
re: Hydrogeological Review - Municipal Services
Proposed Commercial Development
3713 Borrisokane Road - Ottawa

to: Caivan Greenbank North Inc. - **Mr. Hugo Lalonde** - Hugo.Lalonde@Caivan.com

date: October 2, 2020

file: PH3959-MEMO.03.Rev.1

Further to your request, Paterson Group (Paterson) has prepared the following memorandum to provide a hydrogeological review of the proposed municipal services with respect to existing groundwater conditions at the subject site.

Background

The City of Ottawa (City) provided comments regarding the proposed municipal services to be installed at 3713 Borrisokane Road. It is understood that municipal services for the subject site will be considered by the City subsequent to completing a review of potential water takings associated with the servicing installation.

Municipal Servicing

Based on preliminary drawings, it is understood that municipal water supply as well as sanitary and storm sewers have been proposed for the subject site. The proposed watermain is anticipated to be installed south of the of the commercial structures, while the stormwater collected at the subject site will be directed east towards an infiltration system and/or temporary storage pond located along the east of the property. The sanitary service has been proposed south of the commercial structures and along the south property boundary towards the southeast corner of the site. **The proposed sanitary service is expected to be the deepest service installation within the subject site with an invert elevation ranging from 99.95 m at Building A to 96.99 m at a SAN MH 3211A at the first manhole located in the future City right-of-way.** The servicing drawings provided by David Schaeffer Engineering Ltd. provided a Site Servicing Plan - Drawing No. SSP-2 Rev. 8 dated September 21, 2020, as attached. The connection into MH 3211A is considered as part of the approval of the services for the adjacent subdivision.

Hydrogeological Review

A groundwater level monitoring program was conducted by Paterson between July 2019 to August 2020 as part of the geotechnical investigations completed within the subject area, and include the subject site, Phase 1/2 of the proposed residential development to the east and the stormwater management pond to the north. **Based on measured**

groundwater levels and subsoil conditions, groundwater elevations within the underlying Ottawa Valley Kars Esker are anticipated to range between 95.0 to 95.5 m.

The groundwater levels encountered within the subject site are contained within a low conductivity fill material that leads to a perched groundwater condition with an underlying discontinuous silty clay layer. The measured values in the area of the stormwater management pond and ABIC site have been measured between 95.6 to 100.65 m asl.

As the proposed municipal services will be installed above the measured groundwater level observed within the Ottawa Valley Kars Esker, it is not expected that groundwater dewatering will be required throughout the subject site. As such, the installation of municipal services within the subject site are considered to have limited hydrogeological effects.

Summary

Based on a review of the preliminary design drawings for municipal servicing for the ABIC site, the proposed municipal servicing will be above the groundwater elevations observed within the underlying Ottawa Valley Kars Esker.

We trust that this information satisfies your requirements.

Best Regards,

Paterson Group Inc.



Michael S. Killam, P.Eng.

Attachment:

- DSEL - Site Servicing Plan - Drawing No. SSP-1 Rev.9 dated 24/09/20
- DSEL - Site Servicing Plan - Drawing No. SSP-2 Rev.9 dated 24/09/20



Paterson Group Inc.

