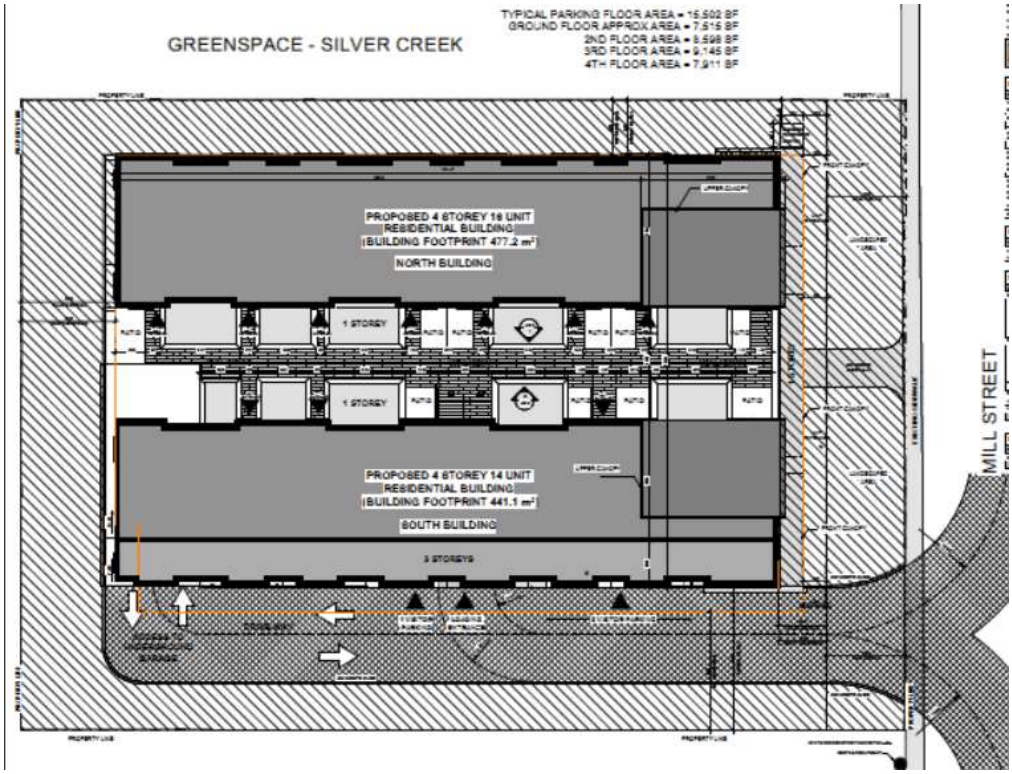

Layout Of Site Proposed, Source Drawing: SRM Architects, File 20052, March 2022

Functional Servicing Report
Rev April 22, 2022
16-18 Mill St, Georgetown, Ontario

Prepared For:
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Revision 5

April 29, 2022
EAL Project: 30663G

Table of Contents

1 Introduction

Egmond Associates Ltd (EAL) was retained to prepare a report outlining the preliminary servicing requirements for the re-development of a residential site at 16 to 18 Mill St, Georgetown, Ontario as shown on the cover.

This report fulfils the requirements of the Functional Servicing Report, as well as the Stormwater Management Brief and Water Balance Assessment and references SRM Architects Project Number 20052, Plans A 1.1 to A 3.3 dated February 2022.

The Site, which consists of 16 to 18 Mill St, Georgetown, ON, is located on the North West side of Mill St, between Dayfoot Dr and McNabb St. It is 2272m^2 (0.227 ha) in area. Mill Street is planned to be widened in the future, which will remove 5m from the eastern property frontage, resulting in a future site area of 2071m^2 (0.207ha).

For ease of communication, the Project North is identified in the true North East direction such that Mill Street is on the Project East side of the property (Drawing 1). All following directions will be identified relative to Project North.

There are currently two multi unit residential buildings (Res 1 and 2) and a small outbuilding (Garage) on the Site which are to be demolished for the development of two new structure(s) as shown in the Google Aerial.

A geotechnical investigation was conducted on the Site by EAL in July 2020 (with revisions April 2022), and a Phase I Environmental Assessment was conducted by Watters Environmental Group Inc in September 2019.

A site layout was prepared by SRM Architects Inc. in March 2022, which is used as a basis for the design calculations in this report. The two buildings are expected to be constructed at the same time.

This report is based on the site plans and concepts as understood by EAL up to April 26, 2022.

2 Proposed Development

The proposed two new structure as of April 28, 2022 are to be 4 storey residential buildings with 2 levels of underground parking (Drawing 2 and 2b). The northern building footprint is to be 477.2 m^2 with a gross floor area of 1,673.68 m^2. The southern building footprint is to be 441.1 m^2 with a gross floor area of 1,410.42 m^2. The total buildings footprint is to be 918.3 m^2 with a gross floor area of 3,084.1 m^2. There are planned to be 30 units (16 units North Building 1, 14 units South Building 2), which are to be a mix of 1 and 2 bedroom units. For servicing estimates, it is assumed that the average unit occupancy is to be 3 persons, for a total site occupancy or 90 persons (3 persons per unit*30 units).

The landscaped area is to be 29 % of the total site area, 596.4 m^2.

2.1 Site Grading

Based on the topographic survey by J. R. Finnie (Drawing 3), the general slope of the property is from West to East. The highest elevation on the site was 245.5m Above Sea Level (ASL) in the South West corner of the site. The South East corner at Mill St was approximately 244.5 m ASL and the North East corner at Mill St is approximately 242.8 m ASL. The North West corner adjacent to a green space is approximately 244.8 m ASL.

Proposed overland storm water flow routes are overland to Mill St in the East and to the green space on the North side of the site.

On the north side will be a proposed yard which will contain LID technology (infiltration trench).

On the south side is a proposed 9.2 m building setback (driveway and greenspace area) and a 7.5 m setback from the canopy to the property line.

On the east side is a 5000 mm landscaped area (designated future road widening), is proposed a 1.5 m canopy set back and a 3 m front yard setback.

A 6m deep rear yard is proposed to be on the West side of the property. A 3.5m deep side yard is proposed to be on the North side of the property.

2.2 Access

Access to the site is provided via Mill Street on the north and south parts of the lot. Current driveway and parking area creates a "circular" path surrounding the structures. A small green space is between the existing buildings.

52 Parking residential, 4 barrier free, and 8 visitor parking spaces are to be provided. Residential spaces are mainly below ground. The proposed driveway access is to be near the south east corner of the site at Mill Street (Drawing 2). Access ramps to the underground parking proposed are at the south west corner southern building.

2.3 Water Supply

Halton Region requires the community system to the site shall be capable of meeting maximum daily demand plus fire flow or maximum hourly demand.

Water supply for the site is provided from the municipal water supply via connection to an existing 300mm water main on Mill St (See drawings in Appendix A). The two existing structures are connected to the municipal water supply via individual water service lateral connections to the water main on Mill St. The condition and size of the existing lateral connections are not known, though we have not received complaints or notice of supply issues from the current owner.

There is an existing municipal fire hydrant on Mill St at the South East corner of the Site.

The water services for the proposed development will provide two lateral connections for the site to provide domestic supply and fire protection.

Usage rates and peaking factors of water consumption and allowable pressures are based on the Sustainable Halton Water and Wastewater Master Plan (AECOM, 2011). The domestic water requirements are based on 330 L/c/d (Litres/capita/day) as per the Master Plan.

Table 1: Anticipated Water Demands for Re-development

	Existing	Proposed	Increase
Average Day domestic Demand	0.17 L/s	0.34 L/s	0.17L/s
Peak Day demand (1.9x daily demand)	0.33 L/s	.65 L/s	0.33 L/s
Peak hour demand (3.0x daily demand)	0.52 L/s	1.03 L/s	0.52 L/s
Fire Flow (C_{fire} – 0.8), use North Building	Unavailable	80L/s (1 building)	Unavailable

Based on these calculations, the available water supply from the 300mm watermain on Mill St should be adequate to supply the required flows. The lateral connection(s) to the Site should be at least a 200mm pipe

to meet these flow requirements. One or both of the existing lateral connections to the Site may be re-used if they are in good condition and meet the size requirements. The final connection design is beyond the FSR.

2.3.1 Fire Supply

The fire flow would be required for both buildings. EAL have assumed at any time, only a single building would be on fire, the north or larger building. The necessary water supply for fire flow is then determined to be 80 L/s. This value is for estimation only and should be verified by the mechanical engineering consultant and/or fire protection consultant.

As per the Regional Municipality of Halton Water and Wastewater Linear Design Manual (2019, Version 4.0), the minimum spacing for fire hydrants for high density developments is 90m. There is an existing hydrant at the South East corner of the Site at Mill St, which is less than 90m from the furthest corner of the Site and therefore appears to be adequate at this time.

As part of the site plan approval process, the fire flow criteria shall be calculated and verified in accordance with the Ontario Building Code by the mechanical engineering consultant. The location of on-site hydrants and/or Siamese connections on the building shall also be verified by the mechanical/fire safety engineering consultant.

2.4 Sanitary Service

Sanitary service for 16 to 18 Mill St is provided by connection to the existing 300mm diameter (D) sanitary sewer on Mill St, with a hydraulic radius taken to be Diameter divided by 4 (D/4) or 75mm. The 300 sewer discharges to a 600mm diameter trunk sanitary sewer near Silver Creek. There is also a 375mm diameter sanitary sewer running between the site and Silver Creek. (See drawings in Appendix A).

The peak factor on average sewage is based on the Water and Wastewater Linear Design Manual (April 2019, V4.0, 3.2.3,P22) Harmon Formula. For the present and proposed site the peaking factor was estimated to be 4.23.

Usage rates for the sanitary sewer usage from the site at present and as proposed are taken from Water and Wastewater Linear Design Manual (April 2019, V4.0, Table 3-1,P21) to be $0.003183*10^{-3}$ m^3/person-sec. Using this value, the following average and peak usage is estimated for the Site in Table 3.

Table 3: Anticipated Sanitary Design flows for Re-development

	Existing	Proposed	Increase in flow
Wastewater demand average	0.14 L/s (0.00014 m^3/sec)	0.29 L/s (0.00029 m^3/sec)	0.14 L/s (0.00014 m^3/sec)
Peak demand	0.61 L/s (0.00061 m^3/sec)	1.22L/s(0.00122 m^3/sec)	0.61 L/s(0.00061 m^3/sec)

The design capacity of the existing sewers was estimated using the Manning Formula as specified in the Water and Wastewater Linear Design Manual (April 2019, V4.0, 3.3.1, P22) where Q (m^3/s) = $(1/n)(R^{2/3})*(S^{1/2})*A$ and where n = 0.13, R is the hydraulic radius (m), S is the slope (m/m), r is the pipe diameter, and where A is the section of the pipe ($\pi*r^2$). For the 300mm sanitary sewer with a slope of 0.58% the flow was estimated to be 0.095m^3/s or 95 L/s.

The design capacity of the 600m trunk sewer with a slope of approximately 0.35% was estimated to be 0.363m^3/s or 363 L/s.

The peak demand quantity represents a possible increase of 0.63 % to the total peak flow in the 300mm diameter sewer on Mill St. The peak demand quantity increase represents an increase of about 0.1 % increase of the total peak flow of the 600mm diameter trunk sanitary sewer. It is expected that the existing sewers have sufficient capacity to absorb the additional flow without upgrades. One expects the new sewers on Mill would facilitate the present development plans.

The sanitary sewer on site should be connected to the 300mm diameter sewer on Mill St with a lateral connection of minimum 150mm diameter. The final design of connections and the sanitary system is beyond the FSR.

2.5 Storm Service

There are no known storm drains on the Site. Storm water is discharged by overland sheet flow to Mill St and to the green space to the North. There are no storm drains on Mill St adjacent to the Site, so any water directed Mill St flowed north to catchbasins near to Silver Creek.

There is an 850mm diameter storm sewer in Mill St which should be used to accept water from on-site storm drains to be installed during the development.

2.6 Stormwater Management

2.6.1 Stormwater Management Criteria

The stormwater management is based on the Town of Halton Hills Subdivision Manual 99-06-23, the Town of Halton Hills, Stormwater Management Policy (March 2009), supplemented by Credit Valley Conservation Stormwater Management Criteria (August 2012), and the MECP Stormwater Management Planning and Design Manual (March 2003). The site plan, drainage, and erosion plans by others are in Appendix B.

The 0.277 ha site will be treated as a Single Lot Residential Development as it is smaller than 0.5 ha. The control for stormwater quality is required if there is increased runoff due to development. The quality control shall:

- Have enhanced water quality treatment provided to the discharge of runoff from the site (80% TSS removal)
- Be based on consultation with the Region concerns, the Site is in Well Head Protection Area E which indicates that surface water can easily seep through the soil and influence ground water; and WHPA-Q1/Q2-C, which means that it takes between 2 to 5 years for groundwater at the site to reach a wellhead.

The control for stormwater quantity is to be as follows:

- Control post-development peak flows to the existing/pre-development levels for all storms up to and including the 100 year storm (2, 5, 20, 25, 50, and 100 year design storms).
- Maintain at least 5mm of on-site detention for erosion control protection.
- Control at minimum of 3mm of runoff from impervious surfaces.
- Major storm flows are to be routed overland to an appropriate outlet.

The post-development peak runoff generated from the site is to be attenuated to the existing/pre-development level, for the range of design storm events from 2 to 100 year storms. Based on the Town of Halton Hills Standard 108 IDF curve data (Appendix B), the following in Table 4a are the intensity of events for return periods between 2 and 100 years:

Table 4a: IDF data (Table A-3, Town of Halton Hills Subdivision Manual 1993) in CH_GSWMES_Nov2021_final)
See too curves in Town of Halton Hills Subdivision Manual 1999 (p101)

Return Period (yr)	2	5	10	25	50	100
Duration (min)	Shows intensity in mm/hr and *accumulated during time interval in mm					
5	106.63 *8.72	135.36 *11.28	155.64 *12.97	181.44 *15.12	200.4 *16.7	219.36 *18.28
10	73.08 *12.18	94.68 *15.78	109.02 *18.17	127.08 *21.18	140.46 *23.41	153.78 *25.63
15	61.60 *15.40	82.88 *20.72	97.04 *24.26	114.84 *28.71	128.08 *32.02	141.24 *35.31
30	41.44 *20.61	56.96 *28.48	67.04 *33.70	80.58 *40.29	90.32 *45.16	100.06 *50.03
60	24.23 *24.23	35.32 *35.32	42.68 *42.68	51.97 *51.97	58.85 *58.85	65.69 *65.69
120	14.73 *29.45	21.23 *52.45	25.54 *51.07	30.98 *61.97	35.01 *70.01	39.02 *78.03
360	6.51 *39.05	9.11 *54.63	10.83 * 64.96	13 *78	14.61 *87.67	16.22 *97.29

EAL also considered the CVC 0020 Standard Storm Water Parameters, below the Niagara Escarpment as set out below (Table 4b).

Table 4b: IDF data (CVC 0020 Standard Storm Water Parameters)						
Return Period (yr)	2	5	10	25	50	100
Duration (min)	Shows intensity in mm/hr					
5	102	135	155	180	200	220
10	80	100	115	135	145	160
15	64	85	99	117	130	140
30	41	58	70	85	96	107
60	24	34	40	49	55	61
120	16	21	24	29	32	35
360	6.3	8.3	9.7	11	13	14

The Town of Halton Hills Subdivision Manual, 99-06-23 P47,48 indicates that for areas not exceeding 25 ha the Rational Method is to be used. For the Runoff Coefficient used in the Rational formula EAL have used the required value of 0.75 for townhouses and apartments, 0.2 for the grassed/LID areas, and 0.9 for paved areas. EAL applied the CVC IDF as these provided slightly higher intensities.

4-1 Runoff Coefficient Calculation				
	Time of concentration T_c	Runoff Coef. C_i	Pre-development area A_i	Post-development area A_i
	Minutes	C	m^2	m^2
Lawn	2.6	0.2	301	528.2
Pavement	2.6	0.9	1524	250
Roof	2.6	0.75	447	1494
Total Area (m^2)			2272	2272
Time of Concentration	Bransby William Formula		C>0.4	
$tc = 0.057L/(Sw^{0.2}*A^{0.1})$				
Catchment Length (diagonal length of the site)	L	68	m	
Slope (based on max and min elevations) %	Sw	16	%	
Area Site (A_{site})	A	0.23	ha	
	tc	2.6	min	
Pre and Post Combined Runoff Coefficient of Site $C_{site} = (S(C_i*A_i))/A_{site}$				
Pre development	$Cpre_{(site)}$	0.78		
Post development	$Cpost_{(site)}$	0.66		

2.6.1 Allowable Release Rates

As identified in Section 2.4, the storm service for the development should be connected to the 850mm diameter storm drain on Mill St, rather than relying on the existing sheet flow down Mill St to a storm drain near Silver Creek.

The post-development flows generated from the development must not exceed the pre-development flows to the storm drain. Therefore, the flow rates described in Table 5 above must not be exceeded after development.

2.6.2 Existing / Pre-Development Condition Drainage

The site is 2272m^2 (0.227 ha) in area, with an estimated 301m^2 (0.03) ha being permeable landscaped surface, 447m2 (0.045 ha) being roof, and 1524m^2 (0.15 ha) being impermeable paved and built up surfaces).

Storm water flow routes are overland to Mill St in the East and to the green space on the North side of the site. There are no catchbasins on or adjacent to the Site. Water directed towards Mill St sheet flows towards the catchbasins near Silver Creek, which ultimately flows into Silver Creek. There is an 850 mm diameter storm sewer in Mill St adjacent to the Site which could be used for the re-development

Flow rates pre development are estimated using the Rational Method. The combined runoff coefficient C of the site is estimated to be 0.78 as per Table 4-1 above.

Table 5 shows flow rates for the existing conditions after 10 minutes of the design storms.

Table 5: Existing conditions/ Pre-development Condition Flow rates						
	2-year	5-year	10-year	20-year	50-year	100-year
Flow L/s (m^3/sec) At 10min	39 (0.039)	49 (0.049)	56(0.056)	66(0.066)	71(0.071)	78(0.078.5)

2.6.3 Post-Development Drainage Areas

The post development site is proposed to have a 596m^2 (0.06 ha) pervious landscaped area and 1676m^2 (0.167 ha) paved and built up surfaces. The combined runoff coefficient C is estimated to be 0.66 as shown above.

The post development flow rates are estimated below in Table 6:

Table 6: Developed Condition Flow rates						
	2-year	5-year	10-year	25-year	50-year	100-year
Flow L/s (m^3/sec) At 10min	33 (0.033)	41 (0.041)	48 (0.048)	56 (0.056)	60 (0.06)	66 (0.066)
Flow L/s At 360min (m^3/sec)	2.6 (0.0026)	3.4 (0.0034)	4 (0.004)	4.6 (0.0046)	5.4 (0.0054)	5.8 (0058)

The post development values are lower than the existing allowable release rates, reflecting we expect the increased green space area, that is flow is not likely to increase.

There is a requirement to retain at minimum 5mm of rainfall. The required volume to retain is 11.4m^3 on the site. This 11.4 m^3 storage requirement may be carried out through any of the following options:

- Parking lot ponding (not considered viable for the parking garage)
- Rooftop storage
- Superpipe storage
- Bio-swales
- Infiltration trenches or technology (specifications to be outlined in Addendum with forthcoming Site Servicing Plan) enough to drain the trench in 24 hours.
- Or even EAL's SAGES™ infiltration system (implemented on a site in Acton for over a decade), 1 unit stores about 1 m^3 of water and draws down about 0.28 m^3/sec – see geotechnical report or discharges faster than the rate of the site (storage not a vital as discharge due to higher head is possible to deeper coarser soil).

Due to the sandy soil conditions, using an infiltration method is likely the most effective water retention method.

