



Project: 18-748-100

July 30, 2019

Mattamy
7880 Keele Street, Unit 3, Suite 400,
Vaughan, ON
L4K 4G7

Attention: Mr. Craig Scarlett
By email: craig.scarlett@mattamycorp.com

**RE: Geotechnical Comments on Ditch Slope Stability
5150 & 5170 9th Line
Mississauga, Ontario**

Dear Sir:

In conformance with your request, a senior geotechnical engineer from DS Consultants Ltd. (DS) made a site visit on July 26, 2019. The site walk was accompanied by Mr. Craig Scarlett from Mattamy. The purpose of the site visit was to visually inspect the ditch slope along the back fence (i.e. west property line) of No. 5170 as well as No. 5150. The back fence was along Hwy. 407 ROW. Selected photographs taken during the site visit are presented in Appendix A. Topographic survey maps of the two properties are attached in Appendix B.

Our geotechnical comments area as follows:

- In property No. 5170, there is a ditch along the east side of the back fence, as shown on the survey map in Appendix B. The general surface conditions in the ditch area are shown in Photos A1 and A2 in Appendix A. The ditch slope is less than 1 m in height and is 5 horizontal to 1 vertical (5H:1V) or flatter in steepness. The ditch bottom and slope are covered with dense grass. No water was found in the ditch during our site visit. The ditch slope is considered stable in terms of long-term stability. The top of ditch line shown in the survey map in Appendix A can be considered to be the top of ditch slope (i.e. top of bank), which is stable in terms of long-term stability.
- The surface conditions in the west part of No. 5150 along the back fence are shown in Photos A3 and A4 in Appendix A, which are generally flat and covered with dense grass. At the northwest corner of No. 5150 near the back fence, there is a gentle slope of less than 1 m in height and 5 horizontal to 1 vertical (5H:1V) or flatter in steepness, which is considered stable in terms of long-term stability.

As shown in the survey maps in Appendix B, there is a ditch in No. 5170 at about 30 to 50 m east of the back fence. There is also a ditch crossing the middle and east part of No. 5170, and crossing the east part of No. 5150. The slopes in these ditch areas are generally less than 1 m in height and is 5 horizontal to 1



vertical (5H:1V) or flatter in steepness, which are considered stable in terms of long-term stability. We understand that these ditches are located in future residential area, where re-grading with engineered fill will be carried out. Requirements for grading with engineered fill are presented in our geotechnical report to be submitted to Mattamy.


In summary, the existing ditch slopes in both 5150 and 5170 9th Line properties are stable in terms of long-term stability, and there are not concerns about the stability of the top of bank (i.e. top of slope).

We trust that the information contained in this letter is satisfactory. Should you have any questions, please do not hesitate to contact this office.

Yours Very Truly,

DS Consultants Ltd.


Alka Sangar, M.Eng., P.Eng.


Fanyu Zhu, Ph.D., P.Eng.

Attachment:

Appendix A - Site Photographs

Appendix B - Topographic Survey Maps of No.5150 and 5170



Appendix A - Site Photographs (Photos A1 to A4, taken on July 26, 2019)



Photo A1: Ditch area near back fence of No. 5170 (looking north)



Photo A2: Ditch area near back fence of No. 5170 (looking south)



Photo A3: West part of No. 5150 near back fence (looking south)



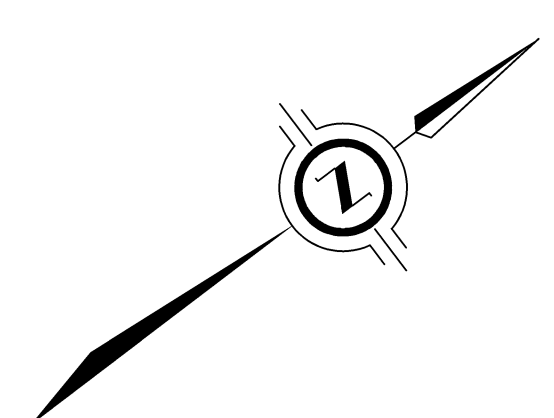
Photo A4: West part of No. 5150 near back fence (looking north)



