

ESTIMATED VOLUME OF CONTAMINATED MATERIAL REMOVAL				
Location	Surface Area (m ²)	Estimated Average Existing Thickness (m)	Estimated Average Thickness to be removed (m)	Estimated Quantity (m ³)
1	1,010	3.5	0.8	800 **
2	1,380	2.3	0.8	1,100 **
3	11,050	0.9	0.9	9,900
4	920	1.5	1.5	1,400
5	2,020	0.8	0.8	1,600
6	3,140	0.6	0.6	1,900
7	1,730	0.4	0.4	700
8	1,430	0.9	0.9	1,300
9	2,390	0.8	0.8	1,900
10	680	2.2	2.2	1,500
11	760	0.6	0.6	500
12	3,670	0.7	0.7	2,600**
13	15,340	0.2	0.2	3,100
14	6,770	0.3	0.3	2,000
SPILLED TAILINGS	N/A	N/A	N/A	100
TOTAL				30,400

** EXCAVATION OF CONTAMINATED MATERIALS IN ZONES 1, 2 AND 12 TO BE LARGELY LEFT IN PLACE WITH EXCAVATION LIMITED TO APPROXIMATELY 750 MM AS PER DETAILS 20-5 AND 20-6 ON C-20.

PRELIMINARY
NOT FOR CONSTRUCTION

- LEGEND:**
- CONTAMINATED MATERIAL FOR REMOVAL
 - PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT
 - APPROXIMATE FORMER TAILINGS PIPELINE

- DRAWING NOTES**
- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
 - ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
 - IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
 - CONTRACTOR TO CONFIRM QUANTITIES AND ADVISE DEPARTMENTAL REPRESENTATIVE OF ANY VARIANCE.
 - ALL SURFACE DEBRIS TO BE REMOVED FROM ALL CONTAMINATED MATERIAL AREAS PRIOR TO EXCAVATION.
 - CONTAMINATED MATERIALS WHICH ARE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY'S (CDF) FOOTPRINT SHALL BE REMOVED PRIOR TO THE CONSTRUCTION OF THE CDF.
 - CONTRACTOR TO REMOVE CONTAMINATED MATERIAL TO THE BOUNDARIES AND INDICATED DEPTHS ONLY. FURTHER EXCAVATION WILL REQUIRE APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE.
 - TERM CONTAMINATED MATERIAL INCLUDES WASTE ROCK, CONTAMINATED MATERIAL (PHC, METALS), SPILLED TAILING, RESIDUAL MINE ROCK (SAND AND GRAVEL), HISTORIC BLAST ROCK, AND DRILL CORE.
 - AREA OF SCATTERED CONTAMINATED MATERIAL TO BE REMOVED AND PLACED IN CDF AT DISCRETION OF DEPARTMENTAL REPRESENTATIVE.
 - SPILLED TAILINGS ALONG PIPELINE ALIGNMENTS TO BE EXCAVATED AND RELOCATED TO CDF. SPILLED TAILINGS ARE INCLUDED UNDER CONTAMINATED MATERIAL.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 28th Oct 2021
PERMIT NUMBER: P639
NWTNU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F	ISSUED FOR ADDENDUM 01	20211006
E	ISSUED FOR TENDER	20210818
D	ISSUED FOR 90% DESIGN SUBMISSION	20210702
C	ISSUED FOR 90% DESIGN SUBMISSION	20210415
B	ISSUED FOR 60% DESIGN SUBMISSION	20201222
A	ISSUED FOR 30% DESIGN SUBMISSION	20201106

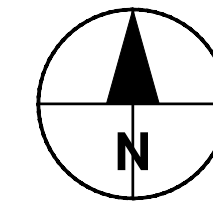
Client: **PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

Project: **KWETI[?AA (RAYROCK) REMEDIATION PROJECT**

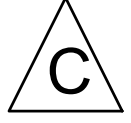
Designed by: **J.NOLIN** Conçu par
Drawn by: **G.STEGARIU** Dessiné par
Approved by: **J.NOLIN** Approuvé par
PWSC Project Manager: **R.STUDER-HALBACH** Administrateur de Projets TPSGC

Drawing title: **RAYROCK - CONTAMINATED MATERIAL REMOVAL**

Project no./No. du projet: **R.057572.020** Drawing no./No. du dessin: **C05** Revision no.: **F**
OF 40



PRELIMINARY
NOT FOR CONSTRUCTION



LEGEND:

- 200.0 EXISTING GROUND AND BATHYMETRY; COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY (1.0 m INTERVAL)
- APPROXIMATE TREE LINE

DRAWING NOTES

- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
- ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
- IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
- WASTE ROCK IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS.
- CONTAMINATED MATERIAL TO BE REMOVED FROM PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT TO ROUGH GRADE ELEVATION DURING ROUGH GRADE PREPARATION. UNDERLYING BEDROCK TO BE BLASTED TO ACHIEVE ROUGH GRADE SURFACE AFTER REMOVAL OF CONTAMINATED MATERIAL AND OVERLYING SOILS (IF APPLICABLE).
- PORTION OF CDF CONSTRUCTED IN MILL COVE SHALL BE CONSTRUCTED ON BEDROCK. WATER, SEDIMENT AND SOILS SHALL BE REMOVED FROM THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 28th Oct 2021
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

F		
E		
D		
C	ISSUED FOR ADDENDUM 01	20211006
B	ISSUED FOR TENDER	20210816
A	ISSUED FOR 90% DESIGN SUBMISSION	20210702
Revision	Description	Date

Client: Client

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project: Project

KWETI[?AÀ (RAYROCK) REMEDIATION PROJECT

Designed by: J.NOLIN Conçu par

Drawn by: G.STEGARIU Dessiné par

Approved by: J.NOLIN Approuvé par

PWSSC Project Manager: R.STUDER-HALBACH Administrateur de Projets TPSGC

Drawing Title: Titre du dessin

RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) EXISTING GROUND

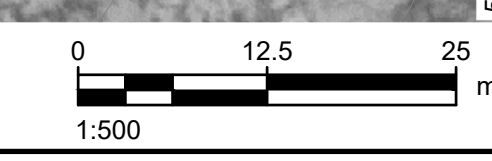
Project no./No. du projet: R.05752.020

Drawing no./No. du dessin: C11

Revision no.: C

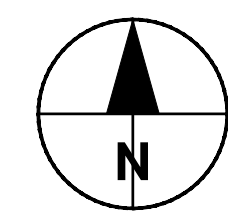
OF 40

PLAN





PLAN



PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND:

- 200.0: EXISTING GROUND AND BATHYMETRY; COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY (1.0 m INTERVAL)
- 200.25: PROPOSED CONTOURS ROUGH SURFACE CUT ONLY (0.25 m INTERVAL)

PROPOSED OUTSIDE TOP OF BERM COORDINATE POINTS

NO.	NORTHING (m)	EASTING (m)	ELEVATION (m)
101	7,036,116.99	522,572.31	218.75
102	7,036,104.24	522,585.55	218.50
103	7,036,093.84	522,596.35	218.50
104	7,036,042.07	522,650.10	219.56
105	7,036,031.27	522,639.70	219.56
106	7,036,000.57	522,610.14	219.63
107	7,035,969.92	522,580.62	219.70
108	7,035,969.81	522,575.14	219.70
109	7,035,985.85	522,558.48	219.01
110	7,036,039.35	522,502.93	220.50
111	7,036,044.83	522,502.82	220.50
112	7,036,075.49	522,532.35	219.63
113	7,036,106.19	522,561.91	218.75

- DRAWING NOTES**
- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
 - ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
 - IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
 - WASTE ROCK IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS.
 - CONTAMINATED MATERIAL TO BE REMOVED FROM PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT TO ROUGH GRADE ELEVATION DURING ROUGH GRADE PREPARATION. UNDERLYING BEDROCK TO BE BLASTED TO ACHIEVE ROUGH GRADE SURFACE.
 - THIS ROUGH GRADING SURFACE IS NOT CONSTRUCTABLE IN AREAS OF FILL AT 1H:4V SLOPE. THESE SHALL BE CONSTRUCTED AT THE SAME TIME AS THE BERMS. THE ROUGH GRADING SURFACE IS PRESENTED FOR CONSTRUCTION LAYOUT PURPOSES.
 - PORTION OF CDF CONSTRUCTED IN MILL COVE SHALL BE CONSTRUCTED ON BEDROCK. WATER, SEDIMENT AND SOILS SHALL BE REMOVED FROM THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 28th Oct 2021
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
E		
D		
C	ISSUED FOR ADDENDUM 01	20211006
B	ISSUED FOR TENDER	20210816
A	ISSUED FOR 90% DESIGN SUBMISSION	20210702

Client: **PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

Project: **KWETI[?AÀ (RAYROCK) REMEDIATION PROJECT**

Designed by: J.NOLIN
Drawn by: G.STEGARIU
Approved by: J.NOLIN

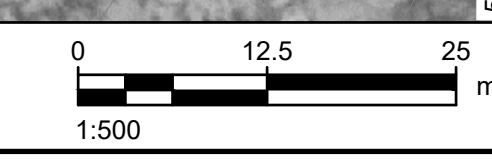
PWSSC Project Manager: R.STUDER-HALBACH
Administrateur de Projets TPSGC: R.STUDER-HALBACH

Drawing Title: **RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADING SURFACE CUT ONLY**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C12	C
	OF 40	



PLAN



PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND:

- EXISTING GROUND AND BATHYMETRY: COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY (1.0 m INTERVAL)
- PROPOSED CONTOURS ROUGH SURFACE (0.25 m INTERVAL)

DRAWING NOTES

1. ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
2. ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
3. IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
4. WASTE ROCK IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS.
5. CONTAMINATED MATERIAL TO BE REMOVED FROM PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT TO ROUGH GRADE ELEVATION DURING ROUGH GRADE PREPARATION. UNDERLYING BEDROCK TO BE BLASTED TO ACHIEVE ROUGH GRADE SURFACE.
6. THIS ROUGH GRADING SURFACE IS NOT CONSTRUCTABLE IN AREAS OF FILL AT 1H:4V SLOPE. THESE SHALL BE CONSTRUCTED AT THE SAME TIME AS THE BERMS. THE ROUGH GRADING SURFACE IS PRESENTED FOR CONSTRUCTION LAYOUT PURPOSES. PORTION OF CDF CONSTRUCTED IN MILL COVE SHALL BE CONSTRUCTED ON BEDROCK. WATER, SEDIMENT AND SOILS SHALL BE REMOVED FROM THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION.

