

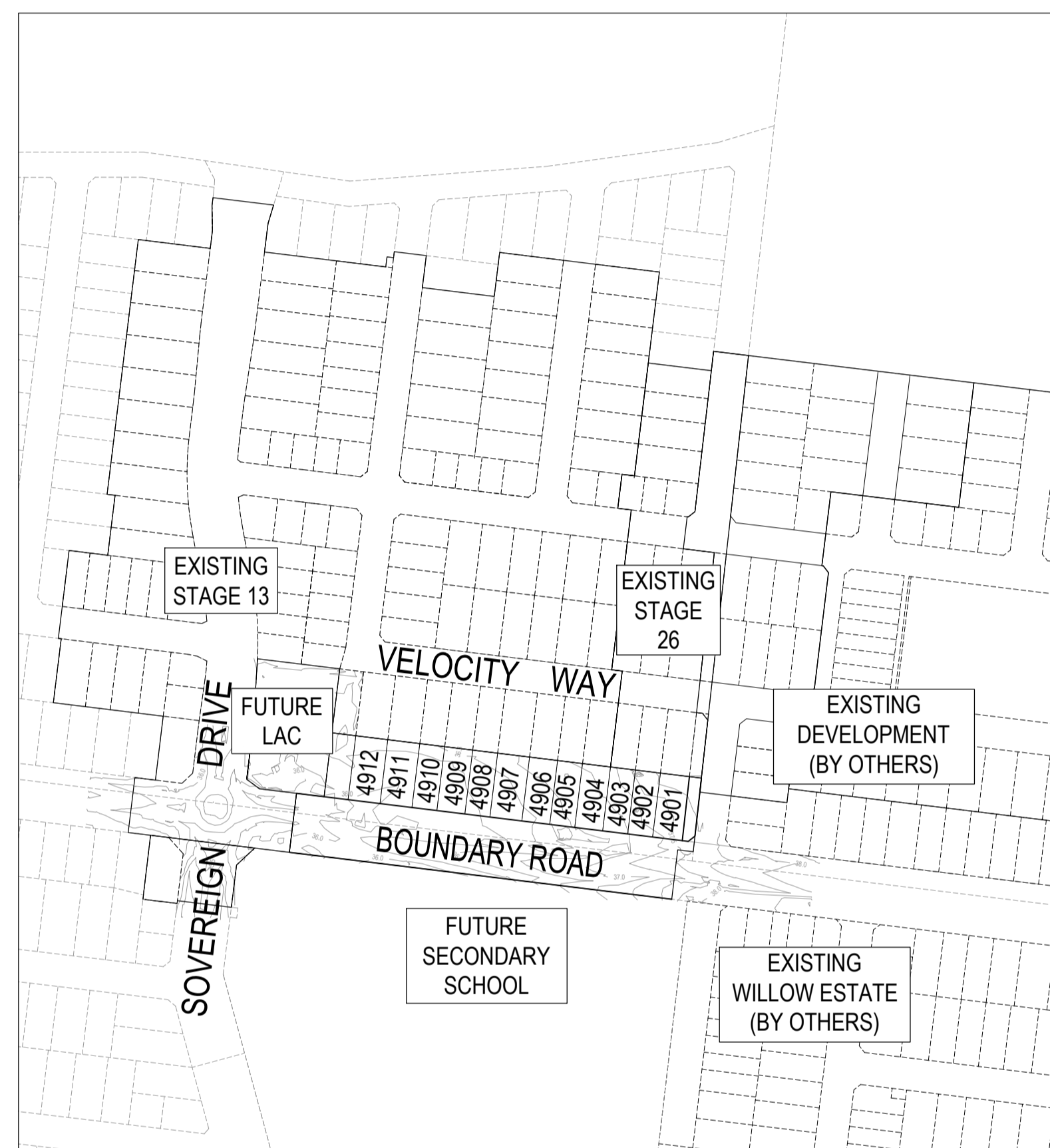
# ARMSTRONG

## STAGE 49

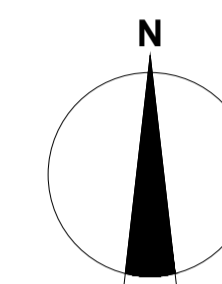
# CITY OF GREATER GEELONG

### GENERAL NOTES:

- THE WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT INFRASTRUCTURE DESIGN MANUAL STANDARD DRAWINGS AND GREATER GEELONG CITY COUNCIL STANDARD DRAWINGS AND SPECIFICATIONS. WORKS TO BE CARRIED OUT TO THE SATISFACTION OF COUNCIL'S SUPERVISING OFFICER.
- THE CONTRACTOR IS RESPONSIBLE FOR SAFETY OF WORK ON SITE IN ACCORDANCE WITH APPROPRIATE LEGISLATION. THEY SHALL ERECT AND MAINTAIN ALL SHORING, PLANKING AND STRUTTING, DEWATERING DEVICES, BARRICADES, SIGNS, LIGHTS, ETC. NECESSARY TO KEEP WORKS IN A SAFE AND STABLE CONDITION, AND TO PROTECT THE PUBLIC FROM HAZARDS ASSOCIATED WITH THE WORKS.
- THE CONTRACTOR SHALL:
  - COMPLY WITH THE "SAFETY PRECAUTIONS IN TRENCHING OPERATIONS" (CODE OF PRACTICE No.8, 1998)
  - NOTIFY WORK SAFE OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.
  - ENSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
- THE CONTRACTOR IS TO NOTIFY COUNCIL AND ALL SERVICE AUTHORITIES SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE LOCATION OF EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL RELEVANT SERVICE AUTHORITIES. ANY EXISTING SERVICES SHOWN ON THE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
- REDGUM TREES MARKED ON THE APPROVED PLANS FOR REMOVAL MUST BE REMOVED IN ACCORDANCE WITH COUNCIL'S PLANNING PERMIT. NO EXCAVATION SHALL BE CARRIED OUT WITHIN THE TREE PROTECTION ZONE OF ANY EXISTING TREE WITHOUT WRITTEN APPROVAL FROM COUNCIL'S ENVIRONMENT DEPARTMENT.
- ALL ROAD CHAINAGES ARE MEASURED ALONG THE ROAD CENTRELINE EXCEPT KERB RETURNS AND COURTHHEADS, WHERE LIP OF KERB CHAINAGES ARE SPECIFIED. ALL DIMENSIONS AND RADII ARE GIVEN TO THE LIP OF KERB. DO NOT SCALE OFF THESE DRAWINGS, WRITTEN DIMENSIONS ONLY SHALL BE USED.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM.
- ALL EXCAVATED OR FILLED AREAS OUTSIDE THE ROAD RESERVES TO BE STRIPPED OF TOPSOIL AND STOCKPILED PRIOR TO EARTHWORKS COMMENCING. THESE AREAS SHALL BE RESURFACED WITH A 150mm LAYER OF TOPSOIL AS SPECIFIED.
- NO TOPSOIL TO BE REMOVED FROM SITE.
- NO FILL OR STOCKPILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE UNLESS DIRECTED BY THE SUPERINTENDENT.
- FILLING ON ALLOTMENTS AND UNDER ROAD PAVEMENTS TO HAVE LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS3798-1996. INDIVIDUAL LOT CERTIFICATES ARE TO BE PROVIDED TO THE SUPERINTENDENT.
- FILLING UNDER DRIVEWAYS AND FOOTPATH IS TO BE APPROVED BY THE SUPERINTENDENT AND CONSTRUCTED IN LAYERS 150mm DEPTH. COMPACTION ACHIEVING A MINIMUM DENSITY RATIO OF 98% (STANDARD) IN ACCORDANCE WITH AS1289 CLAUSE 5.1.1.
- CUT AND FILL BATTER SLOPES ARE NOT TO EXCEED 1 in 6 UNLESS SHOWN OTHERWISE.
- ALL DRAINAGE PIPES ARE TO BE SPIGOT-SOCKET RUBBER RING JOINTED UNLESS STATED OTHERWISE.
- ALL DRAINAGE TRENCHES UNDER PARKING BAYS, DRIVEWAYS, FOOTPATHS AND BEHIND KERB & CHANNEL, SHALL BE BACKFILLED WITH CRUSHED ROCK AS SPECIFIED.
