GREER GALLOWAY
a division of Jp2g Consultants Inc.

Re: Lakecroft, 89 Sandy Lane, Cherry Valley

Subject: Stormwater Brief – Sandy Lane / East Lake

1 INTRODUCTION

The Greer Galloway Group (GGG) has been retained to provide engineering services to support of the development application process for of the property located at the municipal address #4 County Road 18 / 89 Sandy Lane, Cherry Valley, Prince Edward County, Ontario. The proposed development has removed 40 existing serviced camper trailer sites and will develop a glamping and event use purposefully designed to be much 'softer' and less impactful to the property and its surroundings.

This report has been prepared to consider potential stormwater impacts of the proposed development.

1.1 Scope

This stormwater management brief (SWB) speaks to the potential effects of the proposed development relating to stormwater quality and quantity and should they be required will describe proposed measures to mitigate post-development impacts through the use of various Low Impact Development (LID) measures and other best management practices.

The anticipated minor impact of the development on previously existing conditions and presence of an adjacent large body of water connected to Lake Ontario makes a detailed stormwater management report unnecessary (unless findings suggesting a more significant and complex impact can be expected) and a stormwater brief is felt appropriate for this development proposal.

1.2 Standards and Guidelines

The following standards and guidelines were consulted:

- Stormwater Management Planning and Design Manual - Ministry of the Environment, 2003
- MTO Drainage Management Manual – Ministry of Transportation, 1997
- Low Impact Development Stormwater Management Planning and Design Guide by Credit Valley Conservation Authority and Toronto and Region Conservation Authority, 2010

1.3 Design Criteria

The design criteria for stormwater management are based on the requirements of Quinte Conservation Authority (QCA) and the Ministry of the Environment, Conservation, and Parks, (MECP). Key design criteria are listed below:

- Enhanced (Level 1) treatment for Water Quality as defined by the MOE shall be achieved – 80% Total Suspended Solids (TSS) removal.
- Water quantity controls shall be in accordance with the 2003 MOE SWMPD Manual. Flood flow management criteria requires that all storm events up to and including the 100-year storm will be controlled to predevelopment levels, unless, the outlet is directly to a large body of water where stormwater quantity impacts will not be felt.
- Sediment erosion and control are to be managed during and after the construction of the proposed development.

2 EXISTING CONDITIONS – PRIOR TO THE PROPOSED DEVELOPMENT

The development site is located in Cherry Valley, Prince Edward County. Because the property is located both on County Road 18 and Sandy Lane it can be referred to as either #4 County Road 18 or 89 Sandy Lane.

The property has an area of approximately 3.66 ha which includes a large southern area that fronts onto County Road 18, a narrow laneway that wraps around the east side of a large wetland, and a large northern area adjacent to East Lake.

The property is in the process of being redeveloped so for the purpose of this document, existing conditions actually refer to when it was known as Cherry Lane Campground and Cottages which included 40 fully serviced semi-permanent campers with decks, parking and other features, cabins and campsites were located on the property. There were (and remain today) 2 houses, storage buildings, registration office and other supporting features.

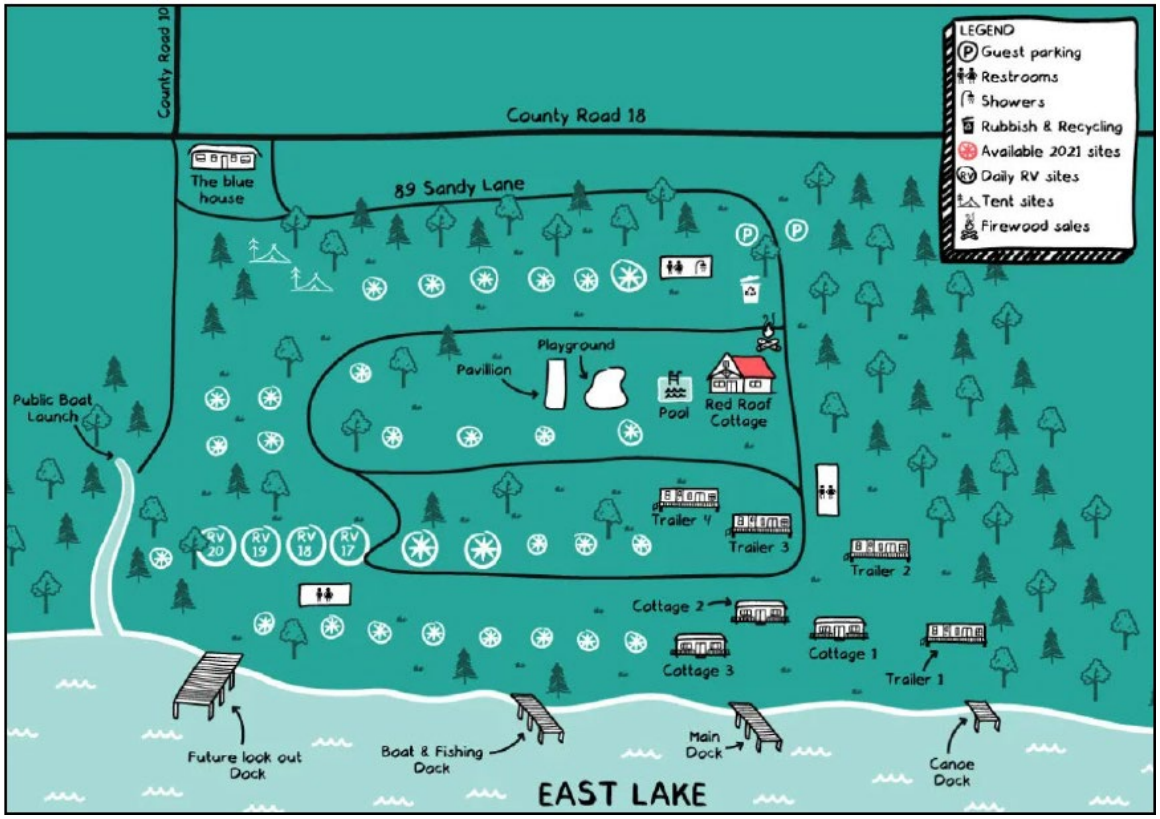

Figure 1: Cherry Lane Campground and Cottages Advertising

Figure 2: Cherry Lane Campground and Cottages Aerial – Northern Area with Campers (Google 2018)

Some of the development changes already completed include the removal of the existing campers.

A topographic survey was completed to assess the grading of the site. The extent of the survey is limited by the wetland and heavily vegetated areas where access could not be gained. Based on this survey and available mapping, and site observations drainage is confirmed generally towards the adjacent wetland and East Lake both of which are hydraulically connected along the property frontage. Road runoff is contained to the municipal road through curb, gutter and piped storm works that outlet independent of this property.

Because of the limited impact of adjacent property and single water system to which these lands outlet, only one drainage parcel has been delineated and is called “Pre Development Drainage Parcel – A”.

