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CREST REALTIES 240 Bank Street Serviceability Report

Engineering excellence.

Planning progress.

Liveable landscapes.

240 Bank Street
City of Ottawa
Serviceability Report

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

Submitted: July 11th, 2025
Revised: September 19th, 2025

Novatech File: 124039
Ref: R-2025-53

September 19, 2025

City of Ottawa
Planning, Infrastructure and Economic Development Department
Planning and Infrastructure Approvals Branch
110 Laurier Avenue West, 4th Floor
Ottawa ON, K1P 1J1

Attention: Eric Forhan, Planner II (Development Review – Central)
Amy Whelan, Infrastructure Project Manager

Reference: 240 Bank Street
Serviceability Report
Our File No.: 124039

Please find enclosed the Serviceability Report for the above-noted development located at 240 Bank Street in the City of Ottawa. This report is being submitted in support of a site plan application to convert the 6 floors of the existing building from office space to ground floor commercial and upper floor residential units.

Should you have any questions or require additional information, please contact the undersigned.

Yours truly,

NOVATECH



Greg MacDonald, P. Eng.
Director, Land Development and Public Sector Infrastructure

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1.0 INTRODUCTION

Novatech has been retained to prepare a Serviceability Report on behalf of Crest realties to assess the site services to the existing building located at 240 Bank Street. The report is in support of a site plan application for the conversion of offices to residential units. The ground floor will remain commercial. **Figure 1 - Key Plan** shows the site location.

1.1 Existing Conditions

The subject site is located at 240 Bank Street and is approximately 0.07 hectares (ha.) in size.

Presently the site is occupied by an existing 6-storey office tower, addressed 240 Bank Street, on the south-west corner of Bank street and Lisgar street. The building currently contains office space on all 6 floors.

Existing infrastructure on the surrounding streets is described in Section 2-4 and is shown in **Figure 2 – Existing Conditions Plan**.

1.2 Proposed Development

It is proposed to convert the existing office building at 240 Bank Street to a mixed-use building containing commercial on the ground floor and residential units on floors 2-6 - the commercial space use will be specified during detail design. The converted building will contain a total of 45 residential units, and 248.61m² of commercial space on the ground floor as shown in **Figure 3 – Proposed Site Plan**.

M:\2024\124039\CAD\Civil\Figures\Servicing\124039-KP.dwg, 8x11 portrait, Jun 12, 2025 - 2:57pm, amusyaju



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240 BANK STREET

KEY PLAN

SCALE

N.T.S

DATE

AUG 2024

JOB

124039

FIGURE

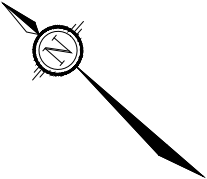
FIGURE-1

M:\2024\124039\CAD\Civil\Figures\Serviceing\124039-PROP-RES.dwg, FIGURE 2, Aug 30, 2024 - 1:18pm, amusyaju



LEGEND

PROPOSED DEVELOPMENT BOUNDARY



Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

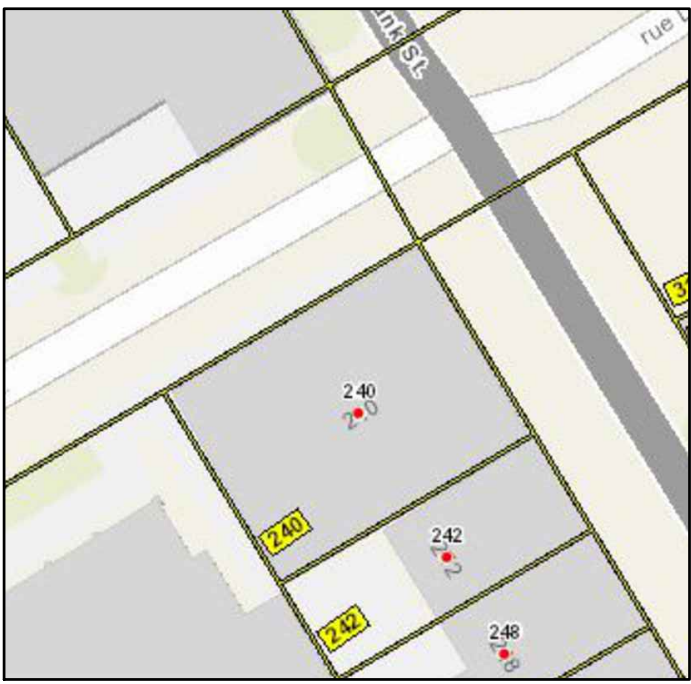
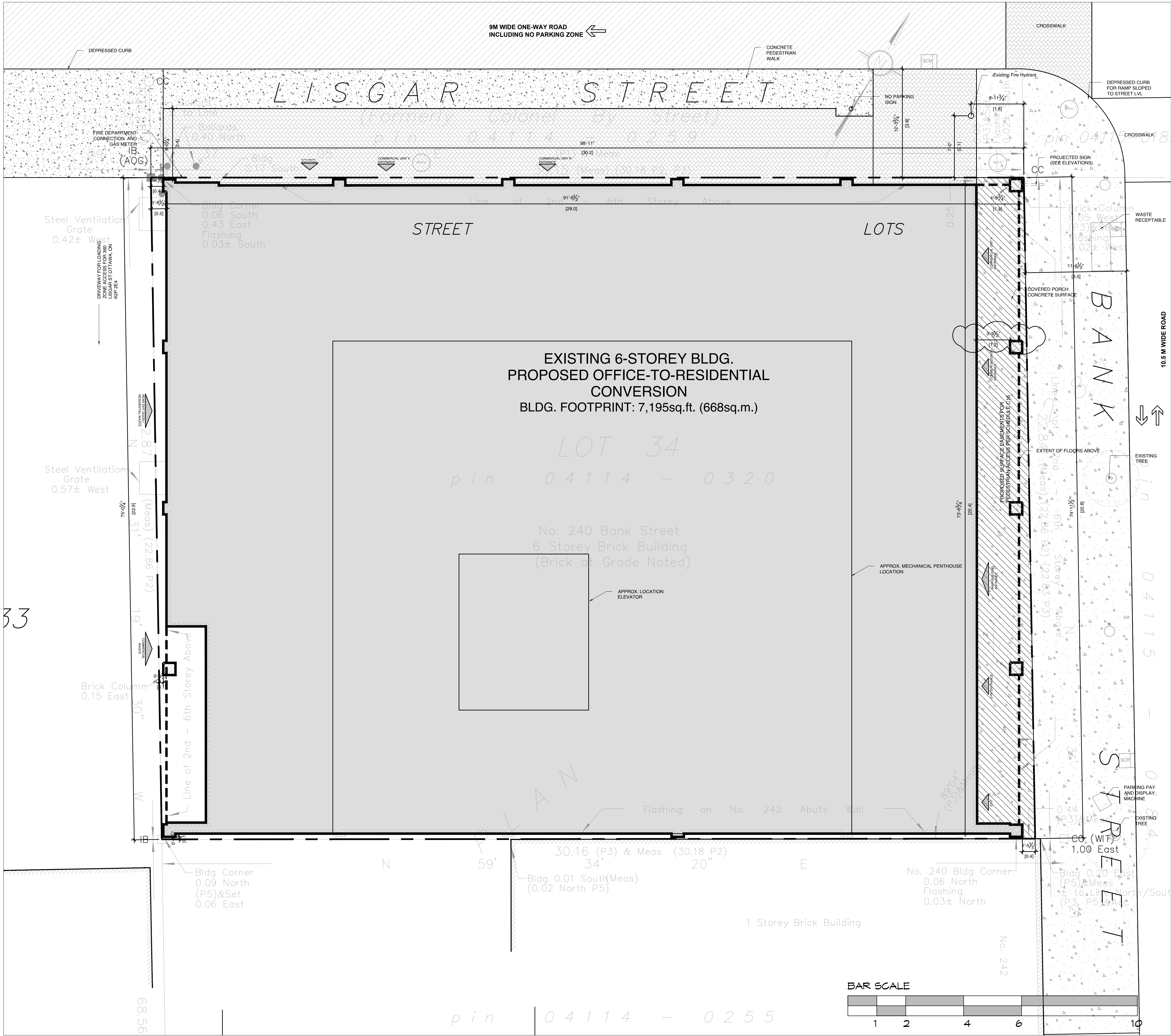
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CITY OF OTTAWA
240 BANK STREET

EXISTING CONDITIONS

SCALE 1 : 500 0 5m 10m 20m

DATE SEP. 2024 JOB 124039 FIGURE FIGURE 2



PROPERTY LEGAL DESCRIPTION
**PLAN OF LOT 34
(SOUTH LISGAR STREET)**
REGISTERED PLAN 12281
CITY OF OTTAWA
Prepared by Annis, O'Sullivan, Vollebek Ltd.
Dated December 5th, 2005
14 Concourse Gate, Suite 500, Nepean, ON K2E 7S6
Tel.: 613.727.0850
Fax.: 613.727.1079

02
A1.0
KEY PLAN
SCALE: N.T.S.

PROJECT ZONING REVIEW STATISTICS	BUILDING AREAS	S.Q.M.	S.Q.F.T.
MUNICIPALITY: CITY OF OTTAWA MUNICIPAL ADDRESS: 240 BANK STREET REGISTERED OWNER: 240 BANK STREET HOLDINGS (C/O CREST REALTIES) LOT AREA: 689m ² ZONING ANALYSIS: TM H(19) PROPOSED USE: 6-STORY OFFICE-TO-MIXED USE BUILDING WITH RESIDENTIAL AND NON-RESIDENTIAL PERSONAL SERVICE BUSINESS AND RETAIL STORE) CONV.	BUILDING FOOTPRINT GROSS FLOOR AREA: GROUND FLOOR (AMENITIES / PARKING) GROUND FLOOR COMMERCIAL SPACE (3) SECOND - SIXTH FLOOR (RESI. 8' FLOOR) TOTAL TOTAL RESIDENTIAL UNITS = 45	668m ² 485m ² 183m ² 3,340m ² 4,008m ²	7,195ft ² 5,217ft ² 1,978ft ² 35,975ft ² 43,170ft ²

ZONING MECHANISM (TM H(19))	REQUIRED	PROVIDED
MINIMUM LOT WIDTH	NO MINIMUM	22.85m
MINIMUM LOT AREA	NO MINIMUM	689m ²
MAXIMUM BUILDING HEIGHT	20m	19.7m
MINIMUM FRONT YARD SETBACK	MAX. 2.0m	0.0m
MINIMUM REAR YARD SETBACK	NO MINIMUM	0.0m
MINIMUM INTERIOR YARD SETBACK	NO MINIMUM, MAX. 3.0m	0.0m
MINIMUM CORNER SIDE YARD SETBACK	NO MINIMUM 3.0	0.0m
MAXIMUM LOT COVERAGE	NO MAXIMUM	N/A
MAXIMUM FLOOR SPACE INDEX	NO MAXIMUM	N/A
MINIMUM WIDTH OF LANDSCAPE AREA	NO MAXIMUM, EXCEPT THAT WHERE A YARD IS PROVIDED AND NOT USED FOR REQUIRED DRIVEWAYS, AISLES, PARKING OR LOADING SPACES, THE WHOLE YARD MUST BE LANDSCAPED	N/A

PARKING & LOADING SPACE PROVISIONS		
MINIMUM REQUIRED VEHICLE PARKING SPACES	NONE	NONE
BICYCLE PARKING REQUIRED	23 BICYCLE SPACES (0.5 PER DWELLING)	40 BICYCLE SPACES
BICYCLE PARKING SPACE DIMENSIONS	MIN. WIDTH: 0.37m, MIN. LENGTH: 1.8m	WIDTH: 0.6m, LENGTH: 1.8m
VISITOR PARKING SPACES	3 VISITOR SPACES	0 SPACES
AMENITY SPACE SECTION	TOTAL AMENITY: 608m ² PER DWELLING UNIT = 270m ² COMMUNAL AMENITY: 50% OF TOTAL = 135m ²	608m ² (BASEMENT & GROUND FLOOR) 153m ² (GROUND FLOOR) TOTAL: 761m ²
OUTDOOR REFUSE COLLECTION	N/A	N/A

BUILDING FLOOR STATISTICS- DWELLING UNIT TYPE			
FLOOR LEVEL	SUITE COUNT	ONE BEDROOM	ONE BEDROOM (LARGE)
SECOND FLOOR	9	7	2
THIRD FLOOR	9	7	2
FOURTH FLOOR	9	7	2
FIFTH FLOOR	9	7	2
SIXTH FLOOR	9	7	2
TOTAL	45	35	10
SUITE MIX	100%	35/45= 77.78%	10/45=22.22%