- ALL PIPES UNDER ROADS SHALL BE BACKFILLED WITH 2% STABILISED SAND TO SPRINGLINE. ABOVE THIS POINT, PROVIDE 20mm NOM. SIZE CLASS 3 FINE CRUSHED ROCK (WETMIX) COMPACTED TO 98% MODIFIED COMPACTION IN 150mm MAXIMUM LAYER.
- PROPERTY INLETS AS PER INFRASTRUCTURE DESIGN MANUAL (IDM) STANDARD DRAWING SD 520 ARE TO BE LOCATED 1.0m FROM LOW SIDE BOUNDARY UNLESS SHOWN OTHERWISE.
- ALL HOUSE DRAIN CONNECTIONS ARE TO BE LOCATED NO CLOSER THAN 6.0m FROM THE SIDE BOUNDARY OR FROM EASEMENT ALONG THE SIDE BOUNDARY UNLESS NOTED OTHERWISE AND CONNECTED DIRECTLY TO UNDERGROUND DRAIN OR PIT. HOUSE DRAIN LOCATION TO BE MARKED (50mm STAMPED IMPRESSION) ON THE TOP OF THE KERB.
- SUBSOIL DRAINS SHALL BE INSTALLED BEHIND OR BELOW ALL KERB AND CHANNEL.
- CONDUIT LOCATIONS ARE SUBJECT TO AMENDMENT AND CONDUITS SHALL NOT BE LAID UNTIL WRITTEN APPROVAL IS GIVEN BY THE SUPERINTENDENT. CONDUITS TO BE EXTENDED TO PROPERTY LINE AND ARE REQUIRED WHEN CONNECTIONS EXTEND UNDER ROAD PAVEMENT, FOOTPATH OR OTHER INFRASTRUCTURE. BOTH KERBS ARE TO BE MARKED (50mm STAMPED IMPRESSION) WITH THE LETTERS E (ELECTRICAL), G (GAS), T (TELEPHONE), W (WATER) AND C (COUNCIL COMMUNICATION) ABOVE CONDUIT LOCATION.
- ALL SERVICING TRENCHES UNDER ROADS, DRIVEWAYS, FOOTPATHS ETC. ARE TO BE BACKFILLED & COMPACTED WITH F.C.R. IN THE CASE OF TRENCHES UNDER ROADS WHERE BACKFILLING HAS NOT ACHIEVED THE SPECIFIED COMPACTION OR SHOWS EXCESSIVE MOVEMENT UNDER PROOF ROLLING, THE BACKFILLING SHALL BE REMOVED AND REPLACED WITH 2% STABILISED COMPACTED F.C.R.
- NO COMMUNICATION PITS ARE TO BE LOCATED IN THE FOOTPATH.
- VEHICULAR CROSSINGS TO BE LOCATED CLEAR OF DRAINAGE PITS, SEWER MAINTENANCE HOLES AND EXISTING TREES. VEHICLE CROSSINGS TO BE 1m FROM PROPERTY BOUNDARY OR EASEMENT UNLESS OTHERWISE SHOWN. VEHICULAR CROSSINGS TO BE CONSTRUCTED AS PER CITY OF GREATER GEELONG "DESIGN NOTES No.4" DATED AUGUST 2012 & IDM STANDARD DRAWINGS SD205 to SD265.
- ALL PEDESTRIAN CROSSINGS TO BE IN ACCORDANCE WITH INFRASTRUCTURE DESIGN MANUAL SD200.
- ALL STREET SIGNS TO BE IN ACCORDANCE WITH INFRASTRUCTURE DESIGN MANUAL STANDARD DRAWINGS. STREET SIGNS TO BE ATTACHED TO LIGHT POLES USING 'SINGLE DIRECTION COLLAR' OR '90° RIGHT ANGLE COLLAR' UNLESS SHOWN OTHERWISE.
- ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHOULD BE TO AS1742.2 AND AS1742.1 STANDARD RESPECTIVELY. TEMPORARY LINEMARKING TO BE PLACED DURING MAINTENANCE PERIOD PRIOR TO PLACEMENT OF WEARING COURSE. FINAL LINEMARKING TO BE LONG LIFE ROAD MARKING WITH LONGITUDINAL LINES IN THERMOPLASTIC AND TRANSVERSE MARKINGS IN COLD APPLIED.
- UPON COMPLETION OF CONSTRUCTION THE WHOLE SITE SHALL BE CLEANED, GRADED, ALL RUBBISH REMOVED AND LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT.
- ALL AREAS OF SUBDIVISION EXPOSED OF VEGETATION, INCLUDING NATURE STRIPS, LOTS AND RESERVES ARE TO BE FULLY GRASSED BY HYDRO MULCHING, WATERED AND MAINTAINED, UNTIL THE END OF MAINTENANCE PERIOD.
- ALL SUMPS IN PRECAST CONCRETE PITS ARE TO BE INFILLED WITH CONCRETE FLUSH TO THE INVERT LEVEL OF THE OUTLET PIPE, UNLESS APPROVED OTHERWISE BY THE COUNCIL WORKS INSPECTOR.
- CITY OF GREATER GEELONG REQUIRES CCTV OF ALL DRAINAGE PIPES AND PITS, PRIOR TO THE ISSUE OF THE STATEMENT OF COMPLIANCE