Surface water runoff sheet flows across the property and accumulates in the adjacent water bodies which ultimately outlets to Lake Ontario.

2.1 Geotechnical Investigation

A desktop review of the site soils was assessed using the Ministry of Agriculture's online soil mapping tool, AgMaps.

The figure below illustrates lands to the east of Cherry Valley are typically 'Farmington Loam' (orange); there is a band of marsh (salmon) that extends onto the property; and most of Cherry Valley and a large portion of the subject site including the proposed primary parking area is described as Brighton Sandy Loam (beige).

Brighton soils are:

- Found in freshwater swamps and marshes.
- Made up of sand, silt and clay.
- Generally, well drained.

It was found that the existing soil condition can be expected to be Type-A (well drained). Runoff coefficients were selected based on these anticipated soil conditions.

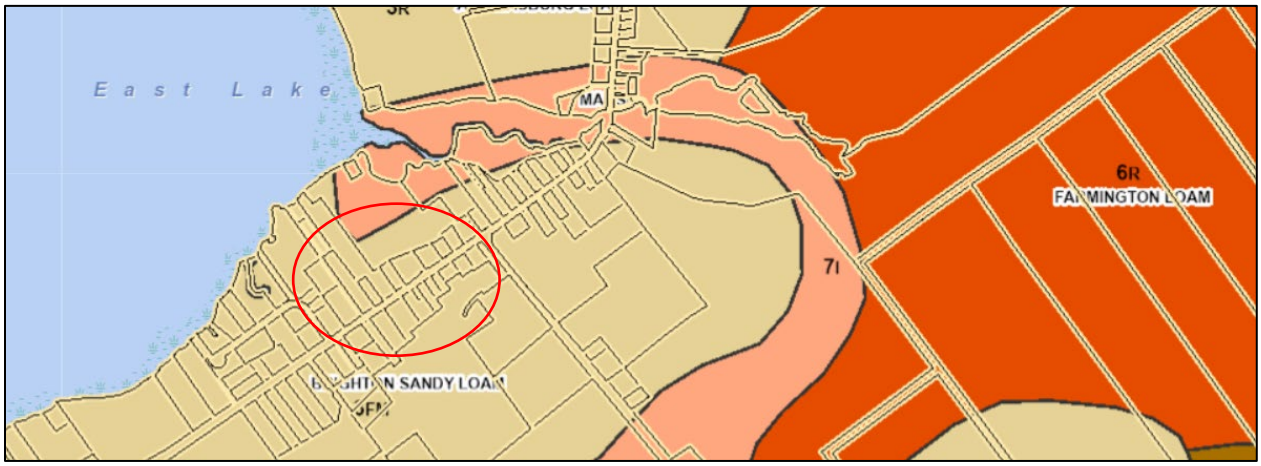

Figure 3: Ontario Soil Mapping

2.2 Pre-Development Drainage Model

The drainage area for Pre Parcel - A is 3.66 ha and it generally wraps around the wetland. It is comprised of treed and grassed areas, two existing houses, storage buildings/sheds, a registration office, 40 campers, and a 3.2m wide gravel laneway.

Based on the existing land use and soils mapping, a composite runoff coefficient of 0.25 was determined.

Stormwater runoff is sheet flow from the area is conveyed at various slopes across the property, but we have estimated a typical slope of 3.7% for the critical primary parking lands.

The Airport Method was used to calculate the time of concentration (Tc) as follows:

$$T_c = \frac{(3.26\times(1.1-C)\times\sqrt{L})}{\sqrt[3]{S}}$$

Where: Tc = Time of Concentration (32 minutes)
C = Runoff Coefficient (0.25)
L = Watershed Length (305 metres)
S = Watershed Slope (3.7%)

Intensity-Duration-Frequency curves were used to determine the 1 in 5-year and 1 in 100-year rainfall intensities for the watershed.

Refer to Appendix 'A' for predevelopment stormwater calculations.

- Based on a time of concentration of 32 minutes:
  - The 5-year peak intensity and flow is estimated to be 44 mm/hr and 113 l/s.
  - The 100-year peak intensity and flow is estimated to be 74 mm/hr and 188 l/s.

3 PROPOSED DEVELOPMENT

Figure 4 provides an approximation of the property boundary, shows how Sandy Lane meanders from County Road 18 around a wetland to the event and camping area adjacent to East Lake. This image also illustrates the removal of campers and other features associated with Cherry Lane Campground.

The property is separated by a wetland area into northern and southern sections connected by Sandy Lane.

The northern area includes gravel property access and the an existing 'motel' building fronting County Road 18; 4 gravel parking spaces and pull through driveway; existing storage building; proposed primary parking area with 59 grassed parking spaces and a widened Sandy Lane to 6.0m width.

The southern area includes the existing 'cabin' building; 2 gravel parking spaces; various existing complimentary buildings; proposed event building and 3 parking spaces, 9 glamping sites; 6.0m wide gravel Sandy Lane leading to emergency vehicle turnaround.

Site grading will remain unchanged and existing vegetation will remain or be enhanced through additional plantings – see proposed appended landscaping plan prepared by Giles Architects.

As noted earlier, the intent of the owners is to reduce the impact of the property on the environment on and surrounding the property through the use of 'soft' camping styles (glamping tents on wooden decks), grassed parking areas (enhanced with the use of stabilizing mesh – Typar GrassProtecta), relocating development features away from the shoreline outside of required setbacks, and other measures where possible.

Because the northern portion of the property is relatively flat and will have a very strong ability to infiltrate runoff through sheet flow and intersecting granular surfaces, the focus of any stormwater quality measures will focus on the primary parking area between the motel building and the wetland.

As noted earlier, water quantity impacts will be estimated but no storage measures will be proposed due to the size of the adjacent bodies of water and lack of impact on adjacent lands.

Stormwater erosion will not be an issue after construction due to the combination of flat slopes and vegetated surfaces. During construction, the use of typical erosion control practices such as light duty silt fence (OPSD 219.110) around material stockpiles will suffice. No drawings are provided detailing construction erosion control as construction practices relating to lane widening or localized excavations are not likely to be a concern and construction stockpiling for instance will not be known until the work is initiated.

Similar to predevelopment conditions, the property will be treated as a single drainage area.

Figure 4: After campsites were removed and initial redevelopment started.
(Google 2023)

The property is being redeveloped to include a smaller number of accommodations (glamping sites) and an increased focus on event activities (see www.lakecroft.ca).

3.1 Post-Development Drainage Model

The drainage area for Post Development Parcel - A remains 3.66 ha.

Following a similar process to the pre-development model the following is noted with detailed information appended.

The proposed development changes will result in a minor increase in imperviousness increasing the site runoff coefficient from 0.25 to 0.28.

A similar minor increase in peak flows results:

- The 5-year peak flow increases from 113 l/s to 129 l/s.
- The 100-year peak flow increases from 188 l/s to 216 l/s.

