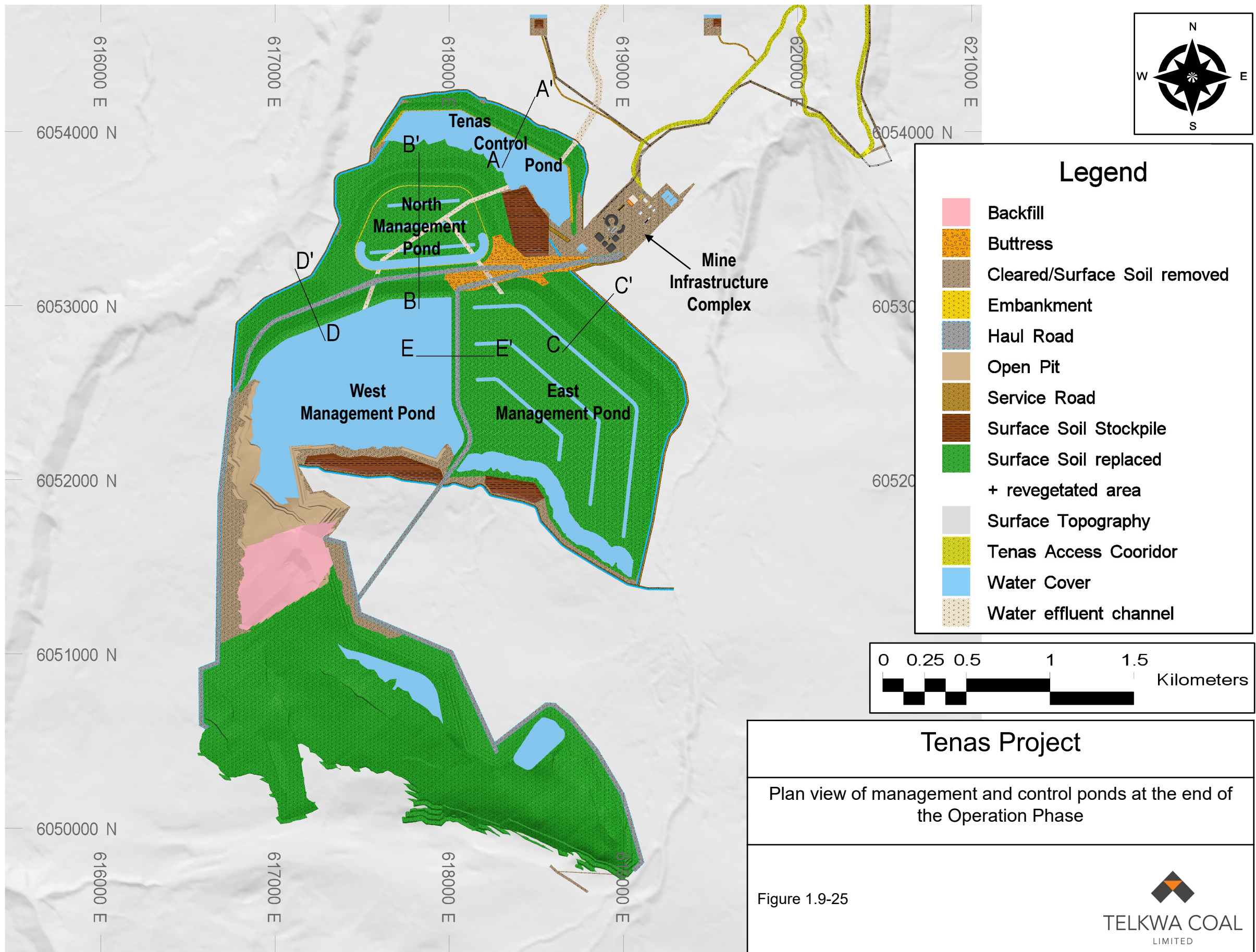
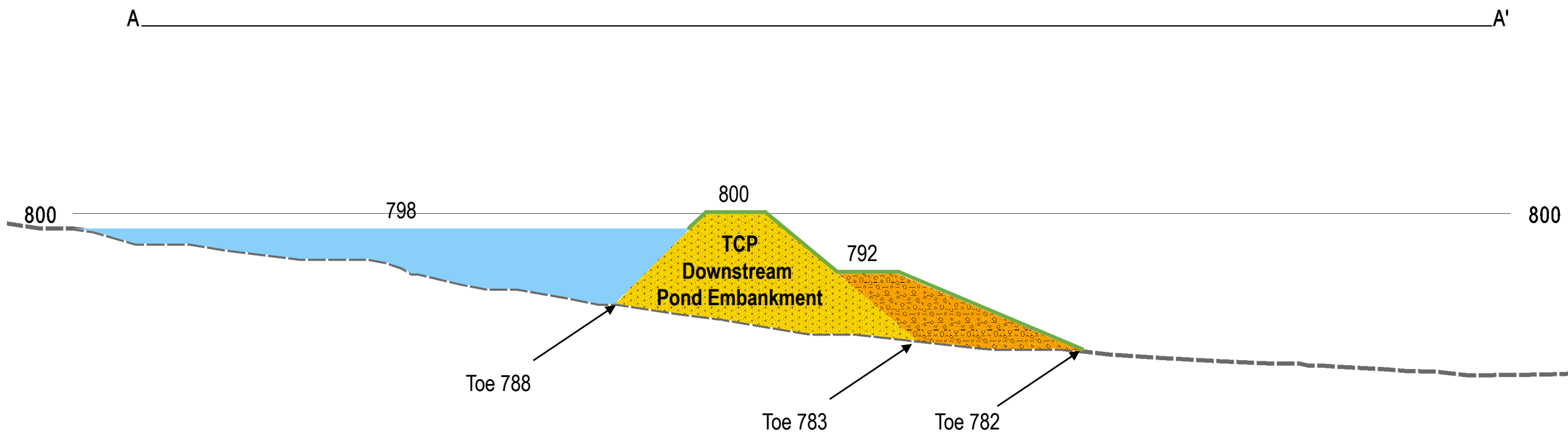
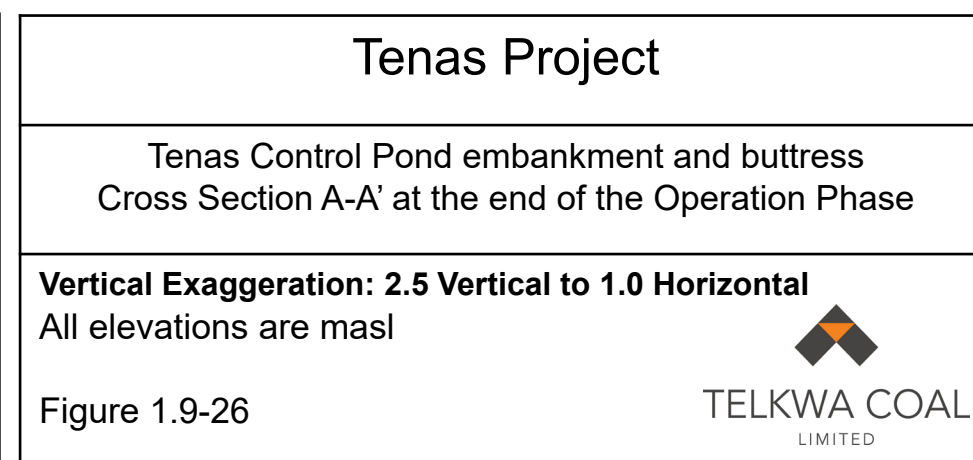
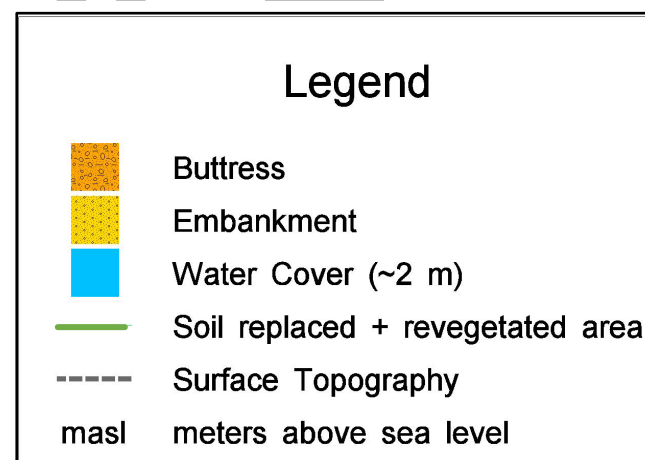
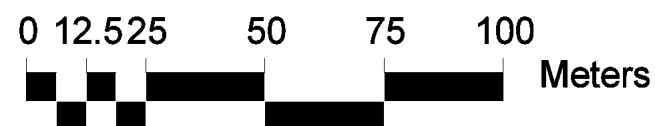
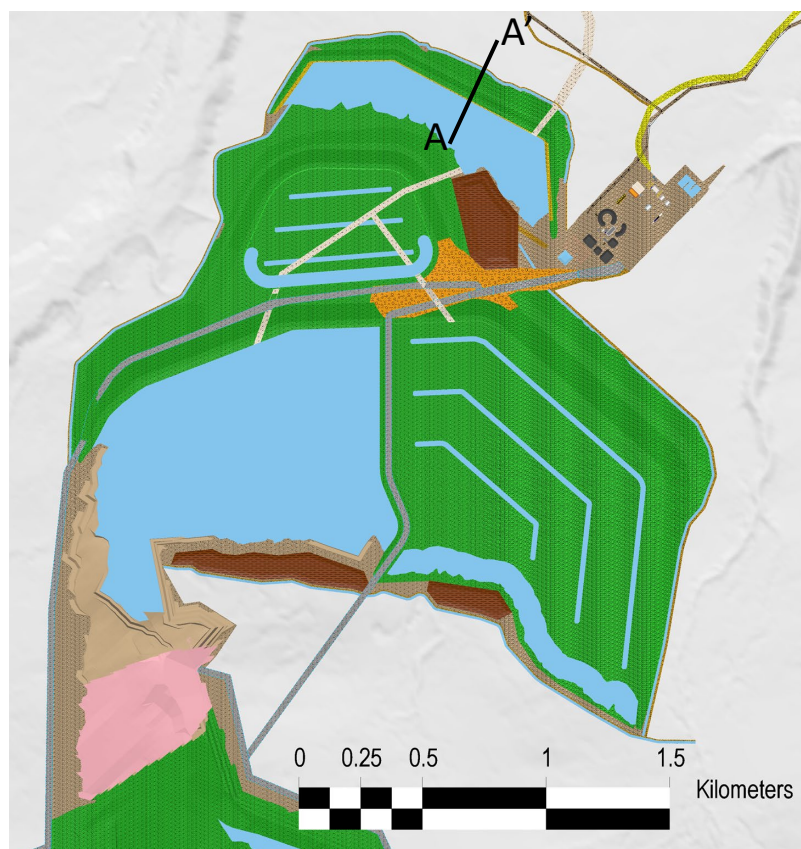
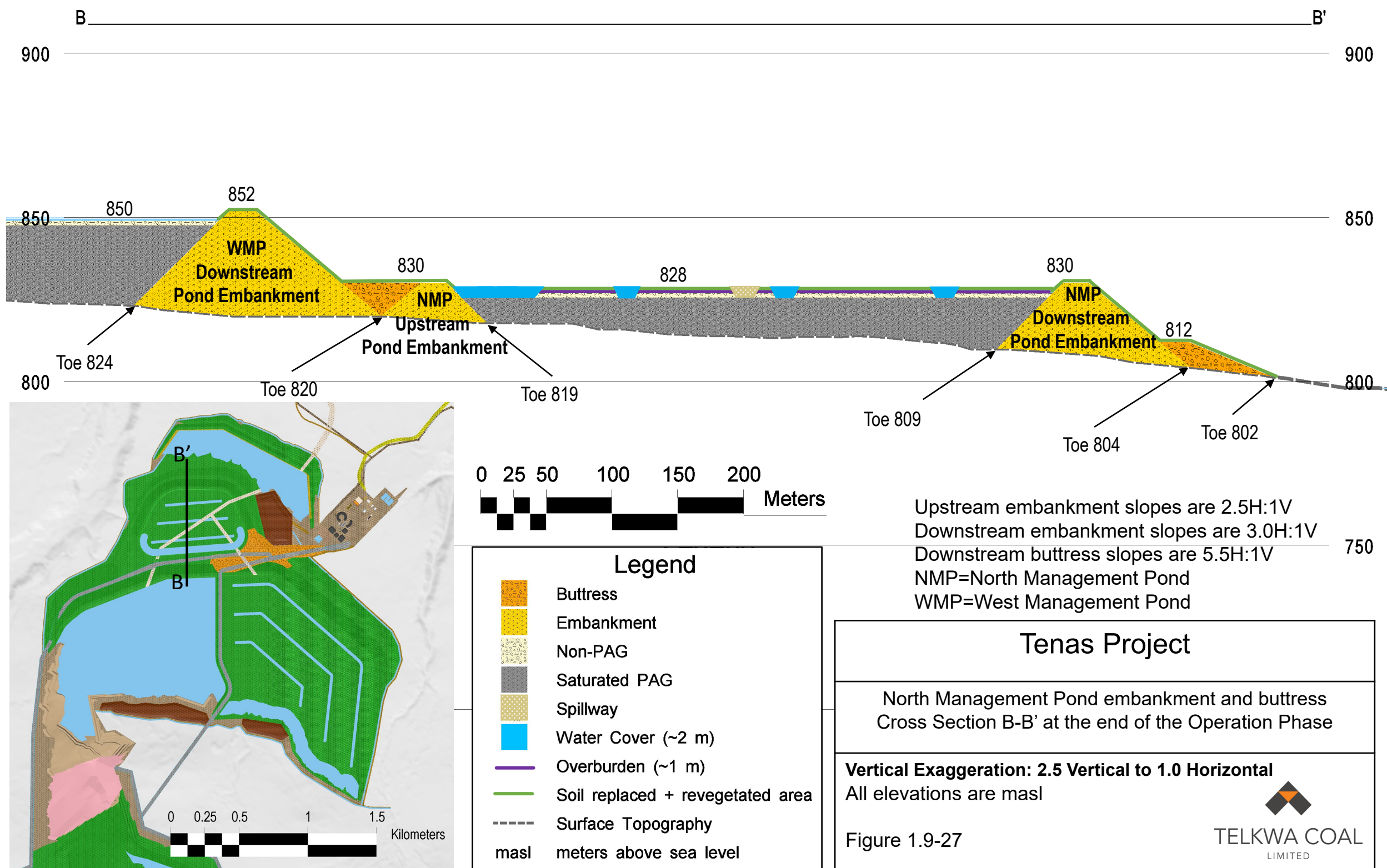




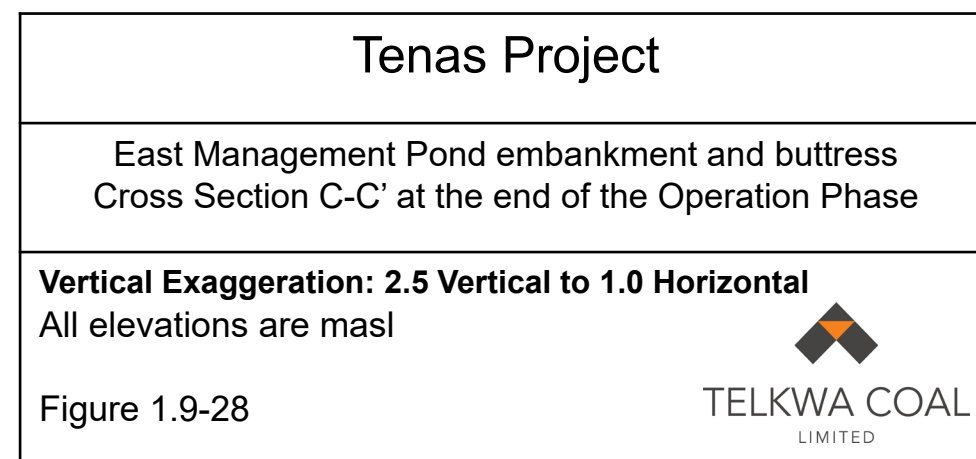
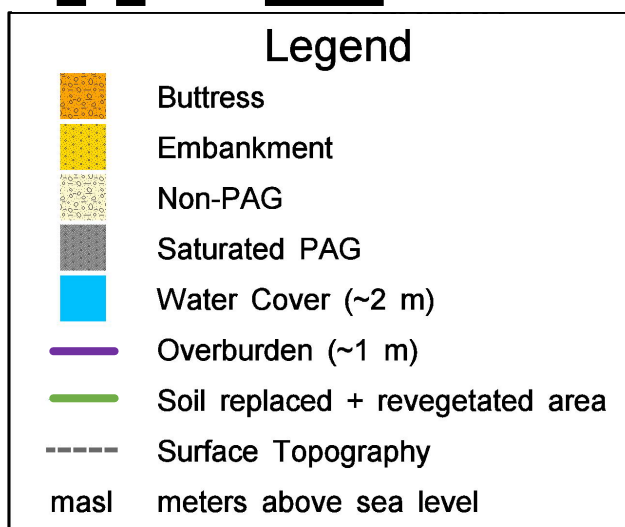
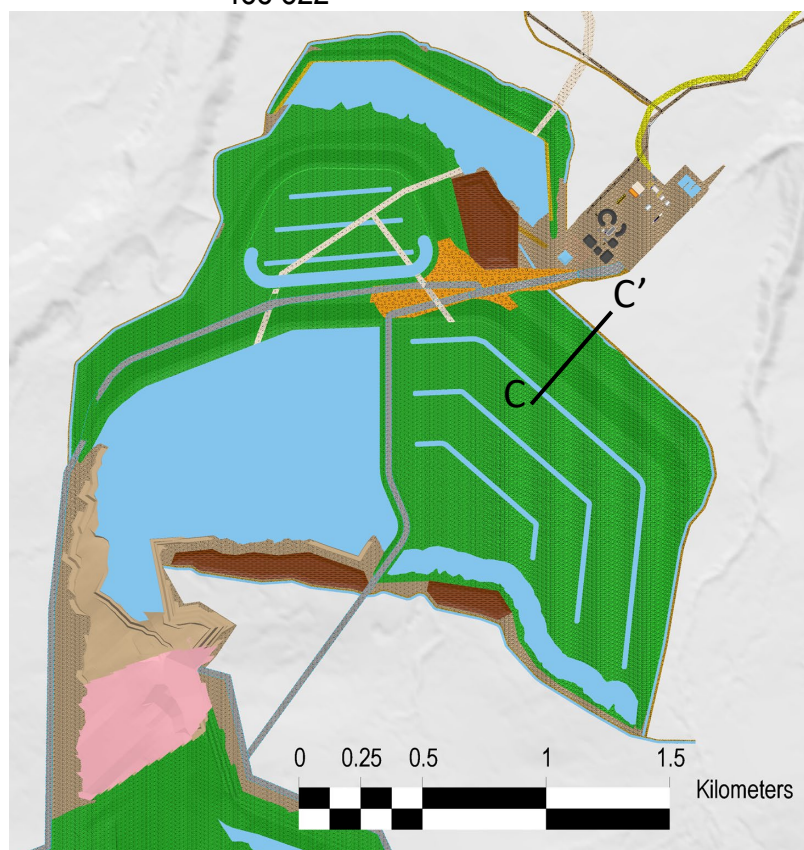
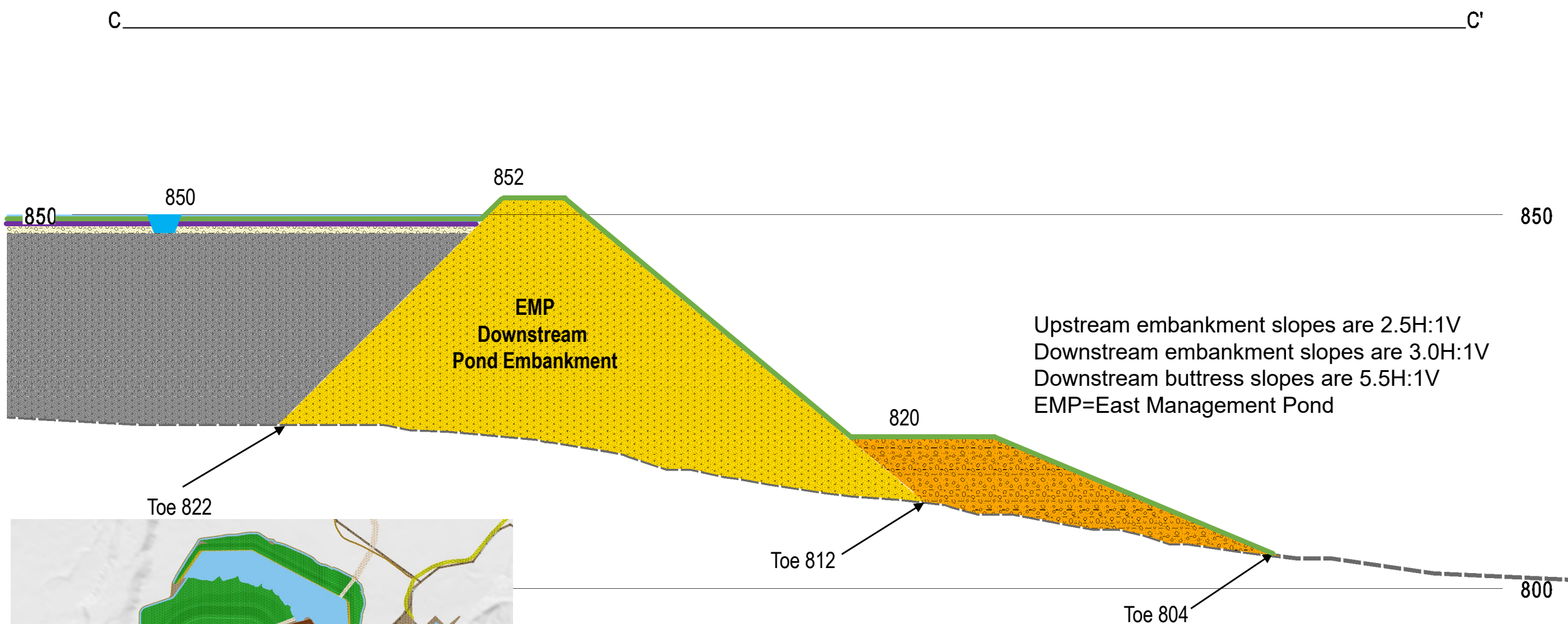


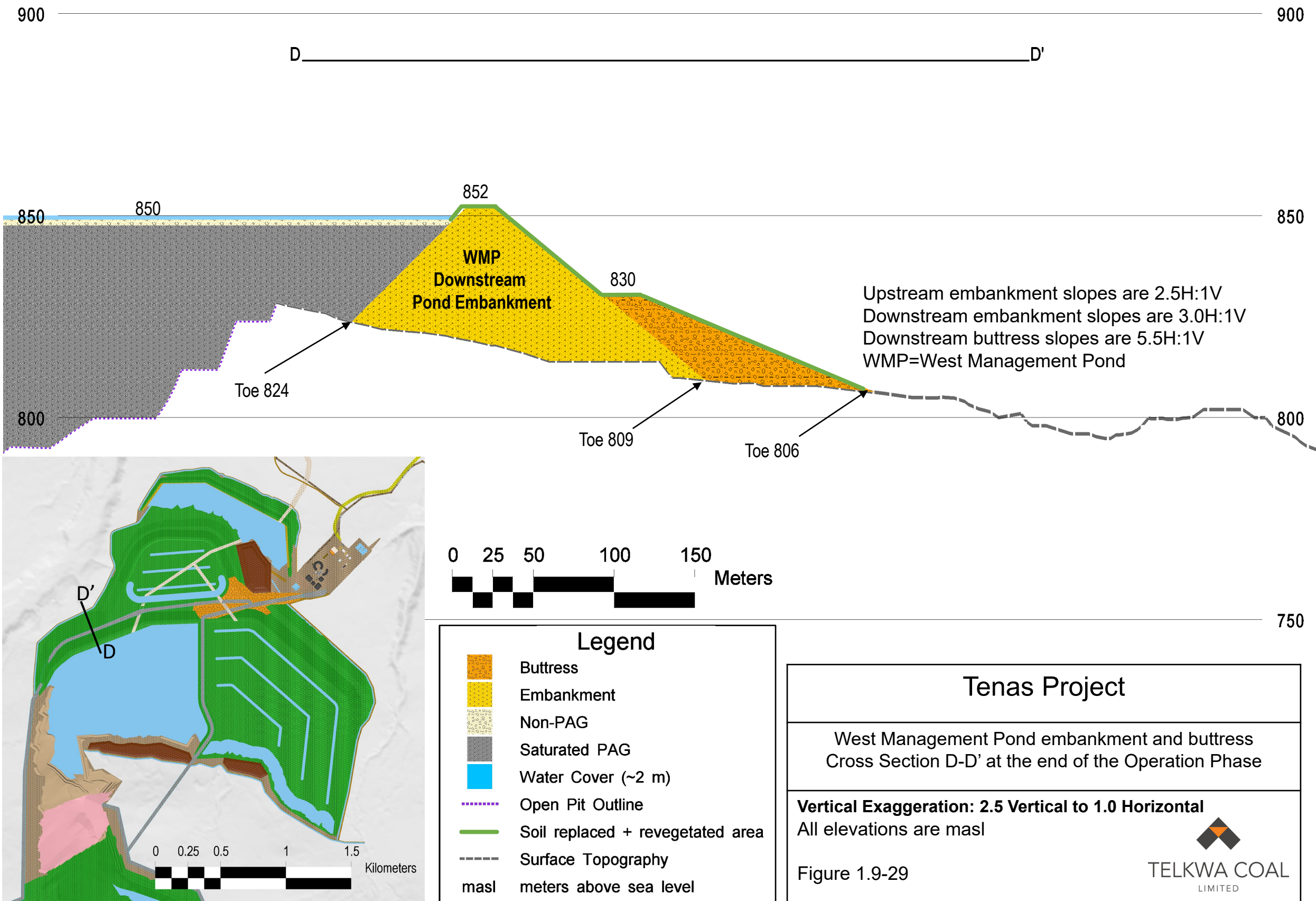
Upstream embankment slopes are 2.5H:1V
 Downstream embankment slopes are 3H:1V
 Downstream buttress slopes are 6H:1V
 TCP=Tenas Control Pond

