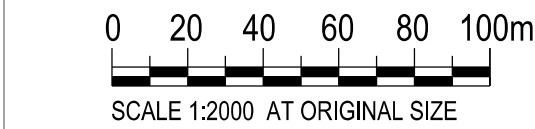


Appendix C

Staging Plans and Overburden Isopach



0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E melmail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Status Code

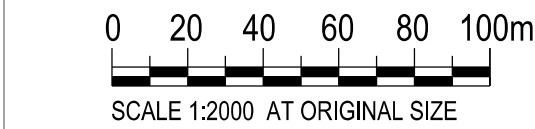
Drawing Title

**Extraction and Dumping
Sequence
Stage 1**

Drawing No.
31-12559266-C005

Size
A1

Rev
0



0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E mel@mail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Status Code

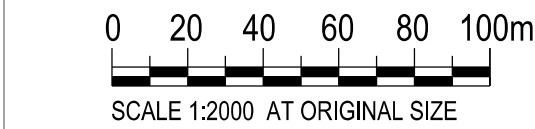
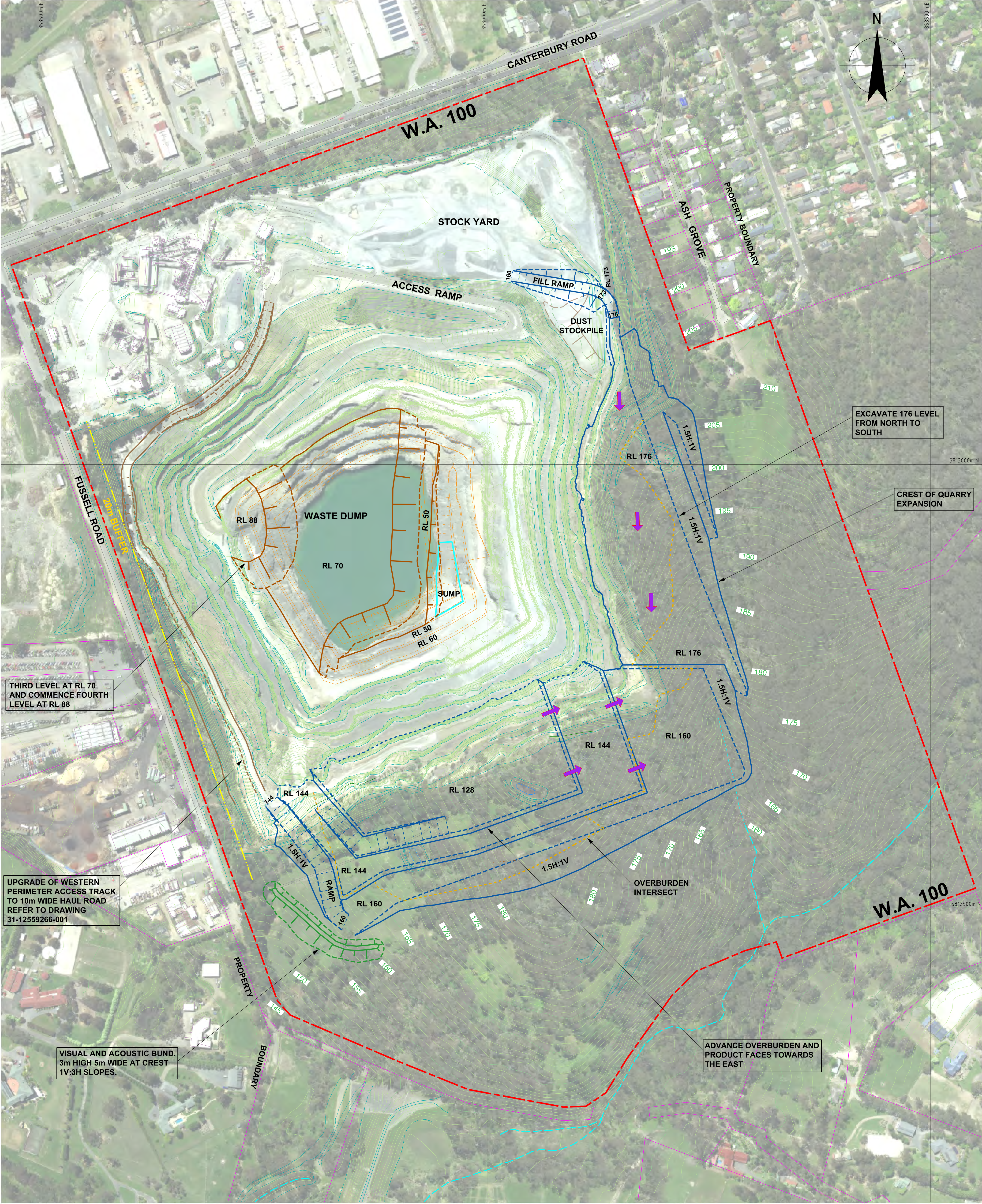
Drawing Title

Extraction and Dumping Sequence Stage 2

Drawing No. **31-12559266-C006**

Size **A1**

Rev **0**



Issued to Client		M Armstrong M Laird 4/11/2022	
Rev	Description	Checked	Approved Date
Author	S. Verhellen	Drafting Check	J Bohan
Designer	S. Verhellen	Design Check	M Armstrong



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E mel@mail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Drawing Title