Table6b: Storage and Infiltration

Technology	Start Depth of Trench or SAGES™ (m)	End Depth (m)	Material	Volume Stored m^3	Drawdown m^3/sec
Trench 4 m wide filled with Gravel and filter cloth, 10 m long	To be specified on Site Servicing Plan 0	To be specified on Site Servicing Plan 1.275	Sand Fine, 10-5 m/s, Grave l– porosity 0.4	19	6×10^{-2}
SAGES 300 mm diameter with filters 300 mm thick	0	15 (5m filter in coarse sand)	Sand Coarse 10^{-3} m/sec at the filter	0.5 m^3 each pipe	Q the outflow is ~ from $Q=2\pi rhk*i$ and distance to property line to be 3, outflow is about 0.02m^3/sec

Runoff from the rooftop areas and landscaped areas are considered "clean" water and do not require quality control, and they could directed to infiltration using one or more of the infiltration technologies above. Runoff from the paved areas has the potential to generate contaminated runoff, so some remediation method should be used. Paved areas should be graded to collect the runoff into an on-site catchbasin(s). An oil-grit separator should be installed to insure the polished water quality achieves 80% TSS removal before connection to the sewer. Polished water and the roof and garden waters not infiltrated can combined after the polishing unit. The resulting flow can be connected to the 850mm diameter storm drain on Mill St by a lateral pipe at minimum 350mm diameter.

The proposed servicing plan

2.6.4 Water Balance Analysis

Water Balance is determined using the CVSPA Water Balance Tool (Drawing 4). The values for the area around the site are determined to be precipitation 778 mm/yr, evapotranspiration 350 mm/yr, recharge of 20 mm/yr, and runoff of 408 mm/yr. Because the estimation included areas that are not part of the site, to be conservative evaporation used for the estimation is decreased to be an average of 300mm/yr for the whole site area. Recharge and runoff are then estimated below based on the ground conditions.

Egmond Associates carried out a geotechnical investigation on the Site and found that the soils are primarily sands with some silt. A conservative estimate for the annual infiltration of the soil would be 180 mm/year based on the MOEE Hydrogeological Technical Information Requirements for Land Development Applications, 1995.

The site is comprised of permeable and impermeable surfaces. It is assumed that the permeable surfaces allow for 180mm/year of infiltration and impermeable surfaces allow for 0mm/year of infiltration. The water balances is below in Table 7 based on the above data.

Table 7: Water Balance				
	Existing Conditions		**Post Development Conditions**	
	Pervious surface	Impervious surface	Pervious Surface	Impervious surface
Annual Precipitation (mm/yr)	778	778	778	778
Evapotranspiration (mm/yr)	300	300	300	300
Infiltration rate (mm/yr)	180	0	180	0
Runoff rate	298	478	298	478
Partial site area	301	1971	596.4	1675.6
Annual Infiltration (m^3/year)	54	0	107	0
Annual runoff (m^3/year)	90	942	178	801
Annual Infiltration combined (m^3/year)	54		19	
Annual runoff combined (m^3/year)	1032		979	

Based on this infiltration data, the annual runoff for the site is estimated to decrease from 1032 m^3/year of the existing development to 979 m^3/year for the new development. The use of the infiltration based stormwater management system could further decrease the runoff value as these can infiltrate water at greater rates than generated. SAGES™ if implemented could support base flow and cold water habitats.

3 Construction Erosion and Sediment Control

Erosion and sediments must be controlled during the construction phase. During site grading, there is a possibility for runoff containing high levels of sediments to be directed towards adjoining properties, Mill St, and the existing storm infrastructure. Therefore, prior to grading, sediment control fences must be installed along the site perimeter where runoff may discharge from the site. Material stockpiles are to be placed in appropriate locations to minimum erosion. The proposed erosion control plan by others is in Appendix B.

When catchbasins and manholes are installed, they must be protected with inlet sediment control devices such as woven geotextile filter cloth. The inlet protection must be in place until all building and landscaping work has been completed.

Inspection of maintenance of the silt fences and inlet protection shall be carried out weekly while construction is underway, as well as after every rainfall event of at least 13mm (10 minutes of 2-year design storm.

After construction and landscaping is completed, silt fences and inlet protection may be removed along with any accumulated settlement. The current plan by others is in Appendix B.

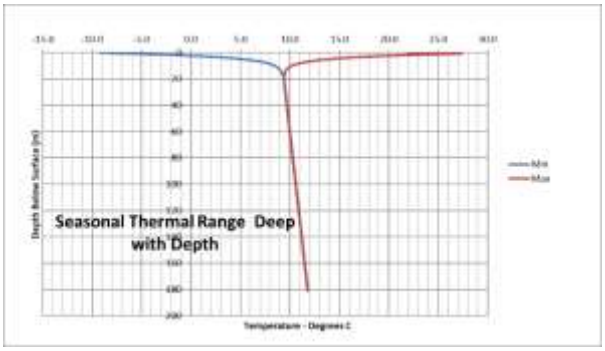
4 Utilities

The site is in an urban area serviced by Halton Hills Hydro, Enbridge Gas, Cogeco Cable, and Bell Canada. The size and type of connection within the Mill Street right-of-way for each utility will be confirmed as part of the site plan approval process for the development.

Bell, Cogeco, Turris Communications of Georgetown nor other providers for cell, tv, internet have been contacted as we expect currently these can all serve the site.

Hydro has not contacted us as of the writing of the report.

At present Enbridge confirms gas is available but without a building and energy design they are not sure about sizing and if a main extension is needed. For heating and cooling an alternate energy source one might consider is geothermal using closed loop vertical wells stretching to about 180 m in depth each. Based on local climate a subsurface conditions a possible thermal profile is below. A thermal conductivity in the range of 2 to 4 W/(m*K) and a thermal diffusivity in the range of 0.07 m^2/day might be possible (a field thermal conductivity test would be needed).



5 Conclusions

The proposed development will see the construction of a new residential building at 16 to 18 Mill St, Georgetown, Ontario. The proposed development can be serviced utilizing the existing and proposed infrastructure. Our conclusions and recommendations for servicing of the proposed development are summarized as follows:

Water Servicing

- The calculated domestic flow demand due to the proposed development is 0.34 L/s average (0.65 L/sec maximum per day, peak demand hour 0.5 L/s) and
- This represents an increase of 0.17 L/s average, (0.3 L/s) over maximum per day, and 0.5 L/s over peak demand hour over the existing site usage.
- The calculated fire flow demand due to the proposed development is 80 L/s for one building. If the second building is added assuming a simultaneous fire allow for double that amount.
- The proposed development will be serviced by at minimum a 200 mm lateral service connection to the 300 mm diameter watermain on Mill St.
- The existing watermain is expected to be capable of handling the increased flows due to the development.
- Additional confirmation of the fire and domestic branch sizing and fire flow requirements should be provided by the mechanical engineering consultant at the building permit stage of approval.

Sanitary Servicing

- The estimated peak demand in sanitary flow of the proposal is 1.22 L/s
- This represents an increase of 0.61 L/s over the existing site usage.
- The proposed development will be serviced by at minimum a 150mm lateral service connection to the 300 mm sanitary sewer on Mill St.
- The existing sanitary sewer appears is capable of handling the increased flows due to the development, noting a new sewer appears to be under construction on mill street.

Stormwater Servicing

- The existing storm water flow is via sheet flow to Mill St and to the green space to the North.
- Water balance analysis shows Post-development stormwater flows are expected to decrease over Pre-development flows due to smaller impermeable surface cover.
- A minimum of 11.4 m^3 of storage must be available for retaining the first 5mm of stormwater, using methods which may include but are not limited to:
    - Parking lot ponding
    - Rooftop storage
    - Superpipe storage
    - Bio-swales
    - Infiltration trenches or technology
    - EAL's SAGES™ infiltration technology may be considered.

- The soil conditions at the site have high potential for infiltration. It is recommended that runoff generated on the landscaped areas be infiltrated on site.
- The Site is in Well Head Protection Area E and WHPA-Q1/Q2-C
- An oil-grit separator (Jellyfish or other should be installed to clean water that is discharged to the storm sewer).
- A 350mm diameter minimum pipe should be used for connecting on-site stormwater management facilities to the 850 mm storm sewer on Mill St.
- The existing storm sewer is expected to be capable of handling the flows due to the development.

A proposed layout for utility connections is shown in Drawing 5. Final design may vary from proposal.

6 Closure

6.1 Contract

The client authorized EAL to carry out the work set out in the report in accordance with the scope of work as set out herein.

6.2 Limitations

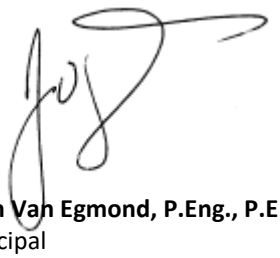
The present work is for the sole use of EAL, and the client in the Spring/Summer 2022 Site evaluation. Others with an interest in the Site such as contractors, purchasers, etc., must undertake their own investigations respecting the Site, and are advised that the work is to the terms of reference only. Neither EAL nor the client warrant or represent the report has found, detected or reported on all Site conditions or Site environmental conditions. All documents cited, photos other than taken by EAL, drawings reviewed and reproduced are provided at no markup cost beyond 5% to cover insurances and are provided at original cost only. Copyright belongs to the original source. Refer and obtain to original documents at libraries, publishers, etc. for use of these materials, as the present work using the materials for ease of reference using artistic standards in not intended to negate any commercial use or value of the works by others.

6.3 Thanks

The client is thanked for retaining EAL for the present project. Please call us if you have questions regarding the report.

Egmond Associates Ltd
Environmental & Geotechnical Engineers

Julie vanderMeulen, M.Eng., Project Technical Works



John Van Egmond, P.Eng., P.E.,
Principal

Egmond Associates Ltd – Terms of Engagement

GENERAL

Egmond Associates Ltd (EAL or The Consultant herein and may include subcontractors shall render the Services, as specified in the attached Scope of Services or set out in the final report to the Client, and agreed by the Client for project in accordance with the following terms of engagement. If required, in EAL's opinion, to respond to a subpoena, EAL, its staff, etc. will be paid at their normal charge out rates by the Client. The Client will pay for the amounts invoiced by the consultant on receipt of the invoice.

COMPENSATION

Charges for the service(s rendered will be made in accordance with the Consultant's Schedule of Fees and Disbursements as the services are rendered. Consultant's current schedule of fees is as published to Clients periodically and available on request or as attached hereto. All Charges will be payable in Canadian Dollars unless specified. Invoices will be due and payable on receipt from the date of the invoice without holdback. Interest on overdue accounts is prime plus 10%, collection fees being extra and payable on collection (where allowed. If the account is not paid the reports may not be used or released, and if released all liabilities are the sole responsibility of the Client and the reader and user of the report and he/she/they shall bear all liability and shall save and hold harmless EAL, its staff, shareholders, suppliers, etc. against any and all costs, claims, etc. EAL's limitations shall apply.

REPRESENTATIVES

Each party shall designate a representative who is able to act on behalf of that party and receive notices under this Agreement (default President, if individual then individual.

TERMINATION

Either party may terminate the contract without cause upon thirty (30 days' notice in writing, the engagement terminating by default after 180 days following the final report, unless extended by ongoing work (storing of samples extends lien rights. Payment is due for all costs and expenses to the consultant immediately upon termination. If either party breaches this contract, the non defaulting party, may terminate the agreement after giving seven (7 days' notice (email, writing, verbal to remedy or begin remediation of the breach. Payment is due for all costs and expenses to the consultant immediately on termination of the contract if the consultant elects to exercises termination under this paragraph.

COOPERATION

The consultant's field, laboratory and other work and engineering do not include herein a duty or duty of care to deal with issues other than those set out in the terms of engagement, or as stated in the final report submitted by the Consultant. The Consultant will co-operate, as the Consultant deems appropriate, with the Client's other team members as applicable during portion of work which coincide.

LIMITATION OF LIABILITY

EAL shall not be responsible for the costs, consequences, etc. of:

(1) the failure of others, retained by the Client, to perform work to the satisfaction of the Client;
(2) the design, use or defects of reports, equipment, etc. supplied by the Client;
(3) interactions of other systems, damage to other systems resulting from investigations;
(4) damages to utilities, which were identified and located, or which were not identified by the Client;
(5) any decisions made by the Client (if for example made contrary to the Consultant's advice;
(6) any consequential loss, injury, or damages suffered by the Client, including but not limited to loss of use,
(7) earnings and or business interruption.
(8) the unauthorized distribution of any confidential document or report prepared by or on behalf of the Consultant for the exclusive use of the Consultant and the Client.
(9) the EAL limitations, general soils terms, and report further set out in the limitations. The total amount of all claims the Client may have against the Consultant or any present or former partner, executive, shareholder, employee, or employee thereof under this engagement, including, but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited to half the amount of any professional or other liability insurance the Consultant may have available for such claims. If the client has no paid its bills in full the limitation shall be the unpaid amount only as at the date of the last invoice. The Client agrees its claims can only be against the Consultant under this contract, and not against the employees, shareholders, executives, etc. No claim may be brought against the Consultant in contract or tort by the Client or those who rely on the report more than (2 years after the services were completed or terminated under this engagement. Those who may not rely on the report have no rights in contract or under tort.

DOCUMENTS

All of the documents prepared by the Consultant or on behalf of the Consultant in connection with the Project are instruments of service for the execution of the Project. The Consultant retains the property and copyright in these documents, whether the Client advances to further projects on the matter of the engineering or not. These documents are not for use on other projects or in ways contrary to the report.

FIELD SERVICES DURING CONSTRUCTION

Where applicable, field services where recommended by the Consultant for the Client's project are the minimum thought necessary by the Consultant, whether the Consultant is retained or not. If not retained, EAL shall have no liability, and those responsible for engaging and or providing the field services shall be responsible. Where the Consultant's services are limited, the extent of such limitations may be in the report, or as set out in the limitations, or as set out herein, or as set out in subsequent correspondence, but in no event shall EAL be liable for field services beyond the extent retained by the Client nor for any actual or other damages if subsequent work shows the material conditions were not as expected or work was done improperly, and EAL shall not be a proximate cause of failure, if others fail to carry out any portion of their work or responsibilities.

DISPUTE RESOLUTION

If requested in writing by either the Client or the Consultant, the Client and the Consultant shall attempt to resolve any dispute between them arising out of or in connection with these Terms of Engagement or other vehicle for services between the Client and the Consultant, by entering into structured non-binding negotiations with a mediating (Peter Wallace, P.Eng. on a without prejudice basis. The mediating party shall be appointed by agreement of the parties. It the matter cannot be settled within a period of thirty (30 calendar days with the mediator, the dispute shall be finally resolved by arbitration under the rules of Ontario or by an arbitrator appointed by agreement of the parties or by reference to a Judge of the Courts in Mississauga, Ontario, Canada.

SCHEDULE OF FEES (Base year is July 2020, rates will be adjusted based on inflation:

Principals - $400/hr
Engineers/Technical Consultants - $220hr
Junior Engineer - $150/hr
Scientists - $220/hr
Technical Staff - $125/hr
Others on Payroll x 3
Expenses - over $10,000 per invoice, payable directly by the Client
Expenses - cost plus 15 % (except as agreed by the Client
Travel Cost (Portal to Portal - regular airline or car (0.5 x price of gasoline x kilometres plus expenses
Court Time Multiply by 4
Minimum Contract $1000
Rates in Canadian Dollars.
Other rates available as needed upon request.

Egmond Associates Ltd – Limitations

This document describes the limitations of the report and contract, which may have impact on the use and reading of the documents provided by Egmond Associates Ltd (EAL herein, regarding interpretations, uses, liabilities, etc. Others than EAL and the Client are notified that use of the EAL reports, etc. by said same others, may be or is subject to the restrictions of use, limitations of liabilities, etc. as set out in the contract and its general conditions.

SECTION 1: RESPONSIBILITIES

1.1 Technical Arbiter - EAL was retained to provide the Professional Services described as outlined in the report. Tests and observations were conducted using standard test procedures and laboratory protocols as defined and applied by EAL or its suppliers. EAL are the sole arbiter of technical matters pertaining to the work undertaken in the contract.
1.2 Terms of Reference - EAL provided the Client with written reports meeting the terms of reference as outlined in the report for the use of EAL and the Client in the period identified in the report, or for six months after completion of the report, whichever is shorter. The normal EAL Terms of Engagement shall apply. Any contract by the Client, which uses absolute terms that would negate insurance coverage, etc., shall be taken to mean "reasonable" as defined by EAL periodically. Contracts written by the Client or almost exclusively, that is where the Client input is over 5% of the document or where absolute terms are used, shall be subject to completion and interpretation as determined solely by EAL periodically for either the contract or the technical matters pertaining thereto, particularly as the contract may include any absolute terms.
1.3 Reference Points - Where reference points are used by EAL, EAL has referenced its data and observations to reference points set as part of surveying or construction staking by others.
1.4 Directing Work - Except as specifically provided for in the contract, the Client has not made EAL responsible for directing the work of contractors or others.
1.5 Safety - Nothing in EAL's responsibilities or work shall construe to make EAL responsible for job or site safety after the EAL field work or for other than its own activities when on site. Site safety is the sole responsibility of others, for example the contractor controlling the site. Where EAL makes recommendations for safety in the case of imminent danger as determined by EAL, others than EAL shall pay for such actions as may be required and agree to hold and save harmless the Client and EAL against any and all costs, etc.
1.6 Performance - EAL was not, is not, and will not be responsible for the failure of others to perform in accordance with their particular contract documents. EAL services shall in no way relieve others of their (i.e. the others responsibilities.
1.7 Change in Information - The Client (and others using the EAL report was and is responsible to provide EAL with all known information regarding existing and proposed conditions of the site and undertaking. Any new information, which becomes available to the Client (and others, which differs materially from that used to prepare any reports and information by EAL, in the EAL report and documents it prepared will also be provided. The Client holds harmless EAL, its affiliates, and the respective directors, officers, employees, agents and subcontractors, from all claims, damages, losses, related expenses, etc., involving subterranean structures, movements, contamination, etc. which were not called to EAL's attention, that were not shown on plans, or that were shown in documents not provided to EAL.
1.8 Agreements with Contractors - EAL must be a beneficiary in any hold harmless or indemnity agreements, etc. between the Client and its contractors.
1.9 Approvals - The Client agreed that public officials and authorities and even codes may be interpreted differently by public officials etc., than interpreted by EAL or the Client, and that this difference is neither predictable or within responsibility of EAL and shall not be cause for claim or extras.
1.10 Tender Period - Contractors bidding work shall normally be given not less than 45 days for carrying out their own investigations on matters pertaining to the site, and when changed in the contract, shall notify the contractors and EAL.
1.11 Valid Reports - Valid EAL reports are embossed and signed and stamped as original, and other reports are not valid for any purpose.
1.12 Error - The Client and EAL agreed that design professionals strive to be correct when developing reports, plans and designs, and that even so errors, etc. may arise where there is no negligence, etc., and as such no error is actionable in that circumstance. Others, by making use of EAL reports outside of the contract accept this agreement as binding and valid. Others using the report do so then at their sole risk. The reader of our reports, acknowledge that engineering judgment, based on given data, may vary from individual to individual, and may change with time, and that changing engineering judgment and opinion and that varied engineering judgment and opinion can be different without implying error. Also, that an engineering judgment or opinion is defined facts, which like judicial judgment, is a weighing of facts and reaching a conclusion, and that such EAL judgments and opinions and resultant impacts on schedules, costs, etc. are not actionable.

SECTION 2: REPORTS AND RECORDS

2.1 Copies - As agreed, EAL furnished copies of each report to the Client. If no comments were received from the Client within 15 days of the issuing of a report, it was agreed and understood, without further comment, that the report was entirely satisfactory for the Client's use and for its intended purpose, and this limits comments in any post completion phase without further engineering consideration and investigation.
2.2 Use of Report in Event of Non Payment - The Client and EAL agreed, if the Client does not pay for EAL services as agreed (in whole and in part, that the Client would return all reports and other work to EAL on demand, and that reports and other work will not be used by the Client or its suppliers or others for any purpose whatsoever. Use of these materials by others than EAL in the event of non payment, are at the sole and total risk of the user.
2.3 Reports - The Client and EAL agreed that the reports, notes, and other documents, as instruments of service, remain the property of EAL.
2.4 Disclosure Required by Law - Nothing in this project shall make EAL liable in law to report any or all conditions, except those conditions which EAL believes in capacity pertains to items of imminent danger.