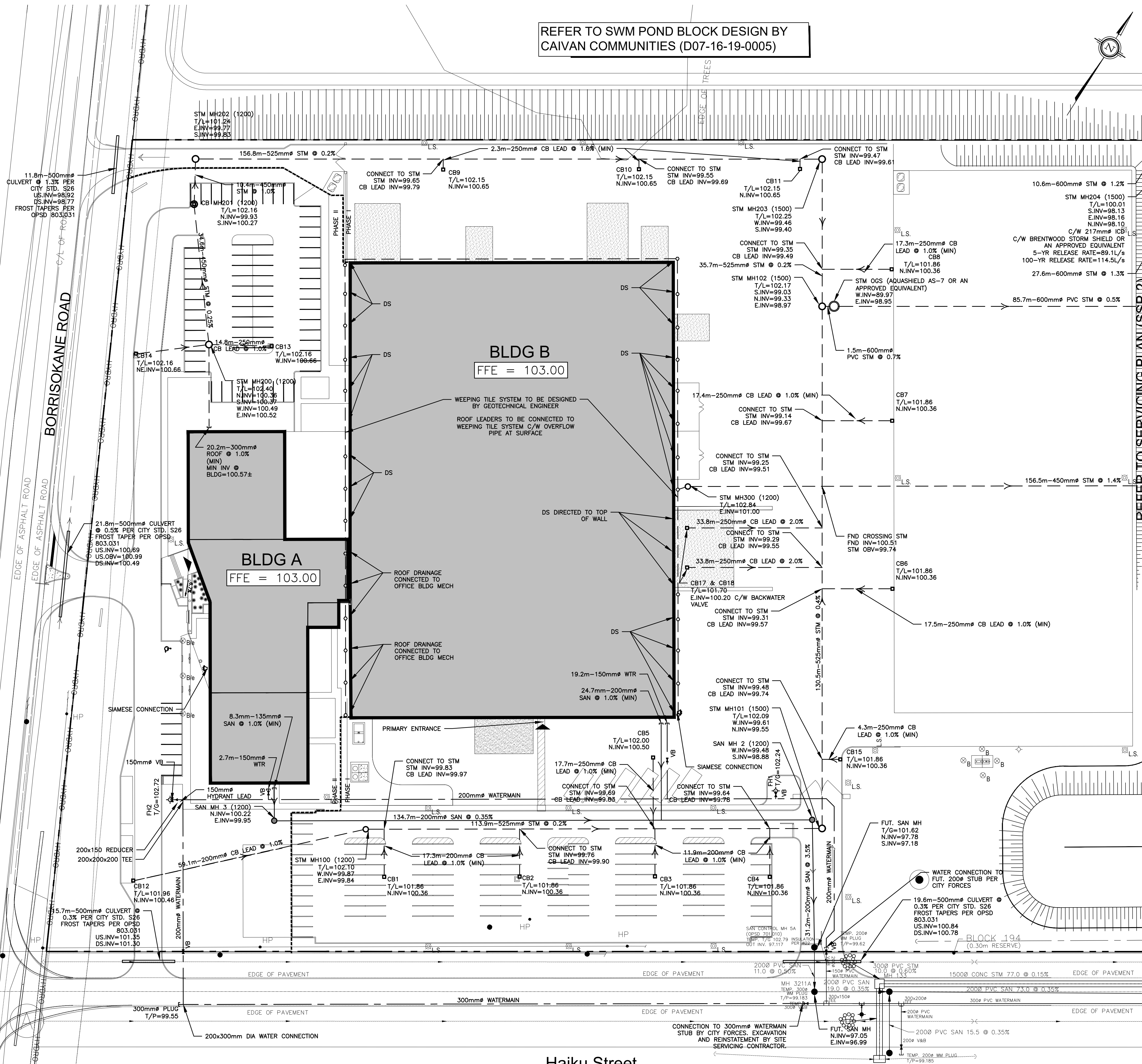
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154 Colonnade Road South
Ottawa - Ontario - K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

Northern Office and Laboratory
63 Gibson Street
North Bay - Ontario - P1B 8Z4
Tel: (705) 472-5331 Fax: (705) 472-2334

St. Lawrence Office
993 Princess Street
Kingston - Ontario - K7L 1H3
Tel: (613) 542-7381

