



Evolugen

South March BESS OE's Engineering Service

2555 and 2625 Marchurst Road, Ottawa, ON

Letter Report

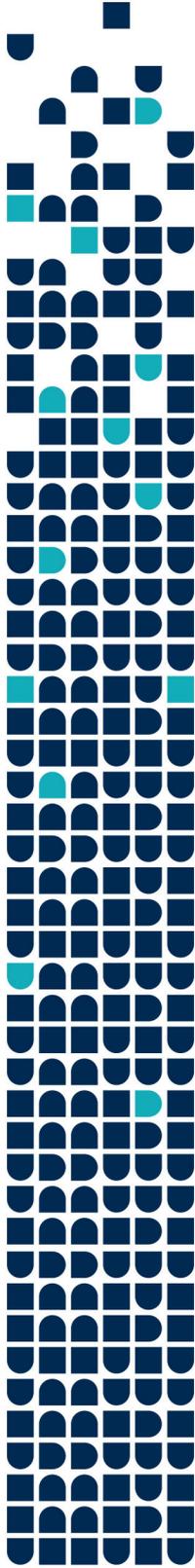
Site Servicing Study

BBA Document No.-Rev.: 7154023-100000-41-ERA-0003-RAB

November 6, 2025

FOR PERMITTING

10 Carlson Court
Suite 420
Toronto, ON M9W 6L2
T +1 416.585.2115
BBAconsultants.com
All rights reserved. © BBA



Prepared by:
Bryan Thomas

Verified by:
Vincent Brunelle, P. Eng
PEO. No. 100617887



REVISION HISTORY

Revision	Document Status – Revision Description	Date
RAA	For permitting	2025-06-19
RAB	For permitting	2025-11-06

This document has been prepared by BBA for its Client and may be used solely by the Client and shall not be used nor relied upon by any other party or for any other purpose without the express prior written consent of BBA. BBA accepts no responsibility for losses, claims, expenses or damages, if any, suffered by a third party as a result of any decisions made or actions based on this document.

While it is believed that the information contained herein is reliable under the conditions and subject to the limitations set forth in the document, this document is based on information not within the control of BBA, nor has said information been checked by BBA, and BBA, therefore, cannot and does not guarantee its sufficiency and accuracy. The comments in the document reflect BBA's best judgment in light of the information available to it at the time of preparation.

Use of this document acknowledges acceptance of the foregoing conditions.



This study has been conducted in support of the applicant (Evolugen) with the permitting process for the South Marsh – Battery Energy Storage System project (BESS). The applicant is proposing an industrial development located at 2555 and 2625 Marchurst Road, Ottawa, ON. The two properties cover a total area of approximately 84.5 ha. The proposed area for the BESS and substation portion of the project is approximately 6 ha. Existing residential dwellings are located on the east side of the properties, and most of the property is covered by trees and grass. The project is a proposed installation of 250 MW batteries and a substation. BBA Inc. has been retained by the Client to prepare a site servicing study for the proposed development. The site servicing report is prepared to address how the design of the site complies with the city design guidelines, to discuss the existing and future service connections, and provide information about access roads and fire service for the development area.

This report will evaluate the serviceability of the site with respect to sanitary, water and storm services, and evaluate the stormwater management (SWM) strategy that will be implemented to meet the City of Ottawa SWM requirements. These requirements have been provided by the City of Ottawa, listed in the pre-consultation letter dated March 31, 2025 and received April 2, 2025. The project's overall site layout and general arrangement plans can be found in on drawing 7154023-100000-41-D20-0001.

It is important to note that an arborist will be retained by the Client to identify trees to be retained/removed within the site, where required. For detailed topography of the existing site conditions, refer to the topographic survey prepared by Tulloch Geomatics in Appendix A.

Property and right-of-way requirements

The project location has a 30 m setback from an existing turtle habitat pond. In addition, the project site has a 100 m setback from HONI statutory right of way (SRW). Site survey plan is attached to this letter in Appendix A. The new development area does not have any conflicts with existing easements.

Transportation/traffic management

The proposed development will be connected to Marchurst Road through a new gravel access road. This access road is approximately 8 m wide and was found to be adequate for commuting project design vehicles. Refer to design criteria 7154023-100000-41-EDC-0001 for additional information.



Stormwater management

Stormwater management for the proposed development will follow the stormwater criteria as set out by the City of Ottawa Guidelines for quantity control. The allowable post-development peak flow for the proposed development up to the 100-year storm event will be set to the 2-year pre-development flow rate.

Further discussion about the stormwater management model can be found in the Stormwater Management Report 7154023-100000-41-ERA-0001.