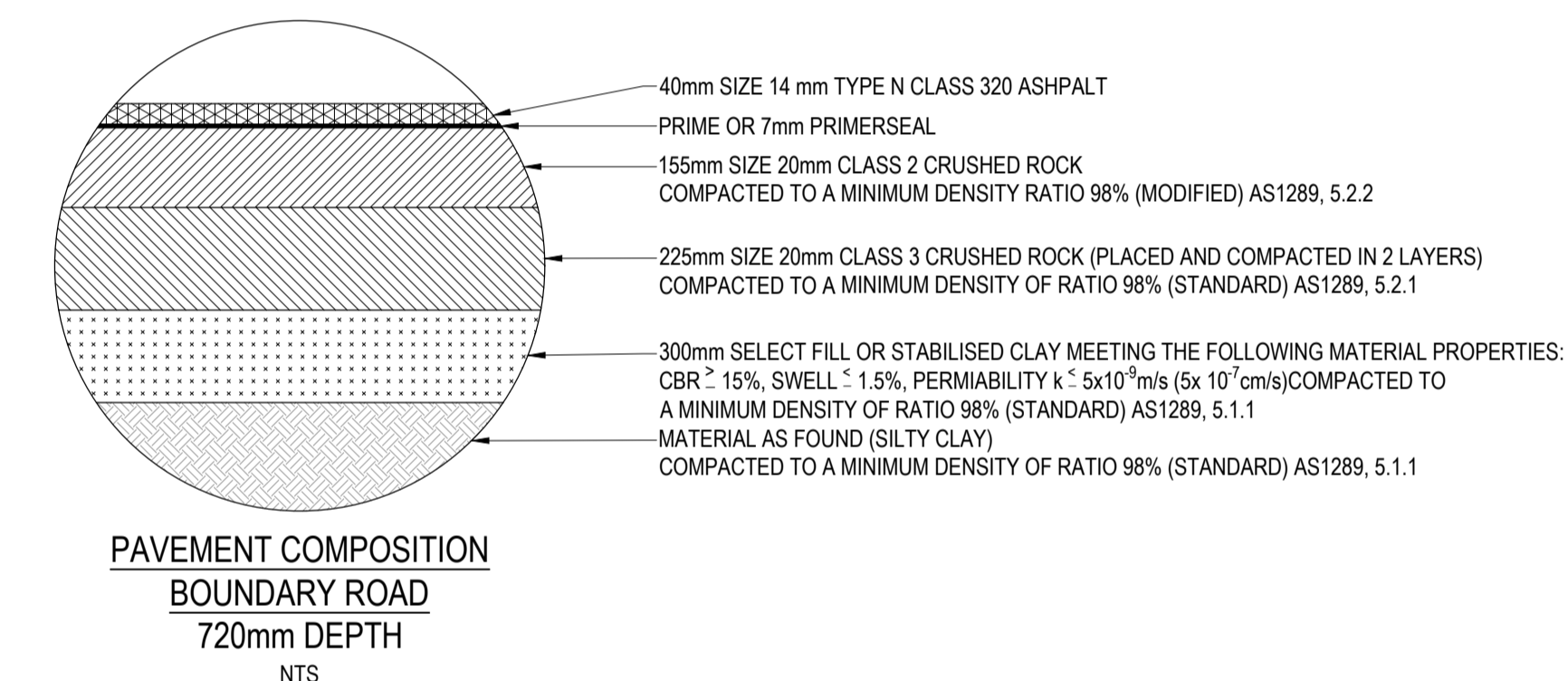


**LOCALITY PLAN**  
MELWAYS REF: 479 F1  
Scale: 1:2000 (A1) and 1:4000 (A3)



### Drawing Index

Drawing No.	Drawing Title	Revision
R100	COVER SHEET	0
R200	LAYOUT PLAN	0
R400	ROAD LONGITUDINAL SECTIONS	0
R500	ROAD CROSS SECTIONS - 01	0
R501	ROAD CROSS SECTIONS - 02	0
R502	ROAD CROSS SECTIONS - 03	0
R503	ROAD CROSS SECTIONS - 04	0
R800	SIGNAGE & LINEMARKING PLAN	0



**PAVEMENT COMPOSITION**  
BOUNDARY ROAD  
720mm DEPTH  
NTS

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**  
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**DIAL 1100 BEFORE YOU DIG**  
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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	DESIGNED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
C	30/11/21	COUNCIL COMMENTS DATED 26/11/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
B	04/11/21	COUNCIL COMMENTS DATED 14/10/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	T.PALIOS

CLIENT

Communities Designed for Living

PROJECT

Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

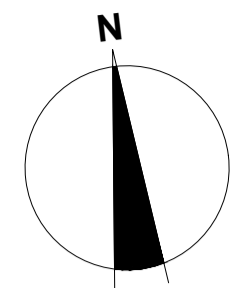
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**ARMSTRONG - STAGE 49**  
**COVER SHEET**

STATUS

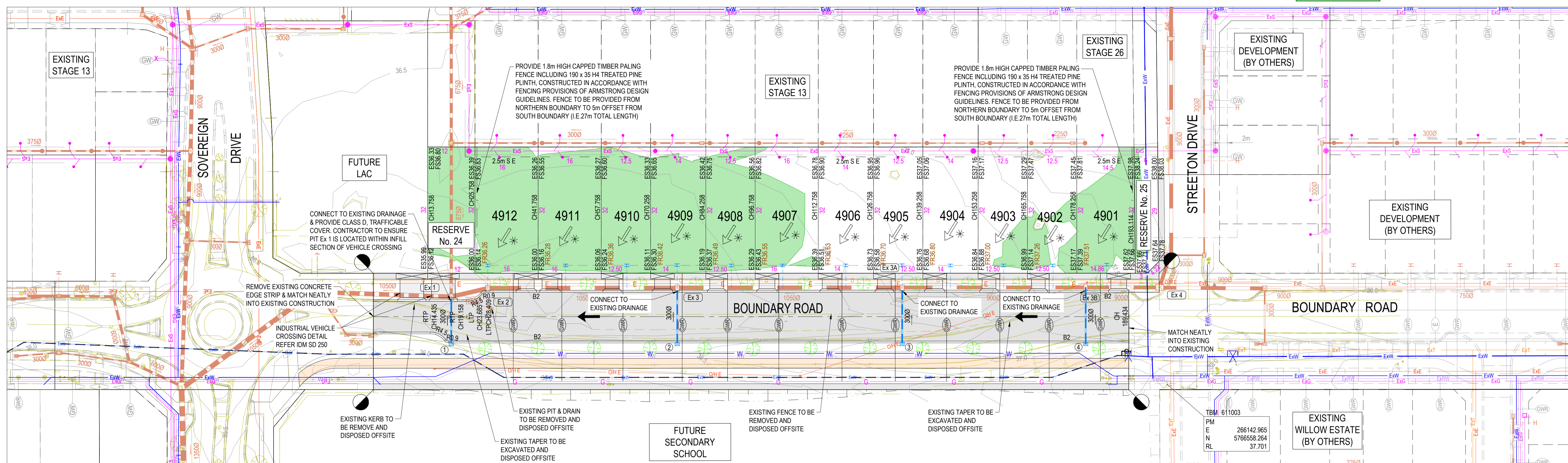
**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
1:2000 @ A1	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.49</b>	<b>R100</b>	<b>0</b>



**NOTE:**  
CONTRACTOR TO CONNECT PROPOSE HOUSE CONNECTIONS FOR LOTS 4901 - 4912 TO EXISTING DRAIN

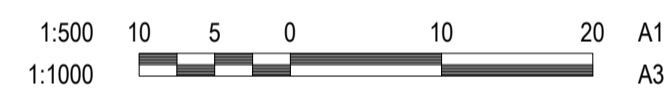
Certification No: 13902



**SERVICES OFFSET SCHEDULE**

ROAD NAME	GAS		RECYCLED WATER		POTABLE WATER		Ex.NBN		OPTIC FIBRE		ELEC (LV)		ELEC (HV)		TRANSFER WATER		O/H ELEC	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET
BOUNDARY RD	S	2.10	S	8.50	S	9.00	S	Ex.4.40-5.00	N	1.80	N	2.30	N	2.80	S	3.10	S	1.35*

