

FARROW PARTNERS

ELMWOOD SCHOOL ADDITION
261 BUENA VISTA ROAD, OTTAWA, ON
SERVICING AND STORMWATER
MANAGEMENT REPORT

JUNE 22, 2026



Application Number:	D07-12-26-0027
Project Number	17002



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SITE PLAN APPLICATION

PROJECT NO.: CA0063931.8278
DATE: JUNE 2026

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1 GENERAL

1.1 EXECUTIVE SUMMARY

WSP was retained by Farrow Partners to provide servicing, grading and stormwater management design services for the proposed addition for Elmwood School on a 0.127 ha site located at the north of the existing school at 261 Buena Vista Rd, Ottawa. All services for the new school addition site will be available from both Springfield and Hillcrest Roads. The subjected development is divided into 3 phases in which Phase A of the school development to the northwest end includes the development of a flexible gymnasium and a performance hall, while phase B includes the development of flexible fitness studio. Phase C includes the development of a soccer field that will be designed by the developer in a later date. This report outlines findings and calculations pertaining to the servicing of the proposed new addition (Phases A and B) with a gross building area of 1,270 square metres.

The proposed school addition is a two storey school building with gross floor area of 1,270 square metre and maximum building height will not be higher than 9.5 metres which is located at the north of the existing school, northwest corner of the Buena vista and Springfield Roads intersection. Also, a fire rerouting will take place south of Hillcrest Road. To the north of the proposed school addition, there will be a future soccer field. This soccer field development is considered to be part of phase C in the future development. The current grading and servicing design have been provided to allow for the future site plan changes with minimal changes to grading and servicing modifications only within the areas that will be impacted by the future development.

Currently the land proposed for the building addition abuts the Springfield Road which is located to the east of the subject site. The natural topography of the property slopes from the existing school towards east (Springfield road), west (Manor Avenue), south (Buena vista road) and north (Hillcrest road). The total study area of the new addition was considered to be 0.127 ha in size. It is lots 26 and 27, registered plan 4M-55, part of block A14, registered plan 4M in City of Ottawa. Based on the topographic survey, portion of the site is sloping from the existing school to the south and is draining toward Buena vista road. The east portion of the site is slopping and draining toward Springfield road. The west portion of the site is slopping and draining toward the existing residential block to the west. The north portion of the site is slopping and draining towards Hillcrest road. The existing piped stormwater system within Hillcrest road and Buena vista road conveys drainage to Manor Avenue then through as series of network it discharges to the Rideau River. While, the existing piped stormwater system within Springfield road conveys drainage through as series of network then it discharges to the McKay Lake.

As per the City of Ottawa comments, the following criteria apply: runoff from all storm events up to and including the 1:100 year event must be restricted to a calculated rate based on an imperviousness ratio of 0.50, a 5-year storm event, 50% simulated flow due to the underground stormwater storage facility of 9.20 l/s. The subject site must provide sufficient storage to accommodate runoff from the 1:100 year event. Stormwater quality control is not required for this site since the runoff is considered clean from roof and pedestrian walkway. Design of a drainage and stormwater management system in this development must be prepared in accordance with the following documents:

- Sewer Design Guidelines, City of Ottawa, October 2012;
- Stormwater Management Planning and Design Manual, Ministry of the Environment, March 2003; and

- Stormwater Management Facility Design Guidelines, City of Ottawa, April 2012

This report was prepared utilizing servicing design criteria obtained from the City of Ottawa and outlines the design for water, sanitary wastewater, and stormwater facilities, including stormwater management.

The format of this report matches that of the servicing study checklist found in Section 4 of the City of Ottawa's Servicing Study Guidelines for Development Applications, November 2009.

The following municipal services are available at the property line as recorded from drawings received from the client:
Hillcrest Road (north):

- 300 mm storm sewer and 250mm sanitary sewer.

Springfield Road (east):

- 305 mm storm sewer, 250mm sanitary sewer and 203mm watermain.

Buena Vista Road (south):

- 300 mm storm sewer, 250mm sanitary sewer and 203mm watermain.

It is proposed that:

- On-site stormwater management systems, employing underground storage will be provided to attenuate flow rates leaving the proposed school addition. Existing drainage patterns previously established controlled flow rates and storm sewers will be maintained.

1.2 DATE AND REVISION NUMBER

This version of the report is the second revision, dated June 18, 2026.

1.3 LOCATION MAP AND PLAN

The proposed institutional development is located at 261 Buena vista Road, Ottawa, Ontario at the location shown in Figure 1-1 below.

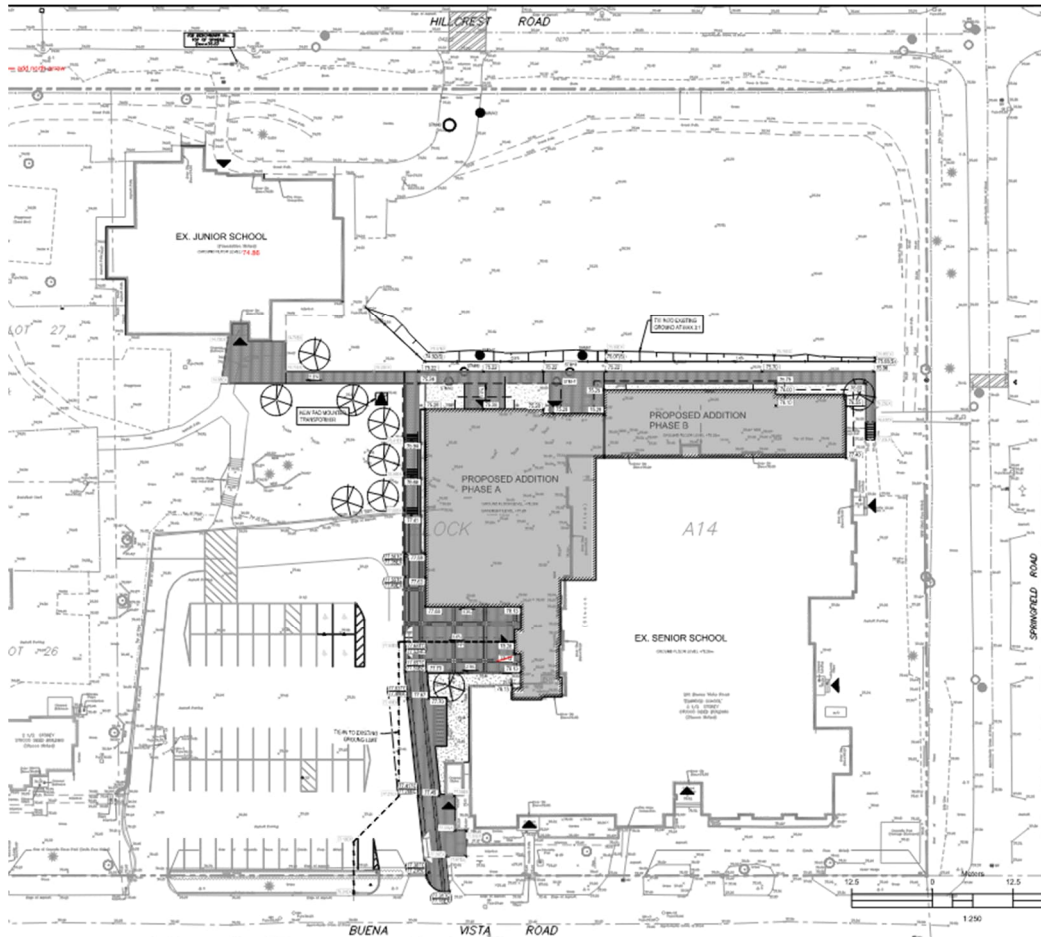


Figure 1-1 Site Location

1.4 ADHERENCE TO ZONING AND RELATED REQUIREMENTS

The proposed property use will be in conformance with zoning and related requirements prior to approval and construction and is understood to be in conformance with current zoning.

1.5 PRE-CONSULTATION MEETINGS

A pre-consultation meeting was held with the City of Ottawa on October 15, 2025. Notes from this meeting are provided in Appendix A.

1.6 HIGHER LEVEL STUDIES

The review for servicing has been undertaken in conformance with, and utilizing information from, the following documents:

- Ottawa Sewer Design Guidelines, Third Edition, Document SDG003, September 2025, City of Ottawa.
- Ottawa Design Guidelines – Water Distribution, July 2010 (WDG001), including:

- Technical Bulletin ISDTB-2014-02 (May 27, 2014)
 - Technical Bulletin ISTB-2018-02 (21 March 2018)
 - Stormwater Management Planning and Design Manual, Ontario Ministry of the Environment and Climate Change, March 2003 (SMPDM).
 - Design Guidelines for Drinking-Water Systems, Ontario Ministry of the Environment and Climate Change, 2008 (GDWS).
 - Fire Underwriters Survey, Water Supply for Public Fire Protection (FUS), 2020.
-

1.7 STATEMENT OF OBJECTIVES AND SERVICING CRITERIA

The objective of the site servicing is to meet the requirements for the proposed modification of the site while adhering to the stipulations of the applicable higher-level studies and City of Ottawa servicing design guidelines.

1.8 AVAILABLE EXISTING AND PROPOSED INFRASTRUCTURE

The existing storm and sanitary sewers in Hillcrest Road are available to service the school's new addition. The existing watermain in Springfield Road is available to service the school's new addition. Also, the sanitary and storm sewer can be extended from the existing sewers along Springfield Road to the proposed new school addition. Quality control is not required on the school site, but quantity control is required to restrict the discharge for all events up to a 100 year event to the 5 year flow rate.

Site access for vehicles will be provided from Buena Vista Road.

1.9 ENVIRONMENTALLY SIGNIFICANT AREAS, WATERCOURSES AND MUNICIPAL DRAINS

The proposed development site is surrounded by residential lands. Existing Runoff from the site is currently draining overland toward Rideau River and McKay Lake. However, post development runoff will be reduced significantly due to the use of underground storage.

1.10 CONCEPT LEVEL MASTER GRADING PLAN

The existing and proposed grading are shown on Drawings C03 - Grading Plan. Existing grading was identified in a topographic survey and is noted in the background of Drawings C03. The proposed grading will be reviewed by the geotechnical engineer. The geotechnical investigation will be completed by Terrapex Environmental Ltd in April 2026. The site topographic survey provides evidence of direction of overland flow of the site. Minor grade changes will be made to grades at the development perimeter for the fire rerouting location. No changes will be made to grades at the property perimeter other than the addition area.

1.11 DEVELOPMENT PHASING

The proposed development includes building addition Phases A and B. Phase B will be constructed after the completion of Phase A. The impervious area associated with the Phase B has already been taken into account in the stormwater management calculations.

1.12 GEOTECHNICAL STUDY

A final geotechnical investigation report will be completed by Terrapex Environmental Ltd in April 2026, and its recommendations has already been taken into account in developing the engineering specifications.

2 WATER DISTRIBUTION

2.1 CONSISTENCY WITH MASTER SERVICING STUDY AND AVAILABILITY OF PUBLIC INFRASTRUCTURE

Currently, there is an existing 203mm diameter municipal watermain along Springfield Road providing water to the existing property. The new school addition will be protected with a supervised automatic fire protection sprinkler system and will require a 203mm diameter water service. The existing fire department connection is located at the south side of the building at the main entrance fronting Buena Vista Road. It is 45m away from the existing municipal FH on Buena Vista Road. No changes are required to the existing City water distribution system to allow servicing for this new addition. A single 203mm water service and an isolation valve in between will be made to the existing 203mm watermain along Springfield Road using a tee connection for the proposed addition. The 203mm diameter private watermain services connecting the existing 203mm municipal watermain will provide redundancy for the existing school and new addition. Water can be supplied to the school from both side of Springfield Road and Buena Vista Road. The 203mm dia. water service will be extended to the building mechanical room.

2.2 SYSTEM CONSTRAINTS AND BOUNDARY CONDITIONS

Boundary conditions have been provided by the City of Ottawa at the connection at Springfield Road. The fire flow of 167 l/s (10,000 l/min) was estimated for the proposed school with using the FUS calculation method and is included in Appendix B.

Table 2-1 Boundary Condition

BOUNDARY CONDITIONS AT SPRINGFIELD ROAD		
SCENARIO	Head (m)	Pressure (psi)
Basic Day (MAX HGL)	108.3	154.1
Peak Hour (MIN HGL)	118.4	168.5
Max Day + Fire Flow (ICI)	98.7	140.4

2.3 CONFIRMATION OF ADEQUATE DOMESTIC SUPPLY AND PRESSURE

Water demands are based on Table 4.2 of the Ottawa Design Guidelines – Water Distribution. As previously noted, the development is considered as institutional development, consisting of classroom, gymnasium and kitchen. A water demand calculation sheet is included in Appendix B, and the total water demands are summarized as follows:

	WSP
Average Day	0.60 l/s
Maximum Day	0.90 l/s
Peak Hour	1.62 l/s

The 2010 City of Ottawa Water Distribution Guidelines stated that the preferred practice for design of a new distribution system is to have normal operating pressures range between 345 kPa (50 psi) and 552 kPa (80 psi) under maximum daily flow conditions. Other pressure criteria identified in the guidelines are as follows:

Minimum Pressure	Minimum system pressure under peak hour demand conditions shall not be less than 276 kPa (40 psi)
Fire Flow	During the period of maximum day demand, the system pressure shall not be less than 140 kPa (20 psi) during a fire flow event.
Maximum Pressure	Maximum pressure at any point the distribution system shall not exceed 689 kPa (100 psi). In accordance with the Ontario Building/Plumbing Code, the maximum pressure should not exceed 552 kPa (80 psi). Pressure reduction controls may be required for buildings where it is not possible/feasible to maintain the system pressure below 552 kPa.

Water pressure at municipal connections check:

Min. HGL @ Connection 1 – Pavement elevation = 118.4m – 76.13m = 42.27m = 414.67 kPa

Water pressure at building connection (at average day) check:

Max. HGL @ Connection 1 – Finished floor elevation = 108.3m – 78.28 = 30.02m = 294.50 kPa

Water pressure at building connection (at max. hour demand) check:

Min. HGL @ Connection 1 – Finished floor elevation = 118.4m-78.28m = 40.12m = 393.58 kPa

Water pressure at building connection (at max. day + fire demand):

(Max Day + Fire) HGL @ Connection 1 - Finished floor elevation = 98.7m-78.28m = 20.42m = 200.32 kPa

The minimum water pressure inside the building at the connection is determined with the minimum HGL condition, resulting in a pressure of 393.58 kPa which exceed the minimum requirement of 276 kPa per the guidelines.

2.4 CONFIRMATION OF ADEQUATE FIRE FLOW PROTECTION

The fire flow rate has been calculated using the Fire Underwriters Survey (FUS) method. The method takes into account the type of building construction, the building occupancy, the use of sprinklers and the exposures to adjacent structures. Assuming ordinary construction and a partial sprinkler system, a fire flow demand of 10,000 l/min for the new school addition along with the existing school building, partial sprinkler credit has been applied to the required fire flow calculation due to the partial sprinkler coverage for the existing school. Copy of the FUS calculations are included in Appendix D.

The demand of 10,000 l/min can be delivered through two fire hydrants. The existing two public hydrants are located at the eastside of Springfield Road and the southside of Buena Vista Road, both of them are within 45 m to the building Samese, and is rated at 5,700 l/min. The two hydrants have a combined total of 11,400 l/min.

The proposed school addition on site will be serviced by a single 203 mm service off the existing 203 mm watermain extended from the Springfield Road. The service will run into the water entry room. The proposed building will be fully sprinklered and fire protection will be provided with the fire department Samese connection within 45 m of the existing municipal fire hydrant at Springfield Road.

The boundary condition for Maximum Day and Fire Flow results in a pressure of 200.32 kPa at the ground floor level. In the guidelines, a minimum residual pressure of 140 kPa must be maintained in the distribution system for a fire flow and maximum day event. As a pressure of 200.32 kPa is achieved, the fire flow requirement is exceeded.