The water quantity objective is to preserve the hydrologic function of the adjacent watercourse, municipal ditch, etc. and prevent increasing existing flooding that may occur on lands impacted by the development.

Therefore, an assessment of the development and its impacts have been performed to demonstrate that the proposed changes will not result in negative impacts on downstream flooding. Refer to Appendix 'A' for quantity control calculation calculations.

The drainage area for the Post Development Drainage Area Parcel is 3.66 hectares with a composite runoff coefficient of 0.28. Using the Modified Rational Method (refer to calculations in Appendix 'A'), uncontrolled inflows of 216 l/s would occur at a time of concentration of 30 minutes under the 1 in 100-year event, which is 28 l/s higher than pre-development conditions.

Post development runoff outlets to the wetland and East Lake which is connected to Lake Ontario. As surface water runoff is directly outlet to a sufficiently large body of water that site drainage will have no measurable impact – no quantity control will be needed for this area.

There is a developing practice of making additional allowances for increasingly severe storm events attributed to global climate change. In this instance, no water quantity storage is being recommended so, no such measures are needed.

3.2 Post-Development Quality Control

The development will result in a modest overall increase in semi-impervious surfaces (laneway and turn around gravel surfaces in particular) that may justify quality control treatment in accordance with the Ministry of Environment, Conservation and Parks (MECP) – Stormwater Management Planning and Design Manual 2003. To achieve water quality objectives, stormwater management best management practices (BMPs) involving Low Impact Development methods have been selected for this project.

The Toronto and Region Conservation Authority (TRCA) in partnership with the Credit Valley Conservation Authority (CVC) released a document in 2010 called the 'Low Impact Development Stormwater Management Planning and Design Guide' (herein referred to as the Design Guide). This document provides design guidance for enhanced grass swales and vegetated filter strips which have been selected as BMPs for this project. For this project, an enhanced grass swale has been designed to provide water quality control.

Recommendations from this Design Guide for a properly functioning enhanced grassed swale are as follows:

- Swales should be parabolic or trapezoidal in shape.
- Side slopes should not exceed 2.5H:1.0V.
- Bottom widths should be between 0.5m and 3.0m.
- Longitudinal slopes should be between 0.5% and 4%.
- Flow depth should not exceed two-thirds the height of vegetation.
- Swale vegetation is maintained grass (roughness coefficient, n = 0.027) to shrub-vegetated, cobbled (roughness coefficient, n = 0.05).

A trapezoidal-ditch section has been designed with 3H:1V side slopes; is 1.22 m wide at the top; 0.5 m wide at the bottom; 0.1 m deep; and 115 m in length.

To ensure proper filtration treatment of the enhanced grass swale is achieved, it must be demonstrated that for the quality storm event, flows from the contributing area are limited to a maximum velocity of 0.5 m/s. Additionally, the design guide recommends limiting the flow depth to less than 10 cm under the quality event.

To approximate a 4-hour 25mm Chicago Storm (quality event), the MOE design manual recommends the Rational Method Formula, where:

$$i = 43C + 5.9$$

The calculated flow for Post Development Parcel A is 0.050 m^3/s (refer to Appendix 'A' for quality control calculations). The expected velocity and flow depth within the designed swale section are shown below:

Table 1: Design Guide Requirements for the Enhanced Grass Swale

Flow Depth (m)	Area (m^2)	Perimeter (m)	Flow m^3/s	Velocity (m/s)
0.01	0.020	2.063	0.004	0.000
0.02	0.041	2.126	0.011	0.278
0.03	0.063	2.190	0.023	0.360
0.04	0.085	2.253	0.037	0.432
0.05	0.108	2.316	0.053	0.497
0.06	0.131	2.379	0.073	0.556
0.07	0.155	2.443	0.095	0.611
0.08	0.179	2.506	0.119	0.663
0.09	0.204	2.569	0.145	0.711
0.1	0.230	2.632	0.174	0.757
0.11	0.256	2.696	0.205	0.801
0.12	0.283	2.759	0.239	0.843

This grassed swale meets the requirement of the design guide for flow and velocity at the flow depth of 0.05 m.

The proposed enhanced grass swale will help achieve the pre-development quality control requirements and is located downslope from the proposed grassed parking areas to capture the primary vehicle traffic area and flows of concern.

We note that this calculation is for the entire land area and the above is therefore overdesigned intentionally to address the noted area of water quality concern and peak vehicle traffic area.

3.3 Conveyance

All surface water runoff from the property will be conveyed via sheet flow directly outlet to an adjacent body of water.

There will be no conveyance concerns associated with proposed site conditions.

We note the swale provided will not have a formal outlet, rather water will pond at the low points and fill to

appoint of spilling. This will further encourage infiltration and slow any increase in runoff that may occur from the development lands.

3.4 Erosion and Sediment Control

It is anticipated that erosion and sediment control concerns will be construction related.

Erosion and sediment control during the construction stage will be provided by the following measures:

- Minimize vehicle access to and around the construction site to reduce the amount of disturbance of natural vegetation.
- Limit the extent of exposed soils at any given time. The contractor is to minimize areas to be cleared/grubbed/stripped where possible.
- All disturbed areas on and off-site are to be restored to their original condition or better unless otherwise specified. Re-vegetation of disturbed areas is to be completed as soon as possible.
- Exposed slopes are to be protected with natural or synthetic mulches/blankets, where required.
- Light duty silt fence (OPSD 219.110) to be installed on the downstream perimeter of all disturbed areas and stockpiles.
- All erosion control measures are to be maintained until the contributing surfaces have been adequately stabilized.
- A visual inspection is to be completed daily and sediment control measures are to be cleaned of any accumulated silt as required.
- In some cases, barriers may be removed temporarily to accommodate the construction operations. The affected barriers will be reinstated at night when construction is completed. No removal will occur if there is a run-off or predicted rainfall event unless a new device has been installed to ensure the containment of erosion or siltation.
- No refueling or cleaning of equipment is permitted near any existing watercourses.

4 CONCLUSIONS

Based on the investigations and analysis conducted as part of this study, it is concluded that it is possible to provide the necessary stormwater management measures to mitigate any adverse effects of the proposed development.

It can also be concluded that:

1. The property is in a rural area that is not generally sensitive to minor changes in runoff conditions.

2. Stormwater runoff will drain to a large wetland and East Lake that is connected to Lake Ontario.

3. East Lake and its connected water bodies are very large and not likely to be affected by a change in stormwater runoff from the site. Accordingly, water quantity impacts – and associated water quantity attenuation of peak flow rates does not need to be considered for directly draining lands.

4. There is a developing practice of making additional allowances for increasingly severe storm events attributed to global climate change. In this instance, no water quantity storage is required so no such measures are needed.

5. The proposed development will result in a small increase in semi-impervious surfaces associated with the widening of the gravel Sandy Lane and turnaround. This is a result of development emergency vehicle access requirements.

6. Water quality is addressed via surface overland conveyance measures – specifically enhanced

grassed swales located adjacent to proposed primary parking areas.

