

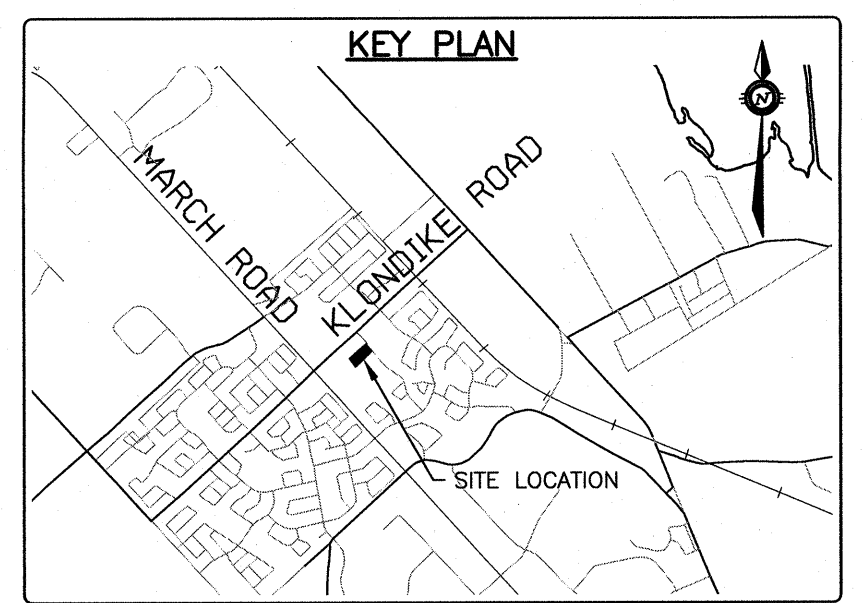
- WATERMAIN**
1. ALL WATERMAIN AND WATER SERVICE MATERIALS AND INSTALLATION SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARD DRAWINGS AND SPECIFICATIONS.
 2. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m. THERMAL INSULATION SHALL BE INSTALLED WHERE ADEQUATE SEPARATION CANNOT BE ACHIEVED AS PER CITY STANDARD W21, W22 AND W23.
 3. ALL WATERMAIN WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS. NO WORK SHALL COMMENCE UNLESS A CITY WATER WORKS INSPECTOR IS ON SITE. WATERMAIN CONNECTIONS BY CITY OF OTTAWA FORCES WITH ALL EXCAVATION BACKFILL AND ROAD REINSTATEMENT BY CONTRACTOR.
 4. WATERMAIN IS TO BE PVC DR18 WITH TRACER WIRE AS PER CITY OF OTTAWA STANDARD W36 UNLESS OTHERWISE NOTED.
 5. VALVE BOXES AS PER CITY OF OTTAWA DETAIL W24.
 6. ALL FIRE HYDRANTS TO BE INSTALLED AS PER CITY STANDARD W19 AND LOCATED AS PER CITY STANDARD W18 AND/OR CITY STANDARD CROSS SECTIONS.
 7. WATERMAIN BEDDING IS TO BE AS PER CITY OF OTTAWA DETAIL W17.
 8. THRUST BLOCKS AND RESTRAINT AS PER CITY OF OTTAWA DWGS: W25.3, W25.4, W25.5 AND W25.6.
 9. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS PER CITY OF OTTAWA DWGS: W39, W40, W41.
 10. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
 11. DISINFECTION AND TESTING OF WATERMAIN TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
 12. WATER SERVICES TO BE INSTALLED AS PER CITY OF OTTAWA STANDARD W26 AND W35.
 13. WITHIN THE FROST ZONE, THE BACKFILL IN THE SERVICE TRENCHES SHOULD MATCH THE SOIL ON

- SIDES TO MINIMIZE DIFFERENTIAL FROST HEAVING IN THE SUBGRADE.
14. INSTALLATION OF WATER METER AND REMOTE RECEPTACLE SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
- STORM AND SANITARY SEWERS**
1. SANITARY AND STORM SEWER MATERIALS AND INSTALLATION SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARD DRAWINGS AND SPECIFICATIONS AND OPSS 407 AND 410.
 2. SEWER BEDDING AS PER CITY STANDARD S6 & S7.
 3. ALL SANITARY SEWERS ARE TO BE THE SIZES INDICATED AND THE MATERIAL SHALL BE PVC SDR35.
 4. ALL STORM SEWERS ARE TO BE THE SIZES INDICATED AND THE MATERIAL SHALL BE PVC SDR35 OR REINFORCED CONCRETE IN ACCORDANCE WITH CSA STANDARDS A257.2 AND A257.3 (JOINTS).
 5. ALL MANHOLES, CATCHBASINS AND CATCHBASIN MANHOLES TO BE BACKFILLED WITH MIN. 0.3m HORIZONTAL THICKNESS GRANULAR 'A'.
 6. SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN TO WITHIN 1.0m OF BUILDING WALLS AND PROVIDE TEMPORARY CAPS.
 7. THE CONTRACTOR SHALL CONDUCT INFILTRATION/EXFILTRATION (AS PER CURRENT OPSS) TESTING ON ALL NEWLY INSTALLED SANITARY SEWERS. THE TEST SHALL BE PERFORMED IMMEDIATELY AFTER SEWER INSTALLATION AND SUPERVISED BY THE ENGINEER.
 8. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED STORM AND SANITARY SEWERS AND EXISTING SEWERS CONNECTED TO THE TEST SHALL BE PERFORMED IMMEDIATELY AFTER SEWERS INSTALLED AND SUPERVISED BY THE ENGINEER.
 9. ALL SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER CITY STANDARD S11 & S11.1.
 10. ALL SANITARY BUILDING DRAINS TO BE EQUIPPED WITH SANITARY BACKWATER VALVES INSTALLED PER CITY OF OTTAWA STANDARD DRAWING S14.1.
 11. MINIMUM SOIL COVER TO BE 2.0m TO PROTECT SEWERS FROM FROST DAMAGE. IN AREAS WHERE ADEQUATE COVER CANNOT BE ACHIEVED, THERMAL INSULATION TO BE INSTALLED AS PER OPSS 514.010.