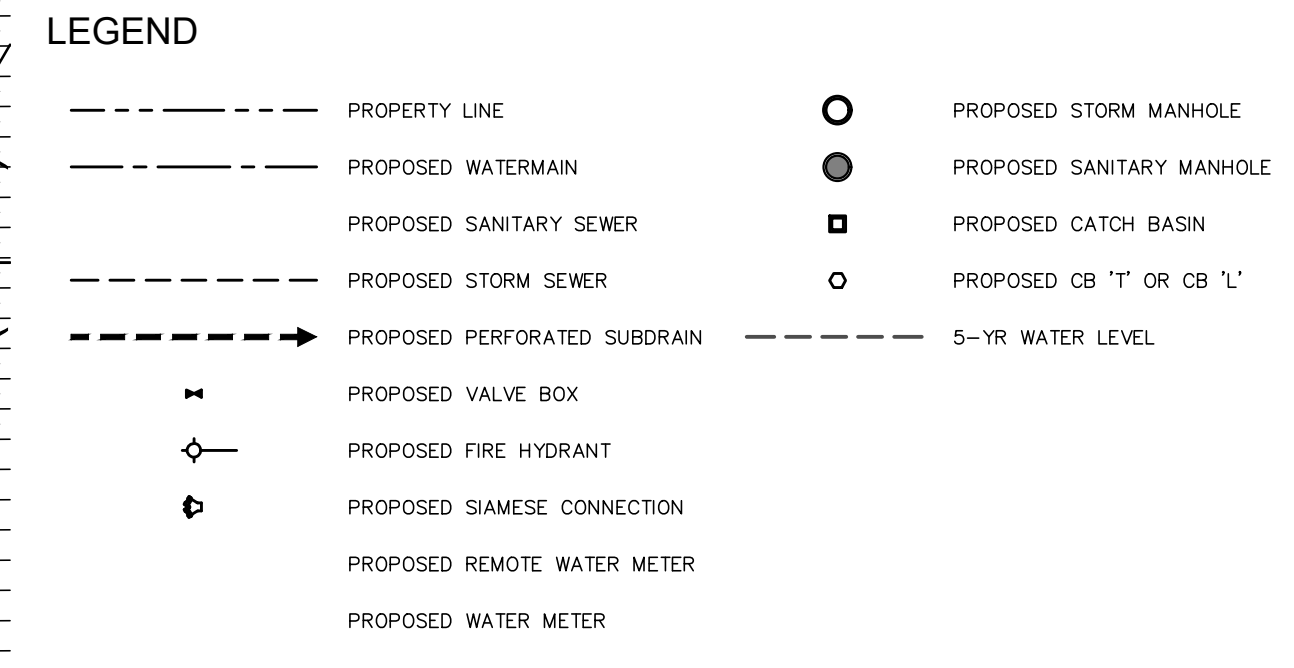
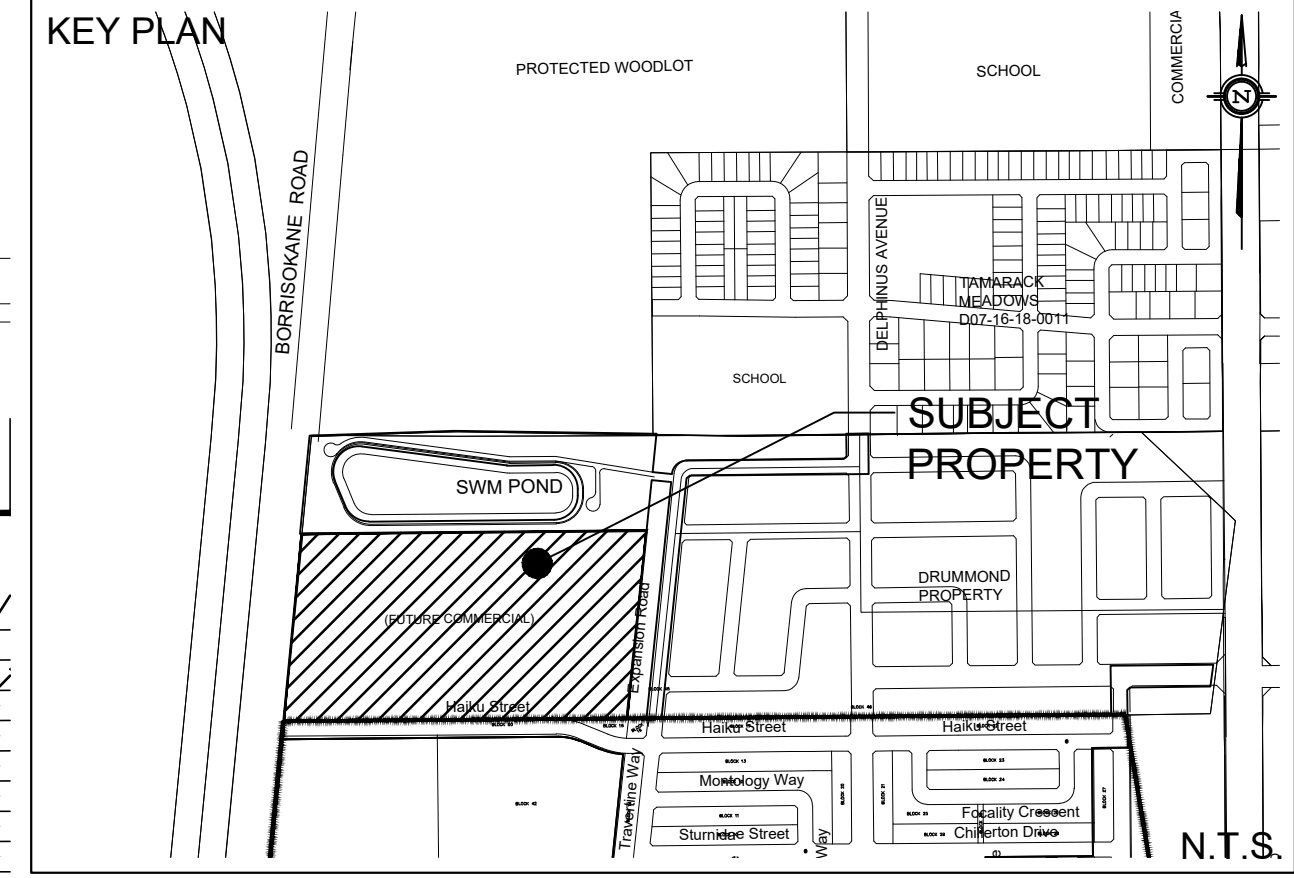
REFER TO SWM POND BLOCK DESIGN BY CAIVAN COMMUNITIES (D07-16-19-0005)

