

LEGEND

PROPERTY LINE	PROPOSED WATER METER AND REMOTE METER
SANMH 101	PROPOSED FINISHED FLOOR ELEVATION
CBMH 102	PROPOSED UNDERSIDE OF FOOTING ELEVATION
STMMH 108	PROPOSED BASEMENT FLOOR ELEVATION
CB 01	PROPOSED TOP OF FOUNDATION ELEVATION
HYD	EXISTING CONCRETE CURB
DC	EXISTING SANITARY MH & SEWER
WB	EXISTING HYDRANT
BEND	EXISTING HYDROMAT
CAP	EXISTING UTILITY POLE
ICD	EXISTING WATERMAIN
PROPOSED TWEET	EXISTING LIGHT STANDARD
PROPOSED INLET CONTROL DEVICE	EXISTING FENCE
THERMAL INSULATION FOR SHALLOW SEWERS	EXISTING OVERHEAD UTILITY WIRES
PROPOSED BUILDING ENTRANCE	
PROPOSED RETAINING WALL	

PROPOSED 150mmØ BLDG A WATER SERVICE TABLE

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
1+000.0	86.62	84.22	250mmØ CROSS
1+001.3	86.65	84.25	250mmx150mm REDUCER(S)
1+003.8	86.65	84.25	150mmØ VALVE AND VALVE BOX
1+006.6	87.00	84.30	CAP 1.0m FROM BUILDING

PROPOSED 250mmØ WATERMAIN TABLE

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
0+000.0	86.50±	83.84±	CONNECTION TO EX. 300mmØ WM STUB IN ESSELMONT ST
0+001.8	86.50±	83.85	300mmx250mm REDUCER
0+001.3	86.58±	83.90	45° HORIZONTAL BEND
0+007.1	86.57	83.92	VALVE AND VALVE BOX AT PROPERTY LINE
0+010.6	86.53	83.95	22.5° HORIZONTAL BEND
0+031.7	86.62	84.22	HYDRANT TEE
0+036.2	86.62	84.22	250mmØ CROSS
0+050.4	86.60	84.20	CROSS BELOW 375mmØ STM (±0.6m CLEARANCE)
0+091.2	86.72	84.20	45° HORIZONTAL BEND
0+110.0	86.69	84.20	45° HORIZONTAL BEND
0+107.0	86.60	84.10	CROSS BELOW 375mmØ STM (±0.54m CLEARANCE)
0+137.6	86.85	83.90	CROSS BELOW 375mmØ STM (±0.53m CLEARANCE)
0+141.5	86.69	83.99	VALVE AND VALVE BOX AT PROPERTY LINE
0+154.6	86.88±	84.35±	CONNECTION TO EX. 300mmØ WM IN NAVAN RD

PROPOSED 200mmØ-150mmØ BLDG C WATER SERVICE TABLE

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
3+000.0	86.62	84.22	250mmØ CROSS
3+007.1	86.73	84.22	TEE (BUILDING B SERVICE)
3+008.1	86.72	84.25	250mmx200mm REDUCER
3+012.8	86.67	84.27	CROSS BELOW 375mmØ STM (±0.67m CLEARANCE)
3+014.3	86.65	84.25	45° HORIZONTAL BEND
3+020.5	86.85	84.45	HYDRANT TEE
3+022.1	87.03	84.45	200mmx150mm REDUCER
3+026.3	87.05	84.50	150mmØ VALVE AND VALVE BOX
3+031.6	87.19	84.50	CAP 1.0m FROM BUILDING

AREA A-2: ICD TABLE - CBMH 104

DESIGN EVENT	TYPE OF ICD	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER DEPTH (m)	VOLUME (m³)
1.2 YR	118mm DIA. ORIFICE	375	13.5	0.20	84.82	64.8
1.5 YR	PLUG TYPE ICD		16.8	0.31	84.93	116.4
1.100 YR			24.3	0.65	85.27	242.9

PROPOSED 200mmØ-150mmØ BLDG B WATER SERVICE TABLE

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
2+000.0	86.73	84.22	TEE
2+005.3	86.95	84.30	45° HORIZONTAL BEND
2+014.6	86.70	84.30	45° HORIZONTAL BEND
2+014.6	86.67	84.27	CROSS BELOW 375mmØ STM (±0.70m CLEARANCE)
2+022.6	86.80	84.40	HYDRANT TEE
2+023.9	86.82	84.40	200mmx150mm REDUCER
2+032.8	87.10	84.60	150mmØ VALVE AND VALVE BOX
2+035.2	87.19	84.60	CAP 1.0m FROM BUILDING