Servicing requirements

■ Drainage/Environmental

A watercourse runs through the site and will be rerouted along the west edge of the site with a ditch and led to the same existing pond to which it initially drained. The stormwater from the site will be drained to a new wet pond through a network of ditches around the site and culverts. A control structure at the end of the wet pond will discharge the stormwater with a controlled rate to a proposed swale that connects to the existing ditch in front of the lots. Stormwater management modelling was used to size a wet pond to meet water quantity, water quality, as well as erosion & sediment control criteria caused by additional runoff due to the new developed area. All elements of the stormwater management system are based on City of Ottawa design criteria and rainfall values.

An erosion and sediment control plan during construction can be found in documents "7154023-100000-41-D70-0001" and "7154023-100000-41-D70-0002."

The plans were developed in accordance with applicable land development guidelines and best management practices to manage soil erosion and sedimentation during the construction phase of the project.

■ Water balance

The water draining towards the site was rerouted on the north side of the proposed BESS pad and direct the water towards the existing pond. Based on the assessment of water balance, no negative impact to existing provincially significant wetland and ponds is foreseen. For more information, refer to the section 3 of the Stormwater Management Report and Water Budget Assessment (7154023-100000-41-ERA-0001)

■ Fire water

There are no proposed buildings within the new development area. As such, the proposed development does not require any domestic water connection. However, for fire protection,



an underground water tank with a capacity of 85,000 L (22,500 gallons) is proposed to be placed near the main access and connected to a series of fire hydrants throughout the site. The size of the water tank has been recommended by the fire service department of the City of Ottawa.

The main fire water line is set to 200 mm and the connection to the fire hydrant is 150 mm. Following the assumption of having 100 PSI from the pump outlet, it was determined that the two farthest hydrants would have 250GPM at 80 PSI each. On this site, the water network has been designed to ensure the internal pressure would be withstanding. The HDPE DR11 can resist to an internal pressure of 200 PSI. The materials and thrust restraint methods have proven sufficient for water lines with 200 mm diameter.

A draft hydrant connected to the water tank was designed to be used by the fire truck in case of fire. The fire truck will connect the hose to this hydrant and then pump the water to the water network in the site. Each fire hydrant covers a circle with a 60 m radius, assuming 30 m for the hose length and a 30 m spray distance.

When there is water in the system and the fire hydrants are closed, the water will not drain out of the hydrant barrel and will need to be manually pumped out after the fire incident or the annual tests. However, this also prevents the water from entering the water network due to the high-water table.

It should be mentioned that the access roads are all designed to provide enough space for maneuvering of the fire trucks.

The proposed fire system in the BESS containers will include gas monitoring, heat sensors, alarming, active ventilation, etc. The proposed fire system will be certified to the latest NFPA 855.

- **Sanitary wastewater disposal**

There are no proposed buildings within the new development area. As such, the proposed development does not require any sanitary connection.

- **Commercial utilities**

The proposed development will be serviced with hydro and telecommunication lines in accordance with utility requirements and city standards.

- **Gas service**

No gas connection is required for this site.

- **Project management**

A service agreement will be generated based on the municipality criteria before the construction phase starts. All engineering legal documents required for this project will be prepared prior to the issuance of the service agreement plan.



Appendix A: Site Survey Plan

SCP 00119883075

N53°08'52"E (REFERENCE BEARING)

4631.193

SCP 00119791051

TOPOGRAPHIC PLAN OF SURVEY OF
 PART OF THE EAST 1/2 LOT 25
 AND PART OF
 THE SOUTHEAST 1/2 LOT 26
 CONCESSION 1
 GEOGRAPHIC TOWNSHIP OF MARCH
 CITY OF OTTAWA
 TULLOCH GEOMATICS INC.
 2025
 SCALE 1:2000

20m 0 20 100m
 THE INTENDED PLOT SIZE OF THIS PLAN IS 914mm IN WIDTH
 BY 610mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1:2000.

METRIC:
 DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN
 BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

DISTANCE NOTE:
 GROUND DISTANCES SHOWN HEREON CAN BE CONVERTED TO MTM GRID BY
 MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999906.

BEARING NOTE:
 BEARINGS ARE MTM GRID DERIVED FROM REAL TIME KINEMATIC (RTK) GNSS
 OBSERVATIONS USING SPECIFIED CONTROL POINTS 00119883075 AND
 00119791051 ARE REFERRED TO THE CENTRAL MERIDIAN OF MTM ZONE 9
 (76°30' WEST LONGITUDE) NAD83 (CSRS) (2010.0).

ROTATION NOTE:
 A ROTATION OF 0°20'00" COUNTER CLOCKWISE HAS BEEN APPLIED TO THE
 ASTRONOMIC BEARINGS OF UNDERLYING PLAN P1 TO ACCOUNT FOR DIFFERENT
 REFERENCE MERIDIANS.
 NO ROTATION HAS BEEN APPLIED TO THE MTM GRID BEARINGS OF UNDERLYING
 PLAN P2.