STRUCTURE TABLE			
STRUCTURE LABEL	SIZE	STRUCTURE OPSD No. OR CITY STD DWG	FRAME OPSD No. OR CITY STD DWG
SANMH 301	1200mmØ	701.010	401.010-A
SANMH 302	1200mmØ	701.010	401.010-A
SANMH 303	1200mmØ	701.010	401.010-A
CBs	600mm x 600mm	705.010	400.020
	1800mmØ	701.010	401.010-B
STMMH 201	1200mmØ	701.010	401.010-B
STMMH 202	1200mmØ	701.010	401.010-B
CBMH 204	1200mmØ	701.010	401.010-B
CBMH 205	1200mmØ	701.010	401.010-B

WATERMAIN TABLE			
STATION	FIN GRADE	T/W GRADE	COMMENT
0+000	76.45	74.05	TIE INTO EXISTING WATERMAIN ON SANDHILL RD
0+001.6	76.45	74.05	STM CROSSING
0+004.2	76.45	74.28	SAN CROSSING
0+012.5	76.51	73.50	VALVE AND VALVE BOX
0+016.9	76.60	73.30	THRUST BLOCK
0+022.2	76.60	73.14	SAN CROSSING
0+024.2	76.54	73.58	STM CROSSING
0+025.2	76.53	73.54	STM CROSSING
0+035	76.60	73.60	TOP OF WATERMAIN
0+045	76.60	73.80	TOP OF WATERMAIN
0+052.8	76.50	74.00	THRUST BLOCK AND 150mmØ WM CONNECTION
0+053.8	76.55	74.00	WM CAPPED

WATERMAIN / SEWER CROSSING TABLE									
LOCATION	SANITARY SEWER			STORM SEWER			WATERMAIN		
	Invert Elev	Dia. (mm)	Obvert Elev	Invert Elev	Dia. (mm)	Obvert Elev	Invert Elev	Dia. (mm)	Obvert Elev
1	73.46	250	73.71	72.65	675	73.33			130mm (STM Below)
2	73.49	250	73.74	72.39	250	72.64			850mm (STM Below)
3				72.33	675	73.01	73.85	200	74.05
4	73.58	250	73.83				74.08	200	74.28
5	73.55	250	73.80	72.77	600	73.37			250mm (SAN Below)
6	73.64	200	73.84				72.94	200	73.14
7	73.63	200	73.83						180mm (STM Below)
8				72.86	600	73.46			170mm (STM Below)
9				72.88	250	73.13	73.38	200	73.58
10	73.83	200	74.03	73.00	200	73.20	73.34	200	73.54
11	74.44	200	74.64	73.03	600	73.63			250mm (STM Below)
									630mm (STM Below)
									810mm (STM Below)



- LEGEND**
- SIB - STANDARD IRON BAR
 - IB - IRON BAR
 - CB - CATCH BASIN
 - MH - MANHOLE
 - WMH - WATER MANHOLE
 - LS - LAMP STANDARD
 - UP - UTILITY POLE
 - WV - WATER VALVE
 - FH - FIRE HYDRANT
 - W - WELL
 - W - GUY WIRE AND ANCHOR
 - W - WATERMAIN
 - W - OVERHEAD UTILITY WIRES
 - UH - UNDERGROUND HYDRO
 - UB - UNDERGROUND BELL
 - G - GAS MAIN
 - C - CABLE (ROGERS)
 - SL - STREET LIGHT
 - ST - STORM SEWER
 - SS - SANITARY SEWER
 - CB - CURB
 - PROPOSED CURB
 - PROPOSED WATERMAIN
 - PROPOSED STORM SEWER
 - PROPOSED SANITARY SEWER
 - PROPOSED CLAY SEAL AT 60m INTERVALS
 - PROPOSED SANITARY MANHOLE
 - PROPOSED STORM MANHOLE
 - PROPOSED STORM CATCHBASIN
 - PROPOSED STORM CATCHBASIN
 - PROPOSED FIRE HYDRANT
 - PROPOSED VALVE & VALVE BOX
 - PROPOSED SAMESE CONNECTION
 - PROPOSED WATER METER
 - PROPOSED REMOTE WATER METER
 - PROPOSED LIGHT STANDARD
 - PROPOSED ELEVATION
 - EXISTING ELEVATION
 - PROPOSED HEAVY DUTY PAVEMENT
 - PROPOSED LIGHT DUTY PAVEMENT
 - PROPOSED CONCRETE SIDEWALK