PROPOSED INSIDE TOE OF 1H:4V BLASTED ROCK SLOPE			
COORDINATE POINTS			
NO.	NORTHING (m)	EASTING (m)	ELEVATION (m)
301	7,036,110.61	522,571.55	214.26
302	7,036,100.55	522,581.99	214.00
303	7,036,090.15	522,592.80	214.00
304	7,036,041.07	522,643.76	215.06
305	7,036,033.96	522,636.91	215.06
306	7,036,003.26	522,607.35	216.13
307	7,035,972.60	522,577.82	216.20
308	7,035,988.65	522,561.17	215.51
309	7,036,042.15	522,505.62	217.00
310	7,036,072.80	522,535.14	216.13
311	7,036,103.50	522,564.70	214.26

PROFESSIONAL SEALS

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C	ISSUED FOR ADDENDUM 01	20211006
B	ISSUED FOR TENDER	20210816
A	ISSUED FOR 90% DESIGN SUBMISSION	20210702

Revision	Description	Date
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Client: **PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

Project: **KWETI[?AA] (RAYROCK) REMEDIATION PROJECT**

Designed by: J.NOLIN

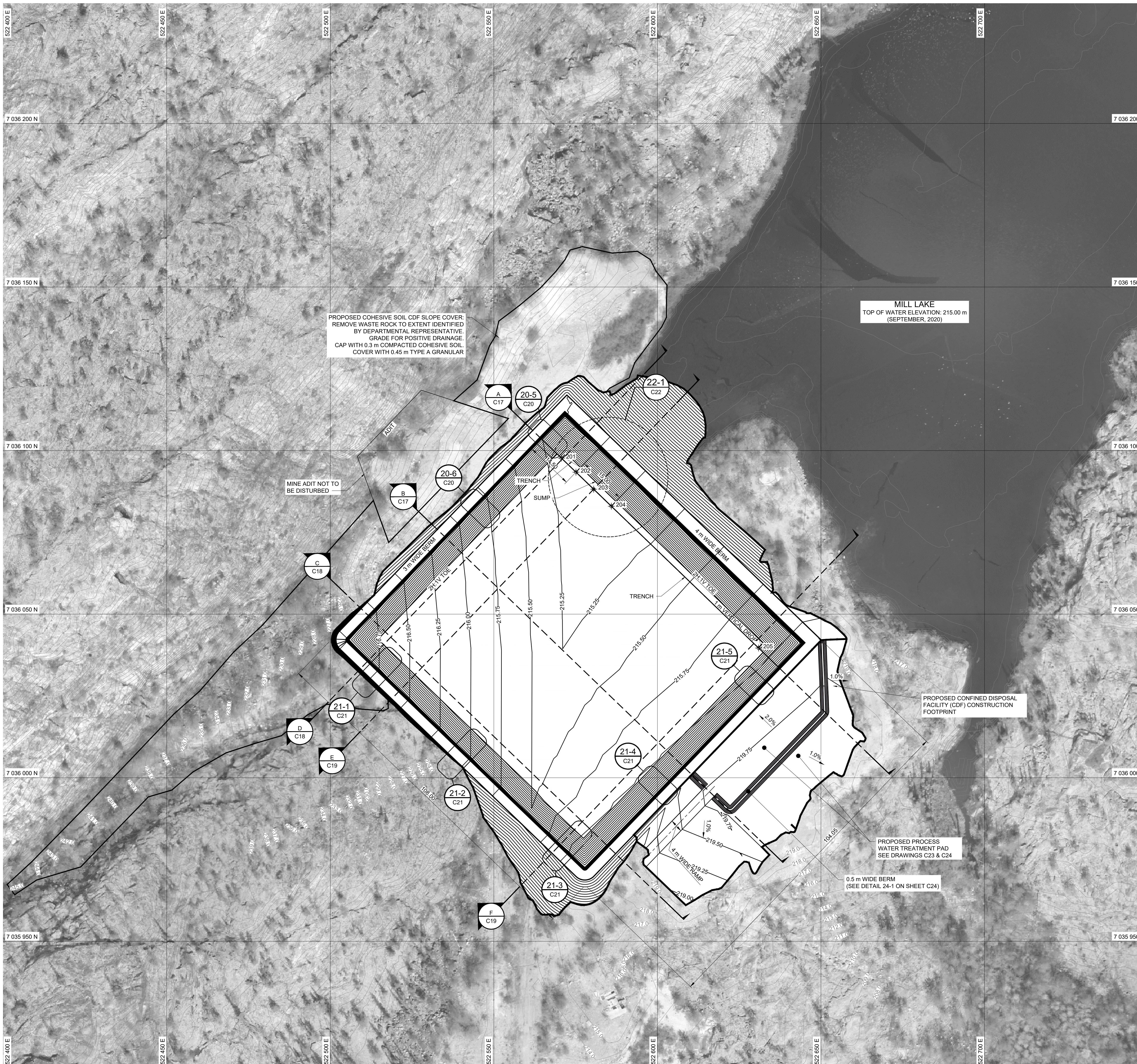
Drawn by: G.STEGARIU

Approved by: J.NOLIN

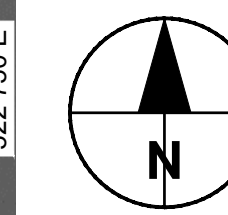
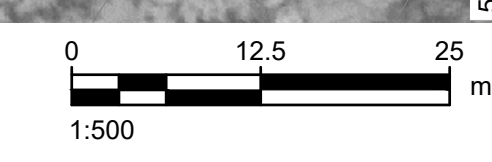
PWSSC Project Manager: R.STUDER-HALBACH

Drawing Title: **RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADING SURFACE**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C13 OF 40	C



PLAN



PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND:

- EXISTING GROUND AND BATHYMETRY: COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY (1.0 m INTERVAL)
- PROPOSED CONTOURS ROUGH SURFACE AND INTERIOR BERMS (0.25 m INTERVAL)

PROPOSED TOP 1M VERTICAL EDGE OF TRENCH AND SUMP

COORDINATE POINTS			
NO.	NORTHING (m)	EASTING (m)	ELEVATION (m)
201	7,036,097.71	522,570.64	215.00
202	7,036,093.40	522,575.11	215.00
203	7,036,088.20	522,580.51	215.00
204	7,036,083.00	522,585.91	215.00
205	7,036,039.66	522,630.93	215.75

DRAWING NOTES

1. ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
2. ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
3. IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
4. WASTE ROCK IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS.
5. CONTAMINATED MATERIAL TO BE REMOVED FROM PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT TO ROUGH GRADE ELEVATION DURING ROUGH GRADE PREPARATION. UNDERLYING BEDROCK TO BE BLASTED TO ACHIEVE ROUGH GRADE SURFACE.
6. PORTION OF CDF CONSTRUCTED IN MILL COVE SHALL BE CONSTRUCTED ON BEDROCK. WATER, SEDIMENT AND SOILS SHALL BE REMOVED FROM THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 2021/10/08
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
E		
D		
C	ISSUED FOR ADDENDUM 01	2021/10/06
B	ISSUED FOR TENDER	2021/08/16
A	ISSUED FOR 90% DESIGN SUBMISSION	2021/07/02

Client: **PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

Project: **KWETI[?2AA (RAYROCK) REMEDIATION PROJECT**

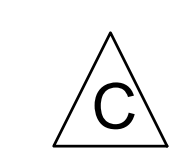
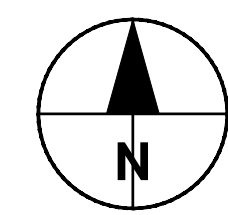
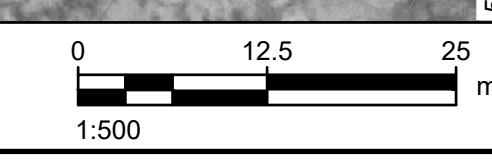
Designed by: J.NOLIN
Drawn by: G.STEGARIU
Approved by: J.NOLIN
PWGSC Project Manager: R.STUDER-HALBACH

Drawing Title: **RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADING & INTERIOR BERMS**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C14	C
	OF 40	



PLAN



LEGEND:

- EXISTING GROUND AND BATHYMETRY: COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY (1.0 m INTERVAL)
- CDF EXTERIOR SIDESLOPE LINER (DETAIL 20-3, C20)
- CDF BASE LINER (DETAIL 20-1, C20)
- CDF SECONDARY GCL LINER (DETAILS 22-1, 22-2, 22-6, C22)

- DRAWING NOTES**
- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
 - ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
 - IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 28th Oct 2021
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NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
E		
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C	ISSUED FOR ADDENDUM 01	20211006
B	ISSUED FOR TENDER	20210816
A	ISSUED FOR 90% DESIGN SUBMISSION	20210702

Client: **PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

Project: **KWETI[?AÀ (RAYROCK) REMEDIATION PROJECT**

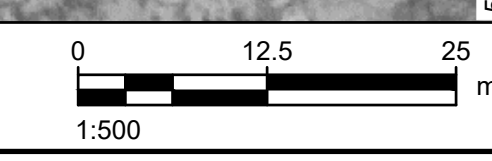
Designed by: J.NOLIN
 Drawn by: G.STEGARIU
 Approved by: J.NOLIN
 PWSC Project Manager: R.STUDER-HALBACH

Drawing Title: **RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) BASE LINERS AND PIPING EXTENTS**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C15	C
	OF 40	



PLAN



PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND:

- PROPOSED CONTOURS TOP OF COVER LINER SURFACE (0.5m INTERVAL)
- PROPOSED PASSIVE GAS VENT (SEE NOTE 6 AND DETAIL 22-4 ON SHEET C-22)
- CDF COVER LINER (DETAIL 20-2 C-20)

DRAWING NOTES

1. ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
2. ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
3. IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
4. WASTE ROCK IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS.
5. TOP OF WASTE CONTOURS CAN BE MODIFIED BY CONTRACTOR AFTER WASTE PLACEMENT AS DIRECTED BY THE DR.
6. LOCATIONS OF PROPOSED GAS VENTS ARE APPROXIMATE. DR SHALL CONFIRM LOCATIONS OF PROPOSED GAS VENTS PRIOR TO INSTALLATION.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 2021/08/16
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
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C	ISSUED FOR ADDENDUM 01	2021/10/06
B	ISSUED FOR TENDER	2021/08/16
A	ISSUED FOR 90% DESIGN SUBMISSION	2021/07/02

Client: client

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project: Project

KWETI, I?AA (RAYROCK) REMEDIATION PROJECT

Designed by: J.NOLIN Conçu par

Drawn by: G.STEGARIU Dessiné par

Approved by: J.NOLIN Approuvé par

PWSSC Project Manager: R.STUDER-HALBACH Administrateur de Projets TPSGC

Drawing Title: Titre du dessin

RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) TOP OF LINER CONTOUR PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C16 OF 40	C

PRELIMINARY NOT FOR CONSTRUCTION

LEGEND:

(Dashed line)	EXISTING GROUND AND BATHYMETRY: COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY
(Dotted line)	ASSUMED TOP OF BEDROCK
(Solid line)	PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADE
(Dashed line)	GEOCOMPOSITE DRAINAGE LAYER
(Dotted line)	BITUMINOUS GEOMEMBRANE
(Dashed line)	NON-WOVEN GEOTEXTILE
(Dotted line)	TOP OF COVER LINER SUBGRADE SURFACE
(Dashed line)	INTERIOR SLOPE OF TYPE B FILL
(Shaded area)	ANTICIPATED LOCATION OF BEDROCK CUT

DRAWING NOTES

- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
- ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
- CONTAMINATED MATERIAL IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS. CONTAMINATED MATERIAL INCLUDES WASTE ROCK.
- CONTAMINATED MATERIAL TO BE REMOVED FROM PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT TO ROUGH GRADE ELEVATION DURING ROUGH GRADE PREPARATION. UNDERLYING BEDROCK TO BE BLASTED TO ACHIEVE ROUGH GRADE SURFACE. CONTRACTOR SHALL REMOVE AREAS OF BEDROCK CUT, AS SHOWN IN THE DRAWINGS. PRIOR TO CONSTRUCTION OF BERM FILLS, AREAS OF ANTICIPATED BEDROCK CUT ARE SHOWN AS THOSE IN WHICH THE ORIGINAL GROUND IS ABOVE THE ROUGH GRADING SURFACE. THE ROUGH GRADING SURFACE INCLUDES THE PROJECTION OF A 4V:1H SLOPE FROM THE INSIDE TOP OF DESIGN BERM AS SHOWN IN THE DRAWINGS. IN THE ABSENCE OF A BEDROCK CUT, THE BERM FILLS SHALL BE CONSTRUCTED AS SHOWN IN THE DRAWINGS.
- PORTION OF CDF CONSTRUCTED IN MILL COVE SHALL BE CONSTRUCTED ON BEDROCK. WATER, SEDIMENT AND SOILS SHALL BE REMOVED FROM THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
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Date: *28 Oct 2021*
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E	ISSUED FOR TENDER	20210818
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C	ISSUED FOR 90% DESIGN SUBMISSION	20210415
B	ISSUED FOR 60% DESIGN SUBMISSION	20201222
A	ISSUED FOR 30% DESIGN SUBMISSION	20201106