VETERANS MEMORIAL HIGHWAY 416



REFER TO HAIKU STREET DESIGN BY CAIVAN COMMUNITIES (D07-16-19-0005)

Haiku Street



EXISTING UNDERGROUND SERVICES AND UTILITY LOCATIONS DERIVED FROM THE BEST AVAILABLE DATA, AS-CONSTRUCTED DRAWINGS, UTILITY DRAWINGS AND INFRASTRUCTURE MAPPING PROVIDED BY THE CITY OF OTTAWA.

CONTRACTOR TO CONFIRM ELEVATIONS AND LOCATIONS OF EXISTING UNDERGROUND SERVICES AND UTILITIES WITHIN THE RIGHT OF WAY PRIOR TO INSTALLATION OF SITE SERVICING INFRASTRUCTURE.

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT THE FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

NOT FOR CONSTRUCTION

TOPOGRAPHIC INFORMATION
 TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED
 PROJ. NO. 18-10-145-00
 DATED JULY 10, 2019

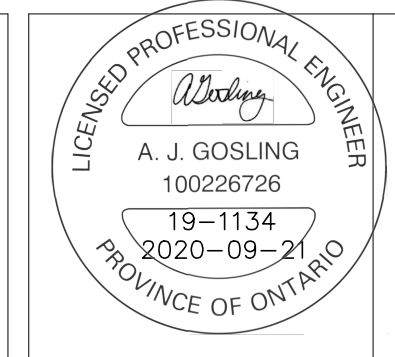
SITE PLAN INFORMATION
 SITE PLAN PROVIDED BY FIGURR COLLECTIF D'ARCHITECTES
 PROJ. NO. 19-1134
 DATED AUGUST 28, 2020

GEOTECHNICAL STUDY
 GEOTECHNICAL RECOMMENDATIONS PROVIDED BY PATERSON GROUP
 PROJ. NO. PG5155-1
 DATED FEBRUARY 10, 2020

SITE SERVICING AND STORMWATER MANAGEMENT STUDY
 SERVICING AND STORMWATER MANAGEMENT RECOMMENDATIONS PROVIDED BY DSEL
 PROJ. NO. 19-1134
 DATED SEPTEMBER 2020

BENCH MARK
 LOCATION: CONCRETE ROAD BRIDGE OVER JOCK RIVER (N45°15'39", W75°44'06")
 ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE MUNICIPALITY BENCHMARK NO. 001196403710 HAVING A PUBLISHED ELEVATION OF 91.724 METERS

