SITE SERVICING & STORMWATER MANAGEMENT REPORT
381 KENT STREET, OTTAWA, ON

Rendering Prepared by NEUF Architectes

Project No.: CCO-23-3187

City File No.: D07-12-23-0031

Prepared for:

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McINTOSH PERRY

TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

1.0 PROJECT DESCRIPTION

1.1 Purpose

McIntosh Perry (MP) has been retained by KATASA Groupe + Développment (KGD) to prepare a Servicing and Stormwater Management Report in support of the Site Plan Control application for the proposed 9-storey residential mixed-use building located at 381 Kent Street within the City of Ottawa. The main purpose of this report is to present a servicing design for the development in accordance with the recommendations and guidelines provided by the City of Ottawa (City), the Rideau Valley Conservation Authority (RVCA), and the Ministry of the Environment, Conservation and Parks (MECP). This report will address the water, sanitary and storm sewer servicing for the development, ensuring that existing and available services will adequately service the proposed development.

This report should be read in conjunction with the following drawings:

- CCO-23-3187, C100 – Site Servicing and Grading Plan (***Appendix F***)
- CCO-23-3187, PRE – Pre-Development Drainage Area Plan (***Appendix E***)
- CCO-23-3187, POST – Post-Development Drainage Area Plan (***Appendix E***)

1.2 Site Description

The property is located at 381 Kent Street, Ottawa. It is described as Registered Plan 30671, Lots 32-34 and part of Lot 35 South Gilmore Street and Lots 32-35 North James Street, City of Ottawa. The existing site covers approximately 0.38ha and is bounded by Gilmore Street to the north, James Street to the south, and Kent Street to the west and private residential lots to the east. See Site Location Plan in ***Appendix A*** for more details.

Figure 1: Site Map

1.3 Proposed Development and Statistics

The proposed development consists of a 9-storey mixed-use residential building with two levels of underground parking, complete with an access ramp provided on Gilmore Street. Commercial space will be located on the ground floor near the northwest corner of the building fronting Kent Street. The southwest corner of the property is proposed to be dedicated City parkland and will cover approximately 0.04ha, reducing the total development area to 0.34ha. Refer to the Site Plan prepared by NEUF Architectes included in ***Appendix B*** for details.

1.4 Existing Conditions and Infrastructure

The existing property consists of a 5-storey office building in the southwest corner of the site, with commercial units located on the ground floor and an approximate footprint of 0.08ha. The remaining portion of the site is predominantly paved parking with vehicle access points on Gilmore Street and James Street.

Based on GIS data from the City of Ottawa, the existing building appears to be serviced with a watermain connection on James Street, while the sanitary service location is unknown. Based on topographical survey data, there appears to be at least two catchbasins within the paved parking area, but the outlet locations for these structures are unknown. A majority of the stormwater runoff on site appears to be collected by these two catchbasins while some small areas sheet drain towards James Street and Gilmore Street directly, and is collected by the municipal infrastructure.

Sewer and watermain mapping collected from the City of Ottawa indicate that the following services exist across the property frontages within the adjacent municipal rights-of-ways (ROW):

- **Kent Street**
    - 305mm diameter unlined cast iron (UCI) watermain,
    - 375mm diameter clay combined storm/sanitary sewer,
    - 525mm diameter concrete combined storm/sanitary sewer,
    - 3000mm diameter concrete combined storm/sanitary trunk sewer.
- **Gilmore Street**
    - 305mm diameter ductile iron watermain,
    - (2) 225mm diameter concrete combined storm/sanitary sewer.
- **James Street**
    - 203mm diameter ductile iron watermain,
    - 300mm diameter concrete combined storm/sanitary sewer,
    - 225mm diameter concrete combined storm/sanitary sewer.

1.5 Approvals

The proposed development is subject to the City of Ottawa site plan control process. Site plan control requires the City to review, provided concurrence and approve the engineering design package. Permits to construct can be requested once the City has issued a site plan agreement.

The site is currently located within a combined sewershed and therefore the approval exemption under O.Reg. 525/98 would not apply, and an Environmental Compliance Approval (ECA) through the Ministry of Environment Conservation and Parks (MECP) will be required. The ECA application will be a Direct Submission for Private Sewage Works discharging to a combined sewer.

2.0 BACKROUND STUDIES, STANDARDS, AND REFRENCES

2.1 Background Reports / Reference Information

Background studies that have been reviewed for the proposed site include City of Ottawa record drawings and utility plans, GIS mapping and a topographical survey. Record drawings and utility plans of existing services within the vicinity of the proposed site were provided by the City of Ottawa and were reviewed in order to prepare servicing and stormwater management schemes for the site based on the current available information. As-built information was provided by the City of Ottawa for James Street (1983-84), Gilmore Street (1987) and Kent Street (1935 & 2021).

A topographic survey of the site (Job No. AC29400) was completed by Fairhall, Moffatt & Woodland Ltd., dated December 19, 2022.

2.2 Applicable Guidelines and Standards

City of Ottawa:

- Ottawa Sewer Design Guidelines, City of Ottawa, SDG002, October 2012. (Ottawa Sewer Guidelines)
  - Technical Bulletin ISTB-2014-01 City of Ottawa, February 2014. (ISTB-2014-01)
  - Technical Bulletin PIEDTB-2016-01 City of Ottawa, September 2016. (PIEDTB-2016-01)
  - Technical Bulletin ISTB-2018-01 City of Ottawa, January 2018. (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-03 City of Ottawa, March 2018. (ISTB-2018-03)
  - Technical Bulletin ISTB-2019-01 City of Ottawa, January 2019. (ISTB-2019-01)
  - Technical Bulletin ISTB-2019-02 City of Ottawa, February 2019. (ISTB-2019-02)
- Ottawa Design Guidelines – Water Distribution City of Ottawa, July 2010. (Ottawa Water Guidelines)
  - Technical Bulletin ISD-2010-2 City of Ottawa, December 15, 2010. (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02 City of Ottawa, May 2014. (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02 City of Ottawa, March 2018. (ISTB-2018-02)

Ministry of Environment, Conservation and Parks (MECP):

- Stormwater Planning and Design Manual, Ministry of the Environment, March 2003. (MECP Stormwater Design Manual)
- Design Guidelines for Sewage Works, Ministry of the Environment, 2008. (MECP Sewer Design Guidelines)

Other:

- Water Supply for Public Fire Protection, Fire Underwriters Survey, 2020. (FUS Guidelines)

3.0 PRE-CONSULTATION SUMMARY

A pre-consultation meeting was conducted on October 24th, 2022, regarding the proposed site. Meeting notes are included in ***Appendix B***. Specific design parameters to be incorporated within this design include the following:

- Calculate the time of concentration for pre-development conditions (cannot be less than 10 minutes).
- Control post-development flows to the pre-development 2-year storm release rate using the pre-development runoff coefficient or a maximum equivalent 'C' of 0.4, whichever is less. Up to and including the 100-year storm event must be detained on site.

4.0 WATERMAIN

4.1 Existing Watermain

Currently the existing 5-storey office building is serviced from James Street from the existing 203mm diameter ductile iron watermain installed between 1980 and 1990. In addition, there is an existing 305mm diameter UCI watermain installed pre-1900 on Kent Street, and a 305mm diameter ductile iron watermain installed between 1980-1990 on Gilmore Street.

4.2 Proposed Watermain

In accordance with Section 4.3.1 of the Ottawa Water Guidelines, service areas with a basic day demand greater than 50m^3/day require a dual connection to the municipal system. The proposed design includes two parallel 150mm diameter PVC watermain service laterals connected to the existing 305mm diameter ductile iron watermain on Gilmore Street, which will be separated by new relocated valve and valve box installed on the main to provide redundancy for the site.

Valves will be installed on each service lateral at or near the property line prior to entering the water entry room within the first underground level of the building. The elevation of the proposed service laterals will ensure that a minimum of 2.4m of ground cover is provided for the entire length of the pipes. Refer to drawing C100 in ***Appendix F*** for a detailed servicing layout.

The Fire Underwriters Survey (FUS) 2020 method was utilized to estimate the required fire flow for the site. Fire flow requirements were calculated per City of Ottawa Technical Bulletin ISTB-2018-02. The following parameters were used to calculate the require fire flows for the site.

- Type of construction – Non-combustible construction (Coefficient of 0.8)
- Occupancy Type – Limited combustibility (15% reduction)
- Sprinkler Protection – Automatic sprinklers with a standard water supply and fire department connection (40% reduction)

The results of the calculations yielded a required fire flow of 12,000 L/min (200 L/s). The detailed calculations for the FUS required fire flows can be found in ***Appendix C***.

The water demands for the proposed building have been calculated to adhere to the Ottawa Water Guidelines and can be found in ***Appendix C***. The results have been summarized below:

Table 1: Water Supply Design Criteria and Water Demands

Parameter	Total
Site Area	0.34ha
Total Estimated Population	371 Persons
Residential Demand Rate	280 L/c/d
Commercial Area	174m^2 (0.0174ha)
Commercial Demand Rate	28,000 L/ha/day
Residential Maximum Day Peaking Factor (MECP Table 3-3)	3.3
Residential Maximum Hour Peaking Factor (MECP Table 3-3)	5.0
Commercial Maximum Day Peaking Factor	1.5
Commercial Maximum Hour Peaking Factor (1.8 X Max Day)	2.7
Total Average Daily Demand	**1.21 L/sec**
Total Maximum Daily Demand	**3.98 L/sec**
Total Peak Hour Demand	**6.03 L/sec**
Required Fire Flows (FUS)	**12,000 L/min (200 L/sec)**

Boundary conditions for the site were provided by the City of Ottawa for the average day scenario, peak hour scenario and the maximum day plus fire flow scenario using the demands indicated above, and are summarized in **Table 2** below.

Table 2: Water Supply Design Criteria and Water Demands

Scenario	305mm Dia. Watermain Connection on Gilmore St.		
	Total HGL (m)	Head Pressure* (m)	Head Pressure* (psi)
Peak Hourly (Minimum HGL)	106.7	34.2	48.6
Average Day (Maximum HGL)	155.4	82.9	117.9
Maximum Day + Fire Flow (200 L/sec)	108.0	35.5	50.5
**Adjusted for an estimated ground elevation of 72.5m above the connection point.*			

The boundary conditions were used to ensure the normal operating pressure range is not less than 275kPa (40psi) or more than 552kPa (80psi). The resultant hydraulic grade line (HGL) shows that the minimum pressure limit is satisfied during the peak hour scenario, however, exceed the maximum limit during the average day scenario. As most high-rise buildings incorporate pressure modifications internally for each floor of the building, coordination with the mechanical engineer will be required to determine if a pressure reducing valve is needed on the exterior water service.

In addition to normal operations, the maximum day plus fire flow conditions were reviewed to ensure that there is sufficient fire flow available to meet the required 200 L/sec flow rate, while maintaining a minimum of 20psi (140kPa) within the City's distribution system as per the City of Ottawa Design Guidelines for Water Distribution, 2010. The resulting HGL shows that the minimum pressure is satisfied during a fire scenario.

In addition to the review of the boundary conditions, the available fire flow based on hydrant spacing was analysed as per the City of Ottawa's technical bulletin ISTB 2018-02 Appendix I, Table 1. All municipal hydrants within 150m clear distance to the nearest face of the building were used to find a combined available fire flow to support the site. Hydrants were assumed to be class AA (painted blue) by visual inspection through the latest imagery provided on Google Street View. A total contribution of 5,700 L/sec and 3,800 L/sec was used for each hydrant within 75m, and between 75m and 150m of the building, respectively. The results are summarized below in ***Table 3***. Please refer to ***Appendix C*** for a hydrant location map.

Table 3: Available Fire Flows Based on Hydrant Spacing

Hydrant I.D.	Location	Municipal or Private	Colour or Class (If Known)	381 KENT ST	
				[1]Distance (m)	[2]Fire Flow Contribution (L/min)
366030H162	KENT/MACLAREN	Municipal	Blue (assume class AA)	100	3,800
366030H247	KENT/GILMORE	Municipal	Blue (assume class AA)	10	5,700
366030H166	KENT/JAMES	Municipal	Blue (assume class AA)	38	5,700
366030H413	KENT/FLORENCE	Municipal	Blue (assume class AA)	128	3,800
366030H241	GILMORE (WEST)	Municipal	Blue (assume class AA)	84	3,800
366030H196	GILMORE (EAST)	Municipal	Blue (assume class AA)	70	5,700
366030H167	JAMES (WEST)	Municipal	Blue (assume class AA)	130	3,800
366030H199	JAMES (EAST)	Municipal	Blue (assume class AA)	31	5,700
Total (L/min)					**38,000**
FUS RFF in L/min or (L/sec)					12,000 (200)

Notes:
[1]Distance is measured along a road or fire route to nearest face of building.
[2]Fire Flow Contribution based on Table 1 of Appendix I, ISTB-2018-02

5.0 SANITARY DESIGN

5.1 Existing Sanitary Sewer

The site is currently located within a combined sewershed without any separated sanitary sewers available. There are several existing combined sewers surrounding the site including a 525mm diameter concrete and a 375mm diameter clay combined sewers located on Kent Street, two 225mm diameter concrete combined sewers on Gilmore Street, and a 225mm and 300mm diameter concrete combined sewers on James Street.

5.2 Proposed Sanitary Sewer

The proposed design includes a single 200mm diameter PVC gravity sanitary service lateral connected directly to the 525mm diameter concrete combined sewer on Kent Street. The sanitary service will include an inspection port located within the extent of the underground foundation due to the proximity to the property line. ***Table 4***, below, summarizes the wastewater design criteria used to calculate the estimated peak sewage flow rates.

Table 4: Sanitary Design Criteria

Parameter	Total
Total Property Area	0.34 ha
Total Population	371 Persons
Residential Demand Rate	280 L/c/day
Peaking Factor (*Based on Harmon's Equation*)	3.43
Groundwater Infiltration Allowance	0.33 L/sec/ha
Total Infiltration Flow	**0.11 L/sec**
Peak Sewage Flow	**4.13 L/sec**
Total Estimated Peak Wet Weather Flow	**4.25 L/sec**

As noted above, the proposed design includes a new connection to the Kent Street 525mm diameter concrete combined sewer. It is requested that the City advise of any downstream constraints that should be considered for this connection. It is noted that because this property is located within a combined sewershed, the stormwater runoff from the site is required to be over controlled below pre-development flow rates (refer to the following section for more detail). Please refer to ***Appendix D*** for detailed calculations.

6.0 STORM SEWER DESIGN

6.1 Existing Storm Sewers

The site is currently located within a combined sewershed without any separated storm sewers available. There are several existing combined sewers surrounding the site including a 525mm diameter concrete and a 375mm diameter clay combined sewers located on Kent Street, two 225mm diameter concrete combined sewers on Gilmore Street, and a 225mm and 300mm diameter concrete combined sewers on James Street.

6.2 Proposed Storm System

There is no internal storm sewer network proposed for this development. In lieu, the site is designed to manage a majority of the stormwater runoff with rooftop collection and overland sheet flow to area drains over top of the underground parking garage foundation. Stormwater will be collected and stored within a cistern located in the first basement level of the proposed building adjacent to Kent Street. The cistern will store stormwater and discharge it to a 250mm diameter PVC gravity storm lateral at a controlled rate via a mechanical pump system, which will then discharge directly to the Kent Street 525mm diameter concrete combined sewer. The storm servicing will include an emergency overflow, with a perforated cover overtop the cistern within the footprint of the underground foundation, which will also be used as an inspection and maintenance access hatch.

The small areas fronting Gilmore, Kent and James Street are proposed to be a mixture of hard surfaces and landscaping, and any areas not collected by the rooftop or area drains are designed to sheet flow away from the building overland and towards the City right of way and are collected by municipal infrastructure. The areas adjacent to the private lot lines along the east property limit are designed to be collected using shallow drainage swales and area drains, with spill points directed towards the ROW, should the drains become plugged or overwhelmed. This will ensure stormwater runoff is not directed towards any other private property during any storm event.

Foundation drainage is proposed to be conveyed to the new 250mm storm service via a mechanical sump pump located within the lowest basement level and connected internally within the building's plumbing system and downstream of the cistern pump controls, prior to discharging to the main.

7.0 PROPOSED STORMWATER MANAGEMENT

7.1 Design Criteria and Methodology

The stormwater management design has been completed to meet the following design criteria:

- Water quantity control to be provided to control post-development peak flows up to and including a 100-year event to a 2-year pre-development level. The pre-development runoff coefficient shall be calculated based on existing conditions, but in no case shall be more than 0.4. Refer to *Section 7.3* for further details.
- Water quality control will not be required for the development due to the fact that the site is within a combined sewershed.

It is assumed that the subject property is not covered by any specific watershed or sub watershed plans and has no existing stormwater management controls in place. As such, the subject site will require a site-specific stormwater management plan using the City of Ottawa Sewer Design Guidelines (2012), and the MECP Stormwater Management Planning and Design (SWMPD) Manual (March 2003). The intent of this stormwater management plan is to provide the necessary stormwater quantity treatments, which will be achieved by means of on-site stormwater management control measures. Please refer to drawing CCO-23-3187 - *POST* included in ***Appendix E*** of this report for more details on the proposed site drainage areas. The Stormwater Management design for the subject property will be outlined in *Section 7.4* of this report.

7.2 Runoff Calculations

Runoff calculations presented in this report are derived using the Rational Method, given as:

$$Q = 2.78CIA$$

Where:
Q = Flow (L/sec)
C = Runoff coefficient
I = Rainfall intensity in mm/hr (City of Ottawa IDF curves)
A = Drainage area in hectares

It is recognized that the Rational Method tends to overestimate runoff rates. As a result, the conservative calculation of runoff ensures that any SWM facility sized using this method is expected to function as intended. The following coefficients were used to develop an average C for each area:

Roofs/Concrete/Asphalt	0.90
Landscaped and Grass	0.20

As per the City of Ottawa's Sewer Design Guidelines, the 5-year balanced 'C' value must be increased by 25% for a 100-year storm event to a maximum of 1.0.

7.3 Pre-Development Drainage Conditions

It has been assumed that the existing development contained no stormwater management controls for flow attenuation. The estimated pre-development peak flows for the 2-, 5-, and 100-year events are summarized below in ***Table 5***. Please refer to the detailed calculations and drawing CCO-23-3187 - *PRE* provided in ***Appendix E*** for more information.

Table 5: Pre-Development Runoff Summary

Drainage Area	Area (ha)	Runoff Coefficient, C (2/5-Yr)	Runoff Coefficient, C (100-Yr)	Peak Flow, Q (L/s)		
				2-Year	5-Year	100-Year
A1	0.3437	0.88	0.98	**64.85**	**87.98**	**167.63**

As noted previously, the site is located within a combined sewershed, and so, the maximum Runoff Coefficient (C) which can be used for design is 0.40. As demonstrated in **Table 5**, the existing C value was calculated to be 0.88. The estimated 2-year pre-development peak flow rate using a reduced C value is summarized below in ***Table 6***.

Table 6: Pre-Development Design Flow Requirement

Drainage Area	Area (ha)	Runoff Coefficient, C (Design)	Maximum Peak Flow for Design, Q (L/s)
			2-Year
A1	0.3437	0.40	**29.35** ***(Governs)***

7.4 Post-Development Drainage Conditions

To meet the stormwater requirements noted previously, the development is proposed to contain a cistern which will store stormwater collected by the rooftop and various area drains throughout the site. The cistern will discharge stormwater to the Kent Street combined sewer main at a controlled rate.

Based on the criteria listed in *Section 7.1*, the development will be required to restrict flow to the 2-year storm event, using a C value of 0.40. Therefore the calculated target release rate for the site during the 100-year event will be 29.35 L/s.

The proposed site drainage limits are demonstrated on the Post-Development Drainage Area Plan. Refer to CCO-23-3187 - *POST* provided in ***Appendix E*** of this report for more details.

7.4.1 *Post-Development Drainage Areas*

Drainage area B1 consists of the total area captured by the building's roof and area drains, which is conveyed by internal plumbing to the cistern. The area is approximately 0.28ha and includes the

entire roof area, and a portion of the patio and landscaped areas to the front (west) and rear (east) of the building, which are collected by area drains. The runoff coefficients for this area were calculated to be 0.87 and 0.97 with total estimated uncontrolled peak flow rates of 71.34 L/sec and 136.02 L/sec for the 5- and 100-year storm events, respectively.

