PATERSON GROUP

memorandum

re: **Excavation Review**
Proposed Building Demolition
95 Melrose Avenue, Ottawa, Ontario

to: Allstate Insurance Company of Canada – **Michael Chamanlall** – mchamanla@assistplus.ca

date: March 18, 2025

file: PG7474-MEMO.01

Further to your request and authorization, Paterson Group (Paterson) complete a site visit on March 11, 2025, and prepared this memorandum to provide a temporary excavation review for the proposed building demolition to be completed at the subject site. In particular, the primary purpose of this geotechnical review is to determine if the proposed excavation can be sloped, or if temporary shoring is required.

In preparation of the current memorandum, Paterson reviewed the following drawings prepared by Blanchard Letendre Engineering, dated February 13, 2025.

- ❑ AllState – Lot Feasibility Study – Existing Site Plan – Drawing No. S100

1.0 Proposed Project

It is understood that the proposed project is to consist of the demolition of the existing building located at 95 Melrose Avenue in Ottawa, Ontario. The existing building is to be demolished including the removal of the existing foundations and below grade spaces. Paterson was requested to complete an excavation review for the demolition work. The following section presents our observations and recommendations.

2.0 Existing Site Conditions

Surface Conditions

Paterson completed a site visit at the subject site on March 11, 2024. During the site visit, the subject site was relatively flat with a mild slope down to Melrose Ave and occupied by a residential dwelling occupying the southwest portion of the site. A grassy area with a small shed occupies the northeast portion of the site. The site is bordered by residential properties to the north, east and south and Melrose Avenue to the west.

The approximate site location is shown on the attached Figure 1 – Key Plan.

Subsurface Conditions

Paterson completed a total of two (2) hand augers at the subject site to confirm the subsurface conditions. The subsurface profile consisted of topsoil underlain by fill material composed of silty sand with gravel trace brick and debris.

Practical hand auger refusal was encountered at depth ranging from 0.3 m to 0.45 m below the existing ground surface.

Based on available geotechnical information in the area, our review of the nearby well records, and available mapping, it is anticipated that the subsurface profile within the site will be comprised of fill material over a glacial till consisting of silty sand with gravel, cobbles and boulders extending to the bedrock surface. Bedrock is anticipated to be within 1 to 3 m below the ground surface.

Existing Structures

Based on our inspection completed on March 11, 2025, the existing building located on the subject site is founded over one underground basement level. The existing basement level is located at an approximate geodetic elevation of 69.59 m. The existing ground surface surrounding the building varies from a geodetic elevation of 69.83 to 70.64 m. It is expected that the Underside of Footing (USF) of the existing building is located approximately 0.4-0.6 m below the basement slab elevation. Therefore, the minimum USF geodetic elevation would be approximately 68.99 m.

Furthermore, the existing buildings on the adjacent site to the north and south were also observed to have one basement level. The existing building to the north, located at a minimum distance of 0.8 m from the building on the subject site, was observed to have a basement slab elevation of 68.79 m. It is expected that the USF is located approximately 0.4-0.6 m below the basement slab elevation therefore the USF elevation is anticipated to be 68.39 m at a maximum.

The existing building to the south, located at a minimum distance of 0.98 m from the building on the subject site, was observed to have a basement slab elevation of 69.35 m. Given the similar construction to the subject site's building, it is expected that the USF is located approximately at the same elevation or slightly lower than the subject building.

3.0 Geotechnical Review and Recommendations

From our review of the existing site conditions, it is understood that the maximum existing ground surface is at an approximate geodetic elevation of 70.64 m. The underside of footing (USF) elevation for the existing building to be demolished is located at a minimum geodetic elevation of 68.99 m. Based on these elevations, it is anticipated that the proposed maximum depth of excavation will, therefore, be approximately 1.7 m below the existing ground surface.

Based on our review, the USF of the adjacent structure is located at or below the USF of the subject building to be demolished, therefore the removal of the existing building's foundation will not impact the adjacent building's foundations and lateral zone of influence.