Client: client

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project: Projct

KWETI[?AA (RAYROCK) REMEDIATION PROJECT

Designed by: J.NOLIN / Conçu par

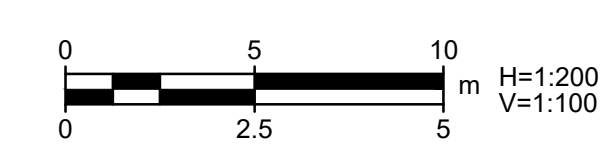
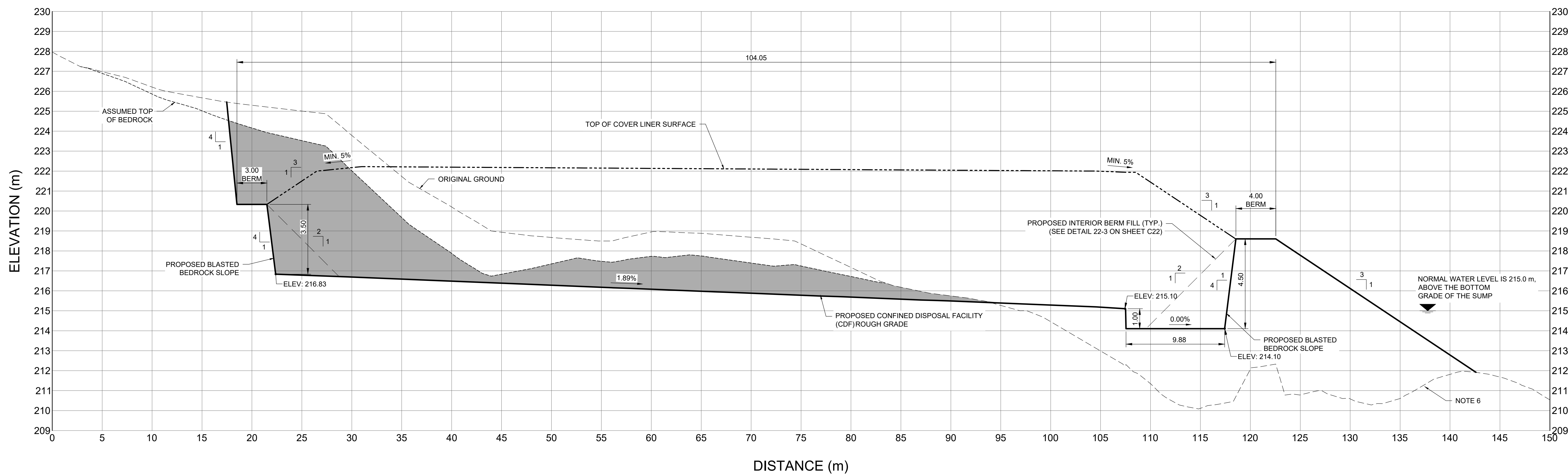
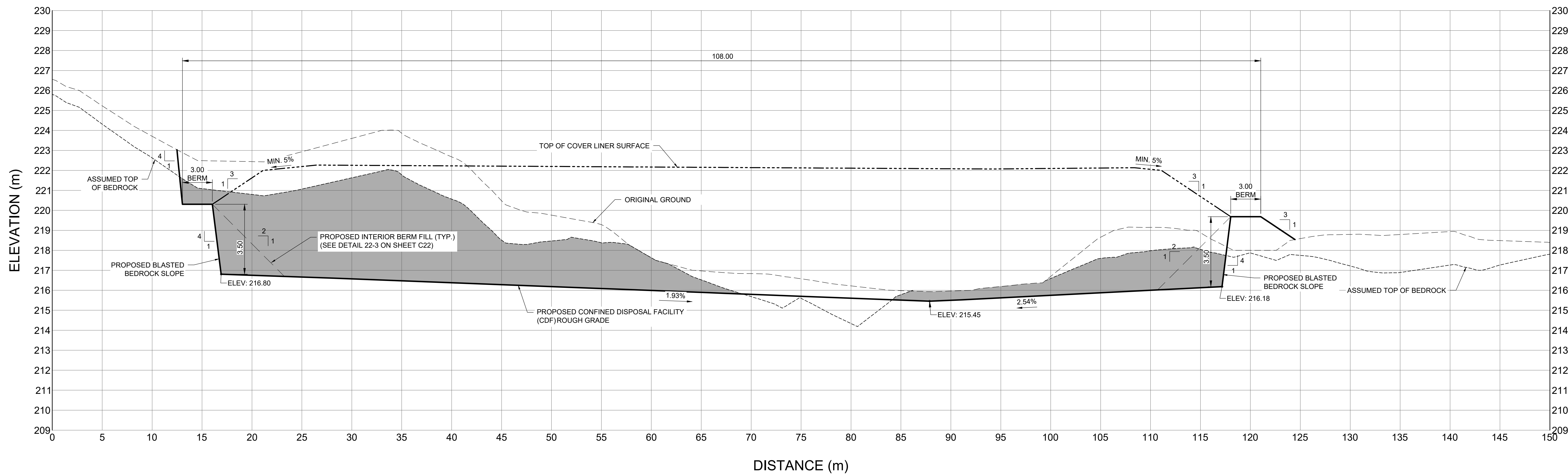
Drawn by: G.STEGARIU / Dessiné par

Approved by: J.NOLIN / Approuvé par

PWSSC Project Manager: R.STUDER-HALBACH / Administrateur de Projets TPSGC

Drawing Title: RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADING AND BERM CONSTRUCTION SECTIONS SHEET 2 OF 3 / Titre du dessin

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C18 OF 40	F



PRELIMINARY NOT FOR CONSTRUCTION

LEGEND:

- EXISTING GROUND AND BATHYMETRY: COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY
- ASSUMED TOP OF BEDROCK
- PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADE
- GEOCOMPOSITE DRAINAGE LAYER
- BITUMINOUS GEOMEMBRANE
- NON-WOVEN GEOTEXTILE
- TOP OF COVER LINER SUBGRADE SURFACE
- INTERIOR SLOPE OF TYPE B FILL
- ANTICIPATED LOCATION OF BEDROCK CUT

DRAWING NOTES

- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
- ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
- CONTAMINATED MATERIAL IS PRESENT ON TOP OF THE BEDROCK SURFACE WITHIN THE PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT AT VARIABLE THICKNESS. CONTAMINATED MATERIAL INCLUDES WASTE ROCK.
- CONTAMINATED MATERIAL TO BE REMOVED FROM PROPOSED CONFINED DISPOSAL FACILITY (CDF) FOOTPRINT TO ROUGH GRADE ELEVATION DURING ROUGH GRADE PREPARATION. UNDERLYING BEDROCK TO BE BLASTED TO ACHIEVE ROUGH GRADE SURFACE. CONTRACTOR SHALL REMOVE AREAS OF BEDROCK CUT, AS SHOWN IN THE DRAWINGS. PRIOR TO CONSTRUCTION OF BERM FILLS, AREAS OF ANTICIPATED BEDROCK CUT ARE SHOWN AS THOSE IN WHICH THE ORIGINAL GROUND IS ABOVE THE ROUGH GRADING SURFACE. THE ROUGH GRADING SURFACE INCLUDES THE PROJECTION OF A 4V:1H SLOPE FROM THE INSIDE TOP OF DESIGN BERM AS SHOWN IN THE DRAWINGS. IN THE ABSENCE OF A BEDROCK CUT, THE BERM FILLS SHALL BE CONSTRUCTED AS SHOWN IN THE DRAWINGS.
- PORTION OF CDF CONSTRUCTED IN MILL COVE SHALL BE CONSTRUCTED ON BEDROCK. WATER, SEDIMENT AND SOILS SHALL BE REMOVED FROM THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 28th Oct 2021
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F	ISSUED FOR ADDENDUM 01	20211006
E	ISSUED FOR TENDER	20210818
D	ISSUED FOR 90% DESIGN SUBMISSION	20210702
C	ISSUED FOR 90% DESIGN SUBMISSION	20210415
B	ISSUED FOR 60% DESIGN SUBMISSION	20201222
A	ISSUED FOR 30% DESIGN SUBMISSION	20201106

Client: client

**PUBLIC WORKS AND
GOVERNMENT SERVICES
CANADA**

Project: Projct

**KWETI[?AA (RAYROCK)
REMEDATION PROJECT**

Designed by: J.NOLIN / Conçu par

Drawn by: G.STEGARIU / Dessiné par

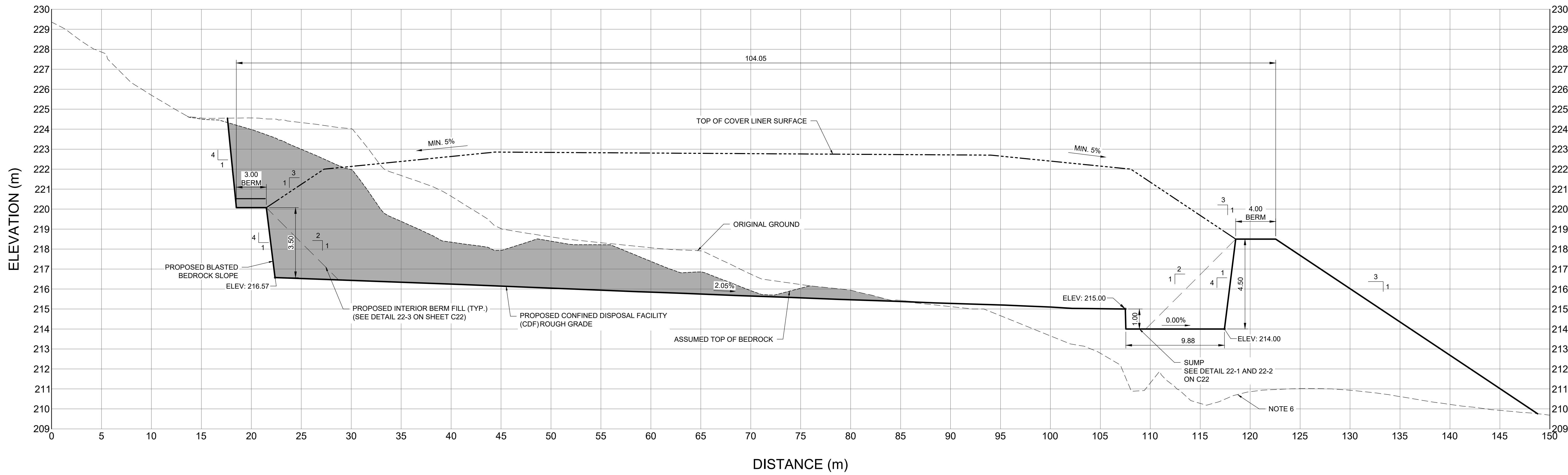
Approved by: J.NOLIN / Approuvé par

PWSSC Project Manager: R.STUDER-HALBACH / Administrateur de Projets TPSSC

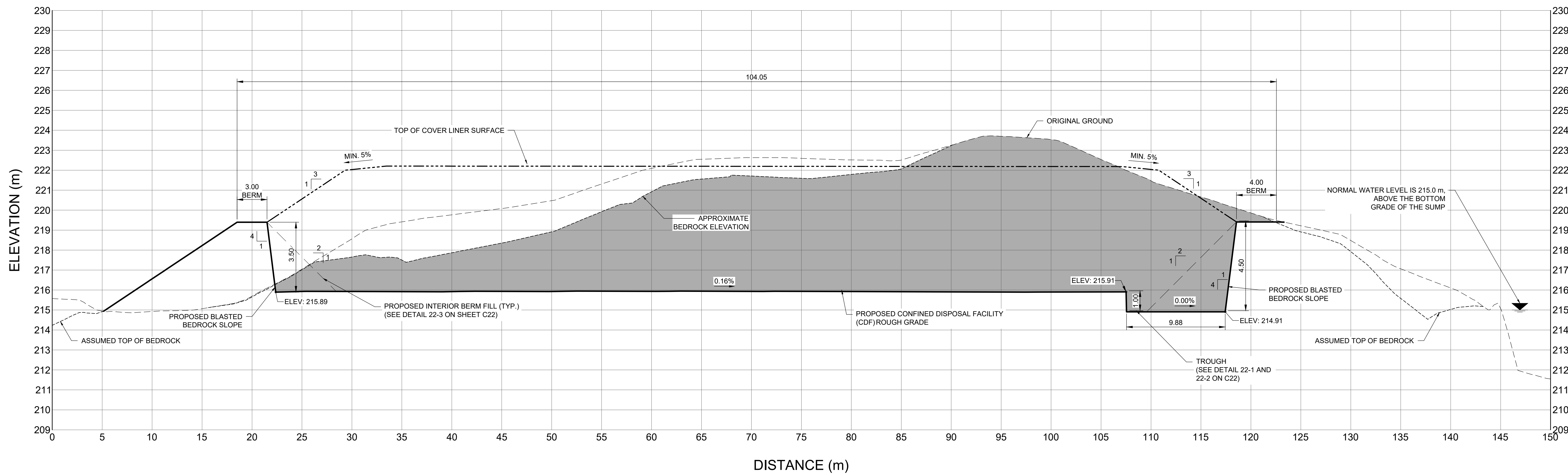
Drawing Title: RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) ROUGH GRADING AND BERM CONSTRUCTION SECTIONS SHEET 3 OF 3 / Titre du dessin