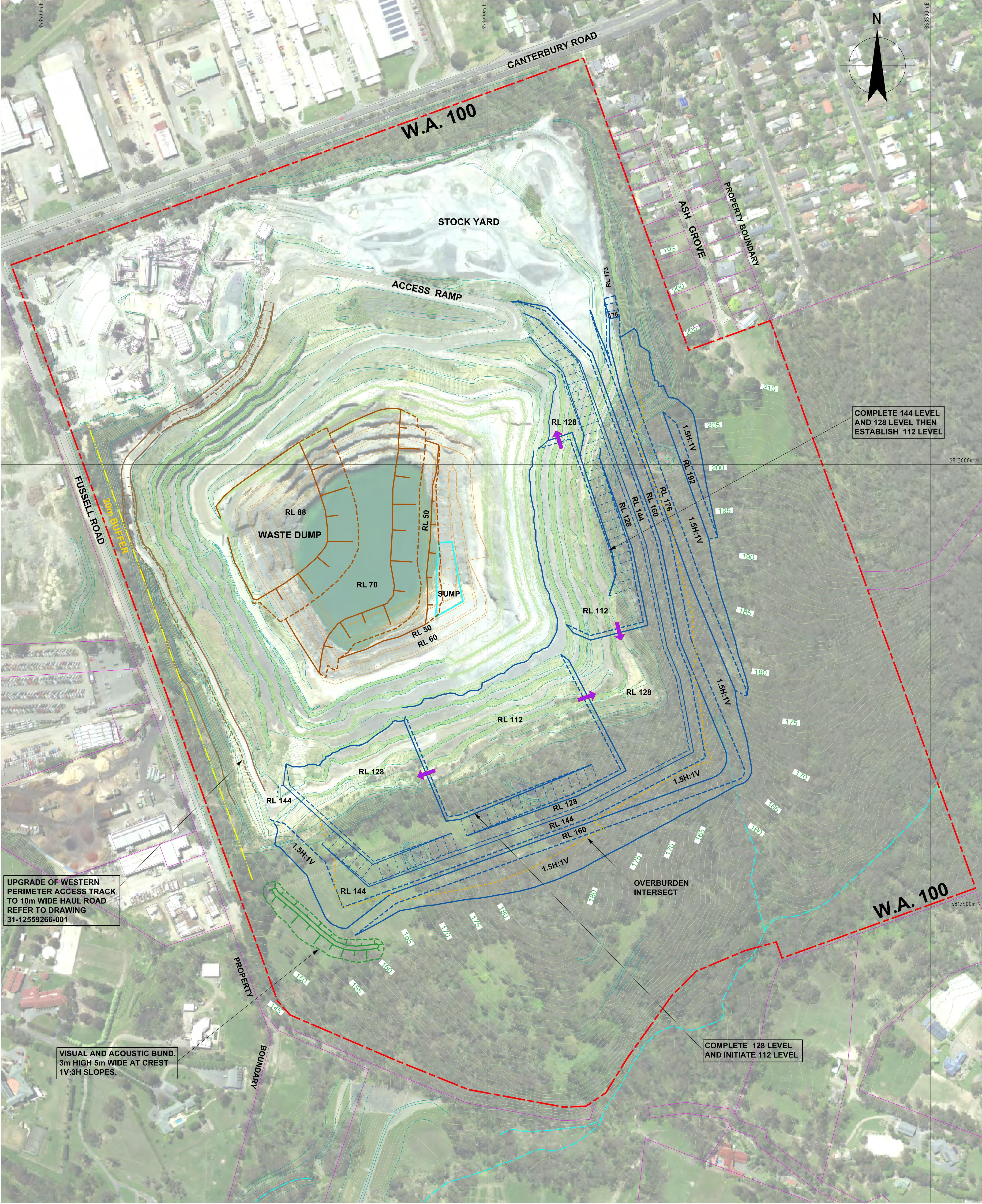
Extraction and Dumping Sequence Stage 4

Size **A1**

Rev

Drawing No. **31-12559266-C008**

0



UPGRADE OF WESTERN PERIMETER ACCESS TRACK TO 10m WIDE HAUL ROAD REFER TO DRAWING 31-12559266-001

VISUAL AND ACOUSTIC BUND. 3m HIGH 5m WIDE AT CREST 1V:3H SLOPES.

COMPLETE 144 LEVEL AND 128 LEVEL THEN ESTABLISH 112 LEVEL

COMPLETE 128 LEVEL AND INITIATE 112 LEVEL

0 20 40 60 80 100m
SCALE 1:2000 AT ORIGINAL SIZE

0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E mel@mail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Drawing Title