Drainage area B2 consists of the remainder of the property not included within area B1. This area consists primarily of the small portions of the site which front Gilmore, Kent and James Street and are not collected by the buildings drainage system. This area is approximately 0.06ha and includes a mixture of pervious and impervious surfaces. The runoff coefficients for this area were calculated to be 0.64 and 0.72 with total estimated peak flow rates of 11.04 L/sec and 21.33 L/sec for the 5- and 100-year storm events, respectively.

A summary of the uncontrolled post-development runoff calculations (excluding foundation drainage) can be found below in ***Table 7***.

Table 7: Post-Development Uncontrolled Runoff Summary

Drainage Area	Area (ha)	C 2/5-Year	C 100-Year	Tc (min)	I (mm/hr)		Q (L/s)	
					5-Year	100-Year	5-Year	100-Year
B1	0.2837	0.87	0.97	10	104.2	178.6	71.34	136.02
B2	0.0600	0.64	0.72	10	104.2	178.6	11.04	21.33
Total	**0.3437**						**82.38**	**157.36**

7.4.2 *Quantity Control*

Under post-development conditions, given that the drainage area B2 will be directed towards the City's ROW without any restriction at a release rate of 21.33 L/sec, the allowable release rate for the remainder of the site must be maintained below 8.02 L/sec.

As a result, drainage area B1 will be controlled to a total allowable release rate of approximately 8.02 L/sec, which will include an assumed rate of 0.35 L/sec applied for a conservative estimate for foundation drainage. The estimated foundation drainage rate will be confirmed through coordination with the geotechnical engineer for subsequent submissions and the release rates will be revised accordingly.

Foundation drains will bypass the cistern and outlet downstream of any cistern pump controls, and as a result, the allowable release rate for the cistern will be a maximum of 7.67 L/sec. Therefore, a total volume of 127.70m^3 is required for on-site stormwater storage. Further coordination with the mechanical engineer will be required to adequately size a pump to meet the required release rate stated above. A summary of the controlled flows and storages is provided below in ***Table 8***. Please

refer to the detailed calculations provided in ***Appendix E*** for the estimated release rates and required storage volumes.

Table 8: Post-Development Uncontrolled Runoff Summary

Drainage Area	Unrestricted Flow (L/s)		Restricted Flow (L/s)		Storage Required (m^3)		Storage to be Provided (m3)
	5-Year	100-Year	5-Year	100-Year	5-Year	100-Year	
B1	71.34	136.02	4.02	7.67	68.08	127.70	140.00
B2	11.04	21.33	11.04	21.33	NA		NA
Fnd. Drain	0.35	0.35	0.35	0.35	NA		NA
Total	**82.38**	**157.36**	**15.41**	**29.35**	**68.08**	**127.70**	**140.00**
			29.35 (Required)				

8.0 COMBINED SEWER FLOW

It has been assumed that the existing site contains no stormwater management controls for flow attenuation, and is a commercial property. The pre-development sanitary flows were calculated based on the City of Ottawa's Sewer Design Guidelines (2012), using a 28,000 L/ha/day demand rate applied over the entire site area of 0.38ha with a peaking factor of 1.5. The pre-development and post-development combined flow rates are summarized in ***Table 9***, below.

Table 9: Combined Flow Comparison

Flow Type	5-Year		100-Year	
	Pre-Development (L/s)	Post-Development (L/s)	Pre-Development (L/s)	Post-Development (L/s)
Sanitary	0.18	4.25	0.18	4.25
Storm	87.98	15.41	167.63	29.35
Combined Flow	**88.16**	**19.66**	**167.81**	**33.60**

As seen in ***Table 9***, above, the post-development combined flow will be significantly lower than the pre-development combined flow. Reductions in flow for the 5-year and 100-year storms will be 68.5 L/s and 134.21 L/s, respectively. As such, it is anticipated that there will be no capacity concerns within the existing 525mm diameter combined sewer due to an overall reduction in flow rates by over 75%. Due to the complexity of the system, the City is requested to confirm and advise of any downstream constraints that may affect the proposed design.

9.0 EROSION AND SEDIMENT CONTROL

9.1 Temporary Measures

Before construction begins, temporary silt fence, straw bale or rock flow check dams will be installed at all-natural runoff outlets from the property. It is crucial that these controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or Contract Administration staff throughout the construction period.

Silt fences will be installed where shown on the final engineering plans, specifically along the downstream property limits. The Contractor, at their discretion or at the instruction of the City, Conservation Authority or the Contract Administrator shall increase the quantity of sediment and erosion controls on-site to ensure that the site is operating as intended and no additional sediment finds its way off site. The rock flow, straw bale & silt fence check dams and barriers shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the fences and check dams as required. Fibre roll barriers are to be installed at all existing curb inlet catch basins and filter fabric is to be placed under the grates of all existing catch basins and manholes along the frontage of the site and any new structures immediately upon installation. The measures for the existing/proposed structures are to be removed only after all areas have been paved or landscaped. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of. Removal of silt fences without prior removal of the sediments shall not be permitted.

Although not anticipated, work through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact the City and/or Conservation Authority to review the site conditions and determine the appropriate course of action. As the ground begins to thaw, the Contractor shall place silt fencing at all required locations as soon as ground conditions warrant. Please see the *Site Servicing and Grading Plan* for additional details regarding the temporary measures to be installed and their appropriate OPSD references.

9.2 Permanent Measures

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/sod and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any watercourse to ensure that no sediment is washed out into the watercourse. As the vegetation growth within the site provides a key component to the control of sediment for the site, it must be properly maintained once established. Once the construction is complete, it will be up to the property owner to maintain the vegetation and ensure that the vegetation is not overgrown or impeded by foreign objects.

10.0 SUMMARY

- A new 9-storey residential multi-purpose building is proposed at 381 Kent Street in Ottawa, Ontario.
- A new twin 150mm watermain service lateral is proposed to service the site, connecting to the 305mm watermain within Gilmore Street near the northwest corner of the property.
- A new 200mm sanitary service lateral will be installed to service the proposed development and will be connected to the 525mm diameter concrete combined sewer within Kent Street.
- A new 250mm storm service lateral will be installed to service the proposed development and will be connected to the 525mm diameter concrete combined sewer within Kent Street. Stormwater will be collected by roof drainage and various area drains around the site and will be stored a cistern before discharging to the Kent Street sewer at a controlled rate via a mechanical pump.
- Storage for the 5- through 100-year storm events will be provided within the cistern and will be a minimum of 127.70m^3.
- Water quality control will not be required for the development due to the fact that the site is within a combined sewershed.

11.0 RECOMMENDATION

Based on the information presented in this report, we recommend that City of Ottawa approve this Servicing and Stormwater Management report in support of the proposed development at 381 Kent Street.

This report is respectfully being submitted for approval.

Sincerely,

McIntosh Perry Consulting Engineers Ltd.

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12.0 STATEMENT OF LIMITATIONS

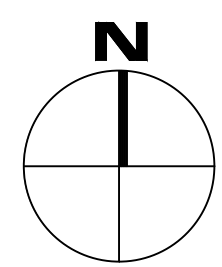
This report was produced for the exclusive use of **381 Kent Street**. The purpose of the report is to assess the existing stormwater management system and provide recommendations and designs for the post-construction scenario that are in compliance with the guidelines and standards from the Ministry of the Environment, Parks and Climate Change, City of Ottawa and local approval agencies. McIntosh Perry reviewed the site information and background documents listed herein. While the previous data was reviewed by McIntosh Perry and site visits were performed, no field verification/measures of any information were conducted.

Any use of this review by a third party, or any reliance on decisions made based on it, without a reliance report is the responsibility of such third parties. McIntosh Perry accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions made based on this review.

The findings, conclusions and/or recommendations of this report are only valid as of the date of this report. No assurance is made regarding any changes in conditions subsequent to this date. If additional information is discovered or becomes available at a future date, McIntosh Perry should be requested to re-evaluate the conclusions presented in this report, and provide amendments, if required.

APPENDIX A
SITE LOCATION PLAN

McINTOSH PERRY



McINTOSH PERRY

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Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

Client: KATASA GROUPE + DÉVELOPPMENT
69 RUE JEAN-PROULX #301, GATINEAU, QC

Project: 9-STOREY MIXED-USE RESIDENTIAL BUILDING
381 KENT STREET, OTTAWA, ON

Drawing Title: SITE LOCATION PLAN

Drawn by:	Checked By:
J.H.	R.F.
Scale:	Project Number:
N.T.S.	CCO-23-3187

No.	Revisions	Date
1	ISSUED FOR SITE PLAN CONTROL	FEB. 17, 2023

Drawing Number: SITE

FILENAME: U:\Infrastructure\2023\CCO-23-3187 Katasa - 381 Kent Street\12 - Drawings\Figures\SiteLocation.dwg
LAST SAVED: Monday, February 13, 2023 LAST SAVED BY: j.hewson
LAST PLOTTED: Thursday, February 16, 2023 CTB FILE USED: ----

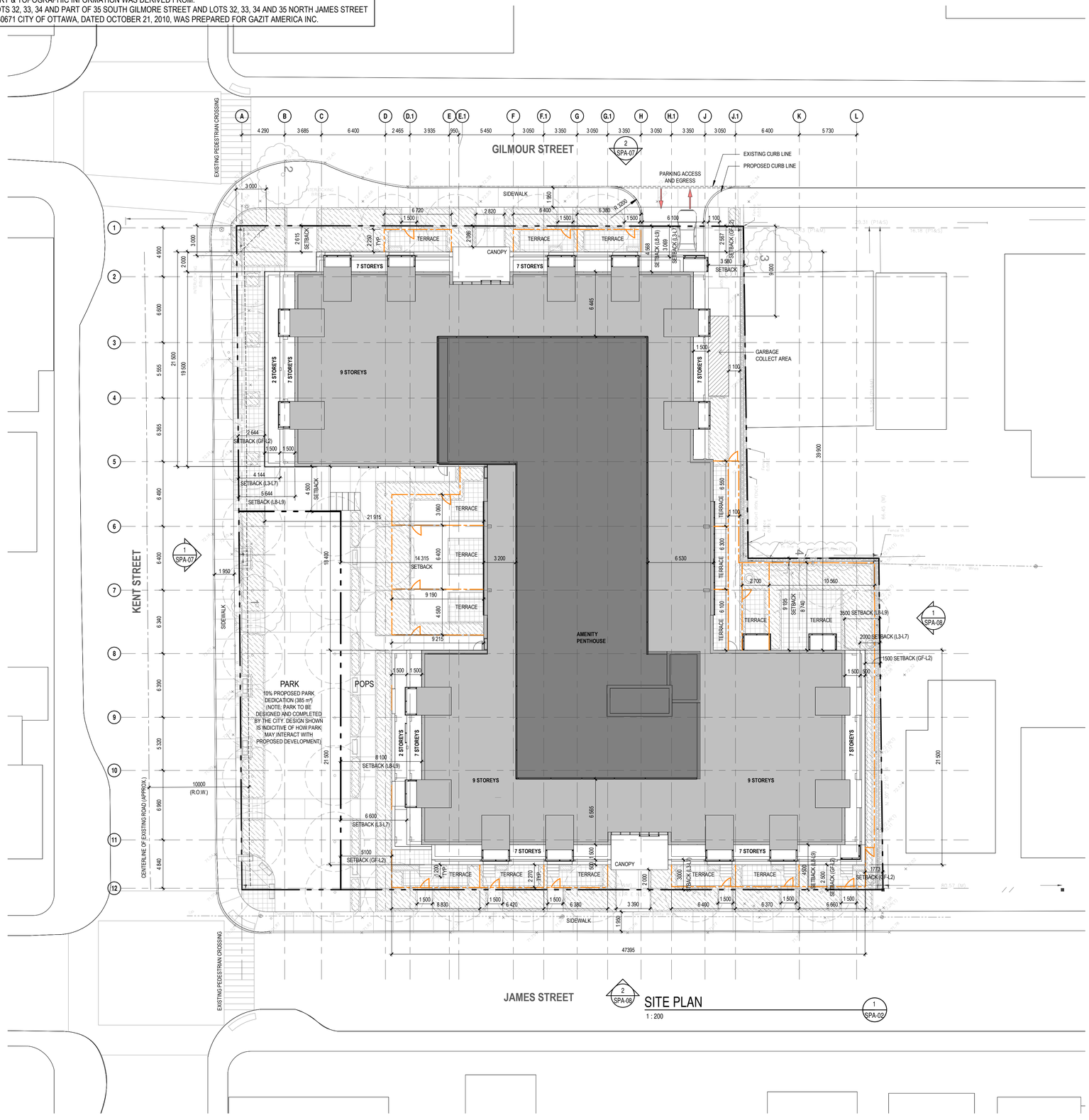
APPENDIX B
BACKGROUND INFORMATION

McINTOSH PERRY

LEGEND OF SYMBOLS

- PROPERTY LINE
- SET BACK LINE
- FENCE

NOTE:
PROPERTY BOUNDARY & TOPOGRAPHIC INFORMATION WAS DERIVED FROM:
SURVEY PLAN OF LOTS 32, 33, 34 AND PART OF 35 SOUTH GILMORE STREET AND LOTS 32, 33, 34 AND 35 NORTH JAMES STREET REGISTERED PLAN 30671 CITY OF OTTAWA, DATED OCTOBER 21, 2010, WAS PREPARED FOR GZIT AMERICA INC.



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NEUF ARCHITECTES SENCRL

CLIENT Client
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Gatineau (Quebec) J8Z 1W2

OUVRAGE Project
381 KENT STREET

EMPLACEMENT Location
OTTAWA

NO PROJET No.
12399

NO	RÉVISION	DATE (aa-mm-jj)
01	SITE PLAN CONTROL	23-02-20
02	SITE PLAN CONTROL	23-08-30

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DESSINÉ PAR Drawn by
MM

VÉRIFIÉ PAR Checked
HG

DATE (aa.mm.jj)
23.02.20

ÉCHELLE Scale
1:200

TITRE DU DESSIN Drawing Title
SITE PLAN (ROOF LEVEL)

RÉVISION Revision

NO. DESSIN Dwg Number
SPA-02

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LEGEND OF PARKING SYMBOLS

- CAR ACCESS RAMP (LEVELS-PARKING)
- COMPACT PARKING (2400mmX4600mm)
- ACCESSIBLE PARKING TYPE A (3400mmX5200mm) TYPE B (2400mmX5200mm)
- ELECTRIC PARKING (2600mmX5200mm)
- VISITOR PARKING (2600mmX5200mm)

PARKING SPACE

TYPE	TOTAL
BASEMENT LEVEL 2	
Compact Parking (2400mmx4600mm)	24
Electric Parking (2600mmx5200mm)	8
Typical Parking (2600mmx5200mm)	49
	81
BASEMENT LEVEL 1	
Accessible Parking_TYPE A (3400mmx5200mm)	3
Accessible Parking_TYPE B (2400mmx5200mm)	3
Compact Parking (2400mmx4600mm)	21
Electric Parking (2600mmx5200mm)	6
Typical Parking (2600mmx5200mm)	18
Visitor Parking (2600mmx5200mm)	22
	73
Grand total: 154	154

**REQUIRED PARKING SPACE:
0.5 PER UNIT + 0.1 PER UNIT FOR VISITORS = (218X0.5) + (218X0.1) = 131

BICYCLE

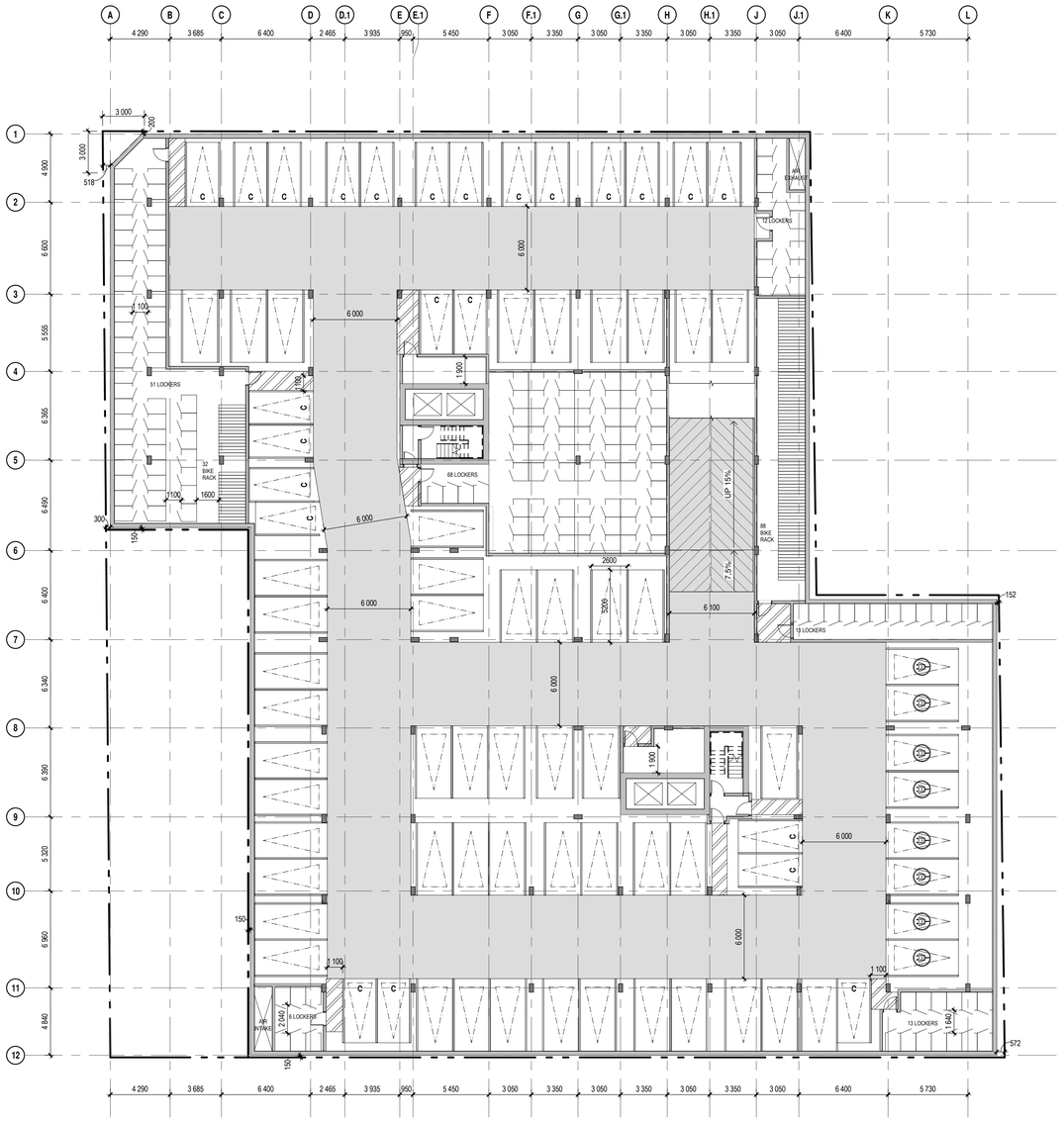
TYPE	TOTAL
BASEMENT LEVEL 2	
HORIZONTAL SPACE 1930Lx230W STACKED	120
BASEMENT LEVEL 1	
HORIZONTAL SPACE 1930Lx230W STACKED	88
GROUND FLOOR	
HORIZONTAL SPACE 1800Lx600W	11
HORIZONTAL SPACE 1930Lx230W STACKED	16