ROOF DRAIN TABLE

AREA ID	ROOF DRAIN NO. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	2 YEAR RELEASE RATE	APPROX. 5-YR PONDING DEPTH	5-YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH	100-YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH
R-1	RD 1A (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 2A (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 3A (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 4A (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
R-2	RD 1B (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 2B (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 3B (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 4B (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
R-3	RD 1C (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 2C (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 3C (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm
	RD 4C (RD-100-A-ADJ)	1/4 EXPOSED	0.72 L/s	10 cm	0.82 L/s	11 cm	0.91 L/s	14 cm

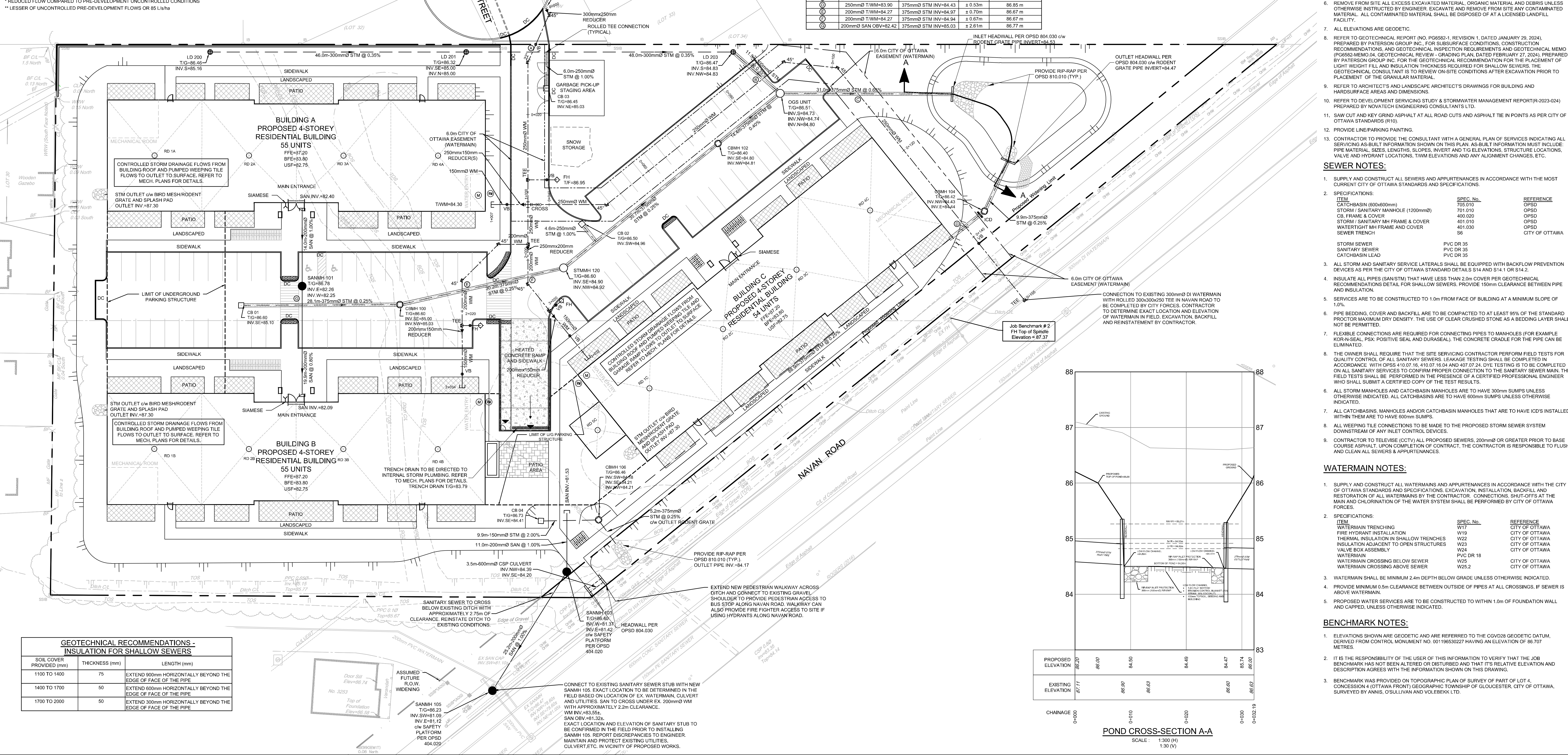
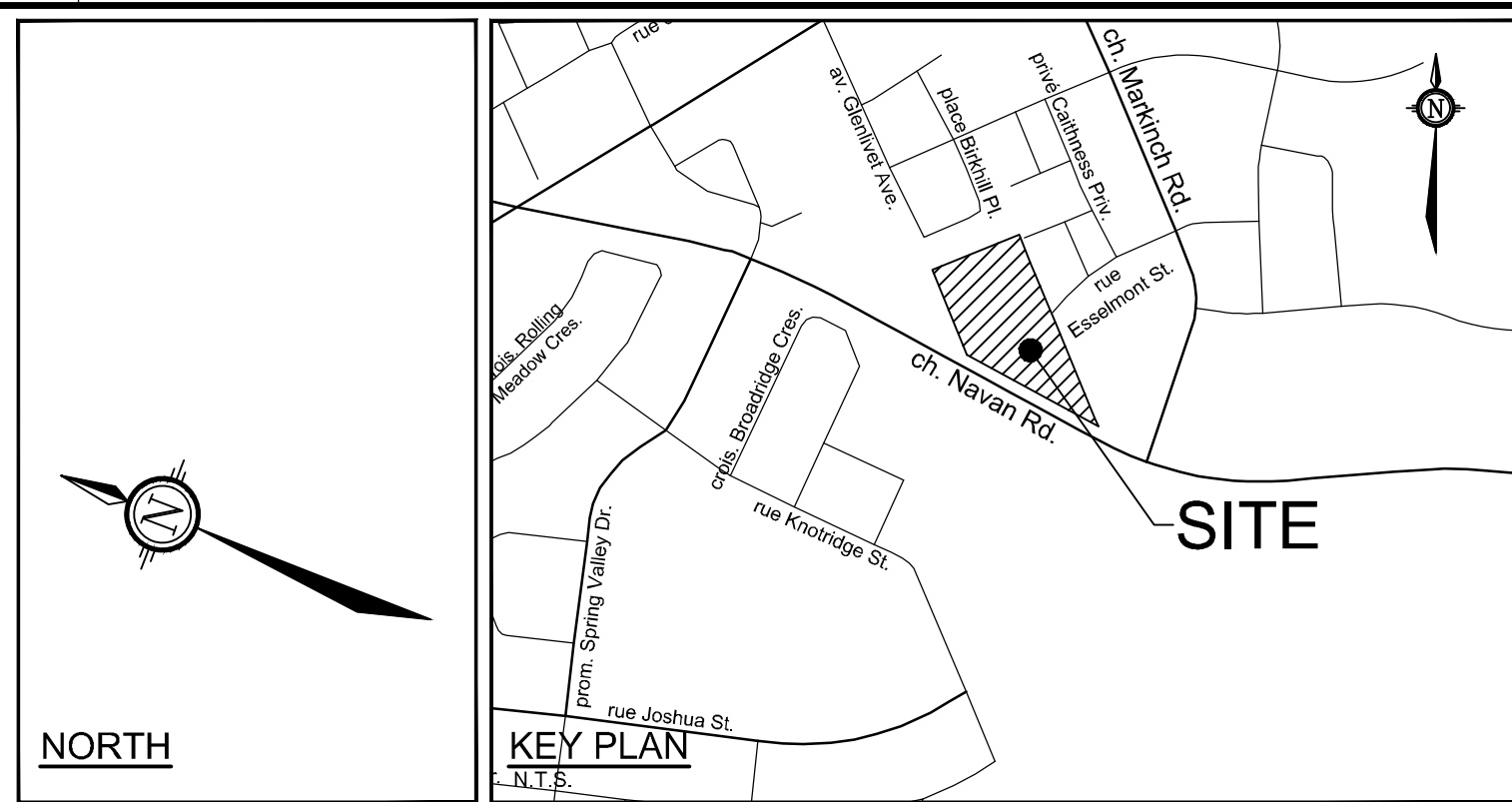
CRITICAL SEWER PIPE CROSSING TABLE