Project no./No. du projet: R.057572.020 / Drawing no./No. du dessin: C19 / Revision no.: F

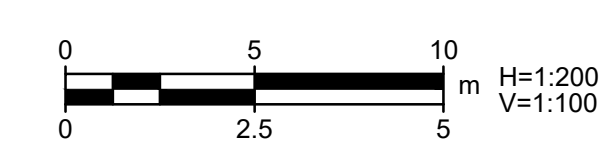
OF 40



E SECTION
C11 C12 Scale 1:200 H 1:100 V
C13 C14
C15 C16



F SECTION
C11 C12 Scale 1:200 H 1:100 V
C13 C14
C15 C16



PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND:

- 100 COORDINATE POINT
- 200.5 EXISTING GROUND AND BATHYMETRY; COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY (0.5 m INTERVAL)
- 200.25 PROPOSED ROUGH GRADING CONTOURS (0.25 m INTERVAL)

DRAWING NOTES

- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
- ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.
- IMAGERY FROM ARCADIS CANADA INC. (PHOTO DATE MAY 26, 2017).
- PROCESS WATER TREATMENT PAD TO BE DECOMMISSIONED PRIOR TO CDF CLOSURE.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 25/09/2021
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
E		
D	ISSUED FOR ADDENDUM 01	20211006
C	ISSUED FOR TENDER	20210818
B	ISSUED FOR 90% DESIGN SUBMISSION	20210702
A	ISSUED FOR 90% DESIGN SUBMISSION	20210415

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

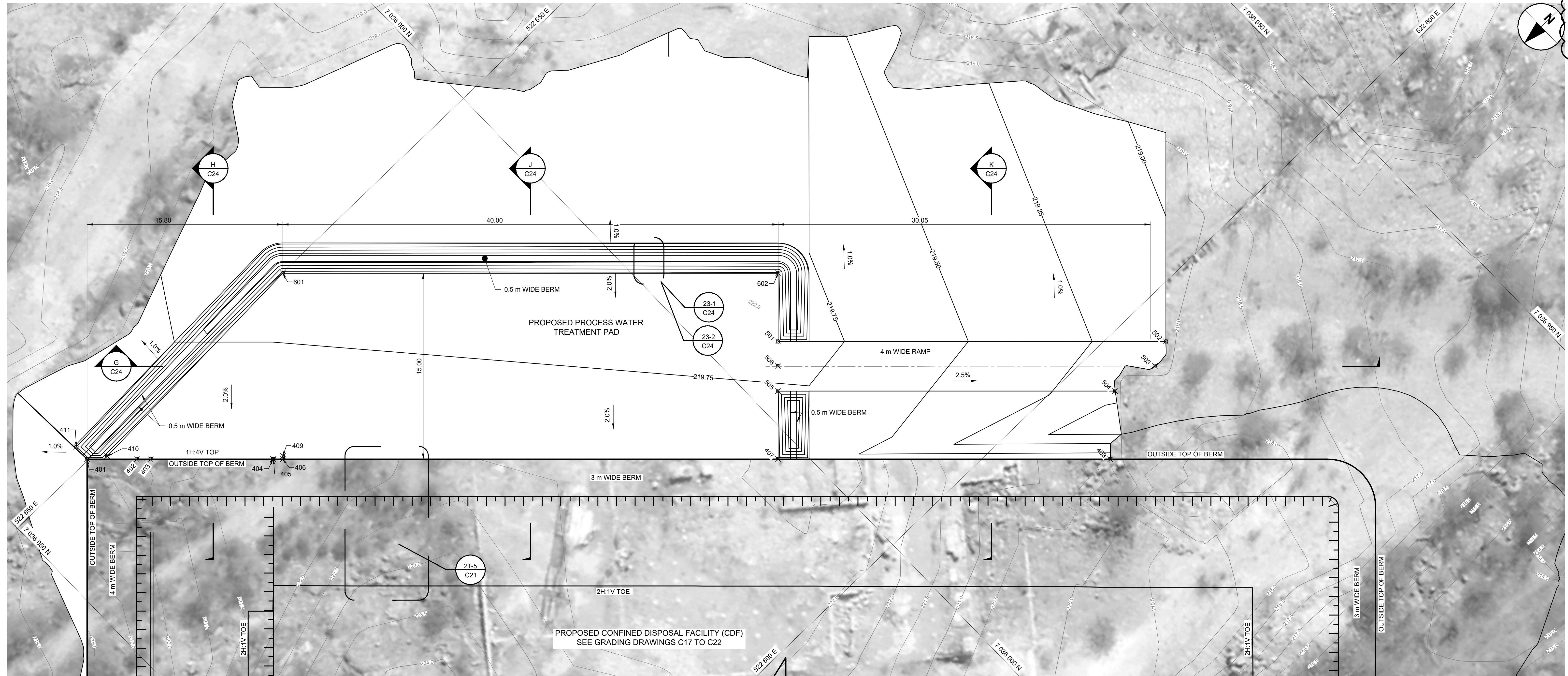
Project _____ Projé _____

KWETI[?AA (RAYROCK) REMEDIATION PROJECT

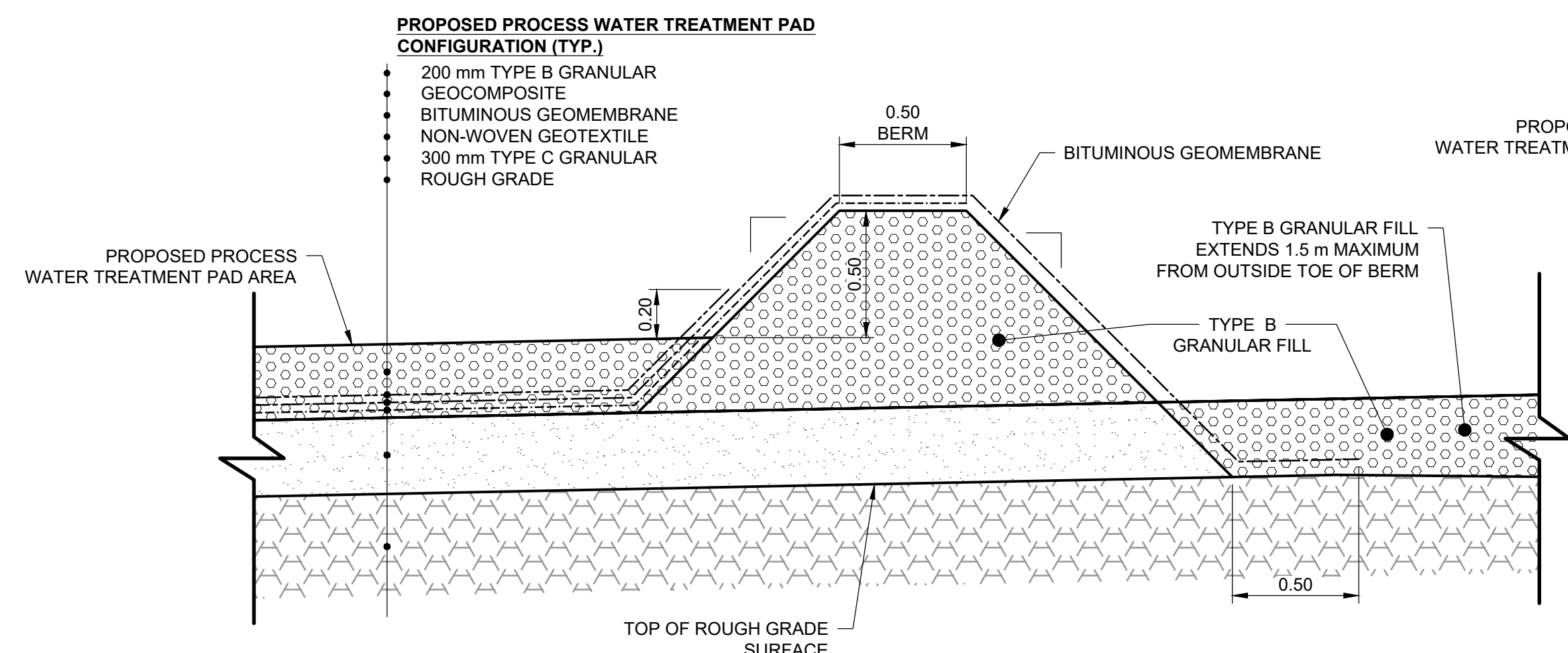
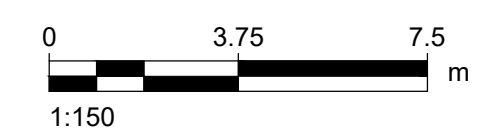
Designed by: J.NOLIN / Conçu par: J.NOLIN
 Drawn by: G.STEGARIU / Dessiné par: G.STEGARIU
 Approved by: J.NOLIN / Approuvé par: J.NOLIN
 PWSC Project Manager: R.STUDER-HALBACH / Administrateur de Projets TPSC: R.STUDER-HALBACH
 Drawing Title: _____ / Titre du dessin: _____

RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) PROPOSED PROCESS WATER TREATMENT PAD PLAN

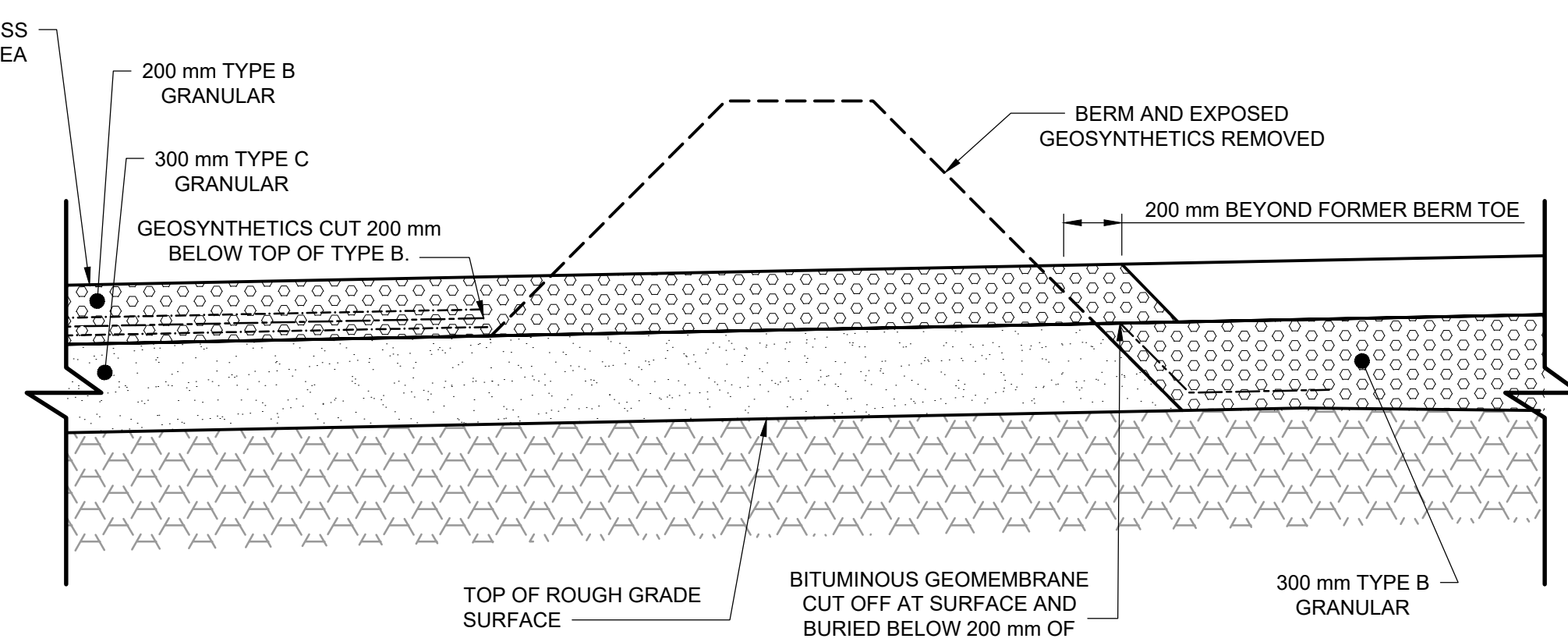
Project no./No. du projet: **R.057572.020**
 Drawing no./No. du dessin: **C23**
 Revision no.: **D**
 OF 40



PLAN



23-1 DETAIL
C23 PROCESS WATER TREATMENT PAD AREA AND PERIMETER BERM N.T.S.