Grand total: 235

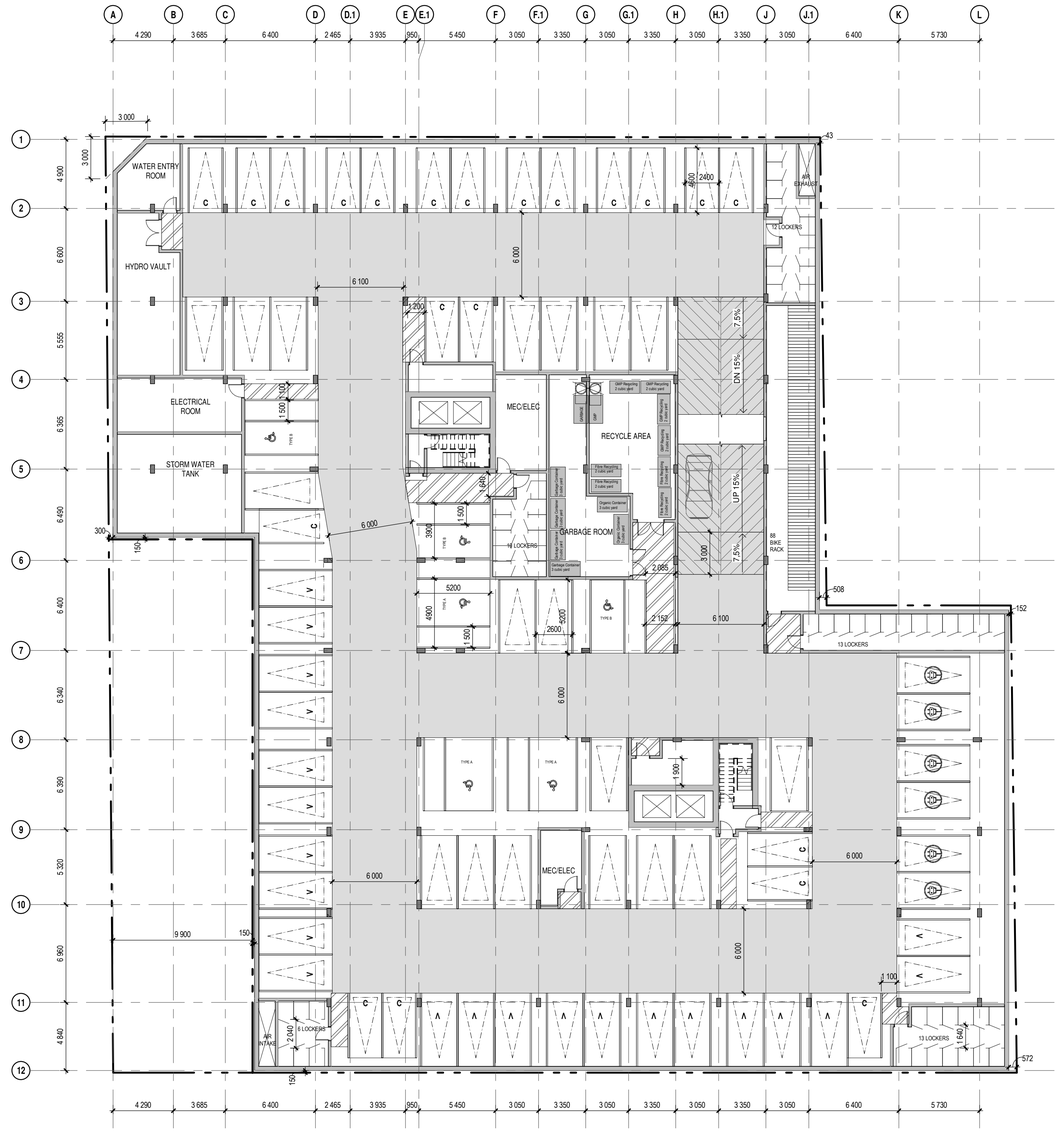
**REQUIRED BIKE SPACE:
0.5 PER UNIT = (218X0.5) = 109

LOCKERS

TYPE	TOTAL
BASEMENT LEVEL 2	
DTL - 1100 x 1300	80
DTL - 1300 x 1100	83
	163
BASEMENT LEVEL 1	
DTL - 1100 x 1300	42
DTL - 1300 x 1100	13
	55
Grand total: 218	218



BASEMENT LEVEL 2
1 : 200
2 SPA-03



BASEMENT LEVEL 1
1 : 200
1 SPA-03

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OUVRAGE Project
381 KENT STREET

EMPLACEMENT Location
OTTAWA

NO PROJET No.
12399

NO	RÉVISION	DATE (aa-mm-jj)
01	SITE PLAN CONTROL	23-02-20
02	SITE PLAN CONTROL	23-08-30

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23.02.20

ÉCHELLE Scale
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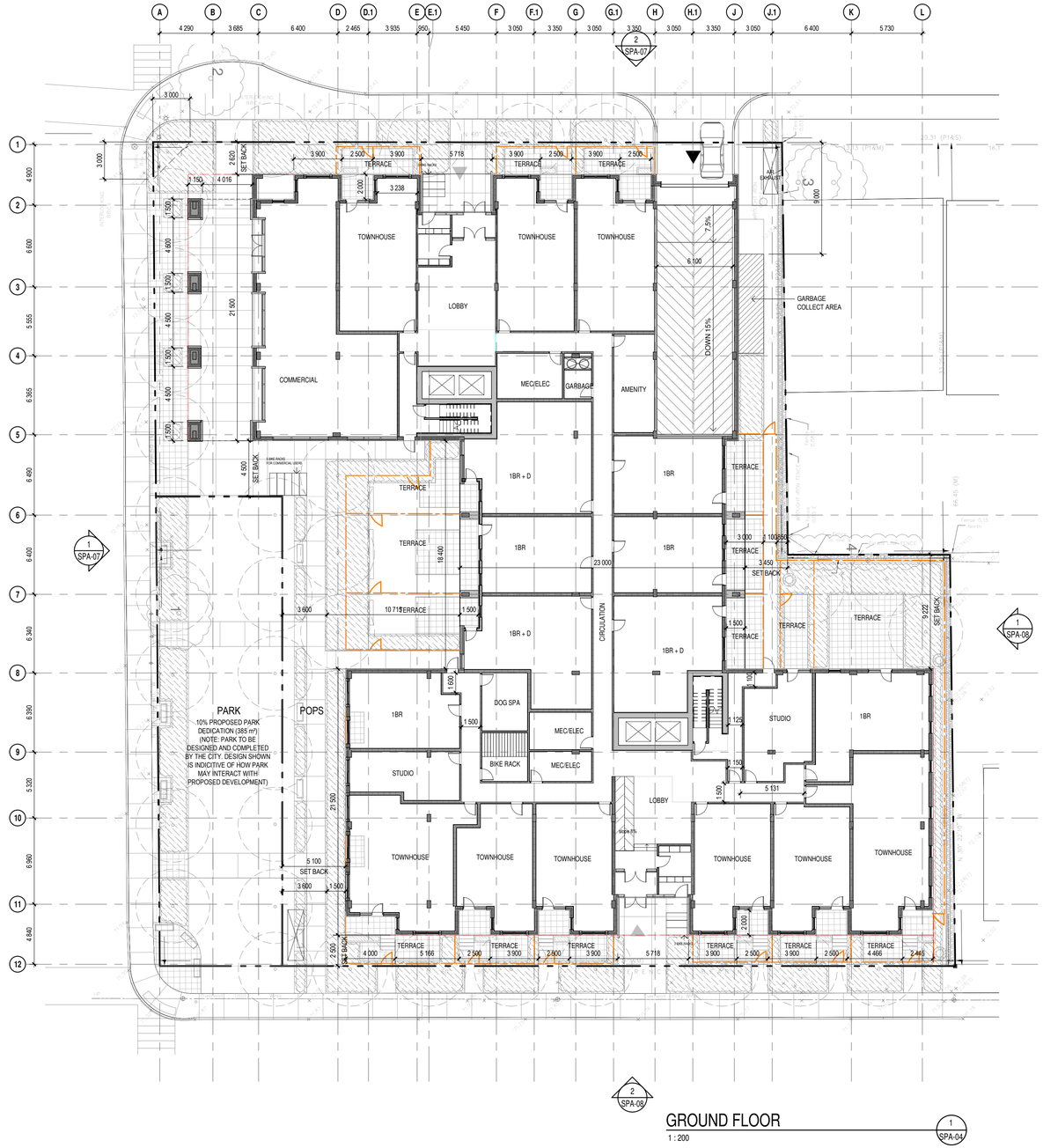
TITRE DU DESSIN Drawing Title
PARKING LEVEL 1 & 2

RÉVISION Revision

NO. DESSIN Dwg Number
SPA-03

LEGEND OF SYMBOLS

- PROPERTY LINE
- SET BACK LINE
- FENCE



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HG

DATE (aa.mm.jj)
23.02.20

ÉCHELLE Scale
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TITRE DU DESSIN Drawing Title
GROUND LEVEL

RÉVISION Revision

NO. DESSIN Dwg Number
SPA-04

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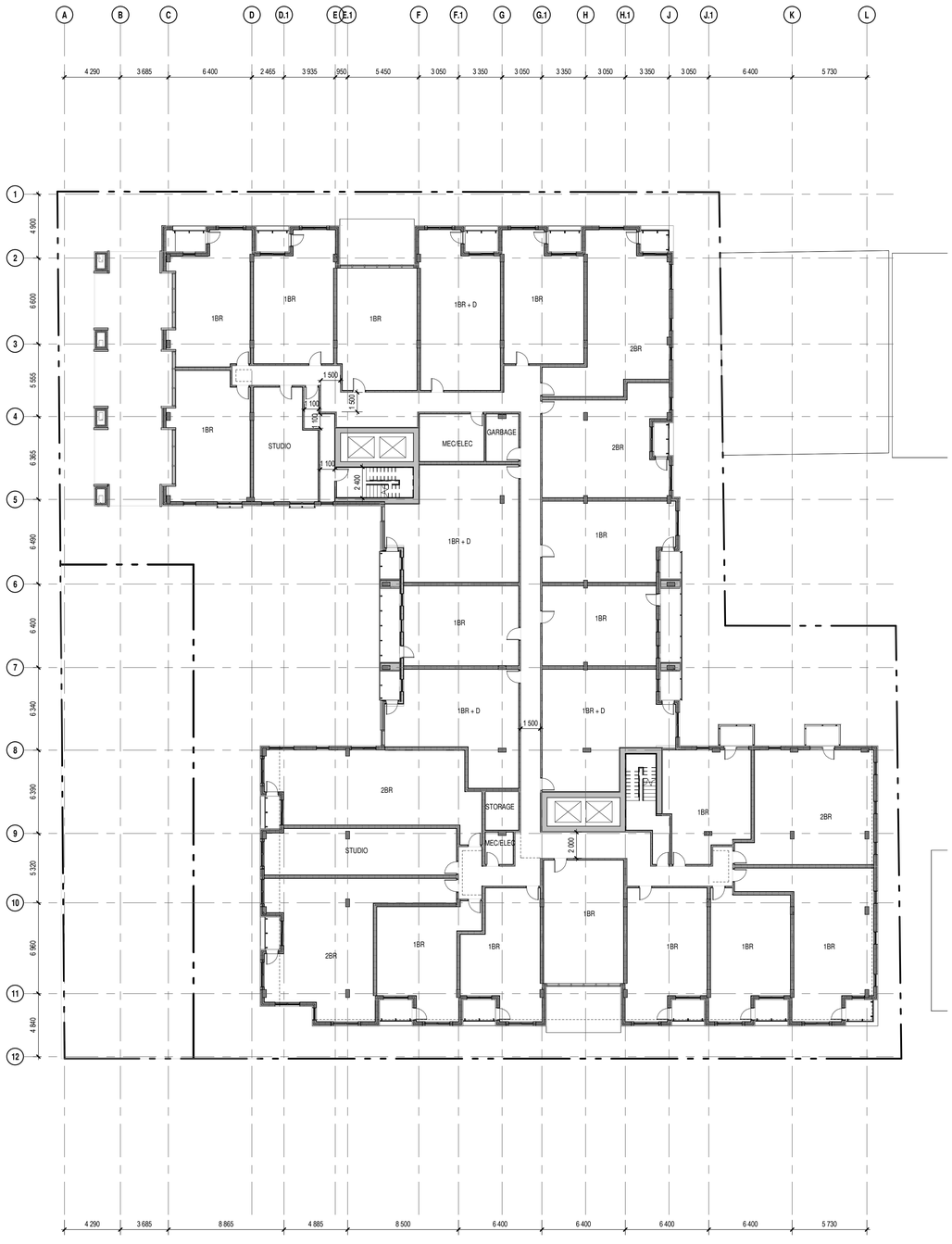
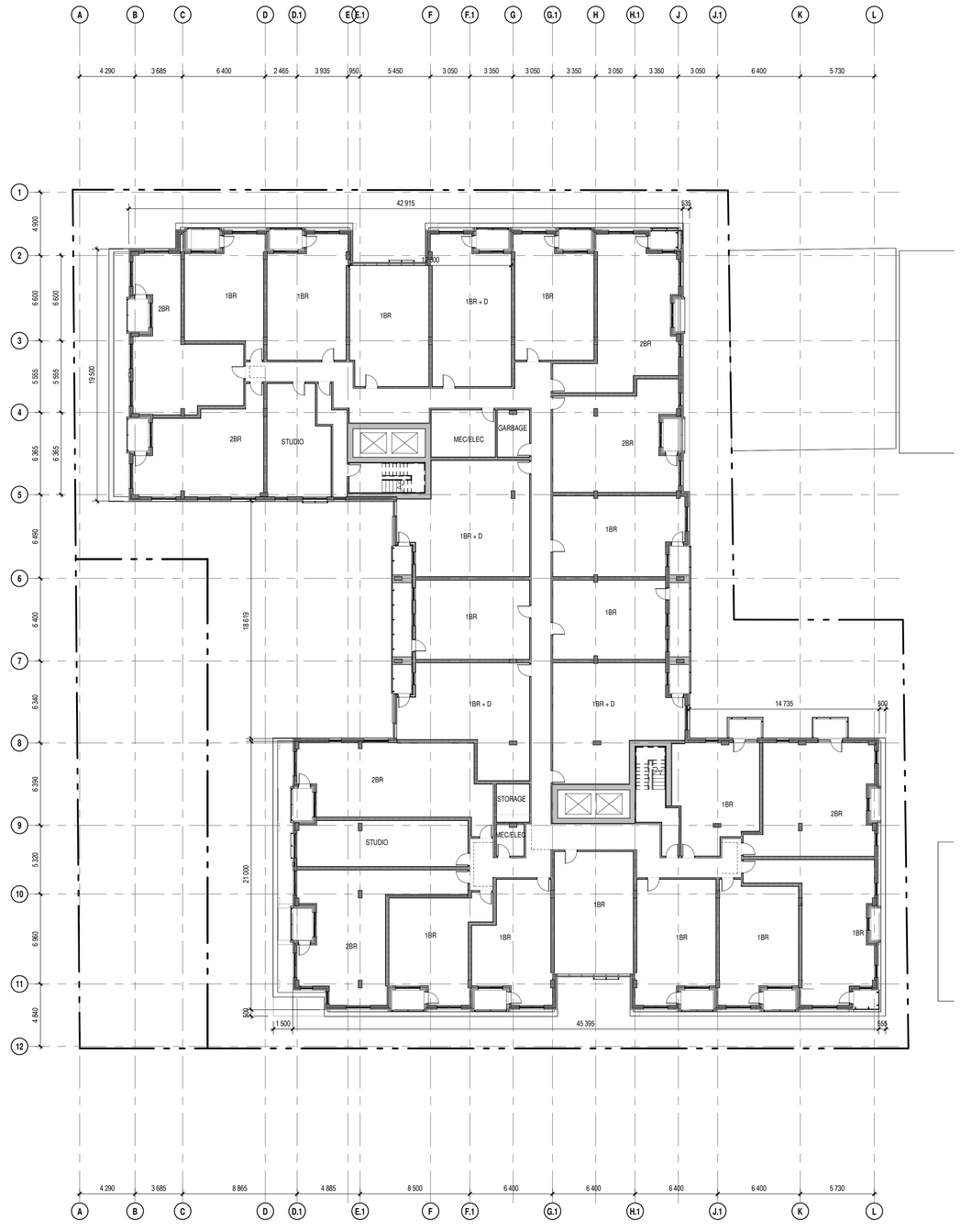


2ND FLOOR
1 : 200



3RD TO 7TH FLOOR
1 : 200

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OUVRAGE Project
381 KENT STREET

EMPLACEMENT Location
OTTAWA

NO PROJET No.
12399

NO	RÉVISION	DATE (aa-mm-jj)
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02	SITE PLAN CONTROL	23-08-30

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ÉCHELLE Scale
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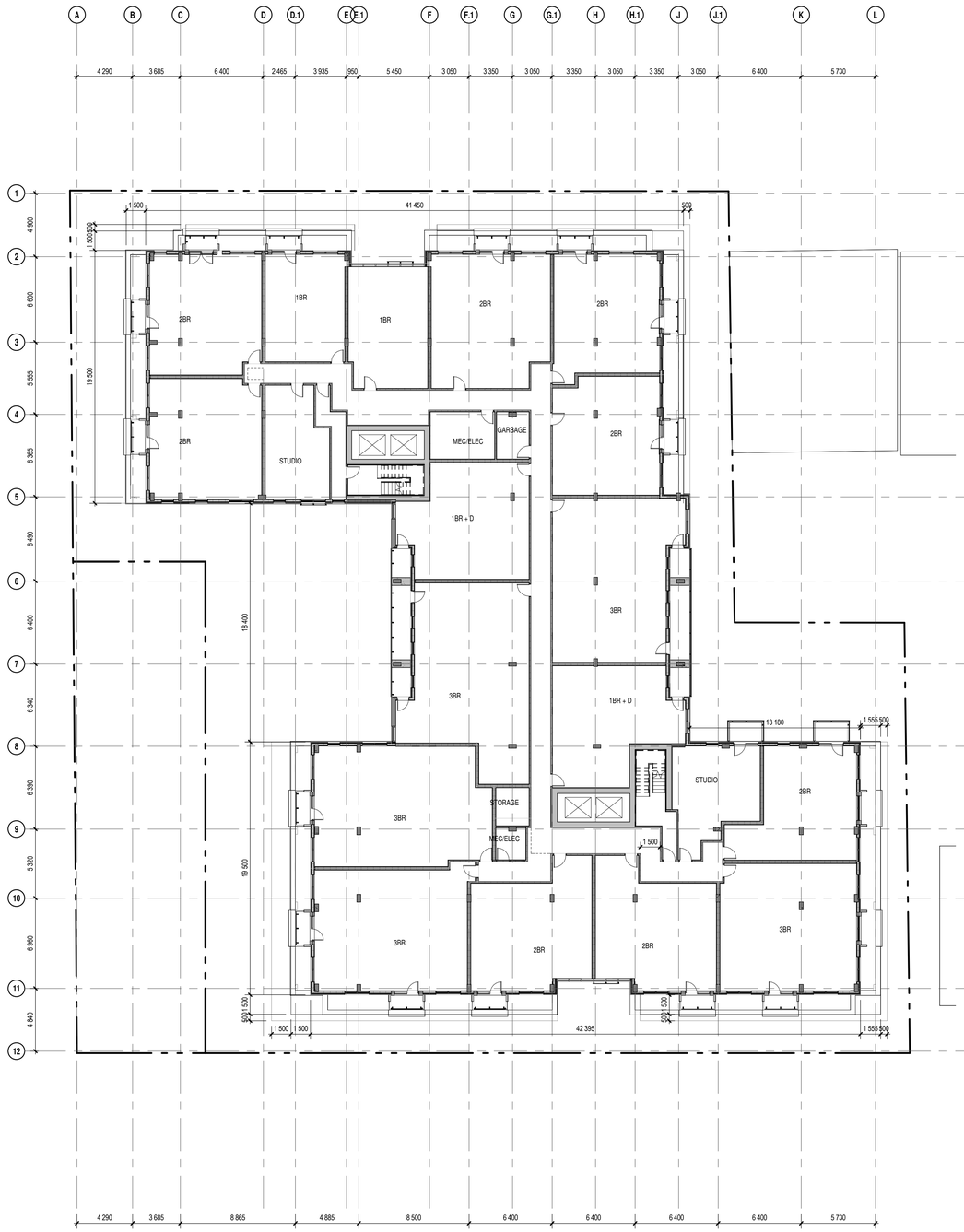
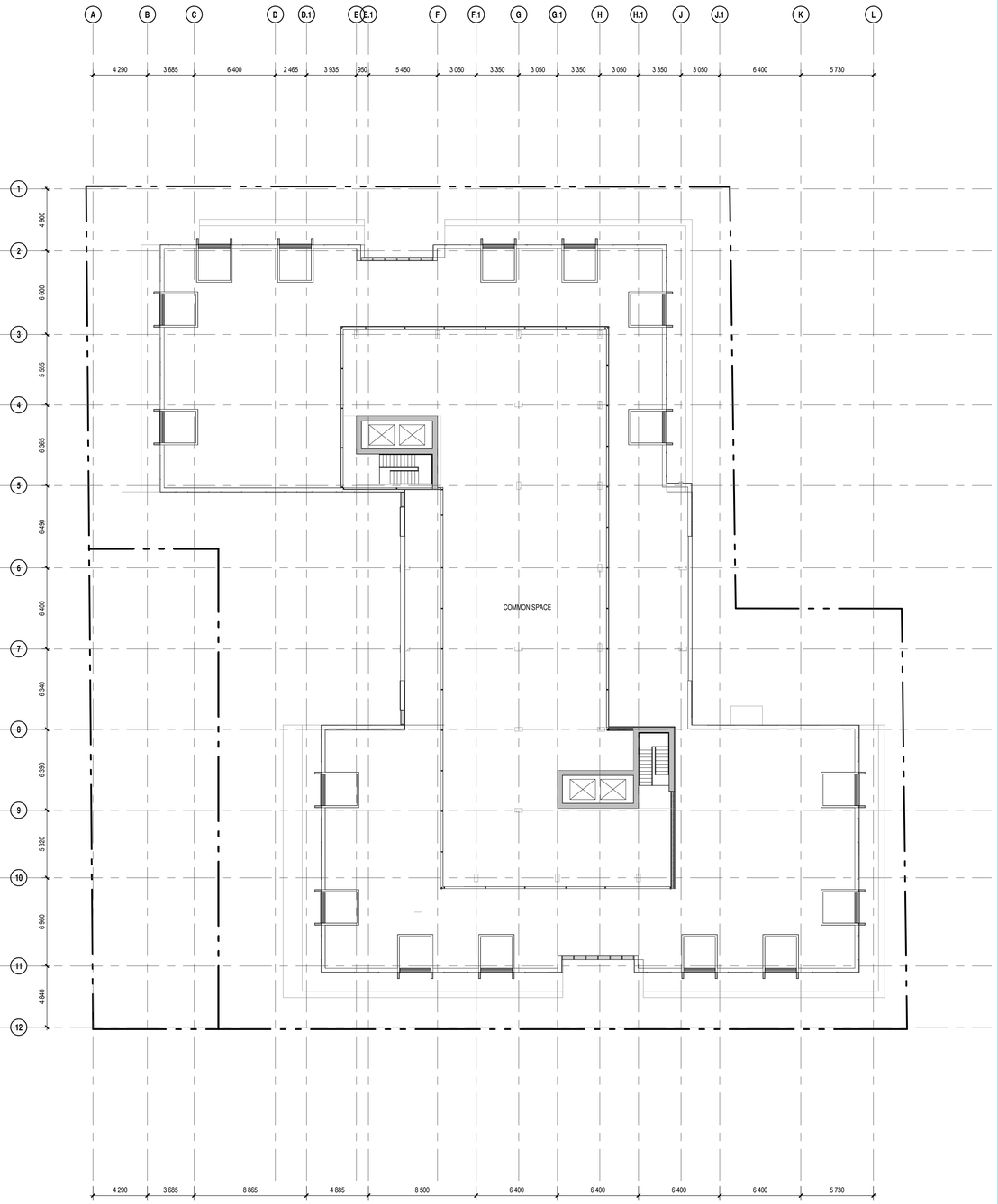
TITRE DU DESSIN Drawing Title
2nd & 3rd-7th FLOOR PLAN