SITE PLAN NOTES	SITE PLAN SYMBOLS
NOTE# (E)AS EXISTING ASPHALT SURFACE - REFER TO SURVEY (E)BU EXISTING BUSHES - REFER TO SURVEY (E)CSW EXISTING CONCRETE CURB - REFER TO SURVEY (E)GSW EXISTING CONCRETE SIDEWALK - REFER TO SURVEY (E)JHW EXISTING OVERHEAD UTILITY WIRES - REFER TO SURVEY (E)JRW EXISTING RETAINING WALL - REFER TO SURVEY (E)JT EXISTING TREE - REFER TO SURVEY (E)TR EXISTING TREE TO BE REMOVED - REFER TO SURVEY B BOLLARD: 6MM X 125MM DIA. X 1050MM PAINTED GALVANIZED STEEL BOLLARD C/W WELDED CAP AND 8MM X 150MM BASE PLATE WITH 4 BOLT HOLES. SECURE TO PAVEMENT OR SIDEWALK AT LOCATIONS INDICATED WITH 16MM DIA. GALVANIZED CONCRETE OR ASPHALT ANCHORS DEPENDANT ON LOCATION. BFP5 PROVIDE VERTICALLY-MOUNTED SIGN, MINIMUM 300MM WIDE X 600MM HIGH, MARKED WITH INTERNATIONAL SYMBOL OF ACCESSIBILITY. MOUNT NOT LESS THAN 1500MM ABOVE GRADE AND NOT MORE THAN 2000MM ABOVE GRADE. ENSURE TONAL CONTRAST BETWEEN BF PARKING SIGN AND BACKGROUND ENVIRONMENT. PROVIDE INFORMATION TEXT COMPLIANT WITH CITY OF OTTAWA BY LAW REQUIREMENTS. PROVIDE ADDITIONAL BILINGUAL SIGNAGE THAT IDENTIFIES TYPE "A" SPACES AS "VAN ACCESSIBLE/ FOURCOINNETTE ACCESSIBLE". BR BIKE RACK - REFER TO LANDSCAPE CC CONCRETE CURB - REFER TO CIVIL CP CONCRETE PAD - REFER TO CIVIL CSW CONCRETE SIDEWALK - REFER TO CIVIL CY CANOPY C/W RECESSED POT LIGHTS - REFER TO ELECTRICAL GM GAS METER - REFER TO SITE SERVICING PMT PAD MOUNT TRANSFORMER - REFER TO CIVIL PP PAINTED PARKING LINES, TYP. - REFER TO CIVIL RSL ROOF STORM LINE - REFER TO CIVIL RW RETAINING WALL - REFER TO CIVIL SL SANITARY LINE - REFER TO CIVIL STL STORM LINE - REFER TO CIVIL TWSI TACTILE WALKING SURFACE INDICATOR (TWSI), FULL WIDTH OF CURB RAMP. RECESSED TO BE FLUSH WITH CONCRETE WALKING SURFACE - REFER TO CIVIL WTS WATER SERVICE - REFER TO CIVIL WTSL WEEPING TILE STORM LINE - REFER TO CIVIL	NEW OVERHEAD DOOR NEW DOOR / ENTRANCE BICYCLE PARKING SPACE (1.8Mx0.6M) NEW SIGN, REFER TO SIGN LEGEND FIRE ROUTE SIGN STREET LIGHT TRAFFIC SIGNAL LIGHTS MAINTENANCE HOLE W/ COVER STORM WATER CATCH BASIN TWO WAY TRAFFIC DEPRESSED CURB (DC) PROPERTY LINE MINIMUM SETBACKS (ZONING) NEW CONSTRUCTION EXISTING BUILDINGS SOFT LANDSCAPING CONCRETE SIDEWALK PAVED SIDEWALK SURFACE EASEMENTS NO PARKING LINES

01
A1.0
OVERALL SITE PLAN
SCALE: 3/16" = 1'-0"

CLIENT NAME:
CREST REALTIES

NOTES:
1. ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.
2. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANINGS AND INTENT AS IF THEY WERE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.
3. DO NOT SCALE DRAWINGS.
4. ALL SUB-CONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.
5. NOTIFY LAWRENCE ARCHITECTS INC. FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

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ORTAM
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438-444-4444
info@ortam.ca

SEAL: NORTH ARROW:

04	2025.07.18	ISSUED FOR SPC
03	2024.06.04	ISSUED FOR REVIEW
02	2024.03.14	ISSUED FOR REVIEW
01	2024.03.05	ISSUED FOR REVIEW
No.	DATE	REVISION

LAWRENCE ARCHITECTS
205-18 DEAKIN STREET
OTTAWA, ONTARIO
K2E 6B7
T: 613.738.7770
E: INFO@LAWRENCEARC.COM

THIS DRAWING IS THE SOLE PROPERTY OF LAWRENCE ARCHITECTS INCORPORATED. REPRODUCTION IS NOT PERMITTED.

PROJECT:
BANK ST RETROFIT
240 BANK STREET, OTTAWA, ON

SHEET TITLE:
SITE PLAN

DRAWN BY: B.L. CHECKED BY: L.A.
PLOT DATE: 2025.07.18 PROJECT START DATE: 2024.02.21
JOB NUMBER: SL-1118-24 SCALE: AS SHOWN
SHEET NUMBER:

A1.0
PLAN #

2.0 WATER SERVICING

There is an existing 305mm diameter ductile iron (DI) watermain within Lisgar Street and a 305mm dia. PVC watermain within Bank Street that service the existing development. The existing building at 240 Bank Street is currently serviced by a one (1) 150mm dia. water service connected to the 305mm dia. watermain on Lisgar Street, two (2) 150 mm dia. services and one (1) 200mm dia. service connecting to the 305mm dia. watermain within Bank Street. The existing building is sprinkled and equipped with a siamese connection located near the existing entrance at the west corner of the building. Existing hydrant coverage is provided by three existing municipal hydrants, two located along Bank Street and one located on Lisgar Street.

The basic day demand was calculated to be less than 50m³ per day. City of Ottawa Design Guidelines – Water Distribution, WDG001 July 2010 Clause 4.3.1 requires one service separated by an isolation valve when demand is less than 50m³/day.

The development will retain the use of the existing one (1) 200mm dia. service, and two (2) 150mm dia. services for the proposed commercial units – all three (3) connected to the watermain within Bank Street. Additionally, one 150 mm diameter service from Lisgar Street will be utilized to service the residential units.

Water demand calculations have been calculated using criteria from Section 4 of the City of Ottawa Water Distribution Guidelines and the Ontario Building Code as provided in **Table 2.1 – Watermain Design Parameters and Criteria**. Demand is shown in **Table 2.2 – Estimated Water Demands**.

Table 2.1: Watermain Design Parameters and Criteria

Domestic Demand Design Parameters	Design Parameters
Unit Population: 1-Bedroom Apartment	1.4 people/unit
Commercial Demand	5 L/m ² /day
Basic Day Residential Demand (BSDY)	280 L/c/d
Maximum Day Demand (MXDY)	Residential: 2.5 x Basic Day Commercial: 1.5 x Basic Day
Peak Hour Demand (PKHR)	Residential: 2.2 x Maximum Day Commercial: 2.7 x Basic Day
Fire Demand (FF) Design	
Per FUS 2020	
System Pressure Criteria Design Parameters	Criteria
Maximum Pressure (BSDY) Condition	< 80 psi occupied areas < 100 psi unoccupied areas
Minimum Pressure (PKHR) Condition	> 40 psi
Minimum Pressure (MXDY+FF) Condition	> 20 psi

The required fire demand was calculated using the Fire Underwriters Survey 2020 (FUS) Guidelines. Through correspondence with the architect, it is understood that the proposed building use will be residential occupancy (non-combustible), composed of non-combustible construction.

The water demand calculations, fire flow calculations and correspondence are provided in **Appendix C** for reference.

Table 2.2: Estimated Water Demand

Population	Commercial Area (m ²)	Ave. Daily Demand (L/s)	Max. Daily Demand (L/s)	Peak Hour Demand (L/s)	Fire Flow (L/s)
63	248.61	0.22	1.96	2.96	200

Note as per ITSB-2018-02 the fire flow was distributed among several surrounding hydrants as outlined in **Table 2.3**.

Table 2.3: Maximum Flow to be considered from a given hydrant.

Hydrant Class	Distance to building (m)	Contribution to Fire Flow	
		(L/min)	(L/s)
AA	≤75	5700	95
	>75 and ≥150	3800	63.33
A	≤75	3800	63.33
	>75 and ≥150	2850	47.50
B	≤75	1900	31.67
	>75 and ≥150	1500	25.00
C	≤75	800	13.33
	>75 and ≥150	800	13.33

Based on the city of Ottawa mapping all existing hydrants within the vicinity of the proposed building are Class AA (Blue). As the fire flow is calculated as 200 L/s, Three (3) hydrants will be required to achieve the required flow. There are presently 2 existing class AA Hydrants within the boulevards of Bank Street and an existing class AA Hydrant within the boulevard of Lisgar Street within 75m of the building wall capable of providing a combined maximum flow of 285 L/s as per **Table 2.3**. One hydrant is within 45m of the proposed siamese connection. Refer to **Appendix C** for calculations. **Figure 4 – Hydrant Coverage** shows the site hydrant coverage plan.

The above water demand information was submitted to the City for boundary conditions from the City's water model. Based on the boundary conditions, the site will have adequate flows and pressures to service the site in accordance with section 4.2.2 of the City of Ottawa water distribution guidelines. Refer to Table 2.4 for a summary of the boundary conditions request.

Table 2.2: Water Boundary Conditions and Hydraulic Analysis Summary

Criteria	Head (m)	Pressure ¹ (psi)	Pressure Requirements (psi)
Max HGL	115.1	60.01	< 80psi
Min HGL	107.0	48.49	> 40psi
Max Day + Fire Flow (Lisgar)	107.6	49.34	> 20psi
Max Day + Fire Flow (Bank)	107.9	49.77	> 20psi

* Pressure based on finish floor elevation of 72.90m.

The Owner acknowledges and agrees that the City's boundary conditions were provided for the subject development site setting out the available municipal water supply. The Owner further acknowledges and agrees that prior to building permit issuance, a letter shall be prepared by a qualified Building Code professional, licensed in the Province of Ontario, and provided to the General Manager, Planning, Development and Building Services confirming the plans submitted for building permit issuance have incorporated any and all requirements of the Fire Underwriters Survey, 2020, or as amended, to achieve the low construction coefficient used within the proposed building design.

Refer to **Appendix C** for detailed water demand calculations.

3.0 SANITARY SERVICING

3.1 Existing Sanitary Conditions

The subject development is fronted by existing City sanitary sewers on Bank Street and Lisgar Street (northwest side of the building). A 375mm dia. sanitary sewer is located within Bank Street, and a 375mm dia. sanitary sewer within Lisgar Street.

Based on the existing infrastructure, it appears that the proposed building is serviced via Bank Street, connecting to the existing 375 mm diameter sanitary sewer. This connection is to be confirmed for the next submission once the CCTV is completed. The condition of the existing service will be assessed through a CCTV inspection to be conducted by Clean Water Works (CWW). If the inspection confirms that the service is in satisfactory condition, it will be reused. If condition is not adequate, a new sanitary service will be proposed. The initial CCTV inspection report completed on Lisgar Street is included within **Appendix D**.

3.2 Proposed Sanitary

It is proposed that the existing sanitary service be retained and used for the development, if confirmed to be in acceptable condition via a secondary CCTV.

Sanitary flows for the proposed development were calculated using criteria from Section 4 of the City of Ottawa Sewer Design Guidelines and the Ontario Building Code as follows:

Table 3.1: Sanitary Sewer Design Parameters

Design Component	Design Parameter
Unit Population: 1-Bedroom Apartment	1.4 people/unit
Residential Flow Rate	Design = 280 L/cap/day
Residential Peaking Factor	Harmon Equation (min=2.0, max=4.0) Harmon Correction Factor = 0.8m (Design)
Commercial Peaking Factor	1.0 (less than 20% of contributing area) 1.5 (more than 20% of contributing area)
Extraneous Flow Rate	Design = 0.33 L/s/ha
Minimum Pipe Size	250mm (Res)
Minimum Velocity ¹	0.6 m/s
Maximum Velocity	3.0 m/s
Minimum Pipe Cover	2.0 m (Unless frost protection provided)

The peak sanitary flow including infiltration for the proposed use of the building was calculated to be **0.79 L/s**. Detailed sanitary flow calculations are provided in **Appendix D** for reference.

4.0 STORM SERVICING

4.1 Existing Storm Conditions

The existing building is currently serviced by a 200mm dia. storm connection discharging to the 525mm dia. storm sewer located in Lisgar Street. The condition of the existing storm service was CCTV by Clean Water Works and can be found in **Appendix E** for reference. We believe the current condition is adequate to services the subject site.

4.2 Proposed Storm

It is proposed that the existing storm service be retained and used for the development, as confirmed via CCTV by Clean Water Works. Refer to the General Plan of Services (**124039-GP**) for more details.

5.0 STORM DRAINAGE AND STORMWATER MANAGEMENT

As noted within the pre-consultation minutes there are no stormwater management controls required for the existing building other than those currently in place. As such, it is proposed to utilize all existing roof drains and services to continue to function as per existing conditions.

The design criteria used to check the sizing of storm sewers are summarized below in **Table 4.1**.

Table 5.1: Storm Sewer Design Parameters

Parameter	Design Criteria
Local Roads	2-Year Return Period
Storm Sewer Design	Rational Method
IDF Rainfall Data	Ottawa Sewer Design Guidelines
Initial Time of Concentration (Tc)	10 min
Minimum Velocity	0.8 m/s
Maximum Velocity	3.0 m/s

Using a 100-year storm and a time of concentration of 15 mins the uncontrolled storm runoff was determined to be **23.7 L/sec** for Lisgar Street. The capacity of a 200mm dia. at 2% is 48.4 L/sec. The 100-year storm event was utilized to confirm the site can flow uncontrolled in the 100-year event.

Refer to **Appendix E** for detailed storm drainage area plans and storm sewer design sheets for the subject site.

6.0 EROSION AND SEDIMENT CONTROL

Temporary erosion and sediment control measures will be implemented on-site during construction in accordance with the Best Management Practices for Erosion and Sediment Control. This includes the following temporary measures:

- Filter socks (catch basin inserts) will be placed in existing and proposed catch basins and catch basin manholes, and will remain in place until vegetation has been established and construction is completed;
- The contractor will be required to perform regular street sweeping and cleaning as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site;

Erosion and sediment control measures should be inspected daily and after every rain event to determine maintenance, repair, or replacement requirements. Sediments that enter site sewers shall be removed immediately by the contractor. These measures will be implemented prior to the commencement of construction and maintained in good order.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Watermain

The analysis of the existing and proposed watermain network confirms the following:

- The existing service is proposed to be retained for the proposed development.
- It is expected that there are adequate flows to service the proposed fire protections system which will be confirmed once boundary conditions are received.

Sanitary Servicing

The analysis of the existing and proposed sanitary system confirms the following:

- It is proposed to service the development with existing sanitary service.
- The peak sanitary flow including infiltration for the proposed use of the building was calculated to be **0.79 L/s**.

Storm Servicing

The analysis of the existing system confirms the following:

- It is proposed to retain the existing 200mm storm service to continue servicing the building.
- The existing stormwater management system will be retained without modification.
- The 100-year uncontrolled storm flow for the proposed use of the building was calculated to be **23.7 L/s**.

