



## Functional Servicing Report

**Strickers Resort  
3340 Strickers Lane  
Concession 16  
Selwyn, Ontario**

**D.M. Wills Project No. 19-10844**



**D.M. Wills Associates Limited**  
Partners in Engineering, Planning and  
Environmental Services  
Peterborough

**December 2023**

**Prepared for:  
Lovesick Lake Beach Resort Ltd.**

### Summary of Revisions

Revision No.	Revision Title	Date of Release	Summary of Revisions
1	Draft	September 24, 2020	1 <sup>st</sup> Submission for ZBA Application
1	Updated Site Plan	December 18, 2023	1 <sup>st</sup> Submission for ZBA Application

This report has been formatted considering the requirements of the Accessibility for Ontarians with Disabilities Act.

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## 1.0 Introduction

D.M. Wills Associates Limited (Wills) has been retained by Steve Purves of Lovesick Lake Beach Resort Ltd. to prepare a Functional Servicing Report (FSR) in support of the application for Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) for a resort development at 3340 Strickers Lane, Township of Selwyn, Ontario. The purpose of this report is to provide sufficient information to determine if the proposed development is feasible. The FSR will provide guidance for future detailed design of sanitary, water, stormwater and utility servicing of the subject lands; however, refinements to the servicing of the Site may occur during the detailed design.

### 1.1 Site Location / Study Area

The Site is located on Strickers Lane south of Lovesick Lake in the Township of Selwyn, Ontario. The property is legally described as Part of lots 43 and 44, Concession 16, Township of Selwyn, Ontario. Surrounding land uses primarily consist of rural commercial with the exception of environmental protection zones. Refer to **Figure 1**.

The northern shoreline portion of the existing 10.5 ha Site is currently a seasonal resort with shoreline cottages, trailer sites, and associated amenities. The southern portion of the Site is undeveloped land. An escarpment feature separates the shoreline and southern portion of the Site, with the southern portion being higher in elevation than the shoreline portion. There is an existing un-utilized 12.2 m road allowance along the southern property line of the Site.

There are three existing Butternut trees on the Site. A 25 m offset is required for each tree and is noted on **Figure 2** in **Appendix A**. A topographic survey has been completed by Elliott and Parr Ltd., dated January 2, 2018. A second topographic survey has been completed by JBF Surveyors, dated June 25, 2019. The purpose of the surveys was to determine the existing elevations and the location of existing features on the Site. This information was used to determine drainage patterns and to establish preliminary proposed grades for the development. Refer to **Figure 2** for details.

The proposed site plan was prepared by Wills, dated December 18, 2023. The site plan illustrates locations of proposed trailer sites on the southern portion of the Site, amenity areas, and a gravel access road from Forest Hill Road (partially in the existing road allowance) transitioning out of the road allowance as it enters the proposed trailer sites.

Figure 1 – Site Location Map



## 2.0 Site Servicing

### 2.1 Site Grading

There is an existing escarpment feature separating the shoreline from the southern portion of the Site, with the southern portion being higher in elevation. The top of the escarpment gently slopes to the west, with elevations ranging from approximately 271 to 266 masl (Meters Above Sea Level) over the approximate 710 m property length. The toe of the slope is generally flat with an elevation of  $\pm 244$  masl along the length of the escarpment. An existing pond on the northeast corner of the Site collects stormwater runoff from the eastern portion of the Site. There is an existing culvert crossing the existing gravel road that separates the pond from Lovesick Lake. The water in Lovesick Lake is flowing to the east of the Site toward the Burleigh Falls Dam.

The proposed grading will maintain existing drainage patterns where possible. The proposed 40 trailer sites will maintain existing drainage patterns with the majority of the runoff sheet draining north toward Lovesick Lake. The elevation of the proposed 6 m wide gravel road along the south border of each site is to be raised approximately 0.15 m to 0.3 m from the existing elevation. The road will tie into the existing adjacent ground at maximum 3:1 on the south and north sides. Access driveways will be constructed to each trailer site with a maximum grade of 8% to 10%. The road generally slopes downward from east to west across the Site. A preliminary road profile has been created with minimum and maximum K values for the sags and crests in order to permit emergency vehicles to access the site. Detailed design drawings will be prepared at the Site Plan Approval (SPA) stage.

Proposed grades will generally direct water to the existing stormwater drainage features and prevent any adverse effects to the neighboring properties as a result of the development. Preliminary road profile and drainage culverts are represented on **Figure 3** through **Figure 5** in **Appendix A**.

### 2.2 Sanitary Servicing

The existing development utilizes septic holding tanks located throughout the facility. The holding tanks are periodically pumped, as required. The proposed development will be serviced by a new septic system installed on the Site. The proposed septic system will be connected to the existing holding tanks at the base of the escarpment with the addition of one holding tank.

Canadian Shield Consultants Agency Inc. has provided the design for an on-site septic system, dated May 1, 2023. The proposed septic system is located south of trailer sites 14 to 20, around the midpoint of the proposed road. The primary septic field will be on the east side of the east allocated septic field while the west portion of the larger east field and the entire western area will be allocated as a reserve bed. The system includes the use of both 100 mm (4") PVC gravity lines and 50 mm (2") pressurized lines. A septic service will be available at each trailer site, as shown in the detail on **Figure 2**. Individual trailer site services are shown on the plan and profile drawings in **Figure 3** through **Figure 5**. Please refer to **Appendix A**.

Final configuration and layout of sanitary servicing will be determined during the detailed design phase for SPA.

### 2.3 Water Servicing

Currently there is no existing domestic water service within the Site. The proposed development will utilize the existing private water supply from the Lovesick Lake Trailer Park treatment system. Proposed water servicing for the proposed trailer sites is shown on **Figure 3** through **Figure 5** in **Appendix A**. A 50 mm diameter domestic water service is proposed to service the 40 trailer sites. Each trailer site is serviced with an individual 19 mm diameter water service.

### 2.4 Utility Servicing

No telecommunications services are available within the trailer park at this time.

Hydro for the proposed sites will be serviced by the existing trailer park via a post-mounted meter with a connector for trailer hookup at the roadside of each site.

Natural gas servicing is not available to the Site. The resort is seasonal and therefore natural gas heating is not required. All sites will be serviced with individual propane gas for cooking and occasional heating during the shoulder seasons.

Coordination with all of the local utility providers and capacity analysis of the existing services will be required during the detailed design phase in conjunction with the electrical and mechanical consultants.

### 2.5 Storm Servicing

Storm servicing is available for the Site by out-letting to an existing ditch and 450 mm diameter HDPE culvert within the Strickers Lane right-of-way.

Storm servicing will rely on the Stormwater Management (SWM) strategy discussed in **Section 3.0** of this report. The location of the conceptual storm servicing (culverts) for the development is shown on **Figure 3** through **Figure 5** in **Appendix A**.

### **3.0 Stormwater Management / Storm Drainage**

On-site SWM facilities are typically required to provide both stormwater quantity and quality control for developments in accordance with municipal and provincial guidelines. In order to ensure that the flooding potential to downstream properties is not increased, stormwater quantity controls are typically required to control post-development peak flows to existing condition levels. To ensure that developments do not adversely impact water quality, stormwater quality controls are typically required to remove suspended sediments and other contaminants from stormwater runoff.