RÉVISION Revision

NO. DESSIN Dwg Number
SPA-05



8TH & 9TH FLOOR
1 : 200



10TH FLOOR
1 : 200

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02	SITE PLAN CONTROL	23-08-30

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DATE (aa.mm.jj)
23.02.20

ÉCHELLE Scale
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TITRE DU DESSIN Drawing Title
8th-9th & 10th FLOOR PLAN

RÉVISION Revision

NO. DESSIN Dwg Number
SPA-06

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Pre-Application Consultation Meeting Notes
381 Kent Street
File Number: PC2022-0263
Monday October 24, 2022, Microsoft Teams

Attendees:
City of Ottawa:
Anne Fitzpatrick – Heritage Planner III
Dawn Chan – Heritage Planning Intern
Greg MacPherson – Heritage Planner I
Kersten Nitsche – Planner III, File Lead
Luis-Michael Salidas – Student planner
Mike Russett – Parks Planner III
Randolph Wang – Planner III, Urban Design
Jack Hanna – Representative of Centretown Community Association

Applicant Team:
Mahshid Madahi – Architect (Neuf)
Hugo Gagnon – Architect (Neuf)
Paul Black – Planner (Fotenn)
Scott Alain – Planner (Fotenn)
Tanya Chowieri – (Katasa, Owner)

Meeting Notes:

Opening & attendee introduction

- Introduction of meeting attendees

Proposal Overview

- The project is a 9-storey residential building. Currently, the site is being used as a medical office building. The plan is to redevelop through a Zoning By-law Amendment/ Site Plan Control Application to permit 9 storeys and includes a parkland dedication. The proposal is in its early design stages.
- The site is between Gilmour and James streets, fronts onto Kent Street. Relevant architecture surrounds the site, so it is important that the design of the site keeps in mind its relation to the surrounding streets.
- The site has two lobbies, one lobby on the north and one lobby on the south.
- A commercial extension from the North building's left side (in front of the dedicated park) is planned.

- Floor to ceiling height of the arcade is two levels and the ground floor is higher (6 meters clear).
- There are three reasons for the proposed orientation of the building. Reason 1: the sun's orientation which impacts the park and residents. Reason 2: To fill the open site to view great neighbouring properties. Reason 3: To keep the site open from the north.
- With respect to the parking ramp on James Street: Conducting a traffic circulation study could clarify this. Currently, Neuf is of the opinion that the ramp access is better on the south than the north. However, based on the traffic circulation study results, the ramp location may change.
- Ground floor units are intended to have direct access to the street, similar to a townhouse unit.
- Waste is proposed to be stored outside and accessed from the street as this is most convenient.
- Raising the ground floor for privacy (from the streetfront) may create accessibility issues. This will be reviewed further.

COMMENTS FROM RELATED DISCIPLINES

Planning (Kersten Nitsche)

- Further clarity is required on the proposed amenity floor and how it addresses the Secondary Plan policies that restrict height to a maximum of nine storeys.
- Waste storage is to be located indoors and not outside. This will minimize impacts to adjacent neighbours from odours, mess, and vermin. The City offers winching services if the storage room is strategically located with respect to the parking ramp.
- Through the redevelopment of the site, you are encouraged to bury the hydro lines along James Street. Otherwise, please show within submitted plans how the proposed development meets Hydro Ottawa's setback requirements.
- Consider how the easternmost units on the James Street side (i.e., southeast portion of development) can address privacy concerns (in consideration of the minimal setback on the east property line) while also allowing sufficient windows/sunlight for three-bedroom units.
- Careful consideration is required for how the interior/eastern yard of this site will function. Is it intended to be amenity space and, if so, does it receive sufficient sunlight to function as such? As mentioned by Randolph, is it better that this area is purposed as a laneway?
- While not required by the Zoning By-law, bicycle parking should be provided at a minimum rate of 1:1, especially in consideration of the site's proximity to cycling infrastructure.

- The proposed commercial arcade is interested and has the potential to work well as a linkage to the public park. If this idea is carried through to submission, please provide additional details and concepts for how this would function. Additionally, planning would anticipate limiting the zoning (through the rezoning process) to commercial uses that would ensure this arcade space did not fall into disuse.
- The applicant is encouraged to design the ground floor units with their main entrances off the public street, as opposed to from the interior of the building, to activate the streetfront and acknowledge the residential character surrounding the site.

Urban Design (Randolph Wang)

- A Design Brief is required as part of the submission. The revised Terms of Reference is attached for convenience. Please note both wind and shadow studies are required.
- The site is within a Design Priority Area. Formal review by the City's Urban Design Review Panel is required. Please contact udrp@ottawa.ca for scheduling details. Please visit the City's UDRP website for submission details.
- The proposed development is generally in keeping with directions of the Secondary Plan. The site planning is generally trending in the right direction with respect to the footprint of the building and its relationships with the public streets, new municipal park, and the abutting existing uses. However, operational functions such as loading, garbage pick-up, and the garage entrance should be further studied. Consideration may be given to a laneway condition behind the building as a key organizing elements of such functions.
- With respect to built form, the proposed stepback above the 3rd floor is generally appropriate for the context.
    - However, considerations may be given to varied responses on three different streets. In particular, attention should be paid to the proposed development at 359 Kent Street. Varied responses may help to break up the overall massing of the building.
    - At grade units are welcoming elements. However, the elevation of the ground floor slab should be carefully established to ensure a good relationship between the at grade units and the public realm. Generally speaking, at grade units functions the best when they are a few steps above the street level.
    - Please refer to built form design guidelines included in Chapter 6 of the Centretown Community Design Plan for guidance.
- With respect to public realm, please retain services of a landscape architect to develop detailed landscape plan.
    - The proposed arcade can be a welcoming addition to the public realm. It should be carefully detailed, including programing, lighting, and maintenance. The proposed 2-storey floor to ceiling height is sufficient.

- Please also refer to guidelines included in Chapter 5 of the Centretown Community Design Plan for guidance.

Mike Russett – Parks Planning

- Appreciate the park dedication on the site.
- In the submission, clarify the calculation of the parkland conveyance.

Reza Bakhit – Infrastructure

Note that the information is considered **preliminary** and the assigned Development Review Project Manager may modify and/or add additional requirements and conditions upon review of an application if deemed necessary.

General:

- It is the sole responsibility of the consultant to investigate the location of existing underground utilities in the proposed servicing area and submit a request for locates to avoid conflict(s). The location of existing utilities and services shall be documented on an **Existing Conditions Plan**.
- Any easements on the subject site shall be identified and respected by any development proposal and shall adhere to the conditions identified in the easement agreement. A **legal survey plan** shall be provided and all easements shall be shown on the engineering plans.
- The subject site is located within a **combined sewershed** therefore the approval exemption under O.Reg. 525/98 would not apply, and an Environmental Compliance Approval (**ECA**) application will be required.

  Ontario Regulation 525/98:

  3. Subsection 53(1) and (3) of the Act do not apply to the use, operation, establishment, alteration,

  extension or replacement of or a change in a storm water management facility that,

  (a) is designed to service one lot or parcel of land;

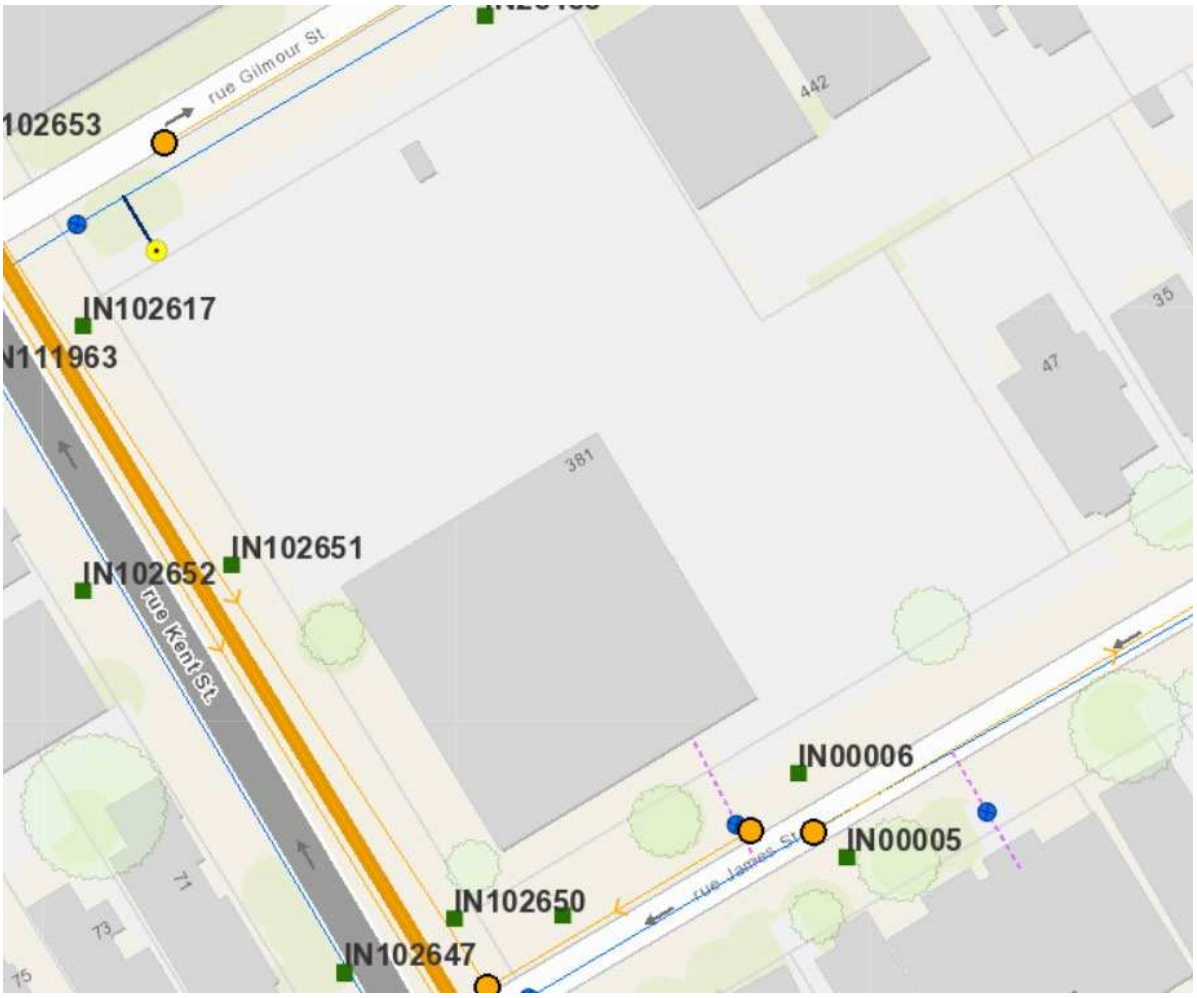
  (b) discharges into a storm sewer that is not a combined sewer;

  (c) does not service industrial land or a structure located on industrial land; and

  (d) is not located on industrial land.

  The ECA applications will be a Direct Submission for Private Sewage Works discharging to a combined sewer.

- **Reference documents for information purposes :**
    - Ottawa Sewer Design Guidelines (October 2012)
    - Technical Bulletin PIEDTB-2016-01
    - Technical Bulletins ISTB-2018-01, ISTB-2018-02 and ISTB-2018-03.
    - Ottawa Design Guidelines - Water Distribution (2010)
    - Technical Bulletin ISTB-2021-03
    - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
    - City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
    - City of Ottawa Environmental Noise Control Guidelines (January 2016)
    - City of Ottawa Accessibility Design Standards (2012) (City recommends development be in accordance with these standards on private property)
    - Ottawa Standard Tender Documents (latest version)
    - Ontario Provincial Standards for Roads & Public Works (2013)
    - Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at InformationCentre@ottawa.ca or by phone at (613) 580-424 x.44455).
- Please note that this is the applicant responsibility to refer to the latest applicable guidelines while preparing reports and studies.



Disclaimer:

The City of Ottawa does not guarantee the accuracy or completeness of the data and information contained on the above image(s) and does not assume any responsibility or liability with respect to any damage or loss arising from the use or interpretation of the image(s) provided. This image is for schematic purposes only.

Stormwater Management Criteria and Information:

- **Water Quantity Control:** In the absence of area specific SWM criteria please control post-development runoff from the subject site, up to and including the **100-year storm event**, to **a 2-year pre-development level.** The pre-development runoff coefficient will need to be determined **as per existing conditions** but in no case more than 0.4. [**If 0.4 applies it needs to be clearly demonstrated in the report that the pre-development runoff coefficient is greater than 0.4**]. The time of concentration (T_c) used to determine the pre-development condition should be calculated. *Tc should not be less than 10 min. since IDF curves become unrealistic at less than 10 min; T_c of 10 minutes shall be used for all post-development calculations*].

- Any storm events greater than the established **2-year allowable** release rate, up to and including the **100-year storm event**, shall be detained on-site. The SWM measures required to avoid impact on downstream sewer system will be subject to review.
- Please note that foundation drainage is to be independently connected to sewer main unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention. **It is recommended that the foundation drainage system be drained by a sump pump connection to the storm sewer to minimize risk of basement flooding as it will provide the best protection from the uncontrolled sewer system compared to relying on the backwater valve.**
- **Water Quality Control:** Please consult with the local conservation authority (RVCA) regarding water quality criteria prior to submission of a Site Plan Control Proposal application to establish any water quality control restrictions, criteria and measures for the site. Correspondence and clearance shall be provided in the Appendix of the report.
- Please note that as per *Technical Bulletin PIEDTB-2016-01 section 8.3.11.1 (p.12 of 14)* **there shall be no surface ponding on private parking areas during the 2-year storm rainfall event**.
- **Underground Storage:** Please note that the Modified Rational Method for storage computation in the Sewer Design Guidelines was originally intended to be used for above ground storage (i.e. parking lot) where the change in head over the orifice varied from 1.5 m to 1.2 m (assuming a 1.2 m deep CB and a max ponding depth of 0.3 m). This change in head was small and hence the release rate fluctuated little, therefore there was no need to use an average release rate.
- When underground storage is used, the release rate fluctuates from a maximum peak flow based on maximum head down to a release rate of zero. This difference is large and has a significant impact on storage requirements. **We therefore require that an average release rate equal to 50% of the peak allowable rate shall be applied to estimate the required volume. Alternatively, the consultant may choose to use a submersible pump in the design to ensure a constant release rate.**
- In the event that there is a disagreement from the designer regarding the required storage, The City will require that the designer demonstrate their rationale utilizing dynamic modelling, that will then be reviewed by City modellers in the Water Resources Group.
- Please provide information on UG storage pipe. Provide required cover over pipe and details, chart of storage values, capacity etc. How will this pipe be cleaned of sediment and debris?
- Provide information on type of underground storage system including product name and model, number of chambers, chamber configuration, confirm invert of chamber system, top of chamber system, required cover over system and details, interior bottom slope (for self-cleansing), chart of storage values, length, width and height, capacity, entry ports (maintenance) etc.

- Provide a cross section of underground chamber system showing invert and obvert/top, major and minor HWLs, top of ground, system volume provided during major and minor events. UG storage to provide actual 2- and 100-year event storage requirements.
- In regard to all proposed UG storage, ground water levels (and in particular HGW levels) will need to be reviewed to ensure that the proposed system does not become surcharged and thereby ineffective.
- Modeling can be provided to ensure capacity for both storm and sanitary sewers for the proposed development by City's Water Distribution Dept. – Modeling Group, through PM and upon request.
- Please note that the minimum orifice dia. for a plug style **ICD is 83mm and the minimum flow rate from a vortex ICD is 6 L/s** in order to reduce the likelihood of plugging.
- Post-development site grading shall match existing property line grades in order to minimize disruption to the adjacent residential properties. A **topographical plan of survey** shall be provided as part of the submission and a note provided on the plans.
- Please provide a **Pre-Development Drainage Area Plan** to define the pre-development drainage areas/patterns. **Existing drainage patterns shall be maintained and discussed as part of the proposed SWM solution**.
- **If rooftop control** and storage is proposed as part of the SWM solutions sufficient details (Cl. 8.3.8.4) shall be discussed and document in the report and on the plans. Roof drains are to be connected downstream of any incorporated ICDs within the SWM system and not to the foundation drain system. Provide a **Roof Drain Plan** as part of the submission.
- If **Window wells** are proposed, they are to be indirectly connected to the footing drains. A detail of window well with indirect connection is required, as is a note at window well location speaking to indirect connection.
- There must be at least **15cm of vertical clearance** between the spill elevation and the ground elevation at the building envelope that is in proximity of the flow route or ponding area. The exception in this case would be at reverse sloped loading dock locations. At these locations, a minimum of 15cm of vertical clearance must be provided below loading dock openings. Ensure to provide discussion in report and ensure grading plan matches if applicable.

Combined sewer:

- A 375 mm dia. CONR Combined sewer (1983) is available within James St**.**
- A 225 mm dia. CONC Combined sewer (1987) is available within Gilmour St**.**
- A 525 mm dia. CONC Combined sewer (1935) is available within Kent**.**
- A 3000 mm dia. CONC Combined sewer (2018) is available within Kent**. No connection is permitted**

- Please provide the new Sanitary sewer discharge and we confirm if sanitary sewer main has the capacity. An analysis and demonstration that there is sufficient/adequate residual capacity to accommodate any increase in wastewater flows in the receiving and downstream wastewater system is required to be provided. Needs to be demonstrated that there is adequate capacity to support any increase in wastewater flow.
- Please apply the wastewater design flow parameters *in Technical Bulletin PIEDTB-2018-01.*
- Sanitary sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) *Monitoring Devices*.
- A backwater valve is required on the sanitary service for protection.

