AGNICO EAGLE
MEADOWBANK COMPLEX

February 3, 2023 NWB File No. 2AM-MEA1530

Karen Kharatyan
Nunavut Water Board
PO Box 119
Gjoa Haven, NU X0B 1J0

Re: Water Licence 2AM-MEA1530 Modification – Baker Lake Water Management Improvement

Dear Mr. Kharatyan,

Agnico Eagle Mines Limited (Agnico Eagle) is writing to the Nunavut Water Board (NWB) to provide sixty (60) days' notice of a proposed Modification to the Meadowbank Mine under Part G of Water Licence (2AM-MEA1530).

1. Background

On January 5, 2023 Agnico Eagle submitted an application to the Nunavut Planning Commission (NPC) to complete a screening of the proposed project changes, whereby Agnico Eagle is requesting to add infrastructure at the Baker Lake Marshalling area (Marshalling area) to improve water management around the site. The NPC concluded on February 2, 2023 that the proposed changes were exempt from screening as the water management improvement does not change the general scope of the original or previously amended activities (Attachment A).

Subsequently, Agnico Eagle is submitting this notification of Modification per Water Licence 2AM-MEA1530, Part G, Item 3a-g for the NWB review and approval, as described in the sections below.

2. Conditions Applying to Modifications

***Part G, Item 3a:* Description of Facilities and/or Works to be Constructed**

Agnico Eagle operates the Marshalling area located on the north shore of Baker Lake, to manage dry freight storage. The Marshalling area acts as a transfer point for goods and materials which are transported by barge to Baker Lake, prior to its land shipment to the Meadowbank Mine site.

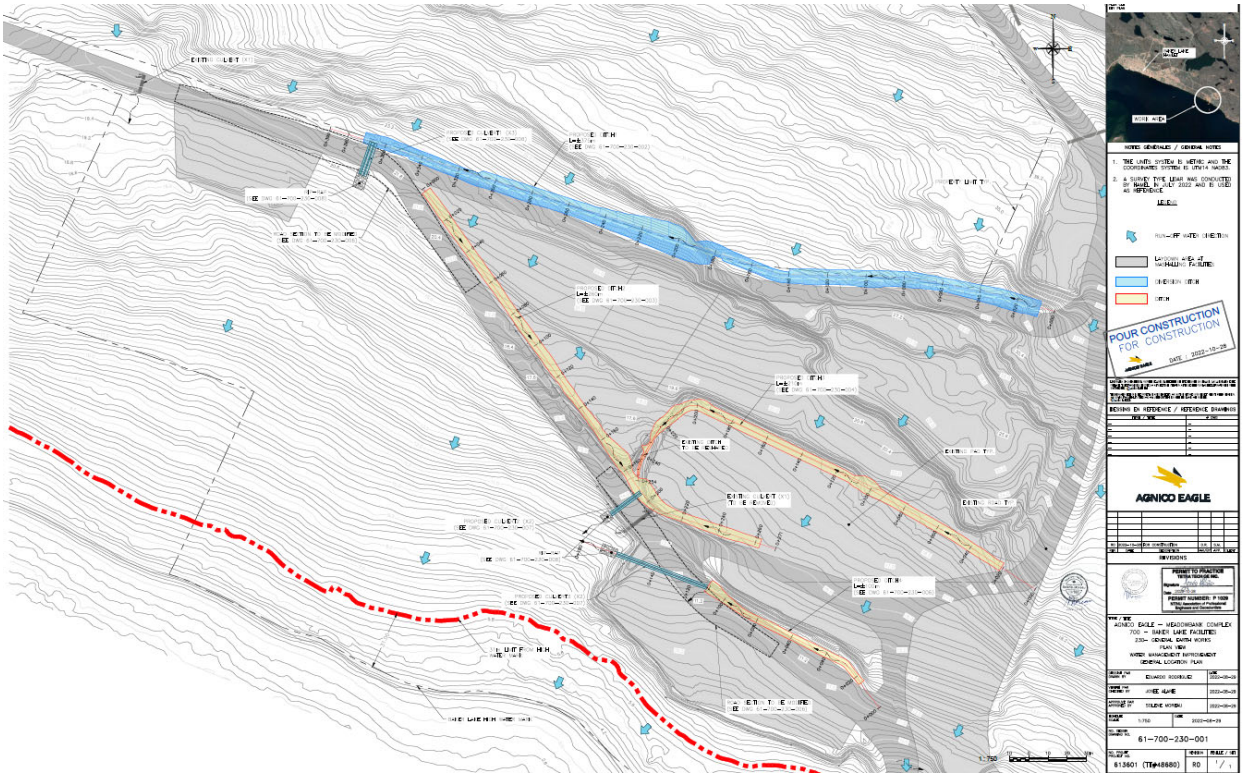
Following NU Spill reports in 2021 and 2022 (2021-264 and 2022-236), as well as the June 2022 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) inspection, CIRNAC requested Agnico Eagle develop a long-term strategy to address the water management concern around the Marshalling area. Snowmelt and runoff water flow directly through the active work surface of the laydown area, and eventually flow towards Baker Lake.

To undertake long-term corrective measures, Agnico Eagle is proposing to improve the existing run-off water management system at the Marshalling area to minimize impact for Baker Lake. The main components of the proposed water management infrastructure consist of reshaping some existing ditches, creating four ditches, and installing three new culverts sites (Figure 1).

The proposed water management infrastructures include the following components:

- One water diversion ditch (DITCH1)
- Three internal ditches (DITCH2/DITCH3/DITCH4)
- Three culvert sites (CULVERT1, CULVERT2, CULVERT3)

Figure 1: Baker Lake Marshalling Area – General Location Plan



The laydown area is approximately 350 meters long (west-east) and 235 meters wide (north-south), covering an area of approximately 8 hectares. The surrounding ground north of the Marshalling area is a natural (undisturbed) area of tundra. The laydown area is bounded to the south by Baker Lake, from which the 31 m offset limit from its highwater mark is considered as the limit of authorized construction zone.

The network of water management infrastructures, including ditches and culverts, is proposed to be constructed and maintained to facilitate the run-off water management at the Marshalling laydown area. The objective is to minimize impacts of the laydown area on the quantity and the quality of surface run-off water flowing toward Baker Lake and improve the current situation.

Finally, Agnico Eagle has maintained its communication with the CIRNAC inspector with respect to the proposed water management improvement as noted above.

Attachment B provides the Design Report, which includes the site conditions, design basis, considerations, criteria, and the detailed design and drawings of the proposed ditches and culverts.

***Part G, Item 3b:* Proposed Location of Structure(s)**

Refer to Figure 1 above, and Attachment B which provides the Design Report and associated drawings.

***Part G, Item 3c:* Potential Impacts to the Receiving Environment**

Agnico Eagle does not anticipate potential impacts to the receiving environment, as the Modification is to improve the existing run-off water management system at the Marshalling area to minimize impact for Baker Lake.

***Part G, Item 3d:* Monitoring Required**

During construction, any surface runoff will be sampled weekly as per Water Licence 2AM-MEA1530 Part C, Item 12. A similar mitigation measure was implemented for the Itivia laydown area for Agnico Eagle's Meliadine Mine, whereby total suspended solids were monitored under the same condition through operations (2AM-MEL1631, Part D, Item 18). In addition, Agnico Eagle will adhere to the Meadowbank and Whale Tail Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, as well as the Spill Contingency Plan.

***Part G, Item 3e:* Schedule for Construction**

The project involves civil works only and is proposed to begin the summer of 2023, after the snowmelt, and would be completed in 2023.

***Part G, Item 3f:* Drawings of Engineering Structures**

Engineered drawings of the new structures required for this Modification are provided in the Design Report (Attachment B).

***Part G, Item 3g:* Sediment and Erosion Control Measures**

Silt fences will be installed during the construction of culverts and ditches to prevent potential sediment transportation into Baker Lake. Daily inspections will be performed by qualified employees to ensure the effectiveness of the mitigation measures and to monitor activities for signs of erosion.

3. Closure

Agnico Eagle thanks the NWB for their review and consideration of the proposed Modification under Water Licence 2AM-MEA1530. Agnico Eagle is committed to responsibly manage waste and water resources to minimize or eliminate potential effects to the environment in accordance with the Water Licence, Project Certificate No. 004, and objectives as outlined in Management Plans for the Meadowbank Mine.

Should you have any questions, please do not hesitate to contact me directly.

Sincerely,

Manon Turmel
Superintendent - Permitting and Regulatory Affairs
Agnico Eagle Mines Limited

Attachments: Attachment A NPC Letter - Exempt from Screening
Attachment B Design Report for Water Management Improvement a Baker Lake Marshalling Laydown Area

Attachment A NPC Letter - Exempt from Screening

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Nunavunmi Parnaiyiit
Nunavut Planning Commission
Commission d'Aménagement du Nunavut

February 2, 2023
NPC File No. 149940

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Manon Turmel
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Dear Mr. Dwyer, Ms. Kapolak, Ms. McCaie, Mr. Chapple, Ms. Pilakapsi, and Manon Turmel:

RE: NPC File # 149940 [Baker Lake Fuel Storage Facility Expansion]

The following works and activities have been proposed in the above-noted project proposal:

1. Agnico Eagle is proposing to improve the existing run-off water management system at the Baker Lake Marshalling area to minimize impact to Baker Lake. The main components of the proposed water management infrastructure consist of reshaping some existing ditches, creating four ditches, and installing three new culverts within the Marshalling area footprint to address water management issues.
2. Associated NPC File No.: 148934, 149826, 148681; Related NIRB File No. 03MN107; 11EN010; Related NWB File No. 2AM-MEA 1530
3. Location: Kivalliq Region [Meadowbank Mine Site, near Baker Lake]

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A complete description of the project proposal reviewed by the Nunavut Planning Commission (NPC) can be accessed online using the link below.

The NPC has completed its review of the above noted project proposal. The activities associated with this proposal were previously reviewed by NPC, and conformity determination was issued on June 22, 2022, August 28, 2018, March 22, 2018 which still applies. In addition, the activities were previously screened by the Nunavut Impact Review Board (NIRB File Nos.: 03MN107; 11EN010). It conforms to the Keewatin Regional Land Use Plan (KRLUP). The proponent has undertaken to comply with the applicable conformity requirements of Appendix C, G, and H of the KRLUP.

This project proposal is exempt from the *Nunavut Planning and Project Assessment Act* (NUPPAA) under section 235 of that Act. The above-noted project proposal does not require screening because the NPC is of the understanding that it does not change the general scope of the original or previously amended project activities, and the exceptions noted in Section 12.4.3 (a) and (b) of the Nunavut Agreement do not apply.

By way of this letter, the NPC is forwarding the project proposal to the regulatory authorities identified by the proponent. Project materials, including the applicable conformity requirements, are available at the following address:

https://lupit.nunavut.ca/portal/project-dashboard.php?appid=149940 &sessionid=

This conformity determination applies only to the above noted project proposal as submitted. The regulatory authorities to which this letter is addressed are responsible under the Nunavut Agreement to implement any of the applicable conformity requirements by incorporating the requirements directly, or otherwise ensuring that they must be met, in the terms and conditions of any authorizations issued.

My office would be pleased to discuss how best to implement the applicable requirements and to review any draft authorizations that regulatory authorities wish to provide for that purpose. If you have any questions, please do not hesitate to contact me at (867) 447-4563.

Sincerely,

Solomon Amuno, PhD
Senior Planner
Nunavut Planning Commission

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Attachment B Design Report for Water Management Improvement a Baker Lake Marshalling Laydown Area

AGNICO EAGLE

DESIGN REPORT FOR WATER MANAGEMENT IMPROVEMENT AT BAKER LAKE MARSHALLING LAYDOWN AREA

MEADOWBANK COMPLEX, NUNAVUT

October 28th, 2022

Revision: R0

Doc. Nº: 613601-700-132-REP-001

Tt Project Nº: 711-48680

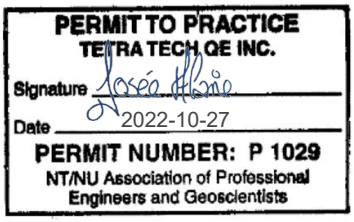
TETRA TECH

REVISION FOLLOW-UP

REV.	DATE	DESCRIPTION	PREPARED BY	REVIEWED BY
R0	28-10-2022	For Use	S. Moreau	J. Alarie
			Member Nº: L5021	Member Nº: L3203

Prepared by:

Solène Moreau, P.Eng.
Civil Engineer
NAPEG # L5021



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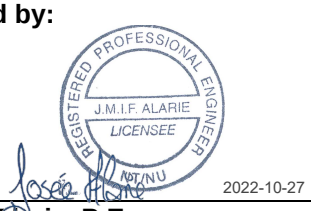

Josée Alarie, P.Eng.
Civil Engineer
NAPEG # L3203

PRODUCTION TEAM

CLIENT – AGNICO EAGLE MINES LIMITED	
Project Manager	Steven Tremblay
Environmental General Supervisor	Eric Haley

FIRM – TETRA TECH	
Project Manager and Civil Engineer	Solène Moreau, P. Eng.
Civil Engineer	Josée Alarie, P. Eng.

