WRSF3 South Sump

Design Report and Construction Drawings

65-695-132-REP-001

60-Day Notice to Nunavut Water Board

In Accordance with Water License 2AM-MEL1631 (Part D, Item 1)

Prepared by:

Agnico Eagle Mines Limited – Meliadine Division

April 2022

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DOCUMENT CONTROL

Version	Date	Section	Page	Revision
1	April 11, 2022			First Issue

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Approved by:

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1 INTRODUCTION

Agnico Eagle Mines Limited (Agnico Eagle) is operating the Meliadine Project (the Project), a gold mine located approximately 25 km north of Rankin Inlet and 80 km southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson Bay, the Project site is located on a peninsula between the east, south, and west basins of Meliadine Lake (63°1’23.8’’ N, 92°13’6.42"W).

The current mine plan focuses on the development of the Tiriganiaq gold deposit, which will be mined using both conventional open-pit and underground mining operations. Existing or proposed mining facilities to support this development include a plant site and accommodations, waste rock storage facilities (WRSFs), a tailings storage facility (TSF), and a water management system comprised of collection ponds, diversion channels, dikes, sumps, and retention berms. A Type “A” Water License (No. 2AM-MEL-1631) was awarded to Agnico Eagle for the development of this project in 2016 by the Nunavut Water Board (the NWB). The latest amendment application to the existing Type “A” Water Licence was requested by Agnico Eagle May 13, 2021, to reflect changes to the existing operations and infrastructure associated with the construction/operation/closure of the Mine. The request was approved by the Minister of Northern Affairs on June 23, 2021 (NWB 2021).

This report presents the design of WRSF3 South Sump, expected to be constructed to the south of WRSF3 (described in Appendix A). In accordance with Water License (No. 2AM-MEL-1631) Part D, Item 2, this report summarizes the design basis, design criteria, the estimated in-situ volumes, Construction Drawings and timeframe for construction of WRSF3 South Sump.

2 DESIGN BASIS

2.1 Sump Design Basis and Water Management Strategy

The overall objective of the water management strategy of the Meliadine Gold project is to develop a practical and feasible site wide water management plan to minimize the potential negative impacts of mining development on the surrounding environment including habitats for fish and wildlife, and to facilitate mine operation and long-term closure and reclamation of the mine site.

To achieve this objective, sumps are used to collect and temporarily store seepage water and overland runoff from mine facilities and disturbed mine catchments.

WRSF3 South Sump will be constructed to:

- collect seepage from WRSF3, and runoff induced by precipitation in the southern catchment of the facility, and
- to prevent unwanted flow into the natural environment (i.e., tundra).

The collected water will be regularly monitored for water quality constituents and pumped to CP1.

2.2 Proposed Location

WRSF3 South Sump is proposed to be constructed to the south of WRSF3 as shown in Construction Drawings in Appendix A.

2.3 Sump Details

WRSF3 South Sump will be constructed to accommodate a maximum water elevation of 66.6 m above sea level (masl) and provide a temporary storage of approximately 1500 m^3 of runoff and seepage water from WRSF3 and runoff from precipitation emerging from natural and disturbed catchment with a proposed pumping rate of 50 m^3/hr.

The construction of the Sump will be using a waste rock fill of approximately 1,900 m^3 and a geotextile fabric (if sufficient material is available on site) of approximately 1,130 m^2. During the construction of the sump, an estimated total volume of 3,600 m^3 of overburden soil will be removed.

2.4 Construction Schedule and Assumptions

WRSF3 South Sump is planned to be constructed mid-May 2022 to capture the 2022 freshet expected to happen at the end of May 2022. The following construction and operation schedules are assumed:

1. Start of construction will be mid-May 2022;
2. Sump will be in operation at the end of May 2022 to capture the 2022 freshet inflows.

3 DESIGN OF WRSF3 SOUTH SUMP

3.1 Design Considerations

WRSF3 South sump was designed based on the following considerations:

- The construction of the sump will cover an approximate area of 59 m by 29 m (only area to be excavated).
- Waste rock, sourced from open pit, will be used to construct the sump and geotextile fabric (if sufficient material is available on site) will be used to isolate and reinforce the waste rock put in place.

3.2 Design Parameters

The key design parameters that were used for WRSF3 Sump are summarized in Table 1.

Table 1: Key Design Parameters for WRSF3 South Sump.

