ADEQUACEY OF PUBLIC SERVICING REPORT

3996 Innes Road, Ottawa

Prepared by

EAU Structural & Environmental Services

Ottawa, Ontario, K1Y 4P9
Phone: 613 869 0523
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Revision 1
December , 2022

1 Project Description:

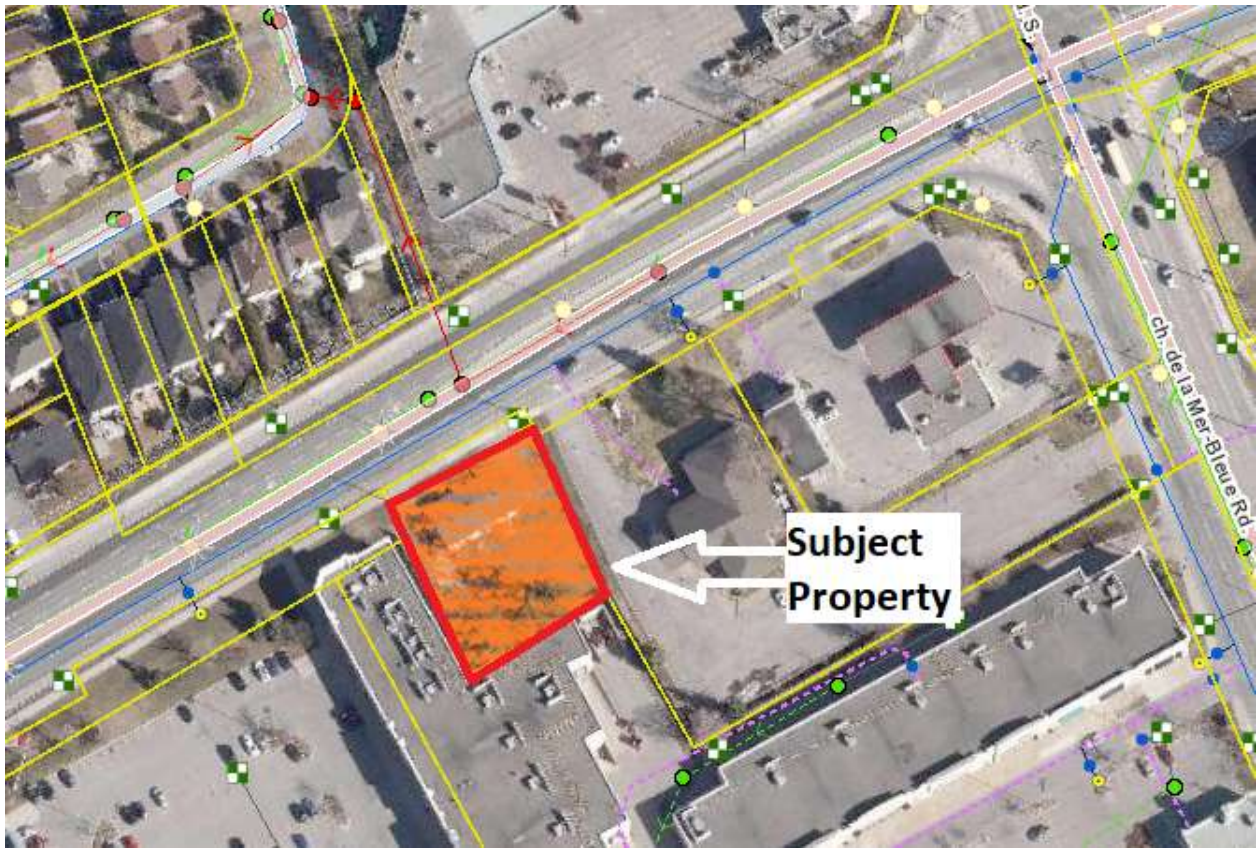
1.1. Introduction:

The property at 3996 Innes Road is located close to intersection of Mer Bleue Road and Innes Rd. The existing lot is 0.15 hectare, currently, contains a one story buildings built in circa 1970. It is proposed that the existing building to be demolished and a new 5-storey commercial/residential building be constructed. Property at 3996 Innes Road is currently zoned as AM (Arterial Mainstreet Zoning) which suits for the purpose of proposed development.

This report will address the servicing requirements associated with the proposed development located at 3996 Innes Road within the City of Ottawa. This report is prepared in response to the request from City of Ottawa Planning department.

1.2. Existing Conditions:

The property measures a total area of approximately 0.15 hectare. The site is fronting 610mm diameter DI water main, 250mm diameter PVC sanitary main and 600mm diameter concrete storm main.



2 Guidelines, Previous Studies, And Reports

The following studies were utilized in the preparation of this report:

- Ottawa Sewer Design Guidelines,
  City of Ottawa, SDG002, October 2012.
  (City Standards)
  - Technical Bulletin ISTB-2018-01
    City of Ottawa, March 21, 2018.
    (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-04
    City of Ottawa, June 27, 2018.
    (ISTB-2018-04)

- Ottawa Design Guidelines Water Distribution
  City of Ottawa, July 2010.
  (Water Supply Guidelines)
  - Technical Bulletin ISD-2010-2
    City of Ottawa, December 15, 2010.
    (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02
    City of Ottawa, May 27, 2014.
    (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02
    City of Ottawa, March 21, 2018.
    (ISTB-2018-02)

- Design Guidelines for Sewage Works,
  Ministry of the Environment, 2008.
  (MOE Design Guidelines)

