CONSTRUCTION SUMMARY (AS-BUILT) REPORT FOR CP2 POND, CP2 BERM, CHANNEL9, AND CHANNEL10



PRESENTED TO

Agnico Eagle Mines Limited

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EXECUTIVE SUMMARY

The construction of Pond CP2, Berm CP2, Channel9 and Channel10 took place at the Meliadine Gold Project, NU between February 2022 and May 2022. Agnico Eagle Mines Limited (Agnico Eagle) performed all onsite construction management, construction, and quality control. Tetra Tech Canada Inc. (Tetra Tech) designed the structures and performed onsite construction quality assurance during some key construction periods. This report summarizes the construction activities of each structure, the materials and equipment used, and any variations of the as-built structures from the design documents, as required by the Type “A” Water Licence (No. 2AM-MEL-1631) for this project.

Pond CP2 was designed to collect and store runoff water from Waste Rock Storage Facility 3 (WRSF3), and to serve as a temporary water storage area during operation. The pond was constructed with a slightly larger capacity than the design requirement but maintained general compliance with the design documents.

The associated Berm CP2 located on the downstream side of the pond was designed to provide thermal protection to preserve the underlying permafrost in the original ground below the center of the berm, which will reduce potential seepage from CP2 through its foundation. Non-woven geotextile was placed over the downstream slope of the till core of Berm CP2 to reduce the migration of fines from the overburden till into the downstream rockfill shell. The final elevations of the Berm CP2 and thermal cover is slightly higher and longer than originally designed. This additional height and length are beneficial for the berm’s thermal performance. Three ground temperature cables were installed in Berm CP2 to monitor thermal performance. Berm CP2 was constructed in general compliance with the design documents.

Channel9 and Channel10 were designed to intercept and divert runoff water from the WRSF3 catchment areas. The depths, sides and widths of both channels vary from design documents. Channel9 was constructed in general compliance with the design documents while Channel10 was not.

Channel10 was constructed approximately 25 m shorter than designed to allow a 22,000 m^3/day waterline and power cable placed within a caribou crossing berm that traverses the channel footprint to remain in place. This modification to Channel10 was assessed by Tetra Tech and mitigation measures provided. Agnico Eagle constructed two berms southwest of Channel10 that are meant to capture and divert any runoff that could potentially bypass the invert location of the shortened Channel10. Tetra Tech performed several surface flow analyses to assess the performance of the berms in directing surface flow towards the shortened channel. The analyses demonstrated that surface runoff would be properly diverted towards the shortened Channel10 assuming that the minimum distance of 3.0 m is maintained between the berms and WRSF3 footprint.

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ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
AEM	Agnico Eagle Mines Limited
AEP	Annual Exceedance Probability
ANFO	Ammonium Nitrate Fuel Oil
CAT	Caterpillar
CP	Collection Pond
GTC	Ground Temperature Cable
IDF	Inflow Design Flood
km	Kilometres
m	Metres
mm	Millimetres
QA	Quality Assurance
QC	Quality Control
WRSF3	Waste Rock Storage Facility 3

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Agnico Eagle Mines Limited and their agents. Tetra Tech Canada Inc. (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 Limited, 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. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

1.0 INTRODUCTION

1.1 General

Tetra Tech Canada Inc. (Tetra Tech) was retained by Agnico Eagle Mines Limited (Agnico Eagle) to prepare a construction summary (as-built) report for the water management facilities recently constructed at the Meliadine Gold Project site. The Project site is located approximately 25 km north from Rankin Inlet, Nunavut on the peninsula between the east, south, and west basins of Meliadine Lake (63°01'23.8"N, 92°13'6.42"W). A general site plan for the project is shown in Figure 1.

This report summarizes construction activities of the water management facilities for Waste Rock Storage Facility 3 (WRSF3), including: Pond CP2, Berm CP2, Channel9 and Channel10. These facilities were constructed between February 2022 and May 2022. All construction management, construction, and surveying was conducted by Agnico Eagle personnel. Construction quality assurance was performed by Tetra Tech and AEM Geotechnical teams.

This report, which is to be submitted to the Nunavut Water Board, is prepared to meet the requirements in the Type “A” Water Licence No. 2AM-MEL 1631 – Agnico Eagle Mines Limited for the Meliadine Gold Project (Part D, Item 3).

1.2 Related documents

The supporting and related documents for this report include the following:

- Design Report for CP2, CP2 Thermal Berm, Channel9, and Channel10, Meliadine Project, Nunavut (Tetra Tech 2021a).
- Geotechnical Specifications for Construction of CP2, CP2 Thermal Berm, Channel9, and Channel10 Meliadine Gold Project, NU (Tetra Tech 2021b).

2.0 POND CP2

2.1 Introduction

2.1.1 Design Concept

Pond CP2 was designed to collect runoff water from the WRSF3 catchment area and store this water on a short-term basis. The water collected in CP2 will be actively pumped to CP1 from the fourth day of spring freshet and completely pumped out within seven days.

Pond CP2 was designed to store 3/7 of 1 in 100 wet year freshet and to have the maximum operating water elevation under the Inflow Design Flood (IDF) to be 2.0 m lower than the outlet elevation of CP2 (the lowest ground surface elevation along the perimeter of CP2).

Key Information and design parameters for Pond CP2 are summarized in Table 2.1.

Table 2.1: Key Information and Design Parameters for Pond CP2

Item	Design Value
Pond Bottom Elevation (m)	45.0
Approximate Pond Excavation Depth from Original Ground (m)	10.9 to 14.3
Maximum Water Elevation Under IDF (m)	52.0
Design maximum water elevation (m)	52.7

2.1.2 Construction Drawings

Table 2.2 presents the list of construction drawings used for the construction of Pond CP2.

Table 2.2: List of Construction Drawings used for the Construction of Pond CP2

Agnico Eagle Design Drawing Number	Revision Number	Title
65-695-230-013	0	CP2 and CP2 Thermal Berm Layout Plan
65-695-230-014	0	CP2 Typical Section and CP2 Thermal Protection Berm Profile
65-695-230-015	0	CP2 and CP2 Thermal Protection Berm Sections
65-695-230-016	0	CP2 and CP2 Thermal Protection Berm Sections
65-695-230-017	0	CP2 Cross-Sections

2.2 Construction Materials

Clean rockfill from the excavation of the pond was placed to form the access ramp and used as overburden erosion protection material around the excavated pond embankment. Overburden from the excavation of the pond was hauled and stockpiled in the WRSF3.

Table 2.3 presents the actual material quantities used for the construction of Pond CP2 and excavated from the pond compared to the estimated design quantities stated in the issued for construction drawings.

Table 2.3: Quantities of Materials Used for Pond CP2 Construction and Excavated from Pond

Material	Estimated Design Quantity	As-built Quantity
Clean Rockfill (600 Minus) (m^3)	18,858	15,049
Overburden Excavation Volume (m^3)	36,035	50,051
Rock Excavation Volume (m^3)	65,280	54,357
Total Pond Excavation (m^3)	101,315	104,408

2.3 Construction Equipment

Table 2.4 presents the main equipment used during the Pond CP2 construction.

Table 2.4: Equipment used During Pond CP2 Construction

Excavators	Haul Trucks	Other
CAT 352	CAT 773	Sandvik DX800 drill
CAT 349	CAT 745	Komatsu WA600 Loader
Komatsu PC1250	Komatsu HD605	

2.4 CP2 Pond Construction Activities

Site preparation took place in February 2022. Snow was removed from the pond footprint with a loader. The exterior pond crest was staked and the original ground was profiled by survey. Approximately 50,051 m^3 of overburden till and 54,357 m^3 of blasted rock was excavated between February 28, 2022, and May 15, 2022. All excavated overburden material was hauled and stockpiled at the WRSF3, while select blast rock from CP2 excavation was used for the construction of some sections of Berm CP2, erosion protection within the Pond CP2, and placed in the excavated surfaces of the associated channel foundations to form the design slopes/grades of the channels. All unsuitable blast rock from CP2 excavation was hauled and stockpiled at the WRSF3.

Drill and blast excavation took place from February 28, 2022 to May 3, 2022. Test drilling was conducted in advance of production drill and blast to confirm frozen overburden conditions and bedrock depths. Drill and blast patterns were designed and executed by Agnico Eagle personnel. Drilling of the first blast pattern is shown in Photo 1. A total of thirteen blasts were conducted using both Ammonium Nitrate Fuel Oil (ANFO) and emulsion explosive products. Photo 2 shows loading of emulsion for the first blast pattern. Excavators were used to sort the blasted material and load it into haul trucks for placement as follows:

- All overburden and oversized rock were placed at the WRSF3;
- Suitable blast rock was placed as ramp material and as erosion protection for Berm CP2;
- Suitable blast rock was placed around the overburden portion of the pond excavation to serve as thermal erosion protection; and
- Suitable blast rock was used to construct Channel9 and Channel10, serving as backfill for over excavated segments of the channel foundations to form the design slopes/grades of the channels.

Photos 1 to 6 show Pond CP2 at various stages of construction. A 3-D as-built model of Pond CP2 is shown in Figure 2.

2.5 Variations from Design Documents

Key information and design parameters for Pond CP2 are summarized in Table 2.5 along with the as-constructed values.

Table 2.5: Key Information and As-Built Values for Pond CP2

Item	Design Value	As-Built Value
Pond Bottom Elevation (m)	45.0	41.4
Approximate Pond Bottom Depth from Original Ground (m)	10.9 to 14.3	10.1 to 16.1
Maximum Water Elevation Under IDF (m)	52.0	52.0

Table 2.5: Key Information and As-Built Values for Pond CP2

Item	Design Value	As-Built Value
Overburden Slopes	3.0H:1.0V	0.7H-6.2H:1V (avg. 2.7H:1V)
Minimum Bedrock/Overburden Contact Elevation (m)	51.0	50.9
Minimum Thermal Protection Cover Thickness (m)	2.0	Lowest 0.9 min (2.06 avg. throughout)
Safety Berm Height (m)	1.5	0.7
Ramp Longitudinal Slope (%)	10	9.0 to 11.2

Pond CP2 was generally constructed according to the design documents. The pond was excavated wider and deeper than specified in some areas resulting in a larger capacity. This is beneficial as it will provide additional storage capacity in the pond.

A small segment of the excavated overburden slope located along the northeast wall of CP2 at Station 0+180 has a minimum grade of 0.7H:1V from the crest of the slope to approximately 1.0 m below ground level. This is due to over excavation along the edge of the overburden blast producing a steeper slope along the top meter of the excavation. This small segment with 0.7H:1V grade is not expected to impact the overall stability of the overburden slope. The average slope of the overburden excavation is 2.7H:1V. Minor sloughing may occur in the overburden slopes; however, this is not expected to affect the functionality of the pond.

The thermal protection cover between Pond CP2 and Berm CP2 generally meets the 2.0 m design thickness. A small area of the thermal protection cover around the perimeter of Pond CP2 at the northwest side has a minimum thickness of 0.9 m which is less than the minimum design thickness of 2.0 m. The thermal protection cover along the southwest perimeter of CP2 averages around 1.5 m thick. This is likely due to placing a level lift of rockfill on top of the uneven ground; however, this is not expected to affect the functionality of the pond.

The average height of the ramp safety berm is 0.7 m which is less than the design height of 1.5 m. Since the operational conditions of the ramp will only include light vehicle access, the 0.7 m high safety berm satisfies regulatory safety requirements. The safety berm should be raised to 1.5 m if it is necessary for larger equipment to use the ramp. The longitudinal grade of the ramp generally meets the design requirement of 10% grade.

The as-built stage-storage for the pond is summarized in Table 2.6 and a stage-storage curve is depicted in Figure A.

Table 2.6: As-Built Stage-Storage Capacity and Pond Surface Area with Elevations for CP2

Pond Elevation (m)	Pond Storage Volume (m^3)	Pond Surface Area (m^2)
44.1	0	-
45.0	1,944.53	4,330.57
46.0	7,200.36	5,677.80
47.0	13,051.25	6,097.72
48.0	19,348.74	6,477.82
49.0	26,007.62	6,825.59
50.0	32,985.20	7,126.75
51.0	40,314.48	7,562.63
52.0	48,160.45	8,178.47
52.7	54,088.14	8,734.17

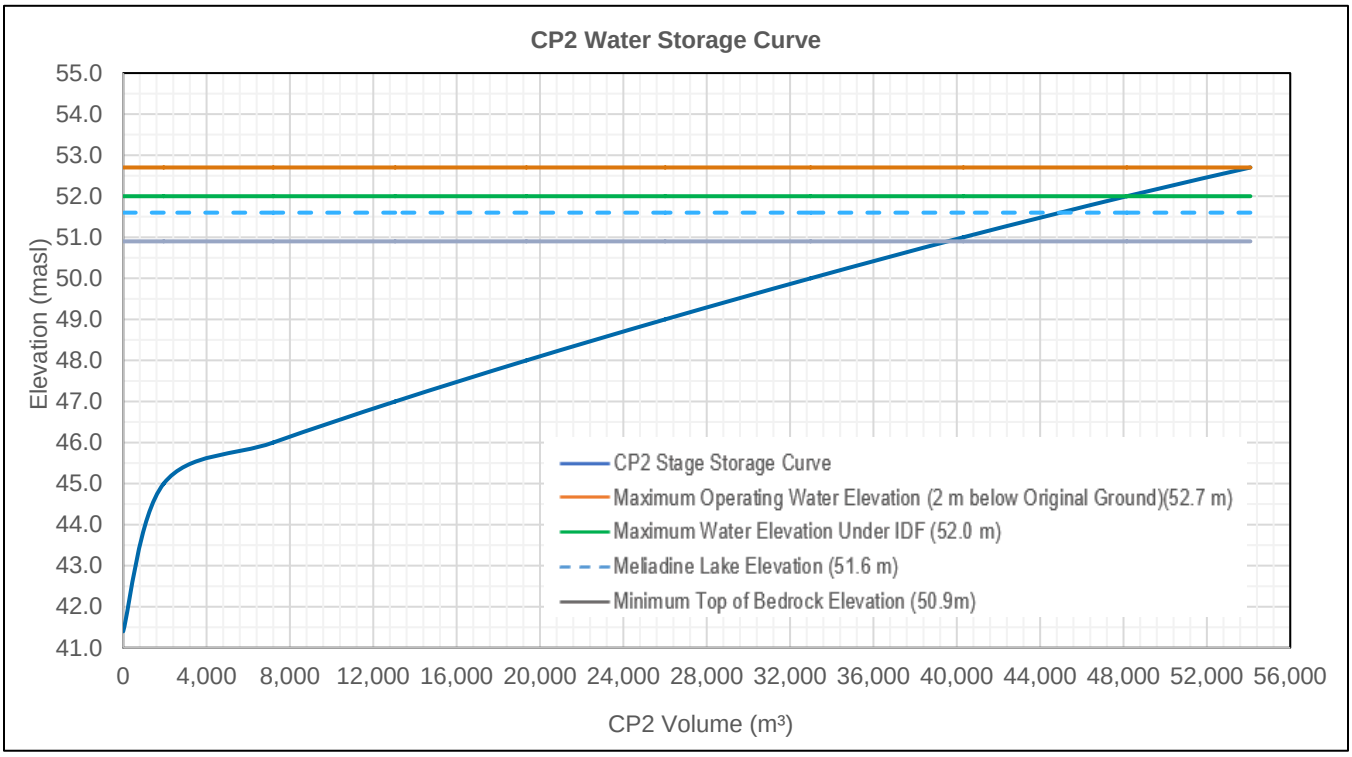

Figure A: As-Built Stage-Storage Curve and Pertinent Elevations of CP2

The as-built capacity of the pond at the maximum operating water level (52.7 m) is approximately 54,088 m^3. Since Pond CP2 was excavated slightly larger than the original design, the pond can hold an additional capacity of 6,471 m^3. The IDF spring freshet event can be contained at the maximum water elevation.

The contact elevation between the bedrock and the overburden varies throughout the pond. The lowest point being approximately 50.9 m and the highest 57.5 m. A portion of the overburden layer will be submerged as the water level reaches the specified maximum water level of 52.7 during the IDF event. The water in the pond should be pumped dry as per the design intent after freshet and inflow events to prevent permafrost degradation of the bedrock and overburden and reduce sloughing of the pond slopes.

3.0 BERM CP2

3.1 Introduction

3.1.1 Design Concept

Berm CP2 is the associated downstream berm for Pond CP2. Its purpose is to preserve permafrost in the original ground below the centerline of the berm. This will reduce the potential for seepage through its foundation into the downstream receiving environment (i.e., Meliadine Lake).

Key information and design parameters for Berm CP2 are summarized in Table 3.1.

Table 3.1: Key information and Design Parameters for Berm CP2

Item	Design Value
Total Berm Length (m)	270
Approximate Maximum Berm Height Above Original Ground (m)	5.2
Top Elevation of Till Core (m)	58.5
Berm Crest Elevation (m)	59.5

3.1.2 Construction Drawings

Table 3.2 presents the list of construction drawings used for the Berm CP2.

Table 3.2: List of Construction Drawings used for the Construction of Berm CP2

Agnico Eagle Design Drawing Number	Revision Number	Title
65-695-230-013	0	CP2 and CP2 Thermal Berm Layout Plan
65-695-230-014	0	CP2 Typical Section and CP2 Thermal Protection Berm Profile
65-695-230-015	0	CP2 and CP2 Thermal Protection Berm Sections
65-695-230-016	0	CP2 and CP2 Thermal Protection Berm Sections
65-695-230-017	0	CP2 Cross-Sections

3.2 Construction Materials

The following materials were used for the construction of Berm CP2:

- Overburden till from Tiriganiaq-01 open pit;
- Clean rockfill from CP2 pond excavation; and
- Non-woven Geotextile (200 g/m^2).

Table 3.3 presents the actual material quantities used for the construction of Berm CP2 compared to the estimated design quantities stated in the issued for construction drawings.

Table 3.3: Materials Used for Berm CP2 Construction

Material	Estimated Design Quantity	As-built Quantity
Clean Rockfill (600 Minus) (m^3)	10,993	15,518
Overburden Till fill (m^3)	31,130 (From Pond Excavation)	34,092 (From Open Pit)
Non-woven Geotextile (m^2)	6,020	Approx. 5,878 (Not surveyed)

3.3 Construction Equipment

Table 3.4 presents the main equipment used for the construction of Berm CP2.

Table 3.4: Equipment used During Berm CP2 Construction

Excavators	Haul Trucks	Bulldozers	Other
CAT 352	CAT 773	CAT D6	Sandvik DX800 drill
CAT 349	CAT 745	CAT D8	10-ton vibratory drum roller
	Komatsu HD605		CAT 980M Loader

3.4 Berm CP2 Construction Activities

Site preparation for Berm CP2 took place in March 2022. Snow was removed from the berm footprint with a loader. The berm toe-line and height of each lift was staked, and original ground was profiled by survey.

Berm CP2 construction was completed between March 8, 2022 and April 15, 2022. The berm was constructed with overburden till sourced from Tiriganiaq-01 open pit and select clean rockfill sourced from the Pond CP2 excavation. Overburden till was placed in controlled lifts as per the specifications (Tetra Tech 2021b). Overburden till material was compacted with a 10-ton vibratory drum compactor to the satisfaction of the Tetra Tech site representative and Agnico Eagle site Engineers. Side slopes were shaped with an excavator after compaction.

Non-woven geotextile was placed by labourers on the downstream side of the berm after sloping was completed, as per specifications. Select blast rock from the Pond CP2 excavation was placed as clean rockfill over the geotextile by an excavator and bucket-tamped into place. Clean rockfill was placed over the entirety of the berm surface as erosion protection.

Photos 7 to 11 show Berm CP2 at various stages of construction. A 3-D as-built model of Berm CP2 is shown in Figure 3.

3.5 Quality Assurance and Quality Control

Construction management and quality control were performed solely by AEM while AEM and Tetra Tech Engineers performed quality assurance at various stages of the construction.