8.0 CLOSURE

This report is submitted for review and approval in support of the site plan application. Please contact the undersigned should you have questions or require additional information.

NOVATECH

Prepared by:



Curtis Ferguson, P.Eng
Project Engineer, Land Development
and Public Sector Infrastructure

Reviewed by:



Greg MacDonald, P.Eng
Director, Land Development and Public
Sector Infrastructure

Appendix A
Legal Plan

PLAN OF SURVEY OF

LOT 34 (South Side of Lisgar Street),
REGISTERED PLAN 12281
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 150



Metric

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

ANNIS, O'SULLIVAN, VOLLEBEKK LTD. grants to
240 Bank Street Holdings Ltd. ("The Client"), their solicitors,
mortgagees, and other related parties, permission to use original, signed, sealed
copies of the Surveyor's Real Property Report in transactions involving The Client.

Surveyor's Certificate

I CERTIFY THAT :

- This survey and plan are correct and in accordance with the Surveys
Act and the Surveyors Act and the regulations made under them.
- The survey was completed on the 14 day of May, 2025.

May 15, 2025
Date

Andrew Handspiker
Ontario Land Surveyor

Notes & Legend

—□—	Denotes	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CC	"	Cut Cross
CP	"	Concrete Pin
(WIT)	"	Witness
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
Meas.	"	Measured
(P1)	"	Registered Plan 12281
(P2)	"	Plan 4R-34594
(P3)	"	(647) Plan Dated July 20, 1965
(P4)	"	(990) Plan Dated October 11, 1966
(P5)	"	(AOG) Plan Dated December 1, 2004
(P6)	"	(AOG) Plan Dated December 6, 2005
o B	"	Bollard

N - North / E - East / S - South / W - West

Bearings are grid, derived from the Westerly limit of Plan 4R-34594
shown to be N31°55'00"W and are referred to the Central Meridian of
MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

For bearing comparisons, a rotation of 00°35'30" counter-clockwise
was applied to bearings on Plan (P6).

LOT 35
(NORTH SIDE
OF COOPER
STREET),
REGISTERED
PLAN 12281

No. 251 - 259
Bank Street
(Marble Finish Noted)

ASSOCIATION OF ONTARIO
LAND SURVEYORS
PLAN SUBMISSION FORM
V-103892

THIS PLAN IS NOT VALID UNLESS
IT IS AN EMBOSSED ORIGINAL
COPY ISSUED BY THE SURVEYOR
In accordance with
Regulation 1026, Section 29 (3).

Appendix B
Pre-Consultation Minutes

May 16, 2024

Miranda Virginillo
Novatech
Via email: m.virginillo@novatech-eng.com

**Subject: Phase 1 Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 240 Bank Street**

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on May 13, 2024.

Pre-Consultation Preliminary Assessment

1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
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One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. Please proceed to complete a Phase 2 Pre-consultation Application Form and submit it together with the necessary studies and/or plans to planningcirculations@ottawa.ca.
2. In your subsequent pre-consultation submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed must be included with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.
3. Please note, if your development proposal changes significantly in scope, design, or density before the Phase 3 pre-consultation, you may be required to complete or repeat the Phase 2 pre-consultation process.

Supporting Information and Material Requirements

1. The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

- a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on [Ottawa.ca](https://ottawa.ca). These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

1. You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

Comments:

1. Applicable Policies:
 - **Central and East Downtown Core Secondary Plan**
Centretown Neighbourhood Character Area - Corridor Designation
 - **Official Plan**
Downtown Core Transect - Mainstreet Corridor within a Hub
 - **Zoning By-law**
Traditional Mainstreet, maximum height of 19 metres (TM H(19))
2. Section 37 requirements / Community Benefits Charge
 - a. The former Section 37 regime has been replaced with a "Community Benefits Charge", [By-law No. 2022-307](#), of 4% of the land value. This charge will be required for ALL buildings that are 5 or more storeys and 10 or more units and will be required at the time of building permit unless the development is subject to an existing registered Section 37 agreement. Questions regarding this change can be directed to Ranbir.Singh@ottawa.ca.
3. Design Guidelines

Interior:

 - a. We would highly encourage that you explore introduction of a variety of unit types, including 2 or more bedroom units.
 - b. As there is no underground parking - we would be looking for 1:1 bike parking rate to support the development.

- c. Provide details regarding waste management. If this is to be City collection it will need to meet our Solid Waste Management By-law (2012-370) requirements.

Design:

- d. As Bank Street in this location is a traditional mainstreet the proposal should contribute to the public realm.
 - i. No ROW widening required, however, it is subject to the pedestrian surface easement policy, which will be provided along the frontage (OP - Schedule C16).
 - ii. Where columns support the part of a building built over the easement a width of 1.5 metres between the columns and the closer of the building face and any door swing area is required.
- e. Enhance the animation on the street level by providing amenity areas along both frontages.
- f. Presently the building looks very commercial - we would highly encourage enhancements to the building façades.
- g. Incorporate any green building features that you can to enhance the efficiency and resiliency of this building.

Amenity Space:

- h. Providing amenity space completely interior to the building is somewhat concerning - Please explore outdoor amenity space at the rooftop level to promote the livability of this building as a residential building.
 - i. Amenity space should be detailed on a plan ensuring that the amount meets or exceeds the Zoning requirements.
- 4. Office-to-Residential Conversions are subject to the process and fees associated with a Site Plan Control Application – Standard.
 - 5. Other comments:
 - a. Cash in lieu of Parkland will be required. Cash in lieu of Parkland to be calculated at Phase 3.

Feel free to contact John Bernier or Nastassia Pratt, File Leads, for follow-up questions.

Urban Design

Comments:

Submission Requirements

6. An Urban Design Brief is required. Please see attached customized Terms of Reference to guide the preparation of the submission.
 - a. The Urban Design Brief should be structured by generally following the headings highlighted under **Section 3 – Contents of these Terms of Reference**.
 - b. The following elements are particularly important for this development application.
7. Additional drawings and studies are required as shown on the SPIL. Please follow the terms of reference ([Planning application submission information and materials | City of Ottawa](#)) to prepare these drawings and studies.

Comments on Preliminary Design

8. The following element of the preliminary design are of concern/question:
 - a. How might the zero-meter set-back impact living units to the west if the property re-develops?
 - b. Will the building continue to have a mixed-use function?
 - c. Where will the amenity areas within the building be located?

Recommendations

9. We recommend looking for opportunities to improve the public right-of-way with landscape planters, etc.
10. We recommend investigating to opportunity for operable windows to provide a residential look and improve unit livability.
11. We recommend investigating suitable amount of bike parking internal to the building.
12. We recommend investigating opportunities to ‘freshen-up’ the look of the window and spandrel panels to give the building a residential look. Providing a colour accent would work well in this regard.
13. We recommend providing additional drawings in the Urban Design Brief to include ground floor/roof plan and elevations.

Feel free to contact Christopher Mosie, Urban Designer, for follow-up questions.

Engineering

Comments:

14. Provide the proposed Sanitary sewer release rate to confirm there is sufficient capacity in the City's sanitary sewer system.
15. Existing buildings service laterals require a CCTV inspection and report to ensure existing services to be re-used are in good working order and meet current minimum size requirements. Located services to be placed on existing condition plan.
16. Water Quantity Control: Storm water quantity control is not required but it is recommended to look at ways to control storm water flow on site. For example, roof top storage.
17. Water Supply Redundancy: Residential buildings with a basic day demand greater than 50m³/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. The basic day demand for this site not expected to exceed 50m³/day.
18. Please review Technical Bulletin ISTB-2018-02, 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.
19. 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 fronting 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 ISTB-2021-03]. Exposure separation distances shall be defined on a figure to support the FUS calculation and required for 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.

30. 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.

Official Plan Section 4.8.4:

<https://ottawa.ca/en/city-hall/planning-and-development/official-plan-and-master-plans/official-plan/volume-1-official-plan/section-4-review-development-applications#4-8-protection-health-and-safety>

31. List of required reports and plans:

PLANS:

- Existing Conditions and Removals Plan
- Site Servicing Plan (if new services are proposed)
- Road Reinstatement Plan (if new services are proposed)
- Topographical survey

REPORTS:

- Site Servicing Report
- Noise Control Study
- Phase I ESA (include discussions on RSC requirement)
- Phase II ESA (Depending on recommendations of Phase I ESA)

Feel free to contact Amy Whelan, Infrastructure Project Manager, for follow-up questions.

Noise

Comments:

- 32. A Transportation Noise Assessment is required as the subject development is located within 100m proximity of Bank Street existing Arterial Road,
- 33. A Stationary Noise Assessment is required 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.

Feel free to contact Amy Whelan, Project Manager, for follow-up questions.

Transportation

General Comments:

- 34. Lisgar Street is classified as a Local Road. There are no additional protected ROW limits identified in the OP.
- 35. The development is proposing to convert existing office building to residential apartments inside the walls of the existing building. The Bank Street ROW protection limits between Wellington Street and Cooper Street of 20.0 m and site triangle (3 m x 9 m) may not be applicable as the existing building is proposed to be retained.
- 36. The Screening Form has indicated that the TIA Location Trigger has been met. This development would not generate sufficient traffic to warrant a TIA report. The consultant is to address how they plan to enable and encourage travel by sustainable modes (i.e., to make walking, cycling, transit, carpooling and telework more convenient, accessible, safe, and comfortable). Please complete the City of Ottawa's *TDM Measures Checklist*.
- 37. The purchaser, tenant or sub-lessee acknowledges the unit being rented/sold is not provided with any on-site parking and should a tenant/purchaser have a vehicle for which they wish to have parking that alternative and lawful arrangements will need to be made to accommodate their parking need at an alternative location. The Purchaser/Tenant also acknowledges that the availability and regulations governing on-street parking vary; that access to on-street parking, including through residential on-street parking permits issued by the City cannot be guaranteed now or in the future; and that a purchaser, tenant, or sub-lessee intending to rely on on-street parking for their vehicle or vehicles does so at their own risk.
- 38. Ensure that potential tenants who are not assigned a parking space are aware that on street parking is not a viable option for tenants.
- 39. The Owner shall be required to enter into maintenance and liability agreement for all pavers, plant and landscaping material placed in the City right-of-way and the

Owner shall assume all maintenance and replacement responsibilities in perpetuity.

40. Bicycle parking spaces are required as per Section 111 of the Ottawa Comprehensive Zoning By-law. Bicycle parking spaces should be in safe, secure places near main entrances and preferably protected from the weather.

41. Should the property Owner wish to use a portion of the City's Road allowance for construction staging, prior to obtaining a building permit, the property Owner must obtain an approved Traffic Management Plan from the Manager, Traffic Management, Transportation Services Department. The city has the right for any reason to deny use of the Road Allowance and to amend the approved Traffic Management Plan as required.

42. Right-of-way protection.

a. See [Schedule C16 of the Official Plan](#).

b. Any requests for exceptions to ROW protection requirements must be discussed with Transportation Planning and concurrence provided by Transportation Planning management.

43. TIA submission / Road modification agreement requirements

Feel free to contact **Wally Dubyk**, Transportation Project Manager, for follow-up questions.

Environment and Trees

N/A

Parkland

N/A

Heritage

N/A

Community issues

Comments:

Centretown Community Association

44. Very much supportive of converting an existing, unused commercial building into a residential building. This is something the CCA has been asking as part of its housing and climate change initiatives.

45. Instead of all residential units to be 1-bedroom units, please consider some larger family sized units, as well as accessible units for seniors.
46. Supports the City staff's comments to increase the bike parking ratio to 1 per unit. There have also been requests to include visitor bike parking spots in a secured area. Some developments have added a bike repair and washing room as part of their amenity space.
47. Add low wall planters to add green landscaping to the area. Also, the low walls can function as a place to sit.
48. If a roof top amenity space is being considered for the 6-storey building, please note that taller buildings are being planned for the property across the street on Bank St., as well as to the block northeast. Perhaps consider a privacy wall or barrier along Bank St.
49. Can the residents plant a garden on the roof?

Other

50. The High Performance Development Standard (HPDS) is a collection of voluntary and required standards that raise the performance of new building projects to achieve sustainable and resilient design. The HPDS was passed by Council on April 13, 2022.
 - a. At this time, the HPDS is not in effect and Council has referred the 2023 HPDS Update Report back to staff with direction to bring forward an updated report to Committee with recommendations for revised phasing timelines, resource requirements and associated amendments to the Site Plan Control By-law by no later than Q1 2024.
 - b. Please refer to the HPDS information attached and ottawa.ca/HPDS for more information.