- Stormwater Planning and Design Manual,
  Ministry of the Environment, March 2003.
  (SWMP Design Manual)

- Ontario Building Code Compendium
  Ministry of Municipal Affairs and Housing Building Development Branch,
  January 1, 2012 Update. (OBC)

- Geotechnical Report
  Prepared by Paterson Group
  Report Number: PG5925-1
  Dated, November 17, 2021

3 Water Supply

Residential Water Demand:

The water demand is calculated based on the City of Ottawa Water Distribution Design Guidelines as follows:

Demand Type	Amount	Units
Commercial and Institutional		
- Shopping Centres	2500	L/(1000m^2/d)
- Hospitals	900	L/(bed/day)
- Schools	70	L/(Student/d)
- Trailer Parks no Hook-Ups	340	L/(space/d)
- Trailer Parks with Hook-Ups	800	L/(space/d)
- Campgrounds	225	L/(campsite/d)
- Mobile Home Parks	1000	L/(Space/d)
- Motels	150	L/(bed-space/d)
- Hotels	225	L/(bed-space/d)
- Tourist Commercial	28,000	L/gross ha/d
- Other Commercial	28,000	L/gross ha/d
Maximum Daily Demand		
Residential	2.5 x avg. day	L/c/d
Industrial	1.5 x avg. day	L/gross ha/d
Commercial	1.5 x avg. day	L/gross ha/d
Institutional	1.5 x avg. day	L/gross ha/d
Maximum Hour Demand		
Residential	2.2 x avg. day	L/c/d
Industrial	1.8 x avg. day	L/gross ha/d
Commercial	1.8 x avg. day	L/gross ha/d
Institutional	1.8 x avg. day	L/gross ha/d

- Residential occupancy :

1.4 persons per 18 bedroom apartment
2.1 persons per 2 bedroom apartment

 18 x 1.4 + 2 x 2.1 = 29.4

Total Residential Occupancy = 29.4 persons rounded up to 30 persons

Residential Average Daily Demand = 280 L/c/d.
 Average daily demand of 280 L/c/day x 30 persons =8400 Liters/day

- Commercial occupancy :

 28000 x 0.15 = 4200 L/d

Total Demand : 8400 + 4200 = 12,600 L/d or 0.15 L/s

- Maximum daily demand (factor of 2.5) is 0.15 L/s x 2.5 = 0.375 L/s
- Peak hourly demand (factor of 2.2) = 0.375 L/s x 2.2 = 0.825 L/s

Fire Fighting Requirement

Based on Fire Underwriter Survey Method

Fire flow protection requirements were calculated as per the Fire Underwriter's Survey (FUS). Please see next page.

Based on calculation, 145 L/S required duration 2.5 hours. In fact, any fire hydrant in the City of Ottawa has minimum of 150L/S capacity. Knowing the fact that the closest fire hydrant is 30m from the frontage property lines, we can assure that there is enough capacity for the proposed development. The boundary condition is requested and here is the result:

Demand Scenario	Head (m)	Pressure[1] (psi)	KPa
Maximum HGL	130.3	56.5	390
Peak Hour	127.0	51.8	358
Max Day plus Fire #1	128.5	53.9	372
Max Day plus Fire #2	127.6	52.7	363

1. Consult proposed connection to the 610mm transmission main with Drinking Water Services

Analyzing results:

- Ground Elevation = 90.50 m

Floor Elevation	Head (m)	Pressure (KPa) at Each Floor
Ground Floor EL. = 90.50m	127	358
Second Floor EL. = 92.90m	124.6	334
Third Floor EL. = 95.30m	122.2	311
Fourth Floor EL. = 97.70m	119.8	287
Fifth Floor EL. = 100.10m	117.4	264

Based on City of Ottawa Design Guidelines – Water Distribution, minimum water pressure of 275KPa is required for domestic use. From the above table, the fifth floor water pressure is slightly less that the minimum requirement. Note that due to the presence of the sprinkler, the size of water later is proposed to be 100mm diameter connecting to existing 610mm diameter DI water main on Innes road. Due to a large lateral connect for this size of the building, the water supply would adequate for the entire development.

Fire Flow Calculations as per Fire Underwriter's Survey Guidelines

F=220C√A

where

F= Required fire flow in L/min

C= Coefficient related to the type of construction

A= Total floor area in m²

Address:

File No.:

	Coefficient Related to Type of Construction		C-Value
C	• Wood Frame Construction	☐	1.5
	• Ordinary Construction	☑	1.0
	• Non-Combustible Construction	☐	0.8
	• Fire-Resistive Construction	☐	0.6
		C =	1.0

	Total Floor Area (m²)		
A	24200 ft²	◄►	2248.25 m²

	Required Fire Flow (L/min)	
F	= 220·C·√A	
	= **10431**	L/min

Occupancy Reductions or Surcharges

• Non-Combustible	☐	-25%
• Limited Combustible	☑	-15%
• Combustible	☐	0%
• Free Burning	☐	15%
• Rapid Burning	☐	25%
		-15%
	8867	**L/min**

Sprinkler Reduction

• Adequately Designed System	☑	-30%
• Water Supply is Standard	☐	-10%
• Fully Supervised System	☐	-10%
		-30%

	8867 L/min
Reduction:	2660 L/min
Fire Flow	**6207 L/min**

Exposure Surcharge

Distance	Charge	# of Sides	
• 0 to 3m	25%		
• 3.1 to 10m	20%	1	20%
• 10.1 to 20m	15%		
• 20.1 to 30m	10%	1	10%
• 30.1 to 45m	5%	2	10%
			40%