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ACRONYMS AND ABVREVIATIONS

The definition of acronyms and abbreviations used in this report are listed below.

Acronyms/Abbreviations	Definition
ARD-ML	Acid Rock Drainage – Metal Leaching
CIRNAC	Crown-Indigenous Relations and Northern Affair Canada
CSA	Canadian Standards Association
D	Diameter of culvert
HW	Design Water Height upstream of the culvert
IDF	Intensity Duration Frequency
MASL	Meters Above Sea Level
NPAG	Non-Potential Acid Generating
NU	Nunavut
NWB	Nunavut Water Board

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Agnico Eagles Mines Ltd. (Agnico Eagle) operates a laydown area for dry freight storage at Baker Lake Marshalling area located on the north shore of Baker Lake, approximately 2 km East of the hamlet of Baker Lake in Nunavut. The Marshalling area acts as a transfer point for goods and materials which are transported by barge to Baker Lake, prior to its land shipment to the Meadowbank Gold mine site, located approximately 70 km to the north.

Following NU Spill report in 2021 and 2022 (2021-264 and 2022-236), as well as the June 2022 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) inspection, CIRNAC requests to Agnico Eagle to develop a long-term strategy to address water management concern around the Marshalling Facilities area. Snowmelt and runoff water flow directly through the active work surface of the laydown area, and eventually flow towards Baker Lake.

Agnico Eagle is proposing to improve the existing run-off water management system at its Baker Lake Marshalling area as a corrective measure to minimize impact for Baker Lake. The main components of the proposed water management infrastructures consist of reshaping some existing ditches, creating four (4) ditches and installing three (3) new culverts sites.

The project involves civil works only.

Figure 1 and Figure 2 indicate the geographical location of Baker Lake Marshalling area and an aerial view of the existing laydown area.

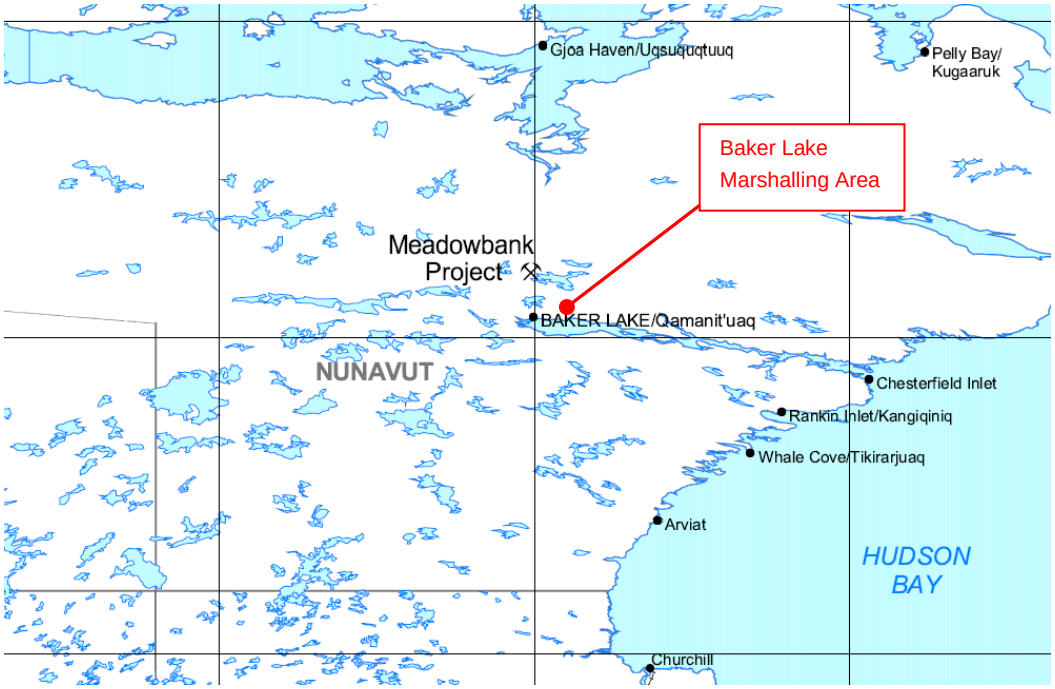


Fig.1: Baker Lake Marshalling Area – Site location

Fig. 2: Laydown area at Baker Lake Marshalling Area – Aerial view *(ref : Google Earth-2019)*

1.2 PURPOSE OF THE REPORT

Agnico Eagle retained the services of Tetra Tech to carry out the engineering design and the preparation of this design report for the improvement of the existing run-off water management of the laydown area at the Baker Lake Marshalling area by reshaping and creating ditches and by installing new culverts.

As a requirement of the Type A Water Licence Permit No.2AM-MEA1530 (Nunavut Water Board), this report summarizes the site conditions, design basis, considerations, criteria, and the detailed design of the proposed ditches and culverts. It includes the final design and construction drawings.

1.3 SCHEDULE

The works is scheduled to begin in the summer of 2023 after the snowmelt and be completed in 2023.

1.4 INCLUSIONS AND EXCLUSIONS

The following items are included in the design report:

- Hydrologic calculations
- Definition of the design parameters for sizing the culverts and ditches
- Detailed engineering and construction drawings for:
    - DITCH1 to DITCH4
    - CULVERT1 to CULVERT3
- Specification and estimation of required material quantities for construction

Any elements not mentioned in the Inclusions are considered excluded from the design report.

1.5 ENGINEERING DOCUMENTS

The construction drawings are provided in Appendix B.

2 GENERAL SITE CONDITIONS

2.1 CLIMATE AND METEOROLOGY

The Project is located within a low Arctic Eco climate described as one of the coldest and driest regions of Canada. Arctic winter conditions occur from October through May, with monthly mean air temperatures typically below 0°C. Summer temperatures typically above 0°C occur for the months of June to September with isolated rainfall increasing through September.

Table 1 presents monthly rainfall, snowfall, and total precipitation values for the site. From historical data, August is the wettest month, with a mean total precipitation of 43.4 mm, and February is the driest month, with a mean total precipitation of 6.1 mm. During an average year, the total precipitation is 249.6 mm, combining 147.5 mm of rainfall and 102.1 mm of snowfall precipitation.

Table 1: Estimated Monthly Climate Characteristics in Baker Lake

Month	Max. Air Temp. (°C)	Min. Air Temp. (°C)	Rainfall (mm)	Snowfall (mm)	Total Precip. (mm)	Lake Evap. (mm)	Min. Relative Humidity (%)	Max. Relative Humidity (%)	Wind Speed (km/h)	Soil Temp. (°C)
January	-29.1	-35.5	0	6.9	6.9	0	67.1	75.9	16.3	-25.5
February	-27.8	-35.2	0	6.0	6.1	0	66.6	76.5	16.0	-28.1
March	-22.3	-30.5	0.0	9.2	9.2	0	68.4	81.4	16.9	-24.9
April	-13.3	-22.5	0.4	13.6	14.0	0	71.3	90.1	17.3	-18.1
May	-3.1	-9.9	5.2	7.7	12.8	0	75.7	97.2	18.9	-8.0
June	7.6	0.0	18.6	3.1	21.7	8.8	62.6	97.2	16.4	2.0
July	16.8	7.2	38.6	0.0	38.6	99.2	47.5	94.3	15.1	10.5
August	13.3	6.4	42.8	0.6	43.4	100.4	59.2	97.7	18.4	9.3
September	5.7	0.9	35.2	6.7	41.9	39.5	70.8	98.6	19.3	3.6
October	-5.0	-10.6	6.5	22.6	29.1	0.1	83.1	97.4	21.4	-2.8
November	-14.8	-22.0	0.2	16.2	16.4	0	80.6	91.1	17.9	-11.7
December	-23.3	-29.9	0	9.4	9.5	0	73.3	82.7	17.7	-19.9

Note: Data from Baker Lake A station is available from 1946 to 2011. During this period, the data quality is good, with the exception of years 1946 to 1949, and 1993, which were removed from the compilation.

2.2 HYDROLOGY

The Baker Lake A meteorological station provides Intensity duration frequency curves (IDF) and statistical analysis for different rain return periods. It is based on data between 1987 and 2017.
The beginning of freshet (spring period) varies from year to year however it has been observed that the winter snow accumulation (October to May) usually begins to melt at the beginning of June and continues throughout the month.

2.3 GEOLOGY

The regional superficial geology is characterized by sandy till, bedrock outcrops, felsenmeer (ice-shattered bedrock), and shallow lakes. The topography is generally dependant on the bedrock structure. Glacial till is the predominant soil type, although a zone of marine reworking could be present up to an elevation 100 to 200 masl. Marine beach deposits are commonly found on the north shore of Baker Lake. These deposits manifest themselves as beaches, bars, spits, and ice-pushed ridges.

The Marshalling area location is underlain by mineral soil comprising various proportions of silts, sands and gravels and frost-susceptible glacial till overlying weathered bedrock. The mineral soil thickness ranges from typically less than 1.4m thick in the fuel farm area to more than 2m in the dry freight storage area. The glacial till comprises a matrix of fine-grained soil with coarse angular gravel, cobble, and boulder particles.

As a continuous permafrost zone, the ground in the area is generally frozen at shallow depth (less than 2m) and the bedrock is also generally encountered at shallow depth (less than 2 m).

2.4 PERMAFROST

The Baker Lake Marshalling area lies within the zone of continuous permafrost. Thermistors installed at the Meadowbank mine site indicate that the permafrost is on the order of 400m to 500m in thickness. It is expected that the permafrost thickness at the Baker Lake site would be similar to that at the Meadowbank mine site. The permafrost table could be depressed to some degree beneath and adjacent to Baker Lake.

3 PROPOSED WATER MANAGEMENT IMPROVEMENT

A network of water management infrastructures including ditches and culverts is proposed to be constructed and maintained to facilitate the run-off water management at the Marshalling laydown area. The objective is to minimize impacts of the laydown area on the quantity and the quality of surface run-off water flowing toward Baker Lake and improve the current situation.

The laydown area is approximately 350 meters long (West-East) and 235 meters wide (North-South), covering an area of approximatively 8 ha.

The surrounding ground north of the Marshalling laydown area is a natural (undisturbed) area of Tundra. The laydown area is bounded to the South by Baker Lake, from which the 31m offset limit from its highwater mark is considered as the limit of authorized construction zone.

The topography at the Marshalling laydown area and the surrounding area is generally low relief. The laydown area elevation is ranging from 9 to 32 meters above sea level (masl) and is located on a 5% to 15% slope towards Baker Lake.

The proposed water management infrastructures include the following components:

- One (1) water diversion ditch (DITCH1)
- Three (3) internal ditches (DITCH2/DITCH3/DITCH4)
- Three (3) culvert sites (CULVERT1, CULVERT2, CULVERT3)

Drawing 6136-700-230-001 provided in Appendix B shows a general location plan of the proposed water management infrastructures.

3.1 DITCH1 / CULVERT1

Water originating from areas north of the laydown area are not affected by Agnico Eagle's activities at the Marshalling facilities. It is proposed to build a ditch (DITCH1) along the north boundary of the laydown area to intercept the natural water and direct it away from the Marshalling area. DITCH1 will be sloped from East toward West to connect with a new culvert site crossing a road. The new culvert (CULVERT1) will be designed and installed properly to ensure an efficient drainage at the outlet of DITCH1. DITCH1 will divert the natural water coming from the north area to allow a discharge in the actual path of the culvert outlet to the environment without contact with the laydown area.

