



Onsite Sewage System Review

Date: March 18, 2024 **Project No.:** 300058248

Project Name: Sandbanks River Country Campground - Sewage System Due Diligence

Client Name: Summerhill Resorts Ltd.

Submitted To: Ina Rivard

Submitted By: Bob Garner

Reviewed By: Brian Zingula

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) was engaged by Summerhill Resorts Ltd. (Summerhill) to conduct due diligence of the existing sewage systems servicing the Sandbanks River Country Campground located at 1854 County Road 18, Picton, ON (the Site). According to reporting completed by Greer Galloway Consulting Engineers (Greer Galloway) the Site consists of 169 trailer sites, 8 cabins, 3 comfort stations, 2 residences and an office building. It is our understanding that the 2 residences are located on a separate property, central to the Site.

2.0 Background

Following an inspection by the MECP in October 2017 (inspection report enclosed), the current Owners engaged Greer Galloway to assist with an Environmental Compliance Approval (ECA) application to the Ministry of the Environment, Conservation and Parks (MECP) to permit the sewage systems servicing the Site.

Pre-consultation with the Technical Support Section of the MECP for Surface Water and Groundwater review was initiated in June 2021 and extended to February 2024. In February 2024 correspondence from the MECP groundwater reviewer confirmed that, from a groundwater impact perspective, the water supply well should be monitored frequently, but otherwise the upgrades proposed by Greer Galloway can proceed to an ECA application.

3.0 Existing Sewage Systems

Burnside conducted a field investigation of the existing sewage systems on March 7, 2024. The existing sewage systems and the areas of the Site that they service are identified on the enclosed S1 drawing. The investigations focused on Systems 1, 3 and 4 since these are the systems recommended to be maintained. Systems 2 and 5 are proposed to be decommissioned and consolidated into a new System 5. Where accessible, septic tank hatches were opened and inspected though an at-grade visual assessment. Test pits were excavated in the area of existing leaching beds to observe existing soil quality and condition of the beds. Information from the field investigation is summarized in Table 1. Test pit logs are enclosed, and test pit locations are identified on drawing S1.

Table 1: Field investigation results

System 1	
Area Serviced	- East comfort station - Trailer and cabin sites identified on drawing S1 - 3 washing machines in laundry room
Septic Tank	- Two compartment concrete tank, approximately 13,000 L volume. - Functional structural condition - Located beneath deck of comfort station - Outlet tee baffle present
Leaching Bed	- 6 runs of approximately 10 m long infiltrator trench - Chambers in functional condition, no biomat observed
Notable Deficiencies	- None
System 2 (not reviewed, proposed to be decommissioned)	
System 3BW (Black Water)	
Area Serviced	- Central comfort station toilets - Trailer and cabin sites identified on drawing S1
Septic Tank	- Two compartment concrete tank, approximately 4,000 L volume. - Plastic shield outlet baffle - Functional condition - No access risers to grade, tank buried 12" below ground
Pump Tank (at north building)	- Previously used as septic tank for separate system (system now decommissioned) - No risers to grade - Unsealed electrical connection
Leaching Bed	- Inground absorption trench - 4 runs of approximately 9 m length

	- Pipes partially clogged with sludge
Notable Deficiencies	- Septic tank and pump tank missing risers to grade (no access) - Unsealed electrical connections present, electrical upgrades required. - Flushing of distribution piping recommended to clear sludge.
3GW (Grey Water)	
Area Serviced	- Central comfort station showers
Septic Tank	- 30" diameter, 18" deep concrete well tile, approximately 200 L volume. - Inlet and outlet tees - Functional condition
Leaching Bed	- Inground absorption trench - 4 runs of approximately 9 m length - Pipes partially clogged with sludge/roots
Notable Deficiencies	- Flushing of distribution piping recommended to clear sludge.
System 4	
Area Serviced	- West comfort station - Trailer sites identified on drawing S1
Septic Tank	- Two compartment concrete tank, approximately 10,000 L. - Effluent filter present - No access to grade, tank depth 18" below ground - Functional structural condition
Leaching Bed	- Inground absorption trench - 8 runs of approximately 15 m length - Minimal to moderate biomat in stone/soil - Sludge and roots in pipe
Notable Deficiencies	- Septic tank missing risers to grade (no access). - Flushing of distribution piping recommended to clear sludge.
System 5	
Area Serviced	- Two existing dwellings - Trailer sites identified on drawing S1
Septic Tank	- Tank at site 226, not accessible at grade.
Leaching Bed	- Leaching beds not investigated as they are proposed to be decommissioned.
Notable Deficiencies	- Tank at site 226 missing risers to grade (no access)