#### **3.1 Existing Drainage Characteristics**

The proposed development area is located on the top side of a long escarpment feature. Drainage from the plateau area immediately adjacent to the escarpment edge drains northerly down the steep escarpment face to Lovesick Lake. A review of the existing drainage patterns indicates that a large portion of drainage area, south of the proposed access roadway and development area, discharges to a series of low spots with no outlet. The topography in the development area is very flat and fractured, with field observations of large deep cracks in exposed bedrock allowing for the retention and infiltration of stormwater runoff across much of the escarpment area. A small portion of drainage area located to the south of the proposed access roadway will flow northerly across the proposed roadway, through some of the proposed lots and down the escarpment face to Lovesick Lake. Refer to **Figure 6** in **Appendix A** for the existing drainage patterns of the area, and photos in **Appendix B** showing the typical terrain and bedrock fractures in the area of the development.

#### **3.2 Stormwater Quantity**

Stormwater quantity controls are typically required for developments to ensure there is no increase in peak flows to downstream receiving areas as a result of the development. The proposed development consists of a gravel access road and individual camping lots. The existing area is heavily vegetated with many mature trees and exposed bedrock. The intent of the development is to retain the trees and vegetation and only remove where necessary to accommodate the roadway and camping trailers. Portions of the gravel access road will be constructed over bedrock, an already impervious surface. Due to the very flat nature of the existing topography, the fractured nature of the exposed bedrock, and the small scale of the development in comparison to the overall area, it is not anticipated that the development will result in an increase in peak flows, and as a result, no stormwater quantity controls are proposed for the development. For areas where existing surface runoff will flow northerly across the proposed access roadway, cross culverts will be installed to allow the conveyance of stormwater.



### 3.3 Stormwater Quality

Stormwater quality controls are typically required for new developments to remove suspended sediments and other contaminants from stormwater runoff. The proposed development is low intensity, with a gravel access roadway and campsites forming the extent of proposed land use change. The gravel access roadway will require a vegetated ditch to be constructed along the south limit to convey stormwater runoff where required to the proposed culverts. This vegetated ditch will provide a level of conveyance control for stormwater runoff from the roadway by assisting in filtering sedimentation from the runoff. The design guidelines for the vegetated ditch will be taken from Chapter 4.5.9 of the SWM Planning and Design Manual (MOE, 2003), with additional criteria taken from the CVC / TRCA Low Impact Development Stormwater Management Planning and Design Guide (2010). The design targets for water quality control are taken as follows:

- Maximum drainage area of 2.0 ha when the percent impervious is below 35%.
- The ditch should be designed with a trapezoidal or parabolic cross-section.
- The longitudinal slope of the ditch should be between 0.5% and 2.0%. Side slopes should be a maximum of 2.5:1 (H:V) and 4:1 preferred where space permits.
- The vegetated ditch should have a bottom width between 0.75 m and 3.0 m.
- The design velocity should not exceed 0.5 m/s during the 4 hour, 25 mm Chicago Storm.
- The maximum flow depth should correspond to two-thirds the height of the vegetation (maximum 100 mm recommended for the 4 hour, 25 mm Chicago storm event).

The vegetated ditch design will be undertaken during detailed design. No other stormwater quality control measures will be proposed for the development.

### 4.0 Conclusions

Sanitary servicing requirements for the proposed development can be met by servicing the 40 proposed trailer sites with the proposed septic system. Final configuration of the proposed system will be determined during detailed design and after pre-consultation with the MECP by the septic designer.

Water servicing is achievable by use of the private on-site lake water treatment system. The final size and location of the proposed water service will be determined during detailed design in conjunction with the mechanical design and requirements of servicing the proposed trailer sites.

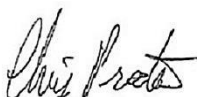
The proposed development consists of a gravel access road and 40 individual trailer lots. The existing area is heavily vegetated with many mature trees and exposed bedrock. The intent of the development is to retain the trees and vegetation and only remove where necessary to accommodate the roadway and trailers. Due to the very

flat nature of the existing topography, the fractured nature of the exposed bedrock, and the small scale of the development in comparison to the overall area, no stormwater quantity controls are proposed for the development. Stormwater quality control will be provided by a vegetated ditch constructed adjacent to the proposed access road. The proposed ditch location and details will be undertaken during detailed design.

Based on the existing service stub and the proposed conceptual servicing design, no servicing constraints that would preclude development of Strickers Resort have been identified.

We trust that this analysis meets with your concurrence. If you require any further information, or have any questions, please do not hesitate to contact the undersigned.

Respectfully submitted,



Chris Proctor, P.Eng.  
Water Resources Engineer



Joseph D. Fleming, C.E.T.  
Group Leader, Land Development  
Engineering

CP/JDF/jh

## **5.0 Statement of Limitations**

This report has been prepared by D.M. Wills Associates Limited to address the requirements of the Township of Selwyn.

The conclusions and recommendations in this report are based on available background documentation and discussions with applicable agencies at the time of preparation.

The report is intended to determine the feasibility of the proposed development with respect to sanitary, water, stormwater and utility servicing of the subject lands. The design information provided in this report is preliminary in nature and should not be used for construction purposes.