SECTION 3: CONTINUITY OF SERVICES, DISPUTES, CARE

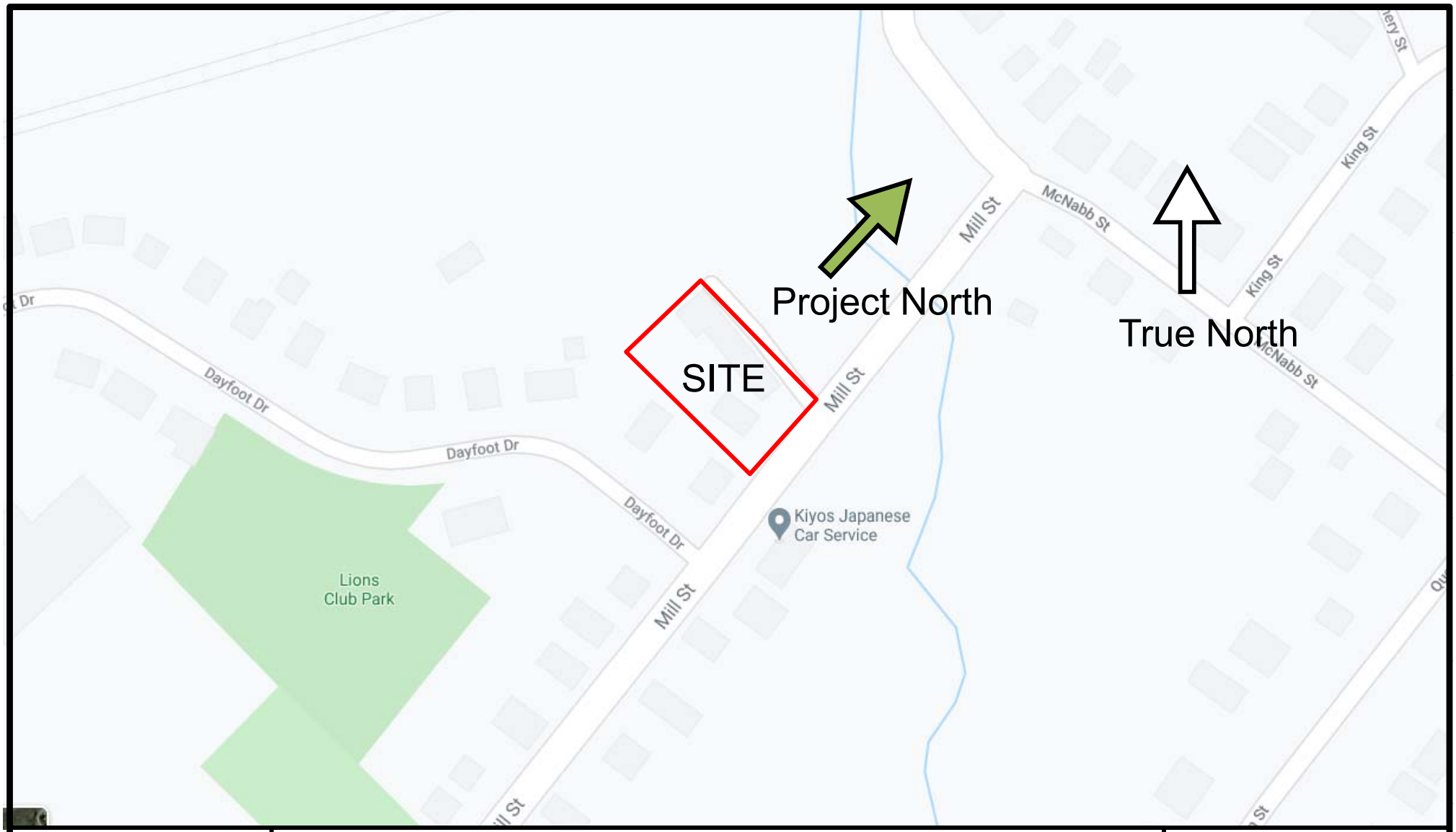
3.1 Continuity - It is customary for the consultant, EAL in this case, who provides recommendations to be retained, to provide observation and related services during further, construction, etc. If EAL is not retained to provide continuing services the Client agreed to hold EAL harmless from all claims, damages, losses and expenses, including attorneys' fees, arising out of any interpretations, clarifications, substitutions or modifications provided by the Client or others. Others using the report do so at their total and sole liability, and by using the report agree to save and hold harmless EAL and the Client against all and any consequences of the use of the report, etc.
3.2 ADR - The Client and EAL agree that the Client will use Alternative Dispute Resolution (ADR in its contracts and disputes with contractors on the project. When disputes result, due to use by others, the dispute shall be submitted to EAL and its legal provider for binding resolution using their prevailing rates.
3.3 Care - The Client and EAL agreed that EAL used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession, as interpreted and determined by EAL periodically, and that this standard is determined solely by EAL for this project.
3.4 Risk - The Client and EAL agreed, many risks potentially affect EAL by virtue of entering into an agreement to provide services on behalf of the Client. For the Client to obtain the benefit of a fee, which included a reasonable allowance for dealing with EAL liability, the Client agreed

to limit the liability as fully as allowed by law of EAL to the Client and to all others for claims arising out of the services. Further, others than the Client and EAL, by making use of the report accept all risks, liabilities, etc. that may arise from that use.
3.5 Contractor - The Client and EAL agreed, that if EAL are retained to provide for job site services during construction, the Client agreed that it is good practice that the contractor (subcontractor is completely and solely responsible for maintaining and implementing legal working conditions methods, means, techniques sequences, procedures, acts, etc., as the contractor controls the site. EAL's work is not intended to be, nor is it, a review of the safety practices or compliance to any particular code. EAL's presence does not relieve the contractor from adhering to all applicable laws, codes and good practice.
3.6 Life - The Client and EAL agreed that if imminently hazardous or potentially hazardous conditions or chemical conditions are found or interpreted by EAL during the provision of EAL services, EAL shall be entitled, without liability and without concern for claims by the Client or others for damages, to take all steps it solely deems reasonable to protect human life first, and the environment second, and will be reimbursed for such activities as needed. Others using the report by that non allowed use agree to fully protect and save harmless EAL and the Client.
3.7 Extras and Extra Work - For work in excess of the contract, the EAL standard Fee Schedule in the Terms of Engagement will apply (prices subject to change.

SECTION 4: WORK INCLUDED
4.1 Work included shall be as set out by EAL in the report or proposal, and shall be as interpreted by EAL. Not covered are moulds, asbestos, soils, environmental matters, structural matters, etc. unless specifically part of the project. Further, some issues which are specifically part of the project may be costly or intractable to resolution and the client shall not hold EAL responsible for the successful resolution.

SECTION 5: SUMMARY OF LIMITATIONS
5.1 The user/reader of the EAL report is warned that the Client and EAL have agreed to specific limitations on liabilities, etc. Others than EAL and the Client, agree their use or release of the report is at their sole risk, cost, etc. In general the Client and EAL agreed that EAL is the sole arbitrator of technical matters pertaining to the project and methods for the purpose of the report. The report may set out further limitations. Any clauses found non enforceable in the contract or above, may be severed without impacting the applicability of the rest of the contract or the above by EAL at its discretion.

APPENDIX A – Existing Infrastructure
Based on records by others and visual.
Utility Survey to be completed for Design



egmond ASSOCIATES LTD

Source Map: Google Earth
Site Location 16-18 Mill Street Georgetown, Ontario
Between Dayfoot Drive and McNabb St.

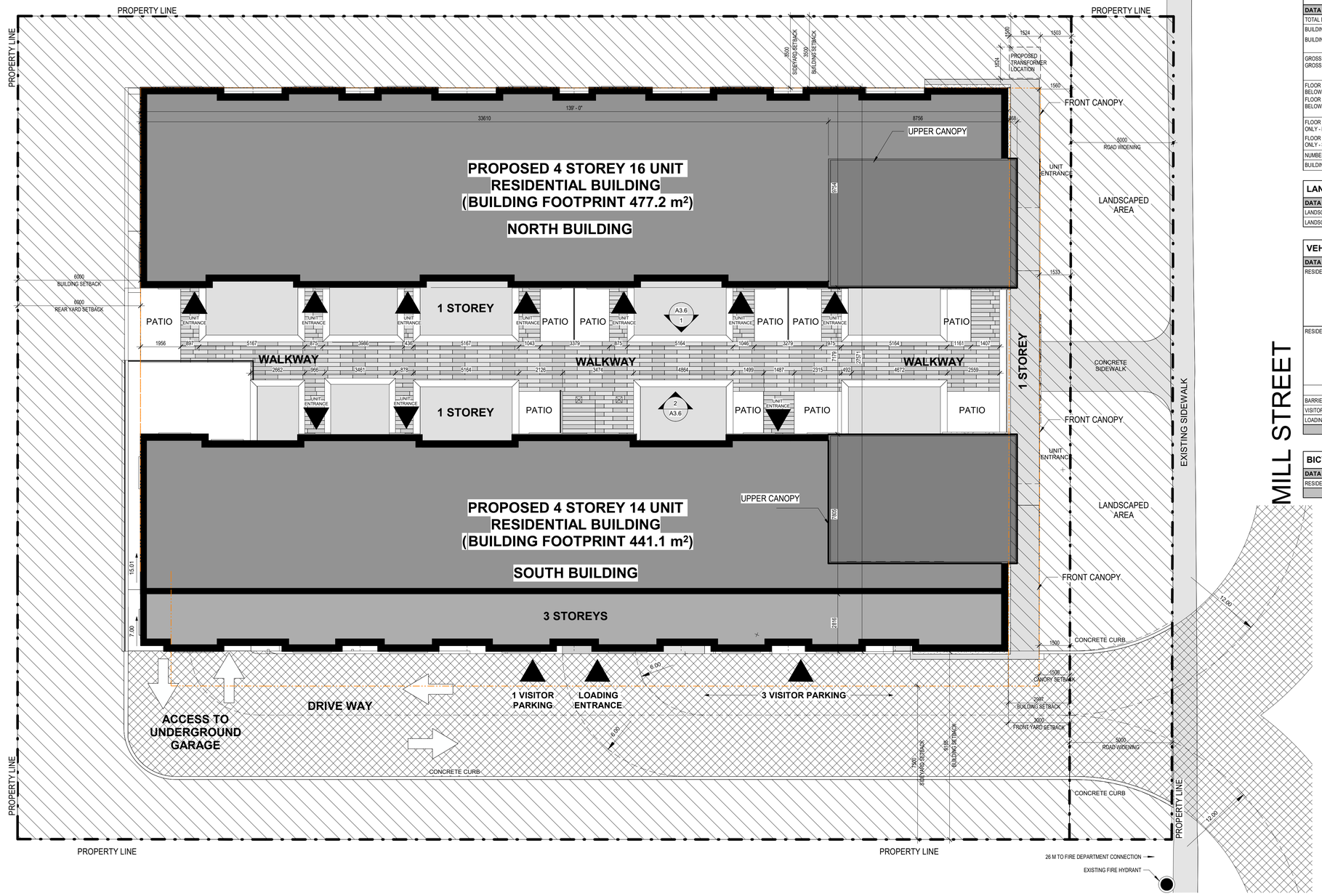
Project North is defined as North-East relative to True North such that Mill St. is on the Project East side of the Site.

30663B
16-18 Mill St
Georgetown,
ON

Drawing 1

GREENSPACE - SILVER CREEK

TYPICAL PARKING FLOOR AREA = 15,502 SF
GROUND FLOOR APPROX AREA = 7,515 SF
2ND FLOOR AREA = 8,596 SF
3RD FLOOR AREA = 9,145 SF
4TH FLOOR AREA = 7,911 SF



1 SITE PLAN
1 : 100

NOTES:
As recommended within the Environmental Noise Assessment prepared by SLR Consulting (Canada) Ltd., dated December 14, 2020; An Acoustical Consultant (a qualified professional) shall be retained to review and confirm the final building design to ensure compliance with the recommendations made within the report.

DRAWING 2

SITE DATA

16 + 18 Mill Street, Georgetown, Ontario

DATA		EXISTING ZONE	PROPOSED ZONE	PROPOSED
EXISTING ZONING		ZONING - LDR1-2		
PROPOSED ZONING		**ZONING - HDR - SPECIAL**		
LOT AREA (m²) - PRE-ROAD WIDENING		2271.69 (m²)		
LOT AREA (m²) - POST-ROAD WIDENING		**2070.51 (m²)**		
MINIMUM LOT FRONTAGE (m)		11.0 (m)	11.0 (m)	40.23 (m)
SETBACKS	FRONT YARD (m)	4.5 (m)	3.0 (m)	3.0 (m)
	INTERIOR SIDE YARD (m)	7.5 (m)	7.5 (m)	9.18 (m)
	EXTERIOR SIDE YARD (m)	6.0 (m)	3.5 (m)	3.5 (m)
	REAR YARD (m)	7.5 (m)	6.0 (m)	6.0 (m)

BUILDING DATA

DATA	REQUIRED	PROVIDED
TOTAL DENSITY (# of units)	145 (units per ha.)	30 units (145 units per ha.)
BUILDING AREA (m²) - NORTH BUILDING	XX (m²)	477.2 (m²)
BUILDING AREA (m²) - SOUTH BUILDING		441.1 (m²)
TOTAL		918.3 (m²)
GROSS FLOOR AREA (m²) - NORTH	XX (m²)	1,673.68 (m²)
GROSS FLOOR AREA (m²) - SOUTH	XX (m²)	1,410.42 (m²)
TOTAL		3,084.1 (m²)
FLOOR SPACE INDEX (FSI) INCLUDING BELOW GRADE - NORTH BUILDING	XX (m²)	GFA + P1 & P2 COMM. AND SERVICE/ LOT AREA = 1.5
FLOOR SPACE INDEX (FSI) INCLUDING BELOW GRADE - SOUTH BUILDING	XX (m²)	GFA + P1 & P2 COMM. AND SERVICE/ LOT AREA = 1.3
FLOOR SPACE INDEX (FSI) ABOVE GRADE ONLY - NORTH BUILDING	XX (m²)	GFA / LOT AREA =0.81
FLOOR SPACE INDEX (FSI) ABOVE GRADE ONLY - SOUTH BUILDING	XX (m²)	GFA / LOT AREA = 0.68
NUMBER OF STOREYS	6 MAX.	4
BUILDING HEIGHT (m)	25 (m) MAX.	13.2 (m)

LANDSCAPING DATA

DATA	REQUIRED	PROVIDED
LANDSCAPE AREA (percentage)	XX (%)	29 (%)
LANDSCAPE AREA (m²)	XX (m²)	596.4 (m²)

VEHICLE PARKING DATA

DATA	REQUIRED	PROVIDED
RESIDENTIAL PARKING (NORTH BUILDING)	In duplex building , 1.76 spaces are required for each DU. = 53 16(DU)*1.5 = 24	52
RESIDENTIAL PARKING (SOUTH BUILDING)	In duplex building , 1.76 spaces are required for each DU. = 53 14(DU)*1.5 = 21	
TOTAL	53	52
BARRIER FREE PARKING (INCLUDED IN RES. COUNT)	-	4
VISITOR PARKING	30 UNITS*0.25 = 8	8
LOADING SPACE	0	1
	TOTAL	61

BICYCLE PARKING DATA

DATA	REQUIRED	PROVIDED
RESIDENTIAL BICYCLE PARKING	N/A	2
	TOTAL	2

Project North

True North

GENERAL NOTES

1. **DO NOT SCALE DRAWINGS**. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.
2. ALL WORK SHALL COMPLY WITH THE 2012 ONTARIO BUILDING CODE AND AMENDMENTS.
3. CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND SPECIFICATIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
4. ALL CONTRACTORS AND SUB-CONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
5. ALL DOCUMENTS REMAIN THE PROPERTY OF THE ARCHITECT. UNAUTHORIZED USE, MODIFICATION, AND/OR REPRODUCTION OF THESE DOCUMENTS IS PROHIBITED WITHOUT WRITTEN PERMISSION. THE CONTRACT DOCUMENTS WERE PREPARED BY THE CONSULTANT FOR THE ACCOUNT OF THE OWNER.
6. THE MATERIAL CONTAINED HEREIN REFLECTS THE CONSULTANTS BEST JUDGEMENT IN LIGHT OF THE INFORMATION AVAILABLE TO HIM AT THE TIME OF PREPARATION. ANY USE WHICH A THIRD PARTY MAKES OF THE CONTRACT DOCUMENTS, OR ANY RELIANCE ON/OR DECISIONS TO BE MADE BASED ON THEM ARE THE RESPONSIBILITY OF SUCH THIRD PARTIES.
7. THE CONSULTANT ACCEPTS NO RESPONSIBILITY FOR DAMAGES, IF ANY, SUFFERED BY ANY THIRD PARTY AS A RESULT OF DECISIONS MADE OR ACTIONS BASED ON THE CONTRACT DOCUMENTS.

No.	Date	Revision

srm ARCHITECTS INC.

Project No	20052
Project Date	2021-12-02
Drawn by	TJM
Checked by	MYV
Plot Date / Time	2022-02-24 5:05:04 PM

16 & 18 MILL STREET, GEORGETOWN DEVELOPMENT

SITE PLAN

Drawing Scale	As indicated
Status	CLIENT APPROVAL
Drawing No.	A1.1
Revision No.	

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MATERIAL LEGEND

1. Aluminum Siding - Light Brown Wood Finish
2. Precast Concrete Panel - Formliner Stone Masonry
3. Precast Concrete Panel - Formliner Brick Masonry
4. Precast Concrete Panel
5. Thermally broken Anod. Alum. Window and Frame
6. Preformed Aluminum Flashing - Dark Anodized
7. Tempered Glass Gaurd Rail
8. Thermally broken Anod. Alum. Door and Frame - Light Cherry Finish
9. Thermally broken Anod. Alum. Double Door and Frame - Paint TBD
10. Metal Panel - Dark Anodized Finish
11. Metal Panel - Dark GRAY Anodized Finish
12. Backlit Metal Chanel Lettering
13. Aluminum Siding - Light Cherry Wood Finish

2 SOUTH ELEVATION
1 : 100

DRAWING 2b

1 NORTH ELEVATION
1 : 100

GENERAL NOTES

1. **DO NOT SCALE DRAWINGS**. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.
2. ALL WORK SHALL COMPLY WITH THE 2012 ONTARIO BUILDING CODE AND AMENDMENTS.
3. CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND SPECIFICATIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
4. ALL CONTRACTORS AND SUB-CONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
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7. THE CONSULTANT ACCEPTS NO RESPONSIBILITY FOR DAMAGES, IF ANY, SUFFERED BY ANY THIRD PARTY AS A RESULT OF DECISIONS MADE OR ACTIONS BASED ON THE CONTRACT DOCUMENTS.

No.	Date	Revision
5	2022-04-11	ISSUED FOR OPA/ZBA
4	2022-04-06	ISSUED FOR REZONING
3	2020-12-16	ISSUED FOR REZONING
2	2020-11-19	Consultant Coordination
1	2020-09-28	Consultant Coordination

srm ARCHITECTS INC.

Project No 20052
Project Date 2022-04-11
Drawn by TJM
Checked by MYV
Plot Date / Time 2022-04-11 10:08:53 AM

16 & 18 MILL STREET, GEORGETOWN DEVELOPMENT

NORTH & SOUTH ELEVATIONS

ONTARIO ASSOCIATION OF ARCHITECTS
EDWARD THOMAS
LICENCE
5572

Drawing Scale As indicated
Status CLIENT APPROVAL
Drawing No. A3.2 - r5
Revision No.