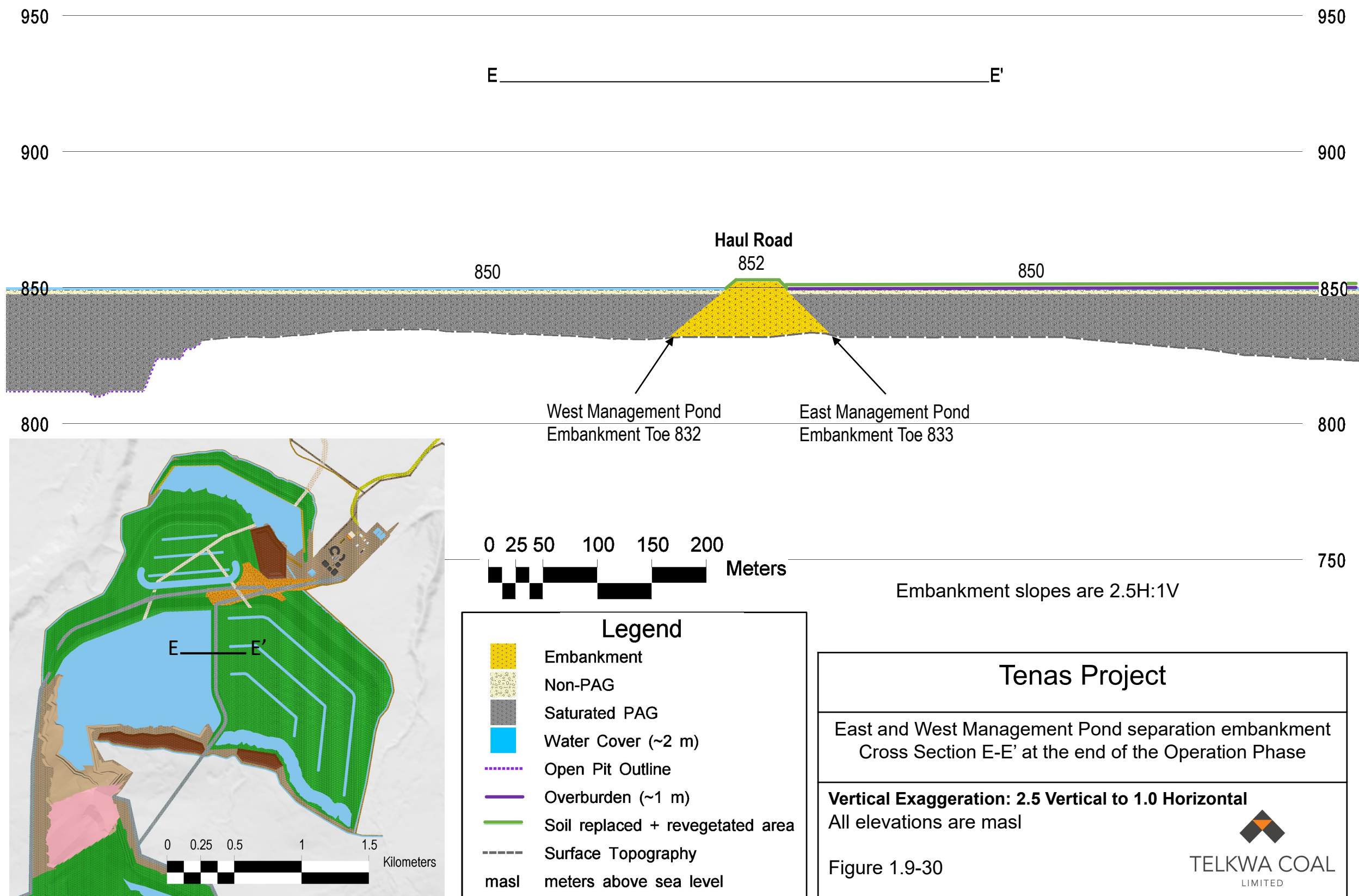




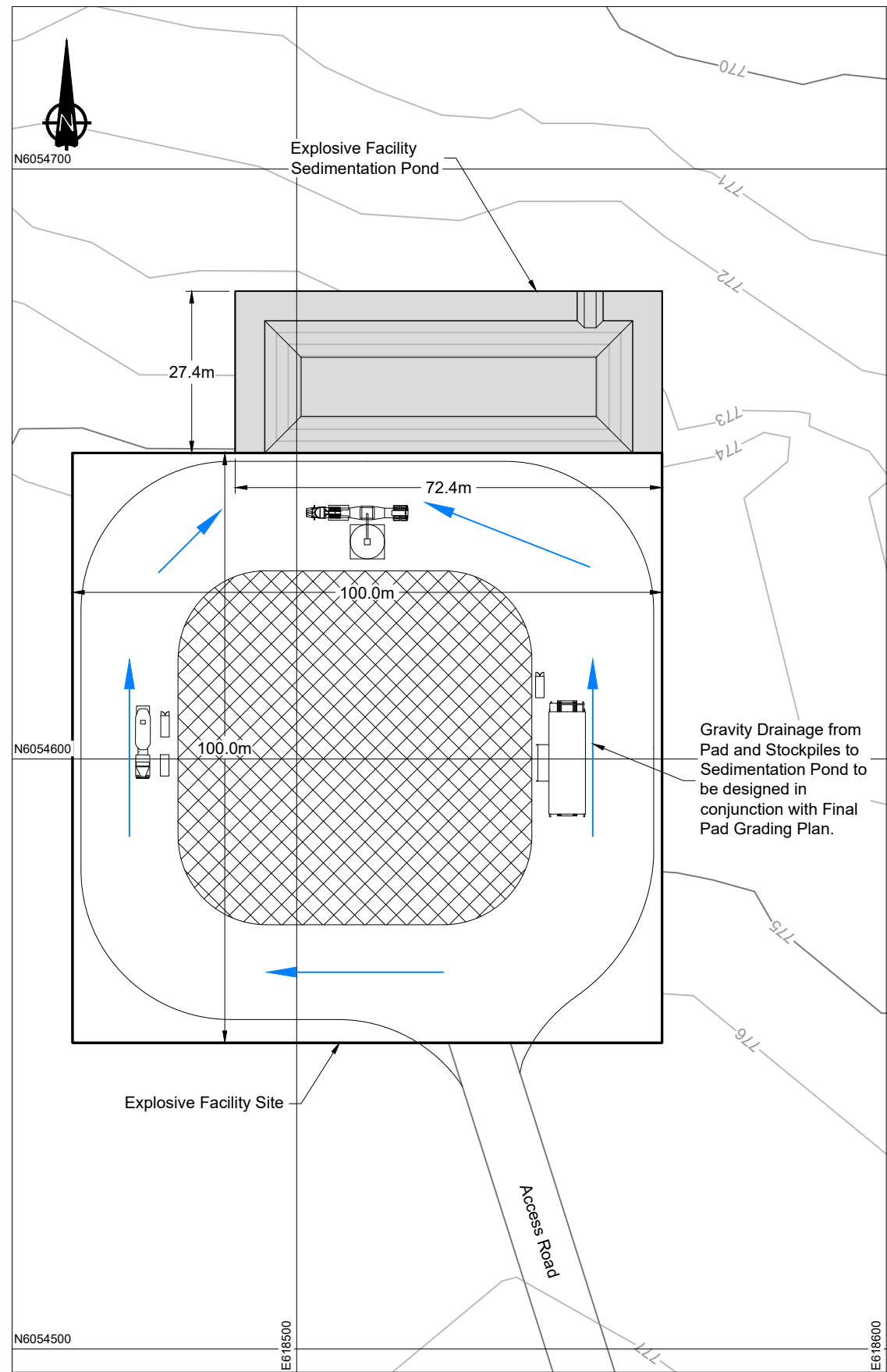
Upstream embankment slopes are 2.5H:1V
Downstream embankment slopes are 3.0H:1V
Downstream buttress slopes are 5.5H:1V
NMP=North Management Pond
WMP=West Management Pond



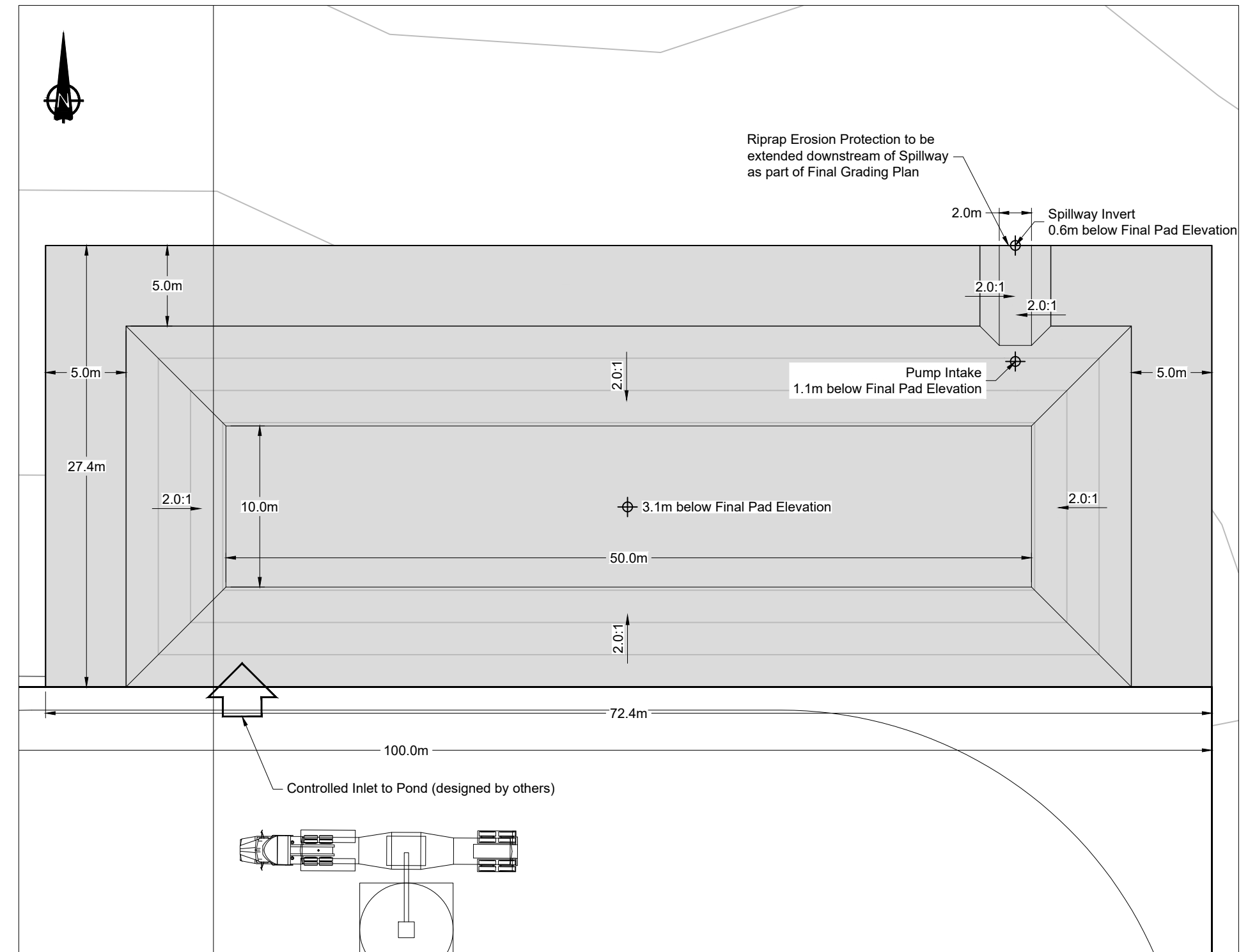
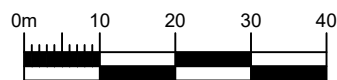




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Explosive Storage Site Overview



NOTES

1. Contours shown at 1.0m intervals.
2. All dimensions shown in meters unless otherwise stated.
3. Explosive Storage Site features taken from Drawing 50002 Revision 5 in file "General R5.dwg" created by Orica Mining Services dated 2020/09/29.
4. Final grade of Explosives Storage Area pad is not known. Pond design based on depths relative to final pad elevation.
5. Pond to be unlined to promote infiltration. Coarse gravel layer to be placed across exposed ground to reduce erosion of pond slopes.

REFERENCE

NAD83 UTM Zone 9.

Explosive Storage Pond Detail



**ISSUED FOR
PERMITTING**



SRK JOB NO.: 1CT027.003
FILE NAME: 1CT027.003 Explosive Sites Ponds.dwg



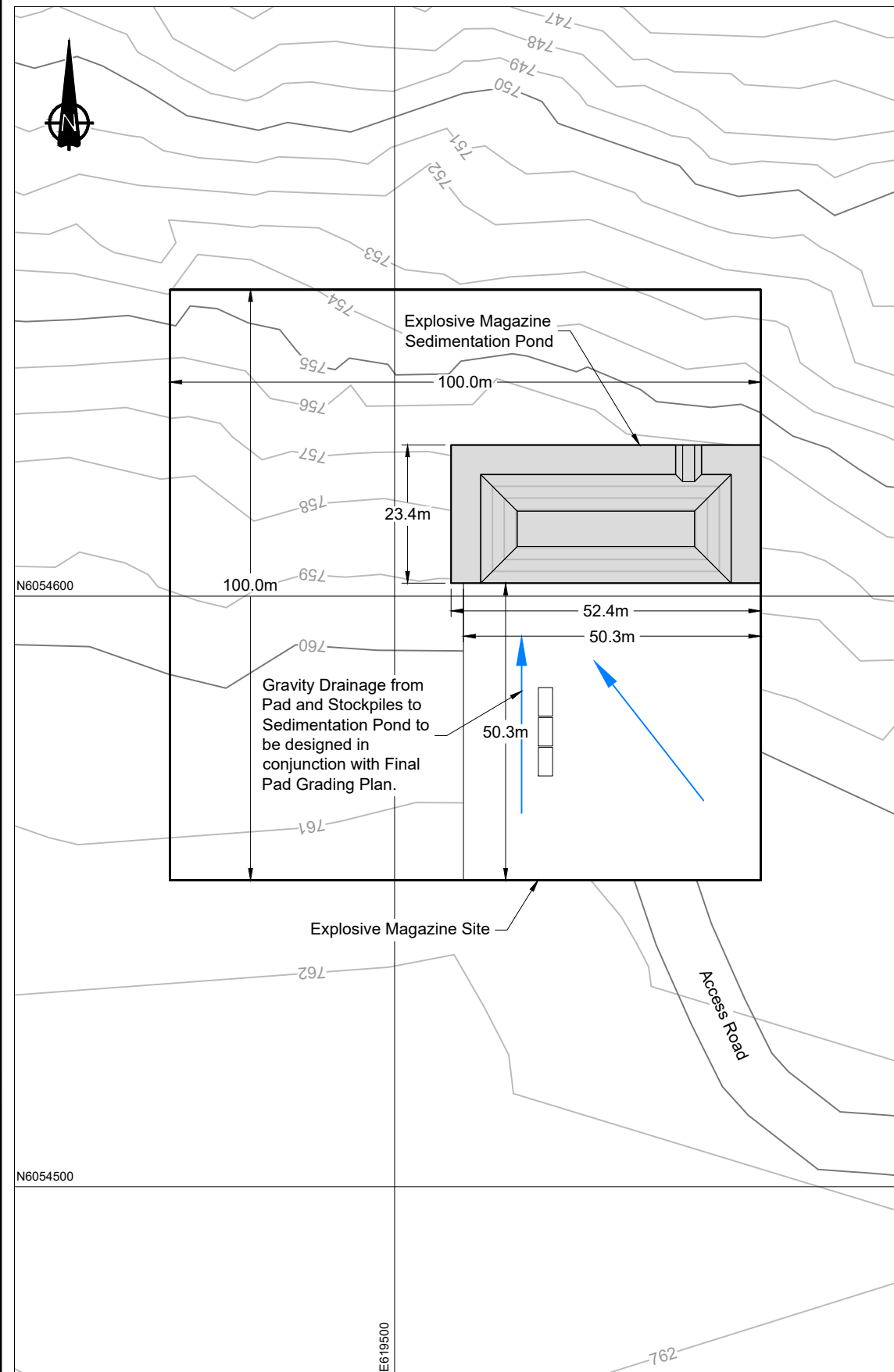
Telkwa Coal Limited

Tenas Project Water Management Design

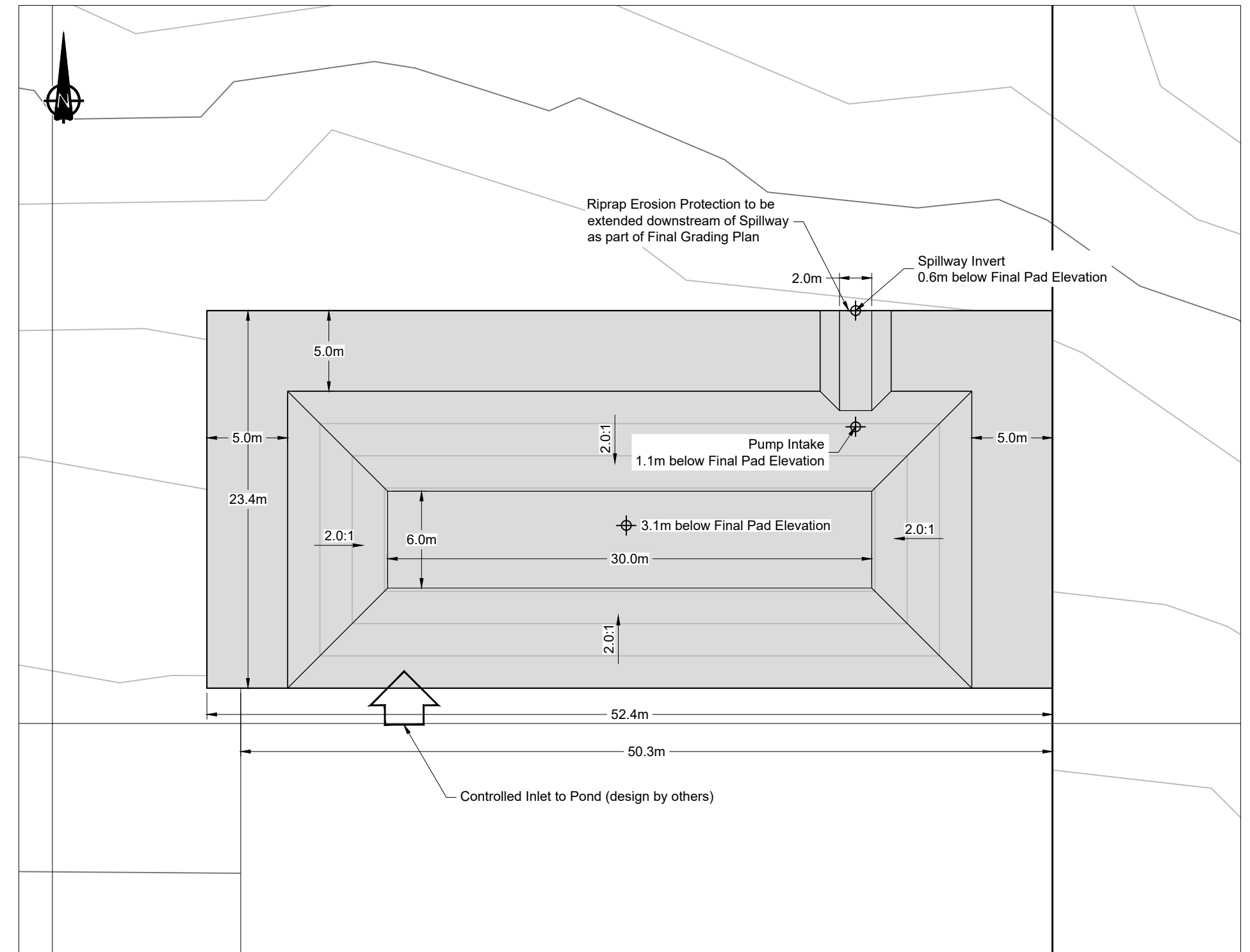
Explosive Facility Sedimentation
Pond at the end of the Operation
Phase

DATE: 2021/07/16
APPROVED: SAB
FIGURE: 1.9-31 a

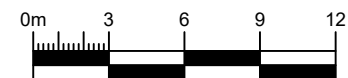
\\ark-adf\share\env\Projects\01_SITES\Telkwa Coal\000_AutoCAD\Water Management\Engineering\Padage\1CT027.003 Explosive Sites Ponds.dwg



Magazine Storage Site Overview



Explosive Storage Pond Detail



NOTES

1. Contours shown at 1.0m intervals.
2. All dimensions shown in meters unless otherwise stated.
3. Explosive Magazine Site features taken from Drawing 50003 Revision 5 in file "General R5.dwg" created by Orca Mining Services dated 2020/09/29.
4. Final grade of Explosives Storage Area pad is not known. Pond design based on depths relative to final pad elevation.
5. Pond to be unlined to promote infiltration. Coarse gravel layer to be placed across exposed ground to reduce erosion of pond slopes.

REFERENCE

NAD83 UTM Zone 9.

