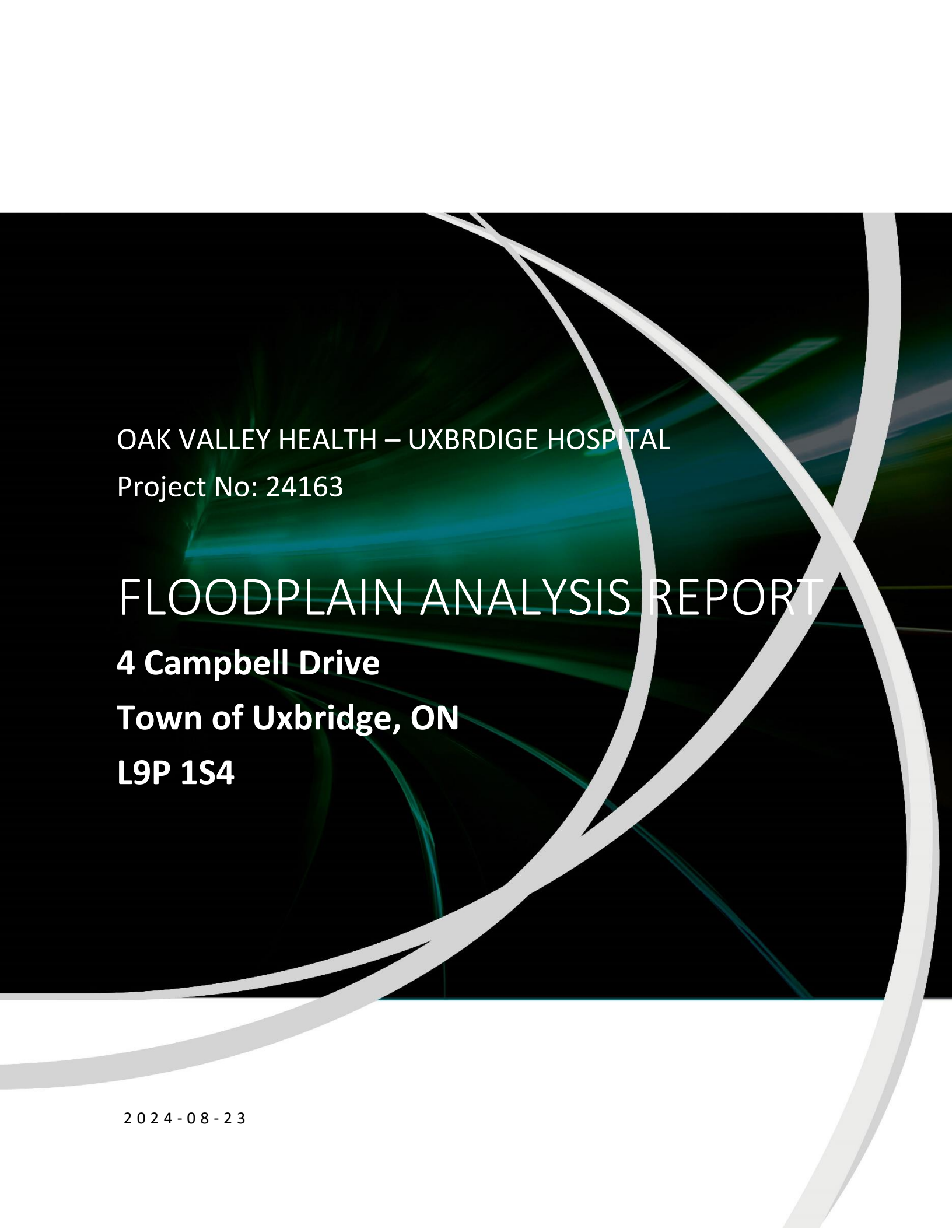




OAK VALLEY HEALTH – UXBRIDGE HOSPITAL

Project No: 24163

FLOODPLAIN ANALYSIS REPORT

4 Campbell Drive

Town of Uxbridge, ON

L9P 1S4

2024-08-23

REVISION HISTORY

Rev.	Date	Description	Prepared by	Approved by	Reviewed by
1	2024-08-23	Floodplain Analysis Report	Haris Bhatti	Gowtham Sivakumar	Farzad Fahimi
					

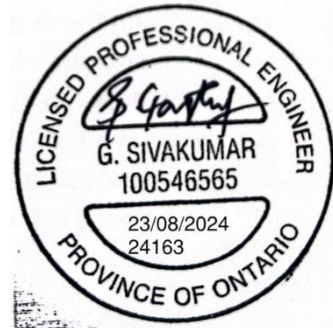
SIGNATURES

Prepared by



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Approved by



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Project Manager – Land Development

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APPENDICES

APPENDIX A	SITE PLAN DRAWING
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APPENDIX C	DRAWINGS

1 INTRODUCTION

1.1 SCOPE

LEA Consulting Ltd. has been retained by Oak Valley Health and Diamond Schmitt Architects (the “Owner”), to prepare a Site Servicing and Stormwater Management Design Brief in support of the "Stage 2.1 - Block Schematics" submission to the Ministry of Health (MOH) for the redevelopment of the Oak Valley Health - Uxbridge Hospital site located at 4 Campbell Drive, in the Township of Uxbridge (The “Township”).

The proposed redevelopment of the project involves the demolition of the existing hospital building is to be and the construction of a new hospital building adjacent to the existing Uxmed Health Centre.

This report shall:

This report shall:

- ▶ Review the existing floodplain in the vicinity of the subject site;
- ▶ Identify opportunities and constraints in the existing hydraulic and hydrologic models; and
- ▶ Provide updates to the model based on identified opportunities.

1.2 SITE LOCATION

The Project Site is located at 4 Campbell Drive in Uxbridge, Ontario, within the Regional Municipality of Durham. It is bounded by Victoria Drive to the east, treed area to the west, Campbell Drive to the south, and Uxbridge Brook to the north across institutional/residential developments. The Project Sites contribute to the Uxbridge Brook River watershed and falls under the jurisdiction of Lake Simcoe Conservation Authority (LSRCA). As per the LSRCA regulation map, the western portion of the site lies within the LSRCA’s regulated area. Currently, the site is accessible via Victoria Drive and Campbell Drive. The site is approximately 5.5 ha in area.

Figure 1 shows the site location.



LEGEND:

 SITE LOCATION

Owner/Client:
**diamond
schmitt**

Title:
4 CAMPBELL DRIVE
SITE LOCATION PLAN



Drawn By:	P.R.	Checked By:	H.B.
Scale:	N.T.S.	Date:	MAY 2024
Project No.:	24163	Figure No.:	1

1.3 PRE-DEVELOPMENT CONDITIONS

The project site is currently occupied by three buildings: two-storey Uxbridge Cottage Hospital, two-storey Uxbridge Health Centre, and Emergency Services Building. The site also consists of surface level parking, a paved helipad, an infiltration basin, and treed area in the north-west portion of the site. Based on information received from Diamond Schmitt Architects (“the Architect”), the total GFA of the existing Uxbridge Cottage Hospital and Uxmed Health Centre is estimated to be 3530 m² and 2446 m² respectively. Whereas the total number of beds in the Uxbridge Cottage Hospital and Uxmed Health Centre are 20 and 0 respectively. The existing land use of the site is considered institutional.

1.4 POST-DEVELOPMENT CONDITIONS

The proposed re-development consists of demolishing the existing Uxbridge Cottage Hospital and constructing a new hospital building adjacent to the Uxmed Health Centre. Per the information received from the Architect, the proposed hospital building will be a 3-storey building having a total GFA of 11,715 m². The proposed hospital building will include 32 hospital beds. The re-development also includes the demolition of the existing emergency services building, relocation of the helipad to the roof of the proposed hospital building, construction of a new access road on the side of the site, and the addition of new parking lots. The proposed land use of the site will remain institutional. Refer to **Figure 2** for Post development Conditions.

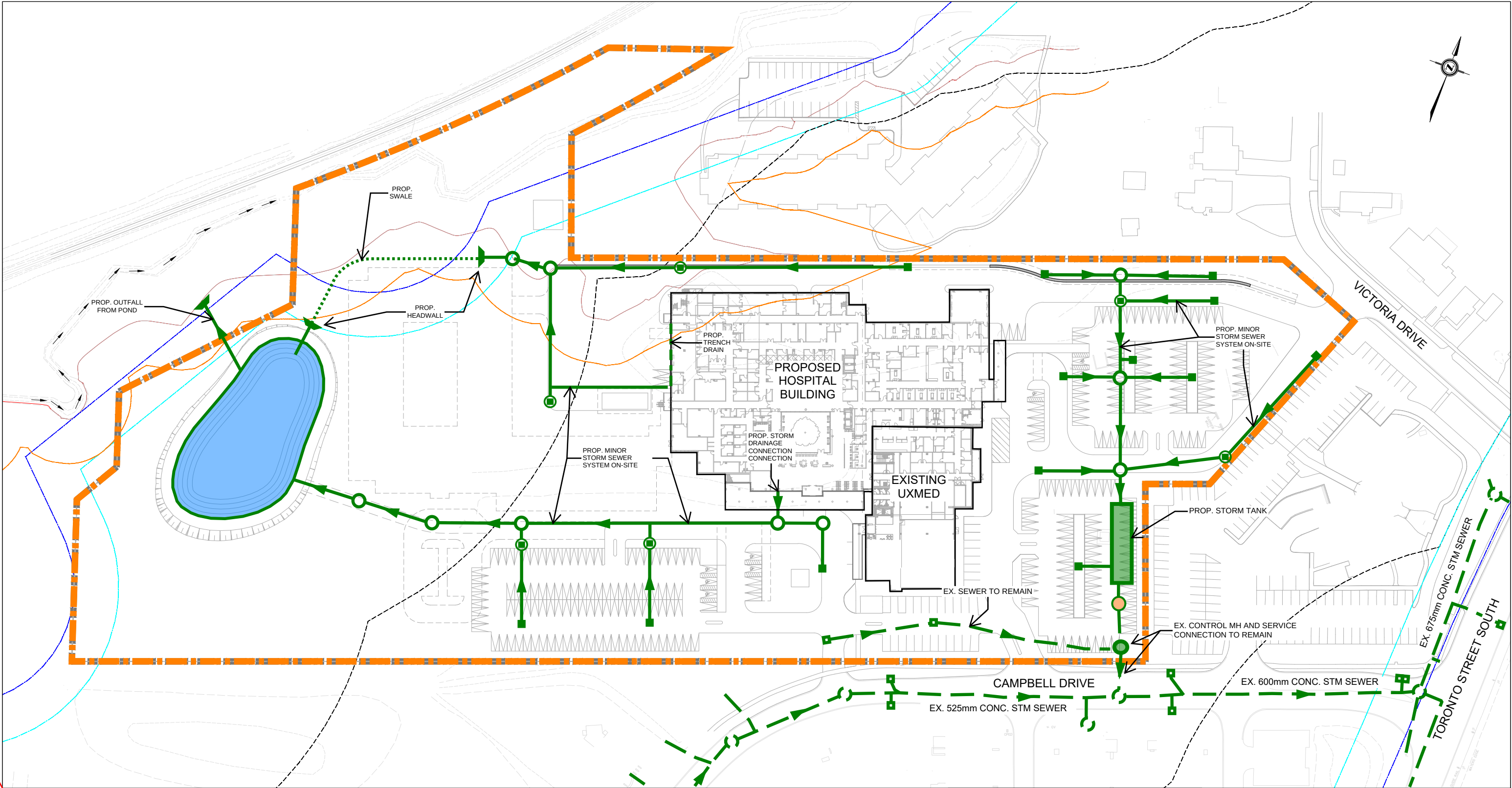
This report will assess the modifications to the floodplain resulting from the proposed development and analyze the cut-and-fill as per LSRCA requirements. Refer to **Appendix C** for details on the existing and proposed floodplain lines.

1.5 TOPOGRAPHIC DATA

The topographic data used in the study was based on 2014 LiDAR from Ontario Geo Hub (vertical accuracy of 10cm on hard flat surfaces and the horizontal accuracy of 30cm). This dataset was collected under the “Leaf-off” conditions i.e., conditions without trees and canopy coverage. Additionally, the comprehensive survey data for the proposed site area was converted to Digital Elevation Model (DEM) and merged along with 2014 LiDAR dataset.

1.6 FLOODPLAIN AND SAFE ACCESS

This report focuses on the updates to the floodplain models and the resulting impact on the flood elevation at the subject site. It is acknowledged that since this site contemplates increased density of impervious area consisting of loading docks, asphalt driveways, parking lots, and a new hospital building, it is required that the site be provided safe emergency access in case of emergency during a flood event. The subject site will have safe emergency access from Campbell and Victoria based on the existing and proposed access roads. Also, there is a proposed access road to the north of the hospital building which will be safe from ponding under the updated conditions. This is discussed further under the model updates under section 3 of this report.



LEGEND:

- | | | | | | |
|--|---------------------------|--|----------------------------|--|----------------------------|
| | PROPERTY LINE | | PROP. HEADWALL | | PROP. TRENCH DRAIN |
| | EX. STORM SEWER | | PROP. CATCHBASIN | | REGIONAL FLOOD LINE |
| | PROP. STORM SEWER | | EX. CATCHBASIN | | REGIONAL FLOOD LINE OFFSET |
| | PROP. STORM MANHOLE | | EX. CONTROL MANHOLE | | MEANDERBELT LIMIT |
| | PROP. CATCH BASIN MANHOLE | | PROP. WATER TREATMENT UNIT | | MEANDERBELT LIMIT OFFSET |
| | EX. MANHOLE | | PROP. SWALE | | LSRCA REGULATION LIMIT |
| | | | PROP. STORM TANK | | PROP. STORM POND |

Owner/Client:

**diamond
schmitt**

Title:

**4 CAMPBELL DRIVE
PROPOSED DEVELOPMENT
PLAN**



Drawn By:	P.R.	Checked By:	H.B.
Scale:	N.T.S.	Date:	MAY 2024
Project No.:	24163	Figure No.:	

2 EXISTING MODELS

2.1 HYDRAULIC MODEL

The hydraulic modelling for this portion (River-1 Reach-1) of the Uxbridge Brook was conducted using the HEC-2 hydraulic modelling software package. Also, the LSRCA noted that there is a pending update to the existing HEC-2 model, and there is no timeline on when this model would be completed. So, the existing model without pending updates from LSRCA was received for modelling and updating the flood plain. It was not sure when the original HEC-2 model was completed; however, the HEC-2 model was updated in 2008 based on the hydrologic model study on Pefferlaw River, Uxbridge Brook, Beaver River, White's Creek, and Beaverton Creeks for LSRCA.

The Uxbridge Brook reaches are mentioned in respect to the proposed site.

- River-1 Reach-1: located North of the Uxbridge site. The site is located between cross sections 22.4 and 22 as shown below in **Figure 3**.

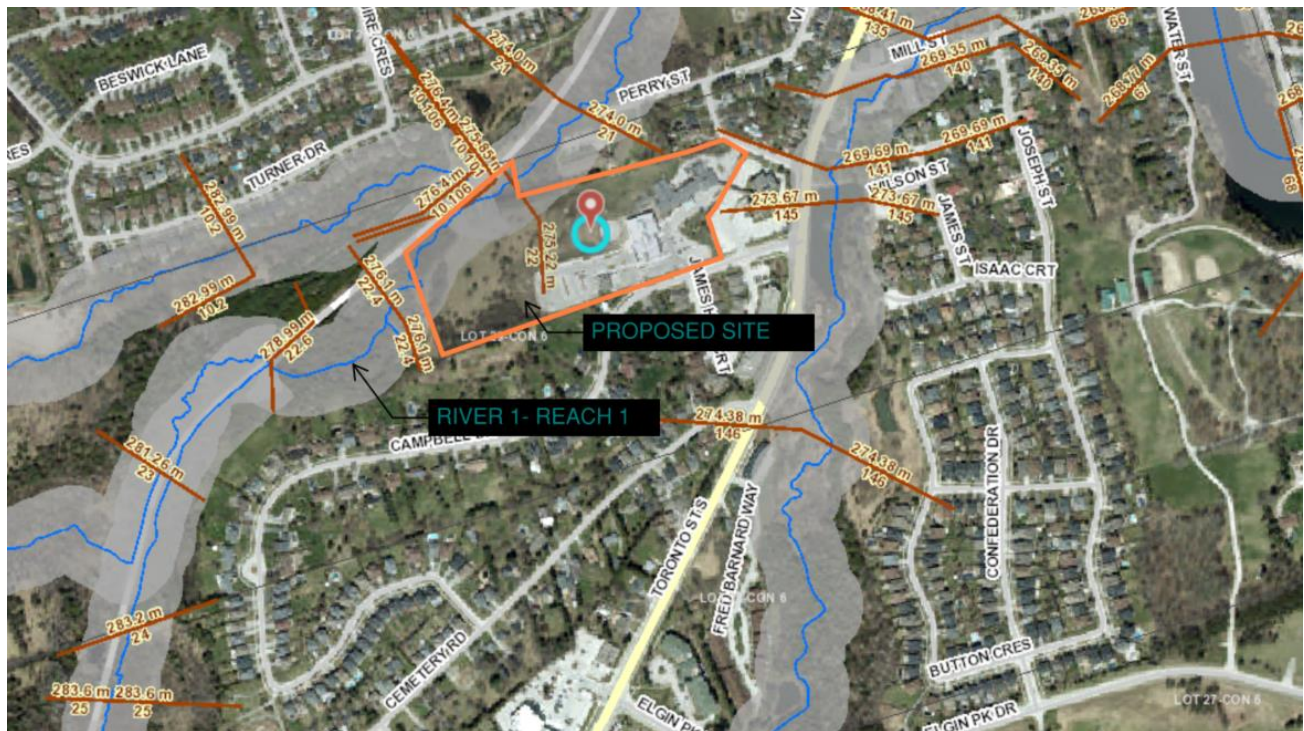


Figure 3 – HEC-2 Cross sections in relation to the subject development

2.2 HYDROLOGIC MODEL

The hydrologic model was reviewed to confirm that it was still applicable to be used for the subject development. This review was focused on the land use in the catchments upstream of the subject site, the developments that have occurred to date since the development of the floodplain, and the modelling parameters used for channel routing. The existing hydrology file obtained from LSRCA was analyzed using Visual OTTHYMO software V2.0 package in 2008 for the study on Pefferlaw River, Uxbridge Brook, Beaver River, White's Creek, and Beaverton Creeks for LSRCA completed by the MMM group. Based on the review of the existing hydrology, no modifications to the flow were required. The existing hydrology flow from the 2008 model will govern the current updates.

2.3 EXISTING CONDITIONS

The existing HEC-2 model was obtained from LSRCA and was converted to HEC-RAS for updating the existing conditions and proposed flood plain updates. The HEC-2 model was in correct scale but was not located in the geodetic datum. So, the LSRCA GIS mapping tool was utilized to convert the HEC-2 files to HEC-RAS to follow the GIS coordinates NAD83 UTM ZONE 17N. The proposed development in relation to the existing Regional storm event flood elevation is shown in **Figure 4**. The interior flood plain line is the regional storm elevation, and the exterior line is the 15 m flood line setback, shown for river 1 reach 1. The existing HEC-2 model was used as baseline condition for updating the flood plain elevation for the Regional and 100-year storm events under existing and proposed conditions.

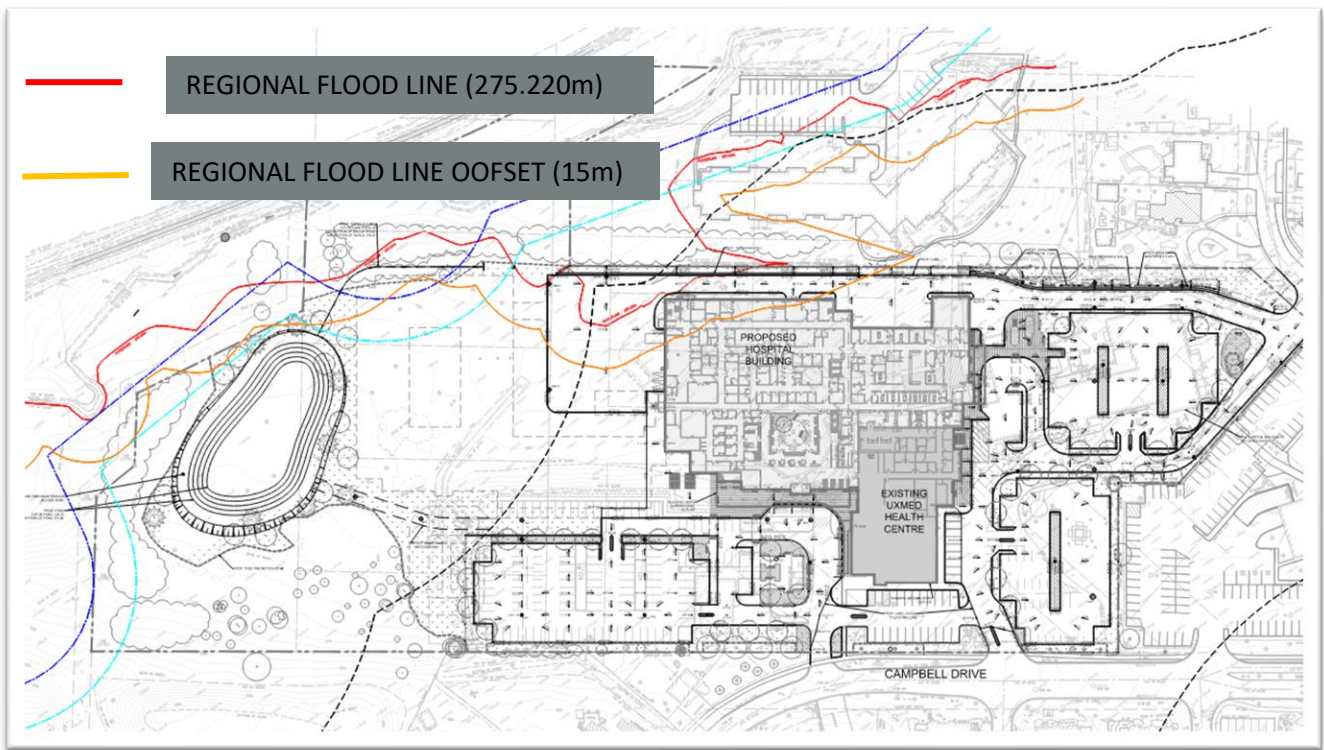


Figure 4 – Proposed Site and Existing Regional Flood Plain elevations for Uxbridge Brook

3 MODEL UPDATES

The baseline conditions model described in section 2.3 are taken as the base conditions against which the updates to the model shall be compared. These scenarios are described as follows:

► River 1 Reach1:

1. Scenario 1 – Existing LSRCA HEC-2 Baseline model;
2. Scenario 2 – Conversion of LSRCA HEC-2 model to HEC-RAS;
3. Scenario 3 – The Cross Section was modified within the subject development based on the latest topographic data and new cross section was cut within the proposed site to delineate the flood plain more accurately; Updated Existing conditions model;
4. Scenario 4 – The cross section was modified based on the proposed grading for the subject development to identify the fill location and the possible impacts on the flood plain; Proposed Conditions model;

For each scenario under river-1 reach1, the floodplain elevation, channel velocity, left overbank and right overbank velocity will be reported for cross-sections 22.6, 22.4, 22.2 (new cross section), 22 and 21. The results at these cross-sections demonstrate the changes to the conditions at the subject site. The location of these specific cross-sections can be seen in **Figure 5**.