DITCH1 and CULVERT1 will collect runoff water from a drainage area of approx. 46 ha north of the Marshalling area. The related catchment area is represented in Figure 3 provided in Appendix A

3.2 DITCH2 / DITCH3 / CULVERT2

Water running on the western and northern surface of the laydown area will be intercepted via internal ditches (DITCH2 and DITCH3) and conveyed to CULVERT2 before it flows to the environment on a pad made with rip-rap.

DITCH3 is an existing ditch that will be reshaped and redesigned.

CULVERT2 will be located near an existing culvert. This existing culvert will be removed and replaced by CULVERT2, where the outlet will use the same path as the existing one.

DITCH2, DITCH3 and CULVERT2 will collect runoff water from a drainage area of approx. 3.75 ha within the laydown area limit. The related catchment area is represented in Figure 4 provided in Appendix A.

3.3 DITCH4 / CULVERT3

Water running on the central surface of the laydown area will be intercepted via an internal ditch (DITCH4) and conveyed to CULVERT3 before it flows to the environment on a pad made with rip-rap.

DITCH4 and CULVERT3 will collect runoff water from a drainage area of approx. 0.7 ha within the laydown area limit. The related catchment area is represented in Figure 4 provided in Appendix A.

3.4 HYDROLOGIC ANALYSES

Hydrologic analyses were carried out to determine the catchment area and the maximum peak flow to be accommodated by the proposed water management infrastructures.

The long-term Environment Canada climate station at Baker Lake, referred to as Baker Laker A, provides Short Duration Rainfall Intensity-Duration-Frequency Data (IDF), compiling data for a 29-years period (1987-2017). Those data are used in the calculations.

The Rational Method was applied to calculate the peak design flows and a 1 in 100-year rainfall intensity for a duration equivalent to the time of concentration of the catchment area was used to determine the design peak flows for the proposed ditches and culverts.

Table 2 summarizes the calculations.

Table 2: Catchment area and Peak flows for the proposed water management infrastructures

Water Management Infrastructure	Catchment area	Design Peak flow
DITCH1	46 ha	1.909 m3/s
CULVERT1	46 ha	1.909 m3/s
DITCH2	1.3 ha	0.184 m3/s
DITCH3	2.45 ha	0.348 m3/s
CULVERT2	3.75 ha	0.532 m3/s
DITCH4	0.66 ha	0.094 m3/s
CULVERT3	0.66 ha	0.094 m3/s

4 DESIGN OF DITCHES

4.1 KEY PARAMETERS FOR DITCH1

DITCH1 will have a total length of approximately 375 m.

DITCH1 will be built on natural ground, next to the existing road. To minimize impact of the ditch on natural ground, the construction method consisting in creating a berm for shaping the ditch is preferred. Therefore, DITCH1 will be mostly created by berm construction. Some limited portions will be created by excavation when the natural ground profile is not favorable for a berm construction and to allow culvert installation at the ditch outlet.

To control erosion, rip-rap and geotextile will be installed at the bottom and on the sides of the ditch.

Drawings provided in Appendix B present the layout, profile, and typical cross sections for DITCH1.

The key parameters for DITCH1 are presented in Table 3.

Table 3: Key parameters for DITCH1

DITCH1				
Chainage (m)	**0+007 to 0+139**	**0+139 to 0+187**	**0+187 to 0+315**	**0+315 to 0+381**
Construction method	By berm construction	Both method	By berm construction	By excavation
Approximate Length (m)	132	48	128	66
Bottom Width (m)	3	Varies from 1 to 3	3	1
Excavation slope	NA	2H:1V	NA	2H:1V
Height of excavated ditch (m)	NA	0.8 m min. to 1.2 m	NA	0.8 m min. to 1.45m
Berm height	0.8 m	0.8 m	0.8 m	NA
Berm slope	2H:1V	2H:1V	2H:1V	NA
Rip-rap Thickness (m)	0.3	0.3	0.3	0.3
Bottom Slope Gradient (%)	3.0%	2.6%	2.6% to 2.8%	5.0%
Freeboard	0.3 min	0.3 min	0.3 min	0.3 min

4.2 KEY PARAMETERS FOR DITCH2/DITCH3/DITCH4

DITCH2, DITCH3 and DITCH4 will be built on the pad of the laydown area. They will be created by excavation in the existing fill.

To control erosion, rip-rap and geotextile will be installed at the bottom and on the sides of the ditch.

The key parameters for each ditch are presented in Table 4.

Table 4: key parameters for DITCH2/DITCH3/DITCH4

ITEM	DITCH2	DITCH3	DITCH4
Construction method	By excavation	By excavation	By excavation
Approximate Total Length (m)	262	209	96
Bottom Width (m)	1	1	1
Side slope	2H:1V	2H:1V	2H:1V
Height of excavated ditch (m)	1 m min.to 2.05 m	1 m min.to 1.62 m	0.5 m min.to 1.36 m
Rip-rap Thickness (m)	0.3	0.3	0.3
Proposed Bottom Slope Gradient (%)	2.3% to 10.6%	0.5% to 5.7%	0.5%
Freeboard (m)	0.3	0.3	0.3

5 DESIGN OF CULVERTS

5.1 CULVERT SIZING AND DESIGN

The proposed culverts for the three crossings (CULVERT1 to CULVERT3) will be sized based on the designed peak flow calculated in Section 3.4.

The standard galvanized, corrugated steel pipe culvert is proposed. Each culvert crossing will consist of a cluster of several pipes. Culverts will have a minimum corrugation profile of 68X13 mm, and a specified thickness of 2.8 mm. Refer to Section 6.2 for the complete proposed culvert specifications.

An “offset stacked” configuration will be used to enable flow conveyance before complete ice break-up within the watercourses. The combination of all the culverts within the configuration is sized to accommodate the estimated peak flows at each crossing assuming inlet control with a ratio for HW/D of 1.

The final design of the culverts and details for the installation is presented on the construction drawings provided in Appendix B.

Table 5 summarizes the selection of culverts and their characteristics.

Table 5: Key information for CULVERT1/CULVERT2/CULVERT3

Culvert	Design Peak flow (m3/s)	Culvert description	Slope	Length	Culvert capacity (with HW/D=1)
CULVERT1	1.909	2 x Ø0.9m 1 x Ø0.6 m	0.5%	3 x 18 m	2 x 0.9 m3/s 1 x 0.325 m3/s
CULVERT2	0.532	2 x Ø0.6m	2%	2 x 19 m	2 x 0.325 m3/s
CULVERT3	0.094	2 x Ø0.6m	0.45%	2 x 50 m	2 x 0.325 m3/s

5.4 CULVERT INSTALLATION

The culvert installations will require excavation of the existing laydown area and roads. A minimum of 0.8 m fill cover shall be placed over the culverts according to the material thickness and the manufacturer's recommendations for heavy traffic. A local modification of the roads will be required to adapt with the fill thickness at the culvert site crossings. The backfill around the culverts will be Granular Fill 0-20 mm and shall be placed in lifts no greater than 300 mm thick and compacted to a minimum of 90% of Maximum Dry Density (Modified Proctor test).

Rip-rap of diameter 50-200 mm will be installed around the inlet and outlet areas of culverts to control erosion. The rip-rap material will come from a NPAG rock source.

Refer to drawings provided in Appendix B for details of the culvert installations.

6 CONSTRUCTION

6.1 MATERIAL QUANTITIES

Table 6 presents the material quantities for the installation of the culvert, including the associated works for redesign of the road. The given quantities do not include any contingency.

Table 6 – Material quantities for construction

Item	Quantities (*See notes 1 and 2)*
Total Excavation	3 669 m3
Culvert CSP Ø600 mm	154 m
Culvert CSP Ø900 mm	36 m
Granular fill 0-20 mm	2 437 m3
Granular fill 0-150 mm	1 971 m3
Rip-rap (50-200mm)	1 718 m3
200 g/m² non-woven geotextile	5 558 m2

Notes:

1. Quantities do not include any contingency. For material order purposes, it is recommended to add 10% for design accuracy, 10% for compaction (when applicable) and 20% for construction loss.

2. For quantities estimation purposes, given geotextile quantity is equivalent to the estimated surface to be covered by geotextile, a 30% additional material shall be included for overlapping consideration during installation.

6.2 CULVERTS SPECIFICATIONS

The product specifications for the culverts are presented in this Section. The culverts will be used for drainage purposes.

Where properties are specified, the following standards are applicable:

ASTM A796	Standard Practice for Structural Design of Corrugated Steel Pipe, Pipe-Arches, and Arches for Storm and Sanitary Sewers and Other Buried Applications
ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A929	Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe
CSA G401	Corrugated Steel Pipe Products

Culverts shall comprise of standard galvanized corrugated steel pipe (CSP) conforming to the properties in Table 7. The bolts and nuts shall be zinc plated. The couplers shall be standard annular corrugated couplers.

Table 7: Recommended Minimum Culvert specifications

CSP pipe Diameter (mm)	Corrugation Profile (mm)	Minimum thickness (mm)
600	68 x 13	2.8
900	68 x 13	2.8

6.3 EARTH WORK CONSTRUCTION MATERIAL SPECIFICATIONS

All earthworks materials to be used in the construction will be NPAG (Non-Potential Acid Generating) and determination will be done as per Agnico Eagle ARD-ML (Acid Rock Drainage – Metal Leaching) Testing and Sampling Plan. The general requirements for the materials are specified below.

6.3.1 Granular Fill (0-150 mm)

Granular Fill (0-150 mm) shall consist of hard durable particles, be free of roots, topsoil and other deleterious material and have a particle size distribution as presented in Table 8. Processing will be required to achieve the specified gradation.

Table 8 - Granular fill (0-150 mm) – Particle size distribution limits

Particle size (mm)	% Passing
150	100
100	50 - 100
50	40 – 70
25	20 – 50
5	0 - 30

6.3.2 Granular Fill (0-20 mm)

Granular Fill (0-20 mm) shall consist of, hard durable particles, be free of roots, topsoil and other organic material and have a particle size distribution as presented in Table 10. Processing will be required to achieve the specified gradation.

Table 10: Granular Fill (0-20 mm) – Particle Size Distribution Limits

Particle Size (mm)	% Passing
20	100
12.5	65 – 100
5	45 – 70
0.63	15 – 35
0.08	4 – 10

6.3.3 Rip-Rap

Rip-rap shall be used as erosion protection materials. The particle size specifications for the graded rip-rap materials are presented in Table 11. The material shall be free of roots, topsoil, and other organic material. Processing may be required to achieve the specified gradation. The material can be processed from hard, durable, NAG rock. Rocks used for rip-rap should generally be blocky and angular or sub angular, with sharp clean edges and relatively flat faces. It is generally recommended that rocks should be close to equi-dimensional rather than elongate, although this is not always possible. Typically, the average ratio of the long axis to the thickness should be less than 2.

Table 11: Particle Size Specifications for Rip-rap Materials

Rip-rap Types	Minimum Particle Size (mm)	Median Particle Size (mm)	Maximum Particle Size (mm)
Rip-rap	50	125	200

6.3.4 Non-woven Geotextile (200g/m2)

All geotextiles shall be comprised of needle punch polypropylene fabric made of 100% polypropylene staple fibers conforming to the properties in Table 12.

Table 12: Specifications for Geotextile

Parameter	Value	ASTM Test Method (or Approved Equal)
Grab Tensile (N/lbs)	710	D4632
Elongation (%)	50	D4632
Tear (N/lbs)	270	D4533
Puncture (N/lbs)	-	D4833
CBR Puncture (N)	1820	D6241
Weight (g/m2)	200	D5261
UV Resistance	70	D4355

6.4 SEDIMENT AND EROSION CONTROL

During construction, any surface runoff will be sampled weekly as per water license 2AM-MEA1530 Part C, Item 12. Silt fences will be installed preventively during the construction of culverts and ditches to prevent potential sediment transportation into Baker Lake. Daily inspections will be performed by qualified employees to ensure the effectiveness of the mitigation measures and to monitor activities for signs of erosion.

6.5 QUALITY CONTROL/ASSURANCE

A quality control/assurance program will be conducted during construction of each of the infrastructures to ensure that construction-sensitive features of the design are achieved.