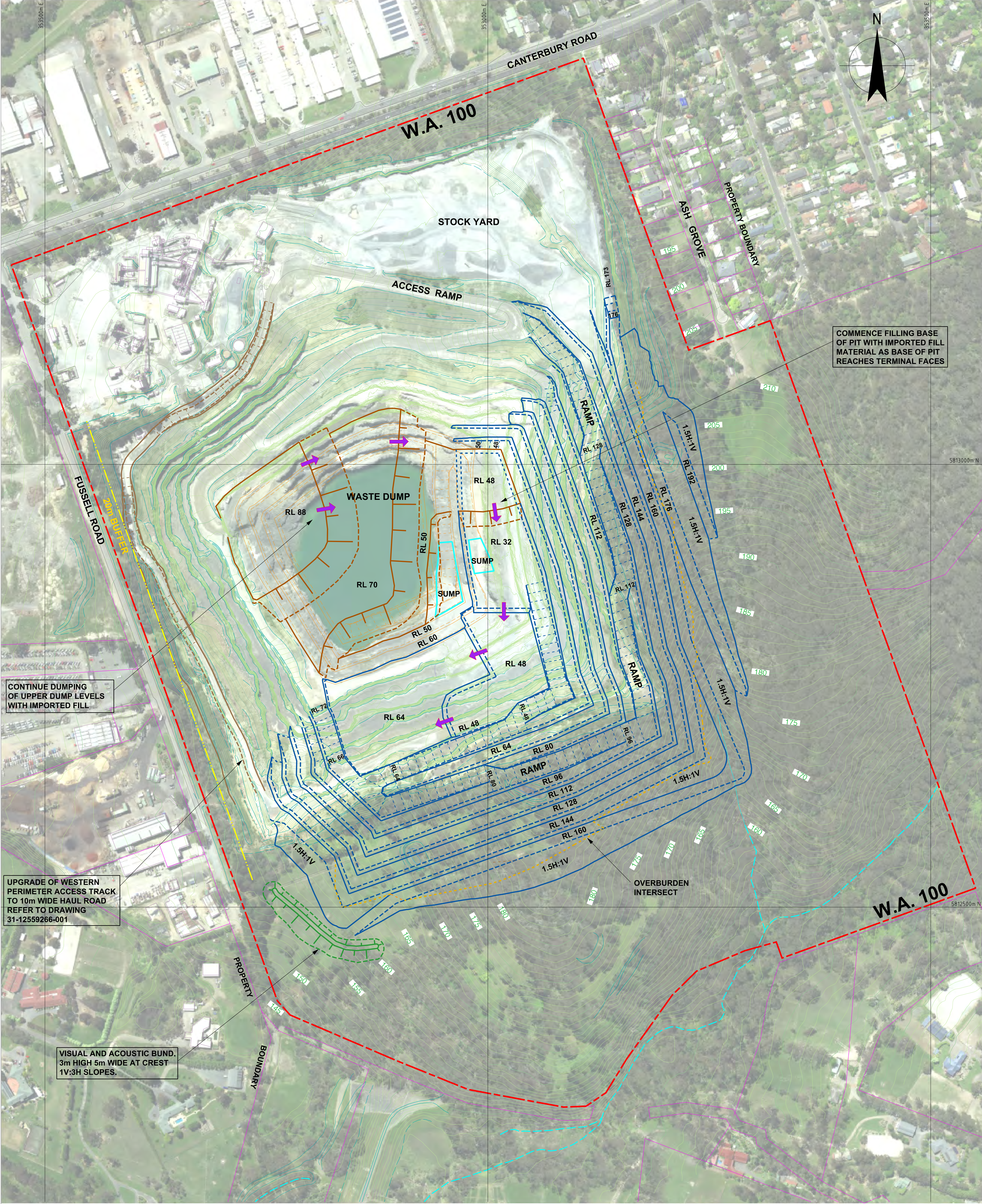
Extraction and Dumping Sequence Stage 6

Status Code

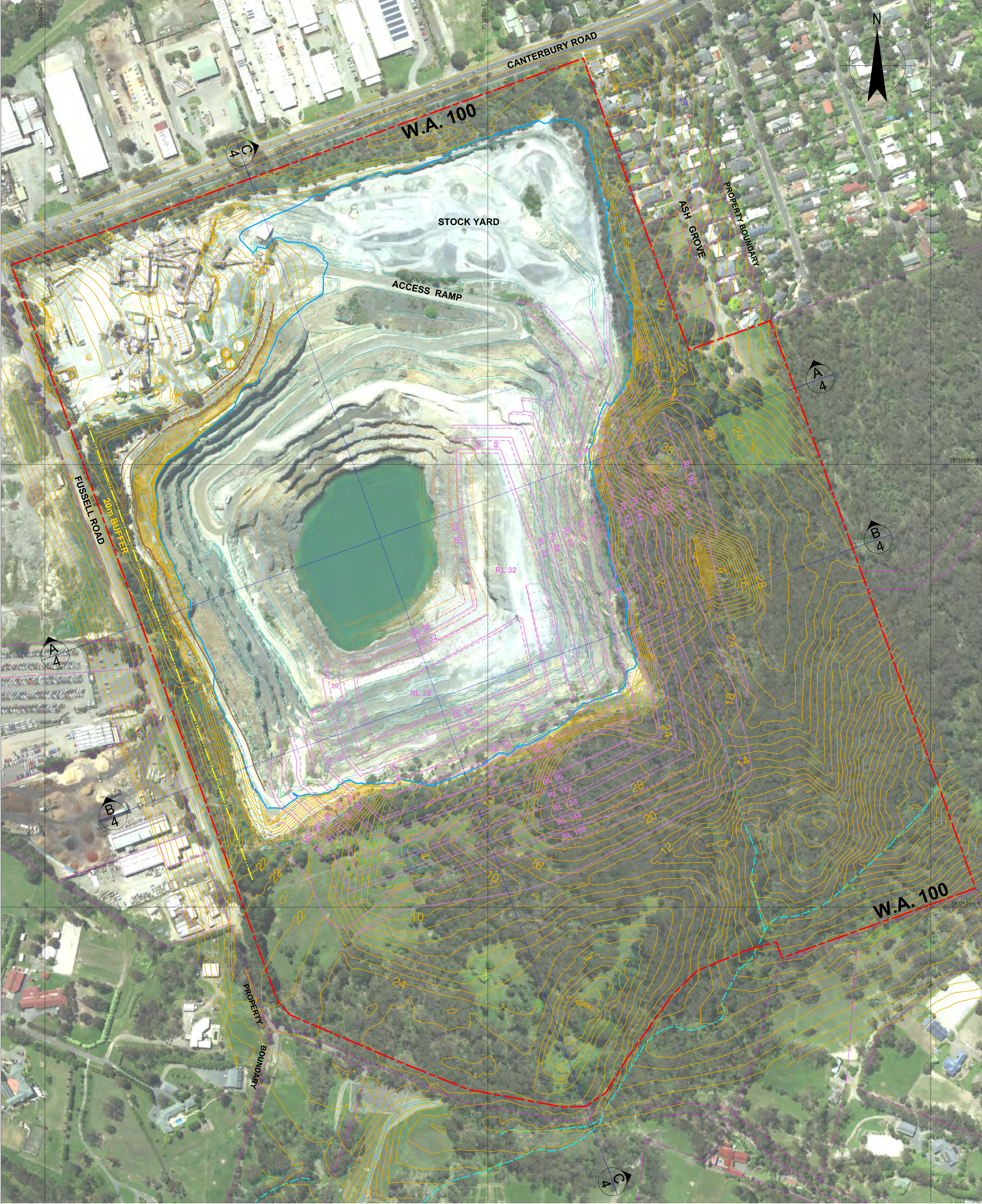
Drawing No. 31-12559266-C010

Size A1

Rev 0



<div>020406080100m</div> <div>SCALE 1:2000 AT ORIGINAL SIZE</div>		<div><div><div></div><div>GHD</div></div><div>Level 8, 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com</div></div>		<div><div><div><div></div><div>Client</div><div>BORAL</div></div><div><div></div><div>Project</div><div>MONTROSE QUARRY EXTENSION</div></div><div><div></div><div>Status</div><div></div></div></div><div><div><div></div><div>Drawing Title</div><div>Extraction and Dumping Sequence Stage 8</div></div><div><div></div><div>Drawing No.</div><div>31-12559266-C014</div></div></div><div><div><div></div><div>Size</div><div>A1</div></div><div><div></div><div>Rev</div><div>0</div></div></div></div>
<div>0 Issued to Client</div> <div>Rev Description</div> <div>Author S. Verhellen</div> <div>Designer S. Verhellen</div>		<div>M Armstrong M Laird 4/11/2022</div> <div>Checked Approved Date</div> <div>Drafting Check J Bohan</div> <div>Design Check M Armstrong</div>		<div>Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.</div> <div>Project No.</div> <div>Status Code</div>



Appendix D

Staging Plans and Bench Level Volumes

Extraction Summaries by Stage

Stage 1

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
SOUTHERN RAMP				
BENCH_176	4,300	4,300	0	0
BENCH_160	14,800	14,800	0	0
BENCH_144	26,200	26,200	0	0
TOTAL	45,300	45,300	0	0
EASTERN RAMP				
BENCH_192	7,000	7,000	0	0
BENCH_176	3,100	3,100	0	0
TOTAL	10,100	10,100	0	0

Stage 2

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	12,300	12,300	-	-
BENCH_176	154,700	128,500	26,200	70,740
BENCH_160	250,000	123,700	126,300	341,010
BENCH_144	158,500	39,600	118,900	321,030
BENCH_192 EAST	110,000	107,000	3,000	8,100
STAGE 2 TOTAL	685,500	411,100	274,400	740,880
YEARS		2.3	0.9	

Stage 3

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	-	-	-	-
BENCH_176	219,600	202,900	16,700	45,090
BENCH_160	644,200	370,600	273,600	738,720
BENCH_144	395,100	30,000	365,100	985,770
BENCH_128	306,300	-	306,300	827,010
BENCH_192 EAST	43,800	35,300	8,500	22,950
STAGE 3 TOTAL	1,609,000	638,800	970,200	2,619,540
YEARS		3.2	3.2	

Stage 4

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	160,800	149,300	11,500	31,050
BENCH_176	427,900	247,200	180,700	487,890
BENCH_160	105,400	91,800	13,600	36,720

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_144	206,700	10,500	196,200	529,740
BENCH_128	198,100	-	198,100	534,870
STAGE 4 TOTAL	938,100	349,500	588,600	1,589,220
YEARS		1.7	2.0	

Stage 5

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	-	-	-	-
BENCH_176	-	1,100	-	-
BENCH_160	431,800	40,400	398,900	1,077,030
BENCH_144	703,400	83,000	617,800	1,668,060
BENCH_128	219,100	-	219,100	591,570
STAGE 5 TOTAL	1,354,300	124,500	1,235,500	3,335,850
YEARS		0.7	4.1	

Stage 6

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	-	-	-	-
BENCH_176	-	-	-	-
BENCH_160	-	-	-	-
BENCH_144	51,300	-	51,300	138,510
BENCH_128	606,700	-	606,700	1,638,090
BENCH_112	678,700	-	678,700	1,832,490
STAGE 6 TOTAL	1,336,700	-	1,337,000	3,609,900
YEARS			4.5	

Stage 7

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	-	-	-	-
BENCH_176	-	-	-	-
BENCH_160	-	-	-	-
BENCH_144	-	-	-	-
BENCH_128	-	-	-	-
BENCH_112	565,900	-	565,900	1,527,930
BENCH_96	1,063,300	-	1,063,300	2,870,910
BENCH_80	503,700	-	503,700	1,359,990
STAGE 7 TOTAL	2,132,900	-	2,132,900	5,758,830
YEARS			7.1	

Stage 8

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	-	-	-	-
BENCH_176	-	-	-	-
BENCH_160	-	-	-	-
BENCH_144	-	-	-	-
BENCH_128	-	-	-	-
BENCH_112	-	-	-	-
BENCH_96	79,000	-	79,000	213,300
BENCH_80	505,100	-	505,100	1,363,770
BENCH_64	912,100	-	912,100	2,462,670
BENCH_48	523,100	-	523,100	1,412,370
BENCH_32	227,600	-	227,578	614,520
STAGE 8 TOTAL	2,246,900	-	2,246,900	6,066,630
YEARS			7.5	

Extraction Summary by Bench Level

Bench	Volume (m³)	Overburden (m³)	Resource (m³)	Resource (t)
BENCH_192	173,100	161,600	11,500	31,050
BENCH_176	806,500	584,000	222,500	600,750
BENCH_160	1,450,200	641,300	808,900	218,4030
BENCH_144	1,529,300	189,300	1,340,000	3,618,000
BENCH_128	1,395,800	0	1,395,800	3,768,660
BENCH_112	1,244,300	0	1,244,300	3,359,610
BENCH_96	1,142,300	0	1,142,300	3,084,210
BENCH_80	1,008,800	0	1,008,800	2,723,760
BENCH_64	912,100	0	912,100	246,2670
BENCH_48	809,300	0	809,300	2,185,110
BENCH_32	603,700	0	603,700	1,629,990
BENCH_20	158,800	0	158,800	428,760
TOTAL	11,234,200	1,576,200	9,658,000	26,076,600

The bottom two levels (Bench 20 & Bench 32) are limited by the proposed internal waste dump.