Overall, the existing systems proposed to remain (Systems 1, 3 and 4) are in functional condition and require action to address the deficiencies noted in Table 1.

Septic tank volumes for the existing Systems as measured during our field investigation do not closely match those reported by Greer Galloway. The System 1 septic tank was measured to have a volume of 13,000 L compared to 26,235 L. System 4 septic tank was measured to be 10,000 L compared to 15,487 L. Both tanks are proposed to be retained in the proposed ECA.

If an ECA is received for the proposed upgrades, the total septic tank volumes should be achieved with larger tanks as required.

It is unknown if existing historical permits exist for any of the existing sewage systems. Historical permits of the existing systems would greatly support the application for incorporation of these existing systems into a consolidated ECA.

4.0 Review of the Proposed Upgrades

The following upgrades to the existing sewage systems have been proposed by Greer Galloway in the pre-consultation submission to the MECP:

- The addition of five (5) 9,000 L septic tanks at systems 1,3,4 and 5.
- Decommission systems 2 and 5 and consolidate into a new system 5.
- A new System 5 consisting of a 37,500 L septic tank and new absorption trench leaching bed.

4.1 Wastewater Quality

The existing sewage systems to remain, the proposed upgrades, and the new system 5 are all conventional septic tank and in-ground absorption trench leaching bed systems. No additional treatment for the removal of nutrients has been included in the proposed upgrades. We also note that the MECP pre-consultation appears to only consider input from the groundwater reviewer, not the surface water reviewer. Given the proximity of the Site to surface water features, the sandy native soils, and our experience with nearby sites, we would expect the MECP surface water reviewer to require phosphorus treatment as part of the required upgrades. This does not appear to have been flagged in the pre-consultation process, however we caution that during the ECA application process it is possible that phosphorus treatment may be required by the MECP.

The addition of phosphorus treatment would significantly increase the scope of the sewage system upgrades as well as increase operational costs of the sewage systems.

4.2 Wastewater Quantity

The Ontario Building Code (OBC) provides estimates for daily sewage flows for a campground on a per-site basis, depending on whether the sites are serviced or not. As per Table 8.2.1.3.B. of the OBC, 425 L/day is the daily flow assigned per campsite serviced with water and sewer. If flows were to be calculated from OBC values for the 169 trailer sites the sewage systems at the Site would need to be constructed to accommodate a design flow of approximately 72,000 L/day plus flows from the 8 cabins and 2 residences for a total of approximately 80,000 L/day to 85,000 L/day.

The report prepared by Greer Galloway, dated June 24, 2021 includes information on daily maximum sewage flows (design flows) for the Site. The report assumes daily design flows for each trailer site of 250 L/day plus flows from the cabins for a total design flow of approximately 50,000 L/day. The MECP will typically give consideration to the use of water flow data to substantiate design flows per trailer site less than the OBC book values if at least 3 years of water flow data are available to support. In our experience the MECP does not permit design flows less than 275 L/day/serviced site. Additionally, there is no water flow data available for this Site. We caution that during the ECA application process it is possible that the MECP approvals branch will not accept the design flows proposed in the current design.

Additionally, we would caution that the T-time (percolation rate) for the existing soil of 2 minutes per cm used in the June 24, 2021 report prepared by Greer Galloway is very low. Burnside has not completed a grain size analysis on the native material to confirm, but based on our observations in the field and experience we would likely use a T-time of 6 to 8 for the native soil at this Site. T-times used in the design of leaching beds directly correlate to the size of the leaching bed required, given a specified design flow. The use of this larger and more conservative T-time would result in significantly greater lengths of absorption trenches being required and therefore larger leaching bed areas, and/or the addition of sewage treatment equipment which would result in higher installation and operational costs.