7. The trapezoidal shaped enhanced grassed swales have been designed to give adequate flow and to provide effective quality control during 25mm, 4-hour Chicago Storm. (Note: While not included in the calculations, overland sheet flow over vegetated surfaces – existing and newly graded, V-shaped swales and poorly drained low-lying areas will also contribute to maintaining and improving water quality on the property above and beyond the calculated provision).

(Note: It is reasonable to anticipate some minor changes in the site plan as the approval process runs its course. Only changes that are felt to be significant and directly relevant to entrance traffic may warrant a revision to this document.)

If there are any questions or comments, please contact the undersigned.

Sincerely,

GREER GALLOWAY
A Division of Jp2g Consultants Inc.

Yash Chokshi

Yash Chokski, EIT

LICENSED PROFESSIONAL ENGINEER
M.D. McIntosh
100056710
February 25th, 2025
PROVINCE OF ONTARIO

Matthew McIntosh, P. Eng.
Senior Engineer / Project Manager

Attachments:
1. General Aerial Image
2. Arcadis Proposed Site Plan
3. Giles Architects Landscaping Plan
4. Existing / Proposed Design Drawings
5. Supporting Calculations

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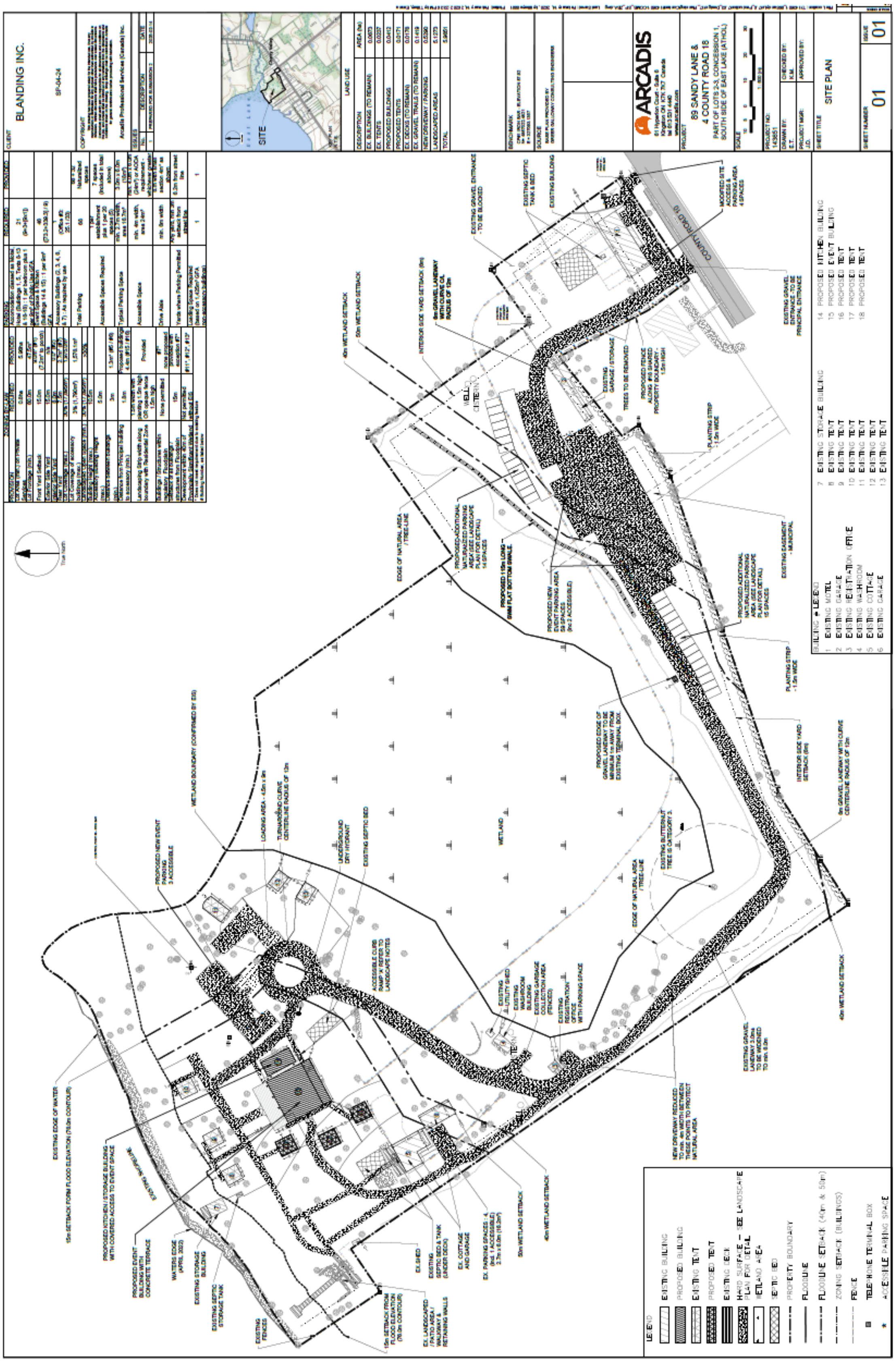
BLANDING INC.
ARCADIS
SITE PLAN
01
LEGEND
WETLAND