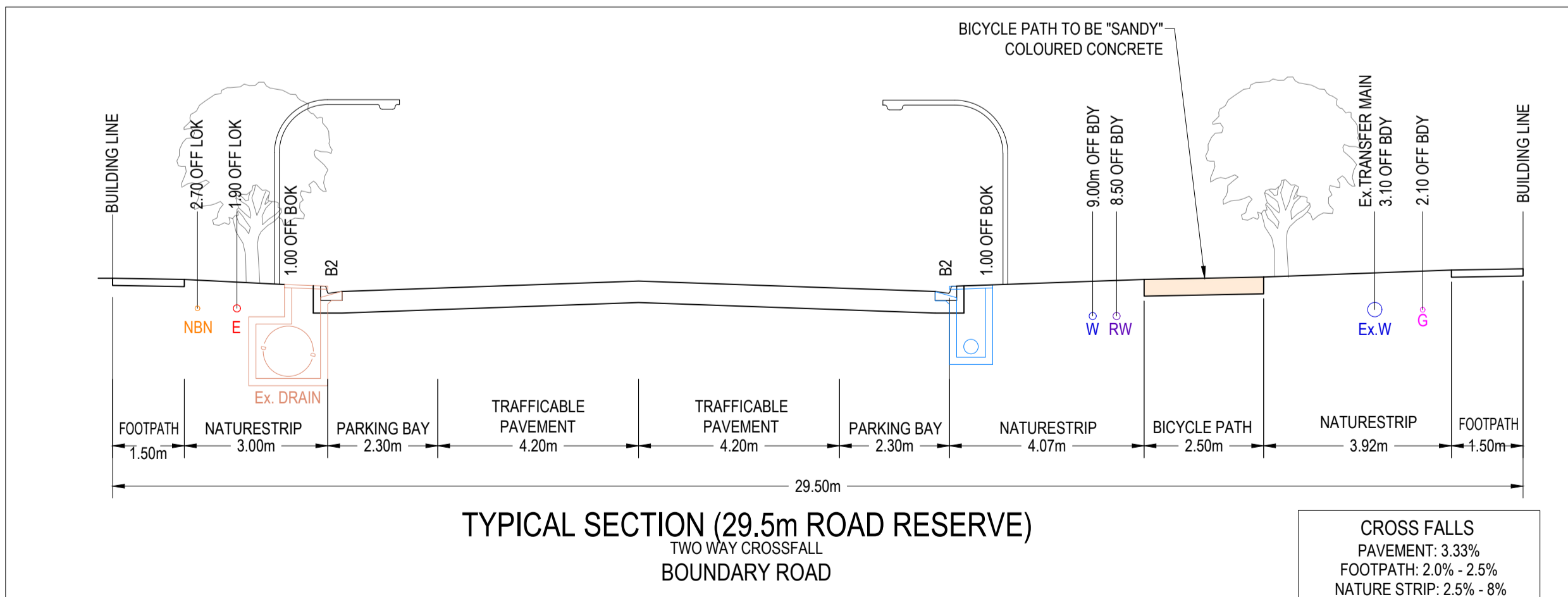
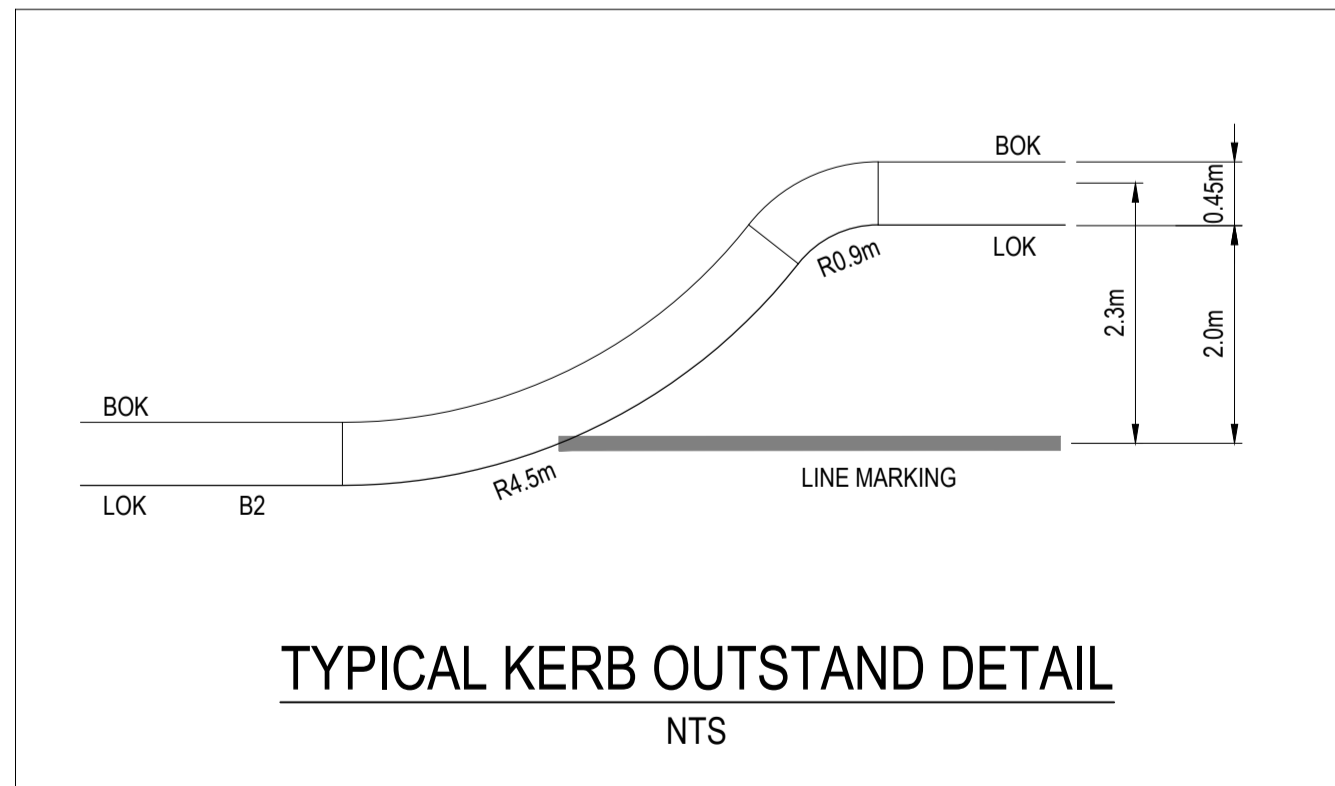
\*DENOTES OFFSET MEASURED FROM BACK OF KERB



- NOTES:**
- ALL VEHICLE AND PRAM CROSSING LAYBACKS, TO BE MINIMUM OF 1.0m FROM PITS.
  - ALL PRAM CROSSINGS TO BE A MINIMUM 2.0m FROM VEHICLE CROSSINGS.
  - ALL PRAM CROSSINGS TO BE DDA COMPLIANT.
  - VEHICLE EXCLUSION MEASURES BETWEEN ROAD RESERVE AND RESERVE TO FORM PART OF LANDSCAPE WORKS.
  - THE USE OF DIRECTIONAL AND HAZARD TACTILE PAVERS MUST ACCORD WITH SECTION 2.2.3.1 OF AS/NZS 1428.4:2002
  - SEWER MAINTENANCE HOLE CONVERTER SLAB OR CONE, TO BE ROTATED TO ENSURE COVER POSITION IS CENTRALLY LOCATED WITHIN FOOTPATH
  - CHAINAGES FOR SETOUT OF PROPERTY INLET POINTS, SERVICING FUTURE LOTS, ARE MEASURED FROM THE DOWNSTREAM PIT
  - CONTRACTOR TO LOCATE ALL EXISTING ASSETS PRIOR TO COMMENCEMENT OF WORKS. ANY DAMAGE TO EXISTING ASSETS TO BE RECTIFIED AT CONTRACTORS EXPENSE.
  - CONTRACTOR TO VERIFY DEPTH OF EXISTING SERVICES, PRIOR TO COMMENCEMENT OF CONSTRUCTION

**NOTE: STREET TREE LOCATIONS ARE INDICATIVE ONLY. ULTIMATE LOCATION IS TO BE PROVIDED/CONFIRMED BY LANDSCAPE ARCHITECTS**

**WARNING**  
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**LEGEND - LAYOUT PLAN**

- Stormwater Drain, Pit & Property Inlet
- Swale Drain
- Sewer & Maintenance Structures
- House Drain
- Service Conduits
- Tactile Pavers
- Existing Electricity (Underground)
- Existing Electricity (Overhead)
- Existing Gas
- Existing Optic Fibre
- Existing Telstra
- Existing Water
- Existing Recycled Water
- Existing Stormwater Drain
- Existing Sewer
- Existing House Drain
- Existing Swale Drain
- Finished Building Line Level
- Finished Ridge Line Level
- Top of Retaining Wall
- Bottom of Retaining Wall
- Retaining Wall
- Pavement Treatment
- Structural Fill > 200mm Deep
- Ex. Structural Fill > 200mm Deep
- Direction of Fall
- Overland Flow
- Allotment to be Graded Evenly in Direction of Fall to Levels Indicated
- Concrete Edge Strip with Subsoil Drain
- "No Road" Sign & Barrier
- Limit of Works
- Existing Tree to be Removed
- Permanent Survey Mark
- Temporary Bench Mark
- Proposed Driveway
- Building Envelopes

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
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**villawood properties**  
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Geelong, VIC, Australia 3220

**ARMSTRONG**  
AT DUNEDIN

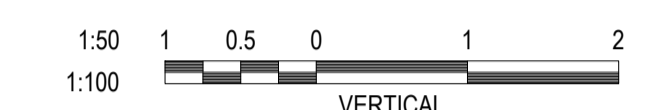
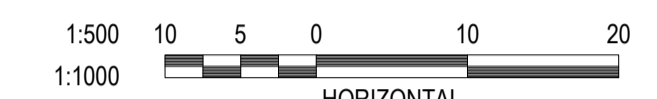
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**ISSUED FOR CONSTRUCTION**