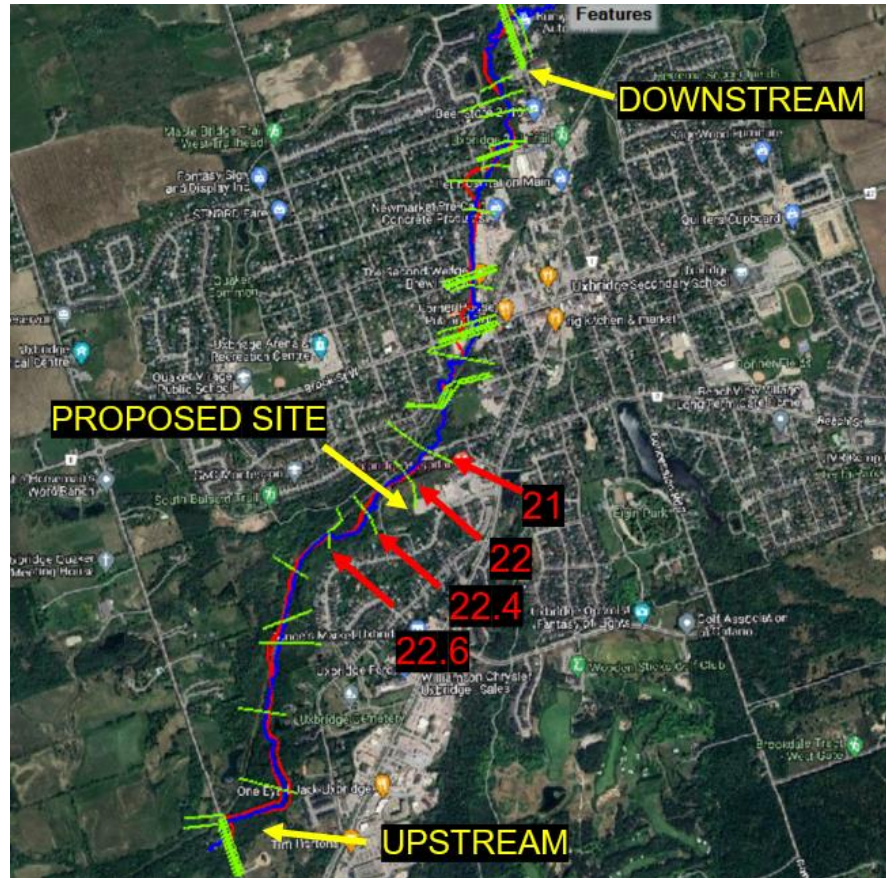


Figure 5 – Result Cross-Sections

3.1 SCENARIO 1 – LSCRA HEC-2 MODEL

As described above, the baseline conditions the existing TRCA model results are summarized at the key locations as follows:

Table 1 - Scenario 1 HEC-2 Results for the Regional Storm event (River 1 Reach 1)

Cross-section	Regional Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	278.99	2.30	0.89	0.85
22.4	276.10	1.39	0.72	0.72
22	275.22	2.44	1.15	1.28
21	274.00	3.35	1.90	1.02

Table 2 - Scenario 1 HEC-2 Results for the 100 Year Storm event (River 1 Reach 1)

Cross-section	100 Year Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	278.55	2.25	1.04	0.00
22.4	275.70	1.10	0.44	0.46
22	274.78	1.76	0.79	0.84
21	273.46	2.71	1.80	0.84

Table 1 and **Table 2** show the flood elevations, channel, right over bank, and left over bank velocities for the regional and 100-year storm events under the existing HEC-2 LSRCA baseline model. The same model was converted to HEC-RAS, and the results are discussed under subsection 3.2.

3.2 SCENARIO 2 – HEC-RAS MODEL

As mentioned in section 2.3 and 3.1, the scenario-1 LSRCA HEC-2 baseline model was converted to the HEC-RAS file. The cross sections, flows, ineffective areas, bridge deck values, and boundary conditions were used from HEC-2 for conversion. During the conversion of HEC-2 files, other river reaches were omitted, and only the river 1 reach 1 was inputted with the appropriate boundary conditions.

The model was re-run with this updated condition. The results from the model are summarized as follows:

Table 3 - Scenario 2 HEC-RAS Results for the Regional Storm event (River 1 Reach 1)

Cross-section	Regional Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	279.00	2.42	0.76	0.86
22.4	276.10	1.47	0.74	0.71
22	275.34	2.19	0.85	1.09
21	273.95	4.24	1.89	1.20

Table 4 - Scenario 2 HEC-RAS Results for the 100 Year Storm event (River 1 Reach 1)

Cross-section	100 Year Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	278.56	2.21	0.99	0.00
22.4	275.71	1.11	0.44	0.43
22	274.82	1.76	0.68	0.76
21	273.47	2.87	1.70	0.79

Table 3 and **Table 4** show the flood elevations, channel, right over bank, and left over bank velocities for the regional and 100-year storm events under the existing HEC-RAS model.

Table 5 - Summary of Floodplain Changes for River 1 Reach 1 – Regional Storm Event

Scenario Number	WSEL at 22.6 (masl)	CH.Vel 22.6 (m/s)	RB .Vel 22.6 (m/s)	LB .Vel 22.6 (m/s)	WSEL at 22.4 (masl)	CH.Vel 22.4 (m/s)	RB .Vel 22.4 (m/s)	LB .Vel 22.4 (m/s)
Scenario 1	278.99	2.30	0.89	0.85	276.10	1.39	0.72	0.72
Scenario 2	279.00	2.42	0.76	0.86	276.10	1.47	0.74	0.71
Difference from Scenario 1	0.01	0.12	-0.13	0.01	0.00	0.08	0.02	-0.01
Scenario Number	WSEL at 22 (masl)	CH.Vel 22 (m/s)	RB .Vel 22 (m/s)	LB .Vel 22 (m/s)	WSEL at 21 (masl)	CH.Vel 21 (m/s)	RB .Vel 21 (m/s)	LB .Vel 21 (m/s)
Scenario 1	275.22	2.44	1.15	1.28	274.00	3.35	1.90	1.02
Scenario 2	275.34	2.19	0.85	1.09	273.95	4.24	1.89	1.20
Difference from Scenario 1	0.12	-0.25	-0.30	-0.19	-0.05	0.89	-0.09	-0.18

Table 6 - Summary of Floodplain Changes for River 1 Reach 1 – 100 Year Storm Event

Scenario Number	WSEL at 22.6 (masl)	CH.Vel 22.6 (m/s)	RB .Vel 22.6 (m/s)	LB .Vel 22.6 (m/s)	WSEL at 22.4 (masl)	CH.Vel 22.4 (m/s)	RB .Vel 22.4 (m/s)	LB .Vel 22.4 (m/s)
Scenario 1	278.55	2.25	1.04	0.00	275.70	1.10	0.44	0.46
Scenario 2	278.56	2.21	0.99	0.00	275.71	1.11	0.44	0.43
Difference from Scenario 1	0.01	-0.04	-0.05	0.00	0.01	0.01	0.00	-0.03
Scenario Number	WSEL at 22 (masl)	CH.Vel 22 (m/s)	RB .Vel 22 (m/s)	LB .Vel 22 (m/s)	WSEL at 21 (masl)	CH.Vel 21 (m/s)	RB .Vel 21 (m/s)	LB .Vel 21 (m/s)
Scenario 1	274.78	1.76	0.79	0.84	273.46	2.71	1.80	0.84
Scenario 2	274.82	1.76	0.68	0.76	273.47	2.87	1.70	0.79
Difference from Scenario 1	0.04	0.00	-0.11	-0.08	0.01	0.16	-0.10	-0.05

As shown from the results in **Tables 5 and 6**, the difference between the HEC-2 and HEC-RAS models for regional and 100-year storm events. The conversion to HEC-RAS shows a very minimal difference; there is a

maximum of 0.12 m difference for regional storms and 0.04 m difference for 100-year storm events. The results are in line with the existing HEC-2 model, and scenario 2, HEC-RAS will be used as a baseline for updating the existing flood plain conditions.

3.3 SCENARIO 3 – UPDATED EXISTING CONDITIONS MODEL

The scenario 2 was used as a baseline to update the scenario-3 conditions. The cross sections for 22.4, 22 and a new cross section 22.2 were created under Scenario-3, and the cross-section data were updated based on the 2014 LiDAR along with the existing topographic survey data for the flood mapping and analysis.



Figure 6 – 2014 LiDAR along with the topographic survey data for the site with new cross section 22.2.

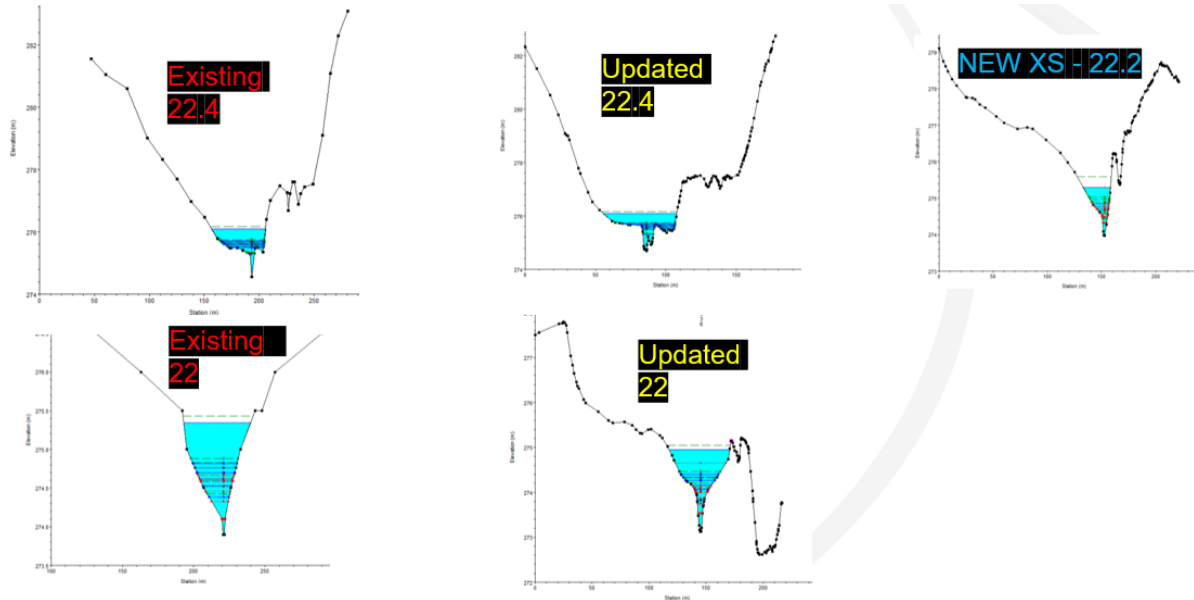


Figure 7 – Updated and New cross sections for Scenario-3

The model was re-run with this updated condition. The results from the model are summarized as follows:

Table 7 - Scenario 3 Existing Updated Results for the Regional Storm event – (River 1 Reach 1)

Cross-section	Regional Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	279.00	2.42	0.76	0.86
22.4	276.24	1.17	0.59	0.46
22.2	275.30	2.89	1.07	1.12
22	274.96	1.61	0.65	0.65
21	273.95	4.24	1.89	1.20

Table 8 - Scenario 3 HEC-RAS Results for the 100 Year Storm event (River 1 Reach 1)

Cross-section	100 Year Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	278.56	2.21	0.99	0.00
22.4	275.78	0.90	0.33	0.17
22.2	274.84	2.04	0.54	0.59
22	274.40	1.20	0.33	0.33
21	273.47	2.87	1.70	0.79

Table 7 and Table 8 show the flood elevations, channel, right over bank, and left over bank velocities for the regional and 100-year storm events under the updated existing model.

Table 9 - Summary of Floodplain Changes for River 1 Reach 1 – Regional Storm Event

Scenario Number	WSEL at 22.6 (masl)	CH.Vel 22.6 (m/s)	RB .Vel 22.6 (m/s)	LB .Vel 22.6 (m/s)	WSEL at 22.4 (masl)	CH.Vel 22.4 (m/s)	RB .Vel 22.4 (m/s)	LB .Vel 22.4 (m/s)
Scenario 2	279.00	2.42	0.76	0.86	276.10	1.47	0.74	0.71
Scenario 3	279.00	2.42	0.76	0.86	276.24	1.17	0.59	0.46
Difference from Scenario 2	0.00	0.00	0.00	0.00	0.14	-0.30	-0.18	-0.25
Scenario Number	WSEL at 22 (masl)	CH.Vel 22 (m/s)	RB .Vel 22 (m/s)	LB .Vel 22 (m/s)	WSEL at 21 (masl)	CH.Vel 21 (m/s)	RB .Vel 21 (m/s)	LB .Vel 21 (m/s)
Scenario 2	275.34	2.19	0.85	1.09	273.95	4.24	1.89	1.20
Scenario 3	274.96	1.61	0.65	0.65	273.95	4.24	1.89	1.20
Difference from Scenario 2	-0.38	-0.58	-0.20	-0.44	0.00	0.00	0.00	0.00

Table 10 - Summary of Floodplain Changes for River 1 Reach 1 – 100 Year Storm Event

Scenario Number	WSEL at 22.6 (masl)	CH.Vel 22.6 (m/s)	RB .Vel 22.6 (m/s)	LB .Vel 22.6 (m/s)	WSEL at 22.4 (masl)	CH.Vel 22.4 (m/s)	RB .Vel 22.4 (m/s)	LB .Vel 22.4 (m/s)
Scenario 2	278.56	2.21	0.99	0.00	275.71	1.11	0.44	0.43
Scenario 3	278.56	2.21	0.99	0.00	275.78	0.90	0.33	0.17
Difference from Scenario 2	0.00	0.00	0.00	0.00	0.07	-0.21	-0.11	-0.26
Scenario Number	WSEL at 22 (masl)	CH.Vel 22 (m/s)	RB .Vel 22 (m/s)	LB .Vel 22 (m/s)	WSEL at 21 (masl)	CH.Vel 21 (m/s)	RB .Vel 21 (m/s)	LB .Vel 21 (m/s)
Scenario 2	274.82	1.76	0.68	0.76	273.47	2.87	1.70	0.79
Scenario 3	274.40	1.20	0.33	0.33	273.47	2.87	1.70	0.79
Difference from Scenario 2	-0.42	-0.56	-0.35	-0.43	0.00	0.00	0.00	0.00

As shown from the results in **Tables 9 and 10**, the difference between the HEC-RAS and updated existing condition HEC-RAS models for regional and 100-year storm events. The updated existing model (scenario 3) shows an increase of 0.14 m at the upstream cross section 22.4 and a decrease of 0.42 m at the downstream cross section 22. The cross sections 22.6 and 21 were not updated based on the terrain data mentioned in Figure 6. So, based on the results, the modification to the cross sections 22.4 and 22 shows differences in regional and 100-year storm events. However, 22.6 and 21 don't show any difference in the water surface elevations, and no changes are noted in bank and channel velocities. Scenario 3 will be used as the updated existing conditions baseline model to modify the proposed conditions.

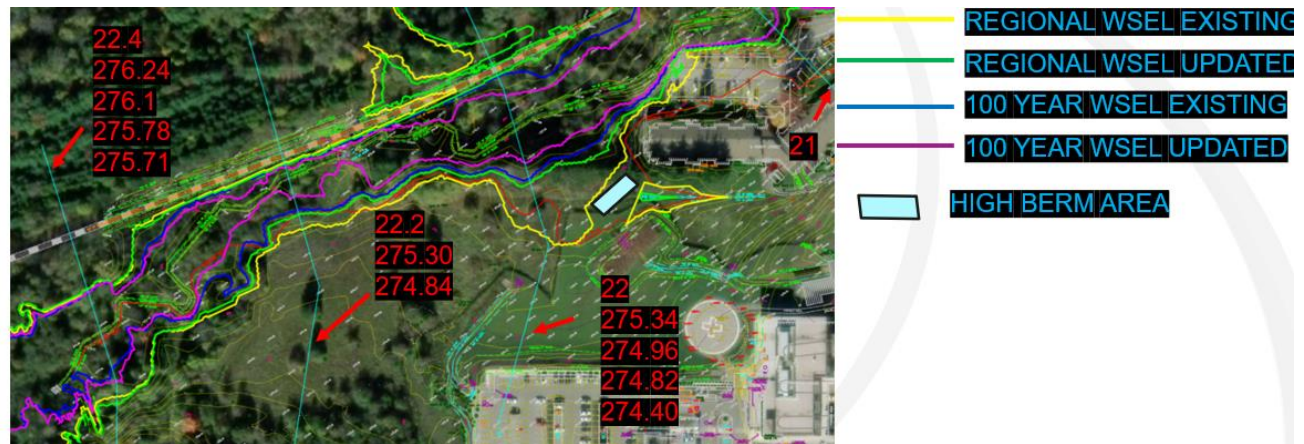


Figure 8 – Scenario 2 and 3 Flood Mapping Comparison

As noted in **Figure 8**, there is a high berm area with a culvert underneath. The flood plain shown to the east of the berm is in anticipation of a culvert underneath the berm for drainage purposes. The presence of a culvert will be further investigated in the next design stages, and if the culvert is not present at the site, then the flood plain portion to the east of the berm will be removed. However, the flood storage volume shown to the east of the berm is negligible and it will have negligible impacts on the flood plain volume for the river1 reach1.

3.4 SCENARIO 4 – PROPOSED GRADING PLAN

The proposed grading plan for the subject development was completed using the civil 3D software, and the surface was converted into the DEM file. The proposed DEM file was merged with the 2014 LiDAR data set as the topographic data for the scenario 4 flood plain mapping and analysis.

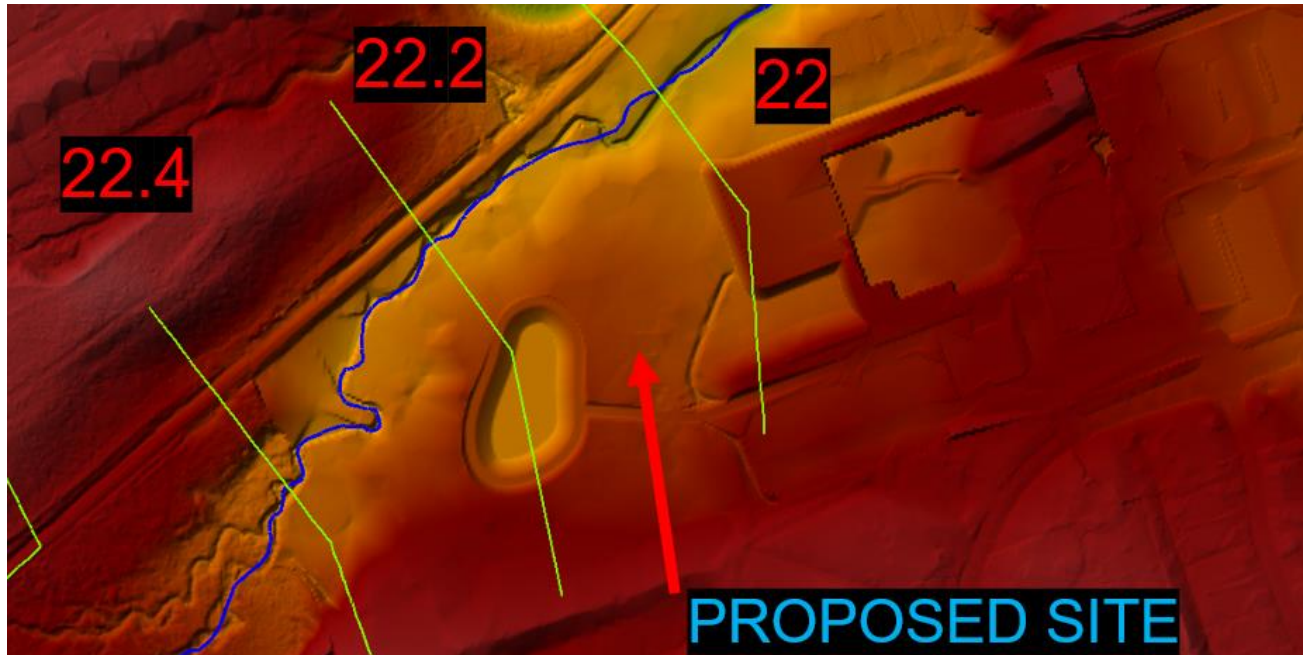


Figure 9 – 2014 LiDAR data along with the proposed grading plan for the site.