Appendix E

Rehabilitation Concept and Backfilling & Rehabilitation Sequencing



LEGEND:

- Existing Quarry Faces
- Internal Waste Dump
- Proposed Expansion Final Batter

0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E mel@mail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Status

Code

Drawing

Title

**Rehabilitation Concept
Void Filling Landform**

Size

A1

Rev

0

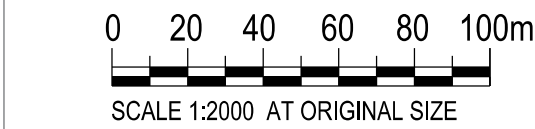
Drawing No.
31-12559266-C013



PIT FILLING AT YEAR 10 (2.5Mm3 TOTAL)

INTERNAL DUMP COMPLETED - 2.2Mm3 CAPACITY FILLED WITH 1.9Mm3 (1.576bcm) OF OVERBURDEN & 0.3Mm3 OF IMPORTED FILL. EXPANSION AREA FILLED TO RL 70 WITH 2.3Mm3 OF IMPORTED FILL

NOTE: 250,000 BCM per annum IMPORTED FILL ASSUMED AS BULKED AMOUNT



0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E melmail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Drawing Title

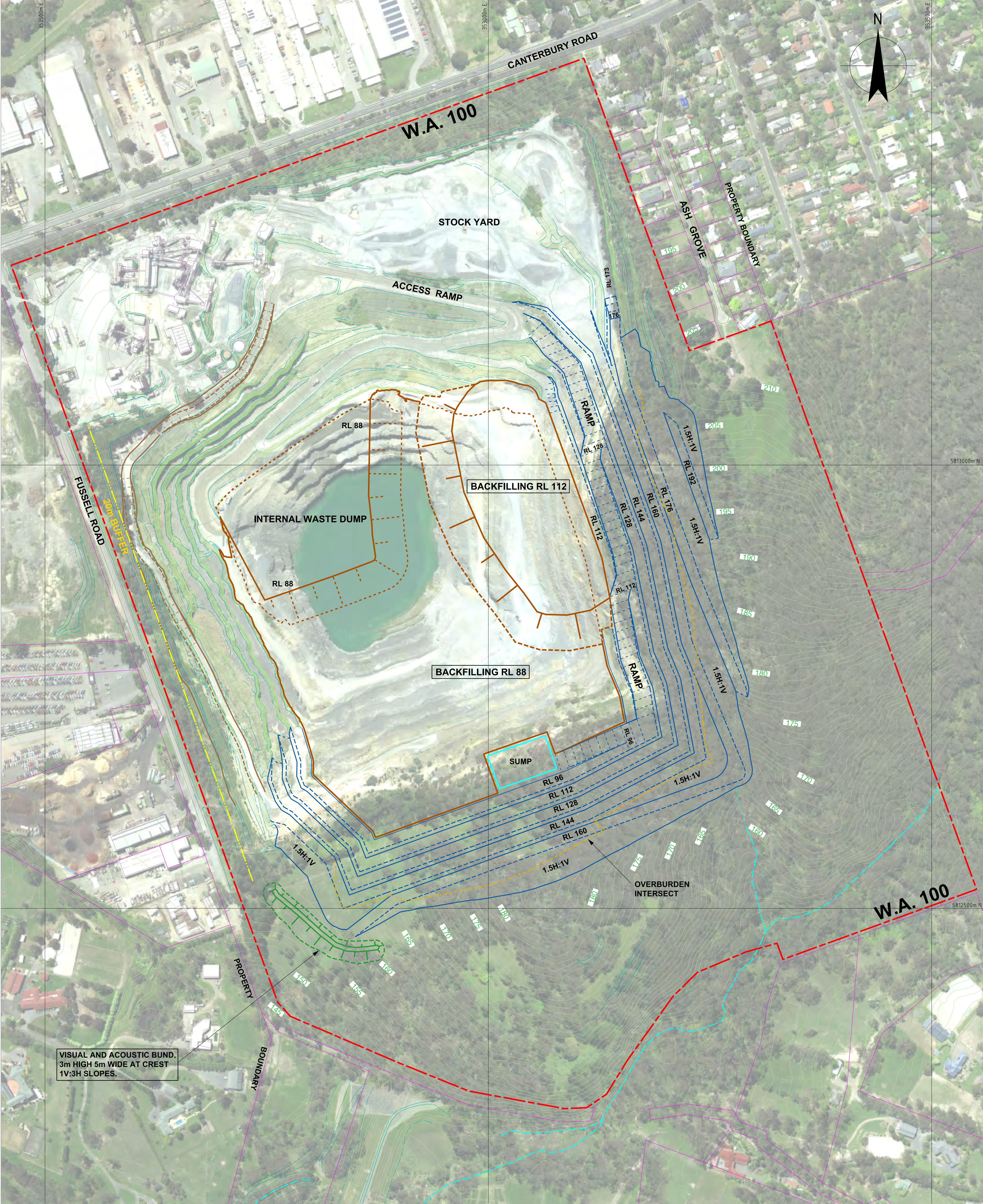
Backfilling & Rehabilitation Sequence Year 10

Status Code

Drawing No. **31-12559266-C015**

Size **A1**

Rev **0**



PIT FILLING AT YEAR 20 (5.0Mm3 TOTAL)

INTERNAL DUMP COMPLETED - 2.2Mm3 CAPACITY FILLED WITH 1.9Mm3 (1.576bcm) OVERBURDEN & 0.3Mm3 REMAINDER WITH IMPORTED FILL. EXPANSION AREA FILLED TO RL 88 WITH 4.3Mm3 IMPORTED FILL. COMMENCE FILLING AT RL 112 (APPROX. 0.5Mm3 SHOWN)

NOTE: 250,000 BCM per annum IMPORTED FILL ASSUMED AS BULKED AMOUNT

0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E mel@mail@ghd.com W www.ghd.com



Project No.