6.6 INSTRUMENTATION AND MONITORING

Performance monitoring is an integral part of the operation of any water retention structure, particularly in an arctic environment. The performance of the ditches and culverts will be monitored throughout their construction and operating life. The monitoring activities may include, but not be limited to, visual inspection for any deformations, surface cracks, surface erosion, and seepage.

An annual site inspection may be required to document the performance of each of the earth structures. Regular maintenance activities will be required to ensure adequate operation of the ditches and culverts.

7 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Agnico Eagle Mines Ltd. and their agents. Tetra Tech does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Agnico Eagle Mines Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Tetra Tech accepts no responsibility for losses, claims, expenses or damages, if any, suffered by a third party as a result of any decisions made or actions based on this report. Use of this report is subject to the terms and conditions stated in Tetra Tech's Services Agreement.

While it is believed that the information contained herein is reliable under the conditions and subject to the limitations set forth in the report, this report is based on information not within the control of Tetra Tech, nor has said information been verified by Tetra Tech, and Tetra Tech therefore cannot and does not guarantee its sufficiency and accuracy. The comments in the report reflect Tetra Tech's best judgment in light of the information available to it at the time of preparation.

Use of this Document acknowledges acceptance of the foregoing conditions.

APPENDIX A – FIGURES

Number	Title	Rev
6136-FIGURE3	FIGURE 3 CATCHMENT AREA FOR DITCH1/CULVERT1	R0
6136-FIGURE4	FIGURE 4 CATCHMENT AREA FOR DITCH 2-3-4/CULVERT 2-3	R0

NO. DESSIN
DRAWING NO. 6136-FIGURE 3

FORMAT ARCHD

ELEVATION=63.2m

CATCHMENT AREA FOR DITCH1/CULVERT1
AREA = ±459714m² = 45.97 ha

LAKE AREA = ±15377m²=1.54 ha

PROPOSED CULVERT1

EXISTING CULVERT

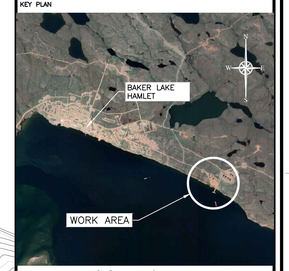
PROPOSED DITCH1

PROPERTY LIMIT TYP.

1 : 2 000

20 0 20 40 60 80m

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

RUN-OFF WATER DIRECTION

NE PAS UTILISER
POUR CONSTRUCTION
NOT FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR INFORMATION	D.R.	S.M.	

REVISIONS

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW
CATCHMENT AREA FOR DITCH1/CULVERT1
FIGURE 3

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:2000	DATE 2022-08-29

NO. DESSIN / DRAWING NO. 613601-FIGURE 3

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
613601 (TT#48680)	R0	1 / 1

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\\TTS350FS3\prj_reg\48680\DESSIN\CIV-INFRA\DESSINS DE TRAVAIL\SKETCHS\6136-FIGURE 3.dwg-2013-02-19 14:03:29

FILE NO. 6136-FIGURE 3.dwg

NO. DESSIN
DRAWING NO. 6136-FIGURE 4

FORMAT ARCHD

PROPOSED CULVERT1 X3

EXISTING CULVERT

PROPOSED DITCH1

PROPERTY LIMIT

PROPOSED DITCH 2

PROPOSED DITCH3

PROPOSED CULVERT2

PROPOSED CULVERT3

PROPOSED DITCH4

31m LIMIT FROM HIGH WATER MARK

BAKER LAKE WATER MARK

CATCHMENT AREA WEST FOR DITCH2 = 9026±m²=0.90ha

CATCHMENT AREA FOR DITCH3 = 24461±m²=2.45ha

CATCHMENT AREA EAST FOR DITCH2 = 4007±m²=0.40ha

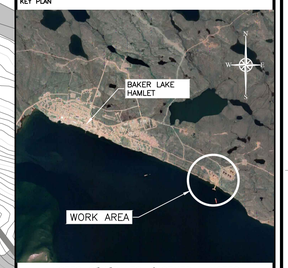
CATCHMENT AREA FOR DITCH4 = 6657±m²=0.66ha

0+000 0+020 0+040 0+060 0+080 0+100 0+120 0+140 0+160 0+180 0+200 0+220 0+240 0+260 0+280 0+300 0+320 0+340 0+360 0+380

N W E S

1:750 10 0 10 20 30m

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

RUN-OFF WATER DIRECTION

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR INFORMATION	D.R.	S.M.	

REVISIONS

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK DIVISION
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW
CATCHMENT AREA FOR DITCH2-3-4/CULVERT2-3
FIGURE 4

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:2000	DATE 2022-08-29
NO. DESSIN / DRAWING NO.	613601-FIGURE 4	
NO. PROJET / PROJECT NO.	613601 (TT#48680)	REVISION R0 / FEUILLE / SHT 1 / 1

AE-CART-ARCH D

\\TTS350FS3\prj_reg\48680\DESSIN\CIV-INFRA\DESSINS DE TRAVAIL\SKETCHS\6136-FIGURE 4.dwg-2013-02-19 14:03:29

FILE NO. 6136-FIGURE 4.dwg

APPENDIX B – CONSTRUCTION DRAWINGS

Number	Title	Rev
61-700-230-001	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW WATER MANAGEMENT IMPROVEMENT GENERAL LOCATION PLAN	R0
61-700-230-002	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW, PROFILE, DETAILS WATER MANAGEMENT IMPROVEMENT DITCH1	R0
61-700-230-003	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW, PROFILE, DETAILS WATER MANAGEMENT IMPROVEMENT DITCH2	R0
61-700-230-004	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW, PROFILE, DETAILS WATER MANAGEMENT IMPROVEMENT DITCH3	R0
61-700-230-005	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW, PROFILE, DETAILS WATER MANAGEMENT IMPROVEMENT DITCH4	R0
61-700-230-006	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW, PROFILE, DETAILS WATER MANAGEMENT IMPROVEMENT CULVERT1	R0
61-700-230-007	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS PLAN VIEW AND PROFILE WATER MANAGEMENT IMPROVEMENT CULVERT2 - CULVERT3	R0
61-700-230-008	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS DETAILS WATER MANAGEMENT IMPROVEMENT TYPICAL DETAILS	R0
61-700-230-009	AGNICO EAGLE - MEADOWBANK COMPLEX 700 - BAKER LAKE FACILITIES 230- GENERAL EARTH WORKS DETAILS WATER MANAGEMENT IMPROVEMENT DITCH1 CROSS-SECTIONS	R0

NO. DESSIN
DRAWING NO. 61-700-230-001

FORMAT ARCHD

EXISTING CULVERT (X1)

PROPOSED CULVERT1 (X3)
(SEE DWG 61-700-230-006)

PROPOSED DITCH1
L=±375m
(SEE DWG 61-700-230-002)

RIP-RAP
(SEE DWG 61-700-230-008)

ROAD SECTION TO BE MODIFIED
(SEE DWG 61-700-230-006)

PROPOSED DITCH2
L=±260m
(SEE DWG 61-700-230-003)

PROPOSED DITCH3
L=±210m
(SEE DWG 61-700-230-004)

EXISTING DITCH
TO BE RESHAPED

EXISTING CULVERT (X1)
(TO BE REMOVED)

PROPOSED CULVERT2 (X2)
(SEE DWG 61-700-230-007)

RIP-RAP
(SEE DWG 61-700-230-008)

PROPOSED CULVERT3 (X2)
(SEE DWG 61-700-230-007)

PROPOSED DITCH4
L=±100m
(SEE DWG 61-700-230-006)

ROAD SECTION TO BE MODIFIED
(SEE DWG 61-700-230-006)

31m LIMIT FROM HIGH
WATER MARK

BAKER LAKE HIGH WATER MARK

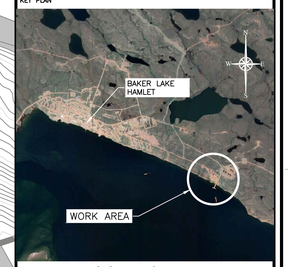
PROPERTY LIMIT TYP.

EXISTING PAD TYP.

EXISTING ROAD TYP.

1 : 750 10 0 10 20 30m

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC AND THE COORDINATES SYSTEM IS UTM14 NAD83.
2. A SURVEY TYPE LIDAR WAS CONDUCTED BY HAMEL IN JULY 2022 AND IS USED AS REFERENCE.

LEGEND

RUN-OFF WATER DIRECTION

LAYDOWN AREA AT MASHALLING FACILITIES

DIVERSION DITCH

DITCH

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

Solène Moreau 137880 Québec 2022-10-28

PERMIT TO PRACTICE
TETRA TECH QE INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE

AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW
WATER MANAGEMENT IMPROVEMENT
GENERAL LOCATION PLAN

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:750	DATE 2022-08-29

NO. DESSIN / DRAWING NO. 61-700-230-001

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
613601 (TT#48680)	R0	1 / 1

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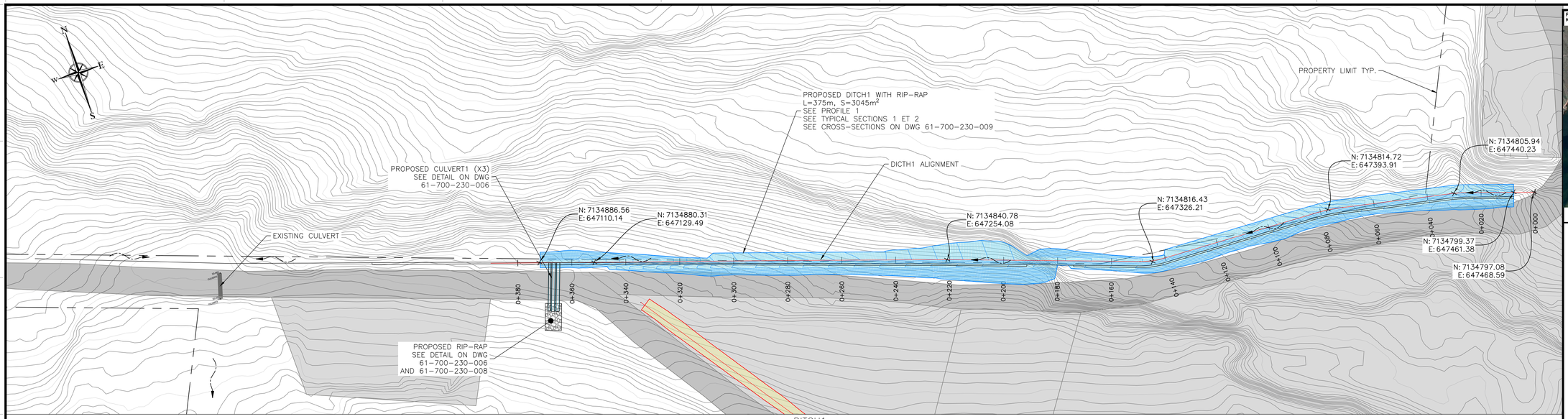
FILE NO. 61-700-230-001.dwg