Submission Requirements and Fees

1. Phase 2 and 3 Pre-Application Consultation
2. Site Plan Control - Standard
 - a. Additional information regarding fees related to planning applications can be found [here](#).
3. The attached **Study and Plan Identification List** outlines the information and material that has been identified as either required (R) or advised (A) as part of a future complete application submission.
 - a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and



Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

4. All of the above comments or issues should be addressed to ensure the effectiveness of the application submission review.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,
John Bernier, File Lead (Planner II, Development Review – Central)

Appendix C
Water Servicing

Water Demand Design Sheet



Boundary Condition Request

Novatech Project #: 124039
Project Name: 240 Bank Street
Date: 4/19/2023
Input By: Anjush Musyaju, EIT
Reviewed By: Curtis Ferguson, P.Eng
Drawing Reference:

Legend: Input by User No Input Required
Calculated Cells →
Reference: Ottawa Design Guidelines - Water Distribution (2010 and TBs)
MOE Design Guidelines for Drinking-Water Systems (2008)
Fire Underwriter's Survey Guideline (2020)
Ontario Building Code, Part 3 (2012)

Small System = YES

	# of Dwellings	Area (ha.)	Pop. Equiv.	Average Day Demand (L/s)	Maximum Day Demand (L/s)	Peak Hour Demand (L/s)	Basic Day Demand (m³/day)
Residential Input							
Singles			0.00	0.00	0.00	0.00	0.0
Semis / Townhomes			0.00	0.00	0.00	0.00	0.0
Apartments (2-BR)			0.00	0.00	0.00	0.00	0.0
Apartments (1-BR)	45		63.00	0.20	1.94	2.92	17.6
Apartments (Avg)			0.00	0.00	0.00	0.00	0.0
Industrial / Commercial / Institutional (ICI) Input							
Industrial Area - Light				0.00	0.00	0.00	0.0
Industrial Area - Heavy				0.00	0.00	0.00	0.0
Commercial Area				0.00	0.00	0.00	0.0
Institutional Area				0.00	0.00	0.00	0.0
Other Area		0.02		0.014	0.02	0.04	0.7
Totals	45	0.02	63.00	0.22	1.96	2.96	18.4

Summary

i. Type of Development and Units:	6 Storey residential building with ground floor commercial
ii. Site Address:	240 Bank Street
iii. Proposed Water Service Connection Location(s):	Existing water service located at northeast side of building, fronting bank street.
iv. Average Day Flow Demand:	0.22 L/s
v. Peak Hour Flow Demand:	2.96 L/s
vi. Maximum Day Flow Demand:	1.96 L/s
vii. Required Fire Flow #1:	12000 L/min
viii. Required Fire Flow #2:	L/min
ix. Required Fire Flow #3:	L/min

Design Parameters

Residential					
Unit Type Population Equiv.	Singles	Semis/ Towns	Apts (2-BR)	Apts (1-BR)	Apts (Avg)
	3.4	2.7	2.1	1.4	1.8
Daily Demand	L/per person/day				
Average Demand	280				
Basic Demand	280				

Vulnerable Service Area (VSA)
50
< 50 m³/day
> 50 m³/day

Residential Peaking Factors		Max Day (x Avg Day)	Peak Hour (x Avg Day)
	Pop.		
Small System (If Applicable) <i>Modified</i>	0	9.50	14.30
	30	9.50	14.30
	150	4.90	7.40
	300	3.60	5.50
	450	3.00	5.50
	500	2.90	5.50
Large System (Default)	> 500	2.50	5.50

Institutional / Commercial / Industrial				
Industrial		Commercial	Institutional	Other Use
Light	Heavy			
L/gross ha/day				L/m²/day
35,000	55,000	28,000	28,000	5
10,000	17,000	17,000	17,000	3

ICI Peaking Factors	Max Day (x Avg Day)	Peak Hour (x Avg Day)
	1.50	2.70

From: Cheskel Lefkowitz <chesky@rester.ca>
Sent: Friday, June 27, 2025 12:58 PM
To: Miranda Virginillo <m.virginillo@novatech-eng.com>
Cc: Greg Winters <G.Winters@novatech-eng.com>; Greg MacDonald <g.Macdonald@novatech-eng.com>; Brad Byvelds <B.Byvelds@novatech-eng.com>; Curtis Ferguson <c.ferguson@novatech-eng.com>; Esther Werzberger <Esther@rester.ca>
Subject: Re: RSC 240 bank street ottawa - RSC (124039)

Hi Miranda,

Here are some information on below. I still need clarification what you need for San/stm. We do not have many existing drawings, other than the one we supplied from extreme measures.

- The building is type II non combustible construction.
- The building has a sprinkler system with risers through all floors of the building.
- As mentioned for transportation options 1-3 can be offered. As well as bike racks at the building.
-

From: Miranda Virginillo <m.virginillo@novatech-eng.com>
Sent: Thursday, June 19, 2025 12:57:27 p.m.
To: Cheskel Lefkowitz <chesky@rester.ca>
Cc: Ester Werzberger <Ester@rester.ca>; Greg Winters <G.Winters@novatech-eng.com>; Greg MacDonald <g.Macdonald@novatech-eng.com>; Brad Byvelds <B.Byvelds@novatech-eng.com>; Curtis Ferguson <c.ferguson@novatech-eng.com>
Subject: RE: RSC 240 bank street ottawa - RSC (124039)

Hi Cheskel,

Please see below for an updated list of remaining submission requirements, and some requests for additional information from our Civil and Transportation Engineering teams.

Highlighted notes in the submission requirements require your input or action to proceed.

Building Construction and Servicing Location Details

Our civil engineering team has reviewed the survey, building elevations and architectural plans available, and requires the following information to be able to complete their plans and reports for submission:

- As-Built Drawing with existing servicing locations for SAN/STM.
- Building composition: confirmation regarding construction material and NFPA.
Construction Material (one of below);
 - Type V – Wood Frame
 - Type IV – Mass Timber
 - Type III – Ordinary Construction
 - Type II – Non-Combustible Construction

Type I – Fire Resistive Construction (2hrs).

Sprinkler Reduction;

Adequately Designed System (NFPA 13) – **Yes OR No**

Standard Water Supply – **Yes OR No**

Fully Supervised System – **Yes OR No**

- Existing roof plan c/w drain locations (if any).
- Any existing drawings of the building available.

Transportation Demand Management Checklist

Our transportation engineering team will be completing a Transportation Demand Management checklist for submission. Your input is required to complete this checklist.

Transportation demand management measures encourage the use of the use of modes of travel that do not involve a personal vehicle (transit, cycling, and walking) in new developments. The measure below are considered the easiest and most cost-effective to implement and could apply to this project:

1. Display local area maps with walking/cycling access routes and key destinations at major entrances;
2. Display relevant transit schedules and route maps at entrances;
3. Provide a multimodal travel option information package to new residents;
4. Unbundle parking cost from monthly rent.

Measures 1-3 can all be simple printouts/pamphlets, and measure 4 is already complete as there is no on-site parking proposed. For completeness, there are other measures that may be possible for this site, but would be more costly to implement:

- Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit;
- Contract with provider to install on-site bikeshare station.

Status of Required Plans and Studies

As an update on the status of all required submission materials to date:

Required Plans and Studies	Status	Consultant	Notes
Architectural Elevations (incl. building envelope information)	Received	Asset Reconnaissance International	Some building envelope information still outstanding; see requests above from Civil.
Phase I ESA	Completed.	Paterson	No further action anticipated
Phase II ESA	Received April 2025: Update anticipated.	ORTAM	Rester coordinating with ORTAM on Record of Site Condition.
Record of Site Condition (RSC)	Rester coordinating.	ORTAM	Rester coordinating with ORTAM on Record of Site Condition.
Noise Control Study (Roadway)	Completed	Gradient Wind	No further action anticipated

Noise Control Study (Stationary)	Rester to retain consultant.	TBD	
Servicing Report	In progress	Novatech	Some building envelope information still outstanding; see requests above from Civil.
General Plan of Services	In progress	Novatech	Some building envelope information still outstanding; see requests above from Civil.
Site Plan (Basement, Ground, Typical Floor Plans)	In progress	Lawrence Architects	Novatech reviewing floor plans for zoning compliance.
Plan of Survey	Completed	AOV	
Urban Design Brief	Scope to be confirmed.	Lawrence Architects / Novatech	Novatech confirming scope with City as no exterior alterations contemplated. Pending confirmation of scope, Lawrence Architects to complete, Novatech to provide policy support.
Transportation Demand Management Checklist	In progress	Novatech	Client input on TDM measures required; see requests above from Transportation.
Zoning Confirmation Report	In progress	Novatech	Pending zoning compliance review of floor plans, Novatech to provide comments to Lawrence Architects.
Application Form	Novatech to provide pages for signature.	Novatech	Separate email to follow
Environmental Affidavits	Novatech to provide Rester with pages to be completed by Paterson / ORTAM	Novatech	Separate email to follow

Kind regards,

Miranda Virginillo, MCIP, RPP, Project Planner | Planning & Development (She/Her)

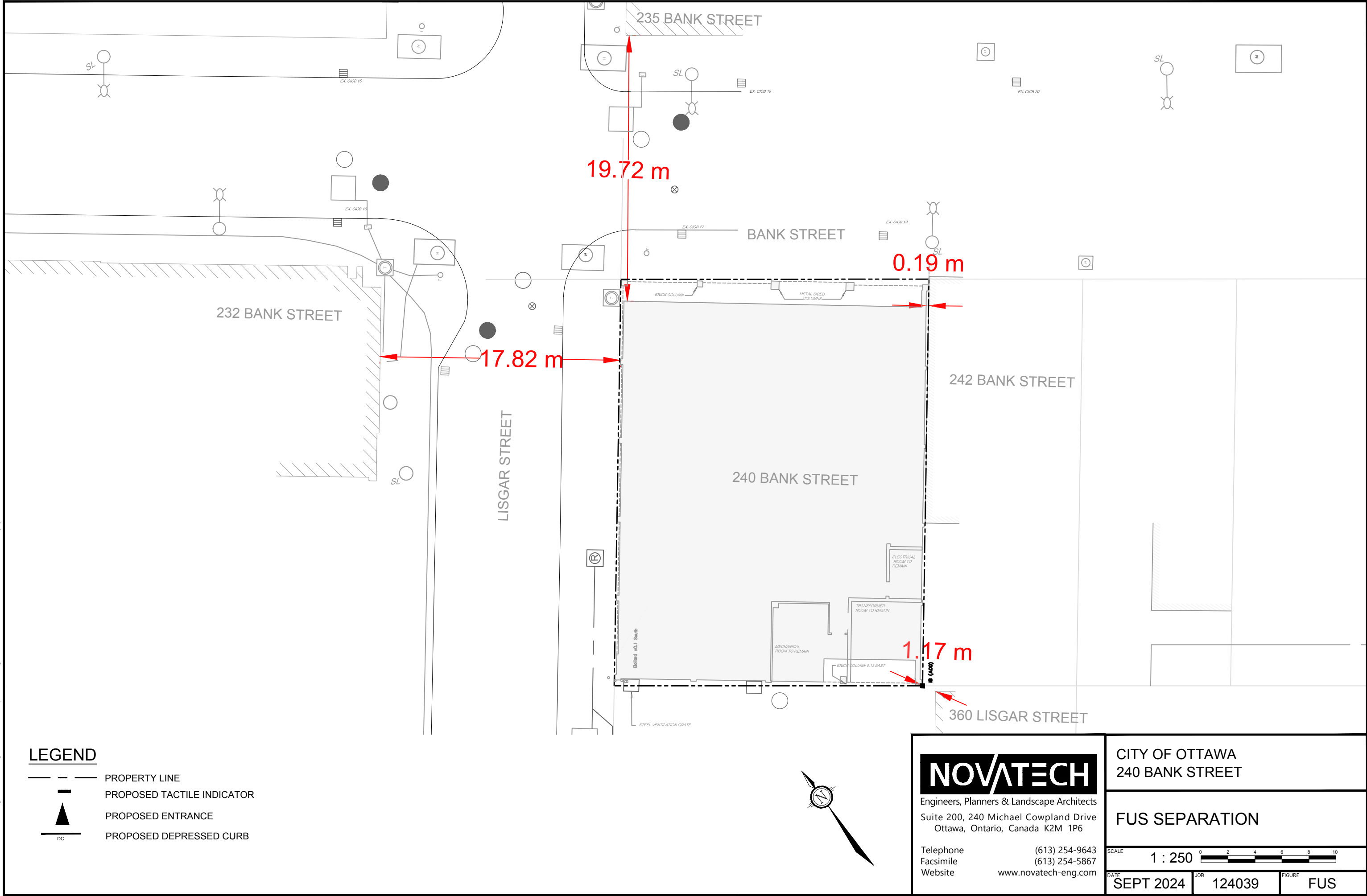
NOVATECH

Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 Ext. 204

The information contained in this email message is confidential and is for exclusive use of the addressee.

M:\2024\124039\CAD\Civil\Figures\Servicing\FUS\124039-Separation.dwg, FUS SEP, Jun 20, 2025 - 9:56am, amusyaju



FUS - Fire Flow Calculations



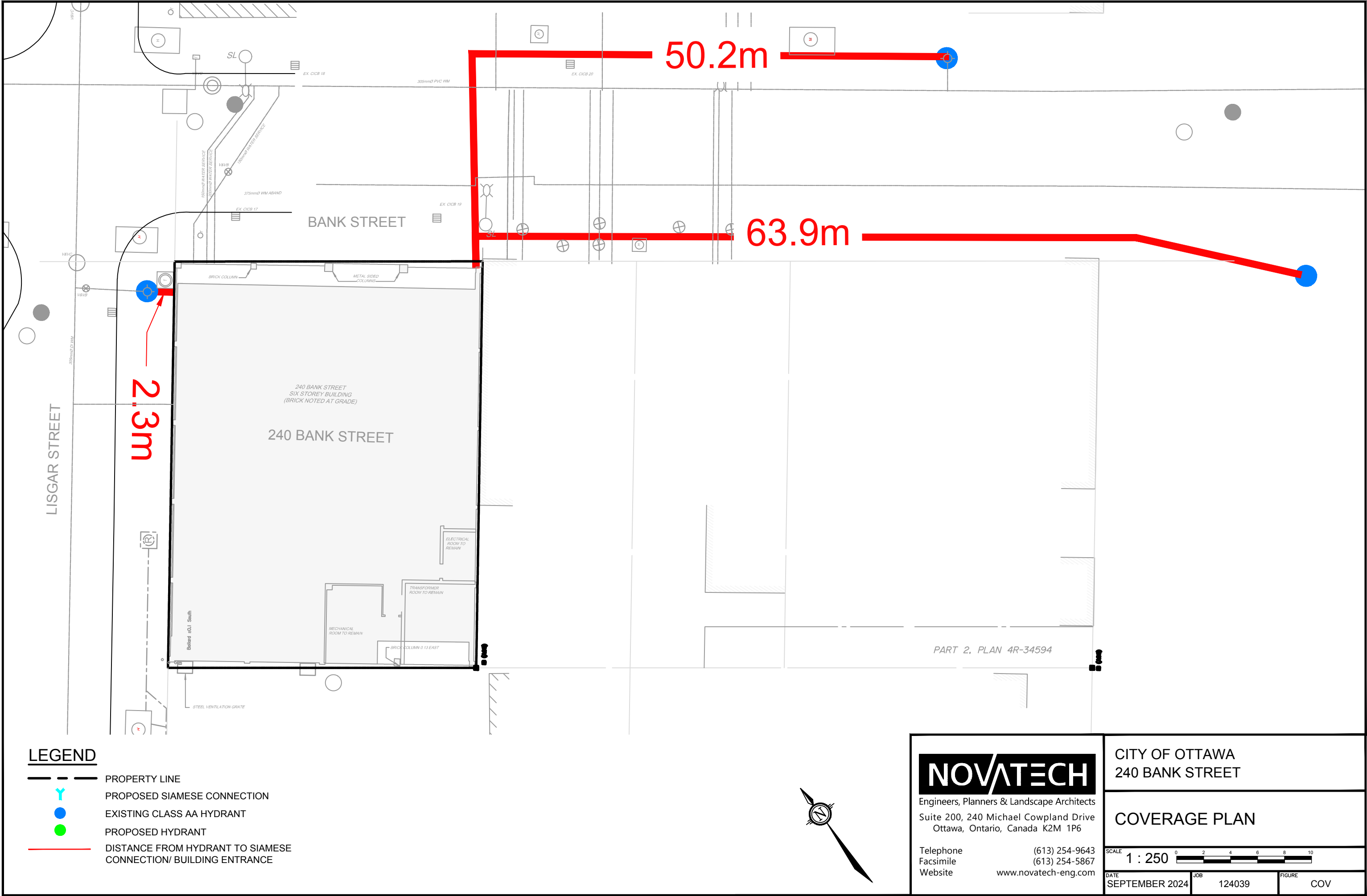
Novatech Project #: 124039
 Project Name: 240 Bank Street
 Date: 6/12/2025
 Input By: Anjush Musyaju, EIT
 Reviewed By: Curtis Ferguson, P.Eng
 Drawing Reference:

Legend: Input by User
 No Input Required
 Reference: Fire Underwriter's Survey Guideline (2020)
 Formula Method

Building Description: Multi-Storey Tower
 Type II - Non-combustible construction

Step				Choose		Value Used	Total Fire Flow
Base Fire Flow							
1	Construction Material				Multiplier		
	Coefficient related to type of construction C	Type V - Wood frame		1.5	0.8		
		Type IV - Mass Timber		Varies			
		Type III - Ordinary construction		1			
		Type II - Non-combustible construction	Yes	0.8			
		Type I - Fire resistive construction (2 hrs)		0.6			
2	Floor Area						
	A	Building Footprint (m ²)	668				
		Number of Floors/Storeys	6				
		Protected Openings (1 hr) if C<1.0	No				
		Area of structure considered (m ²)			2,672		
	F	Base fire flow without reductions				9,000	
		F = 220 C (A) ^{0.5}					
Reductions or Surcharges							
3	Occupancy hazard reduction or surcharge			FUS Table 3	Reduction/Surcharge		
	(1)	Non-combustible		-25%	-15%	7,650	
		Limited combustible	Yes	-15%			
		Combustible		0%			
		Free burning		15%			
		Rapid burning		25%			
4	Sprinkler Reduction			FUS Table 4	Reduction		
	(2)	Adequately Designed System (NFPA 13)	No	-30%	-1,530		
		Standard Water Supply	Yes	-10%		-10%	
		Fully Supervised System	Yes	-10%		-10%	
		Cumulative Sub-Total		-20%			
		Area of Sprinklered Coverage (m ²)	4008	100%			
Cumulative Total		-20%					
5	Exposure Surcharge		FUS Table 5		Surcharge		
	(3)	North Side	10.1 - 20 m		15%	5,738	
		East Side	0 - 3 m		25%		
		South Side	0 - 3 m		25%		
		West Side	10.1 - 20 m		15%		
		Cumulative Total			75%		
Results							
6	(1) + (2) + (3)	Total Required Fire Flow, rounded to nearest 1000L/min				L/min	12,000
		(2,000 L/min < Fire Flow < 45,000 L/min)			or	L/s	200
					or	USGPM	3,170

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LEGEND

- PROPERTY LINE
- PROPOSED SIAMESE CONNECTION
- EXISTING CLASS AA HYDRANT
- PROPOSED HYDRANT
- DISTANCE FROM HYDRANT TO SIAMESE CONNECTION/ BUILDING ENTRANCE

NOVATECH

Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
240 BANK STREET

COVERAGE PLAN

SCALE 1 : 250

DATE SEPTEMBER 2024 JOB 124039 FIGURE COV

Boundary Condition for 240 Bank Street

N



Lisgar Connection

Bank Connection(s)

305mm

152mm

305mm

rue Bank St

rue Lisgar St

240

242

Legend

Private

Public

Curtis Ferguson

From: Whelan, Amy <amy.whelan@ottawa.ca>
Sent: Wednesday, August 27, 2025 2:07 PM
To: Curtis Ferguson
Cc: Anjush Musyaju
Subject: RE: Boundary Conditions - 240 Bank Street (124039)
Attachments: 240 Bank Street REVISED August 2025.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Curtis,

Please find the updated boundary condition results which include the results for **all four existing connections**.

The following are boundary conditions, HGL, for hydraulic analysis at 240 Bank Street (zone 1W) assumed to be connected via four (4) connections; one (1) to the 305mm watermain on Lisgar Street AND three (3) to the 305mm watermain on Bank Street (see attached PDF for location).

All Connections:

Minimum HGL= 107.0 m

Maximum HGL=115.1 m

Max Day + Fire Flow (200 L/s) = 107.6 m (Lisgar Connection), 107.9 m (Bank Connections)

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 watermain deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.

"The IWSD has recently updated their water modelling software. Any significant difference between previously received BC results and newly received BC results could be attributed to this update."

Kind regards,

Amy Whelan, E.I.T

Project Manager, Infrastructure Approvals

Development Review, Central | Examen des projets d'aménagement, Central

Planning, Development and Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)

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 26642, amy.whelan@ottawa.ca

Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Whelan, Amy

Sent: August 26, 2025 10:59 AM

To: Curtis Ferguson <c.ferguson@novatech-eng.com>

Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>

Subject: RE: Boundary Conditions - 240 Bank Street (124039)

Hi Curtis,

I noticed that the boundary condition request only came back with the one connection on Lisgar. Water resources and planning engineering is going to check the model for the second connection off Bank so that you can have the HGL for the other three connections off Bank to complete the servicing report.

I will follow up with you shortly once I have the results.

Kind regards,

Amy Whelan, E.I.T

Project Manager, Infrastructure Approvals

Development Review, Central | Examen des projets d'aménagement, Central

Planning, Development and Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)

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 26642, amy.whelan@ottawa.ca

From: Whelan, Amy

Sent: August 25, 2025 2:30 PM

To: 'Curtis Ferguson' <c.ferguson@novatech-eng.com>

Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>

Subject: RE: Boundary Conditions - 240 Bank Street (124039)

Good afternoon Curtis,

Please find the boundary condition request results below.

The following are boundary conditions, HGL, for hydraulic analysis at 240 Bank Street (zone 1W) assumed to be connected to the 305mm watermain on Lisgar Street (see attached PDF for location).

Minimum HGL= 107.0 m

Maximum HGL=115.1 m

Max Day + Fire Flow (200 L/s) = 107.6 m

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 watermain deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account. "The IWSD has recently updated their water modelling software. Any significant difference between previously received BC results and newly received BC results could be attributed to this update."

Kind regards,

Amy Whelan, E.I.T

Project Manager, Infrastructure Approvals

Development Review, Central | Examen des projets d'aménagement, Central

Planning, Development and Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)

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 26642, amy.whelan@ottawa.ca

From: Curtis Ferguson <c.ferguson@novatech-eng.com>

Sent: August 07, 2025 2:38 PM

To: Whelan, Amy <amy.whelan@ottawa.ca>

Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>

Subject: RE: Boundary Conditions - 240 Bank Street (124039)

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Amy,

Apologizes on the effective area delay.

I assumed the vertical openings in the building were unprotected and with an expected "C" value < 1;

Area of Structure Considered (A)

- Building Footprint (m2): 668
- Number of Floors: 6
- Protected Openings: No.. Un-protected 4 = number of floors above first 2, up to max of 10.
 $A = (668 \times 2) + (0.5 \times 668 \times 4) = 2672$

Curtis Ferguson, P.Eng., Project Engineer | Land Development and Public Sector Infrastructure
NOVATECH

Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 EXT: 331

The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Whelan, Amy

Sent: Tuesday, August 5, 2025 11:51 AM

To: Curtis Ferguson

Cc: Anjush Musyaju

Subject: RE: Boundary Conditions - 240 Bank Street (124039)

Good morning Curtis,

The building code specialist is required to confirm the lower construction coefficient used to determine the required fire flow. As per our standard conditions list, where ever a construction coefficient less than 1.0 is proposed.

See condition here:

Water Demand for Fire Fighting

[Used for buildings designed with a construction coefficient of less than 1]

The Owner acknowledges and agrees that the City's boundary conditions were provided for the subject development site setting out the available Select One water supply. The Owner further acknowledges and agrees that prior to building permit issuance, a letter shall be prepared by a qualified Building Code professional, licensed in the Province of Ontario, and provided to the General Manager, Planning, Development and Building Services confirming the plans submitted for building permit issuance have incorporated any and all requirements of the Fire Underwriters Survey, 2020, or as amended, to achieve the low construction coefficient used within the proposed building design.

The applicant is welcome to provide an old approved report from when the building was constructed to verify the construction coefficient.

Curtis, can you please also provide details regarding how the effective area was calculated so that I can put in your boundary condition request?

Kind regards,

Amy

From: Curtis Ferguson <c.ferguson@novatech-eng.com>
Sent: August 05, 2025 10:07 AM
To: Whelan, Amy <amy.whelan@ottawa.ca>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: RE: Boundary Conditions - 240 Bank Street (124039)

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Amy,

Something has come up and I won't be able to make the 10:30am meeting.

We can reschedule or you can write me an email explaining why the building code specialist is required in this case - whatever is easiest for you.

In short, the client is heavily pushing back on this, and I need some additional background information on why this is required. He's under the impression that since they are "gutting" the internal components of the building, this isn't required. I indicated I would get him more information regarding the process and why the city requires the study for all components of the building – including the envelope.

Thanks,

**Curtis Ferguson, P.Eng., Project Engineer | Land Development and Public Sector Infrastructure
NOVATECH**

Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 EXT: 331

The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Whelan, Amy <amy.whelan@ottawa.ca>
Sent: Friday, August 1, 2025 4:31 PM
To: Curtis Ferguson <c.ferguson@novatech-eng.com>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: RE: Boundary Conditions - 240 Bank Street (124039)

Hi Curtis,

I just sent you a meeting invitation request for Tuesday August 5th, at 10:30am. Please let me know if this time does not work for you.

Best,

Amy

From: Curtis Ferguson <c.ferguson@novatech-eng.com>
Sent: July 31, 2025 12:36 PM
To: Whelan, Amy <amy.whelan@ottawa.ca>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: RE: Boundary Conditions - 240 Bank Street (124039)

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Amy,

Could we set-up a quick meeting to discuss? Let me know if you have any availability tomorrow.

Curtis Ferguson, P.Eng., Project Engineer | Land Development and Public Sector Infrastructure
NOVATECH

Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 EXT: 331

The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Whelan, Amy <amy.whelan@ottawa.ca>
Sent: Thursday, July 24, 2025 3:07 PM
To: Curtis Ferguson <c.ferguson@novatech-eng.com>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: RE: Boundary Conditions - 240 Bank Street (124039)

Hey Curtis,

Thank you for providing the OBC calculations, can you please also just provide a break down of how the effective area was determined for the FUS method?

Kind regards,

Amy Whelan, E.I.T

Project Manager, Infrastructure Approvals

Development Review, Central | Examen des projets d'aménagement, Central

Planning, Development and Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)

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 26642, amy.whelan@ottawa.ca

Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Curtis Ferguson <c.ferguson@novatech-eng.com>
Sent: July 22, 2025 1:53 PM
To: Whelan, Amy <amy.whelan@ottawa.ca>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: RE: Boundary Conditions - 240 Bank Street (124039)

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ATTENTION : Ce courriel provient d'un expéditeur externe. Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.

Hi Amy,

Assumed this would be the case – we have reached out to the client indicating they will need to retain a building code specialist.

In the intermit, please see OBC fire flow method with associated separations.

Thanks,

Curtis Ferguson, P.Eng., Project Engineer | Land Development and Public Sector Infrastructure
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240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 EXT: 331

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From: Whelan, Amy <amy.whelan@ottawa.ca>
Sent: Friday, July 18, 2025 4:14 PM
To: Curtis Ferguson <c.ferguson@novatech-eng.com>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: RE: Boundary Conditions - 240 Bank Street (124039)

Good afternoon Curtis,

Can you please include how the effective area was determined. Additionally, we are requesting that the OBC method is considered first and if the results for fire flow are greater than 9000L/min FUS is required. Can you please provide calculations using the OBC method.

Additionally, similar to 200 Elgin do to the construction coefficient below 1.0, we will require a confirmation of the building construction coefficient prior to building permit as a condition in the agreement from a qualified building code specialist.

Kind regards,

Amy Whelan, E.I.T

Project Manager, Infrastructure Approvals

Development Review, Central | Examen des projets d'aménagement, Central

Planning, Development and Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)

City of Ottawa | Ville d'Ottawa

Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Curtis Ferguson <c.ferguson@novatech-eng.com>
Sent: July 14, 2025 2:21 PM
To: Whelan, Amy <amy.whelan@ottawa.ca>
Cc: Anjush Musyaju <a.musyaju@novatech-eng.com>
Subject: Boundary Conditions - 240 Bank Street (124039)

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ATTENTION : Ce courriel provient d'un expéditeur externe. Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.

Good Afternoon Amy,

Please see attached Boundary Conditions request for 240 Bank Street.