**ISSUED FOR
PERMITTING**

srk consulting

SRK JOB NO.: 1CT027.003
FILE NAME: 1CT027.003 Explosive Sites Ponds.dwg

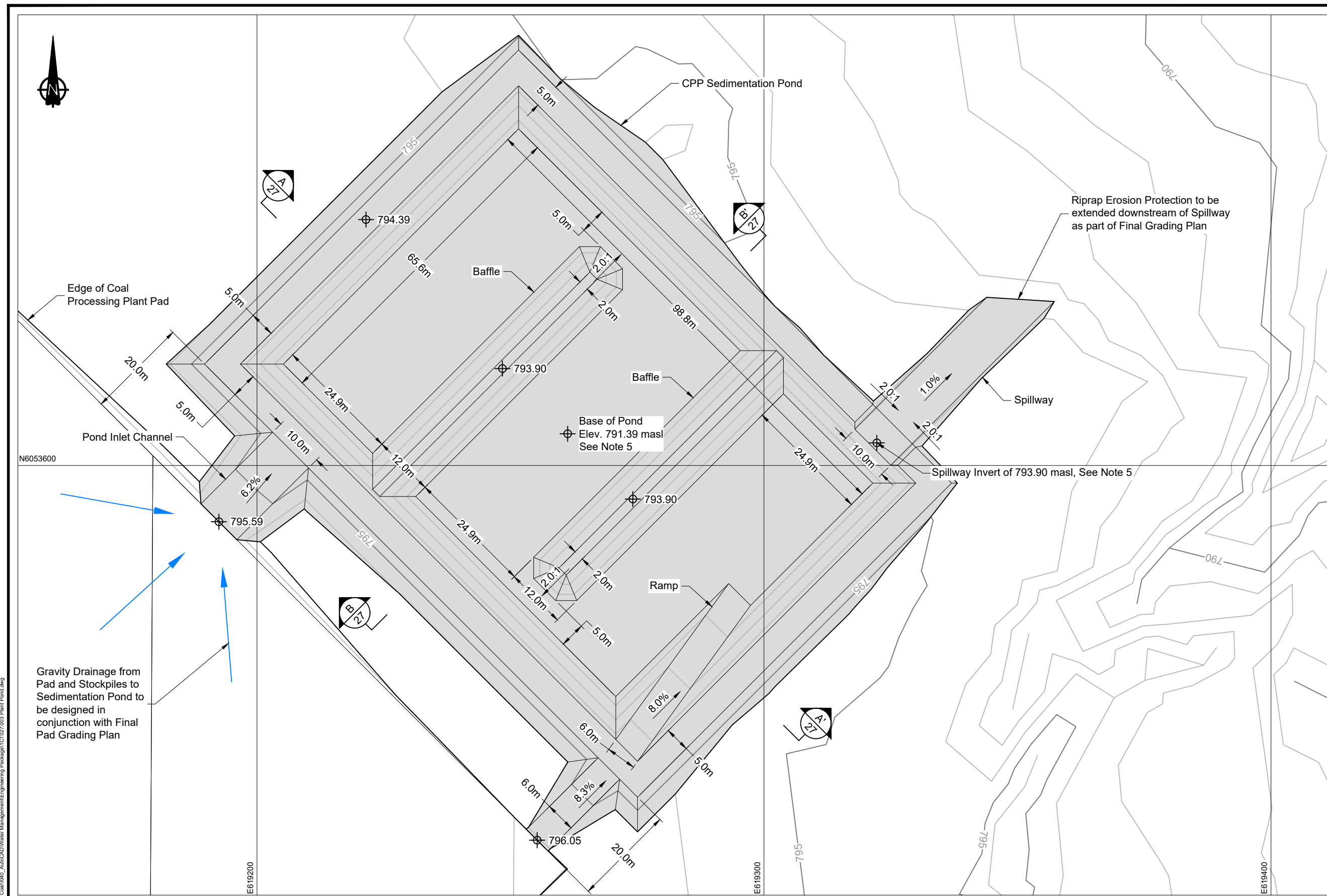
**TELKWA COAL
LIMITED**

Telkwa Coal Limited

Tenas Project Water Management Design

Explosive Magazine Sedimentation
Pond at the end of the Operation
Phase

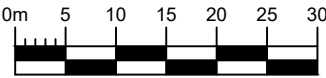
DATE: 2021/07/16
APPROVED: SAB
FIGURE: 1.9-31 b



- NOTES**
- Contours shown at 1.0m intervals.
 - All dimensions shown in meters unless otherwise stated.
 - Mine Infrastructure designs by Telkwa Coal Limited (TCL).
 - Pond to be unlined to promote infiltration. Coarse gravel layer to be placed across exposed ground to reduce erosion of pond slopes.
 - CPP Sedimentation Pond modeling has been developed based on a pond invert elevation of 791.39 masl and spillway invert of 793.90 masl. Updated designs require a pond invert of 791.09 masl and spillway invert of 793.69 masl, as shown. Elevations shown to be updated in models prior to issuing for construction.

REFERENCE
NAD83 UTM Zone 9.

**ISSUED FOR
PERMITTING**



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SRK JOB NO.: 1CT027.003
FILE NAME: 1CT027.003 Plant Pond.dwg



Telkwa Coal Limited

Tenas Project Water Management Design

Coal Processing Plant (CPP)
Sedimentation Pond at the end of the
Operation Phase

DATE: 2021/07/16	APPROVED: SAB	FIGURE: 1.9-32
---------------------	------------------	-------------------

N6058200



Rail Infrastructure
Area Boundary

1x1.0m dia. CSP Culvert
Crossing at 1.0% Slope

Riprap Apron

Road

Rail Lines

Road

Road

Rail Infrastructure Sedimentation Pond

Rail Loading Pad

Topsoil Stockpile

Road

N6058100

E629300

E629400

E629500

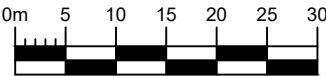
NOTES

1. Contours shown at 1.0m intervals.
2. All dimensions shown in meters unless otherwise stated.
3. Mine Infrastructure designs by Telkwa Coal Limited (TCL).
4. Pond to be unlined to promote infiltration. Coarse gravel layer to be placed across exposed ground to reduce erosion of pond slopes.
5. Gravity Drainage from Stockpiles to Sedimentation Pond to be developed in conjunction with Final Grading Plan.

REFERENCE

NAD83 UTM Zone 9.

**ISSUED FOR
PERMITTING**



SRK JOB NO.: 1CT027.003
FILE NAME: 1CT027.003 Rail Load Out Pond.dwg



Telkwa Coal Limited

Tenas Project Water Management Design

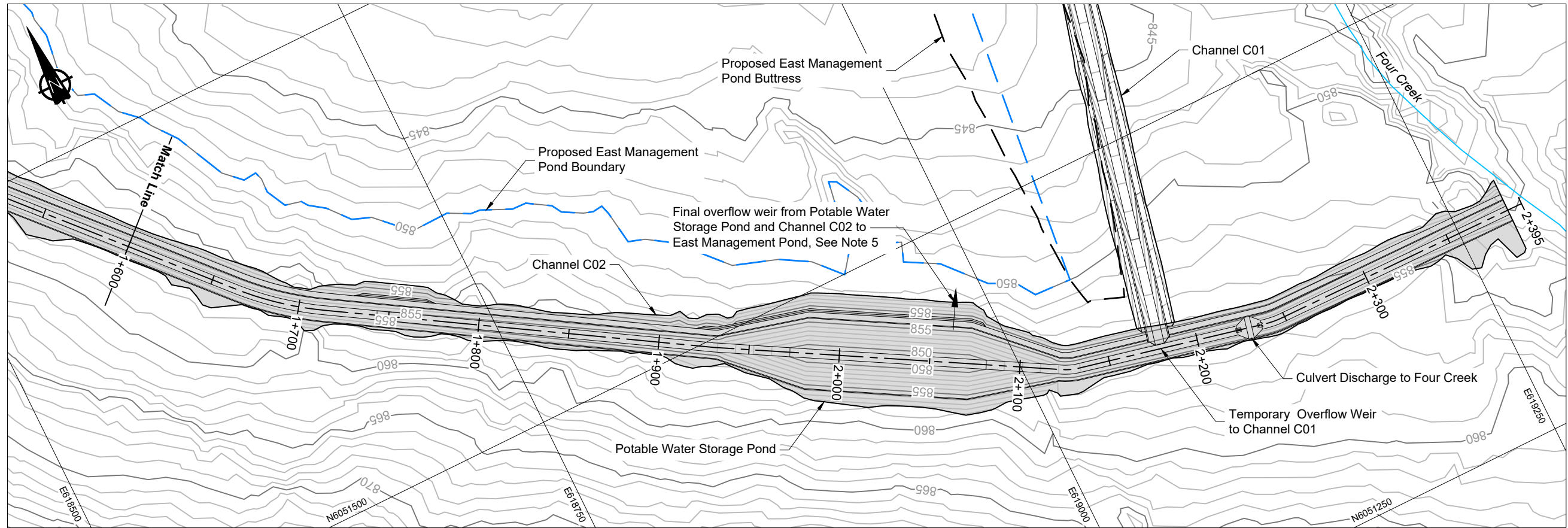
Rail Infrastructure Sedimentation
Pond at the end of the Operation
Phase

DATE:
2021/07/16

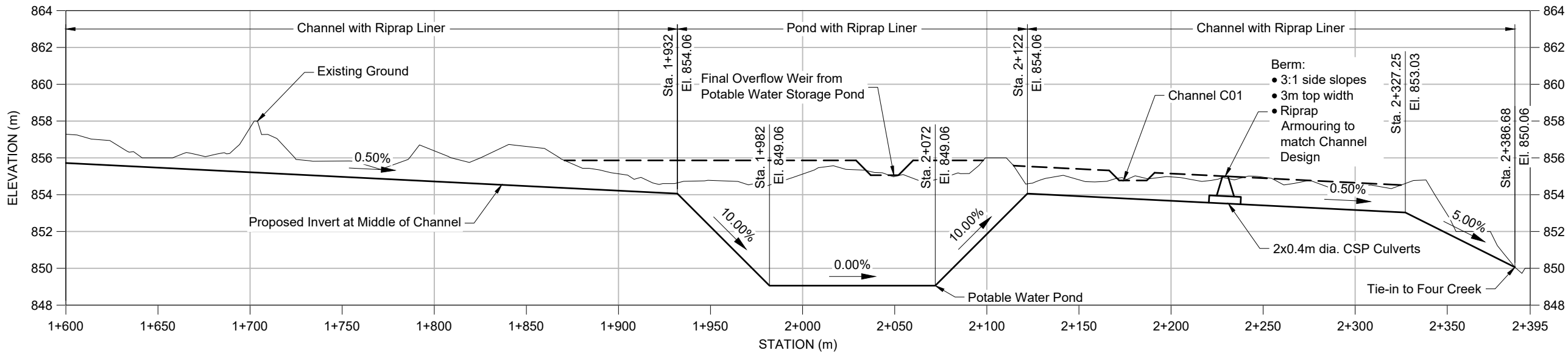
APPROVED:
SAB

FIGURE:
1.9-33

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Channel C02 Plan View



Channel C02 Profile View

10x Vertical Exaggeration

LEGEND

- Existing Watercourse
- Proposed Buttriss Boundary
- Proposed Management Pond Boundary
- Proposed Channel

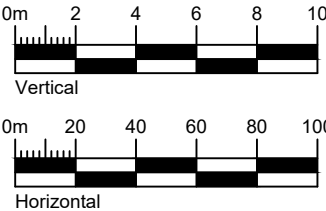
NOTES

- Contours shown at 1.0m intervals.
- All dimensions shown in meters unless otherwise stated.
- Mine Infrastructure designs by Telkwa Coal Limited (TCL).
- Infrastructure extents shown at End Of Mine.
- Temporary overflow weir from Channel C02 will be constructed at confluence with C01. Once EMP becomes operational, the permanent overflow weir will be constructed from the Potable Water Pond to EMP, and the original discharge to Channel C01 will be backfilled.

REFERENCE

NAD83 UTM Zone 9.

ISSUED FOR PERMITTING



SRK JOB NO.: 1CT027.003
FILE NAME: 1CT027.003 Channel C02.dwg



Telkwa Coal Limited

Tenas Project Water Management Design

Potable Water Storage Pond at the End of the Operation Phase

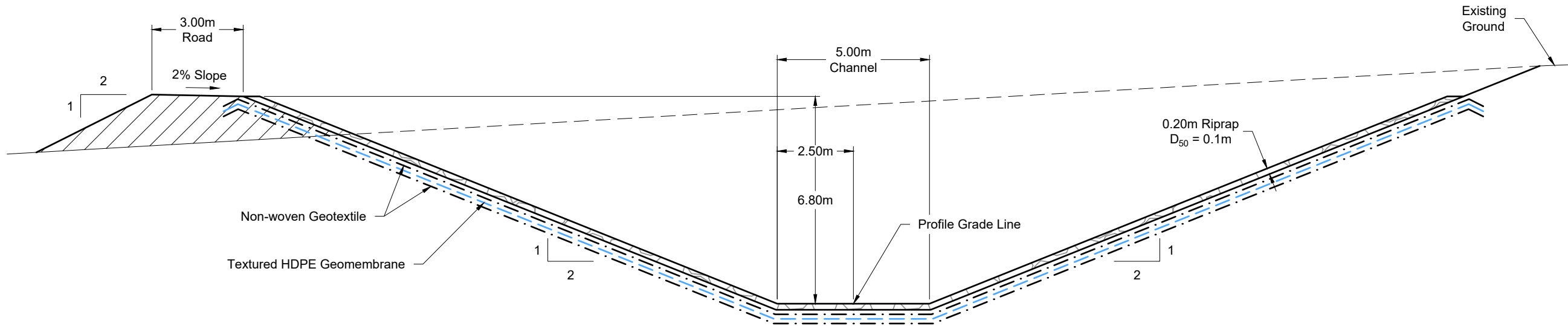
DATE: 2021/07/16
APPROVED: SAB
FIGURE: 1.9-34 a

LEGEND

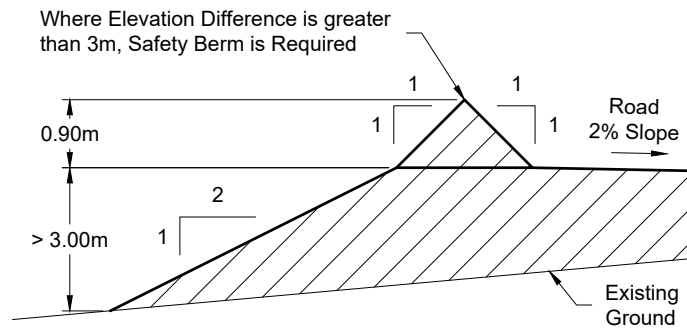
Engineered Fill

NOTES

1. All dimensions shown in meters unless otherwise stated.
2. Road surfaces to be finished with approved surfacing material.
3. Liner tie-in details as per manufacturer specifications.
4. Road width to be extended to accommodate safety berm where required.



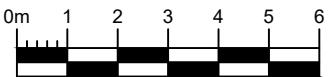
Potable Water Storage Pond



Safety Berm Detail

Not To Scale

ISSUED FOR
PERMITTING



Tenas Project Water Management Design

Potable Water Storage Pond
profile at the End of the
Operation Phase

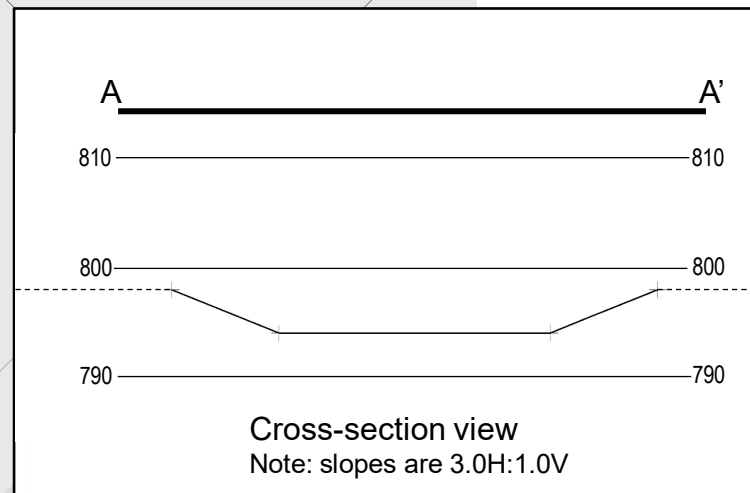
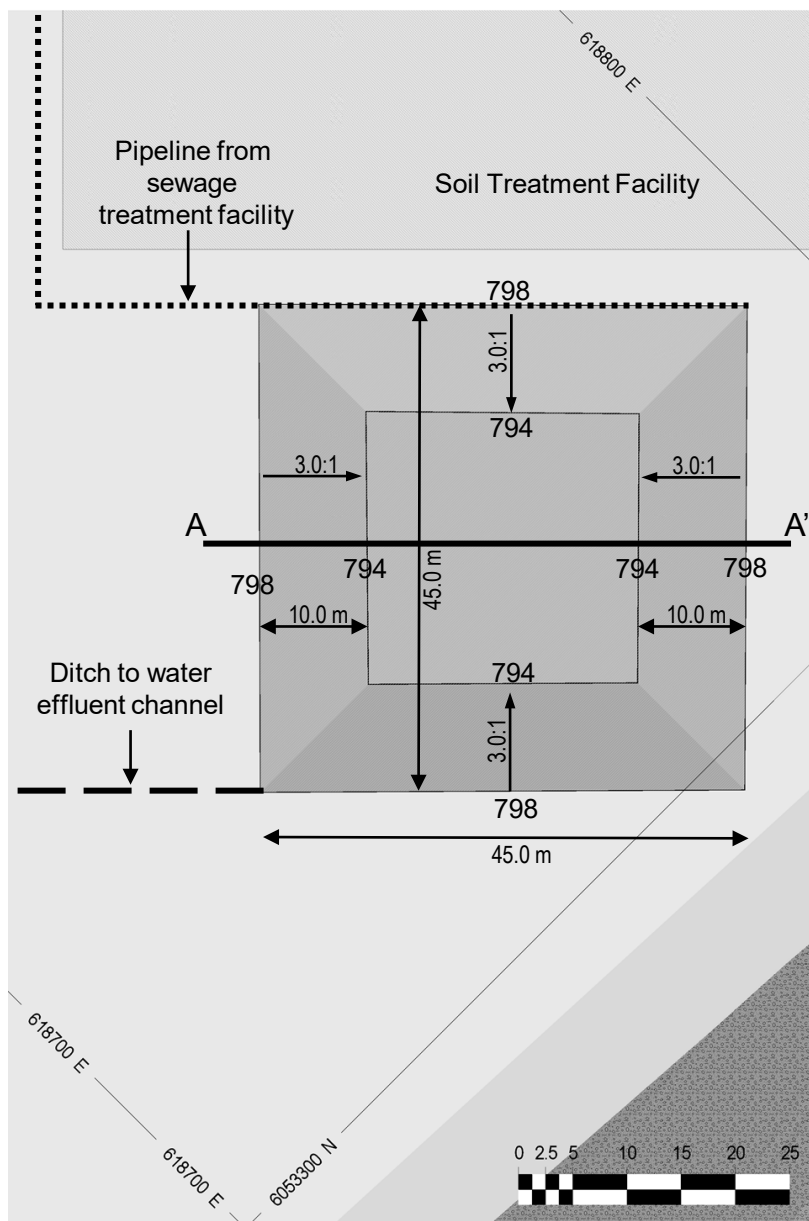
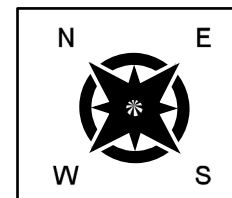
SRK JOB NO.: 1CT027.003
FILE NAME: 1CT027.003 Channel C02 Typ Sec.dwg

Telkwa Coal Limited

DATE:
2021/07/16

APPROVED:
SAB

FIGURE:
1.9-34 b

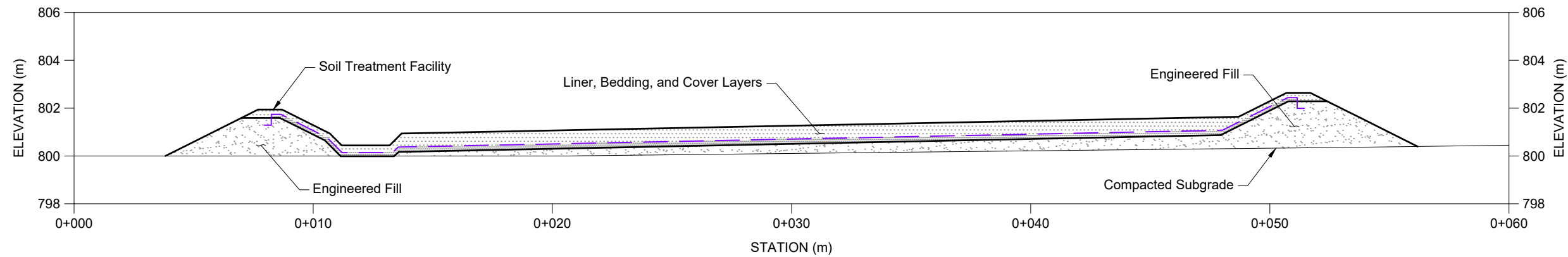


Tenas Project

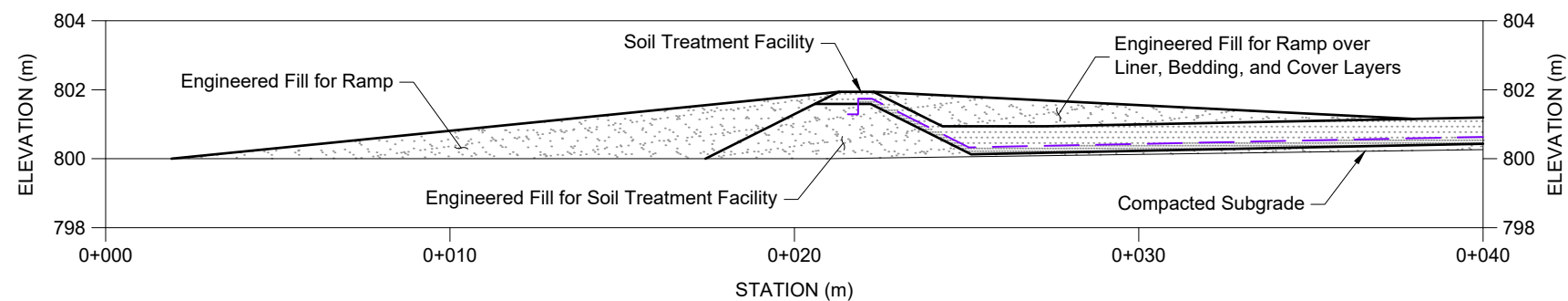
Wastewater Storage Pond at the end of the Operation Phase

Figure 1.9-35

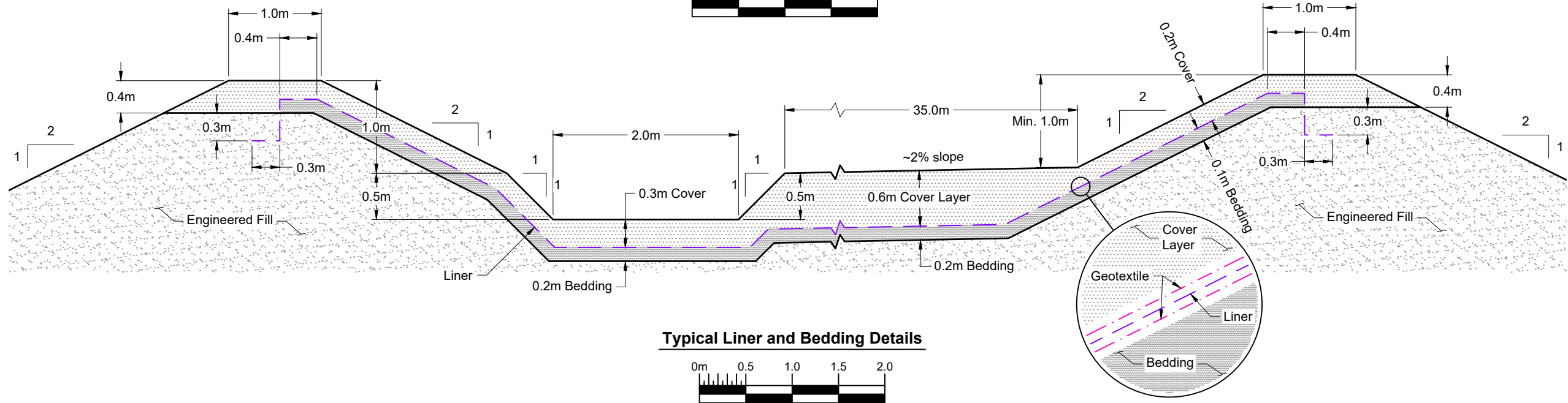
All elevations in meters above sea level
Indicated ratios are horizontal (H)
to vertical (V)