NO. DESSIN
DRAWING NO. 61-700-230-002

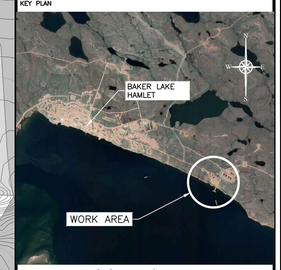
FORMAT ARCHD



DITCH1
PLAN VIEW

1 : 750 10 0 10 20 30m

PLAN CLÉ
KEY PLAN

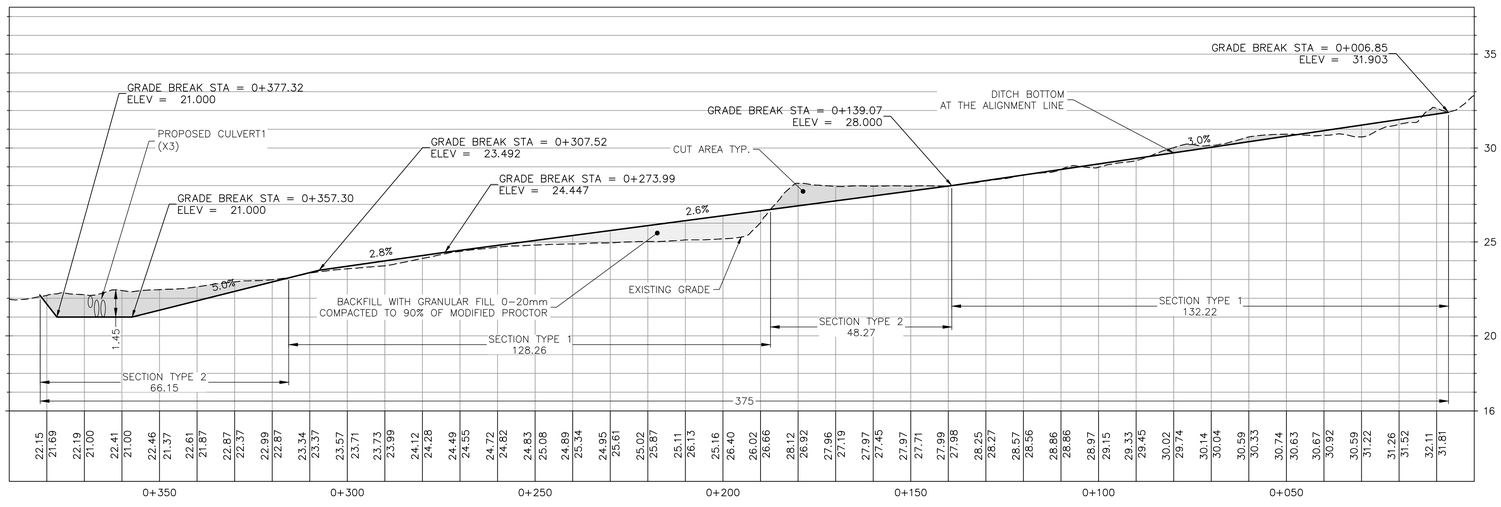


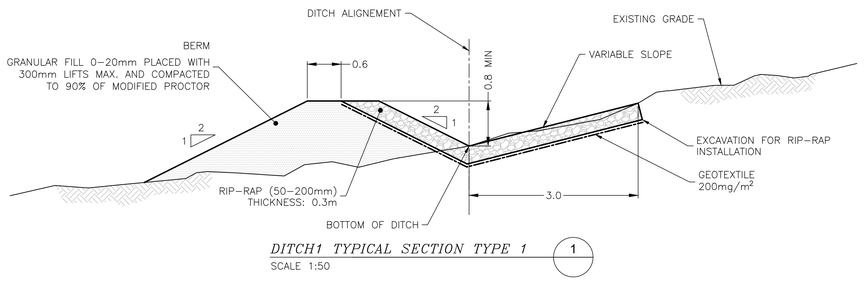
NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC AND THE COORDINATES SYSTEM IS UTM14 NAD83.
2. A SURVEY TYPE LIDAR WAS CONDUCTED BY HAMEL IN JULY 2022 AND IS USED AS REFERENCE.

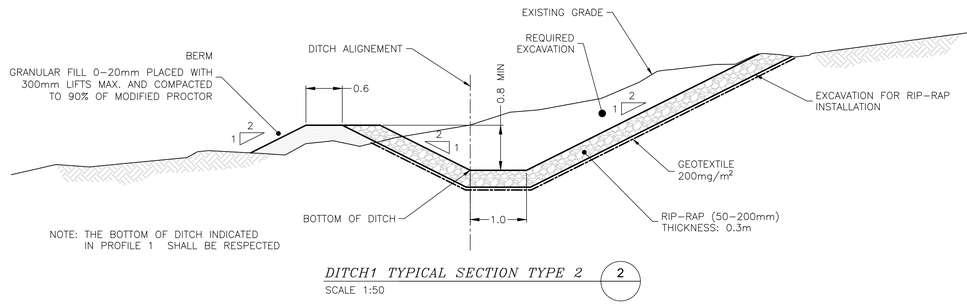
DITCH1 PROFILE (1)

SCALE: 1:1750
VERTICAL EXAGGERATION FACTOR: 5





DITCH1 TYPICAL SECTION TYPE 1 (1)
SCALE 1:50



NOTE: THE BOTTOM OF DITCH INDICATED IN PROFILE 1 SHALL BE RESPECTED

DITCH1 TYPICAL SECTION TYPE 2 (2)
SCALE 1:50

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	DR. PAR/BY	S.M. APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION			

REVISIONS

Soldino Moreau
137880
Québec
2022-10-28

PERMIT TO PRACTICE
TETRA TECH QE INC.
Signature 2022 10 28
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW, PROFILE, DETAILS
WATER MANAGEMENT IMPROVEMENT
DITCH1

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:750	DATE 2022-08-29
NO. DESSIN / DRAWING NO.	61-700-230-002	
NO. PROJET / PROJECT NO.	613601 (TT#48680)	REVISION R0
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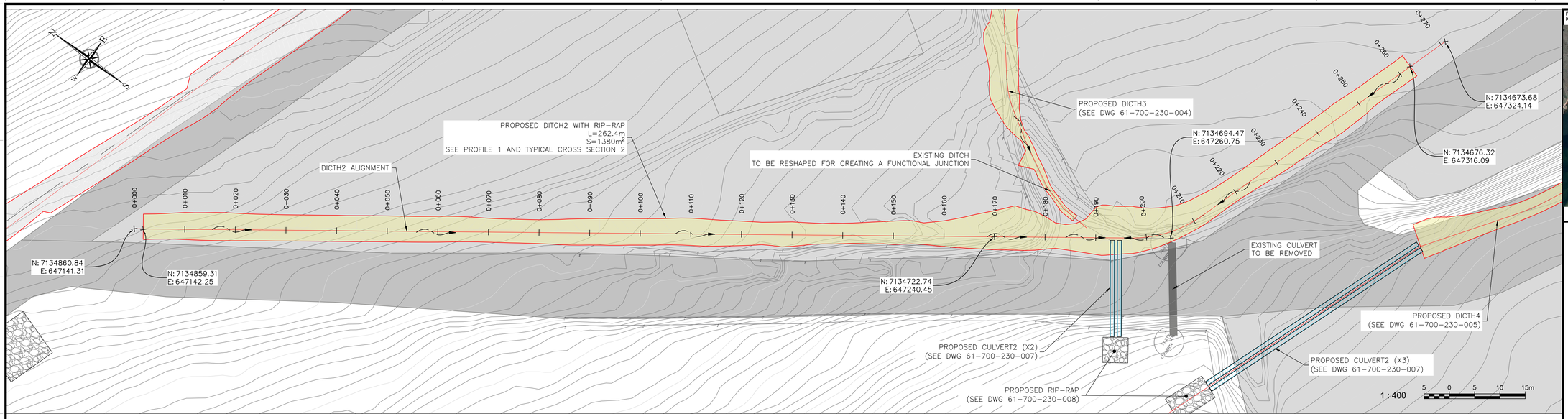
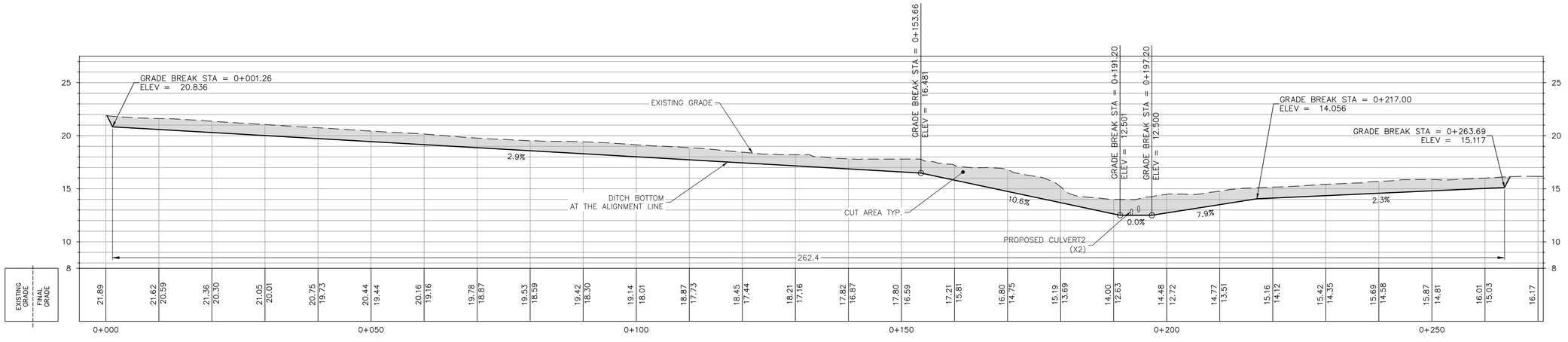
FILE NO. 61-700-230-002.dwg

NO. DESSIN
DRAWING NO. 61-700-230-003

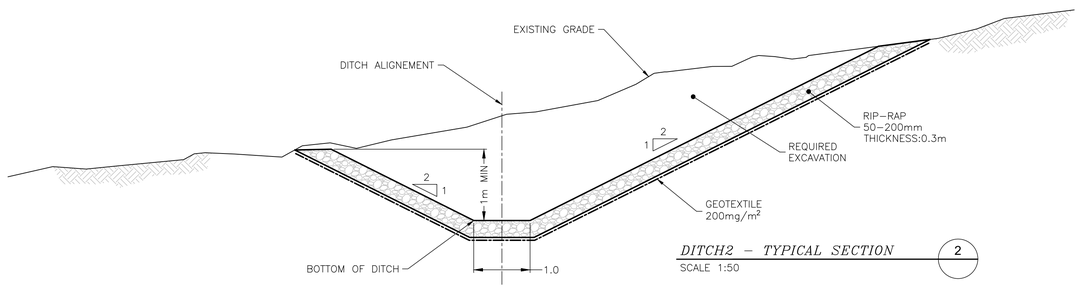
FORMAT ARCHD



DICTH2
PLAN VIEW

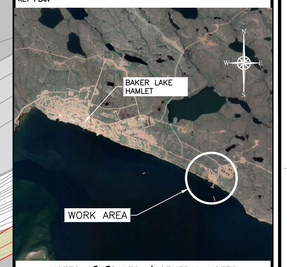


DICTH2 PROFILE (1)
SCALE: 1:400
VERTICAL EXAGGERATION FACTOR: 2



DITCH2 - TYPICAL SECTION (2)
SCALE 1:50

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC AND THE COORDINATES SYSTEM IS UTM14 NAD83.
2. A SURVEY TYPE LIDAR WAS CONDUCTED BY HAMEL IN JULY 2022 AND IS USED AS REFERENCE.

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

Solène Moreau
137680
Ashby
2022-10-28

PERMIT TO PRACTICE
TETRA TECH QE INC.
Signature Solène Moreau
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW, PROFILE, DETAILS
WATER MANAGEMENT IMPROVEMENT
DITCH2