2.5 CHECK OF HIGH PRESSURE

High pressure is not a concern. The maximum water pressure inside the building at the connection is determined with the maximum HGL condition, resulting in a pressure of 414.67 kPa which is less than the 552 kPa threshold in the guideline in which pressure control is required. Based on this result, pressure control is not required for this building.

2.6 PHASING CONSTRAINTS

There are two phases of the development, Phase A and Phase B. Proposed private services will be installed in Phase A. Internal mechanical stubs will be provided for Phase B connection. The projected full occupancy load has been taken into account in the fire demand and water demand calculations.

2.7 RELIABILITY REQUIREMENTS

One shut off valve is provided for the new private watermain at the study boundary from Springfield Road. Water can be supplied from both sides of Springfield Road and Buena Vista Road.

2.8 CAPABILITY OF MAJOR INFRASTRUCTURE TO SUPPLY SUFFICIENT WATER

The existing infrastructure for the site plan is capable of meeting the domestic demand based on City requirements and fire demand as determined by FUS requirements for the proposed school addition.

2.9 DESCRIPTION OF PROPOSED WATER DISTRIBUTION NETWORK

A 203 mm private water service is proposed to be extended into the proposed school new addition from the existing 203 mm watermain in Springfield Road. The 203 mm private water service will be split inside the building, one branch will be connected to the water meter, the other branch will be connected to the fire suppression system. No private hydrant is required for this site.

2.10 OFF-SITE REQUIREMENTS

No off-site improvements to watermains, feeder mains, pumping stations, or other water infrastructure are required to maintain existing conditions and service the adjacent buildings, other than the connection of the new private watermain to the City watermain in the south frontage of the site.

2.11 CALCULATION OF WATER DEMANDS

Water demands were calculated as described in Sections 2.3 and 2.4 above and is also attached in Appendix B.

2.12 MODEL SCHEMATIC

The water works consist single building service, a model schematic is not required for this development.

3 WASTEWATER DISPOSAL

3.1 DESIGN CRITERIA

In accordance with the City of Ottawa's Sewer Design Guidelines, the following design criteria have been utilized in order to predict wastewater flows generated by the subject site and complete the sewer design;

• Minimum Velocity	0.6 m/s
• Maximum Velocity	3.0 m/s
• Manning Roughness Coefficient	0.013
• Total est. hectares institutional use	0.125
• Average sanitary flow for institutional use	28,000 L/Ha/day
• Commercial/Institutional Peaking Factor	1.5
• Infiltration Allowance (Total)	0.33 L/Ha/s
• Minimum Sewer Slopes – 200 mm diameter	0.32%

The area of 0.127 ha represents the lot area of the new building. This is the sanitary collection area that is being considered to contribute to the new 200mm sanitary service extending from the existing 250mm sanitary sewer from Hillcrest Road to the new building.

3.2 CONSISTENCY WITH MASTER SERVICING STUDY

The outlet for the sanitary service from the proposed new building is the 250 mm diameter municipal sewer at Hillcrest Road. The Ottawa Sewer Design Guidelines provide estimates of sewage flows based on institutional development.

The criteria to determine anticipated actual peak flow based on site used as described in Ottawa Sewer Design Guidelines Appendix 4-A are as follows.

- Institutional $28000 \text{ L/Ha/day} = 0.324 \text{ L/Ha/s}$
- Peak flow = $(0.324 \text{ L/Ha/s} \times 0.127 \text{ ha} \times 1.5 \text{ peaking factor}) + 0.33 \text{ L/Ha/s} \times 0.127 \text{ ha} = 0.10 \text{ L/s}$

The on-site sanitary sewer network has been designed in accordance with 0.10 L/s as described above.

3.3 DESCRIPTION OF EXISTING SANITARY SEWER

The existing sanitary sewer for Hillcrest Road outlets by gravity towards Manor Avenue (west of the site plan) that directs sanitary to Ch. Park Road.

3.4 VERIFICATION OF AVAILABLE CAPACITY IN DOWNSTREAM SEWER

The capacity of the downstream 200 mm diameter sewer to existing sanitary pipe at Hillcrest Road has enough capacity according to City of Ottawa confirmation, which is adequate for the flow assumptions from the proposed site as noted above. The servicing pipe capacity is capable to handle the estimated peak sanitary flow rate of 0.10 L/s for the proposed development site. Please refer to sanitary sewer design sheet in Appendix C.

3.5 CALCULATIONS FOR NEW SANITARY SEWER

The 200 mm diameter sanitary service from the sanitary manhole SAMH1 to the building will have a slope of 1.0 %, and a capacity of 32.80 l/s, with a velocity of 1.04 m/s. The 200 mm diameter sanitary service from the sanitary manhole SAMH1 to sanitary manhole SAMH2 have a slope of 0.35%, and a capacity of 19.40 l/s with a velocity of 0.62 m/s. The slope of the 200mm diameter sanitary service from SAMH2 to SAMH3 is 0.35% with a capacity of 19.40 l/s and a velocity of 0.62 m/s. Finally, the sanitary service connecting from SAMH3 to existing sanitary sewer on Hillcrest Road has a slope of 0.34% with a capacity of 19.12 l/s and a velocity of 0.61 m/s. The servicing pipe capacity exceeds the estimated peak sanitary flow rate of 0.10 L/s for the proposed development site.

3.6 DESCRIPTION OF PROPOSED SEWER NETWORK

The proposed sanitary sewer network on site will consist of a 200 mm diameter building service, and three new 1200 mm diameter manholes.

4 SITE STORM SERVICING

4.1 EXISTING CONDITION

The existing school site consists of three existing school buildings, a parking lot and play yards. The site is currently sloping from the existing senior school building to north (Hillcrest Road), south (Buena Vista Road), east (Springfield Road) and west (adjacent residential houses).

Pre-development drainage area plan C06 has illustrated the existing drainage pattern that the runoff from area P1 0.125 ha respectively is draining overland toward Hillcrest Road.

4.2 ANALYSIS OF AVAILABLE CAPACITY IN PUBLIC INFRASTRUCTURE

Using the Modified Rational Method, with coefficient of 0.25 for pervious areas, 0.90 for asphalt and concrete pavement, and 1.0 for building roof, and a 10-minute time of concentration, results in an estimated 5-year flow of 18.39 l/s from this area. A pre-consultation meeting with the City of Ottawa was held prior to the design phase. As a result of that meeting, an underground storage will be proposed in order to reduce the allowable release rate by 50%. The storm network for the proposed new school addition has been designed allow a release rate of 9.20 l/s. The receiving 300 mm diameter storm sewer has been designed with the capacity to accept 9.20 l/s from the new school addition. Capacity in the minor system is not a concern.

4.3 DRAINAGE DRAWING

Drawing C04 shows the detail site sewer network. Drawings C03 provides proposed grading and drainage, and include existing grading information. Draw C06 provides a pre and post-construction drainage sub-area plan. Site sub-area information is also provided on the storm sewer design sheet attached in Appendix C.

4.4 WATER QUANTITY CONTROL OBJECTIVE

The water quantity objective for the site is to limit the flow release to 9.05 l/s. Excess flows above this limit for the school site up to those generated by the 100 year storm event from drainage on the new school addition are temporarily stored underground.

No provision is required on the school's site to accommodate any flow from the adjacent lands. All flows exceeding the defined minor system capacity and underground storage capability will be stored on the roof of the building's new addition.

The school's new addition is controlled using a series of roof drains that directs stormwater into an underground storm water system with a run of a super pipe acting as an underground storage. The maximum elevation for water in the super pipe is 74.12, and a IPEX - Tempest LMF ICD is proposed to be used on the outlet inside STMH3 to restrict the flow rate leaving the site to 9 l/s at 1.36 m head, based on the 100 year elevation of 74.12. In theory, the runoff water will be detained on site up to the 100-yr rainfall event. There is an available capacity within the proposed stormwater network for those scenarios exceeding 100-yr rainfall event since the super pipe was designed to accommodate a volume of 45.69 m³ for 100-yr. The school's new addition storm water system can provide a total of 56.65 m³ of storage volume, but the required storage for 100-yr will be only 45 m³. The site has more storage capacity than required as a result of using a super pipe as an underground storage. This will allow extra detention of water on the site during extreme events, and will reduce stress on the existing stormwater system.

4.5 WATER QUALITY CONTROL OBJECTIVE

The site is not required to achieve water quality objectives. All the runoff from the proposed development is considered clean from building roof and pedestrian walkway.

4.6 DESIGN CRITERIA

The stormwater system was designed following the principles of dual drainage, making accommodation for both major and minor flow.

Some of the key criteria include the following:

- | | |
|---------------------------------|--|
| • Design Storm (minor system) | 1:5 year return (Ottawa) |
| • Rational Method Sewer Sizing | |
| • Initial Time of Concentration | 10 minutes |
| • Runoff Coefficients | |
| Landscaped Areas | C = 0.25 |
| Playground Mulch Areas | C = 0.40 |
| Gravel Areas | C = 0.75 |
| Asphalt/ Concrete | C = 0.90 |
| Traditional Roof | C = 1.00 |
| • Pipe Velocities | 0.80 m/s to 6.0 m/s |
| • Minimum Pipe Size | 250 mm diameter
(200 mm CB Leads and service pipes) |
-

4.7 PROPOSED MINOR SYSTEM

The detailed design for this site will use the existing storm sewer at Hillcrest Road. The drainage system consists of a series of manholes and storm sewers, and a super pipe leading to the outlet STMH3 that drains water towards the existing storm sewer at Hillcrest Road. The roof of the school’s new addition building is the only drainage area to be collected in the proposed site piped drainage system. There are no downspouts proposed. The foundation drain from the new addition is connected to a series of pipes and manholes that then connects to the outlet pipe from STMH3 merging both flows uprising from the roof and the foundation as per the latest City of Ottawa comments. The storm services are connected to the storm sewer downstream of STMH3 which is downstream of the controlled flow point, ensuring an unobstructed flow for these areas.

Using the above noted criteria, the existing on-site storm sewers were sized accordingly. A detailed storm sewer design sheet and the associated post development storm sewer drainage area plan are included in Appendix C.

4.8 STORMWATER MANAGEMENT

The subject site will be limited to a release rate of 9.20 l/s, this will be achieved through the inlet control devices at the downstream of STMH3. The release rate of 18.39 l/s generated from the pre development calculation based on a 1:5 year event. Since we are using a super pipe as an underground storage (as discussed with the City of Ottawa in the pre-consultation meeting), we are able to reduce the release rate by 50%. As a result, a 9.20 l/s is the allowable release rate.

Flows generated that are in excess of the site’s allowable release rate will be stored on site in an underground super pipe and gradually released into the minor system so as not to exceed the site’s allocation. In case of runoff exceeding the 100-year

storm event, the excess runoff will be conveyed overland through the CBMHs. There is no roof storage proposed for this project. The proposed storm underground infrastructure are fully utilized for storage.

A 40.4 m of 1200mm superpipe is proposed as an underground storage to manage a total runoff volume of 45 m³ generated by a 1-in-100-year storm event. No surface ponding is considered.

There will be not Overland flow routes provided in the grading to permit emergency overland flow from the site since we are only controlling the roof area of the school's new addition.

The site servicing has been designed to control water generated during the 1:100-year event, with no overflow leaving the site at this control level. Please refer to the SWM Calculations in Appendix C.

4.9 INLET CONTROLS

The maximum allowable release rate for the 0.125 Ha site is 9.05 L/s as shown in the calculation below.

$Q_{\text{(uncontrolled)}}$	$= 2.78 \times C \times I_{100\text{yr}} \times A$	where:
C	$= 0.5$ (Weighted average pre-development C)	
$I_{100\text{yr}}$	$=$ Intensity of 5-year storm event (mm/hr)	
	$= 1735.688 / ((T_c + 6.014)^{0.82})$; where $T_c = 10$ minutes	
A	$=$ Area = 0.125 Ha	

Therefore, the release rate based on 1-5 year event pre-development can be determined as:

$$= 18.39 \text{ L/s}$$

Since we are using an underground storage this release rate can be reduced by 50%:

$$= 9.20 \text{ L/s}$$

Based on the flow allowance at the outlet location, STMH3, inlet control devices (ICD) were chosen in the design. The design of the inlet control device is unique to the associated drainage areas and is determined based on a number of factors, including hydraulic head and allowable release rate. The inlet control device will be designed according to the manufacturer's design charts. The restrictions will cause the on-site manholes and the underground storage (super pipe) to surcharge during 100-year storm event.

4.10 ON-SITE DETENTION

The proposed stormwater sewer system was designed to store any excess storm water up to the 100-year event and to be surcharged towards the downstream municipal storm sewer system with an acceptable release rate. As previously noted, the required volume of storage for a 100-year event is 45m³.

The following Table summarizes the on-site storage requirements during the 1:100-year events.

Table 4-1: On-Site Storage Requirements

Total Area (Ha)	Location	Controlled/ Uncontrolled	Runoff Coefficient		Outlet Location	Total Storage Provided (m³)	100-Year Controlled	
			2 & 5 Year	100 Year			Restricted Flow (L/s)	Required Storage (m³)
0.125	Super pipe (1200mm)	Controlled	1.00	1.00	STMH3	45.69	9.05	45.00
-	The proposed stormwater system	-	-	-	STMH3	10.96	-	-
TOTAL						56.65	9.05	45.00

In all instances the required storage is met with an underground storage which retain the stormwater and discharge at the restricted flow rate to the sewer system. Refer to Appendix D for the stormwater storage summary.

The following Table summarizes the proposed options for inlet control devices to be utilized on the site. ICD pre-set flow curves can be found in Appendix D.

Table 4-2: ICD Type

Structure ID	PROPOSED ICD			
	100-YR Head	Flow (L/s)	Type	OUTLET DIA.
STMH3	1.36	9.00	IPEX - Tempest LMF ICD	250 mm Dia. PVC.

As demonstrated above, the site uses new inlet control device to restrict the 100 year storm event to the criteria approved by the City of Ottawa. Restricted stormwater will be contained onsite by utilizing an underground storage. In the 100 year event, there will be no overflow off-site from restricted areas.

The restriction on the site is 9.00 L/s, which is less than the maximum allowable release of 9.20 L/s noted in Section 4.9.

4.11 PRE AND POST DEVELOPMENT PEAK FLOW RATES

The study area has an allowable release rate of 9.20 L/s. The post-development 100-year peak flow rate has been designed to be 9.00 L/s which has been achieved through an orifice and on-site storage.

5 SEDIMENT AND EROSION CONTROL

5.1 GENERAL

During construction, existing storm sewer system can be exposed to sediment loadings. A number of construction techniques designed to reduce unnecessary construction sediment loadings will be used including the following.

- Silt sack will remain on open surface structures such as manholes and catchbasins until these structures are commissioned and put into use.
- Installation of silt fence, where applicable, around the perimeter of the proposed work area.
- The installation of straw bales within existing drainage features surrounds the site.

During construction of the services, any trench dewatering using pumps will be fitted with a “filter sock.” Thus, any pumped groundwater will be filtered prior to release to the existing surface runoff. The contractor will inspect and maintain the filter sock as needed including sediment removal and disposal.

All catchbasins, and to a lesser degree, manholes, convey surface water to sewers. Consequently, until the surrounding surface has been completed, these structures will be covered to prevent sediment from entering the minor storm sewer system. These measures will stay in place and be maintained during construction and build-out until it is appropriate to remove them.

During construction of any development both imported and native soils are placed in stockpiles. Mitigative measures and proper management to prevent these materials entering the sewer system are needed.

During construction of the deeper watermain and sewers, imported granular bedding materials are temporarily stockpiled on site. These materials are however quickly used up and generally placed before any catchbasins are installed.

Refer to the Erosion and Sedimentation Control Plan C05 provided in Appendix E.

6 APPROVAL AND PERMIT REQUIREMENTS

6.1 GENERAL

The proposed development is subject to site plan approval and building permit approval.

No approvals related to municipal drains are required.

No permits or approvals are anticipated to be required from the Ontario Ministry of Transportation, National Capital Commission, Parks Canada, Public Works and Government Services Canada, or any other provincial or federal regulatory agency.