5.0 Cost Estimates

We have explored two scenarios and developed cost estimates for each. In Scenario 1, we assume that the existing ECA submission is approved without modification. In this case, the costs would cover installation of the proposed works and required repairs to the existing systems to serve the existing facilities.

In Scenario 2, we have assumed a stricter regulatory approvals process, which would require design modifications to account for higher design flows, higher soil T-times, and a sewage treatment system with enhanced nutrient removal. Costs for additional design tasks including soil analysis, environmental assessments, and ECA application fees are also included. This work would be necessary to complete and submit a revised ECA application which would meet MECP standards based on our experience with similar sites.

Table 2, below, outlines the anticipated costs for each Scenario.

Table 2: Cost estimates for Scenario 1 and Scenario 2

Item	Cost
Scenario 1	
Supply and Install Sewage Works per Existing ECA Submission	\$200,000 to \$225,000
Total for Scenario 1	\$200,000 to \$225,000
Scenario 2	
Design Fees and Environmental Assessments	\$20,000 to \$25,000
ECA Application Fee	\$6,200
Supply and Install Enhanced Sewage Works	\$675,000 to \$725,000
Total for Scenario 2	\$701,200 to \$756,200

The above costs should be considered approximate, ballpark estimates but are appropriate for relative comparison. Actual costs will depend on contractor quotes. Costs for Scenario 2 will be dependent on MECP requirements, final soil T-time determination, and refined sewage flow calculations.

6.0 Recommendations

Based on the background documentation provided and results from our field investigations, we recommend Summerhill consider the following items related to sewage system servicing and permitting for the subject property:

- There is opportunity to continue to use the existing sewage systems identified in the proposed upgrades to remain, considering that the noted deficiencies would need to be rectified.
- There is risk that during the ECA application process the MECP could require phosphorus treatment for the sewage systems servicing the property which would result in a significant increase to the scope of the proposed upgrades.
- There is risk that during the ECA application process MECP would not accept the flow assumptions made by Greer Galloway and greater design flows will need to be accounted for in the proposed upgrades.
- There is risk that during detailed design the T-time (percolation rate) of native soils would need to be increased causing larger areas for leaching beds and a greater scope of work for the proposed sewage system upgrades.

All of these items could contribute to a much larger scope of work for the sewage system upgrades required to service the property and get permitted with an ECA. Future expenses related to the sewage systems will greatly depend on the success of the existing ECA receiving MECP approval.

Should Summerhill have any questions regarding this review or wish to discuss, please don't hesitate to reach out to discuss.

R.J. Burnside & Associates Limited

Bob Garner, P.Eng.
Project Engineer

BG:

Enclosure(s) MECP Inspection Report
 Drawing S1
 Test Pit Logs

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058248 Sandbanks Sewage System Review
3/19/2024 5:29 PM



Onsite Sewage Disposal Site Inspection Report

Client:	Joey Welten, Business/Facility Name: Sandbanks River Country Campground Mailing Address: 1854 County Road 18, Prince Edward, Ontario, Canada, K0K 2T0 Physical Address: 1854 County Road 18, Prince Edward, County, Ontario, Canada Telephone: (613)393-5645 Client #: 8262-AUVLAQ, Client Type: Individual		
Inspection Site Address:	Sandbanks River Country Campground Address: 1854 County Road 18, Prince Edward, County District Office: Belleville Site #: 7383-AUVLFY		
Contact Name:	Joey Welten	Title:	Owner
Contact Telephone:	(613)393-5645 ext	Contact Fax:	
Last Inspection Date:			
Inspection Start Date:	2017/10/11	Inspection Finish Date:	2018/01/16
Region:	Eastern		

1.0 INTRODUCTION

The purpose of the Ministry of the Environment and Climate Change's (the 'ministry') sewage program is to safeguard the environment by providing a framework of legislation that works to ensure cleaner water and healthier ecosystems. This is reinforced through the ministry's inspection of sewage systems. By ensuring that sewage is treated and the sewage systems are maintained, the ministry and sewage system owners are working towards minimizing potential impacts on the environment.

