



Township of Douro-Dummer Revised Agenda for a Special Meeting of Council

Tuesday, June 30, 2020, 1:00 p.m.

Douro-Dummer YouTube Channel

https://www.youtube.com/channel/UCPpzm-uRBZRDjB89o2X6R_A

Please note, that Council may, by general consensus, change the order of the agenda, without prior notification, in order to expedite the efficiency of conducting business

Meetings During COVID-19

Council met on April 2, 2020 and amended the Township Procedure By-Law to permit meetings to be held electronically, under the authority of the Municipal Emergency Act, 2020, in order to function during the pandemic.

During the COVID-19 pandemic, regular meetings of Council are being held electronically. Meetings will be recorded and live-streamed on the Township YouTube channel.

Please contact the Clerk if you require an alternative method to virtually attend the meeting. crystal@dourodummer.on.ca or 705-652-8392 x205

Pages

1. Reason(s) for Special Meeting:

- To receive presentations on the testing and peer review of the pit located in Part of Lots 14 and 15, Conc. 1, Dummer Ward
- To consider the Prohibition of Fishing at Public Wharves By-law
- To deal with other municipal business

2. Disclosure of Pecuniary Interest:

3. Adoption of Agenda: Special Meeting June 30, 2020

4. Delegations, Petitions or Presentations:

4.1 Presentation - Kevin Fitzpatrick, WSP

1

Supplemental Geotechnical Survey and Testing Report - Edwards
Property - March 23, 2020, Part of Lots 14 & 15, Concession 1, Dummer
Ward

4.2	Presentation - Brian Peterkin and Stuart Baird, Cambium Inc. - Peterborough	127
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Presentation of the peer review of the Supplemental Geotechnical Survey and Testing Report prepared by WSP Canada Inc. dated March 23, 2020
Part of Lots 14 & 15, Concession 1, Dummer Ward

5. Other Business and Staff Reports:

5.1	Edwards Pit Project, C.A.O.-2020-31	170
5.2	Infectious Disease Preparedness and Response Policy, C.A.O.-2020-28	172
5.3	Job Description for Manager of Public Works, C.A.O.-2020-29	183
5.4	Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) Grant Application, Treasurer-2020-18	193
5.5	Hired Equipment Registry Tender T-2020-01, Public Works-2020-09	198
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5.7	Supply and Delivery of One Plow Truck Tender T-2020-03, Public Works-2020-11	202
5.8	Open-Air Burning, Fire Chief-2020-08	205
5.9	Daleview Road Reconstruction, Public Works-2020-12	221

6. By-laws:

6.1	By-law 2020-35 - To regulate Open-Air Burning and to Repeal By-law Number 2015-05	223
6.2	By-law 2020-36 - To amend By-law 2017-30, as amended, (User Fees and Charges) (Fire - Fees & Charges -Services & Activities)	235
6.3	By-law 2020-37 - A By-law for the Prohibition of Fishing on Public Wharves within the Jurisdiction of the Township of Douro-Dummer	237
6.4	By-law 2020-38 - A By-law to amend By-law No. 2020-01 (To extend Temporary Chief Administrative Officer and Deputy Treasurer position)	240

7. Action - Correspondence Items:

7.1 Alcohol and Gaming Commission of Ontario (AGCO) 241

Ontario amends Regulation 719 under the Liquor Licence Act to support liquor sales licensees in temporarily extending their patios and provide additional flexibility for the location of tied houses

***8. Committee Minutes:**

***8.1 Planning Committee Minutes - June 22, 2020 244**

9. Confirming By-law - By-law 2020-39 251

To confirm the proceedings of the two special electronic meetings held on June 30, 2020.

10. Adjournment



Question today
imagine tomorrow
create for the future

Edwards Pit

Presentation to Douro-Dummer Council

Kevin Fitzpatrick, P.Eng.

June 30, 2020

2020 Investigation

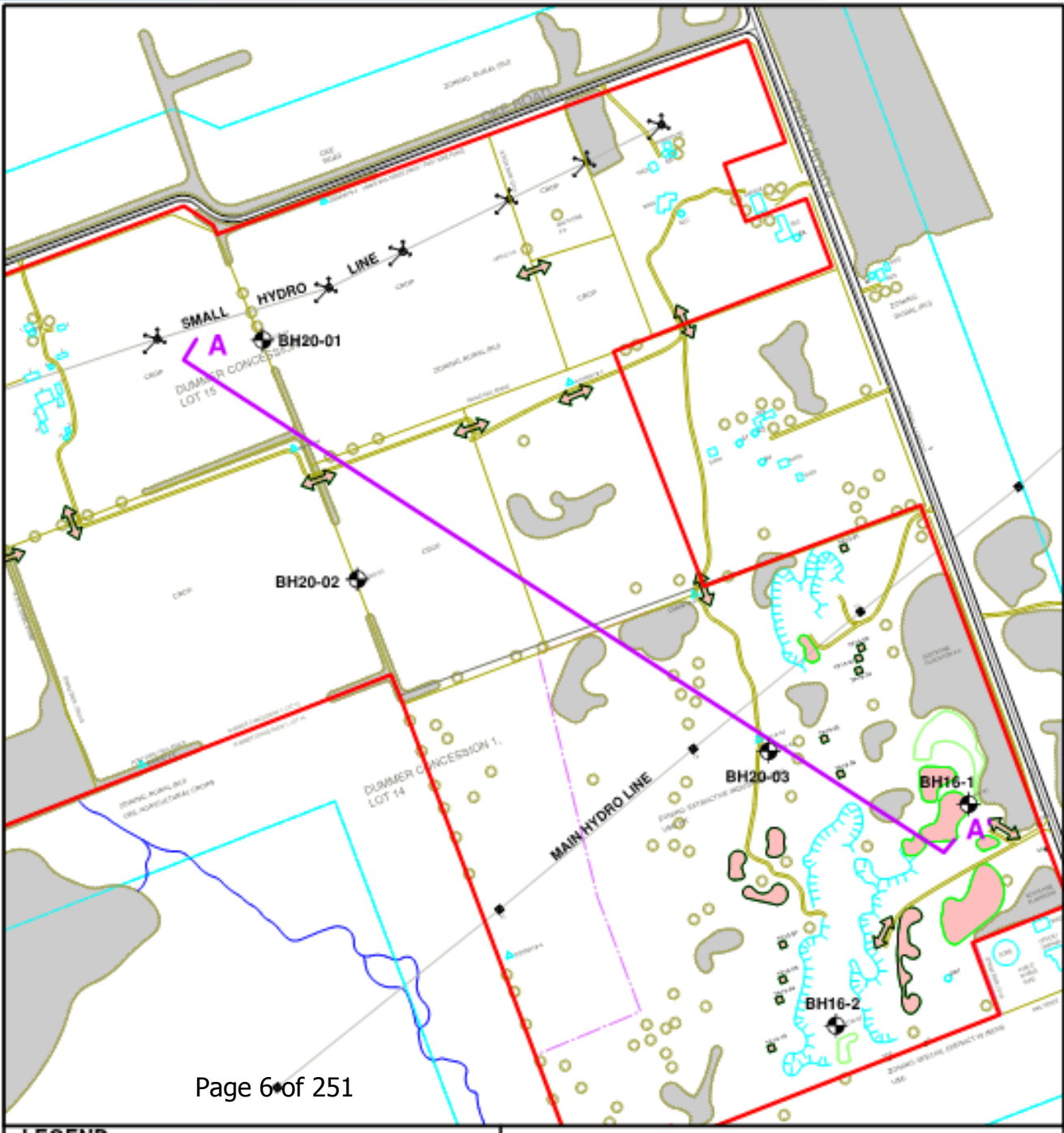
- *Purpose of the study was to address Cambium's peer review recommendations, which are as follows:*
 - Consideration could have been given to advancing more test pits based on the variability of the esker deposits
 - It would be preferable for the locations and elevations of the test pits and boreholes to have been surveyed using an RTK or other system that is more accurate and able to provide geodetic elevations
 - Gradation testing on a large number of samples from the esker deposit would have been an inexpensive way to provide more detailed information about the volume of useful aggregates in the esker
 - Investigation and comments should also have been provided on the Bobcaygeon Formation.
 - It is somewhat misleading and unnecessary to compare the gradations of the 1" minus crushed limestone product, which was purposely created from the bedrock cores to allow for other testing, to the gradation envelopes for Granular A, Granular B, etc.

2020 Investigation

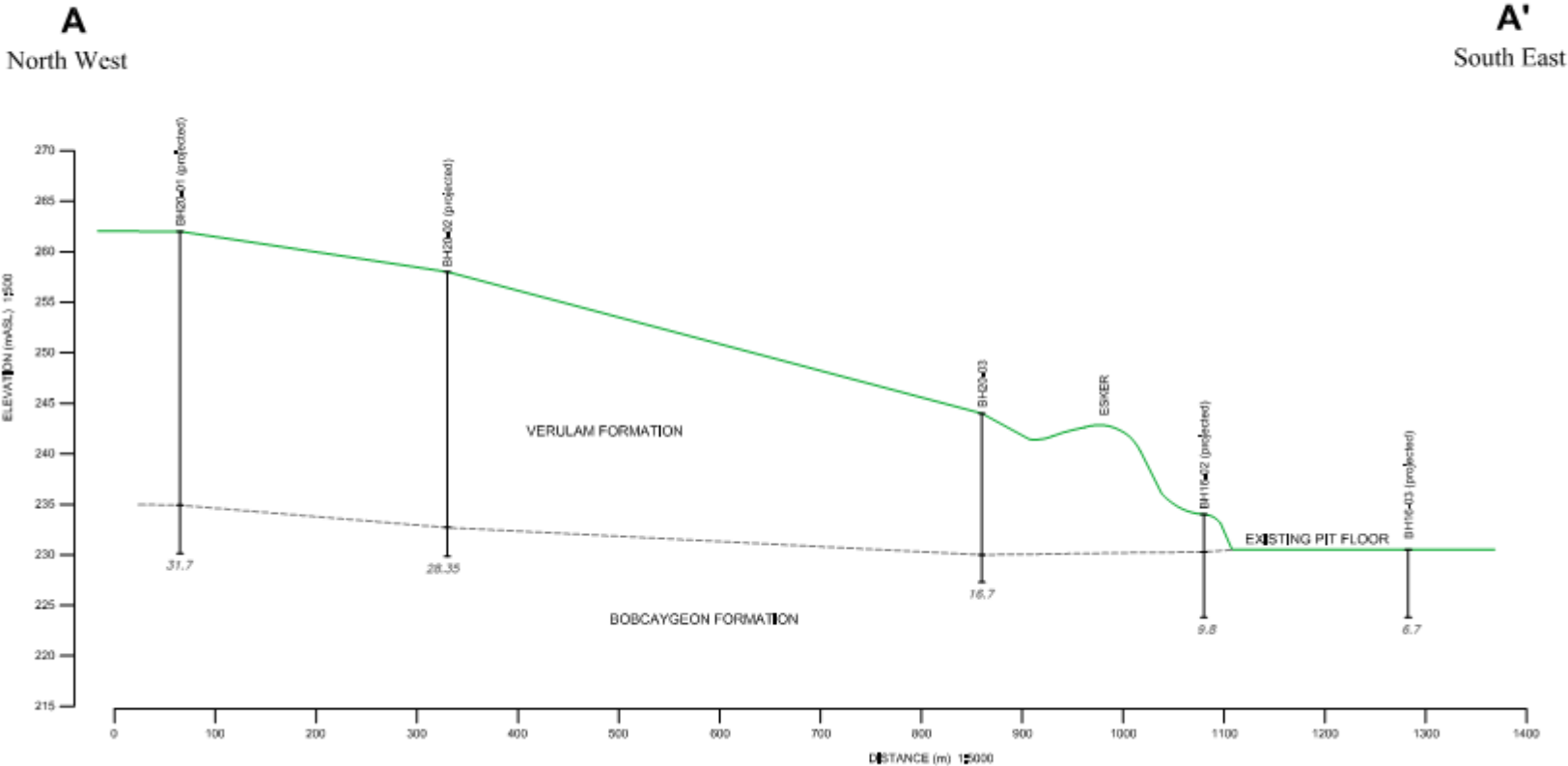
- Unconsolidated Materials – Esker Test Pitting
 - *Ten test pits*
- Consolidated Materials – Bedrock Investigation
 - *Three boreholes*
- Previous investigations included:
 - *Three boreholes in 2016*
 - *Materials testing – Reported January 2017*
 - *Two boreholes in 2018*
 - *Monitoring of groundwater elevations in four wells (BH16-3, MW18-1, MW18-2 and Craymer Well)*



Site Plan



Cross Section



Summary of Laboratory Analyses



Table 3-2: Summary of Laboratory Analysis (Physical Quality Requirements)

SAMPLE ID	REL. DENS. & ABSORB. COARSE	REL. DENS. & ABSORB. FINES	MICRO-DEVAL COARSE (LOSS) RESULT	MICRO- DEVAL FINE (LOSS %) RESULT	PLASTIC FINES (Y/N)	FREEZE THAW
Unconsolidated Material (Escher)						
TP19-01*	2.658/0.71	2.623/1.26	21.4	10.1	N	--
TP19-02	2.609/1.35	2.554/2.36	24.1	15.5	N	--
TP19-03	2.620/1.13	2.573/1.70	24.5	14.9	N	--
TP19-04	2.622/1.04	2.545/2.26	20.2	11.0	N	--
TP19-05	2.601/1.50	2.554/2.16	23.7	18.6	N	--
TP19-06	2.605/1.63	2.570/2.25	25.1*	15.5	N	--
TP19-07	2.616/1.22	2.554/2.52	22.6	13.9	N	--
TP19-08	2.613/1.19	2.563/1.83	20.3	11.6	N	--
TP19-09	2.601/1.48	2.607/1.25	-	9.0	N	--
TP19-10	2.595/1.65	2.583/1.66	24.2	15.4	N	--
RANGE	0.71 to 1.65 (Absorption)	1.25 to 2.52 (Absorption)	20.2 to 25.1	9.0 to 18.6	N	--
Consolidated Material (Bedrock)						
BH20-01	2.651/0.77	2.532/2.54	16.0	22.5	--	2.7
BH20-02	2.658/0.69	2.519/2.61	15.4	22.3	--	1.8
BH20-03	2.674/0.50	2.521/2.64	13.8	20.6	--	2.5
BH16-1	2.689/0.37	2.634/1.06	13.0	16.2		1.7
Range	0.37 – 0.77 (Absorption)	1.06 – 2.64 (Absorption)	13.0 – 16.0	20.6 – 22.5	--	1.7 – 2.7
PHYSICAL QUALITY REQUIREMENTS (OPSS 1010 and 1004)						
Granular A	N/A	N/A	25	30	N	N/A
Granular B	N/A	N/A	30	35	N	N/A
Winter Sand	N/A	N/A	N/A	N/A	N/A	N/A

* Sample does not meet physical quality requirements specifications for Granular A

Comparison to OPSS Specifications

Table 3-3: Comparison of Gradation Results to OPSS Specifications

SIEVE SIZE (mm)	TP19-01	TP19-02	TP19-03	TP19-04	TP19-05	TP19-06	TP19-07	TP19-08	TP19-09	TP19-10	BH20-01	BH20-02	BH20-03	GRANULAR A*	GRANULAR B TYPE I*	WINTER SAND**
26.5	62.2	70.0	56.2	72.4	73.9	77.2	77.0	89.9	86.3	84.7	100	100	100	100	50 – 100	--
19.0	59.8	60.3	51.0	66.2	64.8	70.8	70.6	86.8	83.5	77.4	99.8	99.3	99.2	85 – 100	N/A	--
13.2	57.9	54.4	46.5	60.7	57.4	66.2	66.2	84.2	81.2	73.4	66.8	69.2	70.7	65 – 90	N/A	--
9.5	55.2	46.6	41.2	54.9	50.4	60.1	60.6	81.1	78.2	67.4	43.9	46.2	49.9	50 – 73	N/A	100
4.75	49.9	34.2	31.1	43.9	38.8	48.6	48.9	74.3	71.6	57.2	28.9	26.1	28.8	35 – 55	20 – 55	90 – 100
1.18	38.9	19.9	19.2	21.3	25.3	30.8	28.4	60.9	54.8	36.4	12.1	11.6	12.7	15 – 40	10 – 100	20 – 90
300 µm	12.9	12.3	9.4	5.9	12.6	17.3	10.0	14.3	11.4	12.9	6.4	6.6	6.6	5 – 22	2 – 65	0 – 35
75 µm	2.6	7.2	4.0	2.6	5.8	6.8	4.3	4.7	1.9	4.6	4.0	4.2	3.9	2.0 – 8.0	0 – 8.0	0 – 5.0
SPECIFICATION SUMMARY – DOES SAMPLE MEET OPSS SPECIFICATION (Y/N)																
Granular A	N	N	N	N	N	N	N	N	N	N				--	--	--
Granular B Type I	N	Y	N	Y	Y	Y	Y	Y	Y	Y				--	--	--
Winter Sand**	N	N	N	N	N	N	N	N	N	N				--	--	--

* OPSS 1010

** OPSS 1004

- Unconsolidated Material (Esker)
 - *Material is suitable for Granular B Type I*
- Consolidated Material (Bobcaygeon Formation)
 - *Results were mixed for use of crushed material in concrete and asphalt*
 - Freeze-thaw samples passed for pavement, structures, sidewalks and concrete base (OPSS 1002), Superpave (OPSS 1003), and all Classes of Surface Treatment Aggregate (OPSS 1006)
 - Micro-deval results met requirements for some of the coarse samples but none of the fine samples

- Quality of the Verulam
 - *Is further testing warranted?*
- Bobcaygeon vs Verulam
 - *Depth of extraction*
 - *Above or below water extraction*
- What are the future needs of the Township?
- What are the long term planning implications?

Thank you!

wsp.com



THE CORPORATION OF THE TOWNSHIP OF DOURO-DUMMER

SUPPLEMENTAL GEOTECHNICAL SURVEY AND TESTING REPORT EDWARDS PROPERTY

MARCH 23, 2020

FINAL





SUPPLEMENTAL GEOTECHNICAL SURVEY AND TESTING REPORT EDWARDS PROPERTY

THE CORPORATION OF THE TOWNSHIP
OF DOURO-DUMMER

FINAL

PROJECT NO.: 161-16604-00

DATE: MARCH 23, 2020

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March 23, 2020

FINAL

THE CORPORATION OF THE TOWNSHIP OF DOURO-DUMMER
894 South Street
Warsaw, Ontario
K0L 3A0

Attention: Martina Chait-Hartwig, Temporary C.A.O.

Dear Ms. Chait-Hartwig:

Subject: Supplemental Geotechnical Survey and Testing Report - Edwards Property

WSP is pleased to provide you with our Supplemental Geotechnical Survey and Testing report for the above noted aggregate resources Site.

The Report has been prepared in accordance with our proposal, and includes results of a supplemental test pit and drilling program and laboratory testing program.

We trust that this report meets your present requirements. Please contact us if you have any questions.

Yours truly,

Bernie Fuhrmann, B.E.S.
Aggregate Development Specialist

Victoria Gledhill, P. Eng.
Project Engineer

Garnet Brenchley, P.Eng.
Senior Geotechnical Engineer

WSP ref.: 161-16604-00

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SIGNATURES

PREPARED BY

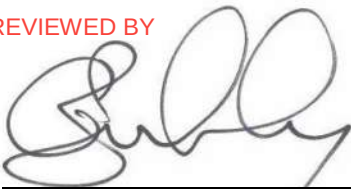


Victoria Gledhill, P. Eng.
Project Engineer

March 23, 2020

Date

REVIEWED BY



Garnet Brenchley, P.Eng.
Senior Geotechnical Engineer

March 23, 2020

Date

APPROVED BY



Bernie Fuhrmann, B.E.S.
Aggregate Development Specialist

March 23, 2020

Date

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I-3	Freeze-Thaw Results
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1 BACKGROUND

WSP was retained by the Township of Douro-Dummer to conduct a supplemental geotechnical survey of land, known locally as the Edwards Property (the Site), located on part of Lots 14 and 15, Concession 1 in the geographic Township of Dummer. The Site is approximately 1.5 km north of the community of Warsaw, fronting on County Road #4 along the east, Oke Road to the north, and Payne Line Road to the west. A location map is included as **Figure 1**.

A portion of the subject site is currently approved for extraction under the Aggregate Resources Act (A.R.A.) as a licenced gravel pit (Licence # 3303 – licenced to Ralph Edwards). Operations within the pit are guided by an approved A.R.A. Site Plan which permits the extraction of sand and gravel above the groundwater table.

In late 2016, WSP was advised that the Municipality was considering the purchase of the existing Edwards pit and some adjacent land holdings owned by the Edwards family, with the goal of investigating the possible development of a pit and quarry over the total holdings. The proposed development would utilize the sand and gravel resources available at the existing pit, and also access limestone bedrock. Extraction of the bedrock is not currently permitted by the existing pit licence or A.R.A. Site Plan.

As part of an initial investigation, the Municipality released RFP T-05-2016. The goal of the RFP was to provide the Township with an improved understanding of aggregate resources and groundwater depths within the Site.

WSP was selected to conduct the initial investigation and prepared a “Geotechnical Survey and Testing Report – Edwards Property”, dated January 2017, under WSP Project No. 161-16604-00 (hereafter referred to as the 2017 Report). Since preparation of the 2017 Report, WSP has been assisting the Municipality by conducting various investigations (i.e. Natural Environment and Hydrogeology) to determine the viability of filing a licence application with the Ministry of Natural Resources and Forestry, ahead of a potential purchase of the entire Edwards holdings by the Township.

In 2019, WSP understands that concerns were raised respecting the quality of aggregate found at the site. A subsequent peer review of WSP’s 2017 Report was completed by Cambium Inc. (C.I.). While C.I. found that the 2016 investigation completed by WSP was satisfactory, it recommended that additional test pitting of unconsolidated sand and gravel and coring to investigate bedrock resources be completed. Specifically, C.I. suggested that additional sampling and testing of the esker overburden deposit and the underlying Bobcaygeon limestone bedrock formation be conducted. Further, CI also suggested that, to assist in supporting any future license application, additional groundwater monitoring wells be installed.

The Township has subsequently requested WSP complete additional test pits on the esker, along with additional boreholes in the limestone (targeting the Bobcaygeon formation) with associated lab testing. This report summarizes WSP’s 2020 work program in this regard.

2 2020 INVESTIGATION

The purpose of the 2020 investigation was to further assess the aggregate resources at this Site, including the unconsolidated aggregates located on the Esker and consolidated bedrock, reaching down to and including, the Bobcaygeon bedrock formation. Additional monitoring wells were also installed, as a means to facilitate further evaluation of the groundwater table data.

2.1 ESKER TEST PITTING

A total of ten (10) test pits were located and excavated within the esker deposit. See **Figure 2** for such locations. Using a track-mounted excavator provided by the Property owner, the test pits were advanced to depths of 5.0 to 10.5 m. During test pitting, a WSP field technician collected representative samples of each stratigraphic layer for inspection and subsequent laboratory analysis. All test pits were logged in the field and photographed. The depth to groundwater seepage, if any, was documented. The test pits were backfilled and levelled on completion, and the approximate coordinates were determined using a hand-held GPS (NAD 83 datum). Elevations were inferred from the topographic plan (based on GPS coordinates). A summary of test pit details is provided in **Table 2-1**.

Table 2-1: Test Pit Surface Elevation and Termination Depths Summary

TEST PIT ID	APPROXIMATE COORDINATES (NAD 83) EASTING NORTHING		APPROXIMATE SURFACE ELEVATION (mASL)	TERMINATION DEPTH (mBGL)	APPROXIMATE TERMINATION ELEVATION (mASL)
TP19-01*	727792	4925118	237.6	10.5	227.1
TP19-02	727813	4924996	239.9	6.0	233.9
TP19-03	727810	4924983	239.3	5.0	234.3
TP19-04	727810	4924968	240.0	5.0	235.0
TP19-05	727768	4924884	237.5	5.0	232.5
TP19-06	727788	4924841	242.5	5.0	237.5
TP19-07	727717	4924632	246.6	5.0	241.6
TP19-08	727717	4924589	246.6	5.0	241.6
TP19-09	727713	4924564	246.2	5.0	241.2
TP19-10	727703	4924505	246.7	5.0	241.7

* Soil stratigraphy of TP19-01 was observed from face of existing excavation

2.2 BEDROCK INVESTIGATIONS

A borehole drilling program for the Site was carried out by WSP in February 2020. The geotechnical investigation included three (3) boreholes advanced at locations shown on **Figure 2**. Additional details are provided in **Table 2-2** below.

Drilling and soil sampling was completed using a track-mounted commercial drill rig operating under the supervision of an experienced WSP technician. Within the overburden, the boreholes were advanced by means of 210 mm outside diameter (OD) continuous flight hollow stem augers. No soil sampling of the overburden was completed. Diamond drilling of the bedrock was conducted, and NQ size (55 mm diameter) core samples were taken continuously for the full depth of bedrock penetration. The rock cores were inspected, logged, photographed and sampled by a WSP technician, and subsequently stored at our laboratory facility. Core recovery ratios and Rock

Quality Designations (RQD's) were calculated at the time of coring. Details of laboratory rock testing are discussed in **Section 3** below.

Table 2-2: Borehole Surface Elevation and Termination Depths Summary

BOREHOLE ID	APPROXIMATE COORDINATES (NAD 83)		APPROXIMATE SURFACE ELEVATION (mASL)	TERMINATION DEPTH (mBGL)	APPROXIMATE TERMINATION ELEVATION (mASL)
EASTING	NORTHING				
BH20-01	727080	4925382	262.0	31.8	230.3
BH20-02	727196	4925081	258.0	28.3	229.7
BH20-03	727676	4924887	244.0	16.8	227.2

To assist in the continued hydrogeological investigation of the Site, all three boreholes were completed as piezometers to facilitate future measurements of groundwater levels. Piezometers were constructed with 50 mm OD Schedule 40 PVC machine-slotted screen and riser pipe, monitor tip, couplings, and a protective plastic cap or lockable J-Plug. Screened intervals 1.5 m long were backfilled with manufactured filter sand. Installations were completed in general accordance with Ontario Provincial Regulation (O. Reg.) 903, as amended.

2.3 LABORATORY TESTING

Aggregate material obtained from both the esker test pitting and bedrock coring programs were tested at WSP's (MTO and CCIL approved) laboratories. A sample of the Bobcaygeon bedrock formation obtained as part of the scope of work for the 2017 Report was also tested (BH16-1), and is included in the summary provided in **Section 3**.

Both the esker deposit sand and gravel and the cored Bobcaygeon formation bedrock were evaluated, with the goal of assessing suitability to meet the requirements of road gravel, winter sand, surface treatment, asphalt pavement, and concrete, as well as meet Ontario Provincial Standard Specification (OPSS) 1001 physical requirements.

The laboratory testing program is outlined in **Table 2-3** below.

Table 2-3: Geotechnical Laboratory Testing Summary

ANALYSIS	PROCEDURE/METHODOLOGY	NUMBER OF TESTS
Esker Deposit (Test Pit samples)		
Micro-Deval Abrasion – Coarse	Coarse, LS - 618	Ten (10)
Micro-Deval Abrasion – Fine	Fine, LS - 619	Ten (10)
Relative Density/Absorption	LS - 604,605	Ten (10)
Plasticity of Fines	LS - 631	Ten (10)
Sieve Analysis of Aggregates	LS - 602	Ten (10)
Bobcaygeon Formation (bedrock core samples)		
Absorption	LS- 605	Four (4)
Relative Density/Absorption	LS - 604,605	Four (4)
Freeze-Thaw Loss	LS - 614	Four (4)

Micro-Deval Abrasion – Coarse	LS - 618	Four (4)
Micro-Deval Abrasion – Fine	LS - 619	Four (4)
Sieve Analysis of Aggregates	LS - 602	Ten (10)

3 SUMMARY OF FINDINGS

3.1 ESKER TEST PITTING

Test pitting was conducted on the esker at the locations noted on **Figure 2**. Oversized boulders were encountered at all ten (10) test pits. Complete test pit logs are presented in **Appendix D**.

No groundwater was encountered during the test pit investigation, and the excavations were generally dry and stable on completion. See **Appendix B** for Test Pit Photographs of the exposed conditions.

3.2 BEDROCK CORING

Bedrock investigations were conducted at three borehole locations. General results are provided in **Table 3-1** below, and borehole logs and photos of the bedrock core are provided in **Appendix H and G**, respectively.

Table 3-1: Bedrock Observation Summary

BOREHOLE ID	APPROXIMATE GROUND ELEVATION (mASL)	APPROXIMATE BEDROCK ELEVATION (mASL)	OBSERVATIONS
BH20-01	262.0	259.7	Verulam to Bobcaygeon Formation transition at elevation 236.8 mASL.
BH20-02	258.0	256.3	Verulam to Bobcaygeon Formation transition at elevation 232.8 mASL.
BH20-03	244.0	242.9	Verulam to Bobcaygeon Formation transition at elevation 230.1 mASL.
BH16-1*	230.5	230.5	Verulam to Bobcaygeon Formation transition at elevation 226.8 mASL.

* Sample was obtained for the 2017 Report. The portion of core identified as the Bobcaygeon Formation was tested in laboratory during this current (2020) testing program.

Examinations of bedrock core samples confirmed that the majority of the bedrock within the sampled intervals was Verulam Formation. The purpose of this supplemental borehole investigation was to determine the elevation of transition to the underlying Bobcaygeon Formation, which was encountered between 226.8 and 236.8 mASL. Based on the drilling information from the current 2020 investigation, as well as findings from the 2017 Report, WSP has prepared a cross-section indicating an interpolated bedrock profile of the Site. Refer to **Figure 3**.

3.3 LABORATORY ANALYSIS OF AGGREGATE MATERIALS

WSP completed aggregate quality tests on selected samples of the unconsolidated (Esker) and consolidated (bedrock) materials from the Site, as described previously.

Results are provided in **Appendix E and I**, and summarized as follows:

Table 3-2: Summary of Laboratory Analysis (Physical Quality Requirements)

SAMPLE ID	REL. DENS. & ABSORB. COARSE	REL. DENS. & ABSORB. FINES	MICRO-DEVAL COARSE (LOSS %) RESULT	MICRO- DEVAL FINE (LOSS %) RESULT	PLASTIC FINES (Y/N)	FREEZE THAW
Unconsolidated Material (Escher)						
TP19-01*	2.658/0.71	2.623/1.26	21.4	10.1	N	--
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TP19-03	2.620/1.13	2.573/1.70	24.5	14.9	N	--
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TP19-05	2.601/1.50	2.554/2.16	23.7	18.6	N	--
TP19-06	2.605/1.63	2.570/2.25	25.1*	15.5	N	--
TP19-07	2.616/1.22	2.554/2.52	22.6	13.9	N	--
TP19-08	2.613/1.19	2.563/1.83	20.3	11.6	N	--
TP19-09	2.601/1.48	2.607/1.25	-	9.0	N	--
TP19-10	2.595/1.65	2.583/1.66	24.2	15.4	N	--
RANGE	0.71 to 1.65 (Absorption)	1.25 to 2.52 (Absorption)	20.2 to 25.1	9.0 to 18.6	N	--
Consolidated Material (Bedrock)						
BH20-01	2.651/0.77	2.532/2.54	16.0	22.5	--	2.7
BH20-02	2.658/0.69	2.519/2.61	15.4	22.3	--	1.8
BH20-03	2.674/0.50	2.521/2.64	13.8	20.6	--	2.5
BH16-1	2.689/0.37	2.634/1.06	13.0	--		1.7
Range	0.37 – 0.77 (Absorption)	1.06 – 2.64 (Absorption)	13.0 – 16.0	20.6 – 22.5	--	1.7 – 2.7
PHYSICAL QUALITY REQUIREMENTS (OPSS 1010 and 1004)						
Granular A	N/A	N/A	25	30	N	N/A
Granular B	N/A	N/A	30	35	N	N/A
Winter Sand	N/A	N/A	N/A	N/A	N/A	N/A

* Sample does not meet physical quality requirements specifications for Granular A

Table 3-3 summarizes gradation results of test pit and crushed bedrock material, and compares results to OPSS specification.

Table 3-3: Comparison of Gradation Results to OPSS Specifications

SIEVE SIZE (mm)	TP19-01	TP19-02	TP19-03	TP19-04	TP19-05	TP19-06	TP19-07	TP19-08	TP19-09	TP19-10	BH20-01	BH20-02	BH20-03	GRANULAR A*	GRANULAR B TYPE I*	WINTER SAND**
26.5	62.2	70.0	56.2	72.4	73.9	77.2	77.0	89.9	86.3	84.7	100	100	100	100	50 – 100	--
19.0	59.8	60.3	51.0	66.2	64.8	70.8	70.6	86.8	83.5	77.4	99.8	99.3	99.2	85 – 100	N/A	--
13.2	57.9	54.4	46.5	60.7	57.4	66.2	66.2	84.2	81.2	73.4	66.8	69.2	70.7	65 – 90	N/A	--
9.5	55.2	46.6	41.2	54.9	50.4	60.1	60.6	81.1	78.2	67.4	43.9	46.2	49.9	50 – 73	N/A	100
4.75	49.9	34.2	31.1	43.9	38.8	48.6	48.9	74.3	71.6	57.2	28.9	26.1	28.8	35 – 55	20 – 55	90 – 100
1.18	38.9	19.9	19.2	21.3	25.3	30.8	28.4	60.9	54.8	36.4	12.1	11.6	12.7	15 – 40	10 – 100	20 – 90
300	12.9	12.3	9.4	5.9	12.6	17.3	10.0	14.3	11.4	12.9	6.4	6.6	6.6	5 – 22	2 – 65	0 – 35
75	2.6	7.2	4.0	2.6	5.8	6.8	4.3	4.7	1.9	4.6	4.0	4.2	3.9	2.0 – 8.0	0 – 8.0	0 – 5.0
SPECIFICATION SUMMARY – DOES SAMPLE MEET OPSS SPECIFICATION (Y/N)																
Granular A	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	--
Granular B Type I	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	--	--	--
Winter Sand**	N	N	N	N	N	N	N	N	N	N	N	N	N	--	--	--

* OPSS 1010

** OPSS 1004

4 CONCLUSIONS

WSP was retained to conduct a supplementary geotechnical survey of the Edwards property at the request of the Township of Douro-Dummer. The goal of the investigation was to obtain additional information on the unconsolidated Esker material, and to further investigate the bedrock resources at the Site.

The following conclusions are provided:

4.1 UNCONSOLIDATED MATERIAL (ESKER)

- In general, the reported geotechnical test results comply with OPSS 1010 physical quality requirements for both Granular A and B (Type I) products, with the exception of TP19-06 for Granular A (see **Table 3-2**). The micro-deval course test results of 25.1% loss exceeds the maximum limits of 25% for Granular A.
- Granular A: A portion of the reserve granular material can be produced into Granular A through screening, crushing and blending. The hardness of the stone fraction is marginally below the acceptable maximum limit and is not recommended for use in concrete or hot laid products. Micro-deval percent loss test values range between 20.2 to 25.1%. The maximum acceptable limit for micro-deval coarse for Granular A is 25%. A review of each gradation report suggests there is a general lack of percent crushable stone through key stone fractions. The total material percent stone content retained on the 4.75 mm screen ranges between 25.7% and 68.9%. Between 35% and 55% sand control would be required through screening to increase stone content.
- Granular B Type I: The material is acceptable for Granular B Type I based on review of gradation reports and available physical quality test results, with the exception of samples obtained from TP19-01 and TP19-03. Oversize stones are present, and therefore screening would only be required if adherence to a Type I envelope was required, otherwise no processing is required. The fine fraction remains below 8% based on tested samples. Granular B Type I would be the easiest and most cost-effective product to produce.
- Winter Sand: The percent fines (<75 µm) of the total gradation range between 1.9% and 7.2%, while the sand fraction ranges between 2.6% and 21%. The maximum percent for sand fraction is 5% for Winter Sand. Eight of the ten test pits samples were unacceptable due to excess fines.
- Test results for absorption for the fine fraction exceed 2% in TP19-2, TP19-4, TP19-5, TP19-6 and TP19-7. For Superpave 12.5 coarse products, the maximum percent for absorption is 2%. Materials with a lower absorption rate are better suited for hot-laid products to prevent surface pop-outs.

4.2 CONSOLIDATED MATERIAL (BOBCAYGEON FORMATION)

- Freeze thaw testing was conducted on four (4) crushed core samples. No specifications for freeze thaw compliance are required for products such as Granular A, B and Select Subgrade Material (OPSS 1010). Freeze thaw samples from all four boreholes passed for pavement, structures, sidewalks and concrete base (OPSS 1002), Superpave (OPSS 1003), and all Classes of Surface Treatment Aggregate (OPSS 1006).
- Bedrock samples were crushed to 19 mm size for testing. In general, the reported geotechnical test results comply with OPSS 1010 physical quality requirements for both Granular A and B Type I products. Absorption was below 1% for all samples, which is acceptable for most uses.
- For concrete and asphalt, Micro-Deval results typically must be below 15%. The samples from BH20-03 and BH16-1 meets these requirements. However, the coarse fraction result for BH20-01 and BH20-02 samples do not meet the standards.

5 CLOSING

The primary goal of this investigation was to follow-up on the original work conducted by WSP in 2016, and summarized in the 2017 Report. The Municipality directed that additional sampling and testing of the surficial deposit (esker) be conducted, and that bedrock investigations specifically target an underlying layer of bedrock, known as the Bobcaygeon Formation.

This investigation re-confirmed that the sand and gravel within the site, and generally confined to the remaining Esker deposit, have the potential to achieve appropriate material specifications for the intended uses by the Municipality. The bedrock investigation revealed that the Bobcaygeon Formation exhibited slightly improved quality testing results when compared with bedrock material tested in 2017. However, conclusions related to suitability and feasibility of bedrock extraction have not changed. Refer to WSP's 2017 Report for a summary of Conclusions.

WSP is of the opinion that the Edwards Site contains aggregate resources which are suitable for appropriately-targeted uses by the Township. It is important for the Municipality to understand that there is variability within both the unconsolidated (i.e. sand and gravel) and unconsolidated (i.e. bedrock) formations within the site. While the site has the potential to achieve appropriate material specifications for the intended uses by the Municipality, when processing site materials, WSP understands that material quality issues may arise. Therefore, strict and ongoing quality control measures should be put in place throughout such processing.

Thank you for retaining WSP to complete this investigation. Should you have any questions please feel free to contact our office.

Submitted by,

WSP Canada Inc.



Vikki Gledhill, P.Eng.
Geotechnical Project Engineer

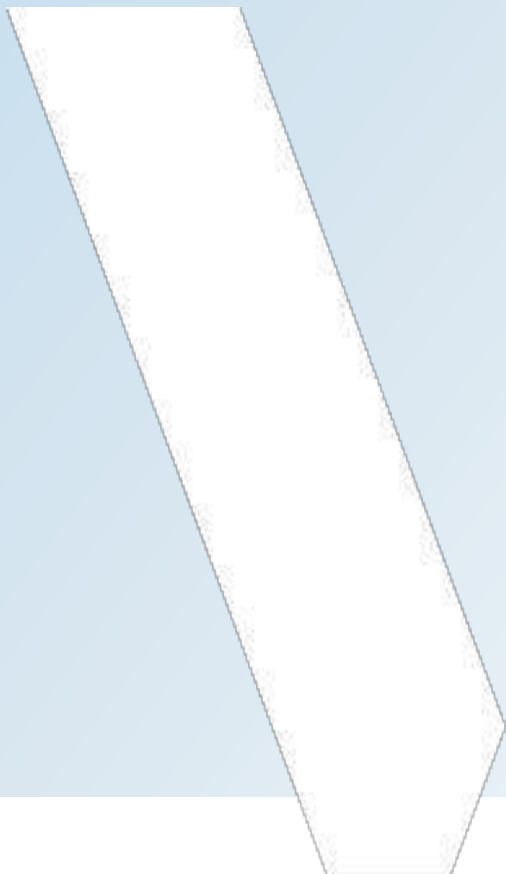


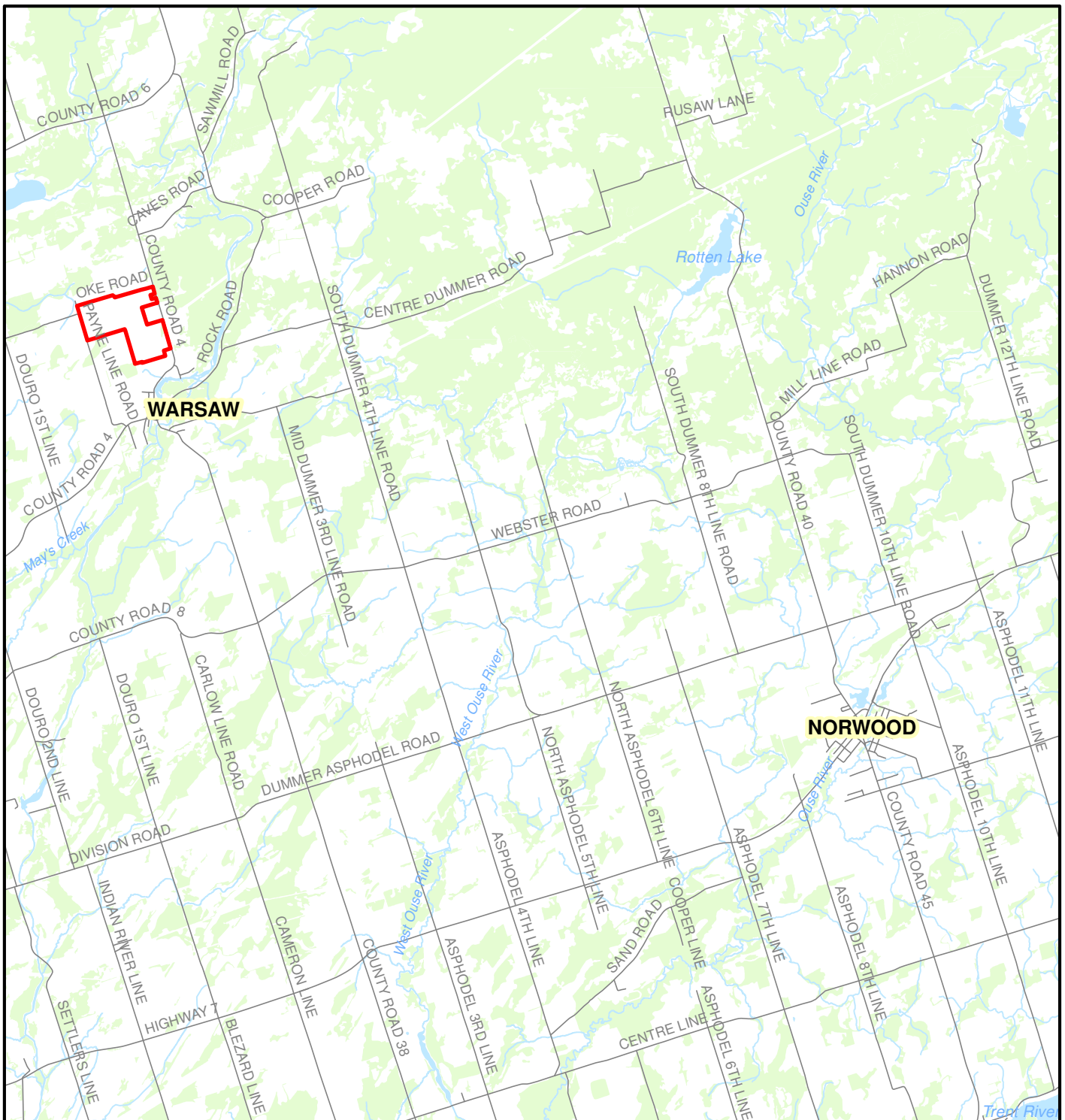
Garnet Brenchley, P.Eng.
Senior Geotechnical Engineer



Bernie Fuhrmann, B.E.S
Aggregate Development Specialist

FIGURES





LEGEND

 APPROXIMATE SITE LOCATION



Data Source: Ministry of Natural Resources,
Ontario Base Mapping, March 2014.

1,000 500 0 1,000 Metres

SITE LOCATION MAP

SUPPLEMENTAL GEOTECHNICAL SURVEY AND TESTING

Part of Lot 14/15, Concession 1

Douro-Dummer Township

For the Corporation of the Township of Douro-Dummer

DATE: MARCH 2020

SCALE: 1:100000

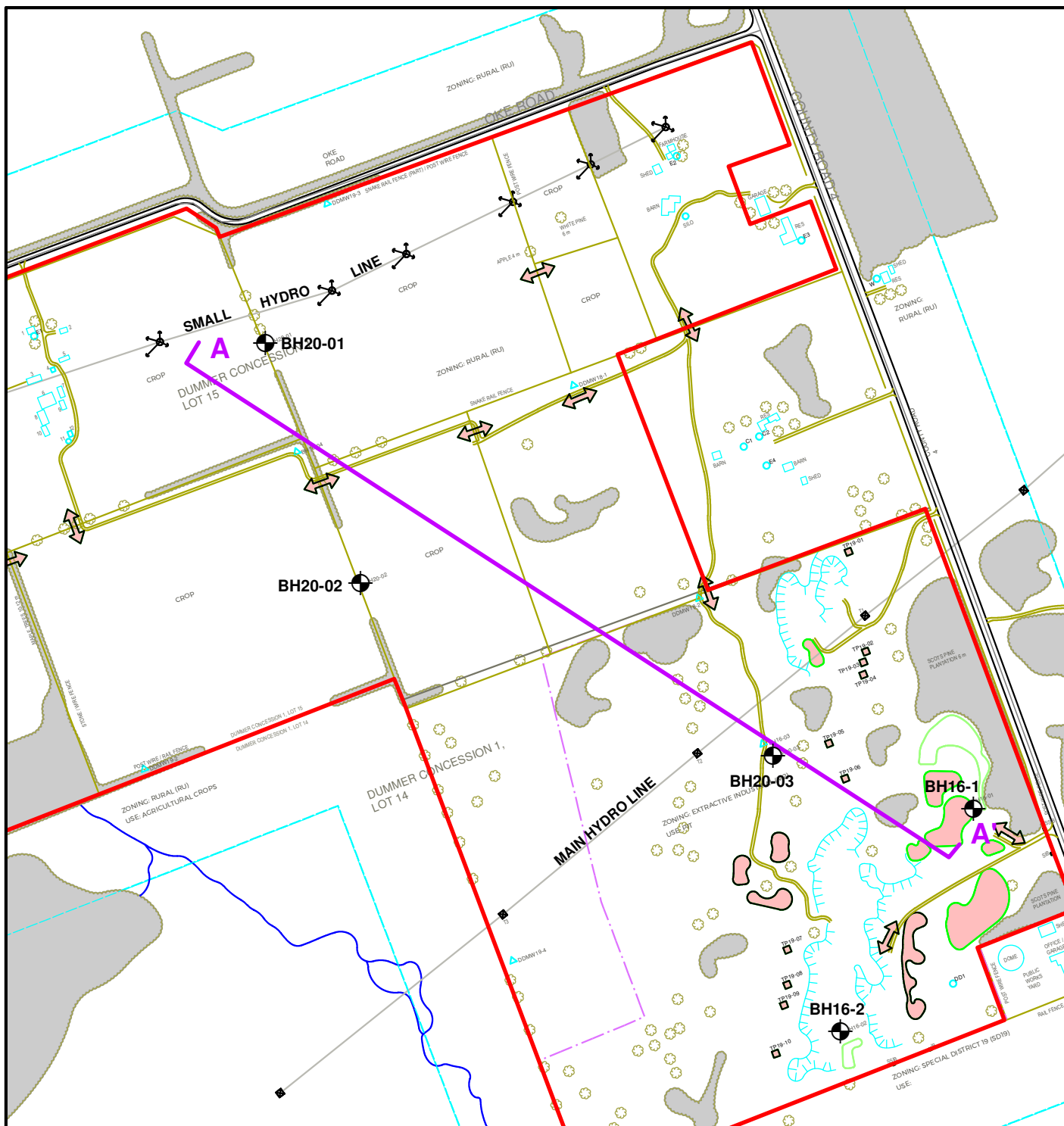
PROJECT: 161-16604-00

FILE. NO.: 161-16604-00 F1



FIGURE

1



LEGEND

- APPROXIMATE SITE BOUNDARY
- EXISTING LICENSED PIT
- BOREHOLE LOCATION
- CROSS SECTION LOCATION



Data Source: Ministry of Natural Resources,
Ontario Base Mapping, March 2014.

70 35 0 70 Metres

CROSS SECTION LOCATION

SUPPLEMENTAL GEOTECHNICAL
SURVEY AND TESTING
Part of Lot 14/15, Concession 1
Douro-Dummer Township
For the Corporation of the Township of Douro-Dummer

DATE: MARCH 2020

SCALE: 1:7000

PROJECT: 161-16604-00

FILE. NO.: 161-16604-00 F2

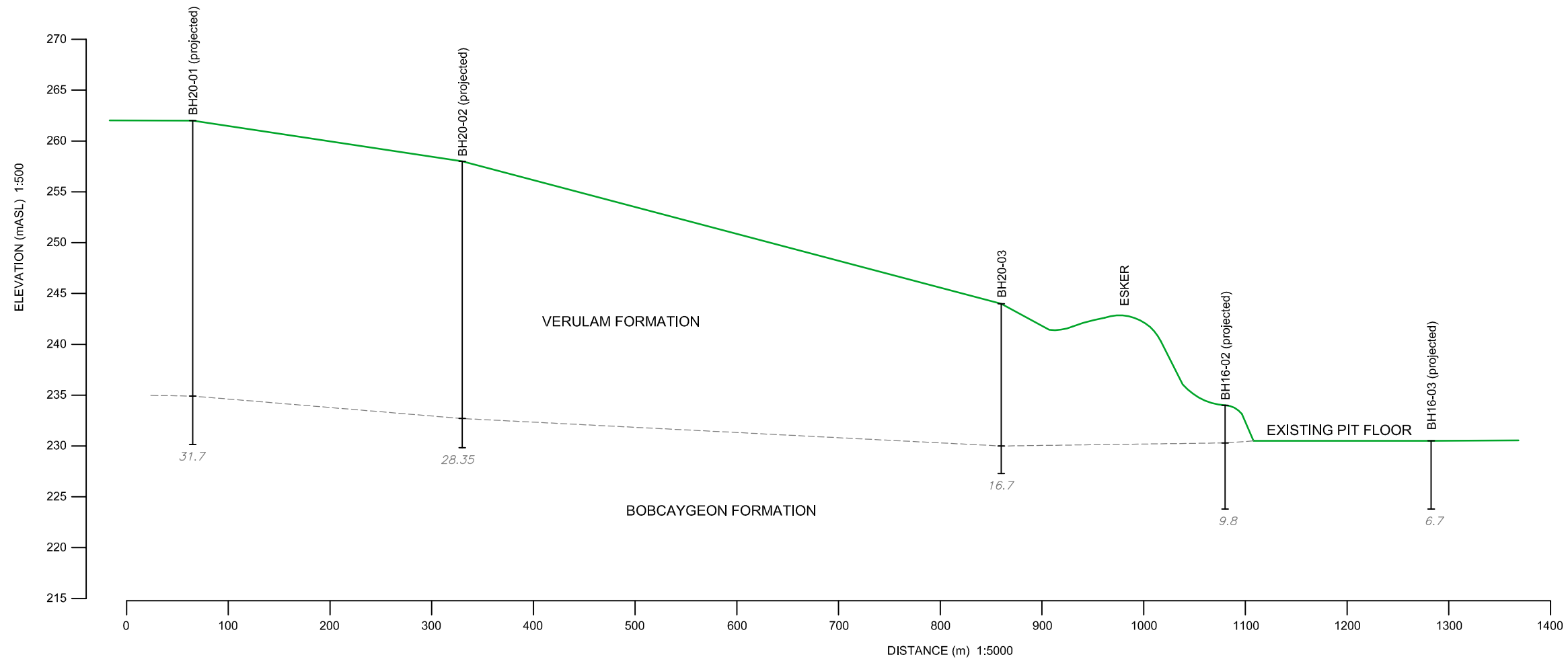


FIGURE

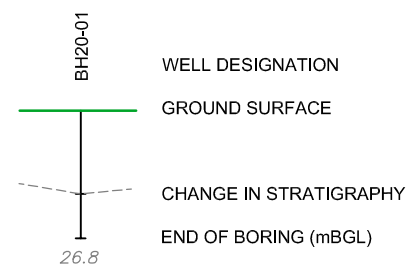
2

A
North West

A'
South East



LEGEND



NOTE:
THE ACTUAL SOIL STRATIFICATION HAS BEEN VERIFIED FROM DATA OBTAINED AT THE WATER WELL LOCATIONS ONLY. THE INFERRED CONTACTS SHOWN ARE BASED ON GEOLOGICAL EVIDENCE AND THESE MAY VARY FROM THOSE SHOWN BETWEEN BORINGS. WELL DATA IS PROJECTED ONTO THE SECTION WHICH ALSO MAY CREATE SOME IRREGULARITIES IN CONTACT DEPTHS.

CROSS SECTION A-A'

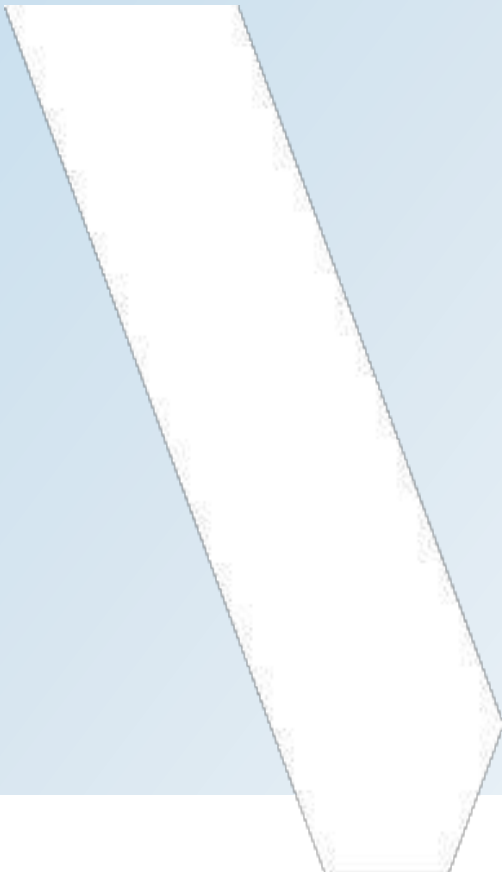
SUPPLEMENTAL GEOTECHNICAL
SURVEY AND TESTING
Pt of Lot 14/15, Conc. 1, Douro-Dummer Township
For the Corporation of the Township of
Douro-Dummer

DATE: MARCH 2020	SCALES: AS SHOWN
PROJECT: 161-16604-00	FILE NO.: 161-16604-00 F3

	FIGURE 3
---	-----------------

APPENDIX

A SITE PLAN





EXISTING FEATURES NOTES

THIS SITE PLAN IS PREPARED FOR SUBMISSION TO THE MINISTRY OF NATURAL RESOURCES AND FORESTRY UNDER THE AGGREGATE RESOURCES ACT FOR A CATEGORY 4 - CLASS A LICENSE, QUARRY ABOVE THE WATER TABLE.

APPLICANT: TOWNSHIP OF DOURO-DUMMER
894 SOUTH STREET
WARSAW, ONTARIO
K0L 3A0

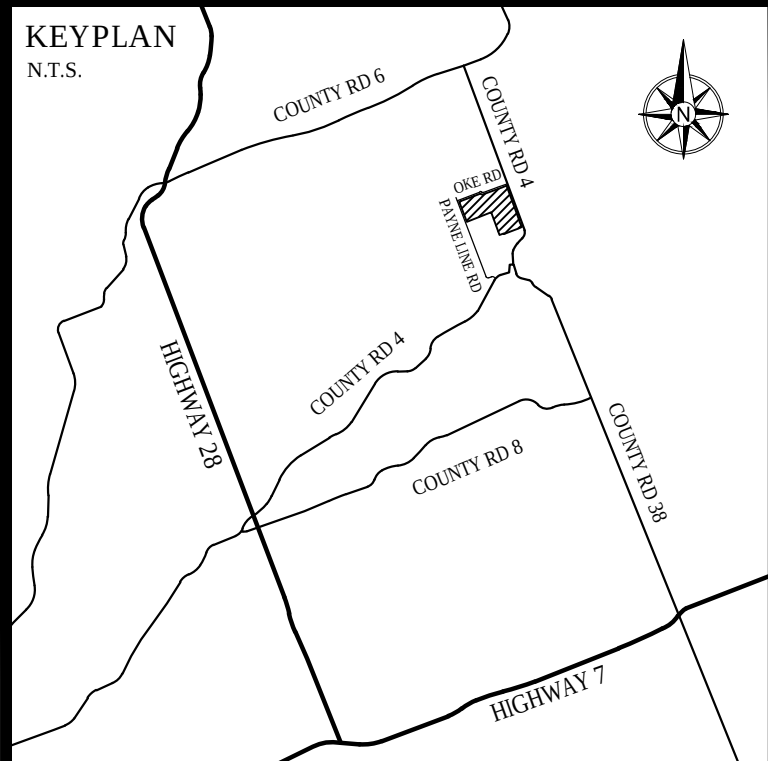
TOTAL AREA TO BE LICENCED: 90 HECTARES
TOTAL AREA TO BE EXTRACTED: 75 HECTARES
TOTAL AREA TO BE REHABILITATED: 75 HECTARES

GENERAL SITE PLAN INFORMATION

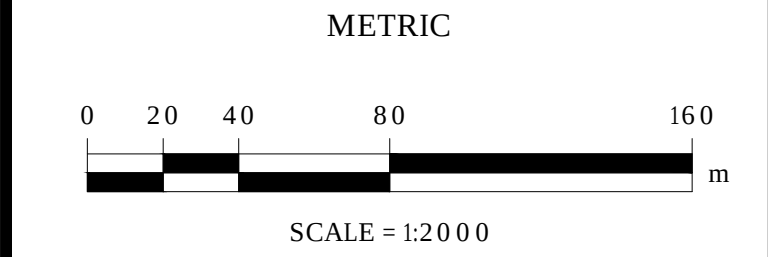
- THIS PLAN WAS PREPARED USING TOPOGRAPHIC INFORMATION COMPRISING OF OBM ... AND DRONE DATA OBTAINED FROM.
- ELEVATIONS AND CONTOURS SHOWN HEREON ARE GEODETIC AND ARE DERIVED FROM
- THE AREA TO BE LICENCED IS ZONED EXTRACTIVE INDUSTRIAL (M2) AND RURAL (RU) BY THE TOWNSHIP OF DOURO-DUMMER COMPREHENSIVE ZONING BY-LAW, DATED 7777
- THE AREA TO BE LICENCED IS DESIGNATED AS EXTRACTIVE INDUSTRIAL AND RURAL BY THE TOWNSHIP OF DOURO-DUMMER OFFICIAL PLAN, DATED 7777.
- THE ESTABLISHED GROUNDWATER HAS BEEN DETERMINED BY CONTRACTING AND MONITORING VARIOUS ON-SITE WELLS (AS SHOWN). ADDITIONAL OFF-SITE WELL INFORMATION WAS ALSO USED TO CONFIRM AND SUPPLEMENT, AS NECESSARY, ON-SITE WELLS. GROUNDWATER ELEVATIONS WITHIN THE SITE RANGE FROM +1-777 MASL IN THE NORTHWEST OF THE SITE TO APPROXIMATELY +1-777 MASL IN THE CENTRAL AND +1-777 MASL IN THE SOUTH AND EASTERN SECTIONS OF THE SITE. (SEE HYDROGEOLOGICAL ASSESSMENT- WARSAW QUARRY, DATED MAY 2018, WSP)
- SURFACE WATER FLOW IS GENERALLY PRESENTED AND GENERALLY FLOWS FROM WEST TO EAST AND THEN SOUTH ON THE SITE.
- CURRENTLY, AN EXISTING LICENCED PIT (AGGREGATE RESOURCES ACT LICENCE NO. 3303), COMPRISING 34.09 HECTARES, IS LOCATED ON THE A PORTION OF THE SITE. INTERMITTENT EXTRACTION OF UNCONSOLIDATED AGGREGATE (I.E SAND AND GRAVEL) HAS OCCURRED SINCE INITIAL LICENCING APPROVAL. THE CURRENT DISTURBED AREA WITH THE LICENCED SITE IS APPROXIMATELY 777 HECTARES.
- PORTIONS OF THE SITE ARE IN USE FOR ACTIVE CROP PRODUCTION (HAY AND SOYBEAN), PORTIONS OF THE SITE ARE OPEN GRASSLAND, CONTAINING INTERMITTANT TREE COVER. ACCORDING TO THE LAND CAPABILITY, CANADA LAND INVENTORY (CMARRA SOIL SURVEY COMPLEX) THE AGRICULTURAL CAPABILITY OF THE SITE CONSIST OF CLASS 3 AND 6.
- TWO HYDRO EASEMENTS CROSS PORTIONS OF THE SITE, AS SHOWN.
- THE FOLLOWING TECHNICAL REPORTS WERE USED IN THE PREPARATION OF THIS PLAN:
 - HYDROGEOLOGICAL ASSESSMENT, WSP, DATED MAY 2018
 - NATURAL ENVIRONMENT LEVEL 1 AND 2 REPORT, WSP, DATED FEBRUARY 2018
 - CULTURAL HERITAGE REPORT LEVEL 1 AND 2, WSP, DATED OCTOBER 2018
 - NOISE IMPACT ASSESSMENT, VALCOUSTICS INC., DATED NOVEMBER 2018
 - BLAST IMPACT ANALYSIS, EXPLOTECH INC., DATED NOVEMBER 2018
 - AGRICULTURAL IMPACT ASSESSMENT, 777, DATED MAY 2018

STRUCTURE / BUILDING LIST		
ID NUMBER	BUILDING TYPE	DIMENSIONS (m)
1	FARMHOUSE	6 x 14
2	GARAGE	6 x 6
3	BARN	15 x 18
4	SHED	3 x 3
5	BARN	3 x 6
6	SHED	4 x 5
7	SHED	2 x 4
8	SHED	4 x 12
9	SHED	2 x 5
10	SHED	5 x 12
11	SILLO	40
12	SHED	12 x 4
13	HYDRO TOWER	7.5 x 7.5
14	HYDRO TOWER	7.5 x 7.5
15	HYDRO TOWER	7.5 x 7.5

WELL INFORMATION		
ID NUMBER		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		



LEGEND	
--- 230 ---	MAJOR CONTOUR
--- 231 ---	MINOR CONTOUR
- - - - -	EXISTING LICENSED PIT
- - - - -	BOUNDARY OF THE AREA TO BE LICENSED
- - - - -	120m INFORMATION BOUNDARY
==	ROAD / TRAIL
↔	INTERNAL ENTRANCE / EXIT
↔	EXTERNAL ENTRANCE / EXIT
X X X X	FENCE
	TREE LINE
●	TREE / TREE CLUSTER
■	BUILDING
○	HYDRO POLE & LINE
⊗	HYDRO TOWER & LINE
	EXTRACTION FACIES
	PROCESSED AGGREGATE STOCKPILE
	OVERBURDEN STOCKPILE
	AREA BACKFILLED FOR REHABILITATION
●	WELL
▲	MONITORING WELL
■	TEST PIT
△	BOREHOLE (CLOSED)



B		ISSUED FOR REVIEW	10-29-2018
A		ISSUED FOR REVIEW	01-22-2018
No.		REVISION	DATE (MM-DD-YYYY)
STAMP:		DRAWN BY: D. LEUNG	
		DESIGNED BY: D. LEUNG	
		APPROVED BY: B. FUHRMANN	
		DATE: OCTOBER 29, 2018	
wsp		294 RINK STREET, SUITE 103 PETERBOROUGH, ON K9J 2K2 1-705-743-6850 wsp.ca	
PROJECT NAME: DOURO-DUMMER MUNICIPAL QUARRY PART OF LOTS 14 & 15, CONCESSION 1, GEOGRAPHIC TOWNSHIP OF DUMMER, COUNTY OF PETERBOROUGH			
DRAWING NAME: EXISTING CONDITIONS PLAN			
CLIENT: TOWNSHIP OF DOURO-DUMMER 894 SOUTH STREET, P.O. BOX 92 WARSAW, ONTARIO K0L 3A0			
PROJECT No.:	DWG. No.:	SHEET NUMBER:	REVISION:
161-16604-00	C-1	1 OF 1	B



EXISTING FEATURES NOTES

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894 SOUTH STREET
WARSAW, ONTARIO
K0L 3A0

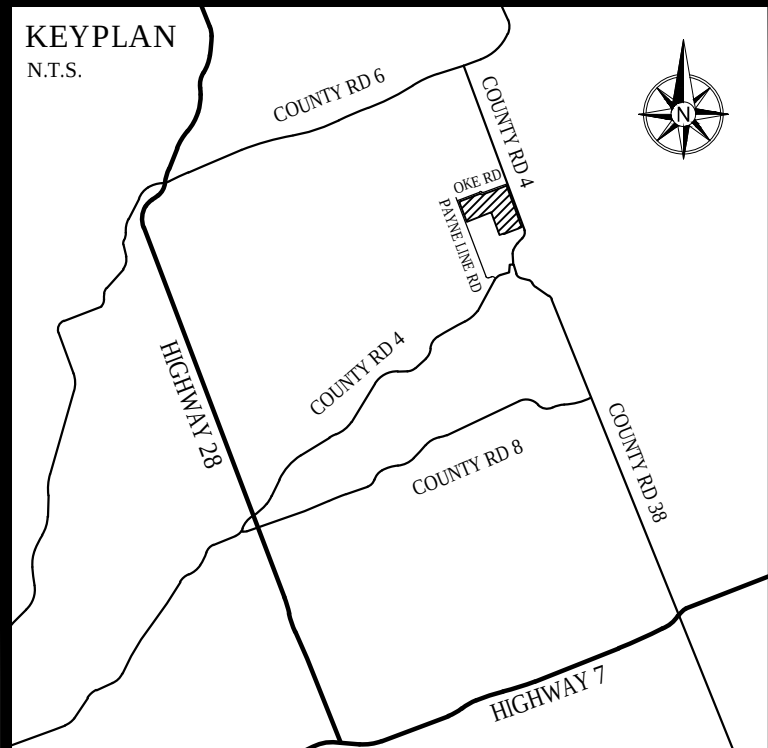
TOTAL AREA TO BE LICENCED: 90 HECTARES
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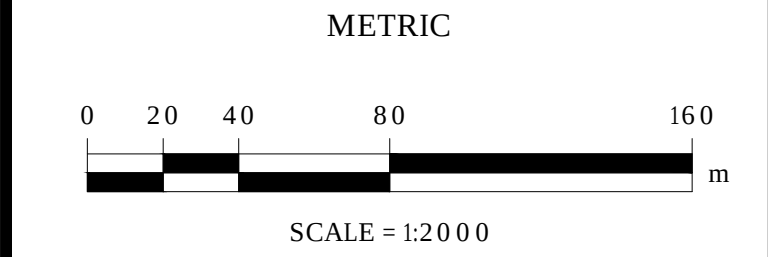
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T3	HYDRO TOWER	7.5 x 7.5

WELL INFORMATION		
ID NUMBER		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		



LEGEND	
--- 230 ---	MAJOR CONTOUR
--- 231 ---	MINOR CONTOUR
- - - - -	EXISTING LICENSED PIT
- - - - -	BOUNDARY OF THE AREA TO BE LICENSED
- - - - -	120m INFORMATION BOUNDARY
==	ROAD / TRAIL
↔	INTERNAL ENTRANCE / EXIT
↔	EXTERNAL ENTRANCE / EXIT
X X X X	FENCE
	TREE LINE
●	TREE / TREE CLUSTER
■	BUILDING
HYD	HYDRO POLE & LINE
HYD	HYDRO TOWER & LINE
	EXTRACTION FACIES
	PROCESSED AGGREGATE STOCKPILE
	OVERBURDEN STOCKPILE
	AREA BACKFILLED FOR REHABILITATION
● W	WELL
▲	MONITORING WELL
■	TEST PIT
△	BOREHOLE (CLOSED)



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STAMP:	DRAWN BY: D. LEUNG
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	DATE: OCTOBER 29, 2018

wsp
294 RINK STREET, SUITE 103
PETERBOROUGH, ON
K9J 2K2
1-705-743-6850
wsp.com

PROJECT NAME:
DOURO-DUMMER MUNICIPAL QUARRY
PART OF LOTS 14 & 15, CONCESSION 1,
GEOGRAPHIC TOWNSHIP OF DUMMER,
COUNTY OF PETERBOROUGH

DRAWING NAME:
EXISTING CONDITIONS
PLAN

CLIENT:
TOWNSHIP OF DOURO-DUMMER
894 SOUTH STREET, P.O. BOX 92
WARSAW, ONTARIO
K0L 3A0

PROJECT No.	DWG. No.	SHEET NUMBER	REVISION
161-16604-00	C-1	1 OF 1	B

APPENDIX

B TEST PIT PHOTOGRAPHS



Photograph 1: TP1



Photograph 2: TP1



Photograph 3: TP1



Photograph 4: TP1



Photograph 5: TP2



Photograph 6: TP2



Photograph 7: TP3



Photograph 8: TP3



Photograph 9: TP4



Photograph 10: TP4



Photograph 11: TP4



Photograph 12: TP4



Photograph 13: TP4



Photograph 14: TP5



Photograph 15: TP5



Photograph 16: TP6



Photograph 17: TP6



Photograph 18: TP6



Photograph 19: TP6



Photograph 20: TP7



Photograph 21: TP7



Photograph 22: TP7



Photograph 23: TP8



Photograph 24: TP8



Photograph 25: TP8



Photograph 26: TP9



Photograph 27: TP9



Photograph 28: TP9



Photograph 29: TP9



Photograph 30: TP9



Photograph 31: TP10



Photograph 32: TP10



Photograph 33: TP10



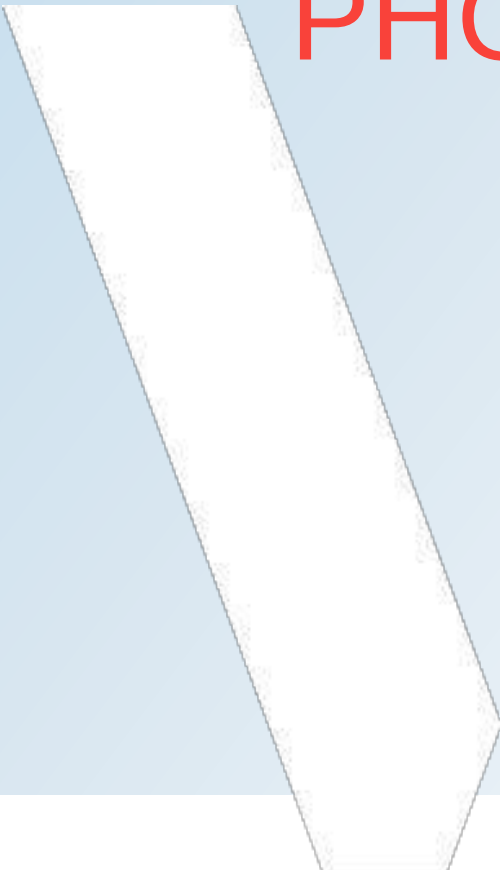
Photograph 34: TP10



Photograph 35: TP10

APPENDIX

C TEST PIT SAMPLE PHOTOS





Photograph 1: TP19-01



Photograph 2: TP19-02



Photograph 3: TP19-03



Photograph 4: TP19-04



Photograph 5: TP19-05



Photograph 6: TP19-06



Photograph 7: TP19-07



Photograph 8: TP19-08



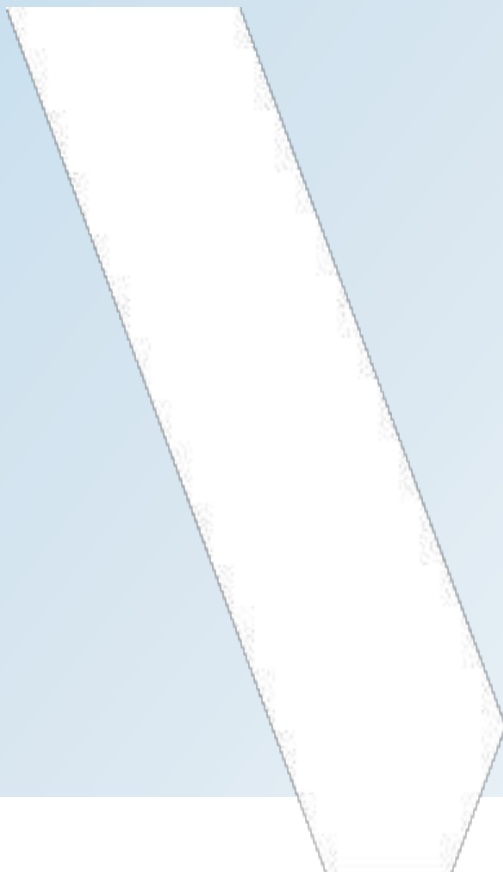
Photograph 9: TP19-09



Photograph 10: TP19-10

APPENDIX

D TEST PIT LOGS





TEST PIT NO. 19-01

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 237.6 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
									SHEAR STRENGTH						W _p W _L
0.0															
0.3	TOPSOIL													Soil stratigraphy of test pit observed from face of existing excavation.	
	SAND: Light brown coarse SAND, trace gravel, moist			GS1											
1.0															
2.0															
3.0	SAND AND GRAVEL: Light brown SAND AND GRAVEL, moist														
4.0	SAND AND COBBLES: Light brown coarse SAND AND COBBLES, some gravel, boulders (1-2 m in diameter), some silt, moist														
5.0															
6.0															
7.0															
8.0															
9.0	COBBLES AND BOULDERS: COBBLES AND BOULDERS, some sand and gravel, some silt, moist														
10.0															
10.5	Test pit terminated upon refusal at 10.5 m below ground surface in COBBLES AND BOULDERS			GS3										Test pit open and dry upon completion.	
11.0															
12.0															



TEST PIT NO. 19-02

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 239.9 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
0.0															
0.3	TOPSOIL														
1.0	SAND AND GRAVEL: Brown SAND AND GRAVEL, trace rootlets, trace organics, moist			GS1											
2.0	COBBLES AND BOULDERS: COBBLES AND BOULDERS, some sand and gravel, some silt, moist														
3.0															
4.0															
5.0															
6.0	SAND AND GRAVEL: Light brown SAND AND GRAVEL, some cobbles, some silt, moist			GS2											
6.0	Test pit terminated at 6 m below ground surface in SAND AND GRAVEL.			GS3											
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															
														Test pit open and dry upon completion.	



TEST PIT NO. 19-03

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 239.3 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
0.0															
0.3	TOPSOIL														
1.0	COBBLES AND BOULDERS: Brown COBBLES AND BOULDERS, some sand, some gravel, some silt, moist														
2.0															
3.0															
4.0															
5.0	Test pit terminated at 5 m below ground surface in COBBLES AND BOULDERS.													Test pit open and dry upon completion.	
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															



TEST PIT NO. 19-04

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 240.0 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
0.0															
0.3	<u>TOPSOIL</u>														
	<u>SAND AND GRAVEL:</u> Light brown SAND AND GRAVEL, trace cobbles, trace silt, moist														
1.0															
															
2.0															
															
3.0															
															
4.0															
4.0	<u>SAND AND COBBLES:</u> Light brown SAND AND COBBLES, some gravel to gravelly, occasional boulders, some silt, moist														
5.0															
5.0	Test pit terminated at 5 m below ground surface in SAND AND COBBLES.													Test pit open and dry upon completion.	
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															



TEST PIT NO. 19-05

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 237.5 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE			10 20 30			
									5	10	15	10	20		30
															SHEAR STRENGTH
0.0															
0.3	TOPSOIL														
1.0	SAND AND GRAVEL: Light brown SAND AND GRAVEL, some cobbles, occasional boulders, trace silt, moist			GS1											
2.0	SAND AND COBBLES: Light brown SAND AND COBBLES, some gravel, some boulders, some silt, moist			GS2											
3.0															
4.0															
5.0	Test pit terminated at 5 m below ground surface in SAND AND COBBLES.													Test pit open and dry upon completion.	
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															



TEST PIT NO. 19-06

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 242.5 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION			WATER CONTENT %			REMARKS
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20	30	
0.0															
0.3	TOPSOIL														
	SAND AND GRAVEL: Light brown SAND AND GRAVEL, some cobbles, trace silt, occasional boulders, moist			GS1											
1.0															
1.5	SAND AND COBBLES: Light brown SAND AND COBBLES, some gravel, some silt, moist														
2.0															
3.0															
4.0															
5.0	Test pit terminated at 5 m below ground surface in SAND AND COBBLES.			GS2										Test pit open and dry upon completion.	
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															



TEST PIT NO. 19-07

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Dec 05, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 246.6 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
0.0															
0.3	<u>TOPSOIL</u>			GS1											
	<u>SAND:</u> Brown SAND, some gravel, some silt, with cobbles and boulders, moist														
1.0															
2.0	- Larger more frequent boulders from 2 m to 2.5 m below ground surface														
2.5	<u>SAND AND GRAVEL:</u> Brown coarse SAND AND GRAVEL, some cobbles, trace silt, moist														
3.0															
4.0															
5.0	Test pit terminated at 5 m below ground surface in SAND AND GRAVEL.														
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0													Test pit open and dry upon completion.		



TEST PIT NO. 19-08

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Dec 05, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 246.6 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
									SHEAR STRENGTH						W _p W _L
0.0															
0.3	<u>TOPSOIL</u>														
	<u>SAND:</u> Brown coarse to medium SAND, some gravel, trace silt, moist			GS1											
1.0															
1.2	<u>SAND AND GRAVEL:</u> Brown SAND AND GRAVEL, some cobbles, trace silt, moist			GS2											
2.0															
3.0															
3.5	<u>COBBLES AND BOULDERS:</u> Brown frequent large COBBLES AND BOULDERS, and sand and gravel, moist														
4.0															
5.0	Test pit terminated at 5 m below ground surface in COBBLES AND BOULDERS													Test pit open and dry upon completion.	
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															



TEST PIT NO. 19-09

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Dec 05, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 246.2 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE						
									5	10	15	10	20		30
									SHEAR STRENGTH						W _p W _L
0.0															
0.3	TOPSOIL			GS1											
	SAND AND GRAVEL: Brown SAND AND GRAVEL, some cobbles and boulders, some silt, moist														
1.0															
1.5	SAND AND GRAVEL: Brown SAND AND GRAVEL, some cobbles, trace silt, moist														
2.0															
3.0															
3.5	BOULDERS: Brown frequent large BOULDERS, with sand and gravel and cobbles, trace silt, moist														
4.0															
5.0	Test pit terminated at 5 m below ground surface in BOULDERS														
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															



TEST PIT NO. 19-10

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Dec 05, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 246.7 m

REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				TYPE	DPT VALUE	% WATER	% RECOVERY	EAGLE 2 (PPM)	"DPT" VALUE			10 20 30			
									5	10	15				
												SHEAR STRENGTH			
0.0															
0.3	TOPSOIL														
1.0	SAND AND GRAVEL: Brown SAND AND GRAVEL, some cobbles, trace silt, moist			GS1											
1.2	COBBLES AND BOULDERS: Brown COBBLES AND BOULDERS, with sand and gravel, trace silt, moist														
2.0				GS2											
3.0	- Boulders below 2.5 m decrease in quantity														
4.0															
5.0	Test pit terminated at 5 m below ground surface in COBBLES AND BOULDERS													Test pit open and dry upon completion.	
6.0															
7.0															
8.0															
9.0															
10.0															
11.0															
12.0															

APPENDIX

E TEST PIT LAB RESULTS

APPENDIX

E-1 MICRO DEVAL ABRASION TEST (COARSE AND FINE)



Micro Deval Abrasion Test Method LS-618 - Coarse

Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	January 8, 2020
Sampled By:	MSN	Material Type:	Sand and Gravel
Date Sampled:	December 5, 2019	Source:	Quarry

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
TP19-01	TP19-01	1248.9	982.1	266.8	21.4
TP19-02	TP19-02	1499.26	1138.24	361.0	24.1
TP19-03	TP19-03	1500.6	1133.34	367.3	24.5
TP19-04	TP19-04	1493.2	1192.27	300.9	20.2
TP19-05	TP19-05	1501.9	1145.88	356.0	23.7
TP19-06	TP19-06	1500.7	1124.77	375.9	25.1
TP19-07	TP19-07	1499.1	1159.61	339.5	22.6
TP19-08	TP19-08	1438.6	1142.71	295.9	20.6
TP19-09	TP19-09	0	0	N/A	N/A
TP19-10	TP19-10	1497	1134.3	362.7	24.2

Notes: Sample soaked in 2000 ml of tap water for 1 hour			
Aver. Charge Weight (g): 5000.5		TP19-01, TP19-08 & TP19-10 not completed to LS-618. Insufficient amount of sample provided for test. Results may not be accurate	
Reference Sample Control Range:	11.4% - 14.8%	TP19-09 did not contain a representative amount of coarse material to complete.	
Reference Sample Percent Loss:	14.3		
Reference Sample Average Percent Loss:	13.8		
Tested by: WGH/NLO		Date:	January 8, 2020
Verified by: KLC		Date:	January 8, 2020



Micro Deval Abrasion Test Method LS-619 - Fine

Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	January 8, 2020
Sampled By:	MSN	Material Type:	Sand and Gravel
Date Sampled:	December 5, 2019	Source:	Quarry

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
TP19-01	TP19-01	501.4	450.8	50.7	10.1
TP19-02	TP19-02	501.0	423.3	77.7	15.5
TP19-03	TP19-03	504.0	428.8	75.2	14.9
TP19-04	TP19-04	500.3	445.3	55.0	11.0
TP19-05	TP19-05	499.6	406.6	93.0	18.6
TP19-06	TP19-06	503.0	425.2	77.8	15.5
TP19-07	TP19-07	500.9	431.5	69.4	13.9
TP19-08	TP19-08	503.3	444.8	58.6	11.6
TP19-09	TP19-09	503.2	457.7	45.5	9.0
TP19-10	TP19-10	501.1	423.9	77.2	15.4

Notes: Sample soaked in 750 ml of tap water for 24 hours

Aver. Charge Weight (g): 1250.41

Reference Sample Control Range: 15.2 - 18.4%

Reference Sample Percent Loss: 17.2

Reference Sample Average Percent Loss: 17.55

Tested by: WGH/NLO

Date: January 8, 2020

Verified by: KLC

Date: January 8, 2020

E-2 *RELATIVE DENSITY
AND ABSORPTION
(COARSE AND FINE)*



Relative Density and Absorption - Fine Aggregate LS605 / ASTM C128

Project Name:	Douro Dummer Aggregate Investigation	Client:	Douro Dummer Township
Project No:	161-16604-00	Date Tested:	1/8/2020
Sampled By:	MSN	Material Type:	Sand and Gravel
Date Sampled:	December 5, 2020	Source:	Quarry

Sample No.	Temp. (°C) T	Pycnometer No.	Pycnometer Mass (g)	Mass of SSD Sand in Air (g) S	Mass of Sand/Pycnometer/Water (g) C	Mass of Pycnometer to Cal Point (g) (@ T) B	Mass of Dry Sand in Air A	Relative Density (Oven Dry)	Relative Density (SSD)	Apparent Relative Density	Absorption (%)
TP19-01	21.60	O	166.03	502.49	977.20	664.08	496.3	2.621	2.653	2.709	1.25
TP19-01	21.60	Z	167.37	501.12	978.07	665.49	494.8	2.624	2.658	2.715	1.28
Average								2.623	2.656	2.712	1.26
TP19-02	22.60	P	174.13	502.30	982.25	672.06	490.5	2.553	2.615	2.720	2.40
TP19-02	22.90	O	166.03	502.57	974.18	663.91	491.2	2.554	2.613	2.715	2.31
Average								2.554	2.614	2.717	2.36
TP19-03	21.30	P	174.10	501.18	981.96	672.17	492.7	2.574	2.619	2.693	1.71
TP19-03	21.50	Z	167.17	502.87	975.99	665.49	494.6	2.571	2.614	2.687	1.68
Average								2.573	2.616	2.690	1.70
TP19-04	23.20	O	166.03	501.60	972.55	663.91	490.2	2.541	2.599	2.700	2.32
TP19-04	23.40	P	174.14	501.40	980.90	671.94	490.6	2.549	2.605	2.701	2.21
Average								2.545	2.602	2.700	2.26
TP19-05	22.50	Y	169.53	501.12	976.27	667.51	490.3	2.549	2.605	2.701	2.21
TP19-05	22.70	O	166.01	502.42	974.08	663.91	492.0	2.559	2.613	2.706	2.12
Average								2.554	2.609	2.703	2.16

Reference Sample Control Mean	
Reference Sample Average Percent Absorption:	1.92
Reference Sample Average Relative Density:	2.597

Control Range
Absorption
Range 1.58 - 2.12%
Mean Relative Density (Oven Dry)
Range 2.593 - 2.629

Operator: NLO Date: January 8, 2020

Verified by:  Date: January 8, 2020



Relative Density and Absorption - Fine Aggregate LS605 / ASTM C128

Project Name:	Douro Dummer Aggregate Investigation	Client:	Douro Dummer Township
Project No:	161-16604-00	Date Tested:	1/8/2020
Sampled By:	MSN	Material Type:	Sand and Gravel
Date Sampled:	December 5, 2020	Source:	Quarry

Sample No.	Temp. (°C) T	Pycnometer No.	Pycnometer Mass (g)	Mass of SSD Sand in Air (g) S	Mass of Sand/Pycnometer/Water (g) C	Mass of Pycnometer to Cal Point (g) (@ T) B	Mass of Dry Sand in Air A	Relative Density (Oven Dry)	Relative Density (SSD)	Apparent Relative Density	Absorption (%)
TP19-06	23.20	Z	167.18	503.00	976.80	665.33	491.6	2.567	2.626	2.729	2.32
TP19-06	22.60	Y	169.49	502.70	979.08	667.51	492.0	2.574	2.630	2.727	2.17
Average								2.570	2.628	2.728	2.25
TP19-07	23.10	Z	167.18	500.15	974.63	665.33	487.9	2.557	2.621	2.731	2.50
TP19-07	23.10	Y	169.49	502.39	977.78	667.46	490.0	2.551	2.616	2.727	2.53
Average								2.554	2.618	2.729	2.52
TP19-08	23.80	Y	169.49	500.57	975.82	667.33	491.6	2.559	2.606	2.685	1.82
TP19-08	23.00	Z	167.18	502.83	975.70	665.33	493.8	2.566	2.613	2.692	1.83
Average								2.563	2.609	2.688	1.83
TP19-09	22.70	Z	167.18	502.72	977.53	665.33	496.3	2.605	2.639	2.696	1.29
TP19-09	22.80	O	166.02	501.54	975.55	663.91	495.5	2.609	2.641	2.695	1.21
Average								2.607	2.640	2.695	1.25
TP19-10	23.50	P	174.10	501.63	982.51	671.94	493.3	2.582	2.625	2.700	1.70
TP19-10	23.30	Y	169.51	502.43	978.53	667.40	494.4	2.584	2.626	2.698	1.63
Average								2.583	2.626	2.699	1.66

Reference Sample Control Mean	
Reference Sample Average Percent Absorption:	1.92
Reference Sample Average Relative Density:	2.597

Control Range
Absorption
Range 1.58 - 2.12%
Mean Relative Density (Oven Dry)
Range 2.593 - 2.629

Operator: NLO Date: January 8, 2020

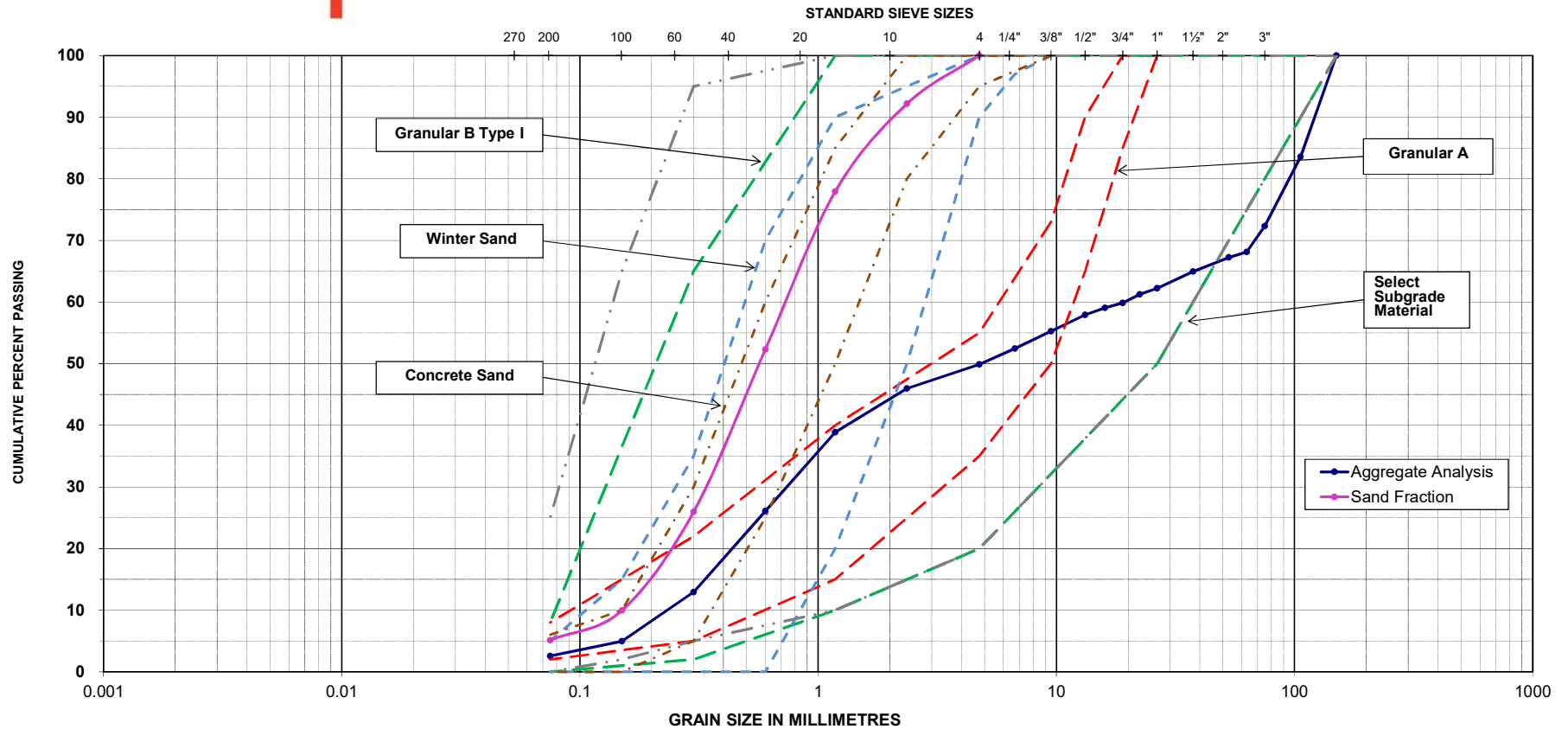
Verified by:  Date: January 8, 2020

APPENDIX

E-3 *PARTICLE SIZE DISTRIBUTION PLOTS*



PARTICLE SIZE DISTRIBUTION



MIT Scale

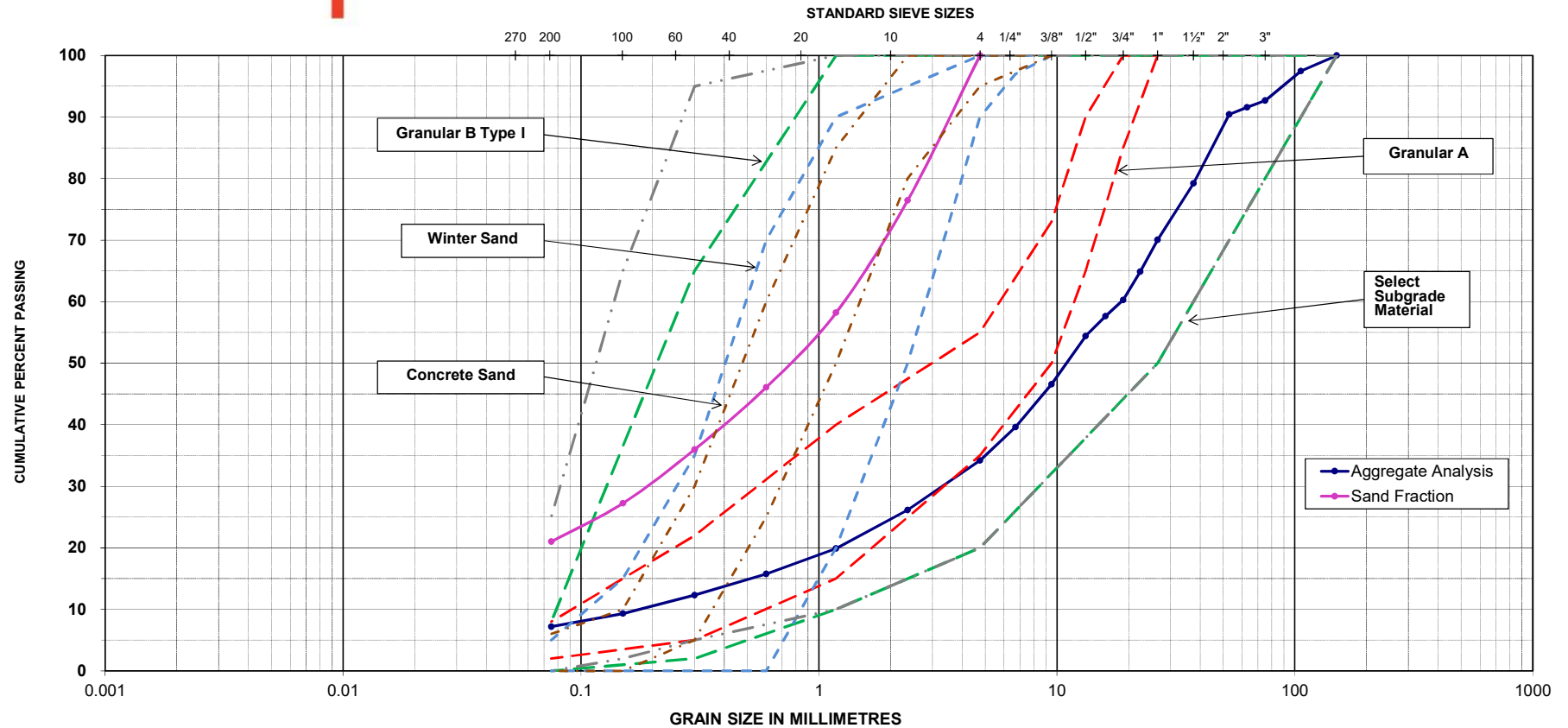
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-01	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	59.8	From Gradation Graph (mm):			
106 mm	83.6	16.0 mm	59.1	D75	81.0	D8	0.2
75 mm	72.3	13.2 mm	57.9	D60	19.0	D10	0.2
63 mm	68.1	9.5 mm	55.2	Cu	79.17		
53 mm	67.3	4.75 mm	49.9	% Wash	4.3		
37.5 mm	64.9	1.18 mm	38.9				
26.5 mm	62.2	0.30 mm	12.9				
22.4 mm	61.2	0.075 mm	2.6				



PARTICLE SIZE DISTRIBUTION



MIT Scale

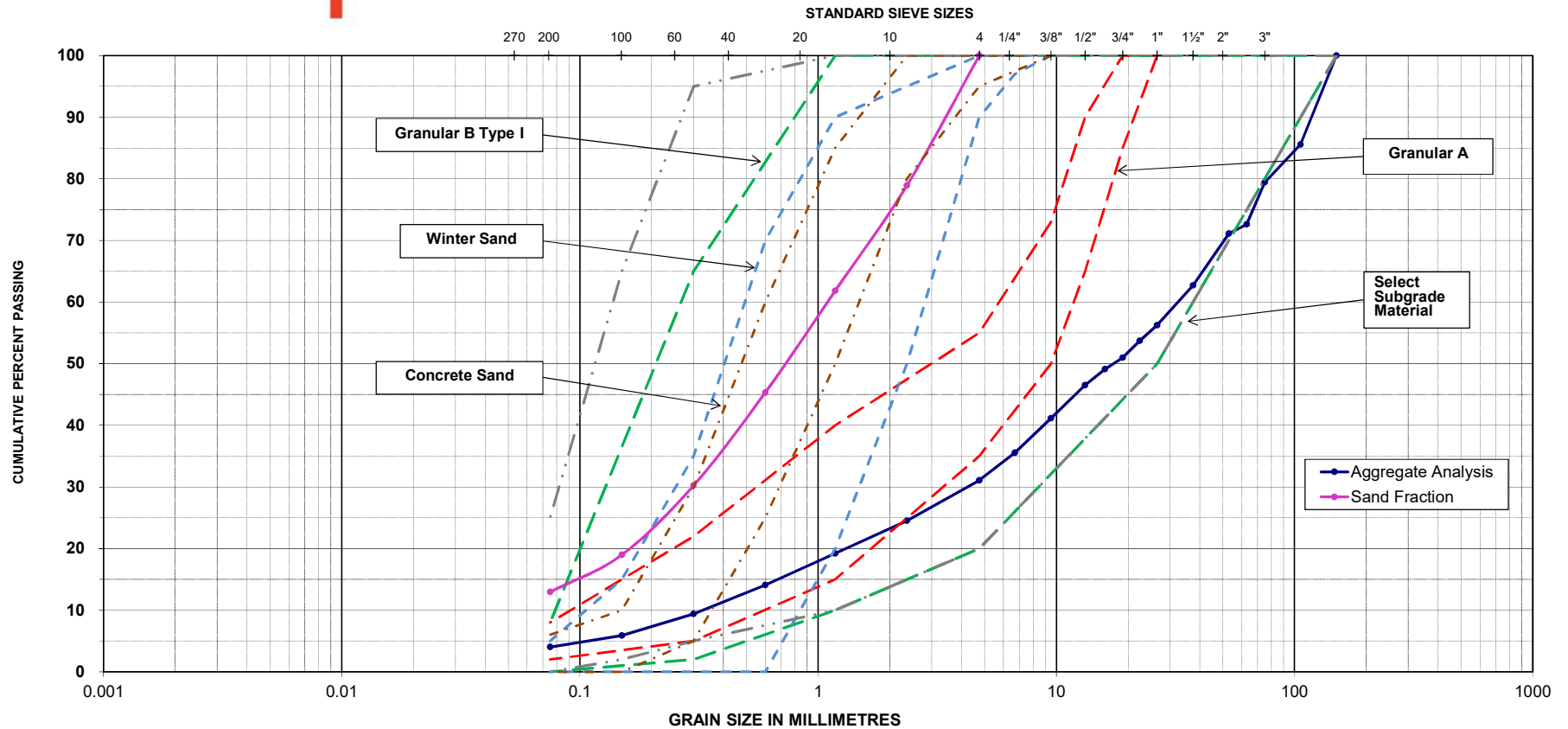
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregates Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-02	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	60.3	From Gradation Graph (mm):			
106 mm	97.5	16.0 mm	57.6	D75	32.0	D8	0.2
75 mm	92.7	13.2 mm	54.4	D60	19.0	D10	0.2
63 mm	91.6	9.5 mm	46.6	Cu	105.56		
53 mm	90.4	4.75 mm	34.2	% Wash	17.5		
37.5 mm	79.2	1.18 mm	19.9				
26.5 mm	70.0	0.30 mm	12.3				
22.4 mm	64.9	0.075 mm	7.2				



PARTICLE SIZE DISTRIBUTION



MIT Scale

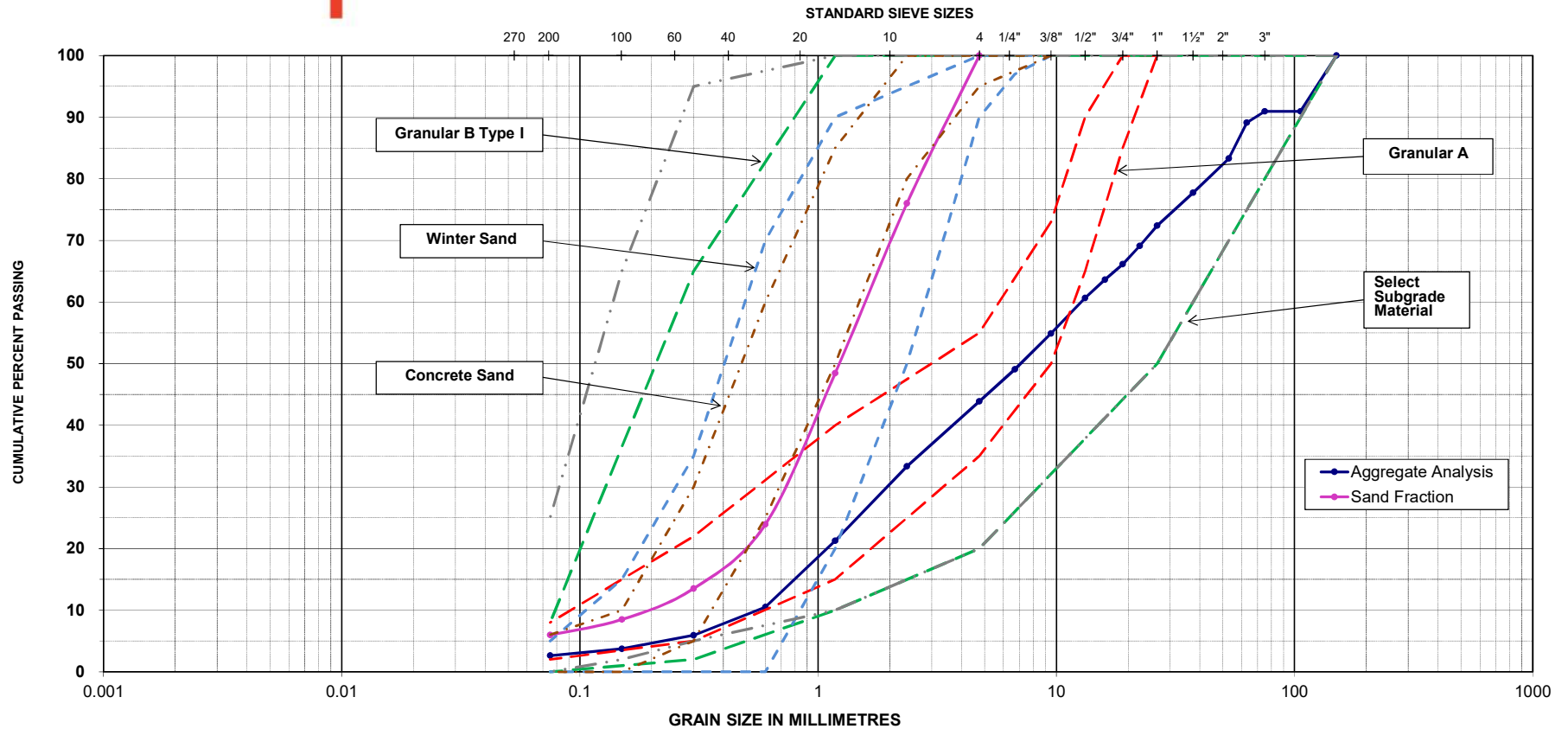
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-03	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	51.0	From Gradation Graph (mm):			
106 mm	85.6	16.0 mm	49.1	D75	66.0	D8	0.2
75 mm	79.5	13.2 mm	46.5	D60	33.0	D10	0.2
63 mm	72.6	9.5 mm	41.2	Cu	137.50		
53 mm	71.1	4.75 mm	31.1	% Wash	10.4		
37.5 mm	62.7	1.18 mm	19.2				
26.5 mm	56.2	0.30 mm	9.4				
22.4 mm	53.7	0.075 mm	4.0				



PARTICLE SIZE DISTRIBUTION



MIT Scale

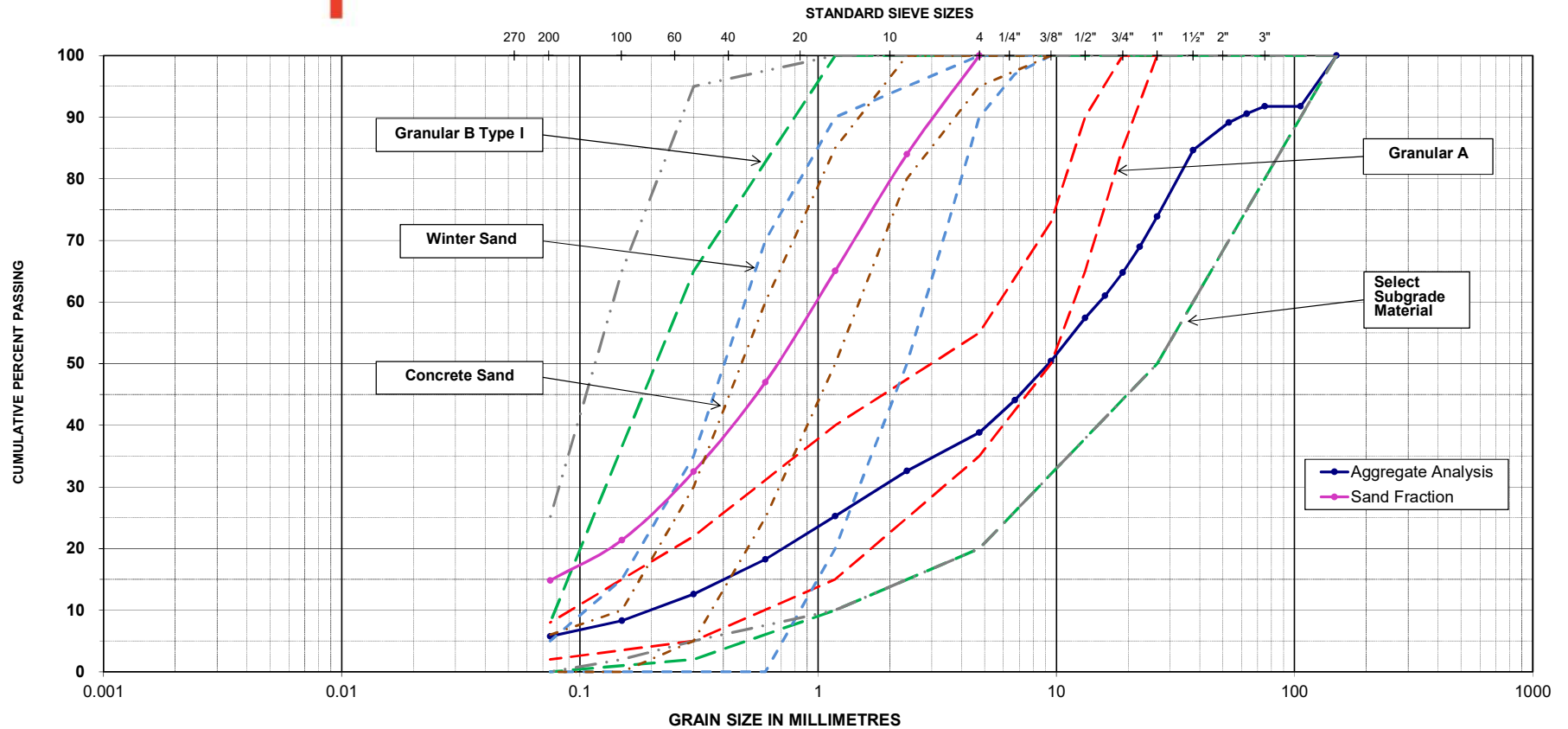
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregates Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-04	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	66.2	From Gradation Graph (mm):			
106 mm	90.9	16.0 mm	63.6	D75	30.0	D8	0.5
75 mm	90.9	13.2 mm	60.7	D60	14.0	D10	0.6
63 mm	89.1	9.5 mm	54.9	Cu	23.33		
53 mm	83.3	4.75 mm	43.9	% Wash	5.1		
37.5 mm	77.7	1.18 mm	21.3				
26.5 mm	72.4	0.30 mm	5.9				
22.4 mm	69.1	0.075 mm	2.6				



PARTICLE SIZE DISTRIBUTION



MIT Scale

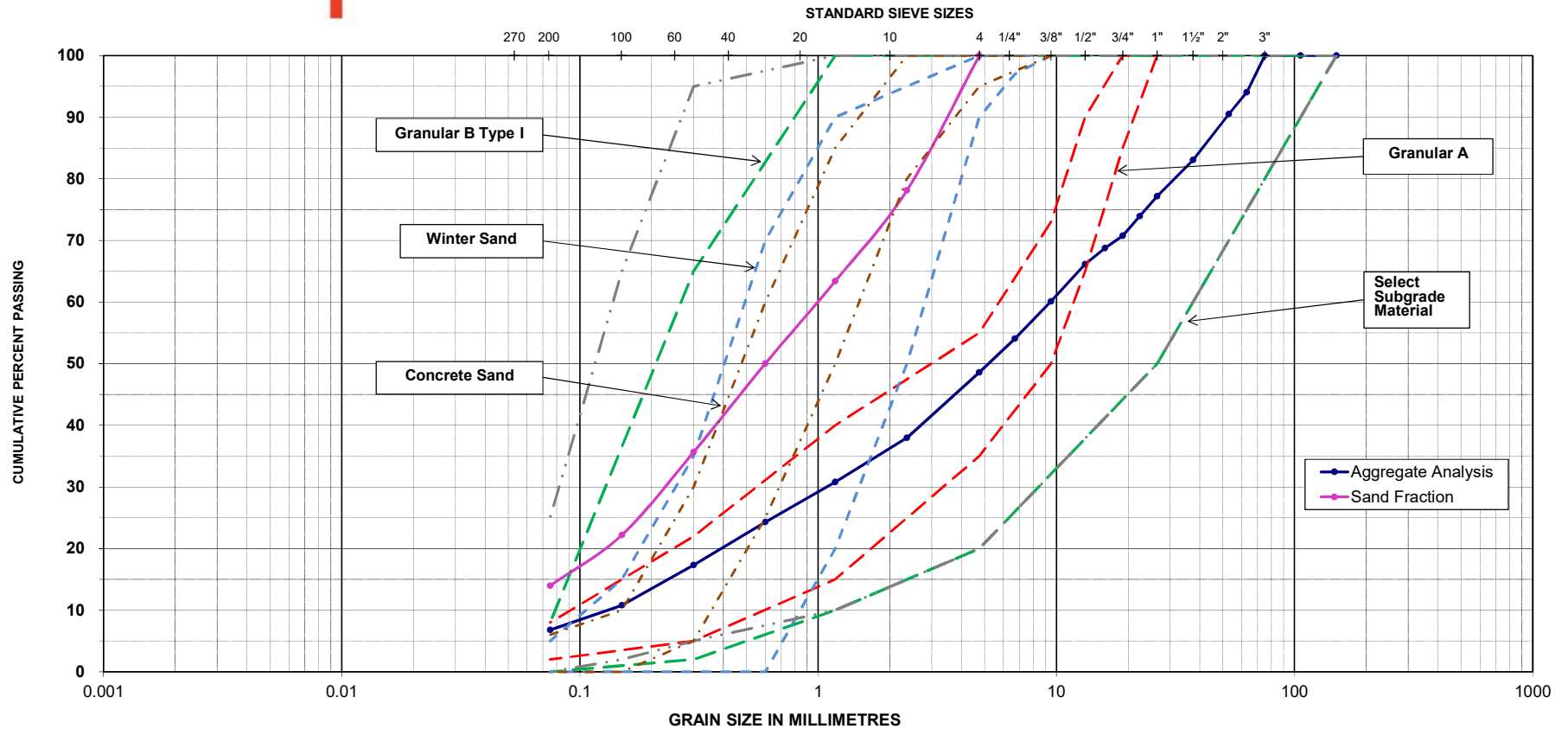
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-05	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	64.8	From Gradation Graph (mm):			
106 mm	91.8	16.0 mm	61.0	D75	27.0	D8	0.2
75 mm	91.8	13.2 mm	57.4	D60	16.0	D10	0.2
63 mm	90.5	9.5 mm	50.4	Cu	80.00		
53 mm	89.1	4.75 mm	38.8	% Wash	11.7		
37.5 mm	84.6	1.18 mm	25.3				
26.5 mm	73.9	0.30 mm	12.6				
22.4 mm	69.0	0.075 mm	5.8				



PARTICLE SIZE DISTRIBUTION



MIT Scale

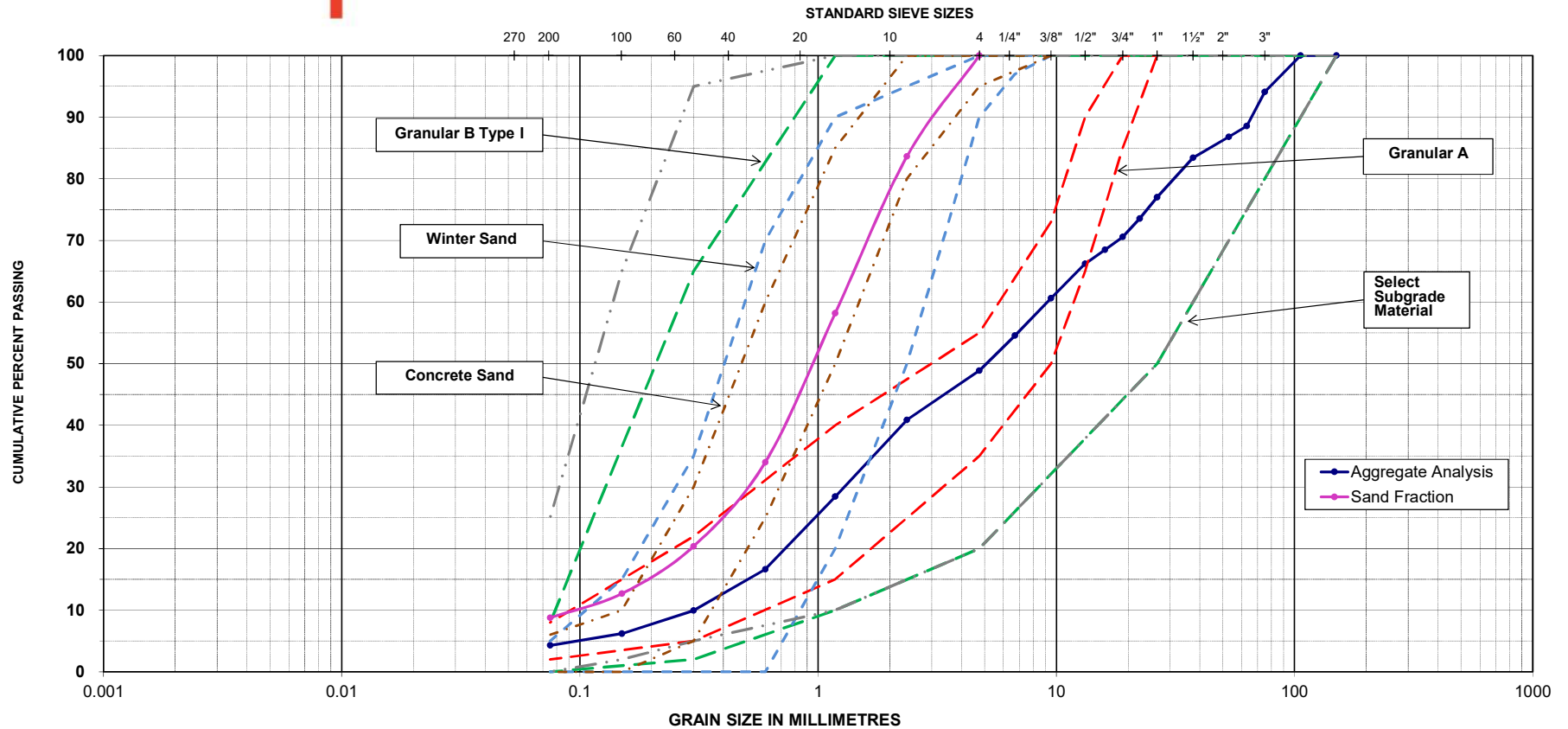
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-06	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	70.8	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	68.8	D75	24.0	D8	0.1
75 mm	100.0	13.2 mm	66.2	D60	9.5	D10	0.1
63 mm	94.0	9.5 mm	60.1	Cu	67.86		
53 mm	90.5	4.75 mm	48.6	% Wash	10.7		
37.5 mm	83.1	1.18 mm	30.8				
26.5 mm	77.2	0.30 mm	17.3				
22.4 mm	73.9	0.075 mm	6.8				



PARTICLE SIZE DISTRIBUTION



MIT Scale

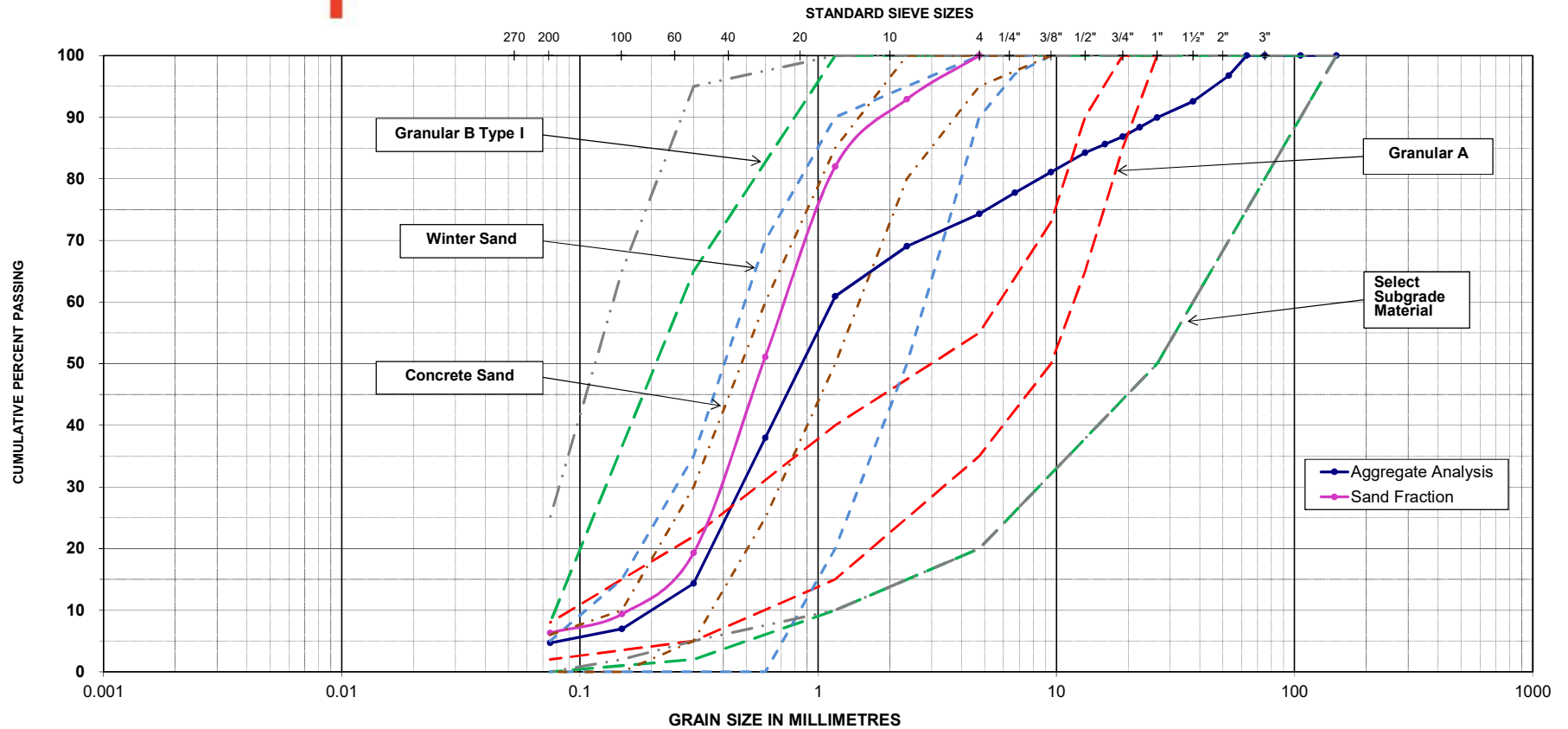
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-07	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	70.6	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	68.5	D75	25.0	D8	0.3
75 mm	94.1	13.2 mm	66.2	D60	9.2	D10	0.3
63 mm	88.6	9.5 mm	60.6	Cu	30.67		
53 mm	86.8	4.75 mm	48.9	% Wash	7.0		
37.5 mm	83.4	1.18 mm	28.4				
26.5 mm	77.0	0.30 mm	10.0				
22.4 mm	73.5	0.075 mm	4.3				



PARTICLE SIZE DISTRIBUTION



MIT Scale

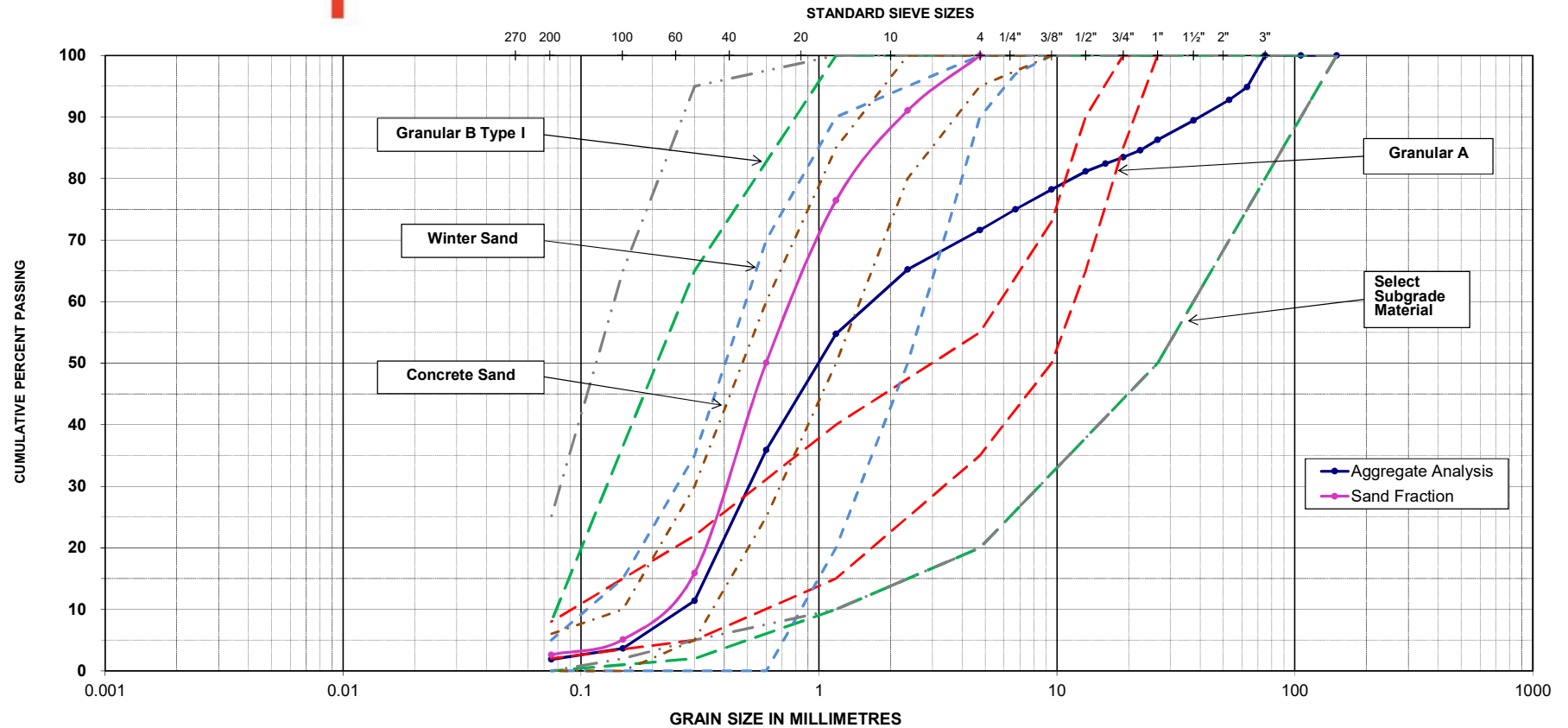
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-08	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	86.8	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	85.6	D75	4.0	D8	0.2
75 mm	100.0	13.2 mm	84.2	D60	1.3	D10	0.2
63 mm	100.0	9.5 mm	81.1	Cu	6.50		
53 mm	96.7	4.75 mm	74.3	% Wash	4.8		
37.5 mm	92.6	1.18 mm	60.9				
26.5 mm	89.9	0.30 mm	14.3				
22.4 mm	88.4	0.075 mm	4.7				



PARTICLE SIZE DISTRIBUTION



MIT Scale

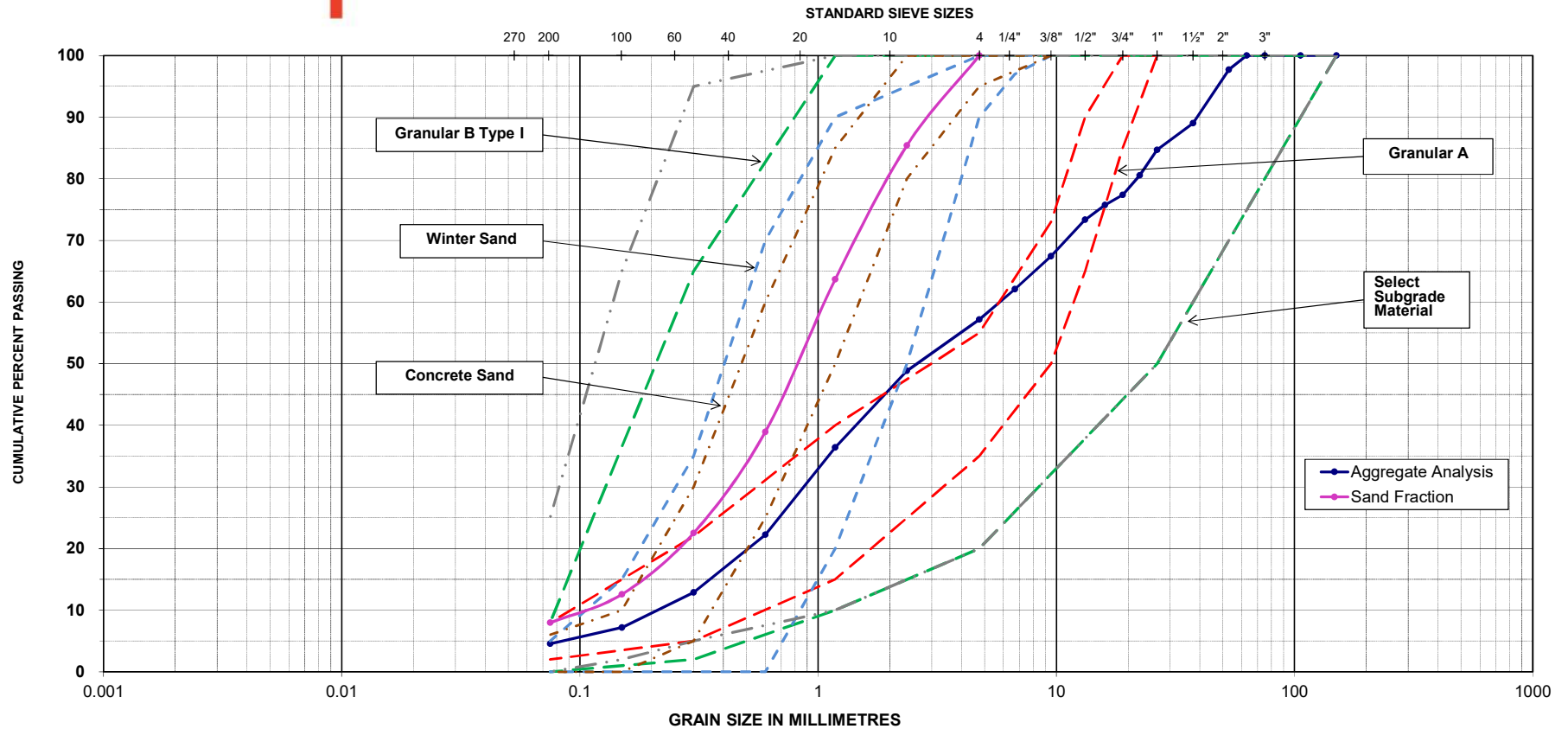
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-09	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	83.5	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	82.4	D75	7.0	D8	0.3
75 mm	100.0	13.2 mm	81.2	D60	1.7	D10	0.3
63 mm	94.9	9.5 mm	78.2	Cu	6.54		
53 mm	92.8	4.75 mm	71.6	% Wash	2.2		
37.5 mm	89.4	1.18 mm	54.8				
26.5 mm	86.3	0.30 mm	11.4				
22.4 mm	84.6	0.075 mm	1.9				



PARTICLE SIZE DISTRIBUTION



MIT Scale

CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	12/05/2019
Material Source.:	Quarry	Location:	TP19-10	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	77.4	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	75.7	D75	15.0	D8	0.2
75 mm	100.0	13.2 mm	73.4	D60	6.0	D10	2.2
63 mm	100.0	9.5 mm	67.4	Cu	2.73		
53 mm	97.7	4.75 mm	57.2	% Wash	6.4		
37.5 mm	89.0	1.18 mm	36.4				
26.5 mm	84.7	0.30 mm	12.9				
22.4 mm	80.6	0.075 mm	4.6				

APPENDIX

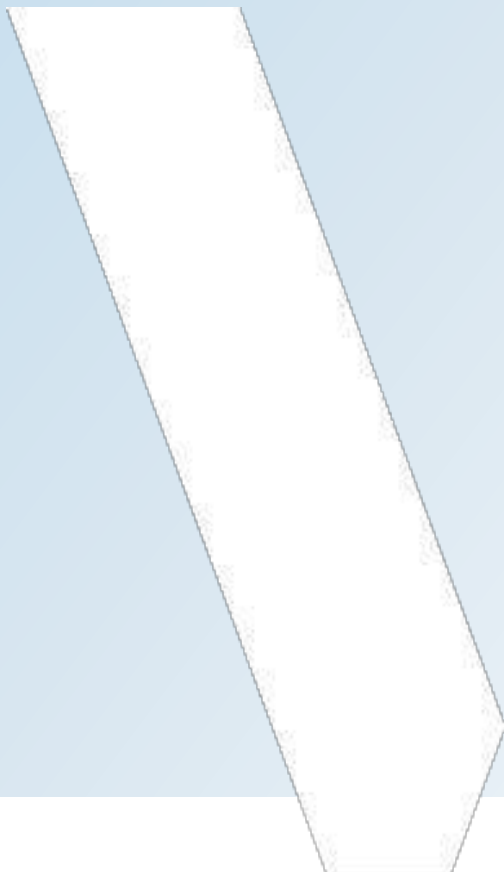
F DRILLING PHOTOS



Photograph 1: BH20-1

APPENDIX

G CORE PHOTOS





Photograph 1: BH20-01



Photograph 2: BH20-01



Photograph 3: BH20-01



Photograph 4: BH20-01



Photograph 5: BH20-01



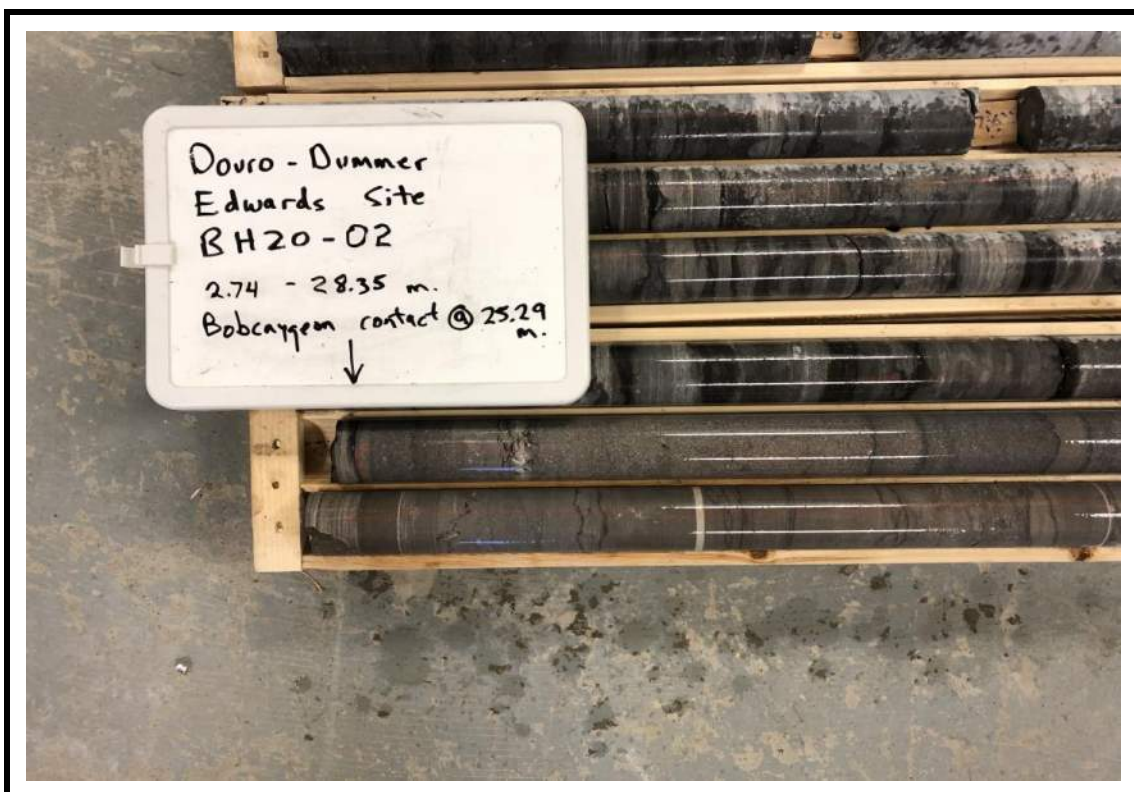
Photograph 6: BH20-02



Photograph 7: BH20-02



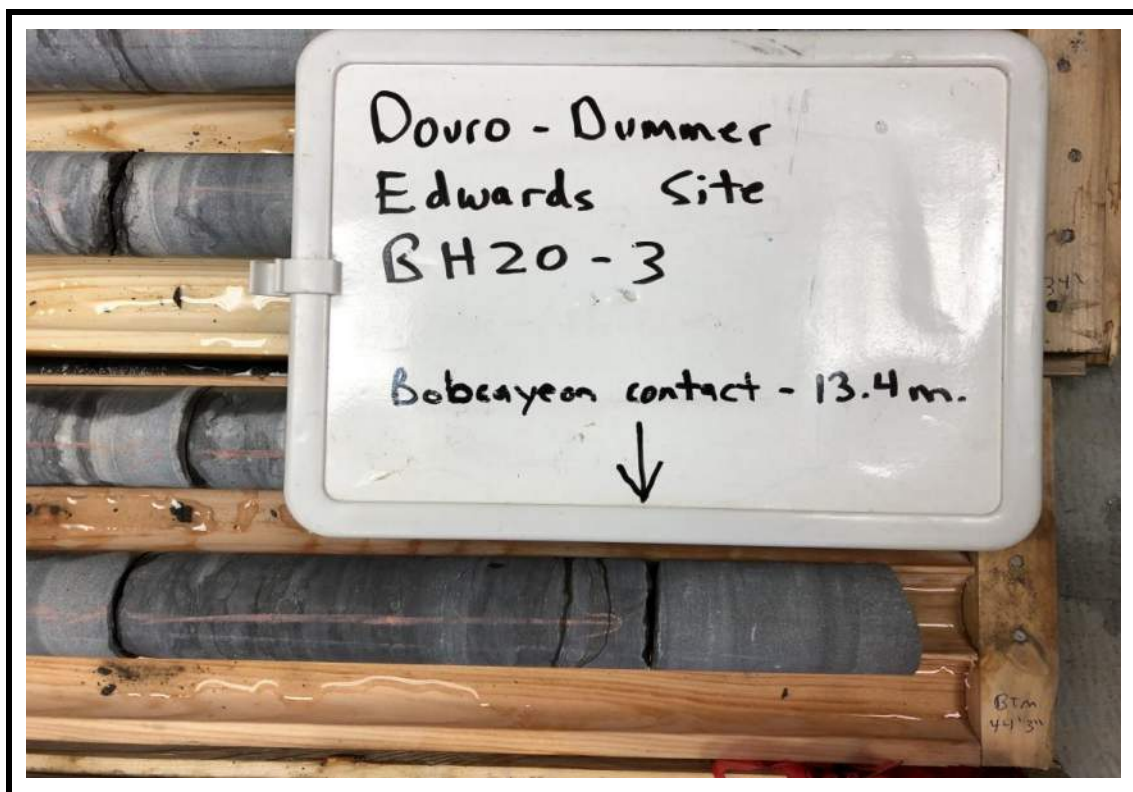
Photograph 8: BH20-02



Photograph 9: BH20-02



Photograph 10: BH20-02



Photograph 11: BH20-03



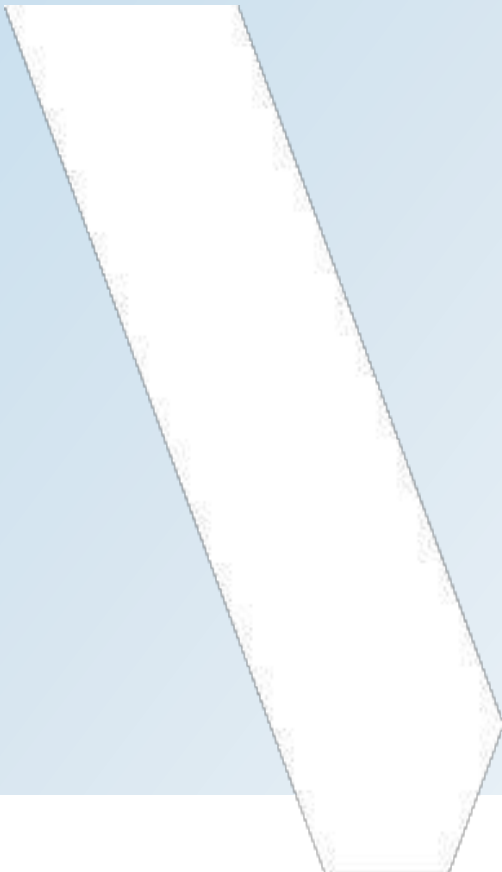
Photograph 12: BH20-03



Photograph 13: BH20-03

APPENDIX

H BOREHOLE LOGS





BOREHOLE NO. 20-01

PAGE 1 of 2

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Feb 12, 2020

BOREHOLE TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 262.0 m

REVIEWER: GB

DEPTH (m)	ELEV (masl)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS	
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE		SHEAR STRENGTH	10 20 30		
										10 20 30			10 20 30		
										20 40 60 80			W _P W _L		
0.0	262.0	OVERBURDEN													
1.0															
2.0															
2.3	259.7	WEATHERED LIMESTONE: Grey, intensely fractured, rough, planar joint shape (Verulam formation)													
3.0	259.1	LIMESTONE: Grey, medium to very fine grained, very broken to broken, moderatley to slightly fractured, slightly weathered, fresh below 4.2 m, rough to smooth, planar joint shape, (Verulam formation)			RC1			97	37						
4.0															
5.0					RC2			100	40						
6.0															
7.0					RC3			100	75						
8.0															
9.0					RC4			100	87						
10.0															
11.0					RC5			100	93						
12.0															
13.0					RC6			100	70						
14.0															
15.0					RC7			100	93						
16.0															
17.0					RC8			100	95						
18.0															
19.0					RC9			100	91						
20.0															
21.0					RC10			100	97						
22.0															
23.0					RC11			100	95						
24.0															
25.0															
26.0															
27.0															
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174.0															
175.0															
176.0															
177.0															
178.0															
179.0															
180.0															

Silty sand seam 130mm thick noted at 15.4 mbgs

Brachiopods present



BOREHOLE NO. 20-01

PAGE 2 of 2

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Feb 12, 2020

BOREHOLE TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 262.0 m

REVIEWER: GB

DEPTH (m)	ELEV (MASL)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION "N" VALUE 10 20 30 SHEAR STRENGTH 20 40 60 80 Intact (Max) Cu Remoulded Cu	WATER CONTENT % 10 20 30 W _p W _L	REMARKS
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)			
20.0					RC12			100	95			
21.0					RC13			100	93			
22.0					RC14			100	100			
23.0					RC15			100	94			
24.0					RC16			100	100			
25.0					RC17			100	93			
25.2	236.8	LIMESTONE: Light grey, coarse to fine grained, fresh, planar joint shape, rough to smooth (Bobcaygeon formation) - Stepped			RC18			100	92			
26.0					RC19			100	83			
27.0												
28.0												
29.0		- Darker seam										
30.0												
31.0		- Darker seam										
31.8	230.3	Borehole terminated at 31.8 m below ground surface in LIMESTONE BEDROCK.										
32.0												
33.0												
34.0												
35.0												
36.0												
37.0												
38.0												
39.0												
40.0												

WSP GEOLOGIC (METRIC) WITH MASL 161-16604-00 DRAFTBLOGS.GPJ WSP_ENV_V1.GDT 3/9/20

BOREHOLE NO. 20-02

PAGE 1 of 2

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Feb 14, 2020

BOREHOLE TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 258.0 m

REVIEWER: GB

DEPTH (m)	ELEV (masl)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS	
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE				
										10 20 30				
										SHEAR STRENGTH				
										20 40 60 80				
		Intact (MaX) Cu				W _P		W _L						
		Remoulded Cu												
0.0	258.0	OVERBURDEN												
1.0														
1.7	256.3	WEATHERED LIMESTONE:												
2.0														
2.7	255.3	LIMESTONE:												
3.0		Grey, medium to fine grained, very broken to slightly broken, weathered, fresh below 6.9 m, rough to smooth, plannar joint shape (Verulam formation)			RC1		100	0						
4.0					RC2		42	0						
5.0														
6.0					RC3		83	41						
7.0		- Stepped												
8.0					RC4		100	77						
9.0														
10.0					RC5		100	92						
11.0					RC6		100	100						
12.0					RC7		100	100						
13.0														
14.0					RC8		100	100						
15.0					RC9		90	90					Sandy silt seam 150mm thick noted at 15.1 mbgs	
16.0														
17.0					RC10		100	95						
18.0														
19.0					RC11		100	97						
20.0														
					RC12		100	95						



BOREHOLE NO. 20-02

PAGE 2 of 2

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Feb 14, 2020

BOREHOLE TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 258.0 m

REVIEWER: GB

DEPTH (m)	ELEV (MASL)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION "N" VALUE 10 20 30 SHEAR STRENGTH 20 40 60 80 Intact (Max) Cu Remoulded Cu	WATER CONTENT % 10 20 30 W _p W _L	REMARKS
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)			
20.0												
21.0					RC13			100	100			
22.0												
23.0					RC14			100	100			
24.0												
25.0					RC15			100	95			
25.2	232.8	LIMESTONE: Light grey, fine grained, planar joint shape, smooth (Bobcaygeon formation)										
26.0					RC16			100	100			
27.0												
28.0					RC17			100	100			
28.3	229.7	Borehole terminated at 28.3 m below ground surface in LIMESTONE BEDROCK.										
29.0												
30.0												
31.0												
32.0												
33.0												
34.0												
35.0												
36.0												
37.0												
38.0												
39.0												
40.0												

WSP GEOLOGIC (METRIC) WITH MASL 161-16604-00_DRAFTBLOGS.GPJ WSP_ENV_V1.GDT 3/9/20



BOREHOLE NO. 20-03

PAGE 1 of 1

PROJECT NAME: EDWARDS PIT

PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER

DATE COMPLETED: Feb 19, 2020

BOREHOLE TYPE: OPEN HOLE EXCAVATION

SUPERVISOR: MN

GROUND ELEVATION: 244.0 m

REVIEWER: GB

DEPTH (m)	ELEV (MASL)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION "N" VALUE SHEAR STRENGTH 20 40 60 80 Intact (Max) Cu Remoulded Cu	WATER CONTENT % 10 20 30 W _p W _L		REMARKS
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)				
0.0	244.0	OVERBURDEN											
1.0													
1.1	242.9	WEATHERED LIMESTONE:			RC1			100	0				
1.3	242.7	Grey, very broken, weathered, medium grained, rough			RC2			100	0				
2.0		LIMESTONE: Grey, medium to very fine grained, broken, weathered, smooth, planar joint shape (Verulam formation)			RC3			100	12				
3.0		- Thinly bedded											
4.0					RC4			100	23				
5.0					RC5			100	20				
6.0					RC6			100	92				
7.0					RC7			100	92				
8.0					RC8			100	95				
9.0					RC9			100	100				
10.0					RC10			100	95				
11.0					RC11			100	0				
12.0					RC12			100	82				
13.0					RC13			100	100				
14.0	230.1	LIMESTONE: Light grey, medium to fine grained, fresh, some vertical fractures, stepped, very thinly bedded, rough (Bobcaygeon formation)											
15.0		- Some dark laminations											
16.0													
16.8	227.2	Borehole terminated at 16.8 m below ground surface in LIMESTONE BEDROCK.											
17.0													
18.0													
19.0													
20.0													

Sandy silt seam 25mm thick noted at 4.3 mbgs



BOREHOLE NO. BH16-1

Page 1 of 1

PROJECT NAME: EDWARDS PIT GEOTECHNICAL STUDY

PROJECT NO.: 161-16604-00

CLIENT: DOURO-DUMMER TOWNSHIP

DATE COMPLETED: Dec 02, 2016

BOREHOLE TYPE: NQ CORE

SUPERVISOR: IAA

GROUND ELEVATION: 230.5 m (Inferred from plan)

REVIEWER: JSA

DEPTH (m)	ELEV (MASL)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE	SHEAR STRENGTH	10	20	
0.0	230.5									10 20 30	20 40 60 80	10	20	
1.0		LIMESTONE: Light grey to buff, fine grained to micritic, thin to medium bedded, medium hard, broken, slightly weathered, stylolitic, horizontal fracturing along beds / stylolitic margins (Bobcaygeon formation)			RC1			90	47					
2.0		- Micritic, thickly bedded			RC2			89	34					
3.0														
3.7	226.8	LIMESTONE: Light grey, fine to medium grained, thickly bedded to massive, medium hard, broken to blocky, fresh, stylolitic, sparry calcite crystals, horizontal fracturing along stylolitic margins (Bobcaygeon formation)			RC3			100	36					
4.0					RC4			98	80					
5.0														
6.0														
6.7	223.8	Borehole terminated at 6.7 m below ground surface in LIMESTONE BEDROCK.												Groundwater level at 4.12 m below ground surface on December 21 st , 2016
7.0														Strong methane odour, driller terminated borehole due to safety protocols
8.0														
9.0														
10.0														
11.0														
12.0														
13.0														
14.0														
15.0														

APPENDIX



CORE TEST LAB RESULTS

I-1 *MICRO DEVAL
ABRASION TESTS
(COARSE AND FINE)*



Micro Deval Abrasion Test Method LS-619 - Fine

Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	February 27, 2020
Sampled By:	MSN	Material Type:	Crushed Rock Core
Date Sampled:	February 18, 2020	Source:	Quarry

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
BH20-01	BH20-01	500.2	387.5	112.7	22.5
BH20-02	BH20-02	500.0	388.7	111.3	22.3
BH20-03	BH20-03	500.0	396.9	103.1	20.6

Notes: Sample soaked in 750 ml of tap water for 24 hours

Aver. Charge Weight (g): 1250.0

Reference Sample Control Range: 15.2 - 18.4%

Reference Sample Percent Loss: 17.2

Reference Sample Average Percent Loss: 17.55

Tested by: WGH/NLO

Date: February 27, 2020

Verified by: KLC

Date: February 27, 2020



Micro Deval Abrasion Test Method LS-619 - Fine

Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	December 10, 2019
Sampled By:	IAA	Material Type:	Crushed Core
Date Sampled:	December 2, 2016	Source:	N/A

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
BH16-1	0	502.1	420.8	81.3	16.2

Notes: Sample soaked in 750 ml of tap water for 24 hours

Charge Weight (g): 1250.3

Reference Sample Control Range: 15.2 - 18.4%

Reference Sample Percent Loss: 17.2

Reference Sample Average Percent Loss: 17.55

Tested by: NLO

Date: December 10, 2019

Verified by: RJ

Date: December 10, 2019



Micro Deval Abrasion Test Method LS-618 - Coarse

Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	February 27, 2020
Sampled By:	MSN	Material Type:	Crushed Rock Core
Date Sampled:	February 18, 2020	Source:	Quarry

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
BH20-01	BH20-01	1500.9	1261.4	239.5	16.0
BH20-02	BH20-02	1499.9	1268.35	231.6	15.4
BH20-03	BH20-03	1502.35	1295.68	206.7	13.8

Notes: Sample soaked in 2000 ml of tap water for 1 hour	
Aver. Charge Weight (g): 5001.7	
Reference Sample Control Range:	11.4% - 14.8%
Reference Sample Percent Loss:	14.3
Reference Sample Average Percent Loss:	13.8
Tested by:	WGH/NLO
Verified by:	KLC
Date:	February 27, 2020
Date:	February 27, 2020



Micro Deval Abrasion Test Method LS-618 - Coarse

Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	December 10, 2019
Sampled By:	IAA	Material Type:	Crushed Core
Date Sampled:	December 2, 2016	Source:	N/A

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
BH16-1	0	1501.6	1306.6	195.0	13.0

Notes:	Sample soaked in 2000 ml of tap water for 1 hour				
Charge Weight (g):	4999.9				
Reference Sample Control Range:	11.4% - 14.8%				
Reference Sample Percent Loss:	14.3				
Reference Sample Average Percent Loss:	13.8				
Tested by:	NLO	Date:	December 10, 2019		
Verified by:	RJ	Date:	December 10, 2019		

I-2 *RELATIVE DENSITY
AND ABSORPTION
(COARSE AND FINE)*



Relative Density and Absorption - Coarse Aggregate LS604

Project Name:	Douro-Dummer Aggregate Investigations	Material Type:	Sand and Gravel
Project No:	161-16604-00	Date Sampled:	February 18, 2020
Client:	Douro-Dummer Township	Sampled By:	MSN
Sample Location:	Boreholes	Date Tested:	February 27, 2020

Sample No.	Surface-Dry Sand Mass In Air (B)	Oven-Dry Sand Mass In Air (A)	Aggregate Mass in Water (C)	Bulk Relative Density (A/(B-C))	Bulk Relative Density SSD (B/(B-C))	Apparent Relative Density (A/(A-C))	Absorption ((B-A)/A)*100
BH20-01	3061.90	3038.60	1916.00	2.652	2.672	2.707	0.77
BH20-01	3056.90	3033.40	1912.00	2.649	2.670	2.705	0.77
Average				2.651	2.671	2.706	0.77
BH20-02	3043.10	3022.90	1906.10	2.659	2.676	2.707	0.67
BH20-02	3048.00	3026.70	1908.84	2.657	2.676	2.708	0.70
Average				2.658	2.676	2.707	0.69
BH20-03	3085.90	3069.00	1936.30	2.670	2.684	2.709	0.55
BH20-03	3085.90	3072.20	1938.90	2.678	2.690	2.711	0.45
Average				2.674	2.687	2.710	0.50

Sample Size Reference ASTM C-127/LS-602	
Nominal Sieve Size	Min. Mass (kgs)
63.0 mm	12.0
50.0 mm	8.0
37.5 mm	5.0
25.0 mm	4.0
19.0 mm	3.0
12.5 mm	2.0

Control Range
Absorption Range 0.55 - 0.81 %
Mean Relative Density (Oven Dry) Range 2.658 - 2.682

Tested by: WGH

Verified by: 

Date: 18-Feb-20

Date: 18-Feb-20



Relative Density and Absorption - Fine Aggregate LS605 / ASTM C128

Project Name:	Douro Dummer Aggregate Investigation	Client:	Douro Dummer Township
Project No:	161-16604-00	Date Tested:	February 27, 2020
Sampled By:	MSN	Material Type:	Crushed Rock Core
Date Sampled:	February 18, 2020	Source:	Quarry

Sample No.	Temp. (°C) T	Pycnometer No.	Pycnometer Mass (g)	Mass of SSD Sand in Air (g) S	Mass of Sand/Pycnometer/Water (g) C	Mass of Pycnometer to Cal Point (g) (@ T) B	Mass of Dry Sand in Air A	Relative Density (Oven Dry)	Relative Density (SSD)	Apparent Relative Density	Absorption (%)
BH20-01	22.30	Z	167.19	500.18	972.60	665.38	487.9	2.529	2.592	2.700	2.51
BH20-01	22.50	O	166.02	500.16	971.76	663.97	487.7	2.535	2.600	2.711	2.56
Average								2.532	2.596	2.706	2.54
BH20-02	21.90	O	166.02	500.08	970.71	664.03	487.3	2.520	2.586	2.698	2.62
BH20-02	22.30	Z	167.19	500.03	971.91	665.44	487.4	2.518	2.583	2.694	2.59
Average								2.519	2.585	2.696	2.61
BH20-03	21.50	O	166.02	501.23	971.45	664.08	488.0	2.517	2.585	2.701	2.70
BH20-03	21.90	Z	167.19	500.40	972.60	665.44	487.9	2.525	2.590	2.700	2.57
Average								2.521	2.587	2.701	2.64

Reference Sample Control Mean	
Reference Sample Average Percent Absorption:	1.92
Reference Sample Average Relative Density:	2.597

Operator: NLO Date: 27-Feb-20

Verified by:  Date: 27-Feb-20

Control Range
Absorption
Range 1.58 - 2.12%
Mean Relative Density (Oven Dry)
Range 2.593 - 2.629



Relative Density and Absorption of Coarse Aggregate (LS-604)

Sample No.: MM-8564 Date Sampled: Dec.02, 2019
Job No.: 161-16604-00 Date Tested: Dec.11, 2019
Job Name: Douro-Dummer Aggregate Investigation Tested By: John
Source: Product Code:
Material Type: Crushed Aggregate

		Trial Number			
		1	2	Average	
	Tare Name	P5	P10		
A	Weight Sample Oven Dry & Tare	3762.2	3690.5		
B	Weight Tare	704.3	687.5		
C	Weight Sample Oven Dry (A-B)	3057.9	3003		
D	Water Temperature (23 C +/- 1.7 C)	23	23		
E	Weight Sample SSD	3069.1	3014.4		
F	Weight of Sample in Water	1932.4	1897.5		
	Bulk Relative Density (C/(E-F))	2.690	2.689	2.689	Control 2.689
	Bulk Relative Density SSD (E/(E-F))	2.700	2.699	2.699	
	Apparent Relative Density (C/(C-F))	2.717	2.716	2.717	
	Absorption (E-C)/C*100	0.366	0.380	0.373	0.39

☐ - Conforming ☐ - Non-Conforming(Attach Report)

☐ - Meets Spec ☐ - Out of Spec

Percent Max Absorption as Per Spec
SP110F12

Comments: _____

Technician: _____ Supervisor: _____



Relative Density and Absorption of Fine Aggregate (LS-605)

Sample No.: MM-8564 Date Sampled: Dec.02, 2019
 Job No.: 161-16604-00 Date Tested: Dec.12, 2019
 Job Name: Douro-Dummer Aggregate Investigation Tested By: John
 Source: _____ Product Code: _____
 Material Type: Crushed Aggregate

		Trial Number		Average	
		1	2		
	Tare Name	P4	P10		
A	Weight Sample Oven Dry & Tare	1194.2	1194.2		
B	Weight Tare	685.4	687.4		
C	Weight Sample Oven Dry (A-B)	508.8	506.8		
D	Water Temperature (23 C +/- 1.7 C)	23	23		
E	Weight Flask & Water	670.5	664.4		
F	Weight Sample & Flask & Water	991.6	984.1		
G	Weight Sample SSD (if other than 500g)	514.2	512.2		
	Flask Number				
	Bulk Relative Density $(C/(G-(F-E)))$	2.635	2.633	2.634	Control 2.608
	Bulk Relative Density SSD $(G/(G-(F-E)))$	2.663	2.661	2.662	
	Apparent Relative Density $(C/(C-(F-E)))$	2.711	2.709	2.710	
	Absorption $(G-C)/C*100$	1.061	1.066	1.063	1.75

☐ - Conforming ☐ - Non-Conforming(Attach Report)
☐ - Meets Spec ☐ - Out of Spec

Percent Max Absorption as Per Spec
SP110F12

Comments: _____

Technician: _____ Supervisor: _____

I-3 *FREEZE-THAW RESULTS*



Freezing and Thawing of Coarse Aggregate (LS-614)

Sample No. 20MM-177 Source: BH20-01 Date Sampled: Feb.18, 2020
 Job No. 161-16604-00 Material Type: Crushed Rock Core Date Tested: Mar.02, 2020
 Job Name: Douro-Dummer Aggregate Investigation Township/District: N/A Tested By: JL

Jar #	13.2mm (1250g)		9.5mm (1000g)		4.75mm (500g)		Percent Loss
	Initial Mass	Final Mass	Initial Mass	Final Mass	Initial Mass	Final Mass	
2	1253.7	1235.8					1.4
5			1000.8	951.2			5.0
10					500.4	489.1	2.3

Date/Time Soaked: Mar.02, 2020 @ 15:30

	Ratio	Target	Actual
16.0mm			
13.2mm			

	Ratio	Target	Actual
6.7mm			
4.75mm			

Weighted Average

Sieve Size	% Loss on Individual Sieve (A)	% Retained on Sieve (B)	% Loss * % Retained (A)*(B)=(C)
19.0mm	1.4	0.2	0.3
16.0mm & 13.2mm	1.4	46.4	66.2
9.5mm	5.0	32.2	159.6
6.7mm & 4.75mm	2.3	21.2	47.9
-4.75mm (if >10%)*			

* for calculation purposes only

Sum of C=D	274.0
Weighted Loss D/100	2.7

	Time/Date In FRZ.	Time/Date Out FRZ.	Temp. High/Low
Cycle 1	Mar.03 15:00	Mar.04 8:30	22 -18.9
Cycle 2	Mar.04 15:30	Mar.05 8:00	22 -19
Cycle 3	Mar.05 16:00	Mar.06 8:00	22 -19
Cycle 4	Mar.06 16:00	Mar.09 8:00	22 -18.5
Cycle 5	Mar.09 16:00	Mar.10 8:00	22 18

☐ - Conforming

☐ - Non-Conforming(Attach Report)

☐ - Meets Spec

☐ - Out of Spec

Percent Loss Max as Per Spec SP110F11 or F12

Control Test Result 13.3% Range: 8.5% - 15.3%

Comments: _____

Technician: JL

Supervisor: MD



Freezing and Thawing of Coarse Aggregate (LS-614)

Sample No. 20MM-178 Source: BH20-02 Date Sampled: Feb.18, 2020
 Job No. 161-16604-00 Material Type: Crushed Rock Core Date Tested: Mar.02, 2020
 Job Name: Douro-Dummer Aggregate Investigation Township/District: N/A Tested By: JL

Jar #	13.2mm (1250g)		9.5mm (1000g)		4.75mm (500g)		Percent Loss
	Initial Mass	Final Mass	Initial Mass	Final Mass	Initial Mass	Final Mass	
19	1251	1237.2					1.1
16			1000.7	967.7			3.3
11					500.5	494.8	1.1

Date/Time Soaked: Mar.02, 2020 @ 15:30

	Ratio	Target	Actual
16.0mm			
13.2mm			

	Ratio	Target	Actual
6.7mm			
4.75mm			

Weighted Average

Sieve Size	% Loss on Individual Sieve (A)	% Retained on Sieve (B)	% Loss * % Retained (A)*(B)=(C)
19.0mm	1.1	0.9	1.0
16.0mm & 13.2mm	1.1	40.7	44.9
9.5mm	3.3	31.2	102.9
6.7mm & 4.75mm	1.1	27.2	31.0
-4.75mm (if >10%)*			

* for calculation purposes only

Sum of C=D	179.8
Weighted Loss D/100	1.8

	Time/Date In FRZ.	Time/Date Out FRZ.	Temp. High/Low
Cycle 1	Mar.03 15:00	Mar.04 8:30	22 -18.9
Cycle 2	Mar.04 15:30	Mar.05 8:00	22 -19
Cycle 3	Mar.05 16:00	Mar.06 8:00	22 -19
Cycle 4	Mar.06 16:00	Mar.09 8:00	22 -18.5
Cycle 5	Mar.09 16:00	Mar.10 8:00	22 18

☐ - Conforming

☐ - Non-Conforming(Attach Report)

☐ - Meets Spec

☐ - Out of Spec

Percent Loss Max as Per Spec

SP110F11 or F12

Control Test Result

13.3%

Range: 8.5% - 15.3%

Comments: _____

Technician: JL

Supervisor: MD



Freezing and Thawing of Coarse Aggregate (LS-614)

Sample No. 20MM-179 Source: BH20-03 Date Sampled: Feb.18, 2020
 Job No. 161-16604-00 Material Type: Crushed Rock Core Date Tested: Mar.02, 2020
 Job Name: Douro-Dummer Aggregate Investigation Township/District: N/A Tested By: JL

Jar #	13.2mm (1250g)		9.5mm (1000g)		4.75mm (500g)		Percent Loss
	Initial Mass	Final Mass	Initial Mass	Final Mass	Initial Mass	Final Mass	
19	1250.9	1238.1					1.0
16			1000.2	958			4.2
11					500.3	486.1	2.8

Date/Time Soaked: Mar.02, 2020 @ 15:30

	Ratio	Target	Actual
16.0mm			
13.2mm			

	Ratio	Target	Actual
6.7mm			
4.75mm			

Weighted Average

Sieve Size	% Loss on Individual Sieve (A)	% Retained on Sieve (B)	% Loss * % Retained (A)*(B)=(C)
19.0mm	1.0	1.1	1.1
16.0mm & 13.2mm	1.0	40	40.9
9.5mm	4.2	29.2	123.2
6.7mm & 4.75mm	2.8	29.7	84.3
-4.75mm (if >10%)*			

* for calculation purposes only

Sum of C=D	249.6
Weighted Loss D/100	2.5

	Time/Date In FRZ.	Time/Date Out FRZ.	Temp. High/Low
Cycle 1	Mar.03 15:00	Mar.04 8:30	22 -18.9
Cycle 2	Mar.04 15:30	Mar.05 8:00	22 -19
Cycle 3	Mar.05 16:00	Mar.06 8:00	22 -19
Cycle 4	Mar.06 16:00	Mar.09 8:00	22 -18.5
Cycle 5	Mar.09 16:00	Mar.10 8:00	22 18

☐ - Conforming

☐ - Non-Conforming(Attach Report)

☐ - Meets Spec

☐ - Out of Spec

Percent Loss Max as Per Spec

SP110F11 or F12

Control Test Result

13.3%

Range: 8.5% - 15.3%

Comments: _____

Technician: JL

Supervisor: MD



Freezing and Thawing of Coarse Aggregate (LS-614)

Sample No. MM-8564 Source: BH16-1 Date Sampled: Dec.02, 2019
 Job No. 161-16604-00 Material Type: Rock Cores Date Tested: Dec.11, 2019
 Job Name: Douro-Dummer Aggregate Investigation Township/District: _____ Tested By: JL

Jar #	13.2mm (1250g)		9.5mm (1000g)		4.75mm (500g)		Percent Loss
	Initial Mass	Final Mass	Initial Mass	Final Mass	Initial Mass	Final Mass	
5	1250.3	1225.9					2.0
7			1001.2	992.3			0.9
11					500	491.1	1.8

Date/Time Soaked: Dec.12, 2019 @ 3:30

	Ratio	Target	Actual
16.0mm			
13.2mm			

	Ratio	Target	Actual
6.7mm			
4.75mm			

Weighted Average

Sieve Size	% Loss on Individual Sieve (A)	% Retained on Sieve (B)	% Loss * % Retained (A)*(B)=(C)
19.0mm			
16.0mm & 13.2mm	2.0	44.3	86.5
9.5mm	0.9	17.2	15.3
6.7mm & 4.75mm	1.8	38.5	68.5
-4.75mm (if >10%)*			

* for calculation purposes only

Sum of C=D	170.3
Weighted Loss D/100	1.7

Cycle 1

Cycle 2

Cycle 3

Cycle 4

Cycle 5

Time/Date In FRZ.	Time/Date Out FRZ.	Temp. High/Low
Dec.13 16:00	Dec.14 8:00	21 -19
Dec.14 16:00	Dec.15 8:00	21 -18.5
Dec.15 16:00	Dec.16 8:00	21 -18.5
Dec.16 16:00	Dec.17 8:00	21 -18.5
Dec.17 16:00	Dec.18 8:00	21 -18.5

☐ - Conforming

☐ - Non-Conforming(Attach Report)

☐ - Meets Spec

☐ - Out of Spec

Percent Loss Max as Per Spec

SP110F11 or F12

Control Test Result

10.5%

Range: 8.5% - 15.3%

Comments: _____

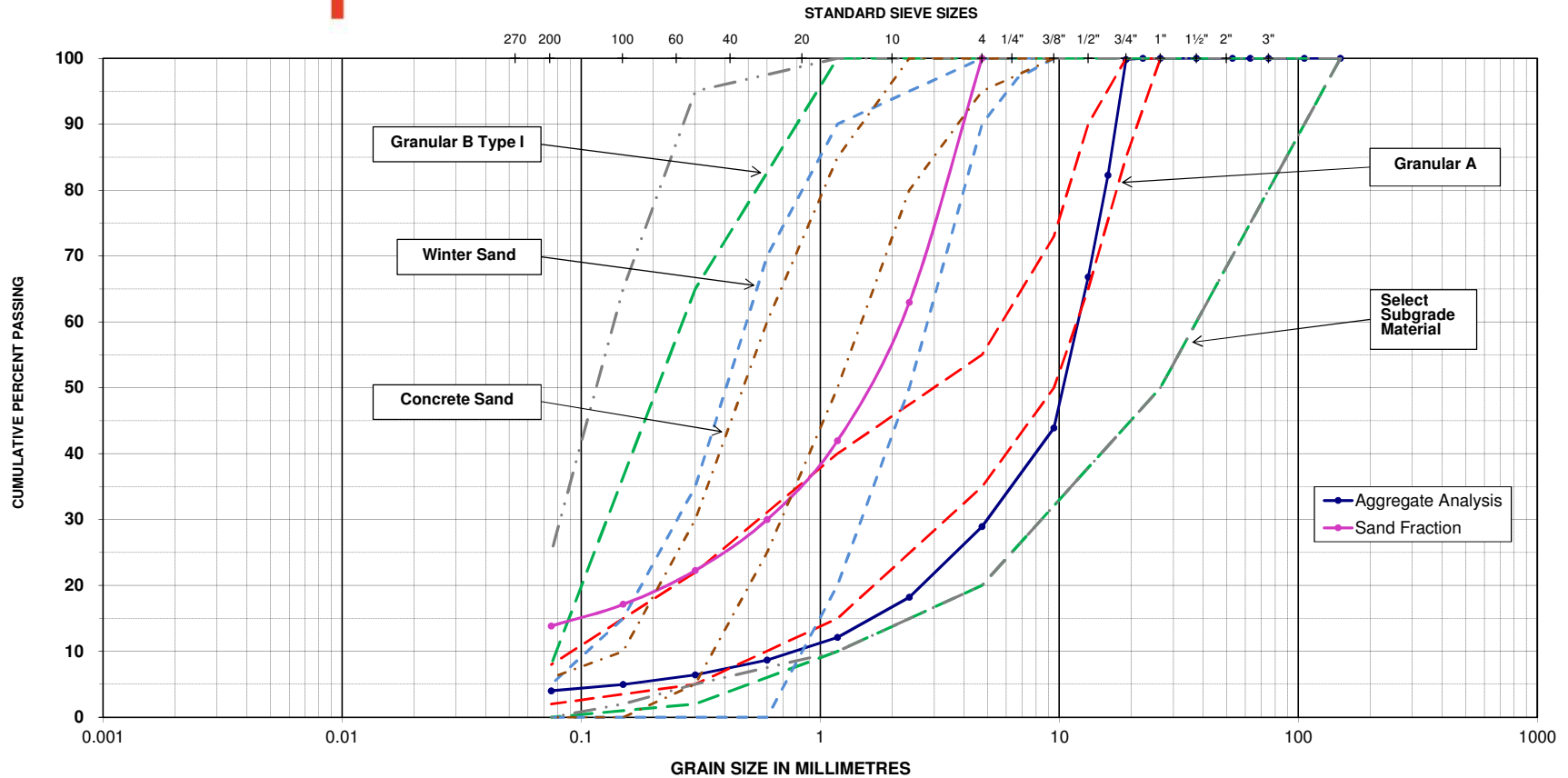
Technician: JL

Supervisor: MD

I-4 *PARTICLE SIZE DISTRIBUTION PLOTS*



PARTICLE SIZE DISTRIBUTION



MIT Scale

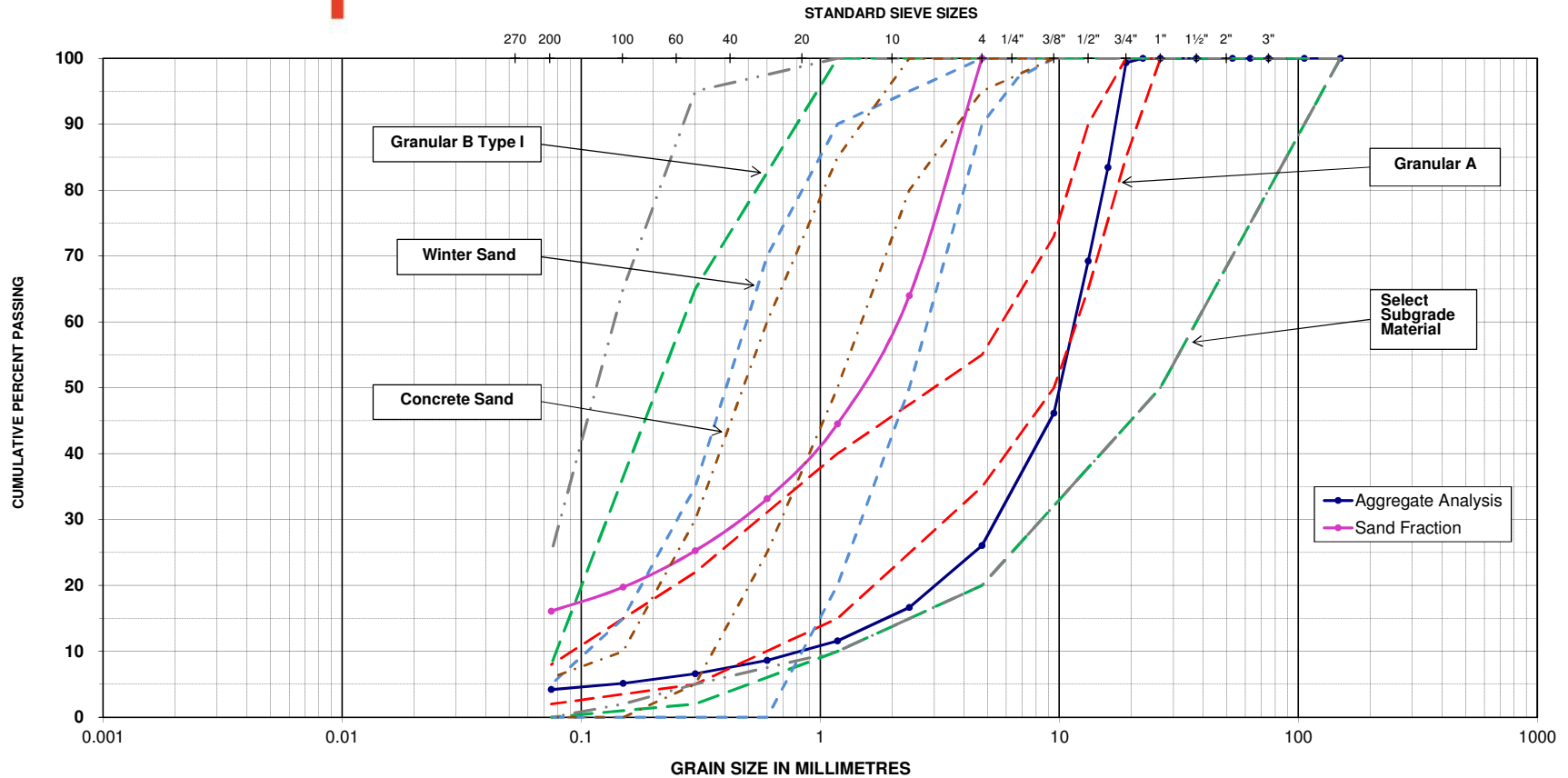
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	02/18/20
Material Source.:	Crushed Rock Core	Location:	BH20-01	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	99.8	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	82.2	D75	15.0	D8	0.1
75 mm	100.0	13.2 mm	66.8	D60	13.0	D10	0.2
63 mm	100.0	9.5 mm	43.9	Cu	86.67		
53 mm	100.0	4.75 mm	28.9	% Wash	13.2		
37.5 mm	100.0	1.18 mm	12.1				
26.5 mm	100.0	0.30 mm	6.4				
22.4 mm	100.0	0.075 mm	4.0				



PARTICLE SIZE DISTRIBUTION



MIT Scale

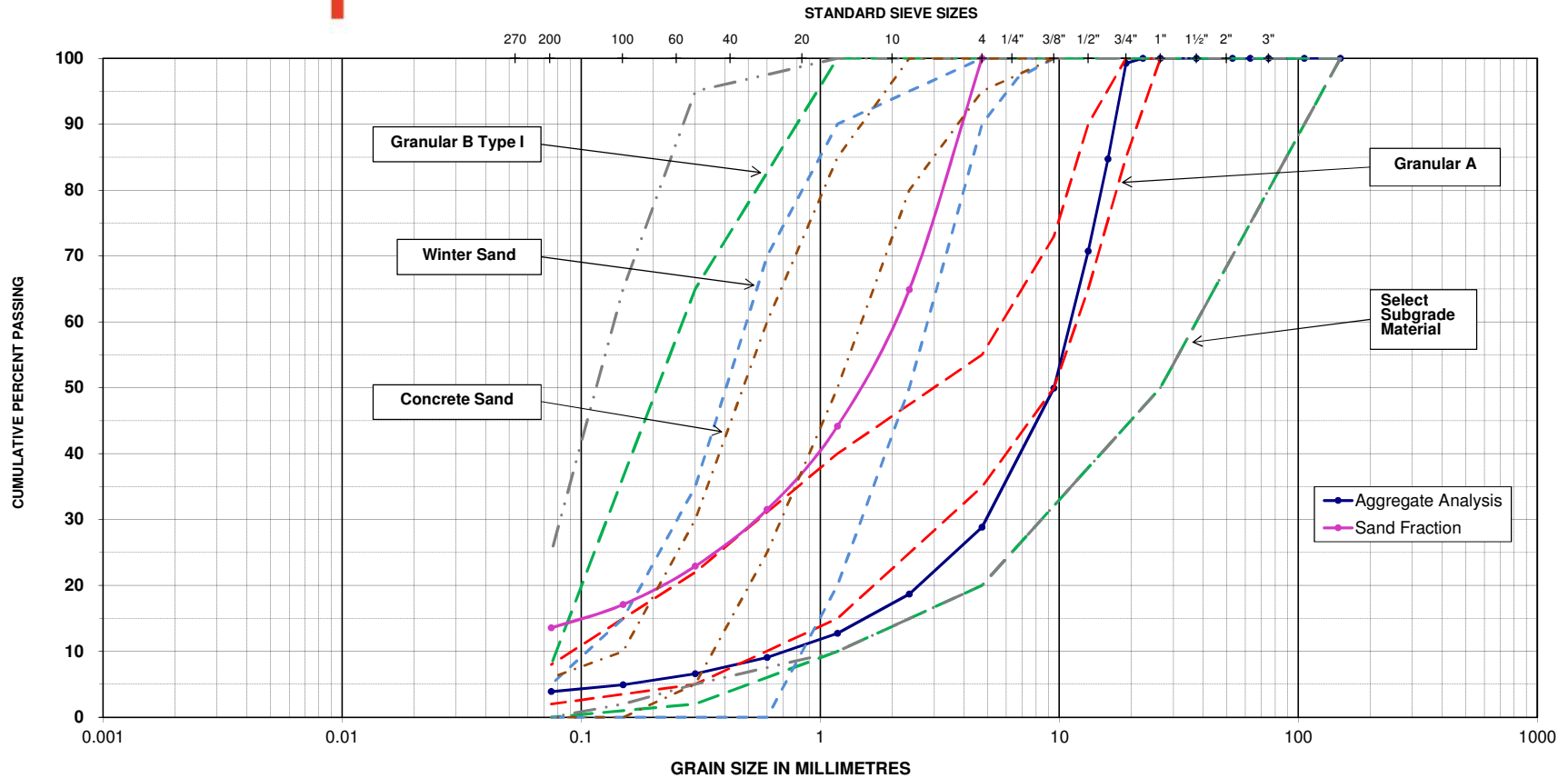
CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	02/18/20
Material Source.:	Crushed Rock Core	Location:	BH20-02	Sample No./Depth:	N/A

Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	99.3	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	83.5	D75	15.0	D8	0.1
75 mm	100.0	13.2 mm	69.2	D60	13.0	D10	0.1
63 mm	100.0	9.5 mm	46.2	Cu	100.00		
53 mm	100.0	4.75 mm	26.1	% Wash	15.3		
37.5 mm	100.0	1.18 mm	11.6				
26.5 mm	100.0	0.30 mm	6.6				
22.4 mm	100.0	0.075 mm	4.2				



PARTICLE SIZE DISTRIBUTION



MIT Scale

CLAY	SILT			SAND			GRAVEL			COBBLES
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	

Project Name:	Douro-Dummer Aggregate Investigation	Project No.:	161-16604-00	Date Sampled:	02/18/20
Material Source.:	Crushed Rock Core	Location:	BH20-03	Sample No./Depth:	N/A

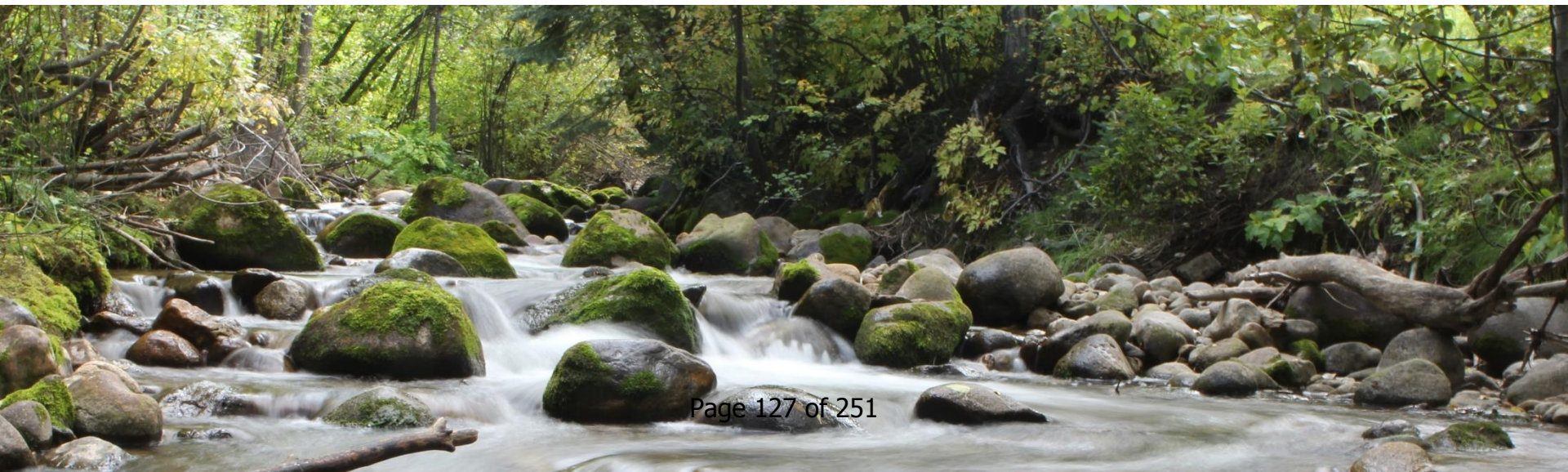
Sieve Size	% Passing	Sieve Size	% Passing	Aggregate Properties			
150 mm	100.0	19.0 mm	99.2	From Gradation Graph (mm):			
106 mm	100.0	16.0 mm	84.7	D75	15.0	D8	0.1
75 mm	100.0	13.2 mm	70.7	D60	12.0	D10	0.2
63 mm	100.0	9.5 mm	49.9	Cu	80.00		
53 mm	100.0	4.75 mm	28.8	% Wash	13.4		
37.5 mm	100.0	1.18 mm	12.7				
26.5 mm	100.0	0.30 mm	6.6				
22.4 mm	100.0	0.075 mm	3.9				



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Peer Review

*Supplemental Geotechnical Survey and Testing Report –
Part of Lots 14 & 15, Concession 1, Geographic Township of
Dummer, prepared by WSP Canada Inc. dated March 23,
2020 (Report)*

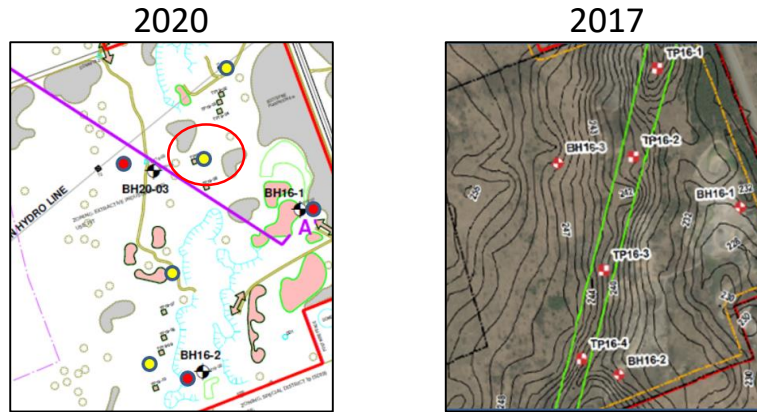
Purpose:

- Cambium's peer review was performed to evaluate and ensure that the conclusions in the supplemental report meet the purpose of the investigation and are supported by the testing and background information including:
- Current availability and future potential of aggregate resources within the Edwards Pit (Site)
 - More frequent sampling and testing of the deposits within the esker in order to better assess it's potential use and value
- Assess the suitability of re-licensing the Site, or a portion of the Site, as a quarry
 - Sampling and testing the Bobcaygeon Formation Limestone to assess its potential to be used as aggregate materials
- *The following slides provide a summary of the report including Cambiums comments*

2020 Investigation

Esker Test Pitting (Section 2.1)

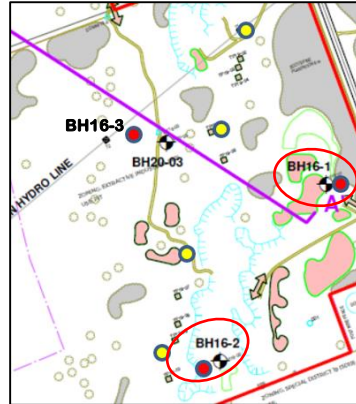
- a total of ten (10) additional TPs were advanced within the Esker deposit



- Field work program was a reasonable choice
 - Consideration could have been given to space test pits more evenly throughout the deposit, although access may have been a limiting factor
 - T19-05 is located at approximately the same location as TP16-2

Bedrock Investigation (Section 2.2)

- Three (3) additional bore holes were advanced at the Site for the purpose of sampling and testing Bobcaygeon Formation Limestone
 - Cored Bobcaygeon Fm limestone from BH16-1 was incorporated into the testing of this supplemental investigation, for a total of four (4) Bobcaygeon Fm samples



- *More accurate elevations and coordinates could have been obtained, using an RTK (or similar) unit, in order to tie into and supplement future investigations or development at the site.*

Laboratory Testing (Section 2.3)

- Material from each of the ten (10) Test Pits were tested for Gradation and Physical Properties
 - Gradation, Micro-Deval Abrasion (Fine and Coarse Fraction), Relative Density/Absorption (Fine and Coarse Fraction), Plasticity of Fines
- Material from four (4) Bobcaygeon Fm bedrock cores were tested for Physical Properties
 - Gradation, Micro-Deval Abrasion (Fine and Coarse Fraction), Relative Density/Absorption (Fine and Coarse Fraction), Freeze-Thaw Loss
- *In general the types of testing and number of tests are considered sufficient*
- *As stated in Cambium's previous peer review, "it is somewhat misleading and unnecessary to compare the gradations of the 1" minus crushed limestone product (or 19 mm size in this report), which was purposely created from the bedrock cores to allow for other testing, to the gradation envelopes for Granular A", Granular B, etc."*

Laboratory Testing (Section 2.3)

- A sufficient number of samples tested for each of:
 - unconsolidated esker material
 - Bobcaygeon Fm bedrock,
- Verulam Fm bedrock, may be underrepresented:
 - additional Verulam Fm cored during the course of the supplementary investigation.
 - The original investigation showed varying results from the two cores tested.

Test Pit ID	Sample ID	Gradation with Wash (%) Result	Micro-Deval Coarse (Loss %) Result	Micro-Deval Fine (Loss %) Result	Absorption Result	Plastic Fines (Y/N)	Freeze-Thaw
A) Unconsolidated Material (Esker)							
TP16-4	CGS2	3.1	24.2	14.0	2.4	N	
B) Consolidated Material (Bedrock)							
BH16-3	238.8 to 248.0 mASL	--	21.7	22.9	0.9	--	5.6%
BH16-4	250.5 to 256.4 mASL	--	11.9	11.9	1.1	--	11.7%



Laboratory Analysis Aggregate (Sect. 3.3)

- A note in Appendix E-1 states that some Micro-Deval (coarse) results were not completed to the standard of testing (LS-618) due to insufficient amount of samples provided, and that results may not be accurate
 - This is not reflected in Table 3-2 (TP19-01, TP19-08, TP19-09, TP19-10)
 - Sample sizes from test pits should not have been an issue
- Micro-Deval (coarse) % loss for TP19-08 is presented as 20.3 in Table 3-2, but appears as 20.6 in Appendix E-1.

Conclusions

Unconsolidated Esker Material (Section 4.1)

- *OPSS Physical Quality Requirements*
 - *In general, reported results comply with OPSS 1010 physical quality requirements for both Granular A & B, except TP19-06, which had a MD(coarse) result 0.1% higher than maximum allowable of 25.0% loss*
- *OPSS Gradation Requirements*
 - *All samples meet requirements for Granular B Type I, except TP19-01 & TP19-03*
 - *Granular A, and Granular B Type I for the two samples above, require some combination of screening, crushing, blending to meet OPSS Requirements*

Unconsolidated Esker Material (Section 4.1)

- Winter Sand
 - It is agreed that the total fines (<75 um) of the samples range between 1.95% and 7.2%, however
 - *sand fraction appears to ranges 7% to 62%, not 2.6% to 21%, based on particle size distribution results from Appendix E-3 of the report*
 - The report states “maximum percent for sand fraction is 5% for Winter Sand”
 - *although it is believed this is an editing error, and should be maximum acceptable fines for winter sand is 5%.*
 - *Based on this, the report incorrectly states that eight out of ten test pit samples were unacceptable for use as winter sand due to excess fines, and should read three out of ten samples were unacceptable for use as winter sand due to excess fines.*

Unconsolidated Esker Material (Section 4.1)

- *Absorption*
 - Report discussed absorption results of fine fraction (LS-605) exceeding 2 % maximum allowable
 - *Superpave 12.5 and HMA are based on the absorption of the coarse fraction (LS-604)*
 - *Absorption of the coarse fraction (LS-604) range from 0.71% to 1.65 %, well below 2 % and acceptable for use in most HMA, if it weren't for the failing Micro-Deval Results*
 - Micro-Deval (coarse fraction) does not meet the OPSS requirement for concrete and asphalt
 - *Absorption (fine fraction LS-605) was not required for the unconsolidated material*
 - *Absorption (coarse fraction LS-604) was only required to assess potential for use as in surface treatment, otherwise not required for the unconsolidated material as*
 - *M-D (coarse) > 21 % loss in 8/10 samples, therefore not acceptable for HMA and concrete*
 - *The discussion of absorption results is misleading and incorrect and should be removed or edited.*
- *The above discussion has no impact on the proposed uses for the material*

Unconsolidated Esker Material (Section 4.1)

- *It would be beneficial to include a summary table showing exactly what OPSS aggregate materials each unconsolidated sample may be used for and where some form of screening, crushing, blending may be required to achieve the desired product*

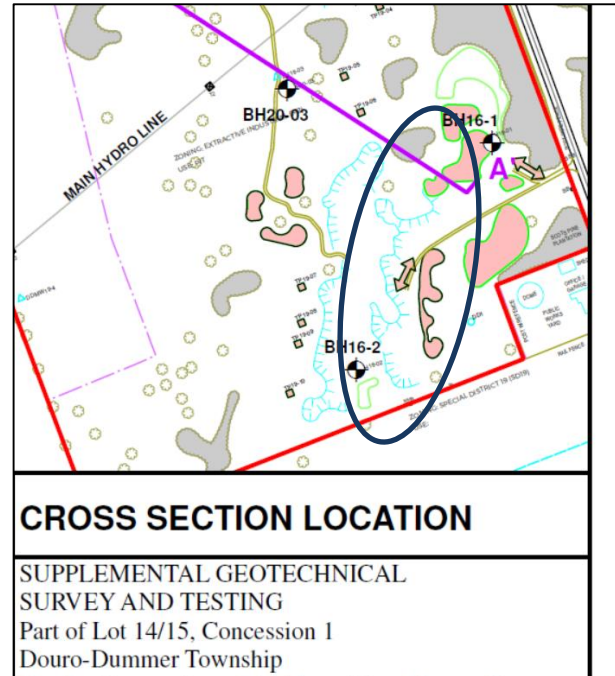
Consolidated Material (Section 4.2)

- *As previously stated, it is somewhat misleading and unnecessary to compare the gradations of the 1" minus crushed limestone product (or 19 mm size in this report), which was purposely created from the bedrock cores to allow for other testing, to the gradation envelopes for Granular A", Granular B, etc.*
- The report states that samples analysed for Micro-Deval (coarse fraction) from BH20-03 and BH16-1 meet the OPSS requirement for concrete and asphalt but,
 - *fails to state that the samples analysed for Micro-Deval (fine fraction) do not meet the OPSS requirement for concrete, some Superpave surface courses, HL3, HL3F, and HL3HS. These results should be reviewed*
- *It would be beneficial to include a summary table showing exactly what OPSS aggregate materials each consolidated sample may be used for*

Appendices

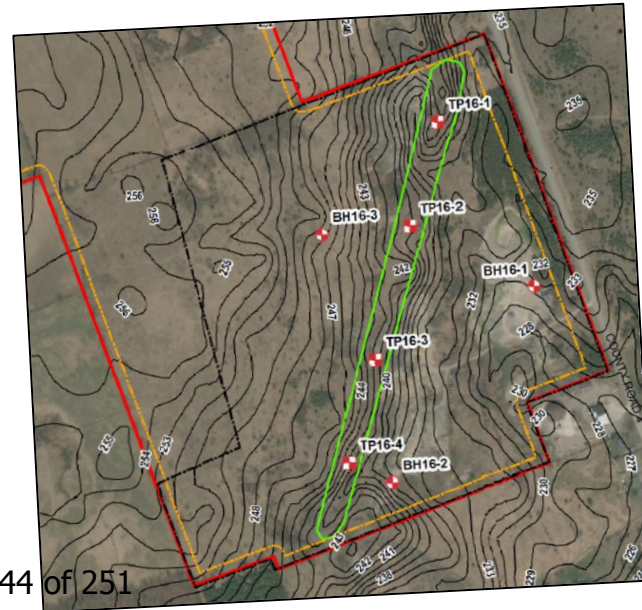
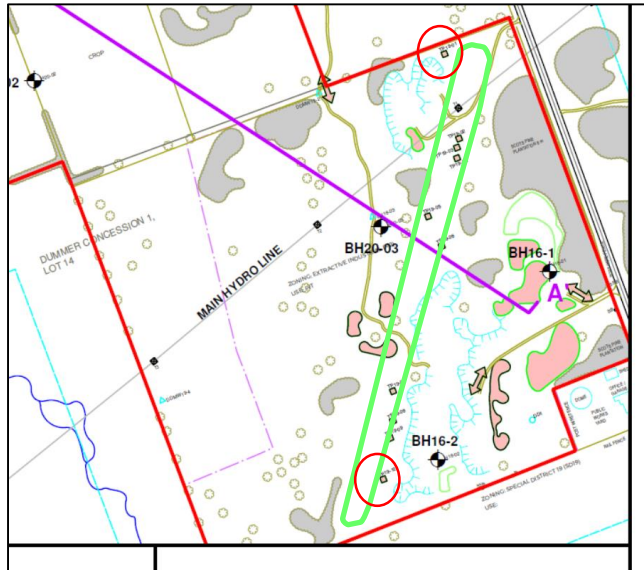
Appendix A

- It appears the extraction face is drawn backwards on the SE corner of the pit, behind the public works yard*



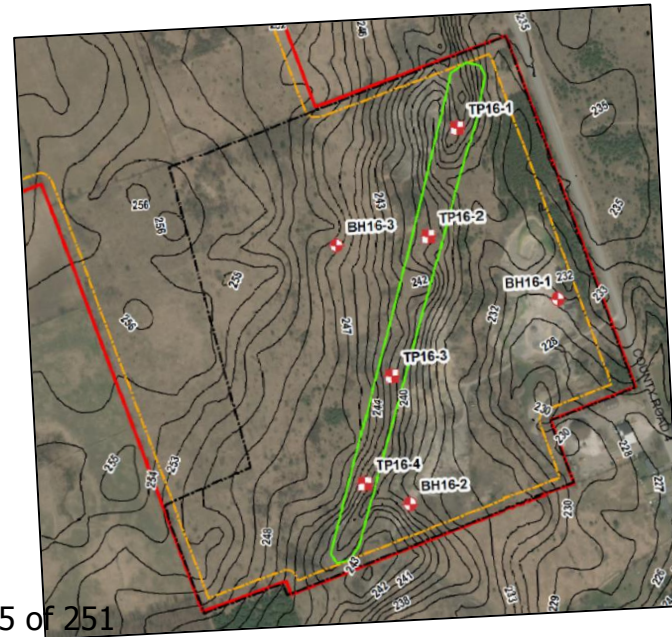
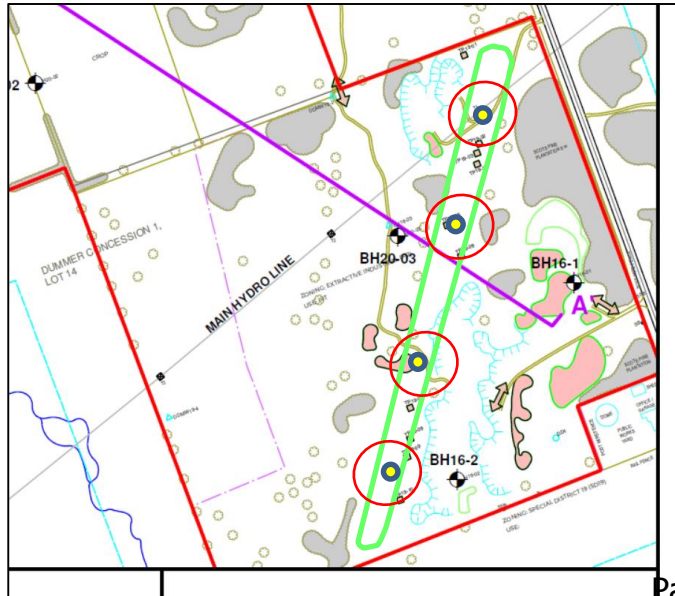
Appendix A

- Test Pits TP19-01 and TP19-10 appear to be located outside the boundary of the esker, yet still possess quality material.
 - Is the Esker wider than anticipated
 - Is there quality material adjacent to the esker



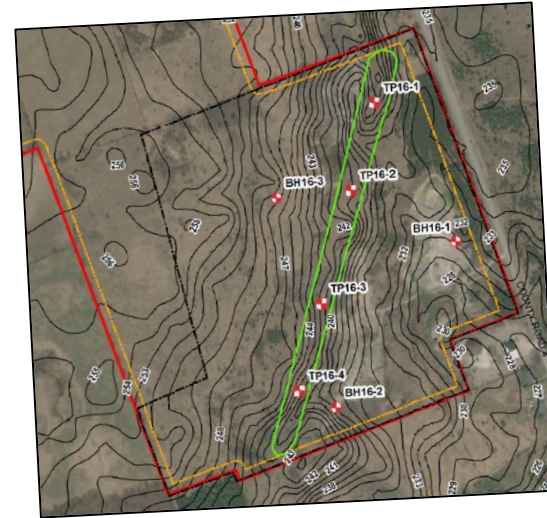
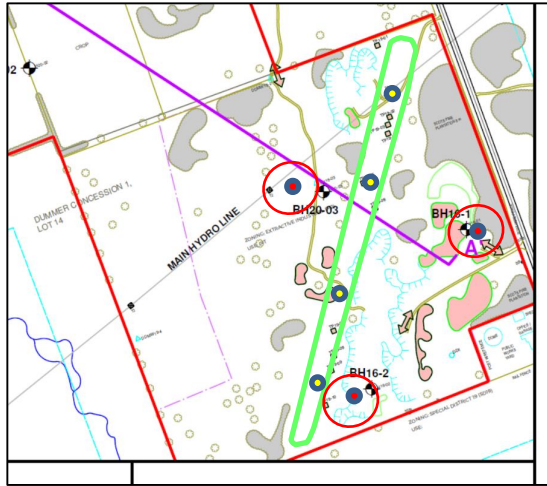
Appendix A

- It would be beneficial for the Client, and to anyone reading the report, to include the location of the four (4) original test pits, from the 2016 investigation, on this plan.*



Appendix A

- It would be beneficial for the Client, and to anyone reading the report, to include the location of all original boreholes, from the 2016 investigation, on this plan.*



- More accurate elevations and coordinates could have been obtained, using an RTK (or similar) unit, in order to tie into and supplement future investigations or development at the site.*

Appendix D

- Section 2.1 states that representative samples were collected from each stratigraphic layer for inspection and subsequent laboratory analysis.
 - The test pit logs in Appendix C indicate that in many test pits there are several samples taken.
 - It is not clear as to which samples were used for analysis for each test pit and why.

wsp **TEST PIT NO. 19-08** PAGE 1 of 1

PROJECT NAME: EDWARDS PIT PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER DATE COMPLETED: Dec 05, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION SUPERVISOR: MN

GROUND ELEVATION: 246.6 m REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CORE PENETRATION	WATER CONTENT %	REMARKS
				TYPE	% WATER	% RECOVERY	EXCUT (g/m)			
0.0	TOPSOIL									
0.3	SAND Brown coarse to medium SAND, some gravel, trace silt, most			001						SAND
1.2	SAND AND GRAVEL Brown SAND AND GRAVEL, some cobbles, trace silt, most			002						SAND AND GRAVEL
3.5	COBBLES AND BOULDERS Brown frequent large COBBLES AND BOULDERS, and sand and gravel, most									COBBLES AND BOULDERS (no sample taken)
5.0	Test pit terminated at 5 m below ground surface in COBBLES AND BOULDERS									Test pit open and dry upon completion.

Page 147 of 251

wsp **TEST PIT NO. 19-02** PAGE 1 of 1

PROJECT NAME: EDWARDS PIT PROJECT NO.: 161-16604-00

CLIENT: CORPORATION OF THE TOWNSHIP OF DOURO DUMMER DATE COMPLETED: Nov 28, 2019

TEST PIT TYPE: OPEN HOLE EXCAVATION SUPERVISOR: MN

GROUND ELEVATION: 239.9 m REVIEWER: GB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CORE PENETRATION	WATER CONTENT %	REMARKS
				TYPE	% WATER	% RECOVERY	EXCUT (g/m)			
0.0	TOPSOIL									
0.3	SAND AND GRAVEL Brown SAND AND GRAVEL, trace rootlets, trace organic, most			001						SAND AND GRAVEL
1.0	COBBLES AND BOULDERS COBBLES AND BOULDERS, some sand and gravel, some silt, most									
2.0										
3.0										
4.0				002						COBBLES AND BOULDERS
4.0	SAND AND GRAVEL Light brown SAND AND GRAVEL, some cobbles, some silt, most									
5.0				003						SAND AND GRAVEL
5.0	Test pit terminated at 5 m below ground surface in SAND AND GRAVEL.									Test pit open and dry upon completion.



Appendix E-1

- Notes in Appendix E-1 state that samples analysed from test pits TP19-01, TP19-08 and TP19-10 were not completed to LS-618 (Micro-Deval abrasion for coarse aggregate) due to insufficient samples provided, and that results may not be accurate
- Test pit TP19-09 also did not contain a representative amount of coarse material to complete the analysis
 - These notes should be presented in the text of the report or at the very least in comments below the tables presented within the report
 - Insufficient sample size should not be an issue when collecting samples, knowingly for this purpose, from a test pit or the pit face

<u>Notes:</u> Sample soaked in 2000 ml of tap water for 1 hour	
Aver. Charge Weight (g): 5000.5	
Reference Sample Control Range:	11.4% - 14.8%
Reference Sample Percent Loss:	14.3
Reference Sample Average Percent Loss:	13.8
TP19-01, TP19-08 & TP19-10 not completed to LS-618. Insufficient amount of sample provided for test. Results may not be accurate	
TP19-09 did not contain a representative amount of coarse material to complete.	
Tested by:	WGH/NLO
Verified by:	KLC
Date:	January 8, 2020
Date:	January 8, 2020

Appendix E-1

- The percent loss stated for test pit TP19-08 is presented as 20.6 in Appendix E-1, but appears as 20.3 in Table 3-2 of the report. One of these should be corrected.

Table 3-2: Summary of Laboratory Analysis (Physical Quality Requirements)

SAMPLE ID	REL. DENS. & ABSORB. COARSE	REL. DENS. & ABSORB. FINES	MICRO-DEVAL COARSE (LOSS %) RESULT	MICRO- DEVAL FINE (LOSS %) RESULT	PLASTIC FINES (Y/N)	FREEZE THAW
Unconsolidated Material (Esker)						
TP19-01*	2.658/0.71	2.623/1.26	21.4	10.1	N	--
TP19-02	2.609/1.35	2.554/2.36	24.1	15.5	N	--
TP19-03	2.620/1.13	2.573/1.70	24.5	14.9	N	--
TP19-04	2.622/1.04	2.545/2.26	20.2	11.0	N	--
TP19-05	2.601/1.50	2.554/2.16	23.7	18.6	N	--
TP19-06	2.605/1.63	2.570/2.25	25.1*	15.5	N	--
TP19-07	2.616/1.22	2.554/2.52	22.6	13.9	N	--
TP19-08	2.613/1.19	2.563/1.83	20.3	11.6	N	--
TP19-09	2.601/1.48	2.607/1.25		9.0	N	--
TP19-10	2.595/1.65	2.583/1.66	24.2	15.4	N	--
RANGE	0.71 to 1.65 (Absorption)	1.25 to 2.52 (Absorption)	20.2 to 25.1	9.0 to 18.6	N	--

 Micro Deval Abrasion Test Method LS-618 - Coarse					
Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer		
Project No:	161-16604-00	Date Tested:	January 8, 2020		
Sampled By:	MSN	Material Type:	Sand and Gravel		
Date Sampled:	December 5, 2019	Source:	Quarry		
Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
TP19-01	TP19-01	1248.9	982.1	266.8	21.4
TP19-02	TP19-02	1499.26	1138.24	361.0	24.1
TP19-03	TP19-03	1500.6	1133.34	367.3	24.5
TP19-04	TP19-04	1493.2	1192.27	300.9	20.2
TP19-05	TP19-05	1501.9	1145.88	356.0	23.7
TP19-06	TP19-06	1500.7	1124.77	375.9	25.1
TP19-07	TP19-07	1499.1	1159.61	339.5	22.6
TP19-08	TP19-08	1438.6	1142.71	295.9	20.6
TP19-09	TP19-09	0	0	N/A	N/A
TP19-10	TP19-10	1497	1134.3	362.7	24.2

Appendix E-2

- *Results for Relative Density and Absorption - Coarse Aggregates LS-604 is not presented in Appendix E-2.*
 - *Only Fine Aggregate (LS-605) is presented, which is not critical for the unconsolidated samples*

Appendix I-1

- Micro-Deval Abrasion for fine aggregates (LS-619) was conducted on BH16-01 in the original study and presented in the appendix of this report, but not included in Table 3-2 of this report.

 Micro Deval Abrasion Test Method LS-619 - Fine			
Project Name:	Douro-Dummer Aggregate Investigation	Client:	Township of Douro-Dummer
Project No:	161-16604-00	Date Tested:	December 10, 2019
Sampled By:	IAA	Material Type:	Crushed Core
Date Sampled:	December 2, 2016	Source:	N/A

Sample No.	Test Pit No.	Original Mass (g)	Final Mass (g)	Mass Loss (g)	Percent Loss
BH16-1	0	502.1	420.8	81.3	16.2

Table 3-2: Summary of Laboratory Analysis (Physical Quality Requirements)

SAMPLE ID	REL. DENS. & ABSORB. COARSE	REL. DENS. & ABSORB. FINES	MICRO-DEVAL COARSE (LOSS %) RESULT	MICRO-DEVAL FINE (LOSS %) RESULT	PLASTIC FINES (Y/N)	FREEZE THAW
Unconsolidated Material (Esker)						
TP19-01*	2.658/0.71	2.623/1.26	21.4	10.1	N	--
TP19-02	2.609/1.35	2.554/2.36	24.1	15.5	N	--
TP19-03	2.620/1.13	2.573/1.70	24.5	14.9	N	--
TP19-04	2.622/1.04	2.545/2.26	20.2	11.0	N	--
TP19-05	2.601/1.50	2.554/2.16	23.7	18.6	N	--
TP19-06	2.605/1.63	2.570/2.25	25.1*	15.5	N	--
TP19-07	2.616/1.22	2.554/2.52	22.6	13.9	N	--
TP19-08	2.613/1.19	2.563/1.83	20.3	11.6	N	--
TP19-09	2.601/1.48	2.607/1.25	-	9.0	N	--
TP19-10	2.595/1.65	2.583/1.66	24.2	15.4	N	--
RANGE	0.71 to 1.65 (Absorption)	1.25 to 2.52 (Absorption)	20.2 to 25.1	9.0 to 18.6	N	--
Consolidated Material (Bedrock)						
BH20-01	2.651/0.77	2.532/2.54	16.0	22.5	--	2.7
BH20-02	2.658/0.69	2.519/2.61	15.4	22.3	--	1.8
BH20-03	2.674/0.50	2.521/2.64	13.8	20.6	--	2.5
BH16-1	2.689/0.37	2.634/1.06	13.0	--		1.7

Appendix I-2

- The material type presented on the first page of Appendix I-2 (Relative Density and Absorption – Coarse Aggregate LS604) indicates Sand and Gravel, however the samples listed would suggest that it is crushed core from boreholes.*



Relative Density and Absorption - Coarse Aggregate LS604

Project Name:	Douro-Dummer Aggregate Investigations	Material Type:	Sand and Gravel
Project No:	161-16604-00	Date Sampled:	February 18, 2020
Client:	Douro-Dummer Township	Sampled By:	MSN
Sample Location:	Boreholes	Date Tested:	February 27, 2020

Appendix I-2

- Relative Density & Absorption – Coarse Aggregate LS-604 does not include a reference sample control mean for comparison to the control range for each absorption and mean relative density.

wsp Relative Density and Absorption - Coarse Aggregate LS604							
Project Name:	Douro-Dummer Aggregate Investigations			Material Type:	Sand and Gravel		
Project No:	161-16604-00			Date Sampled:	February 18, 2020		
Client:	Douro-Dummer Township			Sampled By:	MSN		
Sample Location:	Boreholes			Date Tested:	February 27, 2020		

Sample No.	Surface-Dry Sand Mass in Air (B)	Oven-Dry Sand Mass in Air (A)	Aggregate Mass in Water (C)	Bulk Relative Density (A/B-C)	Bulk Relative Density 550 (B/(B-C))	Apparent Relative Density (A/A-C)	Absorption (B-A/A)*100
BH20-01	3061.90	3038.60	1915.00	2.652	2.672	2.707	0.77
BH20-01	3056.90	3033.40	1912.00	2.649	2.670	2.705	0.77
Average				2.651	2.671	2.706	0.77
BH20-02	3043.10	3022.90	1906.10	2.659	2.676	2.707	0.67
BH20-02	3048.00	3026.70	1908.84	2.657	2.676	2.708	0.70
Average				2.658	2.676	2.707	0.69
BH20-03	3085.90	3069.00	1936.30	2.670	2.684	2.709	0.55
BH20-03	3085.90	3072.20	1938.90	2.678	2.690	2.711	0.45
Average				2.674	2.687	2.710	0.50

Sample Size Reference ASTM C-127/LS-602	
Nominal Sieve Size	Min. Mass (kgs)
63.0 mm	12.0
50.0 mm	8.0
37.5 mm	5.0
25.0 mm	4.0
19.0 mm	3.0
12.5 mm	2.0

Control Range	
Absorption	Range 0.55 - 0.81 %
Mean Relative Density (Oven Dry)	Range 2.658 - 2.692

Tested by:	WGN	Date:	18-Feb-20
Verified by:	<i>K. Butler</i>	Date:	18-Feb-20

wsp Relative Density and Absorption - Fine Aggregate LS605 / ASTM C128											
Project Name:	Douro Dummer Aggregate Investigation					Client:	Douro Dummer Township				
Project No:	161-16604-00					Date Tested:	February 27, 2020				
Sampled By:	MSN					Material Type:	Crushed Rock Core				
Date Sampled:	February 18, 2020					Source:	Quarry				

Sample No.	Temp. (°C) T	Pycnometer No.	Pycnometer Mass (g)	Mass of SSD Sand in Air (g) S	Mass of Sand/Pycnometer/Water (g) C	Mass of Pycnometer in Cal. Pans (g) (W T) B	Mass of Dry Sand in Air A	Relative Density (Oven Dry)	Relative Density (SSD)	Apparent Relative Density	Absorption (%)
BH20-01	22.30	Z	167.19	500.18	972.60	665.38	487.9	2.529	2.592	2.700	2.51
BH20-01	22.50	O	166.02	500.16	971.76	663.97	487.7	2.535	2.600	2.711	2.56
Average								2.532	2.596	2.706	2.54
BH20-02	21.90	O	166.02	500.08	970.71	664.03	487.3	2.520	2.586	2.698	2.62
BH20-02	22.30	Z	167.19	500.03	971.91	665.44	487.4	2.518	2.583	2.694	2.59
Average								2.519	2.585	2.696	2.61
BH20-03	21.50	O	166.02	501.23	971.45	664.08	488.0	2.517	2.585	2.701	2.70
BH20-03	21.90	Z	167.19	500.40	972.60	665.44	487.9	2.525	2.590	2.700	2.57
Average								2.521	2.587	2.701	2.64

Reference Sample Control Mean	
Reference Sample Average Percent Absorption:	1.92
Reference Sample Average Relative Density:	2.597

Control Range	
Absorption	Range 1.58 - 2.12%
Mean Relative Density (Oven Dry)	Range 2.593 - 2.629

Operator:	NLO	Date:	27-Feb-20
Verified by:	<i>K. Butler</i>	Date:	27-Feb-20

Appendix I-2

- The dates on the project samples are dated February 2020, whereas the control samples (MM-8564) were dated December 2019. Control samples should be run simultaneously with the project samples.

wsp Relative Density and Absorption - Coarse Aggregate LS604			
Project Name:	Douro-Dummer Aggregate Investigations	Material Type:	Sand and Gravel
Project No:	161-16604-00	Date Sampled:	February 18, 2020
Client:	Douro-Dummer Township	Sampled By:	MSN
Sample Location:	Boreholes	Date Tested:	February 27, 2020

wsp Relative Density and Absorption of Coarse Aggregate (LS-604)			
Sample No.:	MM-8564	Date Sampled:	Dec.02, 2019
Job No.:	161-16604-00	Date Tested:	Dec.11, 2019
Job Name:	Douro-Dummer Aggregate Investigation	Tested By:	John
Source:		Product Code:	
Material Type:	Crushed Aggregate		
			Trial Number

wsp Relative Density and Absorption - Fine Aggregate LS605 / ASTM C128			
Project Name:	Douro Dummer Aggregate Investigation	Client:	Douro Dummer Township
Project No:	161-16604-00	Date Tested:	February 27, 2020
Sampled By:	MSN	Material Type:	Crushed Rock Core
Date Sampled:	February 18, 2020	Source:	Quarry

wsp Relative Density and Absorption of Fine Aggregate (LS-605)			
Sample No.:	MM-8564	Date Sampled:	Dec.02, 2019
Job No.:	161-16604-00	Date Tested:	Dec.12, 2019
Job Name:	Douro-Dummer Aggregate Investigation	Tested By:	John
Source:		Product Code:	
Material Type:	Crushed Aggregate		
			Trial Number

Appendix I-2

- The control (or trial) results presented on the fourth page of Appendix I-2 (Relative Density and Absorption of Fine Aggregates LS-605) appear to be outside the acceptable range for both bulk relative density and absorption.
- The industry standard (Sunderland Pit) has certified acceptable range for relative density is 2.593 g/cc – 2.629 g/cc
 - average control result was 2.634 g/cc, slightly above acceptable range
- Certified acceptable range for absorption is 1.58 % - 2.12 %
 - average control result was 1.063 %, well below the acceptable minimum.

wsp

Relative Density and Absorption of Fine Aggregate (LS-605)

Sample No.: MM-8564 Date Sampled: Dec 02, 2019
 Job No.: 181-18604-00 Date Tested: Dec 12, 2019
 Job Name: Duoro-Dumner Aggregate Investigation Tested By: John
 Source: Product Code:
 Material Type: Crushed Aggregate

	Trial Number		Average
	1	2	
Tare Name	P4	P10	
A Weight Sample Oven Dry & Tare	1194.2	1194.2	
B Weight Tare	685.4	687.4	
C Weight Sample Oven Dry (A-B)	508.8	506.8	
D Water Temperature (23 C +/- 1.7 C)	23	23	
E Weight Flask & Water	670.5	664.4	
F Weight Sample & Flask & Water	991.6	984.1	
G Weight Sample SSD - (If other than SSD)	514.2	512.2	

Flask Number	1	2	Average	Control
Bulk Relative Density (C/(G-(F-E)))	2.635	2.633	2.634	2.608
Bulk Relative Density SSD (G/(G-(F-E)))	2.663	2.661	2.662	
Apparent Relative Density (C/(C-(F-E)))	2.711	2.709	2.710	
Absorption (G-C)/C*100	1.061	1.066	1.063	1.75

Flask Number				Control
Bulk Relative Density (C/(G-(F-E)))	2.635	2.633	2.634	2.608
Bulk Relative Density SSD (G/(G-(F-E)))	2.663	2.661	2.662	
Apparent Relative Density (C/(C-(F-E)))	2.711	2.709	2.710	
Absorption (G-C)/C*100	1.061	1.066	1.063	1.75

Time Line & Processing

Time Line & Processing

- Early Stage - Granular B Type II (esker)
 - Most of the material tested within the esker is useable as Granular B Type II in its current state, requiring very little to no screening, and no crushing or blending.
- Middle Stage – Winter Sand (esker)
 - The material present in the esker could be used for winter sand, but would require screening which would take a great toll on the aggregate supply.
 - Consideration could be made for material near TP19-08 & TP19-09, where 72% and 68% of the sample could be used for winter sand, respectively.
 - Clarification is required regarding which samples were used from each pit for testing purposes. The sand may be in a lens not present throughout the entire vertical face at each test location.
 - Further delineation would be required.
- Middle-Late Stage - Granular A (esker)
 - Crushing and screening required to generate Granular A from esker material
 - Could also be performed on cobble and boulder remaining from screened winter sand.
- Late Stage – Granular A & B (bedrock – Verulam Fm)
 - Potential for Granular A from Verulam Fm limestone, although further testing/delineation is required to assess the hardness (Micro-Deval Coarse)
 - Both 2016 Verulam Fm samples meet Granular B Type I & II requirements for physical properties.

Closing Remarks



Closing

- Overall, the approach and scope of work undertaken by WSP was satisfactory for the purpose of the investigation.
- In general, sample analysis methods and quantity of samples analyzed are considered sufficient for the purpose of the investigation.
- *Points for consideration*
 - *If it hasn't already been discussed with the client, consideration should be taken as to whether additional testing should be completed on the Verulam Fm., which appears to have varied test results and may be underrepresented with only two samples.*
 - *It would be beneficial for the Client to have locations of test pits and boreholes from the original study incorporated into the mapping presented in the recent report*
 - *It would be beneficial for the Client if a table (or something similar) was provided in order to concisely indicate which samples are acceptable for use as aggregates for specific purposes, and where production techniques may be used to achieve the desired product.*

Closing

- Overall, the approach and scope of work undertaken by WSP was satisfactory for the purpose of the investigation.
- In general, sample analysis methods and quantity of samples analyzed are considered sufficient for the purpose of the investigation.
- Some follow up should be undertaken to address
 - Grammatical, numerical and unit errors presented both in this presentation and our report
 - Conclusion discussion regarding the unconsolidated esker material
 - Information missing from Appendix E-2
 - Issues regarding the failure of control samples and absent control samples for some of the lab results in Appendix I-2

Questions?

Stuart Baird, M.Eng., P.Eng.

Director – Geotechnical & Construction Monitoring.

Brian Peterkin, P.Geo., M.Eng.

Senior Project Manager, Cambium Inc.





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May 15, 2020

Township of Douro-Dummer
894 South Street,
Warsaw, ON K0L 3A0

Attn: Martina Chait-Hartwig, Temporary C.A.O.

**Re: Supplemental Geotechnical Survey and Testing Report – Peer Review
Edwards Pit – Part of Lots 14 & 15, Concession 1, Township of Douro-
Dummer**

Cambium Reference No.: 9732-002

Dear Ms. Chait-Hartwig,

Cambium Inc. (Cambium) was retained by The Corporation of the Township of Douro-Dummer (Client) to conduct a peer review of the following report:

- *Supplemental Geotechnical Survey and Testing Report – Part of Lots 14 & 15, Concession 1, Geographic Township of Dummer, prepared by WSP Canada Inc. dated March 23, 2020 (Report).*

This is the second of two peer reviews that Cambium has performed on this project, and is focused solely on the recommendations of Cambium's original peer review and new information presented by WSP in the supplemental report.

Cambium's recommendations from the original peer review (9732-001) were:

- Consideration could have been given to advancing more test pits based on the variability of the esker deposits
- It would be preferable for the locations and elevations of the test pits and boreholes to have been surveyed using an RTK or other system that is more accurate and able to provide geodetic elevations
- Gradation testing on a large number of samples from the esker deposit would have been an inexpensive way to provide more detailed information about the volume of useful aggregates in the esker



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- Investigation and comments should also have been provided on the Bobcaygeon Formation.
- It is somewhat misleading and unnecessary to compare the gradations of the 1" minus crushed limestone product, which was purposely created from the bedrock cores to allow for other testing, to the gradation envelopes for Granular A, Granular B, etc.

Cambium's comments on specific sections of the Supplemental Report, dated March 23, 2020, are as follows. Any comments requiring clarifications and/or responses from the Proponent are provided in *italics*.

2. 2020 INVESTIGATION

Section 2.1

The additional scope of ten (10) test pits located and excavated within the esker deposit are deemed sufficient given the size of the deposit and the variability noted in the original four (4) test pits.

Coordinates were once again collected using GPS and elevations were inferred from a topographic plan based on GPS coordinates. While this data is sufficient consider the high-level assessment and broad assumptions used in volume calculations, *more accurate elevations could have been obtained, using an RTK (or similar) unit in order to tie into and supplemental future investigations or development at the site.*

Section 2.2

The additional three (3) boreholes (cores) advanced at the site, targeting Bobcaygeon Formation is deemed to be sufficient for the purposes of providing a high-level assessment of the bedrock quality. All three boreholes were completed as piezometers to assist in the continued hydrogeological investigation of the Site.

Section 2.3



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The type of analysis conducted and the number of esker samples tested is deemed to be sufficient for the purposes of this study, which was conducted to provide more detailed information about the variable nature of the material and better assess the volume of useful aggregates in the esker.

The number of locations sampled for testing the Bobcaygeon Formation bedrock is deemed sufficient for the purposes of this investigation however, not all of the tests conducted are deemed necessary. *As stated in the previous peer review, it is somewhat misleading and unnecessary to compare the gradations of the 1" minus crushed limestone product (or 19 mm size in this report), which was purposely created from the bedrock cores to allow for other testing, to the gradation envelopes for Granular A, Granular B, etc.*

Table 2-3 states that sieve analysis was performed ten (10) times for Bobcaygeon Formation bedrock core samples, however it is presumed this is a copy and past error and should be four (4) samples.

3. SUMMARY OF FINDINGS

Section 3.2:

Bedrock cores from within the Bobcaygeon Formation were collected in three borehole locations. In drilling these boreholes an additional 59 m of Verulam Formation were collected. *Based on RQD values presented in the borehole logs, some portions of the Verulam Formation, not already investigated may be of interest, however the shaly nature of the limestone observed in the core photos provides evidence that there may not be value in further testing. Verulam Formation samples from only two locations were analysed in the original investigation and Micro-Deval Abrasion results were variable, limiting use of the material to granular and miscellaneous materials, but not all granular materials. As such, discussion with the Client is warranted regarding further testing of the overlying Verulam Formation, as the material has already been collected in the coring process of this recent investigation.*



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Micro-Deval Abrasion for fine aggregates (LS-619) was conducted on BH16-01 in the original study and presented in the appendix of this report, but is not included in Table 3-2 of this report.

Table 3-3

The sieve size of samples presented in Table 3-3 is in mm; the lower sieve sizes should be 0.300 mm and 0.075 mm, not 300 and 75. In addition, no units were assigned to some of the parameters in Table 3-2 and Table 3-3. While it can easily be inferred by somebody with knowledge of the testing, inclusion of the units would be useful.

4. CONCLUSIONS

Section 4.1:

It is agreed that the total fines of the unconsolidated samples range between 1.95% and 7.2% however, based on particle size distribution results the sand fraction ranges between 17% and 62%, not 2.6% and 21% as stated in the report. The report also states that the maximum percent sand fraction is 5% for Winter Sand, although it is believed this is an editing error and should be maximum acceptable fines for winter sand is 5%. Based on this, the report incorrectly states that eight out of ten test pit samples were unacceptable for use as winter sand due to excess fines, and should read three out of ten samples were unacceptable for use as winter sand due to excess fines.

The report discusses test results of absorption for the fine fraction exceeding 2%, yet requirements for Superpave 12.5 and HMA are based on absorption of the coarse fraction (LS-604), not the fine fraction (LS-605). Absorption results from the coarse fraction range from 0.71% to 1.65%, which would make this material acceptable for use in most HMA, if it weren't for the fact that Micro-Deval (coarse fraction) results have already ruled out the use of the unconsolidated material in concrete and asphalt. This section of the report should be edited or removed.

It would be beneficial to the Client, or anyone reading the report, to include a summary table stating exactly what each unconsolidated sample may be use for,



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and where some form of screening crushing or blending may be required to achieve the desired product. This would simplify the interpretation of the results and aid in more accurately estimating both the distribution of resources within the esker and their associated value.

In section 4.1 the word course is also used instead of coarse.

Section 4.2:

As previously stated, it is somewhat misleading and unnecessary to compare the gradations of the crushed limestone product, which was purposely created from the bedrock cores to allow for other testing, to the gradation envelopes for Granular A, Granular B, etc.

The report states that samples analysed for Micro-Deval (coarse fraction) from BH20-03 and BH16-1 meet the OPSS requirement for concrete and asphalt, *but it fails to state that the samples analysed for Micro-Deval (fine fraction) do not meet the OPSS requirement for concrete, some Superpave surface courses, HL3, HL3F, and HL3HS. These results should be reviewed.*

It would be beneficial to the Client, or anyone reading the report, to include a summary table stating exactly what each sample may be use for. This would simplify the interpretation of the results and aid in more accurately estimating the value of the bedrock resource throughout the site.

There are also a couple of grammatical errors in Section 4.2 however those to not impact the clarity of the report.

5. APPENDICES

Appendix A:

It appears the extraction face is drawn backwards on the SE corner of the pit, behind the public works yard.

Both test pits TP19-01 and TP19-05 appear to be located NW of the esker, yet still possess quality material. As such, additional material may be present adjacent to the esker, or the esker may be wider than anticipated.



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It would be beneficial for the Client, and anyone reading the report, to include the location of the four (4) original test pits, from the 2016 investigation, on this plan.

There are currently two pages labelled Existing Conditions Plan within Appendix A, yet they both appear to be the same image.

Appendix C:

In Section 2.1 it is stated that representative samples were collected from each stratigraphic layer for inspection and subsequent laboratory analysis. The test pit logs in Appendix C indicate that in many test pits there are several samples taken. It is not clear as to which samples were used for analysis for each test pit.

Appendix E-1:

Notes within the analysis state that samples analysed from test pits TP19-01, TP19-08 and TP19-10 were not completed to LS-618 (Micro-Deval abrasion for coarse aggregate) due to insufficient samples provided, and that results may not be accurate. Test pit TP19-09 also did not contain a representative amount of coarse material to complete the analysis. These notes should be presented in the text of the report or at the very least in comments below the tables presented within the report. Furthermore, insufficient sample size should not be an issue when collecting samples from a test pit or the pit face, knowingly for this purpose.

The percent loss stated for test pit TP19-08 is presented as 20.6 in Appendix E-1, but appears as 20.3 in Table 3-2 of the report. One of these should be corrected.

Appendix E-2:

Results for Relative Density and Absorption - Coarse Aggregates LS604 is not presented in Appendix E-2.

Appendix E-2:

Micro-Deval Abrasion for fine aggregates (LS-619) was conducted on BH16-01 in the original study and presented in the appendix of this report, but it not included in Table 3-2 of this report.



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Appendix I-2:

The material type presented on the first page of Appendix I-2 (Relative Density and Absorption – Coarse Aggregate LS604) indicates Sand and Gravel, however the samples listed would suggest that it is crushed core from boreholes. Also, unlike other test results presented in the appendix, this page does include the reference sample control mean for comparison to the control range for each absorption and mean relative density.

In addition to this, the control (or trial) results presented on the fourth page of Appendix I-2 (Relative Density and Absorption of Fine Aggregates LS-605) appear to be outside the acceptable range for both bulk relative density and absorption. The industry standard used as a control sample for this analysis is that of the Sunderland Pit. The certified acceptable range for relative density is 2.593 g/cc – 2.629 g/cc, where as the average control result was 2.634, which is just slightly above the acceptable maximum. Similarly, the certified acceptable range for absorption is 1.58 % - 2.12 %, whereas the average control result was 1.063 %, which is well below the acceptable minimum.

The dates on the project samples are dated February 2020, whereas the control samples were dated December 2020. Control samples should be run simultaneously with the project samples.

This data should be reviewed and corrected where required and any errors or inaccuracy of the results should be discussed both in the appendix and the text of the report itself.

Closing

Overall the report was thorough, and the methodology well thought out. The report and findings met the purpose of the investigation which was to further assess the aggregate resources at this Site, which includes both the unconsolidated aggregates located within the Esker and consolidated bedrock, reaching down to and including, the Bobcaygeon bedrock formation. The



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May 15, 2020

laboratory testing that was completed was, in general, consistent with the needs of the report, however there are a few minor issues that should be addressed.

Considering the variable nature of the two samples of Verulam Formation from the original investigation, discussion with the client is warranted regarding testing of additionally acquired Verulam cores from this recent investigation.

We trust that the contents of this peer review meet your current needs. Please contact the undersigned if you have any questions.

Best regards,

Cambium Inc.

Stuart Baird, P.Eng., M.Eng.
General Manager – Geotechnical

Brian Peterkin, P.Geo., M.Eng.
Senior Project Manager

SEB/bjp

P:\9700 to 9799\9732-002 Twp of Douro-Dummer - Peer Review - Edwards Pit Supplemental Geotech Report\Deliverables\2020-05-11 LTR Peer Review Edwards Pit.docx

Overview:

Please find attached a spreadsheet which looks at cost estimates to create aggregate materials via crushing or crushing and blasting. The spreadsheet is based on cost estimate that staff received last year. The results in the spreadsheet are based on a mix of past costs and industry specific cost ranges. These prices may be high as it does not include economies of scale, tender submissions or work plans that enhance efficiencies.

Further to the cost estimates, there are two reports and presentations from WSP and Cambium Inc., regarding the additional geotechnical survey and testing that Council had requested.

Conclusion:

The offer to purchase this property expires on December 30th, 2023. One of the conditions to purchase is the purchaser (the Township) is able to acquire a quarry license either in the Township's name or in the vendor's name and transfers the licence to the Purchaser on closing. There are still many studies that need to be completed in preparation for the quarry license application under the Aggregate Resource Act, this includes items such as hydrological study, level 2 natural environmental work archaeological study, noise and blast design. Along with these studies there will need to be public meetings under the Aggregate Resource Act. It is imperative that these studies be allowed to proceed as the timeline to acquire the license is ever diminishing.

Recommendation:

That the C.A.O.-2020-31 report, dated June 24, 2020 regarding the Edwards Pit Project be received along with the reports and presentations from WSP and Cambium Inc. and that Council approve the necessary work to acquire a quarry license under the Aggregate Resource Act per the agreement of sale.

Financial Impact:

There will be a financial impact to continue this project but moneys have been set aside for this project in reserves and in the budget.

Strategic Plan Applicability:

To effectively respond to the challenges of addressing the Township's municipal infrastructure needs as well as effectively managing the assets of the corporation.

Sustainability Plan Applicability: N/A

Calculation of the Cost to Blast and Crush

Gravel Density Data

Gravel, loose, dry 1.52 tonne/cubic metre
Gravel, w/sand, natural 1.92 tonne/cubic metre
Gravel, dry 1/4 to 2 inch 1.68 tonne/cubic metre
Gravel, wet 1/4 inch to 2 inch - 2 tonnes/cubic metre
Concrete Gravel 2.40 tonne/cubic metre

Chose the density that most closely matches your gravel and calculate using formula below

cubic metre * density = tonnes
tonnes/density = cubic metres

Crushing Costs based on 2017 and 2019 pricing
Equipment that may be used \$ 9.64/tonne
Crushing \$ 3.90/tonne
Total with possible equipment \$ 13.54/tonne
Total without additional equipment needed = \$3.90

Rock blasting

Can cost anywhere from \$3.00/m³ to \$150/m³ depending on location in world and location relative to buildings and other features
Small diameter drills (115mm or less) cost about \$20,000 USD/per month to operate. \$1000/day without a contract operator and \$1500/day for contract operator.
Explosive stick powder is roughly \$2.20-\$7.00/kg, figure a powder factor of 1/5kg/m³ as average. Detonators are approx. \$7.00 USD

Not knowing location but using small diameter charge of 64mm with a pattern of 1.5mx1.5m, holes are three metres deep. 1 hole is equal to 6.75m³ = 148 holes but round to 150
Two days to 1000m³

150 holes x \$7 (detonators) = \$1050
Powder - \$3.00/kg x 1.5gm/m³ = \$4.50 x 1000m³ = \$4500

Drilling @ 2 days = \$3000
Explosives and detonators = \$5550
Insurance = \$1000/day = \$2000
Monitoring = \$500/day = \$1000
Payroll = 1000/day = \$2000
Total = \$13,550 = 13.55/m³ - no profits factored in
Total per Tonne = \$8.91

Hammer

operating cost = \$200-300/hour, takes 8-10 times longer
80 hours at \$200/hour = \$16000

Total Cost to Blast and Crush

\$13.55 for 1.52 tonnes USD
\$8.91 for 1 tonne USD
\$12.86 per tonne in current Canadian Dollar
\$ 3.90 crushing cost/per tonne
Total estimated price to blast and crush = \$16.76 per tonne

* This may not need to occur until such time as all of the esker materials have been depleted which could take decades
* economies of scale could be found if producing larger amount of materials

Current Cost to Purchase Gravel

2 inch crusher run - \$7.25/tonne
5/8 crusher run - \$7.35/tonne
Pit run - \$4.80/tonne
2 inch limestone crusher run - \$8.20/tonne - \$14.00/tonne
Granular A Limestone Crusher Run - \$8.20/tonne
5/8 limestone - \$13.15/tonne - \$15.20/tonne
3/4 stone
3/4 Limestone Crusher run - \$14.00/tonne

Current Trucking Cost for Material - range from \$2.80/tonne to \$5.70/tonne

This cost will be dependent on market forces, distance from source to location of application or location of Township stockpile

Overview:

With the Province now in Stage Two of the Covid-19 pandemic, the Province is recommending that employers have a policy to address infectious disease preparedness and response. The policy will address the following topics:

- Roles and Responsibilities of Employers, Supervisors and Staff
- The level of risk and how best to mitigate that risk
- Operations during a pandemic along with best practices
- Equipment and Resources
- How to report illness
- A return to work framework for those who may have been ill
- Physical Distancing and use of PPE and other items such as face covers
- Scheduling of Work

This Policy is designed to not only address the Covid-19 pandemic but to be used in the event of future pandemics or public health emergencies. As the recommendations and directives from the Province and the local public health authorities are being constantly updated and refined as more research is completed, this Policy will need to be reviewed and revised more often than other Policies to ensure that it is addressing best practices. The Policy was developed based on recommendations from the Public Services Health and Safety Association, Peterborough Public Health and the Province of Ontario.

Conclusion:

As Stage Two of the Covid-19 pandemic continues it is essential to have a policy in place that provides direction on infectious disease preparedness and response.

Recommendation:

That the C.A.O.-2020-28 report, dated June 24, 2020, regarding the Infectious Disease Preparedness and Response Policy be received, that Council approves the Policy and further that the Policy be entered into the Township Policy Manual as Policy Number A-26 and takes effect immediately.

Financial Impact:

There will be a financial impact as a result of this proposed policy. At this time the costs cannot be estimated but they will include items such as additional PPE, enhanced cleaning practices, additional training for staff, modifications to work space. All of the costs that are directly related to the Covid-19 pandemic are being tracked with a special project code.

Strategic Plan Applicability:

To ensure and enable an effective and efficient municipal administration.

Sustainability Plan Applicability: N/A

Infectious Disease Preparedness and Response Policy

Approved By: Council
Approval Date:
Effective Date:
Revision Date:

Policy Statement

This policy is designed to ensure that staff are fully aware of infection control precautions and procedures.

Purpose: This policy is designed to ensure that staff are fully aware of routine infection control precautions and procedures in the workplace. The aim is to clearly identify requirements and procedures essential to control the spread of infection at the workplace while also maintaining municipal operations. This policy is based on information available at the time of its development and is subject to change based on further information provided by government, local public health authorities and the latest evidence. This policy also confirms the authority of management to enforce these control precautions.

Application: This policy applies to all staff of the Township of Douro-Dummer whether full-time, part-time or contract and will serve as a guideline, informed by public health best practices and government requirements, to help staff remain or return to work under safe conditions.

Declared Emergency – Infectious Diseases

A State of Emergency can be declared at various levels of government and allows the government extraordinary powers with the goal of quickly and appropriately reacting to the emergency at hand. If an Infectious Disease State of Emergency is declared, the Township of Douro-Dummer will adhere to any restrictions and regulations implemented by various levels of government to ensure the safety of all employees. To help mitigate the potential impact of a disease outbreak on our employees and on the population at large, the Township of Douro-Dummer will strictly adhere to all public health advice and related restrictions. The Township recognizes that the individual health practices of employees can have a significant impact on the organization and wider

community, just as organizational practices may impact the health of staff and the community.

Definitions:

Communicable Disease - a disease that is spread from one person to another through a variety of ways that include, but are not limited to, contact with blood and bodily fluids, inhalation of an airborne pathogen or insect bite.

Epidemic - When an infectious or communicable disease spreads rapidly and affects many people.

Outbreak - A higher-than-expected occurrence of a particular infectious or communicable illness, within a specific geographic area.

Pandemic - An epidemic of disease that has spread across a large region, for example across multiple countries or international borders, and affecting a large number of people.

Screening - Screening is a process for surveilling and identifying probable cases of an infectious disease to help guide response actions. Active screening involves tests, examinations and interviewing. Passive screening involves posting signage and messaging.

References & Related Policies:

Municipal Freedom of Information and Protection of Privacy Act
Township of Douro-Dummer Health and Safety Policy
Occupational Health and Safety Act
Township of Douro-Dummer Disciplinary Policy
Township of Douro-Dummer Policy P4 Code of Conduct for CBO
Township of Douro-Dummer Return to Work Policy
Township of Douro-Dummer Business Continuity Plan

Consequences of Non-Compliance:

This policy is intended to serve as a guideline, informed by local public health authority best practices and government requirements, to help staff remain or return to work under safe conditions. Non-compliance may put a staff member or multiple staff members in unsafe situations which could result in the spread of communicable disease. Provisions of the Township disciplinary policy may be utilized depending on the severity of the situation.

Review Cycle: This policy will be reviewed on an as needed basis or every 2 years, whichever comes first.

Procedures

The following shall be adhered to in order to implement this policy:

Personal Responsibility:

All employees are expected to reduce or prevent the spread of communicable disease in the workplace by engaging in the following actions to protect themselves, co-workers and the public.

- When you cough or sneeze, cover your mouth and nose with your elbow. If using a tissue, immediately throw the tissue in the garbage and wash hands thoroughly. Use a hand sanitizer that is appropriate for the situation if soap and water are not available;
- Avoid touching your eyes, nose and mouth
- Wash your hands with soap and water for at least 20 seconds:
 - Immediately after using the restroom
 - Before and after you eat
 - Immediately after coughing, sneezing, using a tissue or smoking
 - At regular intervals throughout the day; and
- Use a hand sanitizer that is appropriate for the situation if soap and water are not available.
- Avoid close contact with others and maintain physical distance as recommended by local public health authority.

Employer

Employers must take every reasonable precaution necessary to protect the health and safety of workers. Duties of the employer are stated in Section 25 of the Ontario Health and Safety Act (OHSA). What is appropriate and reasonable depends on the nature of the organization and the workforce, including:

- Staying informed on current and potential disease outbreaks that may affect the community and/or the workplace and communicate this information to employees as required;
- Conducting regular risk assessments to remain aware of potential hazards and prioritize and minimize risk in accordance with public health advice and regulations;

- Implementing a system for screening and notifying the appropriate workplace parties and public health authorities in case of a positive diagnosis;
- Enforcing the contents of this policy at all times with all members of staff up to and including sending staff home who are exhibiting symptoms which pose a potential risk to the workplace;
- Providing education and training to all employees regarding specific safety protocols and measures;
- Providing the appropriate personal protective equipment (PPE) and training;
- Encouraging good hygiene, like hand washing and enhancing environmental cleaning and disinfection;
- Posting hygiene instructions throughout the workplace for staff and visitors in majority workplace languages so everyone understands how to do their part;
- Providing all employees access to proper handwashing amenities and placing hand-sanitizer stations at regular intervals throughout the workplace;
- Regular and thorough sanitation of work surfaces including doorknobs, hand railings, tables, eating areas, shared spaces, shared equipment and other commonly touched surface areas;
- Monitoring cleaning, hygiene and PPE supplies and ensure they are filled regularly;
- Providing individually assigned work materials wherever possible (e.g. pens, keyboards, hand tools etc.) and encourage the use of technology to reduce physical meetings or handling paperwork where possible;
- Implementing controls to allow for appropriate physical distancing requirements;
- Using barriers to protect employees and public where distancing is not possible;

- Supporting physical distancing with a variety of strategies which may include separating workstations, staggering shifts or breaks, holding meetings outside, restricting the number of people on-site, controlling movement through the workplace with signage and floor markings and modifying or eliminating areas where people may gather;
- Adding floor markings and barriers to manage traffic flow and encourage physical distancing;
- Considering ways to introduce more fresh air such as increasing the ventilation system's air intake or opening doors and windows. Avoid central recirculation where possible;
- Ensuring that scheduling information is accurate so that it can be report which employees may have had contact with a positive infection case, should the situation arise;
- Administering policies and responding to crisis in a non-discriminatory manner; and
- Having a business continuity plan.

Supervisor

Supervisors will be held accountable for the health and safety of workers under their supervision. Duties of the supervisor are stated in Section 27 of the OHSA. Supervisors are responsible for ensuring that all infection prevention and control protocols are being followed and workers are complying with and following established safe work procedures. Some responsibilities include the following:

- Ensuring workers are adhering to measures and procedures as required;
- Ensuring workers use equipment and protective devices and clothing as required; and
- Advise worker of any existing or potential risks of exposure.

Employee/Worker

Every employee will protect his or her own health and safety by working in compliance with the law and with safe work practices and procedures established by the Municipality. Duties of the employee are stated in Section 28 of the OHSA. Some responsibilities include:

- Familiarizing themselves with the symptoms of the infectious disease and self-monitoring;

- Informing their supervisor and any necessary agencies if they develop symptoms and stay home if they are exhibiting symptoms of the disease (depending on the situation, this may require a doctor's note). Seek medical attention if symptoms have progressed beyond a state that can be managed with self-care at home;
- Following safe working procedures and properly using appropriate face coverings and/or PPE such as masks and/or gloves;
- Appropriately disposing of used disposable face coverings, masks and gloves in the garbage;
- Practicing good hygiene protocols including frequent hand washing, using appropriate respiratory etiquette, not touching the face with unwashed hands, avoiding close contact with people who are sick, and covering your mouth and nose with your elbow when you cough or sneeze; and
- Using sanitizer to completely cover hands when soap and water are not available or practical.

Joint Health and Safety Committee

The Joint Health and Safety Committee (JHSC) will run as per the requirements stated in Section 9 of the OHSA. At the time of the creation of this policy, the Township of Douro-Dummer is not required to have a Joint Health and Safety Committee. In the absence of a JHSC, there are Health and Safety Representatives available.

Absence Due to a Communicable Disease

The Township of Douro-Dummer encourages employees to stay home from work if they develop a contagious illness. In some instances, a note from a certified medical professional may be required (this will be reviewed on a case-by-case basis). In some instances, employees may be able to work from home, at the discretion of management. Employees are encouraged to review the organization's sick leave policy and work from home procedure document for additional detail on time off due to illness. Please be aware that employees who report to work but who exhibit symptoms which may pose a risk to their co-workers or the public will be sent home to fully recover before returning to work. In accordance with the Municipality's Return to Work Policy, employees must also complete a Return to Work Survey (Appendix A) before returning to work.

Closure due to a Pandemic

In very rare instances, certain businesses or organizations may be asked to participate in a temporary shut-down in order to help mitigate the spread of a

disease. In this situation, the Township of Douro-Dummer reserves the right to temporarily lay off employees with minimal notice to comply with these requirements. If practical, working from home may be considered depending on the job functions in question. The Township of Douro-Dummer cannot guarantee any employee that working remotely will be feasible but will consider such an arrangement on a case-by-case basis. If it is necessary for the Township of Douro-Dummer office to close temporarily, the Chief Administrative Officer (CAO) will communicate this to employees and the public as soon as possible. The Township of Douro-Dummer will provide staff with regular updates related to the closure. It is expected that all staff who are recalled to work following a re-opening will return to their position within three (3) days of being given notice by the CAO that the workplace has been deemed safe to re-open.

Occupational Illness Reporting Procedures

Workers experiencing symptoms of an infectious disease while at work should immediately inform their supervisor. Employees will be sent home, advised to self-isolate and call their primary care provider or Telehealth for further guidance. The employer has a duty to report confirmed cases to:

- The Ministry of Labour, Training and Skills Development in writing within four days
- Health and Safety Representative
- Local Public Health Authority

The Municipality will also report occupationally acquired infections to the Workplace Safety and Insurance Board (WSIB) within 72 hours of receiving notice of the illness. The employer should consult with the local public health to determine when a worker is safe to return to work. Clear instructions should be provided to all workplace parties about the reporting procedure.

Infection Prevention and Control Procedures

An effective infection prevention and control program should include the following to reduce workplace exposures to an infectious disease:

- Screening procedures
- Training and communication
- Control measures (including environmental and source control)
- Personal protective equipment (PPE)

Best practice documents published by Public Health Ontario, the local Public Health Authority as well as guidelines and directives from the Ministry of Health will be referenced. Continuous monitoring of the effectiveness of the controls is necessary to ensure the ongoing protection of employee's health and safety.

Business Continuity and Recovery

The Municipality has a Business Continuity Plan and will endeavour to ensure it is updated in a timely manner. Instruction and delineation of roles and responsibilities must be clear. A system for communicating these plans must be made to inform all appropriate workplace parties. Employers must work in accordance with governing bodies and public health authorities regarding business operations during and following a pandemic. The need for preparedness and coordination is fundamental. A phased-in and methodical approach is required for a safe return to the workplace.

Evaluation

It is in the best interest of all parties to consider infection prevention and control in every activity. Commitment to health and safety must form an integral part of this organization, from the employer to the employees. Sector specific guidelines from the Ministry of Labour will be referenced and incorporated into guidelines produced by the Township.

Appendix A: Return to Work Survey – Infectious Disease Preparedness and Response Policy

The questions on this survey may change depending on the communicable disease and the regulations, requirements and guidelines set out by various levels of government and the local public health authority.

Appendix – A

**Township of Douro-Dummer Return to Work Survey – Infectious
Disease Preparedness and Response Policy**

The following survey is to be completed to adequately ensure the health and safety of staff and to provide critical information that facilitates the safe transition back to a shared workplace. This survey must be returned to your supervisor or another member of the management team within 24-hours of your scheduled return to work. A return to work will not be accommodated without a completed Return to Work survey.

Thank you for your cooperation and vigilance.

Please provide brief answers to the following questions:

1. Are you exhibiting any symptoms of an infectious disease?
2. Have you been in close contact with anyone who has exhibited symptoms of an infectious disease?
3. Have you travelled to an area where there was an infectious disease outbreak?
4. Have you been in close contact with anyone who recently travelled to an area with an outbreak?
5. Have you left the province within the past 14 days? If so, have you completed a prescribed 14-day period of self-isolation or quarantine?
6. Is there any other information you believe we should consider before your return to work?

I, _____, certify the above to be true to the best of my knowledge.

Signature

Date

Overview:

At the Council meeting on June 16, 2020, Council passed the following Resolution:

Resolution Number 225-2020Moved by: Deputy Mayor MoherSeconded by:
Councillor Watson

That the C.A.O.-2020-25 report, dated June 4, 2020, regarding the recruitment of a permanent Manager of Public Works be received, that Council appoint Mayor Jones to sit on the hiring committee, that the efficiency and transparency methods outlined in the report be approved and finally that the first meeting of the hiring committee take place on the afternoon of Friday, June 19, 2020. Carried

At the first meeting of the hiring committee it was proposed that the job description for the position of Manager of Public Works should be circulated to the consultant who is working on the Township's Service Delivery and Organizational Review to ensure that the job description that Council had approved in November 2019 will not be in conflict with the recommendations that are soon to be presented.

The consultant did provide an amended job description for the position that is in-line with the recommendation that will be forthcoming regarding the role of the Manager of Public Works and the operations of the Public Works Department.

Conclusion:

It would be advantageous to use the amended job description in the hiring for a new Manager of Public Works as it will ensure that the selection process is looking for candidates who have the right skill sets, knowledge and experience to excel in the position now and in the future. The approval of this job description will allow for the hiring to continue in a timely and transparent fashion.

Recommendation:

That the C.A.O.-2020-29 report, dated June 24, 2020 regarding the job description for the Manager of Public Works position be received and that that the amended job description replace the previous description approved in November 2019.

Financial Impact:

This report will not have a financial impact as the salary range for this position is still appropriate for the amended job description.

Strategic Plan Applicability:

To ensure and enable an effective and efficient municipal administration. To ensure that the public works department operates efficiently and effectively.

Sustainability Plan Applicability: N/A

DOURO-DUMMER JOB DESCRIPTION MANUAL
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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 1 of 4
REPORTS TO: CHIEF ADMINISTRATIVE OFFICER	DATE: November 2019
THIS JOB DESCRIPTION IS: __ NEW __ EXISTING <u> X </u> REVISED __ RESCINDED	

JOB SUMMARY:

Under the general direction of the Chief Administrative Officer, the Manager of Public Works is accountable for the operations of the Public Works Department, ensuring that Municipal Roads are maintained to specified levels and that relevant legislation, regulations and policy is adhered to. In addition, this position is accountable for the maintenance of Public Works Department buildings and municipal gravel pits; the maintenance and operation of the transfer station and closed municipal waste sites; provides leadership and direction to Public Works employees; and as a member of the Senior Management Team assists with management issues and provides leadership, advice and consultation to staff, council and the public as required.

DUTIES AND RESPONSIBILITIES:

1. Responsible for ensuring that road maintenance and construction are carried out in a timely and efficient manner as per municipal practices and procedures and ensure that all staff receive adequate training to accomplish this.
2. Responsible for the maintenance of Public Works Department buildings and equipment.
3. Responsible for the maintenance and day-to-day operation of the transfer station, closed municipal waste sites and waste collection contract.
4. Instructs staff as to what work is to be completed, all special considerations, materials, material sources, traffic controls to be used, correct methods and procedures of doing work, levels of service to be achieved and local considerations. Reviews problems with staff and provides guidance as to methods, priorities or other assistance that may be required. Develop a regular process of communication with public works staff, so that they are conversant with future plans and projects.
5. Adheres to legislation and regulations of various Provincial and Federal Ministries and agencies and Council Policies.
6. Prepares and oversees the operational and capital budgets for the Public Works and Waste Management Departments. Ensures accurate administration and monitoring of related expenditures.
7. Develops annual/weekly maintenance schedules for roads, public works buildings, transfer station and closed waste sites.
8. Investigates and resolves requests and concerns from taxpayers to ensure the necessary action is taken.

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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 2 of 4

DUTIES AND RESPONSIBILITIES: (Cont'd)

9. Provides recommendations regarding the Public Works and the Waste Management Department to Council for its information and discussion.
10. Assists with the completion and submission of applications for grants and funding.
11. Participates in the hiring and evaluation of subordinate full-time staff. Recommends and implements disciplinary actions affecting subordinates.
12. Responsible for hiring casual staff as required, ensuring budget guidelines are adhered to.
13. Assists with maintenance of the park facilities.
14. Supervises work relating to outside contractors and tradespeople on special construction and repair projects.
15. Responsible for the ongoing maintenance of municipal gravel pits, ensuring that all requirements for licencing are adhered to.
16. Prepares cost estimate, tender, quotation and proposal documentation as required for consideration by Council.
17. Responsible for approving purchases and maintaining inventory in accordance with municipal policies.
18. Responsible for preparing payroll information, equipment time sheets, revenue and invoicing information to forward to the Treasurer in an accurate and timely manner.
19. Verifies and submits all billings for sales and service to the Treasury Assistant-A/P- Payroll Clerk in an accurate and timely manner.
20. Performs duties of Equipment Operator as required.
21. Produces and maintains any forms, records, reports, policies and correspondence as required.
22. Attends council meetings, public meetings and public information sessions as required to provide information and to make recommendations with respect to departmental or corporate issues.
23. Ensures the confidentiality of all information in accordance with the Municipal Freedom of Information and Protection of Privacy Act.
24. Responsible to ensure that employees adhere to the Occupational Health and Safety Act and the Township Health and Safety Policy.

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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 3 of 4

25. Participates in the Municipal Operation Centre for emergency purposes.
26. Responsible for ensuring the reconciling of fuel, culvert, winter sand/salt mix, and gravel pit stock on a monthly basis and file the necessary report to the Treasurer.
27. Ensures that Asset Inventory information for P.S.A.B. compliance and the Township Asset Management Program is kept up to date and regularly provided to the Treasurer.
28. Ensures that all facets of the public works department comply with the Maintenance Standards for roads under the Municipal Act.
29. Other duties as may be assigned.

SUPERVISION:

This position requires the incumbent to supervise and direct the work of the personnel assigned to the Public Works Department.

CONTACTS:

Internal: With the Chief Administrative Officer, other members of the Management Team, Council, and subordinates to provide guidance, advice, leadership in noted areas of responsibility; to assist in problem solving issues and for the purpose of obtaining and sharing information to complete work assignments.

External: With contractors, suppliers, lawyers and insurance agents to provide and obtain information to complete work assignments, and to discuss and obtain resolution to municipal problems, issues and concerns. With various County, Municipal/Provincial/Federal agencies and officials to provide and obtain information.

With the general public to provide information, address concerns and solve problems ensuring polite and tactful relations.

WORKING CONDITIONS:

Exposure to a normal workshop environment. Exposure to hazards and inclement weather conditions. The incumbent may be required to work unusual hours in order to handle emergency and poor weather conditions.

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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 4 of 4

JOB KNOWLEDGE:

Post Secondary education in a related field, or equivalency, with specialized course work including completion of all 3 levels of Certified Road Supervisors program.

Minimum 5 years experience in a management role preferably within a municipal public works department overseeing roads operations, infrastructure maintenance and construction.

Minimum 2 years experience overseeing Environmental Compliance Certificates and service contracts for waste management.

Requires a Class “D” driver’s licence with “Z” endorsement.

Knowledge of road construction, maintenance activities and safety procedures required.

Knowledge of Municipal/Provincial/Federal legislation pertaining to a Public Works Department and Waste Management Department.

Supervisory and managerial knowledge, skills, experience and ability.

Demonstrated superior public relations, public speaking, report writing and communication skills.

Good organizational and leadership skills.

Proven ability to deal with the public, politicians and senior level staff in regards to issues that may be sensitive, contentious and difficult.

Ability to cope with several different requests and subjects simultaneously.

Demonstrated computer skills in Microsoft Office suite of software. (Experience with Central Square (Great Plains) software, GIS and GPS software would be an asset).

Employee

Chief Administrative Officer

DOURO-DUMMER JOB DESCRIPTION MANUAL

POSITION: MANAGER OF PUBLIC WORKS	PAGE: 1 of 4
REPORTS TO: CHIEF ADMINISTRATIVE OFFICER	DATE: June 2020
THIS JOB DESCRIPTION IS: ☐ NEW ☐ EXISTING ☒ REVISED ☐ RESCINDED	

JOB SUMMARY:

The Manager, Public Works, provides leadership and management to the Public Works Department. The position oversees the operation and maintenance of the municipality's Public Works infrastructure and services. The role ensures the Township's compliance with municipal, provincial and federal statutes and regulations, pertaining to Public Works operations and maintenance. The position provides information, support and expertise to Departments, CAO and Council.. In addition, this position is accountable for the maintenance of Public Works Department buildings and municipal gravel pits; the maintenance and operation of the transfer station and closed municipal waste sites; provides leadership and direction to Public Works employees; and as a member of the Senior Management Team assists with management issues and provides leadership, advice and consultation to staff, council and the public as required.

DUTIES AND RESPONSIBILITIES:

Operations

1. Identify and track best practices and trends / advances in areas of responsibility including but not limited to; roads, bridges/culverts, sidewalks, waste management, streetlights, municipal storm drains, stormwater management, and fleet, for possible application by the Township.
2. Develop, review and approve service delivery, operations and maintenance procedures for Public Works.
3. Participate in the development and implementation of a preventative (life cycle) maintenance program for the Township's Public Works infrastructure.
4. Ensure life cycle maintenance for Public Works is integrated and maintained into the Township Asset Management Program.
5. Establish specifications/standards for contracted services and service providers.
6. Conduct regular inspections of roads/ facilities/ waste management facilities.
7. Oversight of capital projects and inspections of contracted work.
8. Responsible for ensuring that road maintenance and construction are carried out in a timely and efficient manner as per municipal practices and procedures and ensure that all staff receive adequate training to accomplish this.
10. Accountable for the ongoing maintenance of municipal gravel pits, ensuring that all requirements for licensing are adhered to.
11. Accountable for the maintenance and day-to-day operation of the transfer station, closed municipal waste sites and waste collection contract.
12. Provides training, guidance and processes to assist staff in work planning and ensures that applicable and safe equipment, materials are available for the required work.

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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 2 of 4

13. Develops workplans for both proactive and reactive work and overseas work orders and required reporting to meet statutory obligations.
14. Develops policies and approaches for Township road network. Sources, traffic controls to be used, correct methods and procedures of doing work, levels of service to be achieved and local considerations. Reviews problems with staff and provides guidance as to methods, priorities or other assistance that may be required.
15. Receives and monitors service requests from the public and ensures follow up and management of issues.
16. Develop a regular process of communication with public works staff, so that they are conversant with future plans and projects.
17. Ensures that all staff are aware of legislative requirements as well as Township policies and provide regular training and updates to ensure adherence. Work with provincial and federal agencies where required.
18. Prepares and oversees the operational and capital budgets for the Public Works and Waste Management Departments. Ensures accurate administration and monitoring of related expenditures.
19. Develops annual/weekly maintenance schedules for roads, public works buildings, transfer station and closed waste sites.
20. Investigates and resolves requests and concerns from taxpayers to ensure the necessary action is taken.

Administration/Management

21. Track trends/changes in municipal statutes, provincial legislation and regulations for potential impact on the Public Works Department's operations and service delivery.
22. Monitor Township's compliance with all municipal statutes and provincial regulations (Drainage Act), pertaining to Public Works operations and maintenance.
23. Establish a quality assurance program for service delivery of the Public Works Department.
24. Identify, track and apply for grants and subsidies that support services, facilities and programs of the Public Works Department.
25. Maintains and delivers performance management program
26. Prepares, monitors and updates department capital and operating budgets, business plans and results.
27. Conduct current situation analysis and provide business/economic outlook, future legislation impact, setting/updating of Public Works related goals and strategies.
28. Accountable for purchases and approvals of purchases and maintaining inventory in accordance with municipal policies.
29. Accountable for reconciliation of inventories to ensure that they meet Township policies to allow the Treasurer to adhere to accounting principles.

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JOB DESCRIPTION MANUAL**

POSITION: MANAGER OF PUBLIC WORKS

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- 30.
31. Responsible for the development of equipment chargeout rates in consultation with Finance.
32. Accountable for all payroll and equipment chargeouts as well as any revenue recoveries.
33. Responsible to follow the Township's Records Retention Bylaw. Completes and maintains any forms, records, reports, (paper or electronic) policies and correspondence as required.
34. Develop tenders and requests for proposal as required in accordance with the Township's procurement bylaw.
35. Manages projects and contracts in line with best practices to ensure value for money and contractual arrangements are met. Supervises work relating to outside contractors and tradespeople on special construction and repair projects.
36. Participate as a member of the Senior Management Team of the Township providing skills, knowledge, information and recommendations to the Senior Management Team.
37. Serve as a project leader (when asked or assigned) on the corporate-wide project(s).
38. Provide inputs to the CAO regarding maintenance of harmonious employee relations
39. Assists with the completion and submission of applications for grants and funding.
40. Participates in the hiring and evaluation of Public Works staff.
41. In consultation with the CAO, develop recommendations and administer disciplinary actions affecting staff.
42. Responsible for hiring casual staff as required, ensuring budget guidelines are adhered to.
43. Actively promote health and safety practices for employees as well as the public and suppliers/contractors.
44. Responsible to develop policies and monitor adherence by all employees to the Occupational Health and Safety Act and the Township Health and Safety Policy. Ensure that staff are provided with Health and Safety training and mandatory training is renewed as required.
- 45.

Outreach:

46. Prepare written and oral presentations on topics/information from the Public Works Department.
47. Participate in the corporate-wide program and promote the various services delivered by the Township, particularly the Public Works Department.
48. Develop and maintain a contact network with professionals in the field, counterparts in other municipalities and contractors/suppliers.
49. Represent the Department with individual citizens, volunteers, community groups/associations, special interest groups, commercial interests, developers and the written and electronic media; liaise with regulatory officials/agencies at the federal, provincial, and county levels.
50. Provides recommendations regarding the Public Works and the Waste Management Department to Council for its information and discussion. Attends council meetings, public meetings and public information sessions as required to provide information and to make recommendations with respect to departmental or corporate issues.
51. Ensures the confidentiality of all information in accordance with the Municipal Freedom of Information and Protection of Privacy Act.
24. Participates in the Municipal Operation Centre for emergency purposes.

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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 4 of 4

25. Ensure that the Township complies with the requirements of Asset Management regulations for Public works assets including life cycle strategies and condition assessments. Work with the Finance Department to ensure that asset management plan is integrated with the budget process and all changes affecting tangible capital assets are reflected in the asset registry. Work with all departments to ensure that Public Works is integrated and maintained into the Township Asset Management Program and updated on a regular basis.
26. Serve as a leader in system implementations for asset management software and mobile applications to improve work management.
27. Ensures that all facets of the public works department comply with the Minimum Maintenance Standards for roads under the Municipal Act and other acts.
28. Other duties as may be assigned.

SUPERVISION:

This position requires the incumbent to supervise and direct the work of the personnel assigned to the Public Works Department.

CONTACTS:

Internal: With the Chief Administrative Officer, other members of the Management Team, Council, and subordinates to provide guidance, advice, leadership in noted areas of responsibility; to assist in problem solving issues and for the purpose of obtaining and sharing information to complete work assignments.

External: With contractors, suppliers, lawyers and insurance agents to provide and obtain information to complete work assignments, and to discuss and obtain resolution to municipal problems, issues and concerns. With various County, Municipal/Provincial/Federal agencies and officials to provide and obtain information.

With the general public to provide information, address concerns and solve problems ensuring polite and tactful relations.

WORKING CONDITIONS:

Exposure to a normal workshop environment. Exposure to hazards and inclement weather conditions. The incumbent may be required to work unusual hours in order to handle emergency and poor weather conditions.

JOB KNOWLEDGE:

- ☐ Post-Secondary Degree/Diploma in Civil Engineering or an equivalent field.

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POSITION: MANAGER OF PUBLIC WORKS	PAGE: 5 of 4

Certified Engineering Technologist with O.A.C.E.T.T. registration preferred.
Ontario Association of Roads Supervisors certification (senior level) preferred.

Minimum 5 years experience in a management role preferably within a municipal public works department overseeing roads operations, infrastructure maintenance and construction.

Minimum 2 years experience overseeing Environmental Compliance Certificates and service contracts for waste management.

Requires a Class “D” driver’s licence with “Z” endorsement?

Knowledge of road construction, maintenance activities and safety procedures required.

Knowledge of Municipal/Provincial/Federal legislation pertaining to a Public Works Department and Waste Management Department.

Supervisory and managerial knowledge, skills, experience and ability.

Demonstrated superior public relations, public speaking, report writing and communication skills.

Good organizational and leadership skills.

Proven ability to deal with the public, politicians and senior level staff in regards to issues that may be sensitive, contentious and difficult.

Ability to cope with several different requests and subjects simultaneously.

Demonstrated computer skills in Microsoft Office suite of software. (Experience with Central Square (Great Plains) software, work management and asset management systems, GIS and GPS software would be an asset).

Employee

Chief Administrative Officer

Overview:

As of January 1st, 2018, Ontario municipalities were subject to O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure, under the Infrastructure for Jobs and Prosperity Act, 2015, S.O. 2015, c.15. Under the law, every municipality will be required to prepare a comprehensive strategic asset management policy, a plan to maintain core municipal infrastructure, a levels of service proposal, and a publicly accessible asset management plan.

The Township of Douro-Dummer will be conducting the following activities in its proposed project submitted to the Federation of Canadian Municipalities' Municipal Asset Management Program, as well as using efficiency funding to advance the Township's asset management program:

1. Risk Analysis and Management

This includes developing a risk system, which will rank overall risk based on parameters that consider economic, social, environmental impacts, as well as all other available data regarding the condition of assets, known operational issues, etc.

A good risk analysis will assist in the prioritization of available resources and will:

- Ensure vital services are available
- Prioritize and streamline inspection and condition assessment programs
- Prioritize and optimize operations and maintenance programs
- Prioritize and optimize capital budget processes and program delivery
- Ensure that available money and resources are applied to the right asset at the right time
- And will establish attainable levels of service.

2. Lifecycle Model Development

Proper lifecycle management of infrastructure components, networks, and portfolios is how our Township will establish truly optimized budgets and make the best use of public funds. To accomplish this, an understanding of the types of maintenance activities and cycles, preventative maintenance activities, timelines for application and rehabilitation activities, and timelines for application and replacement activities for each asset class should be reviewed. In addition, the cost for the activities should be documented and a cost-benefit analysis should be performed to determine which activities provide the best value for money.

An example of various activities that will affect the life on a linear asset:

Activity Type (Cost)	Description	Example
Preventative Maintenance (\$)	Any activities that prevent defects or deteriorations from occurring	(Roads) Crack Seal
Rehabilitation (\$\$)	Any activities that rectify defects or deficiencies that are already present and may be affecting asset performance	(Roads) Mill & Resurface
Reconstruction (\$\$\$)	Asset end-of-life activities that often involve the complete replacement of assets	(Roads) Road Reconstruction

3. Data Consolidation

The Township will be provided with an updated Data Structure, which will standardize classifications, asset details and it will ensure that asset attributes, user defined attributes are set up correctly throughout all asset categories. The data structure will be part of the CityWide Asset Manager software program that we have in place. Having a standard Data Structure will ensure the CityWide Asset Manager software program can synchronize with the Diamond Software for reporting.

4. Levels of Service Framework

Beyond meeting regulatory requirements, established levels of service (LOS) should support the intended purpose of the asset and its anticipated impact on the community and the Township. The Township will establish guiding principles for the LOS that each service should strive to provide internally to the Township and externally to citizens and regulators. Existing policies, documents, and frameworks will be reviewed that include established LOS. A review will involve the analysis of accessibility of services, affordability, reliability, safety and regulatory, and sustainability.

Accessible: Services of sufficient capacity are convenient and accessible to the entire community

- Affordable: Services are provided at the lowest possible cost for both current and future customers, for a required level of service, and are affordable
- Reliable: Services are predictable and continuous
- Safe & Regulatory: Services are delivered such that they minimize health, safety and security risks
- Sustainable: Services respect the natural and heritage environment

5. Financial Strategies

The two main risks to financial sustainability for municipalities are providing levels of service that do not reflect fiscal capacity and the cost of infrastructure. As a result, in order for an asset management program to be effectively implemented, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan is critical to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service and projected growth requirements. The financial strategy should define the relationships between maintenance/capital requirements, debt strategy, reserve strategy and annual revenue opportunities/strategies. The result is recommendations on the necessary near-term steps that need to be taken in order to manage the long-term budget requirements. Township council will be engaged as the financial strategy is developed for review.

6. Comprehensive Asset Management Plan

By using the CityWide Asset Manager software, the comprehensive asset management plan will continue to meet provincial standards and guidelines (Ontario Regulation 588/17) but will go beyond minimum requirements to become a document that officials, staff, and residents can use to guide their decision-making and develop an educated perspective. The software will enable us to keep the asset management plan current without the need to hire consultants each time the Township wants current information. The integration of Diamond software for financial information and the CityWide Asset Manager software for analysis will allow the Township to provide detailed asset management reporting. This will be extremely beneficial for long-term budgeting. The desired phased approach for developing the Township of Douro-Dummer comprehensive asset management plan, as part of the broader Program Development, is as follows;

7. Asset Management Training

Because the Township owns CityWide Asset Manager software, all information used, calculated, and forecasted in the plan along with strategy development built throughout the Program Development process, will be loaded into the software for the Township's management. The Township will be trained on the software on how to manage the data and strategies as new information becomes available. The software will enable the Township to update the plan going into the future to ensure that the plan is a living document. The software will be also used to pull out live information to support grant applications, make evidence-based decisions for project priorities, and aid in the annual and long-term budgeting process supporting the Asset Management Plan.

Conclusion:

Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) for Asset Management Program is a five-year, \$50-million program designed to help Canadian municipalities make informed infrastructure

investment decisions based on sound asset management practices. The program is funded by the Government of Canada.

MAMP supports activities ranging from collecting data and analyzing asset management needs to developing policies and training staff to implement them. Eligible projects funded by the program will increase the municipality's capabilities and knowledge transfer in one of the following five competencies; asset management assessments, asset management plans, policies and strategies, data collection and reporting, training and organizational development as per the Asset Management Readiness Scale.

As per Resolution Number 238-2019 the Corporate Strategic Asset Management Plan Policy was approved by Council as per Ontario Regulation 588/17 (Asset Management Planning for Municipal Infrastructure) to meet the July 1, 2019 requirements of the Municipal Asset Management Planning Regulation (M.A.M.P.R., O. Reg. 588/2017) under the Infrastructure for Jobs and Prosperity Act, 2015.

Subject to funding availability, applications will be accepted on a continuous basis for up to 80 per cent of total eligible project costs, to a maximum of \$50,000. Projects must be completed within 11 months from funding approval notice. Recipients may only apply for one project in any fiscal year (April – March). Project applications must include a resolution of Council.

In addition to the above funding application I would request that Council approve using Efficiency Funding to complete the entire Public Sector Digest proposal. The 2020 budget included the Public Sector proposal costs with the corresponding efficiency funding and Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) for Asset Management Program funding. The 2021 portion of the proposal will be moved to the 2021 budget at the end of the year.

The three main activities in the 2020 proposed project for the Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) Grant in the Asset Management Program are;

- Risk and Lifecycle Framework Development
- Levels of Service Framework Development
- Asset Management Training

The activities for the 2021 proposed project for the Efficiency funding are:

- Additional Asset Management Training – Reporting and Analysis
- Continued Levels of Service Analysis
- Comprehensive Asset Management Plan with Program Development Incorporated (2021 O. Reg 588/17 Compliant)

Recommendation:

That the Treasurer-2020-18 Memo, dated June 24, 2020 regarding Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) Grant Application be received, that staff continue the Asset Management Program Development with Public Sector Digest Incorporated for a total municipal expenditure of \$125,368, as reduced by the \$50,000 FCM Grant application and efficiency funding of \$61,193, resulting in a net municipal 2020 budget commitment of \$14,175. This project will be conducted over a 2-year time frame 2020 and 2021.

That Council directs staff to apply for a grant opportunity from the Federation of Canadian Municipalities' Municipal Asset Management Program for Asset Management Program Development in The Township of Douro-Dummer.

And that efficiency funding be used in the amount of \$61,193 for the balance of the Public Sector proposal that allows the Township to comply with the requirements of Asset Management Policy & Reporting (Bill 6, O. Reg. 588/17)

The following resolution is a requirement for the Canadian Municipalities' Municipal Asset Management Program for Asset Management Program Development application:

Be it resolved that Council directs staff to apply for a grant opportunity from the Federation of Canadian Municipalities' Municipal Asset Management Program for Asset Management Program Development in Douro-Dummer.

Be it therefore resolved that the Township of Douro-Dummer commits to conducting the following activities in its proposed project submitted to the Federation of Canadian Municipalities' Municipal Asset Management Program to advance our asset management program:

- Risk and Lifecycle Framework Development
- Levels of Service Framework Development
- Data Work and Asset Management Training

Be it further resolved that the Township of Douro-Dummer commits \$14,175 from its budget toward the costs of this initiative.

Financial Impact:

There is no additional cost associated with this report. The 2020 budgeted the Asset Management Policy & Reporting (Bill 6, O. Reg. 588/17) funded as \$14,175 through municipal taxes with an application for the Federation of Canadian Municipalities Grant (FCM MAMP) of \$50,000 and Efficiency Funding of \$61,193.

Overview: The following is a report regarding the results from the Township's tender for Hired Equipment Registry, T-2020-01. On Wednesday, June 3, 2020, the Township's Hired Equipment Registry Tender closed.

Conclusion: We received tender packages from the following companies;

Jim Kerr Excavating Inc.
Ross Dunford Contracting
Glenn Windrem Trucking
Yard Boys Ltd.

Prices for equipment are requested annually in case of emergency situations or if the equipment is needed throughout the year for other reasons. It is a fair and equitable way to acquire the equipment that we may need. If equipment is needed we would use the most cost effective option based on availability. The tender packages have been summarized and have been included in the report as an attachment.

Recommendation:

That the Public Works-2020-09 report, dated June 18, 2020, regarding Hired Equipment Registry Tender T-2020-01 be received for Council's information.

Financial Impact: None.

Strategic Plan Applicability:

To enhance public transportation that is accessible and effective to support the needs of the community.

To ensure that the public works department operates efficiently and effectively.

Sustainability Plan Applicability:

To have an accessible transportation network that places priority on active and efficient modes of transportation.

Equipment	Description: (Make/Model/Year/HP/Capacity/Bucket Size/etc.)	Rate Per Hour With Operator (if available)	Rate Per Hours Without Operator (if available)	Float Charge	Minimum Charge	Contact	Email
Bobcat with Brushcat Attachment	2014 T590 Bobcat with Brushcat attachment	\$ 80.00				Jim Kerr	kkerr0302@gmail.com
Brush Saw	Holder tractor with boom mower with 5' Brush Saw	\$ 95.00				Jim Kerr	kkerr0302@gmail.com
Brushcutter	Grader with Roandco Brushcutter attachment & flagperson	\$ 150.00				Jim Kerr	kkerr0302@gmail.com
Bucket Truck (Tree Removal)	2000 GMC 55FT	\$ 150.00			4 Hours	Ross Dunford	rossdunford61@gmail.com
Excavator	Bobcat E80 excavator (2014) 10 ton machine with various buckets	\$ 105.00				Jim Kerr	kkerr0302@gmail.com
Grasscutter	Grader with Roandco GRASS blades attachment	\$ 110.00				Jim Kerr	kkerr0302@gmail.com
Live Bottom (Belt) Tractor Trailer	Various	\$ 150.00			3 Hours	Glenn Windrem	glenn@windremtrucking.com
Log Truck with Boom	92 Volvo	\$ 150.00			4 Hours	Ross Dunford	rossdunford61@gmail.com
Mower	Holder tractor with boom mower with 48" Flail Mower	\$ 85.00				Jim Kerr	kkerr0302@gmail.com
Steep Slope Mower	Bomford Flailbot 2020 46hp, cutslopes up to 550	\$ 320.00			\$ 2,500.00	Wayne Stephenson	wayne@yardboys.ca
Stump Grinder	2014 T590 Bobcat With Stump Grinder operator & labourer	\$ 120.00				Jim Kerr	kkerr0302@gmail.com
Stump Grinder	Bomford Flailbot , 2020 46hp	\$ 250.00			\$ 2,000.00	Wayne Stephenson	wayne@yardboys.ca
Sweeper	Holder with PTO driven sweeper	\$ 95.00				Jim Kerr	kkerr0302@gmail.com
Tandem Truck with Gravel Box	Various - approx. 15 metric tonnes	\$ 80.00			3 hours	Glenn Windrem	glenn@windremtrucking.com
Track Excavator (2 yard)	CAT 330 or similar	\$ 250.00		2 hours	3 hours	Glenn Windrem	glenn@windremtrucking.com
Tractor c/w Boom Mower	JD 6125M, 2014, 125 hp, Diamond Boom Mower 4 ft cut, 20 ft reach	\$ 150.00		\$ 650.00	\$ 10,000.00	Wayne Stephenson	wayne@yardboys.ca
Tractor with Roadside mower attachment	JD 6125M 2014 125hp kubota DM1024 Disc Mower 8' cut width	\$ 125.00		\$ 650.00	\$ 5,000.00	Wayne Stephenson	wayne@yardboys.ca
Tri Axle Truck with Gravel Box	Various - approx. 22.5 metric tonnes	\$ 95.00			3 hours	Glenn Windrem	glenn@windremtrucking.com
Vibratory Roller	2014 T590 Bobcat with Vibratory Roller attachment	\$ 80.00				Jim Kerr	kkerr0302@gmail.com

Overview: A report regarding the supply and delivery of culvert pipes tender. On Wednesday, June 3, 2020, the Township's tender for the supply and delivery of culvert pipes was closed.

Conclusion: Tender packages were sent to E.S. Hubbell & Sons Ltd., Armtec Ltd. and Corrugated Steel Pipe Institute. Tender packages were received from E.S. Hubbell & Sons Ltd. and Armtec Ltd. Armtec Ltd.'s proposal for the supply and delivery of plastic culvert pipes was the lowest proposal received based on the specifications requested. E.S. Hubbell & Sons Ltd.'s proposal for the supply and delivery of steel culvert pipes was the lowest proposal received based on the specifications requested.

Recommendation:

That the Public Works-2020-10 report, dated June 18, 2020 regarding Supply and Delivery of Culvert Pipes Tender T-2020-02 be received for Council's information.

Financial Impact: The Public Works Department has budgeted \$35,616 for Municipal Culverts. The tender results will meet our budget for the various construction projects and municipal culverts for 2020.

Strategic Plan Applicability:

To enhance public transportation that is accessible and effective to support the needs of the community.

To ensure that the public works department operates efficiently and effectively.

Sustainability Plan Applicability:

To have an accessible transportation network that places priority on active and efficient modes of transportation.

Report Approval Details

Document Title:	Supply and Delivery of Culvert Pipes Tender T-2020-02.docx
Attachments:	
Final Approval Date:	Jun 24, 2020

This report and all of its attachments were approved and signed as outlined below:

No Signature found

Jake Condon

Crystal McMillan

Martina Chait-Hartwig

Overview: A report regarding the supply and delivery of one tandem plow truck. On Friday, June 12, 2020, the Township's tender for the supply and delivery of one plow truck closed.

Conclusion: The public works department is looking to purchase one diesel powered tandem truck to be used for hauling sand and gravel in the summer months and snow plowing and sanding in the winter months.

Tender packages were sent to the following;

Complete B&I Truck Centre
Durham MACK
Winslow Gerolamy Motors
Kenworth Ontario - Peterborough

There was only one bid received from Winslow Gerolamy Motors. The bid submission was reviewed and meets all of the required tender specifications. A summary of the tender price and extended warranty options are listed in the table below.

Tendered Price	\$283,868.68
Extended Warranty - Options	
84 mo., 240,000 km, Eng./Eng.Elec./Emission	\$4,355.33
120 mo., 480,000 km, frame warranty	\$676.70
60 mo., 160,000 km, heating/air conditioning	\$1,852.03
60 mo., 160,000 km, electrical	\$1,684.13
TOTAL	\$292,436.87

The Tender submission is within budget as the 2020 capital budget for the public works truck is \$300,000

Recommendation:

That the Public Works-2020-11 report, dated June 23, 2020 regarding Supply and Delivery of One Plow Truck be received and that Council award the tender to Winslow Gerolamy Motors.

Financial Impact: The total financial impact is \$292,436.87 which is within our 2020 capital budget.

Strategic Plan Applicability: To enhance public transportation that is accessible and effective to support the needs of the community.

To ensure that the public works department operates efficiently and effectively.

Sustainability Plan Applicability: To have an accessible transportation network that places priority on active and efficient modes of transportation.

Report Approval Details

Document Title:	Supply and Delivery of One Plow Truck Tender T-2020-03.docx
Attachments:	
Final Approval Date:	Jun 24, 2020

This report and all of its attachments were approved and signed as outlined below:

No Signature found

Jake Condon

Crystal McMillan

Martina Chait-Hartwig

Overview: Our current open-air burn permit system is designed for the users to come into the office or library to acquire a permit. With the library and office not being open to the public, this has been a challenge and takes much more administration time to issue permits. The current bylaw also allows for small recreational type of fires to not obtain a permit, only follow the guidelines. This causes a challenge for engaging the public for fire risk or a burn ban.

We have explored a new permitting system that can be used online by the customer or we still have the option to create a permit for someone that would rather come into the office to retrieve. Payments can be made in the office or online through an easy secure format. The County of Peterborough is using this same online payment format at Lang and are happy with it. This permit system ties into our Who's Responding App that we use, so it adds another feature to a system we already have in place.

We have taken the opportunity to redo the open-air burning bylaw to work with the new permitting system and to overcome some of the issues that have been a challenge to deal with over the years.

Conclusion: This new open-air burn bylaw will address items that we have had challenges with, it will ensure that all open-air fires have permits and this will allow the user to know the fire risk or burn ban when they activate their permit. This is a great educational tool that we simply do not have in our current system. The convenience of not coming into the office to obtain a permit is beneficial for the customer and the administration. This efficiency does come at a cost, but we would recover through the selling of permits. Any surplus at the end of the year should be moved into our existing fire reserve for wildland firefighting to help fund equipment or third-party response, such as MNRF.

Recommendation:

That the Fire Chief-2020-08 report, dated June 25, 2020, regarding Open-Air Burning be received and the following be approved:

- That the attached open-air burning bylaw be approved at the appropriate time during the meeting;
- That the Township switch our burn permits to an online system;
- That the fire section of the user fee by-law be updated as attached;
- That the surplus revenue will be moved to the established wildfire reserve.

Financial Impact: The new permitting system uses credits that the Municipality purchases, but costs will be recovered through the selling of permits. Applying the updated user fees, should see a revenue generated each year. Transaction fees are 2.9% per transaction plus \$0.30. For example, on a \$20 permit, the fees to the Municipality are \$0.88 to issue the permit, then one credit or \$0.10 per permit activation or message sent by us, i.e. burn ban in effect.

Strategic Plan Applicability: This would be applicable for efficient administration

Sustainability Plan Applicability: The system should generate revenue each year that exceeds the cost of the credits purchased.

The Corporation of the Township of Douro-Dummer

By-law Number 2020-35

**Being a By-Law to regulate Open-Air Burning in the
Township of Douro-Dummer and to Repeal By-law Number 2015-05**

Whereas Section 7.1(1) of the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, as amended, states that a council of a municipality may pass by-laws regulating fire prevention including the prevention of the spreading of fires, and regulating the setting of open-air fires, including establishing the times during which open-air fires may be set;

And Whereas Section 7.1 (3) of the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, as amended, provides that a by-law under this section may deal with different areas of the municipality differently;

And Whereas Section 7.1(4) of the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, as amended, provides that a municipality may appoint an officer to enter upon land and into structures at any reasonable time to inspect the land and structures to determine whether by-laws enacted in accordance with this section are being complied with;

And Whereas Section 128 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended provides that a municipality may prohibit and regulate with respect to public nuisances, including matters that, in the opinion of Council, are or could become or cause a public nuisance;

And Whereas subsection 11(2) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, authorizes the municipality to pass by-laws respecting the health, safety and wellbeing of persons;

And Whereas Section 391(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that despite any Act, a municipality and a local board may impose fees or charges on any person for services or activities provided or done by or on behalf of it or for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board;

And Whereas Section 446(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that if a municipality has the authority by any Act or under a

by-law to direct or require a person to do a matter or thing, the municipality may also provide that, in default of it being done by the person directed or required to do it, the matter or thing shall be done at the person's expense and Section 446(3) provides that the municipality may recover the costs of doing a matter or thing from the person required to do it by action or by adding the costs to the tax roll and collecting them in the same manner as property taxes;

And Whereas the Council of The Corporation of the Township of Douro-Dummer is desirous of enacting a by-law to regulate the setting and maintaining of open-air fires and reducing the public nuisance arising from such fires:

Now Therefore the Council of The Corporation of the Township of Douro-Dummer hereby enacts as follows:

Part 1: Definitions

"Agricultural Fire" means an *open-air fire* that supports farming purposes from the *property* on which the fire is taking place, with a minimum land size of 10 hectares (24.71 acres). See Schedule "A" for size and clearances.

"Appliances" refer to certified or listed devices for cooking or warmth; outdoor items include propane or natural gas patio heaters and fire tables/pits or bowls. Certified or Listed means equipment included in a list published by a certification organization accredited by the Standards Council of Canada such as ULC or CSA. Devices are to be used in accordance with the manufacturer's instructions. A certification label must be visible, such as:



Gaseous fuel burning appliances are regulated by the [Technical Standards & Safety Authority](#) (TSSA). TSSA's Fuels Safety Program administers the *Technical Standards & Safety Act 2000*, providing fuel-related safety services associated with the safe transportation, storage, handling and use of hydrocarbon fuels (such as gasoline, diesel, propane and natural gas).

"Approved" means approved by the *Fire Chief*.

"Burn Barrels" shall mean metal drums or similar containers, which for the purposes of this By-law are not *incinerators* and are allowable for use providing they are in compliance with the same regulations as a *campfire*. All burn barrels shall have a heavy-duty screen with a mesh size of no greater than 6.35mm (1/4").

"Campground" means a campground as described in the Forest Fire Prevention Act, Reg. 207/96, being that a Campground allows camping only in cabins and designated campsites to the public on a temporary basis and is accessible by motor vehicle as define in the Highway Traffic Act.

"Campfire" means a small contained *open-air fire* that is used for warmth or cooking food. This type of fire must be contained by a non-combustible surrounding such as rocks, bricks, a metal fire ring or chiminea. See Schedule "A" for size and clearances.

"Chief Fire Official" means the assistant to the Fire Marshal who is the Municipal *Fire Chief* or a member or members appointed by the Municipal *Fire Chief* under Article 1.1.1.2. of Division C or a person appointed by the Fire Marshal under Article 1.1.1.1. of Division C of the Ontario Fire Code.

"Commercial Fire" means a fire conducted by a third party, hired to clear lands. Heavy equipment must be on site to create a fire break and control/extinguish fire as necessary.

"Competent Adult" means a person 18 years of age or older who is mentally and physically capable of safely managing open-air fires as well as competent in extinguishing method(s) selected.

"Fire Chief" shall mean the Fire Chief for the Township of Douro-Dummer, appointed under Part II, Section 6 of the Fire Protection and Prevention Act, 1997.

"Fire Department" means a group of firefighters authorized to provide fire protection services by the Township of Douro-Dummer.

"Flying Lanterns" mean a type of firework, also referred to as Chinese Lanterns. These are considered to be an open-air fire that cannot meet the intent of this By-law and are therefore not permitted for use.

"Forest Area" are treed areas that are not (a) groups of trees covering an area of less than an acre, (b) scattered trees in agricultural landscapes, or (c) trees in parks and gardens and around buildings.

"Incinerator" means equipment intended for outdoor burning and shall conform with Sections 6.2.6 of the Ontario Building Code and 2.6.3 of the Ontario Fire Code. This does not include a *burn barrel*.

"Occupant" means the person(s) residing in premises, which they do not own.

"Open-Air Fire" means any fire or burning practice that is conducted outside a building and includes but is not limited to, small confined fires and larger fires, fires in *burn barrels, incinerators*, outdoor recreational fireplaces, prescribed burning, and construction/demolition site fires.

"Owner" includes any person, firm or corporation having control over any portion of a dwelling unit, multi-residential structure, building, lands or premises and may include landlords, building managers, rental agents, agents, trustee, representative of the owner, superintendents and includes any other person to whom rent is payable.

"Prohibited Material" shall include anything that is not clean dry wood or natural wood by-products. Painted, pressure treated or glued wood products are not considered clean and are prohibited.

"Permit" means written authority provided by the *Fire Chief* or their designate, attached hereto as Schedule "B" and forming part of this By-law. Permit Types: *Agricultural Fire, Burn Barrel, Campfire, Campground, Commercial Fire, Incinerator Fire, Resorts/Trailer Park, Residential Brush Fire*, and *Special Occurrence Fire*.

"Property" shall mean any public or private land, building or structure or other real property within the Township of Douro-Dummer.

"Residential Brush Fire" means an open-air fire that is a maximum of 2m in diameter and 1m in height. Clearances required are 10m from any combustibles (including dry vegetation), **property** line, overhead wire, highway or vehicular right of way and 15m from any structure/building.

"Resorts/Trailer Park" means recreational type facilities where multiple cabins and or trailers exist.

"Special Occurrence Fire" means an **open-air fire** that does not meet the requirements set out in this By-law and is specific for an event or specific occurrence. All Special Occurrence Fire **permits** require a site inspection and approval prior to any fire occurring.

"Tenant" means the person(s) renting or leasing a premise.

"Township" shall mean all properties within the defined boundaries of the Township of Douro-Dummer.

Part 2: Administration

Refer to Schedule "B" for a summary of permitted Open-Air Fires

- 2.1** The **Fire Chief** shall be responsible for administering the provisions of this By-law.
- 2.2** The **Fire Chief** may attach any such conditions as deemed appropriate to any open-air burning and will be at the discretion of the **Fire Chief**.
- 2.3** The **Fire Chief** appoints the **Fire Department** or Officers of the **Fire Department** as **Chief Fire Officials** for the purposes of this By-law and is given authority to respond, investigate, interview, report and direct and/or extinguish as deemed appropriate within the scope of this By-law. The **Fire Department** may enter on land at any reasonable time without prior notice for the purpose of carrying out an inspection to determine compliance with the provisions of this By-law.
- 2.4** No actions or proceedings may be taken against the **Fire Chief**, the **Fire Department**, a **Chief Fire Official**, any Municipal Official or their designates for any act or omission by he/she who acted in good faith in the execution of any power or duty of this By-law.
- 2.5** Any words in bold and italics throughout the by-law are considered defined terms.

Part 3: Exemptions

3.1 Fire Department

The Township of Douro-Dummer Fire Services shall be exempt from the provisions of this By-law with respect to open-air burning.

3.2 Campgrounds – Annual Permit Still Required

The following criteria is specific to **Campgrounds** and reference from the Forest Fire Prevention Act (FFPA), O.Reg. 207/96 shall apply, but is still under the authority, control and penalties administered by the Township of

Douro-Dummer.

Campgrounds shall be exempt from the provisions of this By-law, when meeting the FPPA regulations as follows:

FPPA reference: 8.7 *A **campground** referred to in subsection 8.2 (3) and section 8.4 offers camping facilities to the public on a temporary basis and meets all of the following criteria:*

1. The **campground** allows camping only in cabins and designated campsites, and all are accessible by motor vehicle as defined in the Highway Traffic Act.
2. The **campground** does not allow **campfires** between 10 a.m. and 7 p.m.
3. The **campground** clearly posts the hours **campfires** will be allowed.
4. The **campground** has printed information on safe **campfires** and provides it to all of its guests.
5. The **campground** has adequate equipment to control and extinguish a fire that can be taken to any campsite or cabin within 10 minutes.
6. The **campground** has on site at all times staff who are instructed in the location and use of the equipment described in paragraph 5.
7. The **campground** has reliable two-way telecommunications equipment to allow it to obtain assistance if a fire escapes control. O. Reg. 230/00, s. 4; O. Reg. 64/10, s. 4.

8.4 *No person shall set a wood fire in a permanent fire installation in a **campground** described in section 8.7 in a restricted fire zone unless all of the following conditions are met:*

1. The fire is contained in,
 - i. an above ground fire grate or fireplace that is designed to burn wood safely and that cannot be moved to an unsafe location,
 - or
 - ii. a pit in the ground that has fireproof walls and is designed to burn wood safely.
2. The fire is at least three metres from any **forest area**, and the area within the three metre radius is completely free of flammable material.
3. The space immediately above the fire installation is at least three metres from any overhanging vegetation.
4. The **owner** or operator of the **campground** expressly permits the fire to be set during a time when the **campground** is in a restricted fire zone. O. Reg. 230/00, s. 4; O. Reg. 64/10, s. 3.

8.2 (3) *No person shall use a portable or permanent charcoal installation for cooking or warmth in a restricted fire zone in a **campground** described in section 8.7 unless all of the following conditions are met:*

1. The installation is designed to use commercially produced charcoal as fuel.
2. Commercially produced charcoal is used as the fuel.
3. The **owner** or operator of the **campground** expressly permits a charcoal installation to be used during a time when the **campground** is in a restricted fire zone. O. Reg. 230/00, s. 4.

3.3 Construction, Maintenance & Repairs

Responsible use of propane, acetylene, natural gas, gasoline or kerosene in a device intended for heating, construction or maintenance activities. This includes blow torches, cutting, welding and paving activities.

3.4 Emergency safety/signaling flares

Safely used by emergency services or for a person in distress signaling for help.

3.5 Outdoor Solid Fuel Burning/Combustion Appliances

“Outdoor Solid Fuel Burning/Combustion Appliance” (also referred to as an outdoor wood burning furnace), means a solid fuel burning appliance, which is used for the space heating of buildings, the heating of water or other such purpose and which is located in separate building or the exterior of the building which it serves. **This By-law does not regulate such appliances – Refer to Township of Douro-Dummer Zoning By-law for regulations or the Ontario Fire Protection and Prevention Act for fire safety.**

3.6 Provincial and Federal Parks

Open-air burning, including *campfires* in provincial or federal parks are covered under other fire prevention legislation.

3.7 Appliances

Appliances as described are exempt from this By-law. Refer to manufacturer’s instructions for safe operations.

3.8 Other Flaming Devices

The following open-air flaming device may be used without a permit providing they are maintained and supervised at all times:

- i) a gel pot designed to hold one (1) fuel cell at a time, providing the fuel cell does not exceed 396g (13 oz),
- ii) candles or tiki torches with a total fuel capacity not more than 510g (18 oz), or outdoor cooking devices that are not *appliances*, but include grilling, baking or cooking using charcoal, wood or wood pellets. Site-built type of devices must be done in accordance with the Ontario Building Code and Township Zoning By-law

Part 4: Restrictions on Burning

4.1 Regulations

No person may set an *open-air fire* or allow a fire to burn except in accordance with the provision of this By-law and all applicable federal, provincial and municipal laws and regulations.

4.2 Permits

No person may set a fire to burn in the open-air without obtaining a permit. Conditions as prescribed within the type of permit must be met. Permits must be *approved* prior to being valid. Permits must be activated before initiating an open-air burn.

Individuals at a *Campground* or *Resorts/Trailer Park* do not need to obtain a permit as this is covered by the *Campground* or *Resort/Trailer Parks* annual permit.

4.3 Prohibited Materials

No person may burn *prohibited materials*.

4.4 Supervision

All ***open-air fires*** shall be attended and supervised by a ***competent adult*** at all times.

4.5 Adequate means of Extinguishment

Competent Adult (s) shall ensure that an adequate means of extinguishing the fire is within 10m of the fire site while the fire is burning.

4.6 *Flying Lanterns* are a type of firework and are considered to be an open-air fire that cannot meet the intent of this By-law and are therefore not permitted for use.

4.7 Destruction of fire department property

No person shall, without lawful authority, tear down, remove, damage, deface or interfere with any equipment, including Fire Index Signs and Burn Ban notices.

4.8 Neighbour Dispute

If investigation of repeated burn complaint determines this is a neighbour dispute and the fire meets the spirit of this By-law, then applicable charges may occur to the caller.

4.9 Incinerators – conditions of the Fire Chief

Any person(s) installing and or using an ***Incinerator*** must be in compliance with Sections 6.2.6 of the Ontario Building Code and 2.6.3 of the Ontario Fire Code.

4.10 Air Quality

Open-air fires are to be suspended during episodes of poor air quality. Refer to the Ministry of the Environment, Conservation and Parks website www.airqualityontario.com/aqhi/today.php?sites=59006. During an Air Quality Health Index of more than 6, burning should be avoided and a no-burn day may be implemented. Burning during rain, freezing rain, fog or snow is also not advisable due to the poor burn efficiency of wet wood.

4.11 Wind Direction and Speed

Prevailing wind during the burn should be away, to the extent possible, from any receptors likely to be affected by the smoke (receptors include residences, schools, places of worship etc.) Planning the burn around predicted wind direction is essential to ensuring that fire containment and safety are maintained and as such should be a primary consideration. Stagnant air conditions are not ideal for burning as the smoke does not easily dissipate and creates air quality hazards. Light winds can help the smoke to rise and disperse. Winds above 25 km/h should be considered dangerous and ***open-air fires*** shall be extinguished or avoided.

No person may set or allow a fire to burn when the wind direction will cause:

- a) a decrease in visibility on any roadway,
- b) any odour or smoke to such an extent or degree so as to cause discomfort to person, or hazards to health, cause loss of enjoyment or normal use of ***property*** in the immediate area, or
- c) a rapid spread of fire through grass to a bush area.

4.12 Roadways

No ***open-air fire*** may be set or allowed to burn on roadways or land that is owned by the ***Township*** (***Special Occurrence Permit*** may be ***approved***).

4.13 New Construction Sites:

Only **campfire** or **residential brush fires** with clearances exceeding 100m to construction may be set or allowed to burn on any construction site. All other clearances related to permit type are applicable

4.14 Owner Consent

No **open-air fire** may be set or allowed to burn on any land or premise without the written consent of the **owner**.

4.15 Time of Day

No **open-air fire** other than a **campfire** may burn between sunset on the evening of any day and sunrise on the following day.

4.16 Ignition Sources

- 1) No person shall throw or drop, in or within 300 metres of a **forest area**,
 - a) a lit match, cigarette, cigar or other smoking material,
 - b) live coals, or
 - c) hot ashes.
- 2) No person who discharges a firearm, a flare, fireworks or explosives in or within 300 metres of a **forest area** shall leave any residue from the discharge unextinguished.

Part 5: Burn Ban

5.1 Fire Ban or No-Burn Day

No **open-air fire** may be set during a fire ban or no-burn day declared by the **Fire Chief**, with exception to Part 3 Exemptions. This may include the discharge of fireworks. A fire ban or no-burn day may be in place due to atmospheric conditions, local circumstances or dry conditions.

5.2 Geographical Area

A burning ban enacted under Section 7.1 of this By-law may be applied to the entire municipality or portions thereof at the discretion of the **Fire Chief**.

5.3 Fires Extinguished

If an **open-air fire** is not immediately extinguished by the person(s) responsible, the **fire department** shall extinguish all **open-air fires** under a burning ban, without recourse by the effected parties.

Part 6: Permit System

6.1 **Permits** are required for **all open-air fires** and are available online, at the Township of Douro-Dummer Municipal Office or the Douro-Dummer Library.

6.2 The **Fire Chief** is granted the authority to approve of the setting of **open-air fire** in accordance with the provisions of this By-law, provided the **permit** is completed and **approved**, attached hereto as Schedule "B".

6.3 An **Open-Air Fire** permit or permission may be cancelled at any time by the **Fire Chief**, and immediately upon receiving such notice of cancellation the person(s) responsible shall extinguish any fire started under this By-law.

6.4 If a **permit** is cancelled, approval from the **Fire Chief** shall occur prior to reactivating a **permit**.

6.5 Fees for fire **permits** are in accordance with the Township of Douro-Dummer User Fee and Charges By-law. All fire **permits** require payment

and approval prior to being valid. **Permits** requiring a site inspection must be scheduled and allow up to 5 days to process.

- 6.6** Prior to igniting your fire, your **permit** must be activated. This does not apply to **Campgrounds** and Resort **permits**. This can be done through the burn permitting website or by phone. See Schedule "A" for details.
- 6.7** All **permits** expire at the end of the calendar year, unless otherwise stated on the permit.

Part 7: Offences and Penalties

All Offences and penalties are at the discretion of the **Fire Chief**.
A first-time warning is not mandatory and will be at the discretion of the **Fire Chief**.

7.1 Ontario Fire Code

The regulation of open-air burning in Douro-Dummer is enforceable through Part II, Section 7.1 of the Fire Protection And Prevention Act, 1997. This regulation is also enforceable through O.Reg. 213/07: Fire Code, Division B, Sentences 2.4.4.4.(1) and (2).

7.2 Other Applicable Law

Division A, Sentence 1.2.3.1. Compliance with this Code does not relieve the **owner** from compliance with other applicable Acts and regulations, and, where a requirement of an applicable Act or regulation conflicts with a requirement of this Code, the more stringent requirement prevails, unless the more stringent requirement is in this Code and this Code says that the requirement of the other Act or regulation prevails.

7.3 Provincial Offences Act

Any person, firm, or corporation who contravenes any provision of this By-law is guilty of an offence and upon conviction is liable to a fine as provided for in the Provincial Offences Act, R.S.O. 1990, P. 33, as amended from time to time, or any replacement legislation.

7.4 Municipal By-law

Every person who contravenes any provisions of this By-law is guilty of an offence and is liable to the fees in accordance with the Township of Douro-Dummer User Fees & Charges By-law. Any special equipment needed, not limited to Ministry of Natural Resources Forestry, other fire department or third-party contractor(s) will be billed at cost plus an additional 20% for administrative costs.

The Township has the right to collect any unpaid costs associated with this By-law, in a like manner as municipal taxes.

7.5 Severability

Each provision of this By-law is independent of all other provisions, and if any provision is declared invalid for any reason by a court of competent jurisdiction, all other provisions of this By-law remain valid and enforceable.

- 8.** This By-law will supersede any by-law that is in conflict with this By-law.
- 9.** This By-law shall come into full force and effect on July 2nd, 2020.

- 10.** The Township of Douro-Dummer By-law 2015-05 is hereby repealed as of July 2nd, 2020.

Passed in open Council this 30th day of June, 2020

Mayor, J. Murray Jones

Clerk, Crystal McMillan

Schedule "A"

Only clean dry wood or natural wood by-products are allowed to be burned. Painted, pressure treated or glued wood products are not considered clean and are prohibited. No burning of garbage at any time.

<https://dourodummer.burnpermits.com/> or 1-844-971-1121 to activate your permit

Permit Types

Fees for fire permits are in accordance with the Township of Douro-Dummer User Fee and Charges By-law. All fire permits require payment and approval prior to being considered valid. Permits requiring a site inspection must be scheduled and allow up to 5 business days to process.

Agricultural fire:

An agricultural fire pile shall not exceed 5m in diameter, 2m in height and shall have a minimum of 20m clearances to property lines, combustibles (including dry vegetation) and 100m to any structure.

Burn Barrel:

A burn barrel is a metal drum or similar container. Containers must be no larger than one (1) meter in diameter and height. All burn barrels shall have a heavy-duty screen with a mesh size of no greater than 6.35mm (1/4"). Clearances required are 3m from property lines and combustibles (including dry vegetation).

Campfire:

A campfire is used for warmth or cooking food. A campfire wood pile will not exceed more than one (1) meter in diameter and half a meter in height. Clearances required are 3m from property lines and combustibles (including dry vegetation). A campfire fire must be contained by a non-combustible surrounding such as rocks, bricks, a metal fire ring or a chiminea.

Campground, Trailer Park or Resort:

The Campground, Trailer Park or Resort permit is for a location with numerous campfire sites and covers the entire park. Annual inspection is required. Size and clearance restrictions are the same as defined for a Campfire.

Commercial Fire:

A Commercial Fire permit is obtained by for the clearing of land. Heavy equipment must be available and ready to control and extinguish fire as necessary. A commercial fire pile shall not exceed 10m in diameter, 5m in height and shall have a minimum of 50m clearances to property lines, combustibles (including dry vegetation) and 150m to any structure.

Incinerator:

An incinerator is intended for outdoor burning and shall conform to Sections 6.2.6 of the Ontario Building Code and 2.6.3 of the Ontario Fire Code.

Residential Brush Fire:

A residential brush fire has a maximum pile diameter of 2m and maximum height of 1m. Clearances required are 10m from any combustibles (including dry vegetation), property lines, overhead wires, highway or vehicular right of ways and 15m from any structure or building.

Special Occurrence Fire:

A Special Occurrence Fire is an open-air fire that does not meet the requirements of any permit type and is specific for an event or occurrence. All Special Occurrence Fire permits require a site inspection to determine

approved size and clearances prior to any fire occurring.

Schedule "B"

Summary of Allowable Open-Air Burning

It is the responsibility of the person(s) burning to be familiar with the Open-Air Burning By-law; Schedule "B" is a guide only.

Open-Air Fire Summary of Rules

Permission – A permit is required for any open-air fire. See <https://dourodummer.burnpermits.com/> or Schedule "A" for types of permits available. Property owner's consent is required to obtain a permit.

Attendance – All open-air burning in the Township of Douro-Dummer shall be attended and supervised at all times by a competent person.

Material - Only the burning of clean wood and brush is permitted. Painted, pressure treated or glued wood products are not considered clean and are prohibited. No burning of garbage at any time.

Extinguishment – adequate means of extinguishment shall be within 10m of burn site.

Flying Lanterns are a type of firework and are considered to be an open-air fire that cannot meet the intent of this By-law and are therefore not permitted for use at any time.

Fireworks will be included in a fire ban related to dry conditions. This will be clearly indicated on the burn permit website.

Wind - No burning will be permitted if wind is over 25 km/h. No person may set or allow a fire to burn when the wind direction will cause:

- a) a decrease in visibility on any roadway,
- b) any odour or smoke to such an extent or degree so as to cause discomfort to person, or hazards to health, cause loss of enjoyment or normal use of property in the immediate area, or
- c) a rapid spread of fire through grass to a bush area.

Burn Ban - will always override any permission or permit obtained to conduct open-air burning. Campgrounds may be exempt. Refer to Part 3 Exemptions of the By-law for allowable burning during a fire ban.

Penalty & Fees - Costs associated with Open-Air Burning By-law related violations may be subject to fees as outlined in the Township User fees and Charges By-law.

Air Quality - Open-air fires are to be suspended during episodes of poor air quality. Refer to www.airqualityontario.com/aqhi/today.php?sites=59006. During an Air Quality Health Index of more than 6, burning should be avoided and a no-burn day may be implemented.

Burning during rain, freezing rain, fog or snow is also not advisable due to the poor burn efficiency of wet wood.

Ignition Sources

- 1) No person shall throw or drop, in or within 300 metres of a forest area,
 - a) a lit match, cigarette, cigar or other smoking material,
 - b) live coals, or
 - c) hot ashes.
- 2) No person who discharges a firearm, a flare, fireworks or explosives in or within 300 metres of a forest area shall leave any residue from the discharge unextinguished.

Time of Day - No open-air fire other than a campfire may burn between sunset on the evening of any day and sunrise on the following day.

New Construction Sites - Only campfire or residential brush fires with clearances exceeding 100m to construction may be set or allowed to burn on any construction site. All other clearances related to permit type are applicable.

Safety Considerations

Be aware of potential personal injury, such as superficial burns or ignition of clothing from sparks or flame. Also be aware of possibilities of injury and fire spread resulting from accidental tipping of outdoor fireplaces or chimineas. Check these units regularly *before* use for the appearance of cracks or other physical deterioration.

Inspections can be done upon request, even if a permit is not required.

Fees & Charges - Services & Activities**Excluding Tax****Open Air Burning Permits**

Agricultural	\$ 20.00
Burn Barrel	\$ 20.00
Campfire	\$ 20.00
Campground, Trailer Park or Resort (annual)	\$ 50.00
Commercial Fire	\$ 100.00
Incinerator	\$ 60.00
Residential Brush Fire	\$ 20.00
Special Occurrence Fire	\$ 40.00

Response Rates for Open Air Burning

1st Charge 50% of current MTO rate

2nd and all subsequent charges 100% of current MTO Rate

Request reports (fire Reports, File Search, Letter of Compliance etc.)

\$ 60.00

Fire & Rescue Department Vehicle Incidents - per hour

charged at current MTO response

HST

Total

\$ 20.00
\$ 20.00
\$ 20.00
\$ 50.00
\$ 100.00
\$ 60.00
\$ 20.00
\$ 40.00

rate per hour

\$ 60.00

Overview:

A report regarding the Daleview Road reconstruction. On Tuesday, June 16, 2020, the Township's tender for the Daleview Road reconstruction closed.

Conclusion:

Tender packages were received from Dufferin Construction and Drain Brothers Construction. Drain Brothers Construction was the lowest proposal received. It was also determined that the tender package received from Dufferin Construction Company was non-compliant as it was missing the acknowledgement of Addendum #1. The table below outlines the costing for the entire project including geotechnical testing, project management costs and the contingency.

Scope/Task	Company	Estimated Fees
Civil Contractor	Drain Bros. Excavating	\$ 505,881.95
Geotechnical Testing Contractor	Cambium	\$ 12,640.00
Project Management/Contract Administration/Inspections	D.M. Wills Associates Limited	\$ 42,985.00
Subtotal		\$ 561,506.95
10% Contingency		\$ 56,150.70
Total Project Cost Estimate excluding (H.S.T.)		\$ 617,657.65

Township staff and D.M. Wills met with representatives from Drain Brothers Construction to discuss the tender proposal to see if there are ways to reduce the cost of the project. Possible areas of savings are the geogrid slope from the upper road to the lower road. This could be constructed as an armour stone wall rather than a geogrid system and there is also a more economical guardrail system. At the time of writing this report, staff were waiting on amended pricing for this part of the project. During the site meeting there was also discussion of splitting the project into two phases, the first phase would involve the slope stabilization, underground and storm water works and the installation of a guardrail system to be completed 2020. Phase two would commence in 2021 and would include the remainder of the project – grading, culverts and roadworks (i.e. surface treatment). This option would provide some cost savings, however, again at the time of writing this report the amended prices were not available to staff. Once received, the new pricing will be provided.

Recommendation:

That the Public Works-2020-12 report, dated June 24, 2020, regarding the Daleview Road Reconstruction be received and the following approved:

- That Drain Brothers Excavating be awarded the tender utilizing the two-phase approach following the recommendations of D.M. Wills;

- That phase one works would include the slope stabilization, underground and storm water works and the installation of a guardrail system to be completed in 2020.;
- That phase two would commence in 2021 for finalization and include the remainder of the works such as grading, culverts and roadworks.

Financial Impact:

The 2020 Public Works Department has budgeted \$307,876.00 for the Daleview Road project. The tender results are over the budgeted amount for 2020 to complete the entire project this year. The project if completed in a two-phase approach would provide some cost savings. The 2020 first phase overages would be drawn from gas tax and construction reserves. Phase two will need to be budgeted for in 2021 for completion of the project.

Strategic Plan Applicability:

To enhance public transportation that is accessible and effective to support the needs of the community. To ensure that the public works department operates efficiently and effectively.

Sustainability Plan Applicability:

To have an accessible transportation network that places priority on active and efficient modes of transportation.

The Corporation of the Township of Douro-Dummer

By-law Number 2020-35

**Being a By-Law to regulate Open-Air Burning in the
Township of Douro-Dummer and to Repeal By-law Number 2015-05**

Whereas Section 7.1(1) of the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, as amended, states that a council of a municipality may pass by-laws regulating fire prevention including the prevention of the spreading of fires, and regulating the setting of open-air fires, including establishing the times during which open-air fires may be set;

And Whereas Section 7.1 (3) of the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, as amended, provides that a by-law under this section may deal with different areas of the municipality differently;

And Whereas Section 7.1(4) of the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, as amended, provides that a municipality may appoint an officer to enter upon land and into structures at any reasonable time to inspect the land and structures to determine whether by-laws enacted in accordance with this section are being complied with;

And Whereas Section 128 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended provides that a municipality may prohibit and regulate with respect to public nuisances, including matters that, in the opinion of Council, are or could become or cause a public nuisance;

And Whereas subsection 11(2) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, authorizes the municipality to pass by-laws respecting the health, safety and wellbeing of persons;

And Whereas Section 391(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that despite any Act, a municipality and a local board may impose fees or charges on any person for services or activities provided or done by or on behalf of it or for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board;

And Whereas Section 446(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that if a municipality has the authority by any Act or under a

by-law to direct or require a person to do a matter or thing, the municipality may also provide that, in default of it being done by the person directed or required to do it, the matter or thing shall be done at the person's expense and Section 446(3) provides that the municipality may recover the costs of doing a matter or thing from the person required to do it by action or by adding the costs to the tax roll and collecting them in the same manner as property taxes;

And Whereas the Council of The Corporation of the Township of Douro-Dummer is desirous of enacting a by-law to regulate the setting and maintaining of open-air fires and reducing the public nuisance arising from such fires:

Now Therefore the Council of The Corporation of the Township of Douro-Dummer hereby enacts as follows:

Part 1: Definitions

"Agricultural Fire" means an *open-air fire* that supports farming purposes from the *property* on which the fire is taking place, with a minimum land size of 10 hectares (24.71 acres). See Schedule "A" for size and clearances.

"Appliances" refer to certified or listed devices for cooking or warmth; outdoor items include propane or natural gas patio heaters and fire tables/pits or bowls. Certified or Listed means equipment included in a list published by a certification organization accredited by the Standards Council of Canada such as ULC or CSA. Devices are to be used in accordance with the manufacturer's instructions. A certification label must be visible, such as:



Gaseous fuel burning appliances are regulated by the [Technical Standards & Safety Authority](#) (TSSA). TSSA's Fuels Safety Program administers the *Technical Standards & Safety Act 2000*, providing fuel-related safety services associated with the safe transportation, storage, handling and use of hydrocarbon fuels (such as gasoline, diesel, propane and natural gas).

"Approved" means approved by the *Fire Chief*.

"Burn Barrels" shall mean metal drums or similar containers, which for the purposes of this By-law are not *incinerators* and are allowable for use providing they are in compliance with the same regulations as a *campfire*. All burn barrels shall have a heavy-duty screen with a mesh size of no greater than 6.35mm (1/4").

"Campground" means a campground as described in the Forest Fire Prevention Act, Reg. 207/96, being that a Campground allows camping only in cabins and designated campsites to the public on a temporary basis and is accessible by motor vehicle as define in the Highway Traffic Act.

"Campfire" means a small contained *open-air fire* that is used for warmth or cooking food. This type of fire must be contained by a non-combustible surrounding such as rocks, bricks, a metal fire ring or chiminea. See Schedule "A" for size and clearances.

"Chief Fire Official" means the assistant to the Fire Marshal who is the Municipal *Fire Chief* or a member or members appointed by the Municipal *Fire Chief* under Article 1.1.1.2. of Division C or a person appointed by the Fire Marshal under Article 1.1.1.1. of Division C of the Ontario Fire Code.

"Commercial Fire" means a fire conducted by a third party, hired to clear lands. Heavy equipment must be on site to create a fire break and control/extinguish fire as necessary.

"Competent Adult" means a person 18 years of age or older who is mentally and physically capable of safely managing open-air fires as well as competent in extinguishing method(s) selected.

"Fire Chief" shall mean the Fire Chief for the Township of Douro-Dummer, appointed under Part II, Section 6 of the Fire Protection and Prevention Act, 1997.

"Fire Department" means a group of firefighters authorized to provide fire protection services by the Township of Douro-Dummer.

"Flying Lanterns" mean a type of firework, also referred to as Chinese Lanterns. These are considered to be an open-air fire that cannot meet the intent of this By-law and are therefore not permitted for use.

"Forest Area" are treed areas that are not (a) groups of trees covering an area of less than an acre, (b) scattered trees in agricultural landscapes, or (c) trees in parks and gardens and around buildings.

"Incinerator" means equipment intended for outdoor burning and shall conform with Sections 6.2.6 of the Ontario Building Code and 2.6.3 of the Ontario Fire Code. This does not include a *burn barrel*.

"Occupant" means the person(s) residing in premises, which they do not own.

"Open-Air Fire" means any fire or burning practice that is conducted outside a building and includes but is not limited to, small confined fires and larger fires, fires in *burn barrels, incinerators*, outdoor recreational fireplaces, prescribed burning, and construction/demolition site fires.

"Owner" includes any person, firm or corporation having control over any portion of a dwelling unit, multi-residential structure, building, lands or premises and may include landlords, building managers, rental agents, agents, trustee, representative of the owner, superintendents and includes any other person to whom rent is payable.

"Prohibited Material" shall include anything that is not clean dry wood or natural wood by-products. Painted, pressure treated or glued wood products are not considered clean and are prohibited.

"Permit" means written authority provided by the *Fire Chief* or their designate, attached hereto as Schedule "B" and forming part of this By-law. Permit Types: *Agricultural Fire, Burn Barrel, Campfire, Campground, Commercial Fire, Incinerator Fire, Resorts/Trailer Park, Residential Brush Fire*, and *Special Occurrence Fire*.

"Property" shall mean any public or private land, building or structure or other real property within the Township of Douro-Dummer.

"Residential Brush Fire" means an open-air fire that is a maximum of 2m in diameter and 1m in height. Clearances required are 10m from any combustibles (including dry vegetation), **property** line, overhead wire, highway or vehicular right of way and 15m from any structure/building.

"Resorts/Trailer Park" means recreational type facilities where multiple cabins and or trailers exist.

"Special Occurrence Fire" means an **open-air fire** that does not meet the requirements set out in this By-law and is specific for an event or specific occurrence. All Special Occurrence Fire **permits** require a site inspection and approval prior to any fire occurring.

"Tenant" means the person(s) renting or leasing a premise.

"Township" shall mean all properties within the defined boundaries of the Township of Douro-Dummer.

Part 2: Administration

Refer to Schedule "B" for a summary of permitted Open-Air Fires

- 2.1** The **Fire Chief** shall be responsible for administering the provisions of this By-law.
- 2.2** The **Fire Chief** may attach any such conditions as deemed appropriate to any open-air burning and will be at the discretion of the **Fire Chief**.
- 2.3** The **Fire Chief** appoints the **Fire Department** or Officers of the **Fire Department** as **Chief Fire Officials** for the purposes of this By-law and is given authority to respond, investigate, interview, report and direct and/or extinguish as deemed appropriate within the scope of this By-law. The **Fire Department** may enter on land at any reasonable time without prior notice for the purpose of carrying out an inspection to determine compliance with the provisions of this By-law.
- 2.4** No actions or proceedings may be taken against the **Fire Chief**, the **Fire Department**, a **Chief Fire Official**, any Municipal Official or their designates for any act or omission by he/she who acted in good faith in the execution of any power or duty of this By-law.
- 2.5** Any words in bold and italics throughout the by-law are considered defined terms.

Part 3: Exemptions

3.1 Fire Department

The Township of Douro-Dummer Fire Services shall be exempt from the provisions of this By-law with respect to open-air burning.

3.2 Campgrounds – Annual Permit Still Required

The following criteria is specific to **Campgrounds** and reference from the Forest Fire Prevention Act (FFPA), O.Reg. 207/96 shall apply, but is still under the authority, control and penalties administered by the Township of

Douro-Dummer.

Campgrounds shall be exempt from the provisions of this By-law, when meeting the FPPA regulations as follows:

FFPA reference: *8.7 A **campground** referred to in subsection 8.2 (3) and section 8.4 offers camping facilities to the public on a temporary basis and meets all of the following criteria:*

- 1. The **campground** allows camping only in cabins and designated campsites, and all are accessible by motor vehicle as defined in the Highway Traffic Act.*
- 2. The **campground** does not allow **campfires** between 10 a.m. and 7 p.m.*
- 3. The **campground** clearly posts the hours **campfires** will be allowed.*
- 4. The **campground** has printed information on safe **campfires** and provides it to all of its guests.*
- 5. The **campground** has adequate equipment to control and extinguish a fire that can be taken to any campsite or cabin within 10 minutes.*
- 6. The **campground** has on site at all times staff who are instructed in the location and use of the equipment described in paragraph 5.*
- 7. The **campground** has reliable two-way telecommunications equipment to allow it to obtain assistance if a fire escapes control. O. Reg. 230/00, s. 4; O. Reg. 64/10, s. 4.*

8.4 No person shall set a wood fire in a permanent fire installation in a **campground** described in section 8.7 in a restricted fire zone unless all of the following conditions are met:

- 1. The fire is contained in,
 - i. an above ground fire grate or fireplace that is designed to burn wood safely and that cannot be moved to an unsafe location,*
 - or*
 - ii. a pit in the ground that has fireproof walls and is designed to burn wood safely.**
- 2. The fire is at least three metres from any **forest area**, and the area within the three metre radius is completely free of flammable material.*
- 3. The space immediately above the fire installation is at least three metres from any overhanging vegetation.*
- 4. The **owner** or operator of the **campground** expressly permits the fire to be set during a time when the **campground** is in a restricted fire zone. O. Reg. 230/00, s. 4; O. Reg. 64/10, s. 3.*

8.2 (3) No person shall use a portable or permanent charcoal installation for cooking or warmth in a restricted fire zone in a **campground** described in section 8.7 unless all of the following conditions are met:

- 1. The installation is designed to use commercially produced charcoal as fuel.*
- 2. Commercially produced charcoal is used as the fuel.*
- 3. The **owner** or operator of the **campground** expressly permits a charcoal installation to be used during a time when the **campground** is in a restricted fire zone. O. Reg. 230/00, s. 4.*

3.3 Construction, Maintenance & Repairs

Responsible use of propane, acetylene, natural gas, gasoline or kerosene in a device intended for heating, construction or maintenance activities. This includes blow torches, cutting, welding and paving activities.

3.4 Emergency safety/signaling flares

Safely used by emergency services or for a person in distress signaling for help.

3.5 Outdoor Solid Fuel Burning/Combustion Appliances

“Outdoor Solid Fuel Burning/Combustion Appliance” (also referred to as an outdoor wood burning furnace), means a solid fuel burning appliance, which is used for the space heating of buildings, the heating of water or other such purpose and which is located in separate building or the exterior of the building which it serves. **This By-law does not regulate such appliances – Refer to Township of Douro-Dummer Zoning By-law for regulations or the Ontario Fire Protection and Prevention Act for fire safety.**

3.6 Provincial and Federal Parks

Open-air burning, including *campfires* in provincial or federal parks are covered under other fire prevention legislation.

3.7 Appliances

Appliances as described are exempt from this By-law. Refer to manufacturer’s instructions for safe operations.

3.8 Other Flaming Devices

The following open-air flaming device may be used without a permit providing they are maintained and supervised at all times:

- i) a gel pot designed to hold one (1) fuel cell at a time, providing the fuel cell does not exceed 396g (13 oz),
- ii) candles or tiki torches with a total fuel capacity not more than 510g (18 oz), or outdoor cooking devices that are not *appliances*, but include grilling, baking or cooking using charcoal, wood or wood pellets. Site-built type of devices must be done in accordance with the Ontario Building Code and Township Zoning By-law

Part 4: Restrictions on Burning

4.1 Regulations

No person may set an *open-air fire* or allow a fire to burn except in accordance with the provision of this By-law and all applicable federal, provincial and municipal laws and regulations.

4.2 Permits

No person may set a fire to burn in the open-air without obtaining a permit. Conditions as prescribed within the type of permit must be met. Permits must be *approved* prior to being valid. Permits must be activated before initiating an open-air burn.

Individuals at a *Campground* or *Resorts/Trailer Park* do not need to obtain a permit as this is covered by the *Campground* or *Resort/Trailer Parks* annual permit.

4.3 Prohibited Materials

No person may burn *prohibited materials*.

4.4 Supervision

All ***open-air fires*** shall be attended and supervised by a ***competent adult*** at all times.

4.5 Adequate means of Extinguishment

Competent Adult (s) shall ensure that an adequate means of extinguishing the fire is within 10m of the fire site while the fire is burning.

4.6 *Flying Lanterns* are a type of firework and are considered to be an open-air fire that cannot meet the intent of this By-law and are therefore not permitted for use.

4.7 Destruction of fire department property

No person shall, without lawful authority, tear down, remove, damage, deface or interfere with any equipment, including Fire Index Signs and Burn Ban notices.

4.8 Neighbour Dispute

If investigation of repeated burn complaint determines this is a neighbour dispute and the fire meets the spirit of this By-law, then applicable charges may occur to the caller.

4.9 Incinerators – conditions of the Fire Chief

Any person(s) installing and or using an ***Incinerator*** must be in compliance with Sections 6.2.6 of the Ontario Building Code and 2.6.3 of the Ontario Fire Code.

4.10 Air Quality

Open-air fires are to be suspended during episodes of poor air quality. Refer to the Ministry of the Environment, Conservation and Parks website www.airqualityontario.com/aqhi/today.php?sites=59006. During an Air Quality Health Index of more than 6, burning should be avoided and a no-burn day may be implemented. Burning during rain, freezing rain, fog or snow is also not advisable due to the poor burn efficiency of wet wood.

4.11 Wind Direction and Speed

Prevailing wind during the burn should be away, to the extent possible, from any receptors likely to be affected by the smoke (receptors include residences, schools, places of worship etc.) Planning the burn around predicted wind direction is essential to ensuring that fire containment and safety are maintained and as such should be a primary consideration. Stagnant air conditions are not ideal for burning as the smoke does not easily dissipate and creates air quality hazards. Light winds can help the smoke to rise and disperse. Winds above 25 km/h should be considered dangerous and ***open-air fires*** shall be extinguished or avoided.

No person may set or allow a fire to burn when the wind direction will cause:

- a) a decrease in visibility on any roadway,
- b) any odour or smoke to such an extent or degree so as to cause discomfort to person, or hazards to health, cause loss of enjoyment or normal use of ***property*** in the immediate area, or
- c) a rapid spread of fire through grass to a bush area.

4.12 Roadways

No ***open-air fire*** may be set or allowed to burn on roadways or land that is owned by the ***Township*** (***Special Occurrence Permit*** may be ***approved***).

4.13 New Construction Sites:

Only **campfire** or **residential brush fires** with clearances exceeding 100m to construction may be set or allowed to burn on any construction site. All other clearances related to permit type are applicable

4.14 Owner Consent

No **open-air fire** may be set or allowed to burn on any land or premise without the written consent of the **owner**.

4.15 Time of Day

No **open-air fire** other than a **campfire** may burn between sunset on the evening of any day and sunrise on the following day.

4.16 Ignition Sources

- 1) No person shall throw or drop, in or within 300 metres of a **forest area**,
 - a) a lit match, cigarette, cigar or other smoking material,
 - b) live coals, or
 - c) hot ashes.
- 2) No person who discharges a firearm, a flare, fireworks or explosives in or within 300 metres of a **forest area** shall leave any residue from the discharge unextinguished.

Part 5: Burn Ban

5.1 Fire Ban or No-Burn Day

No **open-air fire** may be set during a fire ban or no-burn day declared by the **Fire Chief**, with exception to Part 3 Exemptions. This may include the discharge of fireworks. A fire ban or no-burn day may be in place due to atmospheric conditions, local circumstances or dry conditions.

5.2 Geographical Area

A burning ban enacted under Section 7.1 of this By-law may be applied to the entire municipality or portions thereof at the discretion of the **Fire Chief**.

5.3 Fires Extinguished

If an **open-air fire** is not immediately extinguished by the person(s) responsible, the **fire department** shall extinguish all **open-air fires** under a burning ban, without recourse by the effected parties.

Part 6: Permit System

6.1 **Permits** are required for **all open-air fires** and are available online, at the Township of Douro-Dummer Municipal Office or the Douro-Dummer Library.

6.2 The **Fire Chief** is granted the authority to approve of the setting of **open-air fire** in accordance with the provisions of this By-law, provided the **permit** is completed and **approved**, attached hereto as Schedule "B".

6.3 An **Open-Air Fire** permit or permission may be cancelled at any time by the **Fire Chief**, and immediately upon receiving such notice of cancellation the person(s) responsible shall extinguish any fire started under this By-law.

6.4 If a **permit** is cancelled, approval from the **Fire Chief** shall occur prior to reactivating a **permit**.

6.5 Fees for fire **permits** are in accordance with the Township of Douro-Dummer User Fee and Charges By-law. All fire **permits** require payment

and approval prior to being valid. **Permits** requiring a site inspection must be scheduled and allow up to 5 days to process.

- 6.6** Prior to igniting your fire, your **permit** must be activated. This does not apply to **Campgrounds** and Resort **permits**. This can be done through the burn permitting website or by phone. See Schedule "A" for details.
- 6.7** All **permits** expire at the end of the calendar year, unless otherwise stated on the permit.

Part 7: Offences and Penalties

All Offences and penalties are at the discretion of the **Fire Chief**.
A first-time warning is not mandatory and will be at the discretion of the **Fire Chief**.

7.1 Ontario Fire Code

The regulation of open-air burning in Douro-Dummer is enforceable through Part II, Section 7.1 of the Fire Protection And Prevention Act, 1997. This regulation is also enforceable through O.Reg. 213/07: Fire Code, Division B, Sentences 2.4.4.4.(1) and (2).

7.2 Other Applicable Law

Division A, Sentence 1.2.3.1. Compliance with this Code does not relieve the **owner** from compliance with other applicable Acts and regulations, and, where a requirement of an applicable Act or regulation conflicts with a requirement of this Code, the more stringent requirement prevails, unless the more stringent requirement is in this Code and this Code says that the requirement of the other Act or regulation prevails.

7.3 Provincial Offences Act

Any person, firm, or corporation who contravenes any provision of this By-law is guilty of an offence and upon conviction is liable to a fine as provided for in the Provincial Offences Act, R.S.O. 1990, P. 33, as amended from time to time, or any replacement legislation.

7.4 Municipal By-law

Every person who contravenes any provisions of this By-law is guilty of an offence and is liable to the fees in accordance with the Township of Douro-Dummer User Fees & Charges By-law. Any special equipment needed, not limited to Ministry of Natural Resources Forestry, other fire department or third-party contractor(s) will be billed at cost plus an additional 20% for administrative costs.

The Township has the right to collect any unpaid costs associated with this By-law, in a like manner as municipal taxes.

7.5 Severability

Each provision of this By-law is independent of all other provisions, and if any provision is declared invalid for any reason by a court of competent jurisdiction, all other provisions of this By-law remain valid and enforceable.

- 8.** This By-law will supersede any by-law that is in conflict with this By-law.
- 9.** This By-law shall come into full force and effect on July 2nd, 2020.

- 10.** The Township of Douro-Dummer By-law 2015-05 is hereby repealed as of July 2nd, 2020.

Passed in open Council this 30th day of June, 2020

Mayor, J. Murray Jones

Clerk, Crystal McMillan

Schedule "A"

Only clean dry wood or natural wood by-products are allowed to be burned. Painted, pressure treated or glued wood products are not considered clean and are prohibited. No burning of garbage at any time.

<https://dourodummer.burnpermits.com/> or 1-844-971-1121 to activate your permit

Permit Types

Fees for fire permits are in accordance with the Township of Douro-Dummer User Fee and Charges By-law. All fire permits require payment and approval prior to being considered valid. Permits requiring a site inspection must be scheduled and allow up to 5 business days to process.

Agricultural fire:

An agricultural fire pile shall not exceed 5m in diameter, 2m in height and shall have a minimum of 20m clearances to property lines, combustibles (including dry vegetation) and 100m to any structure.

Burn Barrel:

A burn barrel is a metal drum or similar container. Containers must be no larger than one (1) meter in diameter and height. All burn barrels shall have a heavy-duty screen with a mesh size of no greater than 6.35mm (1/4"). Clearances required are 3m from property lines and combustibles (including dry vegetation).

Campfire:

A campfire is used for warmth or cooking food. A campfire wood pile will not exceed more than one (1) meter in diameter and half a meter in height. Clearances required are 3m from property lines and combustibles (including dry vegetation). A campfire fire must be contained by a non-combustible surrounding such as rocks, bricks, a metal fire ring or a chiminea.

Campground, Trailer Park or Resort:

The Campground, Trailer Park or Resort permit is for a location with numerous campfire sites and covers the entire park. Annual inspection is required. Size and clearance restrictions are the same as defined for a Campfire.

Commercial Fire:

A Commercial Fire permit is obtained by for the clearing of land. Heavy equipment must be available and ready to control and extinguish fire as necessary. A commercial fire pile shall not exceed 10m in diameter, 5m in height and shall have a minimum of 50m clearances to property lines, combustibles (including dry vegetation) and 150m to any structure.

Incinerator:

An incinerator is intended for outdoor burning and shall conform to Sections 6.2.6 of the Ontario Building Code and 2.6.3 of the Ontario Fire Code.

Residential Brush Fire:

A residential brush fire has a maximum pile diameter of 2m and maximum height of 1m. Clearances required are 10m from any combustibles (including dry vegetation), property lines, overhead wires, highway or vehicular right of ways and 15m from any structure or building.

Special Occurrence Fire:

A Special Occurrence Fire is an open-air fire that does not meet the requirements of any permit type and is specific for an event or occurrence. All Special Occurrence Fire permits require a site inspection to determine

approved size and clearances prior to any fire occurring.

Schedule "B"

Summary of Allowable Open-Air Burning

It is the responsibility of the person(s) burning to be familiar with the Open-Air Burning By-law; Schedule "B" is a guide only.

Open-Air Fire Summary of Rules

Permission – A permit is required for any open-air fire. See <https://dourodummer.burnpermits.com/> or Schedule "A" for types of permits available. Property owner's consent is required to obtain a permit.

Attendance – All open-air burning in the Township of Douro-Dummer shall be attended and supervised at all times by a competent person.

Material - Only the burning of clean wood and brush is permitted. Painted, pressure treated or glued wood products are not considered clean and are prohibited. No burning of garbage at any time.

Extinguishment – adequate means of extinguishment shall be within 10m of burn site.

Flying Lanterns are a type of firework and are considered to be an open-air fire that cannot meet the intent of this By-law and are therefore not permitted for use at any time.

Fireworks will be included in a fire ban related to dry conditions. This will be clearly indicated on the burn permit website.

Wind - No burning will be permitted if wind is over 25 km/h. No person may set or allow a fire to burn when the wind direction will cause:

- a) a decrease in visibility on any roadway,
- b) any odour or smoke to such an extent or degree so as to cause discomfort to person, or hazards to health, cause loss of enjoyment or normal use of property in the immediate area, or
- c) a rapid spread of fire through grass to a bush area.

Burn Ban - will always override any permission or permit obtained to conduct open-air burning. Campgrounds may be exempt. Refer to Part 3 Exemptions of the By-law for allowable burning during a fire ban.

Penalty & Fees - Costs associated with Open-Air Burning By-law related violations may be subject to fees as outlined in the Township User fees and Charges By-law.

Air Quality - Open-air fires are to be suspended during episodes of poor air quality. Refer to www.airqualityontario.com/aqhi/today.php?sites=59006. During an Air Quality Health Index of more than 6, burning should be avoided and a no-burn day may be implemented.

Burning during rain, freezing rain, fog or snow is also not advisable due to the poor burn efficiency of wet wood.

Ignition Sources

- 1) No person shall throw or drop, in or within 300 metres of a forest area,
 - a) a lit match, cigarette, cigar or other smoking material,
 - b) live coals, or
 - c) hot ashes.
- 2) No person who discharges a firearm, a flare, fireworks or explosives in or within 300 metres of a forest area shall leave any residue from the discharge unextinguished.

Time of Day - No open-air fire other than a campfire may burn between sunset on the evening of any day and sunrise on the following day.

New Construction Sites - Only campfire or residential brush fires with clearances exceeding 100m to construction may be set or allowed to burn on any construction site. All other clearances related to permit type are applicable.

Safety Considerations

Be aware of potential personal injury, such as superficial burns or ignition of clothing from sparks or flame. Also be aware of possibilities of injury and fire spread resulting from accidental tipping of outdoor fireplaces or chimineas. Check these units regularly *before* use for the appearance of cracks or other physical deterioration.

Inspections can be done upon request, even if a permit is not required.

The Corporation of the Township of Douro-Dummer

By-law Number 2020-36

**Being a By-law to amend By-law 2017-30, as amended
(To provide for User Fees and Charges)
(Fire - Fees & Charges -Services & Activities)**

Whereas the Municipal Act, 2001, S.O. 2011, C. 25, as amended, authorizes a municipality or local board to impose fees or charges on persons;

And whereas By-law Number 2017-30, as amended, was adopted to impose certain fees and charges on persons;

And whereas the Council of The Corporation of the Township of Douro-Dummer deems it desirable to amend By-law Number 2017-30, as amended, to amend the Fire Fees & Charges -Services & Activities;

Now therefore the Council for The Corporation of the Township of Douro-Dummer hereby enacts as follows:

1. That Section 5 "Fire" included in Schedule 'A' of By-Law 2017-30, as amended, is hereby deleted in its entirety and replaced with those user fees and charges attached hereto in Schedule "A" of this By-law.
2. That those fees and charges included in Schedule "A" of this By-law, included in Section 5, Fire - Fees & Charges -Services & Activities become effective July 2, 2020.
3. That By-law Number 2017-30, as amended, is hereby further amended.
4. That the Mayor and the Clerk be directed to sign same and affix the Corporate Seal to this By-law.

Passed in open Council this 30th day of June, 2020.

Mayor, J. Murray Jones

Clerk, Crystal McMillan

Schedule "A" to By-law 2020-36

5.	Fire	Excluding Tax	HST	Total	By-Law 2020-35
	Open Air Burning Permits				
	Agricultural	\$ 20.00		\$ 20.00	
	Burn Barrel	\$ 20.00		\$ 20.00	
	Campfire	\$ 20.00		\$ 20.00	
	Campground, Trailer Park or Resort (annual)	\$ 50.00		\$ 50.00	
	Commercial Fire	\$ 100.00		\$ 100.00	
	Incinerator	\$ 60.00		\$ 60.00	
	Residential Brush Fire	\$ 20.00		\$ 20.00	
	Special Occurrence Fire	\$ 40.00		\$ 40.00	
	Response Rates for Open Air Burning				
	1st Charge 50% of current MTO rate	50% of current MTO rate		50% of current MTO rate	
	2nd and all subsequent charges 100% of current MTO Rate	100% of current MTO Rate		100% of current MTO Rate	
	Request reports (fire Reports, File Search, Letter of Compliance etc.)	\$ 60.00		\$ 60.00	
	Fire & Rescue Department Vehicle Incidents - per hour	charged at current MTO response rate per hour			

The Corporation of the Township of Douro-Dummer

By-law Number 2020-37

A By-law for the Prohibition of Fishing on Public Wharves within the Jurisdiction of the Township of Douro-Dummer

Whereas Section 10 of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, provides that a municipality may pass by-laws respecting the economic, social and environmental well-being of the municipality, the health, safety and well-being of persons, and the protection of persons and property;

Whereas Section 11(3) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, that the council of a local municipality may pass by-laws respecting matters within the sphere of jurisdiction of culture, parks, recreation and heritage;

Whereas all public properties are for the use, benefit and pleasure of the Public and it is necessary to prevent any person from improperly interfering with such use, benefit and pleasure;

Whereas it has been determined that fishing at certain public wharves within the municipality is a health hazard and public nuisance for many of the inhabitants of and visitors to the Township of Douro-Dummer;

Whereas Section 425(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, authorizes municipalities to pass by-laws providing that any person who contravenes any by-law of the municipality passed under said Act is guilty of an offence; and

Whereas Section 429 of the Municipal Act, 2001, S.O. 2001, c. 25,, as amended authorizes a municipality to establish a system of fines for offences under a by-law of the municipality;

Now Therefore the Council of the Corporation of the Township of Douro-Dummer in Session duly assembled enacts as follows:

Definitions

1. For the purpose of this by-law:

"corporation" means the Corporation of the Township of Douro-Dummer;

"council" means the Council of the Corporation of the Township of Douro-Dummer;

"fish" includes all gill-bearing aquatic animals;

"fishing" means the activity of catching fish, either for food or as a sport by means of hand gather, spearing, netting, angling and trapping.

"sign" means a sign approved by the Corporation of the Township of Douro-Dummer;

"person" includes any person, firm, partnership, association, corporation, company or organization of any kind;

"officer" means a member of the Ontario Provincial Police Force or a Municipal Law Enforcement Officer authorized to enforce the provisions of this By-Law, and designated

as a Provincial Offences Officer and includes all other persons appointed as Provincial Offences Officers;

“public wharf” means any of the locations named and described in Schedule “A” attached to and forming part of this By-Law;

“time” where an expression of time occurs or where any house or other period of time is stated, the time referred to shall be Eastern Standard Time, except in periods when Daylight Saving Time is in effect. When Daylight Saving Time is in effect, such time shall be Eastern Daylight Saving Time;

“township” means the Township of Douro-Dummer;

Interpretation

1. A reference to any statute, regulation or by-law refers to that enactment as it may be amended or replaced from time to time.
2. Unless otherwise stated, a reference to a section, paragraph, clause or schedule is a reference to this By-law’s section, paragraph, clause or schedule.
3. The headings in this By-law are for convenience only and do not form part of this By-law.
4. If any part of this By-law is determined to be invalid by a court of competent jurisdiction, the invalid part is severed and the remainder continues to be valid.

Fishing Prohibition

5. No person shall, subject to section 6, be permitted to engage in any act of fishing on a public wharf within the Township.
6. Special fishing events may take place at a public wharf provided that it is approved in advance by a resolution of council.

Signage

7. The township shall be entitled to post “No Fishing” signs in a conspicuous location at all public wharves.
8. No person shall remove, cover up or alter any sign which has been posted pursuant to Section 7.
9. A “No Fishing” sign shall prohibit all fishing as defined under this By-Law.

Enforcement

10. The township, including the Ontario Provincial Police are responsible for the administration and enforcement of this By-Law.
11. An officer may, at any time, enter any public wharf to determine whether this By-Law is being complied with and, for this purpose, may make such examinations, investigations, and inquiries as are necessary.
12. No person shall obstruct or hinder or attempt to obstruct or hinder an officer in the exercise of a power or the performance of a duty under this By-Law.
13. Where an officer has reasonable grounds to believe that an offence under this By-Law has been committed by a person, the officer may require the name, address and proof of identity of that person.

14. Failure to provide proof of identification satisfactory to an officer when requested to do so pursuant to Section 13 shall constitute obstruction of a police officer or officer under Section 12 of this By-Law.

Offence and Penalty Provisions

15. Every person who contravenes any provision of this By-Law is guilty of an offence and is liable upon conviction to a fine of not more than \$5,000.00, exclusive of costs, pursuant to the provisions of the Provincial Offences Act, R.S.O. 1990, Chap. P.33, as amended.
16. If this By-Law is contravened and a conviction entered, the court in which the conviction has been entered and any court of competent jurisdiction thereafter may, in addition to any other remedy any to any penalty that is imposed, make an order prohibiting the continuation or repetition of the offence by the person convicted.

Executive Acts Authorized

17. The Mayor, Clerk and the Administration are hereby authorized to do all things and the Mayor and Clerk are hereby authorized to execute on behalf and under the seal of the Corporation any document necessary to give effect to this by-law.

Short Form Name

18. The short form name of this by-law shall be "Prohibition of Fishing at Public Wharves By-Law".

General

19. No proceeding for damages or otherwise may be commenced against the township, a member of Council or an officer, employee or agent of the township or a person acting under the instructions of the officer, employee or agent for any act done in good faith in the performance or intended performance of a duty or authority under this By-law or for any alleged neglect or default in the performance in good faith of the duty or authority.

Effective Date

20. This By-Law shall come into force and effect on the date it is enacted by Council and will expire on March 1, 2021.

Passed in open council this 30th day of June, 2020

Mayor, J. Murray Jones

Clerk, Crystal McMillan

The Corporation of the Township of Douro-Dummer

By-Law Number 2020-38

**A By-law to amend By-law No. 2020-01, being to appoint a
Temporary Chief Administrative Officer and Deputy
Treasurer**

Whereas the Township of Douro-Dummer passed By-law 2020-01 to appoint a Temporary Chief Administrative Officer and Deputy Treasurer;

And Whereas the Township of Douro-Dummer deems it necessary to amend By-law 2020-01 to extend the effective date of the By-law;

Now Therefore the Council for The Corporation of the Township of Douro-Dummer enacts as follows:

1. That Item 2. of By-law No. 2020-01 be amended by deleting the date of "July 2, 2020" and replacing it with "December 31, 2020".
2. That this by-law shall come into force and effect on the date of passage.

Passed in open Council this 30th day of June, 2020.

Mayor, J. Murray Jones

Clerk, Crystal McMillan



AGCO

Alcohol and Gaming
Commission of Ontario

**Alcohol and Gaming Commission of
Ontario**

90 Sheppard Avenue East
Suite 200
Toronto ON M2N 0A4

Jun 8, 2020

(La version française suit la version anglaise)

Ontario amends Regulation 719 under the *Liquor Licence Act* to support liquor sales licensees in temporarily extending their patios and provide additional flexibility for the location of tied houses

Liquor Sales Licensees may temporarily increase the size of their patios or add a new patio once they are again permitted to welcome patrons on-site and until January 1, 2021, provided that the municipality in which the establishment is located does not object and all other applicable requirements are met. During this temporary period, licensees who meet the eligibility criteria and requirements are not required to apply to the AGCO for a temporary extension of premises or pay any fee.

In addition, liquor manufacturers and other applicants for a tied house licence now have increased flexibility regarding the location of a proposed tied house. Interested applicants may apply through [iAGCO](#).

Please read additional details in:

- [AGCO News Release: Ontario Extending Outdoor Patios to Allow for Social Distancing During COVID-19](#)
- [Info Bulletin: Liquor sales licensees may extend their patios for the duration of 2020 once permitted to open](#)
- [Info Bulletin: Changes to Tied House Liquor Sales Licence Requirement](#)

What are the requirements for a temporary patio extension under these new temporary measures?

The Government has amended Regulation 719 under the *Liquor Licence Act* (LLA) to provide flexibility for liquor sales licensees (e.g. licensed bars and restaurants) to temporarily extend their physical premises beyond 14 days provided they have municipal approval and meet certain requirements.

In order to be eligible for a temporary patio extension, licensees must have a valid liquor sales licence and be permitted to open and welcome patrons on-site under the province's phased reopening process. In addition, the following requirements must be met:

1. The physical extension of the premises is adjacent to the premises to which the licence to sell liquor applies;

2. The municipality in which the premises is situated has indicated it does not object to an extension;
3. The licensee is able to demonstrate sufficient control over the physical extension of the premises;
4. There is no condition on the liquor sales licence prohibiting a patio; and,
5. The capacity of any new patio, or extended patio space where the licensee has an existing licensed patio, does not exceed 1.11 square metres per person.

What role do municipalities currently play in the temporary extension of premises application process and what has changed under the new temporary measures?

Usually, licensees who wish to extend their licensed patio are required to apply to the AGCO for a temporary extension of premises, which may be authorized for up to 14 days and for a maximum of four times each year. As part of that process, licensees are required to obtain a letter of non-objection from their municipality.

Under these new temporary measures and for the duration of 2020, licensees do not need to notify or submit an application to the AGCO for a temporary extension of premises, provided that they meet all the eligibility criteria and applicable requirements. One of the criteria is that the municipality in which the establishment is located does not object to an extension. This non-objection or approval can take a variety of forms. While licensees are not required to submit any documentation to the AGCO to demonstrate compliance with this requirement, licensees are required to produce such documentation, if requested by the AGCO.

Is there a certain document that municipalities are required to use to confirm they do not object to a patio extension?

The AGCO does not require a specific format for municipal non-objection. Municipalities have flexibility to determine how best to approve patio extensions. This might be by blanket resolution, by application process, by letter from the City Manager, or any other suitable format. Municipalities are not required to send their non-objection to the AGCO. Licensees are required to produce documentation demonstrating municipal approval, if requested by the AGCO.

Can patios be extended onto municipal sidewalks or roadways?

Municipalities have the flexibility to determine how best to permit temporary patio extensions on municipal property. The temporary physical extension of the premises must be adjacent to the premises to which the licence to sell liquor applies.

In accordance with section 48 of Regulation 719 under the LLA, the licensee or its employees may carry liquor between two licensed areas across an unlicensed area (e.g. from the establishment and across the sidewalk, in the case where the patio extension is on a roadway). However, patrons may only carry liquor across the area not under the licensee's control if it is in a closed container.

Are licensed establishments who do not currently have a patio space eligible under these temporary measures?

Provided that they have municipal approval and meet all other requirements, temporary new licensed patios are also permitted under this temporary measure. Licensees who wish to maintain the patio extension beyond January 1, 2021 must apply through iAGCO and must meet all applicable requirements and pay the required fees.

The capacity for a temporary new patio is 1.11 square metres per person, which is the maximum capacity of premises to which neither the *Building Code Act*, 1992 nor the *Fire Protection and Prevention Act*, 1997 applies. Please see [this](#) webpage for more information on calculating the dimensions of a proposed extended licensed area.

If a licensee with an existing patio now has an extended space, can they accommodate more patrons than their current maximum capacity as stated on their licence?

The maximum capacity for all existing patios continues to apply for the existing patio space. The licensee may accommodate patrons over and above their capacity as long as the capacity of any extended patio space allows for a minimum of 1.11 square metres per person. All physical distancing requirements, as well as any other requirements imposed by any level of government, continue to apply regardless of maximum capacity, and will likely mean that patios will operate at well below maximum capacity.

Can a licensee who does not meet the requirements for a patio extension under these temporary measures still be approved for a temporary patio extension?

Licensees that do not meet requirements under this temporary measure are required to follow the usual application process for a temporary extension of premises and apply through [iAGCO](#). As part of the usual application process, a letter of municipal non-objection would be required.

How do I get more information?

The requirements for a temporary patio extension under this temporary measure and other helpful information can be found within the [Information Bulletin](#). Municipalities may also email municipal@agco.ca with additional questions.

Minutes of the Township of Douro-Dummer Planning Committee Meeting

June 22, 2020, 10:00 AM

Douro-Dummer YouTube Channel

https://www.youtube.com/channel/UCPpzm-uRBZRDjB89o2X6R_A

Present:
Chair, Deputy Mayor - Karl Moher
Member - Ed Reid
Member - Wendy Dunford
Member - Ken Jackman
Member - Jim Patterson

Staff Present:
Clerk/Planning Coordinator - Crystal McMillan
Anu Mundahar, Administrative Assistant

1. Call to Order by Chair:

The Chair called the meeting to order at 10:04 a.m.

2. Disclosure of Pecuniary Interest:

The Chair reminded members of their obligation to declare any pecuniary interest they might have. None were declared.

3. Approval of Minutes:

3.1 Minutes - March 2, 2020

Resolution

Moved By Ken Jackman

Seconded By Jim Patterson

That the Minutes from the Planning Committee Meeting, held on March 2, 2020, be received and approved, as circulated.

Carried

4. Severance Proposals:

4.1 Preliminary Review - Moloney, Clerk/Planning-2020-30

Randy Moloney

Lot 11, Concession 7,

Centre Line Road, Douro 7th Line

Douro Ward, Roll No: 1522-010-003-12601

In attendance:

Randy Moloney, applicant

Recommendation

Moved By Ken Jackman

Seconded By Jim Patterson

That the Committee recommend that Council support in principle the severance proposals (proposed Lot B and D) for Randy Moloney and when formal applications are submitted to the Peterborough Land Division Committee that the following conditions be imposed:

- \$1250.00 cash-in-lieu of parkland be paid to the municipality for each lot
- That a 3 metre strip of frontage from each severed parcel be deeded to the Township for road widening purposes
- That safe entrances be approved by the Manager of Public Works
- When the applicant files a formal consent application, there will be a fee(s) to inspect the test holes to ensure a septic system would be viable – current fees are \$150 per lot severed and \$150 for retained if vacant and applicant is responsible for the digging of the test holes.

This support is based on the information provided at this time and the applications will be further reviewed upon receipt of the formal applications.

Carried

4.2 Preliminary Review - Coughlin, Clerk/Planning-2020-31

John Joseph Gerald Coughlin (Estate)

Agent: John Coughlin

Lot 8, Concession 8

635 Douro Eighth Line, Douro Ward, Roll No: 1522-010-004-03100

In attendance:

John Coughlin, applicant/agent

Recommendation

Moved By Jim Patterson

Seconded By Wendy Dunford

That the Committee recommend that Council support in principle the severance proposal for the Estate of John Joseph Gerald Coughlin and when a formal application is submitted to the Peterborough Land Division Committee that the following conditions be imposed:

- \$1250.00 cash-in-lieu of parkland be paid to the municipality for each lot
- That the severed lots be increased in size to ensure that the lot is a minimum of 0.4 ha (1 acre) in size (which does not include the 3 metre strip of frontage deeded to the municipality) with a minimum of 45 metres in frontage
- That a 3 metre strip of frontage from each severed parcel be deeded to the Township for road widening purposes
- That safe entrances be approved by the Manager of Public Works
- When the applicant files a formal consent application, there will be a fee(s) to inspect the test holes to ensure a septic system would be viable – current fees are \$150 per lot severed and \$150 for retained if vacant and applicant is responsible for the digging of the test holes.

This support is based on the information provided at this time and the application will be further reviewed upon receipt of the formal application.

Carried

5. Severance Applications:

5.1 Severance File B-72-19 - Moore - Clerk/Planning-2020-26

Kenneth & Loraine Moore

Agent: Beverly Saunders, EcoVue Consulting

Location: Lot 9, Concession 3

**668 Fourth Line Road Dummer South,
Dummer Ward, Roll No: 1522-020-001-03900**

In attendance:

Kenneth Moore, applicant

Beverly Saunders, agent

After the motion was moved and seconded, Karl Moher turned the chair over to Jim Patterson to speak to the motion. Jim Patterson took the Chair.

Recommendation

Moved By Ed Reid

Seconded By Jim Patterson

That it be recommended to Council that Severance Application B-72-19 for Kenneth & Loraine Moore be approved and, if approved by the Peterborough County Land Division Committee that the following conditions be imposed:

- \$1250.00 cash-in-lieu of parkland be paid to the municipality
- That a 3-metre strip of frontage from the severed parcel be deeded to the Township for road widening purposes
- That a safe entrance be approved by the Manager of Public Works
- That a mitigation measures agreement be entered into with the Township to implement the recommendations (Section 7.0) of the Environmental Impact Study, prepared by Niblett Environmental Associates Inc., dated October 2019.
- That no development be permitted within 30 metres of the Provincially Significant wetland or a rezoning be obtained on the severed lot to the satisfaction of the Township to ensure no development is permitted in this area.

Carried

At this time, Karl Moher took back the Chair.

5.2 Severance File B-27-20 - Clifford, Clerk/Planning-2020-27

Fred Clifford

Agent: Bob Clark, Clark Consulting Services

Lot 11, Concession 1

County Road 38, Dummer Ward, Roll No: 1522-020-003-03000

In attendance:

Fred Clifford, applicant

Jacqueline Mann, agent

Recommendation

Moved By Jim Patterson

Seconded By Ken Jackman

That it be recommended to Council that Severance Application B-27-2020 for Fred Clifford be approved, and if approved by the Peterborough County Land Division Committee that the following conditions be imposed:

- \$1250.00 cash-in-lieu of parkland be paid to the municipality
- That a rezoning of the severed lot be obtained to the satisfaction of the municipality
- That a rezoning of the retained lot be obtained to the satisfaction of the municipality
- That a water well be constructed and tested on the severed lot to demonstrate that the quantity and quality of water is sufficient for residential use. The work should be supervised and documented by a qualified hydrogeologist and to ensure no impacts to neighboring well. The results of the work should be documented in a report.
- If the Sodium levels exceed the Medical Officer of Health criterion, which may be a concern for people on a sodium-restricted diet, that an Agreement be entered into and registered on title to inform potential purchasers of the elevated sodium levels

Carried

5.3 Severance File B-31-20, Jordan, Clerk/Planning-2020-29

James and Joan Jordan

Agent: Adam Baker

Lot 29, Concession 3

1550 Birchview Road, Dummer Ward, Roll No. 1522-020-004-12220

In attendance:

James Jordan, applicant

Recommendation

Moved By Ken Jackman

Seconded By Jim Patterson

That it be recommended to Council that Severance Application B-31-20 for James and Jordan be approved, and if approved by the Peterborough County Land Division Committee that the following conditions be imposed:

- That a merger Agreement be entered into between the Transferor, Transferee and municipality, pursuant to Section 51(26) and Section 53(12) of the Planning Act R.S.O. 1990, and registered on title to merge the severed parcel with the abutting land identified by property Roll No. 1522-020-004-12800, such that these 2 parcels shall be considered as one lot and shall not be dealt with separately or the solicitor for the applicant is to provide an undertaking, whereby he informs the Land Division Committee, in writing, that the lands are being conveyed to an abutting property and a merger of title shall take place and that the \$100 fee be paid.
- A \$100 Merger Agreement Fee be paid to the Township
- An up-to-date site plan survey be completed on the and severed (after the lot is merged with the adjacent property) lot to assist with the rezoning process
- That a rezoning of the severed/newly merged lot be obtained to the satisfaction of the municipality
- That the applicants provide proof that the lots along the waterfront of the severed lot have legal Right-of-ways to provide access to these lots.

Carried

6. Next Meeting Date: July 14, 2020 at 10:00 a.m. (if required)

eScribe Training: Discussion took place regarding training for Committee Members on the eScribe agenda management platform.

Severance Application Locations: Discussion took place regarding various methods that could be used to assist Members in finding the locations of the proposed severances (i.e. Notices on properties, maps, delineate boundaries, etc.).

7. Adjournment

Resolution

Moved By Wendy Dunford

Seconded By Ken Jackman

That this meeting adjourn at 11:32 a.m.

Carried

Chair, Karl Moher

Secretary, Crystal McMillan

The Corporation of the Township of Douro-Dummer

By-law Number 2020 – 39

Being a By-law of The Corporation of the Township of
Douro-Dummer to confirm the proceedings of the
two special electronic meetings of Council held on the 30th day of June, 2020.

The Municipal Council of the Corporation of the Township of Douro-Dummer Enacts as follows:

1. **That** the action of the Council at two special electronic meetings held on June 30, 2020 in respect to each motion, resolution, and other action passed and taken by the Council at its said meeting is, except where prior approval of the Local Planning Appeal Tribunal is required, hereby approved, ratified, and confirmed.
2. **That** the Mayor and the proper officers of the Township are hereby authorized to do all things necessary to obtain approvals where required, and to execute all documents as may be necessary in that behalf and the Clerk is hereby authorized and directed to affix the Corporate Seal to all such documents.

Passed in Open Council this 30th day of June, 2020.

Mayor, J. Murray Jones

Clerk, Crystal McMillan