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:750	DATE 2022-08-29

NO. DESSIN / DRAWING NO. 61-700-230-003

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
613601 (TT#48680)	R0	1 / 1

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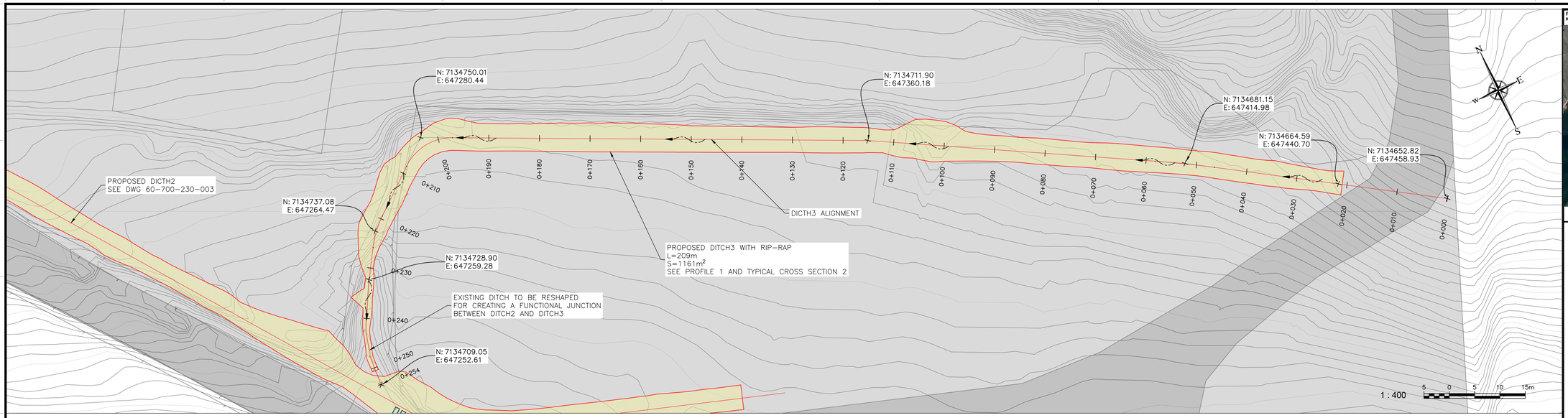
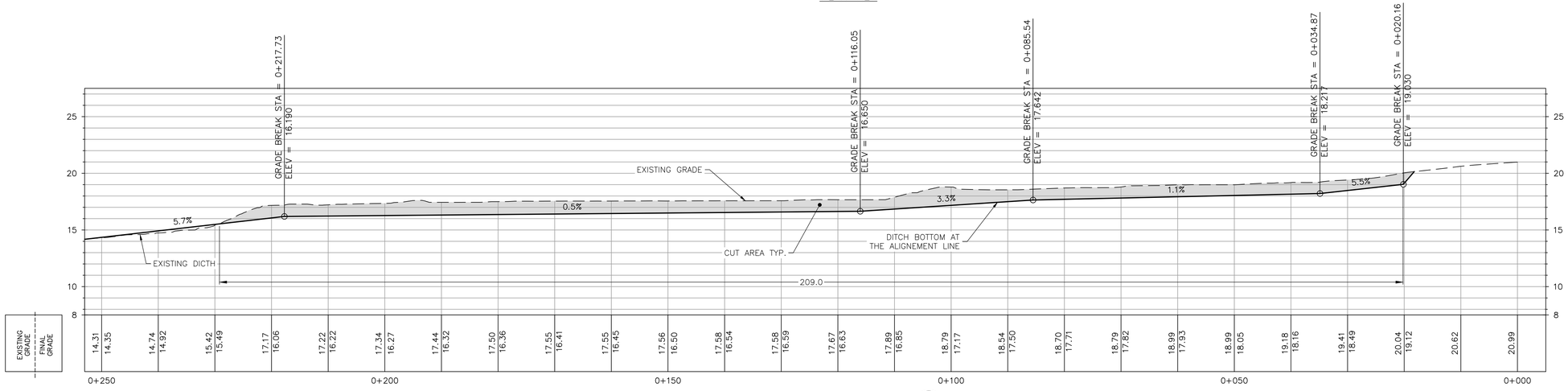
FILE NO. 61-700-230-003.dwg

NO. DESSIN
DRAWING NO. 61-700-230-004

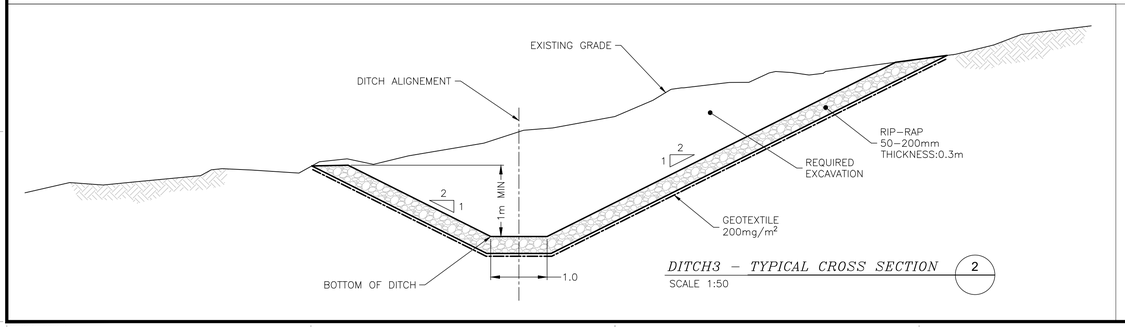
FORMAT ARCHD



DITCH3
PLAN VIEW

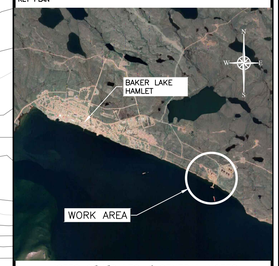


DITCH3 PROFILE (1)
SCALE: 1:400
VERTICAL EXAGGERATION FACTOR: 2



DITCH3 - TYPICAL CROSS SECTION (2)
SCALE 1:50

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC AND THE COORDINATES SYSTEM IS UTM14 NAD83.
2. A SURVEY TYPE LIDAR WAS CONDUCTED BY HAMEL IN JULY 2022 AND IS USED AS REFERENCE.

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

ORDRE DES INGÉNIEURS DU QUÉBEC
SOLÈNE MOREAU
137800
2022-10-28

PERMIT TO PRACTICE
TETRA TECHNOLOGIES INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW, PROFILE, DETAILS
WATER MANAGEMENT IMPROVEMENT
DITCH3

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:750	DATE 2022-08-29
NO. DESSIN / DRAWING NO.	61-700-230-004	
NO. PROJET / PROJECT NO.	613601 (TT#48680)	REVISION R0 / FEUILLE / SHT 1 / 1

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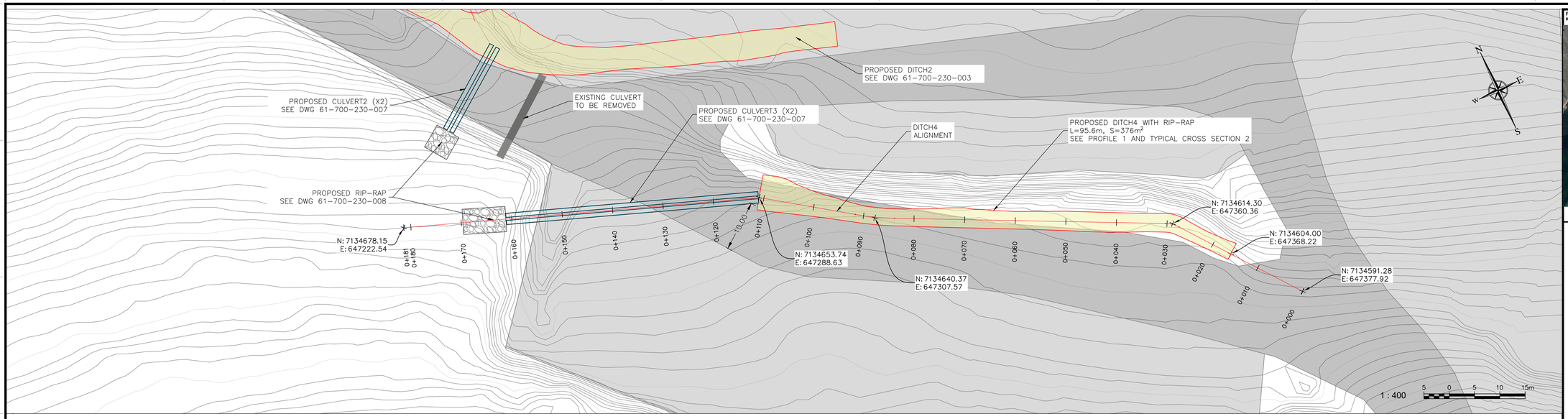
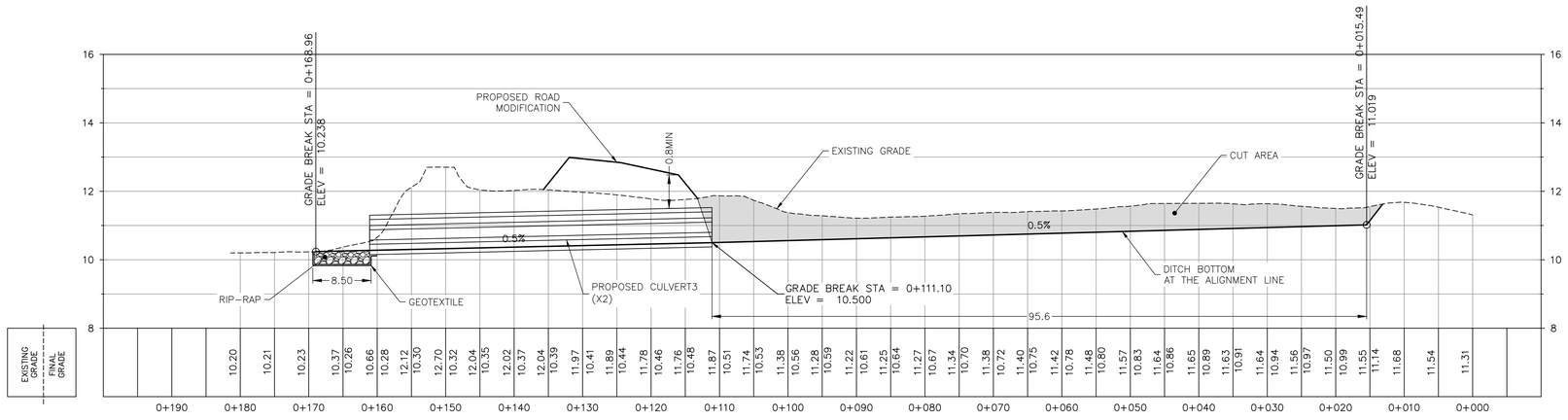
FILE NO. 61-700-230-004.dwg

NO. DESSIN
DRAWING NO. 61-700-230-005

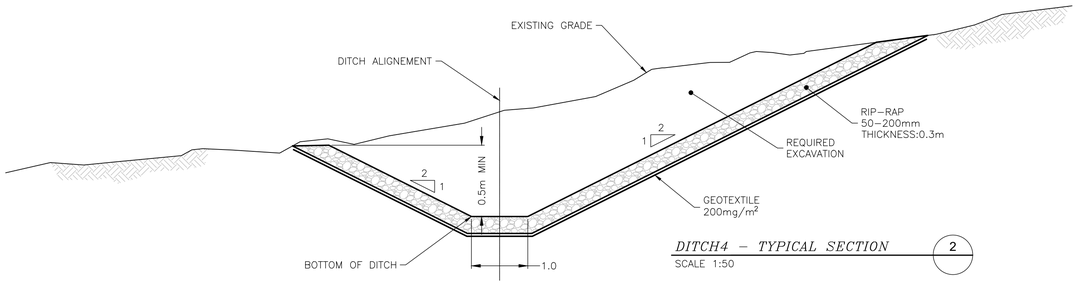
FORMAT ARCHD



DICTH4
PLAN VIEW

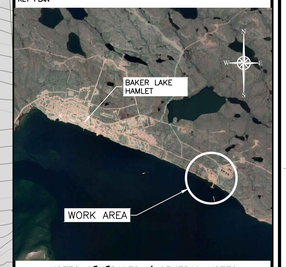


DITCH4 PROFILE (1)
SCALE: 1:400
VERTICAL EXAGGERATION FACTOR: 2



DITCH4 - TYPICAL SECTION (2)
SCALE 1:50

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

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POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

Solène Moreau 137680 Québec 2022-10-28

PERMIT TO PRACTICE
TETRA TECH QI INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW, PROFILE, DETAILS
WATER MANAGEMENT IMPROVEMENT
DITCH4

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:750	DATE 2022-08-29
NO. DESSIN / DRAWING NO.	61-700-230-005	
NO. PROJET / PROJECT NO.	613601 (TT#48680)	REVISION R0 / FEUILLE / SHT 1 / 1