A
02
Soil Treatment Facility Section



B
02
Soil Treatment Facility Ramp Section



Typical Liner and Bedding Details

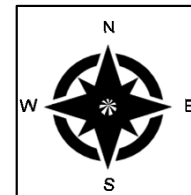
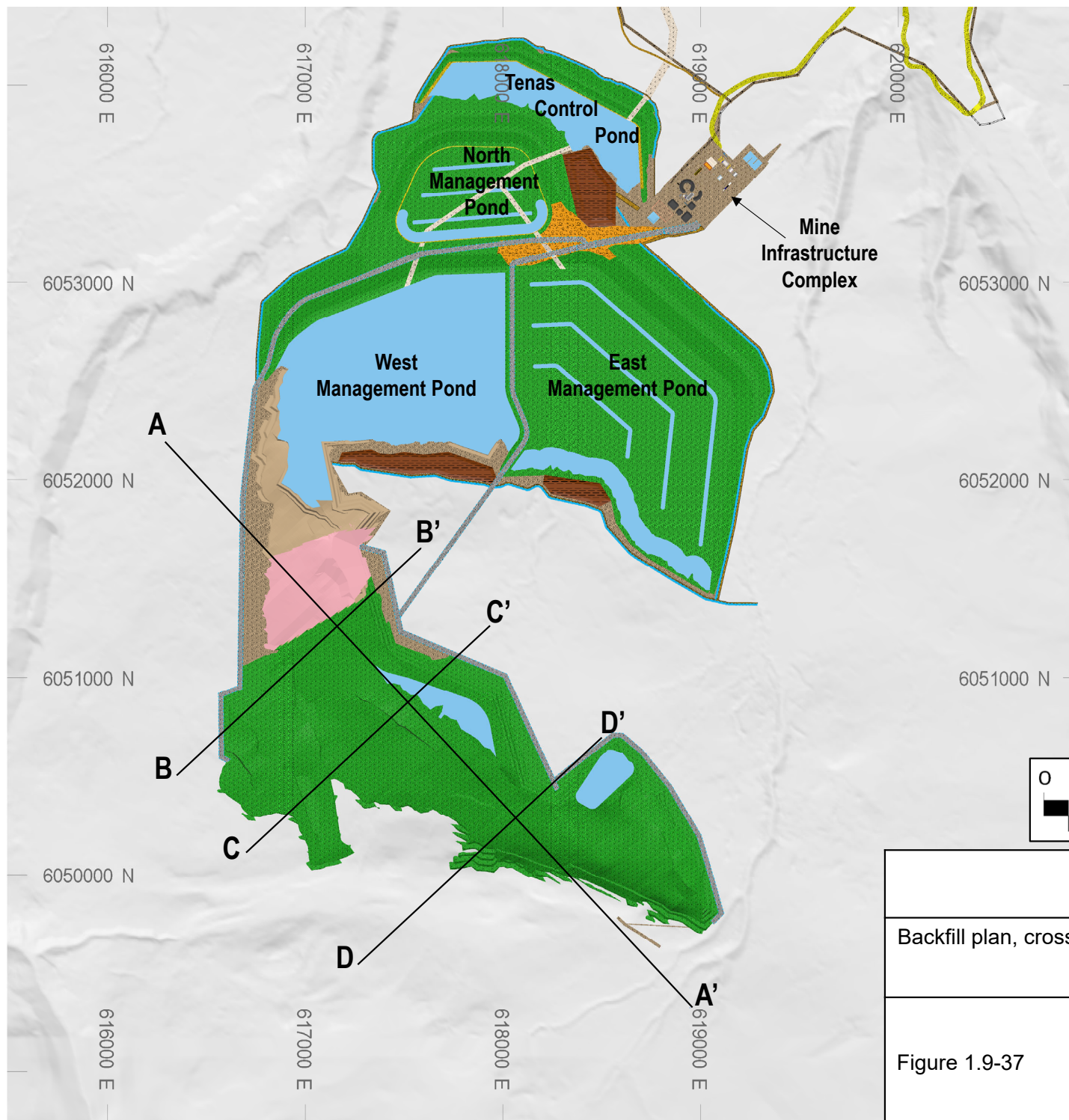
NOTES

1. All dimensions shown in meters unless otherwise stated.
2. All vegetation, organics, topsoil, and soft soils are to be removed prior from the facility footprint until a competent, dense material is exposed as directed by the Engineer.
3. The existing ground surface shown does not consider stripping of the foundation. The facility elevations are to be field to the encountered conditions provided that a minimum berm depth of 1.0m is maintained.
4. All fill materials are to be approved by the Engineer prior to use and must be non-acid generating, free of organics debris, snow, ice and all other deleterious materials.
5. The liner bedding and protection layer are to consist of well graded sand and have a maximum particle size of 100mm.
6. Compaction of materials to be completed in 300mm lifts to 95% standard proctor density.
7. All geosynthetic products are to be handled, stored, and installed as per manufacturers specification.
8. Prior to geosynthetic deployment, the subgrade surface must be inspected and be free of vegetation, sharp-edged rocks, stones, debris, and other foreign material that could contact the geosynthetic liner.
9. No direct operation of any equipment on unprotected liner and geotextile, minimum 0.6m cover.
10. Berm crest width may be increased (extended outward) if required to accommodate compaction equipment.
11. As-built survey to be taken at all material changes.

**NOT FOR
CONSTRUCTION**

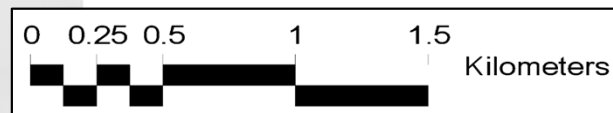
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Legend

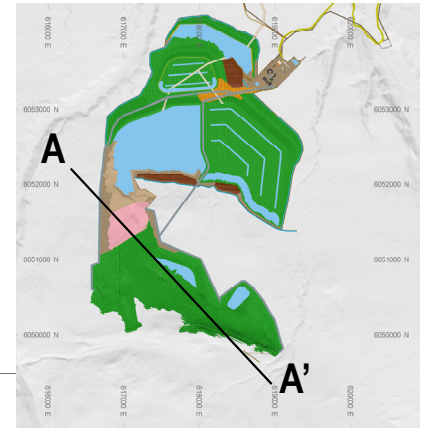
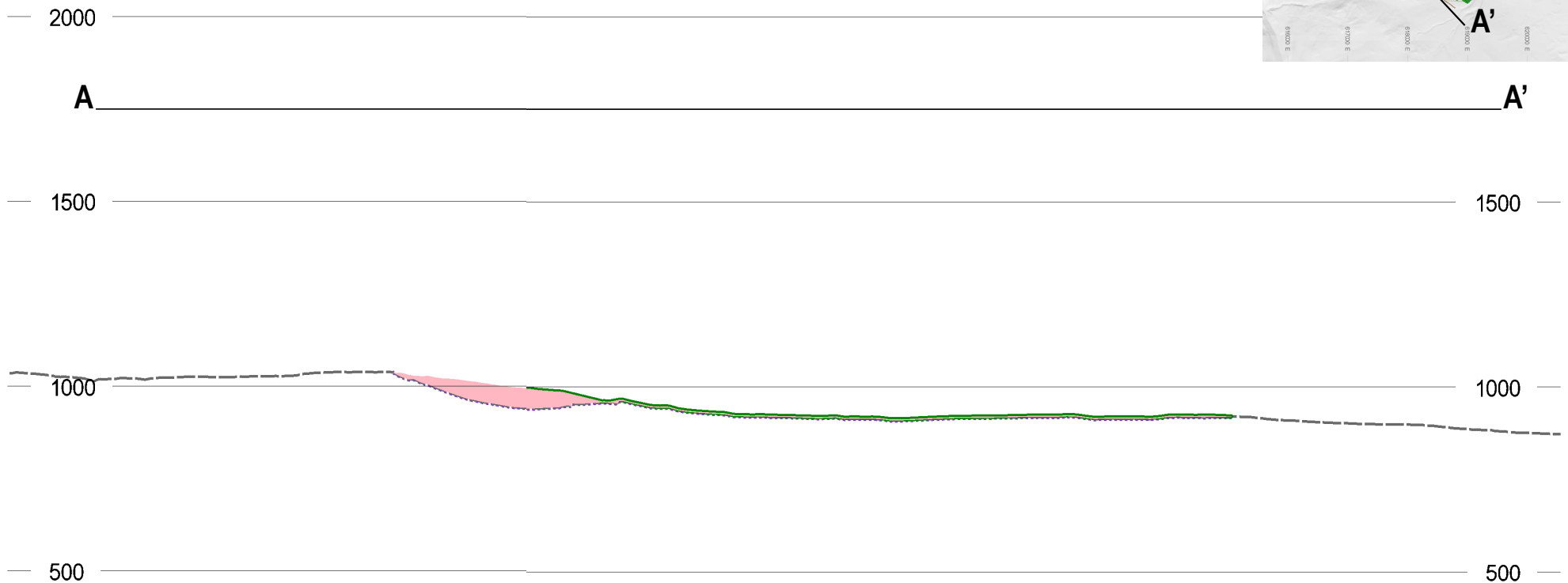
- Backfill
- Buttriss
- Cleared/Surface Soil removed
- Embankment
- Haul Road
- Open Pit
- Service Road
- Surface Soil Stockpile
- Surface Soil replaced
- + revegetated area
- Surface Topography
- Tenas Access Corridor
- Water Cover
- Water effluent channel



Tenas Project

Backfill plan, cross section and long section at the end of the Operation Phase

Figure 1.9-37



Legend

- Backfill
- Open Pit Lake
- Open Pit
- Surface Soil replaced + revegetated area (includes ~1m Overburden)
- Surface Topography

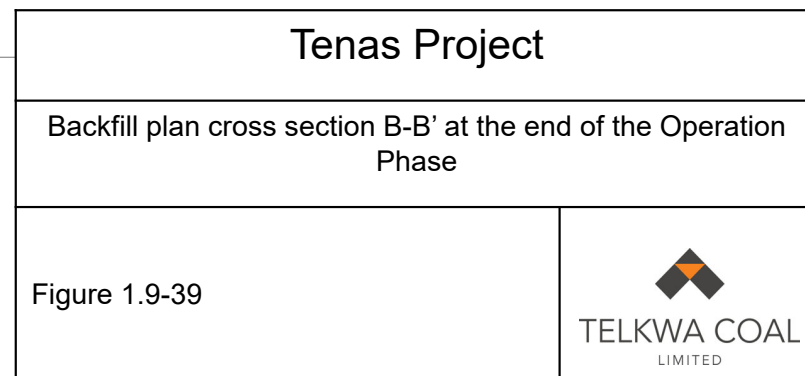
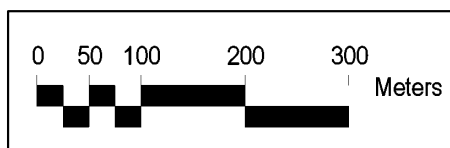
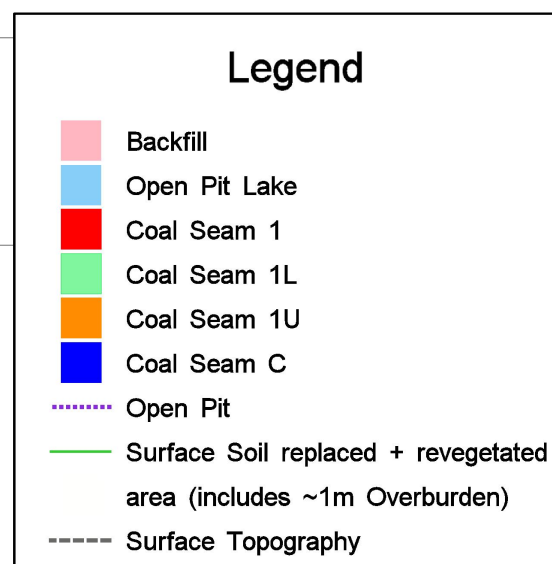
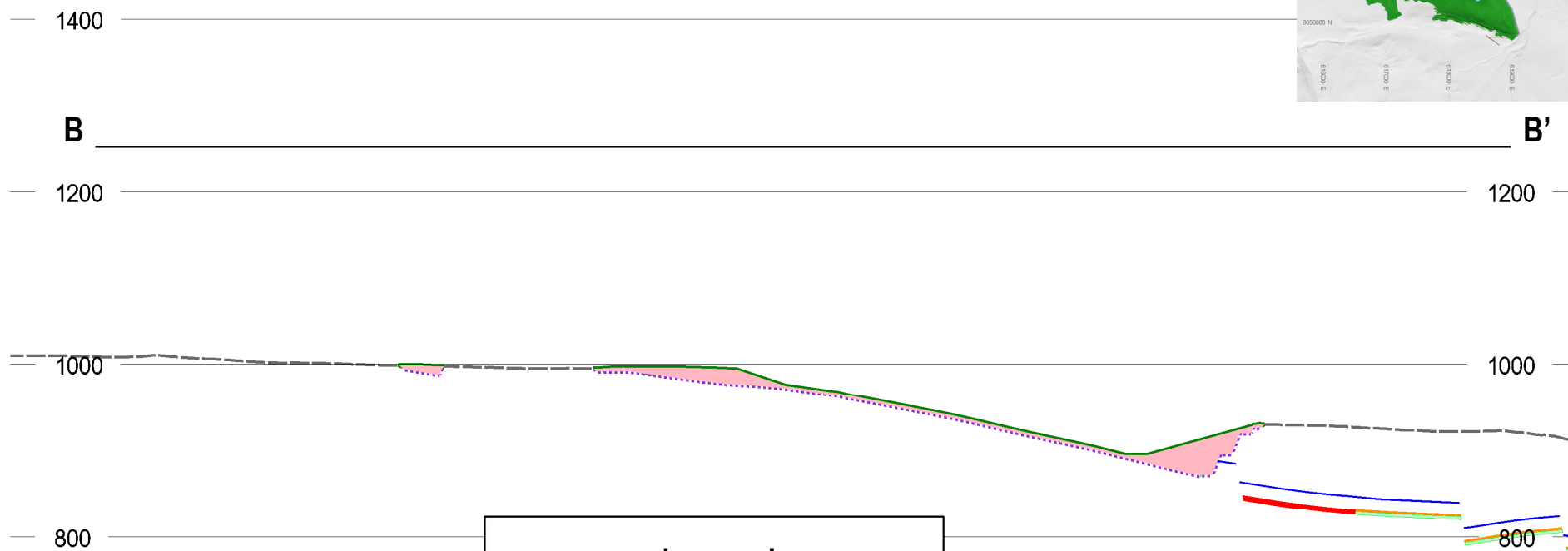
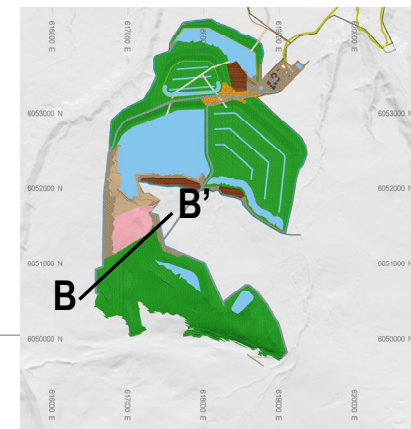
Tenas Project

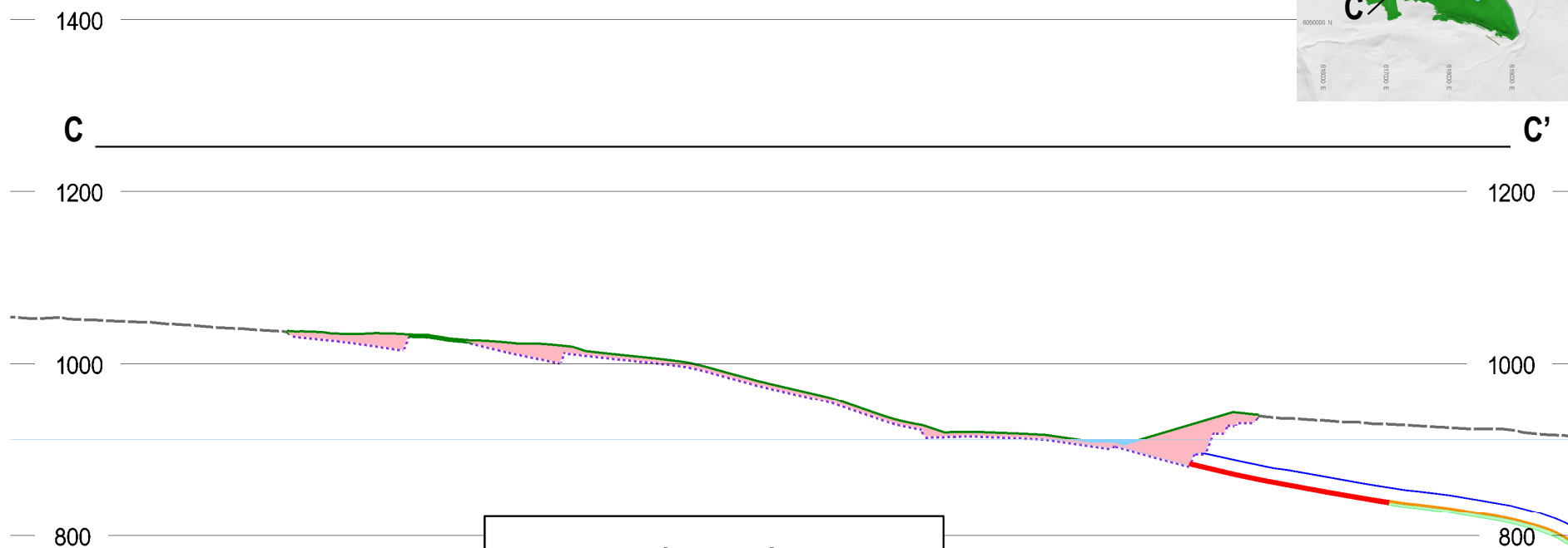
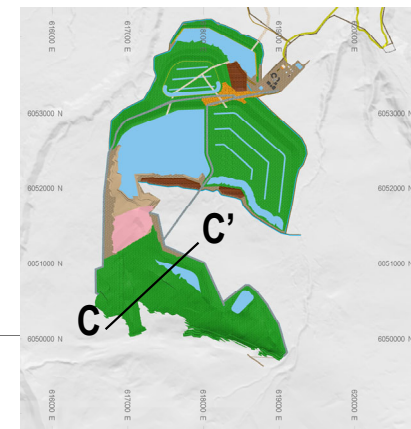
Backfill plan cross section A-A' at the end of the Operation Phase

Figure 1.9-38



0 100 200 400 600 Meters





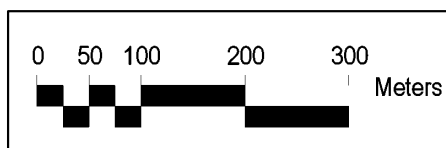
Legend

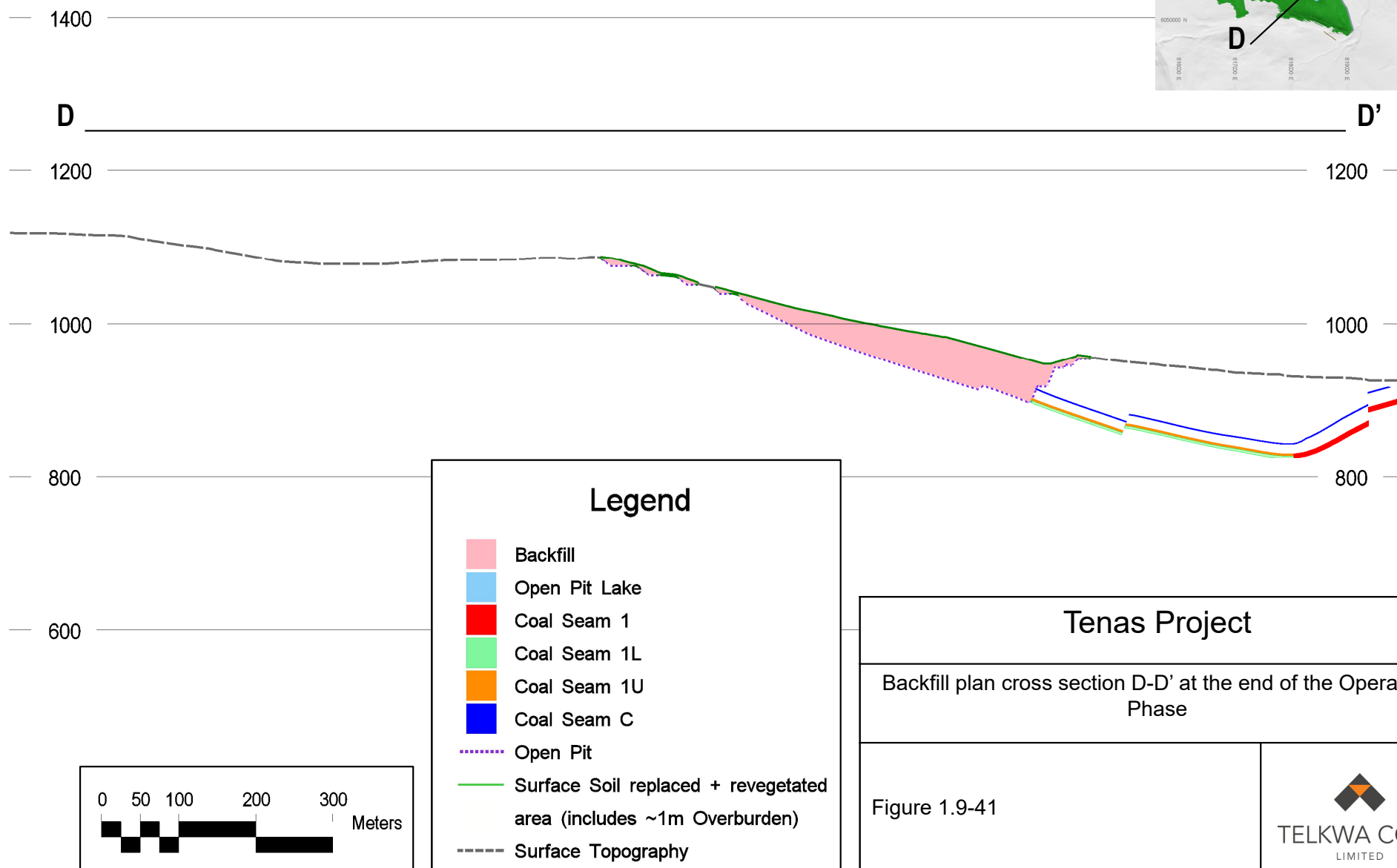
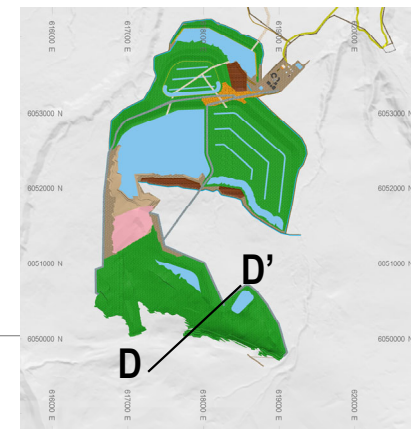
- Backfill
- Open Pit Lake
- Coal Seam 1
- Coal Seam 1L
- Coal Seam 1U
- Coal Seam C
- Open Pit
- Surface Soil replaced + revegetated area (includes ~1m Overburden)
- Surface Topography

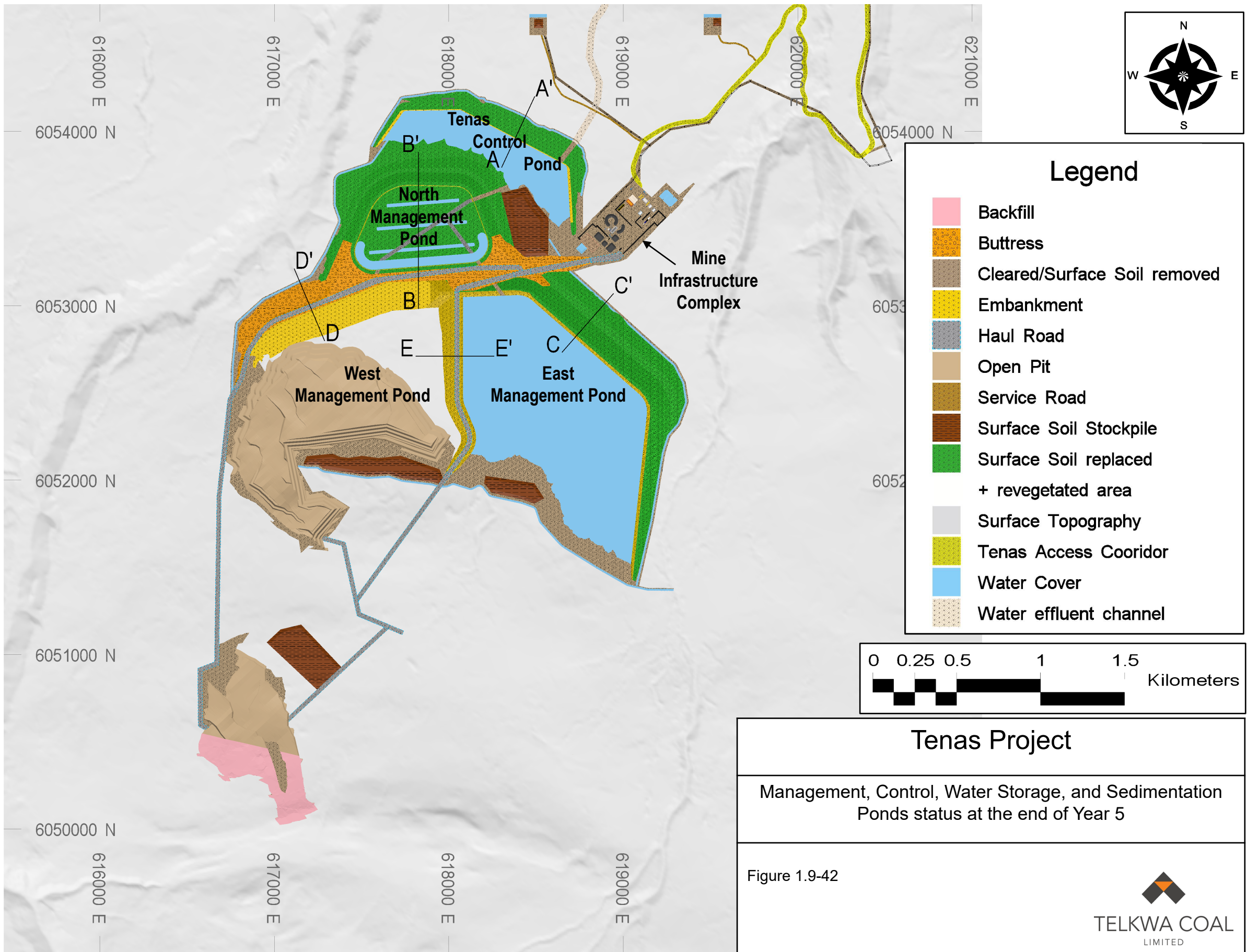
Tenas Project

Backfill plan cross section C-C' at the end of the Operation Phase

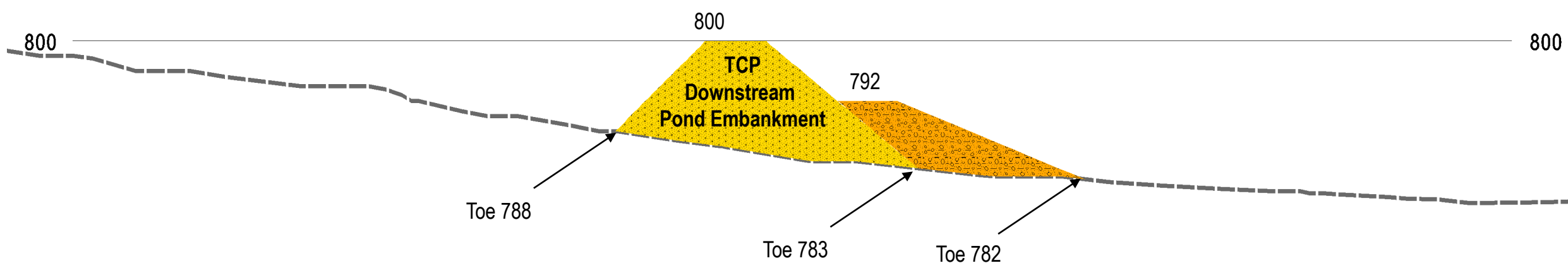
Figure 1.9-40







A _____ A'