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KEY MAP

TOPOGRAPHIC SKETCH FOR BUILDING PERMIT APPLICATION

PART OF LOT 19
CONCESSION 9
GEOGRAPHIC TOWNSHIP OF ESQUESING
TOWN OF HALTON HILLS
REGIONAL MUNICIPALITY OF HALTON

J. R. FINNIE O.L.S.
SCALE: 1:250 METRIC

0 5 10 15 METRES

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

CAUTION

THIS IS NOT A PLAN OF SURVEY AND SHALL ONLY BE USED FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

FLOOD LINE ELEVATION OF 243.69 WAS PROVIDED BY CREDIT VALLEY CONSERVATION. GEODETIC DATUM WAS NOT GIVEN.

NOTES

ELEVATIONS ARE GEODETIC, DERIVED FROM SIMULTANEOUS OBSERVATIONS OF SATELLITES, AS CORRECTED BY NRCAN'S PPP SERVICE, AND ARE RELATED TO THE CGVD 2013 DATUM.

VELOCITY MODEL FOR NAD83(CSRS) NAD83v70VG

DISTANCES SHOWN ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99966.

COORDINATES ARE TO AN URBAN ACCURACY AS PER s.14(2) OF O.REG. 216/10.

POINT ID	ELEVATION	
ORP 'A'	244.62	
ORP 'B'	244.16	

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY WAS COMPLETED ON THE 10th DAY OF JANUARY, 2020.

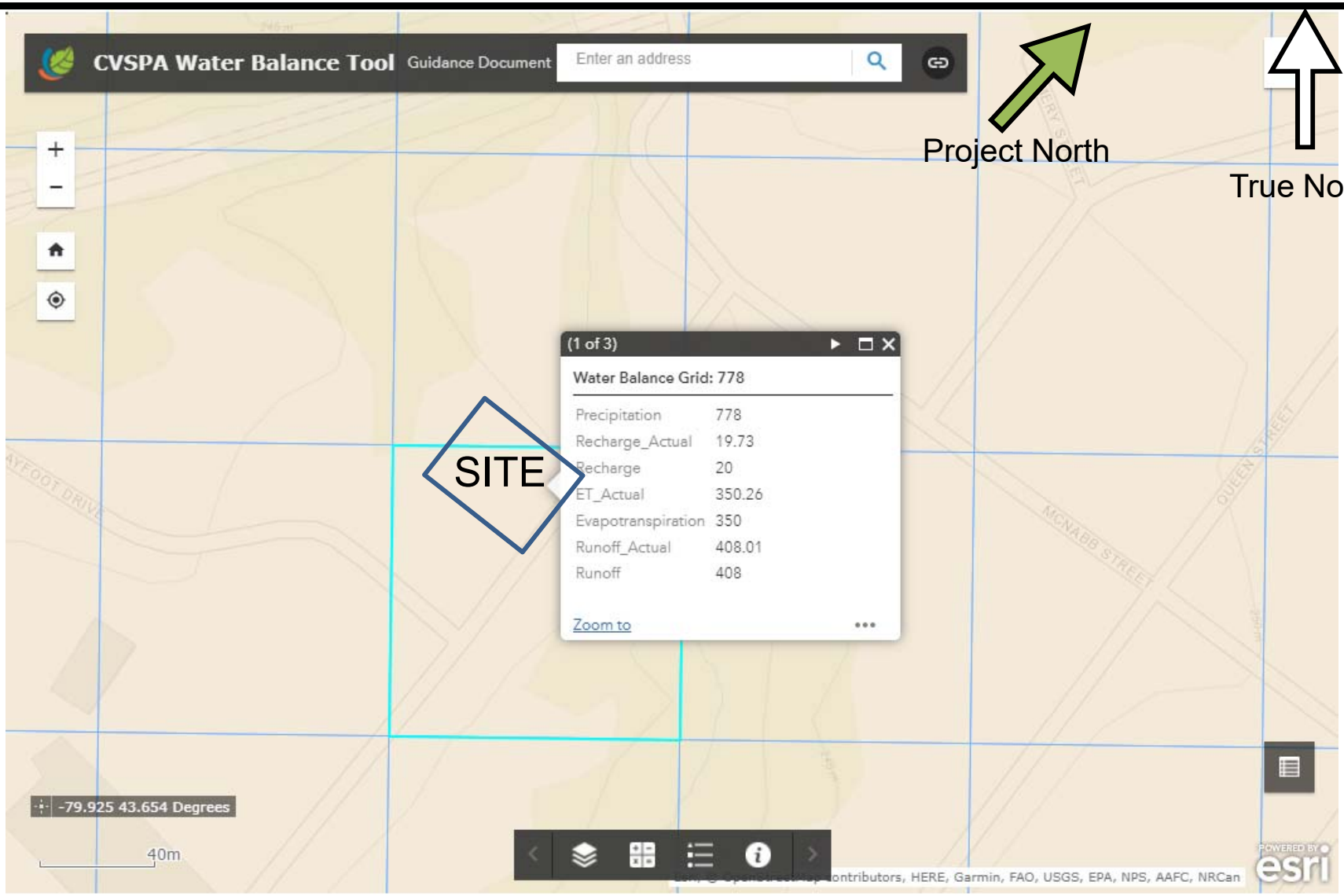
JANUARY 17, 2020
DATE

J. R. FINNIE
ONTARIO LAND SURVEYOR

CLIENT: AGK MULTI–RES GP LTD.

J. R. FINNIE
ONTARIO LAND SURVEYOR
BOX 31, ERIN ON N0B 1T0
PH (519) 833–2380 FAX (519) 833–0208
EMAIL: rfinnie@rfinnie.com
www.rfinnie.com

DRAWN BY: jrf | PROJECT: 2011TOPO



egmond ASSOCIATES LTD

Source Map: Credit Valley Conservation Authority source water protection map

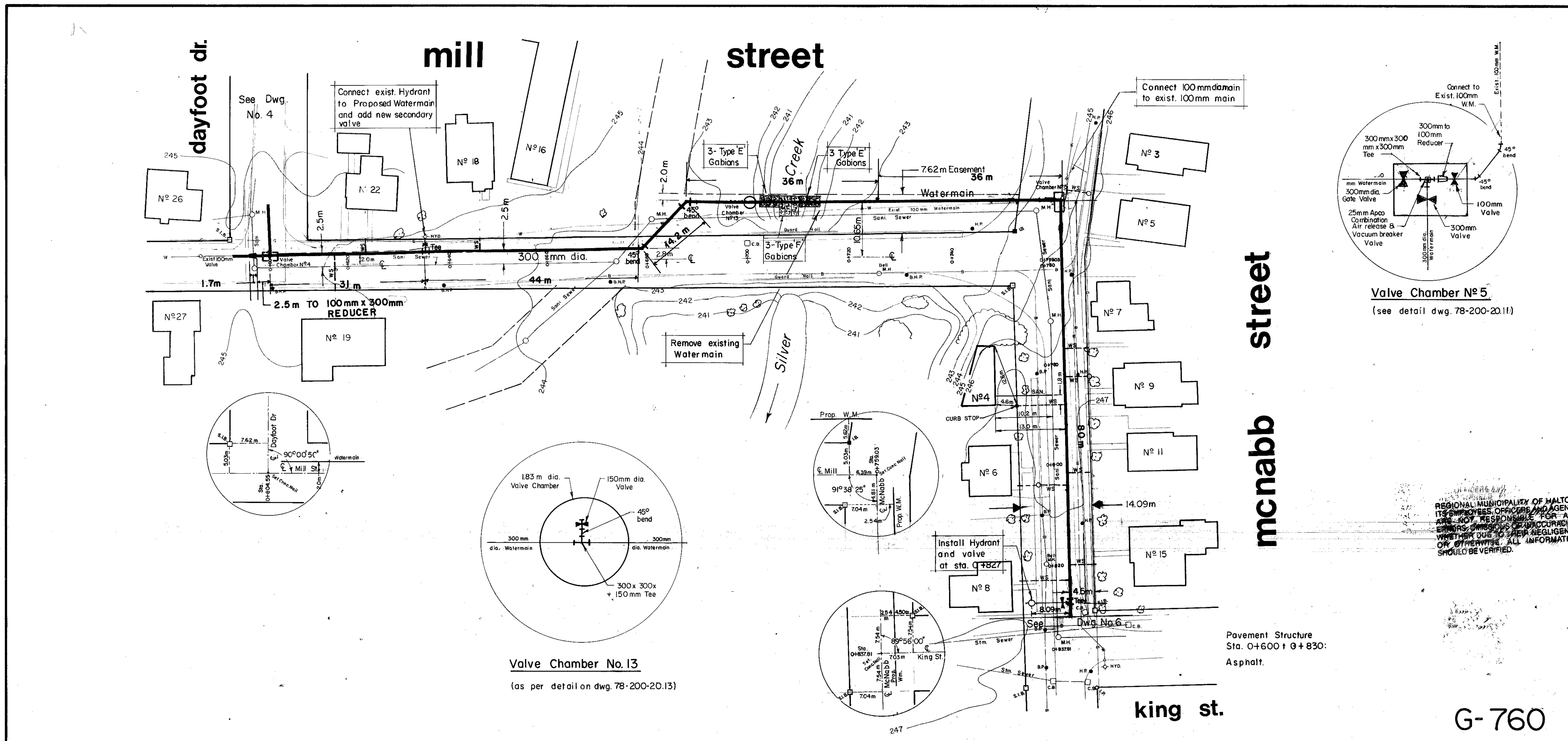
Water Balance. Note that the area included contains more than the site, so estimates have to be made of the on-site condition.

30663B
16-18 Mill St
Georgetown,
ON

Drawing 4

APPENDIX A – Existing Infrastructure
Based on records by others and visual.
Utility Survey to be completed for Design

METRIC

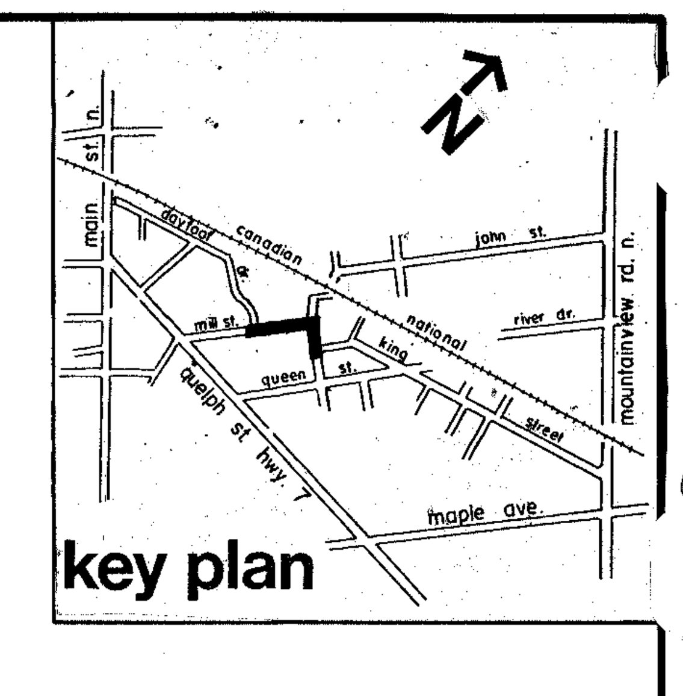


mill street
dayfoot dr.
See Dwg. No. 4
Connect exist. Hydrant to Proposed Watermain and add new secondary valve
Connect 100mm domain to exist. 100mm main
300 mm dia.
2.5m TO 100mm x 300mm REDUCER
Remove existing Watermain
Silver Creek
3-Type 'E' Gabions
3 Type 'E' Gabions
3-Type 'F' Gabions
7.62m Easement
mcnabb street
king st.
Install Hydrant and valve at sta. 0+827
See Dwg. No. 6
Valve Chamber No. 13
(as per detail on dwg. 78-200-20.13)
Valve Chamber Nº 5
(see detail dwg. 78-200-20.11)
Pavement Structure
Sta. 0+600 to 0+830:
Asphalt.
G-760

Bench Mark

Top of South East bolt of Street sign corner of Mill & McNabb Streets

Elevation 246.036.



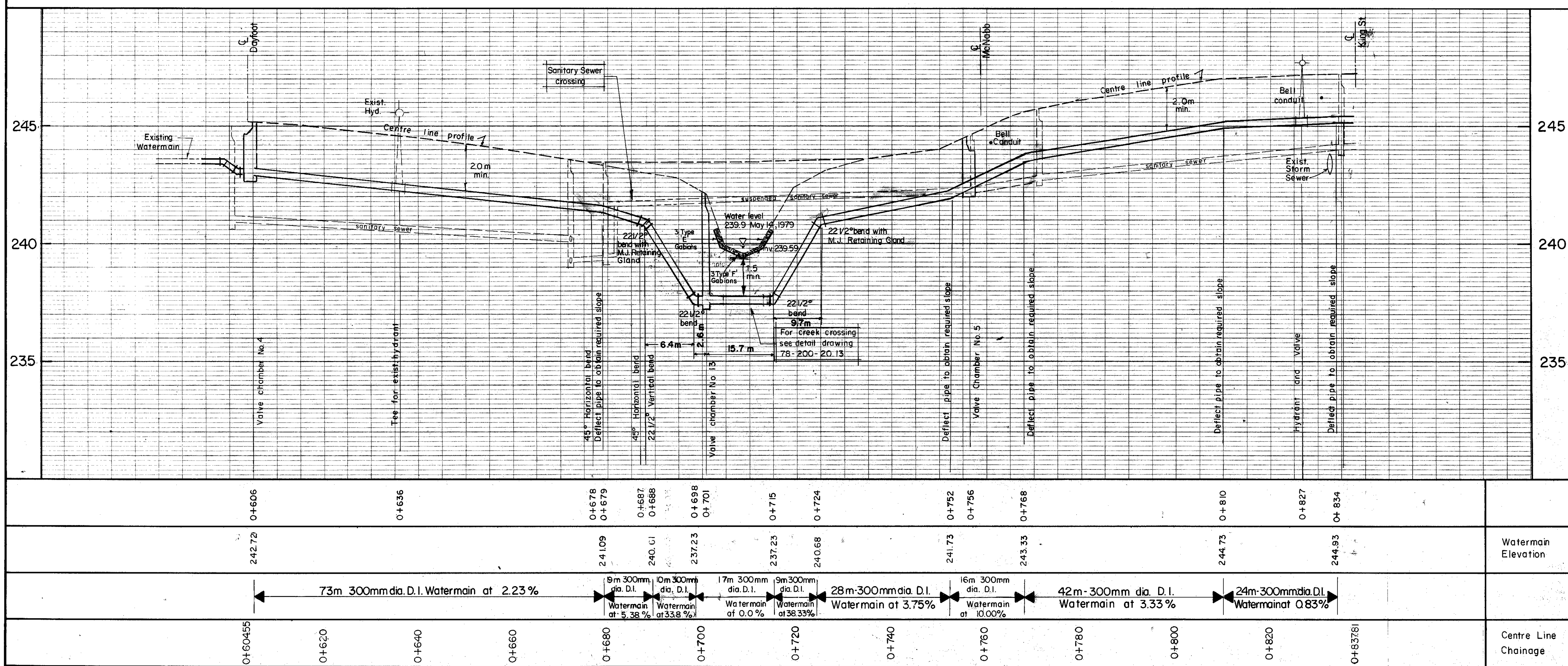
Notes

1. The location and extent of existing utilities shown on this plan are approximate only. The contractor shall satisfy himself as to the location of all existing services prior to construction and shall assume all liability for damage
2. All bends, tees, crosses and plugs to be installed with thrust blocking as per Regional Standards 421 & 422.
3. Existing Waterservices to be re-connected to new Watermain as per Regional Standard 431.

—— G —— Existing Gas mains
—— W —— Existing Watermain
—— B —— Existing Buried Bell Canada cable
- - - WS - - - Existing Water service

4. All watermains shall be Class 52 Cement lined Ductile Iron.
5. Existing Watermain to be abandoned. Connect existing house services from new watermain to property line, including main stop, type K copper and curb stop and box, location shown approx. only. Minimum separation between services along new watermain shall be 1.0 m.
6. All trenches to be sawcut.

REGIONAL MUNICIPALITY OF HALTON, ITS EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES, WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.



Centre line profile
Existing Watermain
Exist. Hyd.
2.0m min.
Sanitary Sewer crossing
Water level 239.9 May 14, 1979
Inv. 239.59
22 1/2° bend with M.J. Retaining Gland
For creek crossing see detail drawing 78-200-20.13
6.4m
15.7 m
9.7m
Bell conduit
Exist. Storm Sewer
Valve chamber No. 4
Tee for exist. hydrant
45° Horizontal bend
Deflect pipe to obtain required slope
45° Horizontal bend
22 1/2° Vertical bend
Valve chamber No. 13
Valve Chamber No. 5
Hydrant and Valve
0+606 0+636 0+678 0+679 0+687 0+688 0+698 0+701 0+715 0+724 0+752 0+756 0+768 0+810 0+827 0+834
Watermain Elevation
242.72 241.09 240.01 237.23 237.23 240.68 241.73 243.33 244.73 244.93
73m 300mm dia. D.I. Watermain at 2.23%
9m 300mm dia. D.I. Watermain at 5.38%
10m 300mm dia. D.I. Watermain at 33.8%
17m 300mm dia. D.I. Watermain at 0.0%
9m 300mm dia. D.I. Watermain at 38.33%
28m 300mm dia. D.I. Watermain at 3.75%
16m 300mm dia. D.I. Watermain at 10.00%
42m 300mm dia. D.I. Watermain at 3.33%
24m 300mm dia. D.I. Watermain at 0.83%
Centre Line Chainage
0+604.55 0+620 0+640 0+660 0+680 0+700 0+720 0+740 0+760 0+780 0+800 0+820 0+837.81

Nº	Date	By	REVISIONS
6	81-2-17	D.P.R.	TRANSFER TO WM. SECTION BOOK
5	81-2-16	D.P.R.	AS CONSTRUCT WM
4	25 June '80	A.W.	Region Review
3	23 May '80	A.W.	Region Review
2	18 Apr. '80	W.F.P.	Region Review
1	8 Jan. '80	A.W.	Region Review

Design	L.W.	Checked	aPU	Date
Drawn	A.W.	Checked		

Scale Hor. 0 5 10 20 25 Vert. 0 1 2 3 4 5

REFERENCES

APPROVALS

Municipal

FIELD NOTES

Regional

Manager of Design

Director of Public Works

STAMP

CONSULTANT

R.E. Clipsham Limited
Surveyors • Consulting Engineers
Halton Hills (Georgetown) Ontario L7G 4K1