Total demands and fire flows are summarized below;

- Average Daily Demand: 0.22 L/s
- Max Daily Demand: 1.96 L/s
- Peak Hour Demand: 2.96 L/s
- Fire Flow (FUS): 12000 L/min (200 L/s)

Thanks,

Curtis Ferguson, P.Eng., Project Engineer | Land Development and Public Sector Infrastructure
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240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 EXT: 331

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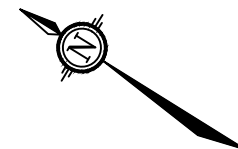
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,

Appendix D
Sanitary Servicing

0.47
A-01
71 128

DRAINAGE AREA (ha)
AREA ID
NO. UNITS/POPULATION



Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

SCALE 1 : 250

DATE	JUNE 2025	JOB	124039	FIGURE	SAN
------	-----------	-----	--------	--------	-----

SANITARY SEWER DESIGN SHEET



Novatech Project #: 124039
Project Name: 240 Bank Street
Date: 4/19/2023
Input By: Anjush Musyaju, EIT
Reviewed By: Curtis Ferguson, P.Eng
Drawing Reference: 124039-SAN

Legend: Design Input by User
As-Built Input by User
Cumulative Cell
Calculated Design Cell Output
Reference: City of Ottawa - Sewer Design Guidelines (2012 and TBs)
MOE - Design Guidelines for Sewage Works (2008)

Location				Demand																			Design Capacity							
Street	Area ID	From MH	To MH	Residential Flow										Industrial / Commercial / Institutional (ICI) Flow						Extraneous Flow Area Method		Total Design Flow	Proposed Sewer Pipe Sizing / Design							
				Singles	Semis / Towns	1-Bedroom Apts	Park Area	Population	Cumulative Population	Average Pop. Flow	Design Peaking Factor M	Peak Design Pop. Flow	Res. Drainage Area	Cumulative Res. Drainage Area	Commercial / Institutional Area	Average Design Commercial / Institutional Flow	Commercial / Institutional Peaking Factor	Cumulative ICI Area	Peak Design ICI Flow	Cumulative Extraneous Drainage Area	Design Extraneous Flow	Total Peak Design Flow	Pipe Length	Pipe Size (mm) and Material	Pipe ID Actual	Roughness	Design Grade	Capacity	Full Flow Velocity	Q(D) / Qfull
								(in 1000's)	(in 1000's)	Q(q) (L/s)		Q(p) (L/s)	(ha.)	(ha.)	(ha.)	(L/s)		(ha.)	Q (ici) (L/s)	(ha.)	Q(e) (L/s)	Q(D) (L/s)	(m)		(m)	n	So (%)	Qfull (L/s)	(m/s)	
Lisgard Street	A-01	Building	MH			45		0.063	0.063	0.20	3.63	0.74	0.025	0.025	0.025	0.014	1.50	0.025	0.02	0.069	0.02	0.79		200 PVC	0.203	0.013	0.32	19.4	0.60	4.1%
Totals				0	0	45	0.000	0.063	0.063	0.20	3.63	0.74	0.025	0.025	0.025	0.014	1.50	0.025	0.02	0.069	0.02	0.79	0.0							

Demand Equation / Parameters

1. $Q(D) = Q(p) + Q(ici) + Q(e)$
2. $Q(p) = (P \times q \times M \times K / 86,400)$
3. $q = 280$ L/per person/day (design)
4. $M = \text{Harmon Formula (maximum of 4.0)}$
5. $K = 0.8$ (design)
6. **Park flow is considered equivalent to a single unit / ha**
 $\text{Park Demand} = 4$ single unit equivalent / park ha (~ 3,600 L/ha/day)
7. $Q(ici) = \text{ICI Area} \times \text{ICI Flow} \times \text{ICI Peak}$
8. $Q(e) = 0.33$ L/s/ha (design)

Definitions

$Q(D)$ = Peak Design Flow (L/s)
 $Q(p)$ = Peak Design Population Flow (L/s)
 $Q(q)$ = Average Population Flow (L/s)

	<u>Singles</u>	<u>Semis / Towns</u>	<u>1-Bedroom Apts</u>
P = Residential Population =	3.4	2.7	1.4
q = Average Capita Flow			
M = Harmon Formula			
K = Harmon Correction Factor			
$Q(ici)$ = Industrial / Commercial / Institutional Flow (L/s)			
$Q(e)$ = Extraneous Flow (L/s)			

<u>Institutional / Commercial / Industrial</u>	<u>Industrial</u>	<u>Commercial / Institutional</u>	<u>Retail</u>
Design =	35000	28000	5.0
		L/gross ha/day	L/m2/day

ICI Peak *

Design = 1.5 1.5 * ICI Peak = 1.0 Default, 1.5 if ICI in contributing area is >20% (design only)

Capacity Equation

$Q_{full} = 1000 \times (1/n) \times A_p \times R^{2/3} \times S_o^{0.5}$

Definitions

Q_{full} = Capacity (L/s)
 n = Manning coefficient of roughness (0.013)
 A_p = Pipe flow area (m²)
 R = Hydraulic Radius of wetted area (dia./4 for full pipes)
 S_o = Pipe slope/gradient

Ottawa (Head Office)

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Ottawa, Ontario K1B 5L6

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St-Laurent, Quebec H4T 1E7

☎ 514.738.2666
☎ 514.738.9762



INTEGRATED SEWER SOLUTIONS



240 BANK STREET
Ottawa, Ontario

SEWER CCTV INSPECTION REPORT

Report ID
148585SA1

Sewer Use
Sanitary

Completion Date
September 11, 2025

Inspected Length
96.10 meters

THE WAY IS CLEAR™

- Watermain Swabbing
- Hydro Vacuum Excavation
- CCTV Inspection of Sewers

- Plumbing & Drain Services
- Structural Rehabilitation of Manholes
- Cured-in-Place-Pipe Lining & Spot Repairs

- Grouting, Test & Seal Joints, Manholes & Services
- Lateral Sewer Inspection & Locates From Main
- Sewer Cleaning, Flushing & Pumping

Table of contents

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2. Structural rating	3
3. O&M rating	4
4. Pipe summary and condition details	5
5. Vision Report© Legend	8

1. Index of pipes

1 item

Pipe	Upstream	Downstream	Street	Date	Direction	Height	Inspected	Total	Page
MHSA38302 MHSA38303	MHSA38302	MHSA38303	Lisgar St.	11/09/2025, 9:58 AM	D - Downstream	300	96.1	96.1	5
							Total: 96.1	Total: 96.1	

2. Structural rating

1 item

0 - No Defects (1 of 1 items)

Score	Quick	Index	Pipe	Start/End	Direction	Street	Page
0	0000	0	MHSA38302 MHSA38303	MHSA38302 --> MHSA38303	Direction of flow	Lisgar St.	5

3. O&M rating

1 item

2 - Minor to Moderate (1 of 1 items)

Score	Quick	Index	Structural	Pipe	Start/End	Direction	Street	Page
12	2600	2	0	MHSA38302 MHSA38303	MHSA38302 --> MHSA38303	Direction of flow	Lisgar St.	5

4. Pipe summary and condition details

Pipe identification

Pipe:	MHSA38302 MHSA38303	Direction of inspection:	MHSA38302 --> MHSA38303
Direction of flow:	MHSA38302 --> MHSA38303	Direction:	Direction of flow

Pipe location

Road:	Lisgar St.	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	240 Bank St.	Easting (X):	Easting (X):
Drainage Area:		Northing (Y):	Northing (Y):
City:	Ottawa	Elevation (Z):	Elevation (Z):
Location:	Main Highway - Urban	GPS Accuracy:	
Owner:	City of Ottawa	Coordinate System:	
Road segment:		Vertical Datum:	

Pipe characteristics

Sewer Use:	Sanitary	Inspected length:	96.1
Height:	300	Total length:	96.1
Width:		Rim/Inv.:	
Shape:	Circular	Grade/Inv.:	
Material:	Concrete Segments (unbolted)	Rim/Grade:	
Lining:		Rim/Inv.:	
Joint length:		Grade/Inv.:	
Year laid:		Rim/Grade:	
Year renewed:		Sewer category:	

Additional details

Inspection standard:	PACP 6.0	Location details:	
Date:	11/09/2025, 9:58 AM	Surveyed by:	Derek Jessup
Project Number:		Certificate #:	U06180703002192
Customer:	Novatech Engineering	Pre-Cleaning:	No Pre-Cleaning
PO number:		Date cleaned:	
Work order:	148585	Unit of measurement:	Metric
Purpose:		Media label:	
Weather:	Dry	Sheet #:	
Flow control:	Not Controlled		

Structural rating

O&M rating

Overall rating

Peak:	0	Peak:	2	Peak:	2
Quick rating:	0000	Quick rating:	2600	Quick rating:	2600
Score:	0	Score:	12	Score:	12
Index:	0	Index:	2	Index:	2