- LEGEND:**
- DENOTES FOUND MONUMENT
 - DENOTES PLANTED MONUMENT
 - DENOTES FOUND SPECIFIED CONTROL POINT
 - DENOTES PLANTED REBAR
 - DENOTES STANDARD IRON BAR
 - DENOTES SHORT STANDARD IRON BAR
 - IB DENOTES IRON BAR
 - SCP DENOTES SPECIFIED CONTROL POINT
 - ORP DENOTES SPECIFIED REFERENCE POINT
 - PIN DENOTES PROPERTY IDENTIFICATION NUMBER
 - M DENOTES MEASURED
 - S DENOTES SET
 - WIT DENOTES WITNESS
 - CF DENOTES CALCULATED FROM
 - ELEV DENOTES ELEVATION
 - BM DENOTES BENCHMARK
 - EST. DENOTES ESTABLISHED
 - INT. DENOTES INTERSECTION
 - Z25 DENOTES R.W. ARNETT, O.L.S
 - 1227 DENOTES L.E. ROSS, O.L.S
 - 1287 DENOTES P.G. SMITH OF FARLEY, SMITH AND MURRAY SURVEYING LTD.
 - 1604 DENOTES TULLOCH GEOMATICS INC.
 - A064 DENOTES ANNIS O'SULLIVAN VOLLEBECK LTD., O.L.S
 - P DENOTES PLAN ATTACHED TO INSTRUMENT C1189441,
 BY L.E. ROSS, DATED DECEMBER 21, 1972
 - P1 DENOTES PLAN 5R-11615
 - P2 DENOTES PLAN 4R-25606
 - D1 DENOTES INSTRUMENT MH3280
 - D2 DENOTES INSTRUMENT MH3685
 - D3 DENOTES INSTRUMENT MH4024
 - D4 DENOTES INSTRUMENT MH3272
 - D5 DENOTES INSTRUMENT MH3525 & MH3632
 - D6 DENOTES INSTRUMENT MH3985
 - NTS DENOTES NOT TO SCALE

- TOPOGRAPHIC LEGEND:**
- P&W DENOTES POST AND WIRE
 - HP DENOTES HYDRO POLE
 - HT DENOTES TRANSMISSION LINE TOWER
 - HT DENOTES WOOD OUTLINE
 - HT DENOTES BOTTOM OF DITCH
 - HT DENOTES FENCE LINE
 - HT DENOTES OVERHEAD WIRES
 - HT DENOTES TREE LINE
 - HT DENOTES 1.00m MAJOR CONTOUR LINE
 - HT DENOTES 0.2m MINOR CONTOUR LINE

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

- (1) THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT AND THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
- (2) THE SURVEY WAS COMPLETED ON THE 5th DAY OF MARCH, 2025.

MARCH 11, 2025 DATE

THOMAS J. CORTENS
 ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V-97472.

THE REPRODUCTION, ALTERATION, OR USE OF THIS REPORT IN WHOLE OR IN PART WITHOUT THE EXPRESS PERMISSION OF TULLOCH GEOMATICS INC. IS STRICTLY PROHIBITED. 2025.

NOTE:
 ORIGINAL COPY OF THIS PLAN IS IN COLOUR.
 ALL PLANTED MONUMENTS ARE MARKED "1604" UNLESS OTHERWISE NOTED.