MUNICIPALITY

REGIONAL MUNICIPALITY OF HALTON

PUBLIC WORKS DEPARTMENT

TITLE

300mm Watermain

Mill Street and McNabb Street

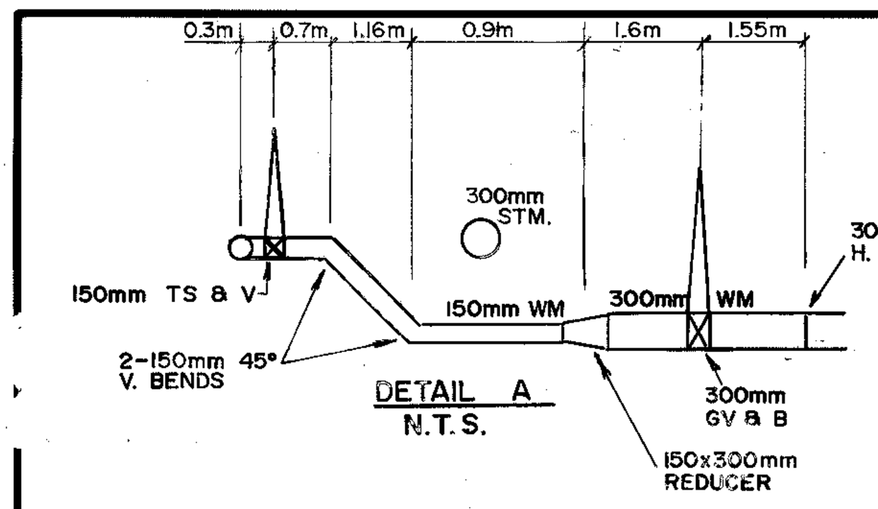
Station 0+604.55 to 0+837.81

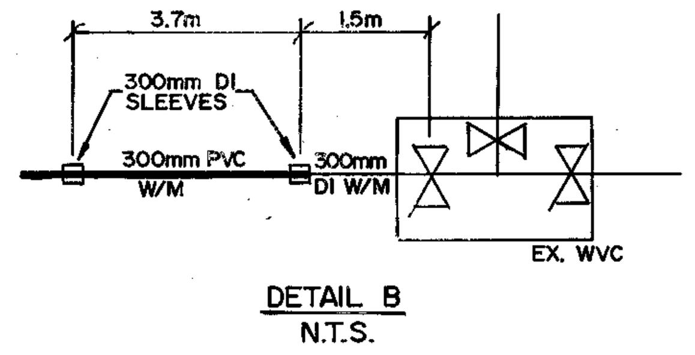
MUNICIPAL DRAWING Nº 78-200-20

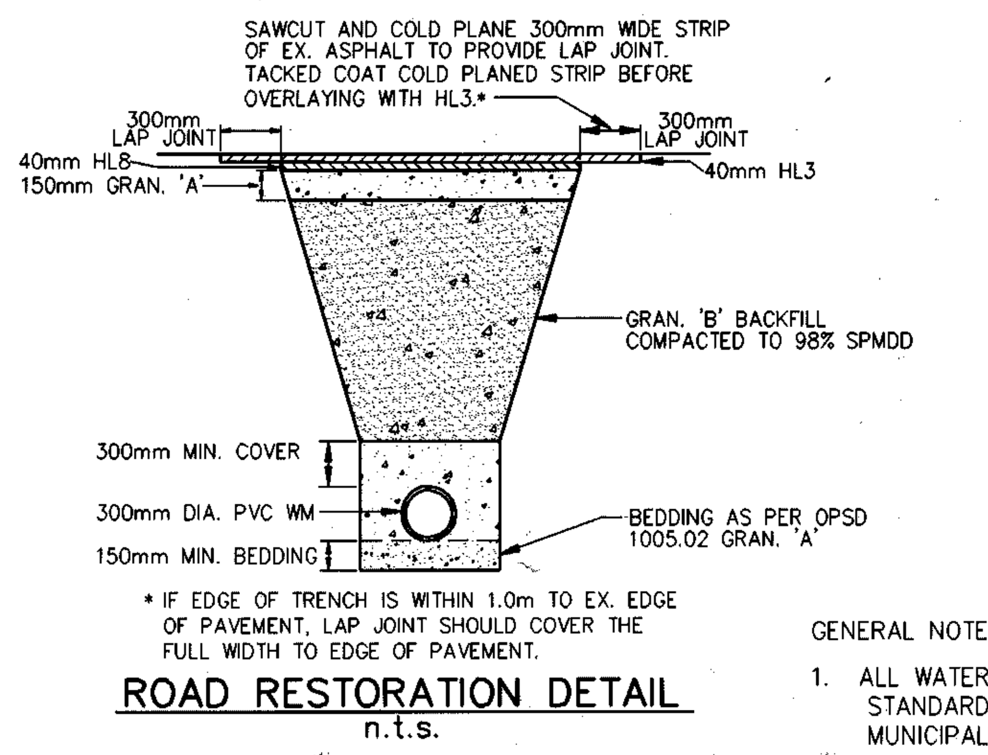
REGIONAL DRAWING Nº

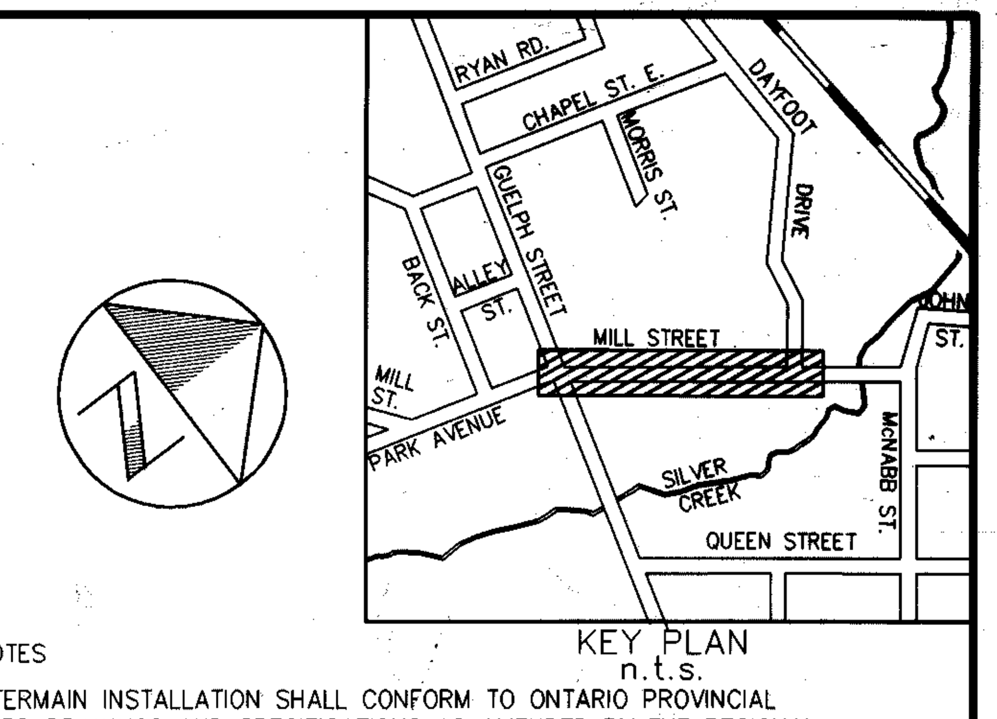
CONTRACT Nº W-469-80

SHEET 5 OF 24



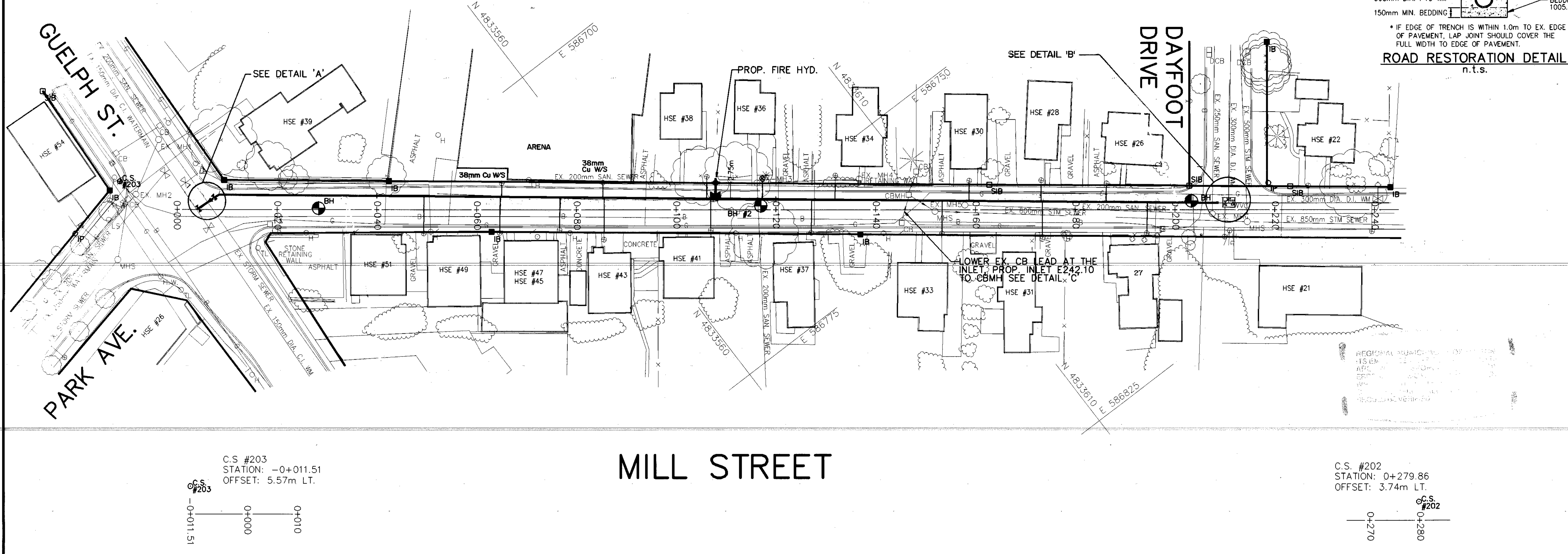




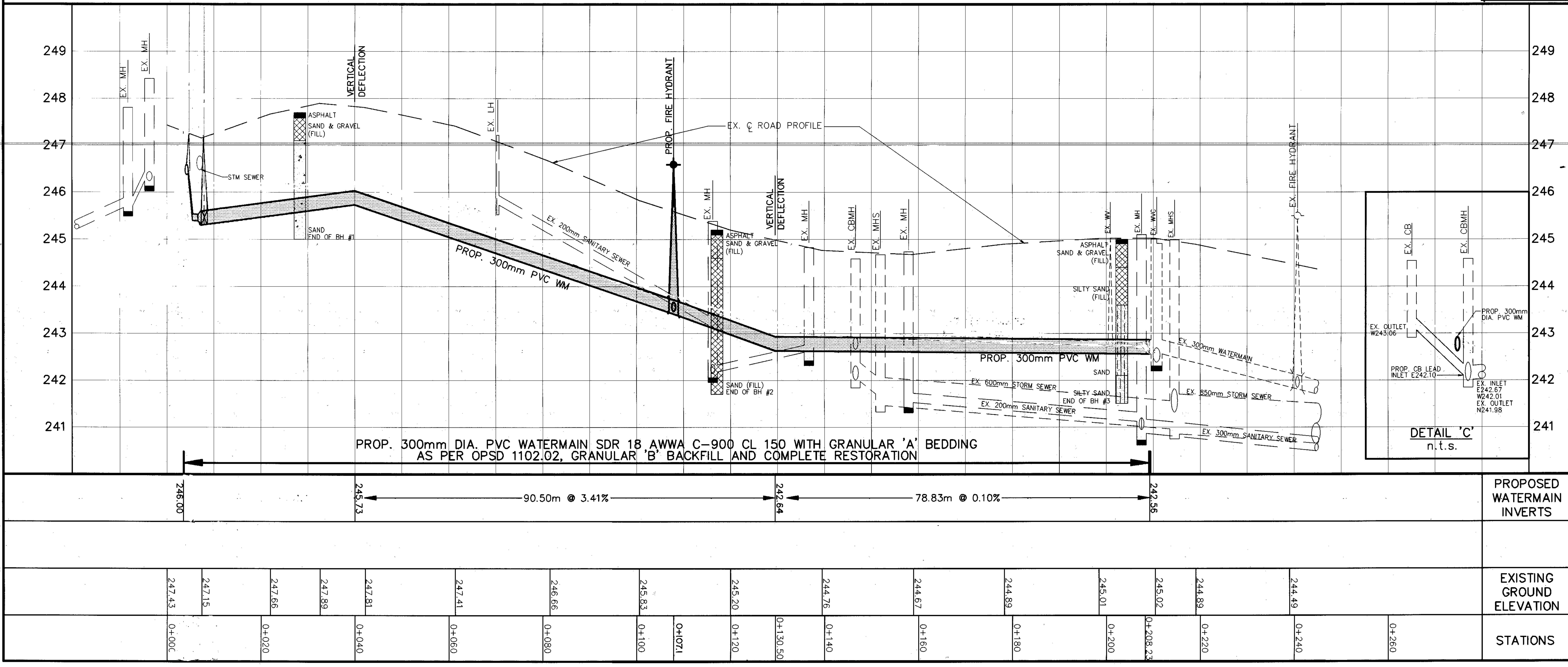


GENERAL NOTES

1. ALL WATERMAIN INSTALLATION SHALL CONFORM TO ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS AS AMENDED BY THE REGIONAL MUNICIPALITY OF HALTON.
2. THE LOCATIONS OF EXISTING WATERMAIN AND SERVICES ARE APPROXIMATE ONLY AND MAY NOT ALL BE SHOWN. THE CONTRACTOR MUST VERIFY THE ELEVATION, SIZE AND LOCATION OF THE EXISTING WATERMAIN AND SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS, AND BLOW OFFS REQUIRED FOR TESTING.
4. ALL EXISTING WATER SERVICES TO BE REPLACED WITH 20MM DIAMETER COPPER AS PER OPSD-1104.01 UNLESS OTHERWISE NOTED, AND TO BE REPLACED FROM THE PROPOSED WATERMAIN TO THE PROPERTY LINE WITH A NEW CURB STOP AND SERVICE BOX.
5. TEMPORARY WATER SERVICES SHALL BE PROVIDED TO ALL RESIDENCES AFFECTED BY THE WATERMAIN REPLACEMENT.
6. **REGIONAL MUNICIPALITY OF HALTON APPROVED MECHANICAL RESTRAINTS SHALL BE USED ON ALL FITTINGS AS PER MANUFACTURER SPECIFICATIONS.**
7. ALL TREES IN THE RIGHT-OF-WAY SHALL BE PROTECTED.



WATERMAIN DATA					
ITEM	STATION	℄ CONSTR. OFFSET	STD. DWG.	INVERT ELEV.	REMARKS
PROP. 150x150mm TEE, 300x150mm REDUCER & 300mm G.V. & BOX	0+003.26	0.48m LT.		246.00	SEE NOTE 6.
PROP. 45° VERTICAL BEND	0+003.47	2.31m LT.		246.00	
PROP. 22 1/2° HORIZ. BEND & 45° VERTICAL BEND	0+004.09	2.73m LT.		245.25	SEE NOTE 6.
PROP. 11 1/4° H. BEND	0+005.18	2.95m LT.		245.27	SEE NOTE 6.
VERTICAL DEFLECTION	0+040.00	2.75m LT.		245.73	
PROP. FIRE HYDRANT	0+107.90	2.18m LT.	1105.01	243.41	COMPLETE WITH ANCHOR, TEE AND 150mm GATE VALVE
VERTICAL DEFLECTION	0+130.50	2.13m LT.		242.64	
CONNECT PROP. 300mm WM TO EX. 300mm WM & WVC	0+208.23	1.34m LT.		242.56	REMOVE EX. REDUCER AND CONNECT PROP. 300mm WM TO EX. 300mm DIA. D.I. WM



Nº	Date	By	REVISIONS	MANU	CAD
I	NOV./95	E.W.S.	AS CONSTRUCTED	X	

Design	T.L.	Ch'kd	[signature]	Date OCTOBER 1993
Drawn	S.G.	Ch'kd	[signature]	

Scale Horiz. 10 5 0 10 Vert. 1 0.5 0 1

References

APPROVALS

Municipal

ISSUED JUL 12 1994 HALTON REGION PUBLIC WORKS

Field Notes

Regional

Commissioner of Public Works

Director of Design & Construction 94 01 19

Stamp: LICENSED PROFESSIONAL ENGINEER S. R. PIPER JAN 19/94 PROVINCE OF ONTARIO

Halton

TITLE
PROP. 300mm DIA. PVC WM REPLACEMENT
MILL STREET
HALTON HILLS (GEORGETOWN)
FROM
GUELPH ST. TO DAYFOOT DR.