Client **BORAL**
Project **MONTROSE QUARRY EXTENSION**

Status

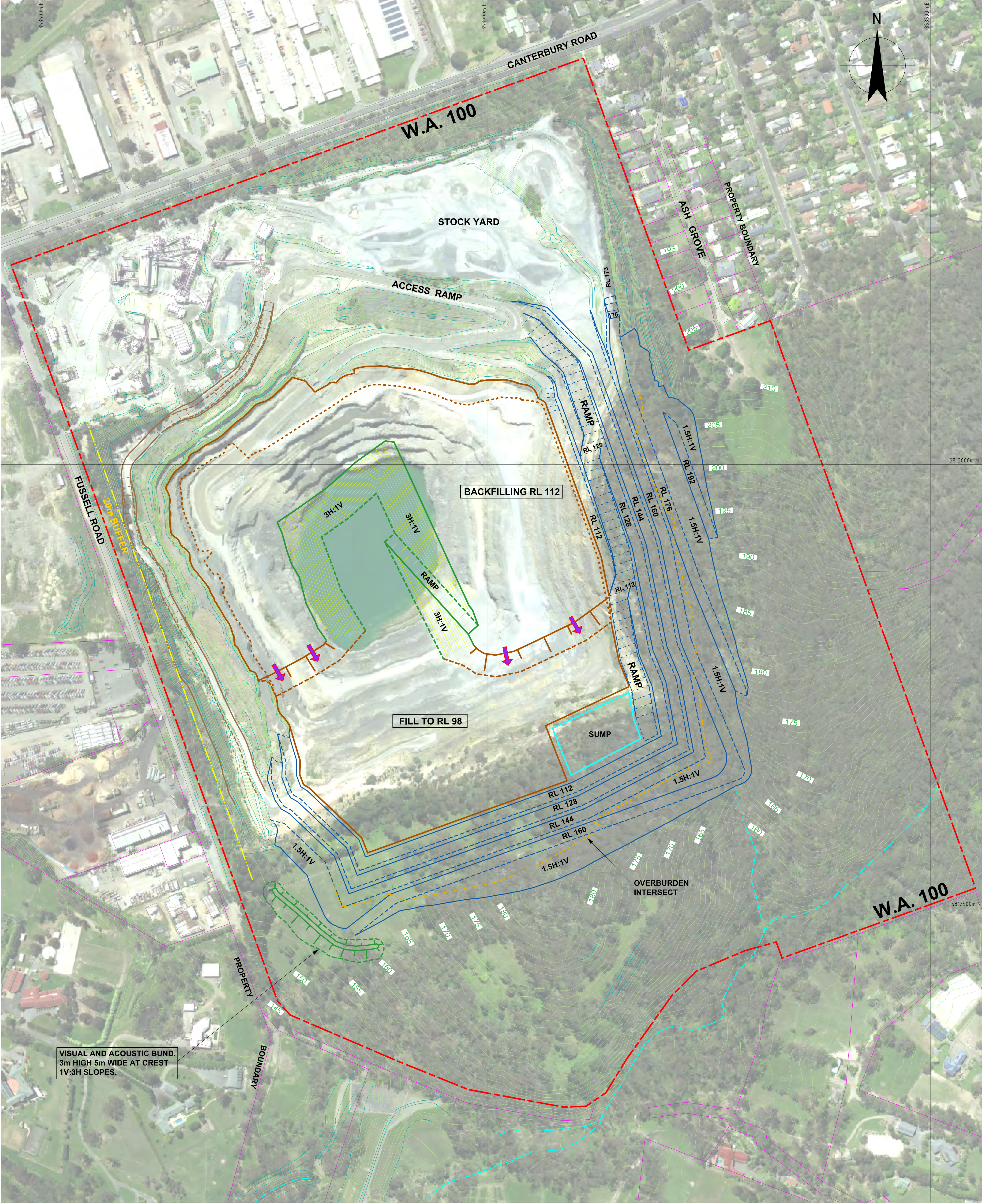
Status Code

Drawing Title **Backfilling & Rehabilitation Sequence Year 20**

Drawing No. **31-12559266-C016**

Size **A1**

Rev **0**



PIT FILLING AT YEAR 30 (7.5Mm3 TOTAL)

PIT VOID FILLED TO RL 98 WITH 5.9Mm3 IMPORTED FILL. CONTINUE FILLING AT RL 112 (APPROX. 1.4Mm3 SHOWN) INCLUDING CREATION OF 1 IN 3 SLOPE ABOVE RL 98

NOTE: 250,000 BCM per annum IMPORTED FILL ASSUMED AS BULKED AMOUNT



0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E melmail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

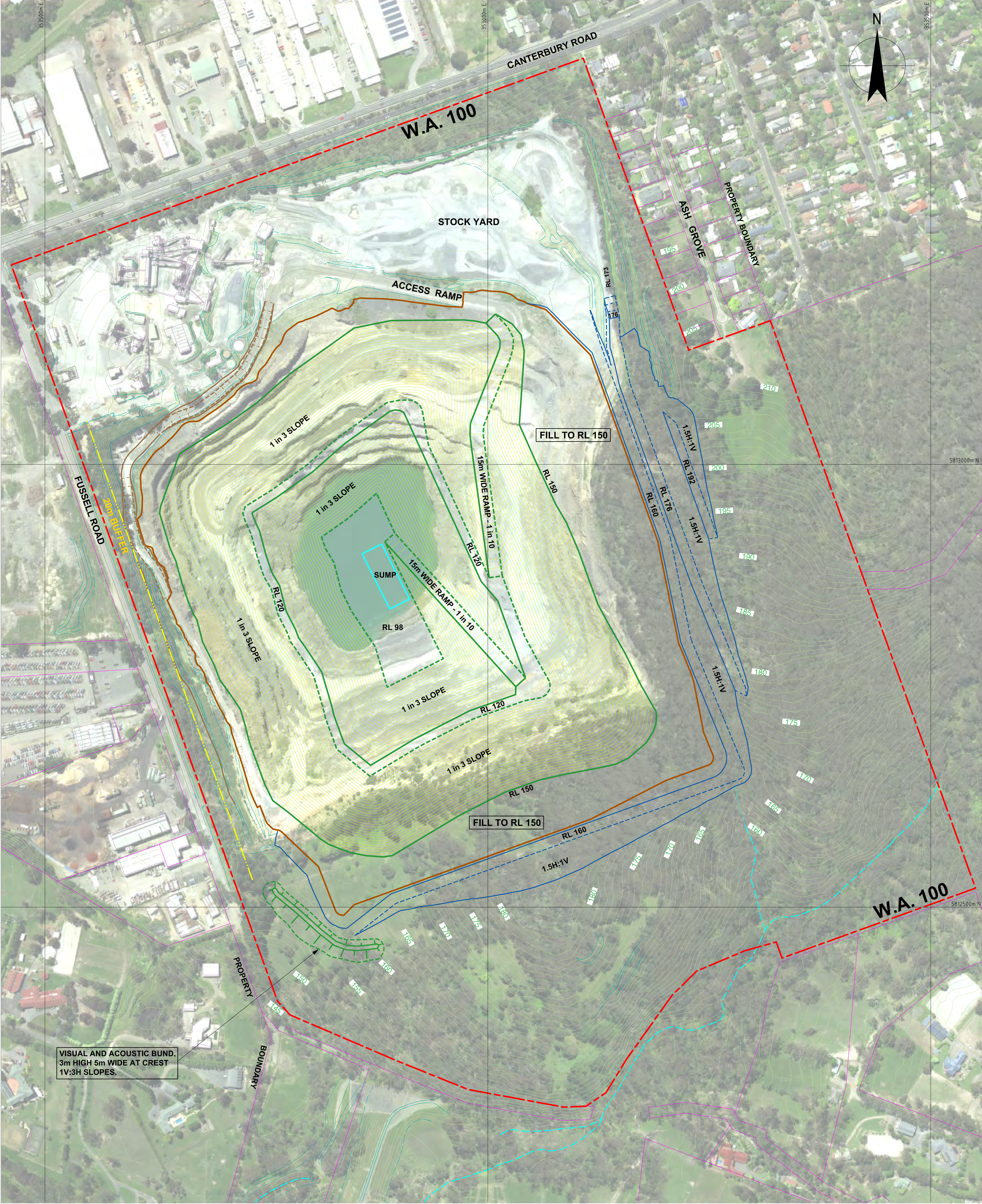
Drawing Title

Backfilling & Rehabilitation Sequence Year 30

Size **A1**

Rev **0**

Drawing No. **31-12559266-C017**



PIT FILLING AT YEAR 54 (13.5Mm3 TOTAL)

PIT VOID FILLED TO RL 150 WITH 13.2Mm3 IMPORTED FILL. CREATE 1 IN 3 SLOPE FROM RL 98 UP TO RL 150

NOTE: 250,000 BCM per annum IMPORTED FILL ASSUMED AS BULKED AMOUNT



0	Issued to Client	M Armstrong	M Laird	4/11/2022
Rev	Description	Checked	Approved	Date
Author	S. Verhellen	Drafting Check	J Bohan	
Designer	S. Verhellen	Design Check	M Armstrong	



Level 8, 180 Lonsdale Street, Melbourne
VIC 3000 Australia
T 61 3 8687 8000 F 61 3 8687 8111
E melmail@ghd.com W www.ghd.com



Project No.