Construction materials were visually assessed by QA personnel to make sure material placed conformed with specifications. Placement and compaction were also observed and satisfactory to QA personnel as per the specifications.

3.6 Instrumentation

Three multi-bead Ground Temperature Cables (GTCs) were installed within Berm CP2 for monitoring thermal performance of the berm. Boreholes for the GTCs were drilled to design depth with a Sandvik DX800 drill upon completion of the berm. The boreholes were dipped to ensure they were open to depth prior to installation of the GTCs. The GTCs were installed to the appropriate elevations and held in place as the boreholes were backfilled with sand. The GTC installations were completed on May 13, 2022 and tested to confirm proper function. The GTCs were allowed to temperature stabilize for twelve days prior to the first temperature recording.

Locations of the GTCs are shown on the construction record drawings in Appendix B. Ground temperature profiles for each cable based on data from May 25, 2022 to July 24, 2022 are attached in Appendix C.

3.7 Variations from Design Documents

Key information and design parameters for Berm CP2 are summarized in Table 3.5 along with the as-constructed values.

Table 3.5: Key information and As-built Values for Berm CP2

Item	Design Value	As-Built Value
Total Berm Length (m)	270	276.1
Approximate Maximum Berm Height Above Original Ground (m)	5.2	5.87 (5.07 Avg)
Top Elevation of Till Core (m)	58.5	58.8 (58.56 Avg)
Berm Crest Elevation (m)	59.5	60.0 (59.47 Avg)

Berm CP2 was generally constructed according to design documents and criteria. The berm overburden core was built slightly longer (6 m) with a slightly higher (0.6 m) approximate maximum height in some sections. This accounts for the larger as-built overburden material volume. The average top elevation of the till core and berm crest elevation generally meet the design elevations. The slight deviations noted here are not expected to negatively affect the functionality of the berm.

4.0 CHANNEL9

4.1 Introduction

4.1.1 Design Concept

Channel9 is designed to capture runoff from the north region of the WRSF3 catchment area. The captured runoff water will be diverted to Pond CP2, from which the water will be further transferred by pumping to CP1 for treatment prior to discharging to the receiving environment. The channel was designed to pass an extreme intensity flow under a 5-minute 1:100 return rainfall of 5.0 mm.

A till berm was constructed along a portion of Channel9 to provide additional freeboard where the topography formed a natural depression and to prevent the water overtopping the channel in this area under the design IDF or other unexpected extreme conditions.

A typical design cross section used for the construction of the channel comprised of a 2.0 m wide base with a layer of rip-rap underlain with non-woven geotextile as the erosion control measures for the channel. The key information and design parameters for Channel9 is summarized in Table 4.1.

Table 4.1: Key Information and Design Parameters for Channel9

Item	Design Value
Total Length (m)	720
Total Berm Length (m)	185
Channel Bottom Width (m)	2.0
Side Slopes	2.5(H):1(V)
Rip-Rap Thickness or Width (m)	0.3
Minimum Bottom Slope Gradient (%)	1.0
Maximum Depth of Channel Excavation (m)	3.6
Maximum Catchment Area (km^2)	0.11

4.1.2 Construction Drawings

Table 4.2 presents the list of construction drawings used for channel9.

Table 4.2: List of Construction Drawings used for the Construction of Channel9

Agnico Eagle Design Drawing Number	Revision Number	Title
65-695-230-018	0	Channel9 and Channel10 Layout Plan
65-695-230-019	0	Channel9 and Channel10 Profile and Typical Cross-Sections
65-695-230-020	0	Channel9 Design Sections (1 of 2)

4.2 Construction Materials

The following materials were used for the construction of Channel9:

- Clean rockfill from CP2 pond excavation used to backfill over-excavated areas of Channel9;
- Riprap; and
- Non-woven Geotextile (200 g/m^2).

Also, the following materials were used for the construction of Channel9 Berm:

- Overburden till from Channel9 excavation; and
- Clean rockfill from CP2 pond excavation.

Table 4.3 presents the actual material quantities used for the construction of Channel9 compared to the estimated design quantities stated in the issued for construction drawings.

Table 4.3: Materials Used for Channel9 Construction

Material	Estimated Design Quantity	As-built Quantity
Rip-rap Fill (m^3)	2,305	4,089
Non-woven Geotextile (m^3)	8,735	9,166
Overburden Till Fill Berm (m^3)	750	3,735
Channel Excavation (m^3)	10,370	15,093

4.3 Construction Equipment

Table 4.4 presents the main equipment used for the construction of Channel9.

Table 4.4: Equipment Used During Channel9 Construction

Excavators	Haul Trucks	Loaders	Drills
CAT 349	CAT 745	Komatsu WA500	Sandvik DX800
CAT 352	CAT 773		
	Komatsu HD605		

4.4 Channel9 Construction Activities

Site preparation for Channel9 took place on April 6, 2022. The channel alignment crests and toes were staked, and original ground was profiled by survey.

Channel9 construction activities comprised of drill/blast excavation, geotextile placement, and rip-rap placement, and took place from April 7, 2022 to April 28, 2022.

Drill and blast operations were required to complete the entire excavation. Five blasts were conducted at the channel between April 7, 2022 and April 13, 2022. Due to the drill/blast excavation technique, the channel was over excavated. Select blast rock (typically 300 mm minus) from the Pond CP2 excavation was placed over the excavated surface to form the design slopes/grades of the channel via excavators. All overburden till material removed from the channel was either used to construct the Channel9 berm or was placed at the WRSF3.

Geotextile was placed cross-width across the re-built excavation surface by laborers, with each panel overlapped by approximately one foot before rip-rap placement. Rip-rap was placed with an excavator on top of the geotextile and lightly bucket-tamped into place. Rip rap for the channel was sourced from crushing and screening mine rock from the open pit.

Photos 12 to 16 show Channel9 at various stages of construction. A 3-D as-built model of Channel9 is shown on Figure 4.

4.5 Quality Assurance

Channel excavation and all construction materials were visually assessed as satisfactory for placement by Tetra Tech site Representative and Agnico Eagle site Engineers.

4.6 Variations from Design Documents

Key information and design parameters for Channel9 are summarized in Table 4.5 along with the as-constructed values.

Table 4.5: Key Information and As-built Values for Channel9

Item	Design Value	As-built Value
Total Length (m)	720	713
Total Berm Length (m)	185	186
Channel Bottom Width (m)	2.0	1.55 to 3.13 (Avg 2.41) (Based on DWG 020 Sections)
Side Slopes	2.5(H):1(V)	1.6H-3.0H:1V (Based on DWG 020 Sections)
Rip-Rap Thickness or Width (m)	0.3	0.48 Average
Minimum Bottom Slope Gradient (%)	1.0	0.7 (Based on DWG 019 Profile)
Maximum Depth of Channel Excavation (m)	3.6	4.99

The total length of Channel9 is slightly shorter by 7.0 m compared to the design length and the total berm length is slightly longer than the design by 1.0 m. The side slopes of Channel9 vary, ranging from 1.6H-3.0H:1V versus the design slope of 2.5H:1.0V. The minimum channel gradient is 0.7% which is less than the required minimum channel gradient of 1.0%.

The surveyed channel base widths range from 1.55 m to 3.13 m and average at 2.41 m compared to the design width of 2.0 m. The maximum channel excavation depth was 4.99 m which is deeper than the design depth of 3.6 m, resulting in the placement of more riprap material (0.18 m thicker than design) which accounts for the larger as-built volumes of rip rap material, geotextile, and excavation volume compared to the design.

The Channel9 berm was widened compared to the design to use most of the overburden excavated during construction of Channel9. Widening of the Channel9 berm accounts for the larger as-built overburden till volume.

The above deviations are not expected to notably affect the functionality or design intent of the channel.

5.0 CHANNEL10

5.1 Introduction

5.1.1 Design Concept

Channel10 is designed to capture runoff from the southern region of the WRSF3 catchment area. The captured runoff water will be diverted to Pond CP2, from where the water will be further transferred by pumping to CP1 for treatment prior to discharging to the receiving environment. The channel was designed to pass an extreme intensity flow under a 5-minute 1:100 return rainfall of 5.0 mm. The design slopes and depths of the channel in conjunction with the ground topography prevented the need for berms to be constructed along the channel alignment to provide sufficient freeboard under the design IDF.

A typical design cross section used for the construction of the channel comprised of a 2.0 m wide base with a layer of rip-rap underlain by non-woven geotextile as the erosion control measures for the channel. The key information and design parameters for Channel10 are summarized in Table 5.1.

Table 5.1: Key Information and Design Parameters for Channel10

Item	Design Value
Total Length (m)	225
Channel Bottom Width (m)	2.0
Side Slopes	2.5(H):1(V)
Rip-Rap Thickness or Width (m)	0.3
Minimum Bottom Slope Gradient (%)	2.0
Maximum Depth of Channel Excavation (m)	2.5
Maximum Catchment Area (km^2)	0.08

5.1.2 Construction Drawings

Table 5.2 presents the list of construction drawings used for the construction of Channel10.

Table 5.2: List of Construction Drawings used for the Construction of Channel10

Agnico Eagle Design Drawing Number	Revision Number	Title
65-695-230-018	0	Channel9 and Channel10 Layout Plan
65-695-230-019	0	Channel9 and Channel10 Profile and Typical Cross-Sections
65-695-230-021	0	Channel10 Design Sections (2 of 2)

5.2 Construction Materials

The following materials were used for the construction of Channel10:

- Clean rockfill from CP2 pond excavation used to backfill over-excavated areas of Channel10;
- Riprap; and
- Non-woven Geotextile (200 g/m^2).

Table 5.3 presents the actual material quantities used for the construction of Channel10 compared to the estimated design quantities stated in the issued for construction drawings.

Table 5.3: Materials Used for Channel10 Construction

Material	Estimated Design Quantity	As-built Quantity
Rip-rap Fill (m^3)	935	1,019
Non-woven Geotextile (m^3)	3,140	3,196
Channel Excavation (m^3)	4,730	4,725

5.3 Construction Equipment

Table 5.4 presents the main equipment used for the construction of Channel10.

Table 5.4: Equipment Used During Channel10 Construction

Excavators	Haul Trucks	Loaders	Drills
CAT 349	CAT 745	Komatsu WA500	Sandvik DX800
CAT 352	CAT 773		
	Komatsu HD605		

5.4 Channel10 Construction Activities

Site preparation for Channel10 took place on April 25, 2022. The channel alignment, crests, and toes were staked, and original ground was profiled by survey.

Channel10 construction activities comprised of drill/blast excavation, geotextile placement, and rip-rap placement, and took place from April 25, 2022 to May 9, 2022.

Drill and blast operations were required to complete the entire excavation. One blast was conducted at the channel between April 25, 2022 and April 29, 2022. Due to the drill/blast excavation technique used, the channel was over excavated. Select blast rock (typically 300 mm minus) from the Pond CP2 excavation was placed over the excavated surface to form the design slopes/grades of the channel via excavators. All overburden till material removed was either used to construct the supplementary Channel10 berms or placed at the WRSF3.

Geotextile was placed cross-width across the re-built excavation surface by laborers, with each panel overlapped by approximately one foot before rip-rap placement. Rip-rap was placed with an excavator on top of the geotextile and lightly bucket-tamped into place. Rip rap for the channel was sourced from crushing and screening mine rock from the open pit.

Photos 17 to 21 show Channel10 at various stages of construction. A 3-D as-built model of Channel10 and the supplementary berms is shown on Figure 5.

5.5 Quality Assurance

Channel excavation and all construction materials were visually assessed as satisfactory for placement by Tetra Tech site Representative and Agnico Eagle site Engineers.

5.6 Variations from Design Documents

Key information and design parameters for Channel10 are summarized in Table 5.6 along with the as-constructed values.

Table 5.6: Key Information and As-built Values for Channel10

Item	Design Value	As-built Value
Total Length (m)	225	200
Channel Bottom Width (m)	2.0	2.03 to 3.27 (Avg. 2.64) (Based on DWG 021 Sections)
Side Slopes	2.5(H):1(V)	1.7H-2.7H:1V (Based on DWG 021 Sections)
Rip-Rap Thickness or Width (m)	0.3	0.34 Average
Minimum Bottom Slope Gradient (%)	2.0	1.5 (Based on DWG 019 Profile)
Maximum Depth of Channel Excavation (m)	2.5	3.11

The surveyed channel base width ranges from 2.03 to 3.27 m and averages at 2.64 m which is wider compared to the design width of 2.0 m. The side slopes of Channel10 vary ranging from 1.7H-2.7H:1V versus the designed slope of 2.5H:1.0V. The minimum channel gradient of 1.5% is less than the design minimum gradient of 2.0%. The maximum channel excavation depth was 3.11 m which is deeper than the design depth of 2.5 m.

Channel10 was constructed 25 m shorter than its design length due to a 22,000 m^3/day waterline and 12.5 kV power cable placed within a caribou crossing berm traverses an approximately 25 m long section of the footprint of Channel10. To prevent damage to the waterline and power cable from relocation, it was proposed by Agnico Eagle to construct Channel10 approximately 25 m shorter than designed to allow the waterline and power cable to remain in place.

Tetra Tech carried out an initial surface flow assessment to determine the consequences of constructing Channel10 25 m shorter than designed. The results of the analysis which are summarized in a memorandum titled “Surface Flow Analysis for Channel10 Construction Modifications” attached in Appendix D show that reducing the length of Channel10 by 25 m will not impact the performance nor intent of the channel considering the existing constructed footprint of the WRSF3 at the time the analysis was performed. Monitoring and mitigation recommendations were also provided in the memorandum.

As a long-term solution to rectify the shortened channel, Agnico Eagle proposed and constructed two berms southwest of the channel. The berms were positioned to capture any potential runoff that may not be captured by the shortened Channel10 catchment and redirect the runoff towards the shortened Channel10. This modification to Channel10 which is expected to remain as part of the water management infrastructure for WRSF3 is intended to mitigate any potential shortfalls of not constructing the channel to its full design length. The construction of the two berms occurred between May 12, 2022 and May 14, 2022. The first berm (east) was constructed to connect the existing caribou crossing with the invert point of Channel10 to help direct water into the channel. The second berm (west) was constructed to connect the topographical highpoint to the west end of the caribou crossing. Both berms were constructed with overburden till and capped with clean rockfill for erosion protection.

Tetra Tech performed a second surface flow analysis to assess the significance of the two berms in capturing any potential runoff that may not be captured by the shortened Channel10. The second analysis consisted of two conditions: Current WRSF3 limits and final WRSF3 design limits. The results which are presented in Figure 6 indicate that all potential runoff within the associated WRSF3 drainage basin will be captured by Channel10 and the two berms considering both conditions of the WRSF3 extents within the local study area. The blue flow paths in Figure 6 are based on the current footprint of the WRSF3 and local topography at the time of the analysis. Superimposing the final WRSF3 design limit over the local study area indicated that the surface flow path between the WRSF3 and west Channel10 berm will be reduced to 3.0 m wide. A hydraulic analysis indicated that the 3.0 m

gap between the final WRSF3 and constructed berms will be sufficient in conveying runoff water towards Channel10 without overtopping the diversion berms. The assumed flow path based on the final WRSF3 limits is shown in green in Figure 6.

Based on these assessments, it is expected that the remaining 25 m of Channel10 will not need to be constructed at this time. Care should be taken during final placement of the WRSF3 footprint near the Channel10 berms to maintain the 3.0 m spacing for surface drainage between the structures. The area along the Channel10 diversion berms should be monitored occasionally to ensure the flow path remains clear of obstructions.

6.0 LONG-TERM MONITORING

6.1 Purpose

Performance monitoring is an integral part of the operation of any water retention structure. Permafrost is expected to exist beneath the footprint of the CP2 pond and berm, and the design intent is to maintain the original permafrost foundation over the life of the berm. The performance of Berm CP2 will need to be monitored throughout its operating life. Long-term monitoring of Berm CP2 should include the following:

- Monitor thermal regime to confirm thermal prediction;
- Monitor settlement and movements of the berm;
- Conduct routine visual inspections of the berm; and
- Satisfy regulatory requirements for the berm performance monitoring.

6.2 Thermal Monitoring

The GTCs installed in Berm CP2 must be read on a regular basis. Tetra Tech recommends that the cables be read once per month during the first year, and then on a yearly basis during operation. The measured readings should be analyzed and reported in the annual geotechnical inspection report. The reading frequency can be adjusted as required.

6.3 Routine Visual Inspection

Visual inspection and monitoring can provide early warning of many conditions that can contribute to structure failures and incidents. Monitoring and inspection during construction and operation may include, but not be limited to, settlement/movement monitoring, seepage monitoring, pond water level, and water quality monitoring if required.

Agnico Eagle should undertake regular visual inspections of the ponds, channels, and berms, especially during spring and summer periods. Agnico Eagle should contact Tetra Tech upon any noted water seepage through the berm, unusual settlement/deformation, or cracks. Any monitoring data should be sent to Tetra Tech for review and evaluation.

6.4 Formal Annual Inspection

An annual geotechnical inspection, in accordance with Part I, Items 14 and 15 of Water License - 2AM-MEL1631 will be conducted by a qualified Geotechnical Engineer to document the performance of each structure. These visits

should take place between the months of July and September of each year. The inspection shall be conducted in accordance with the Canadian Dam Safety Guideline. The specific tasks conducted during these visits should include inspection of the upstream and downstream slopes for any sign of distress, inspection of the structure crest for any sign of transverse cracking, and inspection of the abutments and downstream toe for any evidence of seepage. The reports will be submitted to the Nunavut Water Board as per the water license requirements.