The scenario 3 was used as a baseline to update the scenario-4 conditions. The cross sections 22.2 and 22 for river 1 reach 1 were updated based on the proposed grading plan. The cross section 22.4 was not updated as it was outside the proposed grading area. For the cross section 22.2, which includes the SWM pond for the proposed site, Levee has been added to the cross-section profile to make it an ineffective flow area for the river 1 reach 1. The model was rerun with this updated condition. The results from the model are summarized as follows:

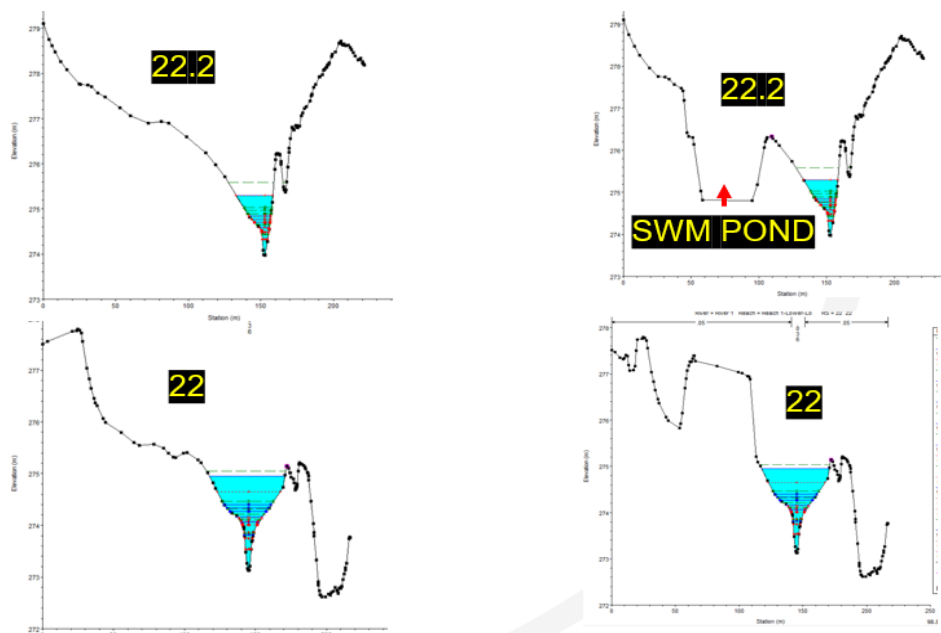


Figure 10 – Updated cross sections for Scenario-4

Table 11 - Scenario 4 Existing Updated Results for the Regional Storm event – (River 1 Reach 1)

Cross-section	Regional Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	279.00	2.42	0.76	0.86
22.4	276.24	1.17	0.59	0.46
22.2	275.30	2.89	1.07	1.12
22	274.96	1.61	0.65	0.65
21	273.95	4.24	1.89	1.20

Table 12 - Scenario 4 HEC-RAS Results for the 100 Year Storm event (River 1 Reach 1)

Cross-section	100 Year Elevation(masl)	Channel Velocity (m/s)	Right Overbank Velocity (m/s)	Left Overbank Velocity (m/s)
22.6	278.56	2.21	0.99	0.00
22.4	275.78	0.90	0.33	0.17
22.2	274.84	2.04	0.54	0.59
22	274.40	1.20	0.33	0.33
21	273.47	2.87	1.70	0.79

Table 11 and Table 12 show the flood elevations, channel, right over bank, and left over bank velocities for the regional and 100-year storm events under the updated existing model.

Table 13 - Summary of Floodplain Changes for River 1 Reach 1 – Regional Storm Event

Scenario Number	WSEL at 22.6 (masl)	CH.Vel 22.6 (m/s)	RB .Vel 22.6 (m/s)	LB .Vel 22.6 (m/s)	WSEL at 22.4 (masl)	CH.Vel 22.4 (m/s)	RB .Vel 22.4 (m/s)	LB .Vel 22.4 (m/s)
Scenario 3	279.00	2.42	0.76	0.86	276.24	1.17	0.59	0.46
Scenario 4	279.00	2.42	0.76	0.86	276.24	1.17	0.59	0.46
Difference from Scenario 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scenario Number	WSEL at 22 (masl)	CH.Vel 22 (m/s)	RB .Vel 22 (m/s)	LB .Vel 22 (m/s)	WSEL at 21 (masl)	CH.Vel 21 (m/s)	RB .Vel 21 (m/s)	LB .Vel 21 (m/s)
Scenario 3	274.96	1.61	0.65	0.65	273.47	2.87	1.70	0.79
Scenario 4	274.96	1.61	0.65	0.65	273.47	2.87	1.70	0.79

Difference from Scenario 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scenario Number	WSEL at 22.2 (masl)	CH.Vel 22.2 (m/s)	RB .Vel 22.2 (m/s)	LB .Vel 22.2 (m/s)				
Scenario 3	275.30	2.89	1.07	1.12				
Scenario 4	275.30	2.89	1.07	1.12				
Difference from Scenario 4	0.00	0.00	0.00	0.00				

Table 14 - Summary of Floodplain Changes for River 1 Reach 1 – 100 Year Storm Event

Scenario Number	WSEL at 22.6 (masl)	CH.Vel 22.6 (m/s)	RB .Vel 22.6 (m/s)	LB .Vel 22.6 (m/s)	WSEL at 22.4 (masl)	CH.Vel 22.4 (m/s)	RB .Vel 22.4 (m/s)	LB .Vel 22.4 (m/s)
Scenario 3	278.56	2.21	0.99	0.00	275.78	0.90	0.33	0.17
Scenario 4	278.56	2.21	0.99	0.00	275.78	0.90	0.33	0.17
Difference from Scenario 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scenario Number	WSEL at 22 (masl)	CH.Vel 22 (m/s)	RB .Vel 22 (m/s)	LB .Vel 22 (m/s)	WSEL at 21 (masl)	CH.Vel 21 (m/s)	RB .Vel 21 (m/s)	LB .Vel 21 (m/s)
Scenario 3	274.40	1.20	0.33	0.33	273.95	4.24	1.89	1.20
Scenario 4	274.40	1.20	0.33	0.33	273.95	4.24	1.89	1.20
Difference from Scenario 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scenario Number	WSEL at 22.2 (masl)	CH.Vel 22.2 (m/s)	RB .Vel 22.2 (m/s)	LB .Vel 22.2 (m/s)				
Scenario 3	274.84	2.04	0.54	0.59				
Scenario 4	274.84	2.04	0.54	0.59				
Difference from Scenario 4	0.00	0.00	0.00	0.00				

As shown from the results in **Tables 13 and 14**, the difference between the updated existing and proposed condition HEC-RAS models for regional and 100-year storm events. The proposed condition model (scenario 4) shows no changes to the WSEL, channel and bank velocities and does not impact the updated existing flood plain.

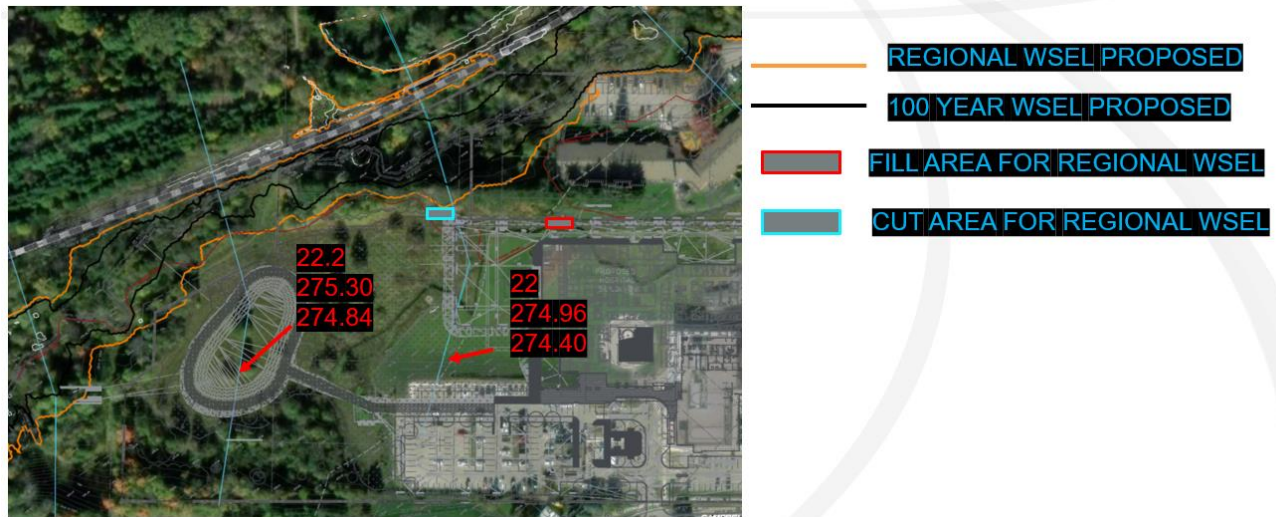


Figure 11 – Scenario 4 Flood Mapping for Regional and 100-year storm event.

The **Figure 11**, shows the proposed flood plain extents for the regional and 100-year storm event and the cut and fill balance area. The cut and fill balance will be discussed further in the next section.

4 CUT AND FILL REQUIREMENTS

The flood line for scenario 4 shows the proposed updated conditions, and it shows no changes from the updated existing conditions; as such, no cut and fill balance is required for the site. As mentioned in subsection 3.3, if the culvert exists at the high berm area, there will be minimal fill of 10m³ and an equal cut will be provided at the location marked in **Figure 11**. The culvert will be further investigated in the detailed design stages, and if the culvert exists, the cut will be provided in the SPA submission. At this point, no further cut-and-fill analysis will be required for this site.

5 CONCLUSIONS

The floodplain model provided by the LSRCA has been modified and updated based on best practices by taking a closer look at the hydraulics and hydrology of the site. The impact of the change to the floodplain modelling resulted in changes to the flood elevation at the subject site for river 1 reach 1, respectively. As such, it is recommended to utilize a flood elevation of **276.24 m, 275.30 m, 274.960 m** for regional storm event and **275.78 m, 274.84 m, 274.40 m** for 100-year storm event for the cross sections **22.4, 22.2** and **22** for the purpose of flood protection and development limits.

Next steps for the site would include providing floodproofing, validating the emergency access routes for the site, and updating the detailed design of the proposed development based on the current grading plan to maintain the updated flood plain limits.

APPENDIX A

SITE PLAN DRAWINGS

UXBRIDGE HOSPITAL - OAK VALLEY HEALTH



03/30/21

SURVEY

CIVIL

C131 Civil Sheet Pile Installation

LANDSCAPE

L101 Landscape Sheet Plastics (dec)

ARCHITECTURAL

A821	DOWNING STAIRS AND APPROPRIATIONS
A810	SEE SURVEY
A811	SEE PLAN - EXHIBITION
A812	SEE PLAN - EXHIBITION
A815	FLAME DAMPERS
A820	SEE PLAN - EXHIBITION
A825	SEE PLAN - EXHIBITION
A830	SEE PLAN - EXHIBITION
A835	SEE PLAN - EXHIBITION
A840	SEE PLAN - EXHIBITION
A841	SEE PLAN - EXHIBITION
A850	DOORS AND SCREWING TYPE
A851	DOORS AND SCREWING TYPE
A852	DOORS AND SCREWING TYPE
A853	DOORS AND SCREWING TYPE
A854	DOORS AND SCREWING TYPE
A855	DOORS AND SCREWING TYPE
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A864	DOORS AND SCREWING TYPE
A865	DOORS AND SCREWING TYPE
A866	DOORS AND SCREWING TYPE
A867	DOORS AND SCREWING TYPE
A868	DOORS AND SCREWING TYPE
A869	DOORS AND SCREWING TYPE
A870	DOORS AND SCREWING TYPE

STRUCTURAL

ST01 Structural Steel Fabrication

MECHANICAL

Mechanica] Sheet Placeholder

ELECTRICAL

E101 Electrical Sheet Placeholder

Architect
Diamond Schmitt Architects
384 Adelaide Street West, Suite 100
Toronto, ON M5V 1R7
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EXP
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EXP
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Landscape

GSP Group
72 Victoria Street South, Suite 201
Kitchener, ON N2G 4Y9
T: (519)-569-8883

**diamond
schmitt**

DRAWING SYMBOLS LEGEND

**diamond
schmitt**

	BUILDING SECTION
	WALL SECTION
	UTILITY SECTION
	CALLOUTS
	BUILDING ELEVATION
	INTERIOR ELEVATION
	GRIDS
	LEVELS
	REVISION BUBBLES &
	BREAKLINE
	MATCH LINE
	NORTH ARROW
	NORTH ELEVATION
	VIEW TITLE

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CONSTRUCTION

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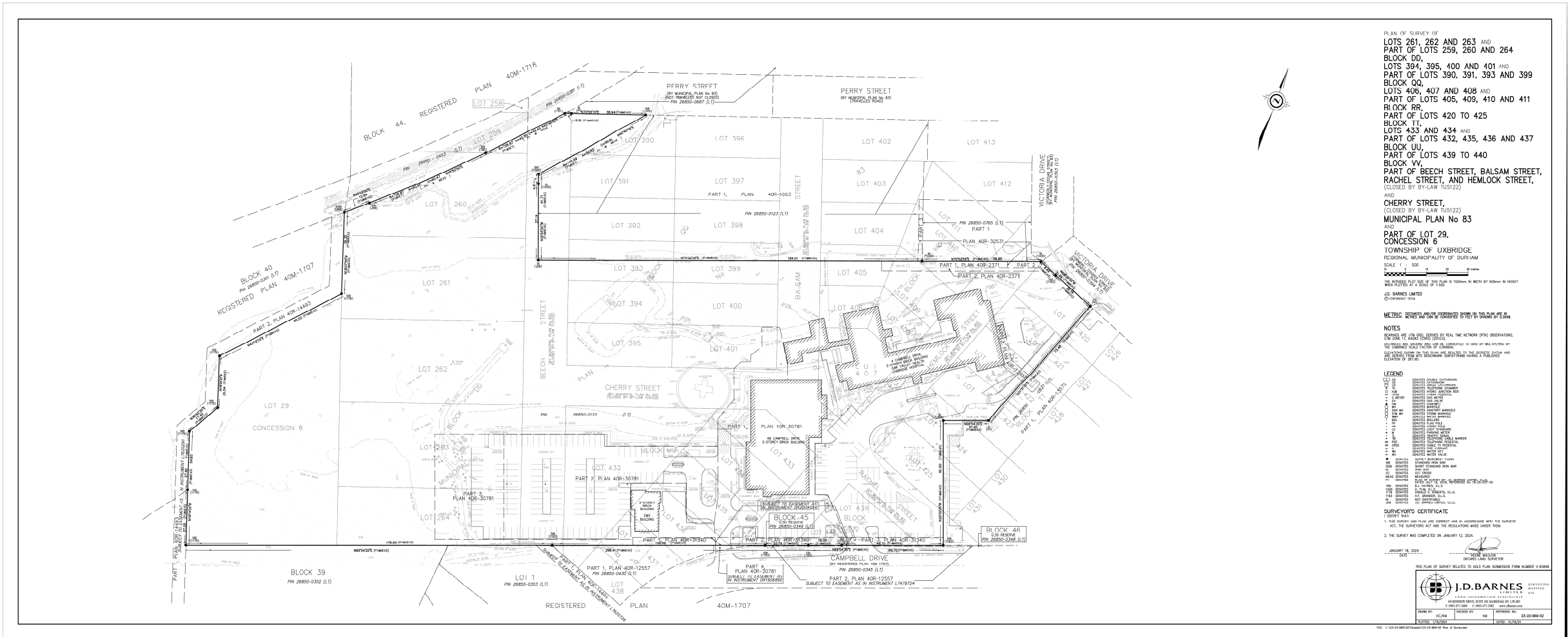


**Uxbridge
Hospital**
Oak Valley Health

DRAWING SYMBOLS AND ABBREVIATIONS

A001

No.	Date	Description
1	2024-03-25	50 Cloning



NOT FOR
CONSTRUCTION



Drawn by: J.D. Barnes
Checked by: J.D. Barnes
Date: 2024-03-25

This drawing is made by J.D. Barnes Geomatics Inc. and is the property of J.D. Barnes Geomatics Inc. It is not to be used for any other purpose without the written consent of J.D. Barnes Geomatics Inc.



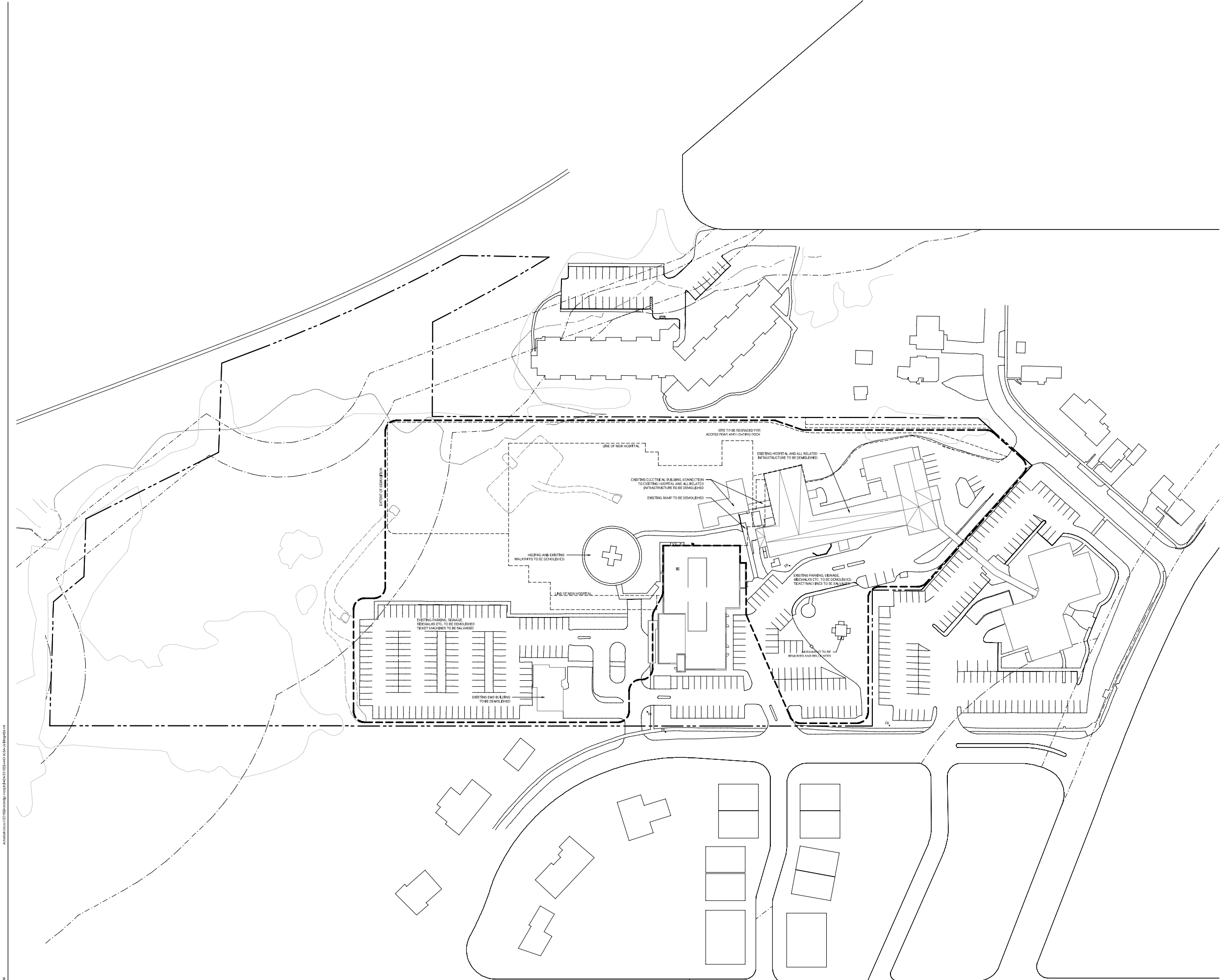
UXBRIDGE HOSPITAL -
OAK VALLEY HEALTH

231022

SITE SURVEY

A010

Revised		
No.	Date	Description
1	2024-03-25	SS Cloning



NOT FOR
CONSTRUCTION



Uxbridge Hospital
Oak Valley Health



UXBRIDGE HOSPITAL -
OAK VALLEY HEALTH

231022

SITE PLAN - DEMOLITION

1 - 2024

A011



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Do Not Put a Drawing(s)
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This drawing is not to be used for construction until signed by the Architect.