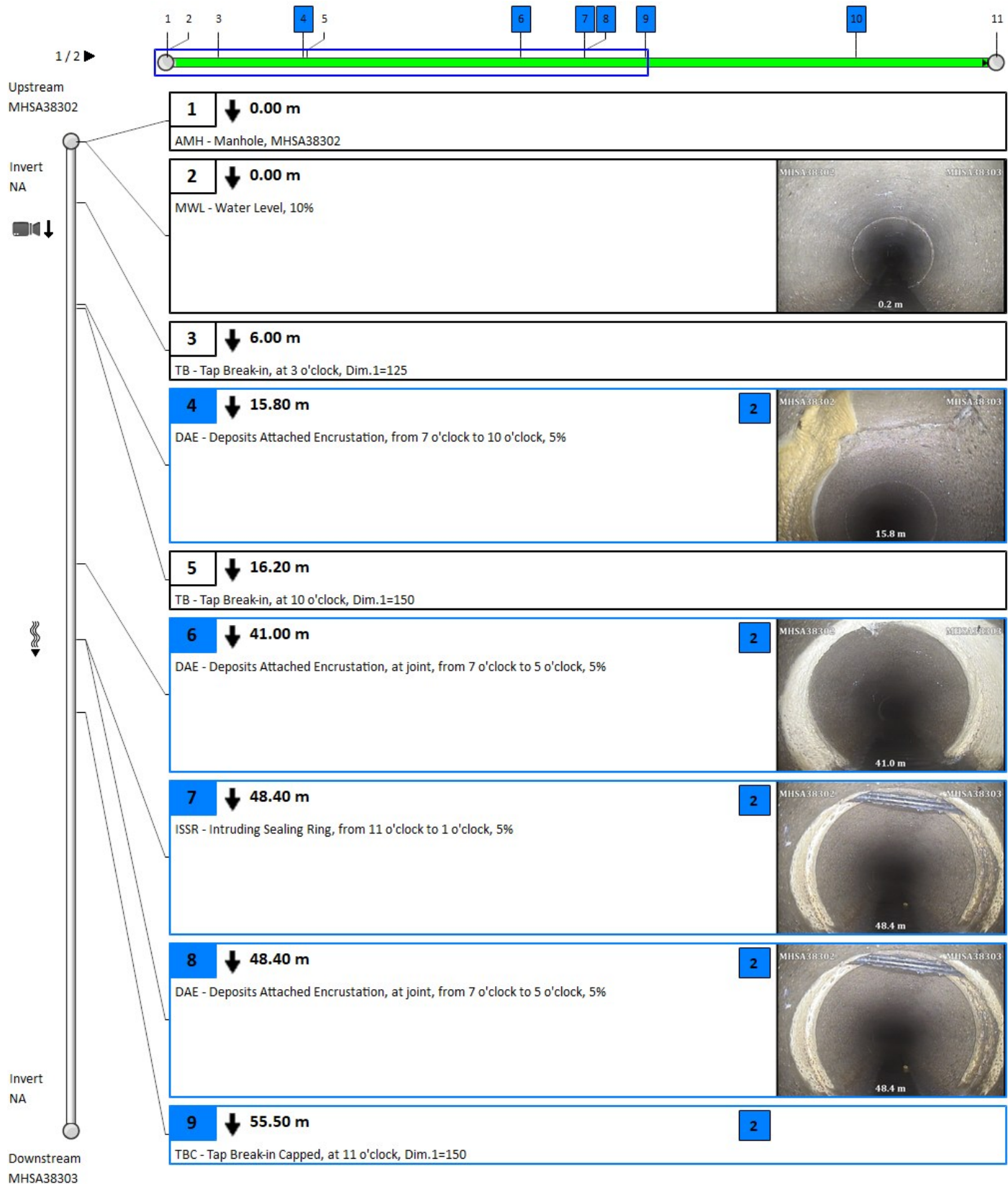
Additional information

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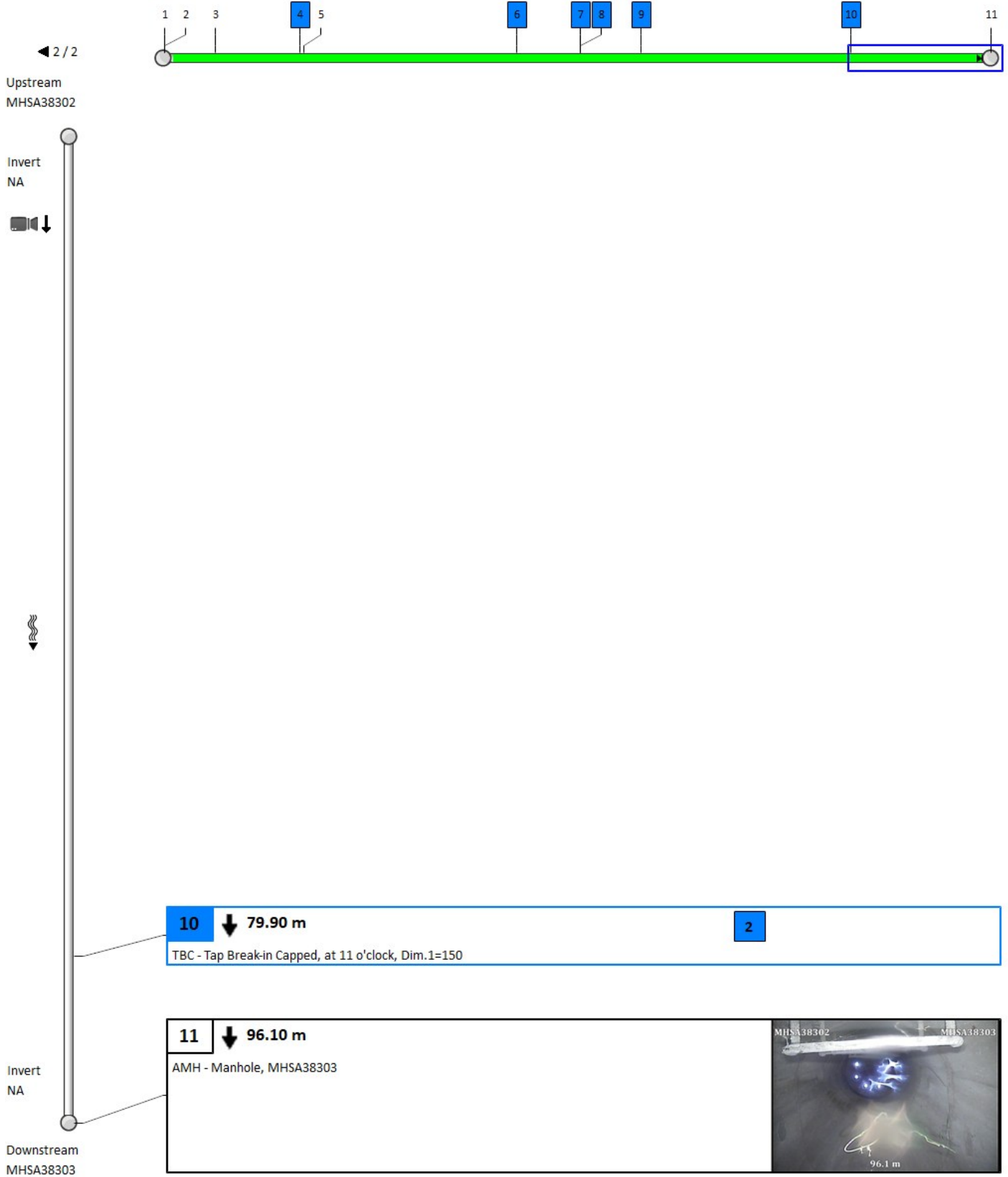
Other information

Report ID:	148585SA1	Information 6:	
Information 2:		Information 7:	
Information 3:		Information 8:	
Information 4:		Information 9:	
Information 5:		Information 10:	

4. Pipe summary and condition details



















4. Pipe summary and condition details





Vision Report© Legend

	The numbers sequentially identify each observation. They allow you to find complete descriptions and related photos throughout the pages. Note that when the pipe contains too many observations, the Vision© report hides the least important observations to optimize the display*.
60	A number with neither a square nor circle indicates a general observation.
	A circled number indicates a structural anomaly. The color of the circle indicates the severity of the anomaly on a scale of 1 to 5, 5 being the most severe: green=1, blue=2, magenta=3, orange=4 and red=5.
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◀ 3 / 31 ▶	Indicates the current page number of the inspection report.
	The blue square indicates a section of the pipe; this section is covered in detail on the current page of the report.
	The green line indicates the inspected part of the pipe. The remaining white line indicates the uninspected part of the pipe.
	Indicates the hold points on the camera during an inspection.
	Indicates the hold points on the camera during the reverse inspection.
	Indicates that a reverse inspection was carried out, however the camera did not reach the initial inspection hold point. (the hold point of the initial inspection)
	Indicates that a reverse inspection was carried out and that it has joined (has arrived at) the initial inspection hold point.
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401-631 	Identifies the end manhole number. Note that this manhole is not necessarily the downstream manhole of the pipe.
	A downward arrow indicates that the inspection was carried out in the direction of the current, whereas an upward arrow indicates an inspection against the current. Note that the manhole located on the upper left of the page is always the start manhole, but not necessarily the upstream manhole of the pipe.
	This camera followed by a downward arrow is located on the upper left of the vertical pipe; it indicates that an inspection was done from this manhole.
	When the second camera appears on the bottom left page it means that a reverse inspection was carried out. Information about the reverse inspection is included in the report, thereby combining both inspections.
Invert 3.40	The measurement shown under the word <Invert> indicates the measurements between the frame and the pipe captured during the inspection. This measurement is available at the top left for the start manhole and the bottom left for the end manhole. If the invert was not measured during the inspection, an <NA> mark will be displayed.
	The downward bold arrow to the right of the observation number indicates that this observation was captured during the initial inspection.
	The blank arrow pointing upwards and located to the right of the observation number indicates that this observation was taken during the reverse inspection period, thereby confirming that this report combined both inspections.
18.40 m	Located to the right of the observation number is a number identifying the observation distance in relation to the start of the pipe.
SRV - Armature visible	A full description of the observation code according to the protocol used.

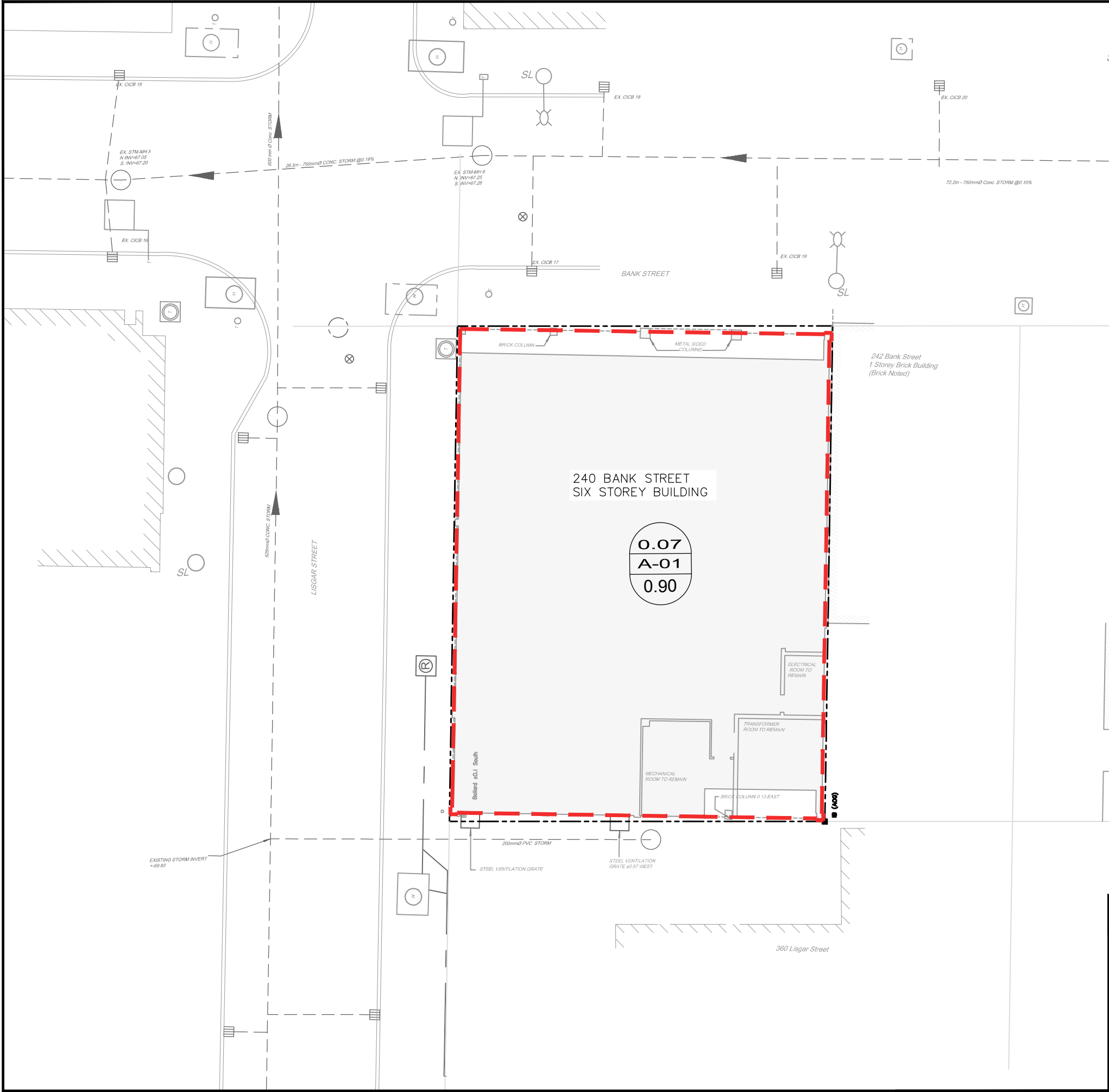
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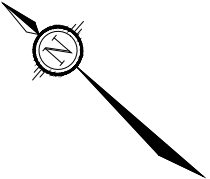
Appendix E
Storm Servicing

M:\2024\124039\CAD\Civil\Figures\Servicing\124039-STM.dwg, FIGURE 2, Jul 08, 2025 - 11:49am, amusyaju



LEGEND

- PROPOSED DEVELOPMENT BOUNDARY
- DRAINAGE AREA (ha)
- DRAINAGE AREA ID
- RUNOFF COEFFICIENT
- PROPERTY LINE



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Website www.novatech-eng.com

CITY OF OTTAWA
240 BANK STREET

STORM DRAINAGE AREAS

SCALE
1 : 250

0 2 4 6 8 10

DATE
JULY 2025

JOB
124039

FIGURE
FIGURE 2

Novatech Project #: 124039

Project Name: 240 Bank Street

Date: 4/19/2023

Input By: Anjush Musyaju, EIT

Reviewed By: Curtis Ferguson, P.Eng

Drawing Reference: 124039-STM

Legend:

Design Input by User

As-Built Input by User

Cumulative Cell

Calculated Design Cell Output

Calculated Uncontrolled Peak Flow Cell Output

Design Input Restricted Peak Flow Cell

Reference:

City of Ottawa - Sewer Design Guidelines (2012 and TBs)

MOE - Design Guidelines for Sewage Works (2008)

Storm Design Event =

100 Year

Location				Design Capacity														
				Proposed Sewer Pipe Sizing / Design														
Street	Area ID	From MH	To MH	Area A (ha.)	Runoff Coefficient C	Indivi. 2.78 AC	Accum. 2.78 AC	Time of Conc. Tc (min.)	Rain Intensity I (mm/hr)	Total Uncontrolled Peak Flow Q (L/s)	Pipe Size (mm) and Material	Pipe ID Actual (m)	Roughness n	Design Grade So (%)	Capacity Qfull (L/s)	Full Flow Velocity (m/s)	Time of Flow (min.)	Q / Qfull
Lisgar	A-01	120	EX STM	0.07	0.90	0.17	0.17	15.00	142.89	23.7	200 PVC	0.2032	0.013	2.00	48.4	1.49	0.00	49.0%
Totals				0.07														

Demand Equation / Parameters

1. $Q = 2.78 \text{ ACI}$

Definitions

Q = Peak flow in litres per second (L/s)
A = Area in hectares (ha)
C = Weighted runoff coefficient (increased by 25% for 100-year)
I = Rainfall intensity in millimeters per hour (mm/hr)

Rainfall intensity is based on City of Ottawa IDF data presented in the City of Ottawa - Sewer Design Guidelines

Capacity Equation

$$Q_{full} = 1000 \cdot (1/n) \cdot A_p \cdot R^{2/3} \cdot So^{0.5}$$

Definitions

Q full = Capacity (L/s)
n = Manning coefficient of roughness (0.013)
A_p = Pipe flow area (m²)
R = Hydraulic Radius of wetted area (dia./4 for full pipes)
So = Pipe slope/gradient

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☎ 514.738.9762



INTEGRATED SEWER SOLUTIONS



240 BANK STREET
Ottawa, Ontario

SEWER CCTV INSPECTION REPORT

Report ID
148585ST1

Sewer Use
Storm

Completion Date
September 11, 2025

Inspected Length
17.60 meters

THE WAY IS CLEAR™

- Watermain Swabbing
- Hydro Vacuum Excavation
- CCTV Inspection of Sewers

- Plumbing & Drain Services
- Structural Rehabilitation of Manholes
- Cured-in-Place-Pipe Lining & Spot Repairs

- Grouting, Test & Seal Joints, Manholes & Services
- Lateral Sewer Inspection & Locates From Main
- Sewer Cleaning, Flushing & Pumping

Table of contents

	Page
1. Index of pipes	2
2. Structural rating	3
3. O&M rating	4
4. Pipe summary and condition details	5
5. Vision Report© Legend	9

1. Index of pipes

2 items

Pipe	Upstream	Downstream	Street	Date	Direction	Height	Inspected	Total	Page
MHST 1 MAIN	MHST 1	MAIN	240 Bank St.	11/09/2025, 8:47 AM	D - Downstream	200	15.6	24	5
MHST37721 MHST37722	MHST37721	MHST37722	Lisgar St.	11/09/2025, 9:47 AM	D - Downstream	600	2	0	7
							Total: 17.6	Total: 24	

2. Structural rating

2 items

1 - Minor defect grade (1 of 2 items)

Score	Quick	Index	Pipe	Start/End	Direction	Street	Page
1	1100	1	MHST 1 MAIN	MHST 1 --> MAIN	Direction of flow	240 Bank St.	5

0 - No Defects (1 of 2 items)

Score	Quick	Index	Pipe	Start/End	Direction	Street	Page
0	0000	0	MHST37721 MHST37722	MHST37721 --> MHST37722	Direction of flow	Lisgar St.	7

3. O&M rating

2 items

4 - Significant (1 of 2 items)

Score	Quick	Index	Structural	Pipe	Start/End	Direction	Street	Page
4	4100	4	0	MHST37721 MHST37722	MHST37721 --> MHST37722	Direction of flow	Lisgar St.	7

2 - Minor to Moderate (1 of 2 items)

Score	Quick	Index	Structural	Pipe	Start/End	Direction	Street	Page
4	2200	2	1	MHST 1 MAIN	MHST 1 --> MAIN	Direction of flow	240 Bank St.	5

4. Pipe summary and condition details

Pipe identification

Pipe:	MHST 1 MAIN	Direction of inspection:	MHST 1 --> MAIN
Direction of flow:	MHST 1 --> MAIN	Direction:	Direction of flow