23-2 DETAIL
C23 PROCESS WATER TREATMENT PAD DECOMMISSIONING N.T.S.

PROPOSED PROCESS WATER TREATMENT PAD WEST EDGE

COORDINATE POINTS			
NO.	NORTHING (m)	EASTING (m)	ELEVATION (m)
401	7,036,042.07	522,650.10	219.56
402	7,036,039.19	522,647.33	219.56
403	7,036,038.38	522,646.55	219.56
404	7,036,031.27	522,639.70	219.56
405	7,036,031.23	522,639.67	219.56
406	7,036,030.69	522,639.15	219.56
407	7,036,001.88	522,611.40	219.63
408	7,035,982.55	522,592.79	219.67
409	7,036,030.52	522,639.33	219.57
410	7,036,040.73	522,649.16	219.56
411	7,036,042.01	522,651.42	219.60

ACCESS ROAD

COORDINATE POINTS			
NO.	NORTHING (m)	EASTING (m)	ELEVATION (m)
501	7,035,995.29	522,618.24	219.82
502	7,035,972.74	522,596.52	219.10
503	7,035,974.76	522,595.71	219.08
504	7,035,978.46	522,596.48	219.12
505	7,035,998.06	522,615.36	219.74
506	7,035,996.68	522,616.80	219.78

INSIDE TOE OF BERM

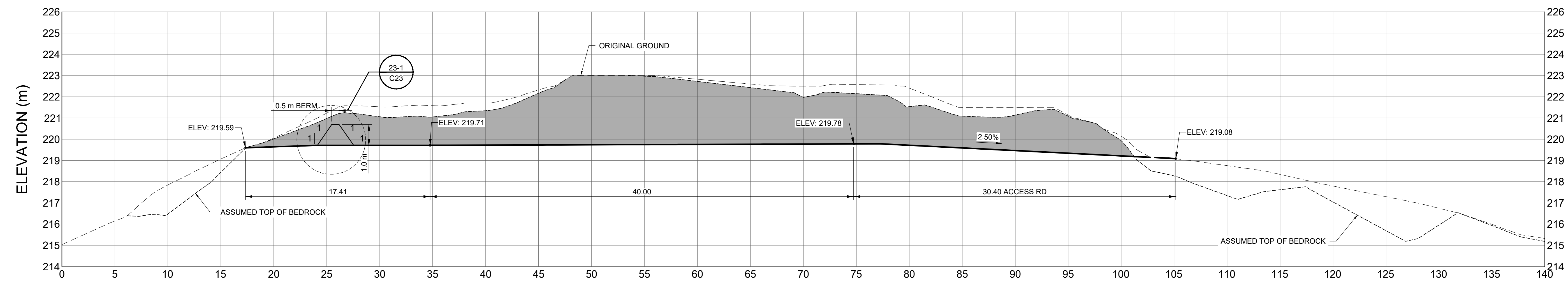
COORDINATE POINTS			
NO.	NORTHING (m)	EASTING (m)	ELEVATION (m)
601	7,036,020.29	522,649.95	219.86
602	7,035,991.47	522,622.20	219.93

PRELIMINARY
NOT FOR CONSTRUCTION

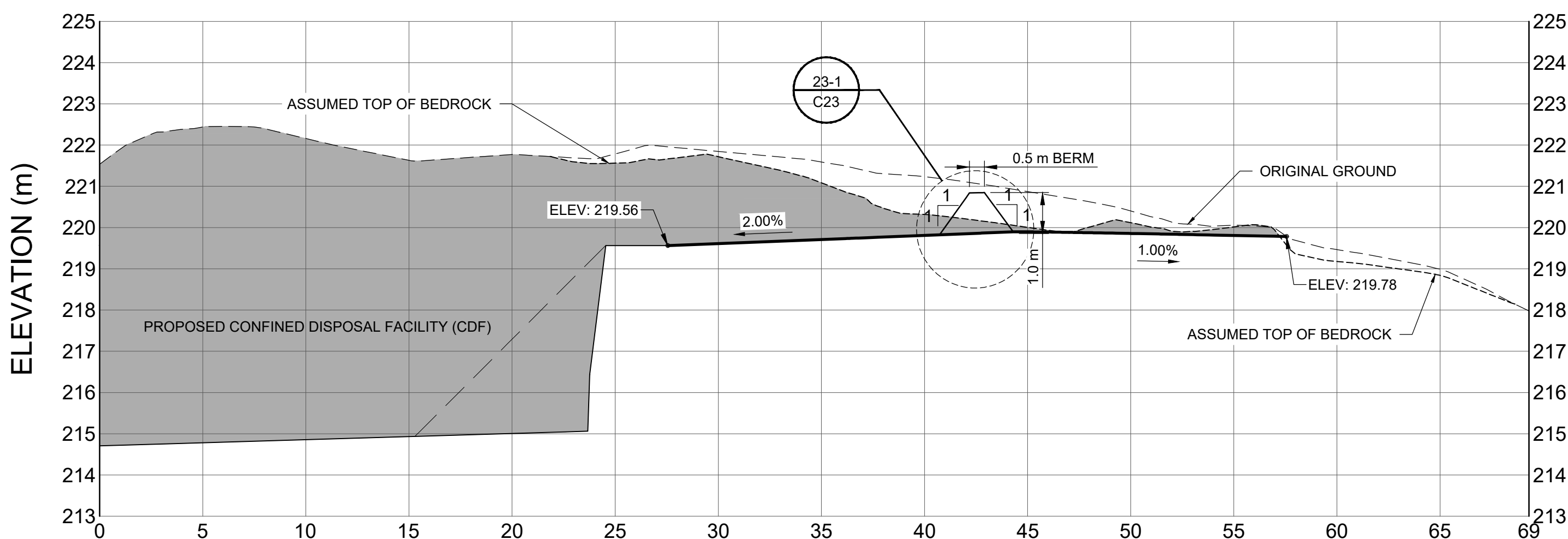
LEGEND:

- EXISTING GROUND AND BATHYMETRY: COMBINATION OF LIDAR, 2021 SURVEY, AND TOP OF SEDIMENT BATHYMETRY
- ASSUMED TOP OF BEDROCK
- PROPOSED DESIGN GRADE
- GEOCOMPOSITE DRAINAGE LAYER
- BITUMINOUS GEOMEMBRANE
- NON-WOVEN GEOTEXTILE
- ANTICIPATED LOCATION OF BEDROCK CUT

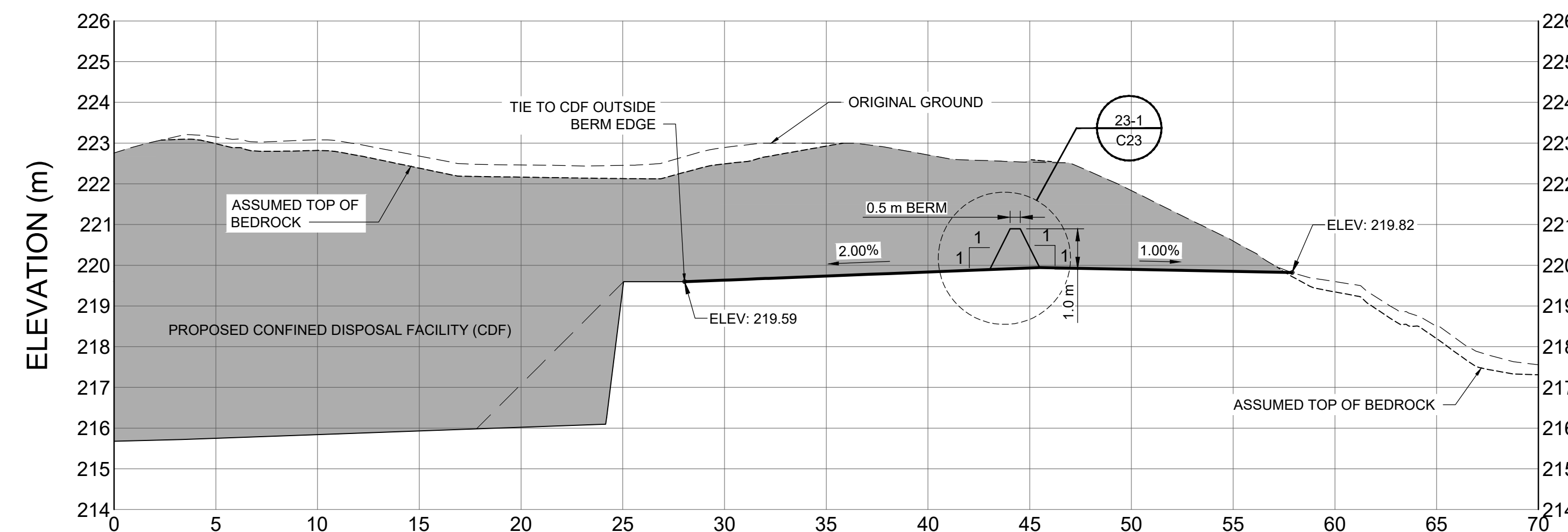
- DRAWING NOTES**
- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
 - ALL DIMENSIONS ARE IN METERS, UNLESS NOTED OTHERWISE.



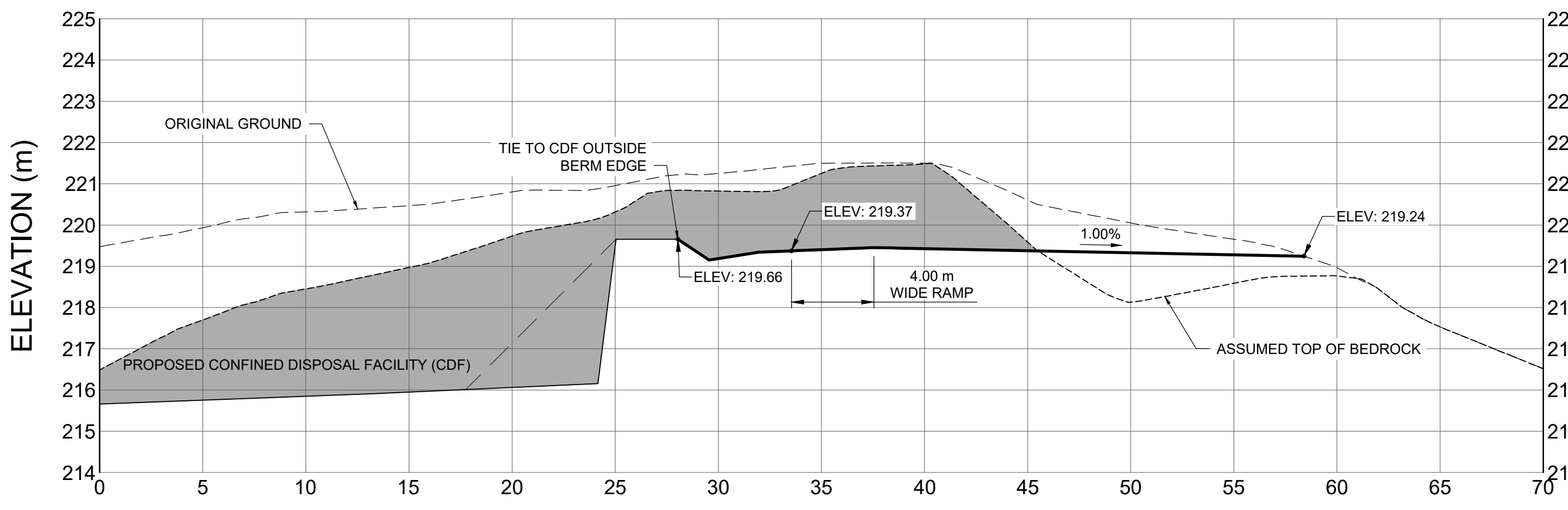
G SECTION
C23 Scale 1:200 H 1:100 V



H SECTION
C23 Scale 1:200 H 1:100 V



J SECTION
C23 Scale 1:200 H 1:100 V



K SECTION
C23 Scale 1:200 H 1:100 V

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 28 Oct 2021
PERMIT NUMBER: P639
NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
E		
D	ISSUED FOR ADDENDUM 01	20211006
C	ISSUED FOR TENDER	20210818
B	ISSUED FOR 90% DESIGN SUBMISSION	20210702
A	ISSUED FOR 90% DESIGN SUBMISSION	20210329