7.0 CLOSURE

We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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REGISTERED PROFESSIONAL GEOSCIENTIST
F. NDOFOR AKONGNUI
NT/NU

October 14, 2022

FILE: 704-ENG.EARC03140-28
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October 14, 2022

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PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Oct 14, 2022
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

REFERENCES

Agnico Eagle Mines Limited (AEM). 2017. Technical Specifications for Civil Earthworks. Revision 3. June 2017. AEM Document Number 6515-GNS-014

Tetra Tech Canada Inc. (Tetra Tech 2021a). Design Report for CP2, CP2 Thermal Berm, Channel9, and Channel10, Meliadine Gold Project, Nunavut. Prepared for Agnico Eagle Mines Limited October 2021. AEM Document Number 6537-695-230-REP-001. Tetra Tech Project Number ENG.EARC03140-24

Tetra Tech Canada Inc. (Tetra Tech 2021b). Geotechnical Specifications for the Construction of CP2, CP2 Thermal Berm, Channel9, and Channel10, Meliadine Gold Project, Nunavut. Prepared for Agnico Eagle Mines Limited October 2021. AEM Document Number 6537-695-230-SPT-001. Tetra Tech Project Number ENG.EARC03140-24

FIGURES

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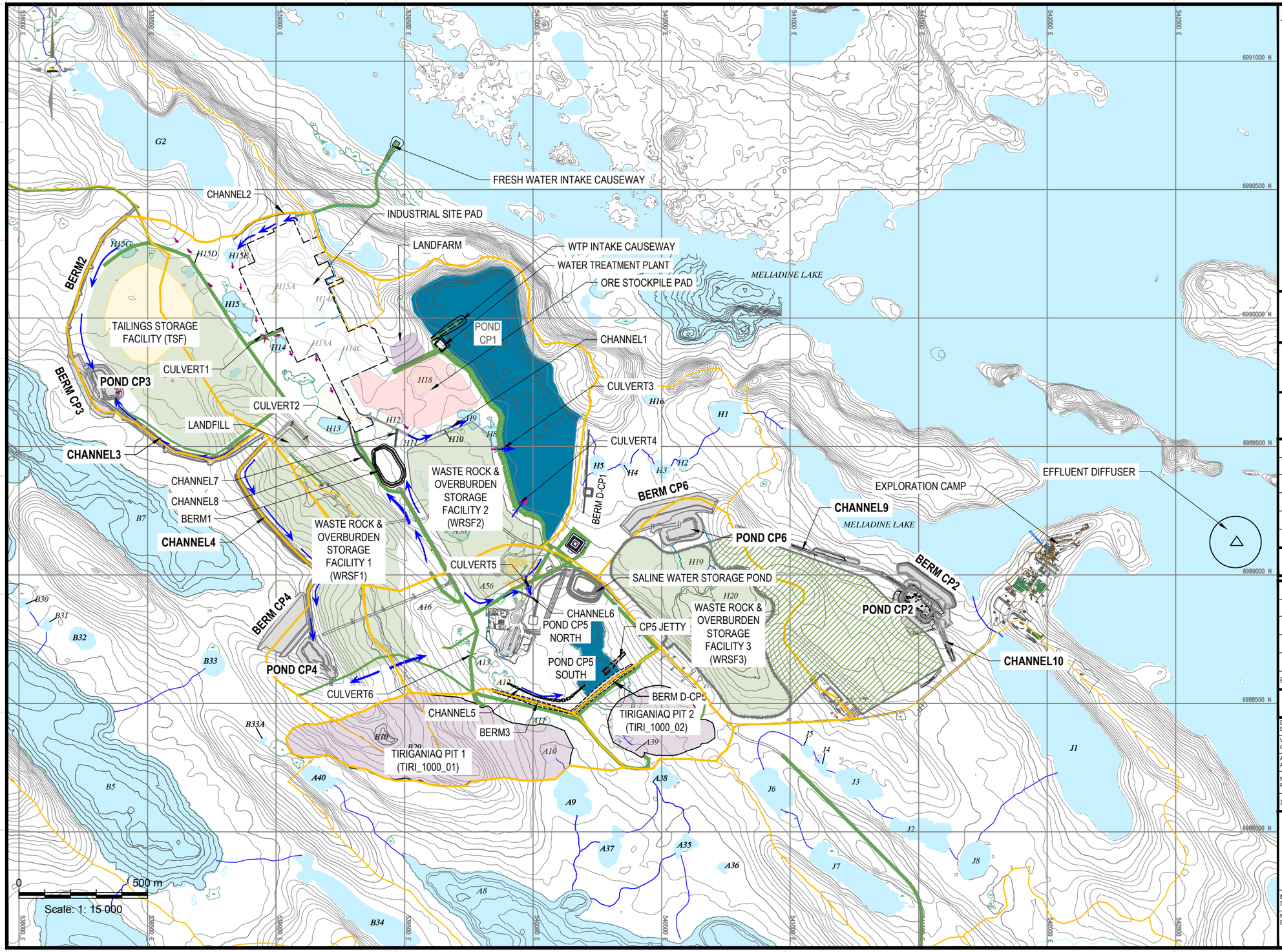

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- CONTACT WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH

TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY
A	ISSUED FOR REVIEW	2022–07–29	FN

REVISIONS

DESSINÉ PAR DRAWN BY	EL	DATE 2022–07–29
VÉRIFIÉ PAR CHECKED BY	FN	2022–07–29
APPROUVÉ PAR APPROVED BY	FN	2022–07–29
No. PROJET PROJECT NO.	6515	
DATE	2022–07–29	

TITRE / TITLE

AS–BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

FIGURE 1 – GENERAL SITE LAYOUT

ÉCHELLE/ SCALE	1:15000	FICHIER FILE	General Site Layout Plan .DWG
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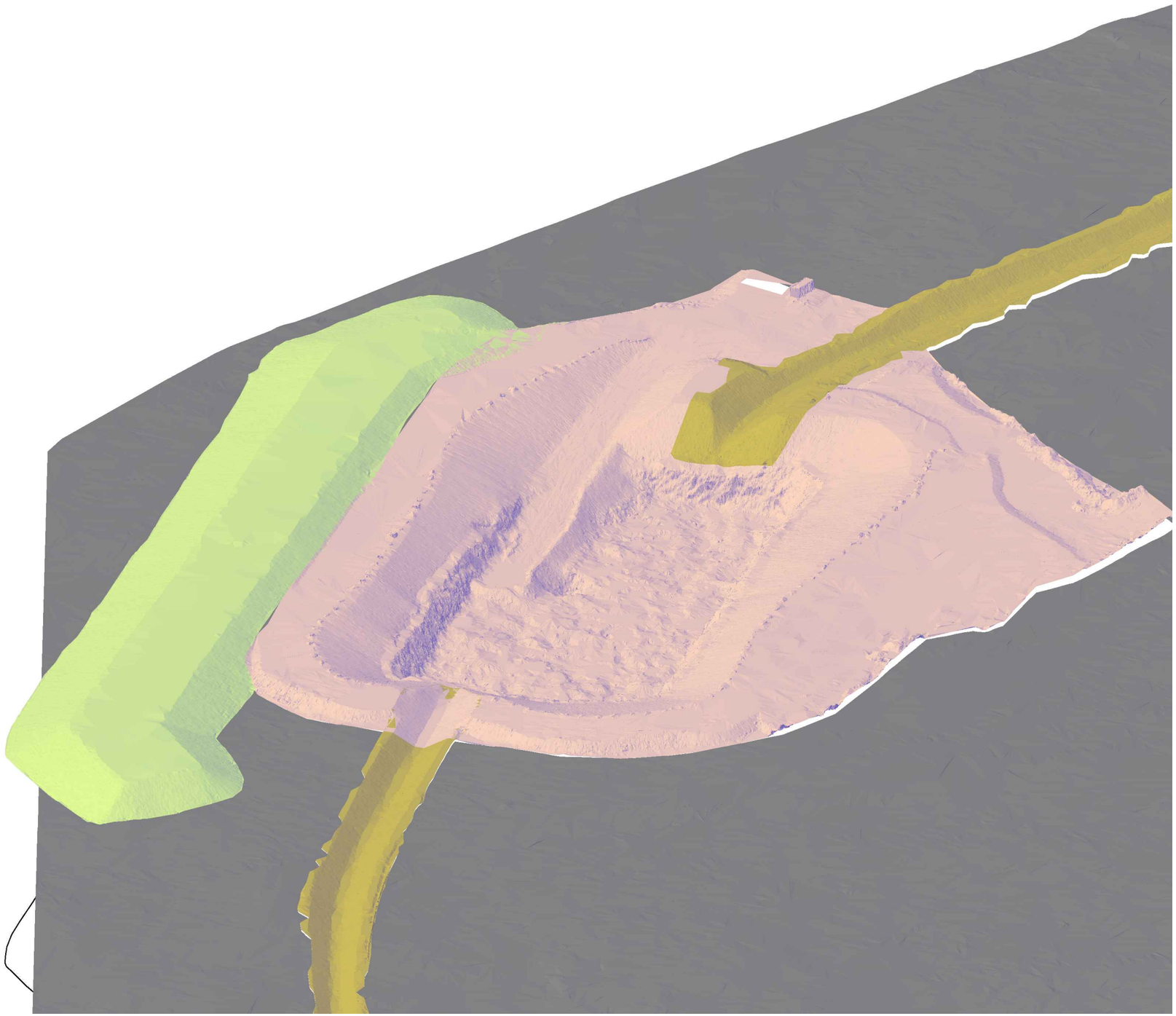

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VÉRIFIÉ PAR CHECKED BY	FN		2022–07–29
APPROUVÉ PAR APPROVED BY	FN		2022–07–29
No. PROJET PROJECT NO.	6515		
DATE	2022–07–29		

TITRE / TITLE

AS–BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

FIGURE 2 – CP2 POND

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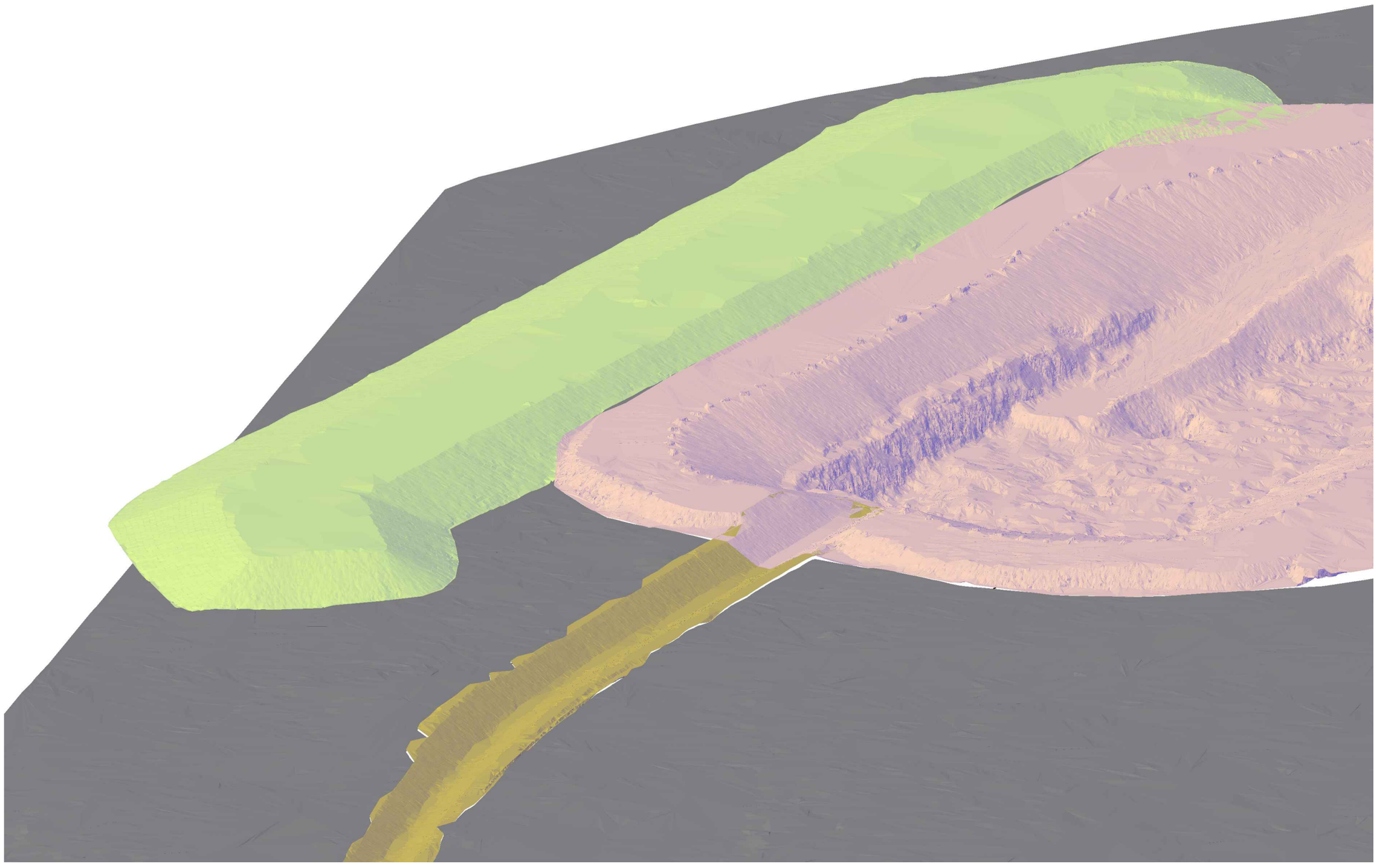

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No. PROJET / PROJECT NO.	6515	
DATE	2022-07-29	

TITRE / TITLE

AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

FIGURE 3 – CP2 BERM

ÉCHELLE/ SCALE	N.T.S.	FICHIER FILE	3D Presentation.DWG
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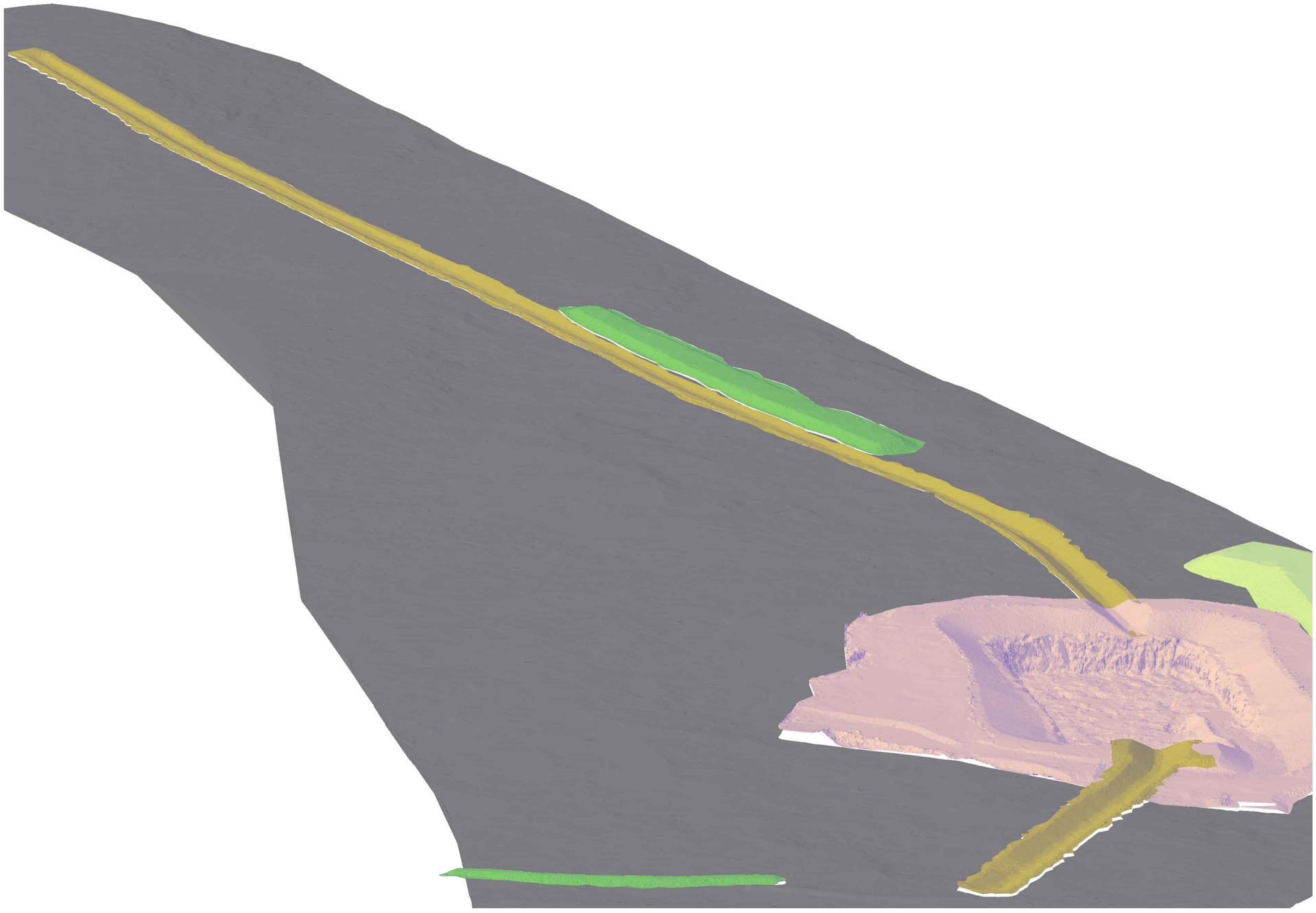

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DATE	2022–07–29	

TITRE / TITLE

AS–BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

FIGURE 4 – CHANNEL9

ÉCHELLE/ SCALE	N.T.S.	FICHIER FILE	3D Presentation.DWG
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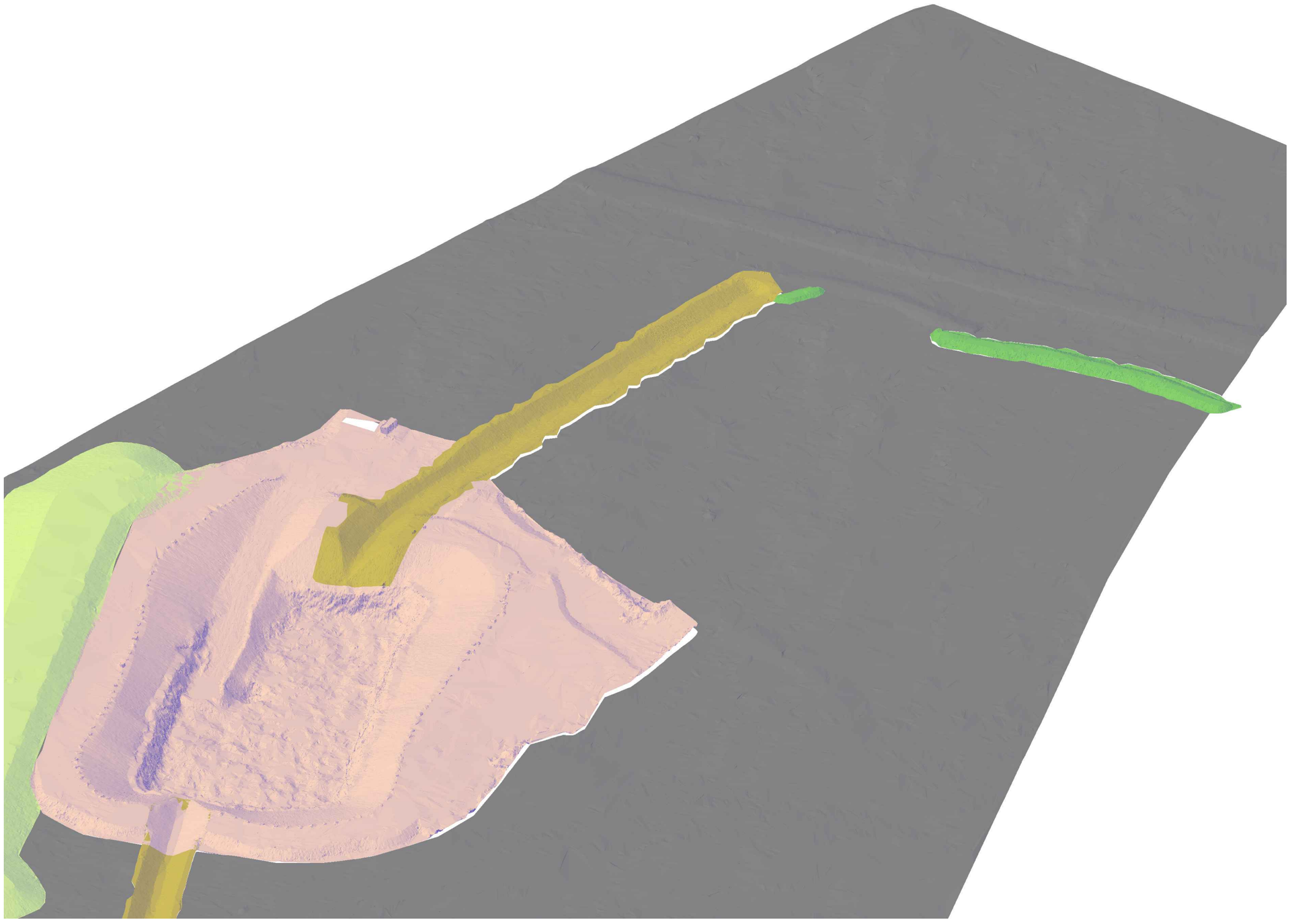

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REVISIONS

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No. PROJET / PROJECT NO.	6515	
DATE	2022–07–29	