	6207 L/min
Surcharge:	2483 L/min
Fire Flow:	**8689 L/min**

REQUIRED FIRE FLOW

Cannot exceed 45,000 L/min nor be less than 2,000 L/min

	8689 L/min
or	145 L/s
or	1911 IGPM

4 Sanitary Sewage

Sanitary Sewage Calculation

Design Flows

- Residential occupancy :

1.4 persons per 18 bedroom apartment
2.1 persons per 2 bedroom apartment

 18 x 1.4 + 2 x 2.1 = 29.4

Total Residential Occupancy = 29.4 persons rounded up to 30 persons

Residential Average Daily Demand = 280 L/c/d.
 Average daily demand of 280 L/c/day x 30 persons =8400 Liters/day

- Commercial occupancy :

 28000 x 0.15 = 4200 L/d

Total: 8400 + 4200 = 12,600 L/d or 0.15 L/s

Peaking Factor = 1 + 14/(4 + (7/ 1000)^0.5)*0.8 = 3.54 *use 4 maximum

Q Peak Domestic = 0.15 L/sec x 4.0 = 0.6 L/sec

Infiltration

Q Infiltration = 0.05 L/S/Gross hectare x 0.15 ha = 0.01 L/sec

Total Peak Sanitary Flow = 0.6 + 0.01 = 0.61 L/sec

The Ontario Building Code specifies minimum pipe size and maximum hydraulic loading for sanitary sewer pipe. OBC 7.4.10.8 (2) states "Horizontal sanitary drainage pipe shall be designed to carry no more than 65% of its full capacity." A 200mm diameter sanitary service with a minimum slope of 1.0% has a capacity of 65.0 Litres per second. The maximum peak sanitary flows for the site is 0.61 L/s. Since 0.61 L/s is much less than 0.65 x65.0 = 42.3 L/s, therefore, 200mm diameter PVC pipe will be satisfactory.

Sewage discharges will be domestic in type and in compliance with the Ontario Building Code. The proposed service connection from the proposed building will be made to the existing sanitary sewer on Innes Road. The proposed service will be a 200mm diameter PVC pipe installed at a minimum slope of 1%.

The peak sanitary flow from the proposed development is less than 10 percent of the capacity of the existing sanitary. As such the proposed increase in sanitary flow as a result of the construction of the proposed building is negligible and there is sufficient available capacity for the proposed development.

5 Geotechnical Report Recommendation

The Geotechnical report, prepared by Patersongroup Inc., recommends that a perimeter foundation drainage system be provided for the proposed structures. The system should consist of a 100 to 150 mm diameter perforated, corrugated plastic pipe which is surrounded on all sides by 150 mm of 19 mm clear crushed stone and is placed at the footing level around the exterior perimeter of the structure. The pipe should have a positive outlet, such as a gravity connection to the storm sewer.
Waterproofing of the foundation walls may be required if more than one underground level is anticipated. Due to the lack of bedrock coring, the groundwater table depth was not accurately measure below the bedrock surface. However, based on the current information, waterproofing is not anticipated to be required if one underground level is being considered. The requirement for waterproofing should be confirmed by Paterson upon commencement of excavation when the groundwater infiltration can be better assessed.
All other Geotechnical recommendation shall be implemented on its entire context.

6 Conclusions

This report addresses the storm water management of the proposed site. The following list below itemizes the conclusions of this report.

- The allowable release rate for the site and required storage volume for 5year and 100year storm event calculated.
- Runoff from the roof and parking area will be retained in the parking and driveway area then discharged to the City storm system via an ICD
- During all construction activities, erosion and sedimentation shall be controlled be techniques outlined in this report.

Should you have any question, do not hesitate to let us know.

Yours truly,
Derrick R. Clark, P. Eng.

APPENDIX A:

GeoOttawa Map


NORTH
ch. de la Mer-Bleue Rd
ch. de la Mer-Bleue Rd

APPENDIX B:

Correspondents

Boundary Conditions
3996 Innes Road

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	9	0.15
Maximum Daily Demand	22.5	0.375
Peak Hour	49.5	0.825
Fire Flow Demand #1	8700	145
Fire Flow Demand #2	12000	200

Location

Results

Connection 1 – Innes Road

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	130.3	56.5
Peak Hour	127.0	51.8
Max Day plus Fire #1	128.5	53.9
Max Day plus Fire #2	127.6	52.7