In general, the excavation side slopes above the groundwater level extending to a maximum depth of 3.0 m should be cut back at 1 Vertical :1 Horizontal (1V:1H) or shallower. A maximum vertical cut of 1.2 m can be completed at the base of the excavation with the proposed 1V:1H slope above. The subsurface soils present at the subject site are considered to be mainly Type 2 and 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects.

There are sufficient setbacks from the property lines along the north, east and west sides, such that the temporary excavation work can be completed at a 1V:1H slope within the property limits. Insulated tarps should be securely placed over the side slopes during the freezing temperatures, as opposed to poly sheeting, in order to provide cold weather protection.

However, along the south side, sufficient space is not available for a sloped excavation within the property limits. It is recommended that an informed consent agreement form be obtained with the adjacent neighbor to allow for excavation to their foundation wall. A slope excavation could be completed from the foundation wall of the adjacent building to the base of the excavation at a 1V:1H slope above a maximum vertical cut of 1.2 m.

Reference should be made to the attached Figure 1 and Figure 2 for the excavation detail on the sides of the existing building.

Excavated soil stockpiles and heavy equipment should be placed a minimum of 2.0 m away from any slopes and/or lock block walls. Paterson should be notified when the proposed excavation is commencing, to observe the subsoil and excavation side conditions at the site, and to confirm that the excavation dimensions are consistent with our recommendations.

4.0 City Comment Responses

The following addresses specific comments in the City of Ottawa's Advisory: Excavation and Shoring – Part 9:

- *Confirmation of which system is proposed: sloped excavation or shoring.*

  The overburden soils will be sloped back from the excavation, as shown on the attached Excavation Plan & Details drawing. Concrete block walls are proposed as in the sections where foundation wall excavations are planned in proximity to the property boundaries, as indicated on the drawing.

- *Where proposing a sloped excavation, plan of excavation including gradient.*

  See attached cross-section A-A and B-B in the Excavation Plan & Details drawing attached for the sloping details.

• *Where proposing a shoring system, shoring construction details and installation procedures.*

No shoring system is currently proposed.

• *Outline of precipitation management for rainfall and snowfall events.*

The overburden soils are to be covered with insulated tarps in order to provide erosion protection from rainfall and snowfall events.

• *Where applicable, detail for cold weather protection.*

Precautions must be taken if winter construction is considered for this project. The subsoil conditions at this site consist of frost susceptible materials. In the presence of water and freezing conditions, ice could form within the soil mass. Heaving and settlement upon thawing could occur. In the event of construction during below-zero temperatures, the founding stratum should be protected from freezing temperatures by the use of straw, propane heaters and tarpaulins or other suitable means. In this regard, the base of the excavations should be insulated from sub-zero temperatures immediately upon exposure and until such time as heat is adequately supplied to the building and the footings are protected with sufficient soil cover to prevent freezing at the founding level. Trench excavation construction is also a difficult activity to complete during freezing conditions without introducing frost into the subgrade or in the excavation walls and bottoms. Precautions should be taken if such activities are to be carried out during freezing conditions.

• *Confirmation that excavation or shoring methods will be undertaken in a manner to prevent damage to adjacent property.*

Provided the proposed excavation is undertaken in accordance with the recommendations provided in this memo, and on the attached Excavation Plan & Details drawing, damage is not anticipated to occur to adjacent properties as a result of the excavation.

• *Where encroachment onto private property is proposed, an informed consent agreement between private property owners is required.*

It is recommended that that an informed consent agreement between private property owners be obtained. If the agreement cannot be obtained, a shoring system will be required for the south side of the excavation.

• *Unless an informed consent agreement is in place, confirmation that adjacent private property including landscaping, vegetation and fencing will be reinstated if damaged, to the satisfaction of the city.*

Provided the proposed excavation is undertaken in accordance with the recommendations provided in this memo and on the attached Excavation Plan & Details drawing, damage is not anticipated to occur to adjacent properties as a result of the excavation on the east and west sides. Therefore, reinstatement of landscaping, vegetation, fencing, etc. will not be required. An informed consent agreement is recommended for the south side. Reinstatement of the original ground surface conditions (landscaping, vegetation, etc.) will be required on the south side.