The ministry is responsible for regulating large sewage systems, under Section 53 of the Ontario Water Resources Act (OWRA), and these systems can include:

- One (1) large sewage system on a property with a total sewage flow of >10 000 litres/day;
- Several small septic systems on a property with combined total sewage flow of >10 000 litres/day, or;
- A sewage system(s) that crosses property boundaries (regardless of daily sewage volumes).

Under the OWRA, the above-mentioned communal sewage works are required to obtain an Environmental Compliance Approval (ECA) prior to the construction of a new sewage works or for use, alterations and expansions of existing sewage works. The primary purpose of this ECA is to ensure that the proposed sewage works or amendments to the works, are established, altered, extended or replaced in accordance with ministry requirements. In addition, the ECA may outline performance standards that:

- protect human health and the environment by preventing potential harmful effects;
- require a facility to conform to generally accepted engineering practices with the potential to operate reliably;
- provide minimum requirements for compliance as set out in acts, regulations, standards, policies, guidelines and procedures; and
- outline specific responsibilities of facility owners and operators.

Sewage systems that are designed, installed and maintained properly provide an effective means of sewage disposal and treatment. Many sewage system failures are due to poor maintenance or practices that negatively impact the system. In some cases these failures may result in the discharge of untreated human waste to the ground and/or to lakes and rivers.

The wording of the Ontario Water Resources Act, section 53. (1) reads:

"Subject to section 47.3 of the *Environmental Protection Act* , no person shall use, operate, establish, alter, extend or replace new or existing sewage works except under and in accordance with an environmental compliance approval. 2010, c. 16, Sched. 7, s. 3 (9)."

On October 11, 2017, Sara Laver, Senior Environmental Officer, attended Sandbanks River Country Campground (Campground) to meet with Joe Welten of J.D. Welton Ventures Inc. (Owner). The purpose of the visit was to conduct an inspection to evaluate compliance of the Campground with the OWRA and any other applicable legislation.

Joe Welten purchased Martin's River Campground changing it's name to Sandbanks River Country Campground in April 2017. There are no Environmental Compliance Approvals (ECA) identified in ministry's files for the sewage works at the Campground. The Campground is located along County Road 18 in Prince Edward County and it is adjacent to the Outlet River.

2.0 INSPECTION OBSERVATIONS

Certificate of Approval Number(s): ☐ Yes ☒ No
Use Permit Number(s): n/a

2.1 GENERAL APPROVAL REQUIREMENTS

There is no ECA for the sewage works at the Campground.

2.2 FINANCIAL ASSURANCE

There is no ECA for the sewage works at the Campground at this time and so there is currently no financial assurance requirement.

2.3 DESIGN CRITERIA

The Campground has 171 campsites in total (151 sites with water and sewage hook-up and 20 without). In addition to the 171 campsites, the Campground has two (2) comfort stations (2 of which have showers). The sewage is managed on-site by four (4) onsite conventional subsurface sewage systems.

Amenities at the Campground include a store and recreation hall, playground, boat docks, beach, and water sport rentals. Joe Welten, owner J.D. Welton Ventures Inc., purchased the Campground, previously known as Martin's River Campground, in April of 2017.

No previous ECAs were identified in ministry files for the Campground's sewage works and it was explained to the Owner that ECAs have to be obtained for the onsite sewage systems. It was explained that since little information is known about the Campground's sewage systems (ie. age, size, and what sites feed into what system) there needs to be an engineering assessment of the systems. Subsequently, the Owner retained Greer Galloway to assess the Campground's sewage systems.

2.4 CAPACITY

A capacity assessment was conducted as part of this inspection using the known information provided by the Owner and Gary Bruno (President of Park Smart Group, the Campground's strategic advisor).