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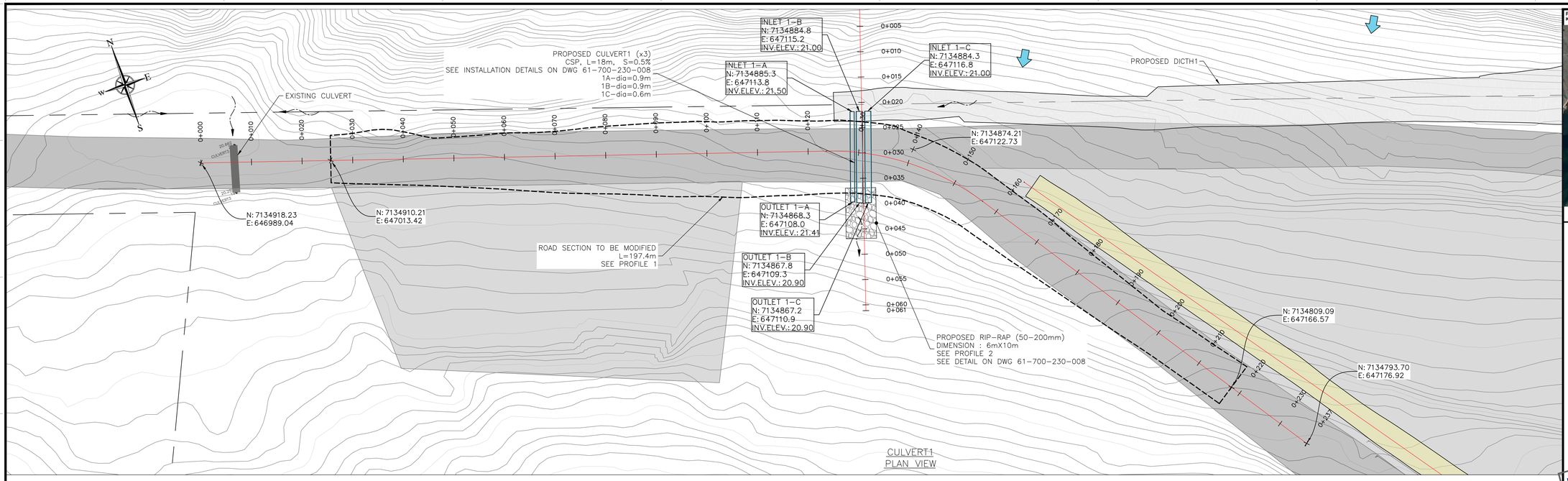
FILE NO. 61-700-230-005.dwg

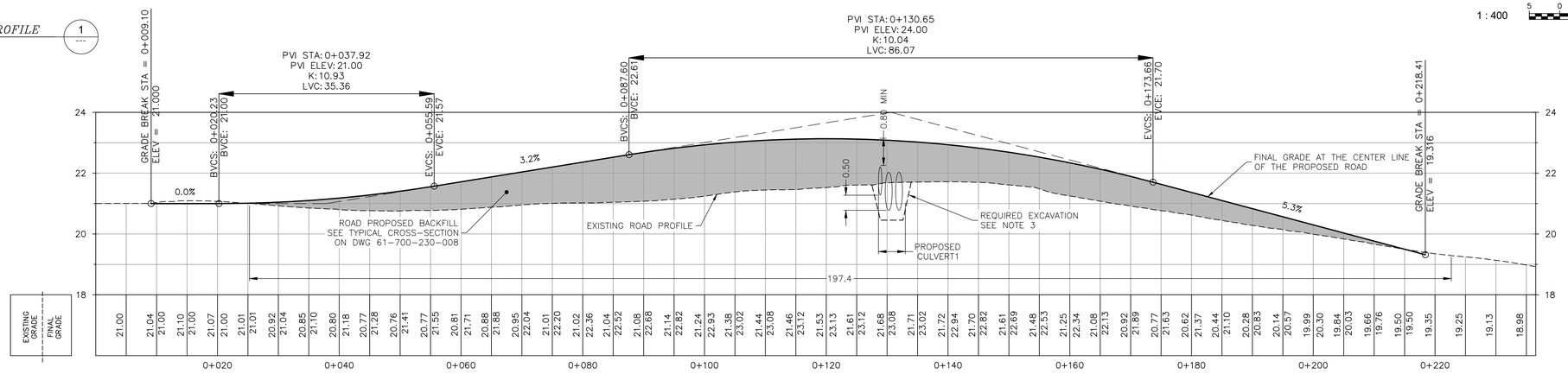
NO. DESSIN
DRAWING NO. 61-700-230-006

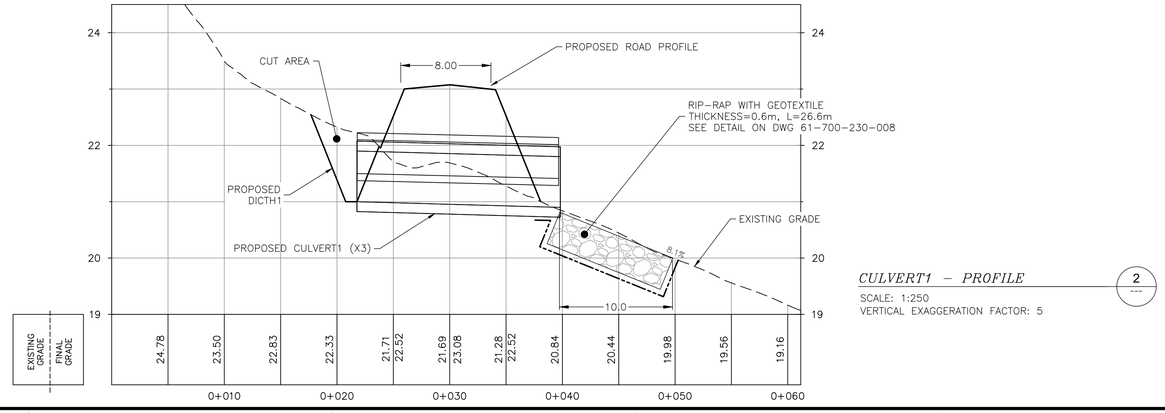
FORMAT ARCHD



ROAD MODIFICATION PROFILE — 1

SCALE: 1:250
VERTICAL EXAGGERATION FACTOR: 5

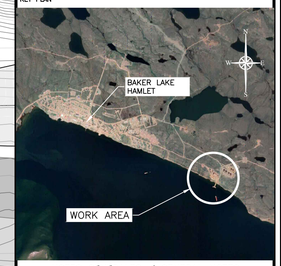




CULVERT1 – PROFILE — 2

SCALE: 1:250
VERTICAL EXAGGERATION FACTOR: 5

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

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POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

Solène Moreau 137890 Québec
2022-10-28

PERMIT TO PRACTICE
TETRA TECH QE INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

2022-10-28

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW AND PROFILE
WATER MANAGEMENT IMPROVEMENT
CULVERT1

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VÉRIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:400	DATE 2022-08-29
NO. DESSIN / DRAWING NO.	61-700-230-006	
NO. PROJET / PROJECT NO.	613601 (TT#48680)	REVISION R0 / FEUILLE / SHT 1 / 1

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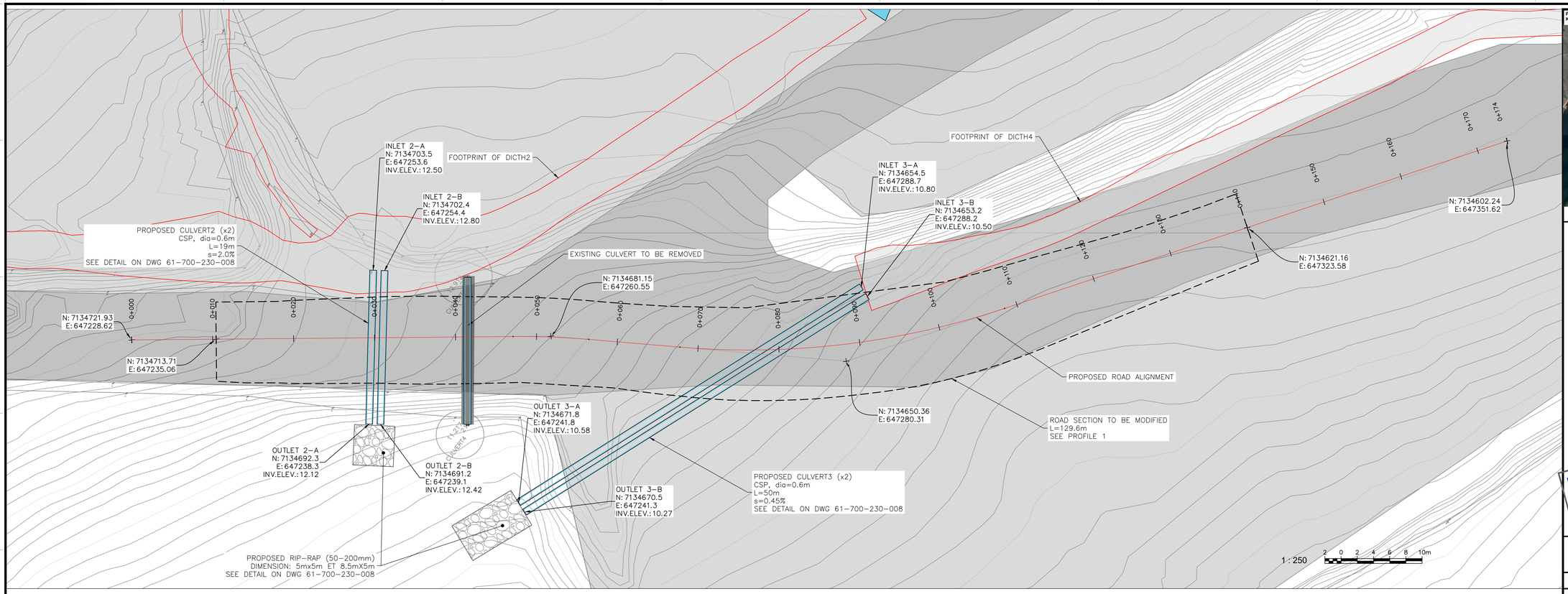
FILE NO. 61-700-230-006.dwg

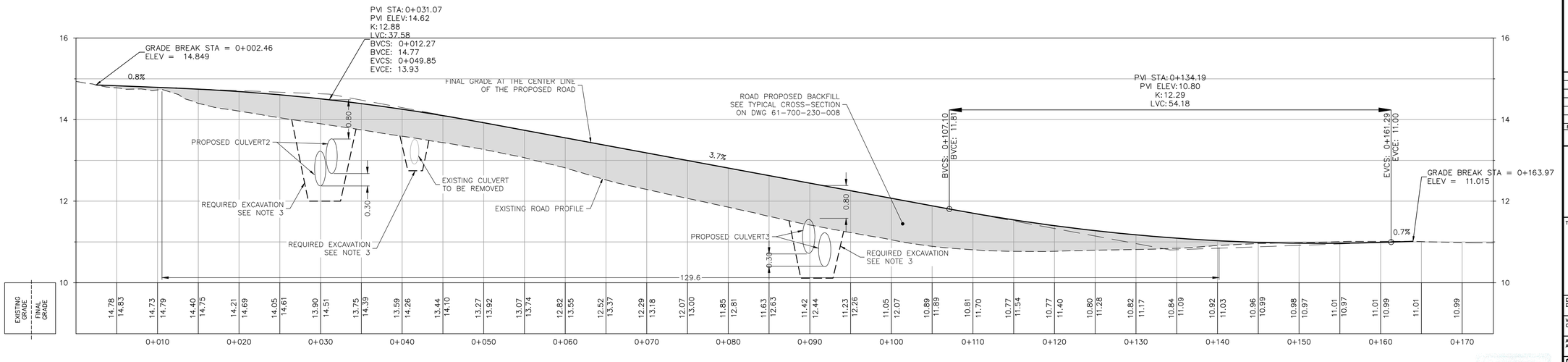
NO. DESSIN
DRAWING NO. 61-700-230-007

FORMAT ARCHD



PROPOSED CULVERT2 AND CULVERT3

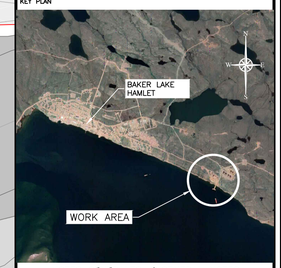
PLAN VIEW



ROAD MODIFICATION PROFILE (1)

SCALE: 1:250
VERTICAL EXAGGERATION FACTOR: 5

PLAN CLÉ
KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

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POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH QB INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
PLAN VIEW AND PROFILE
WATER MANAGEMENT IMPROVEMENT
CULVERT2 – CULVERT3

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-29
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-29
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-29
ÉCHELLE / SCALE	1:750	DATE 2022-08-29
NO. DESSIN / DRAWING NO.	61-700-230-007	
NO. PROJET / PROJECT NO.	613601 (TT#48680)	REVISION R0 / FEUILLE / SHT 1 / 1