GREER GALLOWAY
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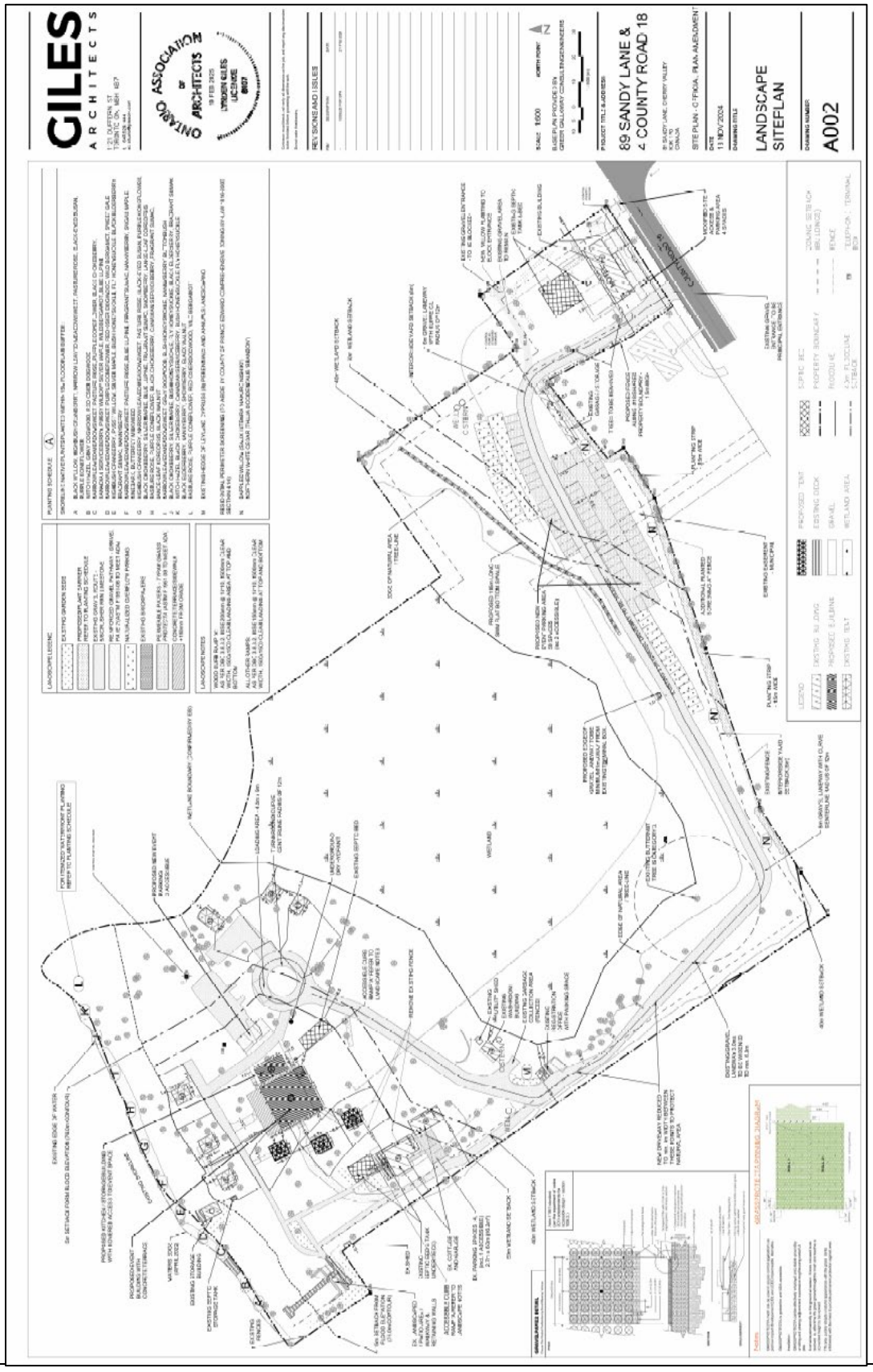

Pre Development Site Land-use

PRE PARCEL - A

Drainage Area: 3.66 ha

Land Use	Area (Ha)	Runoff Coefficient	C x A	CN Value	CN x A
Gravel	0.25	0.90	0.23	98	25
Roofs	0.19	0.90	0.17	98	18
Wooded	1.00	0.08	0.08	50	50
Field	2.22	0.22	0.49	66	147
Total	3.66		0.96		240

Composite CN Value: 65
Composite Runoff Coefficient: 0.25
% Imperviousness: 12%

Watershed Length 305 m
Elevation - Top: 87.20 m
Elevation - Bottom: 76.00 m
Watershed Slope: 3.7%

Time of Concentration, T_c = 32 minutes (calculated using the Airport Method for C < 0.4)
Watershed Time to Peak, T_P = 21 minutes (2/3 of T_c)

5-Year Intensity 44 mm/hr
100-Year Intensity 74 mm/hr

5-Year Flow, Q 113 l/s
100-Year Flow 188 l/s

Post Development Site Land-use

Post Parcel - A

Post-Development Peak Flows

Drainage Area: 3.66 ha
(MTO Design Chart 1.07)

Land Use	Area (Ha)	Runoff Coefficient	C x A	SCS Curve Number	CN x A
Pavement	0.00	0.90	0.00	98	0
Gravel	0.40	0.90	0.36	98	40
Roofs	0.11	0.90	0.10	98	11
Wooded	1.00	0.08	0.08	50	50
Landscaped Areas	2.14	0.22	0.47	66	141
Total	3.66		1.01		242

Composite CN Value: 66
Composite Runoff Coefficient: 0.28
% Imperviousness: 14%

Watershed Length: 300 m
Watershed Δ Elevation: 11.20 m
Watershed Slope (%): 3.7%

Quantity Control - Post Parcel - A

Modified Rational Method - 5 - Year

Time (mins)	Intensity (mm/hr)	Inflows (l/s)	Outflows (l/s)	Storage (m3)
30	45.8	129	113	29.8
31	44.7	126	113	25.3
32	43.8	123	113	20.8
33	42.8	121	113	16.3

Modified Rational Method - 100 - Year

Time (mins)	Intensity (mm/hr)	Inflows (l/s)	Outflows (l/s)	Storage (m3)
30	76.5	216	188	49.7
31	74.7	211	188	42.3
32	73.1	206	188	34.8
33	71.5	202	188	27.2

Quality Control - Post Parcel - A

Drainage Area = 3.66 ha

Quality Storm - 25 mm, 4 Hour Chicago Storm Equivalent

Rational Formula, Q = 0.00278*C*i*A

C = 0.28

A = 3.66 ha

i = 43*C + 5.9

17.8 mm/hr

Flow 0.050 m^3/s

Enhanced Grass Swale Design (Trapezoidal-Ditch Section) for Swale 1 & Swale 2

Inflow = 0.050 m^3/s

Manning's n = 0.05 (LID Design Guide, P. 4-145)

Ditch Slope = 0.037 m/m

Side Slopes = 3:1

Flow Depth (m)	Area (m^2)	Perimeter (m)	Flow m^3/s	Velocity (m/s)
0.01	0.020	2.063	0.004	0.000
0.02	0.041	2.126	0.011	0.278
0.03	0.063	2.190	0.023	0.360
0.04	0.085	2.253	0.037	0.432
0.05	0.108	2.316	0.053	0.497
0.06	0.131	2.379	0.073	0.556
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0.11	0.256	2.696	0.205	0.801
0.12	0.283	2.759	0.239	0.843

8/28/23, 12:41 PM IDF Curve Look-up - Ministry of Transportation

Ontario IDF CURVE LOOKUP

Active coordinate

43° 56' 15" N, 77° 9' 45" W (43.937500,-77.162500)

Retrieved: Mon, 28 Aug 2023 16:40:43 GMT

Location summary

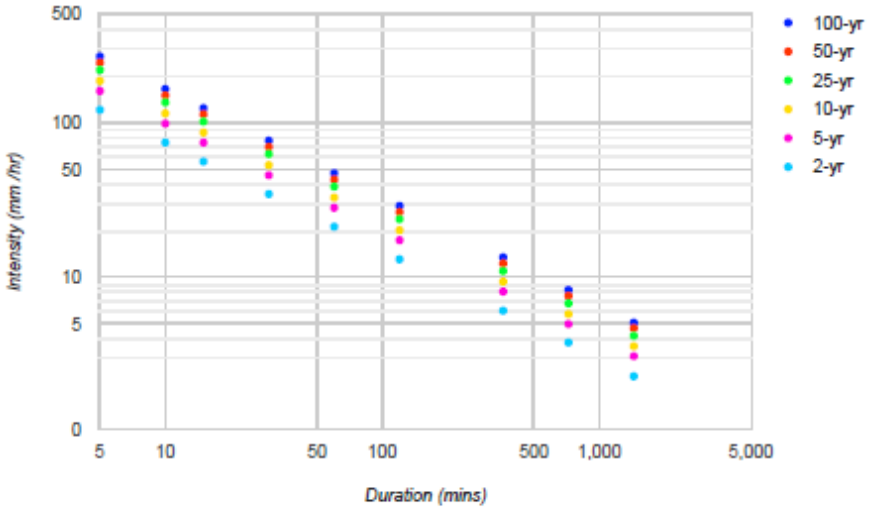
These are the locations in the selection.