UXBRIDGE HOSPITAL -
OAK VALLEY HEALTH

Construction Phases

- Phase 1 (Early Works)
- Phase 2 (New Construction)
- Phase 3 (East Site New Construction)
- Demolished

Revised	No.	Date	Description
	1	2024-03-25	SS Cloning

- PHASE 1
1. RELOCATE EXISTING HOSPITAL HVAC
 2. ADD BRITANNIA WALL FOR NORTH ACCESS ROAD
 3. DEMOLISH EXISTING HOSPITAL AND ASSOCIATED INFRASTRUCTURE, INCLUDING BRIDGE
 4. ADD NEW TRANSFORMER (HTH) ENCLOSURE TO SW CORNER OF EXISTING HOSPITAL
 5. ADD NEW ROAD MOUNTED OIL TANK TO SW CORNER OF EXISTING HOSPITAL
 6. DEMOLISH EXISTING HOSPITAL ELECTRICAL BUILDING INCLUDING MAIN CONNECTION TO EXISTING HOSPITAL AND ALL RELATED INFRASTRUCTURE
 7. REGRADE SLOPE NORTH OF EXISTING HOSPITAL
 8. ADD STAIR FROM SECOND FLOOR EXIT OF EXISTING HOSPITAL

EXISTING SITE PLAN
1:1000
A013

PHASE 1 - EARLY WORKS
1:1000
A013

- PHASE 2
1. CONSTRUCT NEW HOSPITAL
 2. DEMOLISH EXISTING BUILDING AND ASSOCIATED INFRASTRUCTURE
 3. DEMOLISH EXISTING PARKING
 4. CONSTRUCT STORM WATER POND AND ASSOCIATED INFRASTRUCTURE
 5. PROVIDE NEW STAFF SERVICES BUILDING
 6. CONSTRUCT NEW PARKING AREA AND LANDSCAPE
 7. REMOVE AND RELOCATE EXISTING MONUMENT

- PHASE 3
1. DEMOLISH EXISTING HOSPITAL AND ASSOCIATED INFRASTRUCTURE, INCLUDING BRIDGE
 2. DEMOLISH EXISTING PARKING AND ASSOCIATED INFRASTRUCTURE
 3. CONSTRUCT REMAINING EMERGENCY ENTRY AND CANOPY
 4. CONSTRUCT NEW PARKING AND LANDSCAPE

PHASE 2 - NEW CONSTRUCTION
1:1000
A013

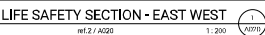
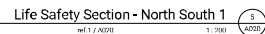
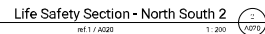
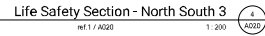
PHASE 3 - EAST SITE WORKS
1:1000
A013



UXBRIDGE HOSPITAL -
OAK VALLEY HEALTH
231022

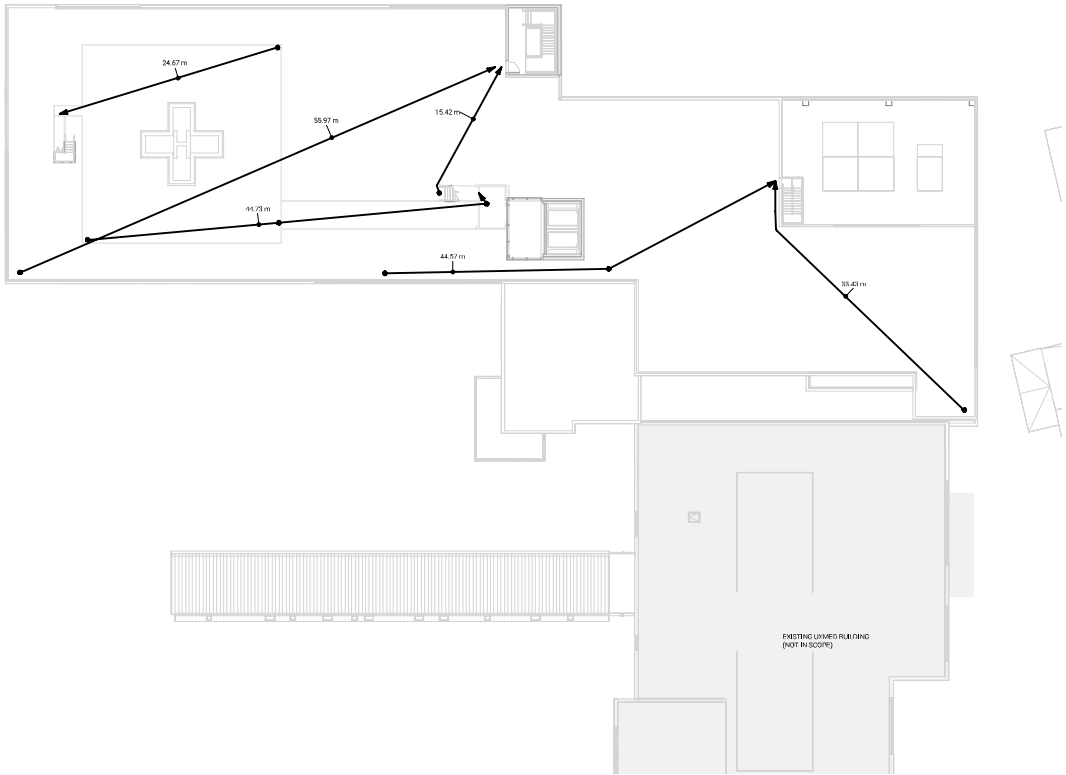
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A013

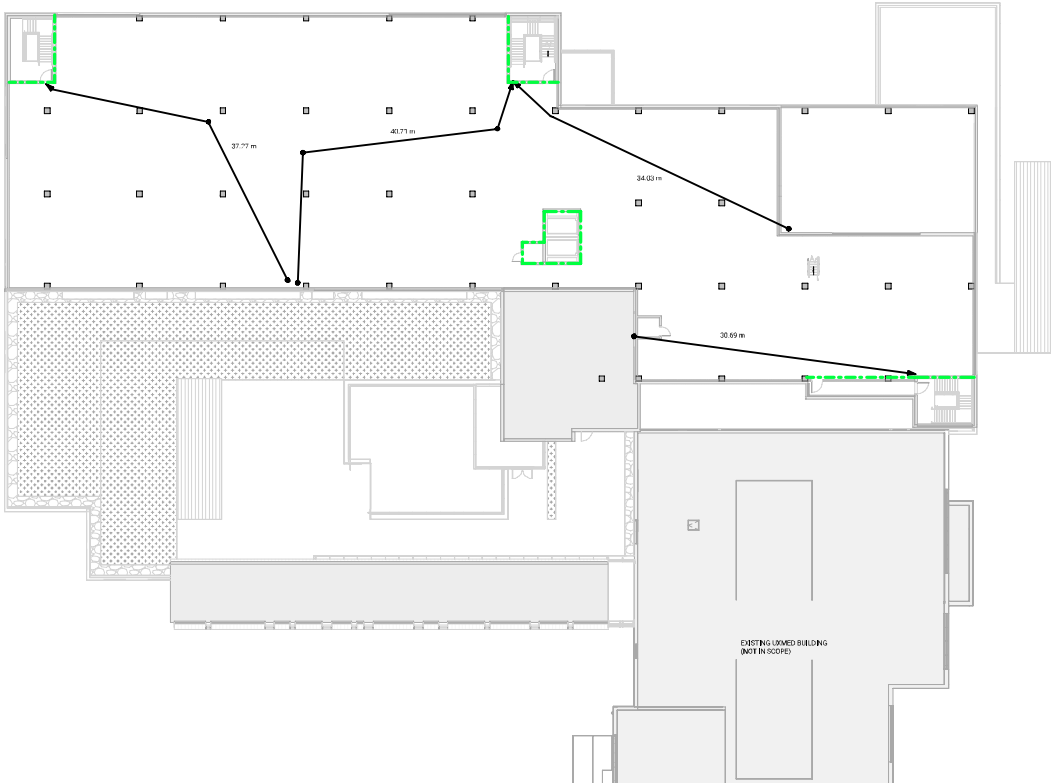


1 All References are to Division B of the CBC Unless Preceded by [A] for Division A and [C] for Division C

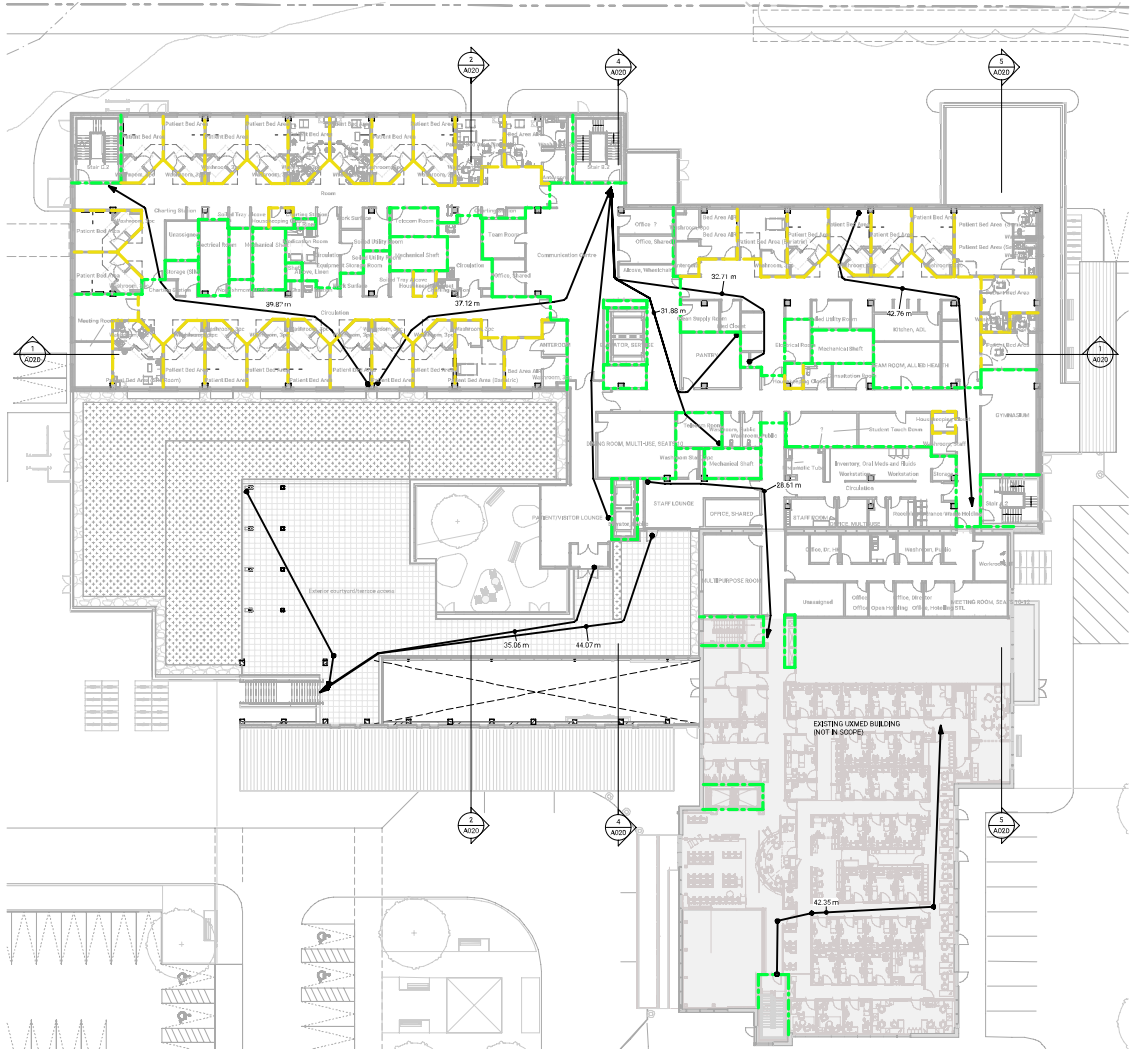
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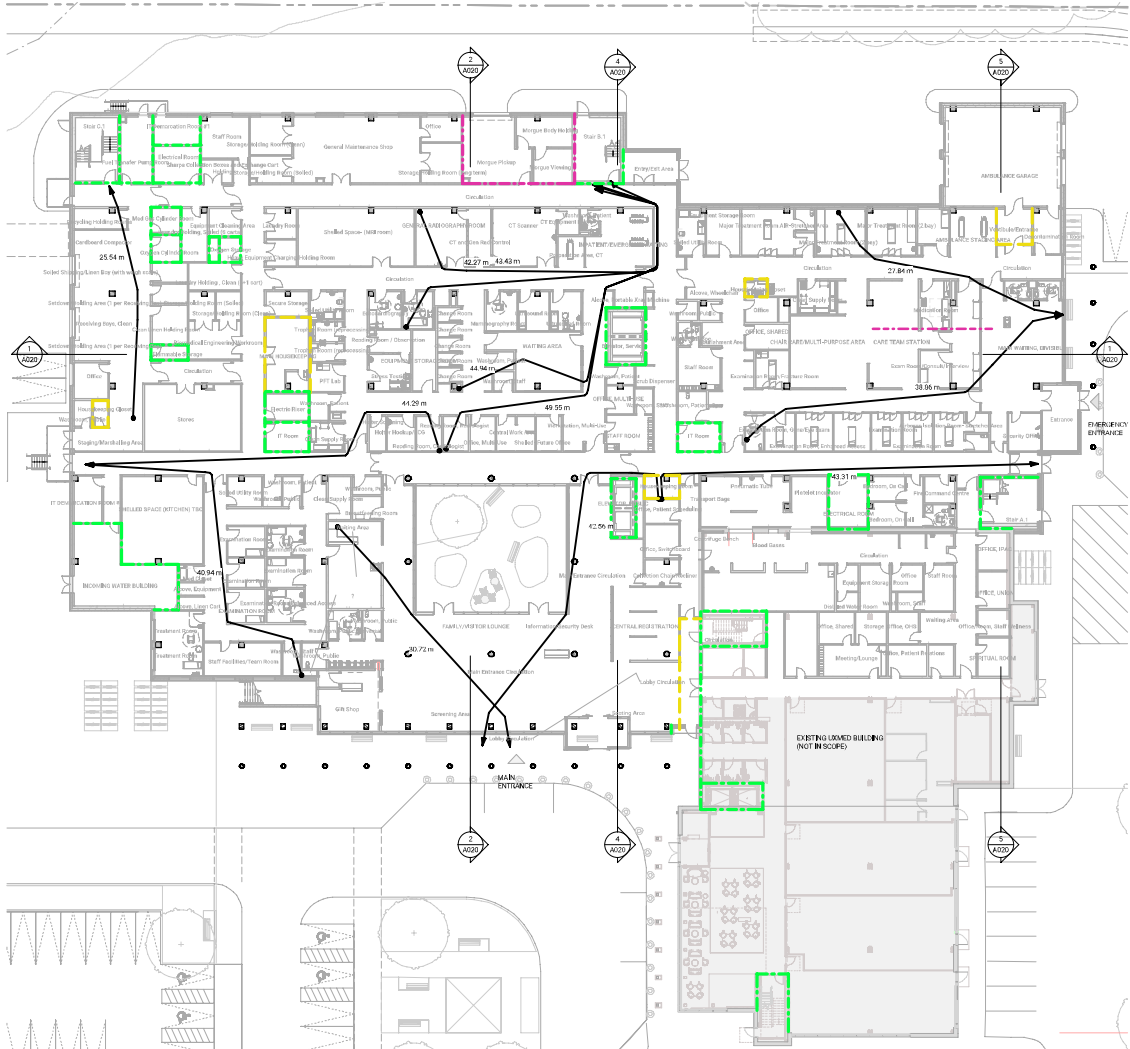
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ref 1 / A020 1: 250



PENTHOUSE LEVEL - LIFE SAFETY PLAN
ref 1 / A020 1: 250



LEVEL 2 - LIFE SAFETY PLAN
ref 1 / A020 1: 250



LEVEL 1 - LIFE SAFETY PLAN
ref 1 / A020 1: 250

- LEGEND - FIRE SEPARATION
- 60MIN FIRE RATED ASSEMBLY
 - 45MIN FIRE RATED ASSEMBLY
 - 30MIN FIRE RATED ASSEMBLY
 - 15MIN FIRE RATED ASSEMBLY
 - 15MIN FIRE RATED ASSEMBLY
 - TRAVEL DISTANCE LINE

- GENERAL NOTES - FIRE SEPARATIONS:
1. ALL CLOSURES TO HAVE LABELLED RATINGS (BY UNLABELLED FRAMES AND CLOSURES, PROVIDE FIRE DAMPERS AS PER MECHANICAL DRAWINGS).
 2. CLOSURES AND PARTITIONS WITH 45/60/90 MIN FIRE RATED ASSEMBLY, PROVIDE AS PER A FIRE SEPARATION REPORT.
 3. TO BE PLANNED IN CONJUNCTION WITH CODE CONSULTANT REPORT.

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CONSTRUCTION



UXBRIDGE HOSPITAL -
OAK VALLEY HEALTH

231/022

LIFE SAFETY PLANS
1: 250

A021



PLAN SHOWING TOPOGRAPHY OF
OAK VALLEY HEALTH
UXBRIDGE HOSPITAL
AND SURROUNDING AREA
TOWNSHIP OF UXBRIDGE



J.D. BARNES LIMITED
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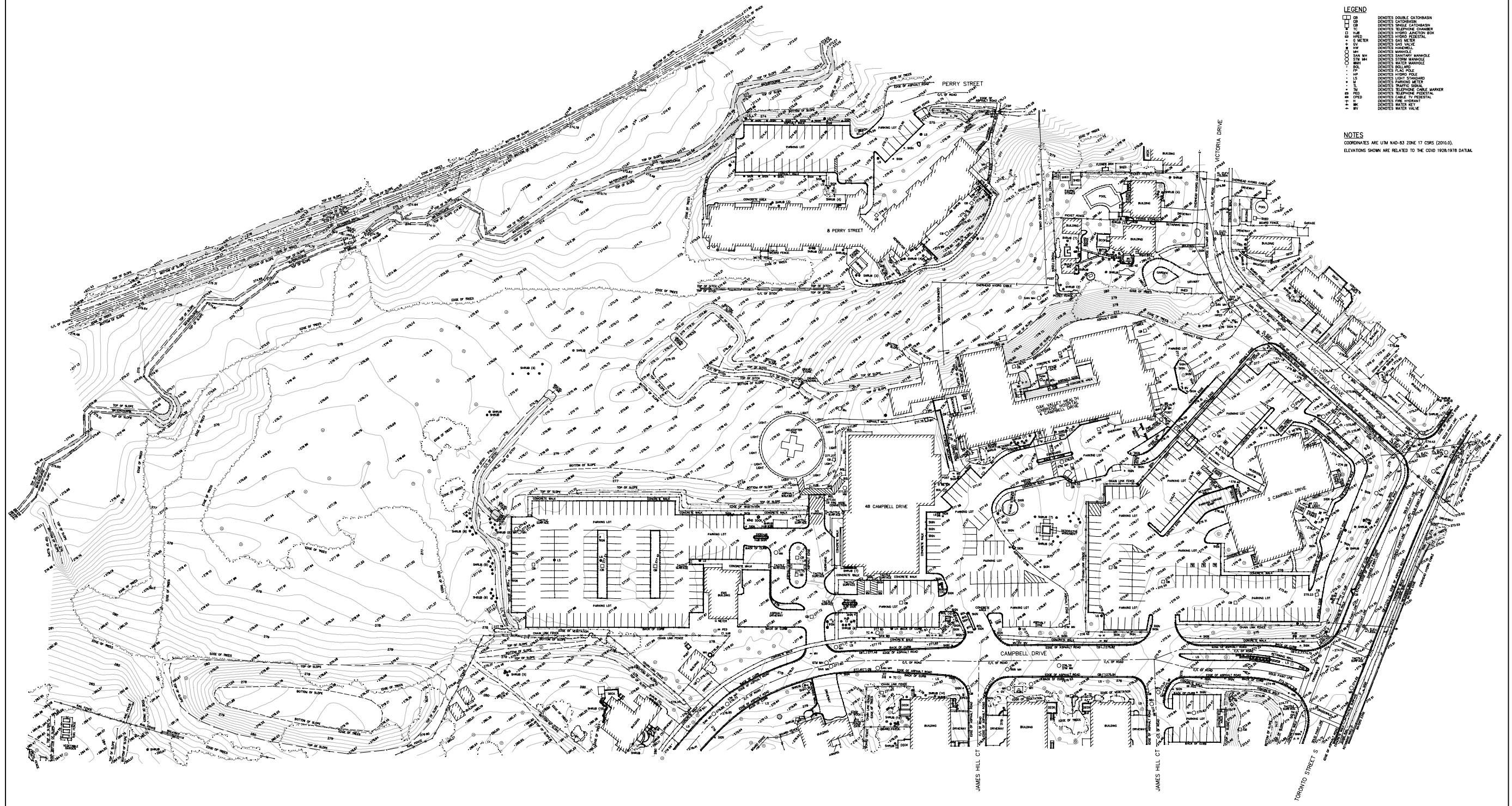
METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

LEGEND

- DB DENOTES DOUBLE CATCHBASIN
- DB DENOTES GATHERING
- DB DENOTES SHIELD CATCHBASIN
- DB DENOTES HYDRO ACTION BOX
- DB DENOTES HYDRO ACTION BOX
- DB DENOTES GAS METER
- DB DENOTES GAS VALVE
- DB DENOTES MANHOLE
- DB DENOTES SANITARY MANHOLE
- DB DENOTES STORM MANHOLE
- DB DENOTES WATER MANHOLE
- DB DENOTES FLOOD POLE
- DB DENOTES LIGHT STANDOFF
- DB DENOTES TRAFFIC SIGNAL
- DB DENOTES SLEEPING GEAR MARKER
- DB DENOTES CABLE TV PEDESTAL
- DB DENOTES FIRE HYDRANT
- DB DENOTES WATER KEY
- DB DENOTES WATER VALVE

NOTES

COORDINATES ARE UTM NAD-83 ZONE 17 CRS (2011.0).
ELEVATIONS SHOWN ARE RELATED TO THE CGVD 1928/1978 DATUM.



THE SURVEY WAS COMPLETED ON NOVEMBER 3, 2023.