The flow values used in this capacity assessment are taken from Part 8 of the Ontario Building Code, capacity tables for sewage system design flows. The total sewage system design flow reflects the overall design capacity of the Campground and not the actual flows through the systems.

151 campground sites with water and sewage hook-up - 425 L/day = 64,175 L/day
20 campground sites, no sewage or water hook up - 275 L/day = 5,500 L/day

Total = 69,675 L/day design capacity.

2.5 PROFESSIONAL ENGINEER ASSESSMENT

The Owner has retained Greer Galloway to assess the Campground's sewage systems. It is understood that at the time this report was written (January 2018) the assessment is in progress.

2.6 MAINTENANCE AGREEMENT

There is currently no ECA for the Campground and so there is no requirement for a maintenance agreement. During the inspection, the Owner noted that Angie's Pooper Scooper has pumped out the septic tanks in June and August of 2017.

At the time of the site visit, the Owner described the only sewage problem that has occurred since he has taken control of the Campground. There was a pump failure at one of the trailers and the pump was replaced and the septic tank emptied. There was reportedly no discharge of sewage to the ground as the backup was in the trailer. Should a spill of a contaminant (including sewage) to the natural environment occur, it must be reported to the ministry's Spills Action Centre at 1-800-268-6060. A local Environmental Officer will be notified and he/she will ensure proper actions have been taken to clean up the spill and prevent future spills from happening. The duty to report spills is outlined in the Part X of the Environmental Protection Act.

2.7 TRAFFIC CONTROL

All leaching beds should be protected from vehicular traffic.

2.8 MONITORING REQUIREMENTS

2.9 GROUND WATER/SURFACE WATER IMPACTS

There were no evident break outs or soft spots to indicate failing systems at the time of the inspection.

2.10 REGISTRATION ON TITLE

There is no requirement for registration on title at this time.

3.0 REVIEW OF PREVIOUS NON-COMPLIANCE ISSUES

There is no record of non-compliance issues at this Campground.

4.0 SUMMARY OF INSPECTION FINDINGS (HEALTH/ENVIRONMENTAL IMPACT)

Was there any indication of a known or anticipated human health impact during the inspection and/or review of relevant material, related to this Ministry's mandate ?

No

Specifics:

Was there any indication of a known or anticipated environmental impact during the inspection and/or review of relevant material ?

No

Specifics:

Was there any indication of a known or suspected violation of a legal requirement during the inspection and/or review of relevant material which could cause a human health impact or environmental impairment ?

Yes

Specifics:

The Campground does not have ministry approval for the operation of the Campground sewage systems, as required by section 53 of the OWRA.

Section 53 (1) of the OWRA states:

"Subject to section 47.3 of the *Environmental Protection Act*, no person shall use, operate, establish, alter, extend or replace new or existing sewage works except under and in accordance with an environmental compliance approval."

Was there any indication of a potential for environmental impairment during the inspection and/or the review of relevant material ?

No

Specifics:

Was there any indication of minor administrative non-compliance?

No

Specifics:

5.0 ACTION(S) REQUIRED

1. No later than April 30, 2018, please submit to the undersigned Environmental Officer an action plan, including timelines, associated with submitting to the ministry's Environmental Approvals and Permissions Branch a completed application (including all supporting documents) for an Environmental Compliance Approval for all onsite sewage systems. A guide for completing the application, the form itself, and additional information relating to the Environmental Compliance Approval can be found at the ministry's website (follow the link for 'Environmental Approvals') www.ontario.ca/environment.

No

6.0 OTHER INSPECTION FINDINGS

There are no other inspection findings at this time.