Ground Elevation = 90.5 m

Results

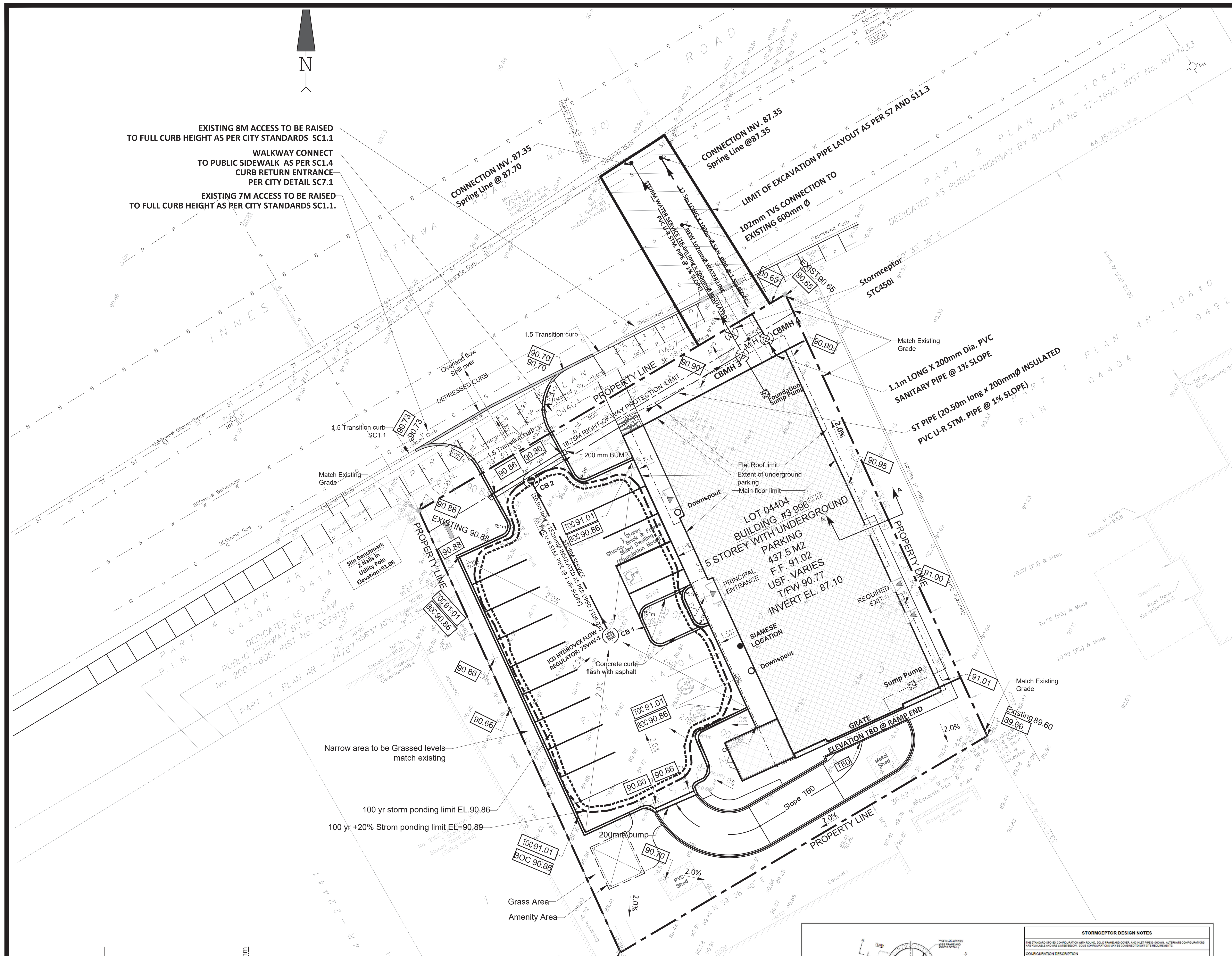
1. Consult proposed connection to the 610mm transmission main with Drinking Water Services

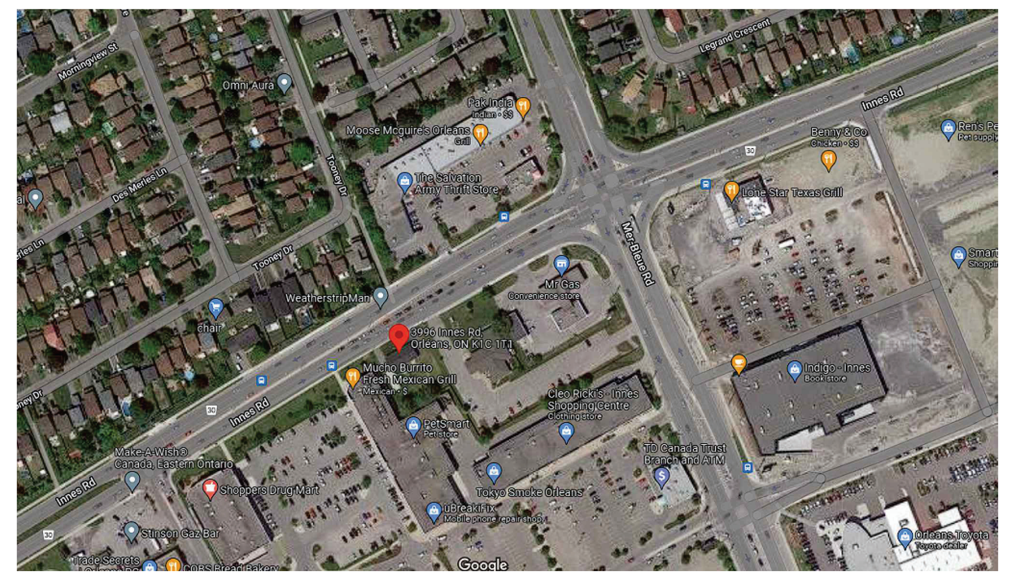
Disclaimer

The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.