Consultant File Nº

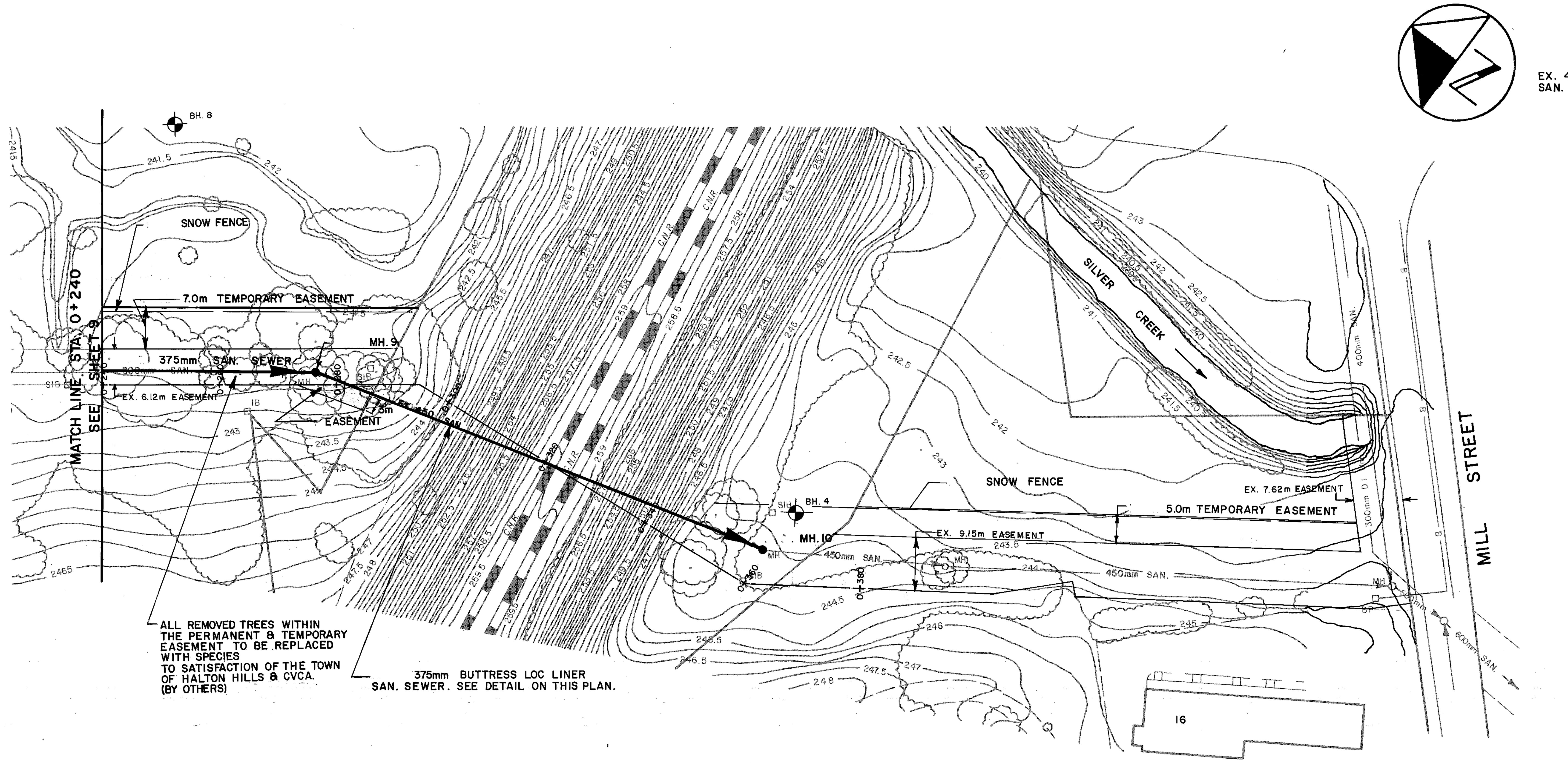
Regional Drawing Nº **G - 1658**

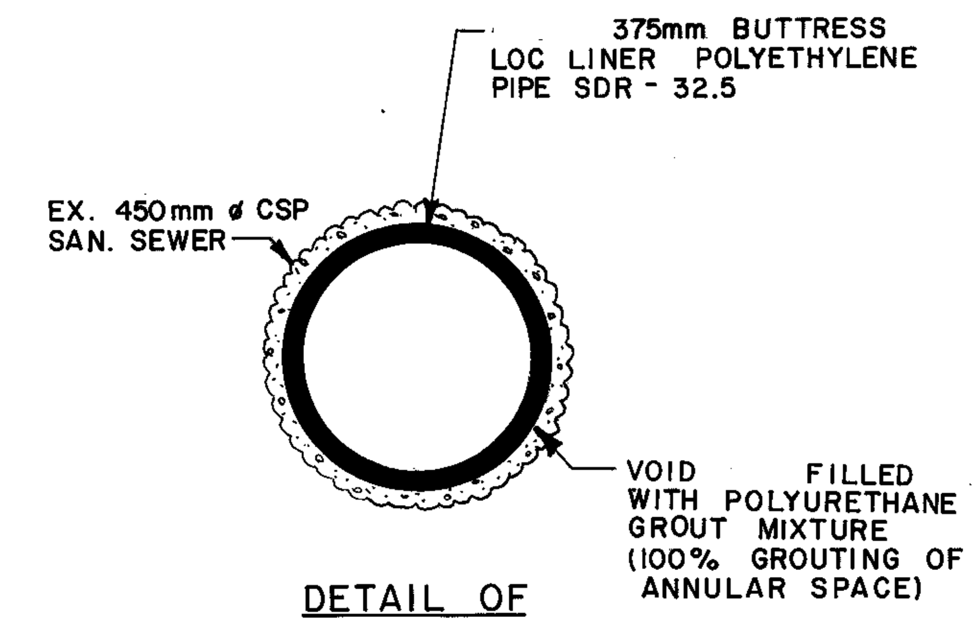
CONTRACT Nº W-1386-94

Drawing Nº SHEET 1 OF 3

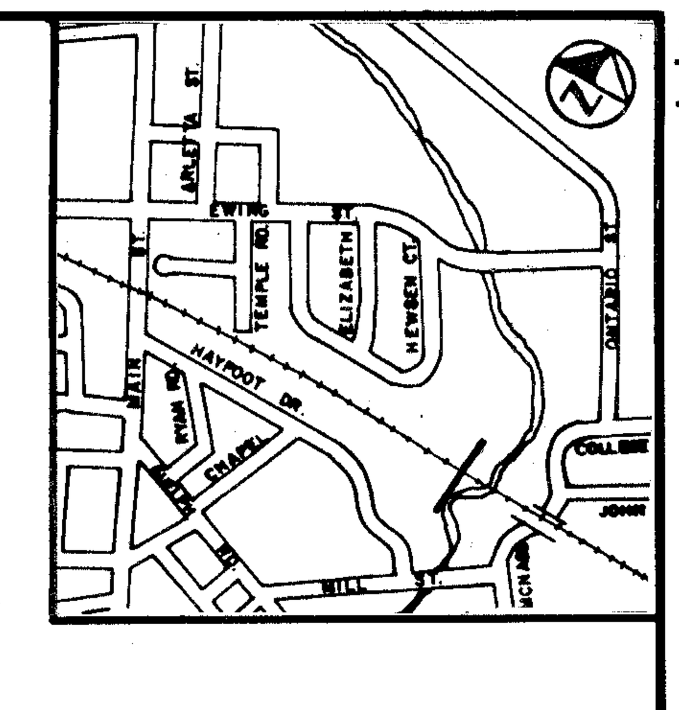
PR-1386-94 1 OF 3

G - 1658





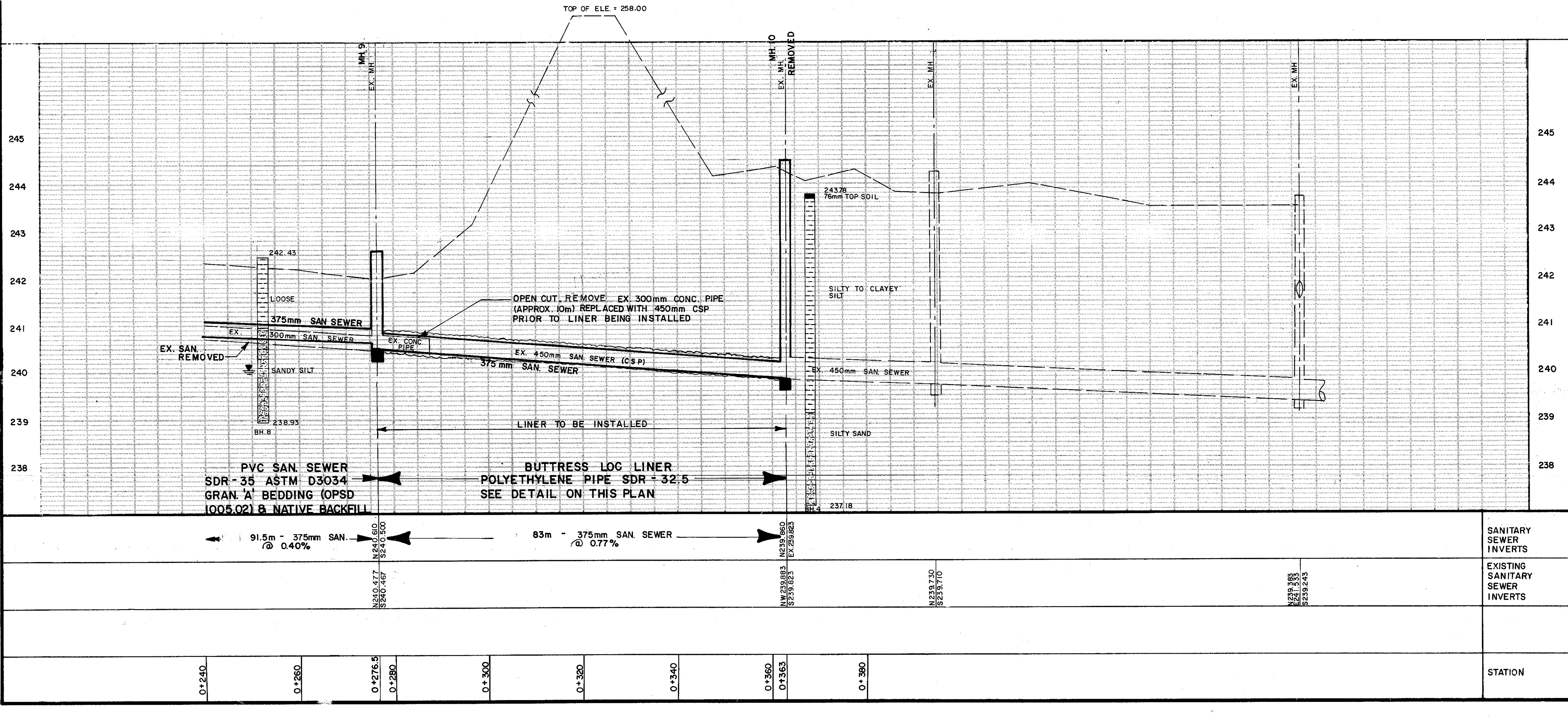
DETAIL OF
EXIST. CSP. SAN. SEWER
UNDER CNR TRACKS
NTS



SANITARY SEWER DATA

M.H.	STATION	℄ CONSTR. OFFSET	STD.	INVERTS INLET	INVERTS OUTLET	GRATE STD.	TOP OF GRATE ELEV.	REMARKS
9	0 + 276.5	2.0m LT.	1001.01	N 240.61	S 240.50	401.03	242.62	
10	0 + 363	6.0m LT.	1001.01	W 239.86	S 239.82	401.03	244.50	

NOTES
1. ALL SANITARY SEWER INSTALLATION SHALL CONFORM TO ONTARIO PROVINCIAL STANDARD DRAWINGS & SPECIFICATIONS AS AMENDED BY THE REGIONAL MUNICIPALITY OF HALTON.
2. ALTERATION TO WATERWAYS SHALL CONFORM TO CREDIT VALLEY CONSERVATION AUTHORITY'S PROCEDURES AND GUIDELINES.,
3. RESTORATION OF EASEMENTS SHALL CONSIST OF LEVELING AND TRIMMING OF BACKFILL AND THE APPLICATION OF SEED AND MULCH TO THE DISTURBED AREAS.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE OBLIGATONS OF THE FEDERAL FISHERIES ACT TO INSURE THAT DELETERIOUS SUBSTANCES DO NOT ENTER THE BODY OF WATER.
5. SURPLUS FILL MATERIAL WILL BE REMOVED OFF THE FLOOD PLAINS AND THAT THE STOCKPILES OF MATERIAL SHOULD HAVE PROPER SEDIMENT CONTROL MEASURES.
6. DETAILS OF ANY SHORING REQUIRED BETWEEN PROPOSED MH. 9A TO MH. 10A MUST BE SUBMITTED TO THE RAILWAY PRIOR TO CONSTRUCTION.
7. ALL WORKS SOUTH OF PROPOSED MH. 9A TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH N.T.A. GENERAL ORDER E-10 ANC CSA STANDARDS.



△	03/8/97	BS — AS CONST.
Nº	Date	By — Revisions

Design. BKW Chk'd.
Drawn. BS Chk'd.
Date.
Scale. horiz. 10 5 0 10 — vert. 1.0 0.5 0 1.0
References.
Approvals
Field Notes.
Municipal.
Bell ☐ Hydro ☐
Gas ☐ Cable ☐
Stamp. LICENSED PROFESSIONAL ENGINEER S. R. PIPER 94/04/12 PROVINCE OF ONTARIO
Regional.
COMMISSIONER OF PUBLIC WORKS
DIRECTOR OF DESIGN & CONSTRUCTION. 94 05 19
Consultant.
Municipality.

Halton

Title. 375mm SANITARY SEWER ON EASEMENT
TOWN OF HALTON HILLS (GEORGETOWN)
FROM
250m SOUTH OF EWING STREET TO 110m NORTH OF MILL STREET

Municipal Dwg. Nº.
Regional Dwg. Nº PR-1223 G - 2080

Contract Nº. PR - 1223
94 - 11/PR - 1403
Sheet 10 of

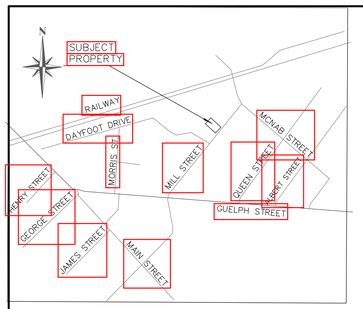
Dimensions in millimetres unless otherwise noted.

metric

G - 2080

PR-1403 013
PR - 122

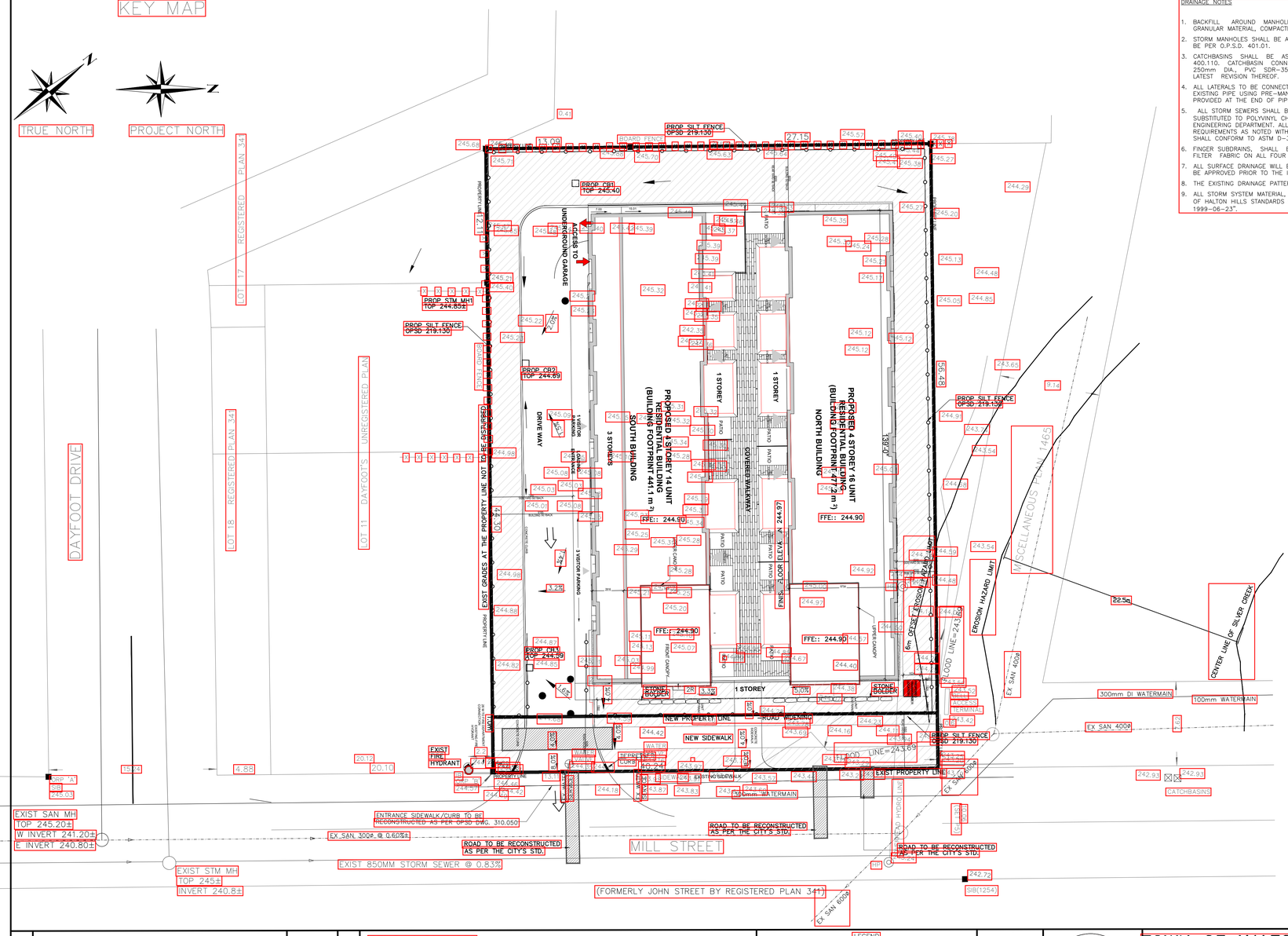
APPENDIX B – PROPOSED DRAINAGE



KEY MAP

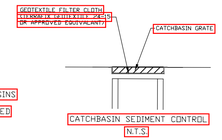
TRUE NORTH

PROJECT NORTH



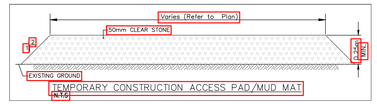
DRAINAGE NOTES

1. BACKFILL AROUND MANHOLES AND CATCHBASINS SHALL BE OF MINIMUM 1.5 M APPROVED, GRANULAR MATERIAL, COMPACTED BY MECHANICAL MEANS TO 100% S.P.M.D.D.
2. STORM MANHOLES SHALL BE AS PER O.P.S.D. 701.30 TO 701.060 INCLUSIVE. FRAMES AND LIDS TO BE PER O.P.S.D. 401.01.
3. CATCHBASINS SHALL BE AS PER OPSD. 705.010 WITH FRAME AND GRATES AS PER OPSD. 400.110. CATCHBASIN CONNECTIONS SHALL BE AS PER OPSD. 708.030. C8 LEAD – 250mm DIA., PVC SDR–35, CONFORMING TO CSA SPECIFICATION B182.2 AND B182.4 OR LATEST REVISION THEREOF.
4. ALL LATERALS TO BE CONNECTED TO THE NEW PIPE USING MANUFACTURED TEE AND TO THE EXISTING PIPE USING PRE–MANUFACTURED SADLLE AND STAINLESS STEEL STRAP. MARKERS SHALL BE PROVIDED AT THE END OF PIPE FOR ALL SERVICES.
5. ALL STORM SEWERS SHALL BE CONCRETE PIPE. STORM SEWER OF 375mm DIA OR LESS MAY BE SUBSTITUTED TO POLYVINYL CHLORIDE (P.V.C.) UPON APPROVAL FROM THE TOWN OF HALTON HILLS ENGINEERING DEPARTMENT. ALL PVC STORM SEWER WITH FITTINGS SHALL MEET THE CSA AND ASTM REQUIREMENTS AS NOTED WITHIN OPSS 1841. THE BASIC MANUFACTURE MATERIAL OF THE PIPE SHALL CONFORM TO ASTM D–3034 AND OPSS1841.
6. FINGER SUBDRAINS, SHALL BE 100mm DIA., 6.0m MIN. LENGTH , PERFORATED & WRAPPED IN FILTER FABRIC ON ALL FOUR SIDES.
7. ALL SURFACE DRAINAGE WILL BE SELF CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
8. THE EXISTING DRAINAGE PATTERN WILL WILL BE MAINTAINED EXCEPT NOTED.
9. ALL STORM SYSTEM MATERIAL, MANUFACTURE, METHOD OF CONSTRUCTION SHALL CONFORM WITH CITY OF HALTON HILLS STANDARDS AS PER " TOWN OF HALTON HILLS SUBDIVISION MANUAL, 1999–06–23".

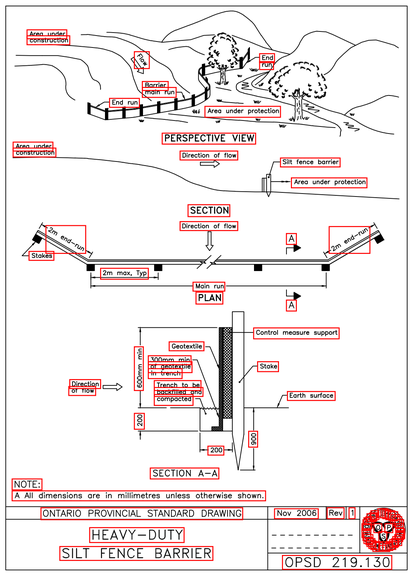


ALL THE EXISTING ROADSIDE CATCHBASINS IN THE IMMEDIATE VACINITY OF THE CONSTRUCTION AREA TO BE PROVIDED WITH SEDIMENT CONTROL DURING THE CONSTRUCTION PERIOD.

1. SILTATION CONTROL DURING CONSTRUCTION.
DURING CONSTRUCTION AND UNTIL SUCH TIME AS THE SITE HAS BEEN PAVED, GRAVELLED AND SODDED, THE CONTRACTOR SHALL PREVENT STORM WATER RUNOFF FROM DIRECTLY ENTERING THE MUNICIPAL STORM SYSTEM.
2. SILT FENCE SHALL BE ERECTED AS PER DETAIL PROVIDED AND MAINTAINED UNTIL THE SITE IS COMPLETELY SODDED.
3. STRAW BALES SHOULD BE ERRECTED ALONG THE EXISTING DITCH AND MAINTAINED UNTIL THE SITE IS COMPLETELY SODDED.
4. SILTATION CONTROLS ARE TO BE IN PLACE PRIOR TO THE START OF SITE WORKS, AND TO BE MAINTAINED FOR THE DURATION OF CONSTRUCTION.