Upstream embankment slopes are 2.5H:1V
 Downstream embankment slopes are 3H:1V
 Downstream buttress slopes are 6H:1V
 TCP=Tenas Control Pond

750



Legend

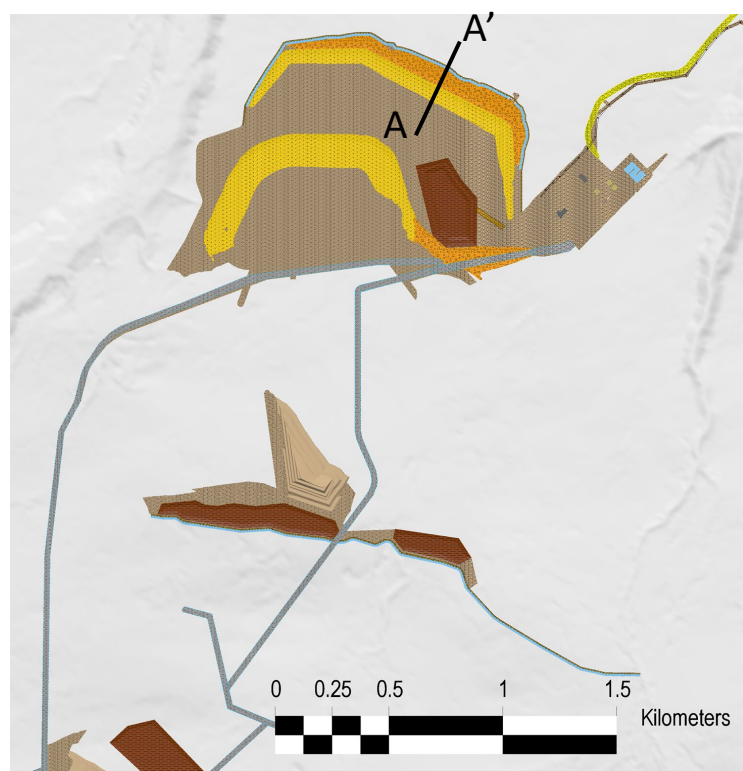
- Buttress
- Embankment
- Surface Topography
- masl meters above sea level

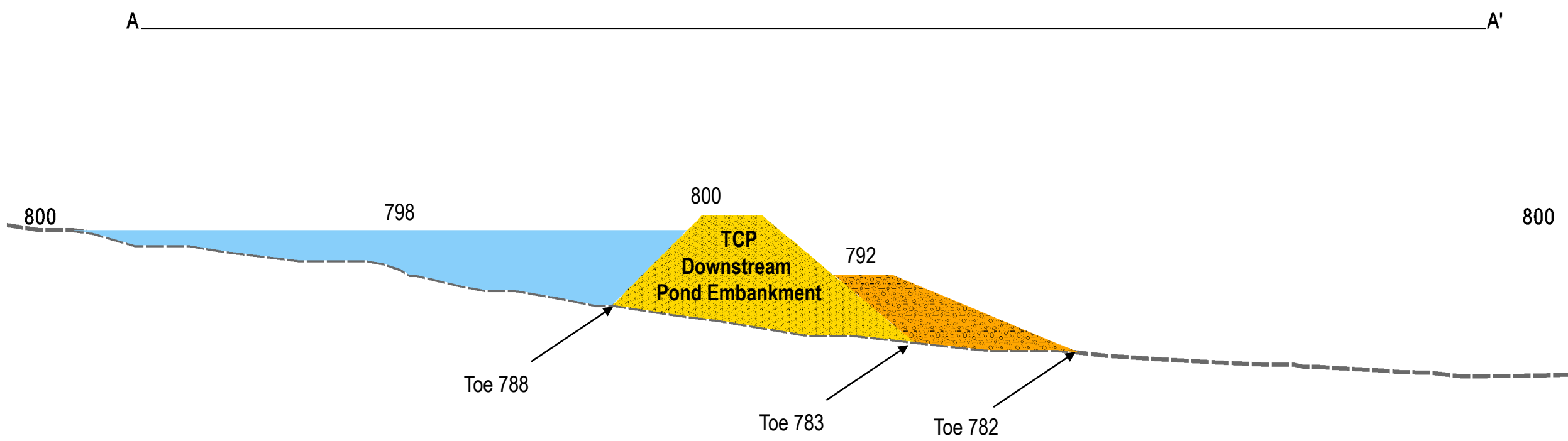
Tenas Project

Tenas Control Pond at the end of Year -0.5

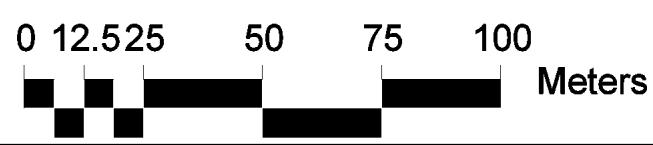
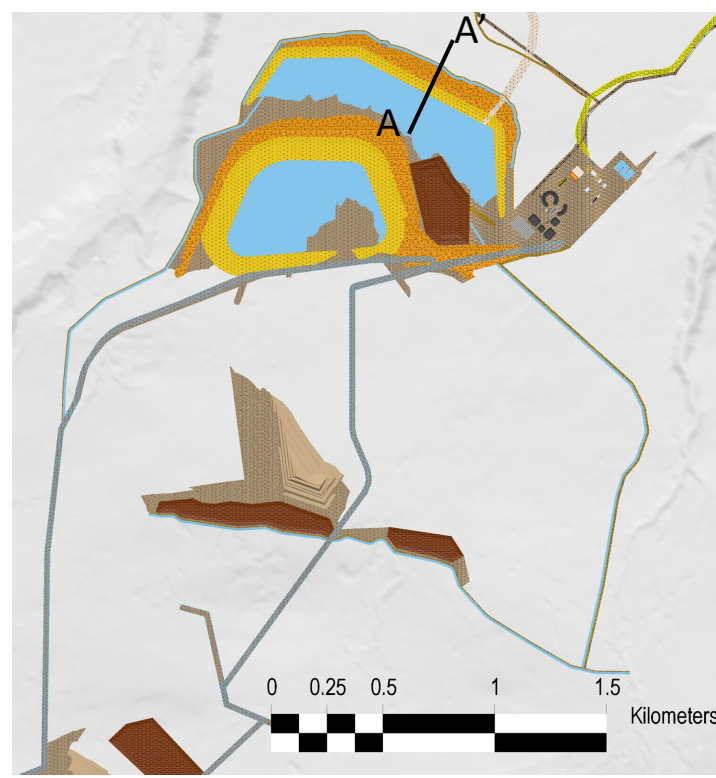
Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal
 All elevations are masl

Figure 1.9-43





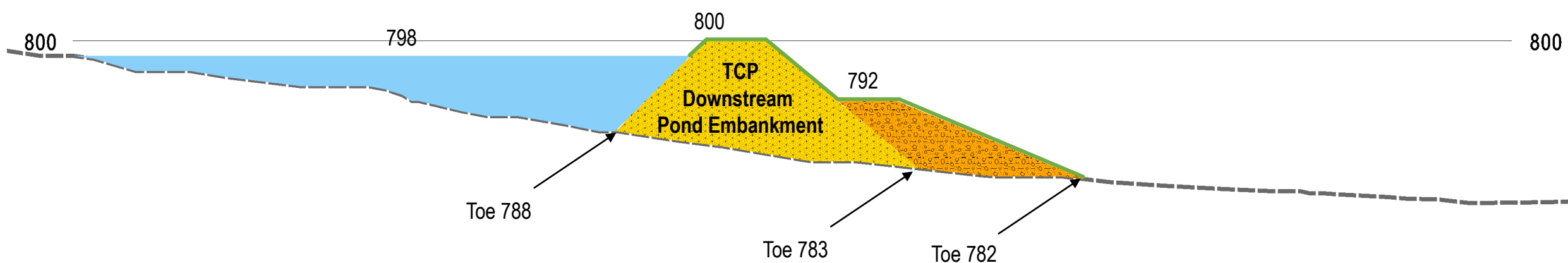
Upstream embankment slopes are 2.5H:1V
 Downstream embankment slopes are 3H:1V
 Downstream buttress slopes are 6H:1V
 TCP=Tenas Control Pond



Legend	
	Buttress
	Embankment
	Water Cover
	Surface Topography
masl	meters above sea level

Tenas Project	
Tenas Control Pond at the end of Year 0	
Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal All elevations are masl	
Figure 1.9-44	

A _____ A'



Upstream embankment slopes are 2.5H:1V
Downstream embankment slopes are 3H:1V
Downstream buttress slopes are 6H:1V
TCP=Tenas Control Pond

750



Legend

-  Buttress
-  Embankment
-  Water Cover (~2 m)
-  Soil replaced + revegetated area
-  Surface Topography
-  masl
- meters above sea level

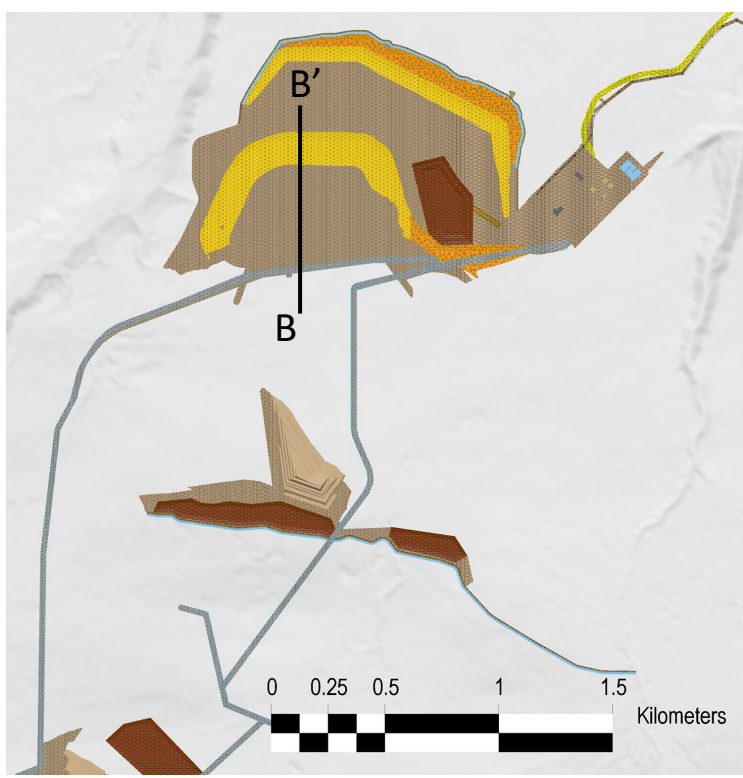
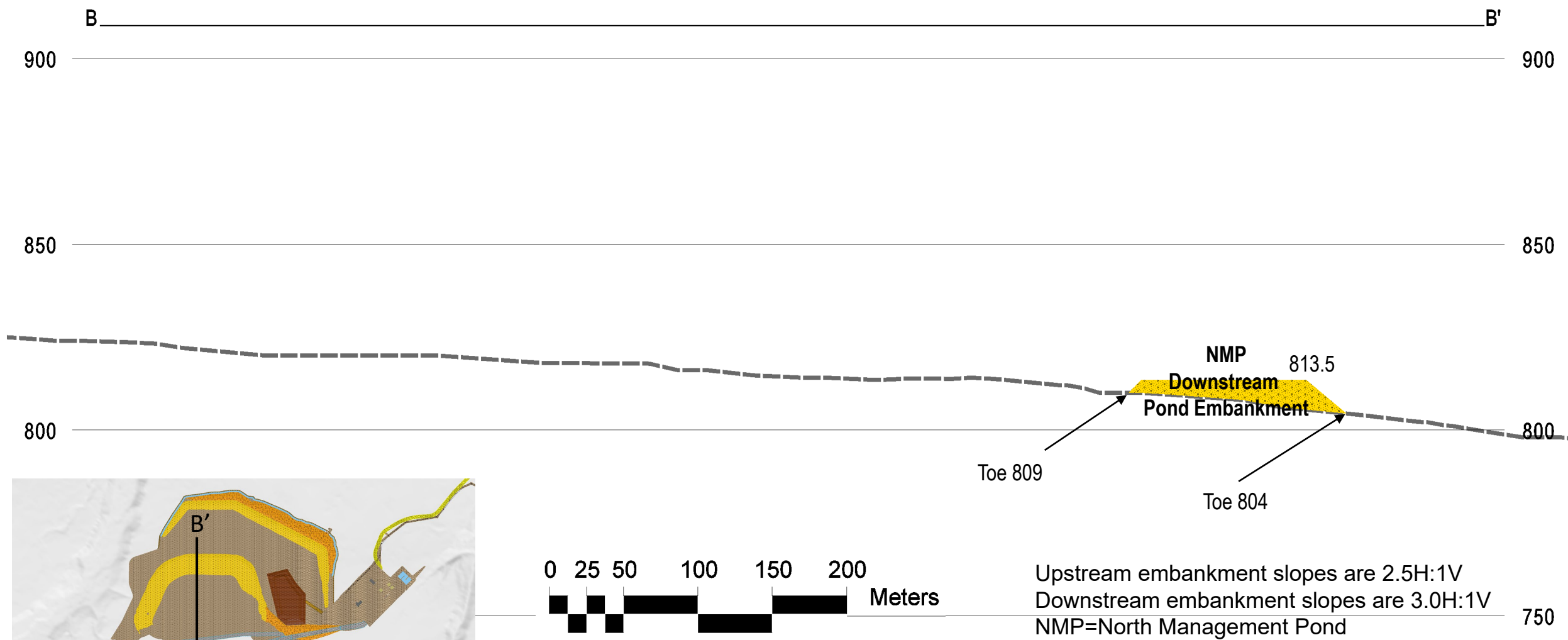
Tenas Project

Tenas Control Pond at the end of Year 1 with no further activity between Year 2 and 5

Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal
All elevations are masl

Figure 1.9-45





Legend

- Dam Material
- Surface Topography
- masl meters above sea level

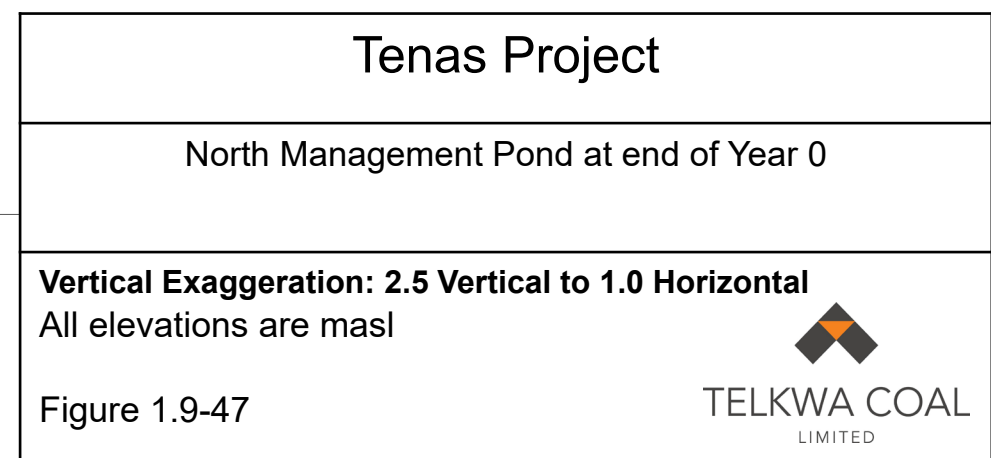
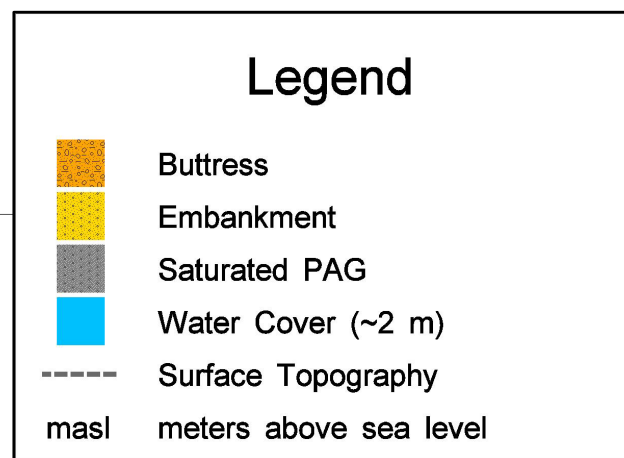
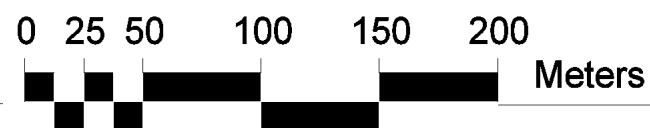
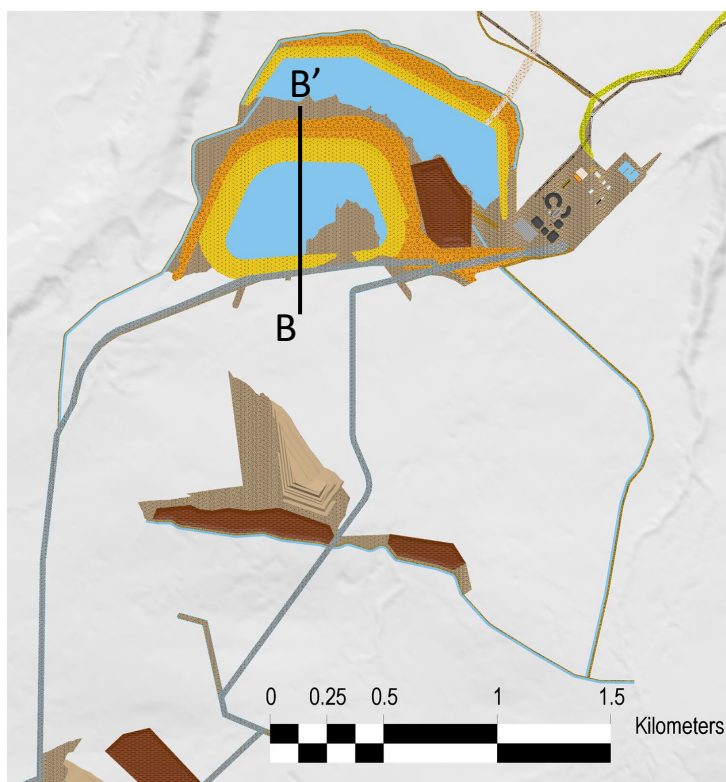
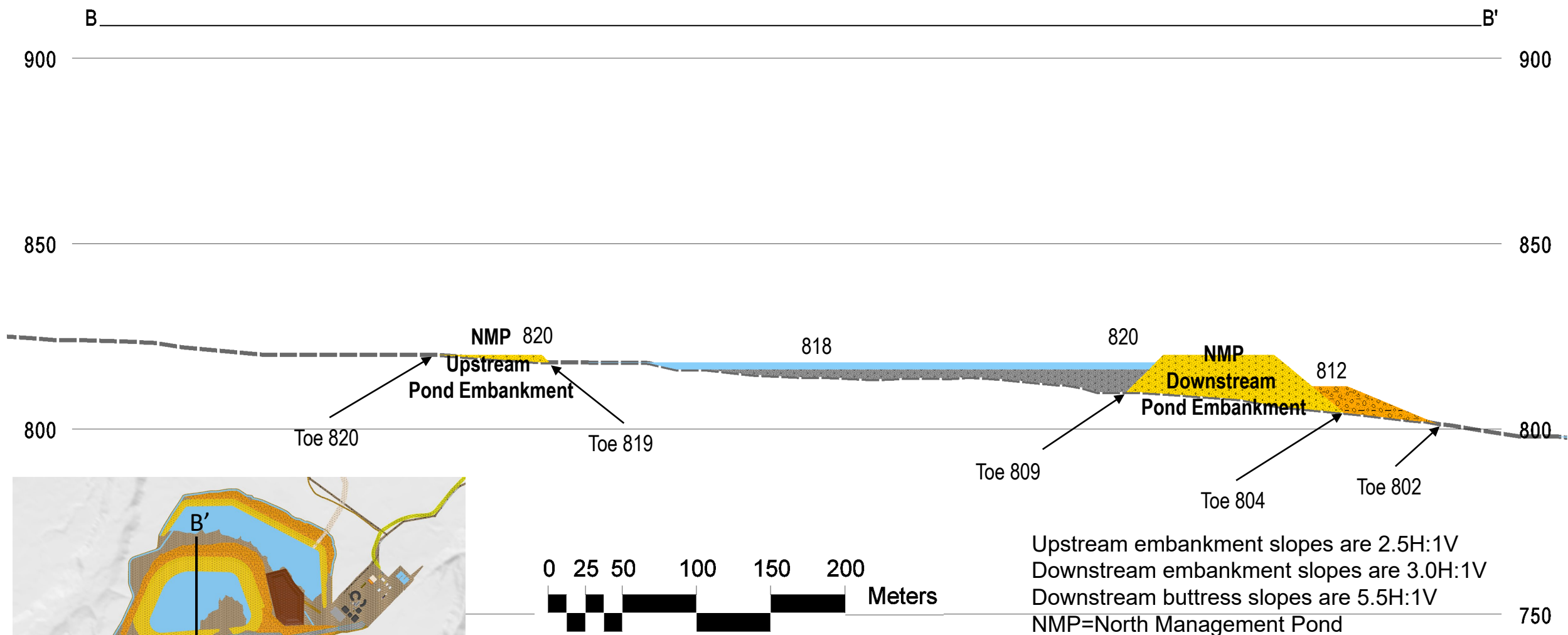
Tenas Project