APPENDIX C:

Engineering Drawings





KEY PLAN

GENERAL NOTES FOR SERVICING

1. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS FOR THE CITY OF OTTAWA STANDARD SPECIFICATION AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPPS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
2. THE POSITION OF EXISTING POLE LINES, CONDUITS, WATER MAINS SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCE OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION, ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE, TV, AND CONSUMERS GAS LINES.
4. ALL TRENCHING AND EXCAVATIONS ARE TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
5. REFER TO ARCHITECT PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS, REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. THE INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. TOPOGRAPHIC SURVEY COMPLETED ON THE 8TH DAY OF JANUARY 2021 AND PROVIDED BY FARLEY, SMITH & DENIS SURVEYING LTD. CONSTRUCTION TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
7. THE LOCATION OF UNDERGROUND SERVICES IS BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA. HOWEVER, THE CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
8. ALL ELEVATIONS ARE GEODETIC AND UTILIZED METRIC UNITS.
9. JOB BENCHMARK AS INDICATED ON THE DRAWINGS.
10. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED
11. ALL EDGES OF THE DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500MM WIDTH MINIMUM
12. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS ARE TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED, ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
13. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 &314. MATERIAL TO OPSS 1001, 1003 & 1010.
14. ABUTTING PROPERTY GRADES TO BE MATCHED
15. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
16. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
17. REMOVE FROM THE SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
18. ALL PROPOSED UTILIZES CONNECTION POINTS AND CROSSINGS (I.E STROM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
19. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY ARE TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
20. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES. FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT.
21. CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.
22. PAVEMENT STRUCTURE SHALL CONSIST OF

Table 5 – Recommended Pavement Structure – Car Only Parking Areas

Thickness (mm)	Material Description
50	**Wear Course –** HL-3 or Superpave 12.5 Asphaltic Concrete
150	**BASE –** OPSS Granular A Crushed Stone
300	**SUBBASE –** OPSS Granular B Type II
Subgrade – Either fill, in-situ soil, or OPSS Granular B Type I or II material placed over in-situ soil, bedrock or concrete fill.	

Table 6 – Recommended Pavement Structure – Access Lanes and Heavy Truck Parking Areas

Thickness (mm)	Material Description
40	**Wear Course –** HL-3 or Superpave 12.5 Asphaltic Concrete
50	**Wear Course –** HL-8 or Superpave 19 Asphaltic Concrete
150	**BASE –** OPSS Granular A Crushed Stone
450	**SUBBASE –** OPSS Granular B Type II
Subgrade – Either fill, in-situ soil, or OPSS Granular B Type I or II material placed over in-situ soil, bedrock or concrete fill.	

NOTES WATER MAIN

1. ALL WATER MAIN AND WATER MAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND THE MINISTRY OF ENVIRONMENTAL STANDARDS AND SPECIFICATIONS.
2. ALL WATER MAIN 300MM DIAMETER AND SMALLER TO BE POLYVINYL CHLORIDE (PVC) CLASS 150 OR 18 MEETINGS AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE "K"
3. ALL WATER MAINS ARE TO BE INSTALLED AT A MINIMUM COVER OF 2.4M BELOW THE FINISHED GRADE. WHERE WATER MAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OBVERT SHALL BE MAINTAINED; WHERE WATER MAINS CROSS UNDER OTHER UTILITIES, A MINIMUM OF 0.50m, CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN SHALL BE INSTALLED AS PER THE CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE A 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER THE CITY OF OTTAWA STANDARD W22.
4. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.
5. VALVE BOX TO BE AS PER CITY OF OTTAWA STANDARD W24.
6. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, END OF MAINS AND CONNECTIONS 100MM AND LARGER, IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD W25.3 & W25.4.
7. CATHODIC PROTECTION IS REQUIRED FOR ALL IRON FITTING AS PER THE CITY OF OTTAWA STANDARDS W40 & W42.
8. FIRE HYDRANTS TO BE A5 PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)
9. IF THE WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER. "TYPICAL WATER SERVICE LINE AS PER W26 (FOR 19MM & 25MM DIAM WATER SERVICES). AND TO BE INSTALLED AT 1M FROM THE FOUNDATION WALLS.

NOTES: SEWER AND MANHOLES

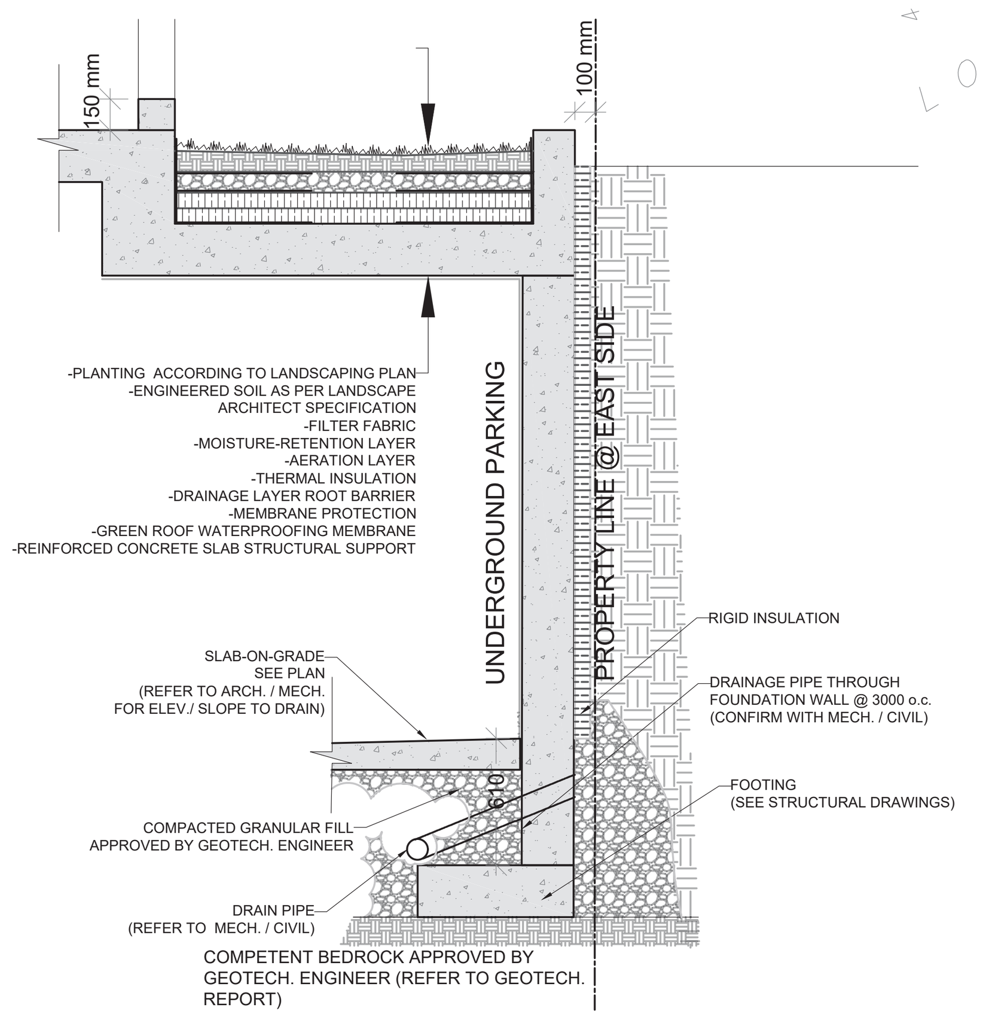
10. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
11. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
12. ALL WORK SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH OPPS 407 AND 410.
13. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01, FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND 524.
14. SANITARY BACKWATER VALVES ARE TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2
15. STORM BACKWATER VALVES ARE TO BE PROVIDED CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER THE CITY OF OTTAWA STD S14.
16. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
17. Gas main shall be 1.0m of separation from watermain as per R20