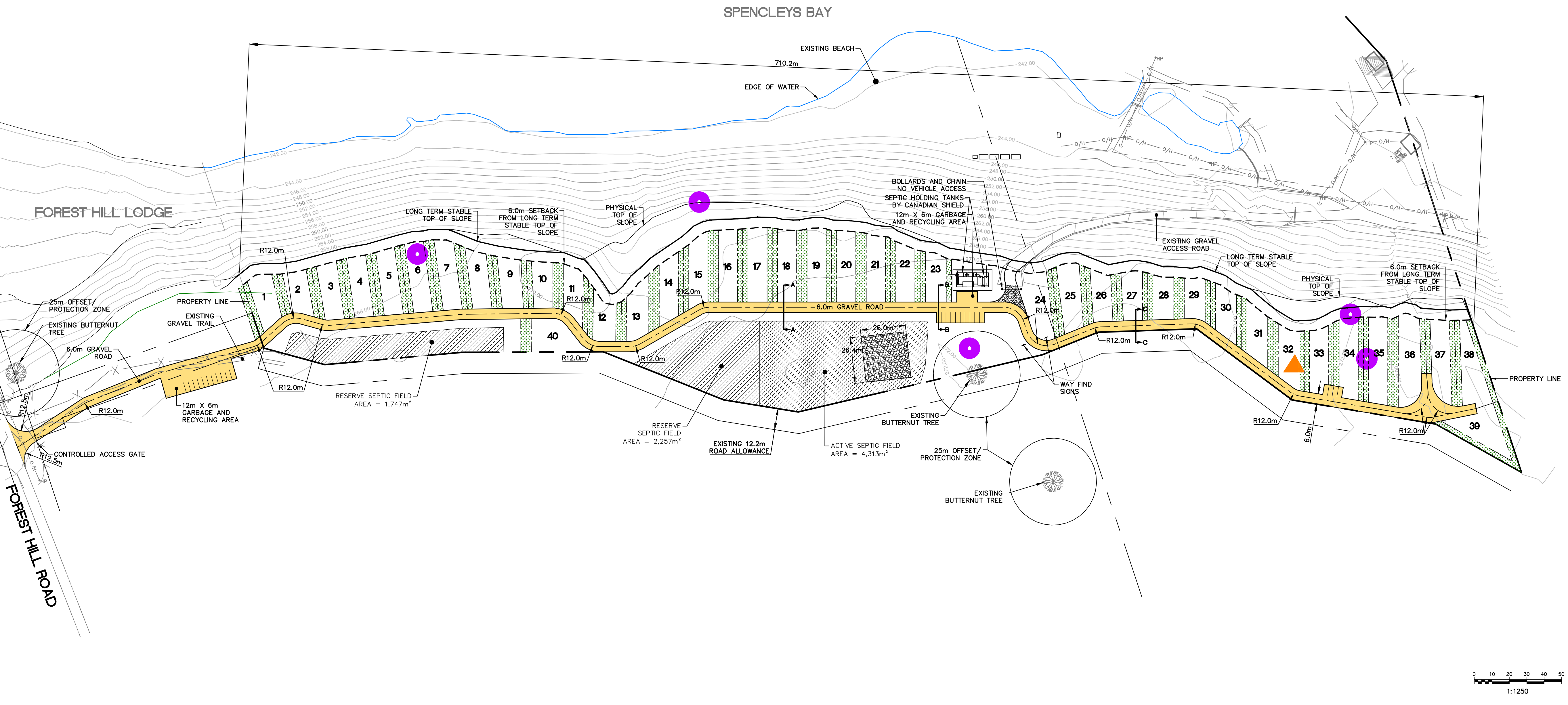
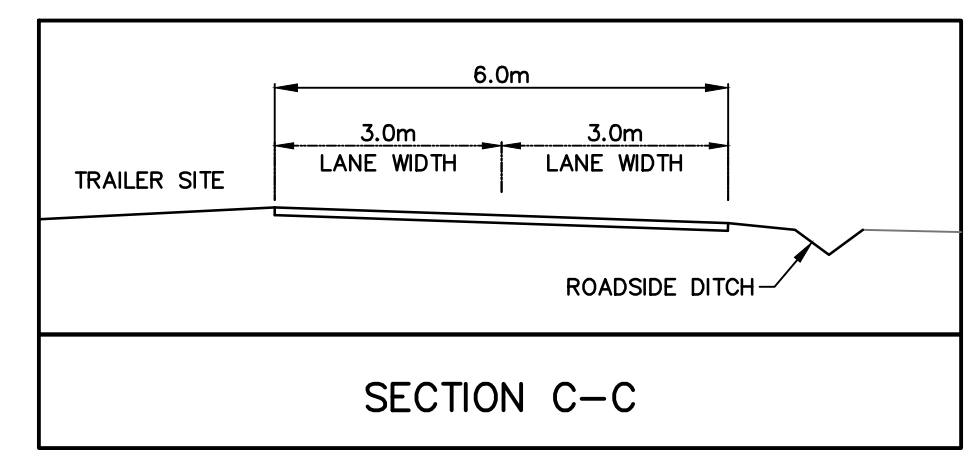
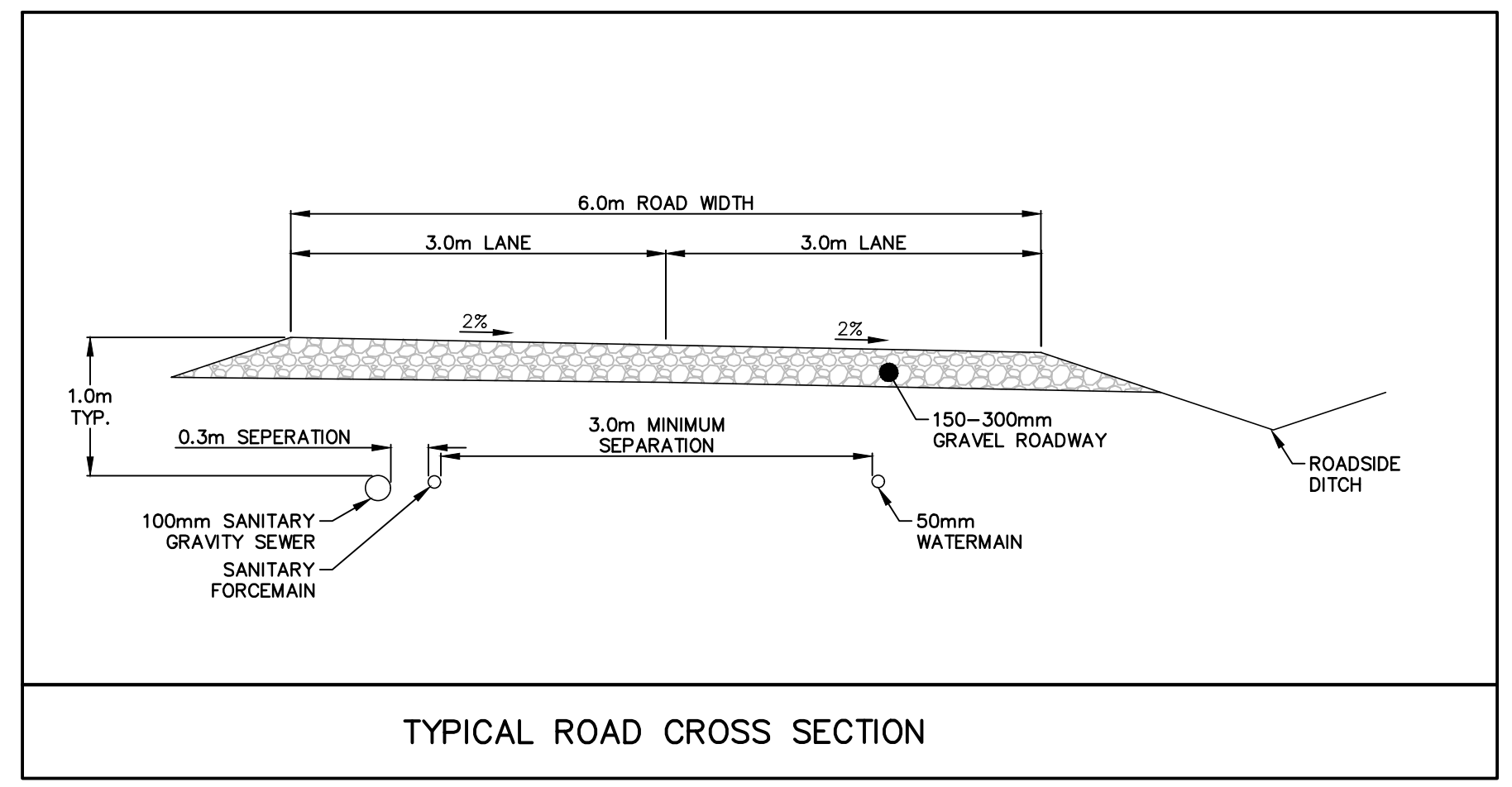
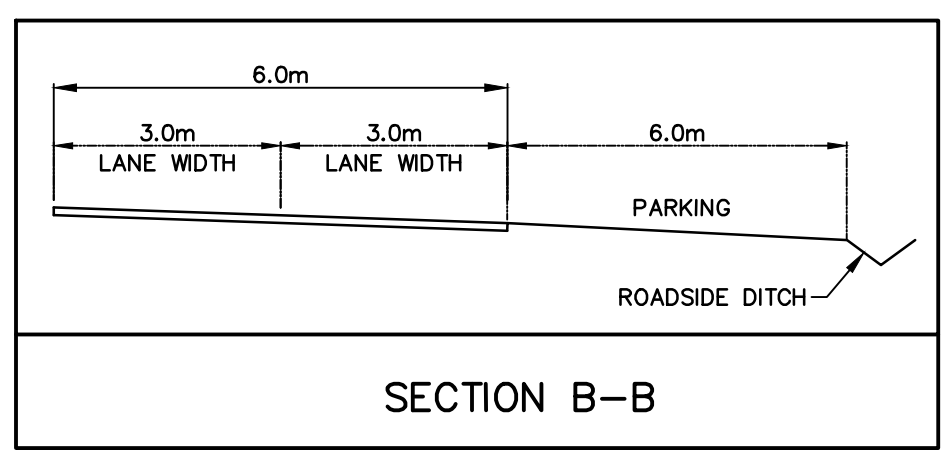
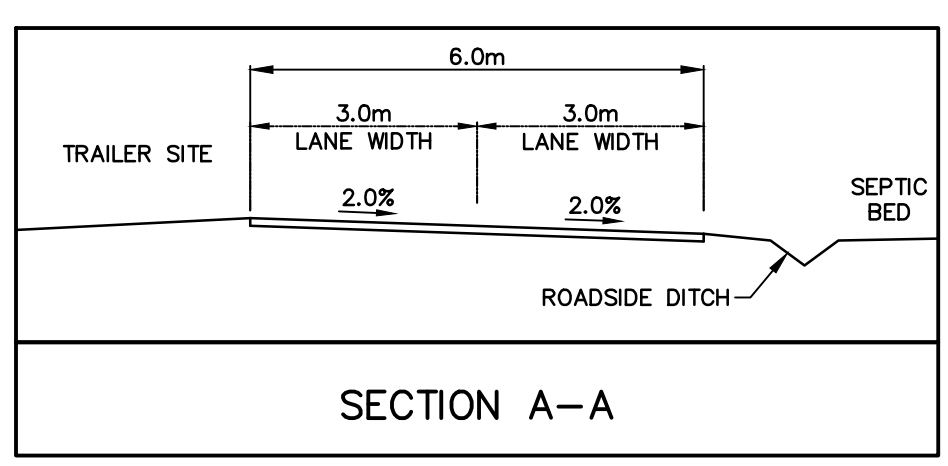
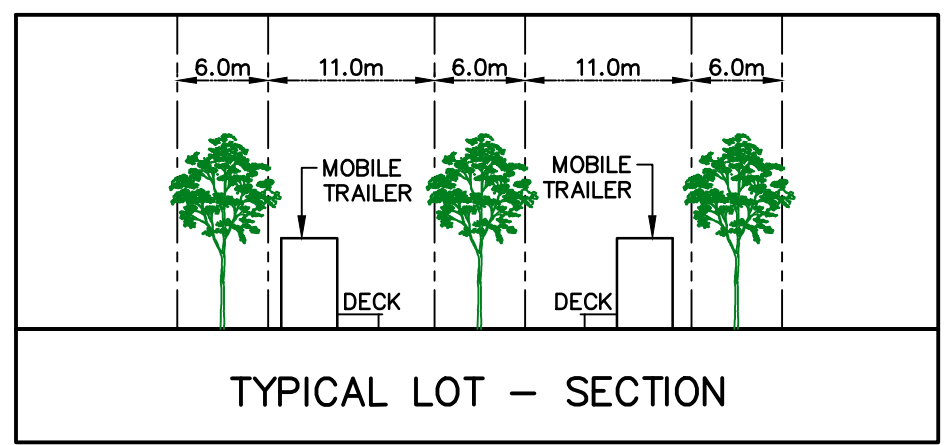