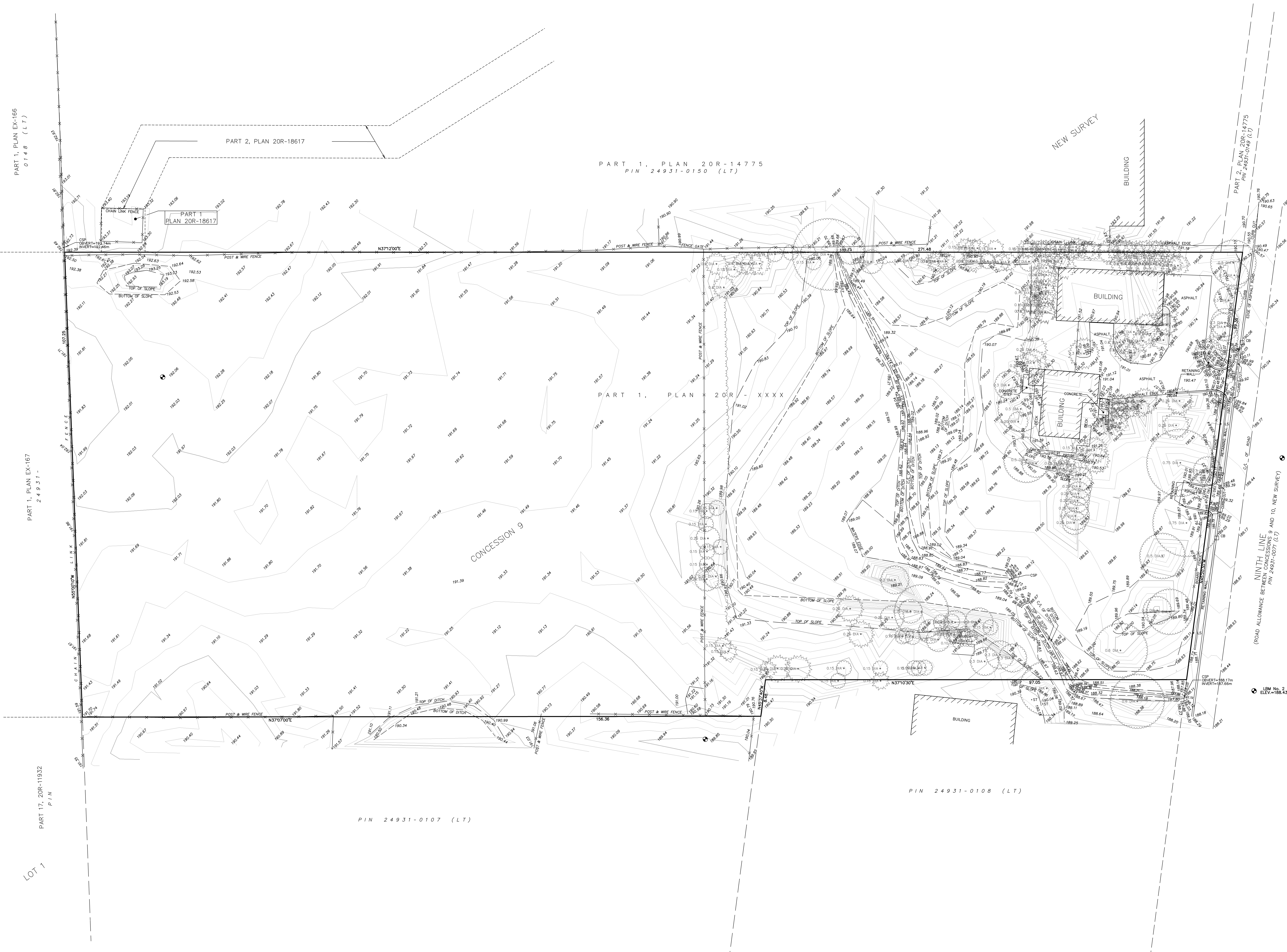
DS CONSULTANTS LTD.

Geotechnical ♦ Environmental ♦ Materials ♦ Hydrogeology

Appendix B – Topographic Survey Maps of No. 5150 and 5170
(by J.D. Barnes)



TOPOGRAPHIC SKETCH OF
No. 5150 NINTH LINE
CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL
SCALE 1 : 300
5 0 5 10 20 metres
© J.D. BARNES LIMITED
DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN
ARE IN METERS AND CAN BE CONVERTED TO FEET BY
DIVIDING BY 0.3048



NOTES
BEARINGS ARE UTM GRID DERIVED FROM REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CRS) (2010.0).
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE CORNERED SCALE FACTOR 0.999702.
CAUTION
THIS IS NOT A PLAN OF SURVEY, AND SHALL NOT BE USED FOR TRANSACTION OR MORTGAGE PURPOSES.

ELEVATION NOTE
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO CANADIAN GEODETIC VERTICAL DATUM, 1978, AND ARE DERIVED FROM THE CITY OF BURLINGTON BENCH MARKS No. 075533001 HAVING A PUBLISHED ELEVATION OF 183.84m AND No. 075023030 HAVING A PUBLISHED ELEVATION OF 187.429m.
LOCAL BENCHMARK
LOCAL BENCHMARK No. 1 STEEL SPIKE SET ON THE EAST SIDE OF NINTH LINE IN THE GRAVEL SHOULDER NEAR A UTILITY POLE.
ELEVATION = 188.44 METRES.
LOCAL BENCHMARK No. 2 STEEL SPIKE SET ON THE EAST SIDE OF NINTH LINE IN THE GRAVEL SHOULDER OPPOSITE THE SOUTH LIMIT OF THE PROPERTY.
ELEVATION = 188.43 METRES.

LEGEND
□ CB DENOTES SINGLE CATCHBASIN
■ B DENOTES IRON BAR
■ SB DENOTES STANDARD IRON BAR
• HP DENOTES HYDRO POLE
• LS DENOTES LIGHT STANDARD
○ DENOTES CONIFEROUS TREE
○ 0.6A DENOTES DIAMETER OF TRUNK IN METRES
○ 0.15 DENOTES DECIDUOUS TREE
○ 0.15A DENOTES DIAMETER OF TRUNK IN METRES
○ DENOTES SHRUB

BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT LOCAL BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATIONS AGREE WITH THE INFORMATION SHOWN ON THIS PLAN.

TOPOGRAPHIC SKETCH OF
5170 NINTH LINE
CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL
SCALE 1 : 500
10 0 10 20 30 metres
J.D. BARNES LIMITED
METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

ELEVATION NOTES
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA CONTROL MONUMENT No. 075033001 HAVING A PUBLISHED ELEVATION OF 193.80 METRES.
LOCAL BENCHMARK
CUT CROSS IN THE CONCRETE SIDE WALK ON THE SOUTH SIDE OF THE MIDDLE ENTRANCE INTO THE SUBJECT PROPERTY, 2.3m WEST OF THE SIGN SHOWN ON THE FACE OF THE PLAN.
ELEVATION = 191.05 METRES

LEGEND

□ CB	DENOTES CATCHBASIN
□ HJB	DENOTES HYDRO JUNCTION BOX/METER
• G METER	DENOTES GAS METER
• SP	DENOTES STAND PIPE
• GV	DENOTES GAS VALVE
• HP	DENOTES HYDRO POLE
• LS	DENOTES LIGHT STANDARD
• MB	DENOTES MAIL BOX
— C —	DENOTES OVERHEAD TV CABLE
— E —	DENOTES OVERHEAD ELECTRICAL WIRE
— OC —	DENOTES OVERHEAD COMMUNICATION WIRE
• LBM	DENOTES LOCAL BENCHMARK
⊕ 0.2 DIA	DENOTES CONIFEROUS TREE WITH TRUNK DIAMETER
⊕ 0.25 DIA	DENOTES DECIDUOUS TREE WITH TRUNK DIAMETER

NOTES
BOUNDARY INFORMATION HAS BEEN COMPILED FROM AVAILABLE SURVEY RECORDS
INDEX CONTOURS ARE AT 1.00m INTERVALS.
INTERMEDIATE CONTOURS ARE AT 0.25m INTERVALS.
BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT LOCAL BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATIONS AGREE WITH THE INFORMATION SHOWN ON THIS PLAN.
CURB ELEVATIONS ARE TAKEN FROM TOP OF CURB

FIELD WORK COMPLETED AUGUST 18th, 2017.

 **J.D. BARNES** LIMITED
LAND INFORMATION SPECIALISTS
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