Pipe location

Road:	240 Bank St.	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Lisgar St.	Easting (X):	Easting (X):
Drainage Area:		Northing (Y):	Northing (Y):
City:	Ottawa	Elevation (Z):	Elevation (Z):
Location:	Alley	GPS Accuracy:	
Owner:	Unknown	Coordinate System:	
Road segment:		Vertical Datum:	

Pipe characteristics

Sewer Use:	Stormwater	Inspected length:	15.6
Height:	200	Total length:	24
Width:		Rim/Inv.:	
Shape:	Circular	Grade/Inv.:	
Material:	Polyvinyl Chloride	Rim/Grade:	
Lining:		Rim/Inv.:	
Joint length:	4	Grade/Inv.:	
Year laid:		Rim/Grade:	
Year renewed:		Sewer category:	

Additional details

Inspection standard:	PACP 6.0	Location details:	
Date:	11/09/2025, 8:47 AM	Surveyed by:	Derek Jessup
Project Number:		Certificate #:	U06180703002192
Customer:	Novatech Engineering	Pre-Cleaning:	No Pre-Cleaning
PO number:		Date cleaned:	
Work order:	148585	Unit of measurement:	Metric
Purpose:		Media label:	
Weather:	Dry	Sheet #:	
Flow control:	Not Controlled		

Structural rating

O&M rating

Overall rating

Peak:	1	Peak:	2	Peak:	2
Quick rating:	1100	Quick rating:	2200	Quick rating:	2211
Score:	1	Score:	4	Score:	5
Index:	1	Index:	2	Index:	1.7

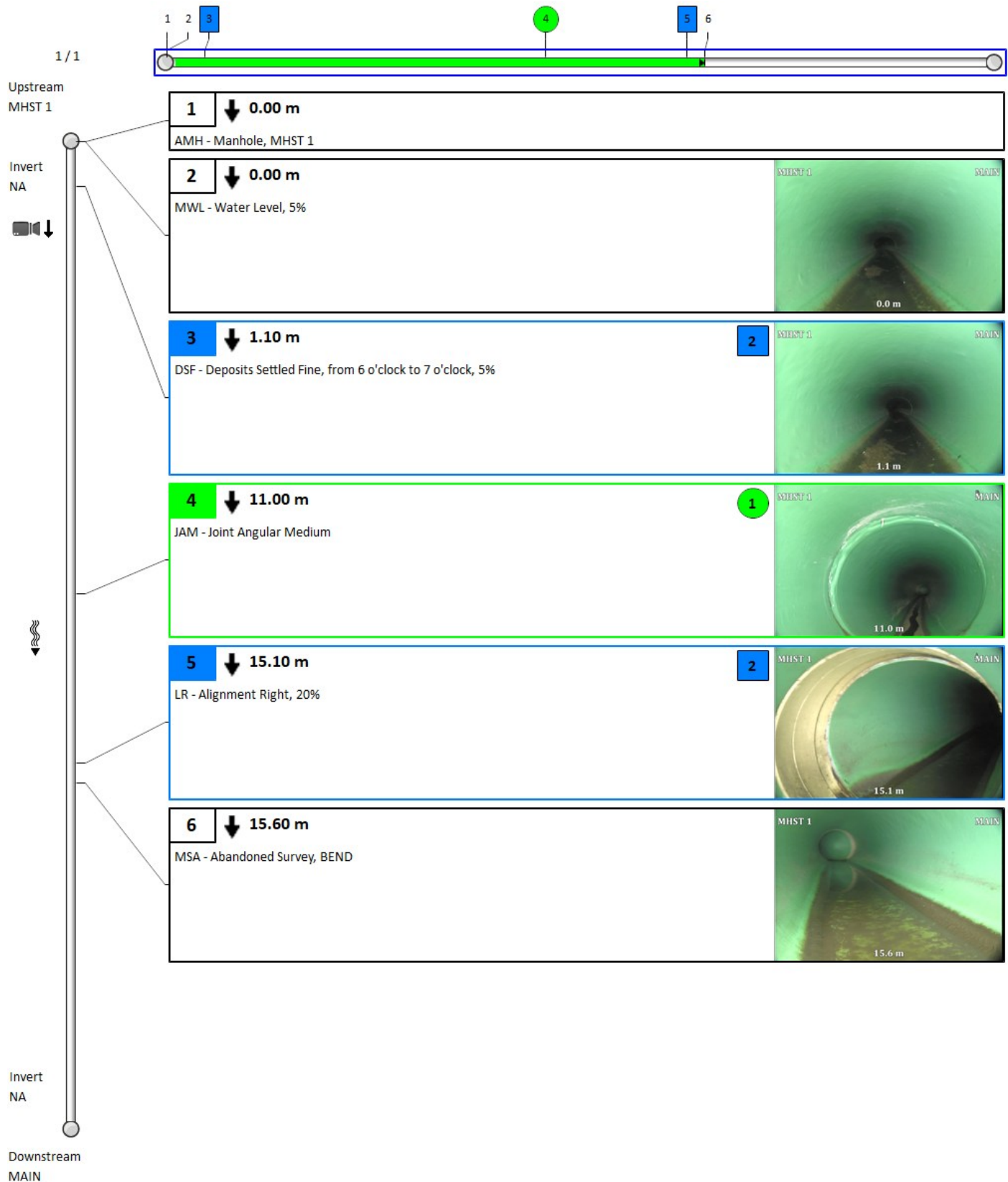
Additional information

--

Other information

Report ID:	148585ST1	Information 6:	
Information 2:		Information 7:	
Information 3:		Information 8:	
Information 4:		Information 9:	
Information 5:		Information 10:	

4. Pipe summary and condition details



4. Pipe summary and condition details

Pipe identification

Pipe:	MHST37721 MHST37722	Direction of inspection:	MHST37721 --> MHST37722
Direction of flow:	MHST37721 --> MHST37722	Direction:	Direction of flow

Pipe location

Road:	Lisgar St.	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	240 Bank St.	Easting (X):	Easting (X):
Drainage Area:		Northing (Y):	Northing (Y):
City:	Ottawa	Elevation (Z):	Elevation (Z):
Location:	Main Highway - Urban	GPS Accuracy:	
Owner:	City of Ottawa	Coordinate System:	
Road segment:		Vertical Datum:	

Pipe characteristics

Sewer Use:	Stormwater	Inspected length:	2
Height:	600	Total length:	0
Width:		Rim/Inv.:	
Shape:	Circular	Grade/Inv.:	
Material:	Reinforced Concrete Pipe	Rim/Grade:	
Lining:		Rim/Inv.:	
Joint length:	2	Grade/Inv.:	
Year laid:		Rim/Grade:	
Year renewed:		Sewer category:	

Additional details

Inspection standard:	PACP 6.0	Location details:	
Date:	11/09/2025, 9:47 AM	Surveyed by:	Derek Jessup
Project Number:		Certificate #:	U06180703002192
Customer:	Novatech Engineering	Pre-Cleaning:	No Pre-Cleaning
PO number:		Date cleaned:	
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Purpose:		Media label:	
Weather:	Dry	Sheet #:	
Flow control:	Not Controlled		

Structural rating

O&M rating

Overall rating

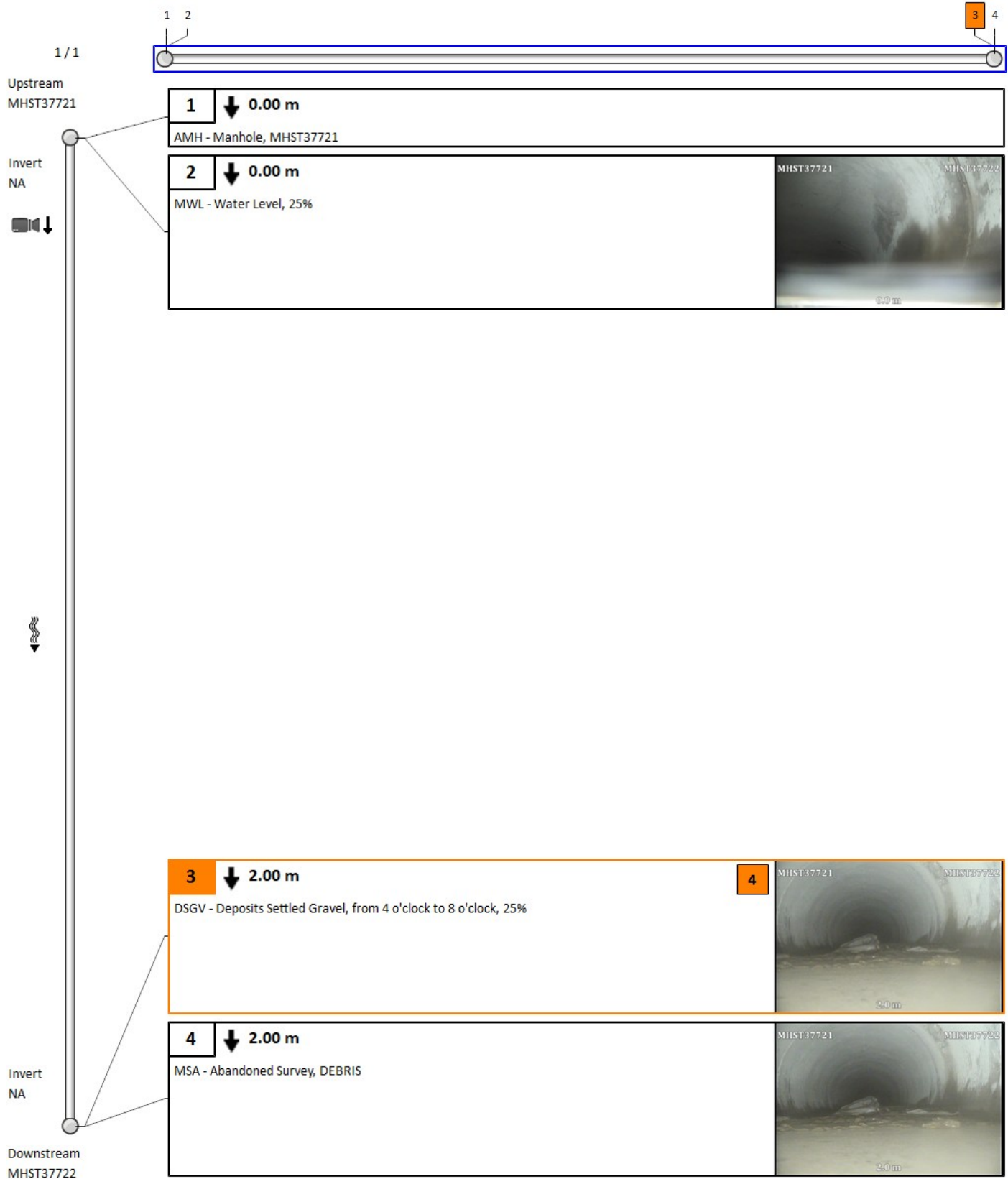
Peak:	0	Peak:	4	Peak:	4
Quick rating:	0000	Quick rating:	4100	Quick rating:	4100
Score:	0	Score:	4	Score:	4
Index:	0	Index:	4	Index:	4

Additional information

Other information






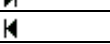










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Information 2:		Information 7:	
Information 3:		Information 8:	
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4. Pipe summary and condition details





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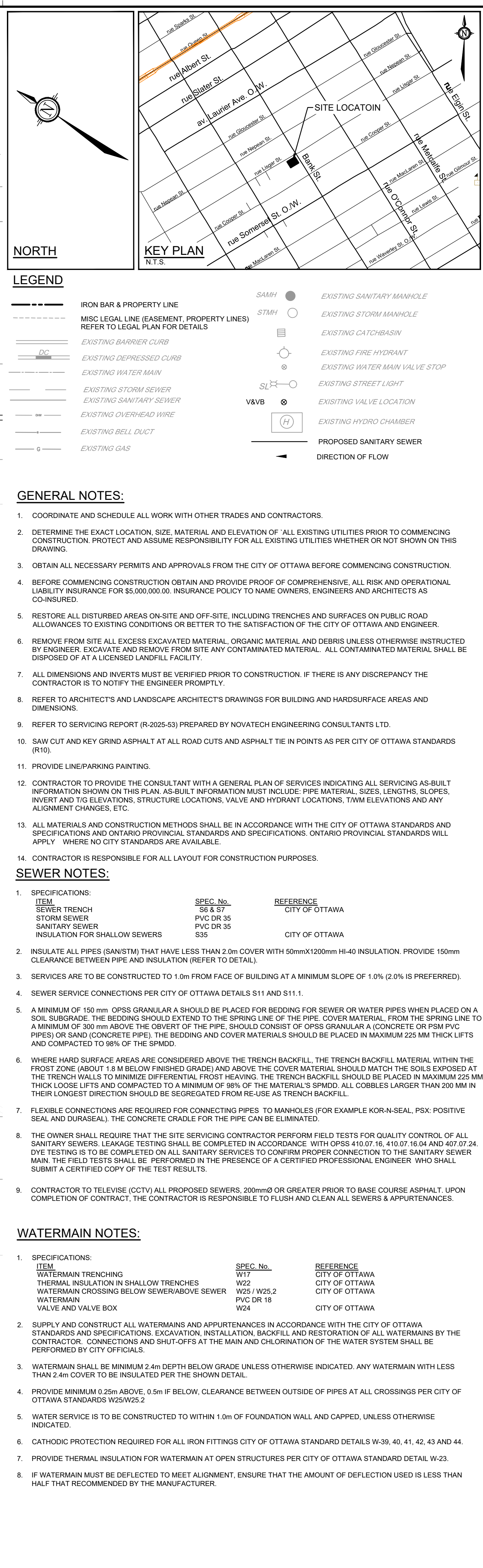
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Appendix F

Drawings



LOCATION CITY OF OTTAWA 240 BANK STREET		PROJECT No. 1240339
DRAWING NAME GENERAL PLAN OF SERVICING		REV REV # 2
		DRAWING No. 1240339-GP