7 CONCLUSION CHECKLIST

7.1 CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the proposed development can meet all provided servicing constraints and associated requirements. It is recommended that this report be submitted to the City of Ottawa in support of the application for site plan approval.

7.2 COMMENTS RECEIVED FROM REVIEW AGENCIES

This is the second submission, 6 comments were received and addressed in this upcoming submission.

APPENDIX

A

- PRE-CONSULTATION MEETING NOTES
- ARCHITECTURAL SITE PLAN
- TOPO SURVEY

October 15, 2025

Christopher Blackwell
Farrow Partners
Via email: christopherb@farrowpartners.ca

**Subject: Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 261 Buena Vista Road**

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on October 10, 2025.

Pre-Consultation Preliminary Assessment

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. For your next submission, please submit the required Application Form, together with the necessary studies and/or plans to planningcirculations@ottawa.ca, copy (cc:) to the file lead and planning support.
2. In your application submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed is requested 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 it is recommended that a subsequent pre-consultation application be submitted.

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. 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. The property is designated as Neighbourhood in the Official Plan. The property is within the Rockcliffe Park Secondary Plan and Rockcliffe Park Heritage Conservation District.
2. The school is designated as Special Use in the Rockcliffe Park Secondary Plan.
3. Please clarify if parking requirements are being met as per Section 101 of the Zoning By-law. The property is within Area X within [Schedule 1A](#) to the Zoning By-law. The proposal adds four new classrooms and reduces some existing parking spaces. A minor variance through the Committee of Adjustment would be required if the parking requirements are not met.
4. Please clarify if bicycle parking requirements are being met as per Section 111 of the Zoning By-law.
5. Please clarify if loading area requirements are being met as per Section 113 of the Zoning By-law.
6. Site plan, floor plans, roof plans and elevations are required. Please include all setbacks and height on the drawings.
7. A zoning table must be shown on the site plan.
8. A Zoning Confirmation Report is required to demonstrate compliance to the Zoning By-law.
9. Please contact the Rockcliffe Park Community Association and the Councillor to know about their comments/concerns.

Urban Design

Comments:

10. Please ensure that the final grading of the site pays close attention to providing direct paths of travel and eliminates stairs or retaining to the extent possible. Please avoid retaining along the perimeter of the site.

11. Please clarify where garbage and loading is located. Please ensure that these functions are screened from the public realm. It would be preferred for garbage to be located within the building.
12. Please provide street tree plantings along the perimeter of the site. There appears to be a gate along Springfield Road, if this is used for entry, please ensure that a clear path of travel is provided and this is highlighted by the landscape program.

Feel free to contact Lisa Stern, Planner III, Urban Design, for follow-up questions at lisa.stern@ottawa.ca.

Engineering

Comments:

13. The Stormwater Management Criteria, for the subject site, is to be based on the following:
 - a. **Water Quality Control:** provide enhanced levels of protection of 80% for total suspended solids removal if required.
 - b. **Water Quantity Control:** In the absence of area specific SWM criteria please control post-development runoff from the **re-developed area only**, up to and including the **100-year storm event**, to a **5-year pre-development level**.
 - i. The pre-development runoff coefficient will need to be determined as per existing conditions but in no case more than 0.5. [If 0.5 applies it needs to be clearly demonstrated in the report that the pre-development runoff coefficient is greater than 0.5].
 - ii. The time of concentration (Tc) 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; **Tc of 10 minutes shall be used for all post-development calculations.**
 - iii. Any storm events greater than the established 5-year allowable release rate, up to and including the 100-year storm event, shall be detained on-site. For events greater than 100 years, spillage must be directed to a public ROW and not to neighboring private property.
 - c. 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.

d. Ponding Notes:

- i. 100-year spill elevation must be 300mm lower than any building opening or ramp.
 - ii. Demonstrate that the stress test spill elevation (100-year +20% event) does not spill onto any permanent structures.
 - iii. The maximum permissible ponding depth for the 100-year storm event is 350mm. No spilling to adjacent sites.
 - iv. 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. 100-year spill elevation must be 300mm lower than any building opening or ramp
- e. Document how any foundation drainage system will be integrated into the servicing design and show the positive outlet on the plan. 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.
- f. 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.
- g. If rooftop control and storage is proposed as part of the SWM solutions, sufficient details (Cl. 8.3.8.4) shall be discussed and documented 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.
- h. **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.
- i. 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 modelers in the Water Resources Group. Regarding 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.

- ii. 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. UG storage to provide actual 5- and 100-year event storage requirements.

14. Storm Sewer

- a. A 300mm dia. concrete storm sewer is available within Buena Vista Road.
- b. A storm 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.

15. Water:

- a. A 200 mm PVC watermain is available for connection on Buena Vista Road and on Springfield Road.
- b. Domestic water from the existing building can be extended into the addition with sufficient proof of demand capacity.
- c. Water Supply Redundancy: Residential buildings with a basic day demand greater than 50m³/day (0.57 L/s) or with 50+ units are required to be connected to a minimum of two water services, with each their own meter, separated by an isolation valve to avoid a vulnerable service area.
- d. Water Boundary condition requests must include the location of the service (map or plan with connection location(s) indicated) and the expected loads required by the proposed development, including calculations. Please provide the following information:
 - i. Plan showing the proposed location of service(s).

- ii. Type of development and the amount of fire flow required (L/min).
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.
- iii. Average daily demand: __L/s.
- iv. Maximum daily demand: __L/s.
- v. Maximum hourly daily demand: __L/s.
- vi. Note: 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.
- e. 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.
- f. A Water Data Card will have to be submitted to size the water meter.
- g. Any proposed emergency route is to be to the satisfaction of Fire Services.

16. Sanitary Sewer

- a. A 250mm concrete sanitary sewer is available for connection on Buena Vista Road and on Springfield Road.
- b. We do not see any issues with sanitary capacity, but we would like to see the sanitary flow demand for the addition to confirm it.
- c. Include correspondence from the Architect within the Appendix of the report confirming the number of residential units per building and a unit type breakdown for each of the buildings to support the calculated building populations.
- d. Please apply the wastewater design flow parameters in Technical Bulletin PIEDTB-2018-01.
- e. 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.
- f. A backwater valve is required on the sanitary service for protection.

17. General Servicing

- a. Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.
- b. 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 extent of the overlay must be shown on the grading plan or a road reinstatement plan.
- c. CCTV sewer inspection of city infrastructure is required to record pre and post construction conditions and ensure there is no damage to City Assets.
- d. Existing buildings sewer 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.
- e. Connections to trunk sewers, easement sewers and backbone watermain are typically not permitted.
- f. Sewer connections to be made above the springline of the sewer main as per:
 - i. Std Dwg S11.1 for flexible main sewers – connections made using approved tee or wye fittings.
 - ii. Std Dwg S11 (For rigid main sewers) – lateral must be less than 50% the diameter of the sewermain.
 - iii. Std Dwg S11 (For rigid main sewers) – lateral must be less than 50% the diameter of the sewermain.
 - iv. No submerged outlet connections.

18. Grading and Erosion

- a. Post-development site grading shall match existing property line grades in order to minimize disruption to the adjacent properties. A topographical plan of survey shall be provided as part of the submission and a note provided on the plans.
- b. Erosion and sediment control plan must be provided.
- c. 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 patterns 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).

- d. Street catch basins are not to be located at any proposed entrances.
- e. Depressed driveways are discouraged and are not allowed in sag locations. For other locations, the builder must ensure that the maximum depth of flow on the street during the 100-year and stress test events will not spill onto the depressed driveway.
- f. 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.

19. Environmental

- a. 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.
- b. 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.
- c. [Official Plan: Section 10. Protection of Health and Safety \(ottawa.ca\)](#)
- d. A remediation plan may be required as per the outcome of the Phase one study. If required, a complete Phase Two study with the remediation activities will need to be submitted for our review.

20. Environmental Compliance Approval

- a. Due to the recent changes by the Ministry of Environment, effective September 1, 2025, all on site private stormwater management facilities, storm sewer, sanitary sewer which were subject to ECA are now subject to EASR. The consultant must demonstrate that the requirements have been met.
- b. [Environmental Compliance Approval | Ontario.ca](#)

21. Geotechnical

- a. A Geotechnical Study/Investigation shall be prepared in support of this development proposal.
- b. Geotechnical Study shall be consistent with the Geotechnical Investigation and Reporting Guidelines for Development Applications. [Geotechnical Investigation and Reporting \(ottawa.ca\)](#)
- c. If Sensitive marine clay soils are present in this area that are susceptible to soil shrinkage that can lead to foundation and building damages. All six (6) conditions listed in the Tree Planting in Sensitive Marine Clay Soils- 2017 Guidelines are required to be satisfied. Note that if the plasticity index of the soil is determined to be less than 40% a minimum separation between a street tree and the proposed building foundations of 4.5m will need to be achieved. A memorandum addressing the Tree in Clay Soil Guidelines prepared by a geotechnical engineer is required to be provided to the City. [Tree Planting in Sensitive Marine Clay Soils - 2017 Guidelines \(ottawa.ca\)](#)

22. Slope Stability Assessment Reports

- a. A report addressing the stability of slopes, prepared by a qualified geotechnical engineer licensed in the Province of Ontario, should be provided wherever a site has slopes (existing or proposed) steeper than 5 horizontal to 1 vertical (i.e., 11 degree inclination from horizontal) and/or more than 2 meter in height.
- b. A report is also required for sites having retaining walls greater than 1 meter high, that addresses the global stability of the proposed retaining walls.
- c. [Slope Stability Guidelines for Development Applications \(ottawa.ca\)](#)

23. Exterior Site Lighting

- a. 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.

24. General

- a. 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**.
- b. 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.
- c. All underground and above ground building footprints and permanent walls need to be shown on the plans to confirm that any permanent structure does not extend either above or below into the existing property lines and sight triangles.
- d. **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.

Please refer to the City of Ottawa Guide to Preparing Studies and Plans [Engineering]: [Planning application submission information and materials](#). The guides on the City website specify all required information to be presented within the required documents.

Feel free to contact Anton Chettrar, Infrastructure Project Manager, for follow-up questions at anton.chettrar@ottawa.ca.

Noise

Comments:

- 25. Noise Control Study is required for the site as it is within proximity to Springfield Road (collector road).

Feel free to contact Anton Chettrar, Infrastructure Project Manager, for follow-up questions at anton.chettrar@ottawa.ca .

Transportation

Comments:

- 26. The addition does not warrant a Transportation Impact Assessment.

Feel free to contact Mike Giampa, Transportation Project Manager, for follow-up questions.

Environment

Comments:

27. There are no triggers for an Environmental Impact Study.

28. Bird-Safe Design Guidelines - Please review and incorporate bird safe design elements, where feasible. Some of the risk factors include glass and related design traps such as corner glass and fly-through conditions, ventilation grates and open pipes, landscaping, light pollution.

The entrance is a very spectacular feature of this proposed addition with extensive glazing, please consider the bird-safe conditions here, the overhang may mitigate all the issues however please take a close look to ensure this does not create a bird hazard.

More guidance and solutions are available in the guidelines which can be found here:

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

29. Please consider if there are features that can be added reduce the urban heat island effect (see OP 10.3). For example, this impact can be reduced by adding large canopy trees, a green roof or vegetation walls, solar orientation and screens to limit summer sun and maximize winter sun and/or incorporating building with low heat absorbing materials.

Feel free to contact Matthew Hayley, Environmental Planner, for follow-up questions.

Forestry

Comments:

30. A Tree Conservation Report and Landscape Plan are submission requirements of this SPC application. They can be combined.

31. Please design the addition with the least impact to existing healthy trees as possible (OP Section 4.8.2)

32. The City of Ottawa is working towards a 40% canopy cover target. At a minimum replace the canopy lost from this development elsewhere on the property.

Tree Conservation Report requirements. The following Tree Conservation Report (TCR) requirements have been adapted from the Schedule E of the Urban Tree Protection Guidelines – for more information on these requirements please contact hayley.murray@ottawa.ca

- a. A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City

- b. Any tree 10 cm in diameter or greater and 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.
- c. The TCR must contain 2 separate plans/maps:
 - i. Plan/Map 1 - show existing conditions with tree cover information.
 - ii. Plan/Map 2 - show proposed development with tree cover information.
- d. The TCR must list all trees on site, as well as off-site trees if the CRZ (critical root zone) extends into the developed area, by species, diameter, and health condition. Please note that averages can be used if there are forested areas.
- e. Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)
- f. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained.
- g. The removal of trees on a property line will require the permission of both property owners.
- h. 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
- i. 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.
- j. Removal of a City tree is not permitted unless justified. If justified, monetary compensation for the value of the tree must be paid before a tree removal permit is issued.

Landscape Plan (LP) requirements.

- k. Landscape Plan Terms of Reference must be adhered to for all tree planting: [Click Here](#). For more information on these requirements please contact hayley.murray@ottawa.ca

Additional Elements for Tree Planting in the Right of Way:

- l. Please ensure any retained trees are shown on the LP

- m. Sensitive Marine Clay - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines.
- n. Soil Volume - Please demonstrate as per the Landscape Plan Terms of Reference that the available soil volumes for new plantings will meet or exceed the minimum soil volumes requested.
- o. The city requests that consideration be given to planting native species wherever there is a high probability of survival to maturity.
- p. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. Please provide a projection of the future canopy cover for the site to 40 years
- q. Minimum Setbacks
 - i. Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
 - ii. Maintain 2.5m from curb
 - iii. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.
 - iv. 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.
 - v. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.
- r. Tree specifications
 - i. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
 - ii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage.
 - iii. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and if possible, include watering and warranty as described in the specification.
 - iv. No root barriers, dead-man anchor systems, or planters are permitted.

- v. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

Feel free to contact Hayley Murray, Planning Forester, for follow-up questions.

Parkland

Comments:

- 33. The project is exempt from Cash-in-Lieu of Parkland.

Per Section 11 - Exemptions

- 2. No conveyance of land or payment of cash-in-lieu under this by-law is required in the case of the development or redevelopment of:

a college or university or a school as defined by subsection 1(1) of the Education Act, where the school provides for the students' outdoor recreational needs on-site at the time of development and maintains sufficient outdoor recreational space on-site at the time of redevelopment, all to the satisfaction of the General Manager

Feel free to contact Ryan Paliga, Parks Planner, for follow-up questions.

Heritage

Comments:

- 34. The subject property is designated under Part V of the Ontario Heritage Act as part of the Rockcliffe Park Heritage Conservation District. The policies of the Rockcliffe Park Heritage Conservation District Plan apply.
- 35. Given that the proposed addition exceeds 30% of gross floor area, a Council-level Heritage Permit will be required. A Heritage Act Acknowledgement Report is also required.
- 36. Detailed design comments will be provided as part of the Heritage Permit process.

Feel free to contact Ben Morin, Heritage Planner, for follow-up questions.

Other

- 37. 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 and will be applicable to Site Plan Control and Plan of Subdivision applications.

- a. The HPDS was passed by Council on April 13, 2022, but is not in effect at this time, as Council has referred the 2023 HPDS Update Report back to staff with the direction to bring forward an updated report to Committee at a later date. The timing of an updated report to Committee is unknown at this time, and updates will be shared when they are available.
- b. Please refer to the HPDS information at ottawa.ca/HPDS for more information.