NOTES: EROSION AND SEDIMENT CONTROL

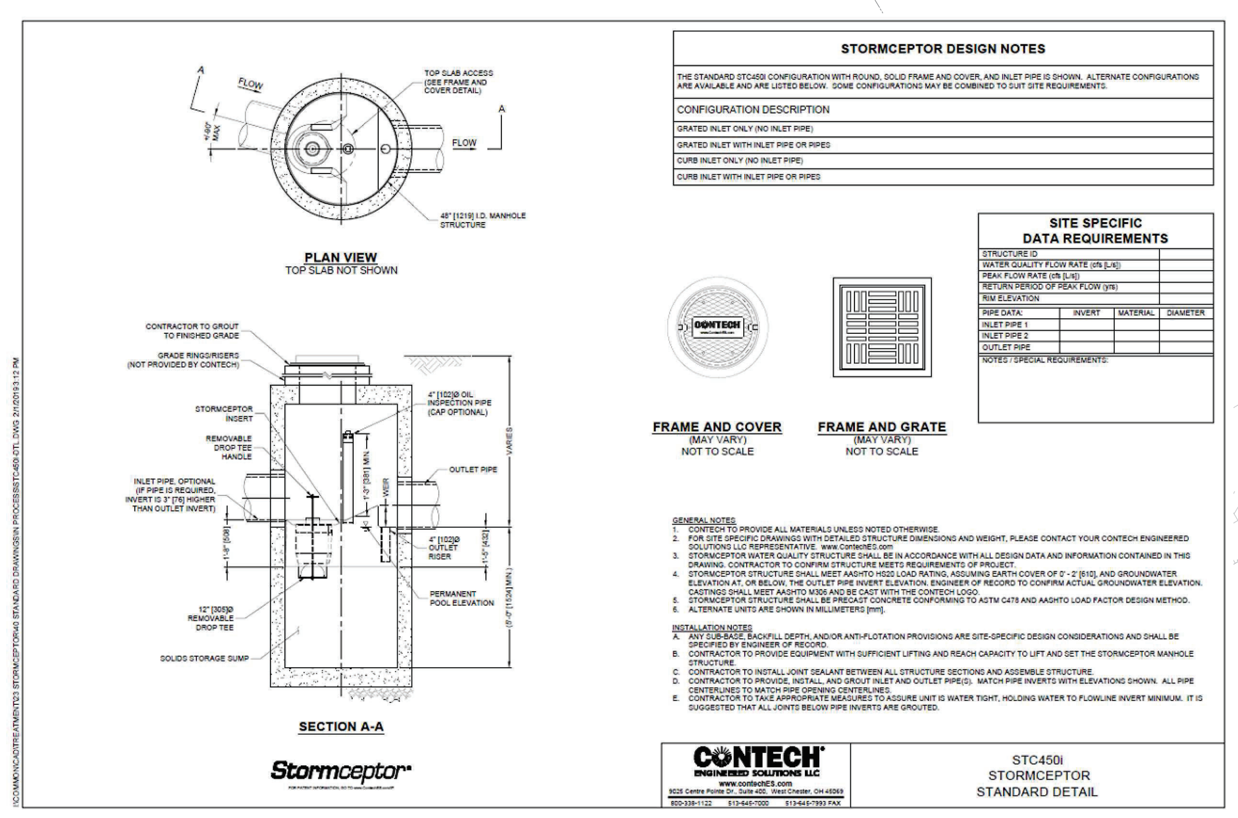
1. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR THE PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

Scale 1: 200

0 2.5 5 10 15 20 metres



TYPICAL SECTION :
DRAINAGE PIPE AT FOUNDATION WALL CLOSE TO PROPERTY LINE
SCALE: N/A



Watermain Table	
Watermain Obvert elevation	88.33
Sanitary invert at crossing	88.65
Storm line invert at crossing	88.70
Foundation drain leat at crossing	88.72