• *Soil and equipment storage plan in relation to edge of excavation and adjacent structures.*

Equipment and excavated soil should not be located within 2.0 m of the top of excavation.

• *Acknowledgement that impacts on infrastructure, utilities and public and private right of ways have been addressed.*

Provided the proposed excavation is undertaken in accordance with the recommendations provided in this memo and on the attached Excavation Plan & Details drawing, there will be no impacts to infrastructure, utilities, public and private right-of-way as a result of the excavation.

• *Comment on adjacent angle of repose and slope stability, where adjacent structure is near the property line.*

As noted above, the USF for the neighboring properties is anticipated to be at approximately elevation similar or below the USF of the existing building to be demolished at this site. Therefore, the lateral support zones of adjacent building foundations will not be undermined.

5.0 Final Remarks

Paterson should be notified in order to make an inspection once the excavation has been completed, to confirm that our recommendations have been followed, and that the subsurface conditions are consistent with those encountered in the subsurface investigation.

We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Nicolas R. P. Seguin, P.Eng., ing.

Joey R. Villeneuve, M.A.Sc, P.Eng., ing.

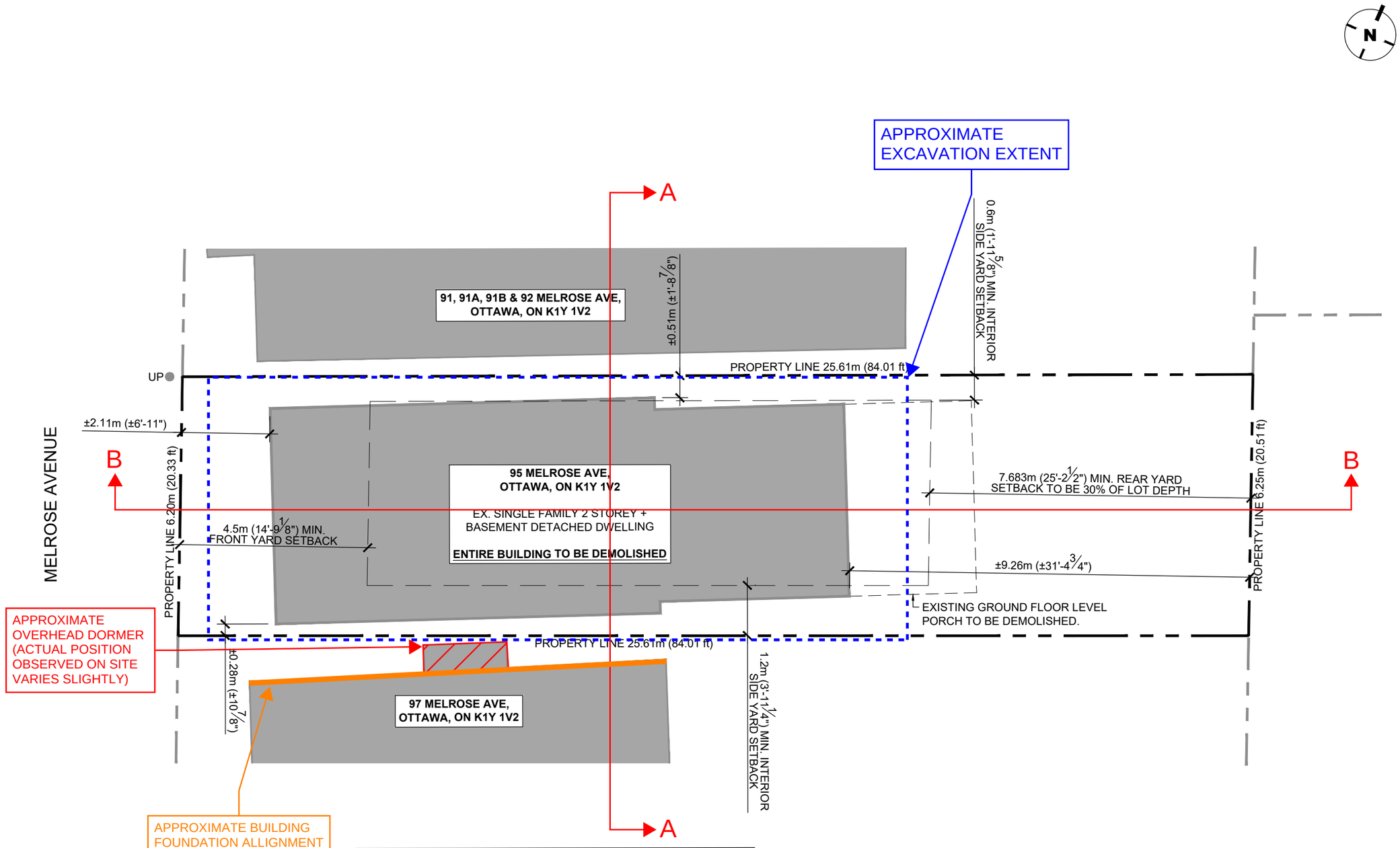
Attachments:

- Figure 1 – Key Plan
- Excavation Plan & Details drawing

FIGURE 1

KEY PLAN

PATERSON GROUP



EXISTING BUILDING FOOTPRINT:	±68.208 m² (±734.1831 ft²)

1 / S100 EXISTING SITE PLAN
SCALE: 1/8" = 1'-0"

SYMBOL LEGEND

- PROPERTY LINE
- PROPERTY LINE (OUT OF SCOPE)
- EXISTING BUILDING FOOTPRINT
- MIN. SETBACKS AS PER R4-UB ZONING
- UP — EXISTING UTILITY POST

ENGINEERING STAMP

NOT FOR CONSTRUCTION.
NOT FOR PERMIT.
FOR DISCUSSION ONLY.

NO.	REVISION	DATE (DD/MM/YYY)
#5		
#4		
#3		
#2		
#1	FOR DEMOLITION PERMIT	13/02/2025

BLANCHARD LETENDRE ENGINEERING
810 Notre-Dame St, Embrun, ON K0A 1W1
(613) 693-0700 blengineering.ca

CLIENT:
ALLSTATE
ATTN: MICHAEL CHAMANLALL
MCHAMANLA@ASSISTPLUS.CA

PROJECT:
LOT FEASIBILITY STUDY
95 MELROSE AVE,
OTTAWA, ON K1Y 1V2

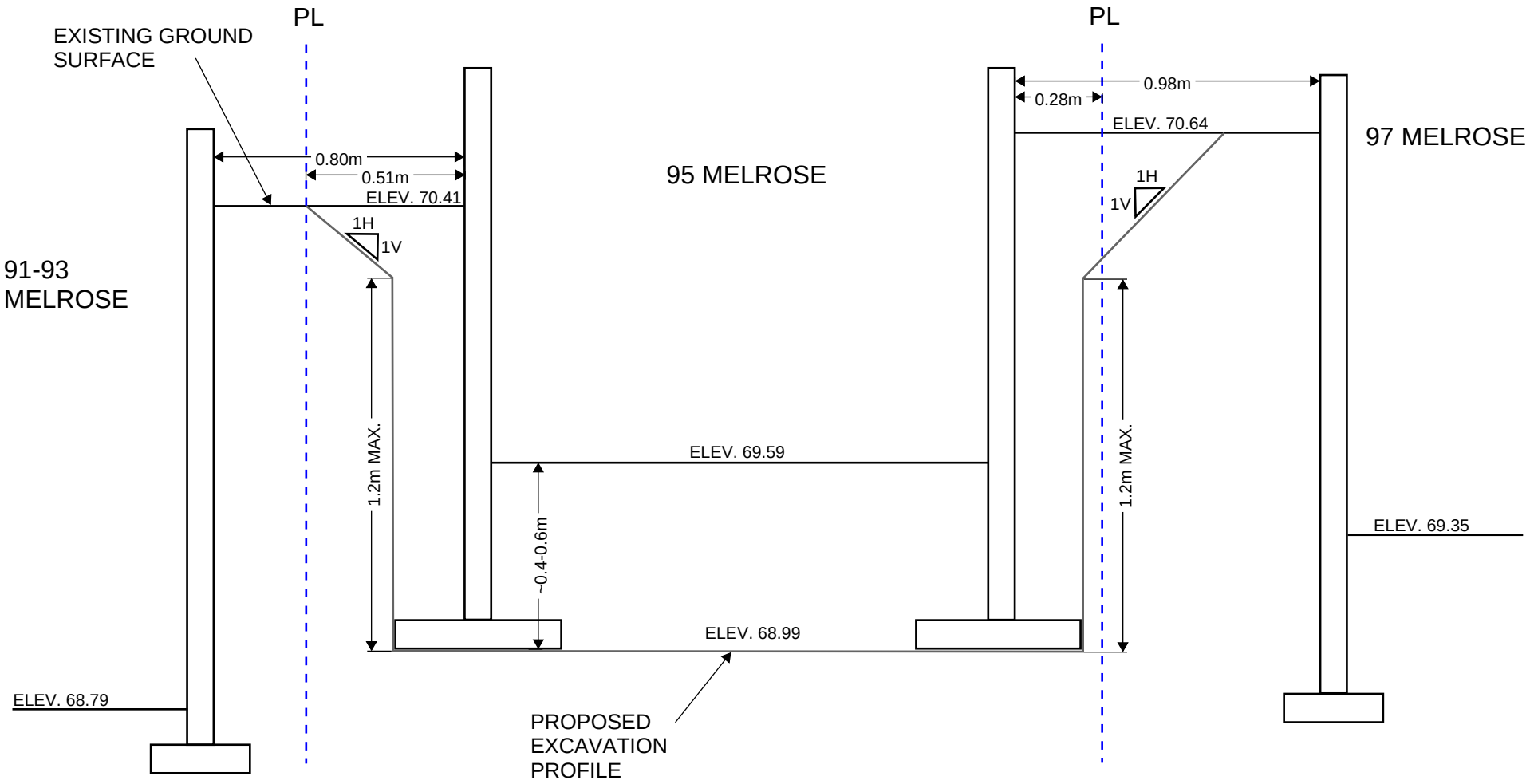
DRAWING:
EXISTING SITE PLAN

PAPER FORMAT:	11x17
DRAWN BY:	DLP
CHECKED BY:	DPL
DATE:	02-2025
SCALE:	AS INDICATED
PROJECT #:	24-296

DRAWING #: S100

February 13, 2025