Water:

- A 305 mm dia. DI watermain (1988) is available within Gilmour St**.**
- A 305 mm dia. UCI watermain (1889) is available within Kent**.**
- A 203 mm dia. DI watermain (1988) is available within James St**.**
- Existing residential service to be blanked at the main.
- **Water Supply Redundancy:** Residential buildings with a basic day demand greater than 50m^3/day (0.57 L/s) are required to be connected to a minimum of two water services separated by an isolation valve to avoid a vulnerable service area as per the *Ottawa Design Guidelines - Water Distribution, WDG001, July 2010 Clause 4.3.1 Configuration.*
- Please **review Technical Bulletin ISTB-2018-0**, maximum fire flow hydrant capacity is provided in Section 3 Table 1 of Appendix I. A **hydrant coverage figure** shall be provided and **demonstrate there is adequate fire protection for the proposal**. Two or more public hydrants are anticipated to be required to handle fire flow.
- Boundary conditions are required to confirm that the require fire flows can be achieved as well as availability of the domestic water pressure on the City street in front of the development. Use Table 3-3 of the MOE Design Guidelines for Drinking-Water System to determine Maximum Day and Maximum Hour peaking factors for 0 to 500 persons and use Table 4.2 of the Ottawa Design Guidelines, Water Distribution for 501 to 3,000 persons. Please provide the following information to the City of Ottawa via email to request water distribution network boundary conditions for the subject site. Please note that once this information has been provided to the City of Ottawa it takes approximately 5-10 business days to receive boundary conditions.
    - Type of Development and Units
    - Site Address
    - A plan showing the proposed water service connection location.
    - **Average Daily Demand** (L/s)

- **Maximum Daily Demand** (L/s)
- **Peak Hour Demand** (L/s)
- **Fire Flow** (L/min)

- [*Fire flow demand requirements shall be based on **Fire Underwriters Survey (FUS)** Water Supply for Public Fire Protection 1999*]
- *[Fire flow demand requirements shall be based on ISTB-2021-03]*
- *Note: The OBC method can be used if the fire demand for the private property is less than 9,000 L/min. If the OBC fire demand reaches 9000 L/min, then the FUS method is to be used.*
- *Exposure separation distances shall be defined on a figure to support the FUS calculation and required fore flow (RFF).*
- **Hydrant capacity shall be assessed to demonstrate the RFF can be achieved**. Please identify which hydrants are being considered to meet the RFF on a fire hydrant coverage plan as part of the boundary conditions request.

Snow Storage:

- Any portion of the subject property which is intended to be used for permanent or temporary snow storage shall be as shown on the approved site plan and grading plan. Snow storage shall not interfere with approved grading and drainage patters or servicing. Snow storage areas shall be setback from the property lines, foundations, fencing or landscaping a minimum of 1.5m. Snow storage areas shall not occupy driveways, aisles, required parking spaces or any portion of a road allowance. If snow is to be removed from the site please indicate this on the plan(s).

Gas pressure regulating station:

- A gas pressure regulating station may be required depending on HVAC needs (typically for 12+ units). Be sure to include this on the Grading, Site Servicing, SWM and Landscape plans. This is to ensure that there are no barriers for overland flow routes (SWM) or conflicts with any proposed grading or landscape features with installed structures and has nothing to do with supply and demand of any product.

Regarding Quantity Estimates:

- Please note that external Garbage and/or bicycle storage structures are to be added to QE under Landscaping as it is subject to securities.In addition, sump pumps for Sanitary and Storm laterals and/or cisterns are to be added to QE under Hard items as it is subject to securities, even though it is internal and is spoken to under SWM and Site Servicing Report and Plan.

Road Reinstatement:

- Where servicing involves three or more service trenches, either a full road width or full lane width 40 mm asphalt overlay will be required, as per amended Road Activity By-

Law 2003-445 and City Standard Detail Drawing R10. The amount of overlay will depend on condition of roadway and width of roadway(s).

Permits and Approvals:

- Please note that this project will be subject to an Environmental Compliance Approval (ECA) for Private Sewage Works. (Any connection to a combined Sewer system required the Ministry (MECP) approval)

Required Engineering Plans and Studies for SPC:

- As per list
- Please refer to the **City of Ottawa Guide to Preparing Studies and Plans [Engineering]**
- Specific information has been incorporated into both the Guide to Preparing Studies and Plans for a site plan. The guide outlines the requirement for a statement to be provided on the plan about where the property boundaries have been derived from.
- Added to the general information for servicing and grading plans is a note that an **O.L.S.** should be engaged when reporting on or relating information to property boundaries or existing conditions. The importance of engaging an **O.L.S.** for development projects is emphasized.

Phase One Environmental Site Assessment:

- A Phase I ESA is required to be completed in accordance with Ontario Regulation 153/04 in support of this development proposal to determine the potential for site contamination. Depending on the Phase I recommendations a Phase II ESA may be required.
- The Phase I ESA shall provide all the required Environmental Source Information as required by O. Reg. 153/04. ERIS records are available to public at a reasonable cost and need to be included in the ESA report to comply with O.Reg. 153/04 and the Official Plan. The City will not be in a position to approve the Phase I ESA without the inclusion of the ERIS reports.

Geotechnical Investigation:

- A Geotechnical Study/Investigation shall be prepared in support of this development proposal.
- Reducing the groundwater level in this area can lead to potential damages to surrounding structures due to excessive differential settlements of the ground. The impact of groundwater lowering on adjacent properties needs to be discussed and investigated to ensure there will be no short term and long term damages associated with lowering the groundwater in this area.
- Geotechnical Study shall be consistent with the **Geotechnical Investigation and Reporting Guidelines for Development Applications**.

https://documents.ottawa.ca/sites/documents/files/geotech_report_en.pdf

Noise Study:

- A **Transportation Noise Assessment** is required as the subject development is located within 100m proximity of an Arterial Road
- A **Stationary Noise Assessment** is required in order to assess the noise impact of the proposed sources of stationary noise (mechanical HVAC system/equipment) of the development onto the surrounding residential area to ensure the noise levels do not exceed allowable limits specified in the City Environmental Noise Control Guidelines.

https://documents.ottawa.ca/sites/default/files/documents/enviro_noise_guide_en.pdf

Exterior Site Lighting:

- Any proposed light fixtures (both pole-mounted and wall mounted) must be part of the approved Site Plan. All external light fixtures must meet the criteria for Full Cut-off Classification as recognized by the Illuminating Engineering Society of North America (IESNA or IES), and must result in minimal light spillage onto adjacent properties (as a guideline, 0.5 fc is normally the maximum allowable spillage). In order to satisfy these criteria, the please provide the City with a **Certification (Statement) Letter** from an acceptable professional engineer stating that the design is compliant.

Fourth (4th) Review Charge:

- Please be advised that additional charges for each review, after the 3rd review, will be applicable to each file. There will be no exceptions.

Construction approach:

- Please contact the Right-of-Ways Permit Office TMconstruction@ottawa.ca early in the Site Plan process to determine the ability to construct site and copy **File Lead** on this request.

Transportation (Josiane Gervais)

- Follow Transportation Impact Assessment Guidelines:
    - A TIA is required.
    - The "Urban" area designation is based upon the Transportation Master Plan 'Inner Urban' area (i.e. 400m Radius for study area) and applies for this site.
    - Start this process asap. The application will not be deemed complete until the submission of the draft step 1-4, including the functional draft RMA package (if applicable) and/or monitoring report (if applicable).
    - An update to the TRANS Trip Generation Manual has been completed (October 2020). This manual is to be utilized for this TIA. A copy of this document can be provided upon request.

- ROW protection on Kent between Wellington and Gilmour is 20m even. Ensure this ROW is protected and shown on the site plan.
- Corner triangles as per OP Annex 1 - Road Classification and Rights-of-Way at the following locations on the final plan will be required (measure on the property line/ROW protected line; no structure above or below this triangle): Local Road to Arterial Road: 5 m x 5 m. Due to land limitations within the downtown core, a 3m x 3m corner triangle can be permitted at Kent/James and Kent/Gilmour.
- Access location located as far away from Kent Street intersection is supported.
- TMP includes:
    - Bank Street identified as a Transit Priority Corridor (Isolated Measures) (Affordable Network)
    - Somerset St W identified as a Transit Priority Corridor (Isolated Measures) (Affordable Network)
- As the proposed site is mixed use, AODA legislation applies.
    - Ensure all crosswalks located internally on the site provide a TWSI at the depressed curb, per requirements of the Integrated Accessibility Standards Regulation under the AODA.
    - Clearly define accessible parking stalls and ensure they meet AODA standards (include an access aisle next to the parking stall and a pedestrian curb ramp at the end of the access aisle, as required).
    - Please consider using the City's Accessibility Design Standards, which provide a summary of AODA requirements. https://ottawa.ca/en/city-hall/creating-equal-inclusive-and-diverse-city/accessibility-services/accessibility-design-standards-features#accessibility-design-standards
- On site plan:
    - Ensure site access meets the City's Private Approach Bylaw.
    - Show all details of the roads abutting the site up to and including the opposite curb; include such items as pavement markings, accesses and/or sidewalks.
    - Turning movement diagrams required for all accesses showing the largest vehicle to access/egress the site, as required.
    - Turning movement diagrams required for internal movements (loading areas, garbage), as required.
    - Show all curb radii measurements.
    - Show dimensions for site elements (i.e. lane/aisle widths, access width and throat length, parking stalls, sidewalks, pedestrian pathways, etc.)
    - Sidewalk is to be continuous across access as per City Specification 7.1.

- Reinstate curbs to full height and reinstate sidewalk, as per City design standards, for all existing accesses to the site that will be closed as part of this application.
- Show slope of garage ramp on site plan. Note that underground ramps should be limited to a 12% grade and must contain a subsurface melting device when exceeding 6%. Ramp grades greater than 15% can be psychological barriers to some drivers.
- Parking stalls at the end of dead-end parking aisles require adequate turning around space.

Heritage (Greg MacPherson)

Background:

- The subject property is located in the Centretown Heritage Conservation District and designated under Part V of the Ontario Heritage Act. A heritage permit is required for the proposed demolition and new construction, to be approved by City Council after consultation with the Built Heritage Sub-Committee. The heritage permit application and planning act applications should be submitted concurrently.
- Heritage Overlay provisions in Zoning By-law 2008-250 (Section 60) are applicable.
- The new Centretown HCD Plan was approved by Council on June 22, 2022. Its guidelines and policies are applicable and should be used to inform the proposed design

Heritage Permit Requirements:

- The following application types and fees are applicable, subject to change:
  - Demolition of a non-contributing property - $2,737.00 (2022 fee)
  - Large scale new construction in an HCD - $8,757.00 (2022 fee)
- The following will be required as part of the heritage permit submission:
  - Application form + applicable fees
  - A Heritage Impact Assessment ("HIA") that:
    a) Describes the positive and adverse impacts on the heritage conservation district that may reasonably be expected to result from the proposed development;
    b) Describes the actions that may reasonably be required to prevent, minimize, or mitigate the adverse impacts;
    c) Demonstrates that the proposal will not adversely impact the cultural heritage value of the Heritage Conservation District; and,
    d) Addresses how the design consults the heritage conservation district plan (specifically the policies and guidelines outlined in Sections 5 & 9).

- Coloured elevations, measured, labelled with materials and clearly demonstrating the relationship between the proposed development and neighbouring properties on Flora and Arlington.
- Site Plan
- Landscape Plan
- Renderings

Comments:

Demolition:

- The subject property is classified under the Centretown HCD Plan as a non-contributing building. As such, demolition can be contemplated. Generally, the City strongly encourages applicants to consider the retention of all buildings located in HCDs.
- If the existing building is to be demolished, you are strongly encouraged to consider using strategies such as deconstruction, salvage, and material reuse within new structures on site. If these measures are implemented, they should be documented and can be implemented into the analysis required as part of the HIA.

Design:

- Compatibility with the HCD: The design of new buildings must respect and be sensitive to the HCDs' cultural heritage value and attributes in terms of: exterior materials and cladding, architectural elements and treatments such as window patterns and design, location of datum lines, roof profile and roof lines, overall vertical and/or horizontal proportions, existing pattern of building setbacks; massing, height and scale. The proposal must follow guidelines and policies as they relate to new construction in Section 9.0 of the Centretown Heritage Conservation District Plan, with particular consideration of the policies for mid and high rise buildings in section 9.3.
- Materiality: The streets adjacent to the subject property are diverse in architectural style and materiality. The three street frontages should respond to these differing characters through contextually sensitive design of the building exterior. Materials that may be appropriate include but are not limited to red brick, stone, and poured concrete.
- Transition: Particular attention should be given to the transition and street level design on James Street and Gilmour Street.
    - On James, the property abuts existing 2 storey houses also located within the HCD. Mitigating the transition between the proposed building and the adjacent houses could be achieved through interventions such as integrating a datum line that matches the adjacent houses and incorporating a larger step back.
    - On Gilmour, streetscape design should attempt to reintegrate the property into the broader streetscape character of the HCD. Design at the pedestrian level should look to existing precedents within the HCD and complement this character.

Planning Forester (Mark Richardson)

TCR requirements:

- A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City
    - The TCR may be combined with the LP
- Any removal of privately-owned trees 10cm or larger in diameter, or city-owned trees of any diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.
- The TCR must list all trees on site, as well as off-site trees if the CRZ extends into the developed area, by species, diameter and health condition
- please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)
- If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained
- All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available at Tree Protection Specification or by searching Ottawa.ca
- the City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.
- For more information on the process or help with tree retention options, contact Mark Richardson mark.richardson@ottawa.ca or on City of Ottawa

LP tree planting requirements:

- For additional information on the following please contact tracy.smith@Ottawa.ca

Minimum Setbacks

- Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
- Maintain 2.5m from curb
- Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.
- Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.

Tree specifications

- Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
- Maximize the use of large deciduous species wherever possible to maximize future canopy coverage
- Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and include watering and warranty as described in the specification (can be provided by Forestry Services).
- Plant native trees whenever possible
- No root barriers, dead-man anchor systems, or planters are permitted.
- No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

Hard surface planting

- Curb style planter is highly recommended
- No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.
- Trees are to be planted at grade

Soil Volume

- Please document on the LP that adequate soil volumes can be met:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

- Please note that these soil volumes are not applicable in cases with Sensitive Marine Clay.

Sensitive Marine Clay

- Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines

Centretown Citizens Association (Jack Hanna)

- Comments represent what would be anticipated from the community association
- Personal remark: Likes the proposal
- Is the Plan to sell town houses?
    - Paul – It is a Rental Program for town houses
- Where is the interior public amenity space?
    - Hugo – The commercial component relates to the park. The amenity to community is separate from the public area.
- Like the proposal to put the park on the south and do not want it to shift to the northern part of the site.
- Like the stepback at the fourth floor.
- The bike parking is good, but more could be added.
- The site is a walkable destination, so believe the car parking should be reduced if possible.
- Future discussions should be had on how green (energy efficient) the building is and what availability of affordable housing there is.
- Consider a building style transition similar to the Victoria homes
- Advise you present your design ideas to the community association as early as possible.

City Surveyor

- The determination of property boundaries, minimum setbacks and other regulatory constraints are a critical component of development. An Ontario Land Surveyor (O.L.S.) needs to be consulted at the outset of a project to ensure properties are properly defined and can be used as the geospatial framework for the development.
- Topographic details may also be required for a project and should be either carried out by the O.L.S. that has provided the Legal Survey or done in consultation with the O.L.S. to ensure that the project is integrated to the appropriate control network.
- Questions regarding the above requirements can be directed to the City's Surveyor, Bill Harper, at Bill.Harper@ottawa.ca

Waste Services

- New multi-unit residential development, defined as containing six (6) or more units, intending to receive City waste collection services will be required, as of June 1, 2022, to participate in the City's Green Bin program in accordance with Council's approval of the multi-residential waste diversion strategy. The development must include adequate facilities for the proper storage of allocated garbage, recycling, and green bin containers and such facilities built in accordance with

the approved site design. Questions regarding this change and requirements can be directed to Andre.Laplante@ottawa.ca.

Other

- Plans are to be standard A1 size (594 mm x 841 mm) or Arch D size (609.6 mm x 914.4 mm) sheets, dimensioned in metric and utilizing an appropriate Metric scale (1:200, 1:250, 1:300, 1:400 or 1:500).
- All PDF submitted documents are to be unlocked and flattened.
- For sites containing one or more buildings with a total GFA greater than 2000 square metres, a Waste Reduction Workplan Summary is required for the construction project as required by O.Reg. 102/94, being "Waste Audits and Waste Reduction Work Plans" made under the Environmental Protection Act, RSO 1990, c E.19, as amended.
- You are encouraged to contact the Ward Councillor about the proposal.
- Please refer to the links to Guide to preparing studies and plans and fees for further information. Additional information is available related to building permits, development charges, and the Accessibility Design Standards. Be aware that other fees and permits may be required, outside of the development review process. You may obtain background drawings by contacting geoinformation@ottawa.ca.
- It is anticipated that, as a result of the More Homes for Everyone Act, 2022, for applications for site plan approval and zoning by-law amendments, new processes in respect of pre-application consultation will be in place as of January 1, 2023. The new processes are anticipated to require a multiple phase pre-application consultation approach before an application will be deemed complete. Applicants who have not filed a complete application by the effective date may be required to undertake further pre-application consultation(s) consistent with the provincial changes. The by-laws to be amended include By-law 2009-320, the Pre-Consultation By-law, By-law 2022-239, the planning fees by-law and By-law 2022-254, the Information and Materials for Planning Application By-law. The revisions are anticipated to be before Council in the period after the new Council takes office and the end of the year.
- The High Performance Development Standards (HPDS) were passed by Council on April 13, 2022. Please review the attached 'HPDS Overview for Applicants', 'HPDS Site Plan Checklist Example', and 'HPDS Metrics Summary' documents.

James Hewson

From: Bakhit, Reza <reza.bakhit@ottawa.ca>
Sent: February 21, 2023 10:22 AM
To: James Hewson
Cc: Robert Freel
Subject: RE: 381 Kent Street - Boundary Condition Request
Attachments: 381 Kent Street January 2023.pdf

Hi James,

The following are boundary conditions, HGL, for hydraulic analysis at 381 Kent Street (zone 1W) assumed to be connected to either the 203 mm watermain on Gilmore Street, the 305 on Kent Street or the 203 mm on James Street (see attached PDF for location).

	305 on Gilmore Scenario 1	305 mm on Kent Scenario 2	203 on James Scenario 3
Min HGL	106.7	106.7	106.6
Max HGL	155.4	115.4	115.4
Max Day + FF (200 L/s)	108.0	107.7	101.9

These are for current conditions and are based on computer model simulation.

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.

Regards,

Reza Bakhit, P.Eng, C.E.T
Project Manager
Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique
Development Review - Centeral Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 19346, reza.bakhit@ottawa.ca
Please note: Given the current pandemic, I will be working from home until further notice; reaching me by email is the easiest. I will be checking my voicemail, just not as frequently as I normally would be.

From: James Hewson <j.hewson@McIntoshPerry.com>
Sent: Friday, February 03, 2023 11:18 AM
To: Bakhit, Reza <reza.bakhit@ottawa.ca>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 381 Kent Street - Boundary Condition Request

Hi Reza,

That's understandable, we will confirm with the architect and mechanical engineer regarding the full supervision of the sprinkler system.

For the preliminary estimate, I've revised the FUS calculations with a 40% reduction, please see attached. The new required fire flow + maximum day is now 203 L/sec. Please let me know if you have any other comments.

Thanks,
James

James Hewson, P.Eng.
Project Engineer, Land Development
T. 343.764.2085 | **C.** 613.986.8018
j.hewson@McIntoshPerry.com | www.mcintoshperry.com

McINTOSH PERRY

Turning Possibilities Into Reality

From: Bakhit, Reza <reza.bakhit@ottawa.ca>
Sent: February 3, 2023 11:08 AM
To: James Hewson <j.hewson@McIntoshPerry.com>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 381 Kent Street - Boundary Condition Request

Hi James,

The maximum credit allowed by the FUS method that can be applied is 50% (as documented in Technical Bulletin ISTB-2018-02 Revision to Ottawa Design Guidelines-Water Distribution dated March 21, 2018). This maximum 50% credit is only allowed if the sprinkler system is "fully supervised". The Architect and Mechanical engineer shall provide a statement confirming the sprinkler system for the project will be fully supervised per NFPA requirements to warrant the sprinkler reduction being applied. As per NFPA supervision of sprinkler systems requires a

supervisory signal and water flow alarm. Otherwise, a maximum credit of 40% should only be applied.