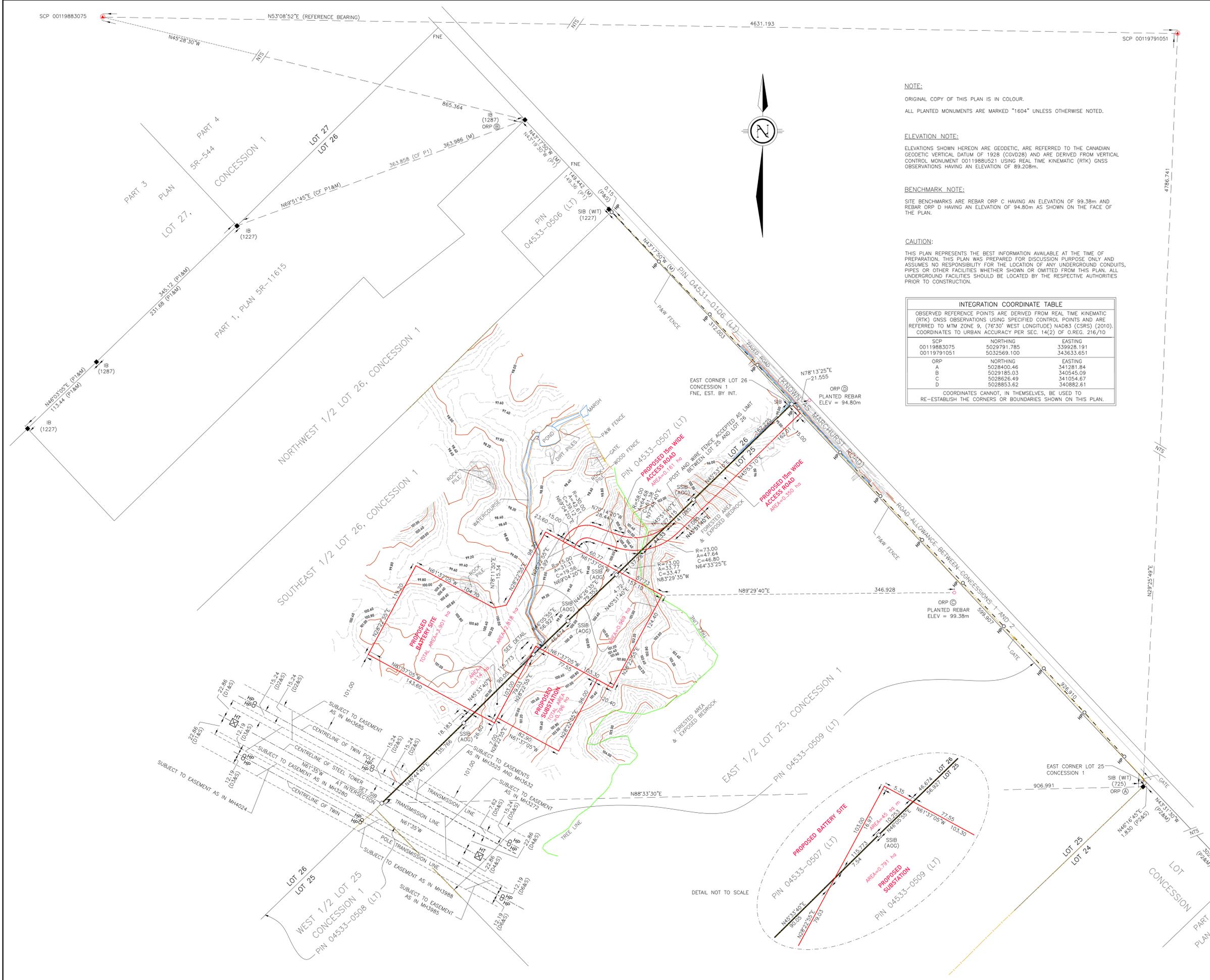
ELEVATION NOTE:
 ELEVATIONS SHOWN HEREON ARE GEODETIC, ARE REFERRED TO THE CANADIAN
 GEODETIC VERTICAL DATUM OF 1928 (CGVD28) AND ARE DERIVED FROM VERTICAL
 CONTROL MONUMENT 00119883075 USING REAL TIME KINEMATIC (RTK) GNSS
 OBSERVATIONS HAVING AN ELEVATION OF 89.206m.

BENCHMARK NOTE:
 SITE BENCHMARKS ARE REBAR ORP C HAVING AN ELEVATION OF 99.38m AND
 REBAR ORP D HAVING AN ELEVATION OF 94.80m AS SHOWN ON THE FACE OF
 THE PLAN.

CAUTION:
 THIS PLAN REPRESENTS THE BEST INFORMATION AVAILABLE AT THE TIME OF
 PREPARATION. THIS PLAN WAS PREPARED FOR DISCUSSION PURPOSE ONLY AND
 ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND CONDUITS,
 PIPES OR OTHER FACILITIES WHETHER SHOWN OR OMITTED FROM THIS PLAN. ALL
 UNDERGROUND FACILITIES SHOULD BE LOCATED BY THE RESPECTIVE AUTHORITIES
 PRIOR TO CONSTRUCTION.

INTEGRATION COORDINATE TABLE		
SCP	NORTHING	EASTING
00119883075	5029791.785	339928.191
00119791051	5032569.100	343633.651
ORP	NORTHING	EASTING
A	5028400.46	341281.84
B	5029185.03	340545.09
C	5028626.49	341054.67
D	5028653.62	340882.81

COORDINATES CANNOT, IN THEMSELVES, BE USED TO
 RE-ESTABLISH THE CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.



TULLOCH GEOMATICS INC.
 900 MORRISON DR., T. 613 721.1138
 SUITE 208 TF. 800 797.2997
 OTTAWA, ON
 K2H 8K7
 ottawa@tulloch.ca

DRAWN BY: MAL FILE: 241451