EXCAVATION PROFILE - SECTION A



NOTES:

1. **THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH PATERSON GROUP MEMORANDUM PG7474-MEMO.01 DATED MARCH 18, 2025.**
2. **THE EXCAVATION SIDE SLOPES ABOVE THE GROUNDWATER LEVEL EXTENDING TO A MAXIMUM DEPTH OF 3.0m SHOULD BE CUT BACK AT 1 VERTICAL :1 HORIZONTAL (1V:1H) OR SHALLOWER. A MAXIMUM VERTICAL CUT OF 1.2m CAN BE COMPLETED AT THE BASE OF THE EXCAVATION WITH THE PROPOSED 1V:1H SLOPE ABOVE.**
3. **THE SUBSURFACE SOILS PRESENT AT THE SUBJECT SITE ARE CONSIDERED TO BE MAINLY TYPE 2 AND 3 SOIL ACCORDING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.**
4. **INSULATED TARPS SHOULD BE SECURELY PLACED OVER THE SIDE SLOPES DURING THE FREEZING TEMPERATURES, AS OPPOSED TO POLY SHEETING, IN ORDER TO PROVIDE COLD WEATHER PROTECTION.**
5. **AN INFORMED CONSENT AGREEMENT FORM SHALL BE OBTAINED WITH THE ADJACENT NEIGHBOR TO THE SOUTH (97 MELROSE AVE) TO ALLOW FOR EXCAVATION TO THEIR FOUNDATION WALL.**