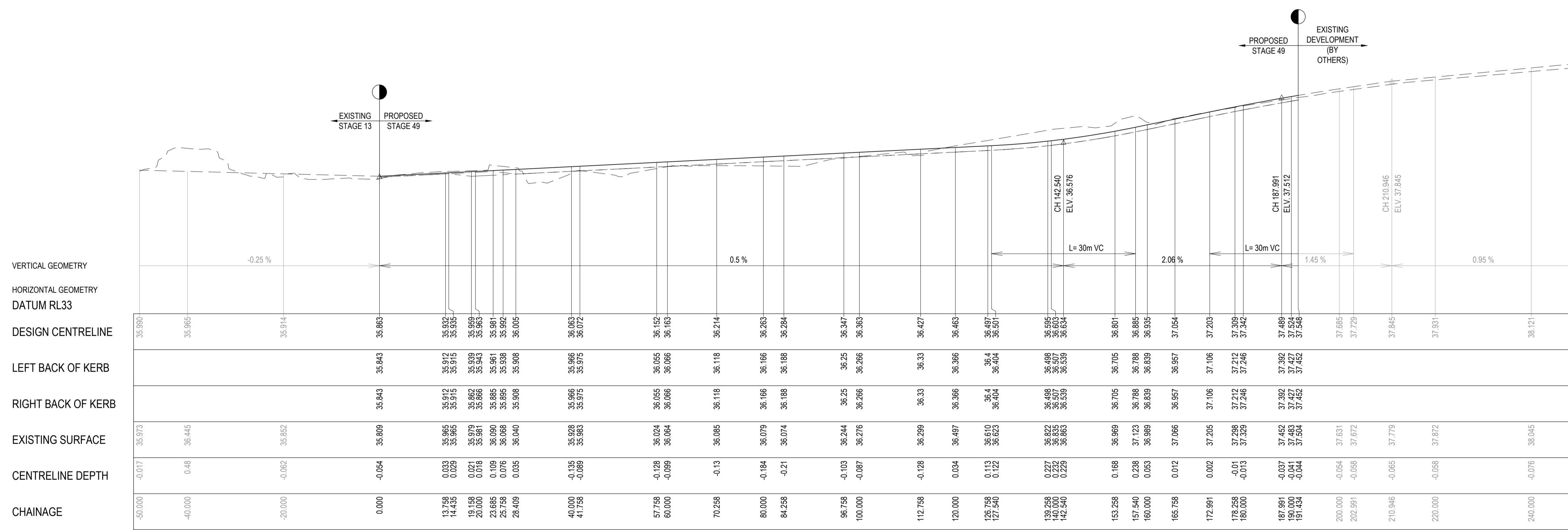
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AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No:	DRAWING No:	REVISION
<b>180016.49</b>	<b>R200</b>	<b>0</b>

Certification No: 13902

LEGEND	
	EXISTING SURFACE
	DESIGN LINE
	FUTURE DESIGN LINE
	LEFT BACK OF KERB
	RIGHT BACK OF KERB



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BOUNDARY ROAD LONGITUDINAL SECTION

BOUNDARY ROAD DESIGN LINE

CHAINAGE	EASTING	NORTHING	BEARING
0.000	265945.366	5766599.827	96°59'29" IP
100.000	266044.623	5766587.655	96°59'29" IP
191.434	266135.377	5766576.526	96°59'29" IP

BOUNDARY ROAD IP DETAILS

IP 1
coordinate = 265945.3664 5766599.8274
chainage = 0.0000

IP 2
coordinate = 266135.3765 5766576.5256
chainage = 191.4336

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DRAWING TITLE

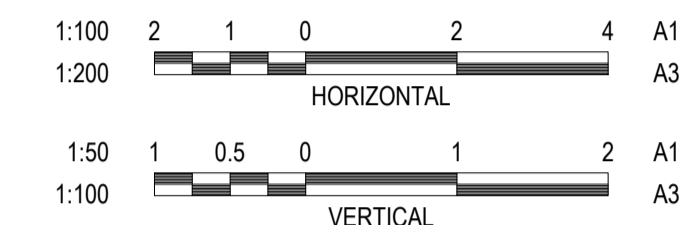
ARMSTRONG - STAGE 49  
ROAD LONGITUDINAL SECTIONS

STATUS

ISSUED FOR CONSTRUCTION

SCALE AT A1	DRAWN	DESIGNED
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PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
180016.49	R400	0

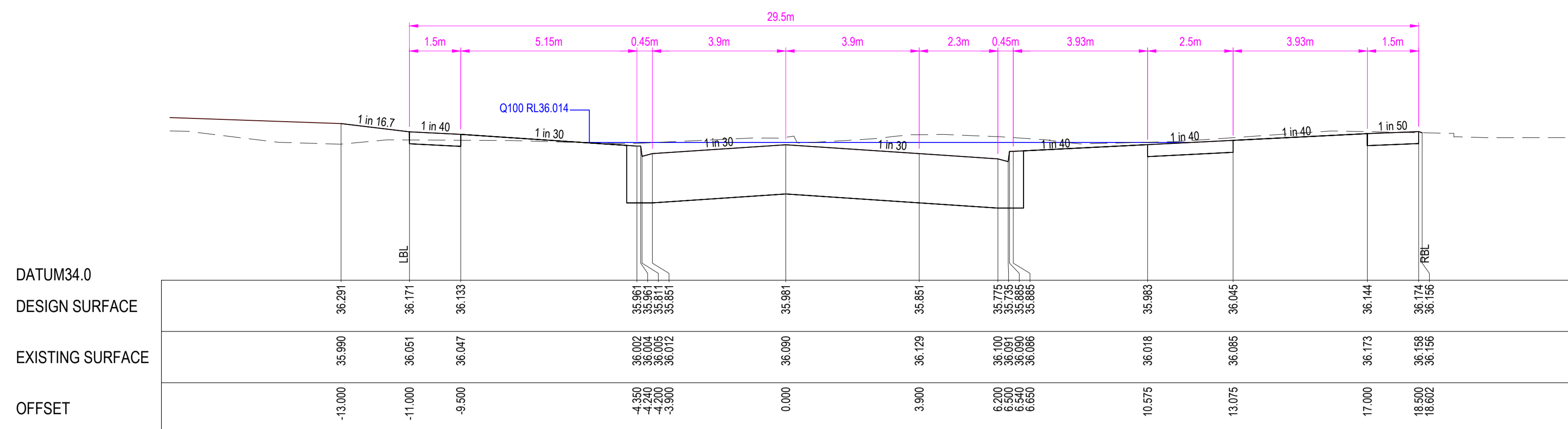
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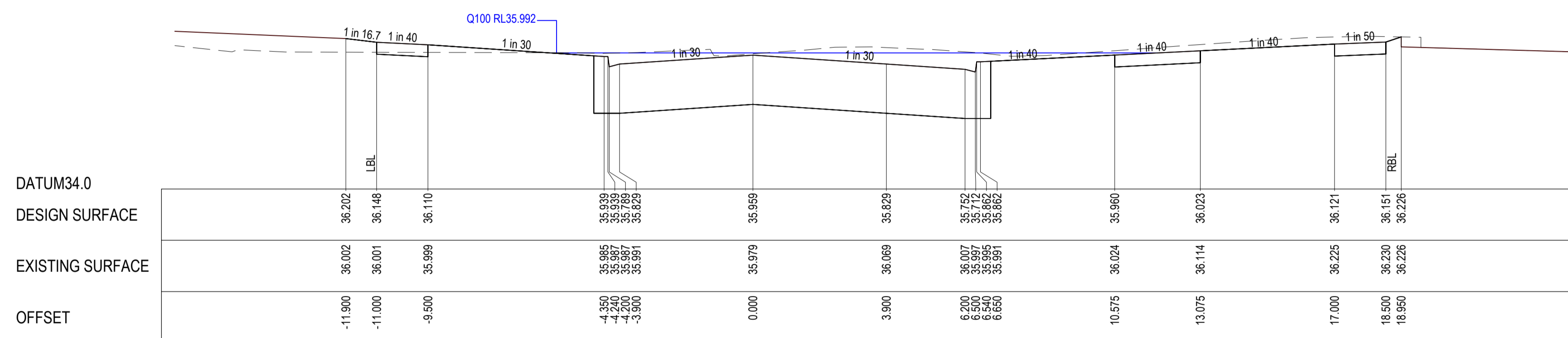
NOTE  
SELECT STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE NATURAL SURFACE