Submission Requirements and Fees

1. Complex Site Plan Control application is required.
 - a. Additional information regarding fees related to planning applications can be found [here](#).
2. 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.
3. 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,
Sole Soyak
Planner II

Encl. Study and Plan Identification List
List of technical agencies to contact
Pre-consultation supplementary development information
Checklist of accessibility design standards
HPDS overview for applicants and example checklist

c.c. James Ireland, Planner III, Development Review All Wards
Nivethini Jekku Einkaran, Planner I, Development Review All Wards
Lisa Stern, Planner III, Urban Design
Anton Chertar, Infrastructure Project Manager
Abdul Mottalib, Senior Engineer Infrastructure Applications



Mike Giampa, Transportation Project Manager
Matthew Hailey, Environmental Planner
Hayley Murray, Planning Forester
Ryan Paliga, Parks Planner
Ben Morin, Heritage Planner
Ted Horton, Senior Planner, National Capital Commission

261 Buena Vista Rd. - Ottawa, ON - K1M 0V9

FARROW PARTNERS
ARCHITECT

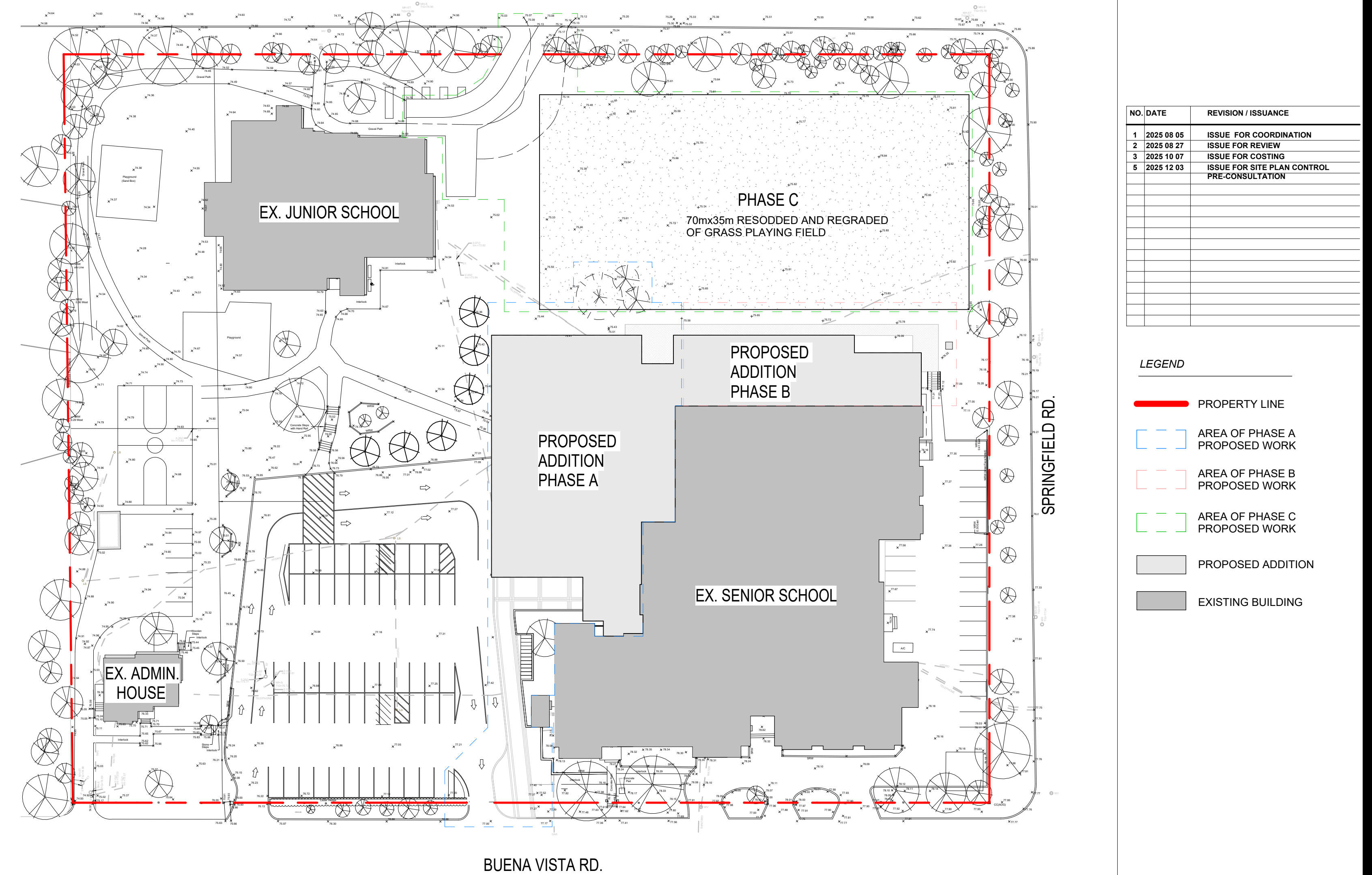
CONTACT:
Christopher Blackwell
t: 416-966-3666
e: christopherb@farrowpartners.ca

LEA Consulting Ltd.
STRUCTURAL ENGINEER

CONTACT:
Ryan Brown
t: 647-979-745
e: rbrown@lea.ca

WSP
MECHANICAL, ELECTRICAL ENGINEER

CONTACT:
Langdon Liebregts
t: 613-690-3818
e: langdon.liebregts@wsp.com



1 : 500

PROJECT OVERVIEW

Farrow Partners has been involved with Elmwood since 2017 when we developed a strategic facilities master plan for the school. Growing out of this master plan, this proposed addition to the existing Senior School building includes:

- A new front entrance court and lobby, with lounge and improved reception
- A flexible combination Performing Arts Center/Gymnasium with a seating capacity of 240, with lower-level support spaces including green room and dressing rooms
- A ground level flexible fitness/athletics room overlooking the North playing field
- Lower level athletics office and change rooms accessible from the playing field
- Four new classrooms on the second level, overlooking the playing field
- Improvement of the arrival from Buena Vista Road by introducing a wide pavestone pathway, necessitating shifting of the parking exit lane further east and removal of 4 parking stalls
- Re-grading, re-sodding, and resizing of existing grass playing field to 70m x 35m with irrigation system.

Guided by the school's Strategic Direction, this addition is a key step forward for the school's variety and quality of educational, artistic, and athletic opportunities. The new performing arts, athletics, and learning spaces are much needed by the current student body and faculty. The project's intent is not to provide additional spaces for increased enrollment.

HERITAGE FACTORS

The proposed addition has been designed to sit sensitively within the Rockliffe Park Heritage Conservation District and pair harmoniously with the existing Tudor building to establish a new and coherent architectural character. Without attempting to falsely recreate the historic character of the existing Tudor Senior School (by timbering upper wall areas or adding gables, for example), the addition takes cues from the building's distinctive proportions, materiality, and timber ornamentation to establish a new architectural character that is coherent with the existing. Any interference with the front façade or the street frontage of the existing building has been avoided.

Following a Heritage Pre-Application Meeting on 3 November 2025, the City Heritage staff have been supportive of the design approach of the proposed addition. Several comments were returned and have been addressed in the current revision presented here.

ZONING COMPLIANCE CHART

[illegible]

BUILDING CODE DATA
Occupancy Type A Division 2

BUILDING SIZE & CONSTRUCTION TYPE

REQUIRED EXITS		
Lower Level	Required:	2
	Provided:	2
Ground Level	Required:	2
	Provided:	4
Second Level	Required:	2
	Provided:	2

RENDER OF PROPOSED MAIN ENTRY

AERIAL VIEW OF EXISTING SITE AND BUILDINGS

LEGEND

-  PROPERTY LINE
-  AREA OF PHASE A PROPOSED WORK
-  AREA OF PHASE B PROPOSED WORK
-  AREA OF PHASE C PROPOSED WORK
-  PROPOSED ADDITION
-  EXISTING BUILDING

The architect noted above has exercised responsible control with respect to design activities. The architect's seal number is the architect's EICDN (Building Code Designation Number).

Farrow

60 Pleasant Blvd., Unit B01
Toronto, ON, Canada
M4K1T1
Ontario Association of Architects COIP #9385



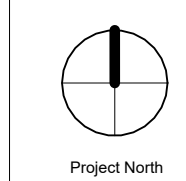
ELMWOOD SENIOR SCHOOL ADDITION

9114

Scale at Arch E	As indicated
FARROW PARTNERS	Yazmin Enriquez
Reviewed by	Christopher Blackwell

Drawing title:

COVER PAGE

[illegible]

The architect noted above has exercised responsible control with respect to design activities. The architect's seal number is the architect's BCCDN (Building Code Designation Number).

Farrow
60 Pleasant Blvd, Unit 801
Toronto, ON, Canada
M4K1T1
Ontario Association of Architects CO# #5385



ELMWOOD
SCHOOL

ELMWOOD SENIOR SCHOOL ADDITION
261 Buena Vista Rd. - Ottawa, ON - K1M 0V9

9114

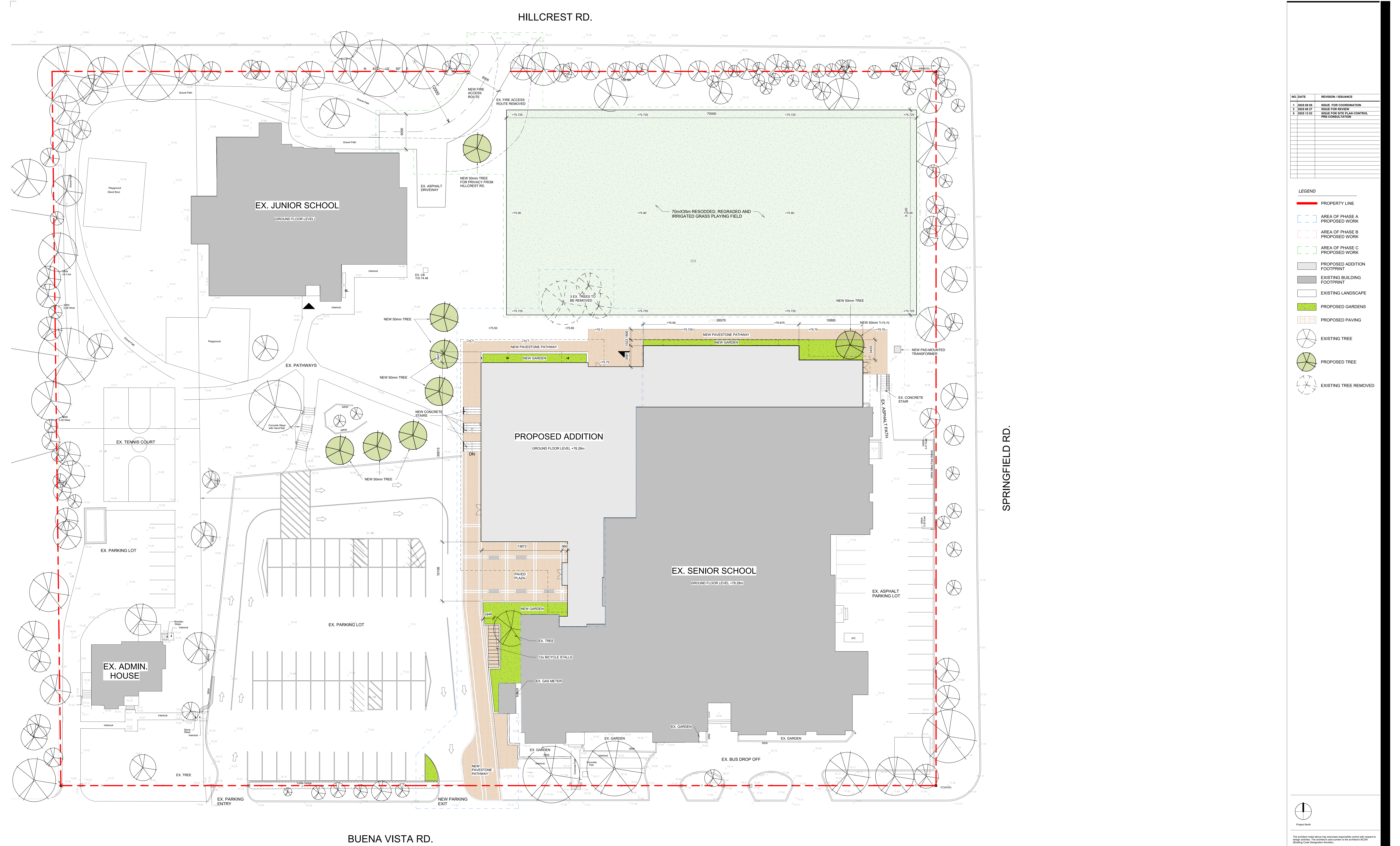
FARROW PARTNERS	Yazmin Enriquez
-----------------	-----------------

Drawing title

EXTERIOR RENDERS

Sheet no. _____

A003



1 Landscape Plan
1 : 200

COMMENT FROM ARBORIST, CHRIS MCINTYRE @ TRILLIUM TREE EXPERTS:
Following approval their will be a requirement for tree removal permits which I will apply for, all cost associated will be passed along to Elmwood School, fees for this should be \$3165 for permits, 3 trees over 30cm recommended for removal (\$1055 per tree), plus my time and payment on your behalf.

There will be a requirement to install 8 new trees, 50mm or greater, please ensure this is indicated on the planting plan at time of submission. If you don't have a planting yet, one should be developed prior to submission. If required we can offer this service.

NO	DATE	REVISION /ISSUANCE
1	2025 08 01	ISSUE FOR COORDINATION
2	2025 08 27	ISSUE FOR REVIEW
3	2025 09 01	ISSUE FOR REVIEW
4	2025 12 01	ISSUE FOR REVIEW
5	2025 12 01	ISSUE FOR REVIEW
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

- LEGEND
- PROPERTY LINE
 - AREA OF PHASE A PROPOSED WORK
 - AREA OF PHASE B PROPOSED WORK
 - AREA OF PHASE C PROPOSED WORK
 - PROPOSED ADDITION FOOTPRINT
 - EXISTING BUILDING FOOTPRINT
 - EXISTING LANDSCAPE
 - PROPOSED GARDENS
 - PROPOSED PAVING
 - EXISTING TREE
 - PROPOSED TREE
 - EXISTING TREE REMOVED

Project North

The certified submittal has been reviewed and approved for construction with respect to design and construction. The submittal was reviewed by the architect, MCM (Building Code Designation Number).

Farrow
100 Farrow Road, Unit 101
Ottawa, ON, Canada
K1M 0Y9
Office: (613) 238-1111
Mobile: (613) 238-1112

ELMWOOD SCHOOL

ELMWOOD SENIOR SCHOOL ADDITION
261 Buena Vista Rd. - Ottawa, ON - K1M 0Y9

3114
Scale as per A104
As indicated
FARROW PARTNERS
Yazmin Enriquez
Reviewed by
Christopher Blackwell
Drawing title
PROPOSED LANDSCAPE PLAN

Drawn by

Exit Width Provided: 6461mm



The North Façade, which is not original to the building, is to be completely disguised by the new addition, which is structurally independent and is joined to the existing building by expansion joints along its length.