If your project is at the preliminary design stage and not all disciplines onboard , please apply 40% credit . This can be adjusted once the final design submitted along with supporting documents for the approval.

Regards,

Reza Bakhit, P.Eng, C.E.T
Project Manager
Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique
Development Review - Centeral Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 19346, reza.bakhit@ottawa.ca
Please note: Given the current pandemic, I will be working from home until further notice; reaching me by email is the easiest. I will be checking my voicemail, just not as frequently as I normally would be.

From: James Hewson <j.hewson@McIntoshPerry.com>
Sent: Friday, February 03, 2023 9:58 AM
To: Bakhit, Reza <reza.bakhit@ottawa.ca>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 381 Kent Street - Boundary Condition Request

Hi Reza,

Please see attached design sheets for the estimated flows. There was a mistake on the original request, as the max day + FF should have been 170 L/sec not 200 L/sec. Also, some of the unit arrangements were modified slightly so there was a minor increase in population to 372 persons. I have included a revised boundary request figure with the correct information, and the updated summary is included below.

Average Day = 1.21 L/sec
Max Day = 3.02 L/sec
Peak Hour = 6.63 L/sec
Max Day + Fire Flow = 170.02 L/sec

I'd also like to note that we do not currently have floor plans of every floor, so some of the upper floors may have reduced areas in the final design. We will update our calculations once confirmed, but for now this should be conservative.

Please let me know if you have any comments or questions.

Thanks
James

James Hewson, P.Eng.
Project Engineer, Land Development
T. 343.764.2085 | **C.** 613.986.8018
j.hewson@McIntoshPerry.com | www.mcintoshperry.com

McINTOSH PERRY

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From: Bakhit, Reza <reza.bakhit@ottawa.ca>
Sent: February 2, 2023 9:18 AM
To: James Hewson <j.hewson@McIntoshPerry.com>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: RE: 381 Kent Street - Boundary Condition Request

Hi James,

Please provide me with the calculation sheets in support of the estimated demands and flows .

Regards,

Reza Bakhit, P.Eng, C.E.T
Project Manager
Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique
Development Review - Centeral Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 19346, reza.bakhit@ottawa.ca
Please note: Given the current pandemic, I will be working from home until further notice; reaching me by email is the easiest. I will be checking my voicemail, just not as frequently as I normally would be.

From: James Hewson <j.hewson@McIntoshPerry.com>
Sent: Wednesday, February 01, 2023 9:40 AM
To: Bakhit, Reza <reza.bakhit@ottawa.ca>
Cc: Robert Freel <r.freel@mcintoshperry.com>
Subject: 381 Kent Street - Boundary Condition Request

Good Morning Reza,

I would like to request boundary conditions for three potential locations for a double watermain connection at 381 Kent Street (only one location will be used), please see attached figure. We would be looking to connect to either Gilmore, Kent, or James Street in the vicinity of the site. The building is proposed to be a 9-storey mixed use residential building, 219 units and estimated population of 366 persons. The estimated water demands are below:

Average Day = 1.2 L/sec
Max Day = 3.0 L/sec
Peak Hour = 6.5 L/sec
Max Day + Fire Flow = 200 L/sec

In addition, we are estimating a total wet weather sanitary flow rate of 4.2 L/sec. Can you confirm if the City has any immediate concerns with this? As it is being discharged into a combined sewer, our stormwater runoff will be controlled well below pre-development, so we do not anticipate this to be an issue, but would appreciate any initial comments from the City.

Please let me know if you have any questions or concerns.

Thanks,
James

James Hewson, EIT
Project Engineer, Land Development
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McINTOSH PERRY

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APPENDIX C
WATER CALCULATIONS

McINTOSH PERRY

WATER DEMAND CALCULATIONS

PROJECT: 9-Storey Residential Mixed Use Building
LOCATION: 381 Kent Street, Ottawa ON
CLIENT: Katasa Groupe + Developpment

McINTOSH PERRY

LOCATION	RESIDENTIAL UNITS									RESIDENTIAL DEMANDS								COMMERCIAL/AMENITY DEMANDS									TOTAL DEMANDS		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
381 Kent Street	UNIT TYPES							AREA	POPULATION	PEAKING FACTORS		AVERAGE DAY FLOW Q(a)		MAX DAY FLOW Q(max)		PEAK HOURLY FLOW Q(h)		AREA	PEAKING FACTORS		AVERAGE DAY FLOW Q(a)		MAX DAY FLOW Q(max)		PEAK HOURLY FLOW Q(h)		Average Day	Max Day	Peak Hour
	SF	SD	TH	1BR	2BR	3BR	STU.	(ha)		MAX DAY	PEAK HOUR	(L/s)	(L/min)	(L/s)	(L/min)	(L/s)	(L/min)	(ha)	MAX DAY	PEAK HOUR	(L/s)	(L/min)	(L/s)	(L/min)	(L/s)	(L/min)	(L/s)	(L/s)	(L/s)
Floor 1				16	2		2	0.21	30.2	3.30	5.00	0.10	5.87	0.32	19.38	0.49	29.36	0.0174	1.5	2.7	0.006	0.000	0.008	0.001	0.015	0.001	0.10	0.33	0.50
Floor 2				19	5		2	0.21	40.7	3.30	5.00	0.13	7.91	0.44	26.12	0.66	39.57										0.13	0.44	0.66
Floor 3				18	7		2	0.21	43.5	3.30	5.00	0.14	8.46	0.47	27.91	0.70	42.29										0.14	0.47	0.70
Floor 4				18	7		2	0.21	43.5	3.30	5.00	0.14	8.46	0.47	27.91	0.70	42.29										0.14	0.47	0.70
Floor 5				18	7		2	0.21	43.5	3.30	5.00	0.14	8.46	0.47	27.91	0.70	42.29										0.14	0.47	0.70
Floor 6				18	7		2	0.21	43.5	3.30	5.00	0.14	8.46	0.47	27.91	0.70	42.29										0.14	0.47	0.70
Floor 7				18	7		2	0.21	43.5	3.30	5.00	0.14	8.46	0.47	27.91	0.70	42.29										0.14	0.47	0.70
Floor 8				4	8	5	2	0.21	41.5	3.30	5.00	0.13	8.07	0.44	26.63	0.67	40.35										0.13	0.44	0.67
Floor 9				4	8	5	2	0.21	41.5	3.30	5.00	0.13	8.07	0.44	26.63	0.67	40.35										0.13	0.44	0.67
TOTALS	0	0	0	133	58	10	18	2	371.4			1.2	72.2	3.97	238.3	6.0	361.1										1.21	3.98	6.03

Design Parameters:

Single Family	3.4	p/p/u
TH/SD	2.7	p/p/u
1 Bedroom	1.4	p/p/u
2 Bedroom	2.1	p/p/u
3 Bedroom	3.1	p/p/u
Studio (Avg.)	1.8	p/p/u
Commercial	28000	L/ha/day

Notes:

1. Domestic Flow: 280 L/(cap·day)
2. Peaking factors based on MECP Table 3-3 (<500 people)

Q (a) = Average Daily Flow
Q (max) = Maximum Daily Flow — Q (max) = Q(a) * Peaking Factor
Q (h) = Peak Hour Flow — Q (h) = Q(a) * Peaking Factor
Q (min) = Night Minimum Hour Flow — Q (min) = Q(a) * Peaking Factor

REF: CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

Designed: J. Hewson
Checked: R. Freel
Project No.: CCO-23-3187

McINTOSH PERRY

Fire Flow Requirements Based on Fire Underwriters Survey (FUS) 2020

Building No. / Type: **381 Kent Street, 9-Storey Mixed Use Building**

An estimate of the Fire Flow required for a given fire area may be estimated by:

RFF = 220 x C x √A Where:

F = Required fire flow in liters per minute
C = Coefficient related to the type of construction.
A = The total floor area in square meters (including all storey's, but excluding basements at least 50 percent below grade) in the building being considered.

A. Determine the Construction Coefficient (C)

Choose the construction type and coefficient to be used in the required fire flow formula:

C = 1.5	**Type V** Wood Frame Construction
= 0.8	**Type IV-A** Mass Timber Construction
= 0.9	**Type IV-B** Mass Timber Construction
= 1.0	**Type IV-C** Mass Timber Construction
= 1.5	**Type IV-D** Mass Timber Construction
= 1.0	**Type III** Ordinary Construction
= 0.8	**Type II** Noncombustible Construction
= 0.6	**Type I** Fire Resistive Construction

Input: C = Type II Noncombustible Construction = 0.8

B. Determine Total Effective Floor Area (A)

Input building floor areas:

Floor No.		Area (m^2)	% Used	Area Used (m^2)	Total (m^2)
9	=	2126	0%	0	
8	=	2126	50%	1063	
7	=	2126	50%	1063	
6	=	2126	50%	1063	
5	=	2126	50%	1063	
4	=	2126	50%	1063	
3	=	2126	50%	1063	
2	=	2126	100%	2126	**10630**
1	=	2126	100%	2126	
B1	=	2126	0%	0	
		Input:			

C. Determine Required Fire Flow

RFF = 220 x C x √A = 18146 L/min

= **18000 L/min** *(Rounded to nearest 1,000 L/min)*

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info@mcintoshperry.com | www.mcintoshperry.com

D. Determine Increase or Decrease Based on Occupancy Contents Adjustment Factor

Choose the combusitbility of building contents:

Option		Input:	Factor	Fire Flow Change	Adjusted RFF
Non-Combustible	-25%				
Limited Combustible	-15%	**Limited Combustible**	**-15%**	**-2700 L/min**	**15300 L/min**
Combustible	0%				
Free Burning	15%				
Rapid Burning	25%				

Fire Flow Requirements Based on Fire Underwriters Survey (FUS) 2020

E. Determine the Decrease for Automatic Sprinkler Protection, if Applicable

Choose the sprinkler options that apply:

Option		Applicable?	Factor	Fire Flow Change	Adjusted RFF
Automatic sprinkler conforms to NFPA 13	-30%	**Yes**	**-30%**	**-4590 L/min**	**10710 L/min**
Standard water supply for system and Fire Department hose line	-10%	**Yes**	**-10%**	**-1530 L/min**	**9180 L/min**
Fully supervised system	-10%	**No**	**0%**	**0 L/min**	**9180 L/min**

F. Determine the Total Increase for Exposures

Choose separation distance and wall lengths:

Subject Side	Separation Distance (m)	Exposed Wall Type	Wall Length (m)	No. of Storeys	Length-Height Factor	Charge (%) (See FUS-Table 6)	Total Charge (%)	Fire Flow Change (L/min)	Adjusted RFF (L/min)
North	**20.3**	**Type III**	**18.3**	**6**	**109.8**	5%	**26%**	**2387**	**11567**
South	**24**	**Type III**	**22.5**	**6**	**135**	5%			
East	**4**	**Type V**	**14.5**	**2**	**29**	16%			
West	**34**	**Type V**	**22**	**2**	**44**	0%			
			Input:						

G. Determine the Total Required Fire Flow

Total Required Fire Flow, Rounded to the Nearest 1,000 L/min =	**12000 L/min**
Total Required Fire Flow (L/sec) =	**200 L/sec**
Does the 10,000 L/min (167 L/sec) RFF limit apply, based on "TECHNICAL BULLITEN ISTB-2018-02"? =	**No**
Resultant Total Required Fire Flow (L/sec) =	**200 L/sec**

AVAILABLE FIRE FLOWS BASED ON HYDRANT SPACING

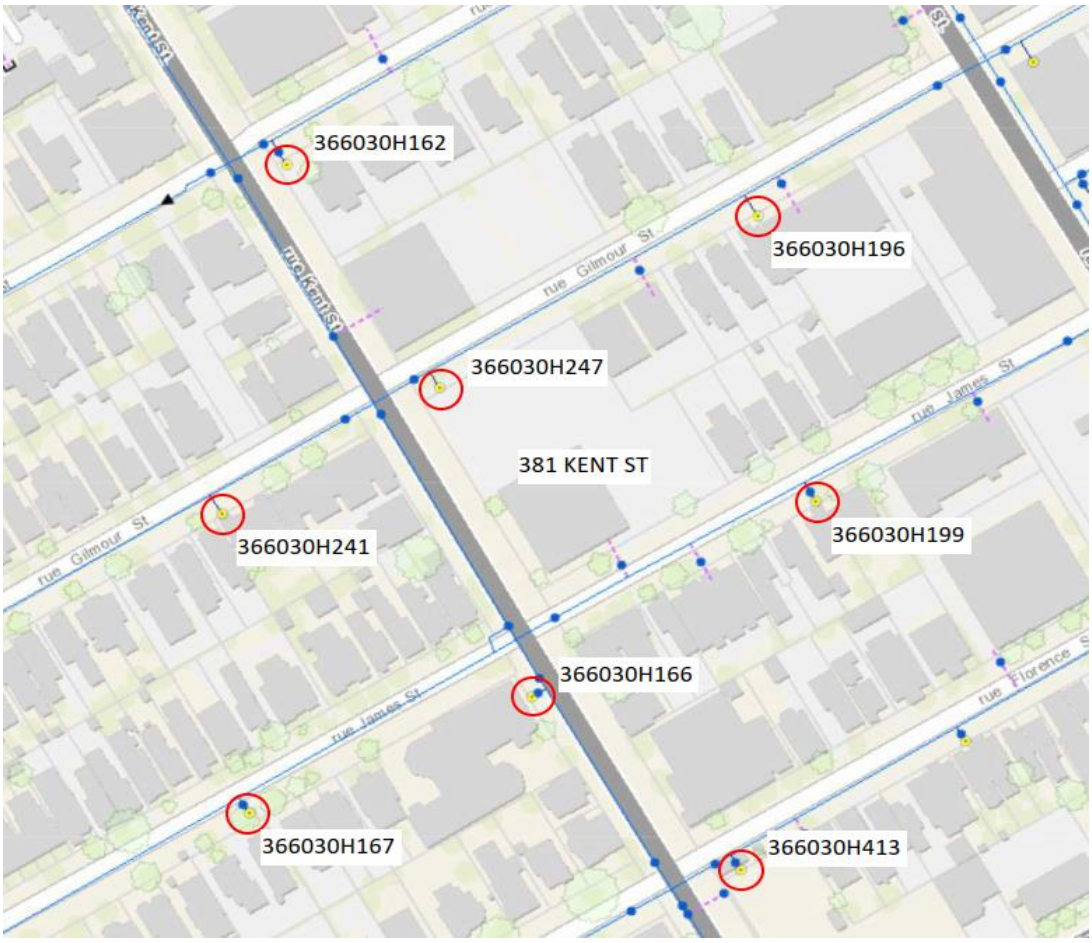
BASED ON CITY OF OTTAWA TECHNICAL BULLITEN ISTB-2018-02

Hydrant I.D.	Location	Municipal or Private	Colour or Class (If Known)	381 KENT ST	
				[1]Distance (m)	[2]Fire Flow Contribution (L/min)
366030H162	KENT/MACLAREN	Municipal	Blue (assume class AA)	100	3,800
366030H247	KENT/GILMORE	Municipal	Blue (assume class AA)	10	5,700
366030H166	KENT/JAMES	Municipal	Blue (assume class AA)	38	5,700
366030H413	KENT/FLORENCE	Municipal	Blue (assume class AA)	128	3,800
366030H241	GILMORE (WEST)	Municipal	Blue (assume class AA)	84	3,800
366030H196	GILMORE (EAST)	Municipal	Blue (assume class AA)	70	5,700
366030H167	JAMES (WEST)	Municipal	Blue (assume class AA)	130	3,800
366030H199	JAMES (EAST)	Municipal	Blue (assume class AA)	31	5,700
Total (L/min)					**38,000**
FUS RFF in L/min or (L/sec)					12,000 (200)

Notes:

[1]Distance is measured along a road or fire route to nearest face of building.

[2]Fire Flow Contribution based on Table 1 of Appendix I, ISTB-2018-02



James Hewson

From: James Hewson
Sent: August 29, 2023 11:12 AM
To: James Hewson
Subject: FW: 381 Kent - Coordination

James Hewson, P.Eng.
Project Engineer, Land Development
T. 343.764.2085 | **C.** 613.986.8018
j.hewson@McIntoshPerry.com | www.mcintoshperry.com

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From: Mahshid Madahi <mmadahi@neufarchitectes.com>
Sent: August 22, 2023 4:27 PM
To: James Hewson <j.hewson@McIntoshPerry.com>; Scott Alain <alain@fotenn.com>
Subject: RE: 381 Kent - Coordination

Hi James,

Sorry for my late response;

We confirm that the building is non-combustible construction, and is sprinklered.

Best regards,

MAHSHID MADAHI, M.Eng, LEED, PMP
Diplômée en architecture. Graduate Architect
T 514 847 1117 F 514 847 2287
630, boul. René-Lévesque O. 32e étage, Montréal (QC) H3B 1S6
NEUF ARCHITECTES INC. Confidentialité + Transmission
Montréal. Ottawa. Toronto

50 ANS ET TOUJOURS NEUF . 50 YEARS AND STILL NEUF

From: James Hewson <j.hewson@McIntoshPerry.com>
Sent: August 18, 2023 1:42 PM
To: Scott Alain <alain@fotenn.com>; Mahshid Madahi <mmadahi@neufarchitectes.com>
Subject: RE: 381 Kent - Coordination

Hi Scott and Mahshid,

- 2.27: Please provide a memo or email confirmation from the architect confirming all parameters used in the FUS calculations. Please have it appended to the report.
    - We completed our fire flow calculations based on the understanding that the building was non-combustible construction, and is sprinklered with a standard water supply and fire department connection. I will just need to include written confirmation that the building meets these criteria.

Please let me know if you have any questions or would like to discuss further.

Thanks and have a great weekend,
James

James Hewson, P.Eng.