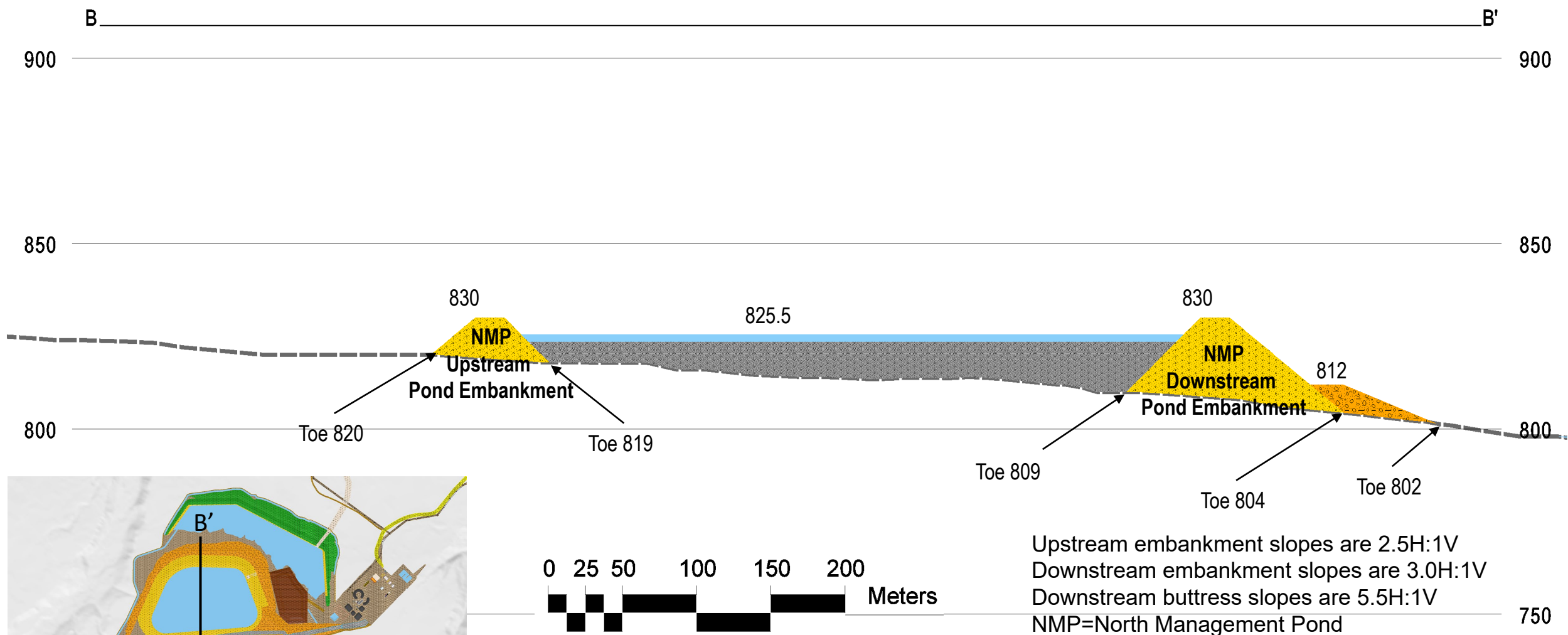
North Management Pond at the end of Year -0.5

Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal
All elevations are masl

Figure 1.9-46

TELKWA COAL LIMITED





Legend

-  Buttress
-  Embankment
-  Saturated PAG
-  Water Cover (~2 m)
-  Surface Topography
-  masl
- meters above sea level

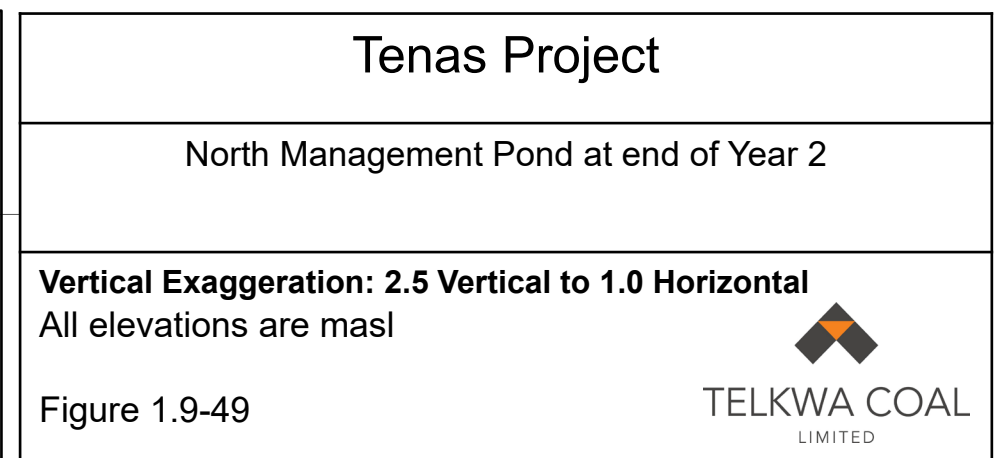
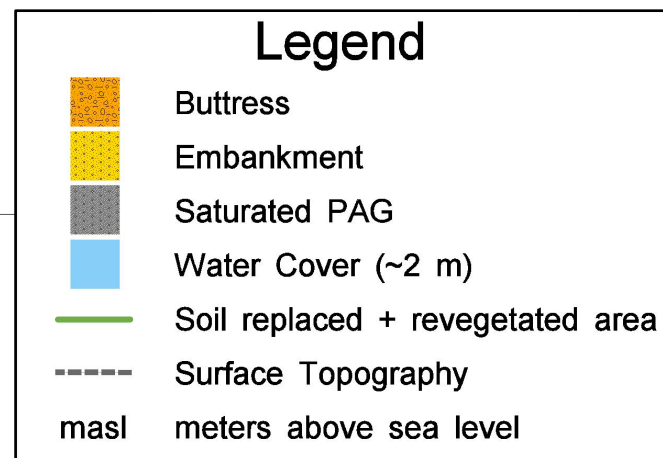
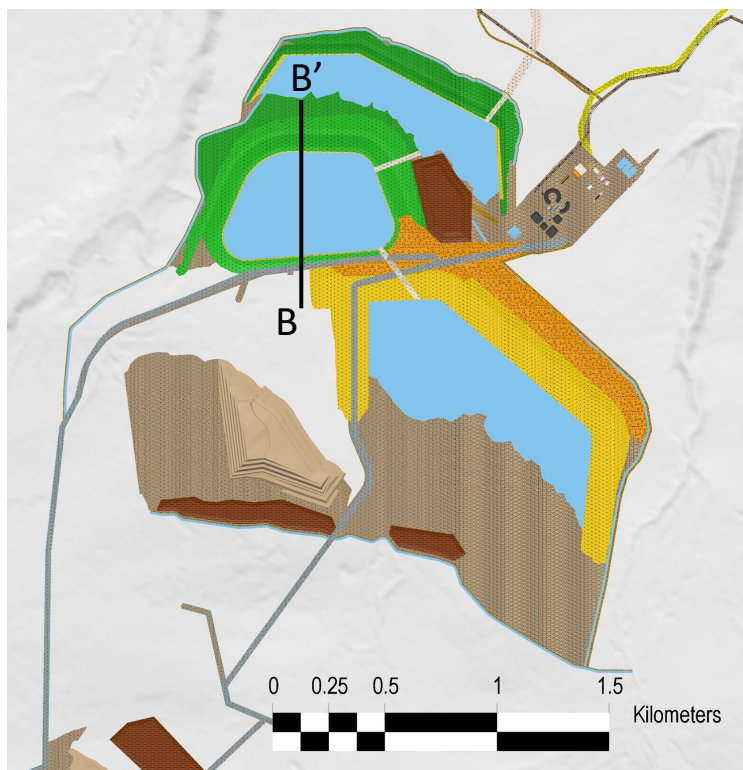
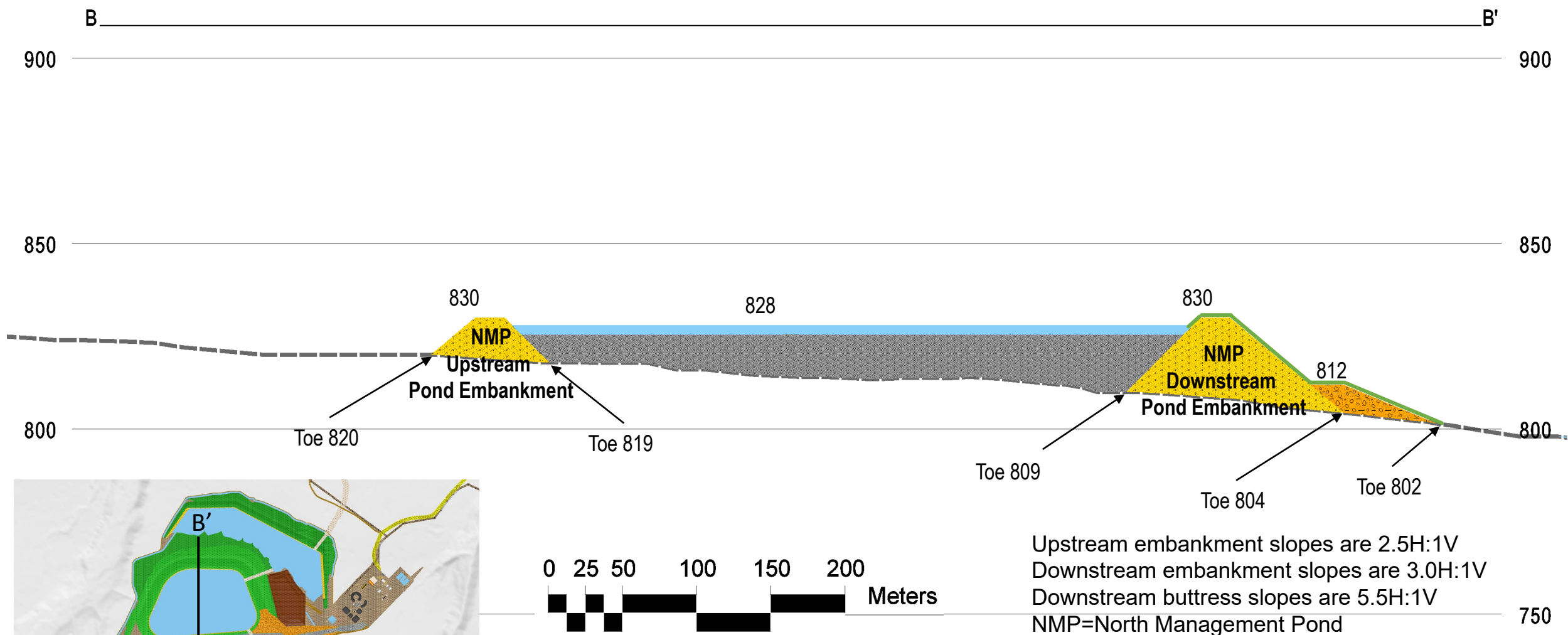
Tenas Project

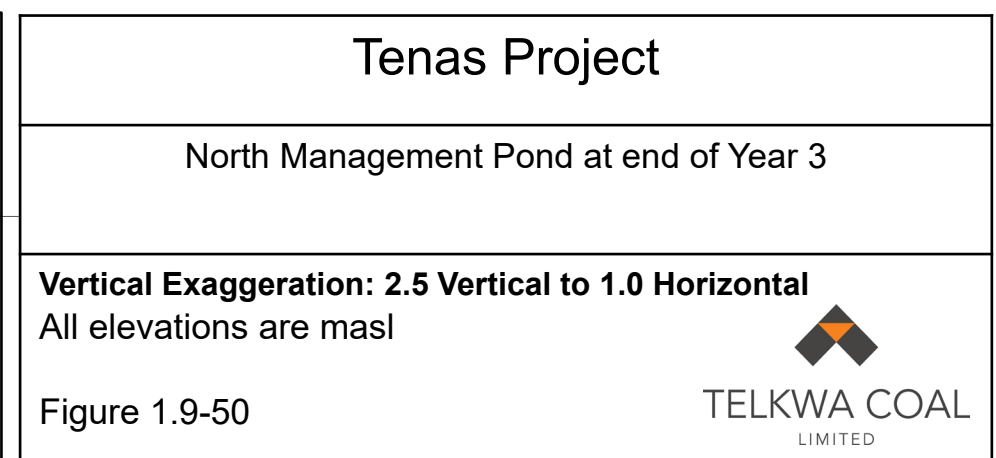
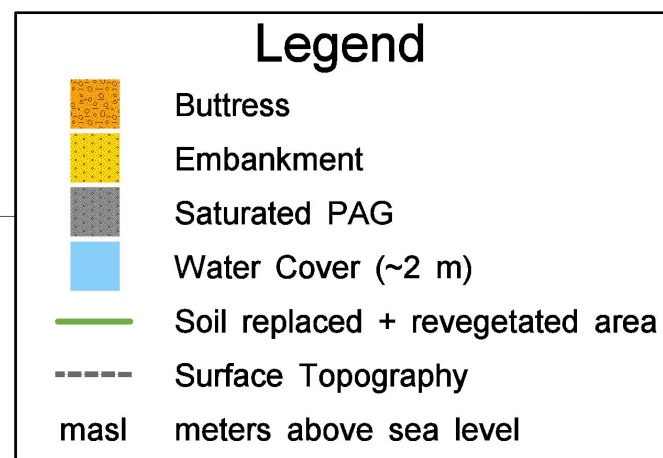
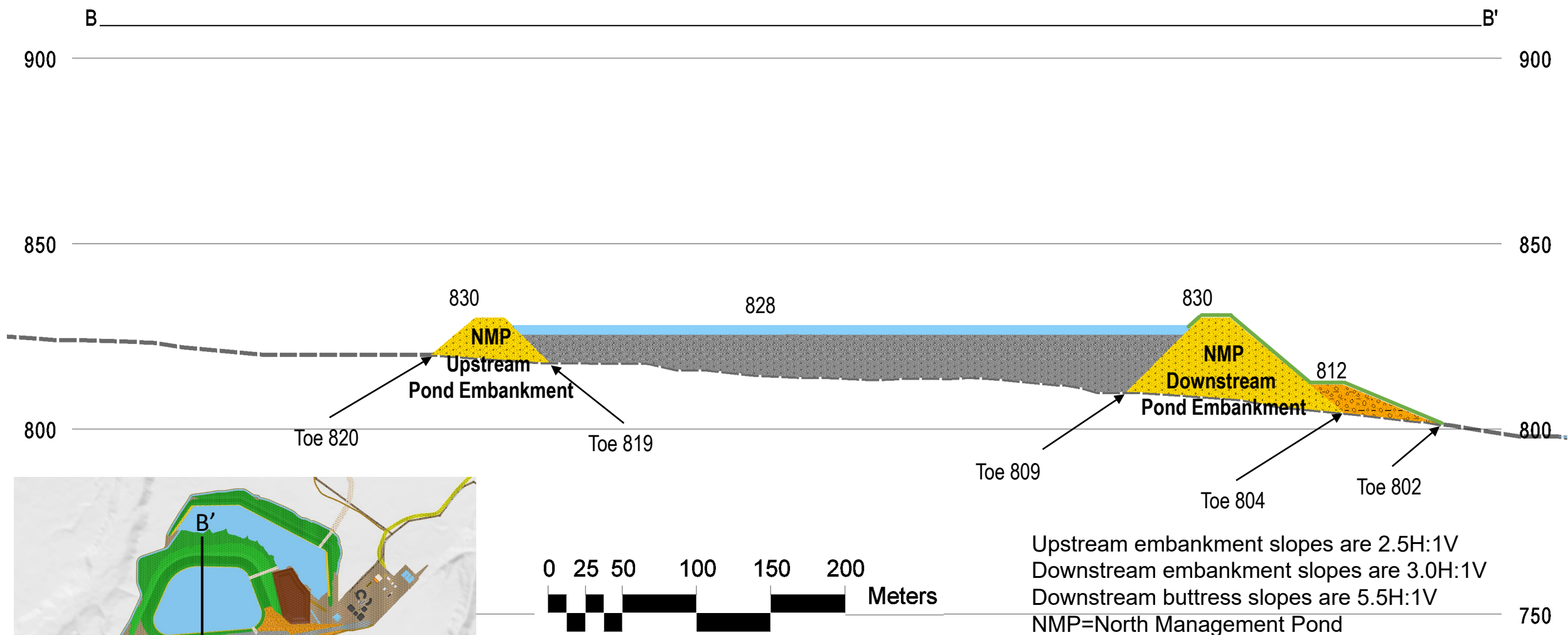
North Management Pond at end of Year 1

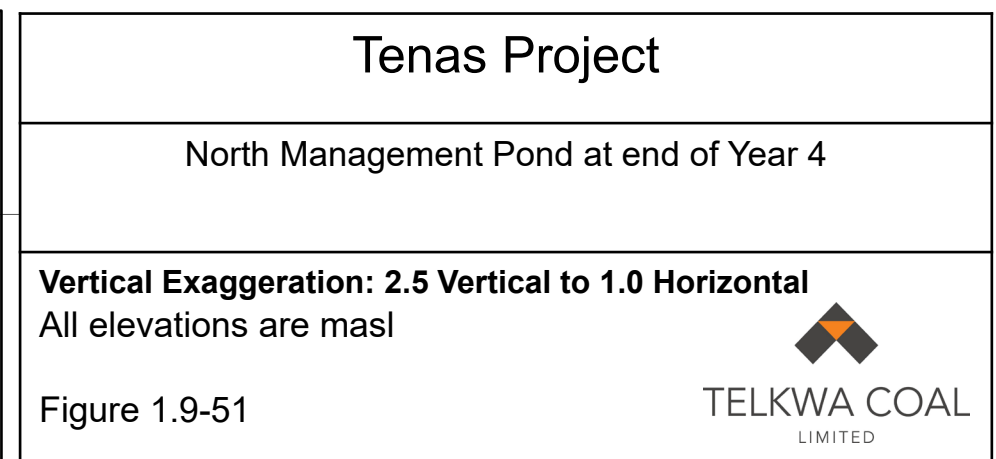
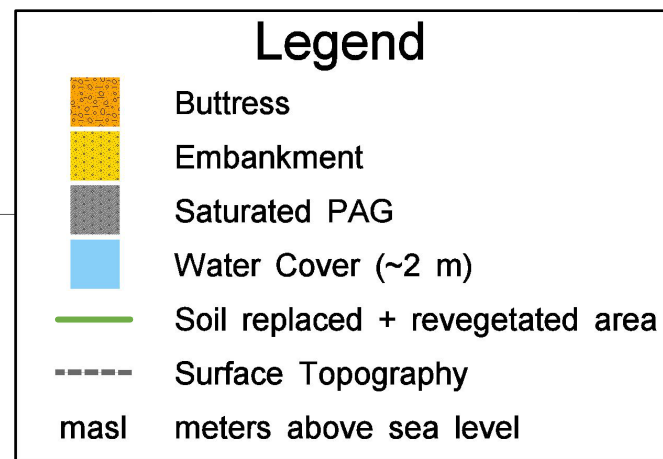
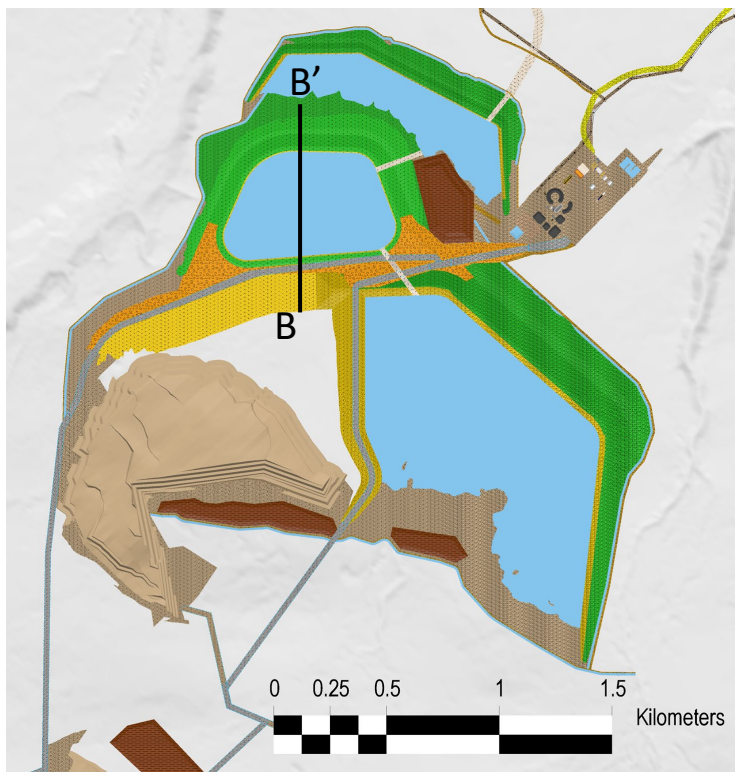
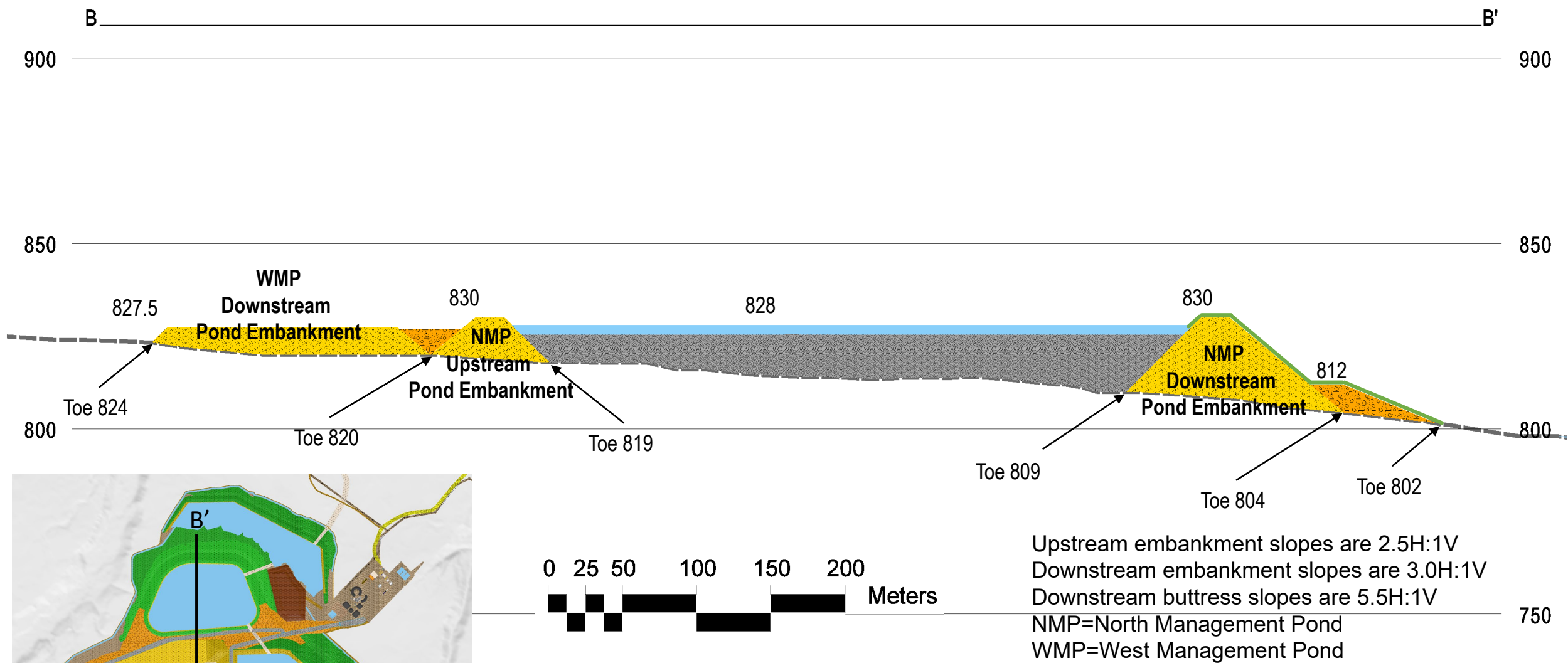
Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal

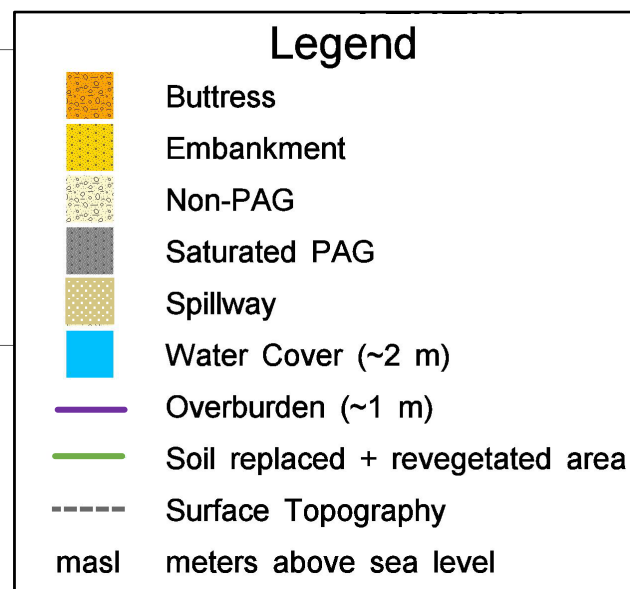
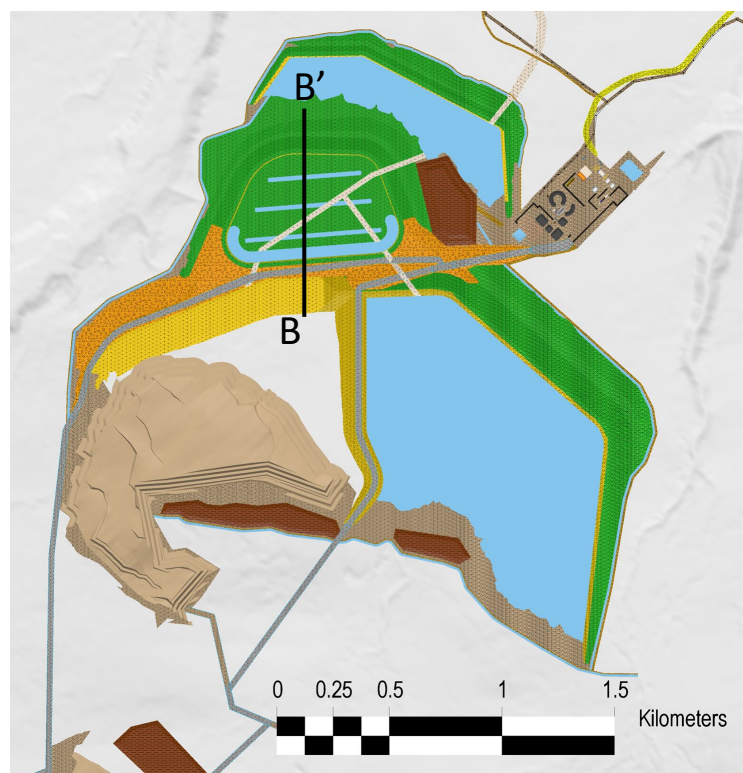
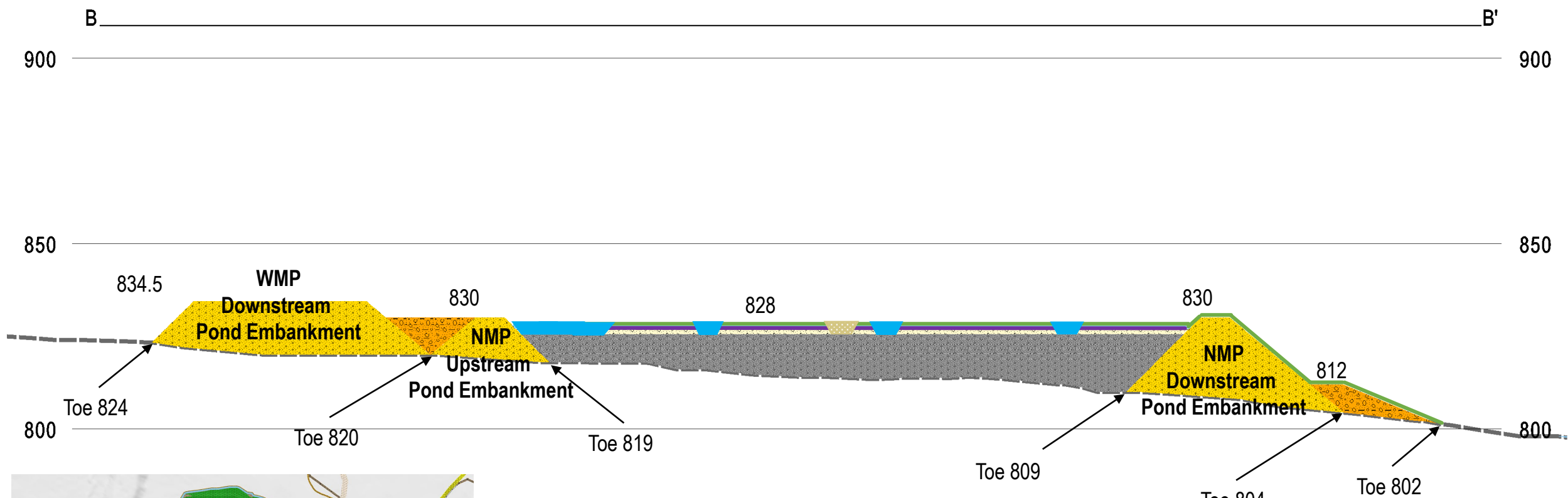
All elevations are masl

Figure 1.9-48









Upstream embankment slopes are 2.5H:1V
 Downstream embankment slopes are 3.0H:1V
 Downstream buttress slopes are 5.5H:1V
 NMP=North Management Pond
 WMP=West Management Pond

Tenas Project

North Management Pond at end of Year 5

Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal
 All elevations are masl

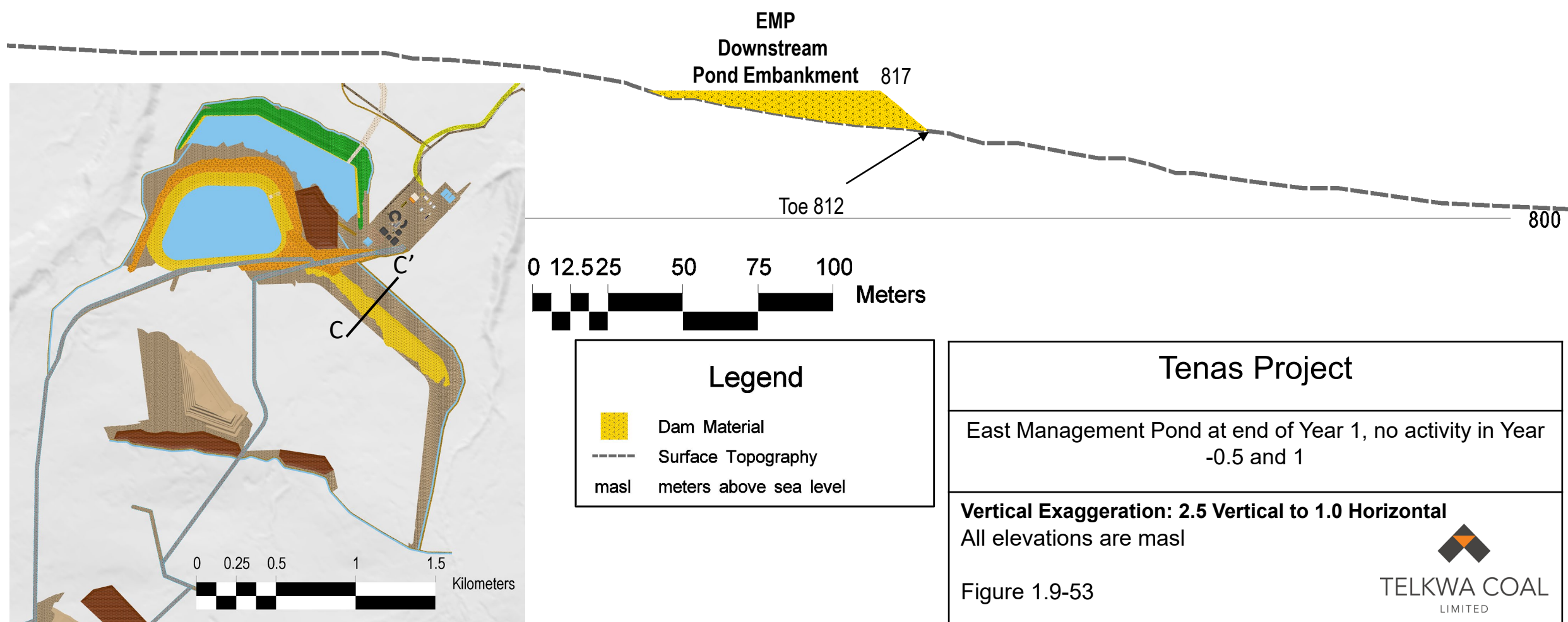
Figure 1.9-52

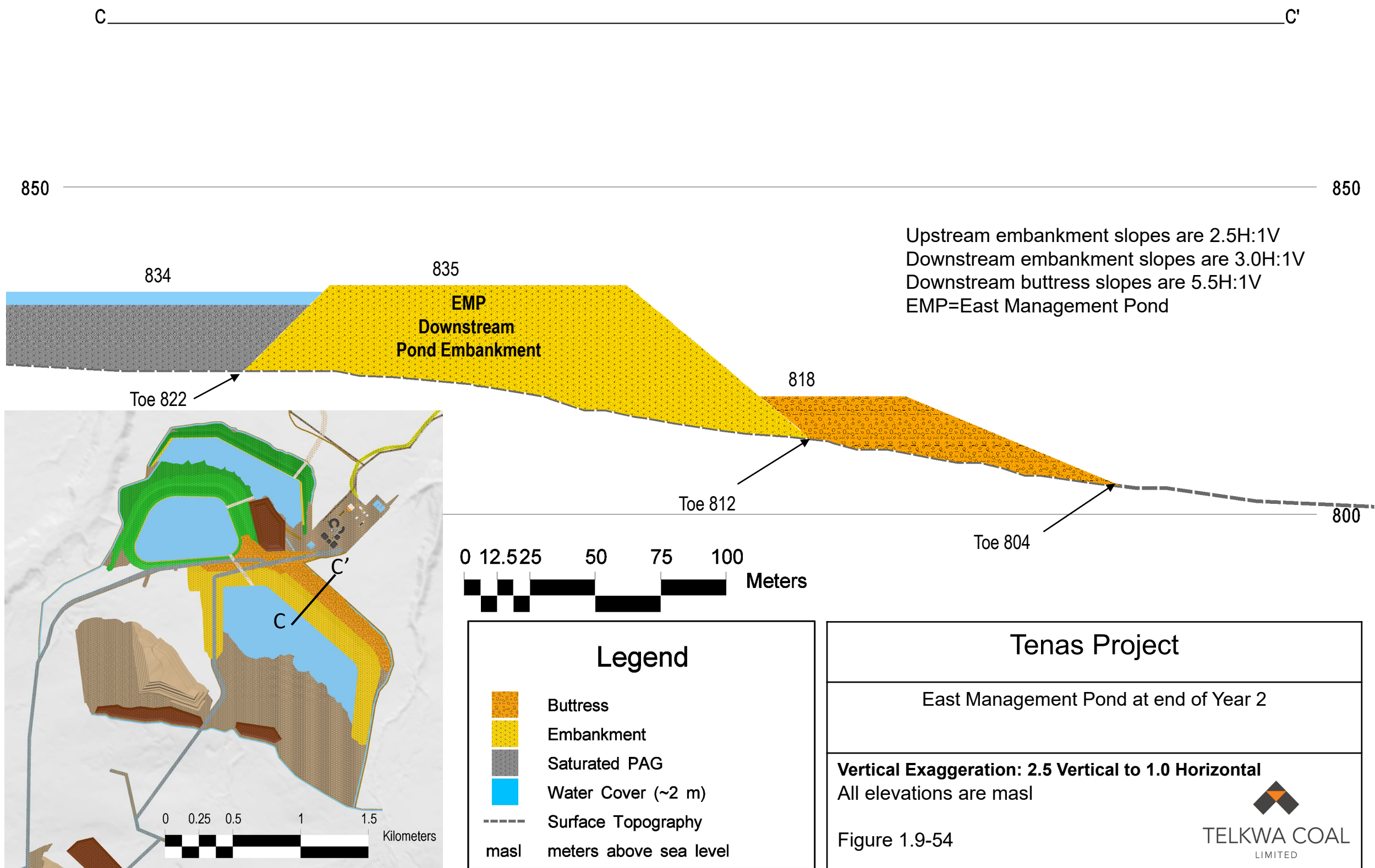
C _____ C'

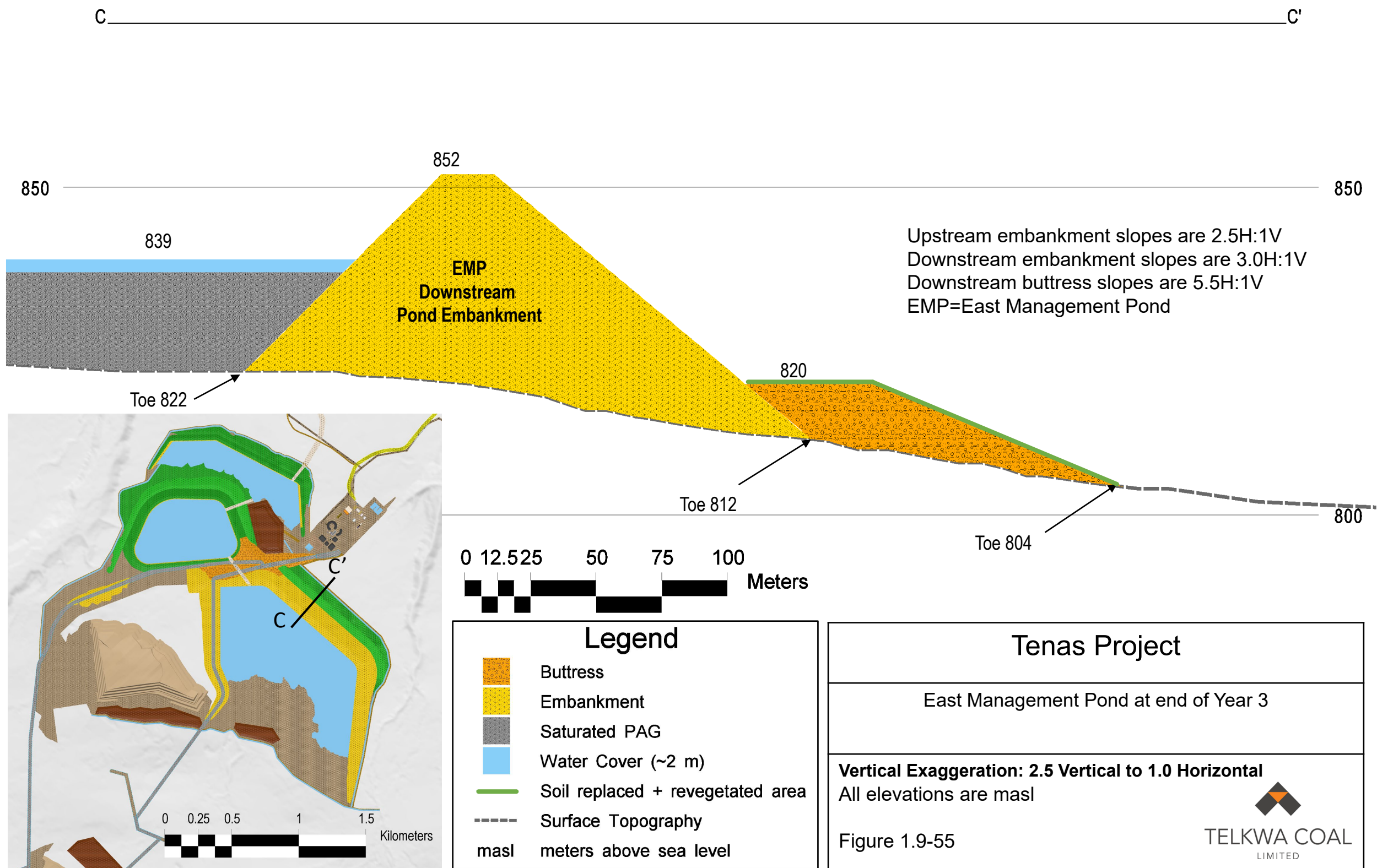
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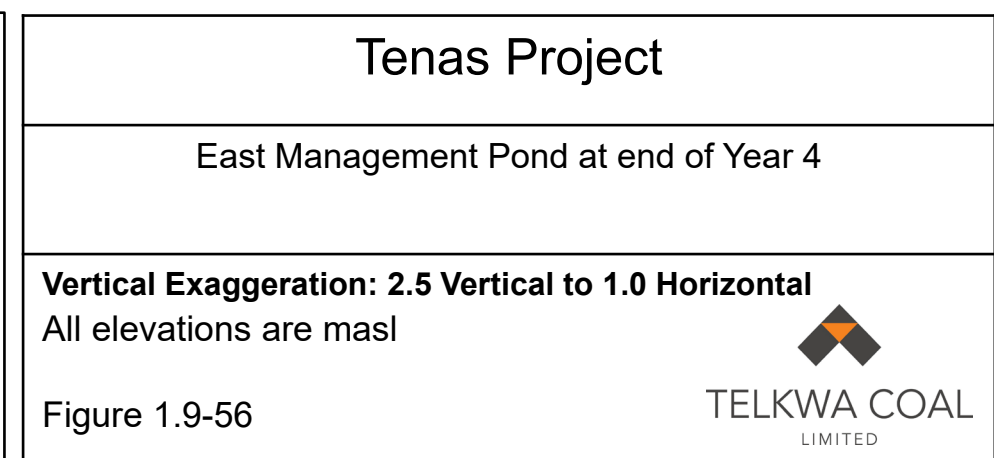
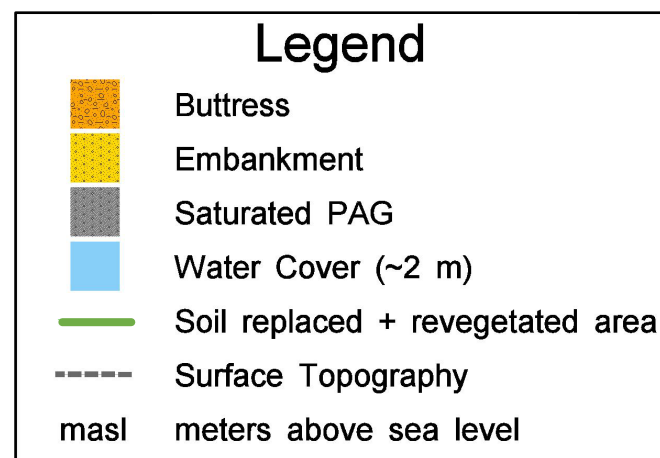
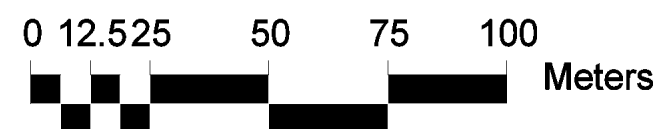
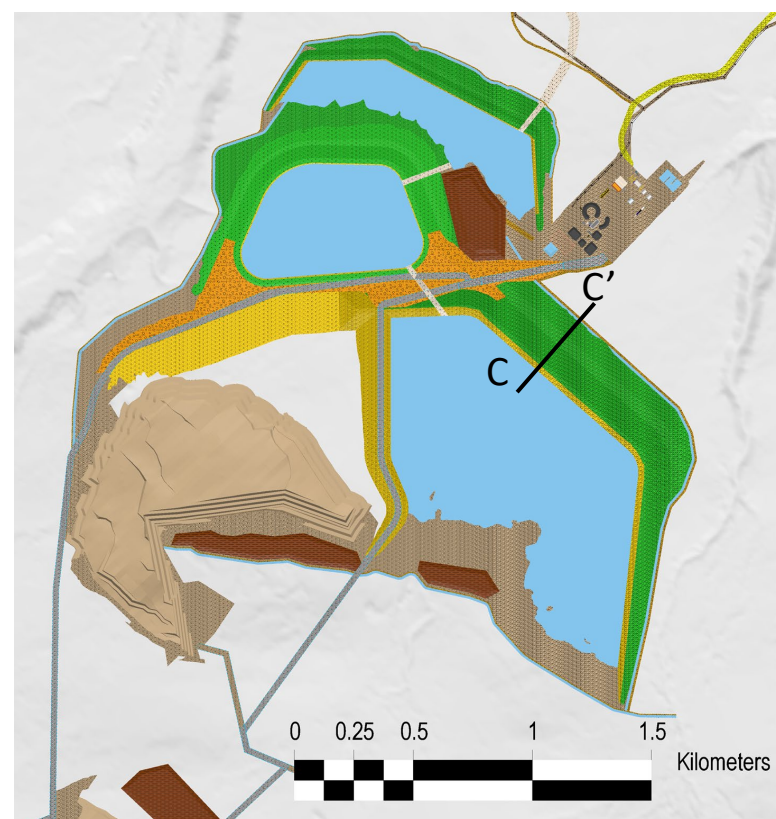
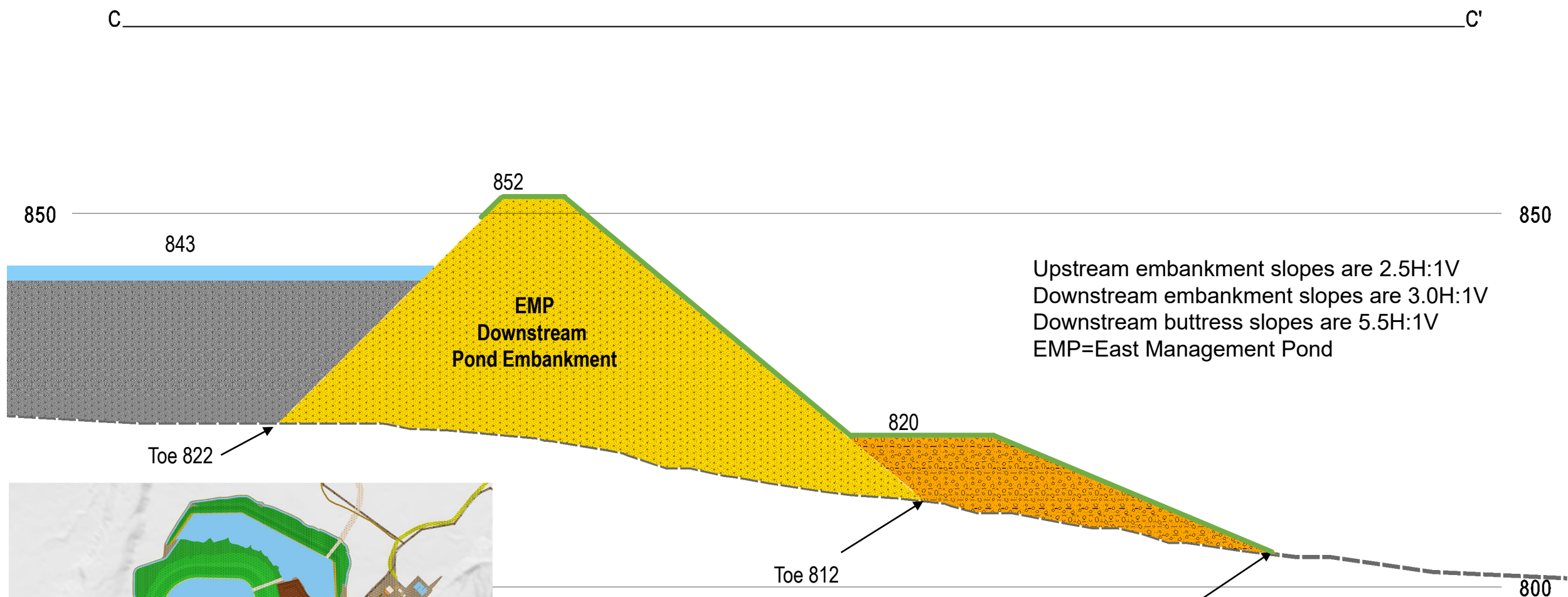
850

