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May 16, 2025

Innovative Planning Solutions
9-647 Welham Road
Barrie, Ontario
L4N 0B7

Attention: Alfiya Kakal **VIA E-MAIL**
akakal@ipsconsultinginc.com

Re: Noise Impact Study Addendum 1
Duivenvoorden Haulage Shelburne Pit Expansion
4th Line
Melancthon, Ontario
VCL File: 1250085

Dear Alfiya:

Trinity Consultants prepared a Noise Impact Study in support of the Duivenvoorden Haulage Shelburne Pit Expansion dated April 16, 20204. Since the preparation of that report, the final pit floor elevation has been raised by approximately 3 m to remain an appropriate distance above the water table. The Township's peer review consultant, R.J. Burnside, have requested that the noise study be reviewed to ensure the recommended mitigation measures will still result in compliance with the Ministry of Environment, Conservation and Parks (MECP) noise guideline limits.

Raising the pit floor elevation by 3 m effectively reduces the inherent acoustical screening provided to the operating equipment since the height or the pit faces decreases by the same 3 m.

We have updated the CadnaA noise model to account for the elevation change. Everything else in the model remains the same as outlined in the April 16, 2024 report. The worst-case results accounting for the mitigation measures recommended in the 2024 report for Phases 1, 2 and 3 are presented in Tables 1, 2 and 3, respectively.

TABLE 1: PHASE 1 (ORIGINAL MITIGATION)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 1	49/50	38/45	Yes
POR 1 Outdoor	46/50	-	Yes
POR 2	39/50	34/45	Yes
POR 2 Outdoor	39/50	-	Yes
POR 3	52/50	38/45	No
POR 3 Outdoor	52/50	-	No
POR 4	37/50	32/45	Yes

…/cont'd

TABLE 1: PHASE 1 (ORIGINAL MITIGATION) (continued)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 4 Outdoor	37/50	-	Yes
POR 5	35/50	28/45	Yes
POR 5 Outdoor	35/50	-	Yes
POR 6	40/50	29/45	Yes
POR 6 Outdoor	39/50	-	Yes
POR 7	43/45	30/40	Yes
POR 7 Outdoor	43/45	-	Yes
POR 8	43/45	29/40	Yes
POR 8 Outdoor	42/45	-	Yes
POR 9	45/50	31/45	Yes
POR 9 Outdoor	45/50	-	Yes
POR 10	46/50	34/45	Yes
POR 10 Outdoor	46/50	-	Yes

TABLE 2: PHASE 2 (ORIGINAL MITIGATION)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 1	48/50	39/45	Yes
POR 1 Outdoor	42/50	-	Yes
POR 2	38/50	31/45	Yes
POR 2 Outdoor	37/50	-	Yes
POR 3	42/50	35/45	Yes
POR 3 Outdoor	39/50	-	Yes
POR 4	42/50	31/45	Yes
POR 4 Outdoor	37/50	-	Yes
POR 5	36/50	27/45	Yes
POR 5 Outdoor	35/50	-	Yes
POR 6	40/50	28/45	Yes
POR 6 Outdoor	39/50	-	Yes
POR 7	44/45	28/40	Yes
POR 7 Outdoor	43/40	-	Yes
POR 8	45/45	30/40	Yes
POR 8 Outdoor	44/45	-	Yes
POR 9	47/50	34/45	Yes
POR 9 Outdoor	47/50	-	Yes
POR 10	49/50	35/45	Yes
POR 10 Outdoor	49/50	-	Yes

TABLE 3: PHASE 3 (ORIGINAL MITIGATION)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 1	49/50	38/45	Yes
POR 1 Outdoor	45/50	-	Yes
POR 2	43/50	32/45	Yes
POR 2 Outdoor	43/50	-	Yes
POR 3	49/50	38/45	Yes
POR 3 Outdoor	46/50	-	Yes
POR 4	42/50	31/45	Yes
POR 4 Outdoor	41/50	-	Yes
POR 5	37/50	26/45	Yes
POR 5 Outdoor	37/50	-	Yes
POR 6	39/50	26/45	Yes
POR 6 Outdoor	38/50	-	Yes
POR 7	46/45	32/40	No
POR 7 Outdoor	46/45	-	No
POR 8	48/45	35/40	No
POR 8 Outdoor	48/45	-	No
POR 9	52/50	37/45	No
POR 9 Outdoor	49/50	-	Yes
POR 10	52/50	39/45	No
POR 10 Outdoor	50/50	-	Yes

As shown in the above tables, sound levels at some of the receptors exceed the MECP noise guideline limits. To meet the guideline limits, these adjustments to the recommended noise mitigation measures are needed:

- Phase 1 - The east-west berm just north of POR 3 needs to be increased from 5 m to 8 m in height.
- Phase 2 – No change to mitigation requirements.
- Phase 3 – 5 m high berm along a portion of the western and northern extraction limits.

The noise mitigation requirements that are required for each of the 3 phases are shown on Figures1 to 3. The mitigated worst-case sound levels are provided in Tables 4 to 6.

TABLE 4: PHASE 1 (UPDATED MITIGATION)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 1	49/50	38/45	Yes
POR 1 Outdoor	46/50	-	Yes
POR 2	39/50	34/45	Yes
POR 2 Outdoor	39/50	-	Yes
POR 3	50/50	35/45	Yes
POR 3 Outdoor	50/50	-	Yes
POR 4	37/50	32/45	Yes
POR 4 Outdoor	37/50	-	Yes

…/cont'd

TABLE 4: PHASE 1 (UPDATED MITIGATION) (continued)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 4 Outdoor	37/50	-	Yes
POR 5	34/50	28/45	Yes
POR 5 Outdoor	34/50	-	Yes
POR 6	40/50	29/45	Yes
POR 6 Outdoor	39/50	-	Yes
POR 7	43/45	25/40	Yes
POR 7 Outdoor	43/45	-	Yes
POR 8	43/45	27/40	Yes
POR 8 Outdoor	42/45	-	Yes
POR 9	45/50	31/45	Yes
POR 9 Outdoor	45/50	-	Yes
POR 10	46/50	34/45	Yes
POR 10 Outdoor	46/50	-	Yes

TABLE 5: PHASE 2 (UPDATED MITIGATION)

Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 1	48/50	39/45	Yes
POR 1 Outdoor	42/50	-	Yes
POR 2	38/50	31/45	Yes
POR 2 Outdoor	37/50	-	Yes
POR 3	42/50	35/45	Yes
POR 3 Outdoor	39/50	-	Yes
POR 4	42/50	31/45	Yes
POR 4 Outdoor	37/50	-	Yes
POR 5	36/50	27/45	Yes
POR 5 Outdoor	35/50	-	Yes
POR 6	40/50	28/45	Yes
POR 6 Outdoor	39/50	-	Yes
POR 7	44/45	28/40	Yes
POR 7 Outdoor	43/45	-	Yes
POR 8	45/45	30/40	Yes
POR 8 Outdoor	44/45	-	Yes
POR 9	47/50	34/45	Yes
POR 9 Outdoor	47/50	-	Yes
POR 10	49/50	35/45	Yes
POR 10 Outdoor	49/50	-	Yes

TABLE 6: PHASE 3 (UPDATED MITIGATION

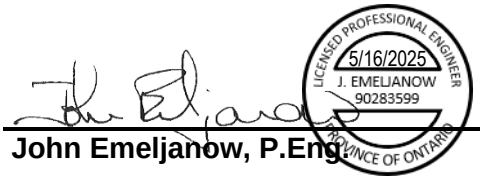
Receptor	Daytime Sound Level/Criteria (dBA)	Nighttime Sound Level/Criteria (dBA)	Compliant?
POR 1	49/50	38/45	Yes
POR 1 Outdoor	45/50	-	Yes
POR 2	43/50	32/45	Yes
POR 2 Outdoor	43/50	-	Yes
POR 3	49/50	37/45	Yes
POR 3 Outdoor	45/50	-	Yes
POR 4	42/50	30/45	Yes
POR 4 Outdoor	41/50	-	Yes
POR 5	37/50	21/45	Yes
POR 5 Outdoor	37/50	-	Yes
POR 6	39/50	26/45	Yes
POR 6 Outdoor	38/50	-	Yes
POR 7	44/45	28/40	Yes
POR 7 Outdoor	44/45	-	Yes
POR 8	45/45	35/40	Yes
POR 8 Outdoor	45/45	-	Yes
POR 9	49/50	33/45	Yes
POR 9 Outdoor	48/50	-	Yes
POR 10	48/50	37/45	Yes
POR 10 Outdoor	48/50	-	Yes

As can be seen from the results provided in the tables above, with the modified noise mitigation measures, the worst-case sound levels at the receptor locations are in compliance with the MECP noise guideline limits.

If there are any questions or if additional information is needed, please do not hesitate to call.

Yours truly,

VALCOUSTICS CANADA LTD.

Per: 

John Emeljanow, P.Eng.

JE\sk
2025-04-02 Addendum No. 1 V1.0.docx

Enclosures

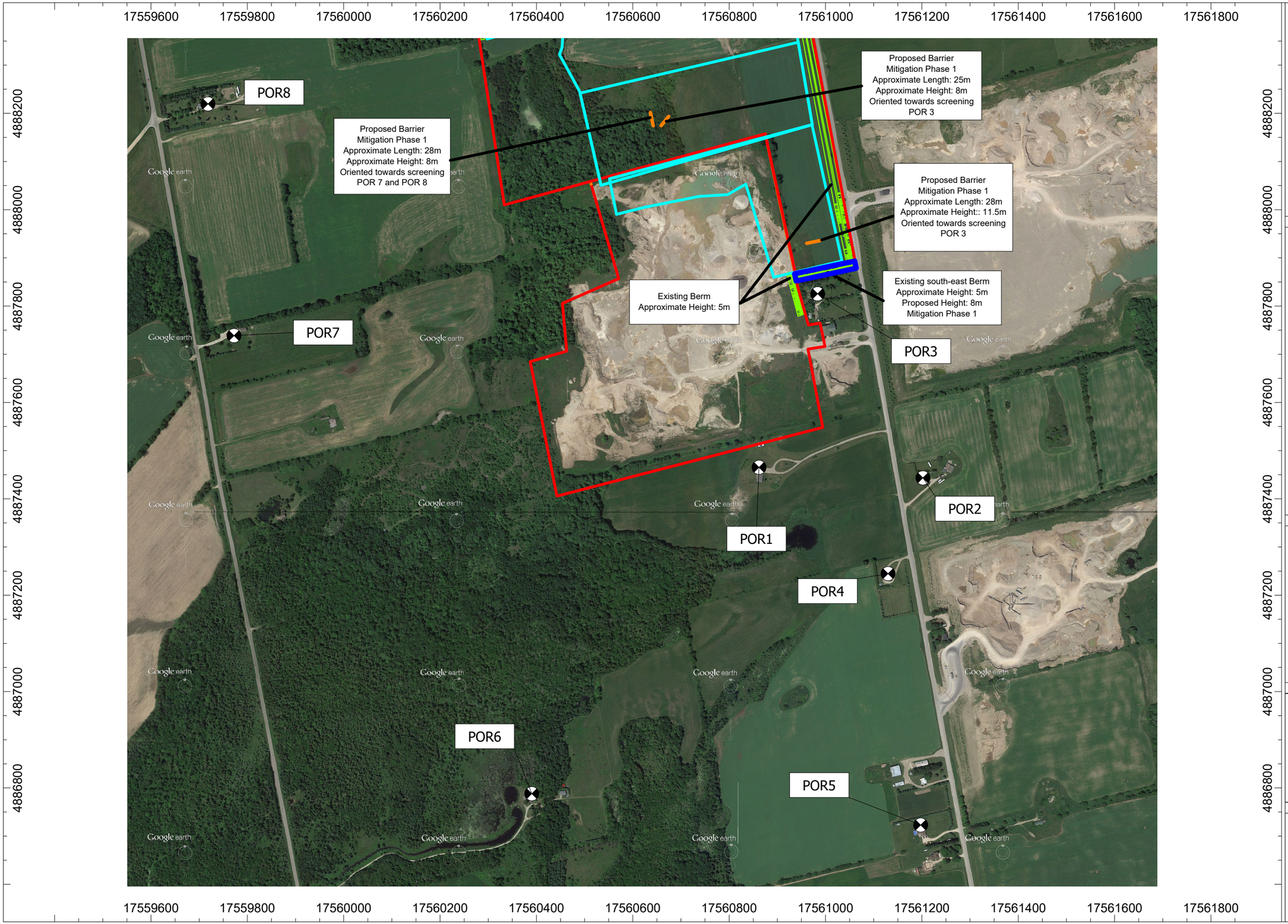


Figure 1
Existing Berm and Proposed Mitigation Measures for Phase 1

Duivenvoorden Haulage Ltd.
3425, 9th line, Innisfil, ON

Part of E1/2 Lot 14, Con. 4
Twp. of Melancthon on RR#2
Shelburne, On

Legend

- Building
- Barrier
- Embankment
- Contour Line
- Receiver

N

Date	April 2025
Project Number	1250085.000
Drawn By:	M.K.

Trinity Consultants

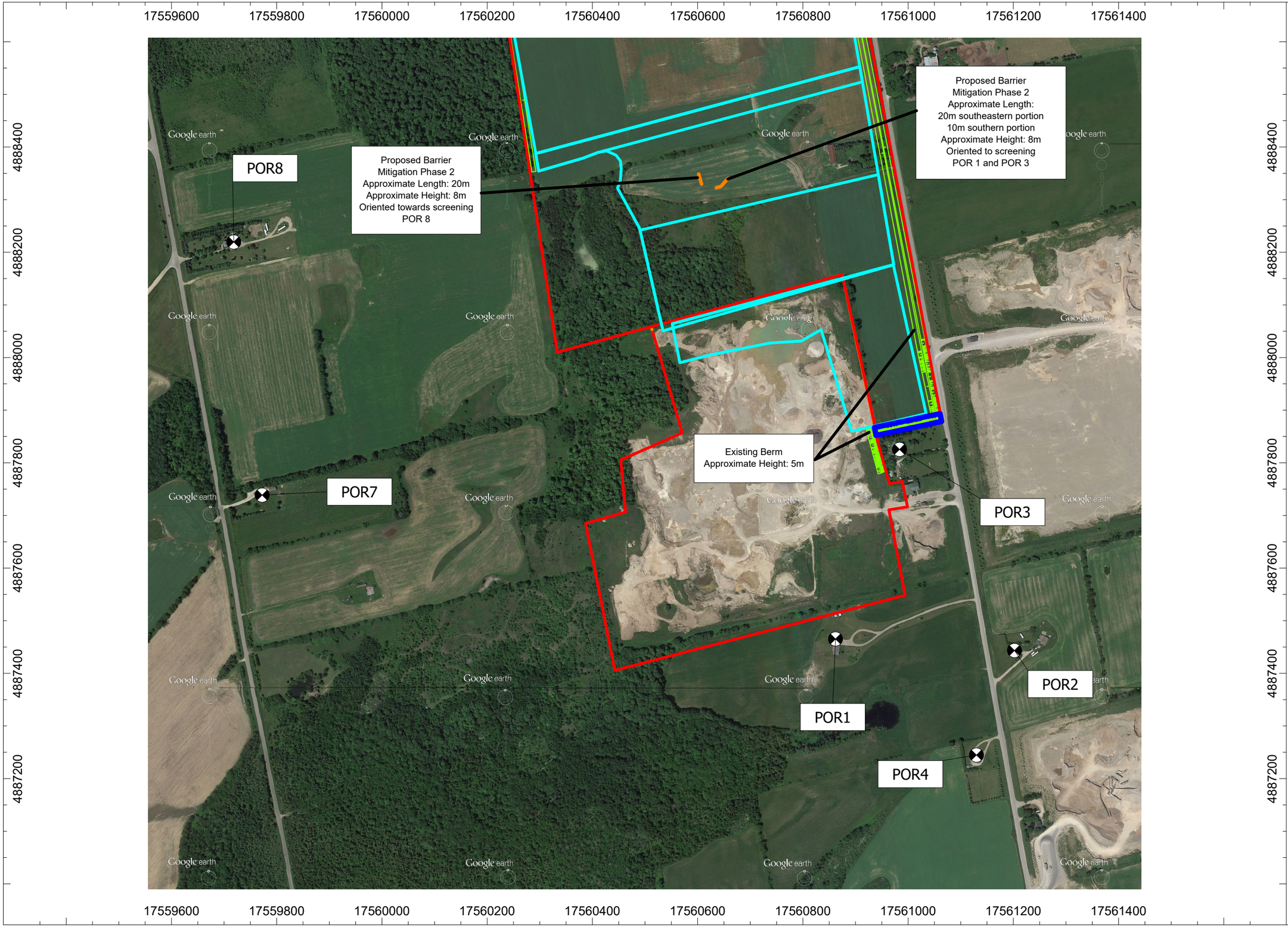


Figure 2
Existing Berm and Proposed Mitigation Measures for Phase 2

Duivenvoorden Haulage Ltd.
3425, 9th line, Innisfil, ON

Part of E1/2 Lot 14, Con. 4
Twp. of Melancthon on RR#2
Shelburne, On

Legend

- Building
- Barrier
- Embankment
- Contour Line
- Receiver

N

Date	April 2025
Project Number	1250085.000
Drawn By:	M.K.

Trinity Consultants

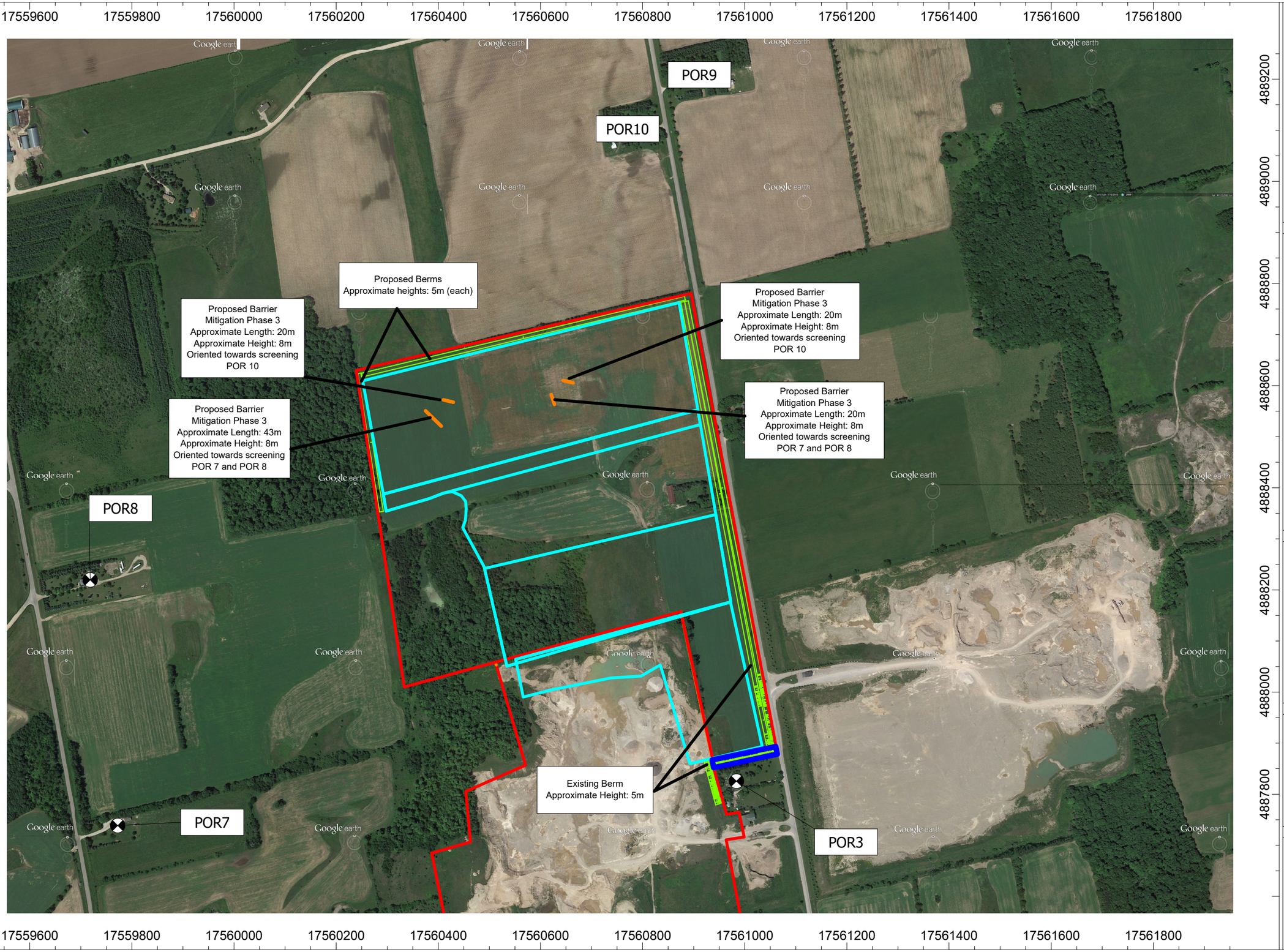


Figure 3
Existing Berm and Proposed Mitigation Measures for Phase 3

Duivenvoorden Haulage Ltd.
3425, 9th line, Innisfil, ON

Part of E1/2 Lot 14, Con. 4
Twp. of Melancthon on RR#2
Shelburne, On

Legend

- Building
- Barrier
- Embankment
- Contour Line
- Receiver

N

Date April 2025
Project Number 1250085.000
Drawn By: M.K.

Trinity Consultants