IDF Curve: 43° 56' 15" N, 77° 9' 45" W (43.937500,-77.162500)

Results

An IDF curve was found.

Coordinate: 43.937500, -77.162500
IDF curve year: 2010



8/28/23, 12:41 PM IDF Curve Look-up - Ministry of Transportation

Coefficient summary

IDF Curve: 43° 56' 15" N, 77° 9' 45" W (43.937500,-77.162500)

Retrieved: Mon, 28 Aug 2023 16:40:43 GMT

Data year: 2010
IDF curve year: 2010

Return period	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
A	21.3	28.2	32.8	38.6	42.9	47.1
B	-0.699	-0.699	-0.699	-0.699	-0.699	-0.699

Statistics

Rainfall intensity (mm hr^{-1})

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	121.0	74.5	56.1	34.6	21.3	13.1	6.1	3.8	2.3
5-yr	160.2	98.7	74.3	45.8	28.2	17.4	8.1	5.0	3.1
10-yr	186.3	114.8	86.4	53.2	32.8	20.2	9.4	5.8	3.6
25-yr	219.2	135.1	101.7	62.7	38.6	23.8	11.0	6.8	4.2
50-yr	243.7	150.1	113.1	69.6	42.9	26.4	12.3	7.6	4.7
100-yr	267.5	164.8	124.1	76.5	47.1	29.0	13.5	8.3	5.1

Rainfall depth (mm)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	10.1	12.4	14.0	17.3	21.3	26.2	36.5	45.0	55.4
5-yr	13.3	16.4	18.6	22.9	28.2	34.7	48.4	59.6	73.4
10-yr	15.5	19.1	21.6	26.6	32.8	40.4	56.2	69.3	85.4
25-yr	18.3	22.5	25.4	31.3	38.6	47.6	66.2	81.5	100.5
50-yr	20.3	25.0	28.3	34.8	42.9	52.9	73.6	90.6	111.7
100-yr	22.3	27.5	31.0	38.2	47.1	58.0	80.8	99.5	122.6

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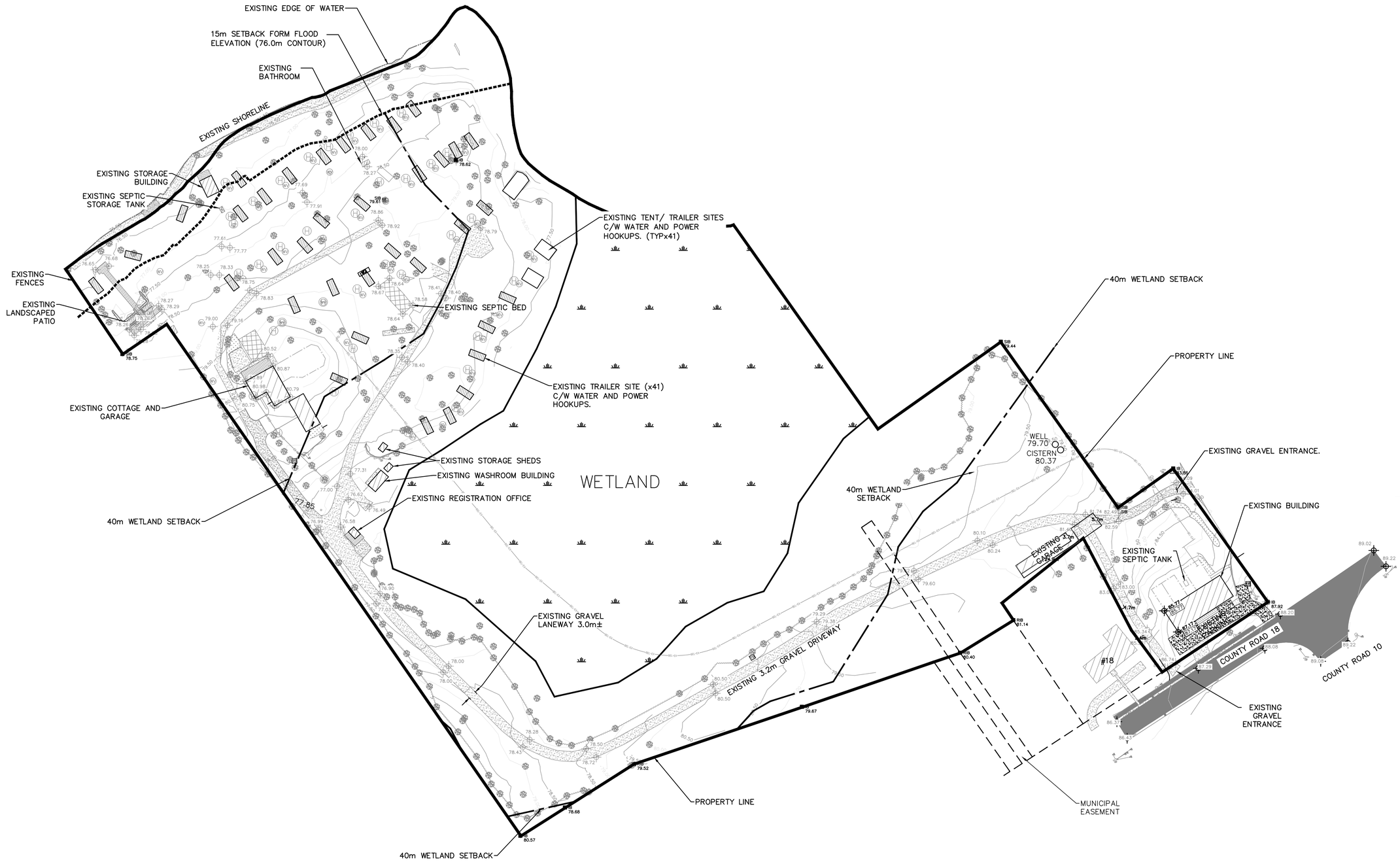