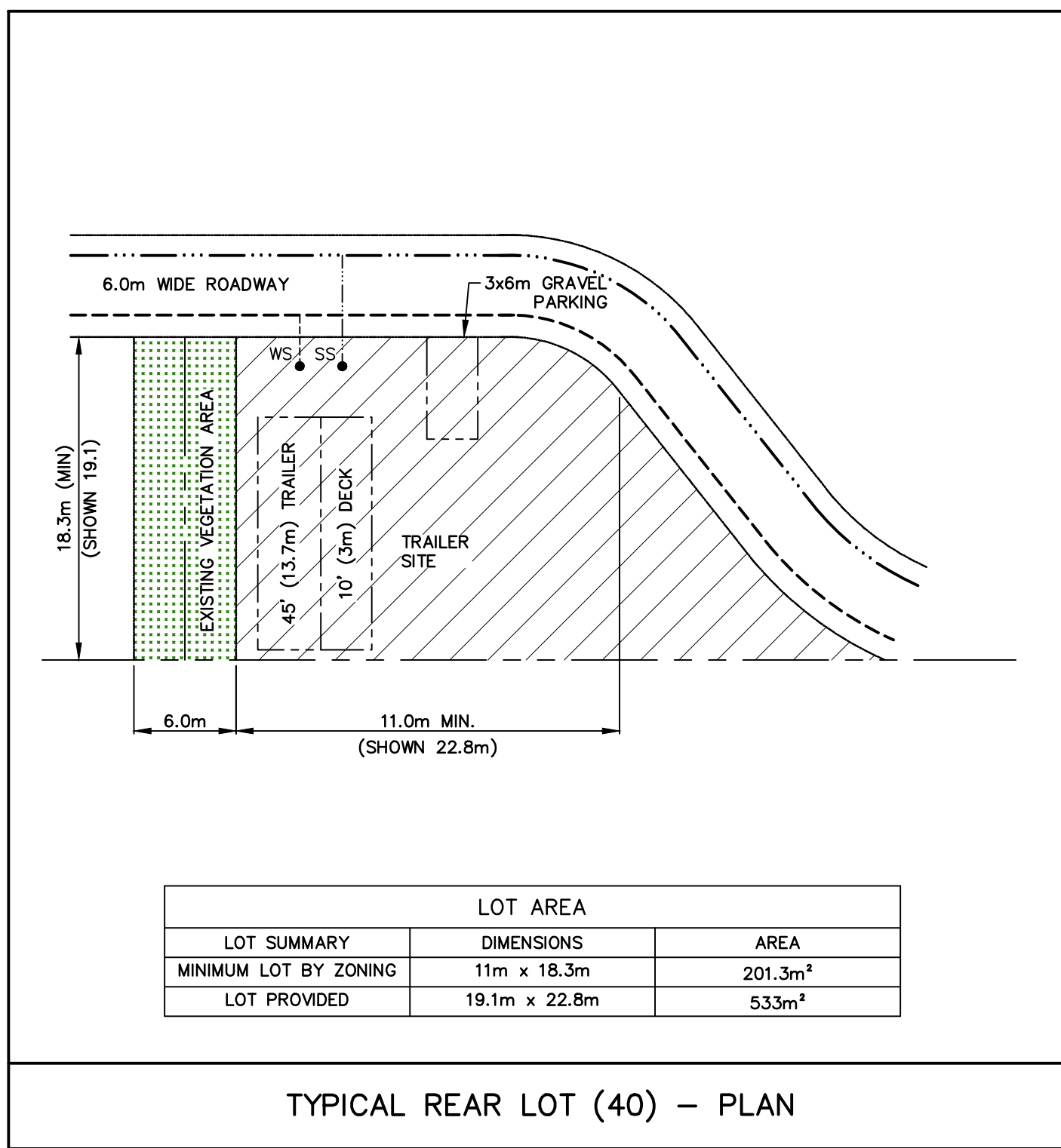
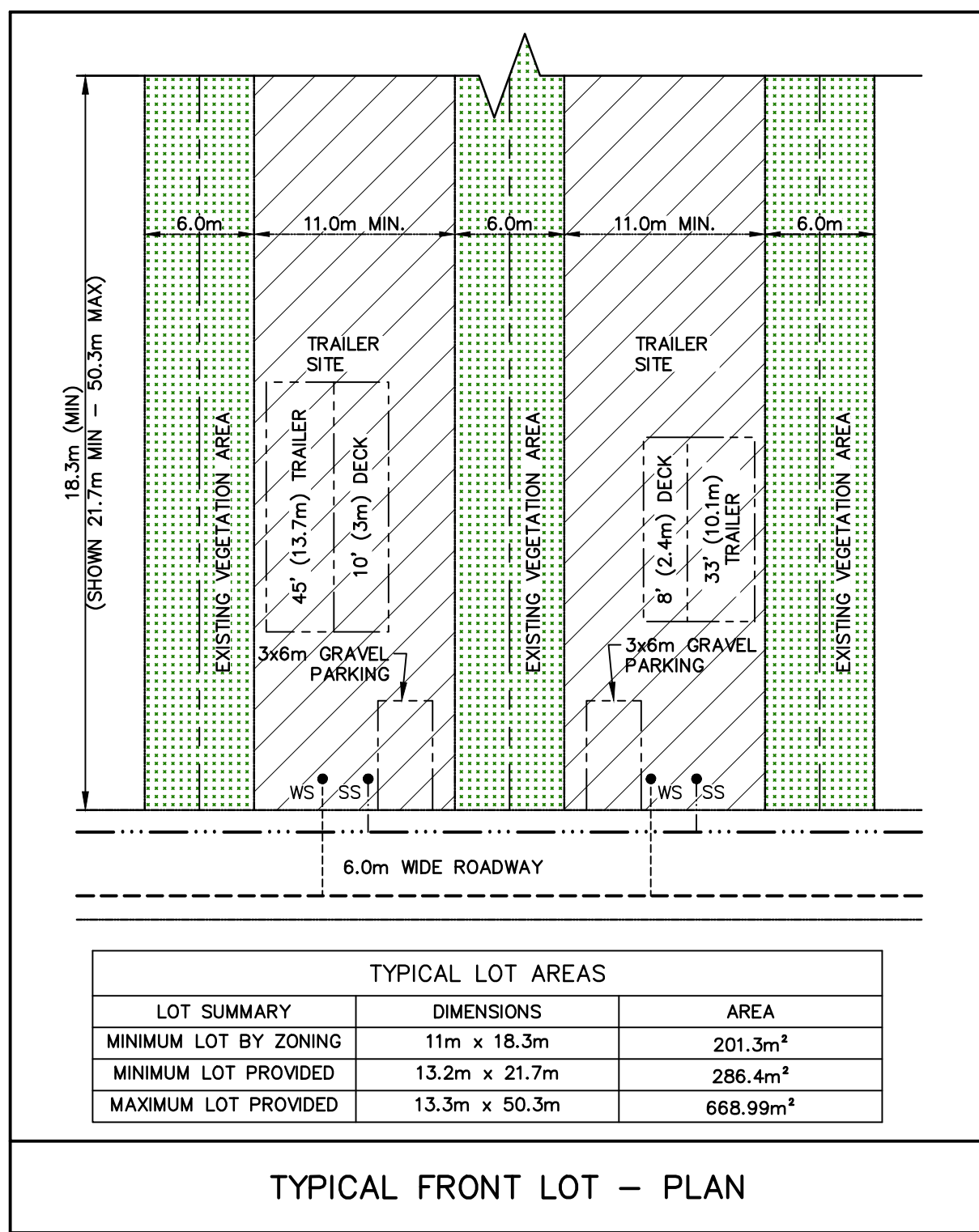
Any use that a third party makes of this report other than a functional servicing report for the proposed development is the responsibility of such third parties. D.M. Wills Associates Limited accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or action taken based on using this report for purposes other than a functional servicing report for the property located at 3340 Strickers Lane, Selwyn, Ontario.