TEMPORARY CONSTRUCTION ACCESS PAD/MUD MAT
N.T.S



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2006 | Rev 1

HEAVY–DUTY SILT FENCE BARRIER

OPSD 219.130

BENCHMARK NOTE:

NOTES		
ELEVATIONS ARE GEODETIC, DERIVED FROM SIMULTANEOUS OBSERVATIONS OF SATELLITES, AS CORRECTED BY NRCAN'S PPP SERVICE, AND HAVE BEEN CONVERTED FROM THE FROM THE CGVD2013 DATUM TO THE CGVD1978 DATUM.		
DISTANCES SHOWN ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99966.		
COORDINATES ARE TO AN URBAN ACCURACY AS PER s.14(2) OF O.REG. 216/10.		
POINT ID	ELEVATION	
ORP 'A'	245.03	
ORP 'B'	244.57	

LEGEND

PROP STM MH	PROPOSED STORM MAINTENANCE HOLE
PROP SAN MH	PROPOSED SANITARY MAINTENANCE HOLE
PROP CB	PROPOSED CATCH BASIN
D	PROP DETECTOR CHECK VALVE
M	PROP DOMESTIC WATER METER
B	PROP BACK CHECK VALVE

NO.	REVISION	DATE	INIT.
2	ISSUED FOR APPROVAL	APR 29 2022	MF
1	ISSUED FOR APPROVAL	DEC 09 2020	MF

BENCHMARK NOTE

TOPOGRAPHIC INFORMATION MEASURED 2007. THIS IS NOT A PLAN OF SURVEY.
BENCHMARK: HHBM 064
ELEVATION: 253.45
TEMPORARY BENCHMARK
ELEVATION: 254.28
TOP OF RAILROAD SPIKE IN THE SOUTH SIDE OF THE FIRS HYDRO POLE EAST OF NORMANDY BOULEVARD ON GUELPH STREET.
The location and extent of all existing utilities are not necessarily shown on this plan, and where shown, are to be considered approximate only. All Contractors shall inform themselves of the exact location and extent of all existing services prior to the start of construction, and shall assume all liabilities for damage to them or delays resulting from their actual extent and location.

LEGEND

LS	LIGHT STANDARD	UNDERGROUND UTILITIES	
TL	TRAFFIC LIGHT	HYDRO CABLES	
SIGN		WATERMAINS	
BELL POLE		GASMAINS	
HYDRO POLE		BELL CABLES	
HYD	HYDRANT	GAP OR PLUG	
	GUY AND ANCHOR	SANITARY SEWER	
	MANHOLE EXISTING	STORM SEWER	
	MANHOLE PROPOSED	COMBINED SEWER	
	CATCHBASIN EXISTING		
	CATCHBASIN PROPOSED		
SJ.IB	STANDARD IRON BAR		

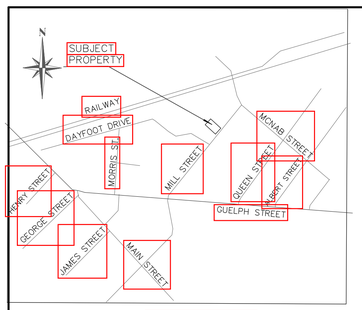
RD
DESIGN
RD
CHECKED BY
MI
PROJ. SUPVR.

M F ISMAIL
APR 29, 2022
PROJECT ENGINEER

TOWN OF HALTON HILLS
REGION OF HALTON
PREMIER ENGINEERING SOLUTIONS
CIVIL ENGINEERS
3294 ALPACA AVENUE, MISSISSAUGA ONTARIO L5M 7V3
PHONE: (905) 817–1294 FAX: (905) 817–1299

RESIDENTIAL DEVELOPMENT
16–18 MILL STREET
HALTON HILLS, ON
EROSION AND SEDIMENT CONTROL PLAN

FIELD NOTES
DATE
SCALE 1:200
DWG No. ESC 003
MUN. REF. No.
REV. 2
SITE PLAN APPLICATION



KEY MAP

TRUE NORTH

PROJECT NORTH

247.45	EXISTING GRADE
184.90	PROPOSED GRADE
TW245.50	TOP OF WALL
TC245.50	TOP OF CURB
	EXIST. OVERLAND FLOW DIRECTION
	PROP MINOR OVERLAND FLOW DIRECTION
	PROP OVERLAND FLOW DIRECTION

DRAINAGE NOTES

1. BACKFILL AROUND MANHOLES AND CATCHBASINS SHALL BE OF MINIMUM 1.5 M APPROVED, GRANULAR MATERIAL, COMPACTED BY MECHANICAL MEANS TO 100% S.P.M.D.D.
2. STORM MANHOLES SHALL BE AS PER O.P.S.D. 701.30 TO 701.060 INCLUSIVE. FRAMES AND LIDS TO BE PER O.P.S.D. 401.01.
3. CATCHBASINS SHALL BE AS PER OPSD. 705.010 WITH FRAME AND GRATES AS PER OPSD. 400.110. CATCHBASIN CONNECTIONS SHALL BE AS PER OPSD. 708.030. CB LEAD – 250mm DIA., PVC SDR–35, CONFORMING TO CSA SPECIFICATION B182.2 AND B182.4 OR LATEST REVISION THEREOF.
4. ALL LATERALS TO BE CONNECTED TO THE NEW PIPE USING MANUFACTURED TEE AND TO THE EXISTING PIPE USING PRE–MANUFACTURED SADLLE AND STAINLESS STEEL STRAP. MARKERS SHALL BE PROVIDED AT THE END OF PIPE FOR ALL SERVICES.
5. ALL STORM SEWERS SHALL BE CONCRETE PIPE. STORM SEWER OF 375mm DIA OR LESS MAY BE SUBSTITUTED TO POLYVINYL CHLORIDE (P.V.C.) UPON APPROVAL FROM THE TOWN OF HALTON HILLS ENGINEERING DEPARTMENT. ALL PVC STORM SEWER WITH FITTINGS SHALL MEET THE CSA AND ASTM REQUIREMENTS AS NOTED WITHIN OPSS 1841. THE BASIC MANUFACTURE MATERIAL OF THE PIPE SHALL CONFORM TO ASTM D–3034 AND OPSS1841.
6. FINGER SUBDRAINS, SHALL BE 100mm DIA., 6.0m MIN. LENGTH , PERFORATED & WRAPPED IN FILTER FABRIC ON ALL FOUR SIDES.
7. ALL SURFACE DRAINAGE WILL BE SELF CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
8. THE EXISTING DRAINAGE PATTERN WILL WILL BE MAINTAINED EXCEPT NOTED.
9. ALL STORM SYSTEM MATERIAL, MANUFACTURE, METHOD OF CONSTRUCTION SHALL CONFORM WITH CITY OF HALTON HILLS STANDARDS AS PER " TOWN OF HALTON HILLS SUBDIVISION MANUAL, 1999–06–23".

LEGEND

PROP STM MH	PROPOSED STORM MAINTENANCE HOLE
PROP SAN MH	PROPOSED SANITARY MAINTENANCE HOLE
PROP CB	PROPOSED CATCH BASIN
CV	PROP DETECTOR CHECK VALVE
M	PROP DOMESTIC WATER METER
CV	PROP BACK CHECK VALVE

BENCHMARK NOTE:

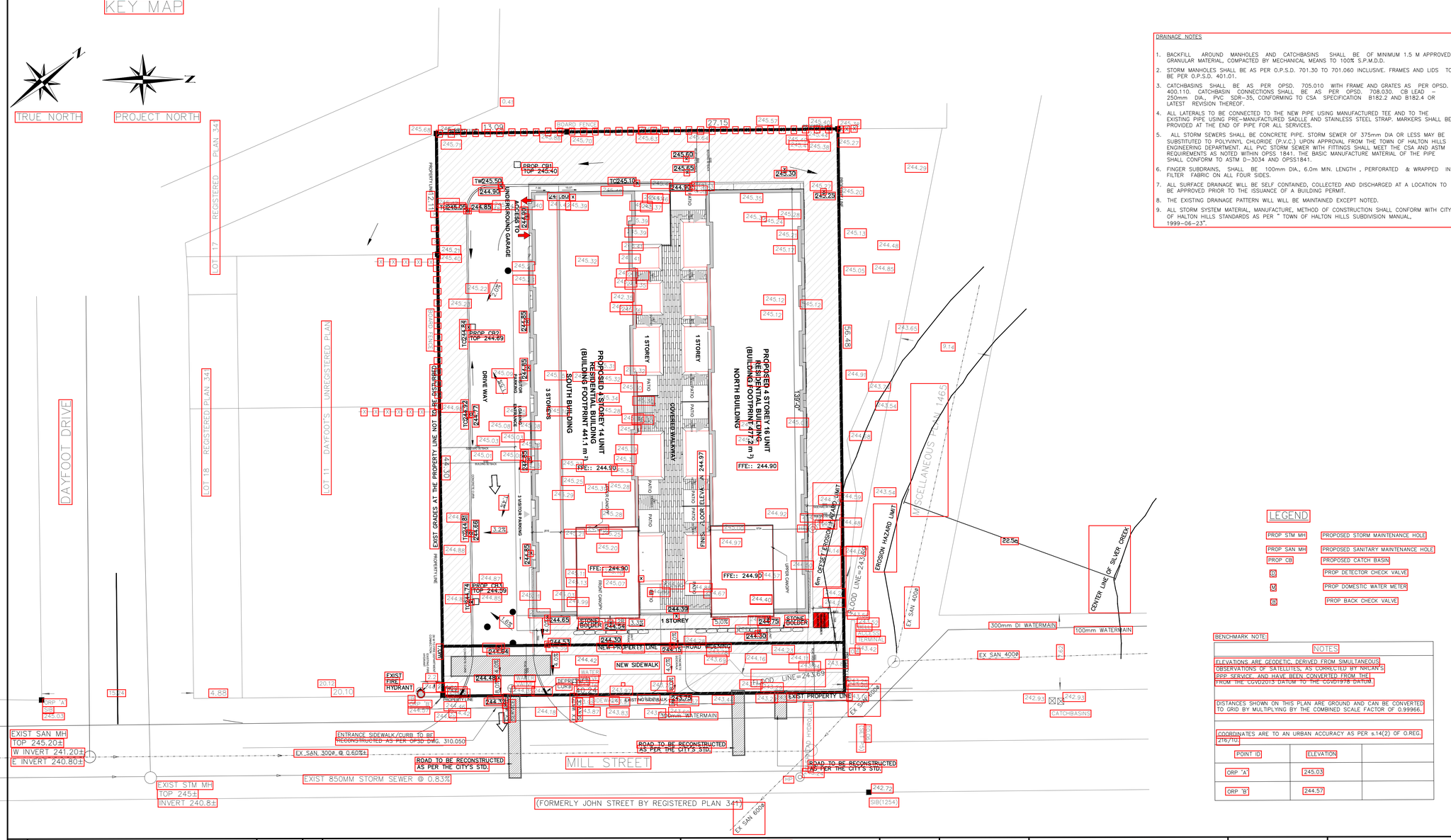
NOTES

ELEVATIONS ARE GEODETIC, DERIVED FROM SIMULTANEOUS OBSERVATIONS OF SATELLITES, AS CORRECTED BY NRCAN'S PPP SERVICE AND HAVE BEEN CONVERTED FROM THE FROM THE CVD2013 DATUM TO THE COVD1978 DATUM.

DISTANCES SHOWN ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99966.

COORDINATES ARE TO AN URBAN ACCURACY AS PER s.14(2) OF O.REG. 216/10.

POINT ID	ELEVATION	
ORP "A"	245.03	
ORP "B"	244.57	



NO.	REVISION	DATE	INIT.
2	ISSUED FOR APPROVAL	APR 29 2022	MF
1	ISSUED FOR APPROVAL	DEC 09 2020	MF

BENCHMARK NOTE

TOPOGRAPHIC INFORMATION MEASURED 2007. THIS IS NOT A PLAN OF SURVEY.
BENCHMARK: HHBM 064
ELEVATION: 253.45
TEMPORARY BENCHMARK
ELEVATION: 254.28
TOP OF RAILROAD SPIKE IN THE SOUTH SIDE OF THE FIRS HYDRO POLE EAST OF NORMANDY BOULEVARD ON GUELPH STREET.
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LEGEND

LIGHT STANDARD	UNDERGROUND UTILITIES		
TRAFFIC LIGHT	HYDRO CABLES		
SIGN	WATERMAINS		
BELL POLE	GASMAINS		
HYDRO POLE	BELL CABLES		
HYDRANT	CAP OF PLUG		
GUY AND ANCHOR	SANITARY SEWER		
MANHOLE EXISTING	STORM SEWER		
MANHOLE PROPOSED	COMBINED SEWER		
CATCHBASIN EXISTING			
CATCHBASIN PROPOSED			
STANDARD IRON BAR			

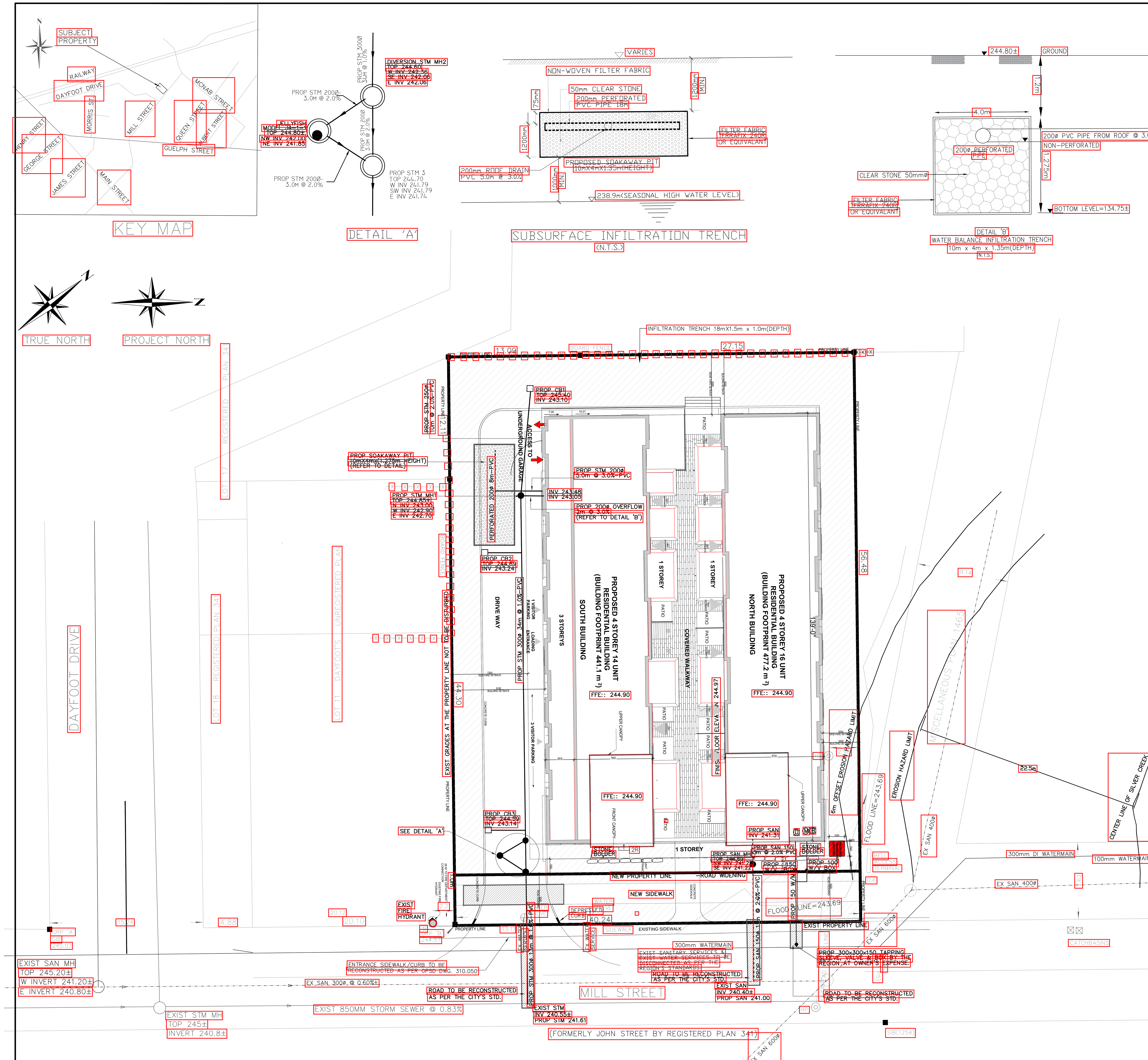
DESIGN: RD
DRAWN: RD
CHECKED BY: MI
PROJ. SUPVR.:

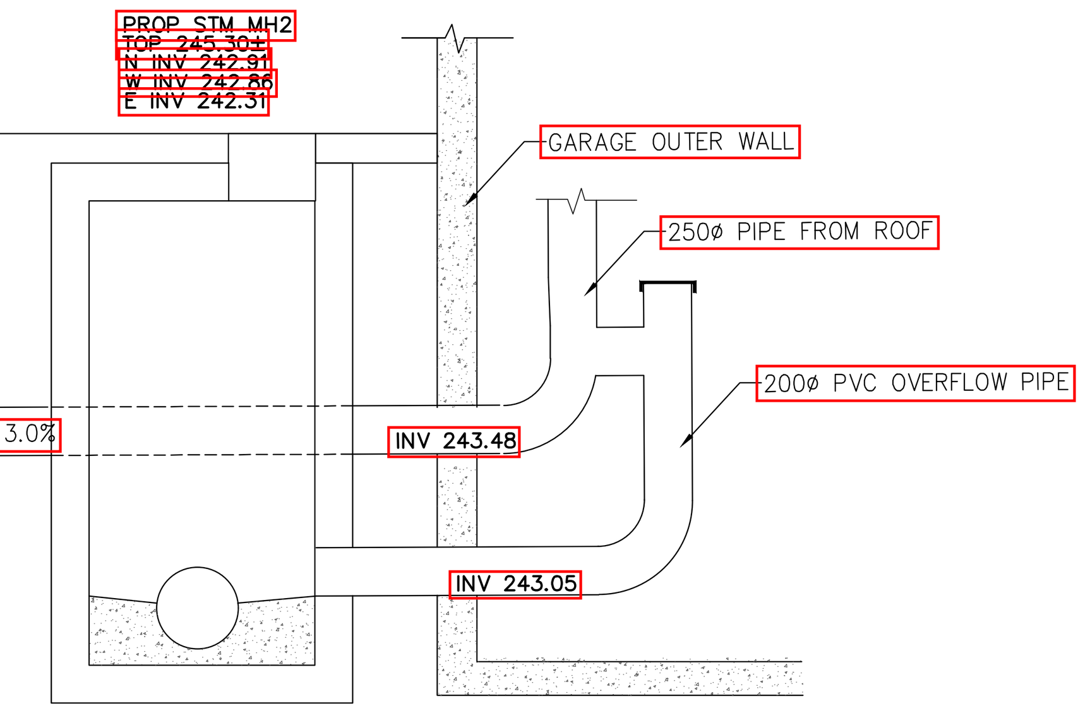
M F ISMAIL
APR 29, 2022
PROJECT ENGINEER

TOWN OF HALTON HILLS
REGION OF HALTON
PREMIER ENGINEERING SOLUTIONS
CIVIL ENGINEERS
3294 ALPACA AVENUE, MISSISSAUGA ONTARIO L5M 7V3
PHONE: (905) 817–1294 FAX: (905) 817–1299