J.D. BARNES
LIMITED
LAND INFORMATION SPECIALISTS
1401 JENNIFER AVENUE, SUITE 100, MARKHAM, ON L3R 9H3
TEL: (905) 477-1100 FAX: (905) 477-1101 WWW.JDBARNES.COM

DRAWN BY: TC
CHECKED BY: MW
REFERENCE NO.: 23-23-008-01
DATE: 11/21/23

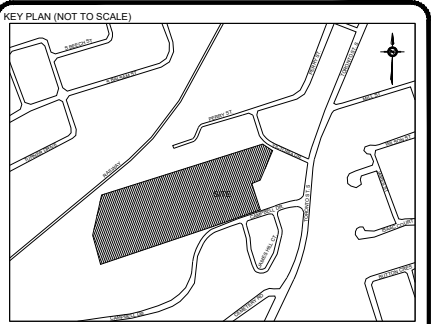
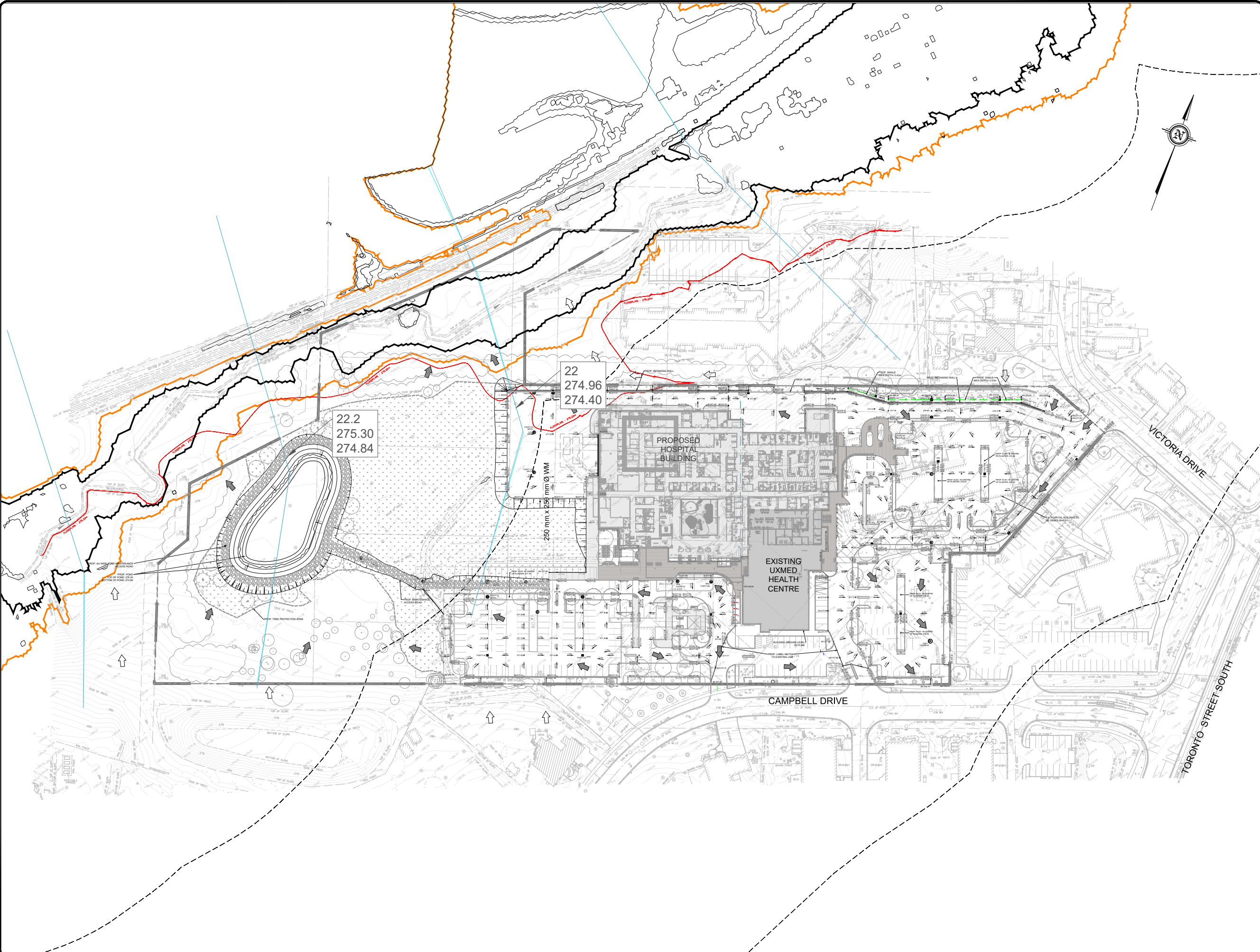
APPENDIX B

MODEL RESULTS

MODEL HAS BEEN ZIPPED SEPARATELY FOR REVIEW AND IS
ATTACHED TO SHARE POINT LINK

APPENDIX C

DRAWINGS



LEGEND:

EX. 144.96	EXISTING GRADE TO REMAIN	○	EXISTING STORM MANHOLE
143.58	PROPOSED T/O ELEVATION	○	EXISTING SANITARY AND/OR COMBINED SEWER MANHOLE
TC. 143.58	PROPOSED GRADE	○	EXISTING CATCHBASIN
BC. 143.58	PROPOSED TOP OF CURB ELEVATION	○	EXISTING LIGHT STANDARD
WC. 143.58	PROPOSED BOTTOM OF CURB ELEVATION	○	EXISTING WATER VALVE
HW. 143.58	PROPOSED TOP OF WALL ELEVATION	○	EXISTING FIRE HYDRANT
EX. TC. 143.58	EXISTING TOP OF CURB ELEVATION	○	PROPOSED STORM MANHOLE
EX. BC. 143.58	EXISTING BOTTOM OF CURB ELEVATION	○	PROPOSED CATCHBASIN MANHOLE
EX. HW. 143.58	EXISTING TOP OF WALL ELEVATION	○	PROPOSED BENCH
EX. BC. 143.58	EXISTING BOTTOM OF WALL ELEVATION	○	PROPOSED TRENCH DRAIN
EX. 2.2%	PROPOSED SLOPE	○	PROPOSED RETAINING
CS	PROPOSED CATCHBASIN	○	PROPOSED BUILDING
→	OVERLAND DRAINAGE FLOW ARROWS	○	EXISTING BUILDING TO REMAIN
---	PROPERTY LINE	○	BUILDING GROUND LEVEL OUTLINE
---	REGIONAL FLOOD LINE	○	BUILDING ABOVE GROUND LEVEL OUTLINE
---	REGIONAL FLOOD LINE OFFSET	○	PROPOSED TREE PROTECTION ZONE
---	MEANDERBELT LIMIT	○	
---	MEANDERBELT LIMIT OFFSET	○	
---	ULRCA REGULATION LIMIT	○	
---	PROPOSED REGIONAL WSEL	○	
---	PROPOSED 100 YEAR WSEL	○	

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0).
P1, P2, AND P3
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99997.
ALL BUILDINGS ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 0081972824 HAVING A PUBLISHED ELEVATION OF 261.000 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 22-21-8-97-00, DATED JANUARY 03, 2023.

No.	Revision	Date	By	App.

625 Cochrane Drive, Suite 500
Markham, Ontario
L3R 9R9, Canada
Tel: (905)470-0015
Fax: (905)470-0030

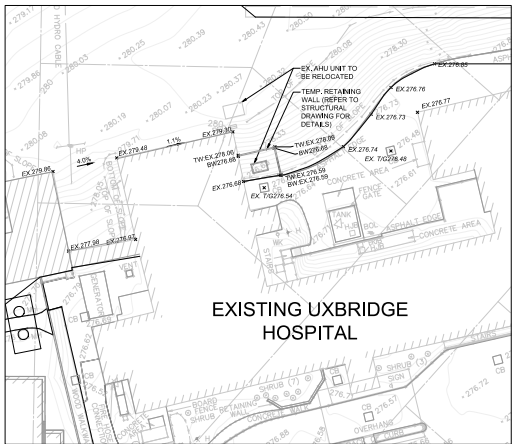
Owner/Client:

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

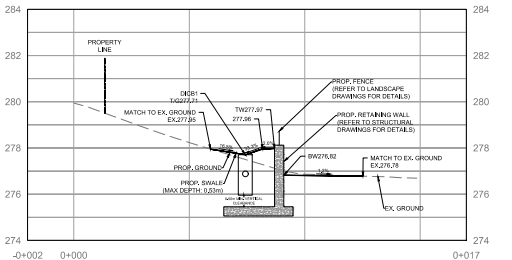
Title:
PROPOSED FLOOD PLAN

Designed By: J.P.	Drawn By: J.P.	Checked By: F.F.
Scale: 1:750 (FULL SIZE)	Date: Aug 23, 2024	Drawing No.: C-02
Project No.: 24163		

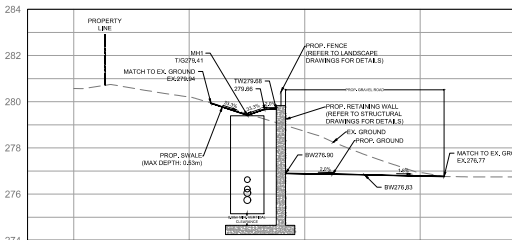
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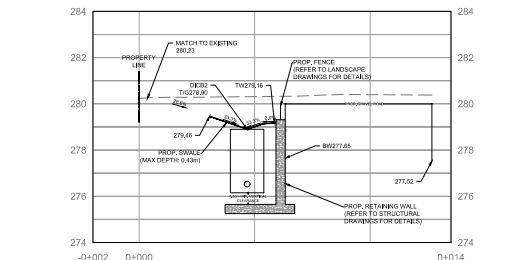
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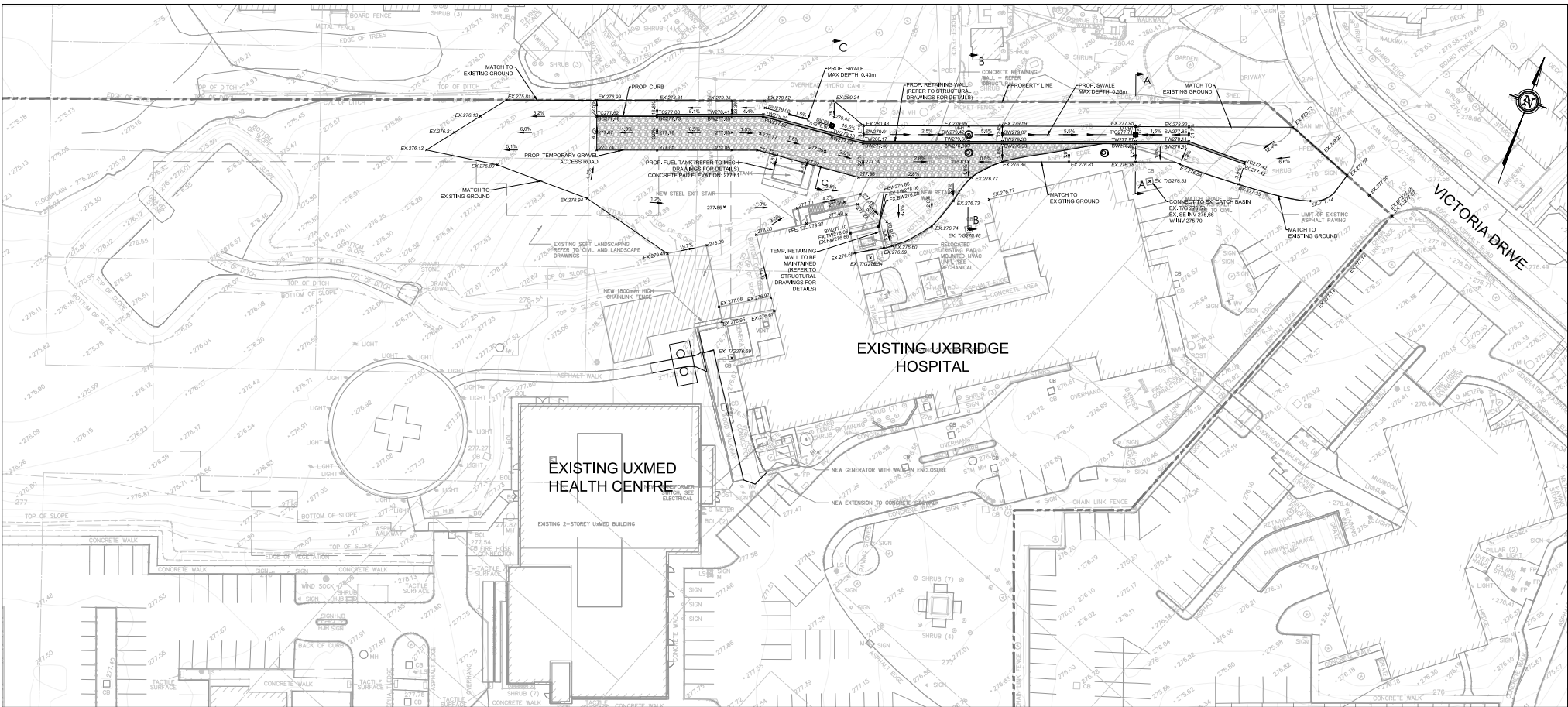
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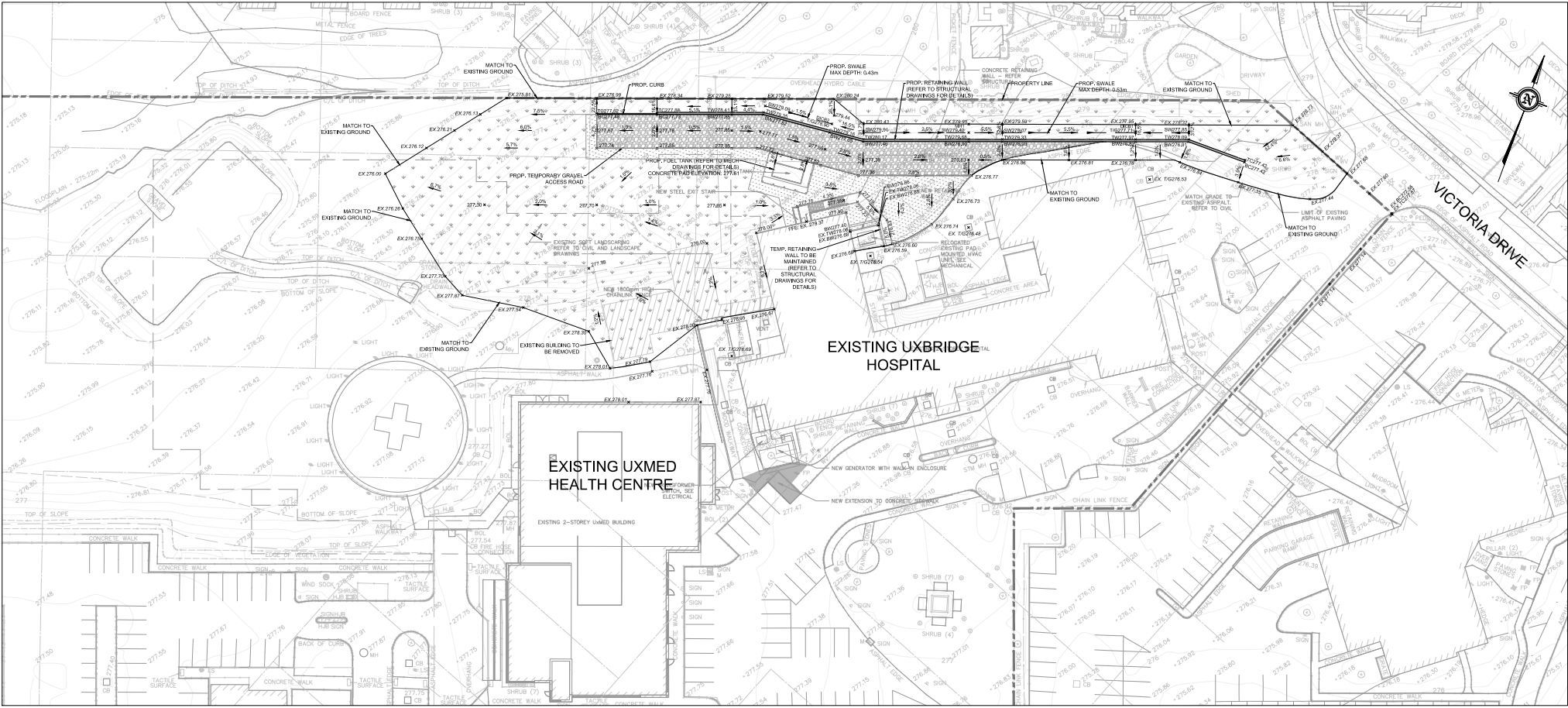
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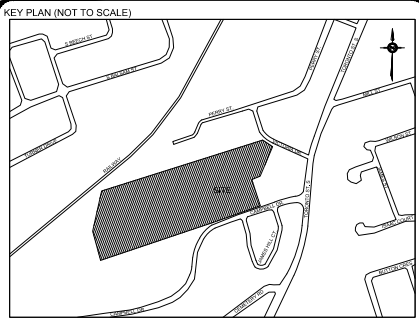
CROSS SECTION C-C
SCALE: 1:150



PHASE 2 - GRADING PLAN
SCALE: 1:500



PHASE 3 - GRADING PLAN
SCALE: 1:500



LEGEND:

EX:146.96	EXISTING GRADE TO REMAIN
1/G:146.96	PROPOSED T/G ELEVATION
145.98	PROPOSED GRADE
TC:145.58	PROPOSED TOP OF CURB ELEVATION
BC:145.58	PROPOSED BOTTOM OF CURB ELEVATION
TW:145.58	PROPOSED TOP OF WALL ELEVATION
BW:145.58	PROPOSED BOTTOM OF WALL ELEVATION
SW:145.58	PROPOSED BOTTOM OF SWALE ELEVATION
EX:TC:145.58	EXISTING TOP OF CURB ELEVATION
EX:BC:145.58	EXISTING BOTTOM OF CURB ELEVATION
EX:TW:145.58	EXISTING TOP OF WALL ELEVATION
EX:BW:145.58	EXISTING BOTTOM OF WALL ELEVATION
EX:2.0%	PROPOSED SLOPE
2.0%	EXISTING SLOPE
	PROPOSED CATCHBASIN
	OVERLAND DRAINAGE FLOW ARROWS
---	PROPERTY LINE
	SOD (REFER TO LANDSCAPE DRAWINGS)
	SEED MIX A (REFER TO LANDSCAPE DRAWINGS)
	CONCRETE PAVING (REFER TO LANDSCAPE DRAWINGS)

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010).
FOR BEARING COMPARISONS, A ROTATION OF 1.000° COUNTERCLOCKWISE WAS APPLIED TO BEARINGS ON PLAN.
P1, P2, AND P3 DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999997.
ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 001872024 HAVING A PUBLISHED ELEVATION OF 261.000 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J.D. BARNES LIMITED - REFERENCE NO. 22-21-8-87-00, DATED JANUARY 03, 2023.

No.	Revision	Date	By	App.
4	ISSUED FOR S05 DO	JULY 31, 2024	H.B.	G.S.
3	ISSUED FOR OWNER REVIEW	JULY 18, 2024	H.B.	G.S.
2	ISSUED FOR STAGE 2.1 BLOCK SCHEMATICS	MAY 02, 2024	H.B.	G.S.
1	ISSUED FOR SD COSTING	APR. 01, 2024	H.B.	G.S.

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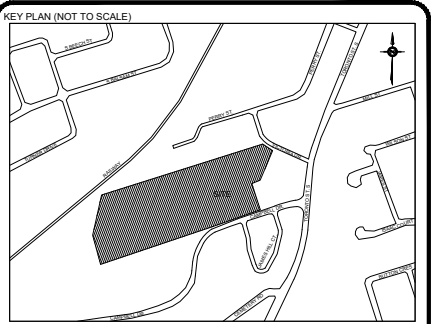
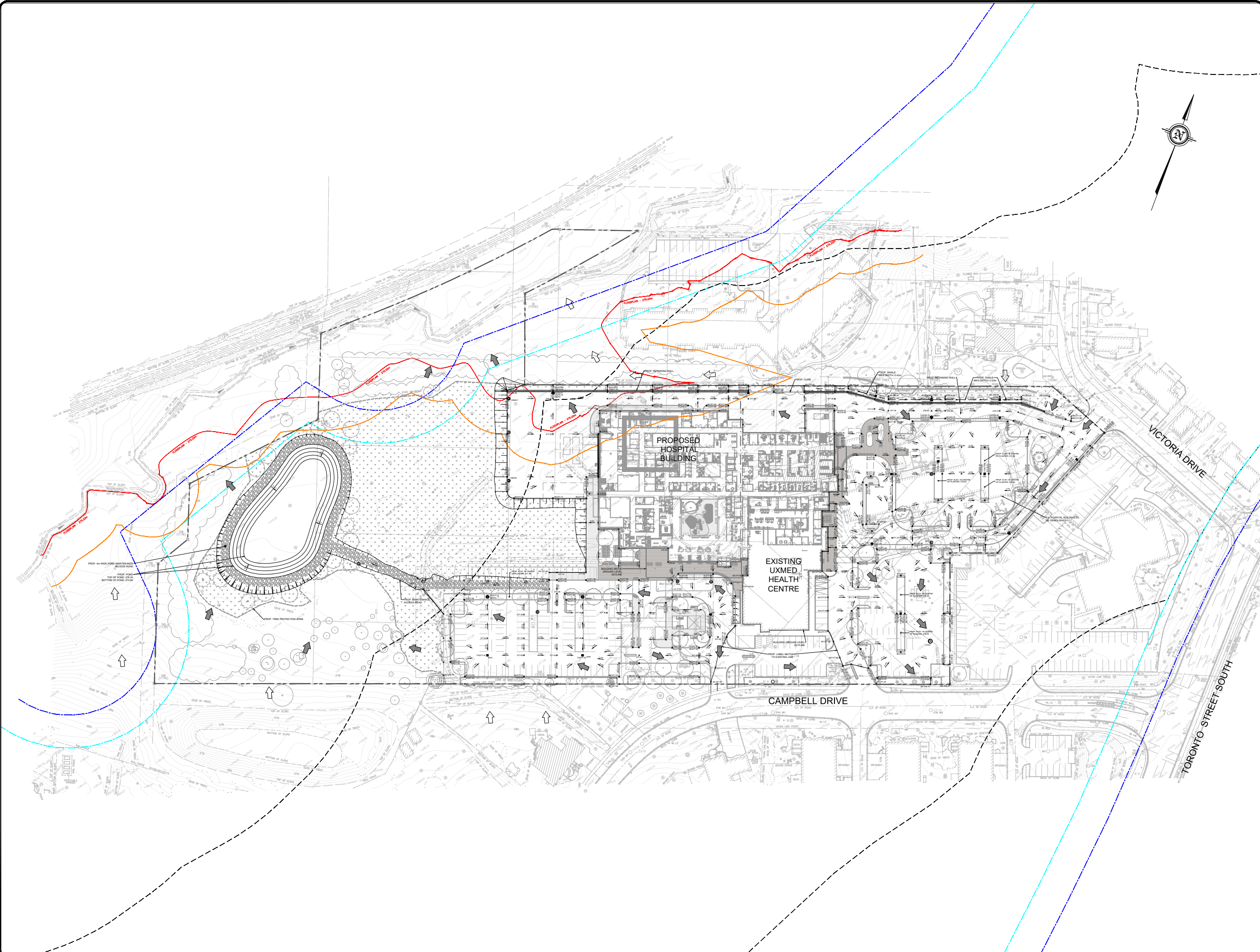
Owner/Client:
diamond schmitt

Oak Valley Health

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

Title:
SITE GRADING PLAN (EARLY WORKS)

Designed By: J.P.	Drawn By: J.P.	Checked By: F.F.
Scale: 1:500 (FULL SET)	Date: JAN. 17, 2024	Drawing No.: C-01A
Project No.: 24163		



- LEGEND:**
- | | | | |
|----------------|-----------------------------------|---|---|
| EX. 144.96 | EXISTING GRADE TO REMAIN | ○ | EXISTING STORM MANHOLE |
| 145.18 | PROPOSED T/O ELEVATION | ○ | EXISTING SANITARY AND/OR COMBINED SEWER MANHOLE |
| TC. 145.58 | PROPOSED TOP OF CURB ELEVATION | ○ | EXISTING CATCH-BASIN |
| BC. 145.58 | PROPOSED BOTTOM OF CURB ELEVATION | ○ | EXISTING LIGHT STANDARD |
| HW. 145.58 | PROPOSED TOP OF WALL ELEVATION | ○ | EXISTING WATER VALVE |
| BW. 145.58 | PROPOSED BOTTOM OF WALL ELEVATION | ○ | EXISTING FIRE HYDRANT |
| EX. TC. 145.58 | EXISTING TOP OF CURB ELEVATION | ○ | PROPOSED STORM MANHOLE |
| EX. BC. 145.58 | EXISTING BOTTOM OF CURB ELEVATION | ○ | PROPOSED CATCH-BASIN MANHOLE |
| EX. HW. 145.58 | EXISTING TOP OF WALL ELEVATION | ○ | PROPOSED BENCH |
| EX. BW. 145.58 | EXISTING BOTTOM OF WALL ELEVATION | ○ | PROPOSED TRENCH DRAIN |
| EX. 2.2% | PROPOSED SLOPE | ○ | PROPOSED RETAINING |
| CS | PROPOSED CATCH-BASIN | ○ | PROPOSED BUILDING |
| → | OVERLAND DRAINAGE FLOW ARROWS | ○ | EXISTING BUILDING TO REMAIN |
| --- | PROPERTY LINE | ○ | BUILDING GROUND-LEVEL OUTLINE |
| --- | REGIONAL FLOOD LINE | ○ | BUILDING ABOVE GROUND-LEVEL OUTLINE |
| --- | REGIONAL FLOOD LINE 15m OFFSET | ○ | PROPOSED TREE PROTECTION ZONE |
| --- | MEANDERBELT LIMIT | ○ | PROPOSED GRAVEL ACCESS ROAD |
| --- | MEANDERBELT LIMIT OFFSET | ○ | |
| --- | ULRCA REGULATION LIMIT | ○ | |

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0), P1, P2, AND P4. DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99997. ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 0081972824 HAVING A PUBLISHED ELEVATION OF 261.000 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 22-21-9-877-00, DATED JANUARY 03, 2023.