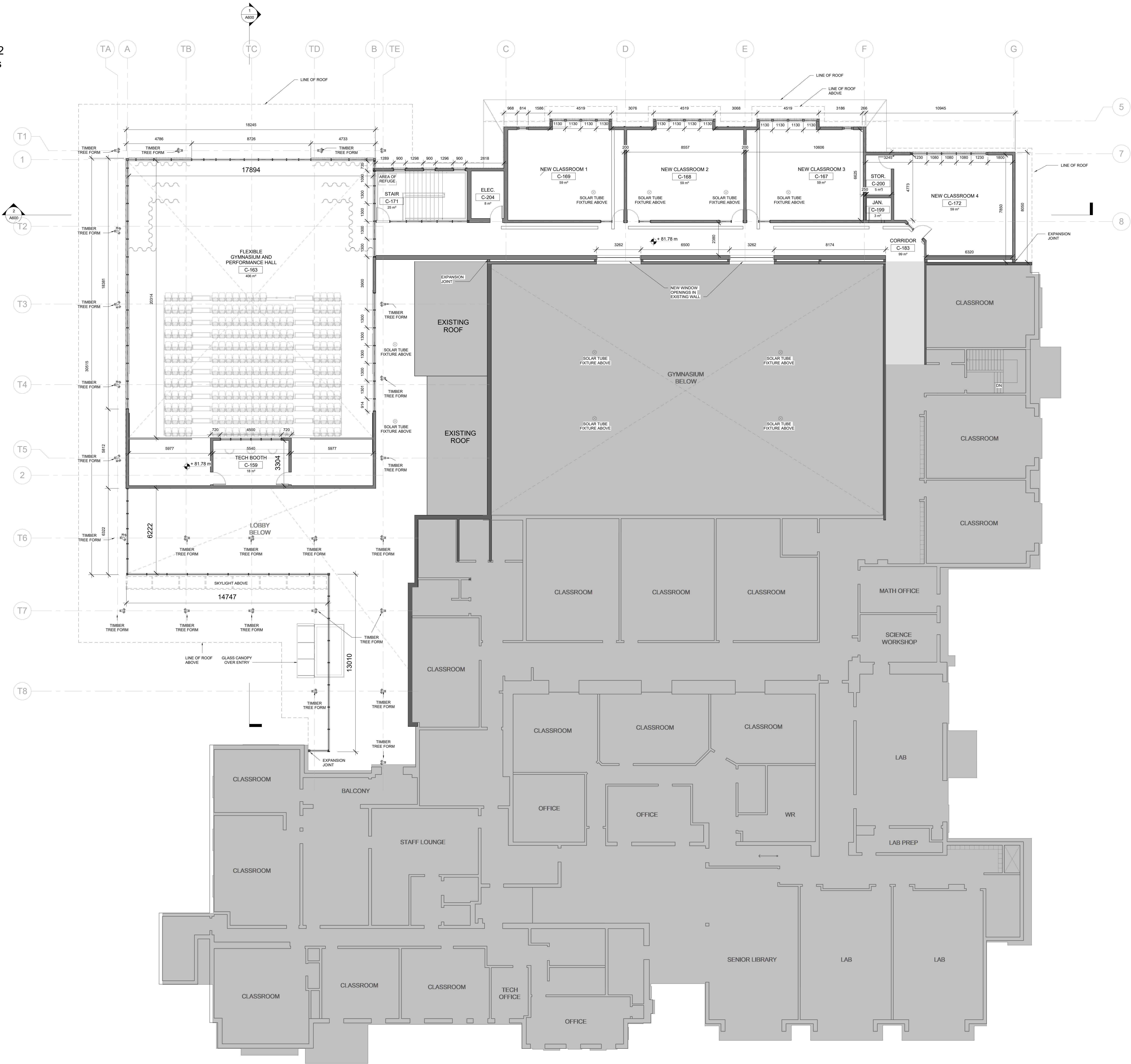
A301

SECOND LEVEL OCCUPANT LOAD

Classrooms
68m2 + 66m2 + 68m2 + 63m2 = 265m2
265m2 x 1.85m2/person = 143 persons

EXIT WIDTH CALCULATION

Total Occupant Load: 143 persons
Exit Width Required: 143 x 6.1mm = 872.3mm
Exit Width Provided: 1956mm



NO	DATE	REVISION /ISSUANCE
1	2023 08 03	ISSUE FOR COORDINATION
2	2023 08 27	ISSUE FOR REVIEW

LEGEND	
	PROPOSED ADDITION
	PROPOSED PAVING
	EXISTING BUILDING AREAS TO BE RENOVATED
	EXISTING BUILDING

The architect's professional seal is required for all drawings. The architect's seal number is in the architect's seal (Building Code Designation Number).

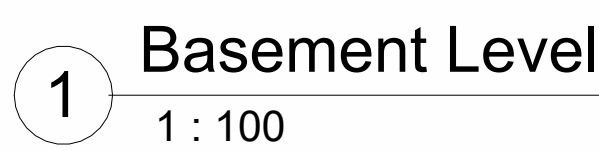
Farrow
1000 Highway 104, Unit 101
Ottawa, ON, Canada
K1M 0Y9
Ottawa Association of Architects OAA #038

ELMWOOD SCHOOL

ELMWOOD SENIOR SCHOOL ADDITION
261 Buena Vista Rd. - Ottawa, ON - K1M 0Y9

3114
Scale as Arch. E
As indicated
FARROW PARTNERS
Yazmin Enriquez
Reviewed by
Christopher Blackwell
Drawing title
SECOND LEVEL PLAN

Drawn by



LEGEND

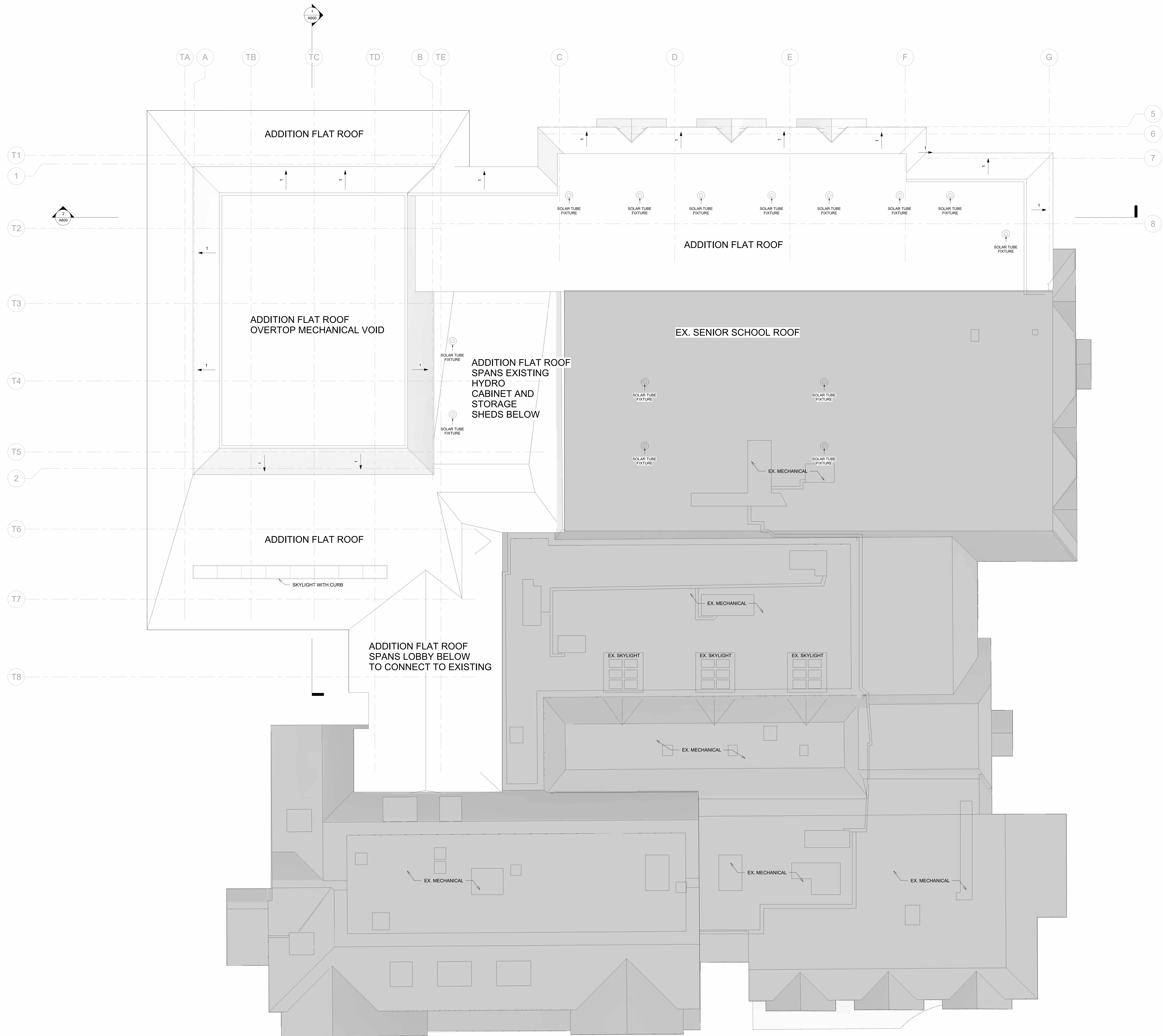
 PROPOSED ADDITION

 PROPOSED PAVING

 EXISTING BUILDING
AREAS TO BE RENOVATED

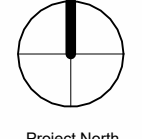
 EXISTING BUILDING





NO	DATE	REVISION / ISSUANCE
1	2025 08 05	ISSUE FOR COORDINATION
2	2025 08 27	ISSUE FOR REVIEW

- LEGEND
- PROPOSED ADDITION
 - PROPOSED PAVING
 - EXISTING BUILDING AREAS TO BE RENOVATED
 - EXISTING BUILDING



Project North

The architect/submitter has exercised responsible control with respect to design and construction. The architect's name and number is the architect's RCUIN (Building Code Designation Number).

Farrow
100 Somerset Street, Suite 100
Ottawa, ON, Canada
K1P 1H1
Ottawa Association of Architects OAA #0305

ELMWOOD SCHOOL

ELMWOOD SENIOR SCHOOL ADDITION
261 Buena Vista Rd. - Ottawa, ON - K1M 0V9

3114
Scale as Arch. E As Indicated
FARROW PARTNERS Yazmin Enriquez
Reviewed by Christopher Blackwell
Drawing title

ROOF PLAN

Drawn by

Architectural floor plan of the first floor of the proposed new building. The plan shows a central corridor (C101) connecting various rooms. On the left side, there are two Change Rooms (C102, C103), a Performance Green Room (C104), a Mech/Elec room (C105), Team Room 1 (C106), a Gym Office (C107), and Team Room 2 (C108). A large area of the first floor is labeled "EX. SENIOR SCHOOL ABOVE" and is shaded gray. Other areas are labeled "UNEXCAVATED" and "ROWING TEAM BOAT STORAGE (UNCONDITIONED)". A small area is labeled "AREA OF REFUGE (C109)". A staircase is labeled "UP".

1 : 200

Site plan of the proposed new school building, showing various rooms and outdoor spaces. The plan includes a large blue area for the 'FLEXIBLE GYMNASIUM AND PERFORMANCE HALL' with tiered seating, a 'FLEXIBLE PARTITION', and 'STAGE STORAGE'. Adjacent to this is a 'FLEXIBLE FITNESS STUDIO' and 'FITNESS & GYM STORAGE'. Other rooms include a 'LOUNGE', 'NEW LOBBY', 'NEW RECEPTION', 'NEW GYM STORAGE', 'UNIV. WR.', 'G.N. WASHROOM', and 'BENCH'. Outdoor spaces include a 'PAVED PLAZA', 'NEW GARDEN', and 'BALCONY'. A large grey area is labeled 'EX. SENIOR SCHOOL ABOVE'. The plan also shows 'STAIR', 'DN', and 'EX STAIR' areas.

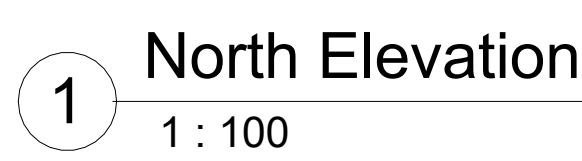
1 : 200

1 : 200

BASEMENT LEVEL GFA: 330.14 m² / 3,553.61 sf
GROUND LEVEL GFA: 799.39 m² / 8,604.56 sf
SECOND LEVEL GFA: 121.85 m² / 1,311.58 sf
TOTAL: 1,251.38 m² / 13,469.74 sf

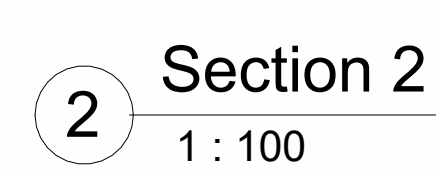
BASEMENT LEVEL GFA:	92.37m ² / 994.26 sf
GROUND LEVEL GFA:	407.79 m ² / 4,389.41 sf
SECOND LEVEL GFA:	370.81 m ² / 3991.36 sf
TOTAL:	870.97 m² / 9,375.04 sf

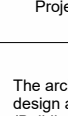
BASEMENT LEVEL GFA: 422.51 m² / 4,547.85 sf
GROUND LEVEL GFA: 1,207.19 m² / 12,994.08 sf
SECOND LEVEL GFA: 492.66 m² / 1,643.21 sf
TOTAL: 2,122.36 m² / 22,844.89 sf



M1	ROOF SHINGLES: RED TO MATCH EXISTING	M2	VISION GLASS	M3	WOODEN TRIM, DARK STAINED TO MATCH EXISTING TIMBERING	M4	IVORY PLASTER STUCCO	M5	BRICK TO COMPLEMENT EXISTING IN JUNIOR SCHOOL	M6	RAL-COATED HOLLOW METAL WINDOW-WALL FRAMES	M7	MASS TIMBER STRUCTURE, STAINED TO COMPLEMENT EXISTING TIMBERING	M8	STEEL FASCIA


Project North
The architect shall submit four dimensional perspective renderings (two "perspectives" to depict activities). The architects must number the architect's BCDN# (Building Credit Designation Number).
 Farrow
60 Pleasant St., Unit B01 Toronto, ON Canada M4T 1A1 Ontario Association of Architects COP #0380
 ELMWOOD SCHOOL
ELMWOOD SENIOR SCHOOL ADDITION
201 Bermuda Vista Rd - Ottawa, ON - K1M 0V9
\$114
School at Arch C As indicated
FARROW PARTNERS Yazmin Enriquez
Drawing by Christopher Blackwell
Reviewed by
BUILDING ELEVATIONS
Sheet no.
A500





Project North

The architect shall retain all necessary registration and control with respect to design services. The architect shall neither be the architect (AEC) nor the building code enforcement authority.

Farrow

© Pleasant Dr., Unit 301
 Calgary, AB, Canada
 403.271.1111
 Architect's Association of Architects (CAA) #5350



ELMWOOD SCHOOL

ELMWOOD SENIOR SCHOOL ADDITION

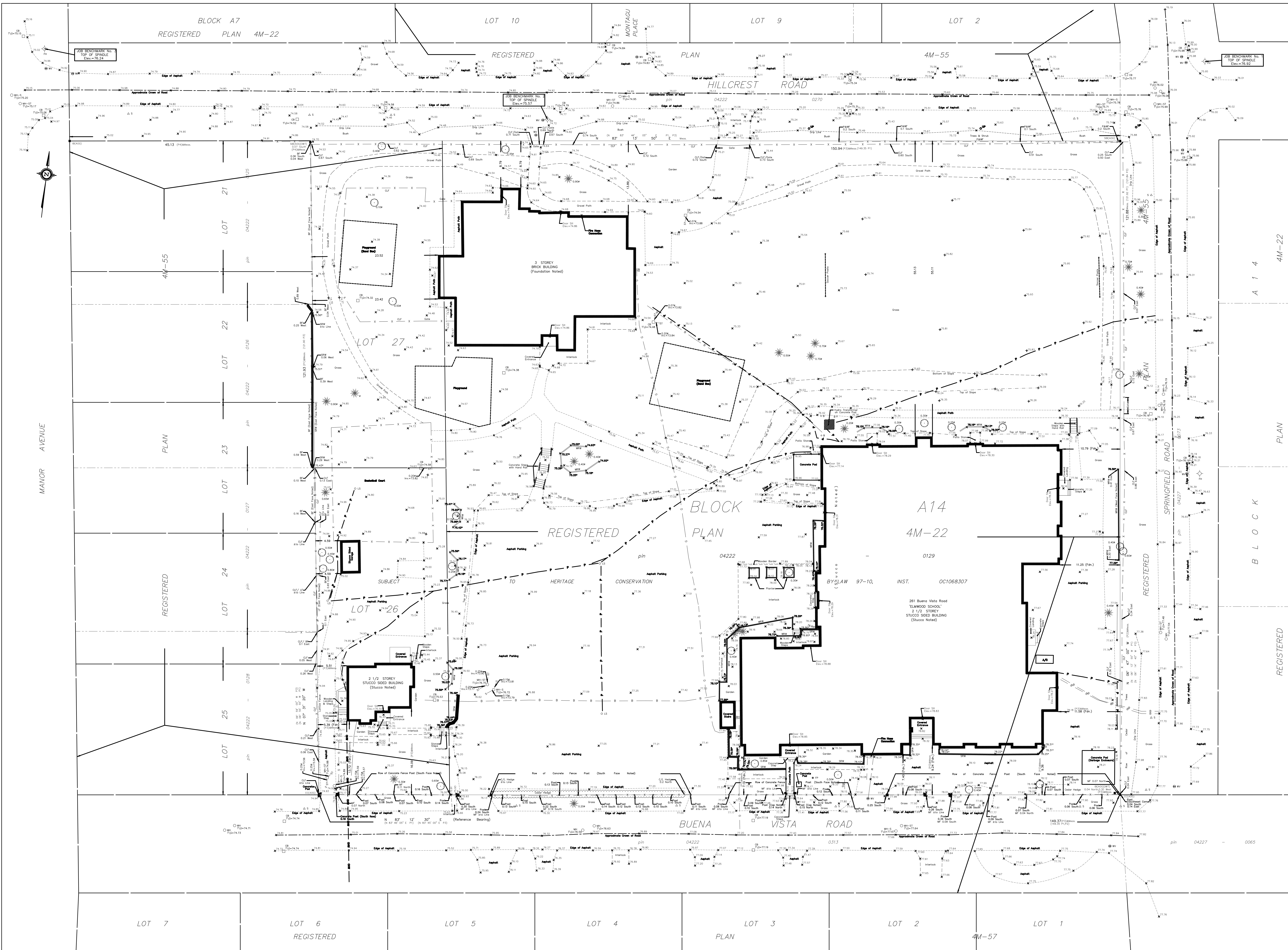
261 Buena Vista Rd. - Ottawa, ON - K1M 1H9

B114		1
Scale as AArch E		
FARROW PARTNERS	Yazmin Eniri	
Reviewed by	Christopher Black	
Drawing title		

BUILDING SECTION

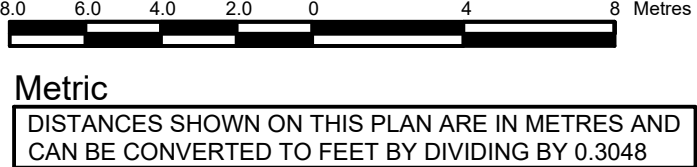
Sheet no.