Gas line is 0.6 below grad and has no conflict

	Purpose	TOG	Up stream Invert	D/N stream Invert	Size	OPSD	MH Cover Standard DWG	Top Cover
CB#1	Storm	90.50	-	90.00	600x600	705.010	S19.1	Open
CBMH#2	Storm	90.80	89.80	89.80	1200mm Dia	701.010	S24.1	Closed
CBMH#3	Storm Monitoring MH	90.80	89.58	89.58	1200mm Dia	701.010	S24.1	Closed
CBMH#4	Sanitary Monitoring MH	90.80	88.05	88.05	1200mm Dia	701.010	S24	Closed
Stormceptor STC450i	80% TSSA Removal	90.80	88.02	08.02	1200mm Dia	N/A	S24	Closed

EAU Structural Environmental Services
Derrick Clark PEng
EAU Structural & Environnemental Svs
tel., 613 869 0523, derrick.r.clark@rogers.com

Consultants

PTabet architecte
2232 rue Saint-Louis, Gatineau QC J8T 5L6
t.: 819.568.3994
c.: 613.797.5375
pierretabetarchitecte.com

No	DATE	REVISION	App.
1			
2			
3			
4			
5			

No	DATE	ISSUED FOR	App.
1	2022/09/14	SITE PLAN CONTROL	D.K.
2	2022/12/31	PER CITY REVIEW	D.K.
3			
4			
5			

PROPERTY LINE

SILT FENCE PER OPSD 219.130

PROPOSED BUILDING ENVELOP

EXISTING FIRE HYDRANT

1. MUD MAT IS NOT REQUIRED AT SITE ENTRANCE
2. CB#1, #2 & #3 INLET TO BE PROTECTED WITH GEO-FABRIC.
3. CONCRETE BARRIER CURB PER OPSD 600.110
4. SEWER/STORM LATERAL CONNECTIONS PER OPSD 1006.020
5. THE CONTRACTOR IS REQUIRED TO GET WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS FOR WORK OUTSIDE THE PROPERTY LINE.
6. HEAVY DUTY SILT FENCE PER OPSD 219.136.
7. THE FOLLOWING DOCUMENTS HAVE BEEN REVIEWED
   - CITY OF OTTAWA STANDARD TENDER DOCUMENTS FOR UNIT PRICE (DO-006F 1004&F1005)
   - GUIDELINES ON EROSION & SEDIMENT CONTROL FOR URBAN SITES, MAY 1987.
8. ENVIROMENTAL GUIDELINES FOR ACCESS ROADS & WATER CROSINGS BY O.M.N.R.