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FAX: 613-966-3087

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

A — A DETAIL NO.
B — B DRAWING NO. – WHERE DETAILED

LEGAL SURVEY SOURCE: WATSON LAND SURVEYOR
11390-Z-19
OCTOBER 23RD, 2023

TOPOGRAPHIC SURVEY:
GREER GALLOWAY
APRIL 28TH, 2022

UTILITY LOCATE SOURCE:
ONTARIO ONE CALL

GEOTECHNICAL SOURCE:
N/A

CONTROL POINTS/BENCHMARKS:
CP#1 – IRON BAR
ELEVATION = 87.92
N = 4867022.4821
E = 327093.1357

CONTROL POINTS/BENCHMARKS:
CP#2 – STANDARD IRON BAR
ELEVATION = 82.94
N = 4867057.9372
E = 327036.9859

CONTROL POINTS/BENCHMARKS:
CP#3 – IRON BAR
ELEVATION = 78.62
N = 4867187.9834
E = 326789.1615

REVISION	DESCRIPTION	DATE
04	REVISED SITE PLAN	25/02/25
03	UPDATED CAFE BUILDING	24/05/17
02	SUBMISSION #1	24/03/18
01	ORIGINAL	23/08/25

NORTH

STAMP

PROJECT
89 SANDY LANE,
CHERRY VALLEY

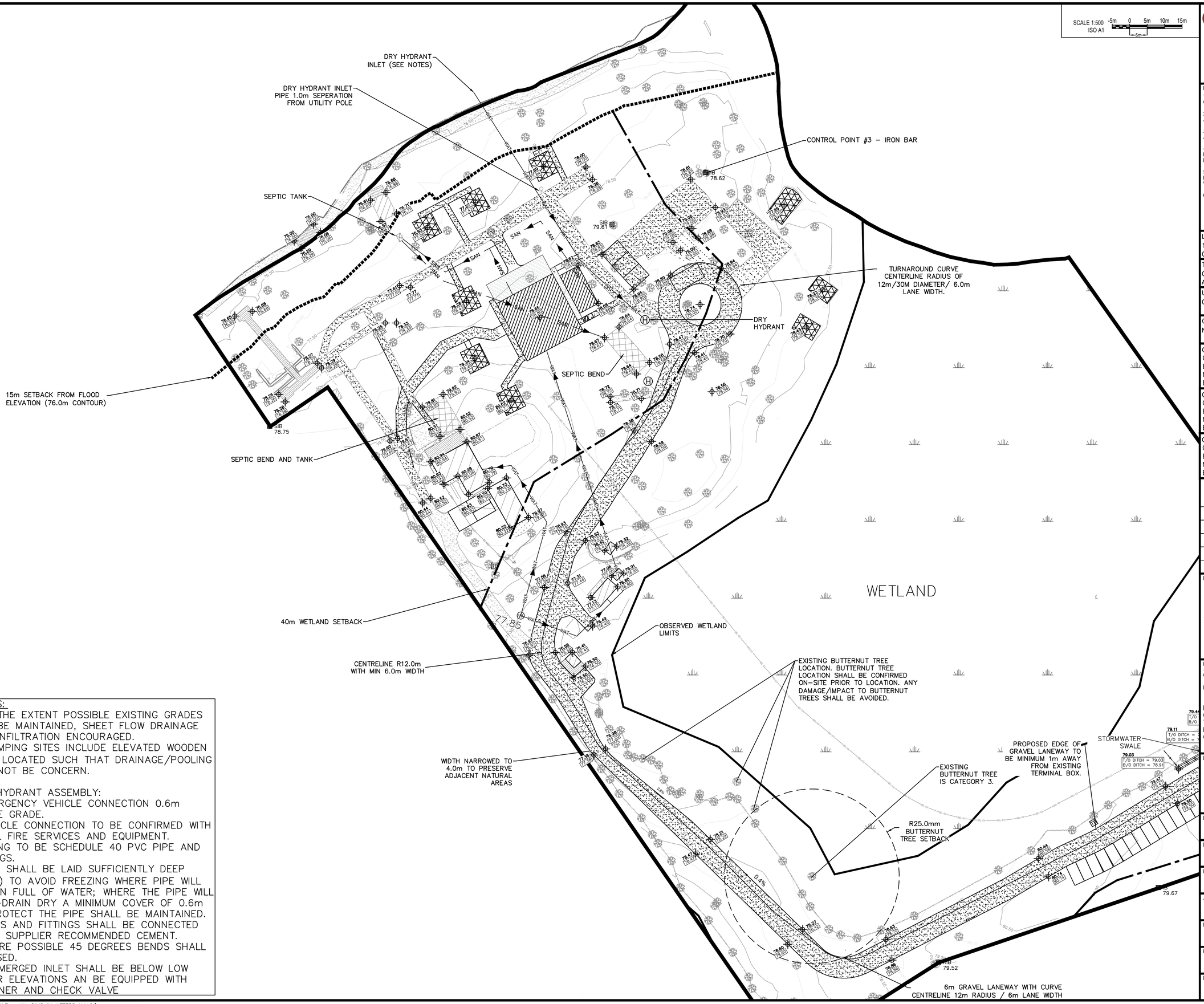
PART OF LOTS 2 AND 3
CONCESSION 1, SOUTH SIDE OF EAST LAKE
TOWNSHIP OF ATHOL
NOW IN THE MUNICIPALITY OF THE
COUNTY OF PRINCE EDWARD

DRAWING TITLE
ORIGINAL CONDITIONS

DESIGNED BY –
DRAWN BY –
REVIEWED BY –
APPROVED BY M. MCINTOSH
PROJECT DATE 2022/05/02 (YYYY/MM/DD)
PROJECT # 22-3-6546
DRAWING # OR
DRAWING SCALE (ISO A1) HOR: 1:750 VER: N/A

BORDER SIZE: ISO A1 (841mm x 594mm) DATE PLOTTED: 2025 / 02 / 25 @ 05:17 PM PLOT SCALE: 1:1 FILE PATH: P:\Belleville Project\6000\2236546 – 89 Sandy Lane\Drawings\WORKING DRAWINGS\2236546-SANDY LANE 2025-02-19.dwg CAD PLOTTER: Jonah Doering

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)



NOTES:
–TO THE EXTENT POSSIBLE EXISTING GRADES WILL BE MAINTAINED, SHEET FLOW DRAINAGE AND INFILTRATION ENCOURAGED.
–GLAMPING SITES INCLUDE ELEVATED WOODEN DECK LOCATED SUCH THAT DRAINAGE/POOLING WILL NOT BE CONCERN.