Project Engineer, Land Development
T. 343.764.2085 | **C.** 613.986.8018
j.hewson@McIntoshPerry.com | www.mcintoshperry.com

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APPENDIX D
SANITARY CALCULATIONS

McINTOSH PERRY

McINTOSH PERRY

CCO-23-3187 - 381 Kent Street - 9-Storey Mixed Use Building - Sanitary Demands

Project:	381 Kent Street - 9-Storey Mixed Use Building
Project No.:	CCO-23-3187
Designed By:	JH
Checked By:	RF
Date:	2023-02-17

Site Area	0.3437	Gross ha	
Townhouse	0	2.70	Persons per unit
1 Bedroom	133	1.40	Persons per unit
2 Bedroom	58	2.10	Persons per unit
3 Bedroom	10	3.10	Persons per unit
Average Apartment	18	1.80	Persons per unit

Total Population	372	Persons
Commercial Area	174.00	m^2
Amenity Space	0.00	m^2

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	
Residential Peaking Factor	3.43	** Using Harmon Formula =* 1+(14/(4+P^0.5))*0.8 *where P = population in thousands, Harmon's Correction Factor = 0.8*
Mannings coefficient (n)	0.013	
Demand (per capita)	280	L/day
Infiltration allowance	0.33	L/s/Ha

EXTRANEOUS FLOW ALLOWANCES

Infiltration / Inflow	Flow (L/s)
Dry	0.02
Wet	0.10
Total	**0.11**

AVERAGE DAILY DEMAND

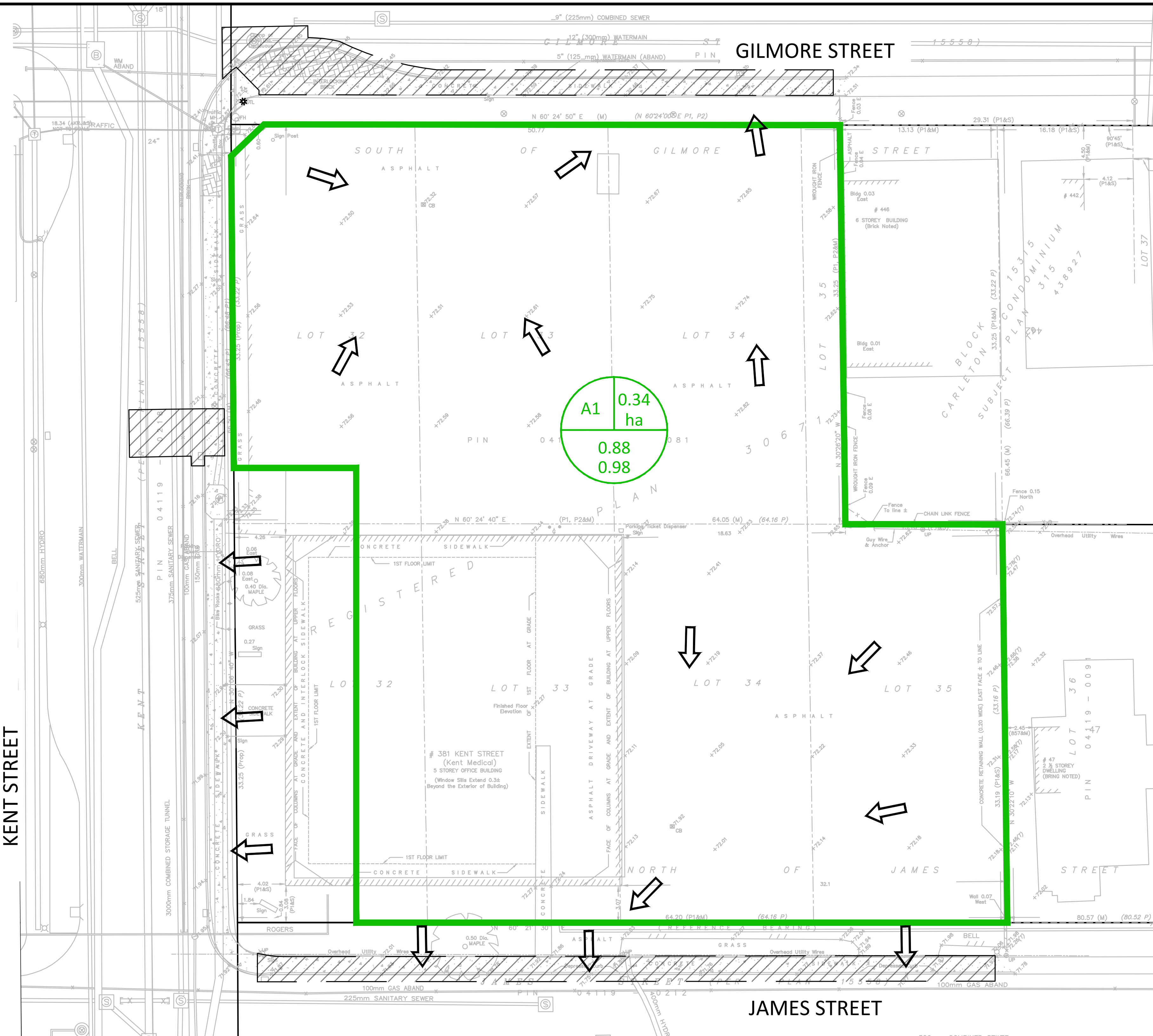
DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Average Flow (L/s)	Peak Flow (L/s)
Residential	280	L/c/d	**372**	**1.21**	**4.13**
Industrial - Light**	35,000	L/gross ha/d		0.00	0.00
Industrial - Heavy**	55,000	L/gross ha/d		0.00	0.00
Commercial / Amenity	2,800	L/(1000m^2 /d)	**174**	**0.01**	**0.01**
Hospital	900	L/(bed/day)		0.00	0.00
Schools	70	L/(Student/d)		0.00	0.00
Trailer Parks no Hook-Ups	340	L/(space/d)		0.00	0.00
Trailer Park with Hook-Ups	800	L/(space/d)		0.00	0.00
Campgrounds	225	L/(campsite/d)		0.00	0.00
Mobile Home Parks	1,000	L/(Space/d)		0.00	0.00
Motels	150	L/(bed-space/d)		0.00	0.00
Hotels	225	L/(bed-space/d)		0.00	0.00
Office	75	L/7.0m^2/d		0.00	0.00
Tourist Commercial	28,000	L/gross ha/d		0.00	0.00
Other Commercial	28,000	L/gross ha/d		0.00	0.00

TOTAL SANITARY DEMAND

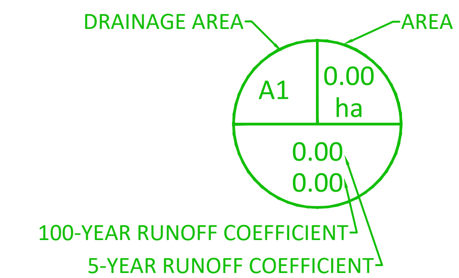
TOTAL INFILTRATION FLOW ALLOWANCE	**0.11**	**L/s**
TOTAL PEAK SEWAGE FLOW	**4.13**	**L/s**
TOTAL ESTIMATED PEAK WET WEATHER FLOW	**4.25**	**L/s**

APPENDIX E
DRAINAGE AREA PLANS AND STORMWATER MANAGEMENT CALCULATIONS

McINTOSH PERRY



LEGEND



OVERLAND FLOW DIRECTION

SCALE 1 : 400

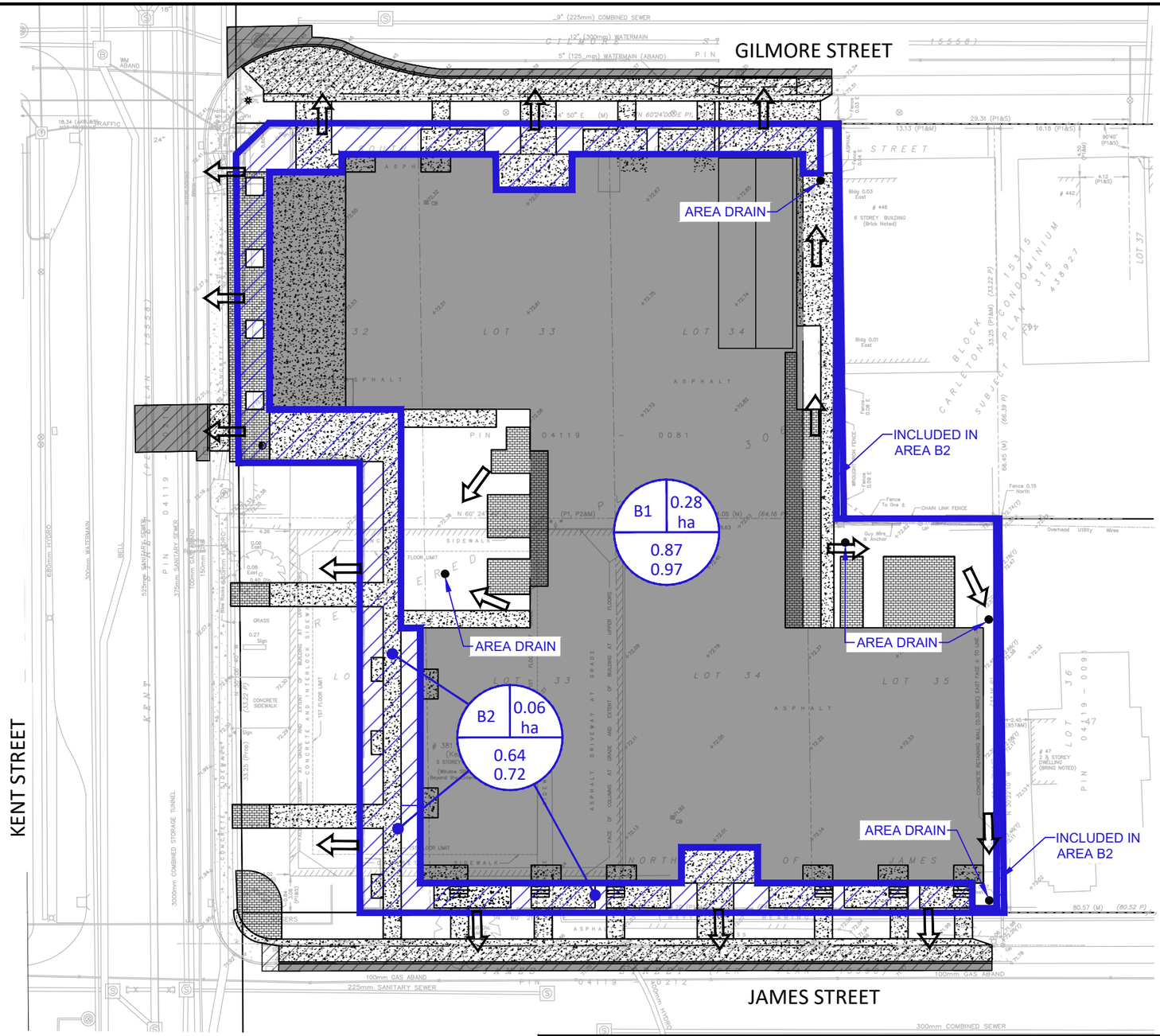
0 10 20 30 40 Metres

Client:	KATASA GROUPE + DÉVELOPPMENT 69 RUE JEAN-PROULX #301, GATINEAU, QC
Project:	9-STOREY RESIDENTIAL MIXED USED BUILDING 381 KENT STREET, OTTAWA, ON
Drawing Title:	PRE-DEVELOPMENT STORM DRAINAGE AREA PLAN
Drawn by:	J.H.
Checked By:	R.F.
Scale:	1:400
Project Number:	CCO-23-3187
Drawing Number:	PRE

No.	Revisions	Date
1	ISSUED FOR SITE PLAN CONTROL	FEB 23, 2023

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A 1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

FILENAME: U:\Infrastructure\2023\CCO-23-3187 Katasa - 381 Kent Street\12 - Drawings\CCO-23-3187_SWM.dwg
LAST SAVED: Thursday, February 16, 2023 LAST SAVED BY: j.hewson
LAST PLOTTED: Thursday, February 23, 2023 CTB FILE USED: ----



LEGEND

DRAINAGE AREA — AREA

B0 | 0.00 ha

0.00 — 100-YEAR RUNOFF COEFFICIENT

0.00 — 5-YEAR RUNOFF COEFFICIENT

OVERLAND FLOW DIRECTION

PROPOSED ROOF AREA

AREA B2 (FOR CLARITY)

SCALE 1 : 400

0 10 20 30 40 Metres

N

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A 1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

Client: KATASA GROUPE + DÉVELOPPMENT
69 RUE JEAN-PROULX #301, GATINEAU, QC

Project: 9-STOREY RESIDENTIAL MIXED USED BUILDING
381 KENT STREET, OTTAWA, ON

Drawing Title: POST-DEVELOPMENT DRAINAGE AREA PLAN

Drawn by:	Checked By:				Drawing Number:
J.H.	R.F.				POST
Scale: 1:400	Project Number: CCO-23-3187	1	ISSUED FOR SITE PLAN CONTROL	FEB 23, 2023	
		No.	Revisions	Date	

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LAST SAVED: Thursday, February 16, 2023 4:57 PM SAVED BY: J.Hewson
LAST PLOTTED: Thursday, February 23, 2023 - CTB FILE: ESDC--

CCO-23-3187 - 381 Kent Street - Stormwater Management Calculations

Table E1 Pre-Development Runoff Coefficient

Drainage Area	Area (ha)	Impervious Area (m^2)	C	Gravel Area (m^2)	C	Pervious Area (m^2)	C	Result	
								C_{AVG} 2/5-Year	C_{AVG} 100-Year
A1	0.3437	3,357.00	0.90	0.00	0.60	80.00	0.20	**0.88**	**0.98**

Table E2 Pre-Development Time of Concentration Calculation

Drainage Area ID	Sheet Flow Distance (m)	Slope of Land (%)	Tc (min) (5-Year)	Tc (min) (100-Year)	Assumed Tc (min)
A1	25	2.80	3	1	**10**
	30	1.60	3	2	**10**
	35	2.60	3	2	**10**

Table E3 Pre-Development Peak Flow Calculations

Drainage Area	Area (ha)	C 5-Year	C 100-Year	Tc (min)	I (mm/hr)			Q (L/s)		
					2-Year	5-Year	100-Year	2-Year	5-Year	100-Year
A1	0.3437	0.88	0.98	10	76.8	104.2	178.6	**64.85**	**87.98**	**167.63**

Table E4 Pre-Development Design Flow Requirement

Drainage Area	Area (ha)	C 2/5-Year	Tc (min)	I (mm/hr)	Q (Site) (L/s)	
				2-Year	2-Year	
A1	0.3437	0.40	10	76.8	29.35	← Governs

Table E5 Post-Development Runoff Coefficient

Drainage Area	Area (ha)	Impervious Area (m^2)	C	Gravel Area (m^2)	C	Pervious Area (m^2)	C	Result		Comment
								C_{AVG} 2/5-Year	C_{AVG} 100-Year	
B1	0.2837	2,708.00	0.90	0.00	0.60	129.00	0.20	**0.87**	**0.97**	*Roof & Deck Drains*
B2	0.0600	373.00	0.90	0.00	0.60	227.00	0.20	**0.64**	**0.72**	*All other Areas*
Total	**0.3437**									

Table E6 Post-Development UNCONTROLLED Runoff Calculations

Drainage Area	Area (ha)	C 2/5-Year	C 100-Year	Tc (min)	I (mm/hr)		Q (L/s)	
					5-Year	100-Year	5-Year	100-Year
B1	0.2837	0.87	0.97	10	104.2	178.6	71.34	136.02
B2	0.0600	0.64	0.72	10	104.2	178.6	11.04	21.33
Total	**0.3437**						**82.38**	**157.36**

Table E7 Post-Development CONTROLELD Runoff Calculations

Drainage Area	Unrestricted Flow (L/s)		Restricted Flow (L/s)		Storage Required (m^3)		Storage to be Provided (m3)	Comment
	5-Year	100-Year	5-Year	100-Year	5-Year	100-Year		
B1	71.34	136.02	4.02	7.67	68.08	127.70	140.00	*CONTROLLED*
B2	11.04	21.33	11.04	21.33	NA		NA	*UNCONTROLLED*
Fnd. Drain	0.35	0.35	0.35	0.35	NA		NA	*ESTIMATED*
Total	**82.73**	**157.71**	**15.41**	**29.35**	**68.08**	**127.70**	**140.00**	
			29.35 (Max)					

Table E8 **Storage Requirements for Area B1**

5-Year Storm Event

Tc (min)	I (mm/hr)	B1 Runoff (L/s)	Allowable Outflow (L/s)	Runoff to be Stored (L/s)	Storage Required (m^3)
10	104.2	71.34	4.02	67.32	40.39
20	70.3	48.10	4.02	44.08	52.89
30	53.9	36.92	4.02	32.90	59.22
40	44.2	30.25	4.02	26.23	62.95
50	37.7	25.78	4.02	21.76	65.28
60	32.9	22.56	4.02	18.53	66.72
70	29.4	20.11	4.02	16.09	67.57
80	26.6	18.19	4.02	14.16	67.99
90	24.3	16.63	4.02	12.61	68.08
100	22.4	15.34	4.02	11.32	67.92

Maximum Storage Required 5-Year (m^3) =	68.08

Table E9 **Storage Requirements for Area B1**

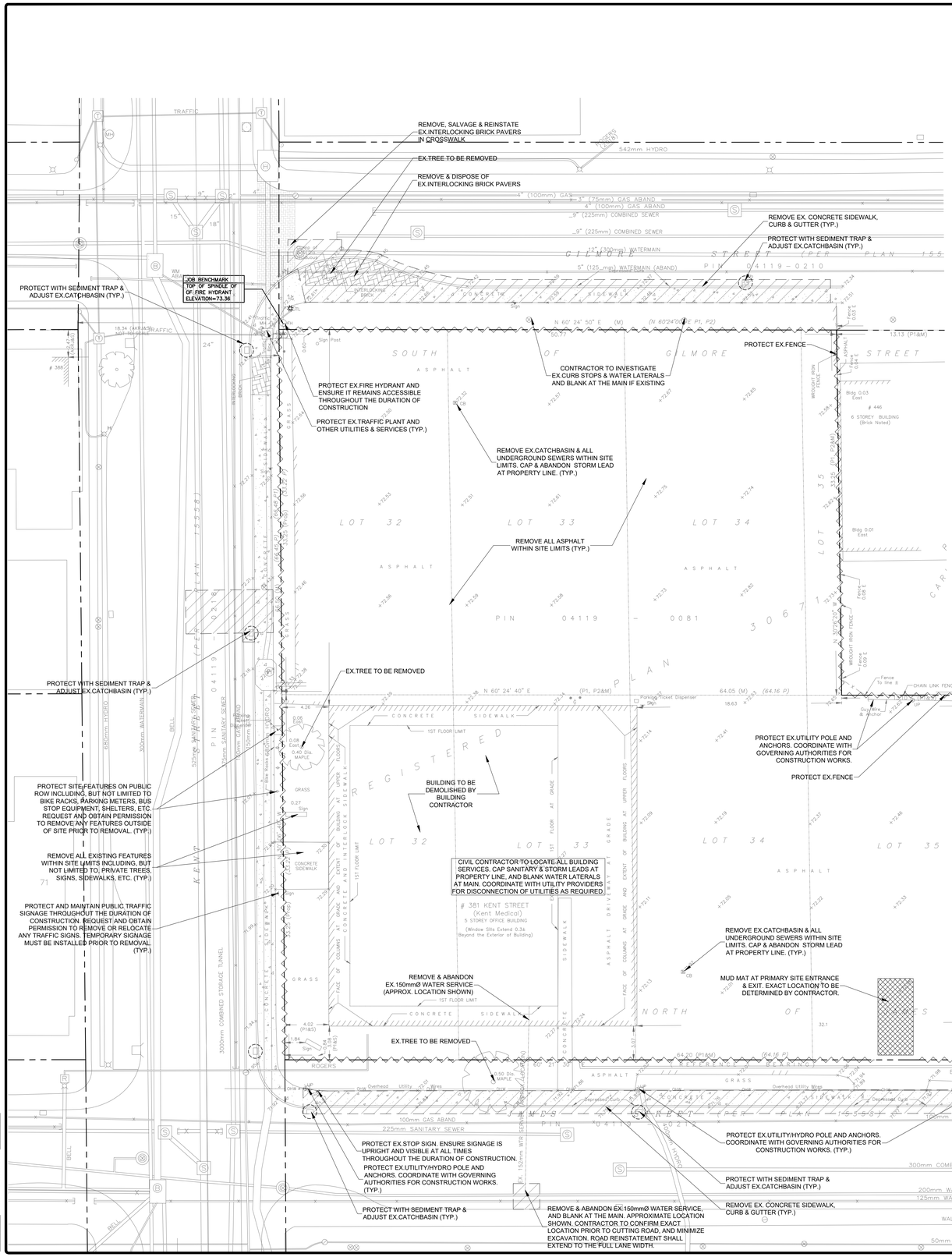
100-Year Storm Event

Tc (min)	I (mm/hr)	B1 Runoff (L/s)	Actual Outflow (L/s)	Runoff to be Stored (L/s)	Storage Required (m^3)
10	178.6	136.02	7.67	128.35	77.01
20	120.0	91.38	7.67	83.71	100.45
30	91.9	69.98	7.67	62.31	112.17
40	75.1	57.24	7.67	49.57	118.98
50	64.0	48.72	7.67	41.05	123.15
60	55.9	42.58	7.67	34.91	125.68
70	49.8	37.93	7.67	30.26	127.09
80	45.0	34.27	7.67	26.60	127.70
90	41.1	31.32	7.67	23.65	127.70
100	37.9	28.87	7.67	21.20	127.22
110	35.2	26.82	7.67	19.15	126.37
120	32.9	25.06	7.67	17.39	125.20

Maximum Storage Required 100-Year (m^3) =	127.70

APPENDIX F
DESIGN DRAWINGS

McINTOSH PERRY



INLET SEDIMENT CONTROL DEVICE

N.T.S.