7.0 INCIDENT REPORT

Applicable
7603-AV32G9 

8.0 ATTACHMENTS

PREPARED BY:
Environmental Officer:

Name:

District Office:

Date:

Signature

Sara Laver
Belleville Area Office
2018/01/15



REVIEWED BY:
District Supervisor:

Name: Cathy Chisholm
District Office: Belleville Area Office
Date: 2018/01/19

Signature:

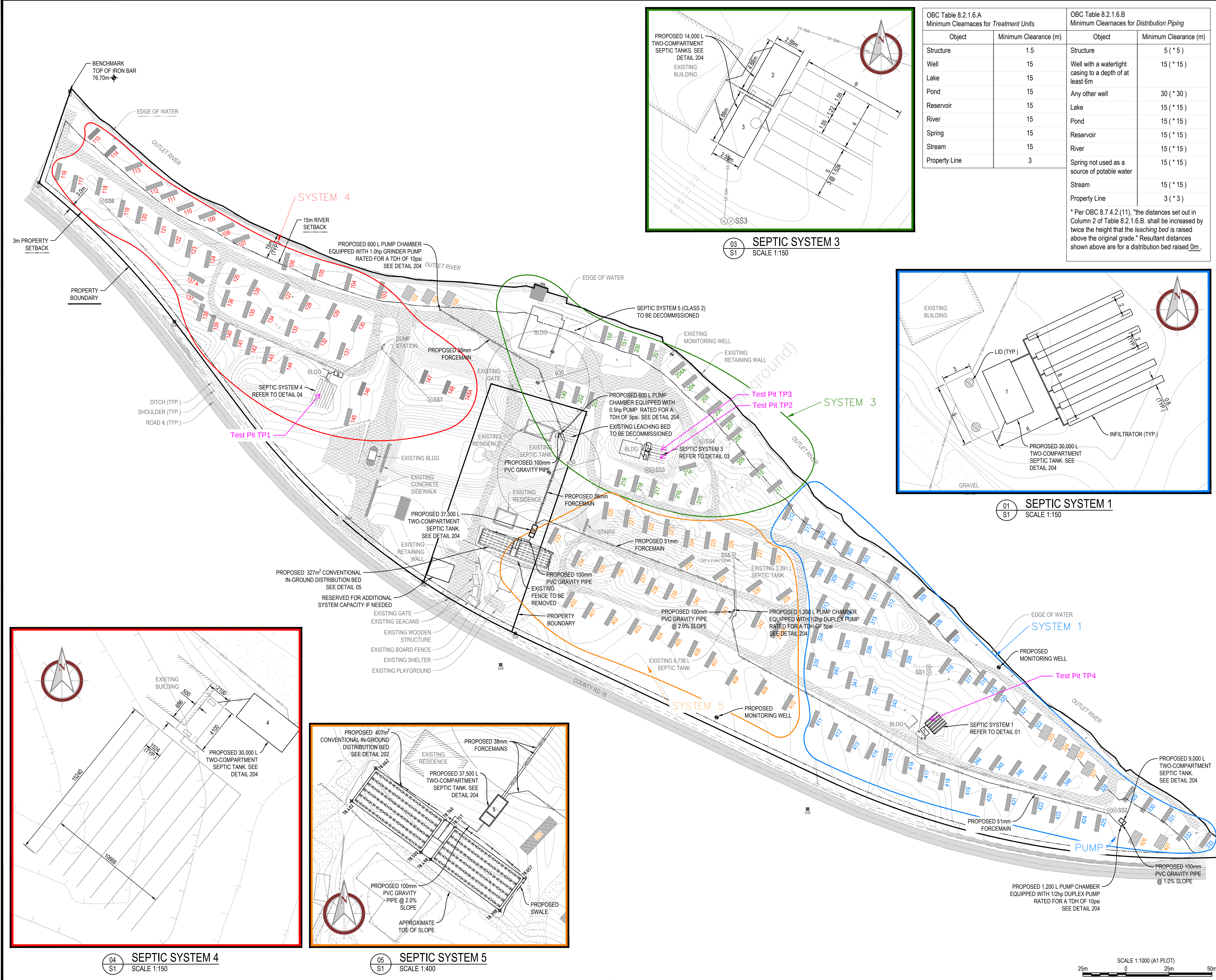
A handwritten signature in black ink, appearing to read 'Chisholm', with a large, stylized loop at the beginning.