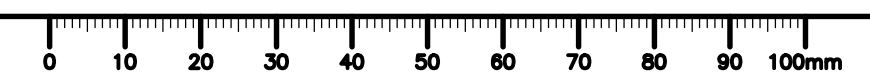
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

KWETI[?AA (RAYROCK) REMEDIATION PROJECT

Designed by: J.NOLIN
Drawn by: G.STEGARIU
Approved by: J.NOLIN
PWSSC Project Manager: R.STUDER-HALBACH

RAYROCK - PROPOSED CONFINED DISPOSAL FACILITY (CDF) PROPOSED PROCESS WATER TREATMENT PAD SECTIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C24 OF 40	D



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PROPOSED PERMANENT SURVEY CONTROL MONUMENT		
NO.	APPROXIMATE COORDINATES (SEE NOTE 1)	
	NORTHING (m)	EASTING (m)
P2022-02	6,999,942	533,830
P2022-03	6,999,630	533,750

PRELIMINARY NOT FOR CONSTRUCTION

LEGEND:

- PROPOSED PERMANENT SURVEY CONTROL MONUMENT
- EXPLORATION WORKINGS: TO BE COVERED BY "ENGINEERED SITE PROTECTION SLAB" (SEE DETAIL 38-1 ON SHEET C38)
- EXPLORATION WORKINGS: TO REMAIN UNCOVERED
- CONTAMINATED MATERIALS
- SURFACE DEBRIS
- EXISTING GROUND (1.0 m INTERVAL)

- DRAWING NOTES**
- ALL COORDINATES ARE REFERENCED TO NAD83 (CSRS) UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
 - ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
 - IMAGERY FROM GOOGLE EARTH AUGUST 22, 2019.
 - GAMMA RADIATION LEVELS KNOWN TO EXCEED 2.5 MICROSIEVERTS PER HOUR ($\mu\text{Sv/hr}$) AT SUN MAIN.
 - LOOSE ROCK AND LOOSE SOIL ABOVE BEDROCK WITHIN 2 m RADIUS OF LOOSE ROCK FROM WR2, WR3, BP1, BP2, BP3 AND BP4 TO BE RELOCATED TO WR1 STOCKPILE AND CONTAINED.
 - CEMENT BAGS SHALL BE TREATED AS CONTAMINATED MATERIAL.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
AECOM CANADA LTD.
Signature: *[Signature]*
Date: 2021/10/27
PERMIT NUMBER: P639
NWTNU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F	ISSUED FOR ADDENDUM 01	2021/10/06
E	ISSUED FOR TENDER	2021/08/18
D	ISSUED FOR 95% DESIGN SUBMISSION	2021/07/02
C	ISSUED FOR 90% DESIGN SUBMISSION	2021/04/15
B	ISSUED FOR 60% DESIGN SUBMISSION	2020/12/22
A	ISSUED FOR 30% DESIGN SUBMISSION	2020/11/06

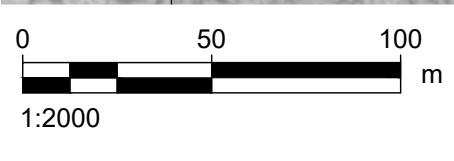
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

KWETI?AA (RAYROCK) REMEDIATION PROJECT

Designed by: J.NOLIN / Conçu par: J.NOLIN
 Drawn by: G.STEGARIU / Dessiné par: G.STEGARIU
 Approved by: J.NOLIN / Approuvé par: J.NOLIN
 PWSC Project Manager: R.STUDER-HALBACH / Administrateur de Projets TPSC

SUN MAIN - SITE REMEDIATION AND EXISTING CONDITIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C35 OF 40	F



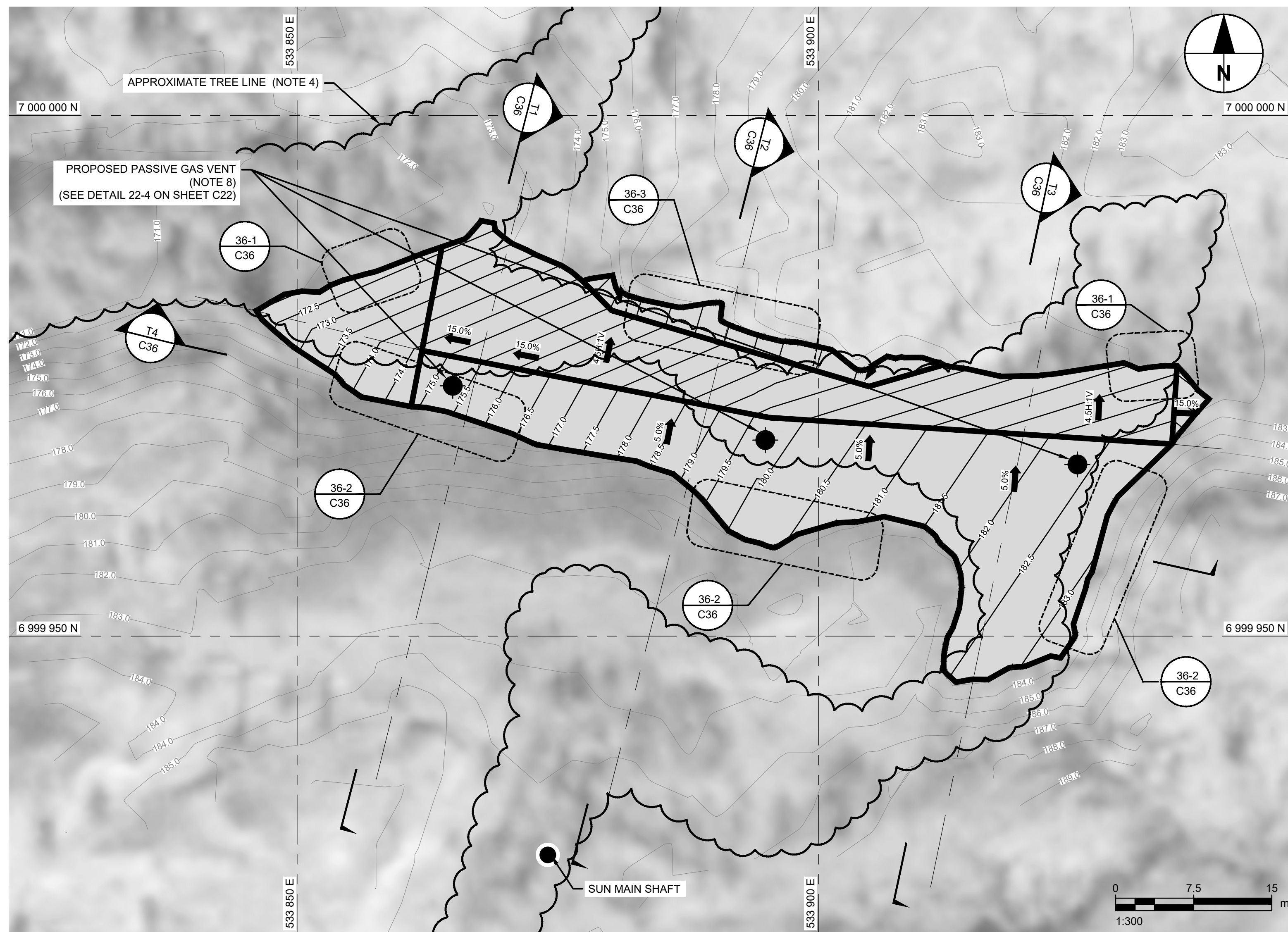
PLAN
Scale 1:2000

CONTAMINATED MATERIALS			
LOCATION	DESCRIPTION	NORTHING (m)	EASTING (m)
SUN MAIN	WASTE ROCK PILE WR1	6,999,955	533,883
SUN MAIN	WASTE ROCK PILE WR2	6,999,911	533,767
SUN MAIN	WASTE ROCK PILE WR3	6,999,897	533,776
SUN MAIN	AEC7 (FORMER OIL TANK) CONTAMINATED MATERIAL (PHC AND PAH IMPACTED SOILS)	6,999,875	533,859
SUN MAIN	AEC8 (FORMER POWER HOUSE) CONTAMINATED MATERIAL (PHC AND PAH IMPACTED SOILS)	6,999,907	533,873

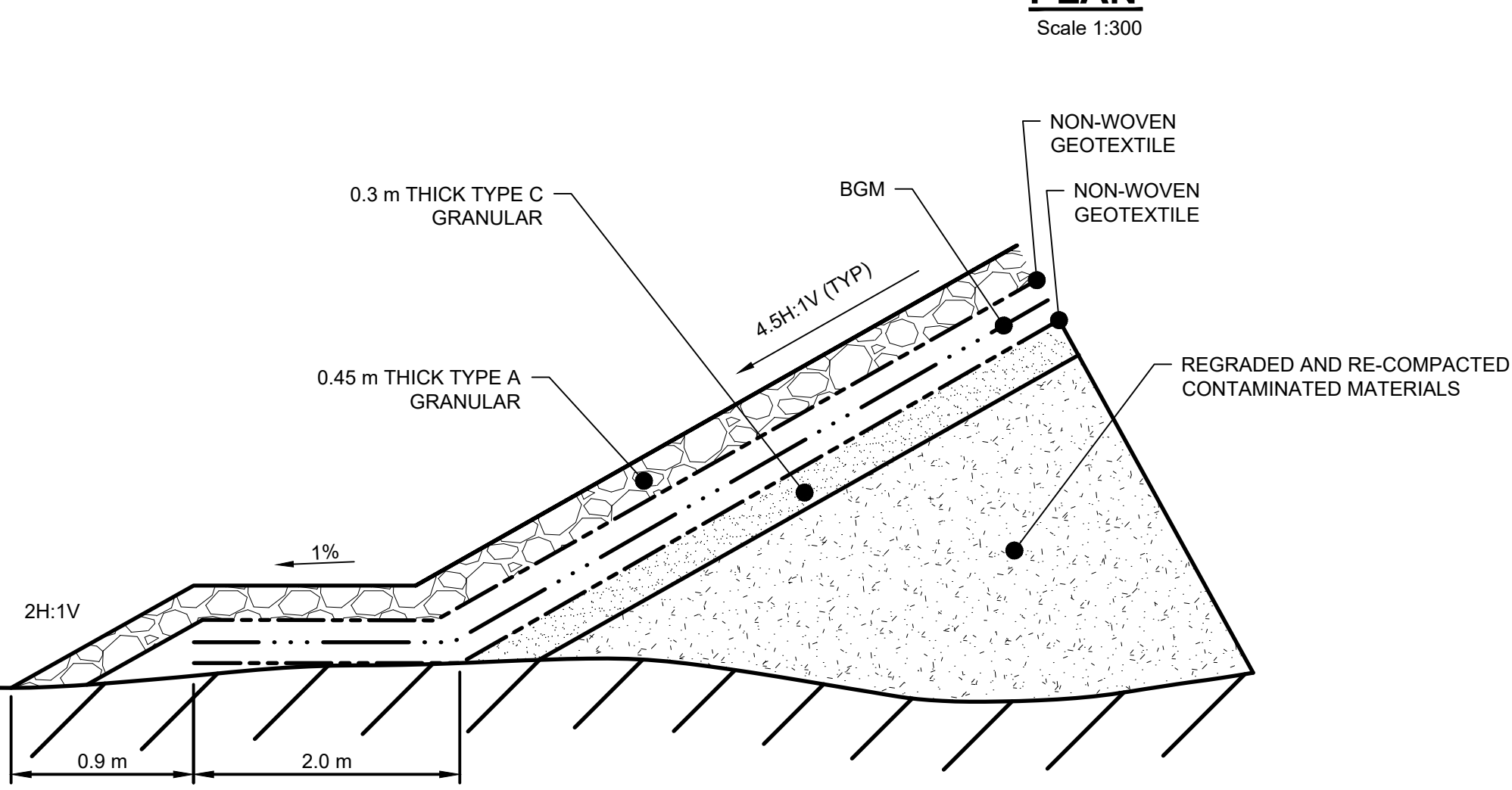
EXPLORATION WORKINGS				
LOCATION	DESCRIPTION	NORTHING (m)	EASTING (m)	
SUN MAIN	EXPLORATION WORKING BP1	6,999,843	533,922	
SUN MAIN	EXPLORATION WORKING BP2	6,999,849	533,937	
SUN MAIN	EXPLORATION WORKING BP3	6,999,875	533,951	
SUN MAIN	EXPLORATION WORKING BP4	6,999,666	533,938	
SUN MAIN	SUN MAIN SHAFT	6,999,929	533,874	