No.	Revision	Date	By	App.
3	ISSUED FOR 50% DD	JUL. 31, 2024	H.B.	G.S.
2	ISSUED FOR STAGE 2.1 BLOCK SCHEMATICS	MAY 02, 2024	H.B.	G.S.
1	ISSUED FOR SD COSTING	APR 01, 2024	H.B.	G.S.

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LEA

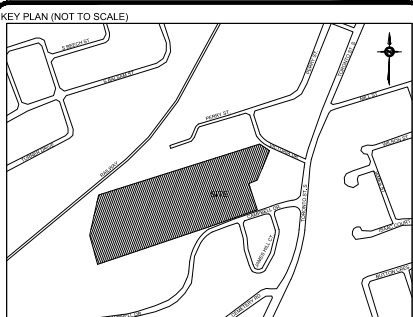
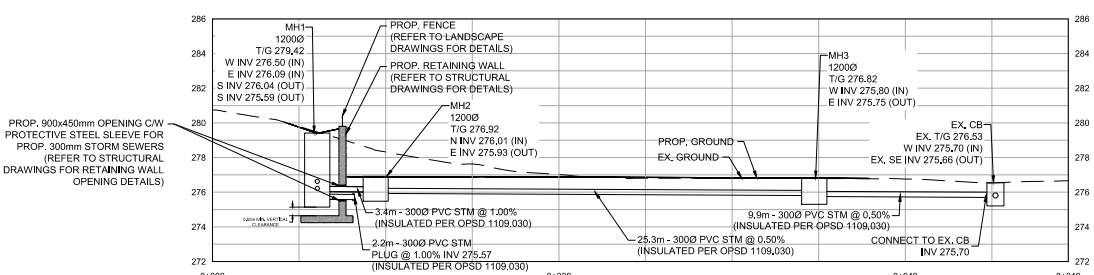
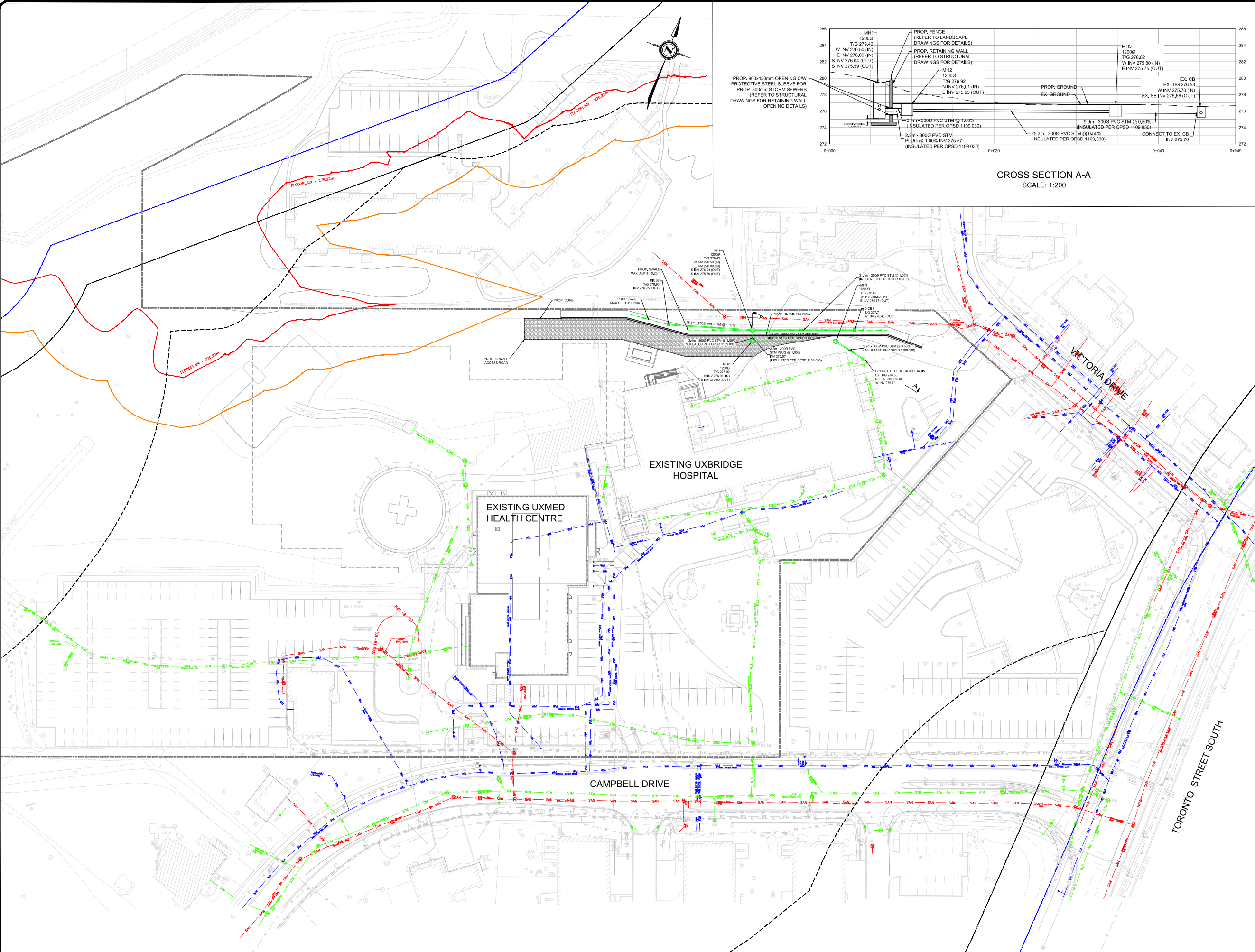
Owner/Client:

diamond schmitt

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

Title:
SITE GRADING PLAN (FINAL WORKS)

Designed By: J.P. Drawn By: J.P. Checked By: F.F.
Scale: 1:750 (FULL SIZE) Date: JAN. 17, 2024 Drawing No.: C-01
Project No.: 24163



- LEGEND:**
- GAS — EXISTING GAS MAIN
 - STW — EXISTING STORM SEWER
 - SAN — EXISTING SANITARY SEWER
 - WM — EXISTING WATERMAIN
 - EXISTING STORM MANHOLE
 - EXISTING SANITARY AND/OR COMBINED SEWER MANHOLE
 - EXISTING CATCHBASIN
 - LS EXISTING LIGHT STANDARD
 - WV EXISTING WATER VALVE
 - FH EXISTING FIRE HYDRANT
 - MH PROPOSED STORM MANHOLE
 - CB PROPOSED CATCHBASIN
 - PROPOSED STORM SEWER
 - PROPERTY LINE
 - REGIONAL FLOOD LINE
 - REGIONAL FLOOD LINE OFFSET
 - MEANDERBELT LIMIT
 - MEANDERBELT LIMIT OFFSET
 - LSRCA REGULATION LIMIT

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010), FOR BEARING COMPAREMENTS, A NOTATION OF "TRUE" COULD BE USED INSTEAD OF BEARINGS ON PLAN. P1, P2, AND P3.
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99997.
ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 001872024 HAVING A PUBLISHED ELEVATION OF 261.000 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 22-21-9-877-00, DATED JANUARY 10, 2023.

No.	Revision	Date	By	App.
5	ISSUED FOR 50% DD	JULY 31, 2024	H.B.	G.S.
4	ISSUED FOR OWNER REVIEW	JULY 18, 2024	H.B.	G.S.
3	ISSUED FOR EARLY WORKS DRAFT SUBMISSION	MAY 16, 2024	H.B.	G.S.
2	ISSUED FOR STAGE 2.1 BLOCK SCHEMATICS	MAY 02, 2024	H.B.	G.S.
1	ISSUED FOR SD COSTING	APR. 01, 2024	H.B.	F.F.

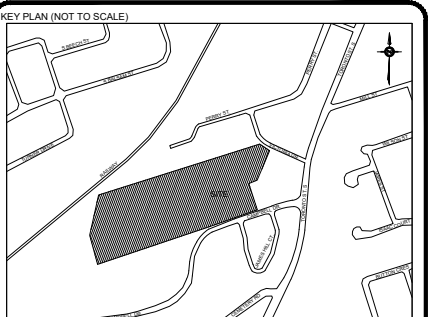
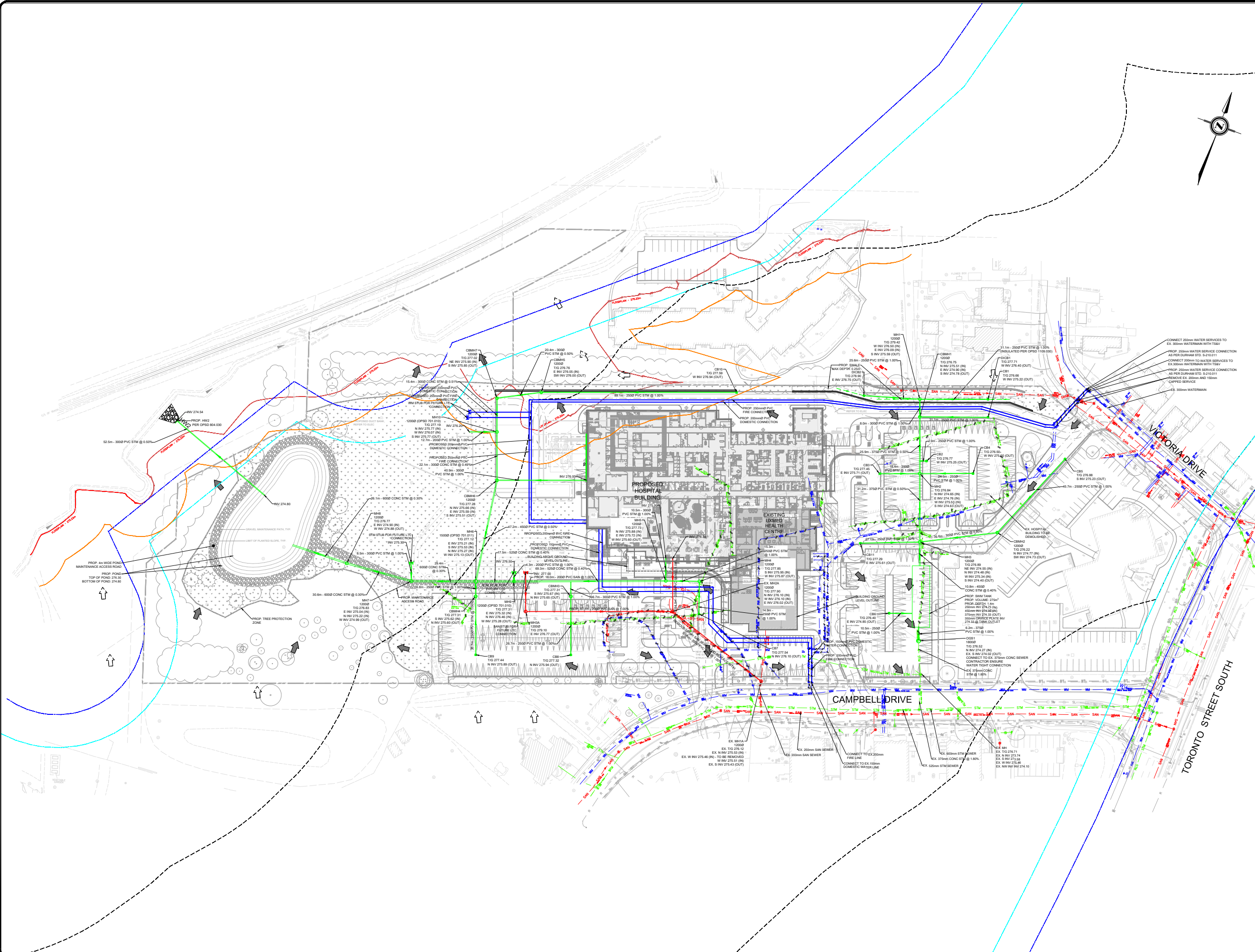
625 Cochrane Drive, Suite 500 Markham, Ontario L3R 9R9, Canada Tel: (905)470-0015 Fax: (905)470-0030	
--	--

Owner/Client:
diamond schmitt
Uxbridge Hospital
Oak Valley Health

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

Title:
SITE SERVICING PLAN (EARLY WORKS)

Designed By: J.P. Drawn By: J.P. Checked By: F.F.
Scale: 1:500 (FULL SET) Date: JAN. 17, 2024 Drawing No.: C-02A
Project No.: 24163



- LEGEND:**
- STM - EXISTING STORM SEWER
 - SAN - EXISTING SANITARY SEWER
 - WM - EXISTING WATERMAIN
 - W - EXISTING WATER
 - GAS - EXISTING GAS MAIN
 - SL - EXISTING STREET LIGHT
 - R - EXISTING ROGERS
 - B - EXISTING BELL
 - ST - EXISTING STORM MANHOLE
 - SM - EXISTING SANITARY AND/OR COMBINED SEWER MANHOLE
 - LS - EXISTING CATCHBASIN
 - LS - EXISTING LIGHT STANDARD
 - WV - EXISTING WATER VALVE
 - FW - EXISTING FIRE HYDRANT
 - MH - PROPOSED STORM MANHOLE
 - SM - PROPOSED SANITARY MANHOLE
 - CB - PROPOSED CATCHBASIN
 - CBMH - PROPOSED CATCHBASIN MANHOLE
 - STM - PROPOSED STORM SEWER
 - SAN - PROPOSED SANITARY SEWER
 - WM - PROPOSED WATER MAIN
 - UT - EXISTING UTILITY REMOVAL
 - HW - HEADWALL AND RPPAP
 - PL - PROPERTY LINE
 - FL - REGIONAL FLOOD LINE
 - FL - REGIONAL FLOOD LINE OFFSET
 - ML - MEANDERBELT LIMIT
 - ML - MEANDERBELT LIMIT OFFSET
 - LS - LSRCA REGULATION LIMIT
 - BL - PROPOSED BUILDING
 - BL - EXISTING BUILDING TO REMAIN
 - BL - BUILDING GROUND LEVEL OUTLINE
 - BL - BUILDING ABOVE GROUND LEVEL OUTLINE
 - PT - PROPOSED TREE PROTECTION ZONE

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CRS) (2011.0).
FOR BEARING COMPARISONS, A NOTATION OF "TRUE" COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON PLAN P1, P2, AND P4.
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99997.
ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 000197024 HAVING A PUBLISHED ELEVATION OF 261.000 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 22-21-877-00, DATED JANUARY 03, 2023.

No.	Revision	Date	By	App.
3	ISSUED FOR 50% DD	JUL. 31, 2024	H.B.	G.S.
2	ISSUED FOR STAGE 2.1 BLOCK SCHEMATICS	MAY 02, 2024	H.B.	G.S.
1	ISSUED FOR SD COSTING	APR. 01, 2024	H.B.	G.S.

625 Cochrane Drive, Suite 500
Markham, Ontario
L3R 9R9, Canada
Tel: (905)470-0015
Fax: (905)470-0030

LEA

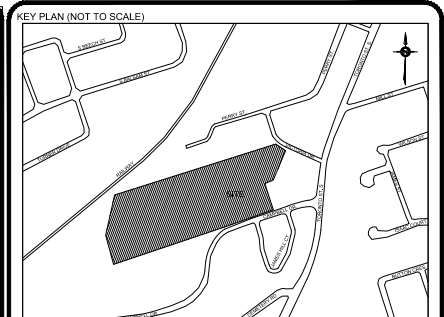
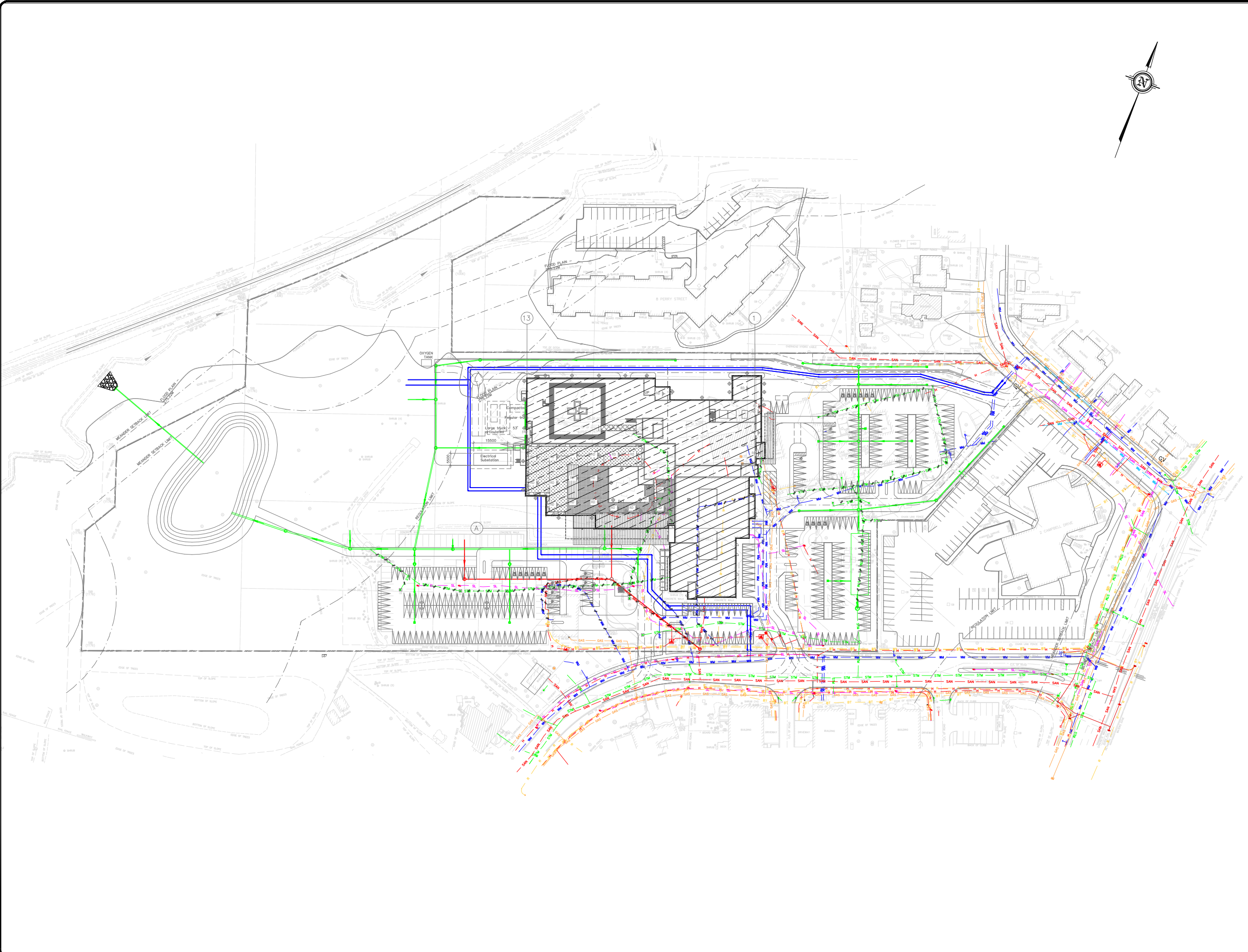
Owner/Client:

diamond schmitt **Uxbridge Hospital**
Oak Valley Health

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

Title:
SITE SERVICING PLAN (FINAL WORKS)

Designed By:	J.P.	Drawn By:	J.P.	Checked By:	F.F.
Scale:	1:750 (FULL SIZE)	Date:	JAN. 17, 2024	Drawing No.:	C-02
Project No.:	24163				



- LEGEND:**
- BT EXISTING BELL
 - GAS EXISTING GAS MAIN
 - H EXISTING HYDRO
 - STM EXISTING STORM SEWER
 - SAN EXISTING SANITARY SEWER
 - SAN EXISTING SANITARY SEWER (ABANDONED)
 - WM EXISTING WATERMAIN
 - WM EXISTING WATERMAIN (ABANDONED)
 - SL EXISTING STREET LIGHT
 - R EXISTING ROGERS
 - PROPERTY LINE
 - MH PROPOSED STORM MANHOLE
 - MH PROPOSED SANITARY MANHOLE
 - CB PROPOSED CATCHBASIN
 - CBMH PROPOSED CATCHBASIN MANHOLE
 - STM PROPOSED STORM SEWER
 - SAN PROPOSED SANITARY SEWER
 - WM PROPOSED WATER MAIN
 - EXISTING UTILITY REMOVAL
 - HEADWALL AND RIPRAP
 - PROPOSED BUILDING OUTLINE
 - EXISTING BUILDING OUTLINE

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010), P1, P2, AND P4. DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99997. ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 0081972024 HAVING A PUBLISHED ELEVATION OF 261.000 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 20-21-9-87-00, DATED JANUARY 03, 2005.