Client **BORAL**

Project **MONTROSE QUARRY EXTENSION**

Status

Status
Code

Drawing
Title

**Backfilling & Rehabilitation
Sequence
Year 54**

Drawing No.
31-12559266-C019

Size
A1

Rev
0

Appendix F

**3D Rendered Images of Rehabilitation
Concept**

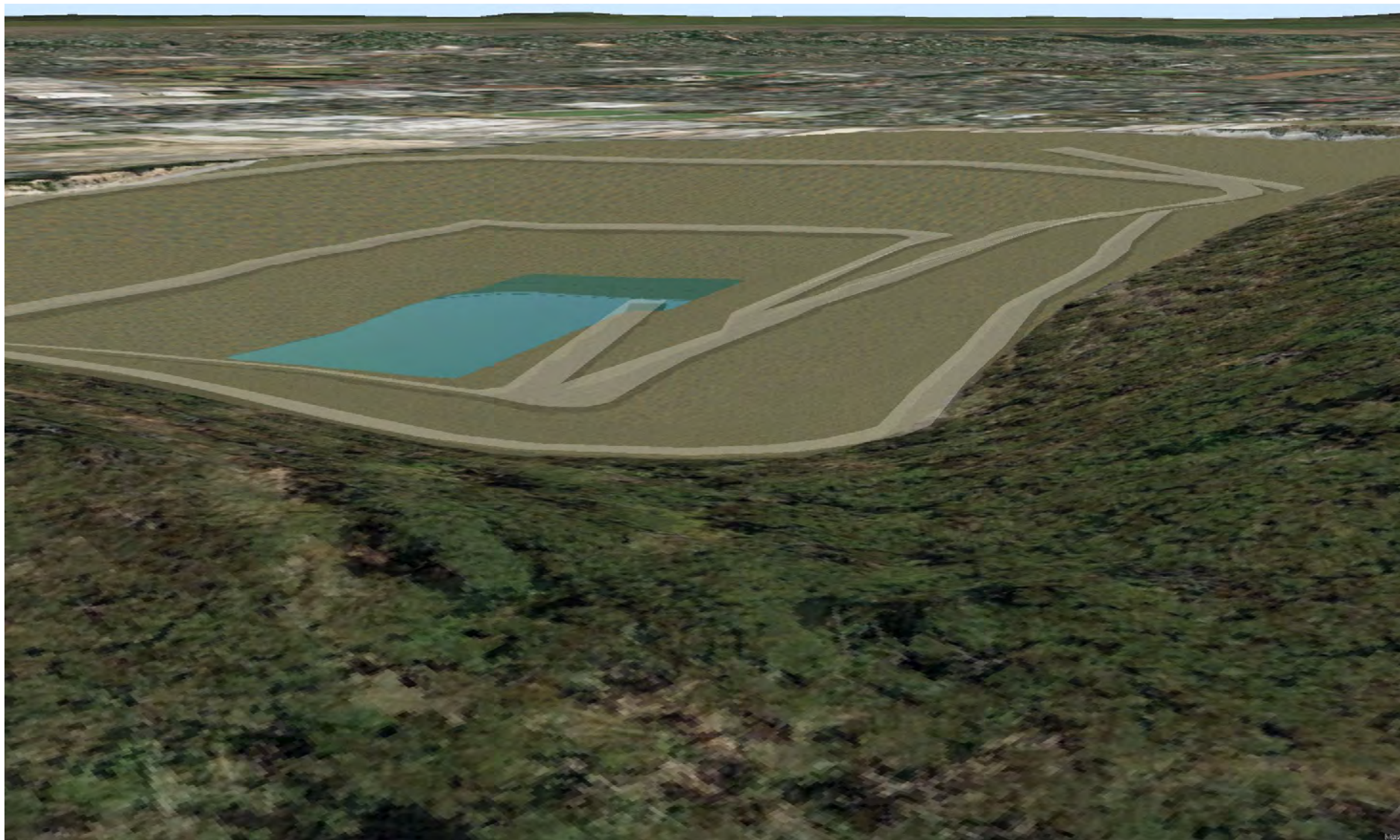


Figure A *Near view, looking northwest from Bungalook Creek*



Figure B *External View, looking southeast to the Dandenong Ranges*



Figure C *External view, looking southwest from Mount Evelyn*

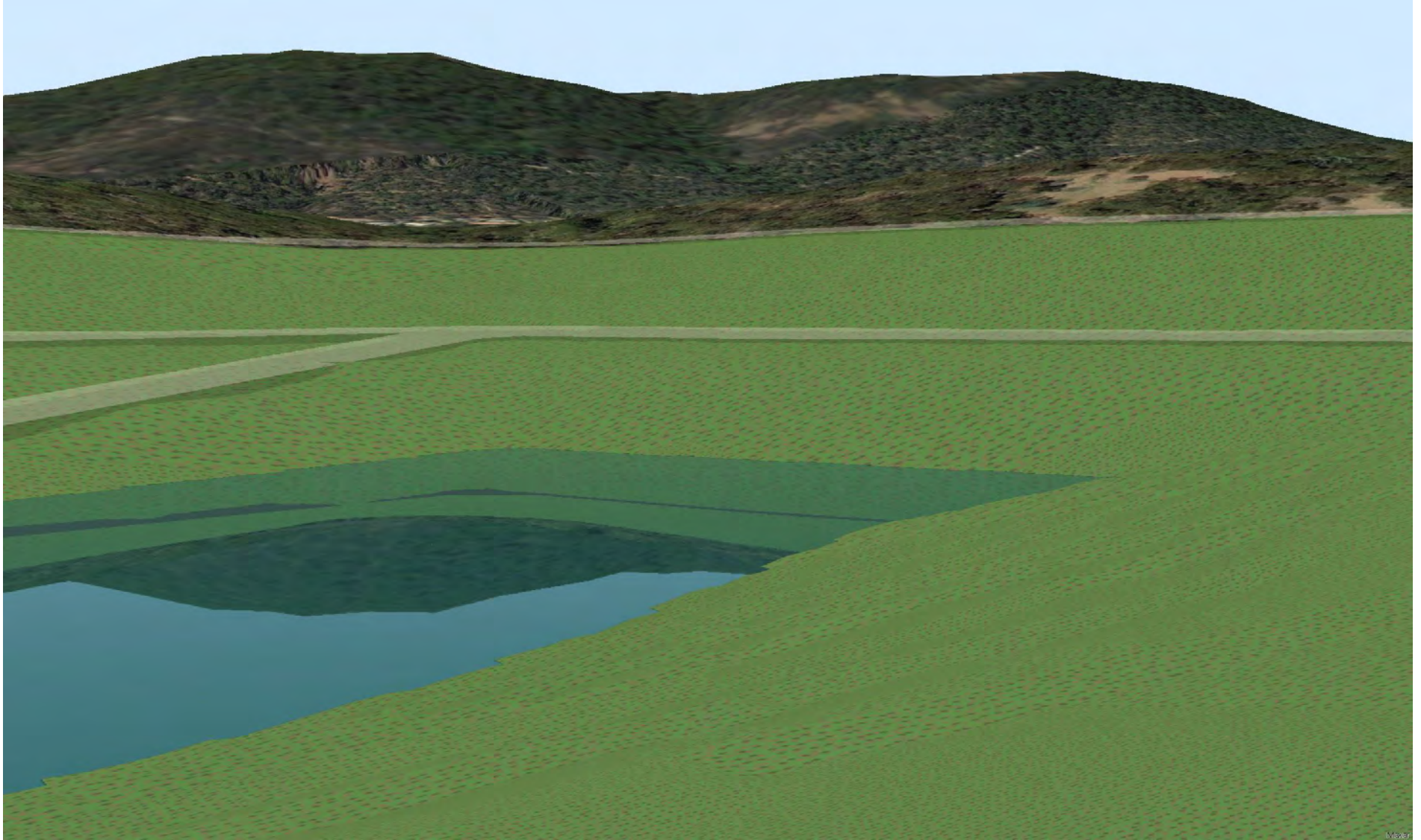


Figure D *Internal view with grass cover, looking southeast towards Dandenong Ranges*