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR IS TO INSTALL LIGHT-DUTY SILT FENCE BARRIER PER OPSD 219.110 ON ALL LEGAL BOUNDARIES OF THE SITE, AND SHALL PROTECT ALL CATCHBASINS AND OTHER STORM INLETS ADJACENT TO THE SITE WITH SEDIMENT TRAPS AND GEOTEXTILE BETWEEN THE FRAMES AND GRATES. GEOTEXTILE FOR SILT FENCE PER OPSS 1860, TABLE 3.
2. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, TEMPORARY SEDIMENT INLET CONTROL DEVICES TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED ROAD CATCHBASINS, REARYARD CATCHBASINS AND CATCHBASIN MANHOLES AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSOCK MATERIAL SHALL BE PERMITTED FOR USE ON SITE.
3. AT THE DISCRETION OF THE PROJECT MANAGER OR CITY OF OTTAWA, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
4. EXCEPT AS PROVIDED IN PARAGRAPHS 4.1., and 4.2. BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
   - 4.1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
   - 4.2. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
5. SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
   - 5.1. FOR LIGHT-DUTY SEDIMENT BARRIERS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
     - 5.1.1. A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.
     - 5.1.2. A DEPTH OF 300 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
   - 5.2. FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
   - 5.3. ACCUMULATED SEDIMENT SHALL BE REMOVED PRIOR TO THE REMOVAL OF THE CONTROL MEASURE.
   - 5.4. ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSS 180.
6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED PRIOR TO ANY FORECAST STORM EVENT AND FOLLOWING A STORM EVENT.
7. DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPSS 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
8. ALL 'GREEN AREAS' TO BE TREATED WITH 150mm TOPSOIL AND SOD AS SOON AS FEASIBLE, AS PER OPSS 570.
9. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
11. STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. STORM CATCHBASINS, MAINTENANCE HOLES), AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS LEFT IN PLACE IN EXCESS OF 14 DAYS.
12. IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSD 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. WATERCOURSES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY WATERCOURSES CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. IF CLOSURE OF ANY PERMANENT WATER PASSAGE IS NECESSARY, THE CONTRACTOR SHALL RELEASE ANY STRANDED FISH TO THE OPEN PORTION OF THE WATERCOURSE WITHOUT HARM.
13. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPSS 577
14. WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPSS 518.
15. ALL SETTLING/FILTRATION BASINS SHALL BE EQUIPPED WITH TERRAFIX 27 0R GEOTEXTILE (OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.

REMOVAL & REINSTATEMENT NOTES

1. THE CONTRACTOR IS TO REVIEW ALL EXISTING SITE CONDITIONS AND USE THEIR PROFESSIONAL JUDGEMENT TO DETERMINE THE EXACT LIMITS OF REINSTATEMENT OUTSIDE OF THE SITE LIMIT. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO ALL ADJACENT PROPERTIES, AND SHALL BE RESPONSIBLE TO REINSTATE ALL AREAS DISTURBED BY CONSTRUCTION TO PRE-CONSTRUCTION CONDITION OR BETTER, AND BEAR THE COST OF THE SAME. ANY ADDITIONAL DAMAGE TO ADJACENT PROPERTIES OR SITE FEATURES CAUSED BY CONSTRUCTION SHALL BE REPAIRED AT THE COST OF THE CONTRACTOR TO EXISTING CONDITIONS OR BETTER.
2. ALL ASPHALT, CONCRETE OR OTHER HARD SURFACES TO BE REMOVED SHALL BE NEATLY SAWCUT IN A STRAIGHT LINE PRIOR TO REMOVING WITH HEAVY EQUIPMENT.
3. ROAD REINSTATEMENT WITHIN THE CITY ROW SHALL BE COMPLETED PER CITY OF OTTAWA DETAIL R10 COMPLETE WITH ASPHALT KEY.
   - 3.1. ASPHALT SHALL BE REINSTATED WITH A MINIMUM OF:
   - 3.2. 40mm SP12.5 TOP COURSE
   - 3.3. 50mm SP19 BASE COURSE
   - 3.4. 150mm GRANULAR A
   - 3.5. 450mm GRANULAR B
4. SHOULD THE ACTUAL PAVEMENT STRUCTURE BE GREATER THAN WHAT IS STATED IN NOTE 3, THE CONTRACTOR SHALL MATCH THE EXISTING THICKNESS.
5. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
6. CONTRACTOR TO ADJUST EXISTING CATCH BASINS, MANHOLES, FIRE HYDRANTS, VALVE CHAMBERS AND VALVE BOXES TO FINAL GRADE AS REQUIRED.
7. GRADING IN GRASSED AREAS WILL BE BETWEEN 2% TO 7%. GRADES IN EXCESS OF 7% WILL REQUIRE A MAXIMUM 3:1 TERRACING.
8. CONTRACTOR TO SECURE CONSTRUCTION SITE WITH MODULOC FENCING, HOARDING OR OTHER APPROPRIATE PROTECTION PRIOR TO, AND FOR THE DURATION OF CONSTRUCTION

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

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
LIGHT—DUTY SILT FENCE BARRIER	OPSD 219.110	

LOCATION PLAN

LEGEND

— — — —	PROPERTY LINE
⊗ ◎ ⌖	EXISTING VALVE, VALVE CHAMBER & FIRE HYDRANT
Ⓢ ▣	EXISTING SEWER MAINTENANCE STRUCTURE
☐ ▯	EXISTING CATCHBASIN
◌	PROPOSED SEDIMENT PROTECTION FOR CATCHBASINS
∿∿∿	PROPOSED LIGHT-DUTY SILT FENCE PER OPSD
▨	PROPOSED PARTIAL OR FULL DEPTH REMOVAL OF ASPHALT, CONCRETE, OR INTERLOCKING BRICK PAVERS

02	REISSUED FOR SITE PLAN CONTROL	AUG. 31/2023
01	ISSUED FOR SITE PLAN CONTROL	FEB. 23/2023
No.	Revisions	Date

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 200

0 10 20 Metres

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Stamp:
LICENSED PROFESSIONAL ENGINEER
J. D. J. HEWSON
100506243
08/29/2023
PROVINCE OF ONTARIO

Client:
KATASA GROUPE + DÉVELOPPMENT
69 RUE JEAN-PROULX #301
GATINEAU, QC, J8Z 1W2

Project:
9-STOREY RESIDENTIAL MIXED USE BUILDING
381 KENT STREET, OTTAWA, ON

Drawing Title:
EXISTING CONDITIONS, REMOVALS AND EROSION & SEDIMENT CONTROL PLAN

Scale: 1:200	Project Number: CCO-23-3187
Drawn By: J.H.	
Checked By: R.F.	Drawing Number: C100
Designed By: J.H.	

D07-12-23-0031

#18964

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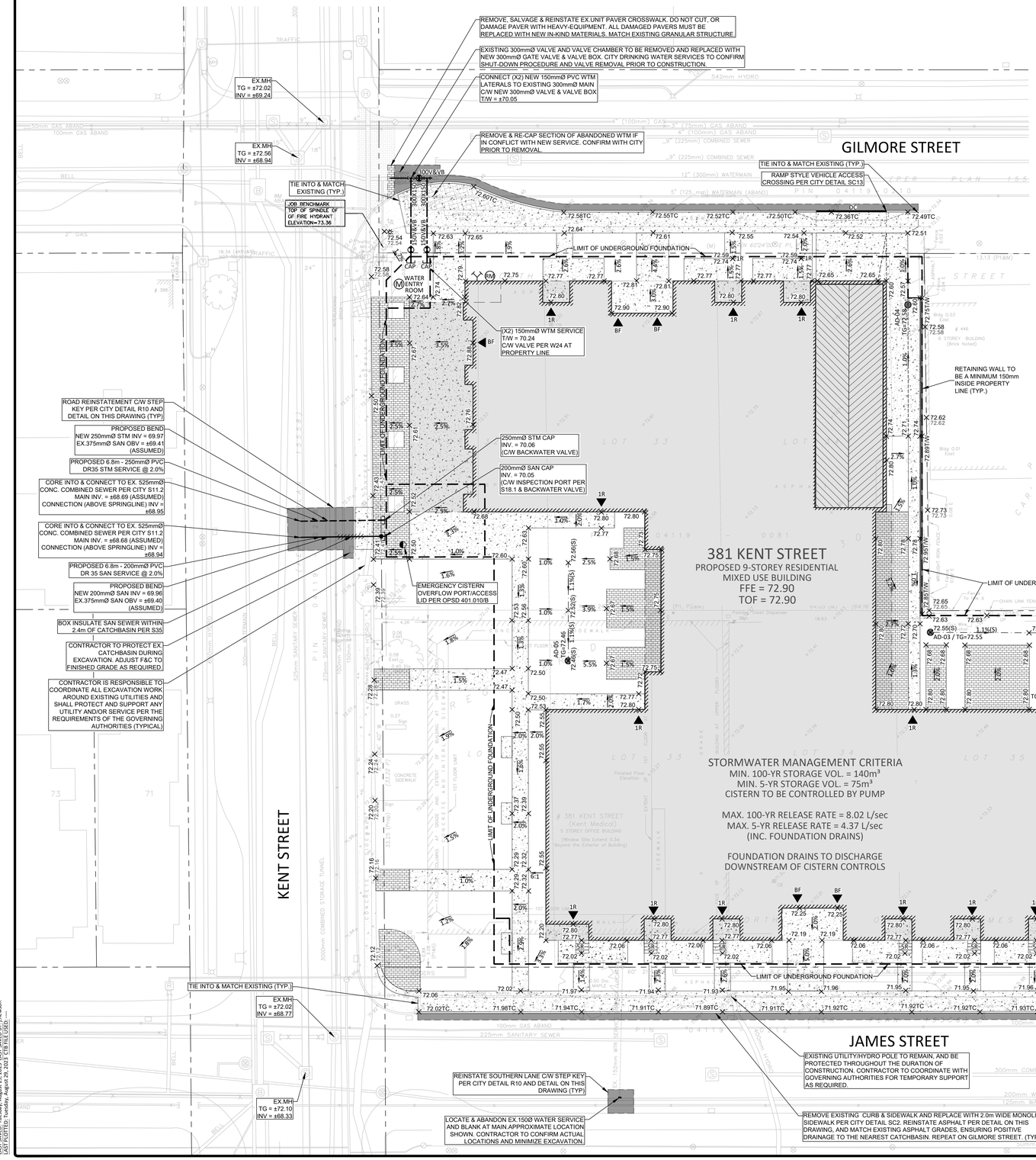
LAST SAVED: Tuesday, August 29, 2023 LAST SAVED BY: j.hewson
LAST PLOTTED: Tuesday, August 29, 2023 CTB FILE USED: ----



GENERAL NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED INFORMATION SUPPLIED BY (OR SHOWN ON) FAIRHALL, MOFFOTT & WOODLAND JOB NO. AC29400 AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
3. FOR GEOTECHNICAL INFORMATION REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY EXP SERVICES, DATED MARCH 28, 2022.
4. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT. THESE DRAWINGS ARE NOT TO BE USED FOR LAYOUT OF ANY KIND. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THE ACCURACY OF ANY ELECTRONIC INFORMATION PROVIDED, AND SHALL USE LEGAL BENCHMARKS AND PROPERTY BARS SET BY AN OLS TO CONFIRM HORIZONTAL AND VERTICAL LOCATIONS OF ALL SITE FEATURES, SERVICES AND UTILITIES.
6. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
7. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
8. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
9. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
11. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
12. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
13. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
14. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
15. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
    - 15.1. ELECTRICAL SERVICE - HYDRO OTTAWA
    - 15.2. GAS SERVICE - ENBRIDGE,
    - 15.3. TELEPHONE SERVICE - BELL CANADA,
    - 15.4. TELEVISION SERVICE - ROGERS.
16. CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL EXCAVATION WORK AROUND EXISTING UTILITIES AND SHALL PROTECT AND SUPPORT ANY UTILITY AND/OR SERVICE PER THE REQUIREMENTS OF THE GOVERNING AUTHORITIES. ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO OTTAWA,BELL, ENBRIDGE, ROGERS AND THE CITY.
17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS AND CITY OF OTTAWA SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.
19. ALL CIVIL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, LANDSCAPE AND ANY OTHER DRAWING INCLUDED WITHIN THE BUILDING PACKAGE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO STARTING ANY CONSTRUCTION WORK.
20. REFER TO LANDSCAPE DRAWINGS FOR ALL FINAL GRADE SURFACE FINISHES. AREAS NOT SHOWN AS CONCRETE OR INTERLOCKING BRICK ARE TO BE SOFTSCAPED WITH GRASS, SHRUBBERY, OR OTHER LANDSCAPING.

WATERMAIN NOTES

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY STANDARDS.
2. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m. INSULATE ALL WATERMAINS AND SERVICES THAT HAVE LESS THAN 2.4m COVER WITH THERMAL INSULATION AS PER CITY DETAIL W22.
3. IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN HALF OF THAT WHICH IS RECOMMENDED BY THE MANUFACTURER.
4. THERMAL INSULATION OF WATERMAINS AT OPEN STRUCTURES AS PER CITY DETAIL W23.
5. VALVES TO BE OPERATED BY CITY STAFF ONLY.
6. NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY. CITY TO BE PRESENT FOR WATERMAIN CONNECTION. CONNECTION, EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY CONTRACTOR.
7. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ANY WATERMAIN CONNECTION(S) REQUIRED. THIS SHALL BE COMPLETED IN THE PRESENCE OF A DESIGNATED MUNICIPAL WATER OPERATOR AND THE SELECTED CONTRACTOR SHALL PROVE TO THE SATISFACTION OF THE CITY THAT THEY ARE COMPETENT TO PERFORM THE WORKS PRIOR TO INITIATING CONSTRUCTION.
9. ALL WATERMAINS SHALL BE EQUIPPED WITH GATE VALVES AS PER OPSD 1100.011.
10. ALL FIRE HYDRANTS, VALVE AND VALVE BOX SHALL CONFORM TO OPSD 1103.020.
11. CONCRETE THRUST BLOCKS TO CONFORM TO OPSD 1103.010 AND OPSD 1103.020.
12. ALL WATERMAIN TO BE CLASS 150 DR-18 OR APPROVED EQUIVALENT.
13. ALL WATERMAIN TO BE EQUIPPED WITH TRACER WIRE.
14. AS PER CITY GUIDELINE, THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER/UTILITY IS 0.25m FOR CROSSING OVER THE SEWER, AS PER CITY DETAIL W25.2 FOR CROSSING UNDER SEWER, THE MINIMUM VERTICAL CLEARANCE IS 0.5m AS PER CITY DETAIL W25. FOR CROSSING UNDER SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.
15. SWABBING, CHLORINATION AND CONTINUITY TESTING FOR PROPOSED WATER SERVICES IS TO FOLLOW CITY OF OTTAWA SPECIAL PROVISIONS #SP-4491 & SP-4494.

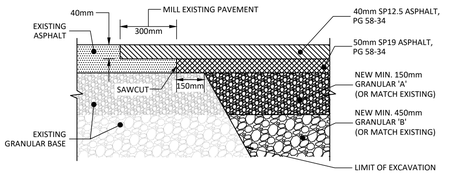
SEWER NOTES:

1. CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
2. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
    - 2.1. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 98% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
    - 2.2. SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
    - 2.3. BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
    - 2.4. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0 METRES BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
3. SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-28.
4. SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
5. SEWERS AND WATERMAINS LOCATED PARALLEL TO EACH OTHER SHOULD BE CONSTRUCTED IN SEPARATE TRENCHES. WHEN IT IS IMPOSSIBLE OR NOT PRACTICAL TO MAINTAIN VERTICAL AND/OR HORIZONTAL SEPARATION PER MECP STANDARDS, ALL SEWERS SHOULD BE CONSTRUCTED OF WATERMAIN QUALITY PIPE, PRESSURE TESTED IN PLACE AT A PRESSURE OF 350 kPa (50 psi) WITHOUT LEAKAGE USING THE TESTING METHODOLOGY IN ONTARIO PROVINCIAL STANDARD SPECIFICATION 701 (OPSS 701) OF THE OPS.
6. INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER CITY DETAIL S35, OPTION A.
7. SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAIN AS PER CITY OF OTTAWA STANDARD DRAWING S11, S11.1 & S11.2.
8. SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILED TO WITHIN 1.0m OF BUILDING. ALL ENDS OF SERVICES TO BE PROPERLY CAPPED AND LOCATED WITH 2"x4"X8' LONG MARKER.
9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS ON SITE, OUTLET CONNECTION TO THE MAIN AND PIPES 150mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.
10. DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO SANITARY SEWER MAIN.

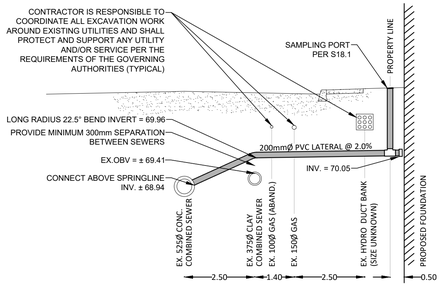
ROADWAY NOTES

1. RESTORE ANY TRENCHES AND DISTURBED SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
2. CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SC1.1 (BARRIER CURB), SC2 (MONOLITHIC SIDEWALK & CURB), AND SC4 (STANDARD SIDEWALK), UNLESS OTHERWISE SPECIFIED. PROVISIONS SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVEWAYS AND RAMPS.
3. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA DETAIL R10 AND OPSD 509.010, OPSS 310, AND SHALL BE REINSTATED PER THE DETAIL SHOWN ON THIS DRAWING.
4. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm AROUND ALL STRUCTURES WITHIN PAVEMENT AREA.
5. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 100% SPMDD.
6. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
7. ALL SUBGRADE SHALL BE PROOF-ROLLED IN THE PRESENCE OF A GEOTECHNICAL ENGINEER. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 300mm LIFTS, OR AS DIRECTED.
8. PAVEMENT STRUCTURE: REFER TO DETAIL.

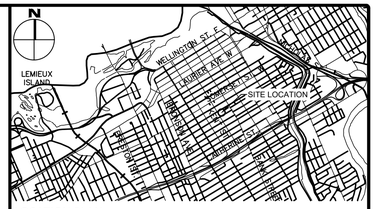
ASPHALT REINSTATEMENT DETAIL



SERVICE LATERAL DETAIL



NOTE: ONLY ONE SERVICE LATERAL IS SHOWN FOR CLARITY. EXACT ELEVATIONS AND DIMENSIONS MAY VARY FOR THE SECOND LATERAL.



LOCATION PLAN

LEGEND

- PROPERTY LINE
- 72.47 — EXISTING SURFACE ELEVATION
- 72.80 — PROPOSED SURFACE ELEVATION
- 72.58T/W — PROPOSED TOP OF WALL ELEVATION
- 72.56(S) — PROPOSED CENTER OF SWALE ELEVATION
- 72.56TC — PROPOSED TOP OF CURB ELEVATION
- 2.0% — PROPOSED SLOPE
- PROPOSED SWALE
- AD-00 — PROPOSED AREA DRAIN
- 1R / BF — PROPOSED BUILDING ENTRYWAY (BF = BARRIER FREE, R = RISER)
- PROPOSED CONCRETE SIDEWALK PER CITY DETAIL SC2 (MONOLITHIC WITH CURB), OR SC4 (NO CURB)
- DC — PROPOSED BARRIER CURB PER CITY DETAIL SC1.1
- PROPOSED CURB/SIDEWALK DEPRESSION
- PROPOSED ASPHALT REINSTATEMENT PER R10, AND DETAIL ON THIS DRAWING
- LIMIT OF UNDERGROUND FOUNDATION
- LIMIT OF PROPOSED ROOF
- PROPOSED WATERMAIN, VALVE & CAP
- PROPOSED STORM LATERAL & CAP
- PROPOSED SANITARY LATERAL & CAP
- PROPOSED SIAMESE FIRE DEPARTMENT CONNECTION
- M RM — PROPOSED WATER METER & REMOTE METER
- EXISTING VALVE, VALVE CHAMBER & FIRE HYDRANT
- EXISTING SEWER MAINTENANCE STRUCTURE
- EXISTING CATCHBASIN

No.	Revisions	Date
02	REISSUED FOR SITE PLAN CONTROL	AUG. 31/2023
01	ISSUED FOR SITE PLAN CONTROL	FEB. 23/2023

Check and verify all dimensions before proceeding with the work — Do not scale drawings

SCALE 1 : 200

0 10 20 Metres

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Stamp: LICENSED PROFESSIONAL ENGINEER J. D. J. HEWSON 100506243 08/29/2023 PROVINCE OF ONTARIO

Client:
KATASA GROUPE + DÉVELOPPMENT
69 RUE JEAN-PROULX #301
GATINEAU, QC, J8Z 1W2

Project:
9-STOREY RESIDENTIAL MIXED USE BUILDING
381 KENT STREET, OTTAWA, ON

Drawing Title:
SITE SERVICING & GRADING PLAN

Scale: 1:200	Project Number: CCO-23-3187
Drawn By: J.H.	
Checked By: R.F.	Drawing Number: C101
Designed By: J.H.	

D07-12-23-0031

#18964

FILENAME: U:\Infrastructure\2023\CCO-23-3187 Katasa- 381 Kent Street\12 - Drawings\CCO-23-3187_SSP.dwg
LAST SAVED: Tuesday, August 29, 2023 LAST SAVED BY: J.Hewson
LAST PLOTTED: Tuesday, August 29, 2023 [TIB,TRUE,USER]