NOTE  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

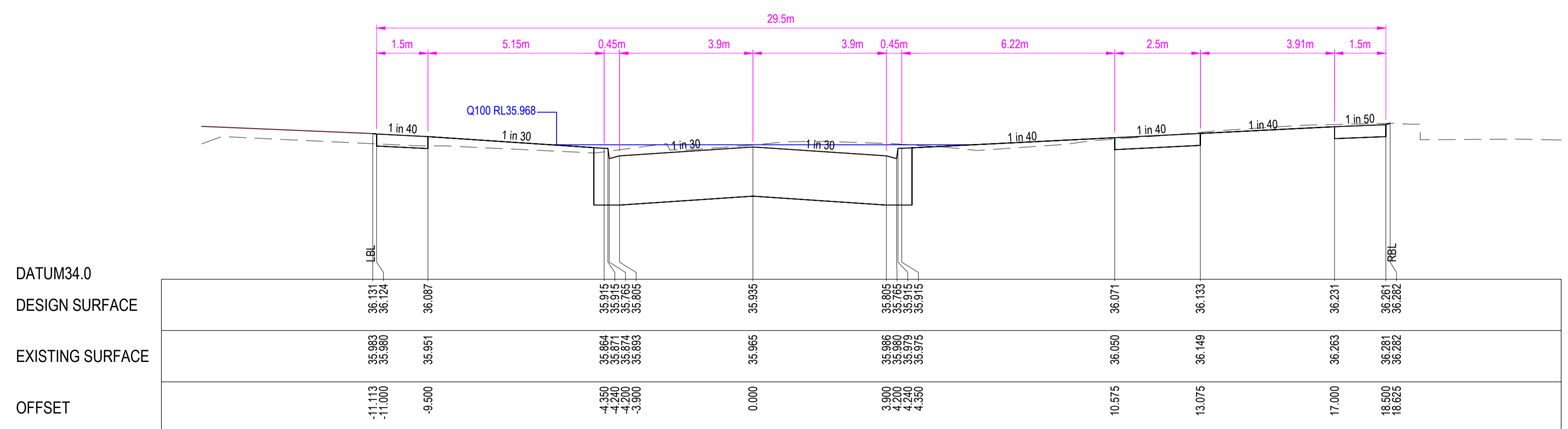
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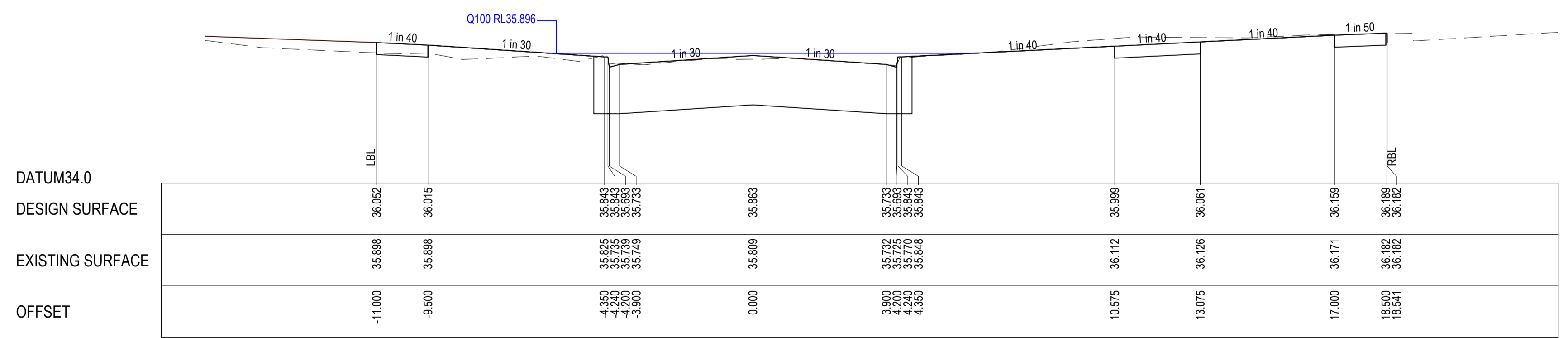
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RTPCH 19.158



RTPCH 14.435



CH 0.000

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DRAWING TITLE

**ARMSTRONG - STAGE 49**  
**ROAD CROSS SECTIONS - 01**  
**BOUNDARY ROAD**

STATUS

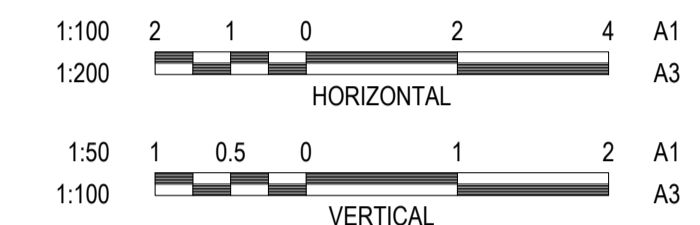
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PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
180016.49	R500	0

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Certification No: 13902

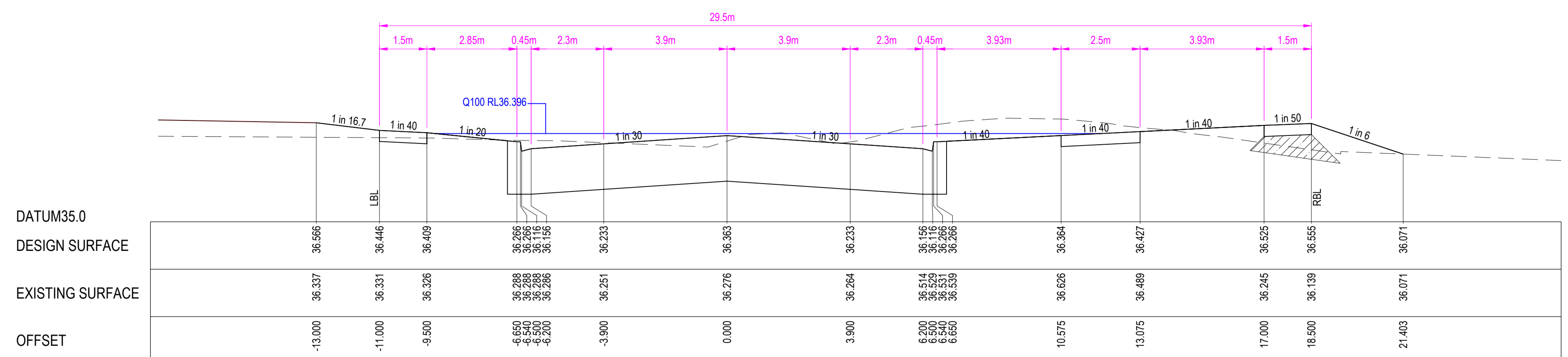
LEGEND	
	EXISTING SURFACE
	DESIGN LINE
	Q100 LEVEL
	SELECT FILL