Design Parameter	Design Value
Maximum sump capacity (m^3)	1500
Minimum pumping rate (m^3/hr)	50
Maximum water elevation (masl.)	66.6
Minimum waste rock thickness to placed on the sump banks (m)	1.0
Maximum bench width (m)	2.5
Assumed bank slopes (H:V)	2.5:1

4 CONSTRUCTION OF WRSF3 SOUTH SUMP

4.1 Construction Material and Estimated Quantities

Table 3 provides the estimated in-place material quantities to be used, and overburden volume to be excavated and key specifications.

Table 2: Estimated In-Place Material and Removed Overburden Quantities

Material	Surface Area (m^2)	Volume(m^3)	Material Source and Specifications
Waste rock	-	1,900	Sourced from open pit waste rock stockpiles of maximum particle size of 500 mm
Geotextile	1,130	-	Unwoven Geotextile fabric
Overburden	-	3,600	-

4.2 Water Management During Construction

The construction of WRSF3 South Sump will take place from mid-May to end of May 2022, before the 2022 freshet; therefore, runoff to the sump trench will be negligible and no mitigation measure required.

Should construction of the sump be extended to freshet/summer months, water accumulated in the construction trench will be removed and discharged to CP1. Erosion control methods such as straw logs will be used, as required, to limit Total Suspended Sediment (TSS) loading from runoff.

4.3 Reporting

Upon completion of construction of WRSF3 South Sump, an as-built construction summary report will be prepared and submitted to the regulators within 90 days as per Part D, Item 3 in the Type “A” Water License (NWB 2021). This report will provide all relevant supporting documentation compiled during the construction process and is expected to include:

- Construction record drawings based on as-built survey information of the final WRSF South Sump;
- Actual construction quantities;
- Summary of any construction issues and applied resolutions;
- Reporting of any construction or design changes made during construction; and
- Photographs during the construction process and the final structures.

4.4 Monitoring

The post construction monitoring program for assessing the performance of WRSF3 South Sump is detailed in Agnico Eagle's Water Management Plan (Agnico Eagle 2021) (i.e., Water Structure Inspection Requirement).

The following Construction Drawings are available as an attachment of this report:

- Drawing 1: WRSF3 South Sump Location and Footprint.
- Drawing 2: WRSF3 South Sump Section.

REFRENCES

Agnico Eagle Mines Limited (Agnico Eagle). 2021. Meliadine Gold Project: Water Management Plan. Version 11. August 2021.

NWB (Nunavut Water Board). June 2021. Amended Type A Water License No. 2AM-MEL1631.

Appendix A: Construction Drawings

AGNICO EAGLE

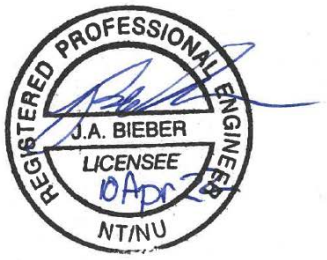
April 10, 2022
Rankin Inlet, Nunavut, Canada
X0C 0G0

To: Gizachew Demissie & Kevin Smith
Cc: Matt Gillman

Please find the stamped Construction drawings for the WRSF3 South Sump. These drawings were prepared as requested and are based on the information provided and presented in Agnico Eagle Mines Limited, 2022, WRSF3 South Sump Design Report and Drawings, dated April 2022.

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

Respectfully submitted,
Agnico Eagle Mines Ltd.