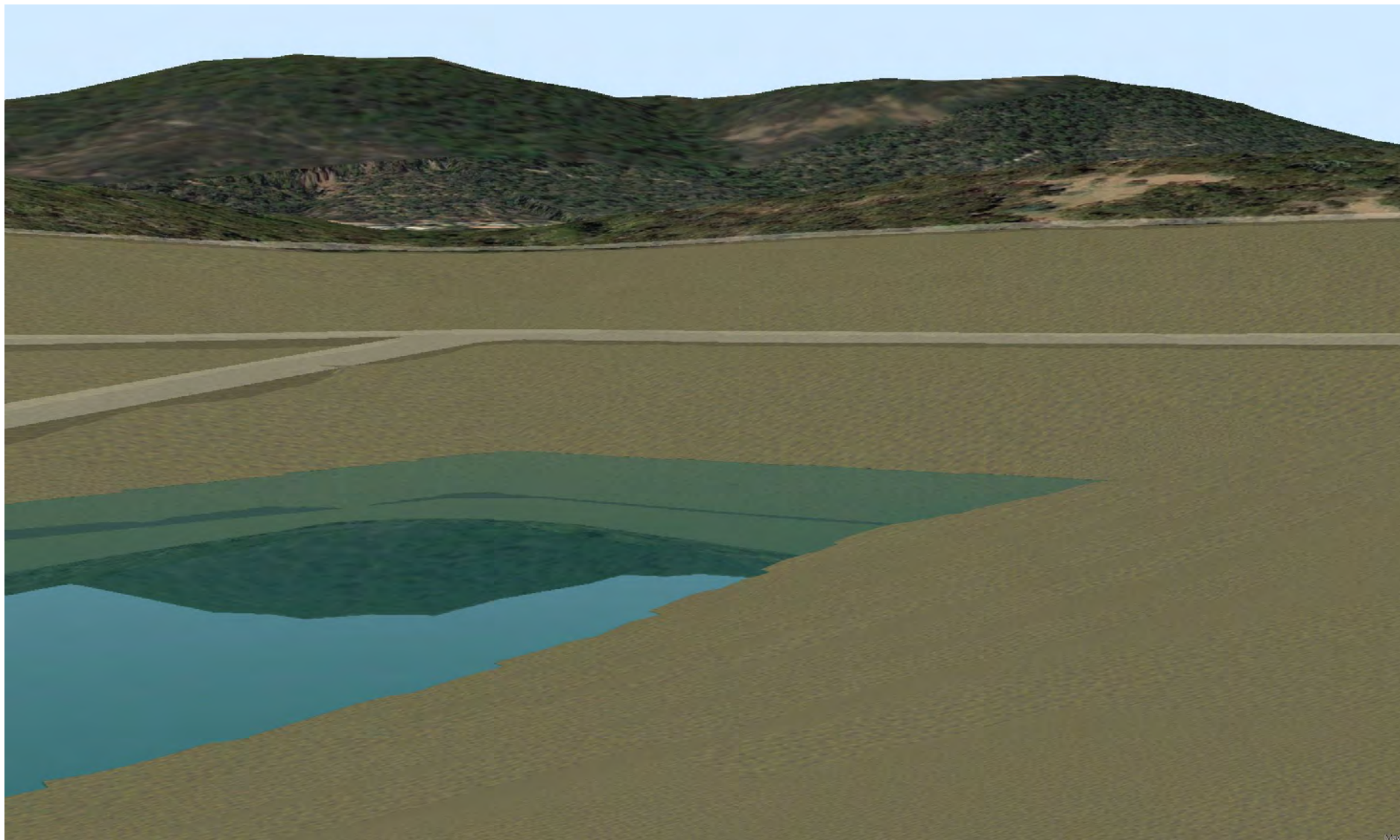


Figure E *Internal view with no grass cover, looking southeast towards the Dandenong Ranges*