TITRE / TITLE

AS–BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

FIGURE 5 – CHANNEL10

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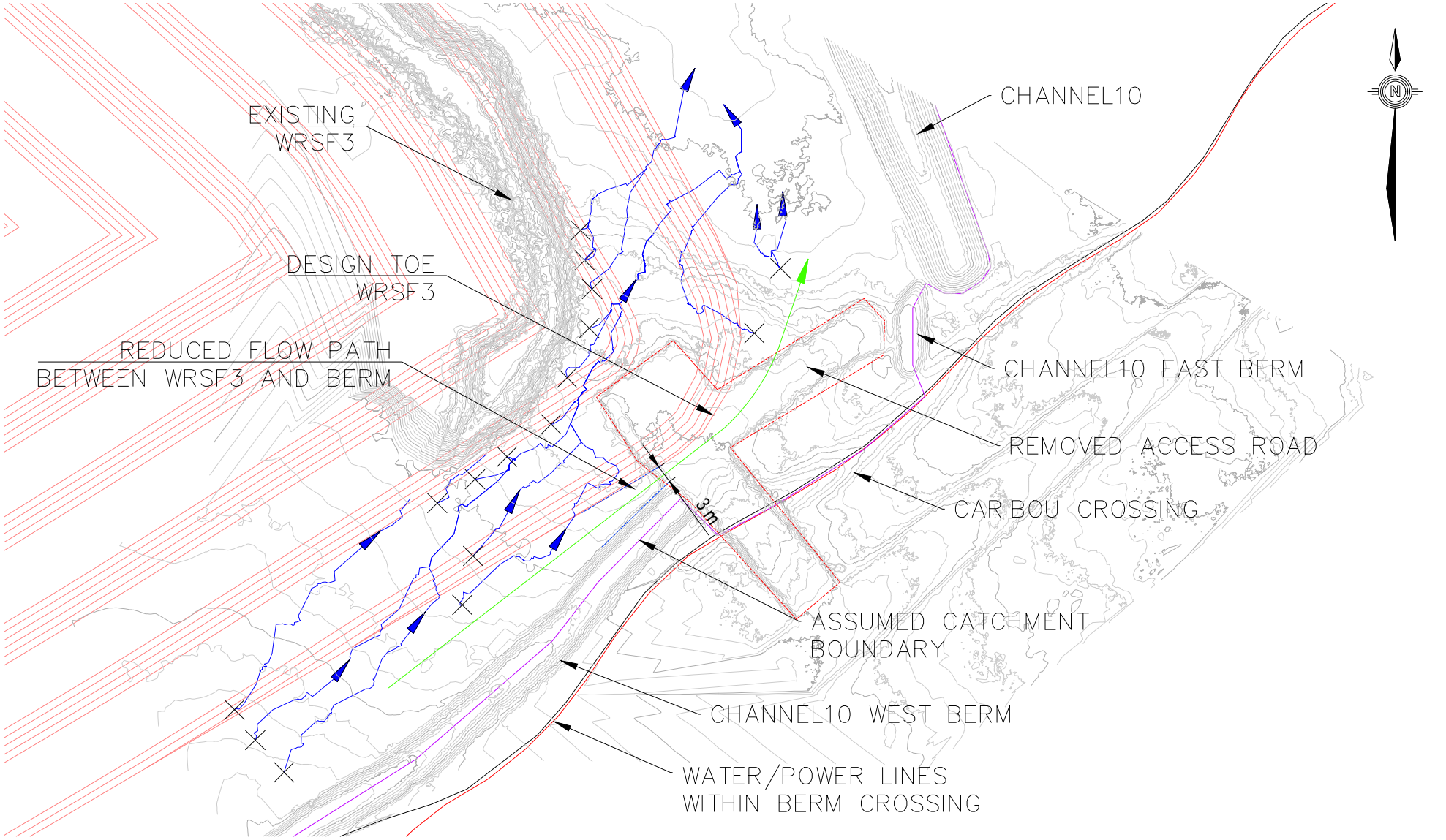

LEGEND:

- CURRENT FLOW PATH
- EXPECTED FLOW PATH
- WATER DROP POINT

0 50 m

Scale: 1: 1000

NOTES

- BASED ON AS-BUILT SCANS PROVIDED BY AGNICO EAGLE ON JULY 8, 2022 AND AUGUST 2, 2022.
- SCAN SURFACES WERE SIMPLIFIED FOR WATER DROP SURFACE FLOW ANALYSIS.
- 0.2 m CONTOUR SPACING USED FOR AS-BUILT SCAN.
- 1.0 m CONTOUR SPACING USED FOR WRSF3 DESIGN.
- FLOW PATHS ARE BASED ON THE AS-BUILT SCAN SURFACE. THE DESIGN WRSF3 LIMIT ONCE CONSTRUCTED IS EXPECTED TO IMPEDE SURFACE FLOW IN THE AREA.

STATUS
ISSUED FOR USE

CLIENT
AGNICO EAGLE

TETRA TECH

CP2 CHANNELS AND BERM CONSTRUCTION QA
MELIADINE MINE, NU

Channel10 Surface Flow Analysis

PROJECT NO.	DWN	CKD	REV
ENG.EARC03140-28	RO	HX	01
OFFICE: EDM	DATE: September 7, 2022		

Figure 6

PHOTOGRAPHS

Photo 1	Pond CP2—Drilling first blast pattern; view facing north
Photo 2	Pond CP2—Loading emulsion for first blast pattern; view facing northeast
Photo 3	Pond CP2—Overburden being excavated from first blast; view facing east
Photo 4	Pond CP2—Progress of excavating Pond CP2; view facing east
Photo 5	Pond CP2—Overview of CP2 pond, berm, and channel 9
Photo 6	Pond CP2—Sloped rockfill for thermal protection; view facing north
Photo 7	Berm CP2—Foundation preparation for berm; view facing northeast
Photo 8	Berm CP2—First lift of overburden till; view facing southeast
Photo 9	Berm CP2—View of overburden till downstream slopes; view facing south
Photo 10	Berm CP2—Placing of geotextile and rockfill; view facing west
Photo 11	Berm CP2—Sloping of rockfill on berm; view facing south
Photo 12	Channel9—Excavating of channel9; view facing northwest
Photo 13	Channel9—Placement of rockfill before geotextile and riprap; view facing southeast
Photo 14	Channel9—Placement of geotextile; view facing south
Photo 15	Channel9—Placing and sloping of riprap on geotextile; view facing northeast
Photo 16	Channel9—Overburden fill placement of Channel9 berm; view facing northeast
Photo 17	Channel10—Placing geotextile on channel10 after rockfill; view facing south
Photo 18	Channel10—Placing riprap on channel10; view facing north
Photo 19	Channel10—Overview of proposed berm configuration for Channel10
Photo 20	Channel10—Overview of constructed berms for Channel10
Photo 21	Channel10—Overview of constructed berms for Channel10 with access road removed

Photo 1: 2022-02-25 Pond CP2—Drilling first blast pattern; view facing north

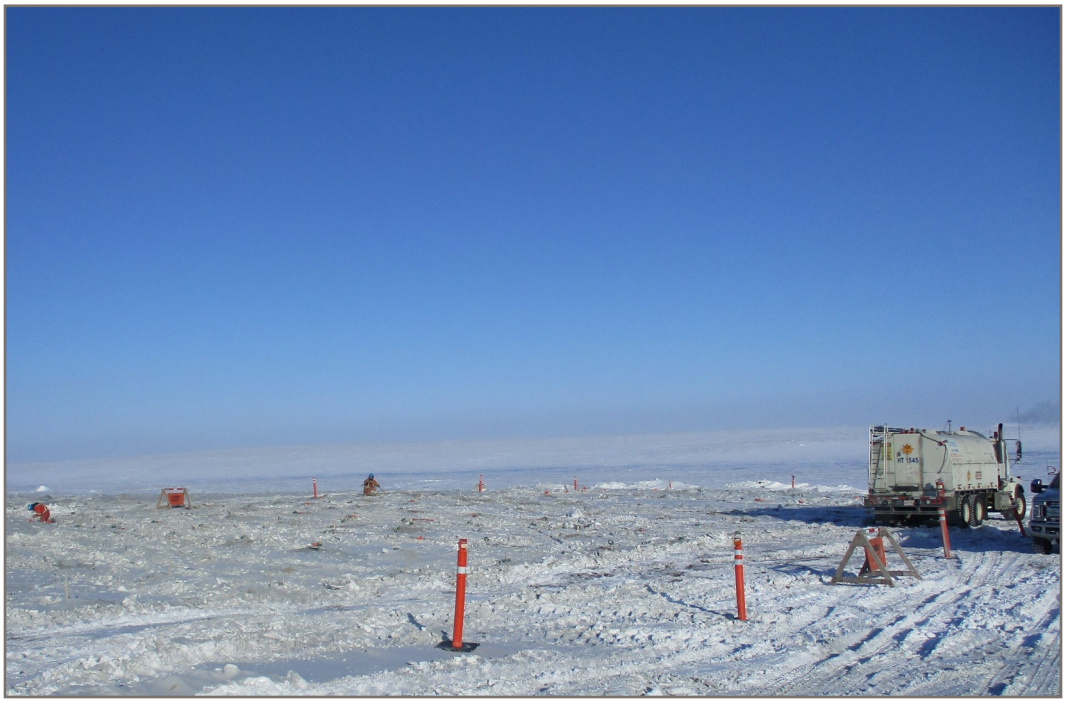

Photo 2: 2022-02-25 Pond CP2—Loading emulsion for first blast pattern; view facing northeast

Photo 3: 2022-02-28 Pond CP2—Overburden being excavated from first blast; view facing east

Photo 4: 2022-04-14 Pond CP2—Progress of excavating Pond CP2; view facing east

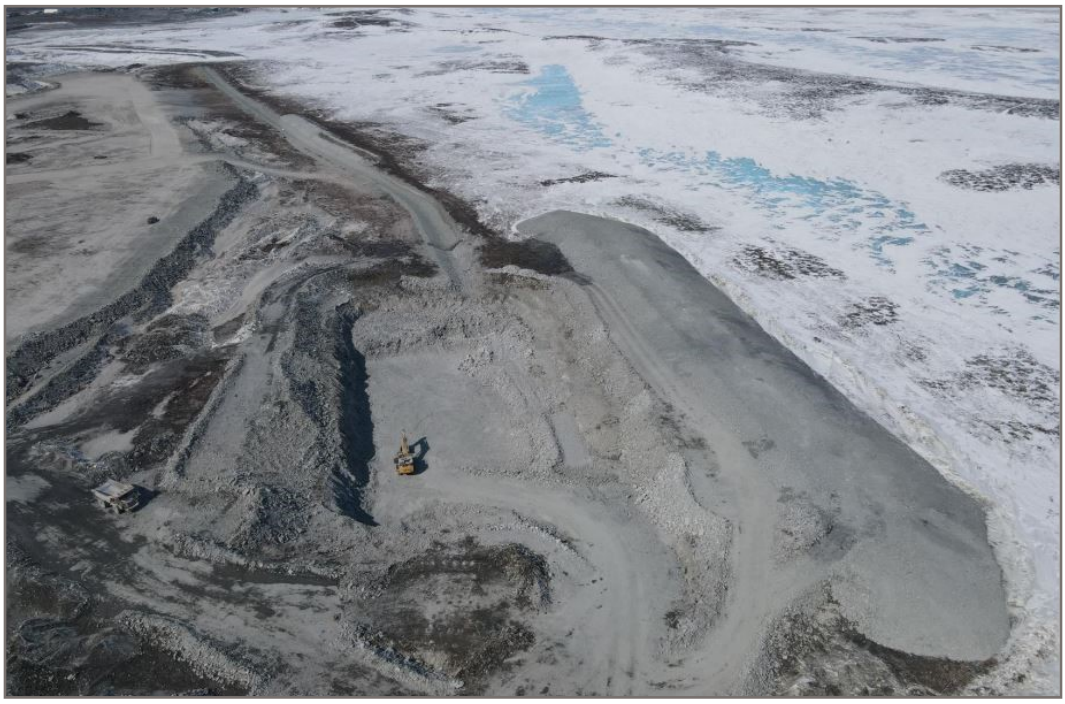

Photo 5: 2022-04-28 Pond CP2—Overview of CP2 pond, berm, and channel9

Photo 6: 2022-04-29 Pond CP2—Sloped rockfill for thermal protection; view facing north

Photo 7: 2022-03-06 Berm CP2—Foundation preparation for berm; view facing northeast

Photo 8: 2022-03-08 Berm CP2—First lift of overburden till; view facing southeast

Photo 9: 2022-03-19 Berm CP2—View of overburden till downstream slopes; view facing south

Photo 10: 2022-03-23 Berm CP2—Placing of geotextile and rockfill; view facing west

Photo 11: 2022-04-09 Berm CP2—Sloping of rockfill on berm; view facing south

Photo 12: 2022-04-09 Channel9—Excavating of channel9; view facing northwest

Photo 13: 2022-04-19 Channel9—Placement of rockfill before geotextile and riprap; view facing southeast

Photo 14: 2022-04-20 Channel9—Placement of geotextile; view facing south

Photo 15: 2022-04-20 Channel9—Placing and sloping of riprap on geotextile; view facing northeast

Photo 16: 2022-04-24 Channel9—Overburden fill placement of channel9 berm; view facing northeast

Photo 17: 2022-04-29 Channel10—Placing geotextile on channel10 after rockfill; view facing south

Photo 18: 2022-04-30 Channel10— Placing riprap on channel10; view facing north

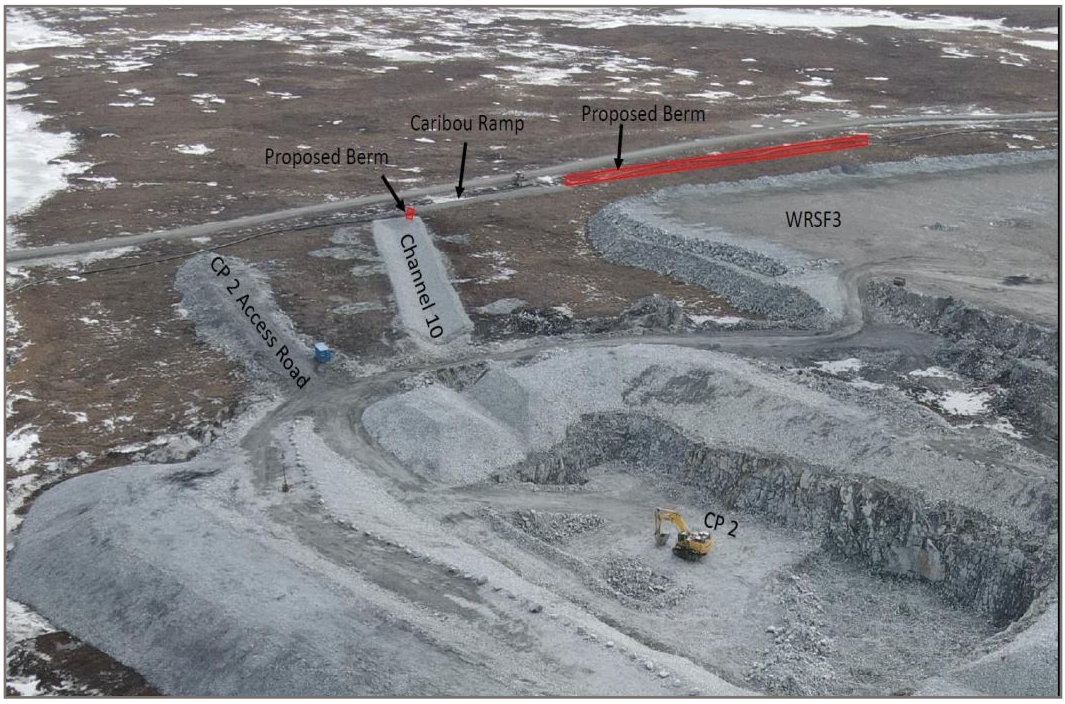

Photo 19: 2022-05-07 Channel10— Overview of proposed berm configuration for channel10

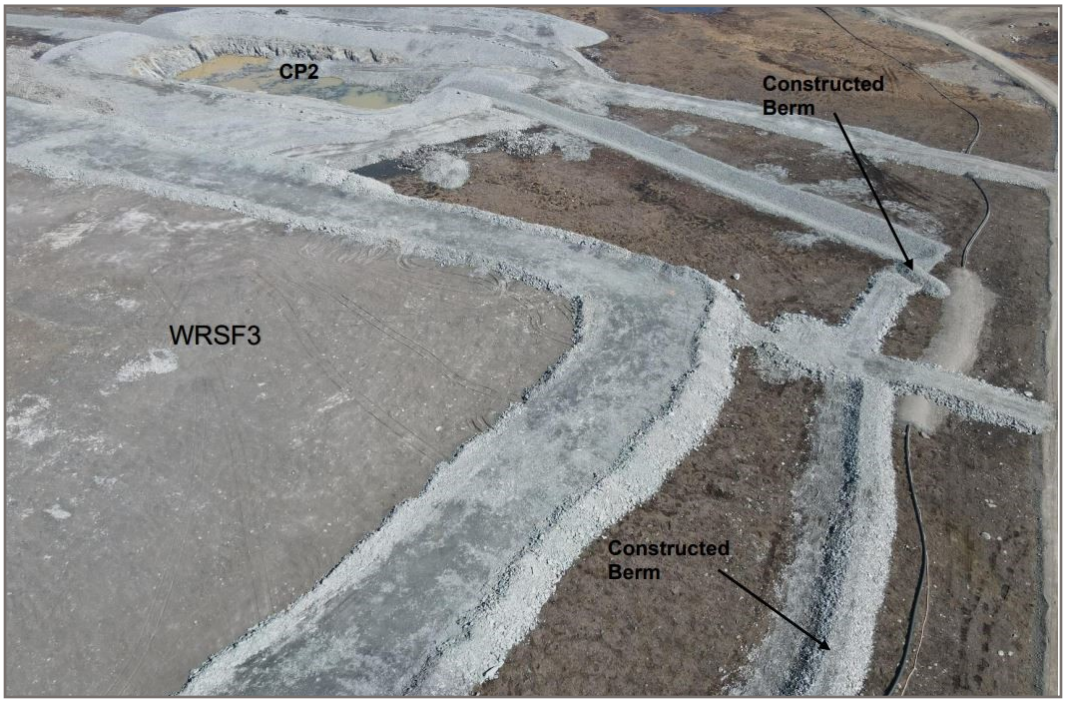

Photo 20: 2022-05-09 Channel10— Overview of constructed berms for channel10

Photo 21: 2022-09-04 Channel10— Overview of constructed berms for channel10 with access road removed

APPENDIX A

LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOTECHNICAL

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

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The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by third parties other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this document, at or on the development proposed as of the date of the Professional Document requires a supplementary exploration, investigation, and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to explore, address or consider and has not explored, addressed or considered any environmental or regulatory issues associated with development on the subject site.

1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems, methods and standards employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

1.9 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historical environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional exploration and review may be necessary.

1.11 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

Construction activity can impact structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques, and construction sequence are known.

1.14 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, and the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

1.15 DRAINAGE SYSTEMS

Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function. Where temporary or permanent drainage systems are installed within or around a structure, these systems must protect the structure from loss of ground due to mechanisms such as internal erosion and must be designed so as to assure continued satisfactory performance of the drains. Specific design details regarding the geotechnical aspects of such systems (e.g. bedding material, surrounding soil, soil cover, geotextile type) should be reviewed by the geotechnical engineer to confirm the performance of the system is consistent with the conditions used in the geotechnical design.

1.16 DESIGN PARAMETERS

Bearing capacities for Limit States or Allowable Stress Design, strength/stiffness properties and similar geotechnical design parameters quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition used in this report. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions considered in this report in fact exist at the site.

1.17 SAMPLES

TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

1.18 APPLICABLE CODES, STANDARDS, GUIDELINES & BEST PRACTICE

This document has been prepared based on the applicable codes, standards, guidelines or best practice as identified in the report. Some mandated codes, standards and guidelines (such as ASTM, AASHTO Bridge Design/Construction Codes, Canadian Highway Bridge Design Code, National/Provincial Building Codes) are routinely updated and corrections made. TETRA TECH cannot predict nor be held liable for any such future changes, amendments, errors or omissions in these documents that may have a bearing on the assessment, design or analyses included in this report.