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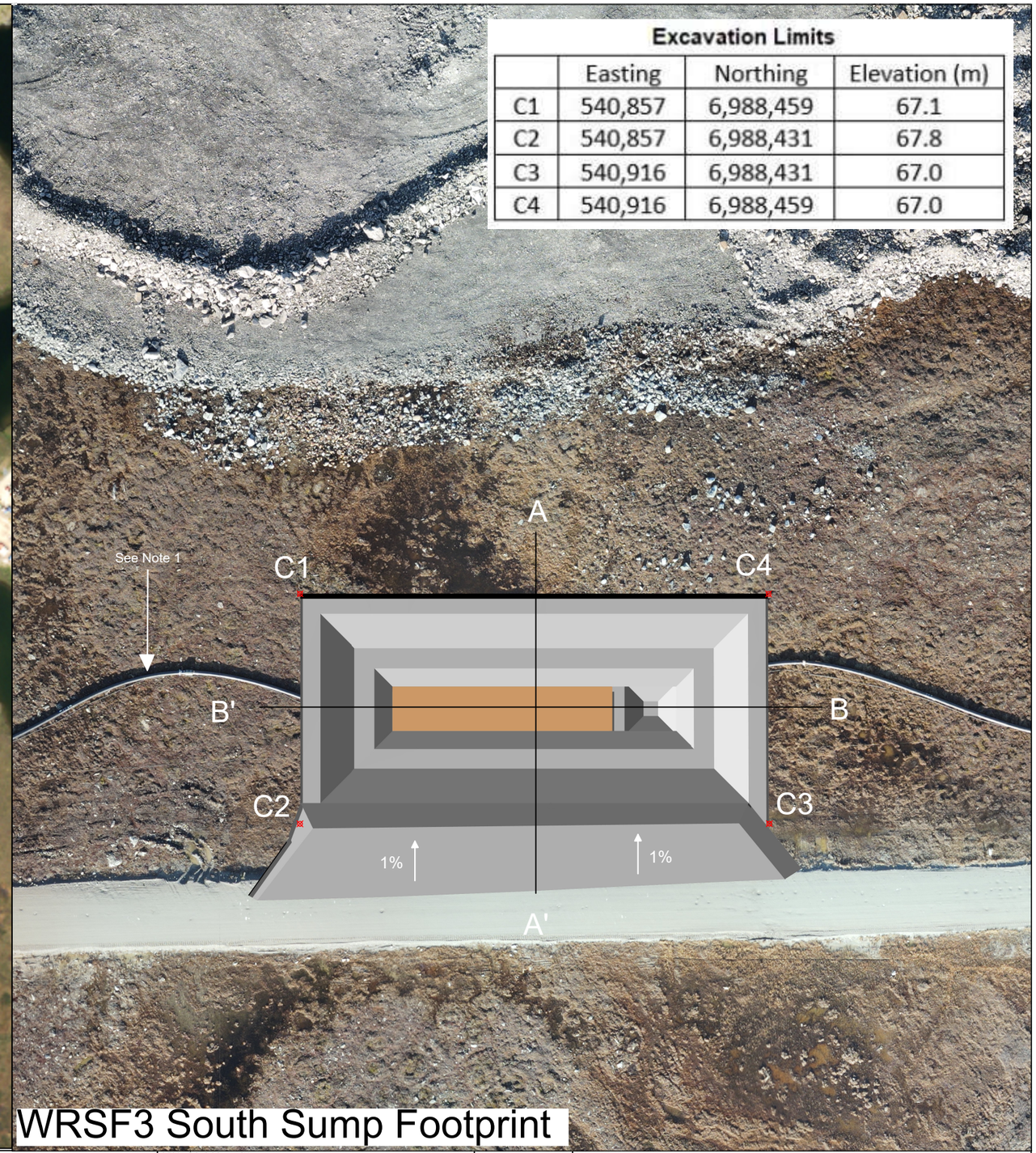
WRSF3 South Sump Location

Excavation Limits

	Easting	Northing	Elevation (m)
C1	540,857	6,988,459	67.1
C2	540,857	6,988,431	67.8
C3	540,916	6,988,431	67.0
C4	540,916	6,988,459	67.0



WRSF3 South Sump Footprint

REV	DESCRIPTION	DATE	PAR/BY
0	Issued For Construction	April 7 2022	AJB

REVISIONS

Notes:
1. Meliadine Lake discharge pipeline and electrical line to be relocated prior to sump construction
2. Remove snow from sump footprint prior to sump construction
3. Foundation must be inspected and approved by qualified Geotechnical Engineer prior to placement of geotextile and waste rock
4. A survey must be performed after the following;
   - Completion of excavation
   - Placement of geotextile
   - Completion of waste rock placement

REGISTERED PROFESSIONAL ENGINEER
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AGNICO EAGLE
MELIADINE

DESSINÉ PAR/DRAWN BY: Alexandre Boissonneault		DATE: April 7 2022	TITRE/TITLE: AGNICO EAGLE - MELIADINE DIVISION WRSF3 South Sump Overview
VÉRIFIÉ PAR/CHECKED BY: Justin Bieber		DATE: April 7 2022	
APPROUVÉ PAR/APPROVED BY: Justin Bieber		DATE: April 7 2022	
	ÉCHELLE/SCALE	FEUILLE/SHT: 2	No. DESSIN/DRAWING NO.: Drawing 1 — REVISION: 0