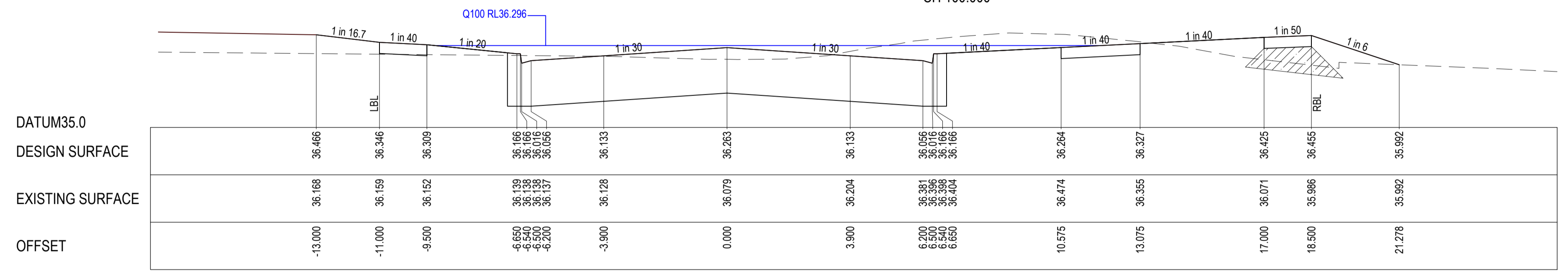
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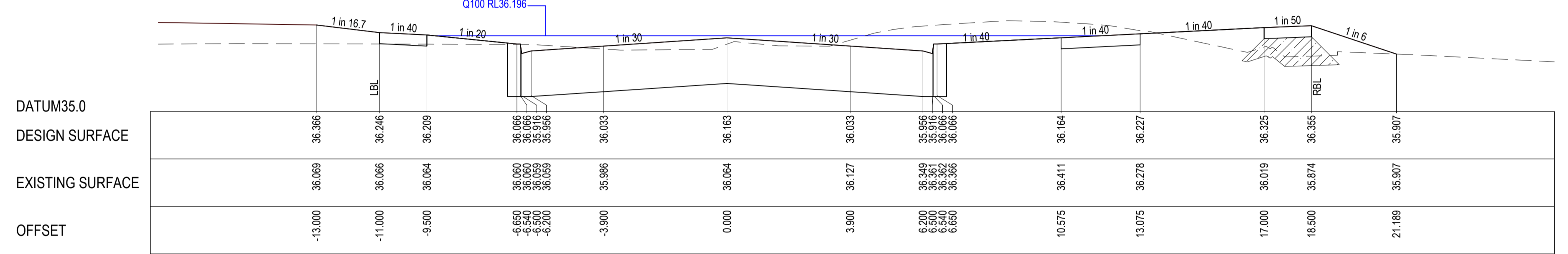
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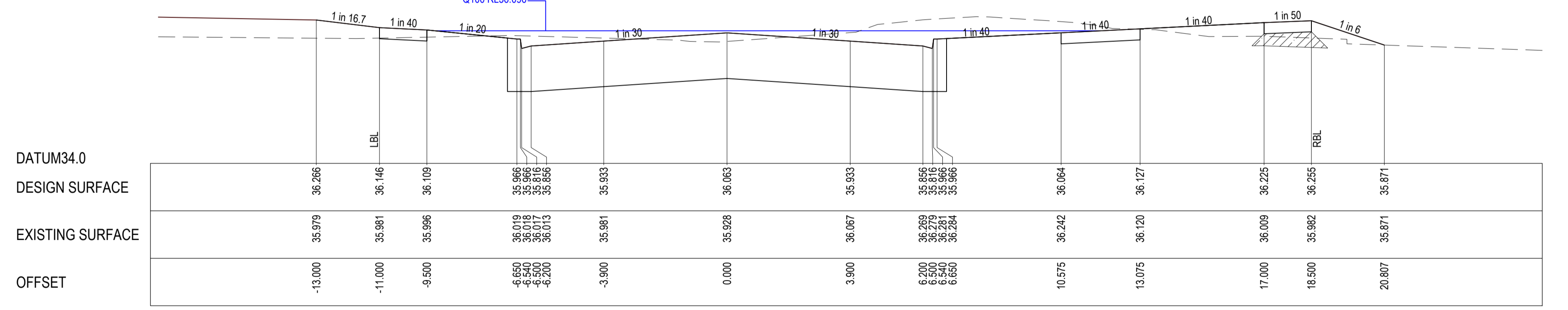
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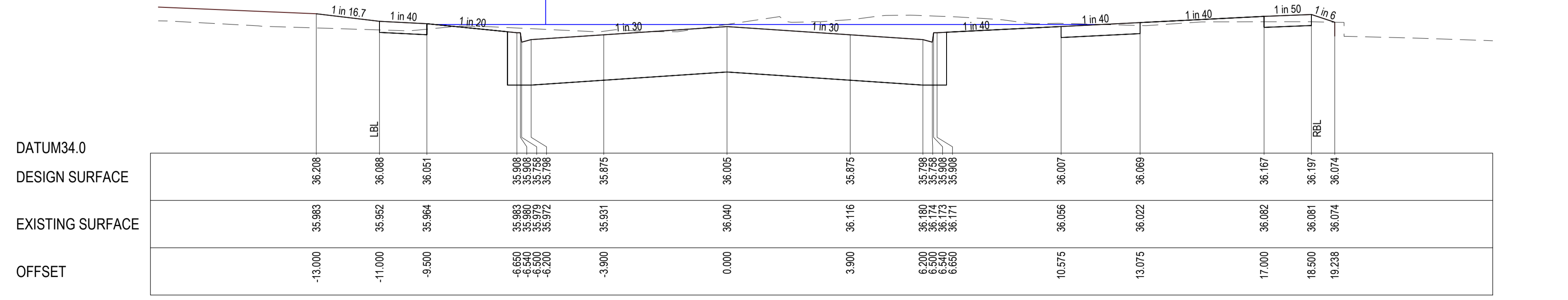
CH 80.000



CH 60.000



CH 40.000



LTPCH 28.400

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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	DESIGNED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
C	30/11/21	COUNCIL COMMENTS DATED 26/11/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
B	04/11/21	COUNCIL COMMENTS DATED 14/10/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	T.PALIOS