SURFACE DEBRIS FOR REMOVAL			
LOCATION	WASTE DESCRIPTION	NORTHING (m)	EASTING (m)
SUN MAIN	WOODEN CABLE SPOOL	6,999,961	533,801
SUN MAIN	MISC. METAL DEBRIS	6,999,912	533,770
SUN MAIN	SMALL METAL STRUCTURE	6,999,900	533,819
SUN MAIN	CEMENT BAGS	6,999,897	533,820
SUN MAIN	TIN CAN CACHE	6,999,897	533,863
SUN MAIN	CHICO LAKE DOCK	6,999,327	534,049

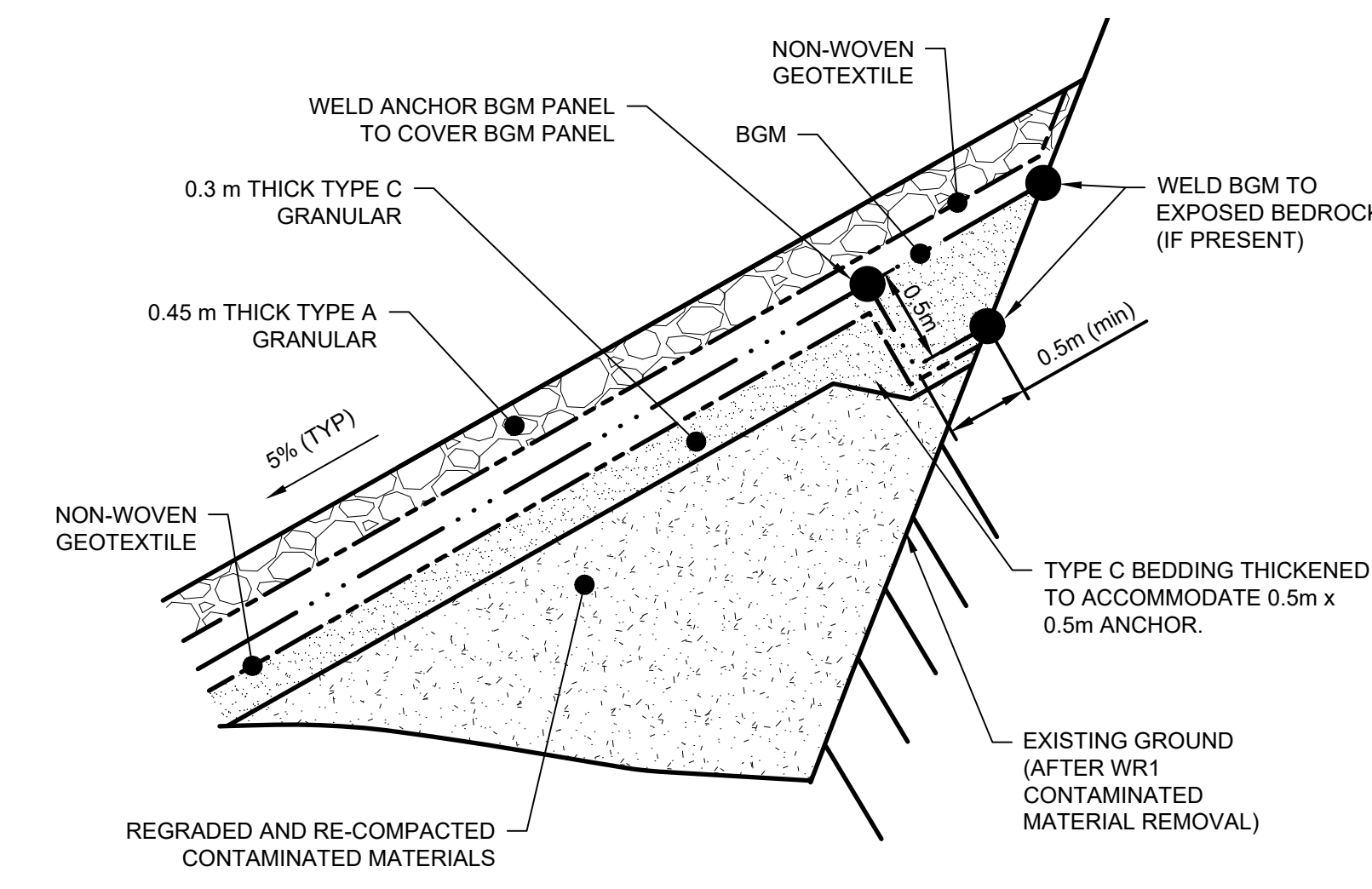
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 PLOTTED ON: October 8, 2021
 SHEET: C36
 SHEET SIZE: 1000mm x 707mm
 SAVED BY: Stegariu, Georgiana
 PWSC - B1 - 1000X707



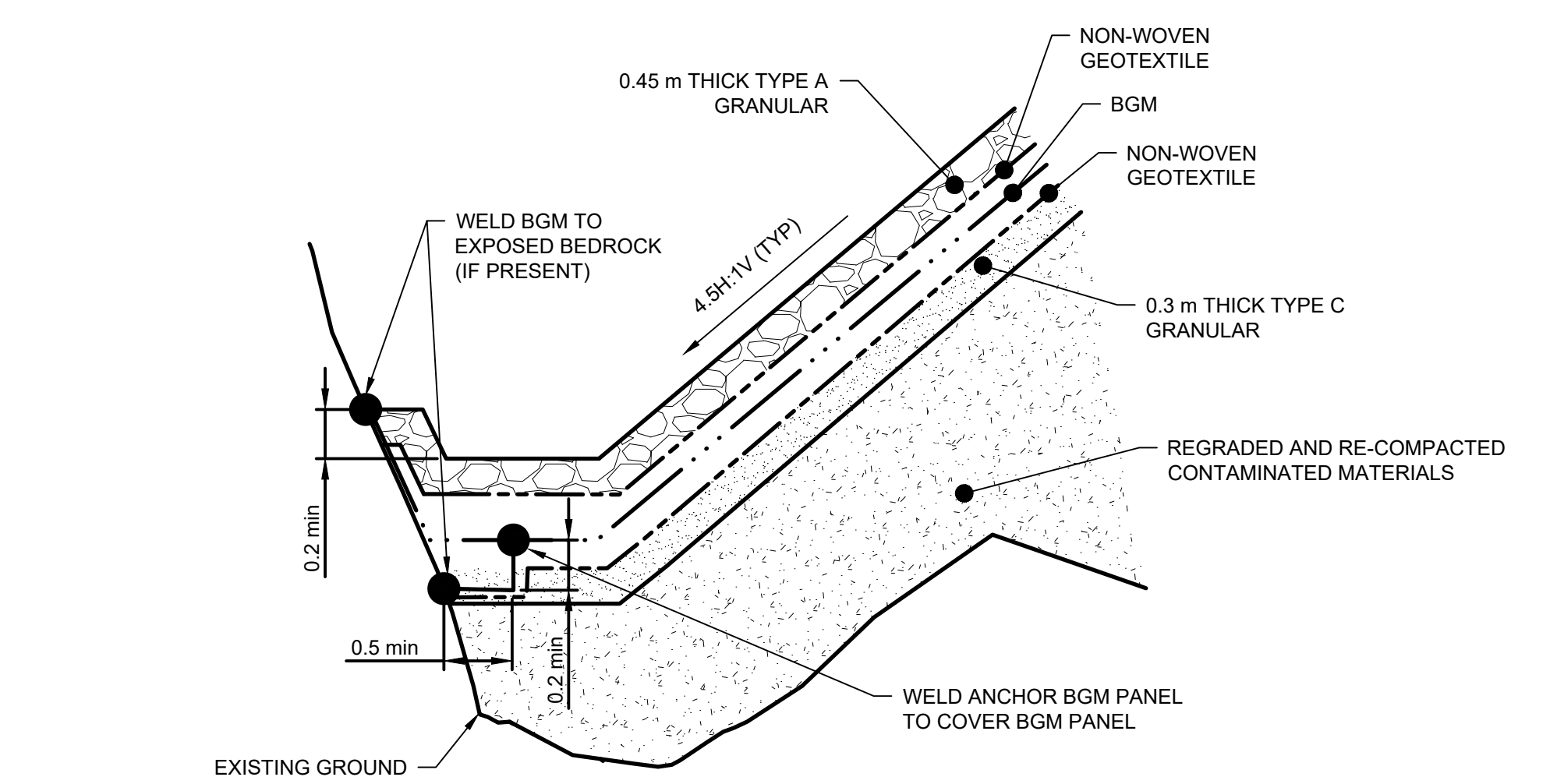
PLAN
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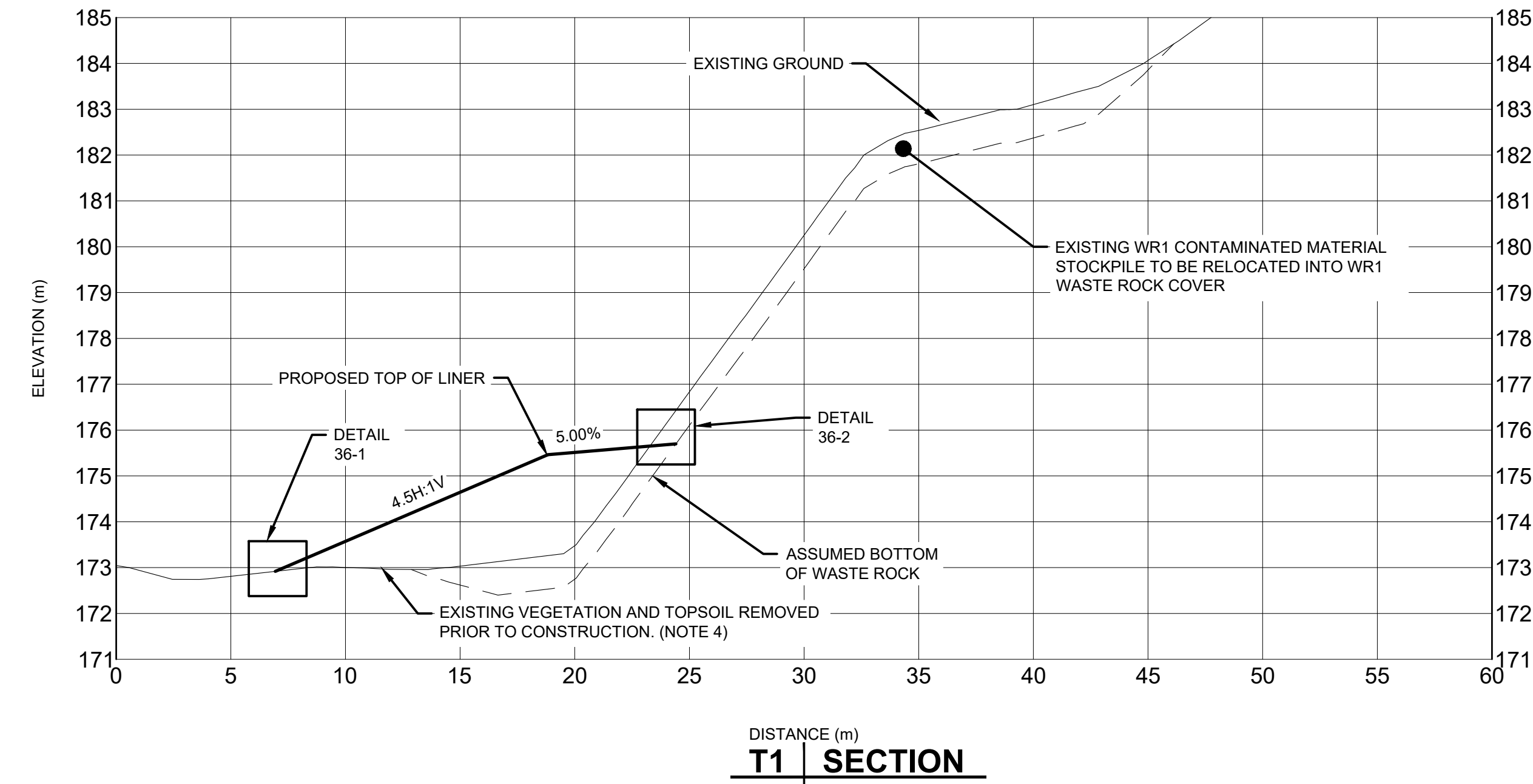
36-1 | DETAIL - WASTE ROCK COVER TIE-IN - RUN OUT
N.T.S.