No.	BY	YY.MM.DD	DESCRIPTION
9	A.J.G.	20.09.24	ISSUED FOR MUNICIPAL REVIEW
8	A.J.G.	20.09.21	ISSUED FOR MUNICIPAL REVIEW
7	A.J.G.	20.07.17	ISSUED FOR MUNICIPAL REVIEW
6	A.J.G.	20.07.09	ISSUED FOR MUNICIPAL REVIEW
5	A.J.G.	20.06.24	ISSUED FOR MUNICIPAL REVIEW
4	A.J.G.	20.06.12	ISSUED FOR MUNICIPAL REVIEW
3	A.J.G.	20.05.28	ISSUED FOR MUNICIPAL REVIEW
2	A.J.G.	20.04.24	ISSUED FOR MUNICIPAL REVIEW
1	A.J.T.	20.01.15	ISSUED FOR MUNICIPAL REVIEW



PROJECT No. 19-1134

SITE SERVICING PLAN
3713 BORRISOKANE ROAD

CAIVAN GREENBANK NORTH INC. 2934 Baseline Road, Suite 302
 Ottawa, Ontario, K2H 1B2
 Tel. (613) 518-1864

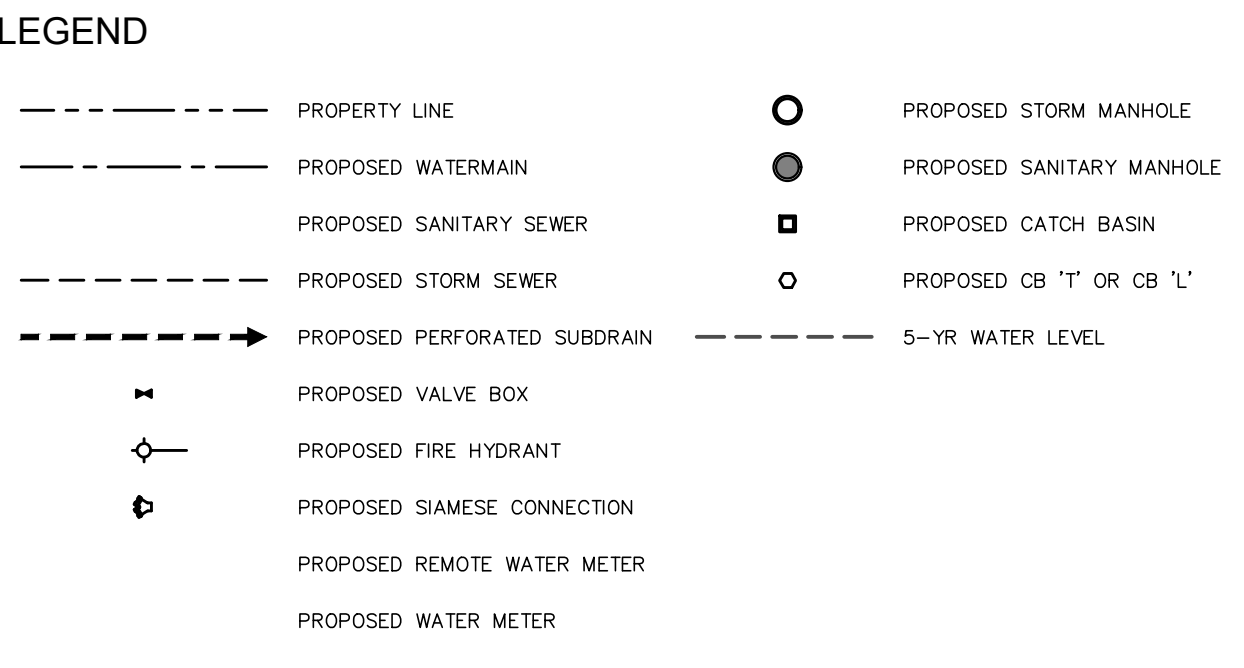
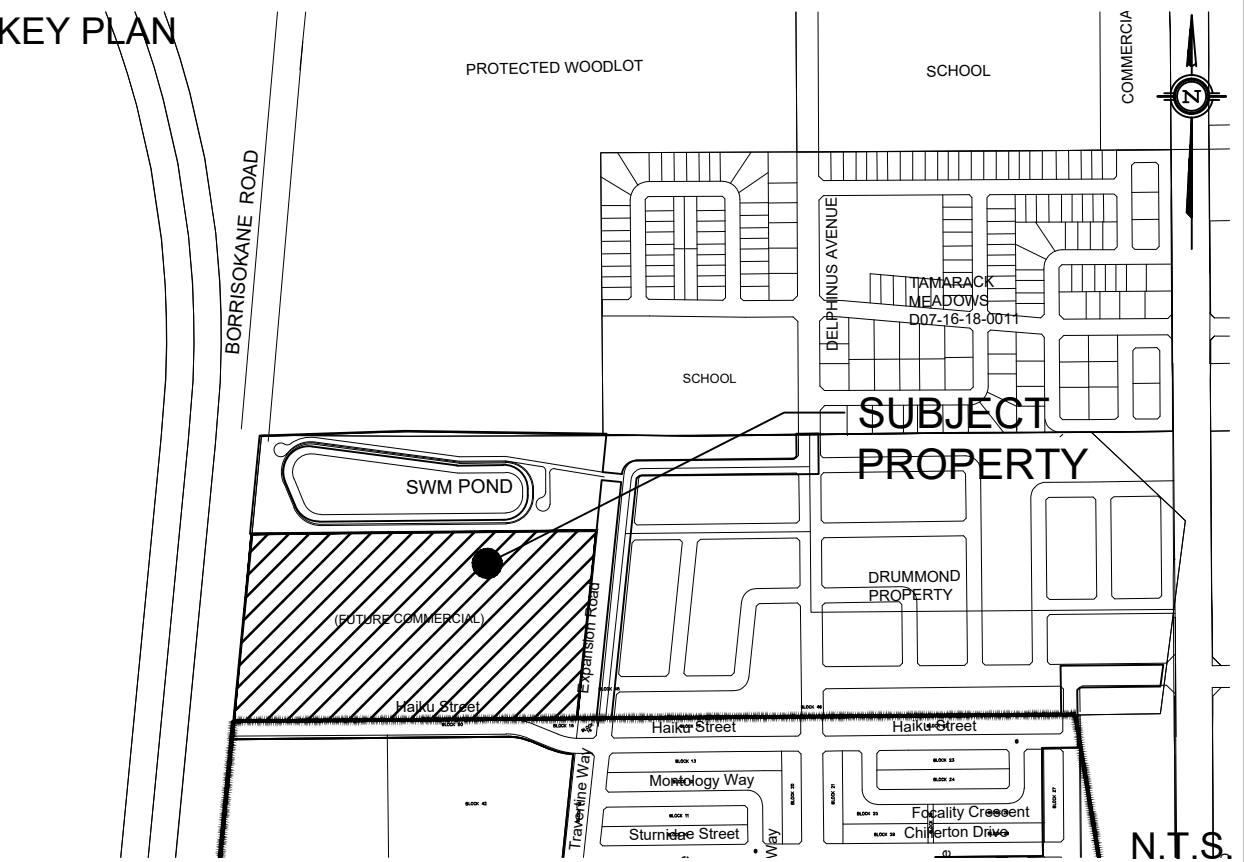
DSEL
 david schaeffer engineering ltd
 SMART SUBDIVISIONS™
 120 Iber Road Unit 103
 Stittsville, Ontario, K2S 1E9
 Tel. (613) 836-0856
 Fax. (613) 836-7183
 www.DSEL.ca

DRAWN BY: A.J.G. CHECKED BY: R.D.F. DRAWING NO. SHEET NO.
 DESIGNED BY: B.N.C. CHECKED BY: S.J.P.
 SCALE: 1:500 DATE: DECEMBER 2019 SSP-1 4 of 7

CITY PLAN No.: #18112
 D07-12-20-0002

REFER TO SWM POND BLOCK DESIGN BY CAIVAN COMMUNITIES (D07-16-19-0005)