1	ISSUED FOR 50% DD	JULY 31 2023	H.B.	F.F.
No.	Revision	Date	By	App.

625 Cochrane Drive, Suite 500
Markham, Ontario
L3R 9R9, Canada
Tel: (905)470-0015
Fax: (905)470-0030

LEA

Owner/Client:

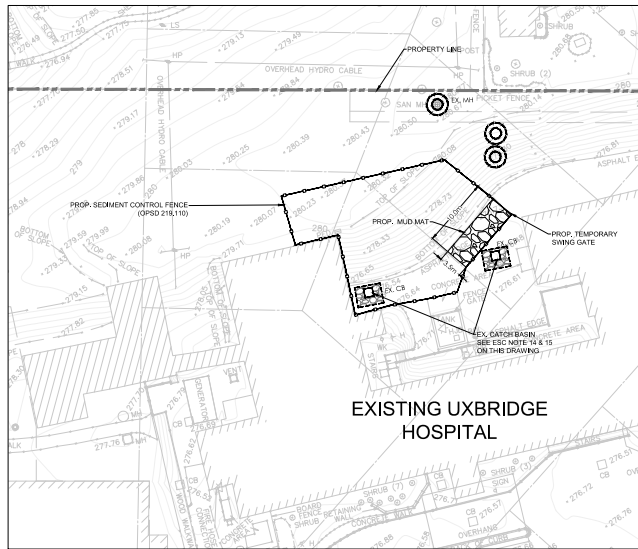
diamond schmitt **Uxbridge Hospital**
Oak Valley Health

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

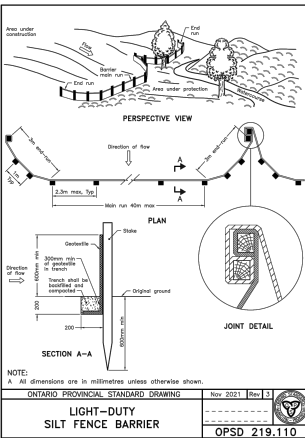
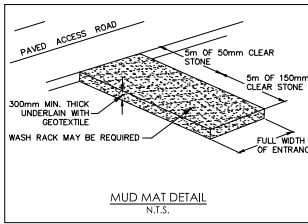
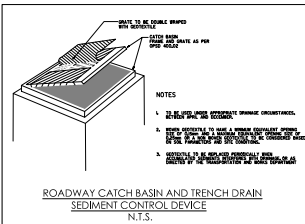
Title:
COMPOSITE UTILITY PLAN

Designed By: J.P.	Drawn By: J.P.	Checked By: F.F.
Scale: 1:750 (FULL SET)	Date: JAN. 17, 2024	Drawing No.: C-03
Project No.: 24163		

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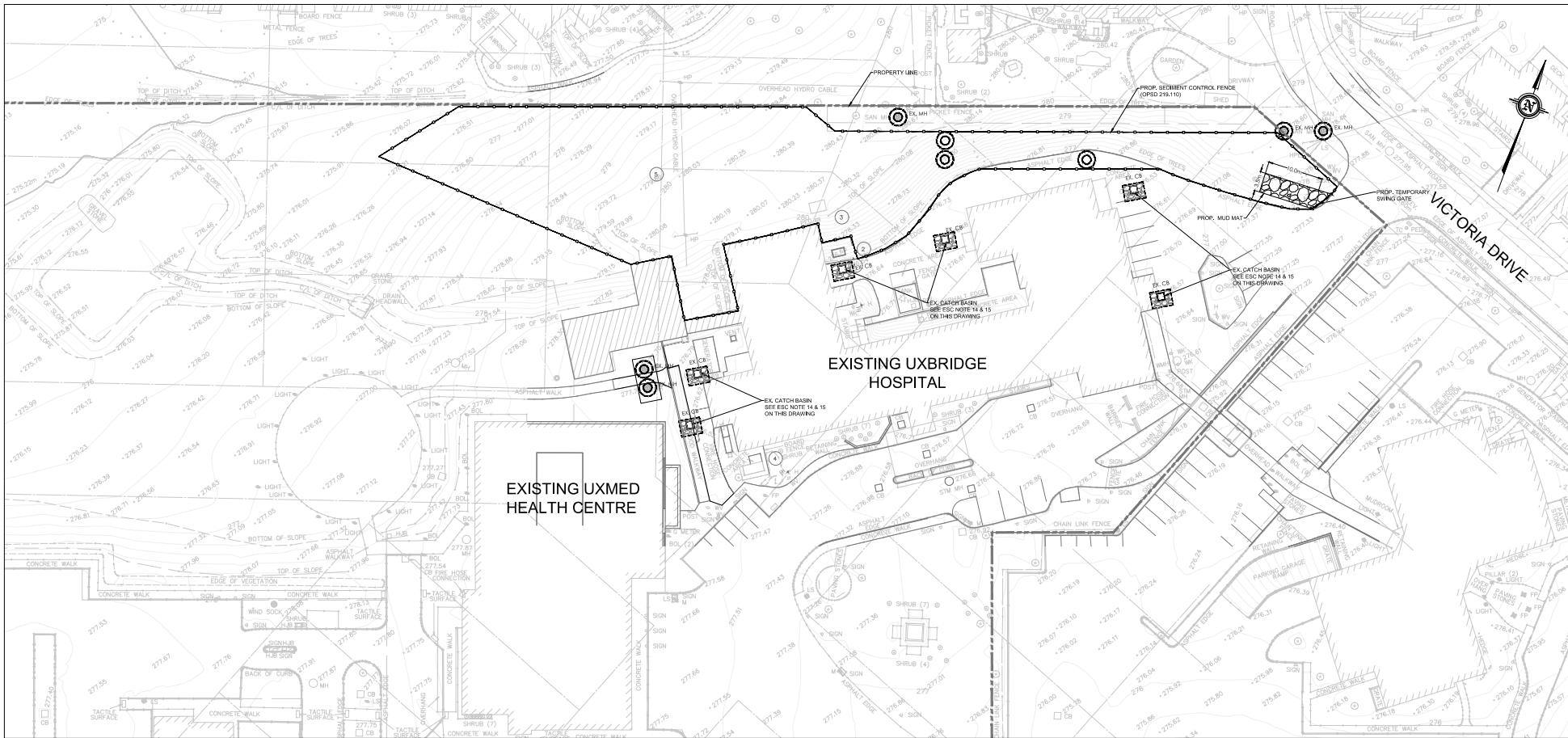


PHASE 1 - EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1:500

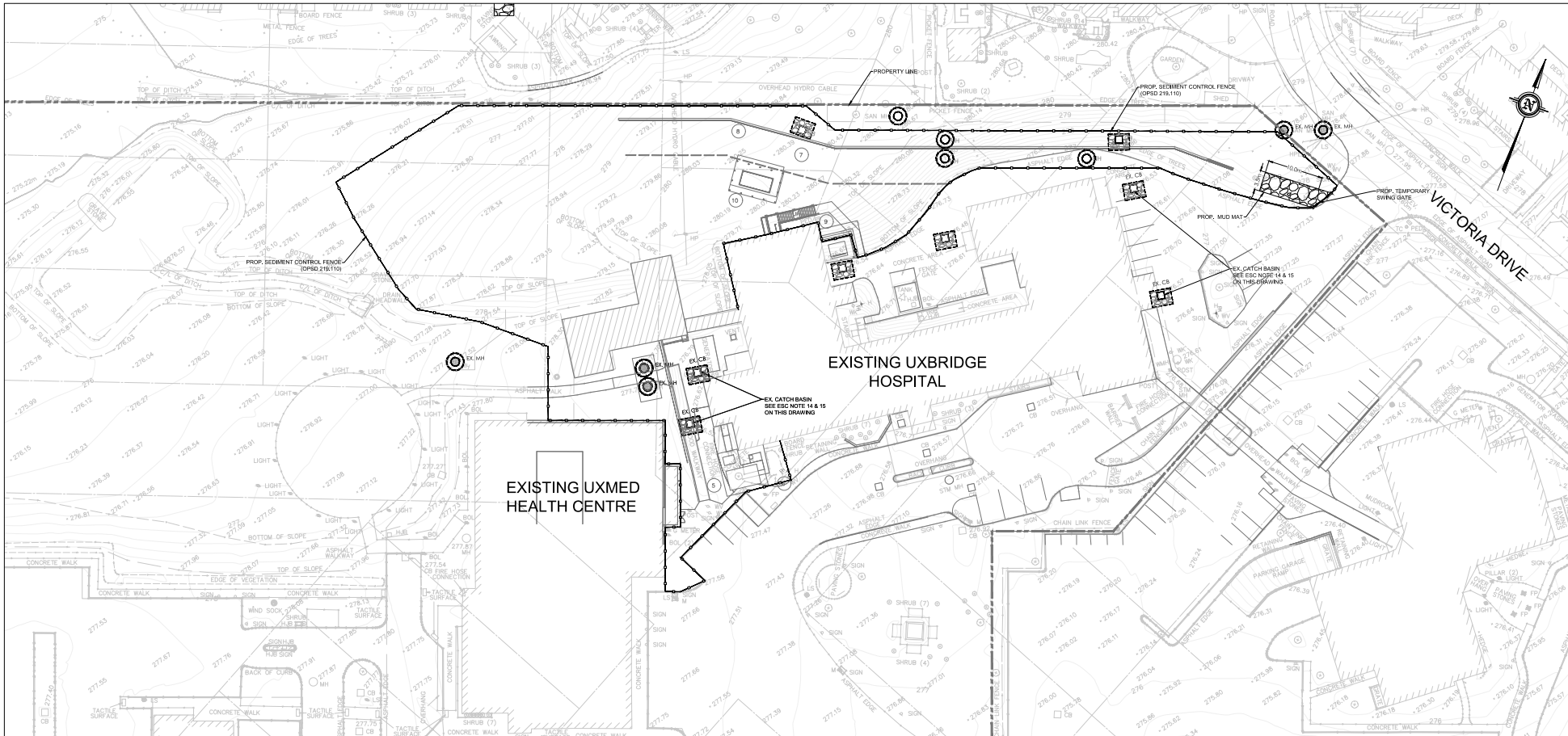


EROSION AND SEDIMENT CONTROL NOTES:

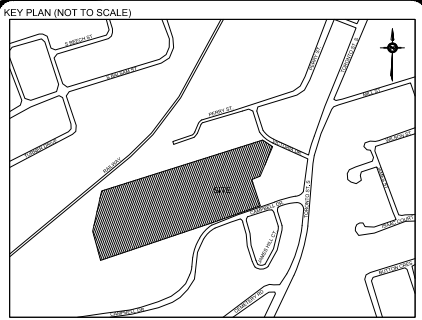
1. MINIMIZE ALL AREAS TO BE DISTURBED DURING CONSTRUCTION.
2. PROTECT ALL EXPOSED SURFACES FROM EROSION.
3. CONTROL RUNOFF DURING CONSTRUCTION.
4. ALL EROSION CONTROL MEASURES ARE TO BE IN PLACE AND INSPECTED BY A QUALIFIED PERSON BEFORE STARTING CONSTRUCTION AND REMAIN IN PLACE UNTIL RESTORATION IS COMPLETE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES. ANY FAILURES OF THE IMPLEMENTED EASC PLAN WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE CONTRACT ADMINISTRATOR.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING BUT NOT LIMITED TO, MAINTAINING FENCING, DIVERSION SWALES, CATCHBASIN SILT SACKS, TEMPORARY SEDIMENTATION BASINS, AND REMOVING ALL ACCUMULATED SEDIMENT FROM THESE CONTROLS WHEN WARRANTED.
7. ALL SOIL DEEMED TO BE EXCESS SOILS SHALL BE MANAGED IN ACCORDANCE WITH O. REG. 406/19 ON-SITE AND EXCESS SOIL MANAGEMENT REGULATIONS AND THE SOIL RULES.
8. ALL DISTURBED AREAS WHERE WORK WILL NOT OCCUR FOR 30 DAYS OR MORE SHALL BE STABILIZED IN ACCORDANCE WITH OPSS MUNI 804. IF GRADING IS COMPLETED DURING OFF-SEASON CONSTRUCTION MONTHS, THE SLOPES WILL BE STABILIZED, AS PER OPSS MUNI 804, WHEN WEATHER PERMITS.
9. ANY SOIL STOCKPILES (EXCLUDING TOPSOIL) SHALL BE SURROUNDED WITH SILT FENCE AND STABILIZED IN ACCORDANCE WITH OPSS MUNI 804. TOPSOIL PILES ARE NOT REQUIRED TO HAVE SILT FENCING AROUND THEM BUT SHALL BE PLACED AND PROTECTED SO THAT THERE ARE NO NEGATIVE IMPACTS ON SURROUNDING PRIVATE PROPERTIES.
10. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL SITE RESTORATION IS COMPLETE.
11. UNLESS OTHERWISE SPECIFIED, ALL GEOTEXTILE (CLASS II PER OPSS OR APPROVED EQUIVALENT) SHALL BE INSTALLED IN ALL MAINTENANCE HOLES AND PIPE ENDS TO PROTECT THE STORM SEWER SYSTEM FROM SEDIMENT ACCUMULATION.
12. ALL ACCUMULATED SEDIMENT SHALL BE DEPOSED OF AT AN APPROVED LOCATION, IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
13. ALL Dewatering MUST BE CONDUCTED USING AN APPROVED OUTLET CONTROL METHOD SUCH AS A SEDIMENTATION BASIN OR FILTER BAG. EFFLUENT MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE ACCEPTED EASC MONITORING PROGRAM REQUIREMENTS AND TO ENSURE DISCHARGE IS CONSISTENT WITH THE RECEIVER'S BACKGROUND WATER QUALITY REQUIREMENTS.
14. PROTECT ALL CATCHBASINS FROM SEDIMENT INTRUSION USING CATCHBASIN FILTER SACKS OR EQUIVALENT.
15. PROTECT ALL CURB INLET CATCHBASINS FROM SEDIMENT INTRUSION USING CATCHBASIN FILTER SACKS AND PROTECT THE CURB INLET PORTION WITH THE USE OF SECTIONS OF LINEAR FILTER SOCKS OR EQUIVALENT.
16. KEEP ALL SUMPS CLEAN DURING CONSTRUCTION AND IDENTIFY A REGULAR MAINTENANCE PROGRAM TO DO SO.
17. HAVE A PLAN TO MINIMIZE/PREVENT WIND-BLOWN DUST SUCH AS SPRAYING CALCIUM CHLORIDE, WATER AND APPLYING GROUND SOIL TACKIFIERS (PAM) VIA HYDROSEED OR STRAW AND REGULAR STREET SCRAPING/SWEEPING TO REMOVE DEBRIS.
18. STRAW BALES AND/OR WATTLES TO BE USED IN LOCALIZED OVERLAND FLOW AREAS AS SHOWN AND AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION FOR WORKS.
19. STRAW BALES, WATTLES AND SILT FENCE ARE TO BE TERMINATED BY ROUNDING THE ENDS (J-HOOKING) TO CONTAIN AND FILTER RUNOFF.
20. ALL REFUELING AND MAINTENANCE OF EQUIPMENT SHOULD BE AT A MINIMUM OF 30 METERS AWAY FROM ANY SURFACE WATER FEATURE, WHERE SITE CONSTRAINTS CANNOT ACCOMMODATE THIS SEPARATION, ALL FUEL AND EQUIPMENT SHALL BE PLACED WITHIN AN APPROVED SPILL CONTAINMENT PIT.



PHASE 2 - EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1:500



PHASE 3 - EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1:500



LEGEND:

- PROPERTY LINE
- EXISTING CATCHBASIN
- EXISTING MANHOLE
- PROPOSED SEDIMENT CONTROL FENCE
- CATCHBASIN TOP TO BE COVERED (SEE ESC NOTE 4 ON DRAWING C-04A)
- MANHOLE WITH FILTER CLOTH (WRAPPED AROUND MANHOLE)
- PROPOSED MUD MAT (SEE DETAIL DRAWING ON DRAWING C-04A)

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010). FOR BEARING COMPARISONS, A ROTATION OF 1.700° COUNTERCLOCKWISE WAS APPLIED TO BEARINGS ON PLAN. P1, P2, AND P3 DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999702. ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 00819728024 HAVING A PUBLISHED ELEVATION OF 261.080 METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 20-21-9-877-00, DATED JANUARY 10, 2023.

No.	Revision	Date	By	App.
4	ISSUED FOR SDI DD	JULY 31, 2024	H.B.	G.S.
3	ISSUED FOR OWNER REVIEW	JULY 18, 2024	H.B.	G.S.
2	ISSUED FOR STAGE 2.1 BLOCK SCHEMATICS	MAY 02, 2024	H.B.	G.S.
1	ISSUED FOR SD COSTING	APR. 01, 2024	H.B.	G.S.

625 Cochrane Drive, Suite 500
Markham, Ontario
L3R 9R9, Canada
Tel: (905) 470-0015
Fax: (905) 470-0030

Owner/Client:

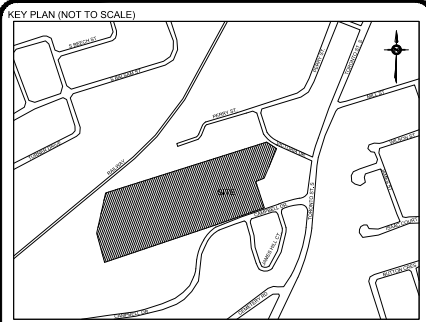
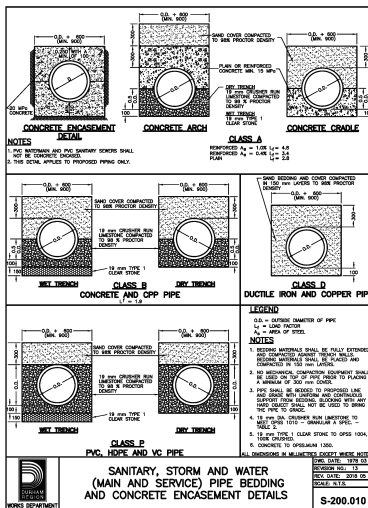
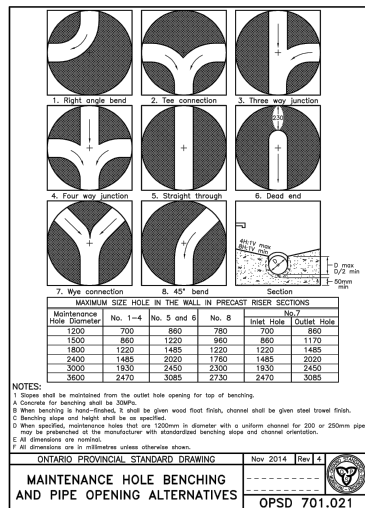
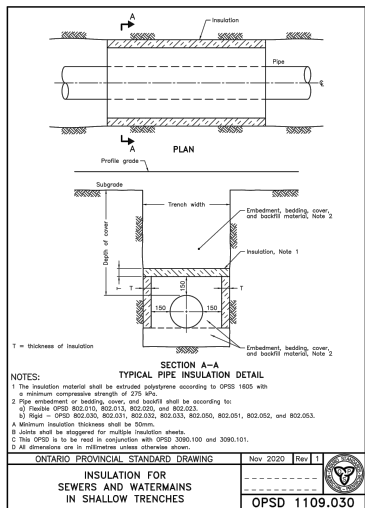
diamond schmitt

Uxbridge Hospital
Oak Valley Health

Location:
OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

Title:
EROSION AND SEDIMENT CONTROL PLAN (EARLY WORKS)

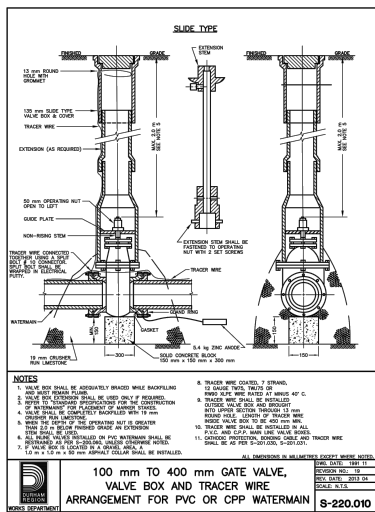
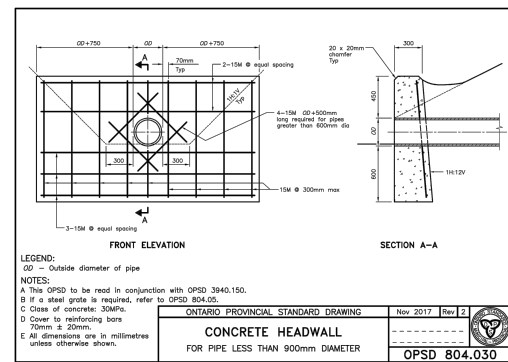
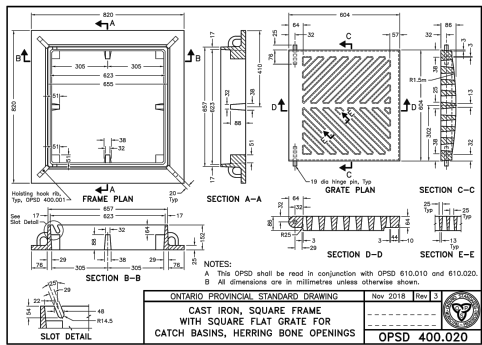
Designed By: J.P.	Drawn By: J.P.	Checked By: F.F.
Scale: 1:500 (FULL SET)	Date: JAN. 17, 2024	Drawing No.: C-04A
Project No.: 24163		



BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0).
FOR BEARING COMPENSATION, A ROTATION OF 10.6070 COUNTERCLOCKWISE WAS APPLIED TO BEARINGS ON PLAN
17, 17.0 AND 17.1.
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY COMBINED SCALE
FACTOR OF 0.99995.
ALL BUILDING TIES ARE TAKEN TO CONCRETE FOUNDATION.

ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEOCENTRIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY OF
NATURAL RESOURCES AND FORESTRY BENCHMARK NO. 091972304 HAVING A PUBLISHED ELEVATION OF 261.093
METRES.

SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 23-21-9-87-00,
DATED JANUARY 03, 2023.



**diamond
schmitt**

 **Uxbridge
Hospital**
Oak Valley Health

Title: STANDARD DRAWINGS AND DETAILS

Designed By:	J.P.	Drawn By:	J.P.	Checked By:	F.F.
Scale:	N.T.S.	Date:	JAN. 17, 2024	Drawing No.:	C-05
Project No.:	24163				

GENERAL NOTES

1. UNLESS INDICATED OTHERWISE, ALL WORKS WITHIN THE TOWNSHIP RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH REGION MUNICIPALTY OF DURHAM AND THE TOWNSHIP OF UXBRIDGE DESIGN STANDARDS AND SPECIFICATIONS, ONTARIO PROVINCIAL STANDARDS.
2. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CURRENT "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS."
3. PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL RIGHT-OF-WAY, THE CONTRACTOR WILL OBTAIN ALL NECESSARY ROAD PERMITS FROM THE TRANSIT INFRASTRUCTURE PROJECTS SECTION OF TRANSPORTATION SERVICES.
4. PREPARE AND SUBMIT THE DESIGN AND CONSTRUCTION DRAWINGS OF THE PROJECT LIMITS TO THE SERVICE / UTILITY COMPANIES FOR MARK UP OF THEIR EXISTING / PROPOSED PLANT AND SIGN-OFF DOCUMENTS.
5. PRIOR TO ANY EXCAVATION, ALL UTILITY OWNERS MUST BE CONTACTED TO OBTAIN SANCTIONED LOCATES, AS STIPULATED BY THE OCCUPATIONAL HEALTH AND SAFETY ACT.
6. CONTRACTOR SHALL CONTACT ENBRIDGE GAS AND OTHER UTILITY COMPANIES TO ADVISE WELL IN ADVANCE OF THEIR REQUIREMENT ON SITE WHERE THE EXCAVATION TAKE PLACE IN THE VICINITY OF ANY UTILITIES DURING CONSTRUCTION PERIOD.
7. CONTRACTOR TO EXERCISE EXTREME CAUTION WHILE EXCAVATING AND BACKFILLING IN THE VICINITY OF THE UNDERGROUND UTILITIES, WHICH ARE NOT TO BE DISTURBED AND HAND DIGGING MAY BE REQUIRED.
8. CONTRACTOR IS RESPONSIBLE FOR LOCATING,SUPPORTING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES PRIOR TO AND DURING CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT.
9. COORDINATED ACCESS SHALL BE PROVIDED TO ALL SERVICE / UTILITY COMPANIES MAINTENANCE VEHICLES DURING CONSTRUCTION OPERATIONS AS DEFINED IN THE CONSTRUCTION MANAGEMENT PLAN.
10. INFORMATION REGARDING ANY EXISTING SERVICES AND UTILITIES SHOWN ON THIS SET OF PLANS IS FURNISHED AS THE BEST AVAILABLE INFORMATION. ALL EXISTING MUNICIPAL SERVICES (IE. WATERMAINS) THAT CROSS PROPOSED SERVICES ARE TO BE DAYLIGHTED AND DEPTHS CONFIRMED, PRIOR TO CONSTRUCTION OF PROPOSED SERVICES, ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
11. SUPPORTING OF EXISTING UTILITIES AND SERVICES SHALL BE IN ACCORDANCE WITH TOWNSHIP OF UXBRIDGE STANDARD AND/OR PROVIDE THE DESIGN OF THE UTILITY SUPPORT SYSTEM (IF APPLICABLE). THE CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL SHOP DRAWINGS FOR REVIEW AND APPROVAL.
12. CONTRACTOR SHALL COORDINATE WITH SERVICE / UTILITY COMPANIES THAT ARE IMPACTED BY THE CONTRACTOR'S OPERATIONS.
13. ALL TRENCHES WITHIN EXISTING RIGHT-OF-WAYS SHALL BE BACKFILLED PER THE GEOTECHNICAL REPORT. TEMPORARY REPAIRS TO UTILITY CUTS SHALL BE IN ACCORDANCE WITH MUNICIPAL CONSENT REQUIREMENTS.
14. WHERE THE STABILITY, SAFETY OR FUNCTION OF THE EXISTING ROADWAY OR UNDERGROUND FACILITIES MAY BE IMPAIRED DUE TO THE CONTRACTOR'S METHOD OF OPERATIONS, THE CONTRACTOR SHALL PROVIDE SUCH PROTECTION AS MAY BE REQUIRED.
15. ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS AS DEFINED BY CONTRACT PLANS WILL BE RESTORED PER TOWNSHIP OF UXBRIDGE REQUIREMENTS.
16. SERVICE CONNECTIONS AND UTILITY CUTS SHALL BE BACKFILLED WITH PER S-200.010 AND PER THE GEOTECHNICAL REPORT.
17. TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7: TEMPORARY CONDITIONS.
18. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AND MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES TO COMPLY WITH CURRENT DURHAM REGION AND CITY OF OSHAWA BY-LAWS, CLOCA STANDARDS AND APPLICABLE LAW, AND IN ACCORDANCE WITH SECTION 6.7.2 - EROSION AND SEDIMENT CONTROL OF SCHEDULE 17 - ENVIRONMENTAL OBLIGATIONS.
19. IF REQUIRED, DEWATERING SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH ONTARIO WATER TAKING REGULATION (O.REG. 387/04). IF REQUIRED, PERMIT TO TAKE WATER (PTTW) SHALL BE OBTAINED BY THE CONTRACTOR FROM MINISTRY OF THE ENVIRONMENT IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMIT TO DISCHARGE TO THE CITY STORM OR SANITARY SEWER DIRECTLY FROM THE REGION OF DURHAM OR THE TOWNSHIP OF UXBRODGE. THE CONTRACTOR IS NOT PERMITTED UNDER THE CITY'S SEWERS BY-LAW TO DISCHARGE WATER TO THE CITY'S SEWERS WITHOUT A PERMIT ISSUED BY THE DURHAM REGION OR THE TOWN OF UXBRIDGE AS APPLICABLE.
20. NO PROJECT RELATED CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY ARE TO BE UNDERTAKEN UNTIL AN AGREEMENT HAS BEEN ESTABLISHED WITH THE PROPERTY OWNER.
21. THE CONCRETE CURB AND CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK (IF APPLICABLE), AND ALL RESTORATION OF ROADWAYS TO THE SITE SHALL BE CONSTRUCTED AND CARRIED OUT IN ACCORDANCE WITH ALL APPLICABLE AND CURRENT DURHAM REGION STANDARDS.
22. THE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING DEBRIS ON THE CONSTRUCTION SITE AND ALSO REMOVE ALL HOARDING UPON COMPLETION OF THE WORK.
23. THE ROADWAY PAVEMENT STRUCTURE WILL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH REGION OF DURHAM AND TOWNSHIP OF UXBRIDGE REQUIREMENTS.
24. ALL EXISTING MAINTENANCE HOLE TOPS, VALVE CHAMBERS, CATCH BASINS, GAS VALVE BOXES, WATER VALVE BOXES ETC. TO BE ADJUSTED TO FINISHED GRADE.
25. THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN AND, WHERE SHOWN ON THE DRAWING(S), THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DIMENSION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTORS SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.

26. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE SITE PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
27. ANY DISCREPANCIES BETWEEN SITE CONDITIONS AND CONSTRUCTION DRAWINGS MUST BE REPORTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION AND APPROPRIATE ACTION TAKEN TO THE SATISFACTION OF THE CONTRACT ADMINISTRATION.
28. ALL SURVEY STAKE LAYOUT POINTS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE LAYOUT SHALL BE IMMEDIATELY REPORTED THE ENGINEER.
29. ALL DIMENSION ARE EXPRESSED IN METERS AND PIPE SIZES ARE EXPRESSED IN MILLIMETERS UNLESS OTHERWISE NOTED.
30. ALL MATERIAL FOR SEWER, FORCEMAIN, WATERMAIN, HYDRANTS AND APPURTENANCES SHALL BE ACCORDING TO REGION OF DURHAM AND TOWNSHIP OF UXBRIDGE STANDARDS.
31. AT ALL LOCATIONS WHERE THE PROPOSED WATERMAIN CROSSES UNDER OR ABOVE THE EXISTING SEWERS, OR UTILITIES, GRANULAR A BEDDING MATERIAL IS TO EXTEND FROM THE LOWER PIPE TO THE TOP OF THE UPPER PIPE. GRANULAR A TO BE COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
32. CONTRACTOR TO PROVIDE ADEQUATE SUPPORT DURING CONSTRUCTION BETWEEN THE NEW WATERMAIN AND EXISTING GAS MAINS. MAINTAIN 300mm MINIMUM VERTICAL CLEARANCES BETWEEN THE NEW WATERMAIN AND EXISTING GAS MAINS LESS THAN 300mm IN DIAMETER. MAINTAIN 600mm MINIMUM VERTICAL CLEARANCES BETWEEN THE NEW WATERMAIN AND EXISTING GAS MAINS EQUAL TO OR GREATER THAN 300mm IN DIAMETER.
33. ALL EXISTING UTILITIES SHOWN ON DRAWINGS ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACTUAL LOCATION AND DEPTH OF ANY UTILITY AND SHALL BE LIABLE FOR ALL OR ANY DAMAGE
34. ADJUST ALL STRUCTURES (MAINTENANCE HOLES, CATCH BASINS, ETC.) TO SUIT NEW DESIGN ELEVATIONS INCLUDING BREAKING DOWN AND REMOVAL OF PORTION OF TOP OF STRUCTURES TO ALLOW FOR MINIMUM 150mm ADJUSTMENT.
35. ALL CURB SHALL BE CONSTRUCTED WITH A LEDGE AT THE BACK OF THE CURB TO FACILITATE FUTURE SIDEWALK CONSTRUCTION.
36. FULL DEPTH SAW-CUTS ARE REQUIRED AT CONSTRUCTION LIMITS OF EXISTING CURB, SIDEWALK AND PAVEMENT UNLESS OTHERWISE SHOWN.
37. SAW CUT EXISTING PAVEMENT, SIDEWALK, CURB, GUTTER, DRIVEWAYS, WALKWAYS, ETC. AT CONSTRUCTION LIMITS TO PROVIDE A CLEAN JOINT FOR THE PROPOSED WORK.
38. PROVIDE SITE GRADING AND SITE SERVICING "AS-BUILT" AND "RECORD DRAWINGS" AND "SEWERS CCTV SURVEY" FOR THE PROJECT CLOSEOUT SUBMISSIONS, AT NO EXTRA COST TO THE OWNER. CCTV INSPECTION OF THE INSTALLED PIPES SHALL BE PER OPSS-409.

WATERMAINS

1. P.V.C. WATERMAIN TO CONFORM TO LATEST A.W.W.A. SPECIFICATIONS.
2. WATERMAIN TO HAVE A MINIMUM 1.70m COVER OR 1.9m BELOW CENTRELINE OF ROAD, WHICHEVER IS DEEPER.
3. WATER SERVICES ARE TO HAVE MINIMUM 1.70m COVER.
4. WATER SERVICES TO HAVE 1.2m MINIMUM HORIZONTAL CLEARANCE FROM MAINTENANCE HOLES AND CATCHBASINS, AND 1.00m MINIMUM HORIZONTAL CLEARANCE FROM ALL OTHER UTILITIES.
5. FIRE HYDRANTS TO CONFORM TO A.W.W.A C502 AND TO BE INSTALLED AS PER S-210.010. HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
6. WATERMAIN BEDDING SHALL BE AS PER S-200.010, CLASS P AND BEDDING MATERIAL TO BE PER S-200.010 UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
7. ALL PVC WATERMAINS SHALL BE INSTALLED WITH A WHITE PLASTIC COATED 12 GAUGE SOLID COPPER TRACER WIRE WHICH SHALL BE BROUGHT TO THE SURFACE AT ALL SECONDARY VALVES AND MAIN LINE VALVES.
8. VALVE IN BOXES SHALL BE INSTALLED AS PER S-220.010 AND CONFORM TO A.W.W.A. C500. MAINLINE VALVES TO BE MECHANICALLY RESTRAINED.
9. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS. WEIGHT OF THE ANODES TO BE MINIMUM 5.4 kg (12 lbs.), UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
10. ALL PLUGS, CAPS, TEES AND BENDS SHALL BE MECHANICALLY RESTRAINED. RESTRAINING JOINTS SHALL BE AS PER UNI-FLANGE SERIES 1300, OR APPROVED EQUAL.
11. THE NEW WATERMAIN TO BE TAPPED FOR WATER SERVICES MUST BE ISOLATED FROM THE EXISTING WATERMAIN. TO MAINTAIN PRESSURE IN THE NEW MAIN DURING INSTALLATION OF SERVICES, A 50mm BY-PASS WITH AN APPROVED DIFFERENTIAL BACKFLOW PREVENTER IS TO BE INSTALLED AROUND THE CLOSED OPERATING VALVE.
12. UNLESS OTHERWISE NOTED, THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE WATERMAIN AND ANY SEWER SHALL BE 2.5m. A MINIMUM VERTICAL SEPARATION OF 0.3m MUST BE MAINTAINED IF WATERMAIN IS ABOVE SEWER, OR 0.5m IF SEWER IS ABOVE WATERMAIN. CLEARANCES ARE MEASURED FROM OUTSIDE EDGES OF PIPES.
13. MINIMUM CURVATURE OF ANY WATERMAIN SHALL BE COMPLETED BY PIPE DEFLECTION IN ACCORDANCE WITH THE MANUFACTURER'S RADIUS GUIDELINES.
14. VALVES SHALL BE RESILIENT SEAT GATE VALVES FOR 300mm DIAMETER OR LESS.

STORM SEWERS

1. A TEST FITTING SHALL BE INSTALLED AT THE PROPERTY LINE.
2. ALL SERVICE CONNECTIONS TO BE MARKED WITH A 50mm x 100mm WOOD STAKE, PROJECTING 1.0m ABOVE THE GROUND, WITH THE TOP 300mm PAINTED ORANGE.
3. SEWER BEDDING SHALL BE AS PER S-200.010, CLASS P AND BEDDING MATERIAL TO BE PER S-200.010 UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

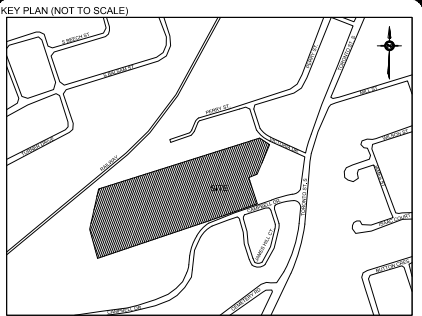
3. MAINTENANCE HOLES SHALL BE ACCORDING TO O.P.S.D. 701.010 (1200mm), O.P.S.D. 701.011 (1500mm), O.P.S.D. 701.012 (1800mm), OR O.P.S.D. 701.013 (2400mm). FRAME AND COVER FOR MAINTENANCE HOLE LOCATED WITHIN PAVEMENT SHALL BE AS PER S-100.071. FRAME AND COVER FOR MAINTENANCE HOLE NOT LOCATED WITHIN PAVEMENT SHALL BE ACCORDING TO O.P.S.D. 401.010 (TYPE B - OPEN).
4. FRAME AND COVER FOR CATCHBASIN MANHOLE SHALL BE ACCORDING TO O.P.S.D. 400.020.
5. SINGLE CATCHBASINS TO BE PRECAST CONCRETE WITH CAST IRON FRAME AND GRATE CONFORMING TO O.P.S.D. 705.010 AND DOUBLE CATCHBASINS TO BE PRECAST CONCRETE WITH CAST IRON FRAME AND GRATE CONFORMING TO O.P.S.D. 705.020. FRAME AND COVER SHALL BE ACCORDING TO O.P.S.D. 400.020.
6. DITCH INLET CATCHBASIN SHALL BE ACCORDING TO O.P.S.D. 705.030 (600mm x 600mm), OR 705.040 (600mm x 1200mm). FRAME AND COVER FOR CATCHBASIN MANHOLE SHALL BE ACCORDING TO O.P.S.D. 403.010.
7. CONTRACTOR SHALL ENSURE THAT THE LOW POINT OF CURBS COINCIDE WITH THE LOCATION OF CATCHBASINS INSTALLED AT ROADWAY SAG AREAS.
8. CATCHBASIN CONNECTIONS TO THE CURB SUBDRAIN SYSTEM TO BE IN ACCORDANCE WITH O.P.S.D. 216.021.
9. SINGLE CATCHBASIN LEADS TO BE 250mm LAID AT A MINIMUM SLOPE OF 1% UNLESS OTHERWISE NOTED. DOUBLE CATCHBASIN LEADS TO BE 300mm LAID AT A MINIMUM SLOPE OF 1% UNLESS OTHERWISE NOTED. ALL CATCHBASIN LEADS TO BE EITHER CONCRETE OR P.V.C. SDR-35 UNLESS OTHERWISE NOTED.
10. ROAD CATCHBASIN LEAD INVERTS TO BE 1.5m BELOW GRATE ELEVATION, UNLESS OTHERWISE REQUIRED FOR POSITIVE DRAINAGE TO MAIN LINE SEWER.
11. MAINTENANCE HOLE BENCHING AND PIPE OPENING DETAILS TO BE AS PER O.P.S.D. 701.021.
12. NO CATCH BASIN SHALL BE LOCATED IN THE PROPOSED AREAS OF DRIVEWAYS.
13. ALL SEWERS SHALL BE INSTALLED WITH LASER AND CHECKED PRIOR TO BACKFILLING.
14. FROST STRAPS TO BE INSTALLED AS PER O.P.S.D # 701.100.
15. WHERE DEPTH OF COVER IS LESS THAN 1.2m, STORM SEWERS SHALL BE INSULATED PER O.P.S.D. 1109.030.
16. ALL STORM SEWER PIPES SMALLER THAN 375 SHALL BE PVC AND HAVE SMOOTH INTERIOR AND EXTERIOR WALL AND CONFORM TO OPSS 1841 MATERIAL SPECIFICATION.

SANITARY SEWERS

1. A TEST FITTING SHALL BE INSTALLED AT THE PROPERTY LINE.
2. MAINTENANCE HOLES SHALL BE ACCORDING TO O.P.S.D. 701.010 (1200mm), O.P.S.D. 701.011 (1500mm), O.P.S.D. 701.012 (1800mm) OR O.P.S.D. 701.013 (2400mm). FRAME AND COVER FOR MAINTENANCE HOLE LOCATED WITHIN PAVEMENT SHALL BE AS PER S-100.071. FRAME AND COVER FOR MAINTENANCE HOLE NOT LOCATED WITHIN PAVEMENT SHALL BE ACCORDING TO O.P.S.D. 401.010 (TYPE A - CLOSED).
3. SEWER BEDDING SHALL BE AS PER S-200.010, CLASS P AND BEDDING MATERIAL TO BE PER S-200.010 UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
4. ALL SERVICE CONNECTIONS TO BE MARKED WITH A 50mm x 100mm WOOD STAKE, PROJECTING 1.0m ABOVE THE GROUND, WITH THE TOP 300mm PAINTED GREEN.
5. CONNECTIONS TO EXISTING SANITARY SEWER TO BE MADE USING PIPE CUTTER AND APPROVED SADDLES.
6. ALL SEWERS SHALL BE INSTALLED WITH LASER AND CHECKED PRIOR TO BACKFILLING.
7. MAINTENANCE HOLE PIPE OPENING AND BENCHING DETAILS TO BE AS PER O.P.S.D. 701.021.
8. SANITARY SERVICES TO HAVE A MIN. 2.7m COVER AT THE STREET LINE, UNLESS OTHERWISE NOTED.
9. FROST STRAPS TO BE INSTALLED AS PER O.P.S.D # 701.100
10. ALL SANITARY SEWER PIPES SMALLER THAN 375 SHALL BE PVC AND HAVE SMOOTH INTERIOR AND EXTERIOR WALL AND CONFORM TO OPSS 1841 MATERIAL SPECIFICATION.

ROADS, SIDEWALKS AND WALKWAYS

1. CATCHBASIN, MAINTENANCE HOLE AND VALVE CHAMBER COVERS SHALL BE SET FLUSH TO BASE COURSE ASPHALT LEVEL AND ADJUSTED TO GRADE PRIOR TO INSTALLING TOP COURSE OF ASPHALT.
2. SINGLE STAGE CURB AND WIDE GUTTER IF REQUIRED SHALL BE AS PER O.P.S.D. 600.010.
3. CONCRETE FOR CURBS TO CONFORM TO O.P.S.S. 353.
4. TEMPORARY ASPHALT CURB SHALL BE AS PER O.P.S.D. 601.010.
5. SIDEWALKS SHALL BE AS PER O.P.S.D. 310.010 WITH CONCRETE TO CONFORM TO O.P.S.S. 351.
6. THE PAVEMENT STRUCTURE DESIGN WILL BE SPECIFIED AS PER THE GEOTECHNICAL REPORT.



LEGEND:

BEARING
BEARINGS ARE UTM GRID, DERIVED BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010).
FOR BEARING COMPARISONS, A ROTATION OF 1.000° COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON PLAN.
P1, P2, AND P3
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE
FACTOR OF 0.99997.
ALL BUILDING TEES ARE TAKEN TO CONCRETE FOUNDATION.
ELEVATION
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE ONTARIO MINISTRY
OF NATURAL RESOURCES AND FORESTRY BENCHMARK No. 00019720024 HAVING A PUBLISHED ELEVATION OF 261.000
METRES.
SURVEYING INFORMATION
SURVEYING INFORMATION IS REFERENCED FROM J. D. BARNES LIMITED - REFERENCE NO. 20-21-9-877-00.
DATED JANUARY 03, 2003.

1	ISSUED FOR 50% DD	JULY 31, 2024	H.B.	G.S.
No.	Revision	Date	By	App.

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Owner/Client:

Location:

OAK VALLEY HEALTH UXBRIDGE HOSPITAL
UXBRIDGE, ON

Title:

GENERAL NOTES

Designed By: J.P., Drawn By: J.P., Checked By: F.F.,
Scale: N.T.S., Date: JAN. 17, 2024, Drawing No.:
Project No.: 24163

C-06