# Appendix A

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Figures





**KEY PLAN**

**TRUE NORTH**

**REVISIONS**

No.	Description	Date
1	REVISED SITE PLAN ISSUED TO MECF	12/18/23
2		04/26/23

**METRIC** Dimensions are in METRES and/or MILLIMETRES unless otherwise shown TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

**LEGEND**

- PROPOSED GRAVEL ROAD
- PROPOSED ACTIVE SEPTIC FIELD
- PROPOSED RESERVE SEPTIC FIELD
- SERVICE ACCESS ROAD
- EXISTING VEGETATION AREAS
- PR. ROAD CL
- PR. EDGE OF ROAD
- EX. R.O.W./PROPERTY BOUNDARY
- PR. LOT LINE
- LONG TERM STABLE EDGE OF SLOPE
- 6.0m SETBACK FROM LONG TERM STABLE EDGE OF SLOPE TOP OF SLOPE
- POTENTIAL PILEATED WOODPECKER NESTING CAVITY (UNCONFIRMED OCCUPANCY)
- WILDLIFE TREE (HIGH QUALITY)

**WILLS**

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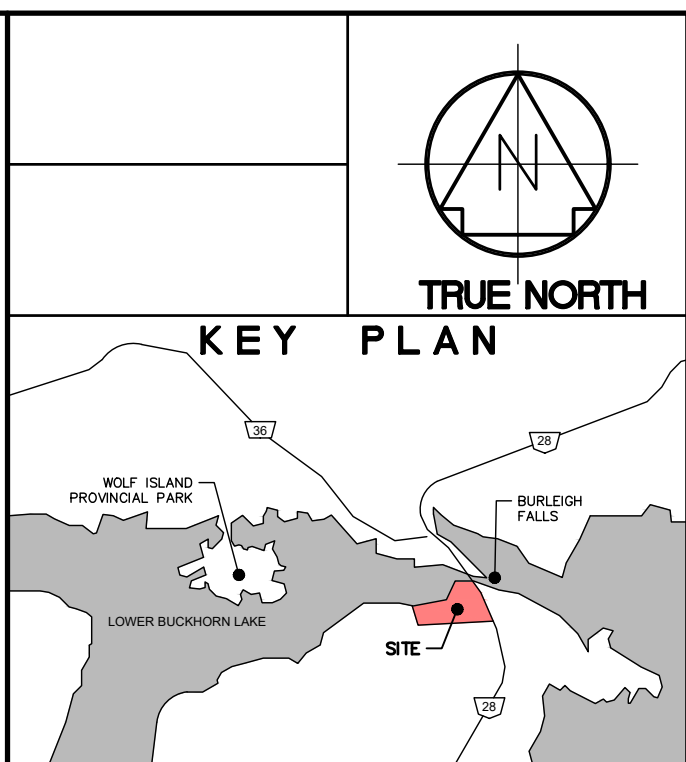
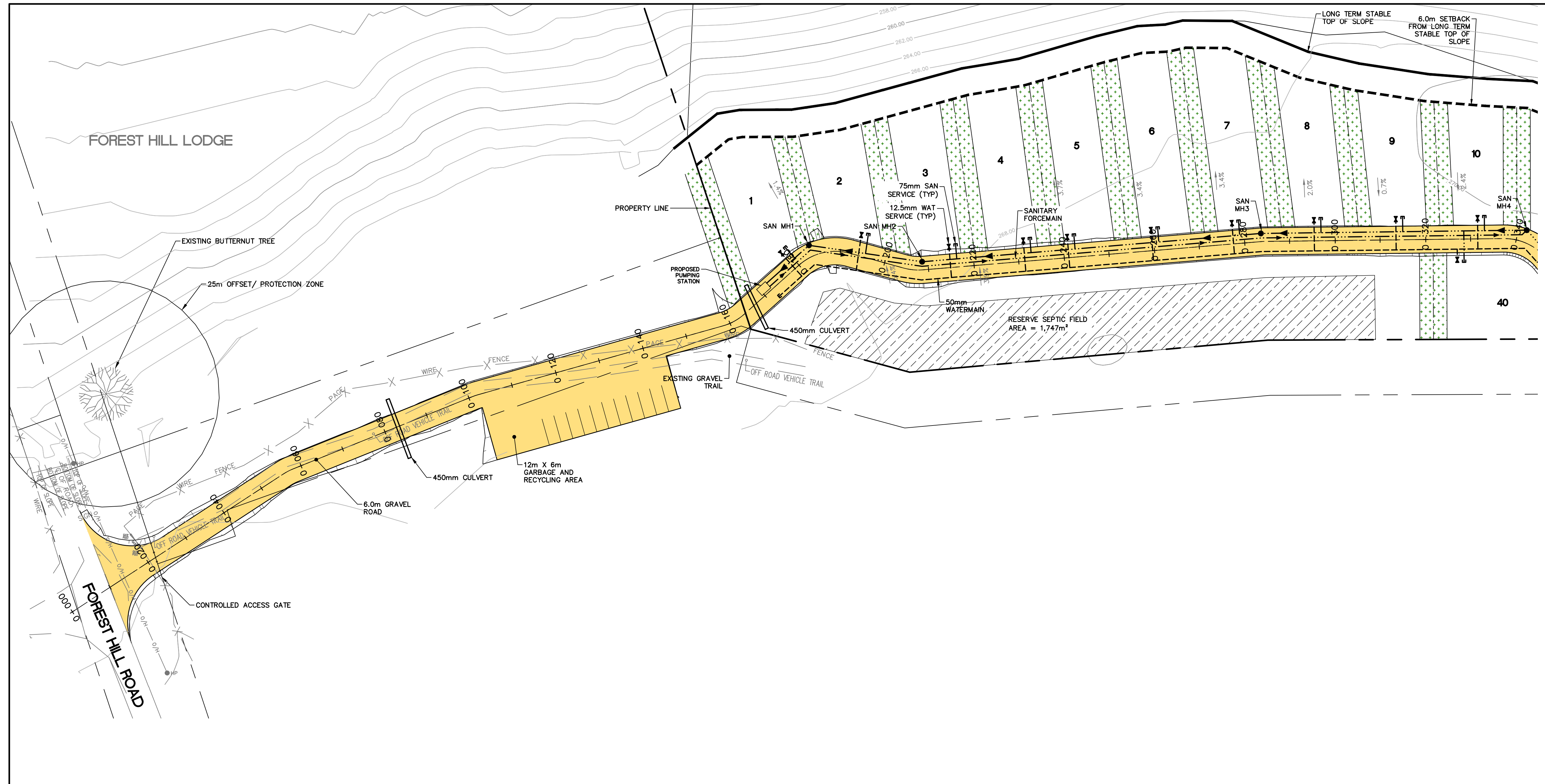
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E. wills@dmwills.com

Project Name/Location  
**LOVESICK LAKE TRAILER PARK**  
BURLEIGH FALLS, ONTARIO

Drawing Title  
**OVERALL SITE PLAN**

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Designed By: SER    Plot Date: December 20, 2023  
Checked By: JDF    Project No.: 19-10844    Sht. No.:  
Engineer: ---    Dwg File No.: 10844 - CP    1

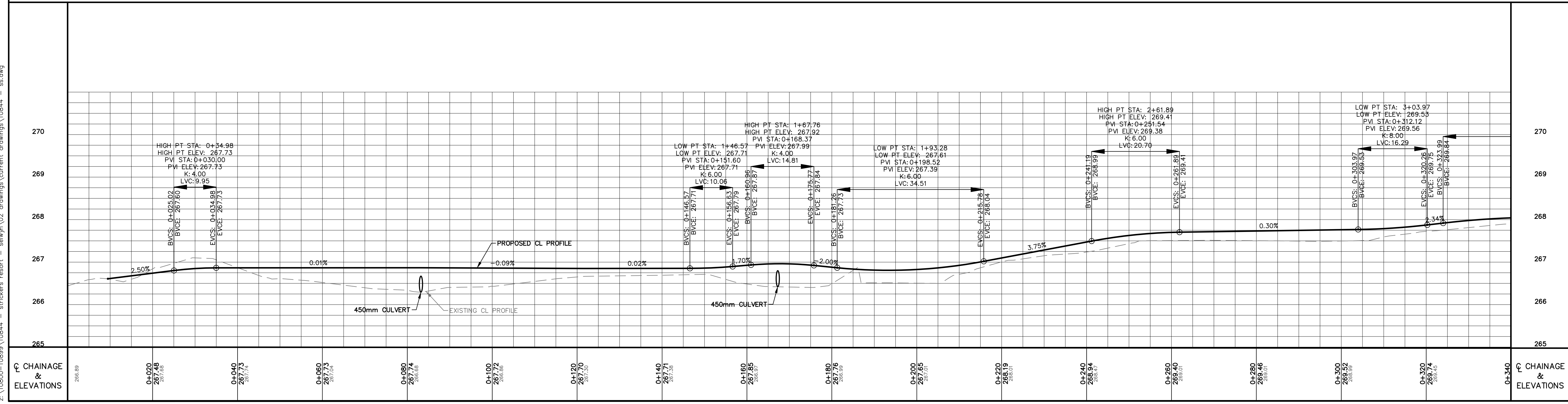
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REVISIONS		
No.	Description	Date
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1		04/26/23

**METRIC** Dimensions are in METRES and/or MILLIMETRES unless otherwise shown TO BE READ IN CONJUNCTION WITH QPSD 100 SERIES

LEGEND	
	PROPOSED GRAVEL ROAD
	SERVICE ACCESS ROAD
	EXISTING VEGETATION AREAS
	PROPOSED ACTIVE SEPTIC FIELD
	PROPOSED RESERVE SEPTIC FIELD
	PR. ROAD CL
	PR. EDGE OF ROAD
	EX. R.O.W./PROPERTY BOUNDARY
	PR. LOT LINE
	LONG TERM STABLE EDGE OF SLOPE
	6.0m SETBACK FROM LONG TERM STABLE EDGE OF SLOPE
	TOP OF SLOPE
	PROPOSED WATER PIPE
	PROPOSED SANITARY SEWER PIPE WITH FLOW DIRECTION
	PROPOSED WATER VALVE
	PROPOSED CULVERT