Figure F *External view, looking eastward towards Mount Evelyn*

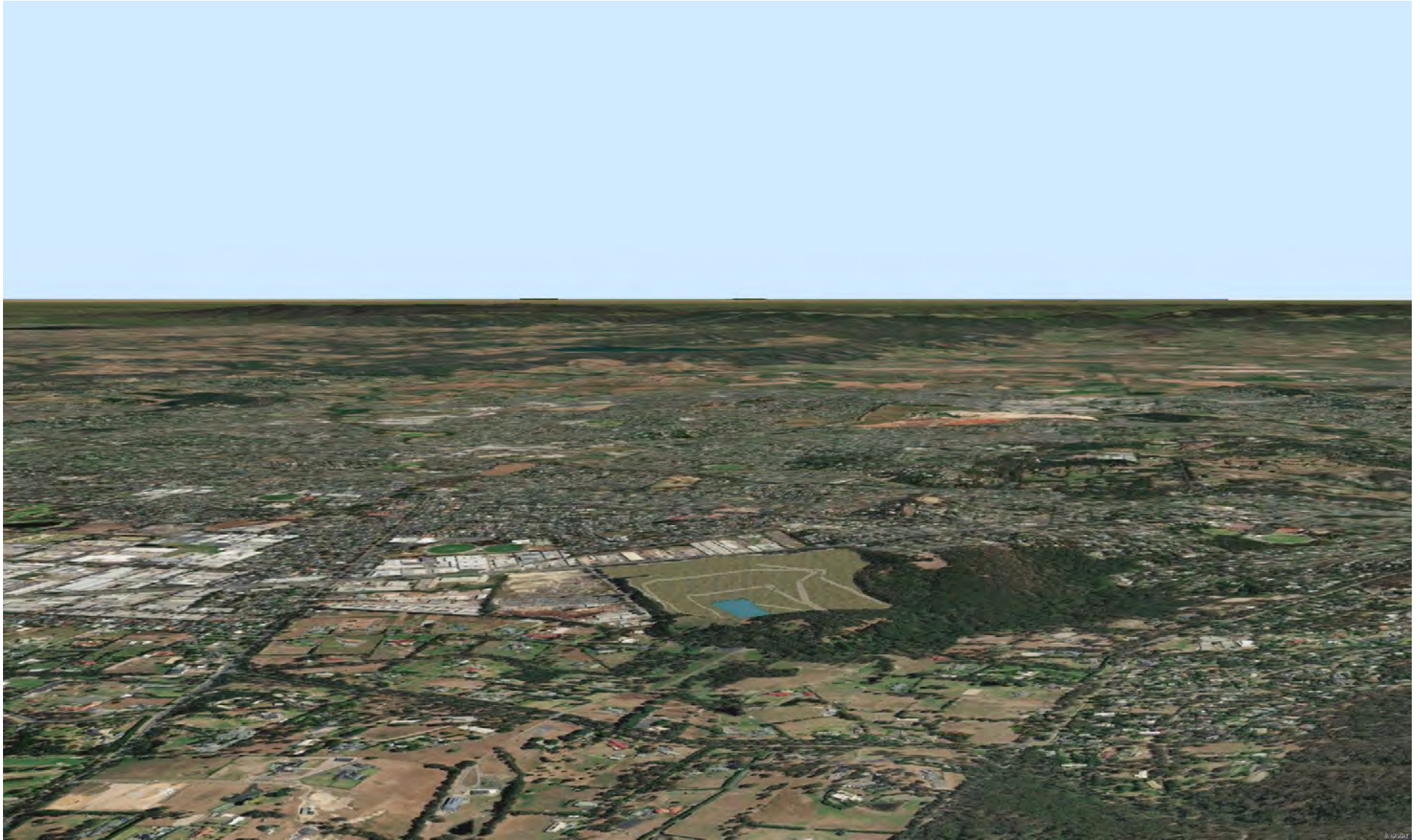


Figure G *External view, looking northwest from the Dandenong Ranges*

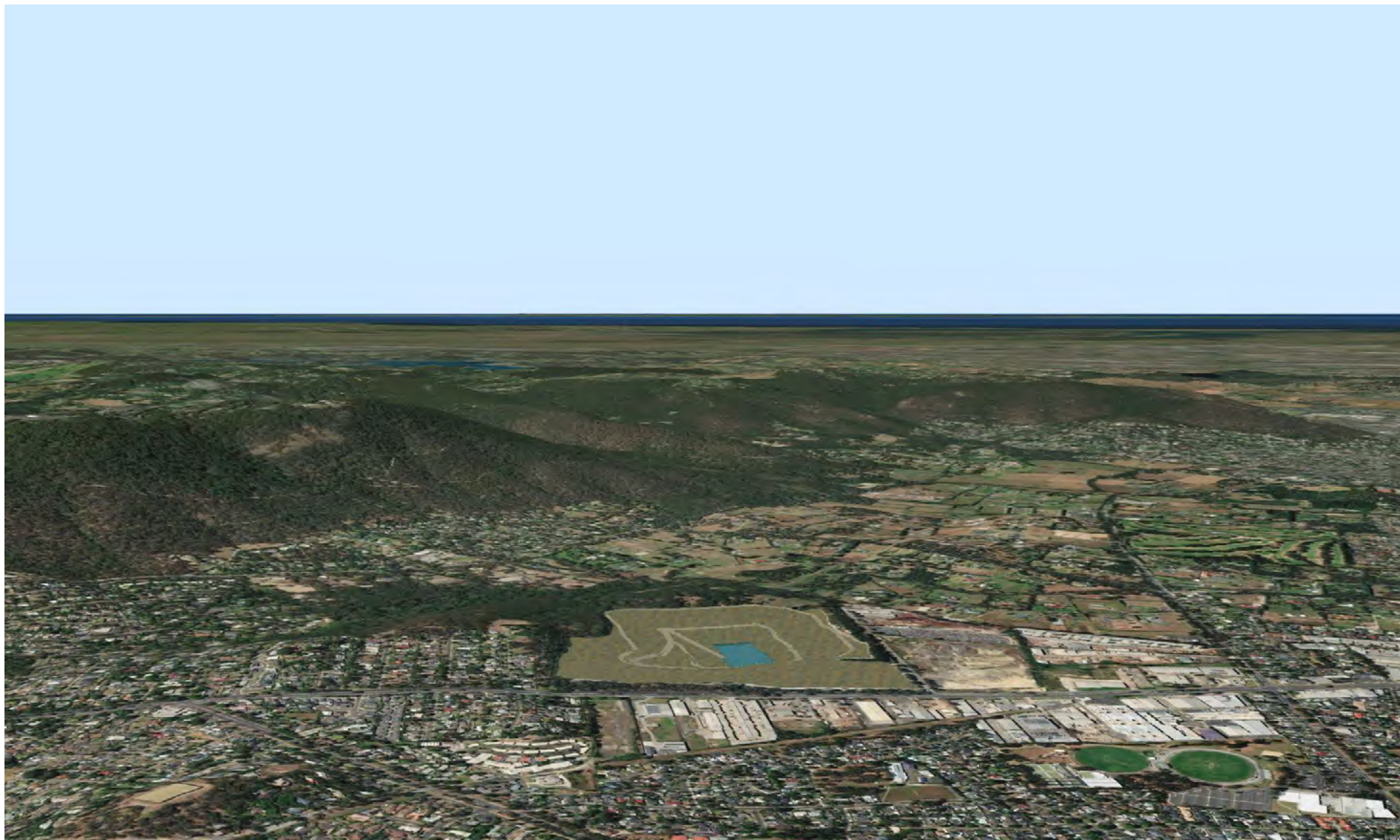


Figure H *External view, looking southeast towards the Dandenong Ranges*

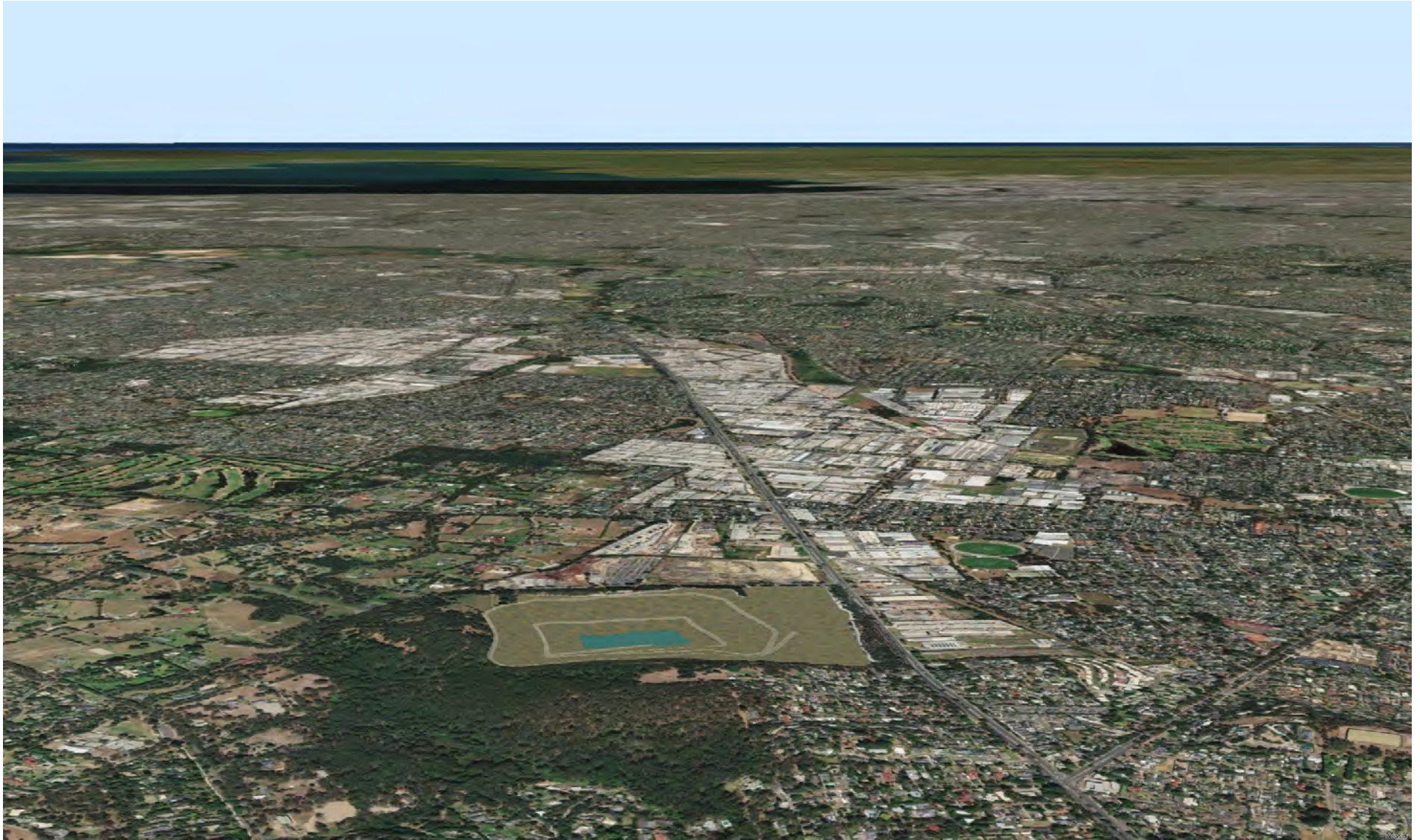


Figure 1 *External view, looking west towards Melbourne City*



ghd.com

→ **The Power of Commitment**