A60



TOPOGRAPHICAL PLAN OF SURVEY OF
LOTS 26 and 27
REGISTERED PLAN 4M-55
PART OF BLOCK A14
REGISTERED PLAN 4M-22
CITY OF OTTAWA
Surveyed by Annis, O'Sullivan, Vollebakk Ltd.

Scale 1 : 200



Surveyor's Certificate

I CERTIFY THAT:

1. This survey and plan are correct and in accordance with the Surveyors Act, the Surveyors Act and the Land Titles Act and the regulations made under them.
2. The survey was completed on the 8th day of August, 2018.

Date _____ V. Andrew Sheip
Ontario Land Surveyor

Notes & Legend

	Denotes	
—	Survey Monument Planted	
—	Survey Monument Found	
SB	Standard Iron Bar	
SBB	Short Standard Iron Bar	
—	Iron Bar	
CC	Cut Cross	
WC	Witness	
—	Measured	
(AO)	Annex, O'Sullivan, Volkels Ltd.	
(AO)	Registered Plan 44-55	
(AO)	1902 to December 23, 1968 (Ref. 114)	
(P)	(AO) Plan July 7, 1988 (Ref. 306-88)	
(P4)	(1619) Plan September 1, 1986	
—	Fire Hydrant	
—	Water Valve	
—	Maintenance Hole (Storm Sewer)	
—	Maintenance Hole (Sanitary)	
—	Maintenance Hole (Unidentified)	
—	Storm Sewer	
—	Underground Sanitary Sewer	
—	Underground Water	
—	Underground Power	
—	Underground Sewer	
—	Underground Gas	
—	Underground Rail	
—	Overhead Power Lines	
—	Catch Basin	
—	Gas Meter	
—	Ballast	
—	Sign	
—	Chain Link Fence	
—	Metal Fence	
PAWF	Post and Wire Fence	
—	Lattice Fence	
LP	Utility Pole	
—	Anchor	
—	Light Standard	
—	Flag Pole	
—	Wooden Retaining Wall	
SWF	Stone Retaining Wall	
—	Diameter	
—	Location of Elevations	
—	Top of Lot of Elevation	
CA/L	Centreline	
—	Top of Gate	
—	Invest	
Fdn.	Foundation	
—	Air Conditioner	
A/C	Deckchair Tree	
—	Coniferous Tree	

ASSOCIATION OF
LAND SURVEYORS
PLAN SUBMISSION
205833



THIS PLAN IS NOT VALID
IT IS AN EMBOSSED
COPY ISSUED BY THE
In accordance
Regulation 1026, Sec

ELEVATION NOTES

2. It is the responsibility of the user of this information to verify that the job bench has not been altered or disturbed and that its relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.
4. Underground utilities and inverts are shown as measured and marked on ground by Deepview Utility Locate and Concrete Scanning.

SITE AREA = 1.8305 Hectares

bearings are grid, derived from the northerly limit of Buena Vista Drive shown as N83°12'30"E on Plan by (990) dated December 23, 1998 (Ref. 114A-98) and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

For comparison purposes, bearings shown on Plans P1 and P3 are
 standard bearings.

APPENDIX

B

- FIRE UNDERWRITERS SURVEY – FIRE FLOW CALCULATION FOR BUILDING
- WATER DEMAND CALCULATION
- BOUNDARY CONDITION



Elmwood Senior School and Addition
Fire Flow Requirements Based on Fire Underwriters Survey (FUS) 2020

1. An estimate of the Fire Flow required for a given fire area may be estimated by: $F = 220 C \sqrt{A}$

F = required fire flow in litres per minute

C = coefficient related to the type of construction

1.5 for **Type V** Wood Frame Construction

0.8 for **Type IV-A** Mass Timber Construction

0.9 for **Type IV-B** Mass Timber Construction

1.0 for **Type IV-C** Mass Timber Construction

1.5 for **Type IV-D** Mass Timber Construction

1.0 for **Type III** Ordinary Construction

0.8 for **Type II** Noncombustible Construction

0.6 for **Type I** Fire resistive Construction

A =2-b) The single largest Floor Area plus 25% of each of the two immediately adjoining floors

A = 5057 m²

C = 1.0 Non combustible (with combustible roof)

F = 15644.6 L/min

rounded off to 16,000 L/min (min value of 2000 L/min)

2. The value obtained in 1. may be reduced by as much as 25% for occupancies having a low contents fire hazard.

Non-combustible	-25%
Limited Combustible	-15%
Combustible	0%
Free Burning	15%
Rapid Burning	25%

Reduction due to low occupancy hazard -15% x 16,000 = 13,600 L/min

3. The value obtained in 2. may be reduced by as much as 50% for buildings equipped with automatic sprinkler protection.

Note: The new addition and existing addition (constructed 2015) have sprinkler coverage, however the original building does not. Partial building coverage credits must be applied.

% of Sprinkler Coverage	66%
Adequate Sprinkler confirms to NFPA13	-30%
Water supply common for sprinklers & fire hoses	-10%
Fully supervised system	-10%
No Automatic Sprinkler System	0%

Reduction due to Sprinkler System -26% x 13,600 = 3,602 L/min

4. The value obtained in 2. is increased for structures exposed within 45 metres by the fire area under consideration.

Separation	Charge
0 to 3 m	25%
3.1 to 10 m	20%
10.1 to 20 m	15%
20.1 to 30 m	10%
30.1 to 45 m	0%

Side 1	82.7	0% north side
Side 2	37.5	0% east side
Side 3	37.9	0% south side
Side 4	54	0% west side

0% (Total shall not exceed 75%)

Increase due to separation 0% x 13,600 = 0 L/min

5. The flow requirement is the value obtained in 2., minus the reduction in 3., plus the addition in 4.

The fire flow requirement is 10,000 L/min (Rounded to nearest 1000 L/min)
 or 167 L/sec
 or 2,642 gpm (us)
 or 2,200 gpm (uk)

Water Demand Calculation Sheet

Project: Elmwood Senior School and Addition
Location: Ottawa, ON
WSP Project No. CA0063931.8278

Date: 2026-03-13
Design: WY
Page: 1 of 1



Proposed Buildings	Residential			School	Non-Residential			Avg Day			Max Day			Peak Hour			Fire
	Units			Students*	Industrial	Institutional	Commercial	Demand (L/s)			Demand (L/s)			Demand (L/s)			Demand
	SF	APT	ST		(ha)	(ha)	(ha)	Res.	Non-Res.	Total	Res.	Non-Res.	Total	Res.	Non-Res.	Total	(L/ min)
Existing School with New Addition				308					0.60	0.60		0.90	0.90		1.62	1.62	10,000
Total				308					0.60	0.60		0.90	0.90		1.62	1.62	

Population Densities

Single Family	3.4 person/unit
Semi-Detached	2.7 person/unit
Duplex	2.3 person/unit
Townhome (Row)	2.7 person/unit
Bachelor Apartment	1.4 person/unit
1 Bedroom Apartment	1.4 person/unit
2 Bedroom Apartment	2.1 person/unit
3 Bedroom Apartment	3.1 person/unit
4 Bedroom Apartment	4.1 person/unit
Avg. Apartment	1.8 person/unit

Avg Day Demand

Residential	280 L/cap/day
Light Industrial	35000 L/ha/day
Institutional	28000 L/ha/day
Commercial	28000 L/ha/day

School 70 L/day/person assume 10h/day

Notes: * Student and staff count provided by school

Max Day Demand

Residential	2.5 x avg. day
Industrial	1.5 x avg. day
Institutional	1.5 x avg. day
Commercial	1.5 x avg. day

Peak Hour Demand

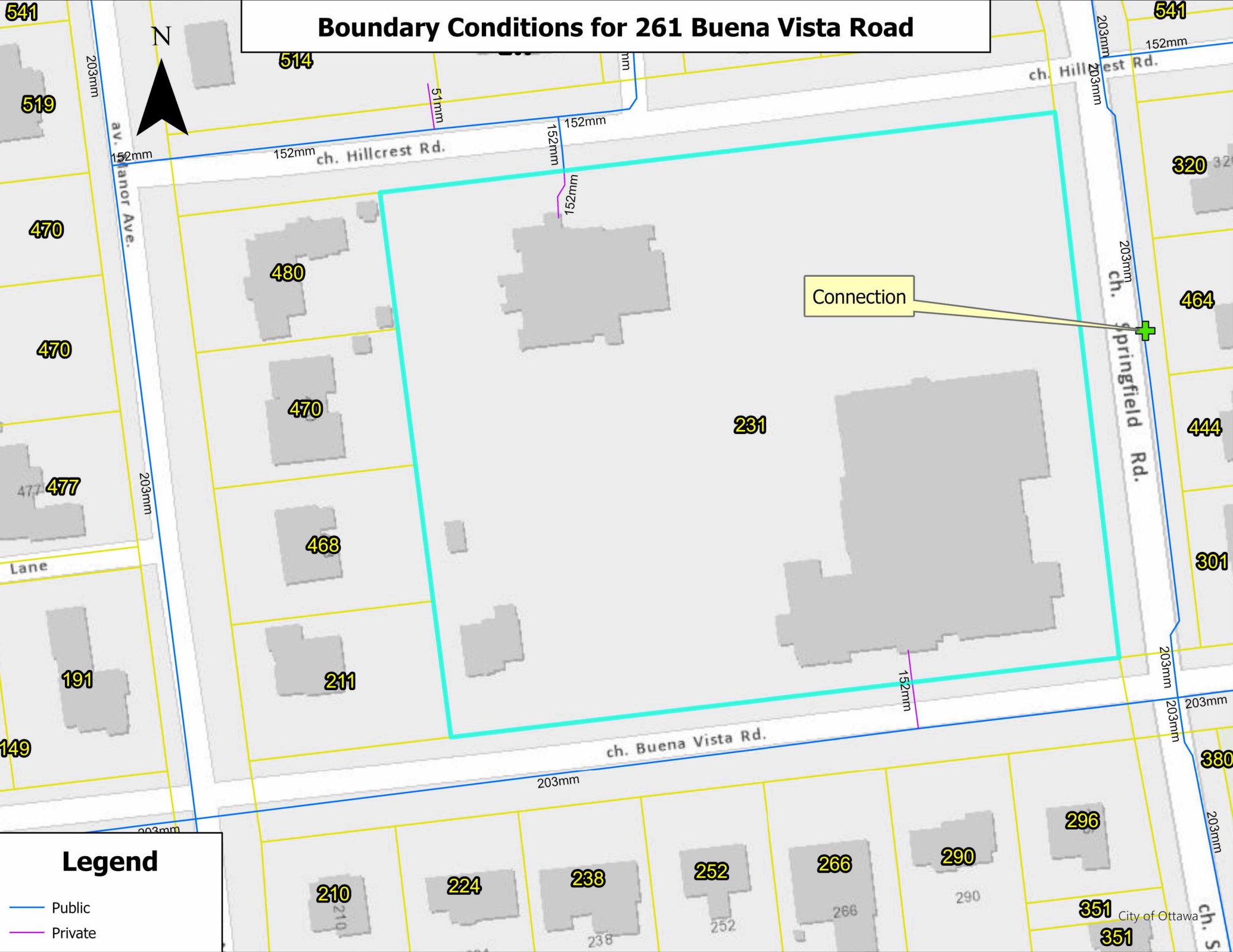
Residential	2.2 x max. day
Industrial	1.8 x max. day
Institutional	1.8 x max. day
Commercial	1.8 x max. day

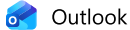
References: Ottawa Water Distribution Design Guidelines - Section 4
2020 Fire Underwriters Survey

Boundary Conditions for 261 Buena Vista Road



Connection





RE: 261 Buena Vista Road - Elmwood School Addition

From Chetrar, Anton <anton.chetrar@ottawa.ca>

Date Tue 03/03/2026 07:54

To Yang, Winston <Winston.Yang@wsp.com>

Cc Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>

 1 attachment (2 MB)

261 Buena Vista Road February 2026.pdf;

Hi Winston,

Thanks for letting us know on the storm and sanitary connections.

Please find attached boundary conditions as requested:

The following are boundary conditions, HGL, for hydraulic analysis at 261 Buena Vista Road (zone 1E) assumed to be connected to the 203mm watermain on Springfield Road: (see attached PDF for location).

Minimum HGL = 108.3 m

Maximum HGL = 118.4 m

Max Day + Fire Flow (167 L/s) = 98.7 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.

Let us know if any questions or concerns.

Thanks,

Anton Chetrar | P. Eng

Project Manager, Infrastructure - Gestionnaire de projet, Projets d'infrastructure

Development Review – South Services | Direction de l'examen des projets d'aménagement – Service Sud

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

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West | 110 avenue Laurier Ouest

Ottawa, ON K1P 1J1

Tel. | Tél. 613.580.2424 ext.60865

anton.chetrar@ottawa.ca

Anton

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

From: Yang, Winston <Winston.Yang@wsp.com>

Sent: February 27, 2026 9:23 AM

To: Chetrar, Anton <anton.chetrar@ottawa.ca>

Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>

Subject: RE: 261 Buena Vista Road - Elmwood School Addition

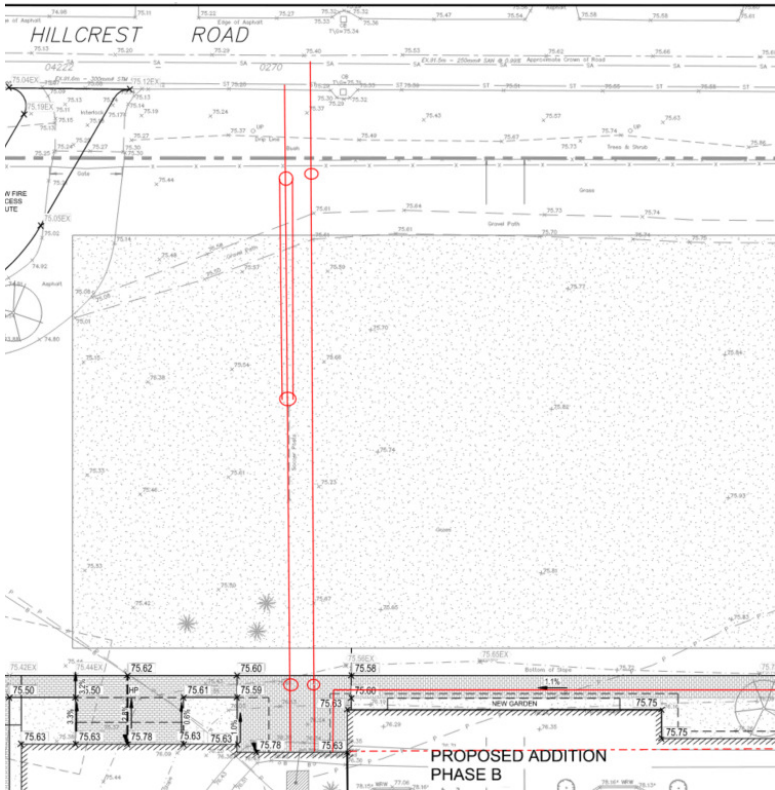
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Hi Anton,

I just wanted to let you know that we have noticed the sanitary and storm inverts along Springfield Road are significantly shallow according to the City record drawing.