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7S9
TEL: (613) 226-7381

ALLSTATE INSURANCE COMPANY OF CANADA

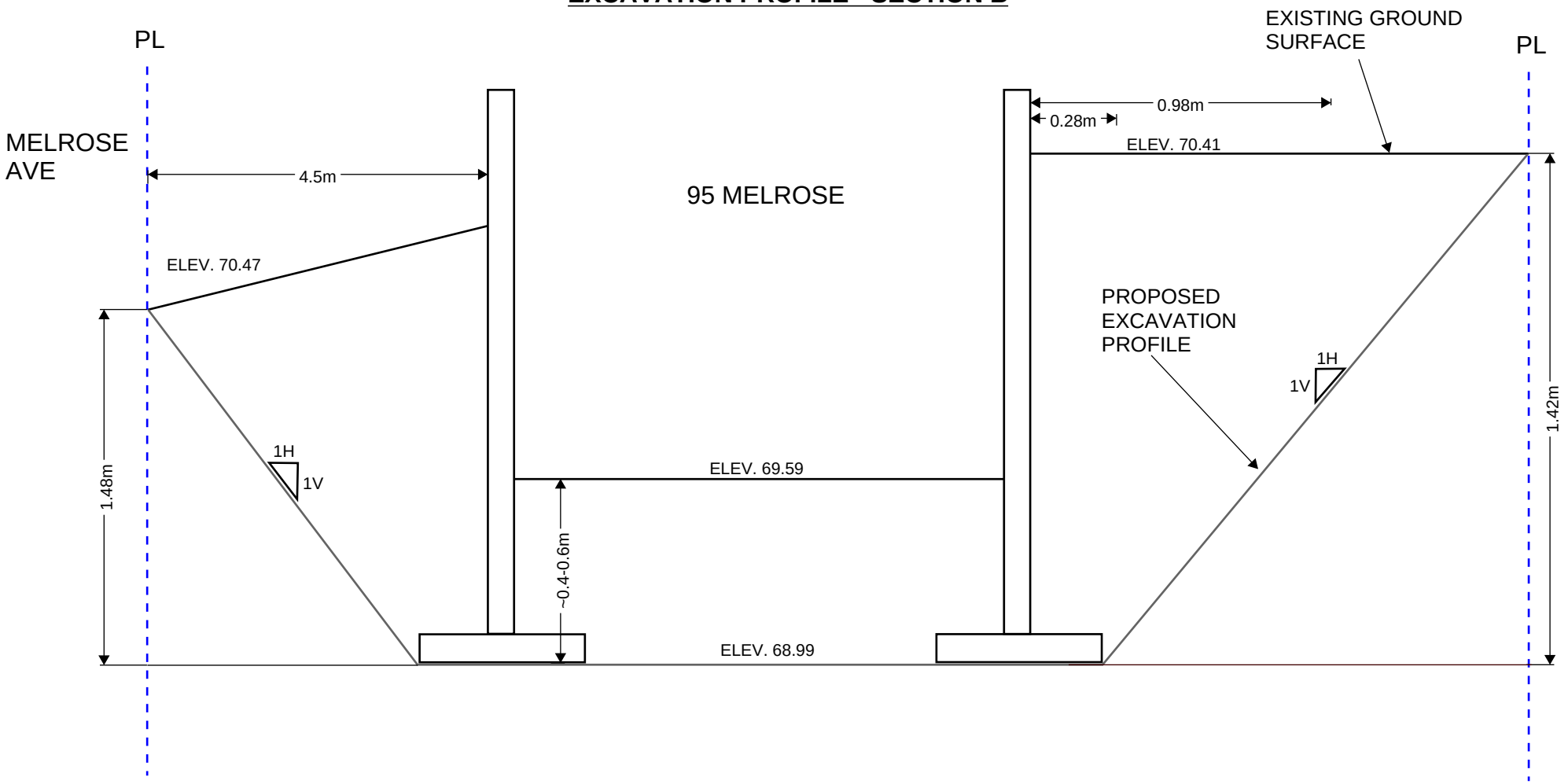
95 MELROSE AVE, OTTAWA, ONTARIO

EXCAVATION PROFILE - SECTION A

Drawing No.:	Scale:
FIGURE 2	N.T.S

Date:	Drawn:	Approved:
2025-03-18	NS	JV

EXCAVATION PROFILE - SECTION B



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EXCAVATION PROFILE - SECTION B

Drawing No.:	Scale:
FIGURE 3	N.T.S

Date:	Drawn:	Approved:
2025-03-18	NS	JV