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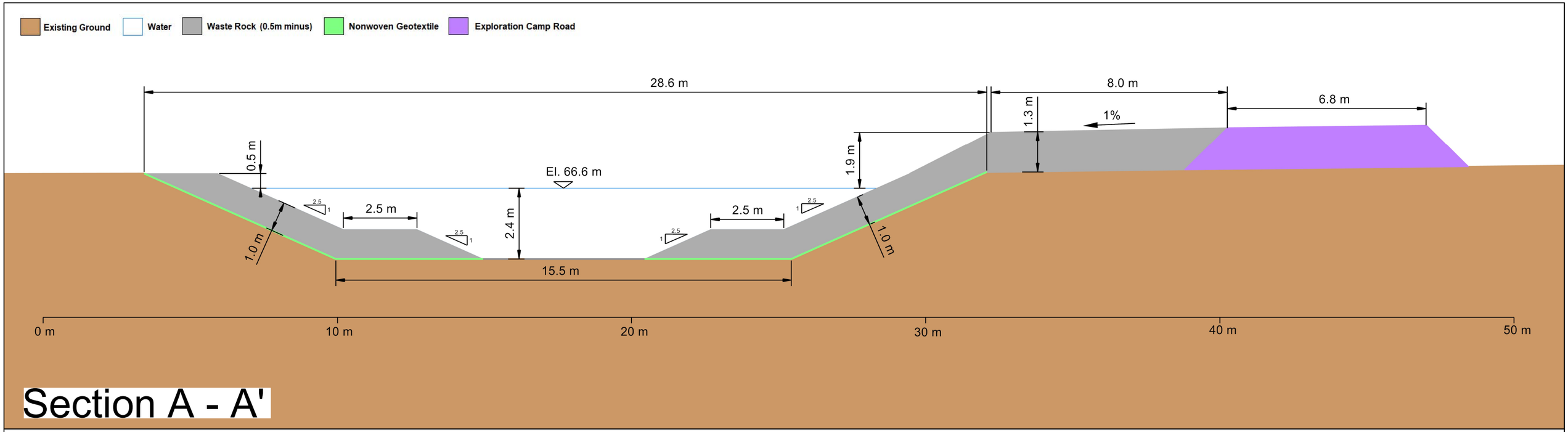
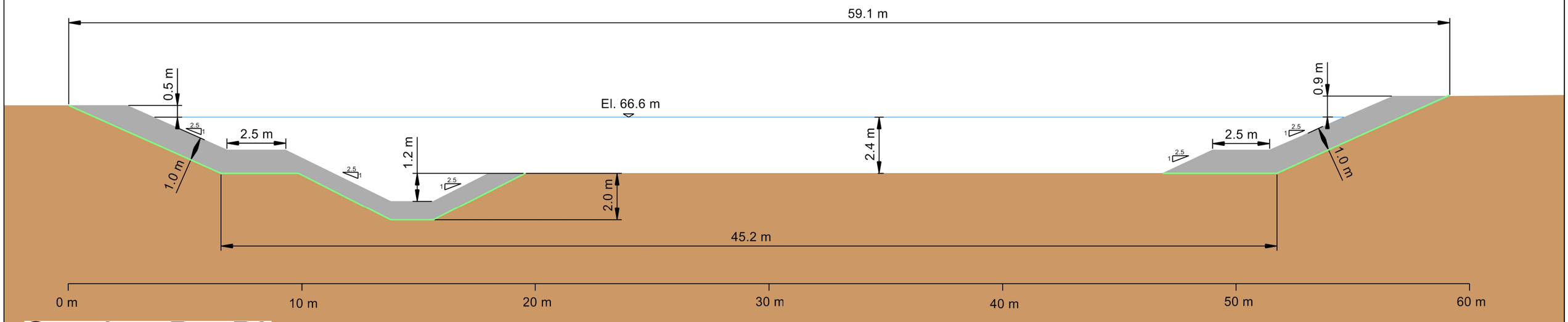


Section A - A'



Section B - B'

REV	DESCRIPTION	DATE	PAR/BY
0	Issued For Construction	April 7 2022	AJB

REVISIONS

Max Water elevation = 66.6 m
Waste Rock Quantity = 1,903 m3
Geotextile Quantity = 1,130 m2
Total Excavation = 3,587 m3
Water Storage Volume below el. 66.6 m = 1,584 m3

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AGNICO EAGLE
MELIADINE

DESSINÉ PAR/DRAWN BY: Alexandre Boissonneault		DATE: April 7 2022	TITRE / TITLE: AGNICO EAGLE - MELIADINE DIVISION WRSF3 South Sump Sections
VÉRIFIÉ PAR/CHECKED BY: Justin Bieber		DATE: April 7 2022	
APPROUVÉ PAR/APPROVED BY: Justin Bieber		DATE: April 7 2022	
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