CROSSING	LOWER PIPE	HIGHER PIPE	CLEARANCE SURFACE ELEVATION
①	250mmØ TWM-83.95	300mmØ STM INV-84.81 ± 1.00m	86.55 m
②	250mmØ TWM-84.20	375mmØ STM INV-84.81 ± 0.61m	86.60 m
③	250mmØ TWM-84.10	375mmØ STM INV-84.64 ± 0.54m	86.60 m
④	250mmØ TWM-83.90	375mmØ STM INV-84.43 ± 0.53m	86.85 m
⑤	200mmØ TWM-84.27	375mmØ STM INV-84.97 ± 0.70m	86.67 m
⑥	230mmØ TWM-84.27	375mmØ STM INV-84.94 ± 0.67m	86.67 m
⑦	200mmØ SAN 08V-82.42	375mmØ STM INV-85.03 ± 2.61m	86.77 m

SITE FLOWS & STORMWATER MANAGEMENT TABLE

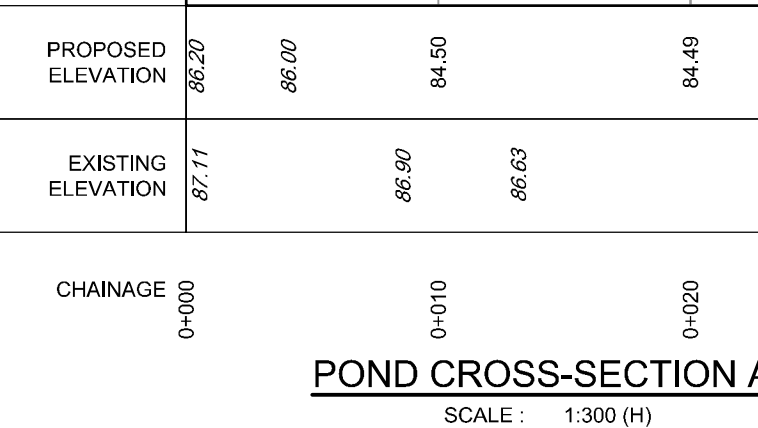
DESIGN EVENT	PRE-DEVELOPMENT CONDITIONS		POST-DEVELOPMENT CONDITIONS							REDUCTION IN FLOW (L/s) %
	UNCONTROLLED FLOW (L/s)	ALLOWABLE RELEASE RATE (L/s)*	A-1 DIRECT RUNOFF (L/s)	A-2 FLOW (L/s)	A-3 FLOW (L/s)	R-1 FLOW (L/s)	R-2 FLOW (L/s)	R-3 FLOW (L/s)	TOTAL FLOW (L/s)	
1.2 YR	63.3	63.3	26.5	13.5	3.7	2.9	2.9	3.5	52.9	10.4 or 16%
1.5 YR	85.9	85.9	35.9	16.8	5.0	3.3	3.3	4.0	68.2	17.7 or 12%
1.100 YR	154.0	154.0	71.9	24.3	9.4	3.6	3.6	4.5	117.3	66.7 or 36%

* REDUCED FLOW COMPARED TO PRE-DEVELOPMENT UNCONTROLLED CONDITIONS
** LESSER OF UNCONTROLLED PRE-DEVELOPMENT FLOWS OR 85 L/s/ha



GEOTECHNICAL RECOMMENDATIONS - INSULATION FOR SHALLOW SEWERS

SOIL COVER PROVIDED (mm)	THICKNESS (mm)	LENGTH (mm)
1100 TO 1400	75	EXTEND 900mm HORIZONTALLY BEYOND THE EDGE OF FACE OF THE PIPE
1400 TO 1700	50	EXTEND 600mm HORIZONTALLY BEYOND THE EDGE OF FACE OF THE PIPE
1700 TO 2000	50	EXTEND 300mm HORIZONTALLY BEYOND THE EDGE OF FACE OF THE PIPE



NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS 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, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

OWNER INFORMATION
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SCALE
1:300

FOR REVIEW ONLY

DESIGN	ZAC/V
CHECKED	FST
DRAWN	ZAC/V
CHECKED	FST
APPROVED	FST

LOCATION
CITY OF OTTAWA
3317 NAVAN ROAD

DRAWING NAME
GENERAL PLAN OF SERVICES

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PROJECT NO. 118076
REV # 4
DRAWING NO. 118076-GP
Plan # 19008

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