File Storage Number: SI PE PE CO 18 430

Note:

"This inspection report does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they may apply to this facility. It is, and remains, the responsibility of the owner and/or the operating authority to ensure compliance with all applicable legislative and regulatory requirements"

FILE PATH: P:\Belleville Project\8000\738225 - Sandbanks Campground ECA\Drawings Working Drawings\1738225 - Sandbanks Campground Septic.dwg
PLOT DATE: 2023 / 11 / 16 @ 12:15 PM
BORDER SIZE: ISO A1 (841mm x 594mm)



GREER GALLOWAY
CONSULTING ENGINEERS
PETERBOROUGH
BELLEVILLE
KINGSTON
1620 WALLBRIDGE LOYALIST ROAD
BELLEVILLE, ONTARIO, K8N 4Z5
PHONE: 613-966-3068
FAX: 613-966-3087

NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
- ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
- ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
- CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
- CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
- ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

A A DETAIL NO.
B B DRAWING NO. - WHERE DETAILED

LEGEND (EXISTING FEATURES)

- ASPHALT
- CONCRETE
- GRAVEL
- PROPERTY BOUNDARY
- PROPERTY SETBACK
- CENTRE OF ROAD
- EDGE OF SHOULDER
- EDGE OF WATER
- DITCH
- FENCE
- POLE (UTILITY / LIGHT)
- WELL
- TRAILER (APPROXIMATE LOCATION)
- CABIN (APPROXIMATE LOCATION)
- SATELLITE SEPTIC SYSTEM (WELL TILE)
- SATELLITE SEPTIC SYSTEM (TANK)
- SANITARY (ASSUMED)

R.J. Burnside Mark-ups March 2024

01	-	YY/MM/DD
REVISION	DESCRIPTION	DATE
NORTH	STAMP	

PROJECT
SANDBANKS
CAMPGROUND ECA
1854 COUNTY ROAD 18
CHERRY VALLEY, ONTARIO

SANDBANKS RIVER COUNTRY CAMPGROUND

DRAWING TITLE
PROPOSED
SITE PLAN

DESIGNED BY
D. COOPER

DRAWN BY
N.W./A.B./C.C.

REVIEWED BY
C. MITZ

APPROVED BY
C. MITZ

PROJECT DATE
2018/03/28
(YYY/MM/DD)

PROJECT #
17-3-8225

DRAWING #
S1

DRAWING SCALE (ISO A1)
HOR: 1 : 1,000
VER: N/A

Table 1
Test Pit Logs and Soil Classification

Date: 7-Mar-24
Weather Conditions: Sunny, 10C

Test Pit No	Depth Interval	Soil Description	Soil Sample No.	Depth	Unified Soil Classification	Groundwater and Notes
TP 1						LB stone layer from 0.6 to 0.9 mbg
	0 - 0.10	Topsoil				
	0.10 - 1.20	Light brown fine to medium sand, trace silt, dry	1	0.90		
	1.20 - 1.60	Fill, waste material (wood, cans, etc.); moist. Not continuous across pit.				
	1.60 - 1.80	Light brown fine to medium sand, trace silt, moist				
	1.80 -					
TP 2						LB stone layer from 0.6 to 0.8 mbg
	0 - 0.15	Topsoil				
	0.15 - 0.50	Dark brown sand, some silt, some gravel; dry				
	0.50 - 0.80	Dark brown silt and sand, some gravel, some cobble; dry				
	0.80 - 1.40	Light brown fine to medium sand; dry	2	0.90		
TP 3						LB stone layer from 0.6 to 1.0 mbg
	0 - 0.20	Topsoil				
	0.20 - 0.60	Dark brown sand, some to trace silt; dry				
	0.60 - 1.50	Light brown fine to medium sand; dry	3	0.90		
	1.50 -					
	-					
TP 4						LB chambers from 0.6 to 0.9 mbg
	0 - 0.10	Topsoil				
	0.10 - 1.40	Light brown fine to medium sand; dry	4	1.00		
	-					
	-					

Logged on March 15, by B. Zingula
All measurements are in metres unless otherwise indicated.
Soil samples will be retained for three months from date of report.