REFER TO DS-1



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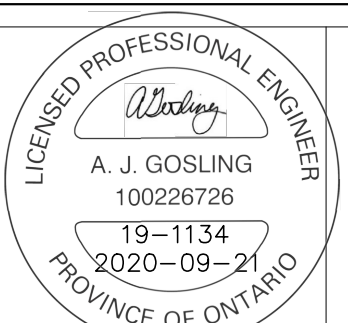
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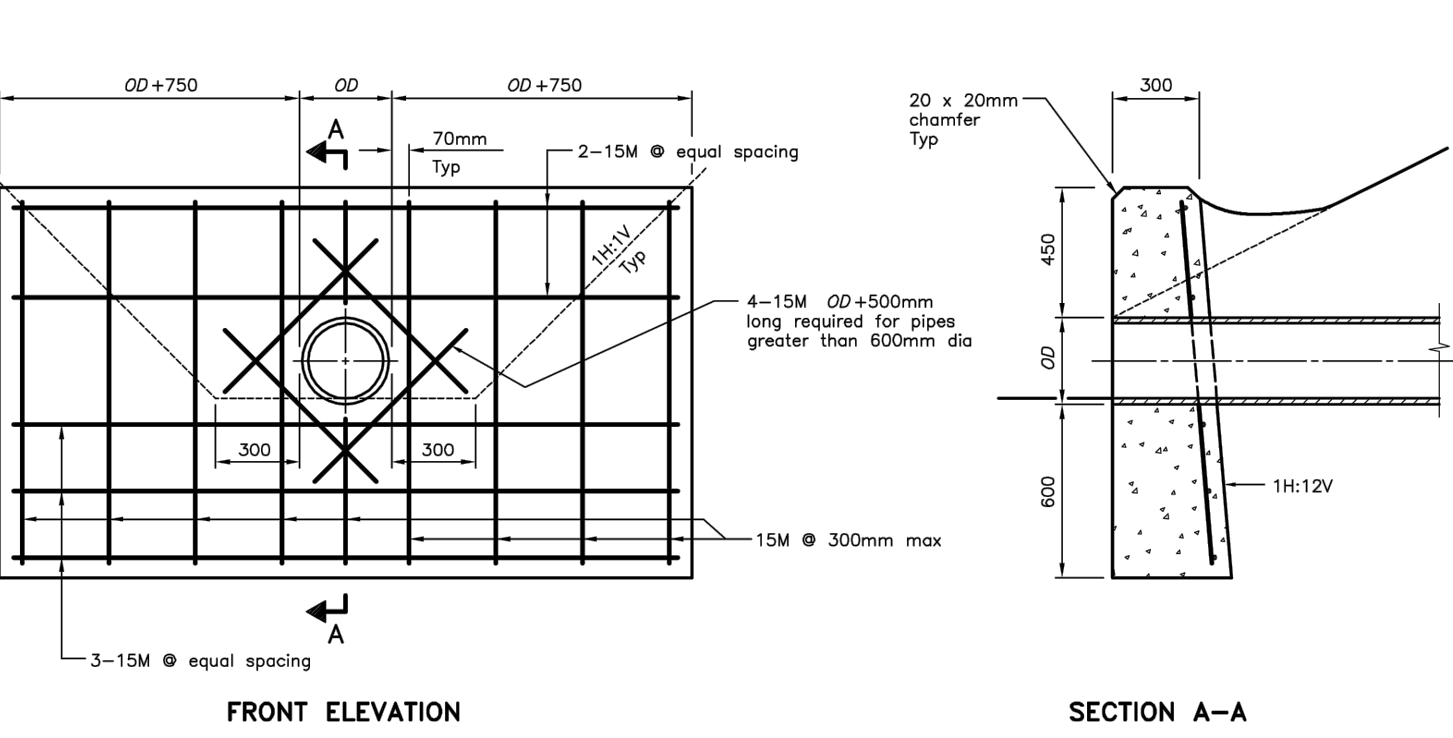
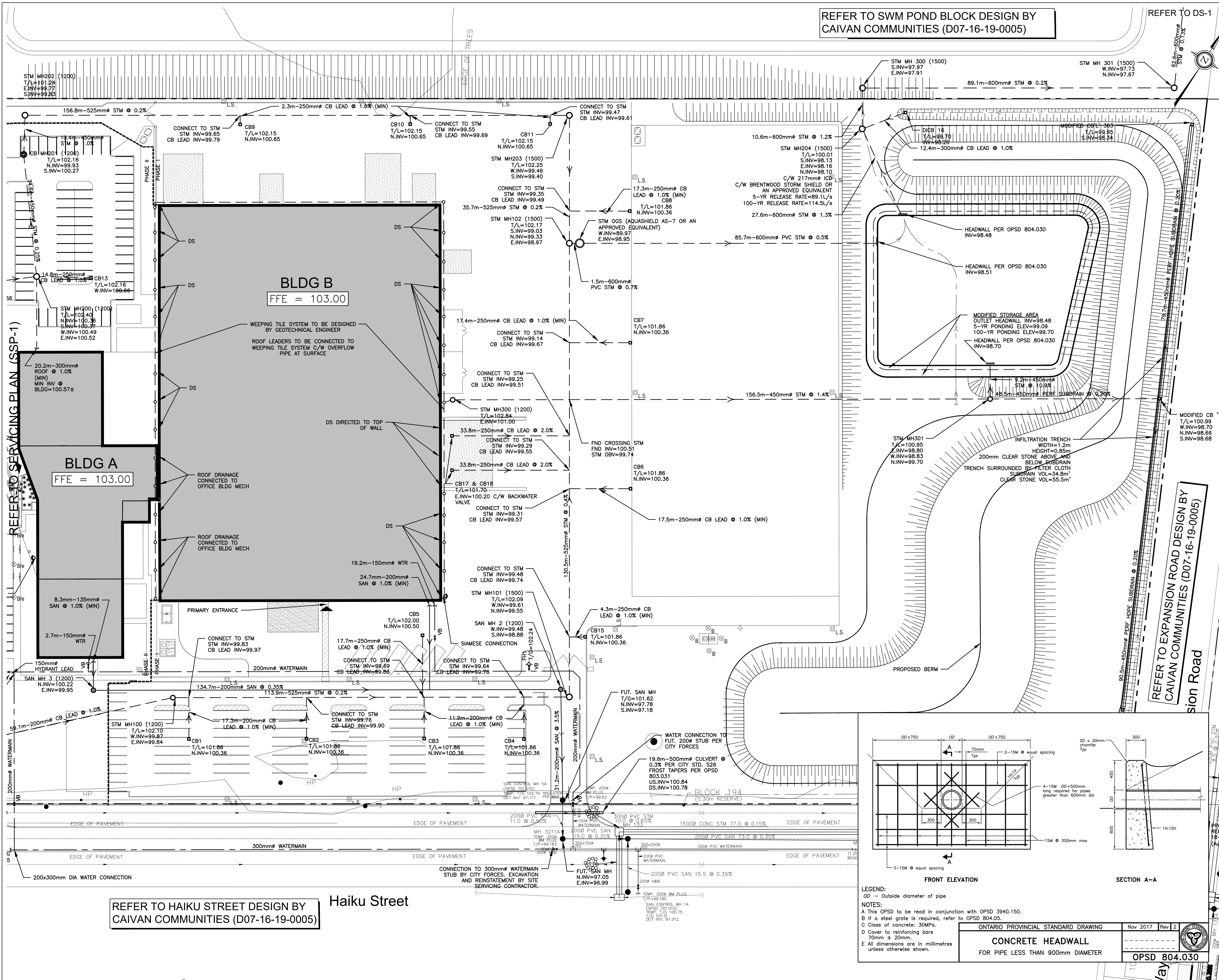
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DESIGNED BY: B.N.C. CHECKED BY: S.J.P. SSP-2 5 of 7
SCALE: 1:500 DATE: DECEMBER 2019



LEGEND:
ØØ - Outside diameter of pipe

NOTES:
A This OPSD to be read in conjunction with OPSD 3940.150.
B If a steel grate is required, refer to OPSD 804.05.
C Class of concrete: 30MPa.
D Cover to reinforcing bars 70mm ± 20mm.
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2017 Rev 2
CONCRETE HEADWALL
FOR PIPE LESS THAN 900mm DIAMETER
OPSD 804.030

REFER TO HAIKU STREET DESIGN BY CAIVAN COMMUNITIES (D07-16-19-0005)

Haiku Street