APPENDIX B

CONSTRUCTION RECORD DRAWINGS

NO. DESSIN
DRAWING NO. 65-695-230-013

FORMAT ARCHD

CP2 GTC LAYOUT POINTS		
POINT	NORTHING	EASTING
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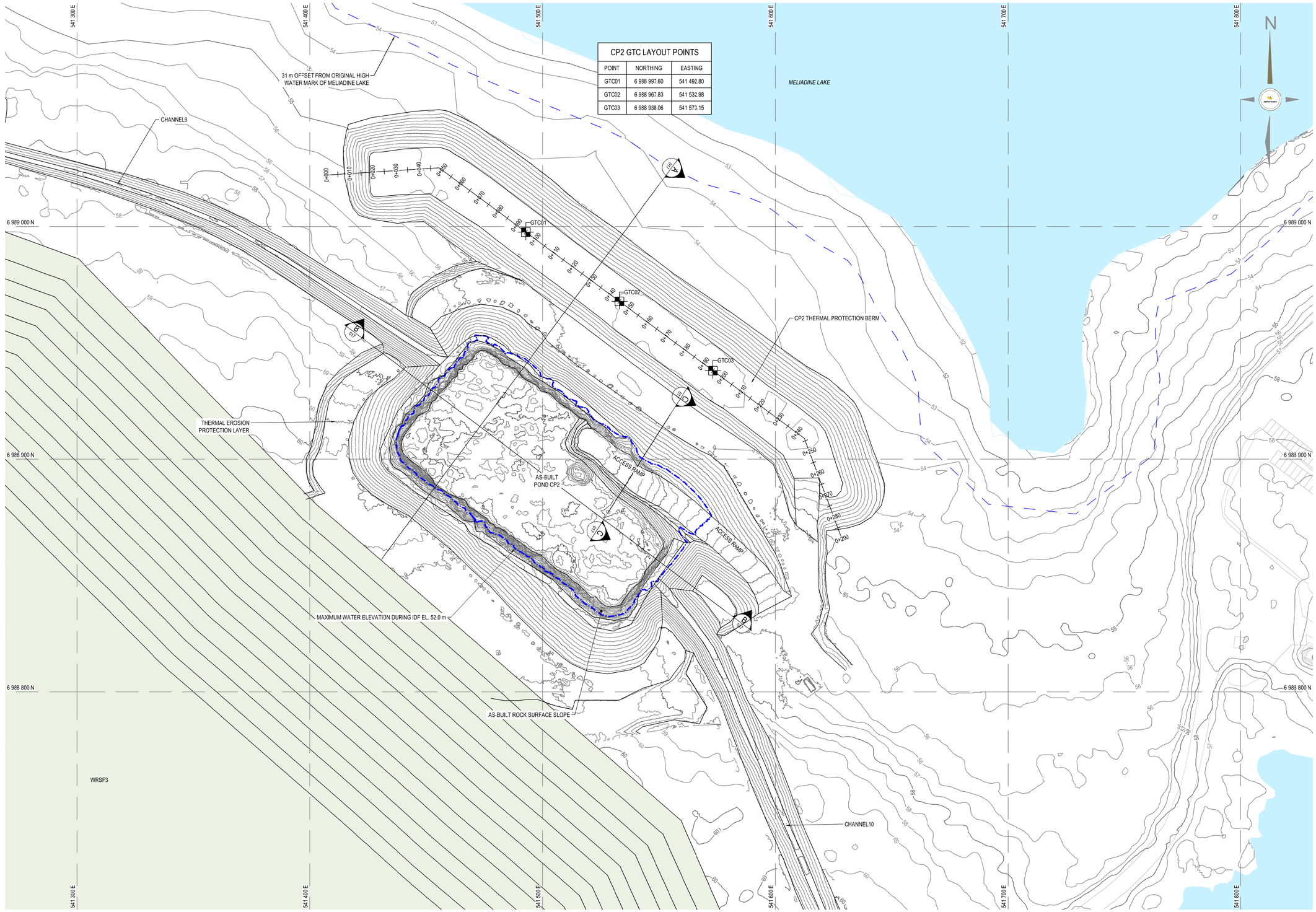
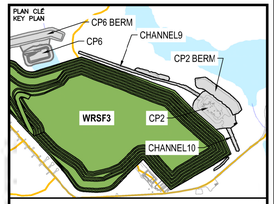
GTC02	6 998 967.83	541 532.98
GTC03	6 998 938.06	541 573.15



PLAN CLÉ
KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2021/2022.
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2022.
3. POND DESIGN CAPACITY IS BASED ON STORING 3/7 OF FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS ELEVATION 52.7 m. THE MAXIMUM WATER LEVEL IS ELEVATION 52.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS ("TETRA TECH 2021).
6. THE SINGLE-LANE RAMP HAS A MINIMUM ROAD WIDTH OF 7.0 m (FOR VOLVO A40F OR CAT 745 HAUL TRUCKS OR SMALLER EQUIPMENT).

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
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0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2 AND CP2 THERMAL BERM
LAYOUT PLAN

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:750	DATE 2021-09-27
NO. DESSIN / DRAWING NO.	65-695-230-013	
NO. PROJET / PROJECT NO.	6526	REVISION 0
		FEUILLE / SHT 1 / 9

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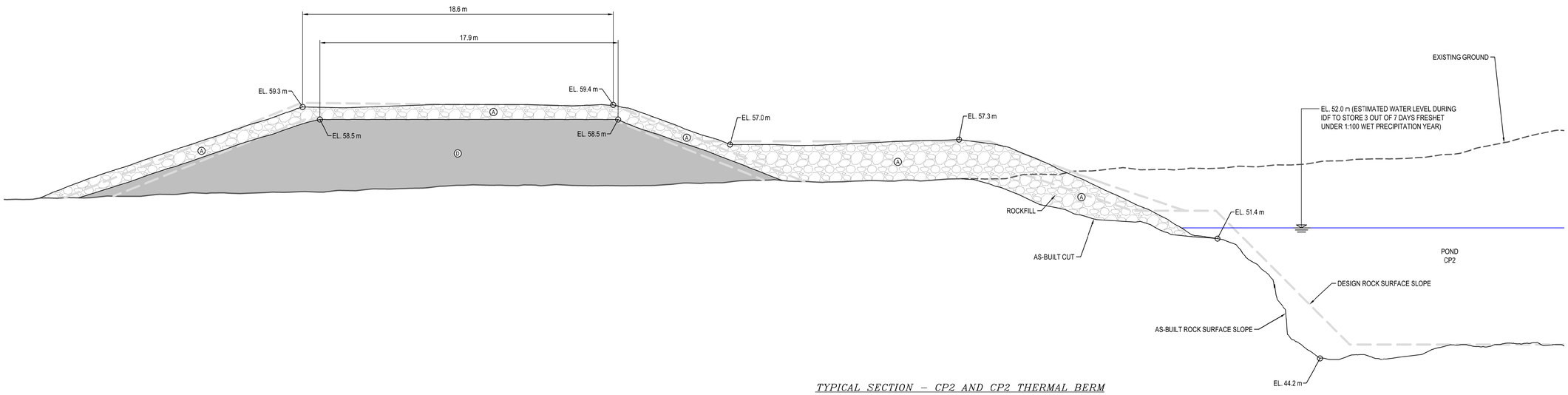
NO. DESSIN
DRAWING NO. 65-695-230-014

FORMAT ARCHD



TYPICAL SECTION – CP2 AND CP2 THERMAL BERM
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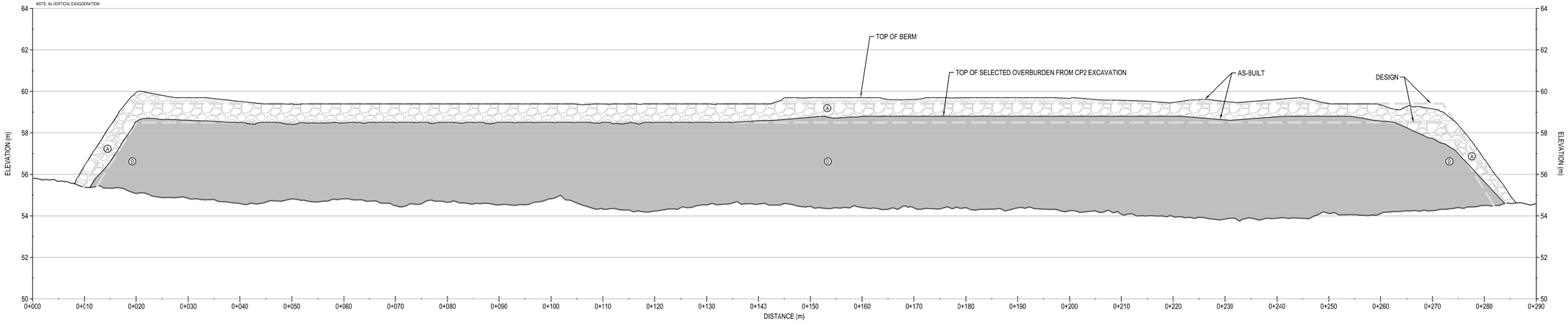
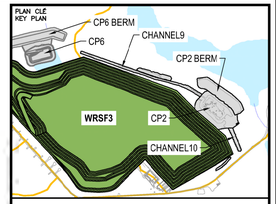


CP2 – THERMAL BERM PROFILE
SCALE: H-1:400 V-1:100

PLAN CLÉ
KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2021 / 2022
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2022.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
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LEGEND

(A) CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
(D) OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

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AGNICO EAGLE

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0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2 TYPICAL SECTION AND CP2 THERMAL PROTECTION BERM PROFILE

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	AS SHOWN	DATE 2021-09-27

NO. DESSIN / DRAWING NO.
65-695-230-014

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6526	0	2 / 9

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NO. DESSIN
DRAWING NO. 65-695-230-015

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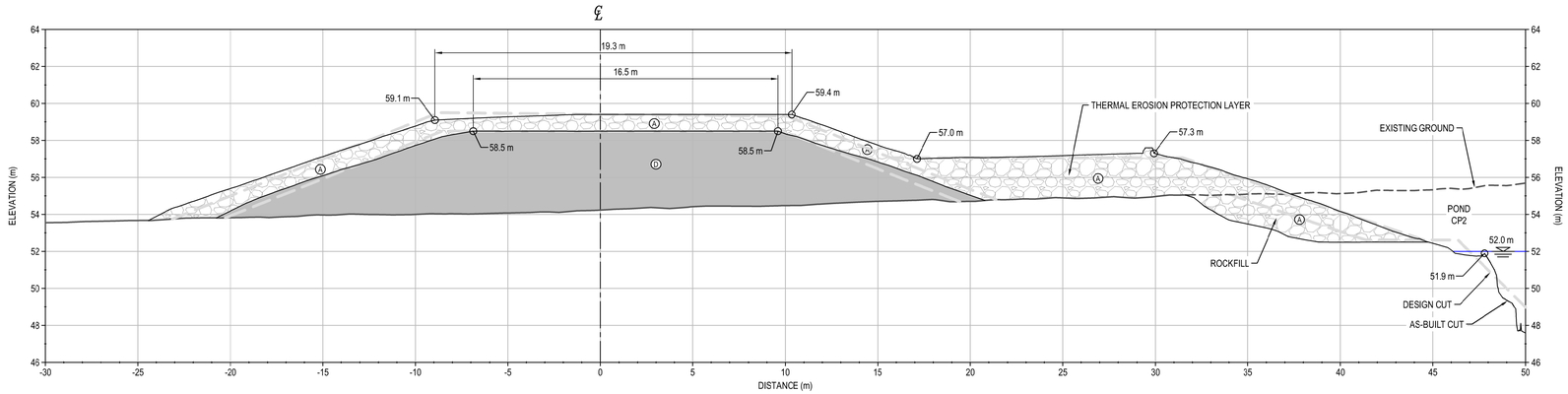

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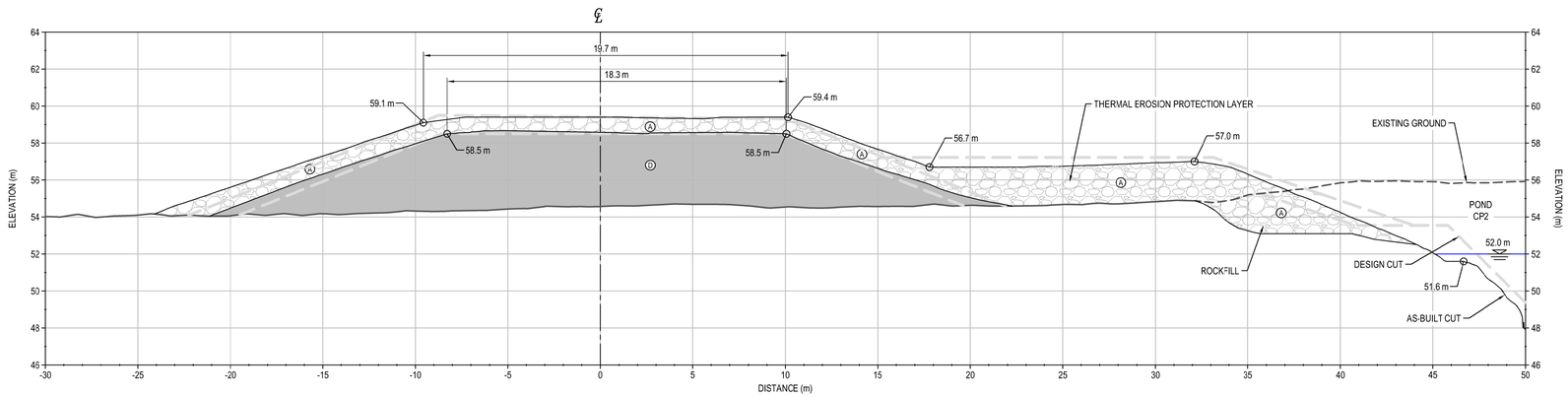

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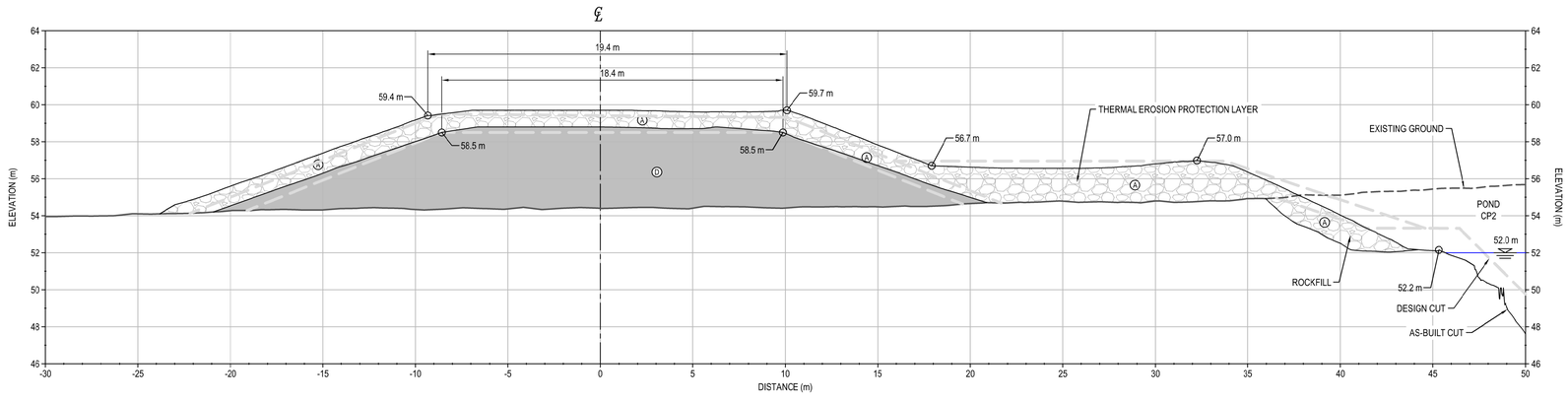

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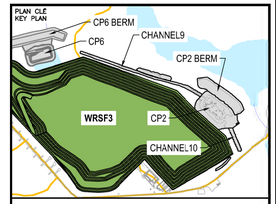

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

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LEGEND

- (A) CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
- (D) OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

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REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
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0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2 THERMAL PROTECTION BERM SECTIONS

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:150	DATE 2021-09-27

NO. DESSIN / DRAWING NO. 65-695-230-015

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
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FILE NO. 65-695-230-015.dwg

NO. DESSIN
DRAWING NO. 65-695-230-016

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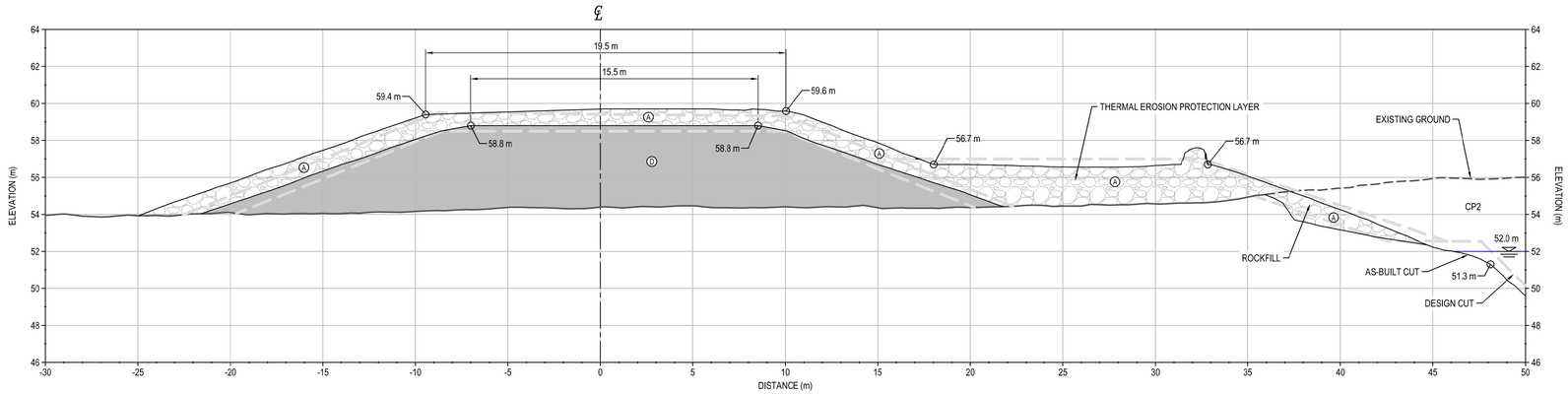

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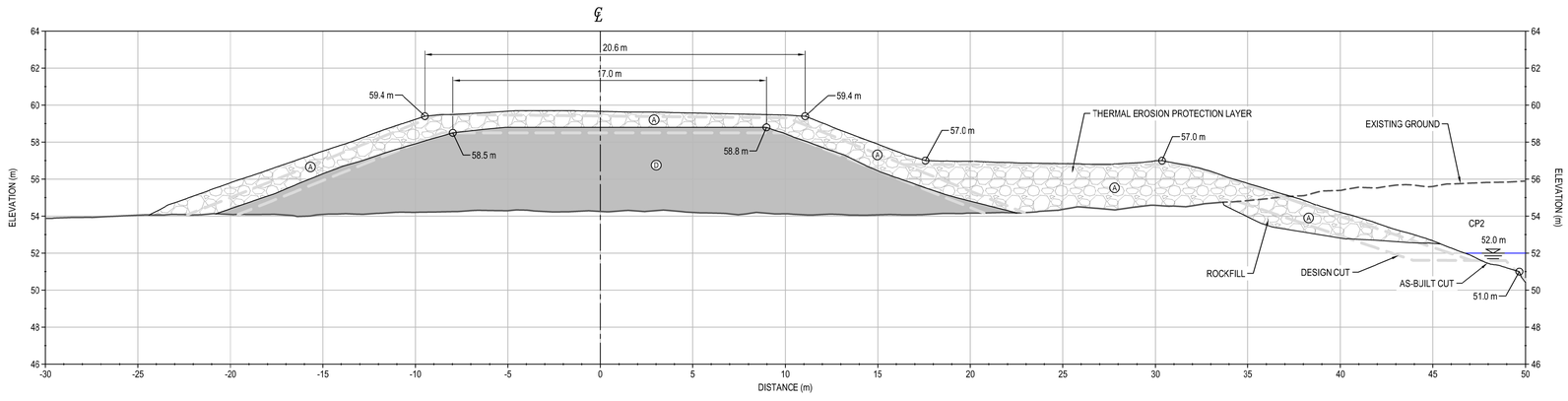