Solène Moreau 137890 QUÉBEC INGÉNIEUR
2022-10-28

AE-CART-ARCH D

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FILE NO. 61-700-230-007.dwg

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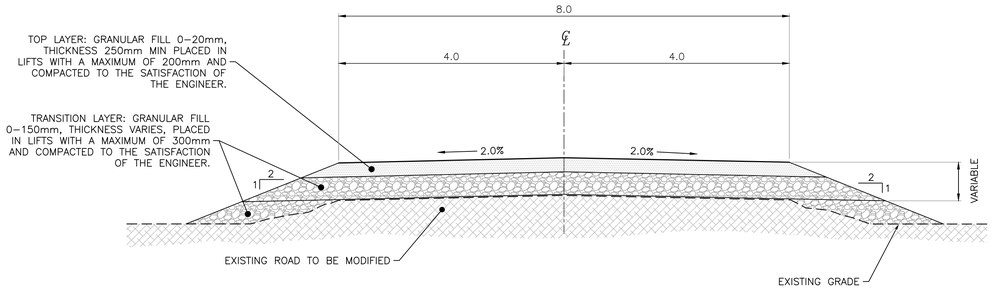
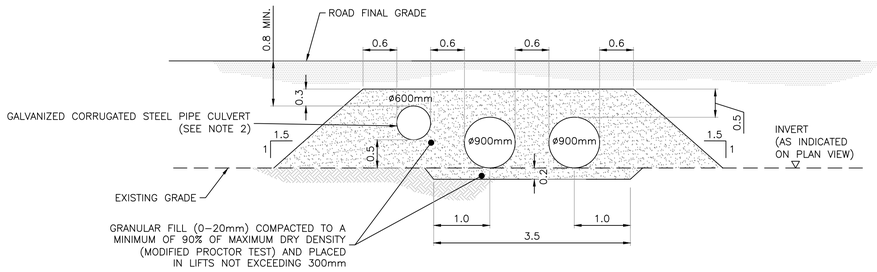
DRAWING NO. 61-700-230-008

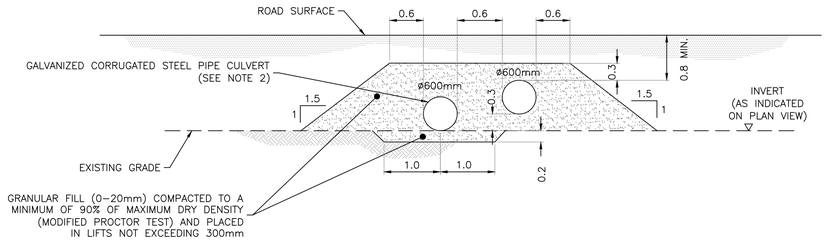
FORMAT ARCHD



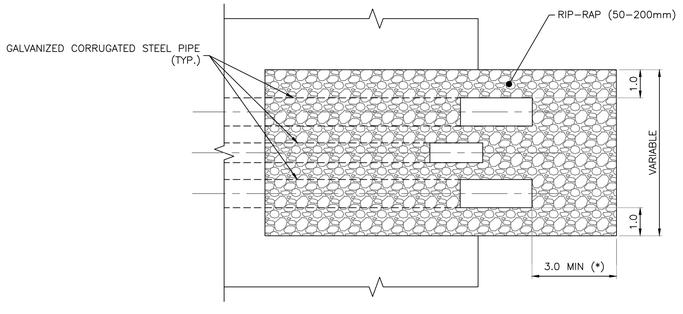
TYPICAL CROSS SECTION – ROAD MODIFICATION (1)
SCL: 1:50

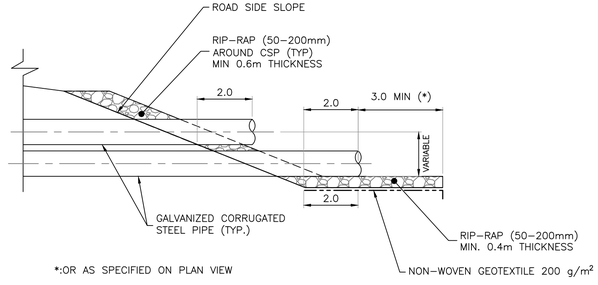


TYPICAL CROSS SECTION – CULVERT1 (3)
SCL: 1:50



TYPICAL CROSS SECTION – CULVERT2 AND CULVERT3 (4)
SCL: 1:50





TYPICAL DETAIL – RIP–RAP INSTALLATION AT CULVERT OUTLET (2)
SCL: N.T.S.

REQUIRED MATERIAL QUANTITIES FOR CONSTRUCTION

see notes 1 and 2

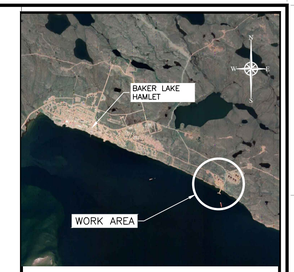
DITCH1		
Excavation for ditch and Rip-Rap installation	639	m3
Granular fill 0-20mm (for berm construction)	1290	m3
Geotextile 200 g/m2	2473	m2
Rip-Rap (50-200 mm)	742	m3
DITCH2		
Excavation for ditch and Rip-Rap installation	1434	m3
Geotextile 200 g/m2	1380	m2
Rip-Rap (50-200 mm)	414	m3
DITCH3		
Excavation for ditch and Rip-Rap installation	710	m3
Geotextile 200 g/m2	1161	m2
Rip-Rap (50-200 mm)	348	m3
DITCH4		
Excavation for ditch and Rip-Rap installation	289	m3
Geotextile 200 g/m2	376	m2
Rip-Rap (50-200 mm)	113	m3
CULVERT 1		
Culvert Length dia 0,9m	36	m
Culvert Length dia 0,6m	18	m
Excavation for culvert and Rip-Rap installation	276	m3
Granular Fill 0-20mm	595	m3
Granular Fill 0-150mm	1435	m3
Rip-Rap 50-200 mm (at culvert outlet)	60	m3
Geotextile 200g/m2 (under Rip-Rap at the outlet)	100	m2
CULVERT 2, CULVERT3		
Culvert Length dia 0,6m for culvert 2	38	m
Culvert Length dia 0,6m for culvert 3	100	m
Excavation for culvert and Rip-Rap installation	351	m3
Granular Fill 0-20mm	552	m3
Granular Fill 0-150mm	536	m3
Rip-Rap 50-200 mm (at culvert outlet)	41	m3
Geotextile 200g/m2 (under Rip-Rap at the outlet)	68	m2

Notes:

1. Quantities do not include any contingency. For material order purposes, it is recommended to add 10% for design accuracy, 10% for compaction (when applicable) and 20% for material loss during construction.

3. For quantities estimation purposes, geotextile quantities is equivalent to the estimated surface to be covered by geotextile. A 30% additional material shall be included for considering overlapping during installation.

TABLE 1 : MATERIAL QUANTITIES FOR CONSTRUCTION



NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC.
2. CULVERT SPECIFICATION:
   CULVERTS ARE MADE OF STANDARD GALVANIZED STEEL PIPE (CSP) WITH A CORRUGATED PROFILE OF 68X13mm. THE MINIMUM SPECIFIED THICKNESS IS 2.8mm FOR CSP DIA. 0.6m AND 0.9m. THE MATERIAL SHALL COMPLY TO CSA-G401-07 STANDARD.

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

PROFESSIONAL ENGINEER – INGÉNIEUR – Solène Moreau – 137690 – NUNAVUT – 2022-10-28

PERMIT TO PRACTICE
TETRA TECH QE INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

2022-10-28

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
DETAILS
WATER MANAGEMENT IMPROVEMENT
TYPICAL DETAILS

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-08-09
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-08-09
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-08-09
ÉCHELLE / SCALE	AS INDICATED	DATE 2022-08-09

NO. DESSIN / DRAWING NO. 61-700-230-008

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
613601 (TT#48680)	R0	1 / 1

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FILE NO. 61-700-230-008.dwg

NO. DESSIN
DRAWING NO. 61-700-230-009

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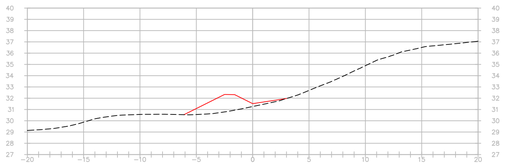

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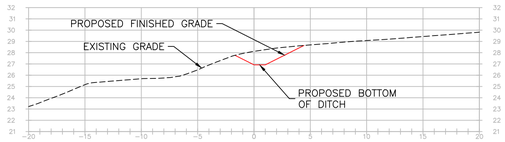

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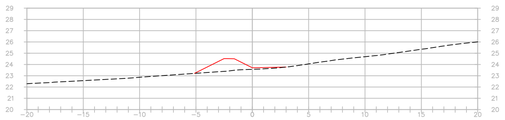

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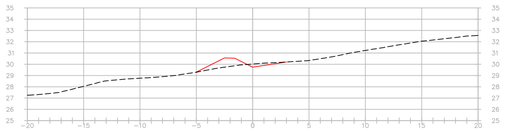

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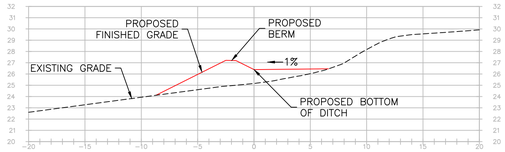

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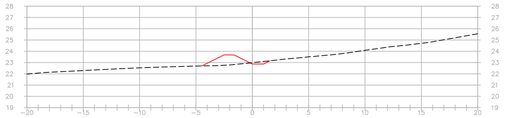

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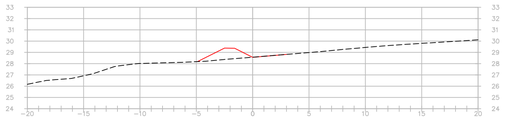

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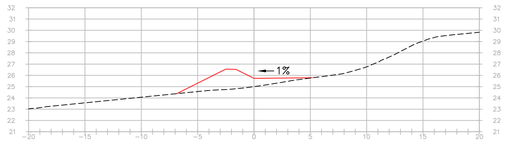

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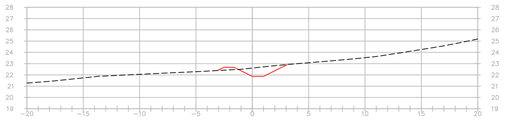

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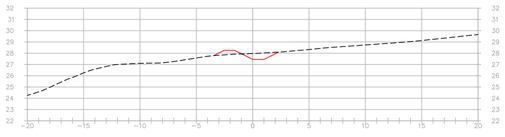

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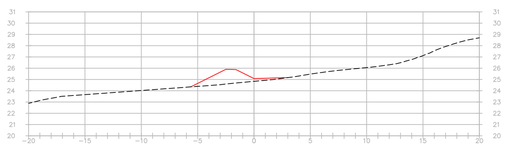

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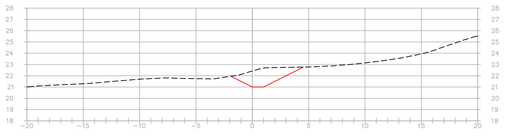
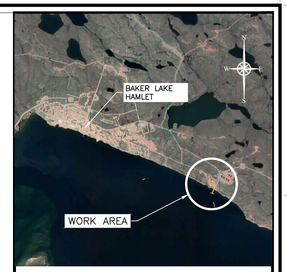


DITCH 1 – CROSS-SECTIONS

NOTE : REFER TO DWG 61-700-230-002 FOR DICTH 1 PLAN VIEW AND PROFILE



NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC.

LEGEND

EXISTING GRADE

PROPOSED GRADE

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2022-10-28
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
R0	2022-10-28	FOR CONSTRUCTION	D.R.	S.M.	

REVISIONS

Solène Moreau 137880 QUÉBEC INGÉNIEUR
2022-10-28

PERMIT TO PRACTICE
TETRA TECH QE INC.
Signature
Date 2022-10-28
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK COMPLEX
700 – BAKER LAKE FACILITIES
230– GENERAL EARTH WORKS
DETAILS
WATER MANAGEMENT IMPROVEMENT
DITCH1 CROSS-SECTIONS

DESSINÉ PAR / DRAWN BY	EDUARDO RODRIGUEZ	DATE 2022-10-25
VERIFIÉ PAR / CHECKED BY	JOSEE ALARIE	2022-10-25
APPROUVÉ PAR / APPROVED BY	SOLENE MOREAU	2022-10-25
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