Stamp

LICENSED PROFESSIONAL ENGINEER
D. R. CLARK
19 12 22
PROVINCE OF ONTARIO

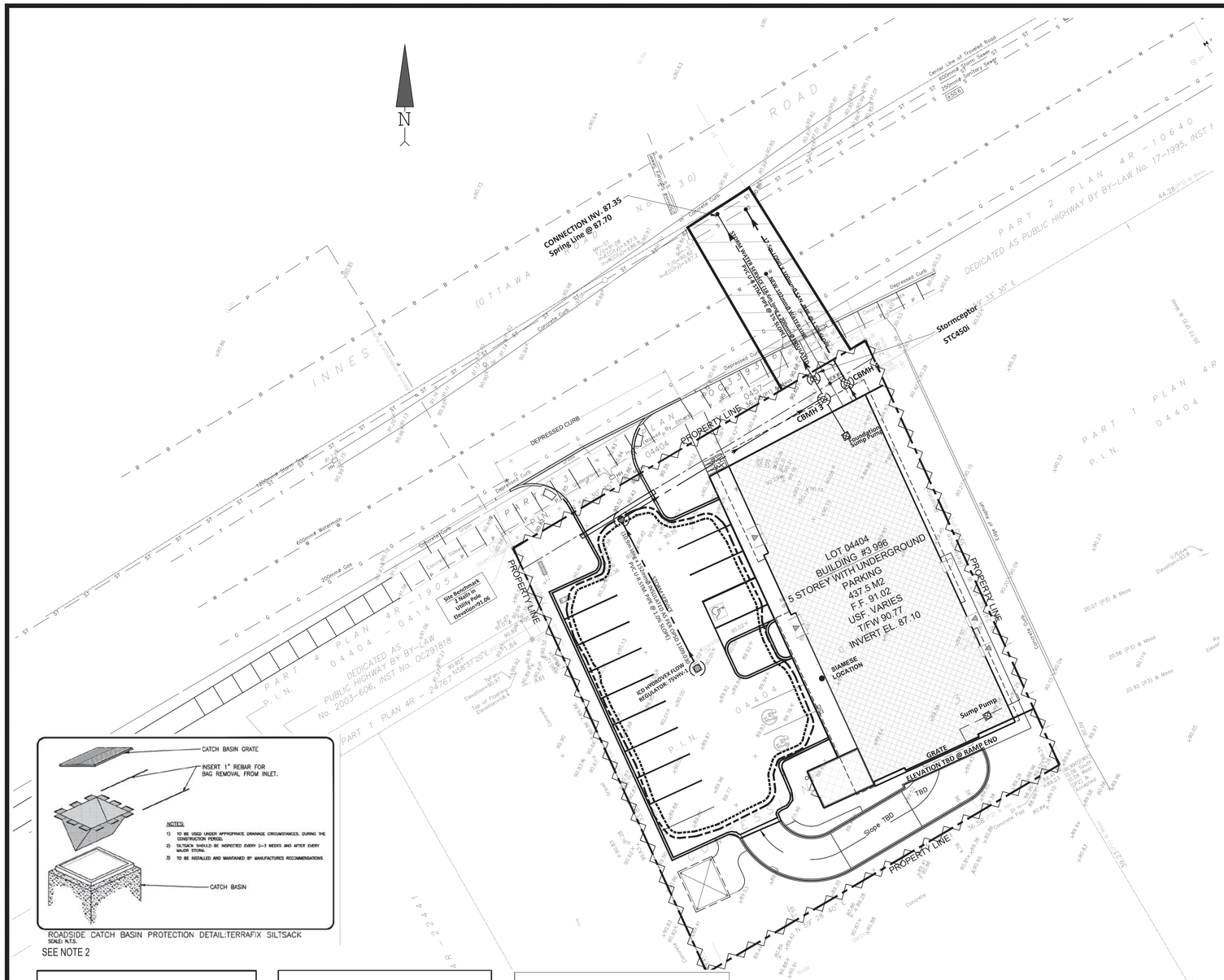
C1

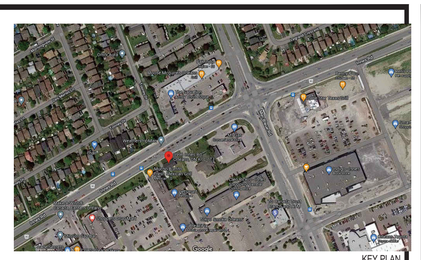
Project

ORLEANS RESIDENTIAL & MEDICAL FACILITY

3 996 Innes Road, Ottawa, ON.

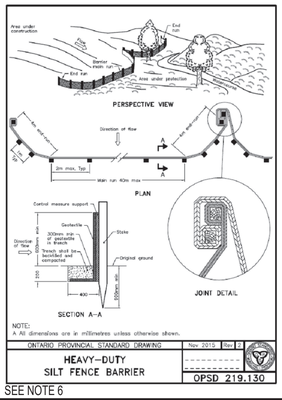
Title: SITE SERVICING PLAN GRADING PLAN		Drawn /: A.F. / Verif. /: D.K.	Scale 1:200
Date: 2022/09/14	Revision: 0		Drawing # SS & GR



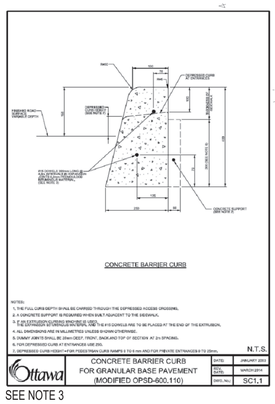


KEY PLAN

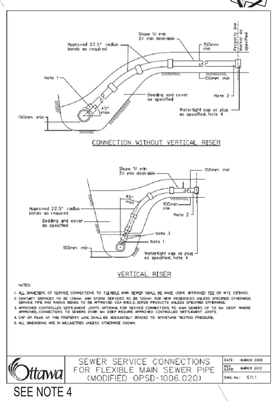
ROADSIDE CATCH BASIN PROTECTION DETAIL:TERRAFIX SILTSACK
SCALE N.T.S.
SEE NOTE 2



SEE NOTE 6



SEE NOTE 3



SEE NOTE 4

Scale 1: 200

0 2.5 5 10 15 20 metres

Structural Environmental Services

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EAU Structural & Environnemental Svs
tel., 613 869 0523, derrick.r.clark@rogers.com

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pierretabetarchitecte.com

No	DATE	REVISION	App.
1			
2			
3			
4			
5			

No	DATE	ISSUED FOR	App.
1	2022/09/14	SITE PLAN CONTROL	D.K.
2	2022/12/31	REV PER CITY	D.R.C
3			
4			
5			

NOTES & LEGEND:

PROPERTY LINE

SILT FENCE PER OPSD 219.130

PROPOSED BUILDING ENVELOP

EXISTING FIRE HYDRANT

1. MUD MAT IS NOT REQUIRED AT SITE ENTRANCE
2. CBMH1, #2 & #3 INLET TO BE PROTECTED WITH GEO-FABRIC.
3. CONCRETE BARRIER CURB PER OPSD 600.110
4. SEWER/STORM LATERAL CONNECTIONS PER OPSD 1006.020
5. THE CONTRACTOR IS REQUIRED TO GET WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS FOR WORK OUTSIDE THE PROPERTY LINE.
6. HEAVY DUTY SILT FENCE PER OPSD 219.136.
7. THE FOLLOWING DOCUMENTS HAVE BEEN REVIEWED
   - CITY OF OTTAWA STANDARD TENDER DOCUMENTS FOR UNIT PRICE (DO-006F 1004&F1005)
   - GUIDELINES ON EROSION & SEDIMENT CONTROL FOR URBAN SITES, MAY 1987.
8. ENVIROMENTAL GUIDELINES FOR ACCESS ROADS & WATER CROSINGS BY O.M.N.R.

Stamp

LICENSED PROFESSIONAL ENGINEER
D. R. CLARK
19 12 22
PROVINCE OF ONTARIO

C2

Project

ORLEANS RESIDENTIAL & MEDICAL FACILITY

3 996 Innes Road, Ottawa, ON.

Title	Drawn /: A.F.	Scale
EROSION & SEDIMENT CONTROL PLAN	Verif. /: D.K.	1:200
Date: 2022/09/14 Revision: 0		Drawing # ES