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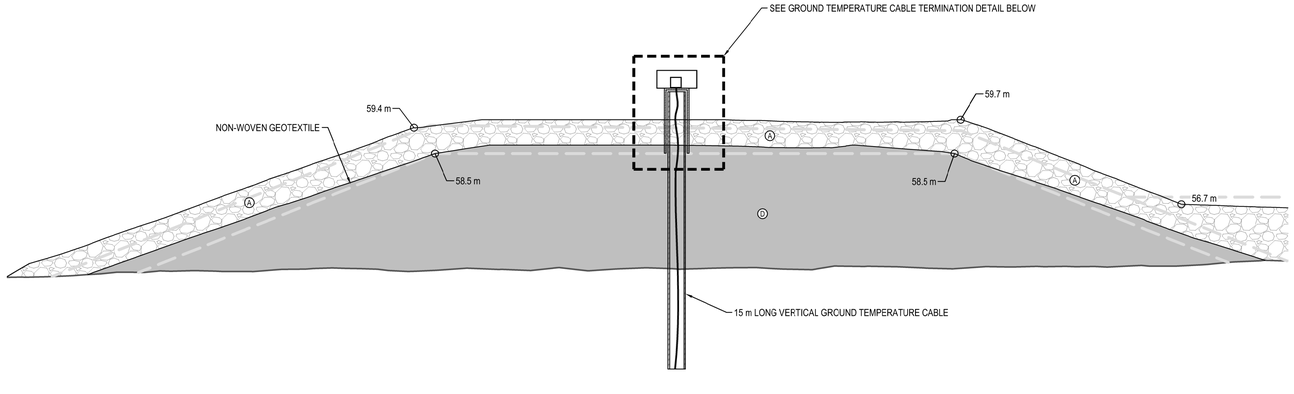
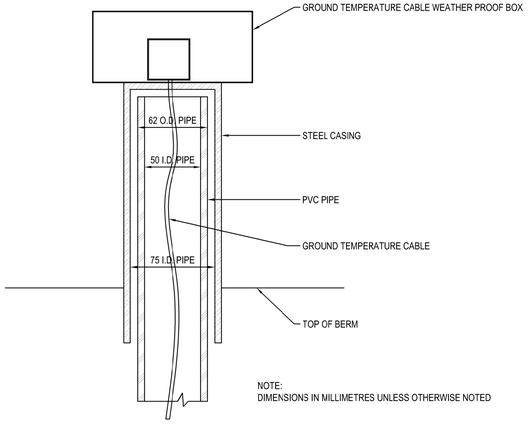


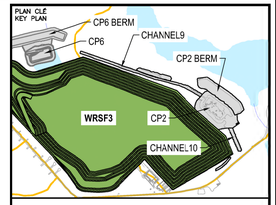
TYPICAL SECTION – CP2 BERM GROUND TEMPERATURE CABLE INSTALLATION



NOTE:
DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED

DETAIL – GROUND TEMPERATURE CABLE TERMINATION
SCALE: N.T.S.

PLAN CLÉ
KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

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LEGEND

(A) CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
(D) OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2022-07-29	RECORD DRAWINGS	EL	HX	
0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2 THERMAL PROTECTION BERM SECTIONS

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:150	DATE 2021-09-27

NO. DESSIN / DRAWING NO. 65-695-230-016

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6526	0	4 / 9

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FILE NO. 65-695-230-016.dwg

NO. DESSIN
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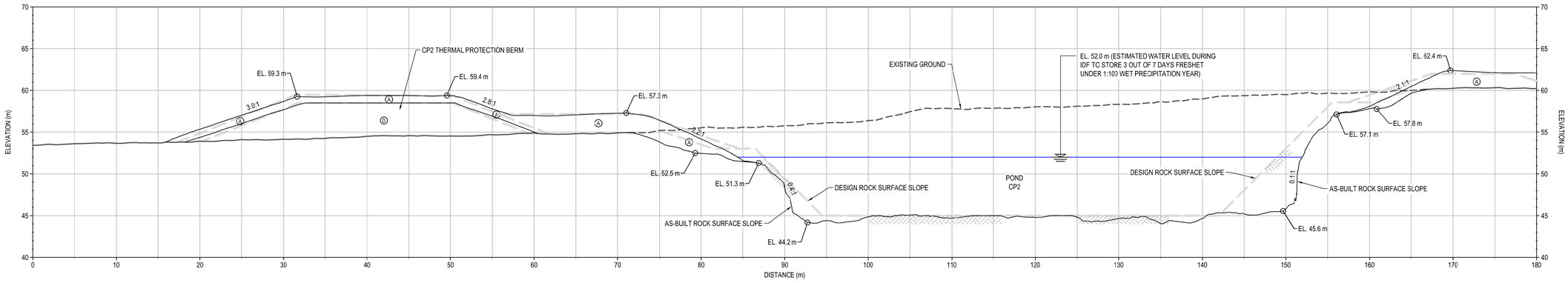

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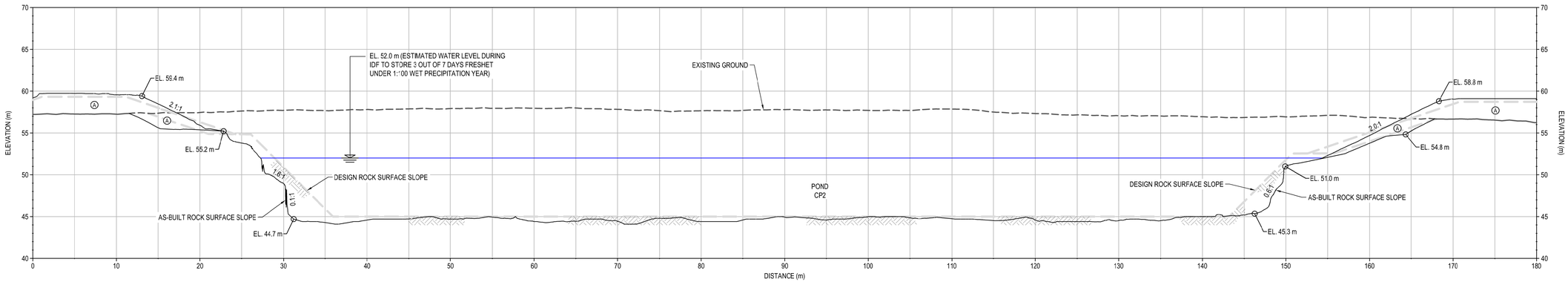

SECTION B
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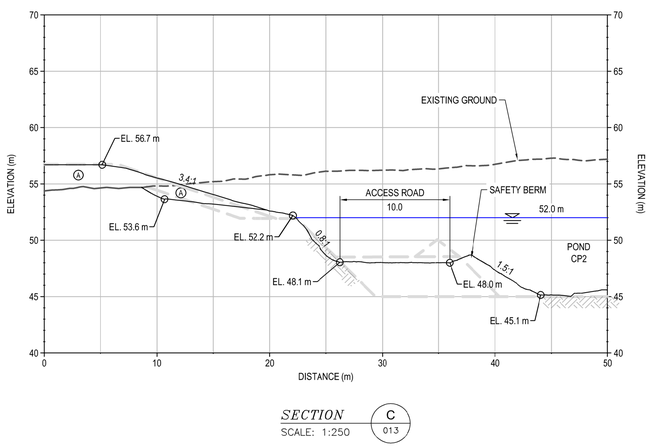

SECTION C
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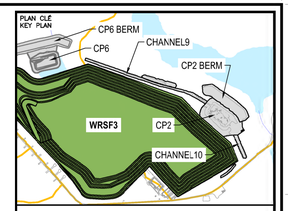

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2021 / 2022
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2022.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS ELEVATION 52.7 m. THE MAXIMUM WATER LEVEL IS ELEVATION 52.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).

LEGEND

Ⓐ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
Ⓓ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2022-07-29	RECORD DRAWINGS	EL	HX	
0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2
CROSS-SECTIONS

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	HX	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:250	DATE 2018-06-21

NO. DESSIN / DRAWING NO. 65-695-230-017

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6526	0	5 / 9

AE-CART-ARCH D

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FILE NO. 65-695-230-017.dwg

NO. DESSIN
DRAWING NO. 65-695-230-018

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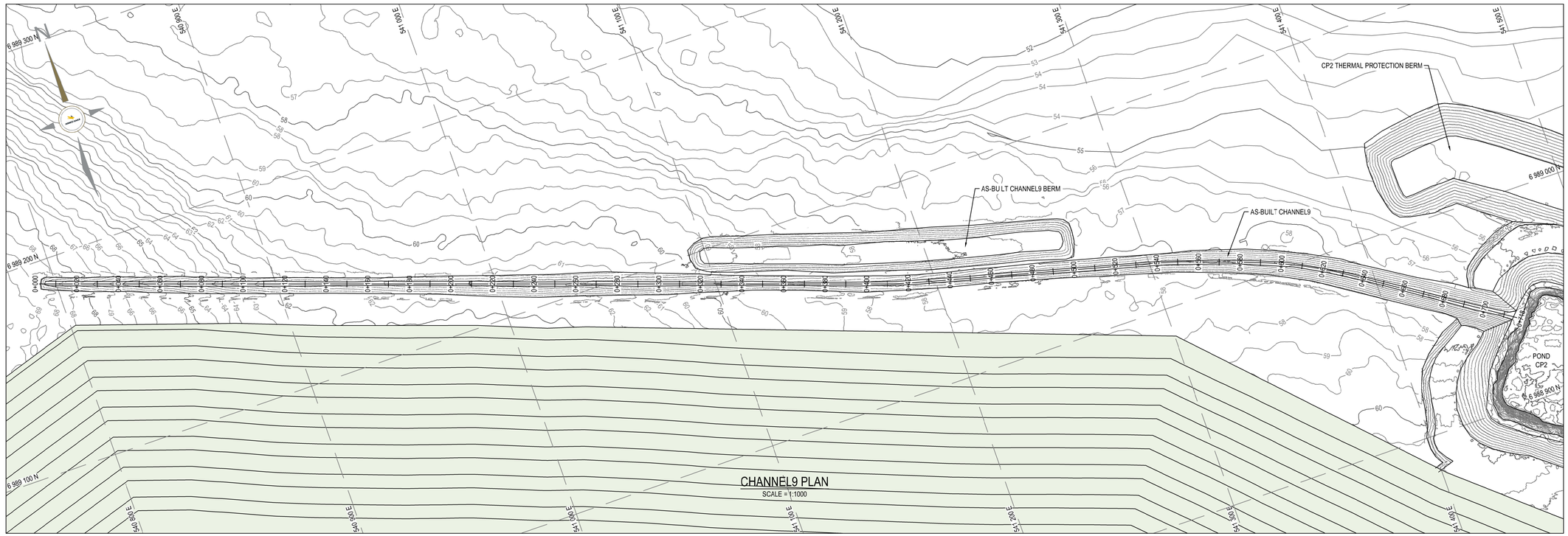
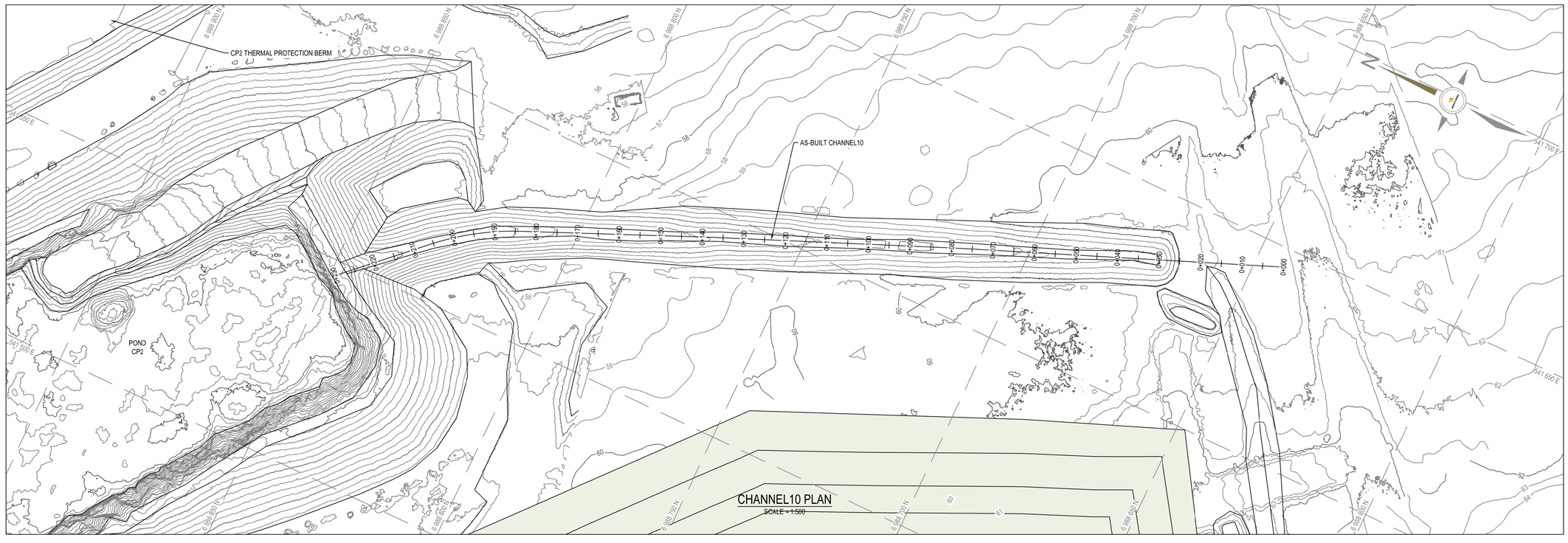


CHANNEL9 PLAN
SCALE = 1:1000



CHANNEL10 PLAN
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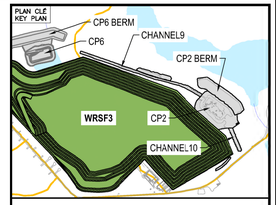

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2021/2022.
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2022.
3. POND DESIGN CAPACITY IS BASED ON STORING 3/7 OF FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS ELEVATION 52.7 m. THE MAXIMUM WATER LEVEL IS ELEVATION 52.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).
6. THE SINGLE-LANE RAMP HAS A MINIMUM ROAD WIDTH OF 7.0 m (FOR VOLVO A40F OR CAT 745 HAUL TRUCKS OR SMALLER EQUIPMENT).

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2022-07-29	RECORD DRAWINGS	EL	HX	
0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CHANNEL9 AND CHANNEL10
LAYOUT PLAN

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:750	DATE 2021-09-27
NO. DESSIN / DRAWING NO.	65-695-230-018	
NO. PROJET / PROJECT NO.	6526	REVISION 0
		FEUILLE / SHT 6 / 9

AE-CART-ARCH D

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FILE NO. 65-695-230-018.dwg

NO. DESSIN
DRAWING NO. 65-695-230-019

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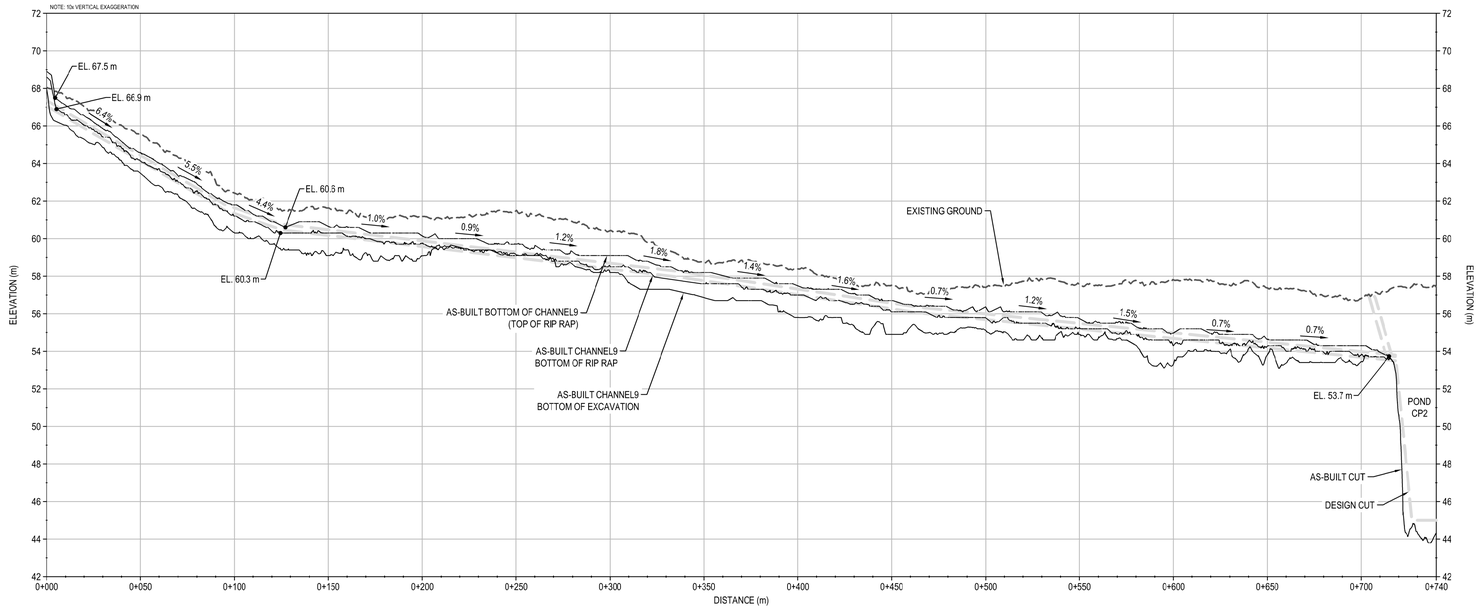
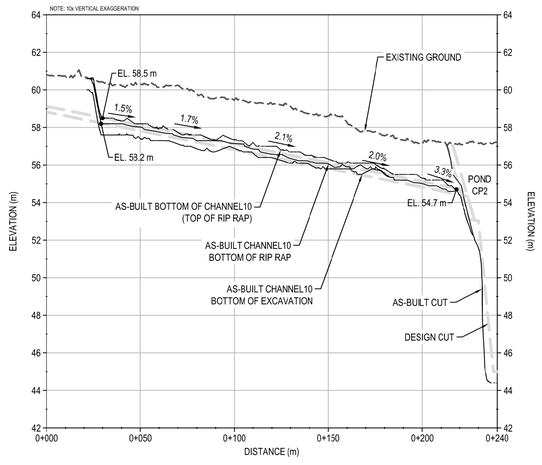
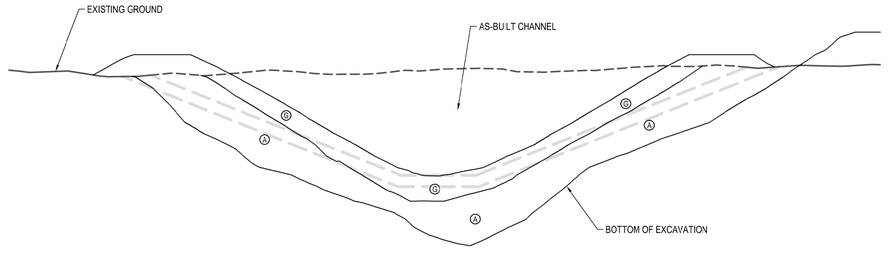


CHANNEL9 PROFILE
SCALE: H-1:1500 V-1:150

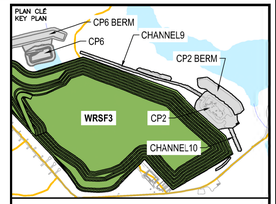


CHANNEL10 PROFILE
SCALE: H-1:1500 V-1:150



TYPICAL CHANNEL SECTION
SCALE: 1:75

PLAN CLÉ
KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE FOR CHANNEL9 AND CHANNEL10 WINTER 2021/2022.
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL9 AND CHANNEL10 CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).