DRY HYDRANT ASSEMBLY:
–EMERGENCY VEHICLE CONNECTION 0.6m ABOVE GRADE.
–VEHICLE CONNECTION TO BE CONFIRMED WITH LOCAL FIRE SERVICES AND EQUIPMENT.
–PIPING TO BE SCHEDULE 40 PVC PIPE AND FITTINGS.
–PIPE SHALL BE LAID SUFFICIENTLY DEEP (1.5m) TO AVOID FREEZING WHERE PIPE WILL REMAIN FULL OF WATER; WHERE THE PIPE WILL SELF–DRAIN DRY A MINIMUM COVER OF 0.6m TO PROTECT THE PIPE SHALL BE MAINTAINED.
–PIPES AND FITTINGS SHALL BE CONNECTED USING SUPPLIER RECOMMENDED CEMENT.
–WHERE POSSIBLE 45 DEGREES BENDS SHALL BE USED.
–SUBMERGED INLET SHALL BE BELOW LOW WATER ELEVATIONS AN BE EQUIPPED WITH STRAINER AND CHECK VALVE

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)

GREER GALLOWAY
a division of Jp2g Consultants Inc.
PETERBOROUGH
BELLEVILLE
KINGSTON
1620 WALLBRIDGE LOYALIST ROAD
BELLEVILLE, ONTARIO, K8N 4Z5
PHONE: 613–966–3068
FAX: 613–966–3087

NOTES:
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3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

(A/B) A DETAIL NO. / B DRAWING NO. – WHERE DETAILED

LEGAL SURVEY SOURCE: WATSON LAND SURVEYOR
11390–Z–19
OCTOBER 23RD, 2023

TOPOGRAPHIC SURVEY:
GREER GALLOWAY
APRIL 28TH, 2022

UTILITY LOCATE SOURCE:
ONTARIO ONE CALL

GEOTECHNICAL SOURCE:
N/A

CONTROL POINTS/BENCHMARKS:
CP#1 – IRON BAR
ELEVATION = 87.92
N = 4867022.4821
E = 327093.1357

CONTROL POINTS/BENCHMARKS:
CP#2 – STANDARD IRON BAR
ELEVATION = 82.94
N = 4867057.9372
E = 327036.9859

CONTROL POINTS/BENCHMARKS:
CP#3 – IRON BAR
ELEVATION = 78.62
N = 4867187.9834
E = 326789.1615

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NORTH

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LICENSED PROFESSIONAL ENGINEER
M.D. McIntosh
100056710
February 25th, 2025
PROVINCE OF ONTARIO

PROJECT
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CHERRY VALLEY

PART OF LOTS 2 AND 3
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NOW IN THE MUNICIPALITY OF THE
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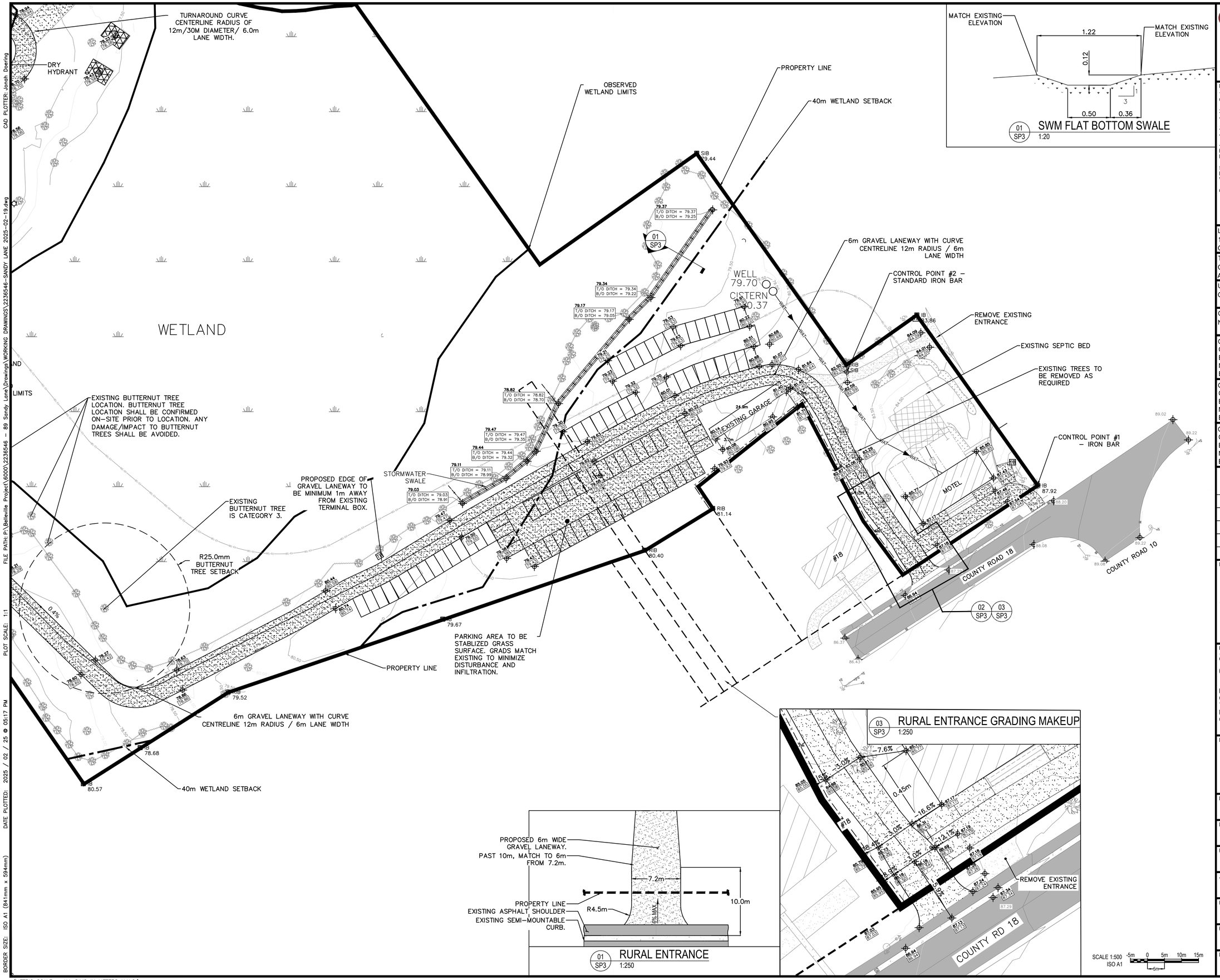
DRAWING TITLE
GRADING / SERVICING
PROPOSED – 1

DESIGNED BY –
DRAWN BY –
REVIEWED BY –
APPROVED BY M. MCINTOSH
PROJECT DATE 2022/05/02 (YYYY/MM/DD)
PROJECT # 22–3–6546

DRAWING # G1
DRAWING SCALE (ISO A1) HOR: 1:500 VER: N/A

BORDER SIZE: ISO A1 (841mm x 594mm) DATE PLOTTED: 2025 / 02 / 25 @ 05:17 PM PLOT SCALE: 1:1 FILE PATH: P:\Belleville Project\6000\2236546 – 89 Sandy Lane\Drawings\WORKING DRAWINGS\2236546–SANDY LANE 2025–02–19.dwg CAD PLOTTER: Jonah Doering



SCALE 1:500 ISO A1 -5m 0 5m 10m 15m

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)

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DRAWING TITLE
GRADING / SERVICING
PROPOSED 2

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APPROVED BY M. MCINTOSH
PROJECT DATE 2022/05/02 (YYYY/MM/DD)
PROJECT # 22-3-6546

DRAWING # G2
DRAWING SCALE (ISO A1) HOR: 1:500 VER: N/A