R.J. Burnside & Associates Limited 292 Speedvale Avenue West Unit 20 Guelph ON N1H 1C4 CANADA
telephone (519) 823-4995 **fax** (519) 836-5477 **web** www.rjburnside.com

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November 13, 2014

Via: Email

Ms. Nancy Shoemaker
Black, Shoemaker, Robinson and Donaldson
351 Speedvale Avenue
Guelph ON N1H 1C6

Dear Ms. Shoemaker:

Re: Aggregate Assessment
Proposed Lambda Industrial Development
Puslinch, Ontario
Project No.: 300032929.0000

The Puslinch Industrial site is surrounded to the north and west by active aggregate operations, which include extraction of gravel below the water table. The location of the site indicates that there may be aggregate extraction potential within the developable area of the property. As requested, R.J. Burnside & Associates Limited (Burnside) completed a review of the aggregate resources on the property.

A Subsurface Investigation Report (2007) prepared by Chung & Vander Doelen Engineering (CVD) was reviewed. The investigation included the excavation of 25 test pits. The attached figure prepared by CVD illustrates the location of the test pits on the property.

CVD described the stratigraphy as 100 to 522 mm of topsoil overlying thin deposits of silt, sandy silt, sand and silty sand. Underlying the finer grained deposits is a thicker stratum of coarse grained sandy gravel. Shallow groundwater was identified in one test pit (TP12) at a depth of approximately 3.7 m below grade or 316.5 m above mean seal level. Based on the data, the shallow water is anticipated to be present between 4 and 5 m below grade. The test pits logs prepared by CD are attached for review.

CVD completed an evaluation of potential aggregate products and indicated that the sandy gravel deposit encountered at the site has the potential for extraction and processing into a number of aggregate products including, but not limited to:

- OPSS Granular B Type 1, Type II, Type III;
- OPSS Granular A;
- CSA Concrete Coarse Aggregate;
- Asphalt Coarse Aggregate;
- MOE/OBC Filter Sand; and,
- MTO Winter Sand.

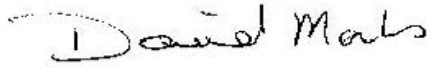
The grainsize analysis results of six samples of sandy gravel were plotted against the OPSS Granular B Type I specifications (see attached). Five of the six samples were considered coarser or met the gradational requirements; however by mixing in the upper finer soil the combined product would meet the requirements of OPSS Granular B Type I.

The areas of constraint on the site have been mapped in order to determine the maximum potential extraction area on the site - see attached figure. This area accounts for setbacks of 30 m (buffers) from the property boundaries and the natural features that were identified on the site during the Environmental Impact Study. The total extractible area is estimated to be 10.49 hectares.

Burnside understands that discussions have been held with neighbouring aggregate extraction operators regarding the use of aggregate from this property. They have indicated that the top layer of the resource on this Site is very “bony” and not suitable for their purposes. Better material may be available below the water table; however, given the small area of the site, the economic feasibility of the removal and use of the aggregate is very limited. In addition, rehabilitation of the site for a future use after removal of this material would be nearly impossible. Use of the material on the site as part of the development of the property could be possible.

Yours truly,

R.J. Burnside & Associates Limited



Dave Marks
Senior Hydrogeologist
DM:mp

Enclosure(s)

032929 Puslinch Industrial_Aggregate Resources.docx
13/11/2014 12:28 PM

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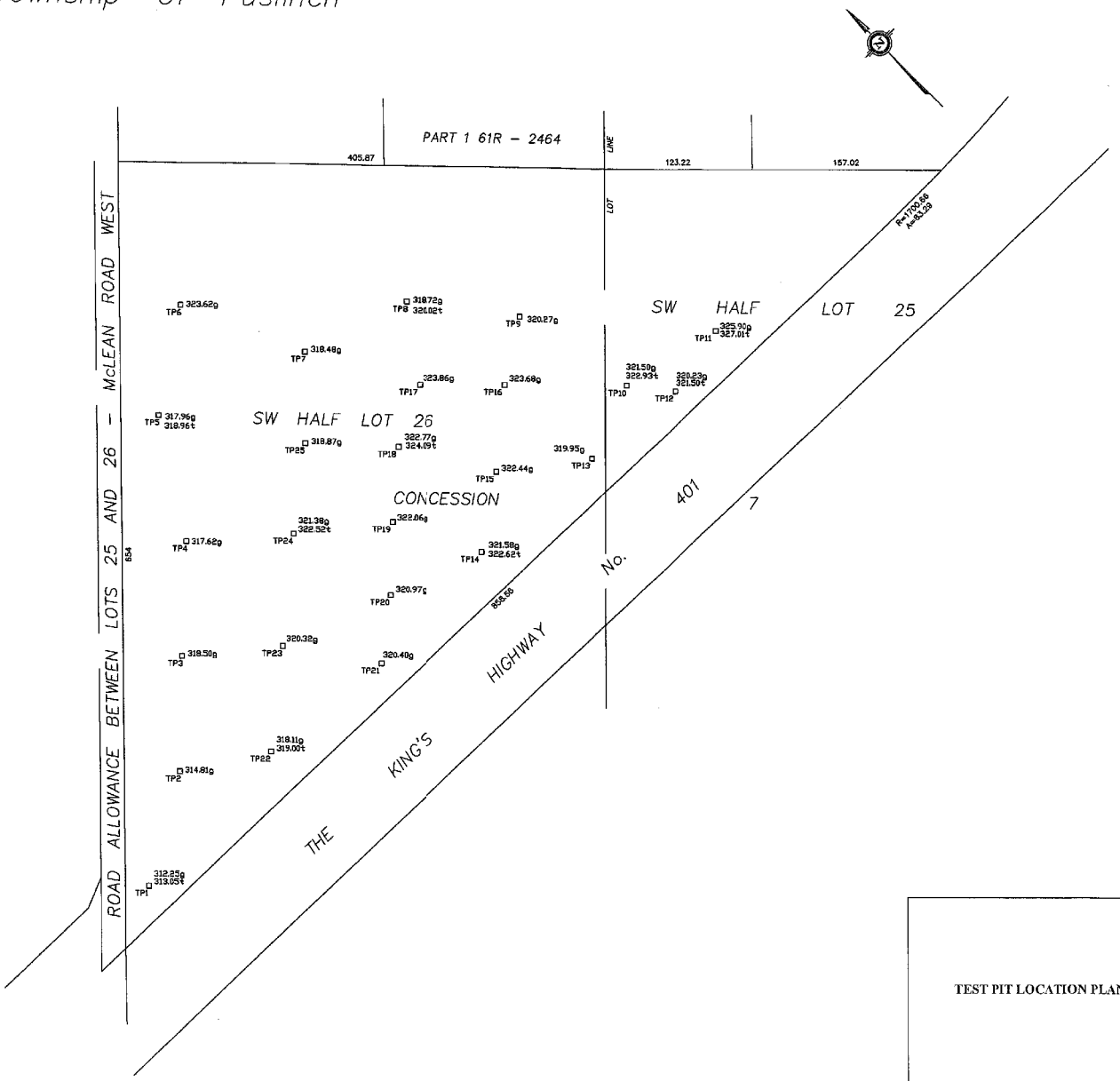
Attachment 1

Puslinch Industrial Aggregate Resources

Township of Puslinch



TEST PIT LOCATION PLAN	CHUNG & VANDER DOELEN ENGINEERING LTD.	CHUNG & VANDER DOELEN ENGINEERING LTD. 311 Victoria St. North Kitchener,ON,N2H 5E1 Phone:(519) 742-8979 Fax:(519) 742-7739 E-mail:cvd@bellnet.ca	
	Drawn By: IS	Date: Feb 20, 2007	File No.: 06-11-K10
	Checked By: RVD	Scale: NTS	DRAWING NO.: 1

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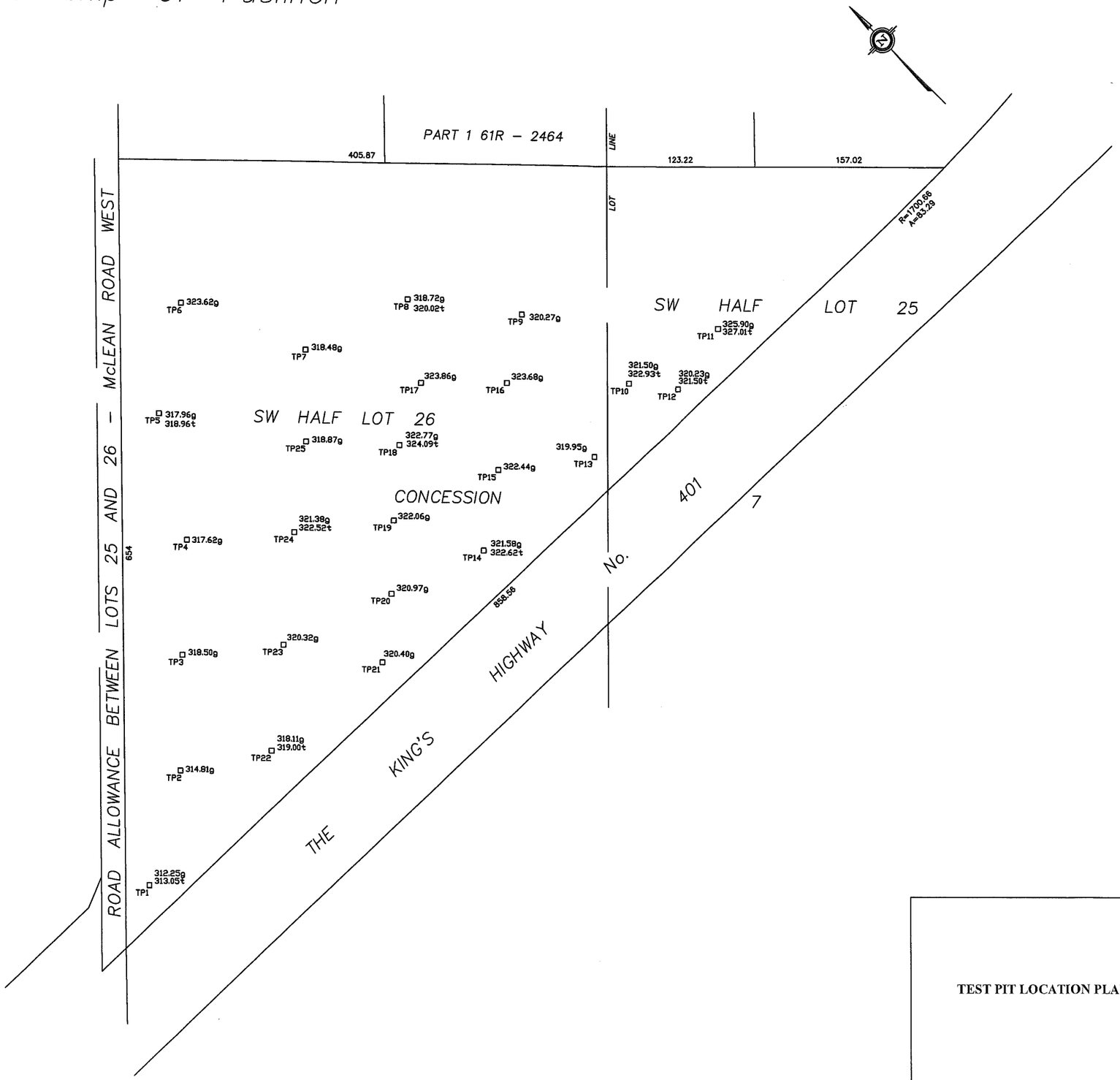
Attachment 2

Test Pit Logs

Township of Puslinch



TEST PIT LOCATION PLAN	CHUNG & VANDER DOELEN ENGINEERING LTD.	**CHUNG & VANDER DOELEN ENGINEERING LTD.** 311 Victoria St. North Kitchener,ON,N2H 5E1 Phone:(519) 742-8979 Fax:(519) 742-7739 E-mail:cvd@bellnet.ca	
	Drawn By: IS	**Date:** Feb 20, 2007	**File No.:** 06-11-K10
	Checked By: RVD	**Scale:** NTS	**DRAWING NO.:** 1

FILE No: 06-11-K10

TEST PIT No. 1

CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **312.25 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ (50 100 150 200) PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ (20 40 60 80)	W_P W W_L (10 20 30)			
	525mm TOPSOIL										
311.72		0.5								0.5	Slotted standpipe installed to 2.9 m depth
0.53	Loose orangy brown SANDY SILT										
311.52											
0.73	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0								1.0	
		1.5								1.5	
		2.0		1	BS					2.0	
		2.5								2.5	
		3.0								3.0	Standpipe dry on February 1 and 20, 2007
		3.5								3.5	
		4.0								4.0	
	damp	4.5								4.5	
		5.0								5.0	
307.05											Test Pit dry at completion
5.20	End of Test Pit	5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

CHUNG & VANDER DOELEN
ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario N2H 5E1
ph. 519-742-8979, fx. 519-742-7739

FILE No: 06-11-K10

TEST PIT No. 2

Enclosure No.: 2
Sheet 1 of 1

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **314.81 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
314.38	425mm TOPSOIL										
0.43	Loose orangy brown SILT, some sand trace clay	0.5		1	BS					0.5	
313.91	damp										
0.90	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0								1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
		3.5		2	BS					3.5	
		4.0								4.0	
	damp	4.5								4.5	
309.81											
5.00	End of Test Pit	5.0								5.0	Test Pit dry at completion
		5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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CVD TEST PIT 06-11-K10.GPJ CVD_ENG.GDT 2/19/07

FILE No: 06-11-K10

TEST PIT No. 3

Enclosure No.: 3
Sheet 1 of 1

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **318.50 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
318.20	300mm TOPSOIL										
0.30	Loose orangy brown SANDY SILT	0.5		1	BS					0.5	
317.75	damp										
0.75	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0								1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
		3.5								3.5	
		4.0								4.0	
		4.5								4.5	
	damp	5.0								5.0	
313.30											Test Pit dry at completion
5.20	End of Test Pit	5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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FILE No: 06-11-K10

TEST PIT No. 4

Enclosure No.: 4
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

Ground Elevation: **317.62 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SAMPLE ID	TYPE	N-VALUE	WELL DATA	DEPTH (m)	REMARKS
317.34	275mm TOPSOIL							
0.28	Loose orangy brown SANDY SILT damp	0.5					0.5	
316.72								
0.90	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0					1.0	
		1.5					1.5	
		2.0					2.0	
			1	BS				
		2.5					2.5	
		3.0					3.0	
		3.5					3.5	
		4.0					4.0	
	damp	4.5					4.5	
		5.0					5.0	
312.42								Test Pit dry at completion
5.20	End of Test Pit	5.5					5.5	
		6.0					6.0	

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

ENGINEER: **RVD**

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CVD TEST PIT 06-11-K10.GPJ CVD_ENG.GDT 2/19/07

FILE No: 06-11-K10

TEST PIT No. 5

Enclosure No.: 5
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	SAMPLE N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **317.96 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
317.86	100mm TOPSOIL										
0.10	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	0.5								0.5	Slotted standpipe installed to 2.9 m depth
		1.0								1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	Standpipe dry on February 1 and 20, 2007
		3.5								3.5	
	damp	4.0								4.0	
		4.5								4.5	
312.96		5.0								5.0	Test Pit dry at completion
5.00	End of Test Pit	5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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CVD TEST PIT 06-11-K10.GPJ CVD_ENG.GDT 2/20/07

FILE No: 06-11-K10

TEST PIT No. 6

Enclosure No.: 6
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	SAMPLE N-VALUE	SHEAR STRENGTH (kPa) FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	WATER CONTENT (%) W_P W W_L 10 20 30	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **323.62 m**										
323.39	225mm TOPSOIL										
0.23	Loose orangy brown SANDY SILT some gravel	0.5								0.5	
322.87	damp										
0.75	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0								1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
		3.5								3.5	
		4.0								4.0	
		4.5								4.5	
	damp	5.0								5.0	
		5.5								5.5	
317.82											
5.80	End of Test Pit	6.0								6.0	Test Pit dry at completion

ENGINEER: **RVD**

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FILE No: 06-11-K10

TEST PIT No. 7

Enclosure No.: 7
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **318.48 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
318.20	275mm TOPSOIL										
0.28	Loose to compact brown SANDY SILT some clay damp	0.5		1	BS					0.5	
317.43		1.0								1.0	
1.05	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 1.65 m depth	1.5		2	BS					1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
		3.5								3.5	
		4.0								4.0	
	damp	4.5								4.5	
		5.0								5.0	
313.28											Test Pit dry at completion
5.20	End of Test Pit	5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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FILE No: 06-11-K10

TEST PIT No. 8

Enclosure No.: 8
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	WATER CONTENT (%) W_P W W_L 10 20 30	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **318.72 m**										
318.39	325mm TOPSOIL										
0.33	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 1.8 m depth	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5		1 2	BS BS					0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5	Slotted standpipe installed to 2.85 m depth Standpipe dry on February 1 and 20, 2007
	damp										
313.72		5.0								5.0	Test Pit dry at completion
5.00	End of Test Pit	5.5 6.0								5.5 6.0	

ENGINEER: **RVD**

CHUNG & VANDER DOELEN ENGINEERING LTD.
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FILE No: 06-11-K10

TEST PIT No. 9

Enclosure No.: 9
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	REMARKS
	Ground Elevation: **320.27 m**						
319.94	325mm TOPSOIL						
0.33	Loose brown SANDY SILT trace gravel damp	0.5		1	BS		
319.52							
0.75	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 2.7 m depth	1.0					
		1.5					
		2.0		2	BS		
		2.5					
		3.0					
		3.5					
		4.0					
		4.5					
	damp	5.0					Test Pit dry at completion
315.07							
5.20	End of Test Pit	5.5					
		6.0					

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)

ENGINEER: **RVD**

CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario N2H 5E1
ph. 519-742-8979, fx. 519-742-7739

FILE No: 06-11-K10

TEST PIT No. 10

Enclosure No.: 10
Sheet 1 of 1

CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

Ground Elevation: **321.50 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE
321.22	275mm TOPSOIL					
0.28	Compact brown SAND AND SILT some gravel and cobbles	0.5		1	BS	
		1.0				
		1.5				
		2.0				
		2.5				
		3.0				
		3.5				
		4.0				
	damp to moist	4.5				
316.50		5.0				
5.00	End of Test Pit	5.5				
		6.0				

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)	REMARKS
0.5	Slotted standpipe installed to 2.7 m depth
2.5	Standpipe dry on February 1 and 20, 2007
5.0	Test Pit dry at completion

ENGINEER: **RVD**

CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario N2H 5E1
ph. 519-742-8979, fx. 519-742-7739

CVD TEST PIT 06-11-K10.GPJ CVD_ENG.GDT 2/20/07

FILE No: 06-11-K10

TEST PIT No. 11

Enclosure No.: 11
Sheet 1 of 1

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

Ground Elevation: **325.90 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SAMPLE ID	SAMPLE TYPE	N-VALUE	REMARKS
325.62	275mm TOPSOIL					
0.28	Compact brown SILTY SAND frequent gravel, cobbles and boulders damp	0.5 1.0 1.5	1	BS		Slotted standpipe installed to 2.8 m depth
324.00 1.90	Compact to dense brown GRAVELLY SAND some silt frequent cobbles and boulders damp	2.0 2.5 3.0 3.5 4.0 4.5	2	BS		Standpipe dry on February 1 and 20, 2007
320.90 5.00	End of Test Pit	5.0 5.5 6.0				Test Pit dry at completion

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

ENGINEER: **RVD**

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FILE No: 06-11-K10

TEST PIT No. 12

CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

Ground Elevation: **320.23 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	SAMPLE N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
319.78	450mm TOPSOIL										Slotted standpipe installed to 2.75 m depth
0.45	Compact brown SILTY SAND some gravel and cobbles occ. boulders	0.5								0.5	Water level at 0.66 m depth on February 1, 2007
		1.0		1	BS					1.0	Water level at 0.89 m depth on February 20, 2007
	grades to SAND AND SILT with depth	1.5								1.5	Seepage at 1.0 m depth on January 25, 2007
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
	very moist to wet	3.5								3.5	
		4.0								4.0	
315.93 4.30	End of Test Pit	4.5								4.5	
		5.0								5.0	
		5.5								5.5	
		6.0								6.0	

SHEAR STRENGTH (kPa): FIELD VANE: Peak ⊗ Rem. × ; LAB TEST: Unc. ■ P.P. □ ; 50 100 150 200
PENETRATION RESISTANCE: STANDARD ● DYN. CONE ○ ; 20 40 60 80
WATER CONTENT (%): W_P W W_L ; 10 20 30

ENGINEER: **RVD**

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FILE No: 06-11-K10

TEST PIT No. 13

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CHUNG & VANDER DOELEN ENGINEERING LTD. (CVD)

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 25 07** TO **Jan 25 07**

Ground Elevation: **319.95 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	REMARKS
319.65	300mm TOPSOIL						
0.30	Loose to compact brown SILTY SAND trace gravel	0.5					
319.05	damp						
0.90	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 3 m depth	1.0					
		1.5		1	BS		
		2.0					
		2.5		2	BS		
		3.0					
		3.5					
		4.0					
	damp	4.5					
314.95							
5.00	End of Test Pit	5.0					Test Pit dry at completion
		5.5					
		6.0					

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)

ENGINEER: **RVD**

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TEST PIT No. 14

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CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	SAMPLE N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **321.58 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
321.43	150mm TOPSOIL										
0.15	Loose to compact brown SANDY SILT trace gravel	0.5		1	BS					0.5	Slotted standpipe installed to 2.7 m depth
320.68	damp										
0.90	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0								1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	Standpipe dry on February 1 and 20, 2007
		3.0								3.0	
		3.5								3.5	
		4.0								4.0	
		4.5								4.5	
	damp	5.0								5.0	
316.08		5.5								5.5	Test Pit dry at completion
5.50	End of Test Pit	6.0								6.0	

ENGINEER: **RVD**

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TEST PIT No. 15

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CHUNG & VANDER DOELEN ENGINEERING LTD. (CVD)

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

Ground Elevation: **322.44 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SAMPLE ID	TYPE	N-VALUE
322.06	375mm TOPSOIL				
0.38	Loose orangy brown SANDY SILT trace gravel and cobbles	0.5			
321.64	damp				
0.80	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0			
		1.5			
		2.0			
		2.5			
		3.0	1	BS	
		3.5			
		4.0			
	damp	4.5			
317.44					
5.00	End of Test Pit	5.0			
		5.5			
		6.0			

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)

REMARKS

Test Pit dry at completion

ENGINEER: **RVD**

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TEST PIT No. 16

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CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	TYPE	N-VALUE	SHEAR STRENGTH (kPa) FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	WATER CONTENT (%) W_P W W_L 10 20 30	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **323.68 m**										
323.43	250mm TOPSOIL										
0.25	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.9 m depth	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5								0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5	
	damp	5.0								5.0	
318.48											Test Pit dry at completion
5.20	End of Test Pit	5.5 6.0								5.5 6.0	

ENGINEER: **RVD**

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FILE No: 06-11-K10

TEST PIT No. 17

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **323.86 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 / STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
323.56	300mm TOPSOIL										
0.30	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.7 m depth	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5		1	BS					0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5	
	damp										
318.86		5.0								5.0	Test Pit dry at completion
5.00	End of Test Pit	5.5 6.0								5.5 6.0	

ENGINEER: **RVD**

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TEST PIT No. 18

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CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	SAMPLE N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **322.77 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200; PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
322.59	175mm TOPSOIL										
0.18	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.6 m depth	0.5								0.5	Slotted standpipe installed to 2.75 m depth
		1.0								1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	
											Standpipe dry on February 1 and 20, 2007
		3.0								3.0	
		3.5								3.5	
		4.0								4.0	
	damp	4.5								4.5	
317.77		5.0								5.0	Test Pit dry at completion
5.00	End of Test Pit										
		5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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TEST PIT No. 19

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CHUNG & VANDER DOELEN ENGINEERING LTD.

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	REMARKS
	Ground Elevation: **322.06 m**						
321.88	175mm TOPSOIL						
0.18	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.6 m depth --- sand seam --- damp	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5		1	BS		
317.06		5.0					Test Pit dry at completion
5.00	End of Test Pit	5.5 6.0					

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)

ENGINEER: **RVD**

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TEST PIT No. 20

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CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **320.97 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
320.74	225mm TOPSOIL										
0.23	Loose to compact orangy brown SILT, some sand trace gravel and cobbles	0.5		1	BS					0.5	
319.92	moist	1.0								1.0	
1.05	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.5								1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
		3.5								3.5	
	damp	4.0								4.0	
		4.5								4.5	
315.97		5.0								5.0	Test Pit dry at completion
5.00	End of Test Pit	5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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TEST PIT No. 21

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Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

Ground Elevation: **320.40 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SAMPLE ID	TYPE	N-VALUE
320.12	275mm TOPSOIL				
0.28	Loose orangy brown SANDY SILT	0.5	1	BS	
319.65	damp				
0.75	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0 1.5 2.0	2	BS	
		2.5			
		3.0	3	BS	
		3.5 4.0 4.5			
	damp	5.0			
315.20					
5.20	End of Test Pit	5.5 6.0			

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)

REMARKS

Test Pit dry at completion

ENGINEER: **RVD**

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TEST PIT No. 22

CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

Ground Elevation: **318.11 m**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE
317.73 / 0.38	375mm TOPSOIL					
317.51 / 0.60	Loose orangy brown SANDY SILT	0.5				
	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders	1.0				
		1.5		1	BS	
		2.0				
		2.5				
		3.0				
		3.5				
		4.0				
	damp	4.5				
313.11 / 5.00	End of Test Pit	5.0				
		5.5				
		6.0				

SHEAR STRENGTH (kPa)
FIELD VANE: Peak ⊗ Rem. ×
LAB TEST: Unc. ■ P.P. □
50 100 150 200
PENETRATION RESISTANCE
STANDARD ● DYN. CONE ○
20 40 60 80

WATER CONTENT (%)
W_P W W_L
10 20 30

WELL DATA

DEPTH (m)	REMARKS
0.5	Slotted standpipe installed to 2.9 m depth
3.0	Standpipe dry on February 1 and 20, 2007
5.0	Test Pit dry at completion

ENGINEER: **RVD**

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TEST PIT No. 23

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CHUNG & VANDER DOELEN ENGINEERING LTD. CVD

Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **320.32 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
320.04	275mm TOPSOIL										
0.28	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.6 m depth	0.5								0.5	
		1.0		1	BS					1.0	
		1.5								1.5	
		2.0								2.0	
		2.5								2.5	
		3.0								3.0	
	damp	3.5								3.5	
		4.0								4.0	Major collapse of Test Pit sidewalls at 4.3 m depth
316.02											
4.30	End of Test Pit	4.5								4.5	Test Pit dry at completion
		5.0								5.0	
		5.5								5.5	
		6.0								6.0	

ENGINEER: **RVD**

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TEST PIT No. 24

Enclosure No.: 24
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Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **321.38 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
321.10	275mm TOPSOIL										
0.28	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.8 m depth	0.5 1.0 1.5 2.0		1	BS					0.5 1.0 1.5 2.0	Slotted standpipe installed to 2.75 m depth
		2.5 3.0 3.5 4.0								2.5 3.0 3.5 4.0	Standpipe dry on February 1 and 20, 2007
	damp	4.5								4.5	
316.38 5.00	End of Test Pit	5.0 5.5 6.0								5.0 5.5 6.0	Test Pit dry at completion

ENGINEER: **RVD**

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TEST PIT No. 25

Enclosure No.: 25
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Client: **Lambda Properties c/o BSRD**

Project: **Potential Aggregate Resource/Industrial Subdivision**

Location: **Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch**

EQUIPMENT DATA

Machine: **Excavator**
Method: **Excavator**
Size:
Date: **Jan 26 07** TO **Jan 26 07**

ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	SAMPLE TYPE	N-VALUE	SHEAR STRENGTH (kPa) / PENETRATION RESISTANCE	WATER CONTENT (%)	WELL DATA	DEPTH (m)	REMARKS
	Ground Elevation: **318.87 m**						FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200 PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80	W_P W W_L 10 20 30			
318.62	250mm TOPSOIL										
0.25	Compact to dense brown SANDY GRAVEL frequent to numerous cobbles and boulders -some silt to 0.9 m depth	0.5 1.0 1.5		1	BS					0.5 1.0 1.5	
		2.0 2.5 3.0 3.5 4.0								2.0 2.5 3.0 3.5 4.0	
	damp	4.5								4.5	
313.87											
5.00	End of Test Pit	5.0 5.5 6.0								5.0 5.5 6.0	Test Pit dry at completion

ENGINEER: **RVD**

CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario N2H 5E1
ph. 519-742-8979, fx. 519-742-7739

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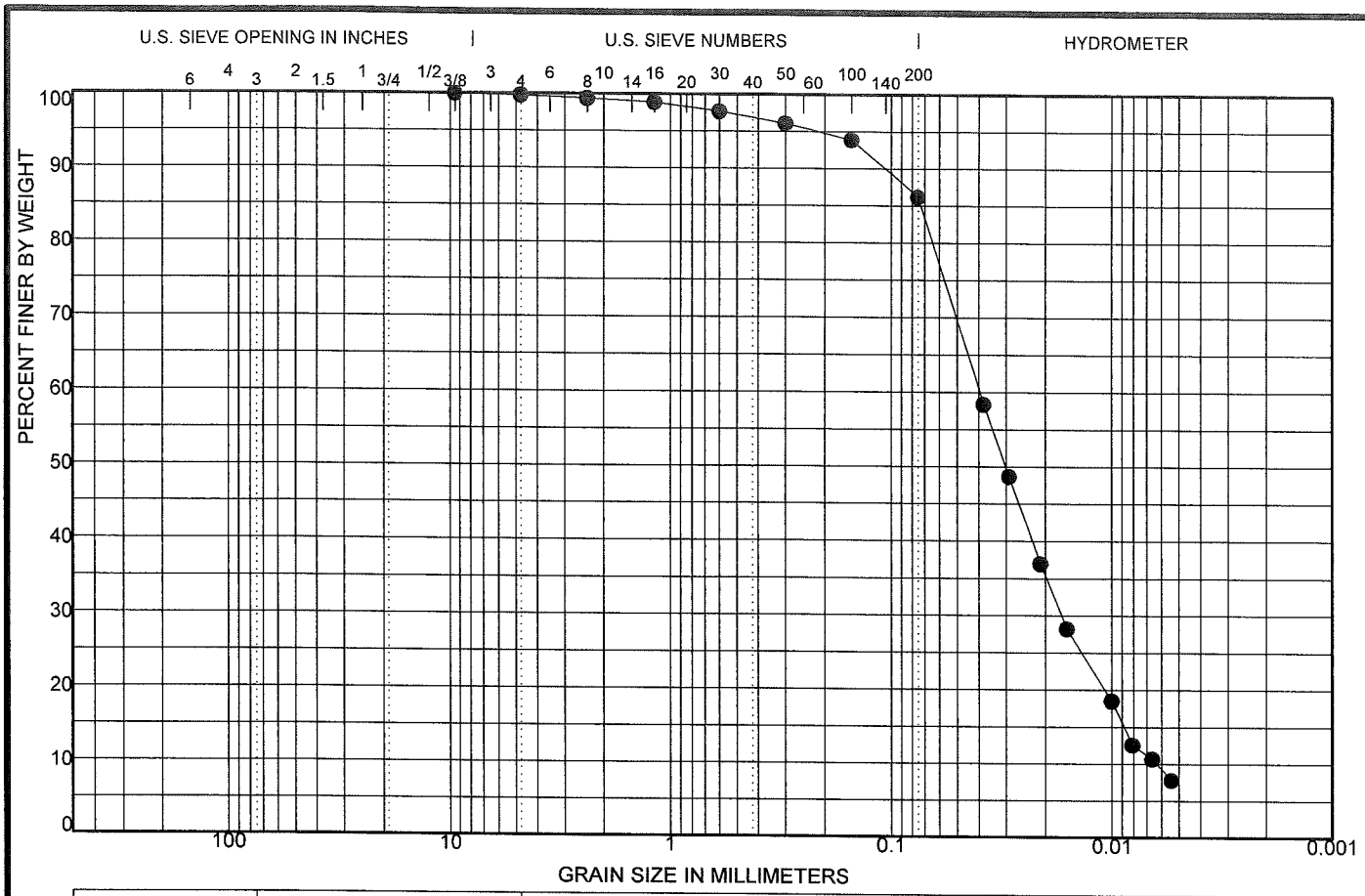
Attachment 3

CVD Grainsize Analysis



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
LAB. NO.: **3875**					**1.15**	**6.28**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	9.5	**0.04**	**0.017**	**0.006**	**0.2**	**13.6**	**86.2**	

Type of Material: Silt, some sand
Sample No. 1
Source:
Sampled From: TP-2
Date: 2/2/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 1/25/07
Tested By: DF
Date Tested: 2/1/07

SIEVE SIZES mm	PERCENT PASSING	No Specifications

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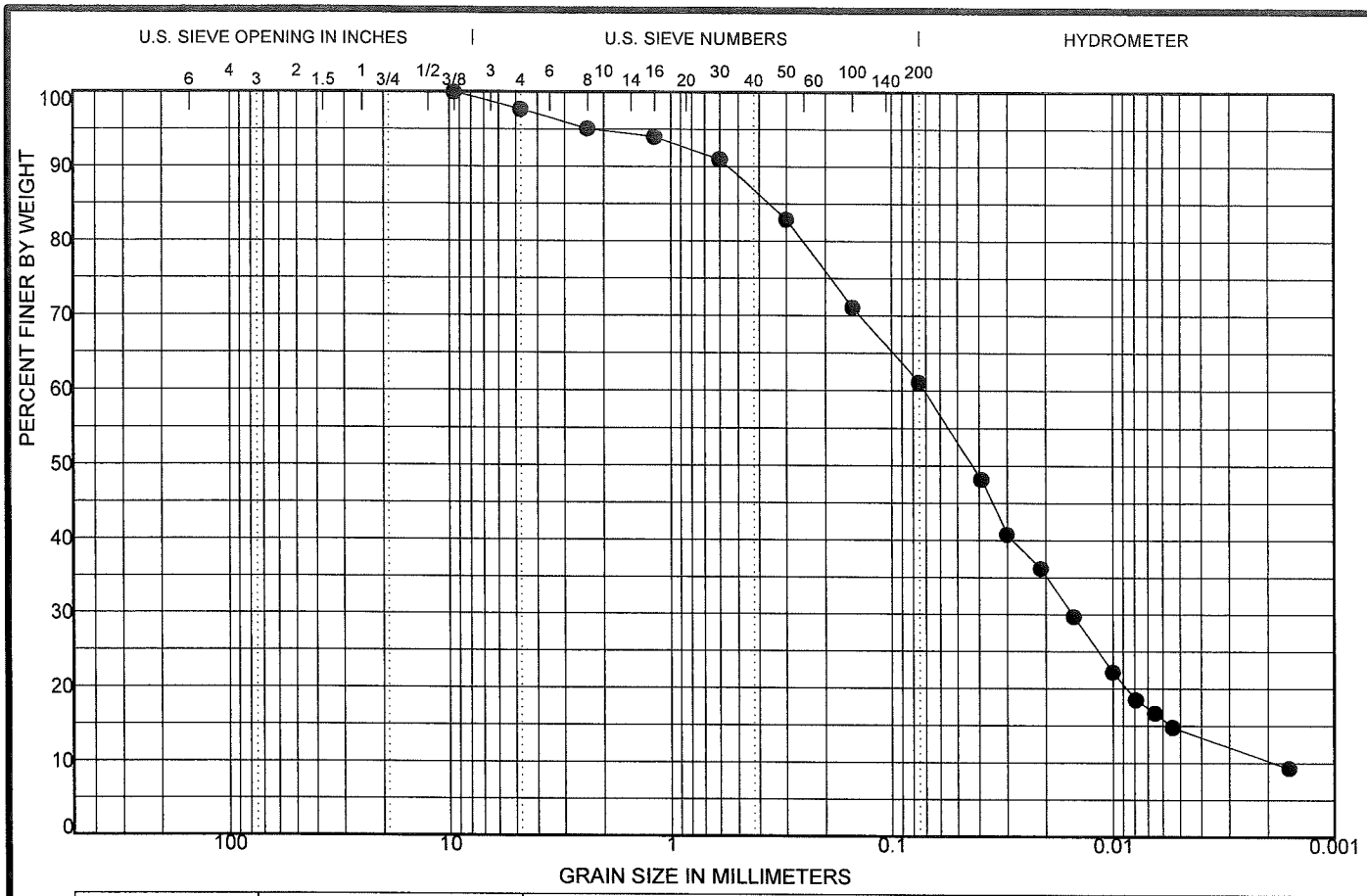
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 26

NO SPECIFICATIONS 06-11-K10.GPJ LAW LNDN.GDT 2/2/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
LAB. NO.: **3876**					**1.75**	**37.97**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	9.5	**0.071**	**0.015**	**0.002**	**2.3**	**36.6**	**61.1**	

Type of Material: Sandy Silt, some clay
Sample No. 1
Source:
Sampled From: TP-7
Date: 2/2/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 1/25/07
Tested By: DF
Date Tested: 2/1/07

SIEVE SIZES mm	PERCENT PASSING	No Specifications

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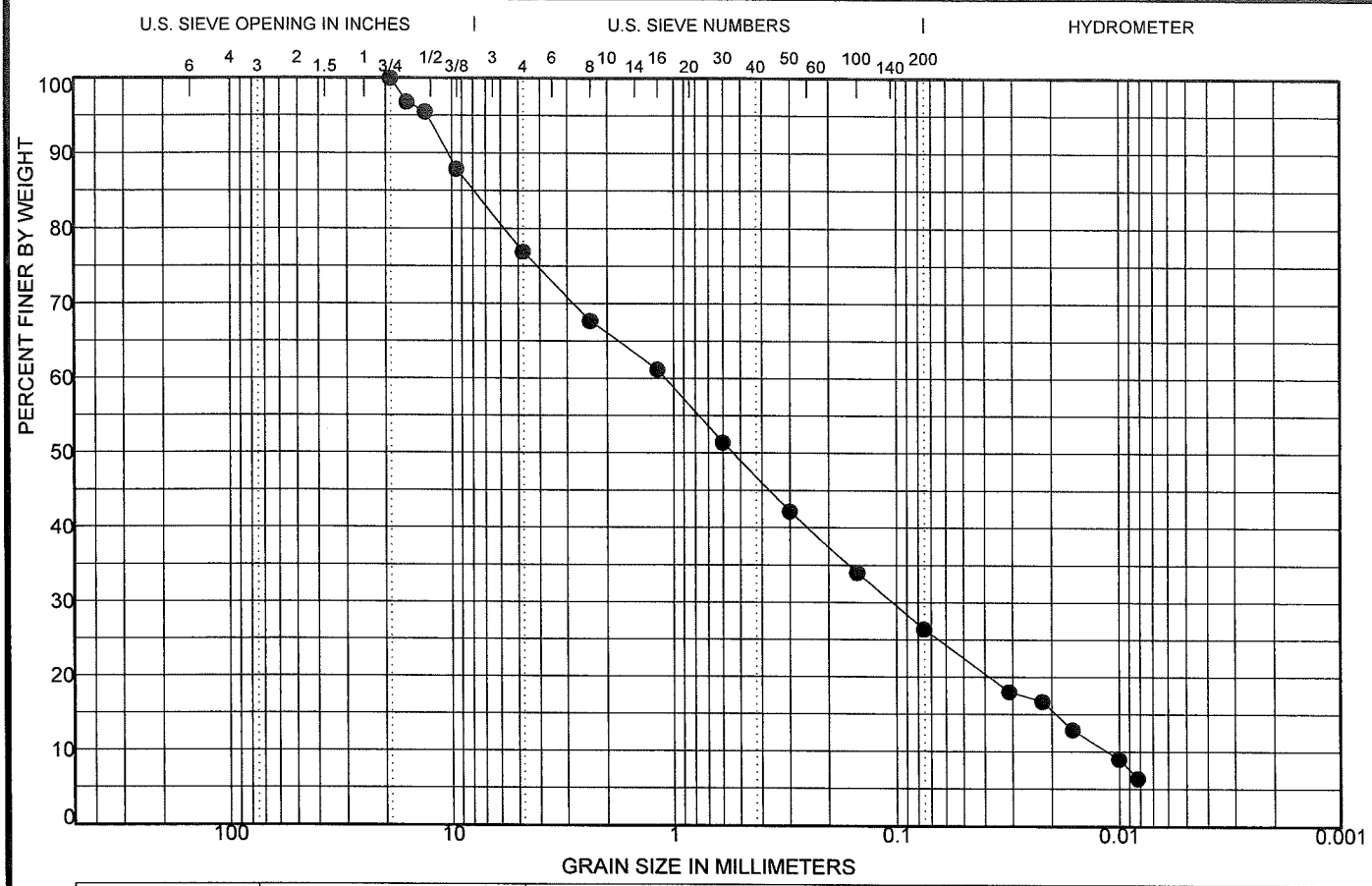
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 27



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
LAB. NO.: **3877**					**0.89**	**96.29**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	19	**1.086**	**0.104**	**0.011**	**23.1**	**50.5**	**26.4**	

Type of Material: Silty Sand, some gravel
Sample No. 1
Source:
Sampled From: TP-12
Date: 2/2/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 1/25/07
Tested By: DF
Date Tested: 2/1/07

SIEVE SIZES mm	PERCENT PASSING	No Specifications

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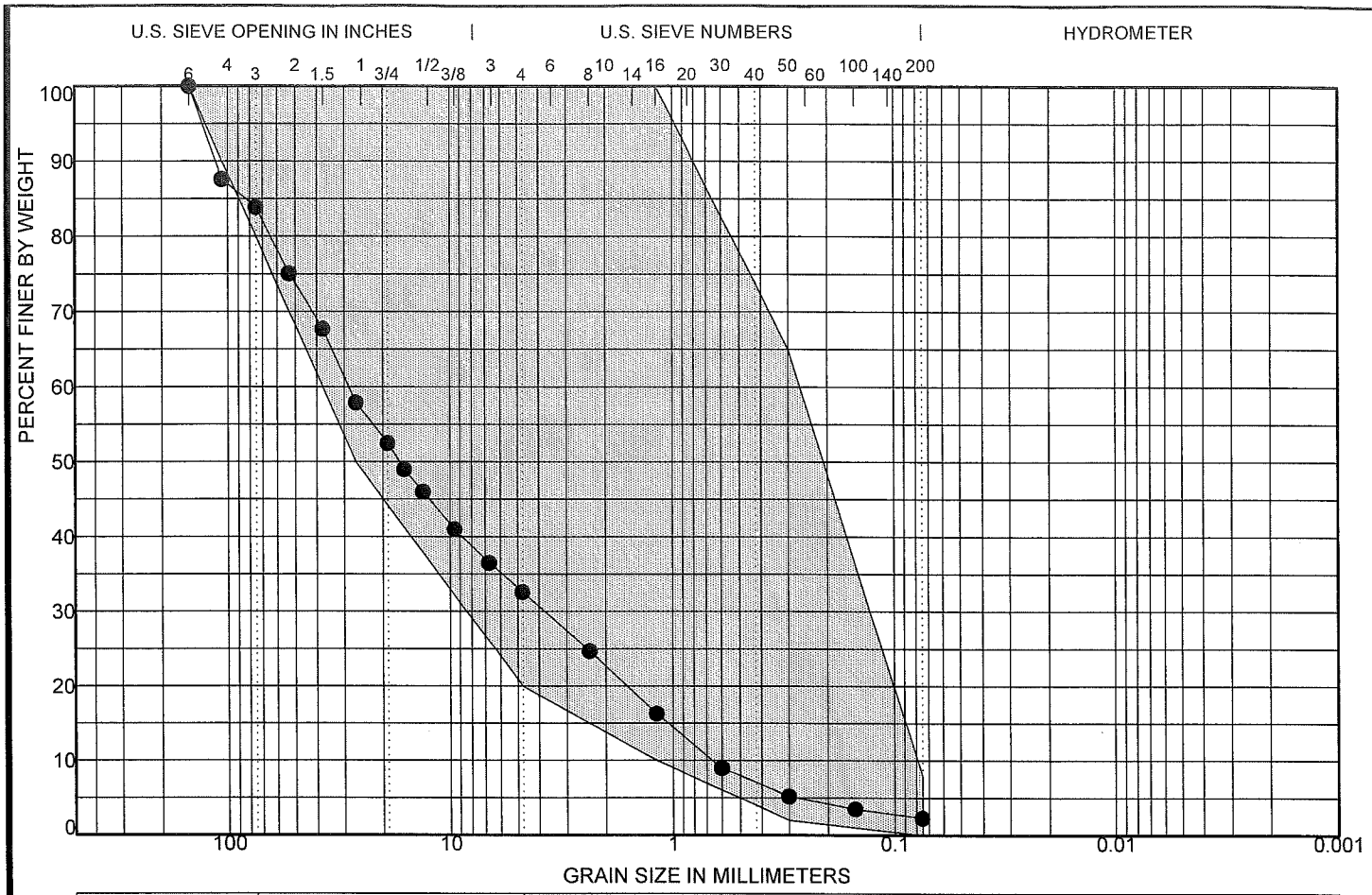
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 28

NO SPECIFICATIONS 06-11-K10.GPJ LAW LNDN.GDT 2/2/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
LAB. NO.: **3870**	**POORLY GRADED GRAVEL with SAND GP**				**0.76**	**43.37**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	150	**28.547**	**3.773**	**0.658**	**51.3**	**30.3**	**2.3**	

Type of Material: Sandy Gravel
Sample No. **2**
Source: TP-2
Sampled From:
Date: 2/5/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 01/30/07
Tested By: D.F.
Date Tested: 02/02/07

SIEVE SIZES mm	PERCENT PASSING	OPSS 1010 Granular 'B' Type I Specifications
150.0	100.0	100
26.5	57.9	50-100
4.75	32.6	20-100
1.18	16.3	10-100
0.3	5.2	2-65
0.075	2.3	0-8

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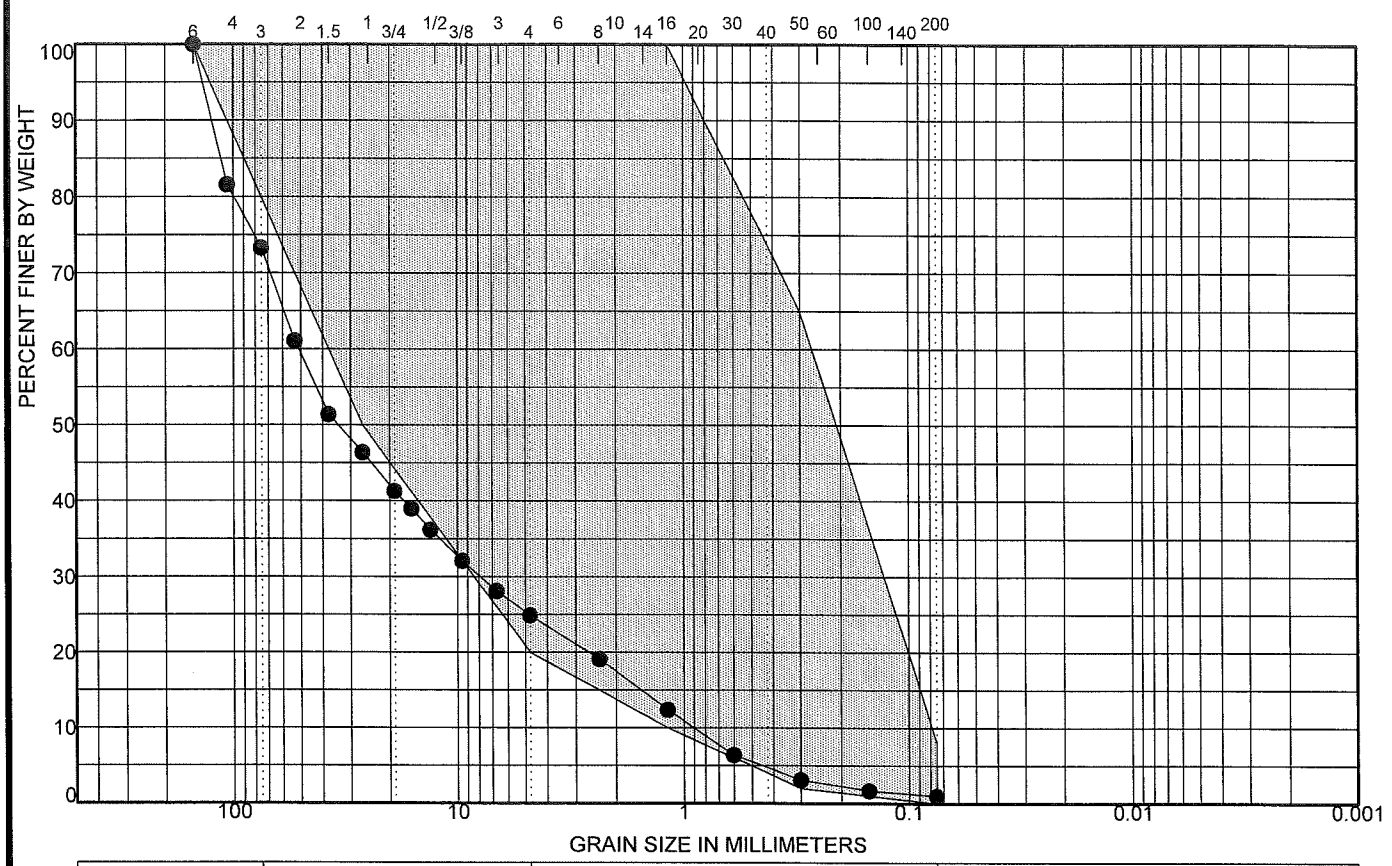
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 29



Specimen Identification		Classification				LL	PL	PI	Cc	Cu
LAB. NO.:	**3871**	**WELL-GRADED GRAVEL with SAND GW**							**1.36**	**56.60**
FM		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	
		150	**50.961**	**7.909**	**0.9**	**48.4**	**23.9**		**1.0**	

Type of Material: Sandy Gravel
Sample No. 1
Source: TP-4
Sampled From:
Date: 2/5/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 1/30/07
Tested By: D.F.
Date Tested: 02/02/07

SIEVE SIZES mm	PERCENT PASSING	OPSS 1010 Granular 'B' Type I Specifications
150.0	100.0	100
26.5	46.4	50-100
4.75	24.9	20-100
1.18	12.4	10-100
0.3	3.1	2-65
0.075	1.0	0-8

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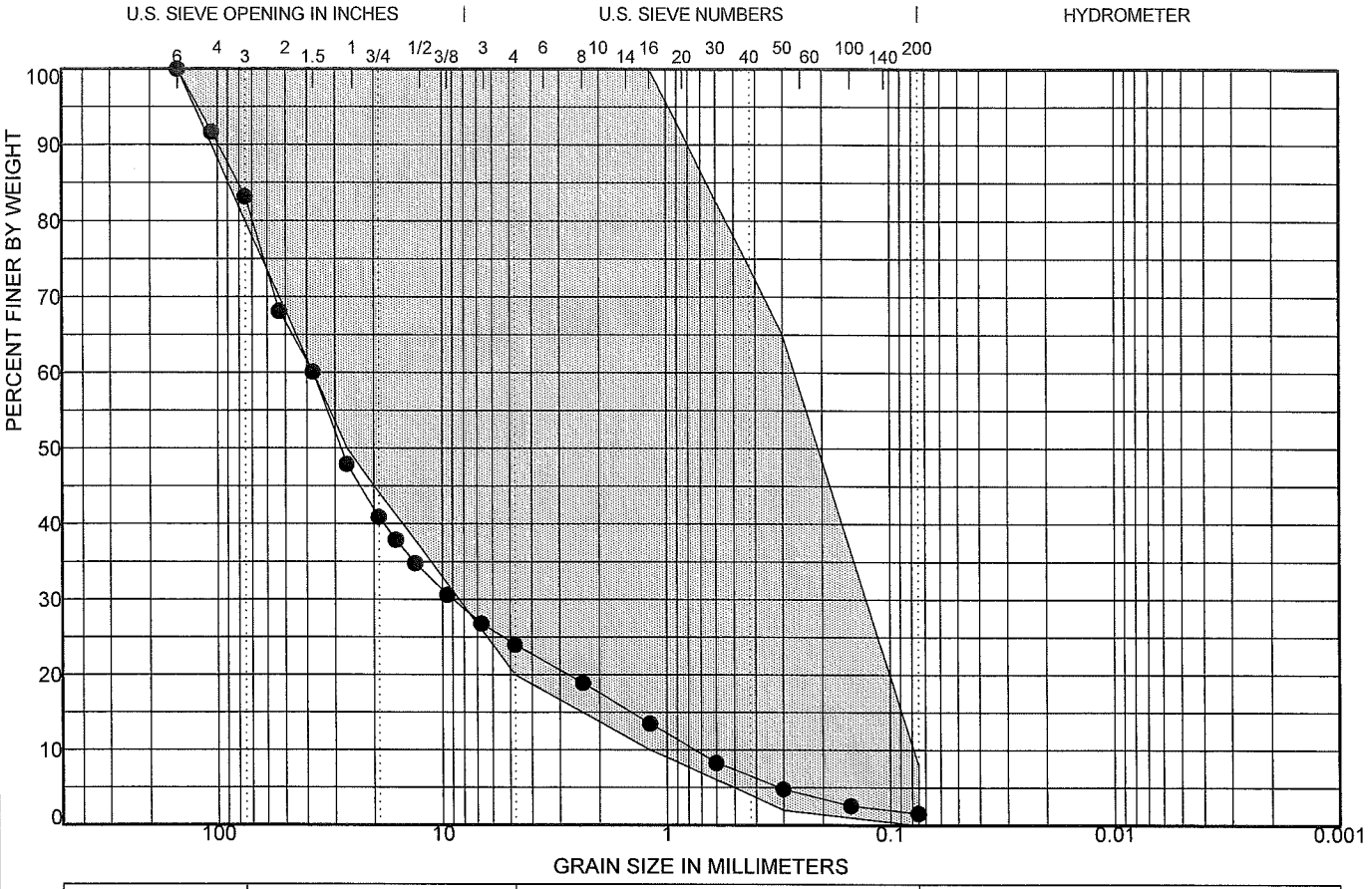
e-mail: cvd@bellnet.ca

GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 30

OPSS 1001 GRAN B TYPE I 06-11-K10.GPJ LAW LNDN.GDT 2/8/07



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
LAB. NO.:	**3872**	**WELL-GRADED GRAVEL with SAND GW**				**2.89**	**49.96**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	150	**37.393**	**8.99**	**0.748**	**59.2**	**22.4**		**1.6**

Type of Material: Sandy Gravel
Sample No. **1**
Source: TP-19
Sampled From:
Date: 6/2/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 30/01/07
Tested By: D.F.
Date Tested: 02/02/07

SIEVE SIZES mm	PERCENT PASSING	OPSS 1010 Granular 'B' Type I Specifications
150.0	100.0	100
26.5	47.9	50-100
4.75	24.0	20-100
1.18	13.5	10-100
0.3	4.8	2-65
0.075	1.6	0-8

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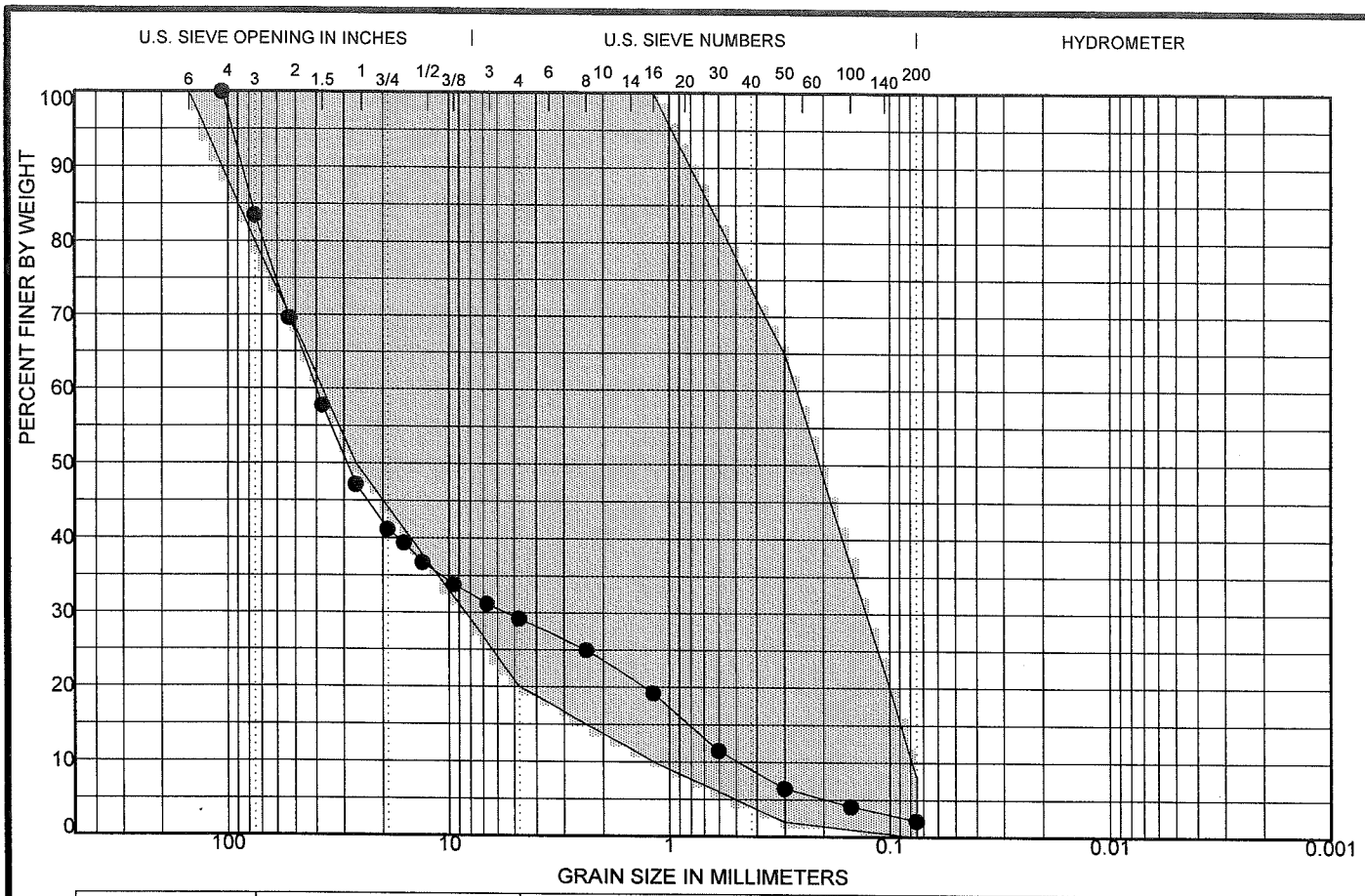
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 31



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
LAB. NO.:	**3873**	**WELL-GRADED GRAVEL with SAND GW**				**1.52**	**82.07**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	106	**39.998**	**5.451**	**0.487**	**54.3**	**27.0**	**2.2**	

Type of Material: Sandy Gravel
Sample No. **2**
Source: TP-21
Sampled From:
Date: 6/2/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 30/01/07
Tested By: D.F.
Date Tested: 02/02/07

SIEVE SIZES mm	PERCENT PASSING	OPSS 1010 Granular 'B' Type I Specifications
150.0		100
26.5	47.2	50-100
4.75	29.2	20-100
1.18	19.2	10-100
0.3	6.5	2-65
0.075	2.2	0-8

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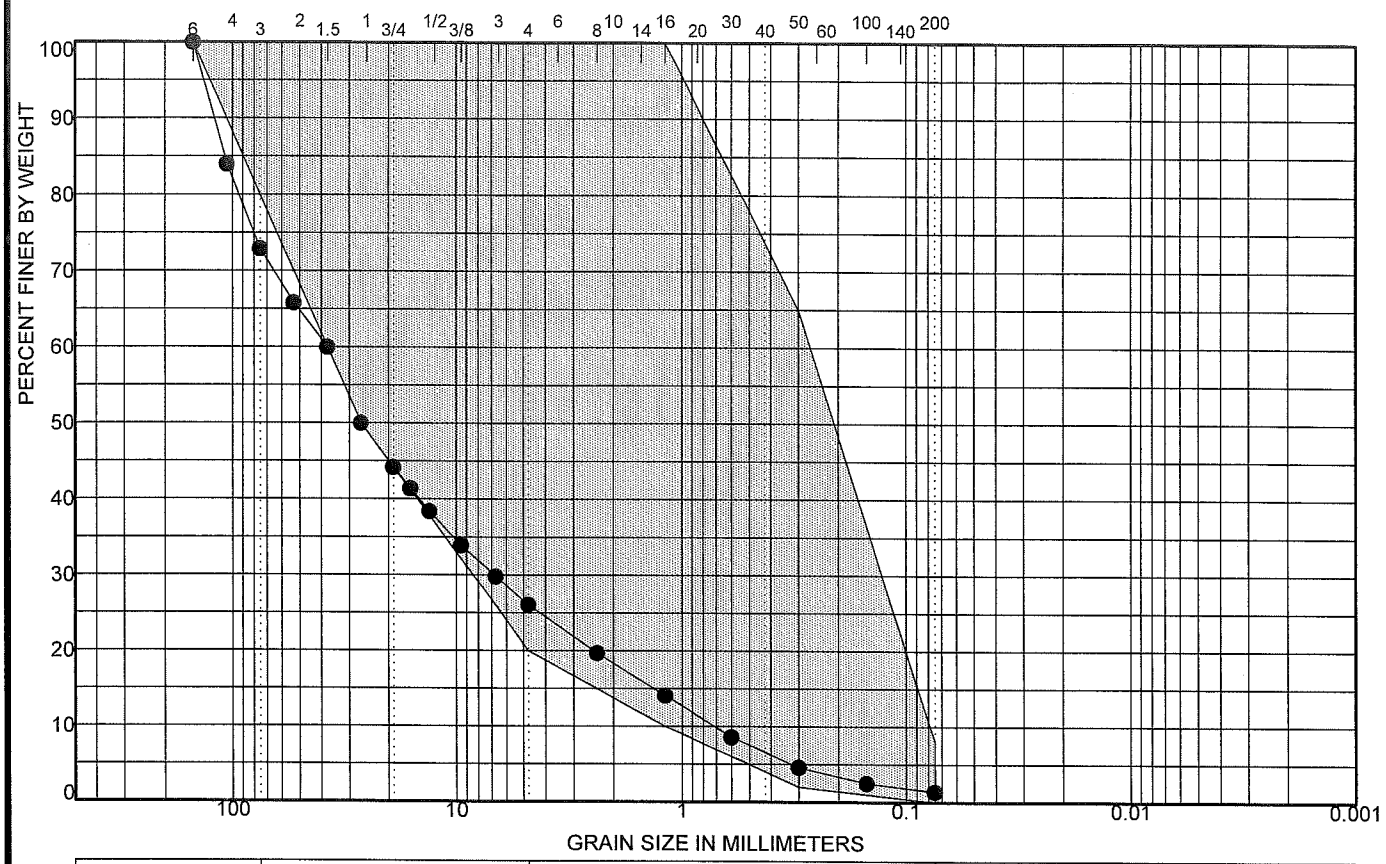
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 32



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
LAB. NO.:	**3874**	**WELL-GRADED GRAVEL with SAND GW**				**1.74**	**52.62**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	150	**37.5**	**6.815**	**0.713**	**46.8**	**24.7**	**1.4**	

Type of Material: Sandy Gravel
Sample No. 1
Source: TP-24
Sampled From:
Date: 6/2/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 30/01/07
Tested By: D.F.
Date Tested: 02/02/07

SIEVE SIZES mm	PERCENT PASSING	OPSS 1010 Granular 'B' Type I Specifications
150.0	100.0	100
26.5	50.0	50-100
4.75	26.1	20-100
1.18	14.1	10-100
0.3	4.6	2-65
0.075	1.4	0-8

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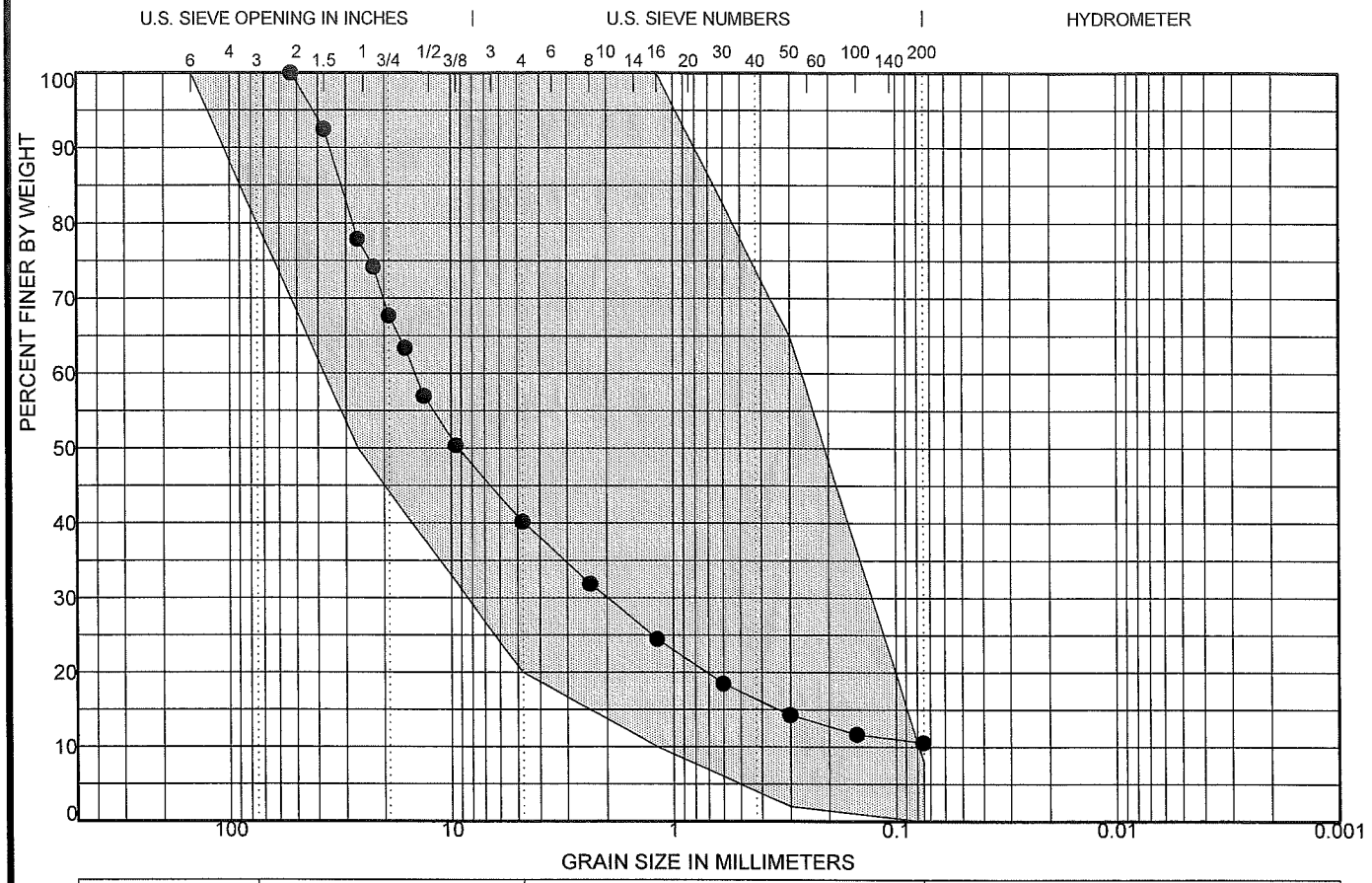
GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 33



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
LAB. NO.: **3880**					**5.26**	**281.11**

FM	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
	53	**14.446**	**1.975**		**59.8**	**29.6**	**10.6**	

Type of Material: Sandy Gravel, some silt
Sample No. 2
Source:
Sampled From: TP-13
Date: 2/6/2007
Client: Lambda Properties c/o BSRD
Contractor:
Sampled By: RVD
Date Sampled: 1/25/07
Tested By: DF
Date Tested: 2/5/07

SIEVE SIZES mm	PERCENT PASSING	OPSS 1010 Granular 'B' Type I Specifications
150.0		100
26.5	77.9	50-100
4.75	40.2	20-100
1.18	24.5	10-100
0.3	14.3	2-65
0.075	10.6	0-8

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GRAIN SIZE DISTRIBUTION

Project: Potential Aggregate Resource/Industrial Subdivision
Location: Pt of NE Half of Lot 26, Conc. 7, Twp of Puslinch
File No.: 06-11-K10
Enclosure No.: 34

BURNSIDE

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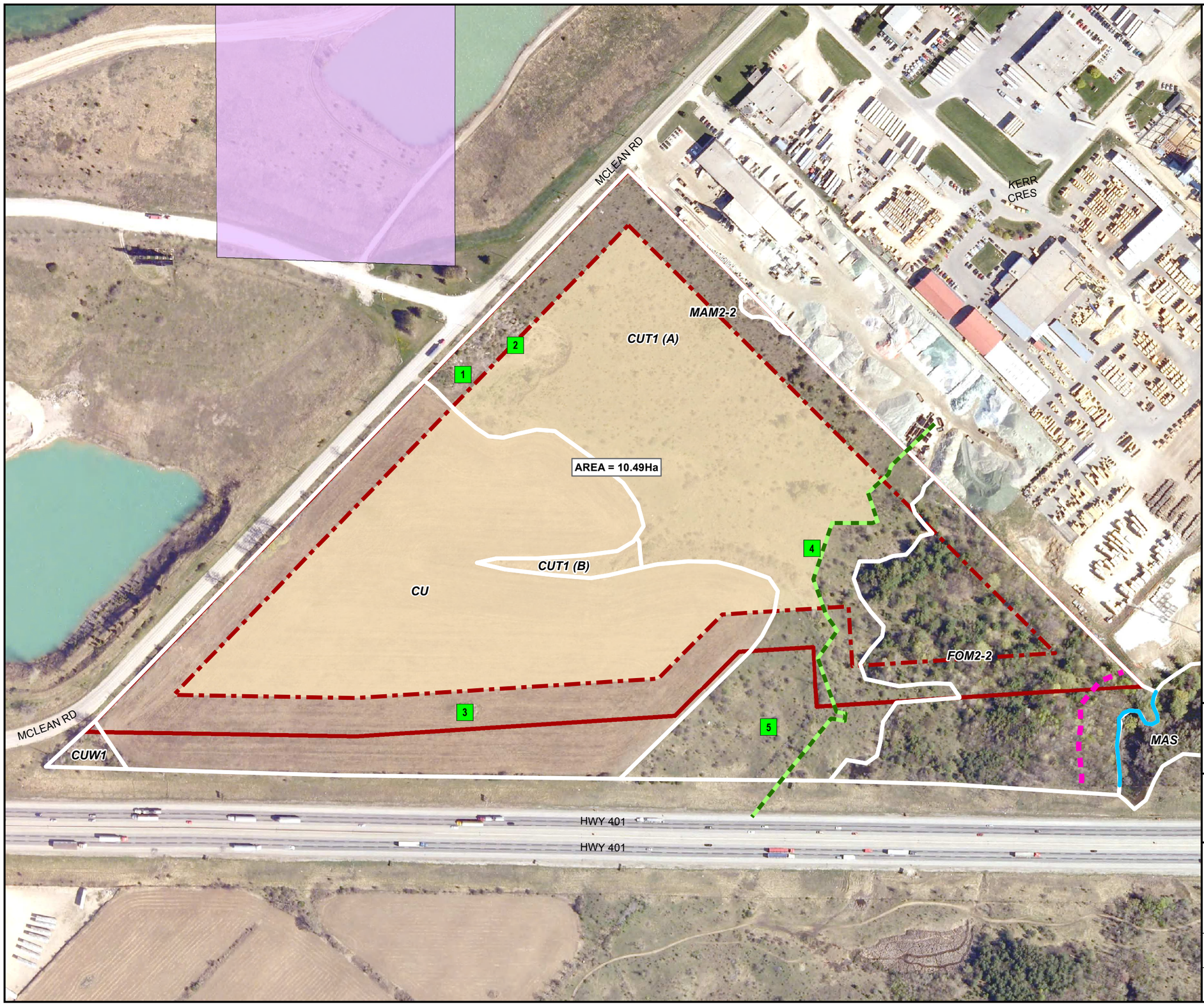
Attachment 4

EIS Potential Aggregate Resources



LEGEND

- Approximate Property Boundary
- 30m Buffer from Property Boundary
- Approximate Rock Pile Location
- Surveyed Wetland Boundary
- 30m Buffer from Surveyed Wetland
- 30m Buffer from Forested
- Potential Aggregate
- Regional Earth Science ANSI

Ecological Land Classification (ELC)

- CU = Cultural - Active
- CUT1 (A) = Mineral Cultural
- CUT1 (B) = Mineral Cultural
- CUW1 = Mineral Cultural Woodland Ecosite
- FOM2-2 = Dry-Fresh White Pine-Sugar Maple Mixed Forest Type
- MAM2-2 = Reed-canary Grass Mineral Meadow Marsh Type
- MAS = Shallow Marsh

Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.
3. Background 2006 air photo obtained from Grand River Conservation Authority (GRCA) Produced using information under License with the Grand River Conservation Authority © Grand River Conservation Authority, 2014

N

Datum: North American 1983 CSRS

Coord. System: NAD 1983 CSRS UTM Zone 17N

0 50 100 150 200

Metres

BURNSIDE

Client

BSR&D LTD.
PUSLINCH INDUSTRIAL

Figure Title

ENVIRONMENTAL IMPACT STUDY

POTENTIAL AGGREGATE RESOURCES

Drawn	Checked	Date	Figure No.
CD	NS	September 2014	1
Scale		Project No.	
1:3,000		300032929	

File Path: E:\Project\300\032929 (Puslinch Industrial)\Map\032929 EIS POTENTIAL AGGREGATE RESOURCES.mxd Print Date: 2014/09/18 Time: 11:23 AM