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Project Name/Location

**LOVESICK LAKE TRAILER PARK**  
BURLEIGH FALLS, ONTARIO

Drawing Title

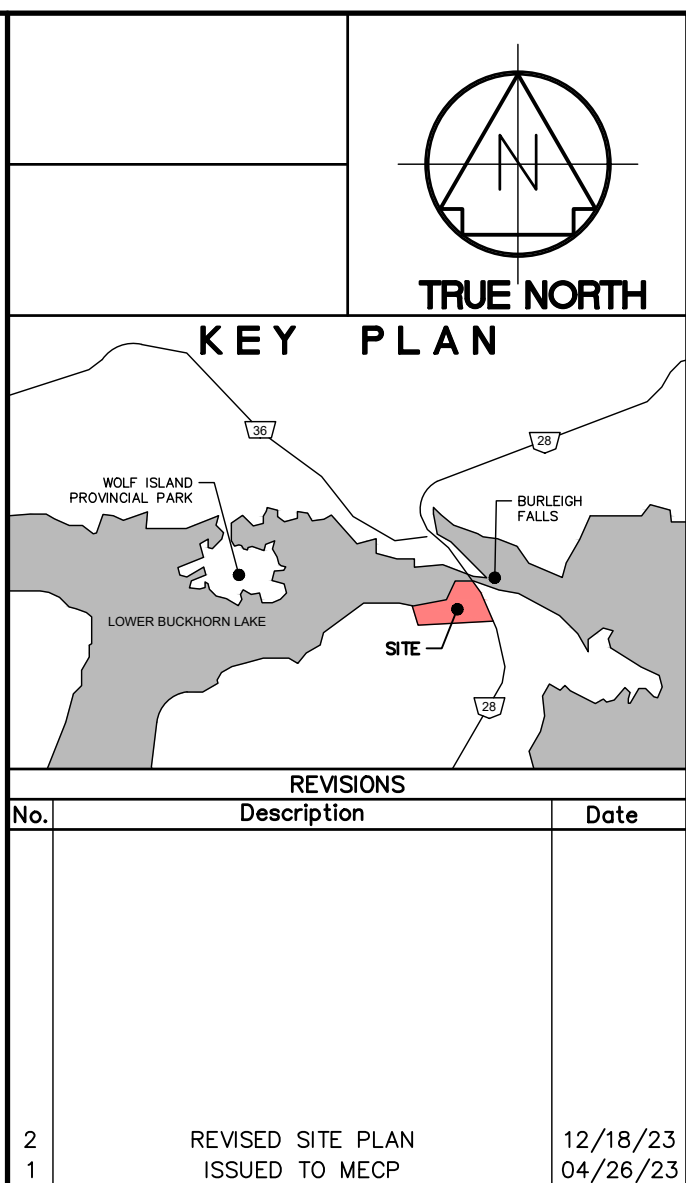
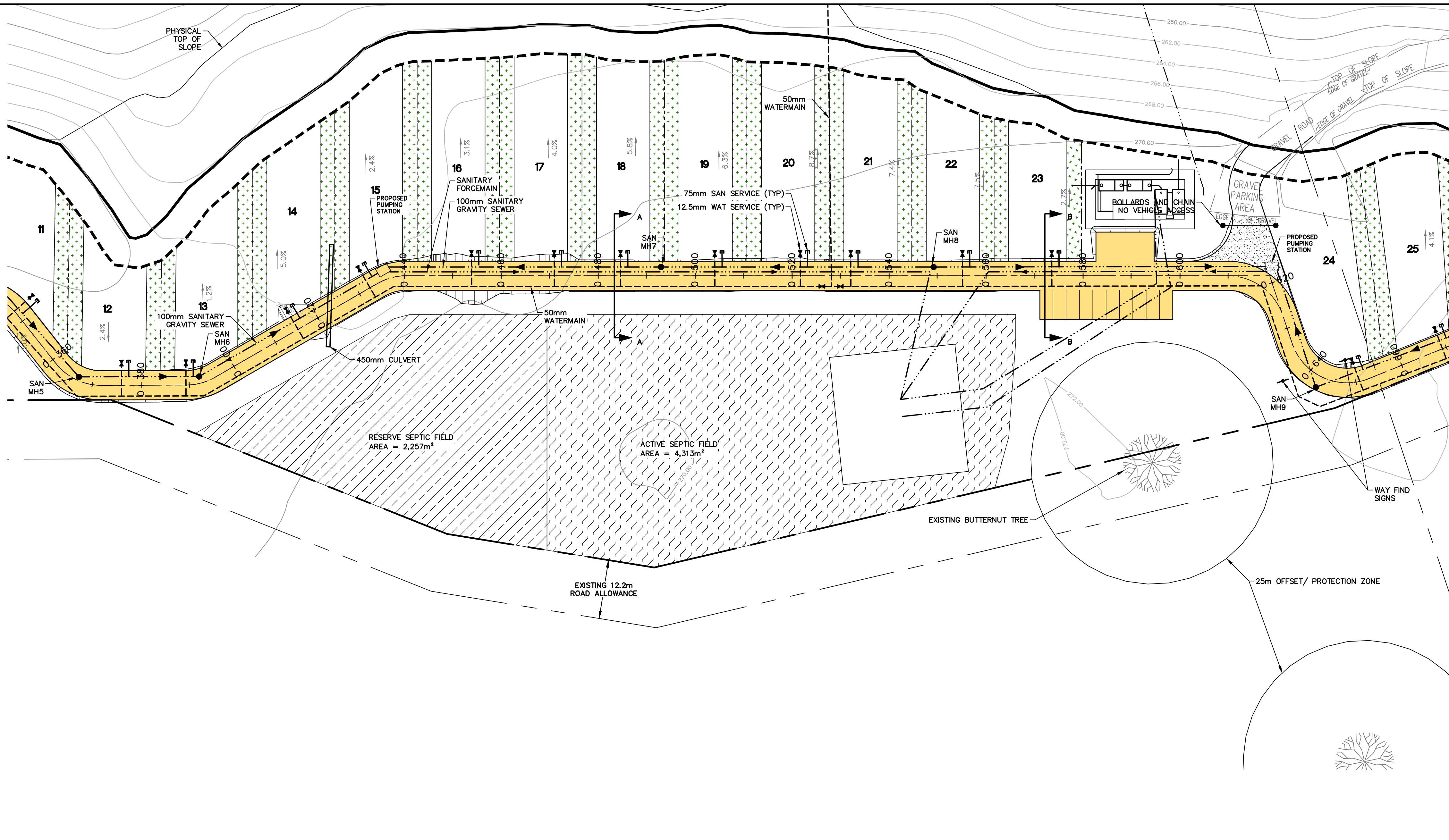
**FIGURE 3  
PLAN AND PROFILE  
STA 0+000 TO STA 0+340**

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Designed By: SER  
Checked By: JDF  
Engineer: ---

SCALE: Horz. 1:500 Vert. 1:50  
Plot Date: December 18, 2023  
Project No.: 19-10844  
Dwg File No.: 10844 - SS

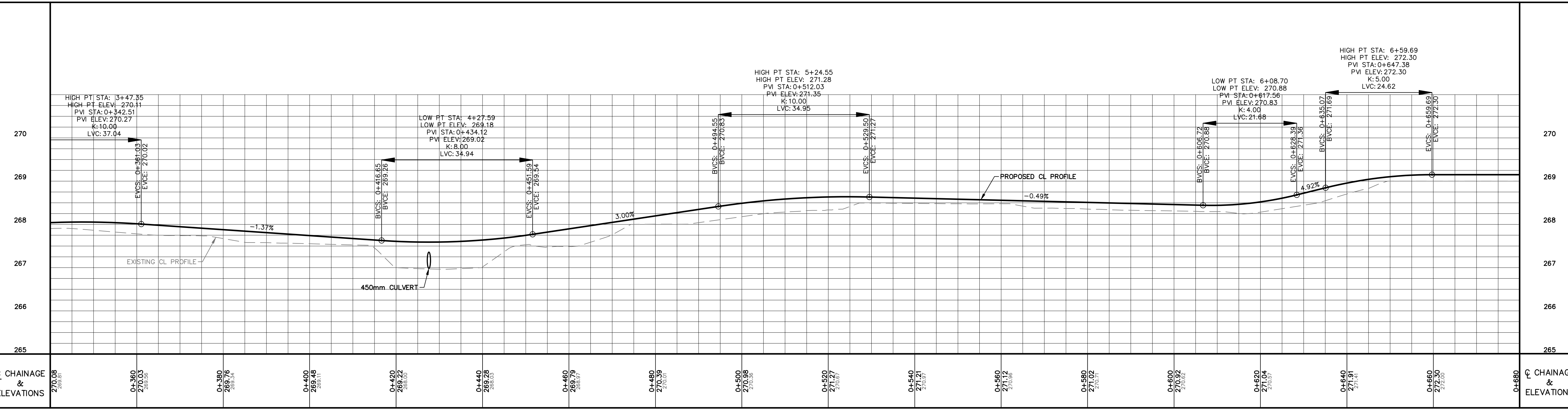
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REVISIONS		
No.	Description	Date
2	REVISED SITE PLAN ISSUED TO MECP	12/18/23
1		04/26/23