LEGEND

Ⓓ OVERBURDEN FROM EXCAVATION (300 mm MINUS)
Ⓖ RIP RAP

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2022-07-29	RECORD DRAWINGS	EL	HX	
0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CHANNEL9 AND CHANNEL10 PROFILE AND TYPICAL CROSS-SECTIONS

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VERIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	AS SHOWN	DATE 2021-09-27

NO. DESSIN / DRAWING NO. 65-695-230-019

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6526	0	7 / 9

AE-CART-ARCH D

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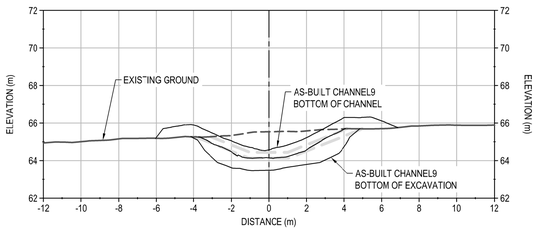
FILE NO. 65-695-230-019.dwg

NO. DESSIN
DRAWING NO. 65-695-230-020

FORMAT ARCHD



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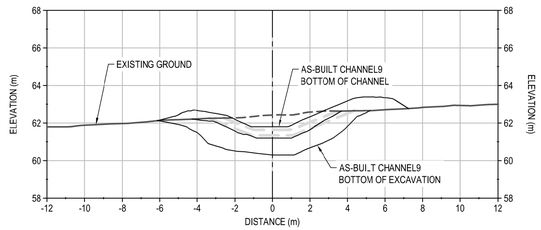

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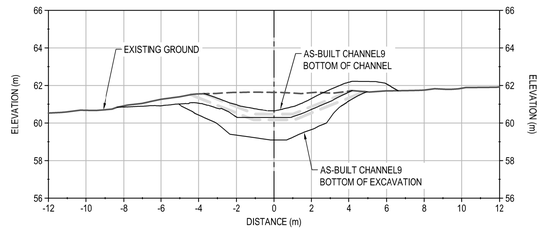

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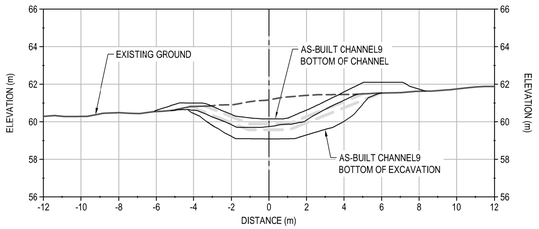

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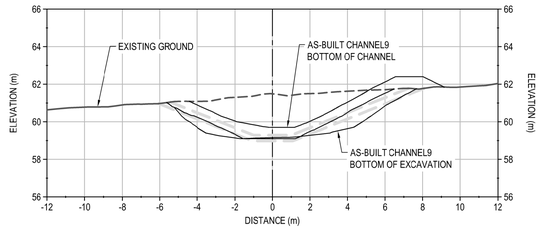

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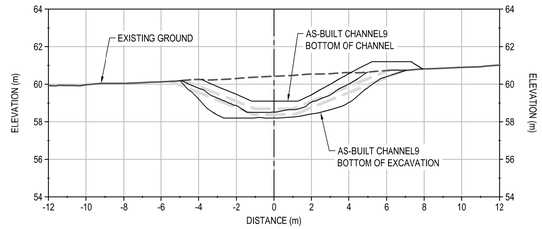

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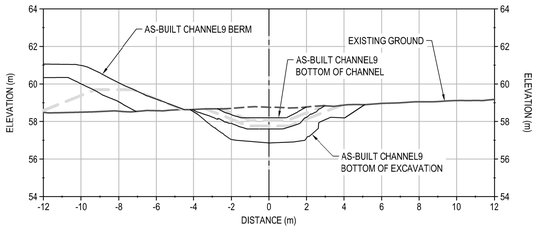

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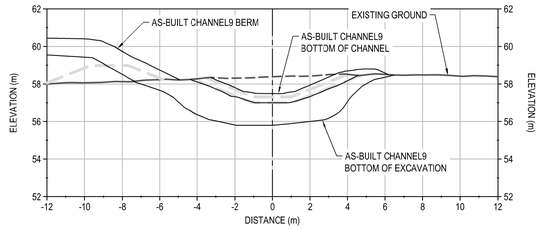

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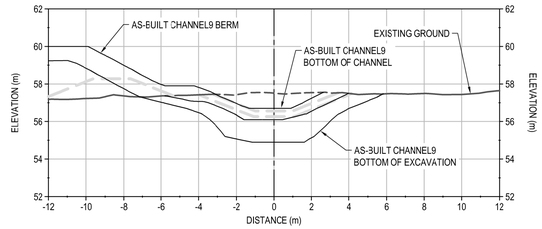

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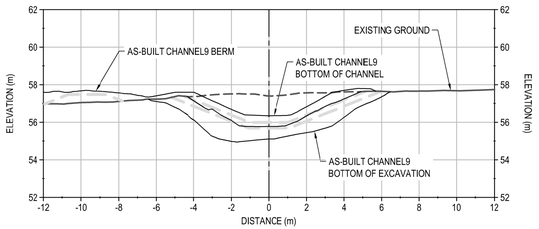

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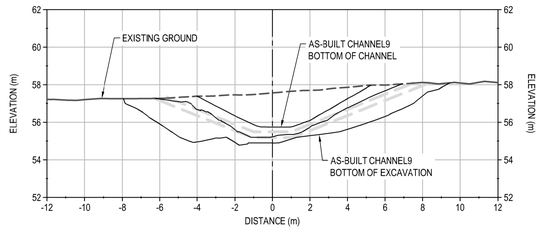

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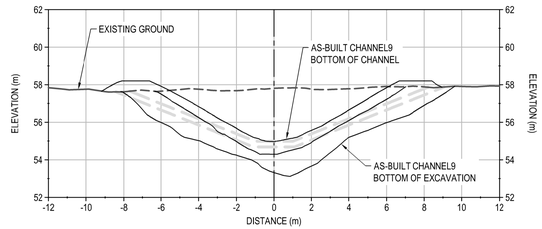

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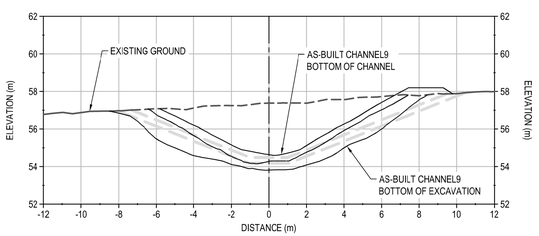

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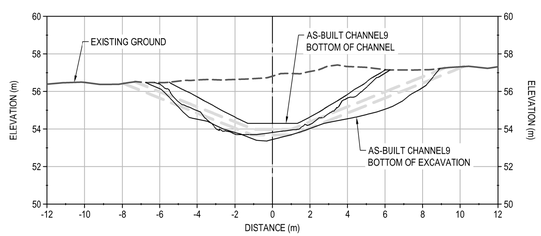

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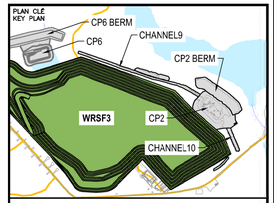

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE FOR CHANNEL9 AND CHANNEL10 WINTER 2021/2022.
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL9 AND CHANNEL10 CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
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0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CHANNEL9 AS-BUILT SECTIONS
(1 of 2)

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:150	DATE 2021-09-27
NO. DESSIN / DRAWING NO.	65-695-230-020	
NO. PROJET / PROJECT NO.	6526	REVISION 0 / FEUILLE / SHT 8 / 9

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NO. DESSIN
DRAWING NO. 65-695-230-021

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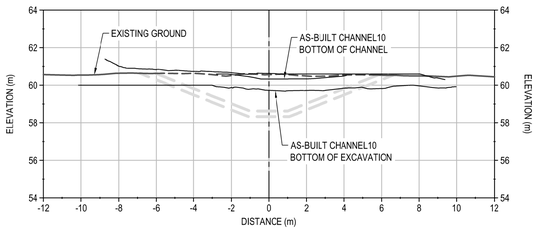

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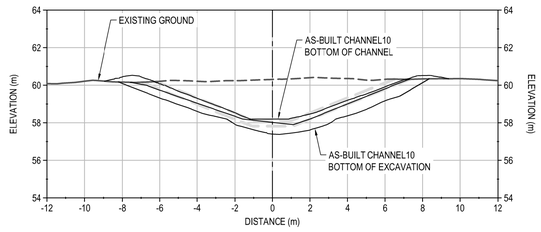

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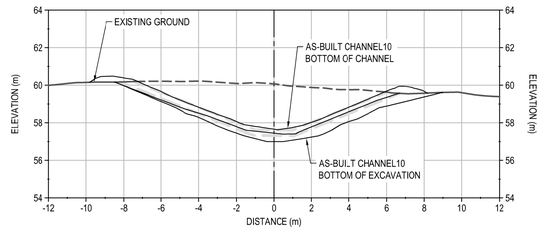

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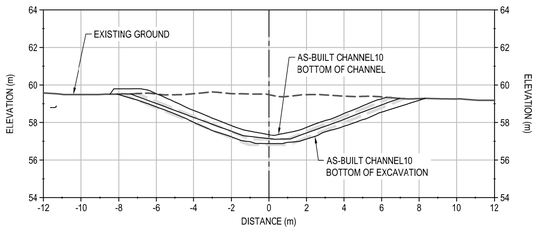

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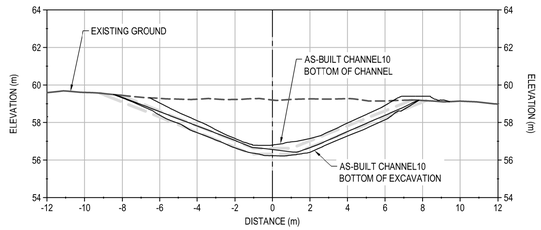

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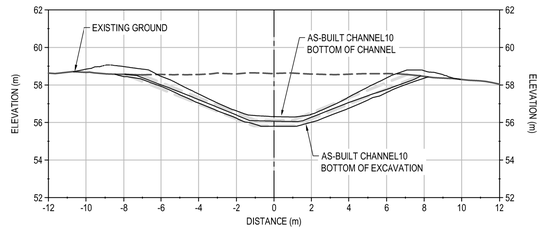

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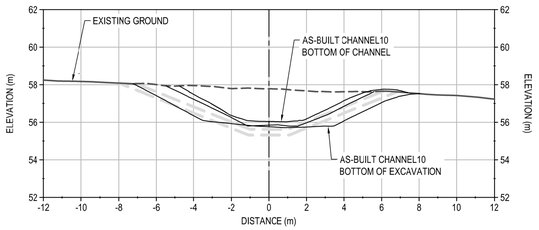

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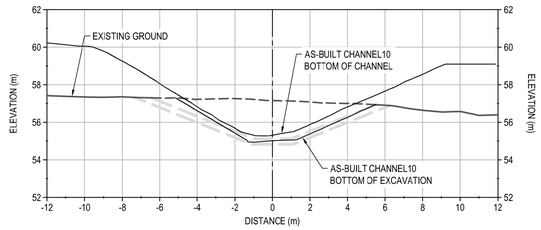
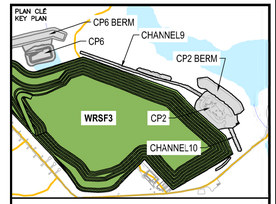


STATION 0+200

PLAN CLÉ
KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE FOR CHANNEL9 AND CHANNEL10 WINTER 2021/2022.
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL9 AND CHANNEL10 CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
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0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CHANNEL10 AS-BUILT SECTIONS
(2 of 2)

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VÉRIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:150	DATE 2021-09-27
NO. DESSIN / DRAWING NO.	65-695-230-021	
NO. PROJET / PROJECT NO.	6526	REVISION 0
		FEUILLE / SHT 9 / 9

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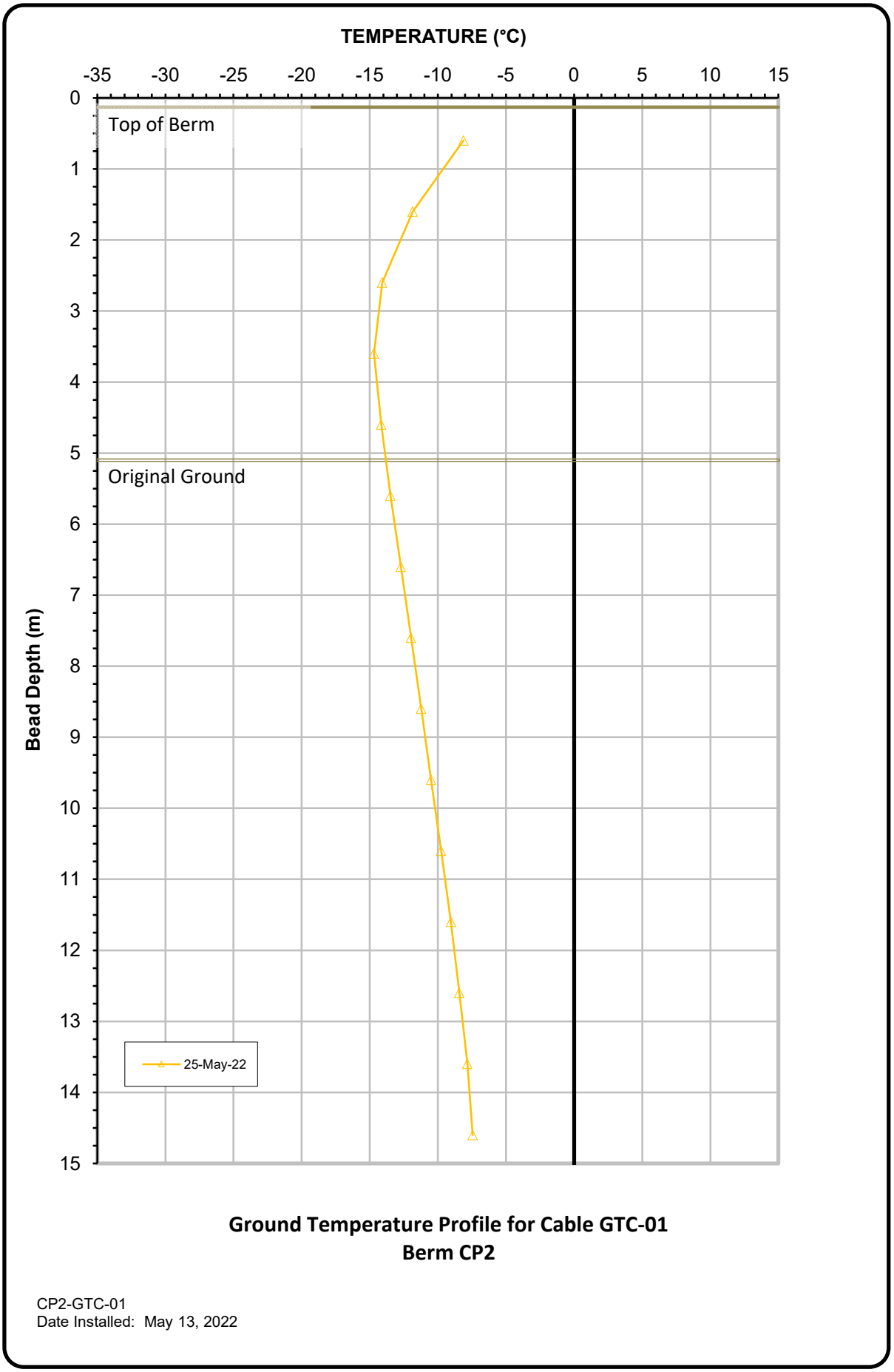
FILE NO. 65-695-230-021.dwg

