO 95% SPMDD. SEE GEOTECHNICAL REPORT FOR ADDITIONAL DETAILS.

COLETTE GORNI
PLANNER I
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
By Colette Gorni at 9:19 am, Aug 10, 2020

No.	REVISIONS	By	Date
27	REVISED STORAGE CELLS PER CLIENT REQUEST	DGY	20:05:15
26	REVISED AS PER CITY COMMENTS	DGY	20:04:30
25	REVISED AS PER CITY COMMENTS	DGY	20:03:27
24	REVISED AS PER CITY COMMENTS	DGY	19:12:20
23	REVISED SPA CRU B-3, PAD B, BOX D	DGY	19:08:29
22	ISSUED FOR CONSTRUCTION BLDG 2	DGY	18:04:06
21	ISSUED FOR TENDER	DGY	18:01:15
20	REVISED AS PER CITY COMMENTS	DGY	17:11:23
19	ISSUED FOR SPA	DGY	17:11:02
18	REVISED AS PER SITE PLAN	DGY	17:07:07
17	REVISED AS PER CITY COMMENTS	DGY	17:06:23
16	REVISED BLD 2 & PAD E	DGY	17:02:14
15	REVISED AS PER CITY COMMENTS	DGY	16:08:02
14	SPA BLDG 1 & 2	DGY	16:03:07
13	ASBUILT		15:01:19
12	REVISED AS PER SITE PLAN	DGY	14:11:03
11	SPA	DGY	14:09:09
10	REVISED AS PER SITE PLAN	DGY	14:08:08
9	REVISED AS PER CITY COMMENTS	DGY	14:07:31
8	REVISED DOLLAR & CRUB	DGY	14:06:03
7	ISSUED FOR PAD F TENDER	DGY	13:02:14
6	REVISED FOR PAD F	DGY	12:11:16
5	REVISED SPRINKLER ROOM BOX E	DGY	12:03:09
4	REVISED PER CITY COMMENTS AND PAD E	DGY	12:02:22
3	REVISED FOR BOX E	DGY	12:01:26
2	REVISED SITE PLAN PH1 & PH2	DGY	11:11:24
1	ISSUED FOR APPROVAL	DGY	11:10:27

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Project Title
5705 HAZELDEAN ROAD
OTTAWA, ONT.

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2020/05/15
PROVINCE OF ONTARIO

Drawing Title
SCHEDULES AND NOTES
PHASE 1 & 2

Scale

Design: D.G.Y.	Date: OCTOBER 2011
Drawn: E.H.	Checked: D.G.Y.
Project No.: 10113	Drawing No.: C-105

D07-12-19-0168

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J:\10113-Huntmar\5.9 Drawings\59civil\current\10113Base08TRU.dwg Layout Name: 105 Plot Style: AIA STANDARD-FULL.CTB Plot Scale: 1:25.4 Plotted At: 5/15/2020 3:13 PM Last Saved By: ehenrie Last Saved At: May. 15, 20