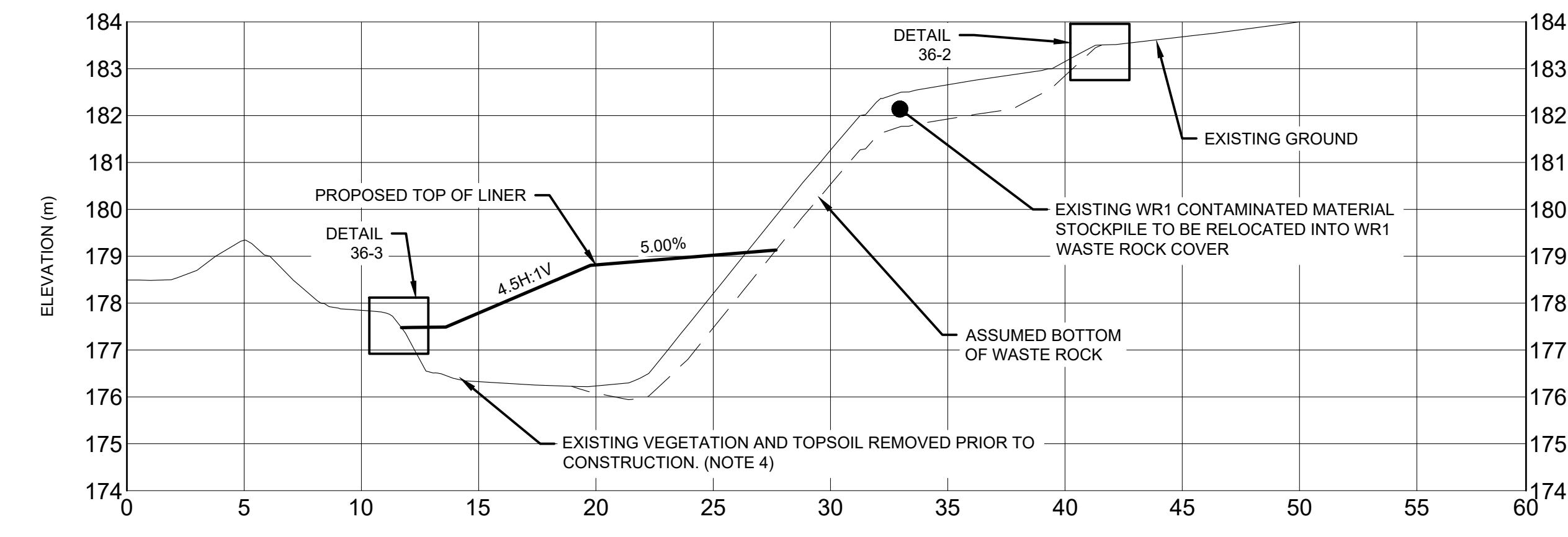
36-2 | DETAIL - WASTE ROCK COVER TIE-IN - TOP ANCHOR
N.T.S.



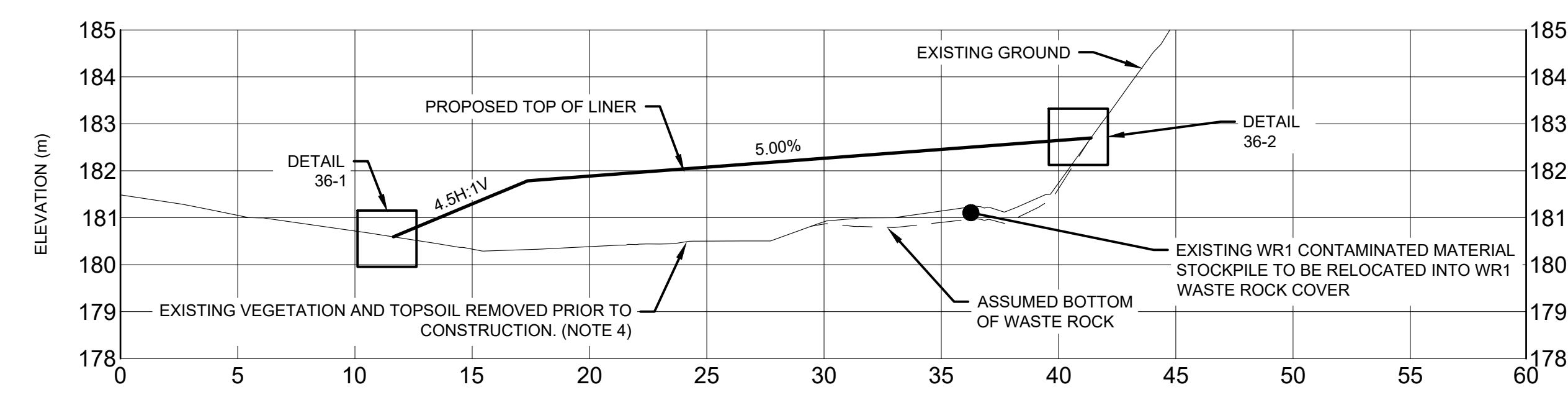
36-3 | DETAIL - WASTE ROCK COVER TIE-IN - BOTTOM ANCHOR AND DITCH
N.T.S.



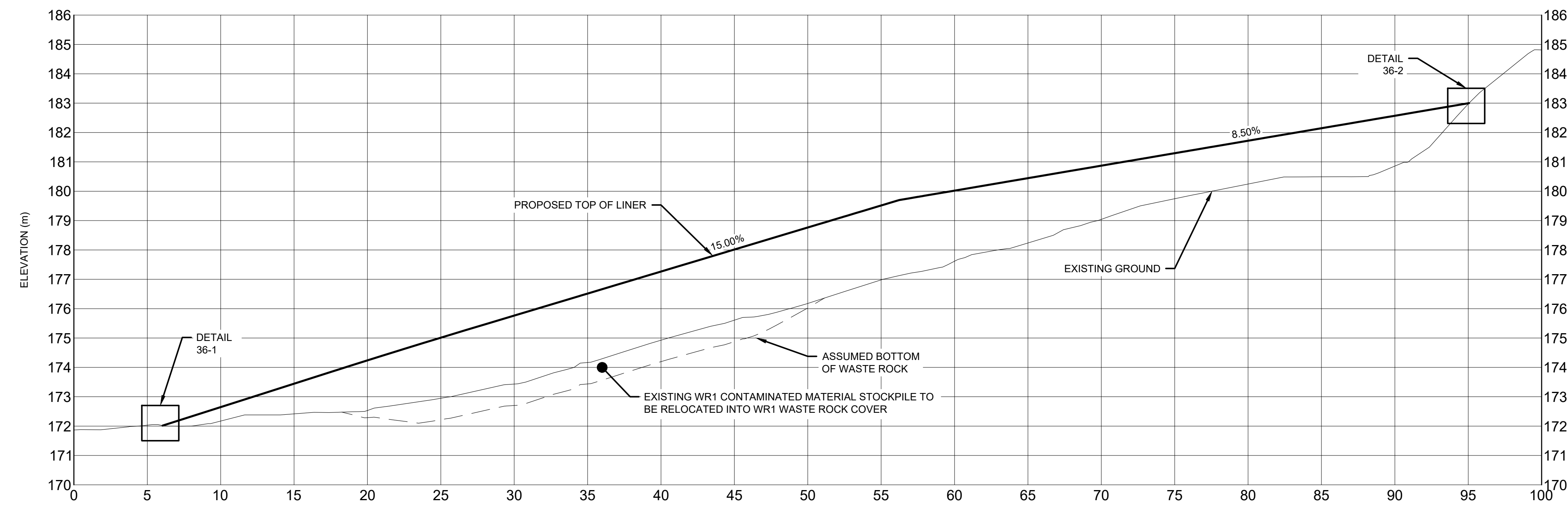
T1 | SECTION



T2 | SECTION



T3 | SECTION



T4 | SECTION

Public Works and Government Services Canada
 Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
 Western Region
SERVICES IMMOBILIERS
 Région de l'ouest

PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND:

- NON-WOVEN GEOTEXTILE
- BITUMINOUS GEOMEMBRANE (BGM)
- PROPOSED PASSIVE GAS VENT (SEE NOTE 9 AND DETAIL 22-4 ON SHEET C-22)
- EXISTING GROUND CONTOURS (1.0 m INTERVAL)
- PROPOSED CONTOURS TOP OF BGM LINER (0.5 m INTERVAL)
- APPROXIMATE TREE LINE

DRAWING NOTES

- ALL COORDINATES ARE REFERENCED TO NAD 83 (CSRS), UTM ZONE 11N. ELEVATIONS ARE IN METRES AND REFERENCED TO MEAN SEA LEVEL.
- ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
- IMAGERY FROM DIGITALGLOBE INC. (PHOTO DATE MAY 29, 2014)
- CONSTRUCTION AREA TO BE CLEARED AND GRUBBED OF ALL VEGETATION AND STRIPPED OF ALL TOPSOIL PRIOR TO CONSTRUCTION. ALL MATERIALS SHALL BE RE-USED AT THE RAYROCK SITE AS PART OF THE RECLAMATION ACTIVITIES. CLEARING AND GRUBBINGS SHALL BE CHIPPED AND RE-USED AS EROSION PROTECTION. TOPSOIL SHALL BE SALVAGED AND RE-USED.
- CONTAMINATED MATERIALS TO BE COMPACTED IN LIFTS OF 0.3 M.
- SLOPES SHALL NOT EXCEED THOSE SHOWN ON THE DRAWING.
- GAMMA RADIATION LEVELS KNOWN TO EXCEED 2.5 USV/HR AT WR1 LOCATION.
- LOCATIONS OF PROPOSED GAS VENTS ARE APPROXIMATE. DR SHALL CONFIRM LOCATIONS OF PROPOSED GAS VENTS PRIOR TO INSTALLATION.

REFERENCE:
RAYROCK MINE SUN MAIN 2019 GEOPHYSICS INVESTIGATION AUG 26, 2019.

PROFESSIONAL SEALS

PERMIT TO PRACTICE
 AECOM CANADA LTD.
 Signature: *[Signature]*
 Date: 29 October 2021
 PERMIT NUMBER: P639
 NWT/NU Association of Professional Engineers and Geoscientists

Revision	Description	Date
F		
E		
D	ISSUED FOR ADDENDUM 01	20211006
C	ISSUED FOR TENDER	20210818
B	ISSUED FOR 90% DESIGN SUBMISSION	20210702
A	ISSUED FOR 90% DESIGN SUBMISSION	20210415

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project

KWETI?AA (RAYROCK) REMEDIATION PROJECT

Designed by: J.NOLIN
 Drawn by: G.STEGARIU
 Approved by: J.NOLIN
 PWSC Project Manager: R.STUDER-HALBACH
 Drawing Title: **SUN MAIN: WR1 WASTE ROCK COVER**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.057572.020	C36 OF 40	D