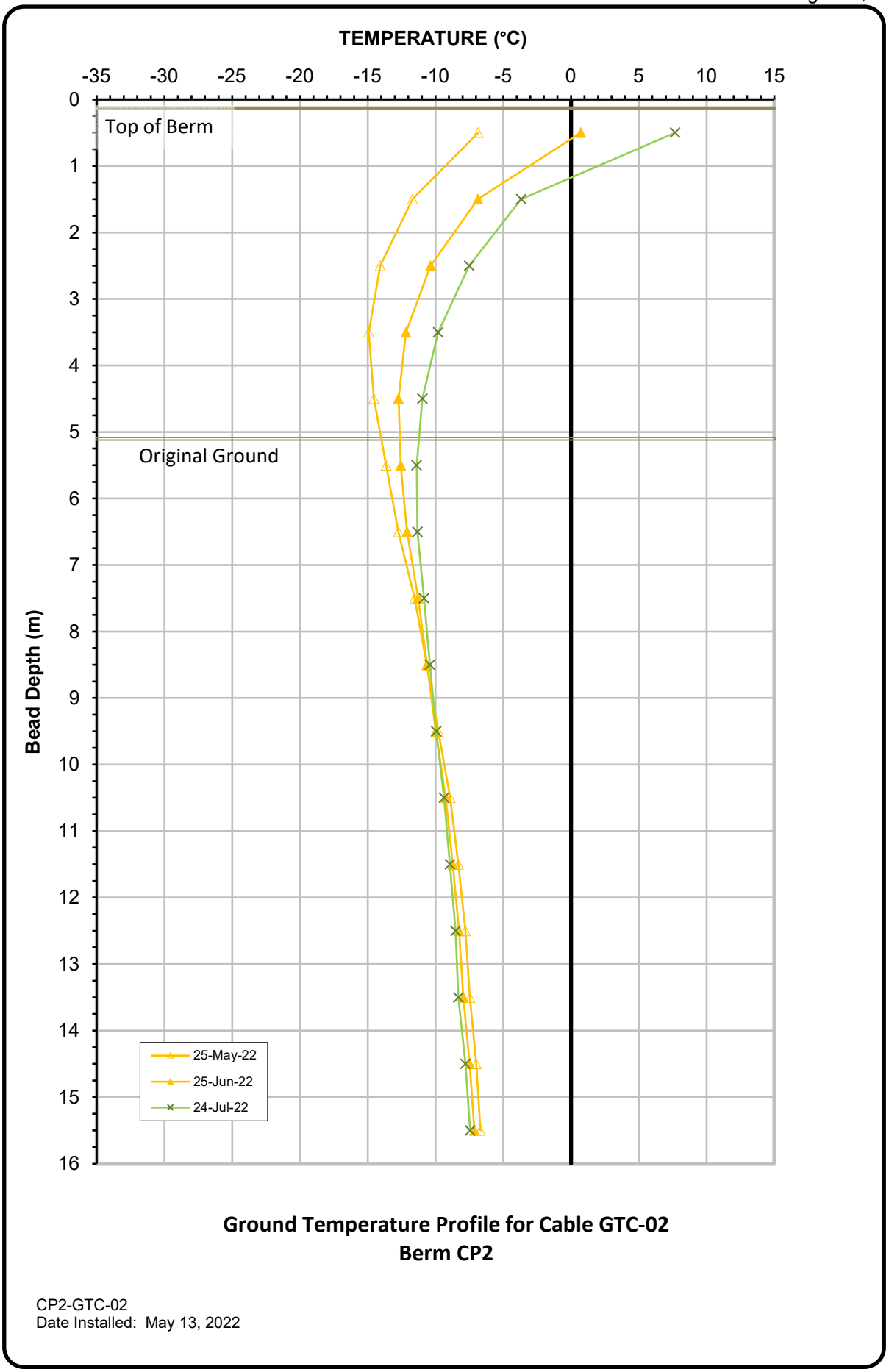
APPENDIX C

GROUND TEMPERATURE PROFILES FOR BERM CP2



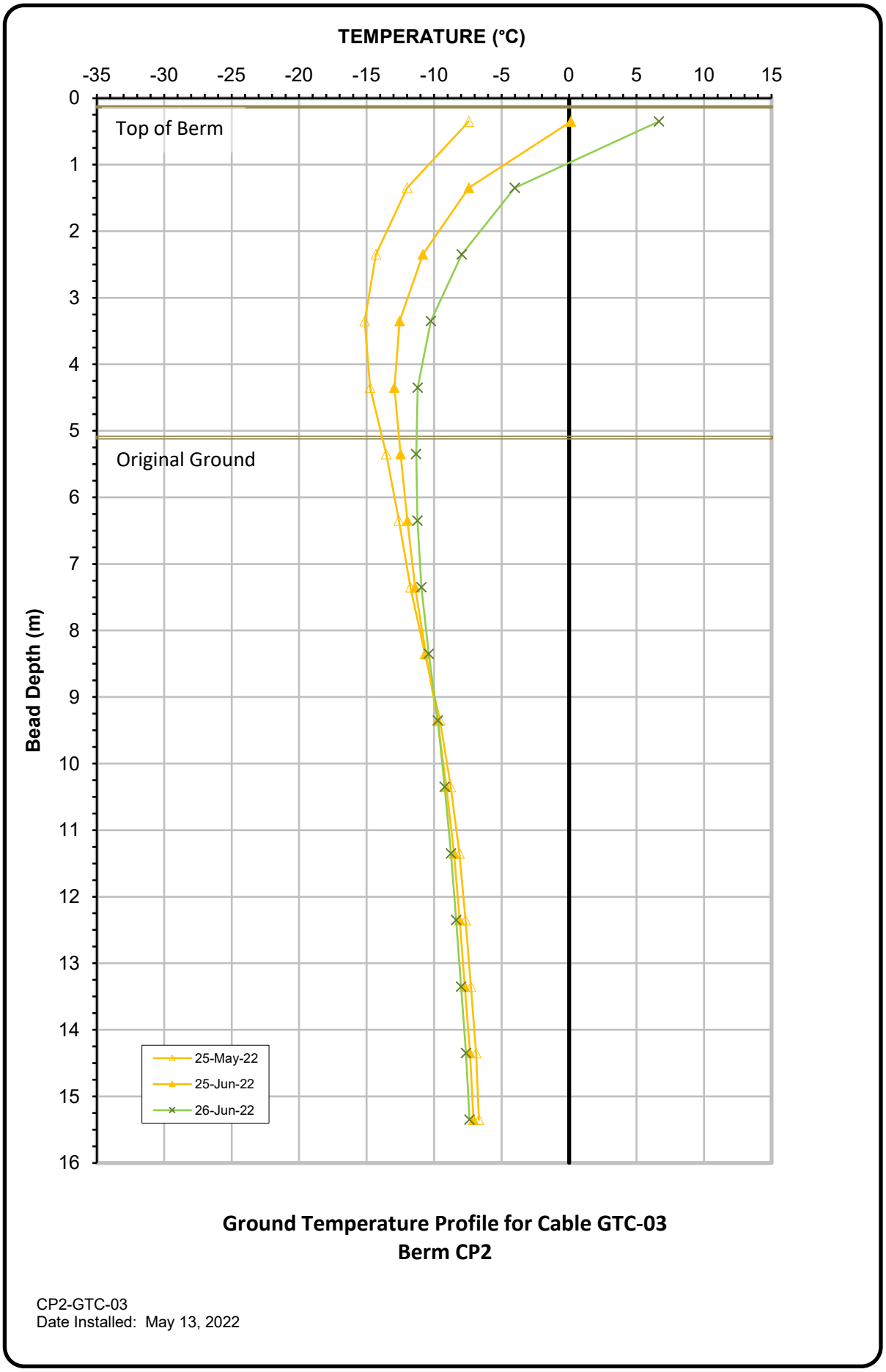
Ground Temperature Profile for Cable GTC-01
Berm CP2

CP2-GTC-01
Date Installed: May 13, 2022



Ground Temperature Profile for Cable GTC-02
Berm CP2

CP2-GTC-02
Date Installed: May 13, 2022



Ground Temperature Profile for Cable GTC-03
Berm CP2

CP2-GTC-03
Date Installed: May 13, 2022

APPENDIX D

SURFACE FLOW ANALYSIS FOR CHANNEL10 CONSTRUCTION MODIFICATIONS

TETRA TECH

TECHNICAL MEMO

ISSUED FOR USE

To:	Justin Bieber	**Date:**	July 7, 2022
c:	Jawad Haloui, Prempeh Owusu, Alexandre Boissonneault	**Memo No.:**	1
From:	Ryan Okkema, Bill Horne, Fai Ndofor	**File:**	704-ENG.EARC03140-28
Subject:	Surface Flow Analysis for Channel10 Construction Modifications		

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by Agnico Eagle Mines Ltd. (Agnico Eagle) to perform a surface flow assessment of the topography near Channel10 in Meliadine Mine, Nunavut. The surface flow assessment was carried out to assess whether Channel10 could be constructed approximately 25 m shorter than design.

Channel10 is currently under construction as part of the Collection Pond 2 (CP2) and associated channels which form part of the contact water management infrastructure for the Waste Rock Storage Facility 3 (WRSF3). A 22,000 m^3/day waterline and 12.5 kV power cable placed within a caribou crossing berm traverses the footprint of Channel10. To prevent damage to the waterline and power cable from relocation, it was proposed by Agnico Eagle to construct Channel10 approximately 25 m shorter than the design to allow the waterline and power cable to remain in place. This modification to Channel 10 is intended to remain as part of the final construction.

This technical memorandum summarizes the analyses performed to assess the potential consequences of constructing Channel10 approximately 25 m shorter than design, as well as monitoring requirements and a response plan if the channel modification does not function as required. It is understood that this memo will be attached to the as-built report for CP2 and associated channels to document the analysis completed for the construction modification.

2.0 SURFACE ASSESSMENT

Two approaches were used to assess the surface flow behaviour of the topography immediately adjacent to the southeast toe of WRSF3. First, the catchment area of the modified Channel10 length was delineated using ArcGIS software to determine whether the footprint of the WRSF3 is bounded within the catchment of the shortened channel. Secondly, a water drop analysis using a recent topographical scan of the WRSF3 and Channel10 location was completed using AutoCAD Civil3D software to assess the surface flow behavior in various locations between the southeast toe of the WRSF3 and the Channel10 alignment. The assessment details and results are discussed in the following subsections.

2.1 Channel10 Catchment Area

The reduced catchment area of the shortened Channel10 was determined using ArcGIS software. ArcGIS can be used to delineate surface stream pathways and catchment areas for various topographical features using publicly available digital elevation maps (DEM) provided by NRCan with 2 m resolution. The DEM for the Meliadine mine site was obtained to perform the shortened Channel10 catchment delineation. The DEM surface depicts the original ground surface of the WRSF3 and Channel10 footprint area (prior to placement of mine infrastructure, WRSF3 etc.).

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Edmonton, AB T5V 1B4 CANADA
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The current drone imagery of the site and the Channel10 footprint was superimposed on the delineated catchment area to determine if the current toe of the WRSF3 lies within the catchment area. The result of the catchment delineation is presented in Figure 1. As illustrated, the current footprint of the WRSF3 lies within the determined catchment area of the shortened channel. The design footprint of the WRSF3 is overlaid in the figure for reference.

2.2 Water Flow Path Analysis

A surface flow path analysis was performed using the integrated water drop analysis in AutoCAD Civil 3D. The analysis traces the simulated path a drop of water would take across a surface from a user defined point. A recent topographical drone scan of the WRSF3 and Channel10 footprint provided by Agnico Eagle on April 22, 2022 was used for the surface flow analysis. Due to limitations of the water drop analysis, the topographical scan was smoothed to reduce micro-terrain roughness of the scanned surface that would otherwise provide discontinuous surficial flow paths of the area.

The result of the water flow path analysis is presented in the attached Figure 2. Water drops were placed along the current toe of the WRSF3 to simulate runoff originating from snowpack on the WRSF3. Points were also placed closer to the Exploration Camp access road to determine where the runoff origin points are that would create flow around the end of the shortened channel. As illustrated, the flow paths originating from the toe of the WRSF3 will be captured by the modified channel.

2.3 Conclusion

Based on the results of both surface assessments, it was determined that reducing the length of Channel10 by 25 m will not impact the performance nor intent of the channel considering the current constructed state of WRSF3. The results of this assessment should only be assumed for the current constructed limit of the WRSF3, and additional review may be required once the WRSF3 footprint is placed to the design limits or otherwise altered in the area near Channel10.

3.0 RECOMMENDATIONS

3.1 Monitoring

It is recommended that daily visual observations are made during the freshet period to ensure that the modified channel performs as intended. Visual observations should be made at least once daily, ideally during the afternoon period when daily snow melt and runoff is typically at a peak.

The results and recommendations stated in this memo are based on the current constructed limits of the WRSF3 and surficial ground topography. Additional monitoring should be undertaken when the toe of the WRSF3 is advanced to ensure that the behaviour of runoff in the area near Channel10 is not significantly altered as to cause localized pooling or any other undesirable conditions.

If it is observed that the shortened channel does not catch all the surface runoff originating from the WRSF3, then the mitigation measures discussed in the following subsection should be triggered.

3.2 Response Plan

A response plan is required if the surface runoff generated from the WRSF3 near the modified section of Channel10 does not behave as expected and the runoff water is observed to flow around the end of the shortened channel. Mitigation measures must be taken to divert the uncaptured runoff and direct it towards Channel10. In the event that surface flow circumvents the end of the shortened channel, it is recommended that the channel is constructed to the full design extent as soon as reasonably practical.

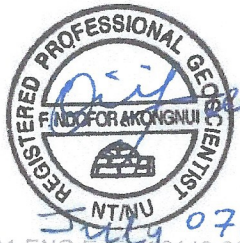
4.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Agnico Eagle Mines Limited and their agents. Tetra Tech Canada Inc. (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 Limited, 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. Use of this document is subject to the Limitations on Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

5.0 CLOSURE

We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.



July 07, 2022

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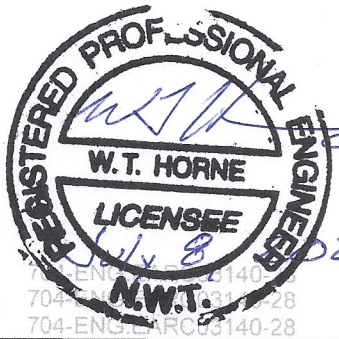

July 8 2022

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date July 8, 2022
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

Reviewed by:
Bill Horne, M.Sc., P.Eng.
Director, Arctic Engineering
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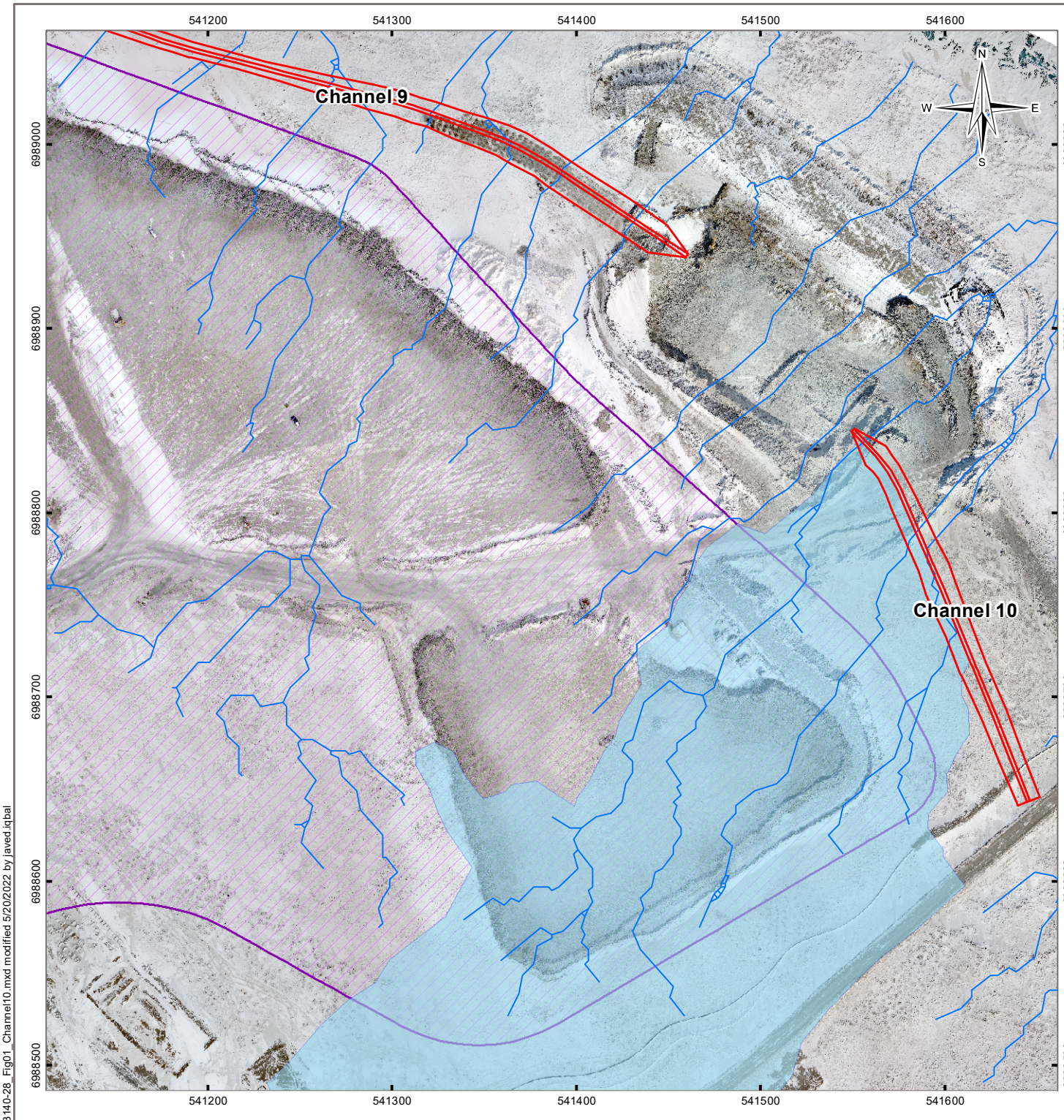
/jf

FIGURES



LEGEND

- Channel
- Predicted Stream
- Catchment Area of Channel 10
- WRSF3 Design Footprint

NOTES
Base data source:
Drone imagery captured 2022-03-30

STATUS
ISSUED FOR USE

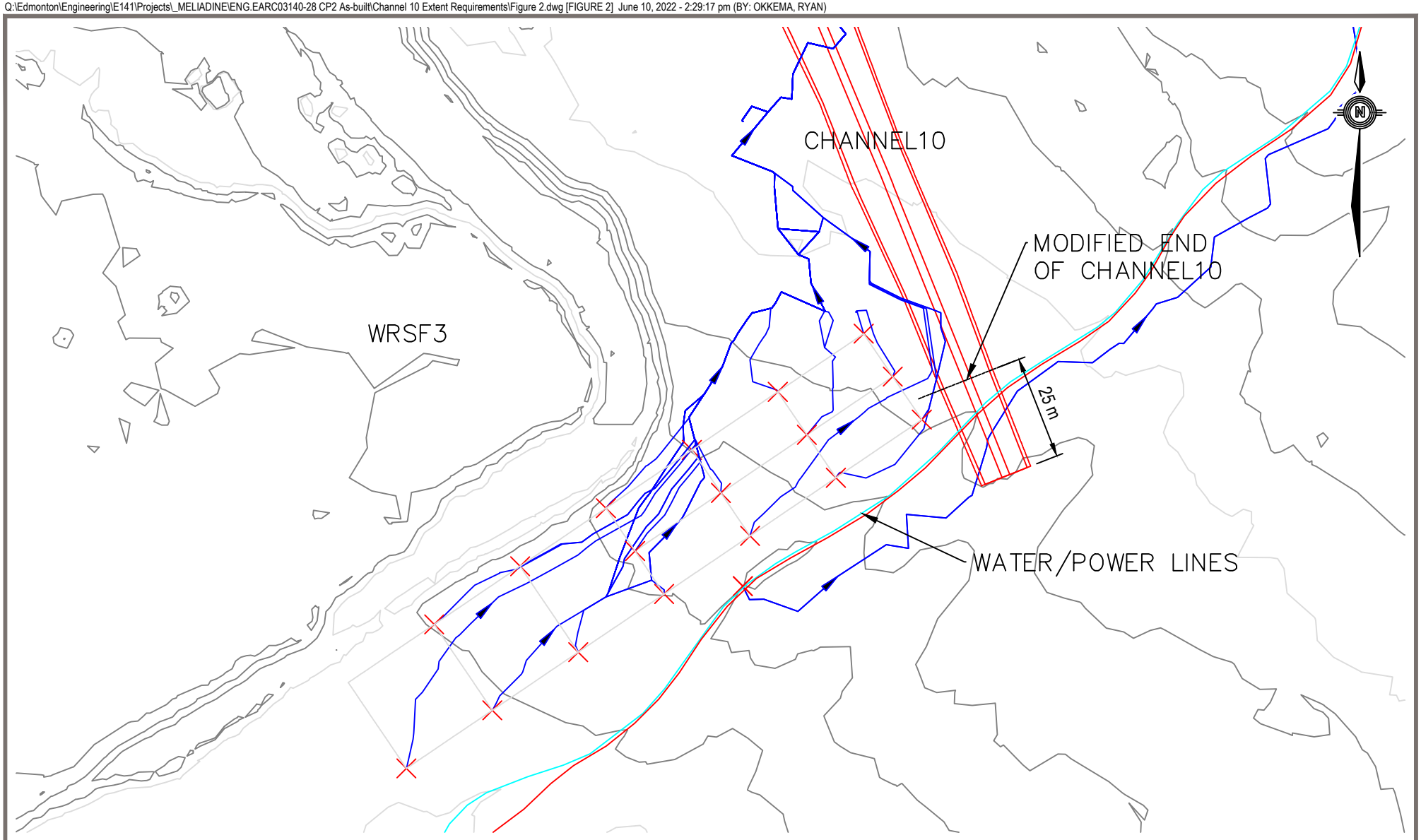
CP2 CHANNELS AND BERM CONSTRUCTION QA
MELIADINE MINE, NU

Channel 10 Modified Catchment

PROJECTION UTM Zone 15N			**DATUM** NAD83		**CLIENT** AGNICO EAGLE
Scale: 1:3,000 50 25 0 50 Metres					TETRA TECH
FILE NO. EARC03140-28_Fig01_Channel10.mxd					
OFFICE Tt-EDM	**DWN** JI	**CKD** SL	**APVD** HX	**REV** 0	**Figure 1**
DATE May 20, 2022	**PROJECT NO.** ENG.EARC03140-28				

Q:\Edmonton\GIS\ENGINEERING\EARC\EARC03140-28\Maps\EARC03140-28_Fig01_Channel10.mxd modified 5/20/2022 by javed.iqbal

Q:\Edmonton\Engineering\E141\Projects_MELIADINE\ENG.EARC03140-28 CP2 As-built\Channel 10 Extent Requirements\Figure 2.dwg [FIGURE 2] June 10, 2022 - 2:29:17 pm (BY: OKKEMA, RYAN)



LEGEND:

- FLOW PATH
- WATER DROP POINT

0 50 m

Scale: 1: 1 250

NOTES

BASED ON SCAN PROVIDED BY AGNICO EAGLE ON APRIL 22, 2022.
SCAN SURFACE WAS SIMPLIFIED FOR SURFACE FLOW ANALYSIS.

STATUS

ISSUED FOR USE

CLIENT

AGNICO EAGLE

TETRA TECH

CP2 CHANNELS AND BERM CONSTRUCTION QA
MELIADINE MINE, NU

Channel10 Water Drop Analysis

PROJECT NO.	DWN	CKD	REV
ENG.EARC03140-28	RO	HX	0
OFFICE: EDM	DATE: May 18, 2022		

Figure 2

APPENDIX A

LIMITATIONS ON USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOTECHNICAL

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, is in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

1.9 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

1.11 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

1.14 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

1.15 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

1.16 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

1.17 SAMPLES

TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.