Given this situation, we will need to connect both the sanitary and storm lines all the way to Hillcrest Road, while the watermain connection will remain on Springfield Road. I have attached a snapshot for your reference.



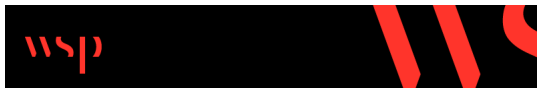
Feel free to reach out if you have any questions or need further details.

Thanks,

Winston Yang

Lead Engineer – Technical Lead,
Land Development & Municipal Engineering Ontario
P.Eng., PMP.

T+ 1 613-829-2800
T+ 1 613-690-0538 (Direct)



From: Yang, Winston
Sent: February 25, 2026 11:54 AM
To: 'Chettr, Anton' <anton.chettr@ottawa.ca>
Cc: 'Mottalib, Abdul' <Abdul.Mottalib@ottawa.ca>
Subject: RE: 261 Buena Vista Road - Elmwood School Addition

Hi Anton,

Please see attached revised FUS for your coordination.

The revised fire flow is 10,000 L/min (167 L/s).

Yours truly,

Winston Yang

Lead Engineer – Technical Lead,
Land Development & Municipal Engineering Ontario
P.Eng., PMP.

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T+ 1 613-690-0538 (Direct)



From: Yang, Winston
Sent: February 24, 2026 2:24 PM
To: 'Chettr, Anton' <anton.chettr@ottawa.ca>

Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>

Subject: RE: 261 Buena Vista Road - Elmwood School Addition

Hi Anton,

I am available tomorrow at 11:30am.

Yours truly,

Winston Yang

Lead Engineer – Technical Lead,
Land Development & Municipal Engineering Ontario
P.Eng., PMP.

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T+ 1 613-690-0538 (Direct)



From: Chetrrar, Anton <anton.chetrrar@ottawa.ca>

Sent: February 24, 2026 1:55 PM

To: Yang, Winston <Winston.Yang@wsp.com>

Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>

Subject: RE: 261 Buena Vista Road - Elmwood School Addition

Hi Winston,

We suggest to meet quickly and discuss the below to clarify your responses.
We are available tomorrow at 9:30 am or 11:30am.

Let us know if you are not available at these times and we will provide other times.

Thanks,
Anton

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

From: Yang, Winston <Winston.Yang@wsp.com>

Sent: February 20, 2026 11:42 AM

To: Chetrrar, Anton <anton.chetrrar@ottawa.ca>

Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>

Subject: RE: 261 Buena Vista Road - Elmwood School Addition

Importance: High

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Hi Anton,

Based on the FUS2020, the building has been classified as non-combustible construction. The primary structural system, including the exterior walls, columns, beams, and floor assemblies, is non-combustible in accordance with OBC 3.2.2.24.

Although a heavy timber roof assembly is permitted under OBC 3.2.2.16 as an exception to non-combustible construction, it does not alter the overall building classification.

Under FUS2020, the construction type is determined by the predominant structural system rather than isolated permitted combustible elements.

Buildings with non-combustible structural frames and limited combustible roof components are appropriately classified as non-combustible (with combustible roof), not ordinary construction.

Ordinary construction under FUS2020 typically applies to buildings where combustible materials form a significant portion of the load-bearing structure, including walls and floors, which is not the case for this project.

Accordingly, classification as non-combustible construction is consistent with both the Ontario Building Code intent and FUS2020 methodology.

Regarding the sprinkler coverage, FUS2020 indicates that partial building coverage credit must be applied if the existing building is fully sprinklered.

However, the existing building is not fully sprinklered, only about half of the existing building area is covered.

Therefore, we have assumed the sprinkler coverage would be 66% (2/3), including the existing building. The reduction credit due to the sprinkler system is calculated as follows: 30% * 66% + 10% * 66% + 10% * 66% = 26%.

Please feel free to let me know if you have any further questions or need additional information.

Yours truly,

Winston Yang

Lead Engineer – Technical Lead,
Land Development & Municipal Engineering Ontario
P.Eng., PMP.

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From: Chetrar, Anton <anton.chetrar@ottawa.ca>
Sent: February 20, 2026 10:54 AM
To: Yang, Winston <Winston.Yang@wsp.com>
Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>
Subject: RE: 261 Buena Vista Road - Elmwood School Addition

Hi Winston,

Please see below comments on the provided fireflow calculations:

1. Based on the FUS 2020 - since the roof is combustible, Ordinary Construction coefficient should be used.
2. Please provide rationale/calculation on the reduction due to sprinkler system.

Let us know if you have any questions.

Thanks,

Anton Chetrar | P. Eng

Project Manager, Infrastructure - Gestionnaire de projet, Projets d'infrastructure

Development Review All Wards (DRAW) | Direction de l'examen des projets d'aménagement -Tous les quartiers (EPATQ)

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

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West | 110 avenue Laurier Ouest

Ottawa, ON K1P 1J1

Tel./Tél. 613.580.2424 ext.60865

anton.chetrar@ottawa.ca

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

From: Yang, Winston <Winston.Yang@wsp.com>
Sent: February 18, 2026 4:59 PM
To: Chetrar, Anton <anton.chetrar@ottawa.ca>
Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>
Subject: RE: 261 Buena Vista Road - Elmwood School Addition
Importance: High

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Hi Anton,

The proposed addition footprint is about **1312.5** m². Base on the area, the pre-development flow at 5 year event is **19.00** L/s.

And please see below for the water boundary condition request for Elmwood Senior School Addition at 261 Buena Vista Road.

Proposed water service connection location plan is attached. New connection will be required to connect to Springfield Road. Existing water service is connected to Buena Vista Road from the Existing Building.

Water Supply Redundancy will be provided after Phase B is completed.



Planning, Development and Building Services Department (PDBS) and Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West | 110 avenue Laurier Ouest
Ottawa, ON K1P 1J1
Tel./Tél. 613.580.2424 ext.60865
anton.chettrar@ottawa.ca

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From: Yang, Winston <Winston.Yang@wsp.com>
Sent: February 13, 2026 10:58 AM
To: Chettrar, Anton <anton.chettrar@ottawa.ca>
Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>
Subject: RE: 261 Buena Vista Road - Elmwood School Addition

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Hi Anton,

Thanks for the follow up. Can we have the meeting next Wednesday between 1pm-2pm?

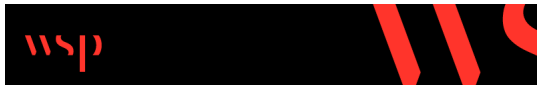
Yours truly,

Winston Yang

Lead Engineer – Technical Lead,
Land Development & Municipal Engineering Ontario
P.Eng., PMP.

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From: Chettrar, Anton <anton.chettrar@ottawa.ca>
Sent: February 13, 2026 10:36 AM
To: Yang, Winston <Winston.Yang@wsp.com>
Cc: Mottalib, Abdul <Abdul.Mottalib@ottawa.ca>
Subject: RE: 261 Buena Vista Road - Elmwood School Addition

Hi Winston,

We are available to meet and discuss next Wednesday at 9am-10am or 1pm-2pm.

Thanks,
Anton

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From: Yang, Winston <Winston.Yang@wsp.com>
Sent: February 11, 2026 11:21 AM
To: Chettrar, Anton <anton.chettrar@ottawa.ca>
Subject: Re: 261 Buena Vista Road - Elmwood School Addition
Importance: High

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Hi Anton,

We are currently working on the Elmwood School Addition at 261 Buena Vista Road and I noticed that your name is listed on the pre-consultation meeting feedback.

I was wondering if you have some time later this week or early next week for a brief discussion about the SWM strategy before we proceed with the detailed design.

Your input would be invaluable to ensure we are heading in the right direction. Please kindly let me know your availability.

Thanks,

Winston Yang

Lead Engineer – Technical Lead
Land Development & Municipal Engineering Ontario

P.Eng., PMP.

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Ottawa, Ontario
K2B 8K2 Canada

wsp.com



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APPENDIX

C

- SANITARY SEWER DESIGN SHEET

DESIGNED:	NO.	REVISION	DATE
M.S.	1.	City Submission No.1	2026-03-13
CHECKED:			
D.B.Y			
PROJECT:			
Elmwood school new addition			
Institutional Development			
LOCATION:			
Chawco, Ontario			
PAGE NO.	FILE & DWG. REFERENCE:		
_1 of 1	CD4		

APPENDIX

D

- STORM SEWER DESIGN SHEET
- DWG C06 – PRE AND POST-DEVELOPMENT DRAINAGE PLAN
- STORMWATER MANAGEMENT CALCULATIONS
- IPEX – TEMPEST LMF ICD – FLOW CURVE
- STORMWATER STORAGE SUMMARY

STORM SEWER DESIGN SHEET
Elmwood school
Addition - Institutional Development
Ottawa, ON
Project: CA0063931.8278
Date: June 19, 2026



LOCATION				AREA (Ha)						RATIONAL DESIGN FLOW														PROPOSED SEWER DATA															
LOCATION	AREA ID	FROM	TO	Cs 0.25	Cs 0.50	Cs 0.75	Cs 0.80	Cs 0.90	Cs 1.00	IND 2.78AC	CUM 2.78 AC	INLET (mm)	TOTAL (min)	I (2) (mm/hr)	I (5) (mm/hr)	I (100) (mm/hr)	BLDG FLOW (L/s)	2Yr PEAK FLOW (L/s)	5yr PEAK FLOW (L/s)	100yr PEAK FLOW (L/s)	ICD FIXED FLOW (L/s)	DESIGN FLOW (L/s)	MODIFIED DESIGN FLOW (L/s)	MATERIAL PIPE	SIZE (mm)	SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	TIME IN PIPE	AVAIL CAP (2yr) (L/s)	(%)							
To Sweetvalley Drive																																							
SCHOOL SITE	S1	New School Addition	STMH1						0.125	0.348	0.348	10.00	10.05	76.81	104.19	178.56			36.21				36.21		PVC DR-35	250.0	1.02	4.90	60.12	1.22	0.07	23.91	39.78%						
		STMH1	STMH2							0.000	0.348	10.05	10.17	76.61	103.93	178.10			36.12				36.12		PVC DR-35	250.0	0.95	8.40	58.02	1.18	0.12	21.90	37.75%						
		STMH2	STMH3							0.000	0.348	10.17	10.79	76.16	103.31	177.03			35.90				35.90		PVC DR-35	1200.0	0.10	40.40	1234.13	1.09	0.62	1198.23	97.09%						
		STMH3	EX_PIPE							0.000	0.348	10.79	10.96	73.91	100.22	171.68			34.82			9.00	9.00		PVC DR-35	250.0	0.61	9.90	46.49	0.95	0.17	37.49	80.64%						
Definition: Q=2.78CIA, where: Q = Peak Flow in Litres per Second (L/s) A = Area in Hectares (Ha) i = Rainfall Intensity in millimeters per hour (mm/hr) i = 732.951/(TC+6.199)^0.810 i = 1174.184/(TC+6.014)^0.816 i = 1735.688/(TC+6.014)^0.820 2 Year 5 Year 100 Year				Notes: 1. Mannings coefficient (n) = 0.013						Time-of-Concentration in the Swale FAA Equation: t (min) = 3.258 [1.1 - C] L^0.5 / S^1/3 Where: Longest Watercourse Length, L (m); S (%) Runoff Coef C =<table><tr><th>No.</th><th>L (m)</th><th>S %</th><th>Tc (min)</th></tr><tr><td></td><td></td><td></td><td>10.00</td></tr></table>Impervious										No.	L (m)	S %	Tc (min)				10.00	Designed: M.S.		No. 1 2		Revision City of Ottawa submission City of Ottawa submission				Date 13-03-2025 19-06-2025			
No.	L (m)	S %	Tc (min)																																				
			10.00																																				
										Checked: D.Y.		Dwg. Reference: 001						File Reference: CA0063931.8278				Date: 2025-03-13				Sheet No: 1 of 1													

Elmwood School
 addition - Institutional Development
 Ottawa, ON
 Project: CA0063931.8278



Stormwater Management Summary

Drainage Area I.D.	Location	Sub Area (ha)	Avg. Composite 'C' 5 yr	Avg. Composite 'C' 100 yr	Outlet Location	5 Year Uncontrolled/ Controlled Release (L/s)	5 year Storage Required (m³)	100 Year Uncontrolled/C ontrolled Release (L/s)	100 year Storage Required (m³)	Total Storage Provided (m³)
5 Year Event										
Total Allowable Release Rate						9.20				
CONTROLLED										
S1	STMH01	0.127	1.00	1.00	Springfield Road	15.61	18.73	23.24	41.83	45.00
Total		0.127				15.61	18.73	23.24	41.83	45.00

Elmwood School
addition - Institutional Development
Ottawa, ON
Project: CA0063931.8278



Table 1a - Allowable Release Rate (Pre-Development)

Runoff Coefficient Equation

$$C = (A_{\text{hard}} \times 0.9 + A_{\text{soft}} \times 0.25) / A_{\text{tot}}$$

5 Year Event

	C	Intensity	Area
5 Year	0.50	104.19	0.127
2.78CIA=	18.39		
	18.39	L/s	
50% due to underground tank	9.20	L/s	

*Use a 10.00 minute time of concentration for 5 year

Equations:

Flow Equation

$$Q = 2.78 \times C \times I \times A$$

Where:

C is the runoff coefficient

I is the intensity of rainfall, Qty of Ottawa IDF

$$\text{Rainfall Intensity} = 998.071 / (T + 6.053)^{-0.814} \quad T = \text{time in minutes}$$

A is the total drainage area

Elmwood School
addition - Institutional Development
Ottawa, ON
Project: CA0063931.8278



TABLE 2 - Storage Required for Elmwood school addition

Maximum Allowable Release Rate to Ex. CTRL MH1:
9.20 l/s

Post Dev run-off Coefficient "C"

5 Year Event			5 Year Event		100 Year Event	
Area	Surface	Ha	"C"	C _{avg}	"C" x 1.25	C _{100 avg}
Total	Asphalt		0.90	1.00	0.99	1.00
0.127	Roof	0.127	1.00		1.00	
	Grass		0.25		0.31	

* Areas are approximate based on Architectural site plan and Storm Drainage Area Plan

QUANTITY STORAGE REQUIREMENTS - 5 Year

0.127 = Area(ha)
1.00 = C
9.2 l/s = max allowable release rate

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Controlled Runoff (L/s)	Net Runoff To Be Stored (L/s)	Storage Req'd m³	Storage Avail m³
5 YEAR	10	104.19	36.79	9.20	27.59	16.55	45.00
	20	70.25	24.80	9.20	15.61	18.73	45.00
	30	53.93	19.04	9.20	9.84	17.72	45.00
	40	44.18	15.60	9.20	6.40	15.37	45.00
	50	37.65	13.29	9.20	4.10	12.29	45.00
	60	32.94	11.63	9.20	2.43	8.76	45.00