RESIDENTIAL DEVELOPMENT
16–18 MILL STREET
HALTON HILLS, ON
GRADING AND DRAINAGE PLAN

FIELD NOTES:
DATE:
SCALE: 1:200
DWG No.: SG1
MUN. REF. No.:
SITE PLAN APPLICATION
REV.: 2





WATERMAIN NOTES

1. WATERMAINS 150MM TO 300MM DIAMETER TO BE P.V.C. CL150 (DR–18) WITH GASKETED JOINTS.
2. ALL PVC WATER SERVICE PIPES SHALL BE CERTIFIED TO CAN/CSA B137.3.
3. ALL COOPER "K" SOFT WATER SERVICE PIPE SHALL BE CERTIFIED TO ASTM B88.
4. ALL WATER SERVICE PIPES SHALL BE PROVIDED WITH RESTRAINTS AS PER OBC DIV. B7.3.4.9.
5. WATER SERVICE CONNECTIONS TO BE AS PER O.P.S.D. 1104.01. PIPE FOR ALL SERVICE CONNECTIONS UP TO 50MM DIA. SHALL BE TYPE K SOFT COPPER TUBING.
6. A MIN. HORIZONTAL SEPARATION OF 2.5M MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS.
7. A MIN. VERTICAL SEPARATION OF 0.5M BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED IF WATERMAIN IS INSTALLED ABOVE SEWER OR 0.50M IF SEWER IS ABOVE WATERMAIN.
8. WATERMAIN BEDDING TO BE SUITABLE GRANULAR BEDDING MATERIAL AS PER O.P.S.D. 1102.01, CLASS "B.
9. ALL HYDRANTS AS PER O.P.S.D. 1105.01 TO HAVE STEAMER CONNECTIONS. HYDRANTS TO BE SUPPLIED WITH:
   TWO (2) 63.5MM (2 ½") WITH CSA STANDARD THREAD, 63.5MM I.D., 79.4 O.D., 5 THREADS PER 25MM, 31.75MM SQUARE OPERATING NUT; AND
   ONE (1) 100MM (4") STORZ PUMPER CONNECTION AS PER CAN/ULC #S–520, 31.75MM SQUARE OPERATING NUT, AND STORZ CAP PAINTED GLOSS BLACK.
10. HYDRANTS SHALL BE INSTALLED SUCH THAT THE ROD STEM LENGTH SHALL NOT EXCEED 1.7M MEASURED FROM THE BREAK–OFF FLANGE. IF HYDRANT BARREL LENGTH EXCEEDS 1.7M THEN A HYDRANT THAT CAN BE RAISED FROM THE BOTTOM WITHOUT INCREASING ROD LENGTH IS TO BE USED.
11. ALL METALLIC WATERMAINS, FITTINGS, HYDRANTS AND RESTRAINERS TO HAVE CATHODIC PROTECTION IN ACCORDANCE WITH REGION OF HALTON STANDARD DRAWINGS RH 420.01 AND RH 420.02..
12. ALL SACRIFICIAL ANODES SHALL CONFORM TO A.S.T.M. B–418 TYPE II AND SHALL BE MADE OF HIGH GRADE ELECTROLYTIC ZINC, 99.99% PURE.
13. ANODE INSTALLATION IS NOT REQUIRED WITHIN VALVE–CHAMBERS, DRAIN CHAMBERS OR AIR RELEASE CHAMBERS.
14. ALL WELD CONNECTIONS TO BE COATED WITH "TC MASTIC" OR APPROVED EQUIVALENT.
15. FOR ALL ANODES CONNECTED TO NEW PIPE, FITTINGS OR TO EXISTING METALLIC WATERMAINS, A CADWELDER AND CA–15 OR EQUIVALENT CARTRIDGE SHALL BE USED. ANODE INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
16. WHERE NEW PIPE IS TO BE CONNECTED TO EXISTING DUCTILE IRON OR CAST IRON PIPE A 14.5KG MAGNESIUM ANODE IS TO BE CONNECTED TO THE FIRST LENGTH OF EXISTING PIPE, AS PER REGION OF HALTON STANDARD DRAWING RH 420.01.
17. ALL VALVES TO OPEN LEFT (COUNTER–CLOCKWISE) AND SHALL HAVE 50MM SQUARE STANDARD AWWA OPERATING NUT.
18. ALL PLUGS, CAPS, TEES, AND BENDS SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURERS SPECIFICATIONS. RESTRAINTS SHALL MEET UNI–B–13–92.
19. WHERE WATERMAIN IS PLACED IN FILL OR IN PREVIOUSLY DISTURBED GROUND ALL JOINTS TO BE MECHANICALLY RESTRAINED.
20. MINIMUM DEPTH OF COVER OVER WATERMAIN SHALL BE 1.70M MEASURED FROM THE ROAD CENTRELINE ELEVATION.
21. THE DEPTH OF WATER SERVICES AT PROPERTY LINE SHOULD BE A MINIMUM OF 1.7M AND A MAXIMUM OF 2.0M. THE DISTANCE BETWEEN THE GROUND ELEVATION AND THE TOP OF THE ROD SHOULD BE BETWEEN 0.5M AND 1.0M.
22. WATER SERVICES CROSSING THE STORM SEWER/SANITARY SEWER SHALL HAVE MIN. 0.5M OF CLEARANCE TO PASS OVER/BELOW SEWER. ALL PIPE JOINTS TO BE 2.4M FROM THE INTERSECTION. ADEQUATE STRUCTURAL SUPPORT IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING (OBC DIV. B7.3.5.7).
23. GATE VALVES CONFORMING TO A.W.W.A. C500 STANDARDS ARE REQUIRED ON WATERMAINS 300MM AND UNDER. LINE GATE VALVES SHALL HAVE AUGER OF SCREW TYPE VALVE BOXES.
24. ALL WATERMAIN FITTINGS SHALL HAVE MECHANICAL JOINTS.
25. VERTICAL AND HORIZONTAL ALIGNMENT OF WATERMAIN TO BE ACHIEVED BY DEFLECTION OF JOINTS AS PER MANUFACTURER'S SPECIFICATIONS. DEFLECTION IN THE BARREL IS NOT PERMITTED.
26. TRACER WIRE IS TO BE INSTALLED ON ALL NEW INSTALLATIONS OF PVC WATERMAIN PIPE FOR LOCATING PURPOSES. A SOLID 10 GAUGE T.W.U. COPPER WIRE IS TO BE INSTALLED ALONG THE PIPE, STRAPPED TO THE PIPE AT 6 METRE INTERVALS. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED.
27. THE INSPECTOR MAY TEST THE TRACING WIRE FOR CONDUCTIVITY. IF THE TRACING WIRE IS NOT CONTINUOUS FROM VALVE TO VALVE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE WIRE.
28. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 72 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON SPECIFICATIONS. NOTIFICATION SHALL TAKE PLACE UNDER THE ENGINEER'S DIRECTION.
29. OPERATION OF EXISTING WATERMAINS SHALL BE BY REGION OF HALTON STAFF ONLY.
30. THE BACKFILLING UNDER THE EXISTING ROAD AND PARKING AREAS WILL BE GRANULAR 'A' WITH 100% SPD COMPACTION.

LEGEND

PROP STM MH	PROPOSED STORM MAINTENANCE HOLE
PROP SAN MH	PROPOSED SANITARY MAINTENANCE HOLE
PROP CB	PROPOSED CATCH BASIN
(D)	PROP DETECTOR CHECK VALVE
(M)	PROP DOMESTIC WATER METER
(B)	PROP BACK CHECK VALVE

BENCHMARK NOTE:

NOTES

ELEVATIONS ARE GEODETIC, DERIVED FROM SIMULTANEOUS OBSERVATIONS OF SATELLITES, AS CORRECTED BY NRCAN'S PPP SERVICE, AND HAVE BEEN CONVERTED FROM THE FROM THE CGVD2013 DATUM TO THE CGVD1978 DATUM.

DISTANCES SHOWN ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99966.

COORDINATES ARE TO AN URBAN ACCURACY AS PER s.14(2) OF O.REG. 216/10.

POINT ID	ELEVATION	
ORP 'A'	245.03	
ORP 'B'	244.57	

REGIONAL APPROVAL

REGION DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFIRMING TO HALTON REGION STANDARDS & SPECIFCATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED : ____________ DATED : ____________
PLANNING & PUBLIC WORKS DEPT.

The Applicant Should be aware that the approval of water system on private property is responsibility of the Local Municipality. Regardless, the Applicant must ensure that the Region of Halton's Standards and Specifications are met. (the Design Criteria, Standard Drawings & Specificatons manual may be obtained thru the Infrastructure Management Group at (905-825-6032) Furthermore, all water quality tests must be completed to the Region of Halton's Specification, before the water supply can be turned on.

GENERAL NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. THE LOCATION OF ALL UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THESE DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
3. ALL AREAS DISTURBED BY THE CONTRACTOR DURING THE CONSTRUCTION OF THE WORKS SHOWN HEREIN SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AS DETERMINED BY PLANNING AND PUBLIC WORKS DEPARTMENT. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 100MM OF TOPSOIL AND NO. 1 NURSERY SOD TO ESTABLISH A GRASS COVER TO THE SATISFACTION OF THE TOWN UNLESS NOTED OTHERWISE.
4. TOWN OF HALTON HILLS AND REGION OF HALTON STANDARD DRAWINGS AND O.P.S.D. WITH REGIONAL AMENDMENTS FOR SANITARY SEWERS AND WATERMAINS SHALL CONSTITUTE PART OF THE ENGINEERING DESIGN AND CONSTRUCTION CONTRACT.
5. ALTERNATIVE MATERIALS MAY BE ACCEPTABLE, PROVIDED APPROVAL HAS FIRST BEEN OBTAINED FROM THE TOWN ENGINEER AND/OR THE REGIONAL COMMISSIONER OF PLANNING AND PUBLIC WORKS.
6. NO BLASTING IS PERMITTED.
7. ANY AREAS WITHIN R.O.W. WHICH REQUIRE FILL IN EXCESS OF 0.30M ARE SUBJECT TO COMPACTION TESTS AND SUCH TESTS MUST SHOW A MIN. COMPACTION OF 98% S.P.D. AT ALL DEPTHS.
8. MANHOLE AND VALVE CHAMBER COVERS ARE TO BE SET FLUSH WITH BASE COURSE ASPHALT AND ADJUSTED TO FINAL GRADE PRIOR TO INSTALLING TOP LIFT OF ASPHALT.
9. ALL TRENCHES WITHIN EXISTING RIGHT–OF–WAY ARE TO BE BACKFILLED IN ACCORDANCE WITH OBC DIV.B7.3.5.1 AND TOWN OF HALTON HILLS REQUIREMENTS.
10. ALL WATERMAIN AND SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND PECIFICATIONS (OPSS) AS AMENDED BY THE REGIONAL MUNICIPALITY OF HALTON.
11. THE LOCATION OF ALL EXISTING WATERMAIN, SANITARY SEWER, UTILITIES AND SERVICES ARE APPROXIMATE. THE CONTRACTOR MUST VERIFY THE LOCATION, VERIFY SIZE AND ELEVATION IN THE FIELD PRIOR TO CONSTRUCTION.
12. DRIVEWAY MATERIAL IS ASPHALT UNLESS OTHERWISE SPECIFIED.
13. UNLESS OTHERWISE NOTED, ALL NEW SANITARY SEWERS ARE TO BE PVC SDR 35 ASTM D3034 WITH GRANULAR 'A' BEDDING AND COVER AS PER OPSD 802.010 WITH GRANULAR 'B' BACKFILL.
14. UNLESS OTHERWISE NOTED, ALL EXISTING SANITARY LATERALS ARE TO BE REPLACED WITH PVC SDR28, 125MM DIA. CONNECTIONS FOR SINGLE FAMILY AND SEMI–DETACHED DWELLINGS AND 150MM DIA. CONNECTIONS FOR ALL OTHERS, AND ARE TO BE REPLACED FROM THE NEW SEWER MAIN TO EXISTING LATERALS AT THE PROPERTY LINE.
15. UNLESS OTHERWISE NOTED, ALL THE EXISTING SANITARY MANHOLES ARE TO BE EITHER REMOVED OR BROKEN DOWN 1.0M BELOW ROAD GRADE AND BACKFILLED WITH NON–SHRINK BACKFILL TO SUBGRADE. THE AFFECTED AREA SHALL BE COMPLETELY RESTORED. FRAMES AND COVERS ARE TO BE SALVAGED AND RETURNED TO THE REGIONAL STORES, 1179 BRONTE RD., OAKVILLE.
16. WATERMAIN MATERIAL IS TO BE EITHER DUCTILE IRON PRESSURE CLASS 350 AS PER AWWA C–150 OR PVC SDR–18 CL–150 AS PER AWWA C–900.
17. UNLESS OTHERWISE NOTED, ALL EXISTING WATER SERVICES ARE TO BE REPLACED WITH A MIN. 25MM DIA. COPPER FOR RESIDENTIAL DWELLINGS AND 25MM DIA. COPPER FOR INDUSTRIAL AND COMMERCIAL PREMISES AS PER OPSD 1104.010. UNLESS OTHERWISE NOTED, SERVICES ARE TO BE REPLACED FROM THE MAIN TO THE PROPERTY LINE WITH A NEW CURB STOP AND SERVICE BOX AT THE PROPERTY LINE.
18. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW OFFS REQUIRED FOR TESTING THE NEW WATERMAIN.
19. MAXIMUM ALLOWABLE PIPE JOINT DEFLECTION OF THE WATERMAIN SHALL BE 50% OF THE MANUFACTURER'S SPECIFICATIONS. PIPE BARREL DEFLECTION IS STRICTLY PROHIBITED.
20. ALL PVC STORM PIPES SHALL BE CERTIFIED TO CAN/CSA B182.2 OR CAN/CSA B182.4.
21. ALL CONCRETE STORM PIPES SHALL BE CERTIFIED TO CSA SERIES A257.
22. FROST PROTECTION SHALL BE PROVIDED AS PER OBC DIV. B7.3.5.4., AND THE MINIMUM COVER SHALL BE 1.2M.
23. CORROSION PROTECTION IS REQUIRED FOR ALL METALLIC PIPE, VALVES, FITTINGS SERVICES AND HYDRANTS. CATHODIC PROTECTION (ZINC ANODE) AS PER THE DETAILS IN THE REGIONAL DESIGN SPECIFICATIONS , OR 8 MIL MEDIUM DENSITY POLYETHYLENE ENCASEMENT AS PER AWWA C–105 SHALL BE USED.
24. AFTER REMOVING VALVE BOXES AND HYDRANTS, BACKFILL WITH COMPACTED GRANULAR 'A'. WHERE EXISTING VALVE CHAMBERS ARE TO BE ABANDONED, ALL VALVES WITHIN THE CHAMBER ARE TO BE LEFT IN PLACE AND THE CHAMBER IS TO BE BROKEN DOWN TO 1.0M BELOW FINAL GRADE AND BACKFILLED WITH NON–SHRINK WITH NON–SHRINK BACKFILL TO SUBGRADE. THE AFFECTED AREA SHALL BE COMPLETELY RESTORED. ALL HYDRANTS SHOWN FOR REMOVAL SHALL BE RETURNED TO REGIONAL STORES AT 1179 BRONTE RD., OAKVILLE. UNLESS OTHERWISE NOTED, ALL VALVES WHICH ARE SHOWN FOR REMOVAL SHALL BE DISPOSED OF BY CONTRACTOR.
25. EXISTING WATERMAIN IS TO BE EITHER REMOVED OR PLUGGED AND ABANDONED AS REQUIRED
26. HYDRANTS ARE TO BE INSTALLED SUCH THAT THE LOWER ROD/STEM LENGTH SHALL NOT EXCEED 1.7M MEASURED FROM THE BREAK–OFF FLANGE.
27. REGIONAL MUNICIPALITY OF HALTON APPROVED MECHANICAL RESTRAINTS ARE TO BE USED ON ALL STANDARD BENDS, VALVES, FITTINGS AND HYDRANTS. REFER TO TABLE.

STORM SEWER NOTES

1. MAIN LINE PVC PIPE AS PER DR 35 CSA B182,2–06 CERTIFIED ASTM D3034–04a, F679–03. PVC PIPE TO BE AS PER DR28 CSA B182.2–06 CERTIFIED ASTM D3034–04a
2. BEDDING FOR FLEXIBLE PIPE SHALL BE AS PER OPSD 802.010, 802.013 OR 802.014
3. ULTRA–RIB PIPE IS NOT PERMITTED WITHIN THE MUNICIPAL RIGHT OF WAY.
4. MAINTENANCE HOLES AS PER OPSD, 701.010 (1200mm), 701.011 (1500mm), 701.012–1(1800mm) OR 701.013 (2400mm). FRAME AND COVER AS PER OPSD 401.010 TYPE B OPEN (STORM).
5. BENCHING SHALL BE AS PER OPSD 701.021.
6. DROP STRUCTURES TO BE AS PER OPSD 1003.01 (EXTERNAL AND 1003.01–2(INTERNAL)
7. SINGLE CTACHBASINS SHALL BE AS PER OPSD 705.02 COMPLETE WITH GOSS TRAP.
8. SERVICE CONNECTION AND UTILITY CUTS TO BE BACKFILLED WITH UNSHRINKABLE FILL.
9. CATCHBASINS LEAD TO BE 200mm PVC DR35 FOR SINGLE CATCHBASINS AND 250mm FOR DOUBLE CATCHBASINS UNLESS OTHERWISE SPECIFIED.
10. STORM SEWER LESS THAN 375mm TO BE PVC AND EQUAL OR GREATER THAN 375mm TO BE CONC.
11. THE BACKFILLING UNDER THE EXISTING ROAD AND PARKING AREAS WILL BE GRANULAR 'A' WITH 100% SPD COMPACTION.

SANITARY SEWER NOTES

1. SANITARY MANHOLES AS PER O.P.S.D 701.010 WITH FRAMES AND COVERS AS PER O.P.S.D. 401.01 TYPE "A" UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. BENCHING IN MANHOLES TO BE AS PER O.P.S.D. 701.021 AS AMENDED BY THE REGION OF HALTON. BENCHING IN SANITARY MANHOLES TO BE TO THE OBVERT OF THE PIPE.
3. SAFETY PLATFORMS AS PER O.P.S.D. 404.020 TO BE INSTALLED ONLY IN MANHOLES WHERE DEPTHS EXCEED 10.0M AS DIRECTED BY THE REGION AND AS INDICATED ON THE PROFILE DRAWINGS.
4. ALL PVC SANITARY PIPES SHALL BE CERTIFIED TO CAN/CSA B181.2,CAN/CSA B182.2 OR CAN'CSA B182.4.
5. SANITARY SERVICE CONNECTIONS TO BE 125MM DIA FOR SINGLE RESIDENTIAL CONNECTIONS AND 150MM DIA FOR DUAL RESIDENTIAL AND SINGLE NON–RESIDENTIAL CONNECTIONS. SANITARY SERVICE CONNECTIONS TO BE MINIMUM 2% GRADE AND SHALL BE NON–WHITE IN COLOUR.
6. SERVICES TO BE MIN. 2.15M AND MAX. 2.75M DEEP AT PROPERTY LINE. RISERS SHALL BE USED WHERE NOTED AS PER OPSD 1006.01.
7. CLASS "B" BEDDING ON ALL SEWERS AND CONNECTIONS TO BE AS PER O.P.S.D. 1005.02 UNLESS NOTED OTHERWISE
8. GRANULAR BACKFILL AROUND MANHOLES SHALL BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 95% S.P.D.
9. THE BACKFILLING UNDER THE EXISTING ROAD AND PARKING AREAS WILL BE GRANULAR 'A' WITH 100% SPD COMPACTION.

NO.	REVISION	DATE	INIT.
2	ISSUED FOR APPROVAL	APR 29 2022	MFI
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LEGEND

LS	LIGHT STANDARD
TL	TRAFFIC LIGHT
S	SIGN
B	BELL POLE
H	HYDRO POLE
HYD.	HYDRANT
	GUY AND ANCHOR
	MANHOLE EXISTING
	MANHOLE PROPOSED
	CATCHBASIN EXISTING
	CATCHBASIN PROPOSED
S.I.B	STANDARD IRON BAR

UNDERGROUND UTILITIES

H	HYDRO CABLES
W	WATERMAINS
G	GASMAINS
B	BELL CABLES
	CAP OR PLUG
SAN	SANITARY SEWER
STM	STORM SEWER
COMB.	COMBINED SEWER

RD DESIGN
RD CHECKED BY
MI PROJ. SUPVR.

M. F. ISMAIL
APR 29, 2022
PROJECT ENGINEER

TOWN OF HALTON HILLS
REGION OF HALTON

PREMIER ENGINEERING SOLUTIONS
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RESIDENTIAL DEVELOPMENT
16–18 MILL STREET
HALTON HILLS, ON
SITE SERVICING PLAN

FIELD NOTES	
DATE	
SCALE	1:200
DWG No.	SS1
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SITE PLAN APPLICATION	2