METRIC	
Dimensions are in METRES and/or MILLIMETRES unless otherwise shown TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES	
LEGEND	
	PROPOSED GRAVEL ROAD
	PROPOSED SEPTIC FIELD
	SERVICE ACCESS ROAD
	EXISTING VEGETATION AREAS
	PR. ROAD CL
	PR. EDGE OF ROAD
	EX. R.O.W./PROPERTY BOUNDARY
	PR. LOT LINE
	LONG TERM STABLE EDGE OF SLOPE
	6.0m SEIBACK FROM LONG TERM STABLE EDGE OF SLOPE
	TOP OF SLOPE
	PROPOSED WATER PIPE
	PROPOSED SANITARY SEWER PIPE WITH FLOW DIRECTION
	PROPOSED WATER VALVE
	PROPOSED CULVERT



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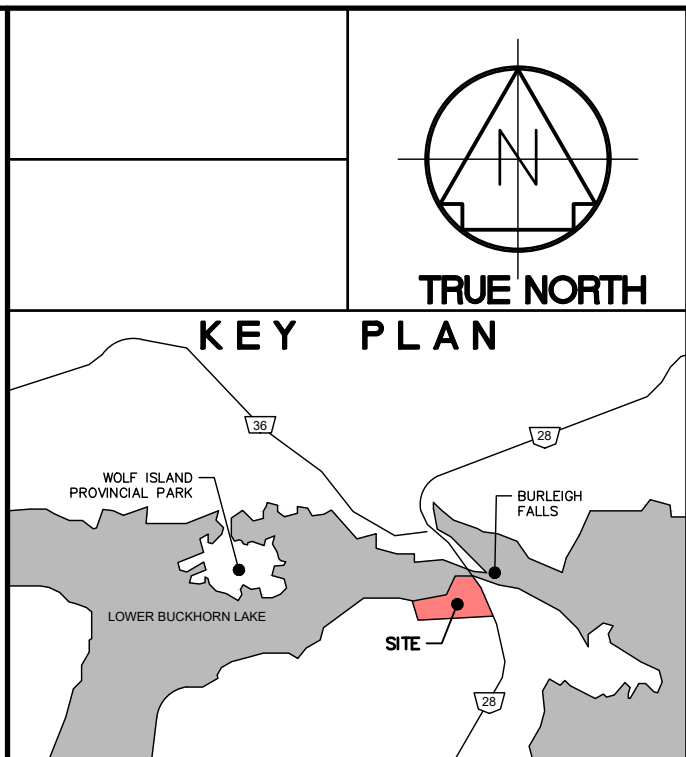
Project Name/Location  
**LOVESICK LAKE TRAILER PARK**  
BURLEIGH FALLS, ONTARIO

Drawing Title  
**FIGURE 4  
PLAN AND PROFILE  
STA 0+340 TO STA 0+680**

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Checked By: JDF	Project No.: 19-10844
Engineer: ---	Dwg File No.: 10844 - SS

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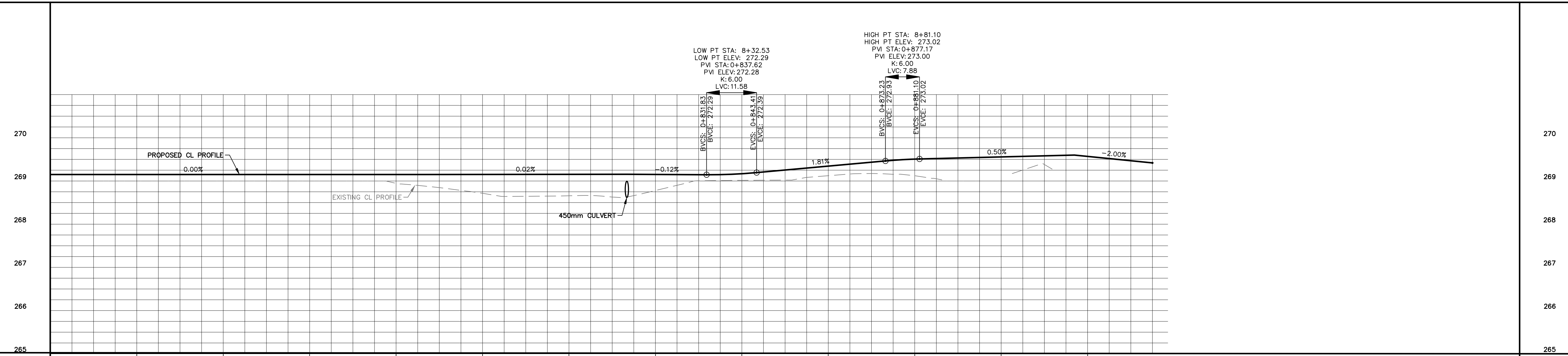
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REVISIONS		
No.	Description	Date
2	REVISED SITE PLAN ISSUED TO MEC	12/18/23
1		04/26/23

**METRIC** Dimensions are in METRES and/or MILLIMETRES unless otherwise shown TO BE READ IN CONJUNCTION WITH OPSD 100 SERIES

LEGEND	
	PROPOSED GRAVEL ROAD
	SERVICE ACCESS ROAD
	EXISTING VEGETATION AREAS
	PR. ROAD CL
	PR. EDGE OF ROAD
	EX. R.O.W./PROPERTY BOUNDARY
	PR. LOT LINE
	LONG TERM STABLE EDGE OF SLOPE
	6.0m SETBACK FROM LONG TERM STABLE EDGE OF SLOPE
	TOP OF SLOPE
	PROPOSED WATER PIPE
	PROPOSED SANITARY SEWER PIPE WITH FLOW DIRECTION
	PROPOSED WATER VALVE
	PROPOSED CULVERT
	PROPOSED SANITARY MANHOLE



REVISIONS	
No.	Description

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BURLEIGH FALLS, ONTARIO

Drawing Title  
**FIGURE 5 PLAN AND PROFILE STA 0+680 TO STA 0+908**

CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS	CHAINAGE & ELEVATIONS
0+720 272.30	0+740 272.30	0+760 272.30	0+780 272.30	0+800 272.31	0+820 272.30	0+840 272.34	0+860 272.89	0+880 273.01	0+900 273.11	0+920 273.14

CHAINAGE & ELEVATIONS		CHAINAGE & ELEVATIONS	
Drawn By: SER	SCALE: Horz. 1:500 Vert. 1:50	Checked By: JDF	Project No.: 19-10844
Designed By: SER	Plot Date: December 18, 2023	Engineer: ---	Dwg File No.: 10844 - SS
		Sht. No.: 4	

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## Appendix B

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Site Photos