QUANTITY STORAGE REQUIREMENTS - 100 Year

0.127 = Area(ha)
1.00 = "C"
9.2 l/s = max allowable release rate

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Controlled Runoff (L/s)	Net Runoff To Be Stored (L/s)	Storage Req'd m³	Storage Avail m³
100 YEAR	10	178.56	63.04	9.20	53.85	32.31	45.00
	20	119.95	42.35	9.20	33.15	39.78	45.00
	30	91.87	32.43	9.20	23.24	41.83	45.00
	40	75.15	26.53	9.20	17.33	41.60	45.00
	50	63.95	22.58	9.20	13.38	40.15	45.00
	60	55.89	19.73	9.20	10.54	37.94	45.00
	70	49.79	17.58	9.20	8.38	35.20	45.00

Equations:

Flow Equation

$$Q = 2.78 \times C \times I \times A$$

Where:

C is the runoff coefficient

I is the intensity of rainfall, Qty of Ottawa IDF

A is the total drainage area

Runoff Coefficient Equation

$$C = (A_{\text{hard}} \times 0.9 + A_{\text{soft}} \times 0.2) / A_{\text{tot}}$$

$$* C = (A_{\text{hard}} \times 1.0 + A_{\text{soft}} \times 0.25) / A_{\text{tot}}$$

* Runoff coefficients increased by 25% up to a maximum value of 0.99 for the 100-Year event

Orifice #1 Sizing

STMH4

Event	Flow (L/s)	Head (m)	Orifice Area (m²)	Square (1-side mm)	CIRC (mm)
5 YEAR	6.06	0.65	0.003	53.17	60.00
100 YEAR	8.76	1.36	0.003	53.17	60.00

ICD Type IPEX - Tempest LMF ICD Preset 9 L/s

Orifice Control Sizing

$$Q = 0.6 \times A \times (2gh)^{1/2}$$

Where

Q is the release rate in m³/s

A is the orifice area in m²

g is the acceleration due to gravity, 9.81m/s²

h is the head of water above the orifice centre in m

d is the diameter of the orifice in m

Orifice invert =	72.73
Top of super pipe =	74.12
Top of water inside the super pipe for 5 year storm =	73.41

Chart 1: LMF 14 Preset Flow Curves

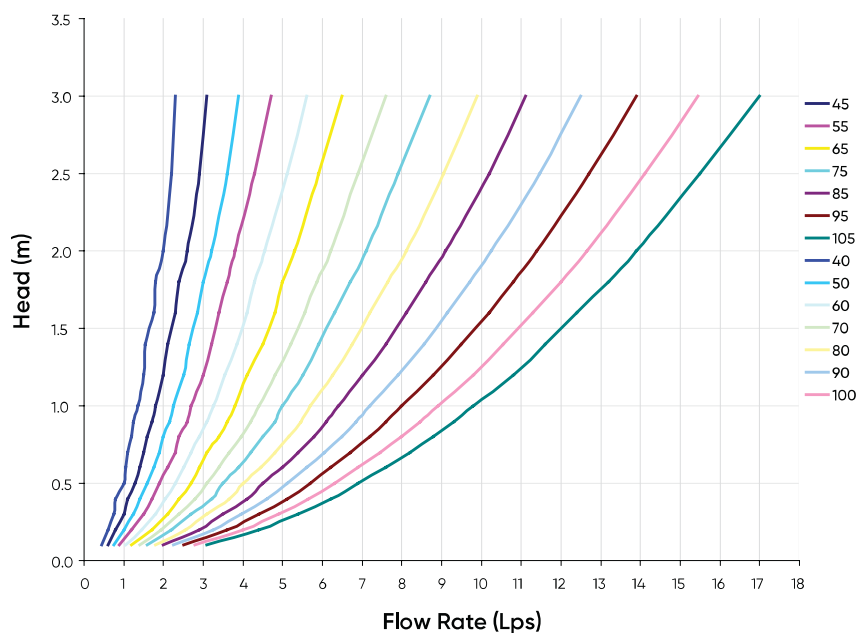
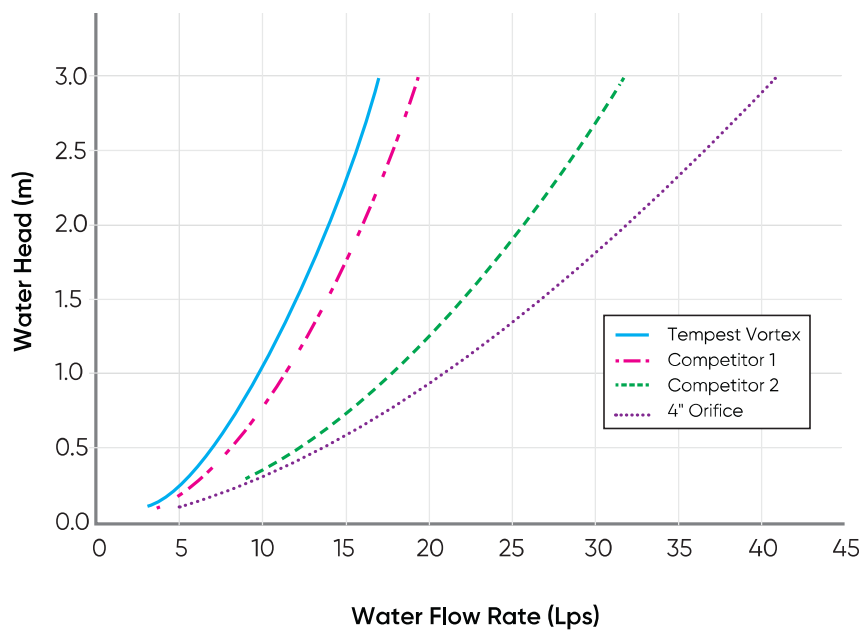


Chart 2: LMF Flow vs. ICD Alternatives



Elmwood school
Addition - Institutional Development
Ottawa, ON
Project: CA0063931.8278
Date: June 19, 2026



Stormwater Storage Summary

Active Storage Depth for Manholes (m) 1.00 Edit yellow cell as required based on final control elevations.

Item	Quantity / Length	Diameter (mm)	Storage Calculation	Storage Volume (m³)	Notes
Storm Manhole	2	2400.00	9.05	9.05	Manhole storage based on active depth in Cell B3
Storm Manhole	1	1200.00	1.13	1.13	Manhole storage based on active depth in Cell B3
PVC Storm Pipe	7.4 m	250.00	0.36	0.36	Pipe assumed flowing full
PVC Storm Pipe	8.4 m	250.00	0.41	0.41	Pipe assumed flowing full
Concrete Storm Pipe	40.4 m	1200.00	45.69	45.69	Pipe assumed flowing full

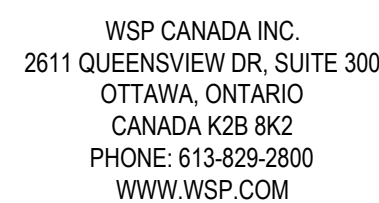
Total Pipe Storage	46.47	Excludes manhole storage
Total Manhole Storage	10.18	Based on active storage depth in Cell B3
Total Available Storage	56.65	Pipe storage plus manhole storage

- Plan Notes
- Stormwater storage volumes are based on nominal pipe and manhole diameters.
 - Pipe storage assumes full-pipe conditions.
 - Manhole storage shall be confirmed based on final inlet/outlet invert elevations and applicable control elevations.

APPENDIX

E

- DWG C03 – GRADING PLAN
- DWG C04 – SERVICING PLAN
- DWG C05 – EROSION AND SEDIMENT CONTROL PLAN



Farrow

60 Pleasant Blvd, Unit 601
Toronto, ON, Canada
M4K1T1
Ontario Association of Architects COP #5318

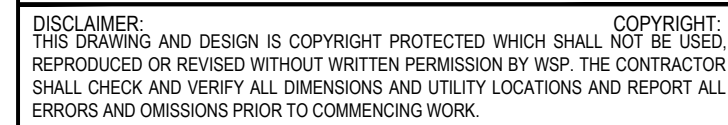


CLIENT REF. #

BEARINGS ARE GRID, DERIVED FROM THE NORTHERLY LIMIT OF BUENA VISTA DRIVE SHOWN TO BE N83°12'30"E ON PLAN BY (590) DATED DECEMBER 23, 1998 (REF. 1144-58) AND ARE REFERRED TO THE CENTRAL MERIDIAN OF MTM ZONE 9(76°30' WEST LONGITUDE) N40-83 (ORIGINAL).

1. ELEVATIONS SHOWN ARE GEODETTIC AND ARE REFERRED TO THE CGVD28 GEODETTIC DATUM.

2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.



ORIGINAL SCALE: 1:250	DATE: 2026-02-18
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DRAWN BY:
JT/HA

DESIGNED AND CHECKED BY:
MS/JT

APPROVED BY:
DY

IF THIS BAR IS NOT
25mm LONG, ADJUST
YOUR PLOTTING SCALE.



25mm

DISCIPLINE:	CIVIL
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PROJECT NUMBER : CA00636931.8278

SENIOR ELMWOOD SCHOOL ADDITION
261 BUENA VISTA RD,
OTTAWA, ON, K1M 0V9

TITLE:

GRADING PLAN

DRAWING NUMBER

C0:

REV

1



Farrow
60 Pleasant Blvd, Unit 801
Toronto, ON, Canada
M4K1T1
Ontario Association of Architects COP #53388



An aerial photograph of a residential neighborhood. A red hatched polygon is drawn on the image, covering a large area of trees and some buildings. A black dot is located within this polygon. A white box with the word "SITE" in black capital letters is positioned to the left of the dot.

1x

SEAL

PROFESSIONAL ENGINEER

D. B. Yang

D. B. YANG
100230568

2026-06-22

PROVINCE OF ONTARIO

ORIGINAL SCALE: 1:250	DATE: 2026-02-18
DRAWN BY: JTHA	
DESIGNED AND CHECKED BY: MS/JT	IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
APPROVED BY: DY	 25mm

PROJECT NUMBER : CA00636931.8278

TITLE:

EROSION AND
SEDIMENT
CONTROL PLAN

DRAWING NUMBER:	REV.
C05	1

APPENDIX

F

- SUBMISSION CHECK LIST

4.1 General Content

- ☒ Executive Summary (for larger reports only).

Comments: Refer to Servicing Report Section 1.1

- ☒ Date and revision number of the report.

Comments: Refer to front page of the Report

- ☒ Location map and plan showing municipal address, boundary, and layout of proposed development.

Comments: Refer to Figure 1.1 Site Location for Location Map and Plan

- ☒ Plan showing the site and location of all existing services.

Comments: Refer to drawing C04

- ☒ Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.

Comments: Refer to Architectural Site Plan

- ☒ Summary of Pre-consultation Meetings with City and other approval agencies.

Comments: Refer to Appendix A for Pre-Consultation Meeting Notes

- ☒ Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defensible design criteria.

Comments: N/A

- ☒ Statement of objectives and servicing criteria.

Comments: Refer to Servicing Report Section 1.7

- ☒ Identification of existing and proposed infrastructure available in the immediate area.

Comments: Refer to drawing C04

- ☒ Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).

Comments: N/A

- ☒ Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.

Comments: Refer to drawing C03

- ☒ Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.

Comments: N/A

- ☒ Proposed phasing of the development, if applicable.

Comments: Phase A and B for this proposal. Phase C is to be developed at a later stage.

- ☒ Reference to geotechnical studies and recommendations concerning servicing.

Comments: N/A

- ☒ All preliminary and formal site plan submissions should have the following information:

- ☒ Metric scale
- ☒ North arrow (including construction North)
- ☒ Key plan
- ☒ Name and contact information of applicant and property owner
- ☒ Property limits including bearings and dimensions
- ☒ Existing and proposed structures and parking areas
- ☒ Easements, road widening and rights-of-way
- ☒ Adjacent street names

Comments: Refer to drawing C02 to C06

4.2 Development Servicing Report: Water

- ☒

Confirm consistency with Master Servicing Study, if available

Comments: Refer to Servicing Report Section 2.1
- ☒

Availability of public infrastructure to service proposed development

Comments: Refer to Servicing Report Section 2.1
- ☒

Identification of system constraints

Comments: N/A
- ☒

Identify boundary conditions

Comments: Refer to Servicing Report Section 2.2
- ☒

Confirmation of adequate domestic supply and pressure

Comments: Refer to Servicing Report Section 2.3
- ☒

Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.

Comments: Refer to Servicing Report Section 2.4
- ☒

Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.

Comments: Refer to Servicing Report Section 2.5
- ☒

Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design

Comments: Refer to Servicing Report Section 2.6
- ☒

Address reliability requirements such as appropriate location of shut-off valves

Comments: Refer to Servicing Report Section 2.7
- ☒

Check on the necessity of a pressure zone boundary modification.

Comments: N/A

- ☒ Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range

Comments: Refer to Servicing Report Section 2.8

- ☒ Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.

Comments: Refer to Servicing Report Section 2.9

- ☒ Description of off-site required feeder mains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.

Comments: Refer to Servicing Report Section 2.10

- ☒ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.

Comments: Refer to Servicing Report Section 2.11

- ☒ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.

Comments: Refer to Servicing Report Section 2.12

4.3 Development Servicing Report: Wastewater

- ☒ Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).

Comments: Refer to Servicing Report Section 3.1

- ☒ Confirm consistency with Master Servicing Study and/or justifications for deviations.

Comments: Refer to Servicing Report Section 3.2

- ☒ Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.

Comments: Refer to Servicing Report Section 3.2

- ☒ Description of existing sanitary sewer available for discharge of wastewater from proposed development.

Comments: Refer to Servicing Report Section 3.3

- ☒ Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)

Comments: Refer to Servicing Report Section 3.4

- ☒ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.

Comments: N/A

- ☒ Special considerations such as contamination, corrosive environment etc.

Comments: N/A

4.4 Development Servicing Report: Stormwater

- ☒ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)

Comments: Refer to Servicing Report Section 4.1

- ☒ Analysis of available capacity in existing public infrastructure.

Comments: Refer to Servicing Report Section 4.2

- ☒ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.

Comments: Refer to drawing C06

- ☒ Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.

Comments: Refer to Servicing Report Section 4.4

- ☒ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.

Comments: Refer to Servicing Report Section 4.5

- ☒ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.

Comments: Refer to Servicing Report Section 4.6-4.10

- ☒ Set-back from private sewage disposal systems.

Comments: N/A

- ☒ Watercourse and hazard lands setbacks.

Comments: N/A

- ☒ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.

Comments: N/A

- ☒ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.

Comments: N/A

- ☒ Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period).

Comments: Refer to Servicing Report Section 4.6-4.10 and Appendix D

- ☒ Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.

Comments: Refer to Servicing Report Section 4.10

- ☒ Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.

Comments: Refer to Servicing Report Section 4.11

- ☒ Any proposed diversion of drainage catchment areas from one outlet to another.

Comments: N/A

- ☒ Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.

Comments: Refer to Servicing Report Section 4.6-4.10, Appendix D and drawing C03

- ☒ If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.

Comments: Refer to Servicing Report Section 4.6-4.10 and Appendix D

- ☒ Identification of potential impacts to receiving watercourses

Comments: N/A

- ☒ Identification of municipal drains and related approval requirements.

Comments: N/A

- ☒ Descriptions of how the conveyance and storage capacity will be achieved for the development.

Comments: Refer to Servicing Report Section 4.10

- ☒ 100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.

Comments: Refer to drawings C03 and C04

- ☒ Inclusion of hydraulic analysis including hydraulic grade line elevations.

Comments: Refer to Servicing Report Section 4.10

- ☒ Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.

Comments: Refer to Servicing Report Section 5.0

- ☒ Identification of floodplains - proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.

Comments: N/A

- ☒ Identification of fill constraints related to floodplain and geotechnical investigation.

Comments: N/A

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

- ☐ Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.

Comments: Not applicable.

- ☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.

Comments: Not applicable.

- ☐ Changes to Municipal Drains.

Comments: Not applicable.

- ☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)

Comments: Not applicable.

4.6 Conclusion Checklist

- ☒ Clearly stated conclusions and recommendations

Comments:

- ☐ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.

Comments: Further comments to be added following site plan application review.

- ☒ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario

Comments: