

**TECHNICAL MEMORANDUM****DATE** July 19, 2019**Project No.** 18105460**TO** Bijaya Adhikari, Ph.D.  
Inuvialuit Water Board**FROM** Kevin Rattray, Golder Associates Ltd.**EMAIL** [Kevin\\_Rattray@golder.com](mailto:Kevin_Rattray@golder.com)**RE: N5L8-1841 - AMENDMENT TO TREATMENT CELL GRADING – TUK BASE**

Attached to this Memorandum is the modified soil treatment cell design drawings at the former Tuktoyaktuk Exploration Logistics Base Camp (Tuk Base or the Site). Modifications to the original design are limited to the reduction of a 2% compacted granular base to a 1% slope across the cell. No other modifications are being proposed.

Justification of the proposed changes are:

1. Current topography of the treatment cell area has a natural slope of 1% in the same direction as the design slope. The design slope is for a 2% slope. Building the soil treatment cell to the design slope would require grading/importing of approximately 4,400 m<sup>3</sup> additional material which would need to be disturbed from other areas on site.
2. Soil samples from the area were collected and will be used as a baseline control after the soil treatment cell is decommissioned.
3. The designed 0.3m high soil berm around the entire soil treatment cell will still be constructed.
4. The lined sump on the east corner of the soil treatment cell will still be constructed.

Should you have any questions or require further information please do not hesitate to contact the undersigned.

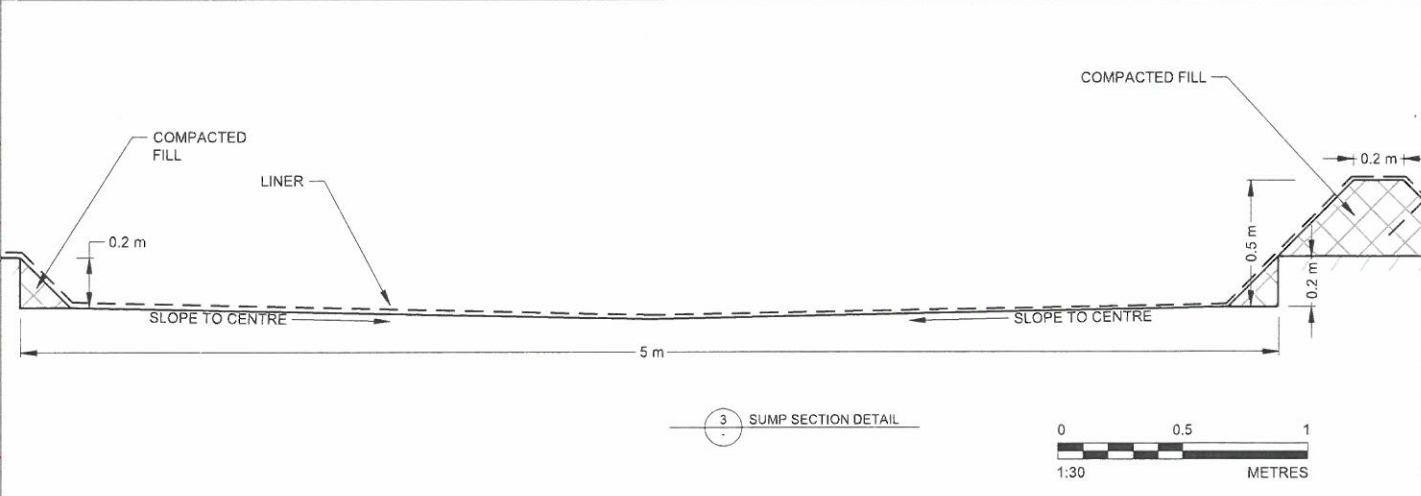
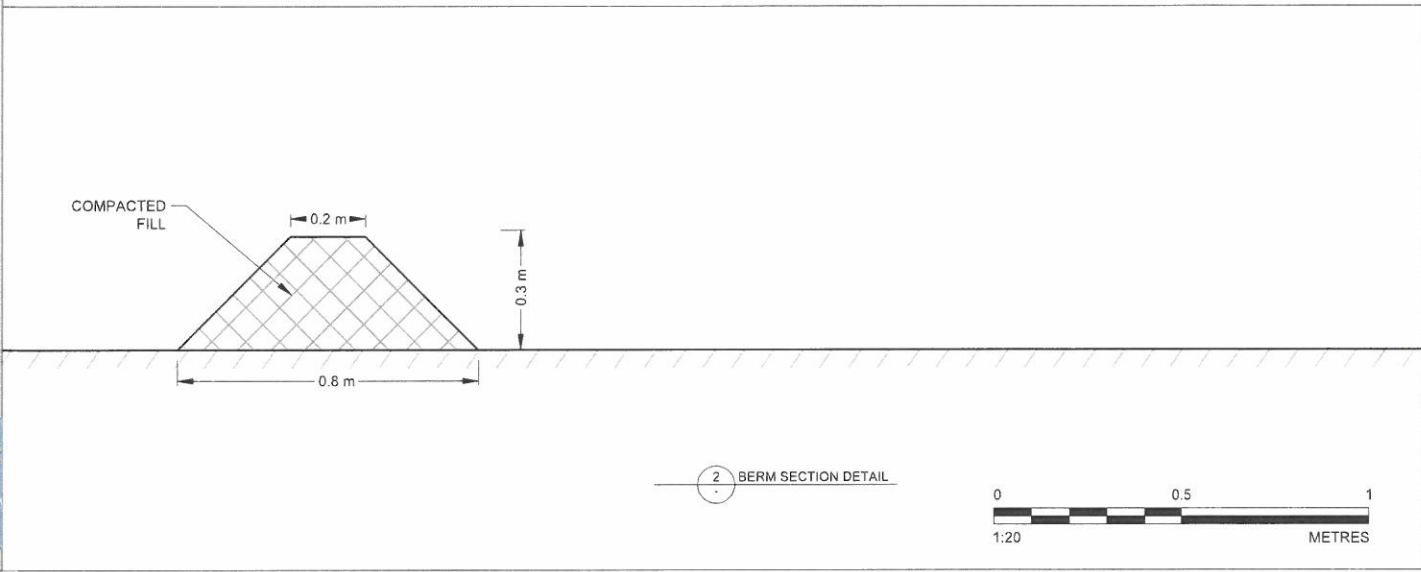
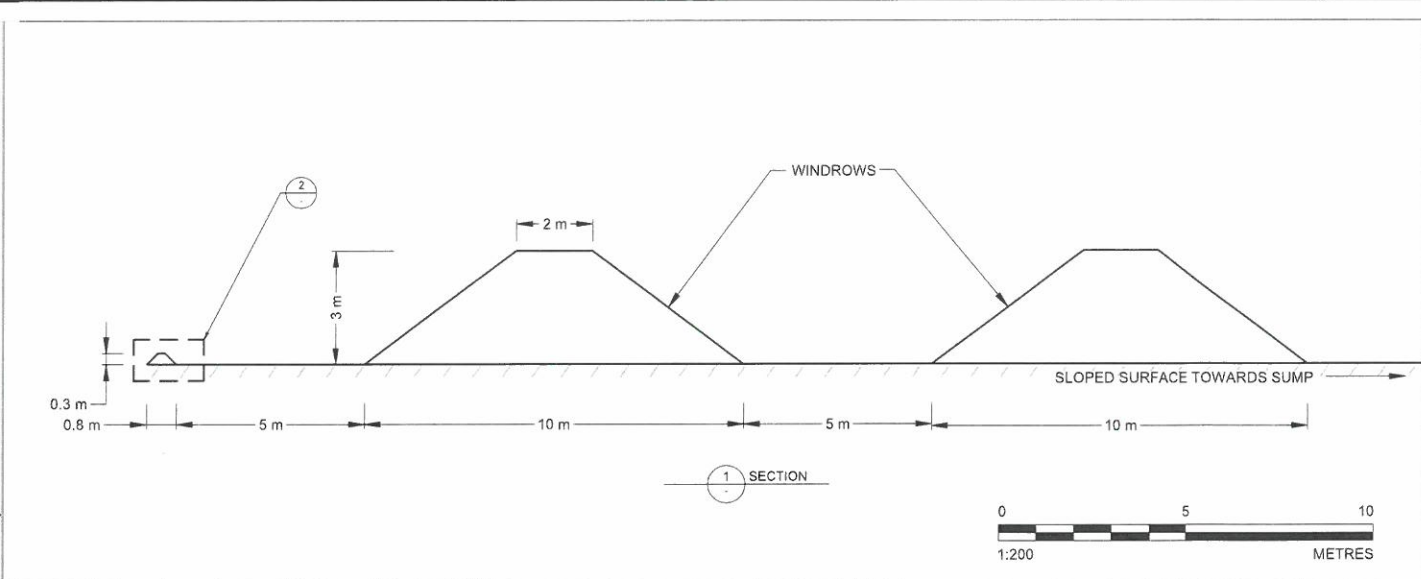
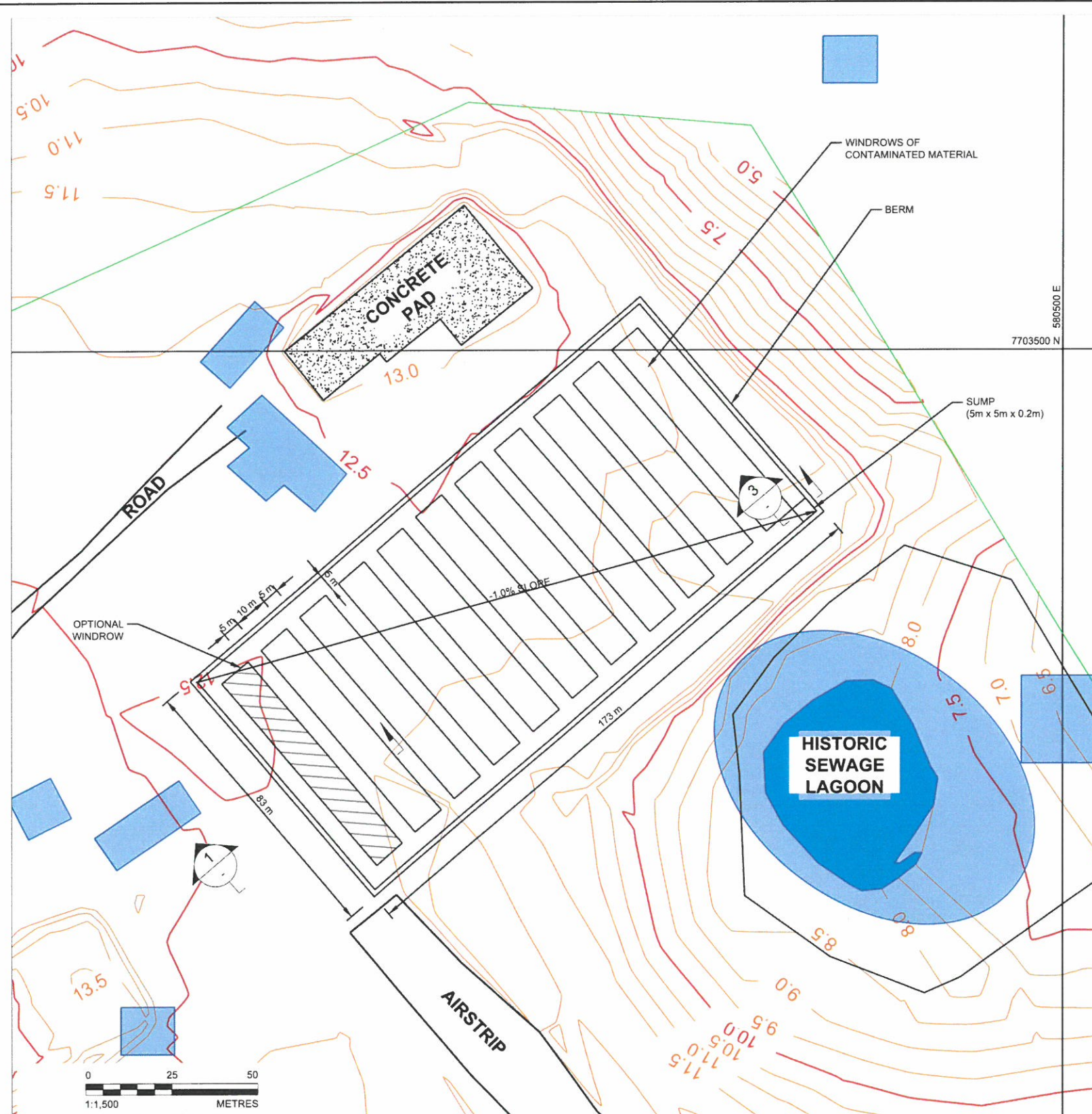


Kevin Rattray, PEng  
*Environmental Engineer*  
Golder Associates Ltd.  
Yellowknife, NT



Jillian Mitton, MSc PEng  
*Principal, Environmental Engineer*  
Golder Associates Ltd.  
Calgary, AB

Path: C:\Users\echeng\Golder\Associates\18105460\_Imperial\TuktoyaktukRemediation\AB - Project Files\18105460\_Imperial\TuktoyaktukRemediation\Golder\DWG | File Name: Tuk Base - Soil Treatment Cell.dwg | Last Edited By: echeng Date: 2019-07-19 Time: 3:14:02 PM  
 Path: C:\Users\echeng\Golder\Associates\18105460\_Imperial\TuktoyaktukRemediation\AB - Project Files\18105460\_Imperial\TuktoyaktukRemediation\Golder\DWG | File Name: Tuk Base - Soil Treatment Cell.dwg | Last Edited By: echeng Date: 2019-07-19 Time: 3:14:02 PM



- LEGEND**
- EXCAVATION AREAS
  - LEASE BOUNDARY

**PERMIT TO PRACTICE**  
**GOLDER ASSOCIATES LTD.**  
 Signature *John Chung*  
 Date *19 July 2019*  
**PERMIT NUMBER: P 049**  
 NT/NU Association of Professional  
 Engineers and Geoscientists



CLIENT  
IMPERIAL OIL LTD.

CONSULTANT	YYYY-MM-DD	2019-07-19
DESIGNED	BS	
PREPARED	EC	
REVIEWED	JM	
APPROVED	KR	



PROJECT  
TUKTOYAKTUK BASE REMEDIATION

TITLE  
**SOIL TREATMENT CELL**

PROJECT NO.	PHASE	REV.	FIGURE
18105460	1000	1	2A

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3/36"