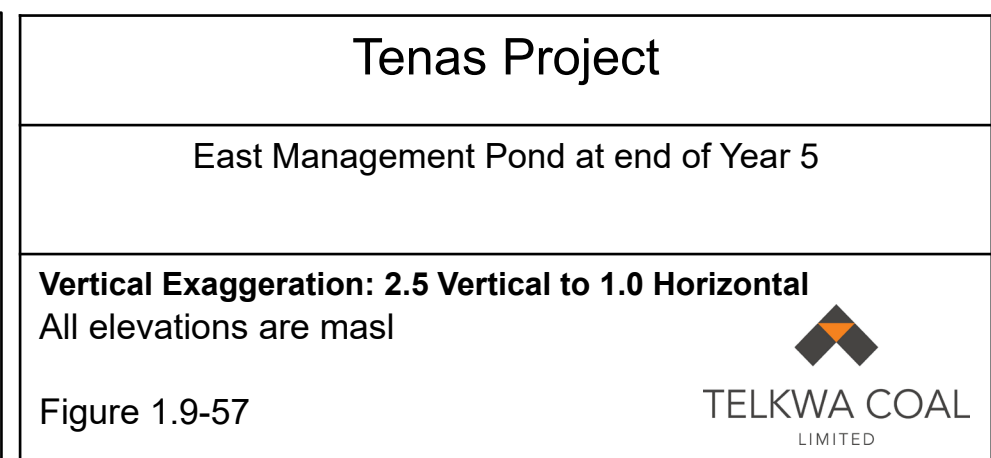
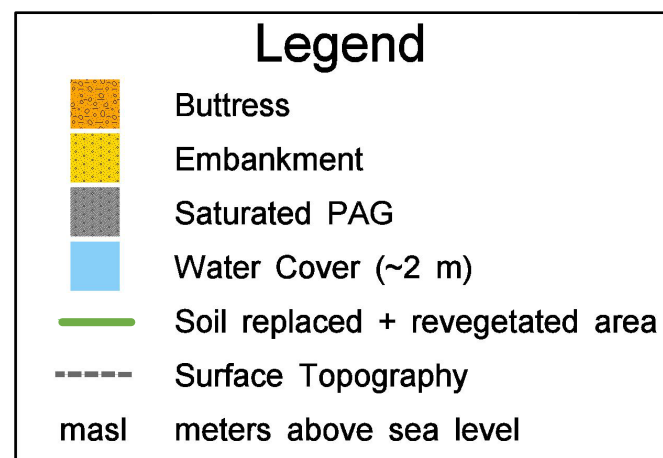
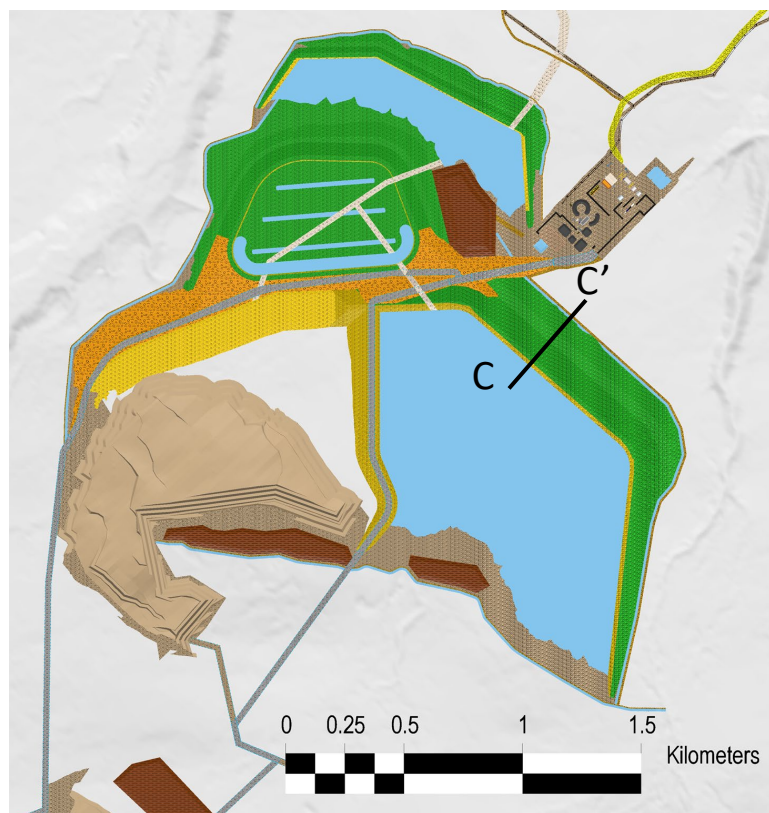
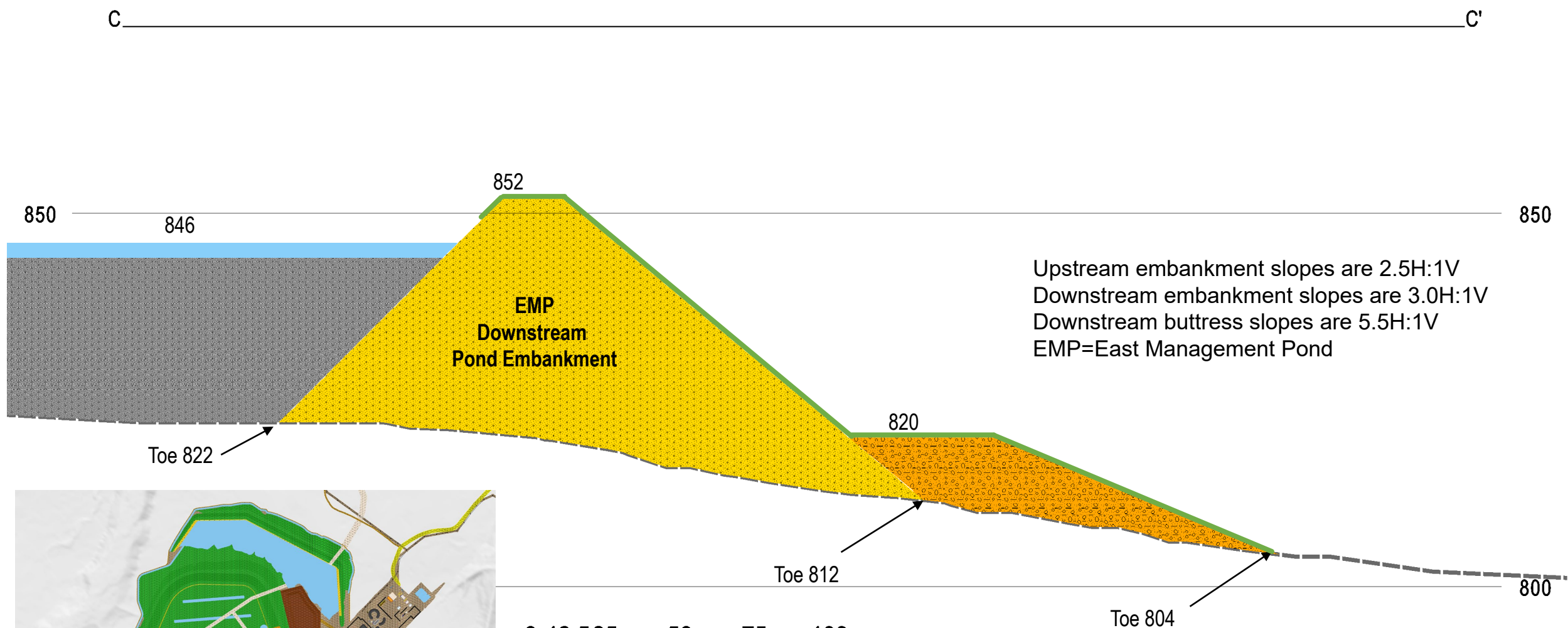
Downstream embankment slopes are 3.0H:1V
EMP=East Management Pond

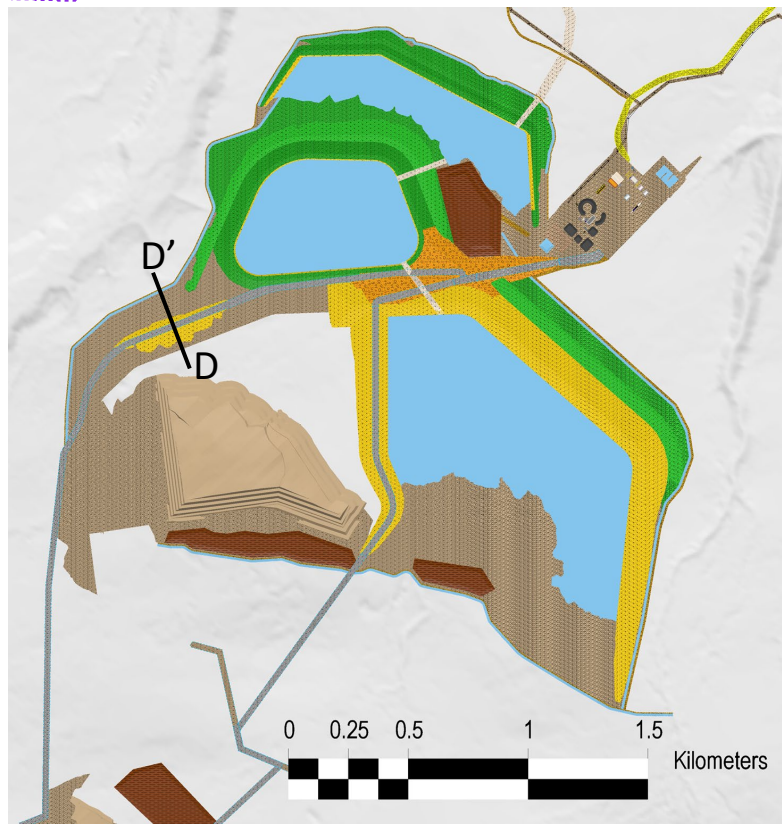
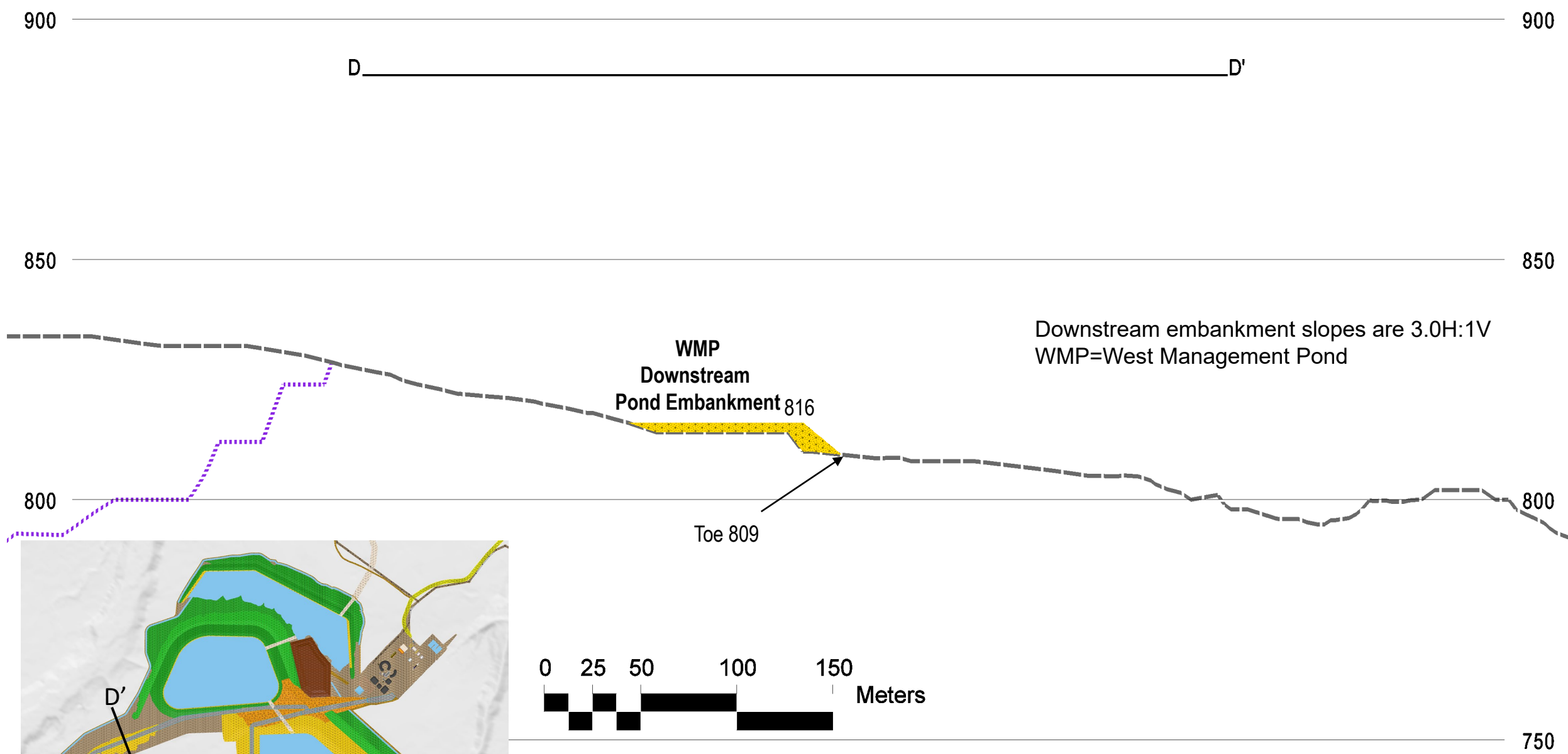












Legend

	Embankment
	Open Pit Outline
	Surface Topography
masl	meters above sea level

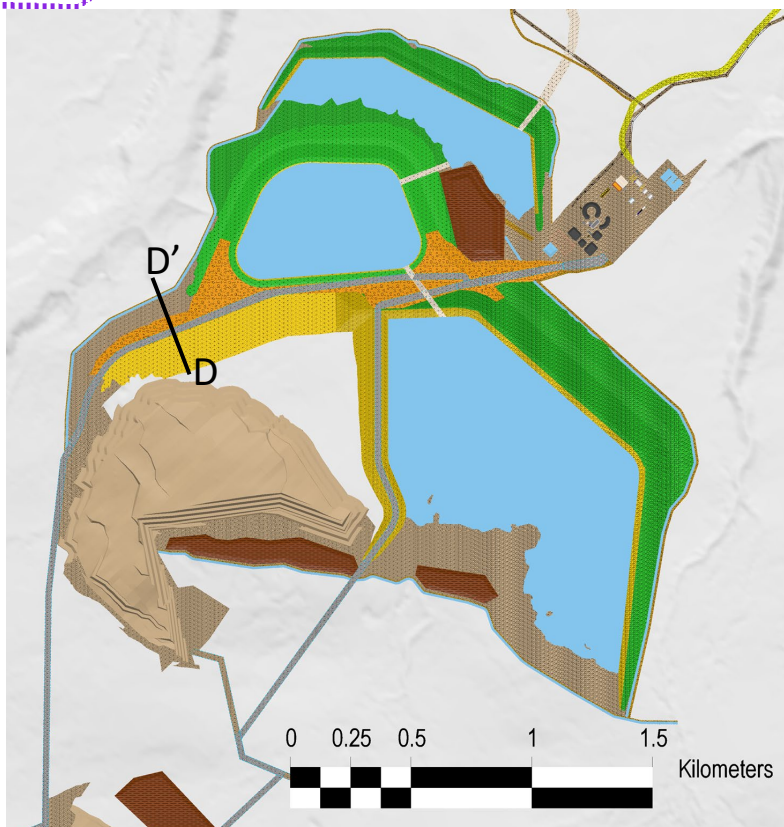
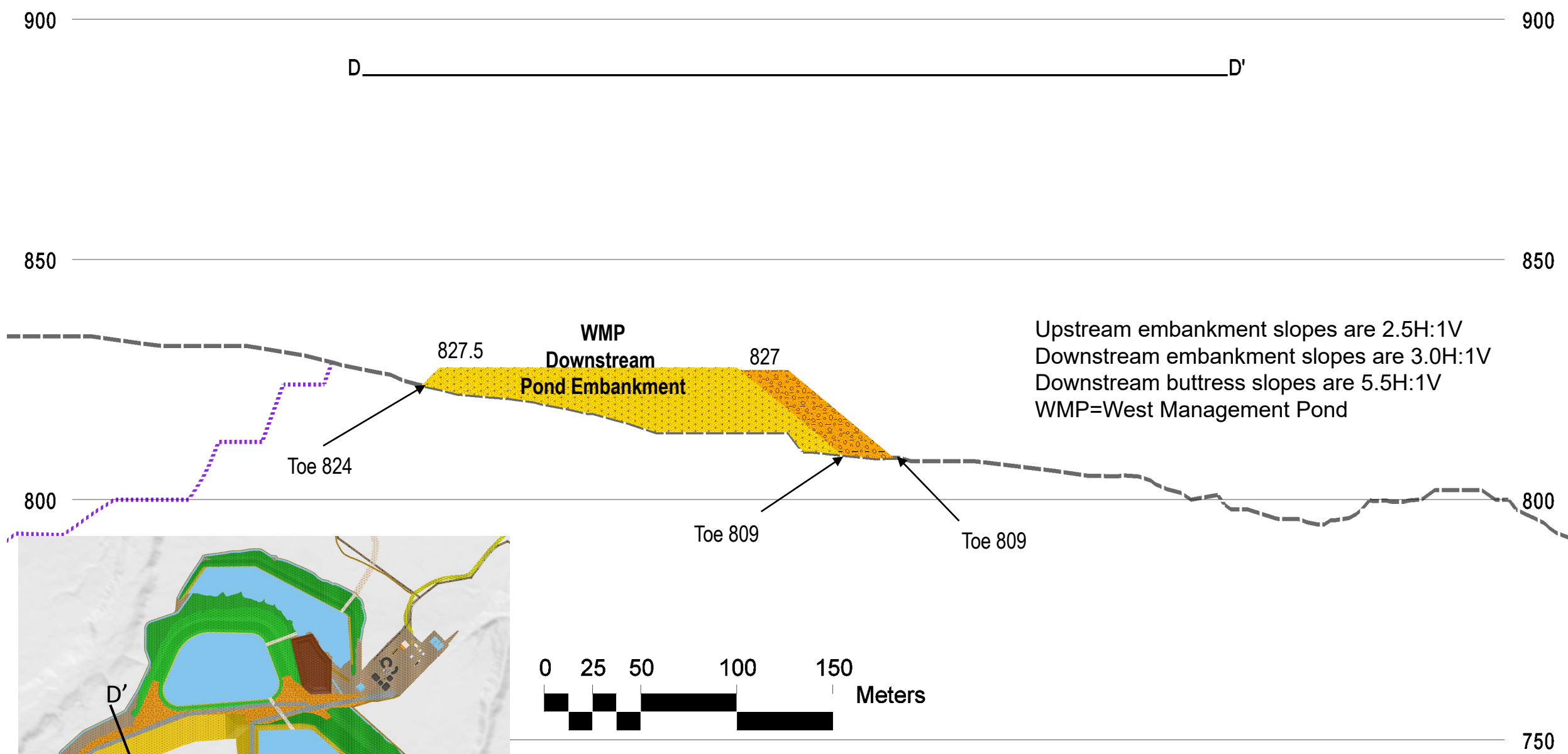
Tenas Project

West Management Pond at end of Year 3, with no activity between Years -0.5 and 2

Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal
All elevations are masl

Figure 1.9-58





Legend

- Buttress
- Embankment
- Open Pit Outline
- Surface Topography
- masl meters above sea level

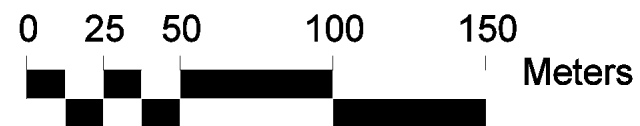
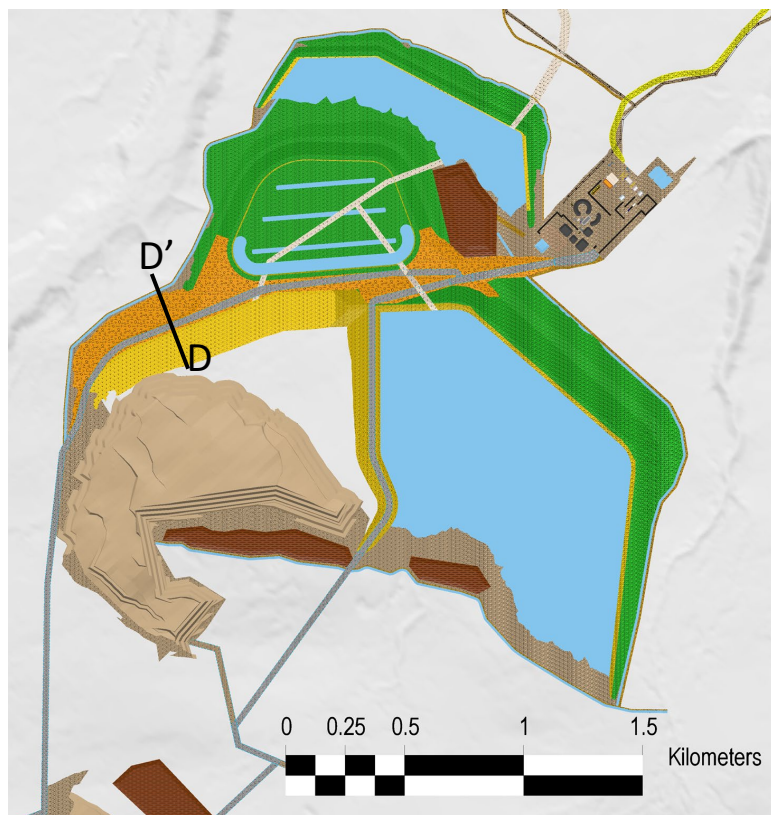
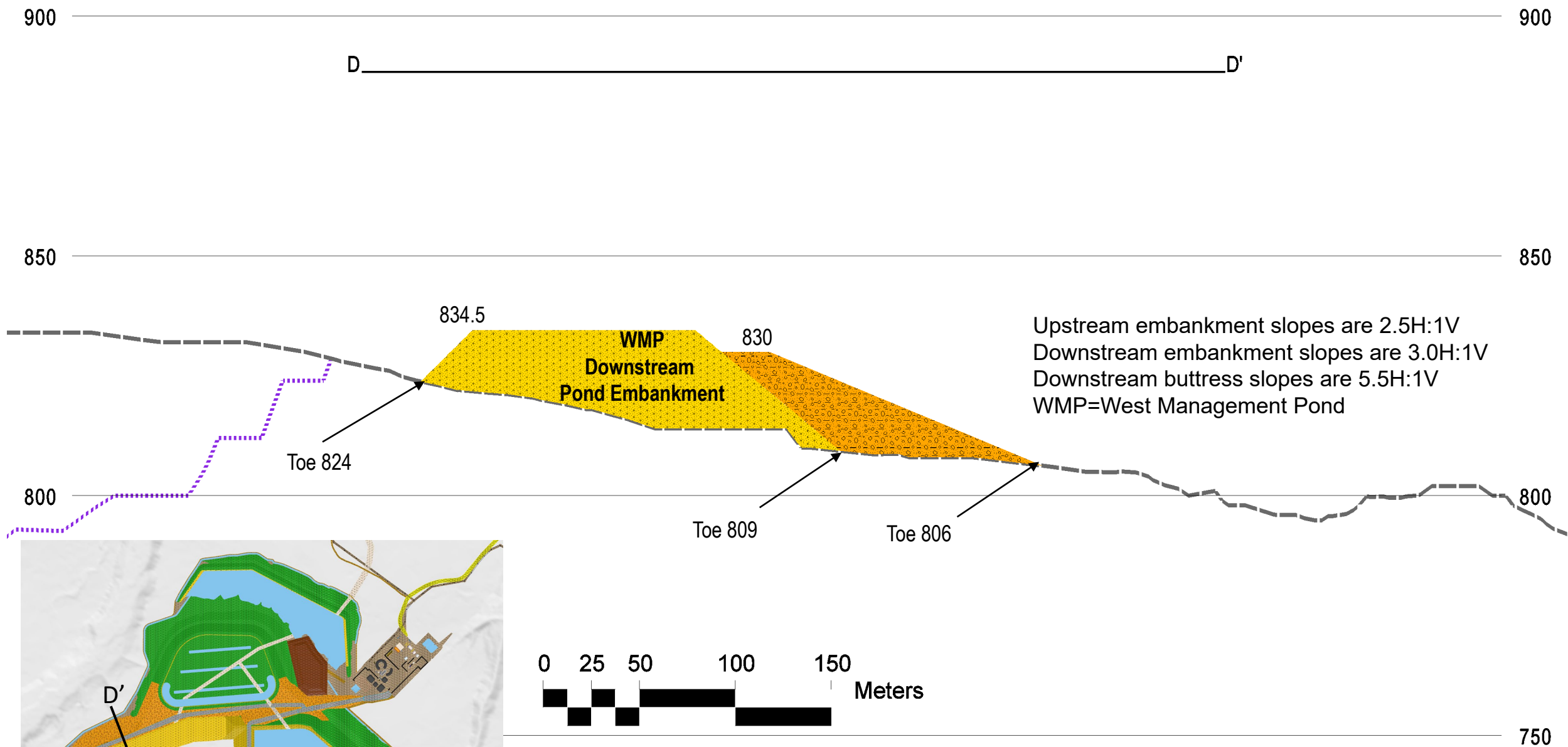
Tenas Project

West Management Pond at the end of Year 4

Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal
All elevations are masl

Figure 1.9-59

TELKWA COAL
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Legend

-  Buttress
-  Embankment
-  Open Pit Outline
-  Surface Topography
-  masl
- meters above sea level

Tenas Project

East Management Pond at end of Year 5

Vertical Exaggeration: 2.5 Vertical to 1.0 Horizontal

All elevations are masl

Figure 1.9-60