CLIENT

Communities Designed for Living

creo CONSULTANTS

Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

PROJECT

DRAWING TITLE

**ARMSTRONG - STAGE 49  
ROAD CROSS SECTIONS - 02  
BOUNDARY ROAD**

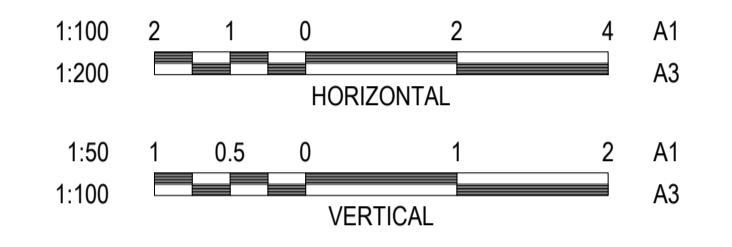
STATUS

**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.49</b>	<b>R501</b>	<b>0</b>

Certification No: 13902

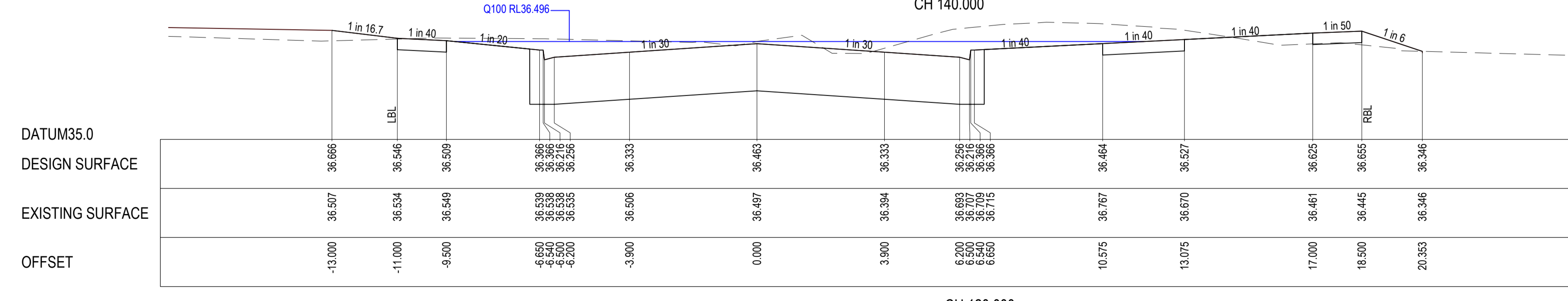
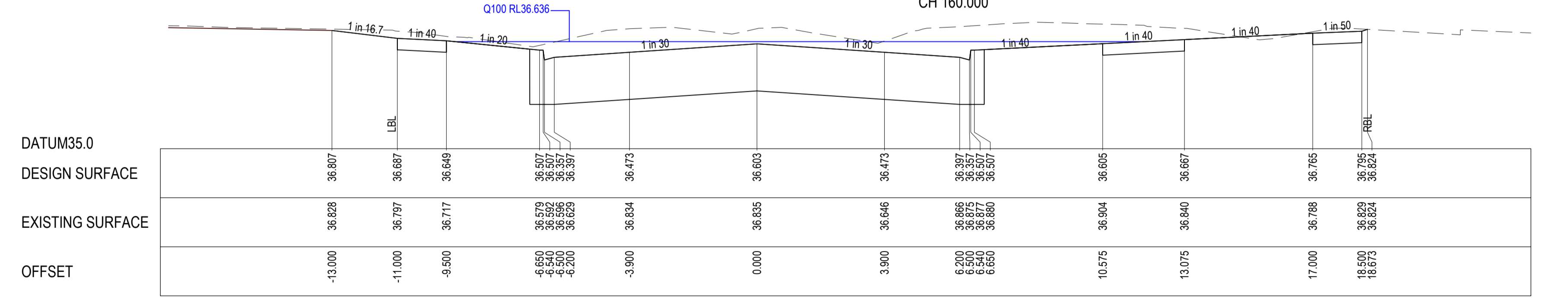
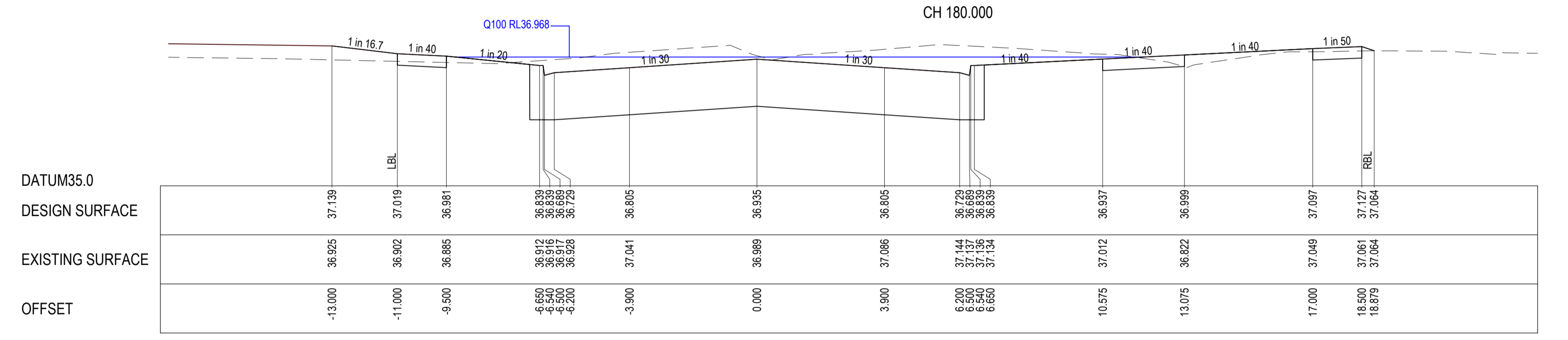
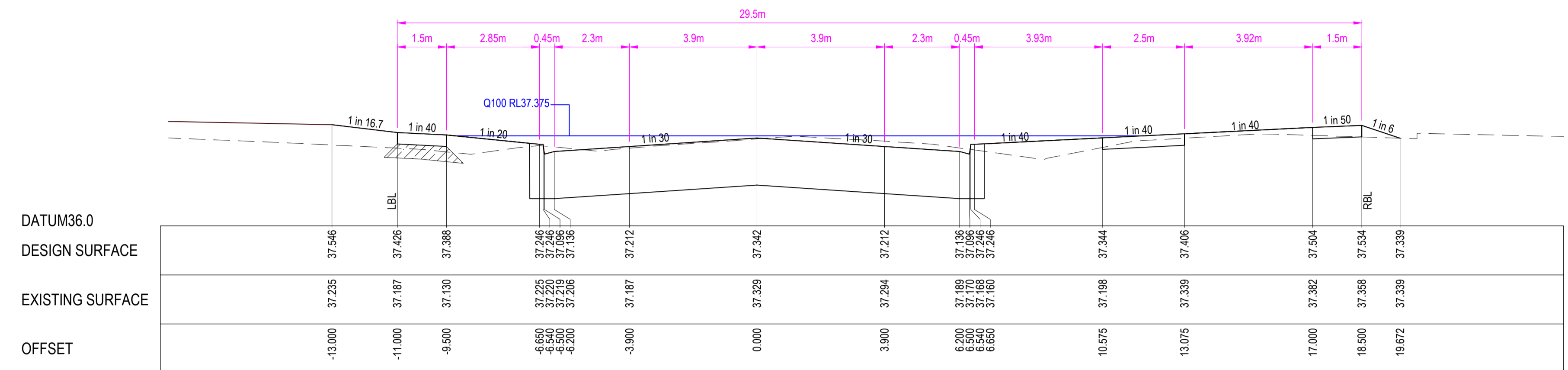
LEGEND	
	EXISTING SURFACE
	DESIGN LINE
	Q100 LEVEL
	SELECT FILL



NOTE  
SELECT STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE NATURAL SURFACE

NOTE  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

**WARNING**  
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P:\2018\18016 - VILLAWOOD - ARMSTRONG - STAGE 49 - BOUNDARY ROAD - ROAD CROSS SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	DESIGNED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
C	30/11/21	COUNCIL COMMENTS DATED 26/11/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
B	04/11/21	COUNCIL COMMENTS DATED 14/10/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	T.PALIOS

**villawood**  
properties  
Communities Designed for Living

**creo**  
CONSULTANTS  
Suite 1, 2 Bloombsbury Street  
Geelong, VIC, Australia 3220

**ARMSTRONG**  
AT DUNDEE

DRAWING TITLE  
**ARMSTRONG - STAGE 49  
ROAD CROSS SECTIONS - 03  
BOUNDARY ROAD**

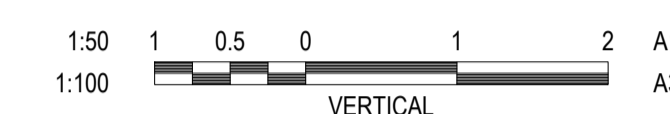
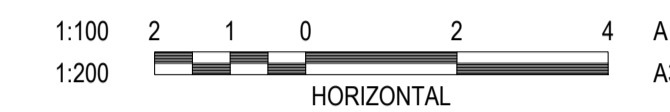
STATUS  
**ISSUED FOR  
CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.49</b>	<b>R502</b>	<b>0</b>

Certification No: 13902

**LEGEND**

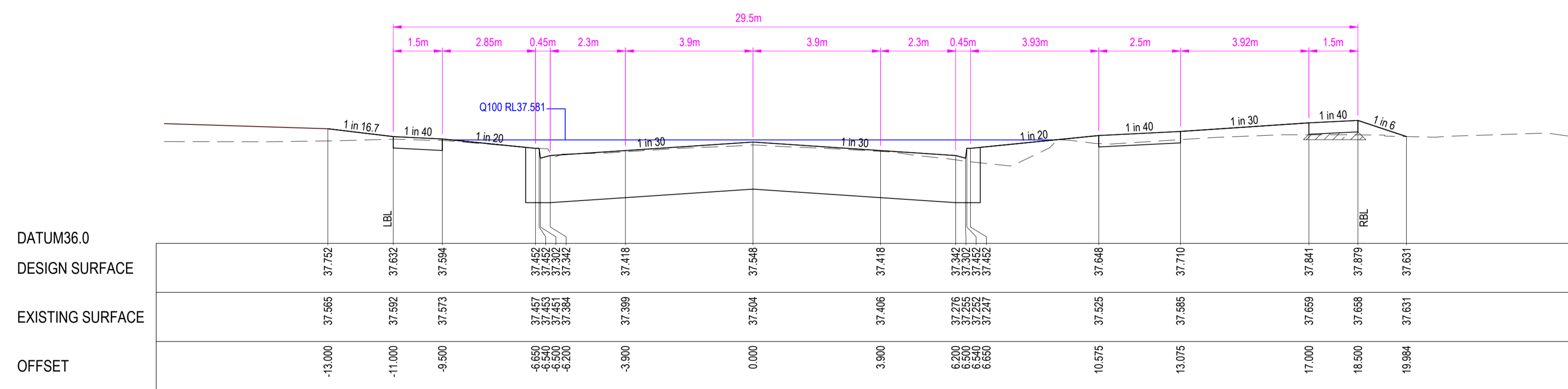
- EXISTING SURFACE
- DESIGN LINE
- Q100 LEVEL
- ▨ SELECT FILL



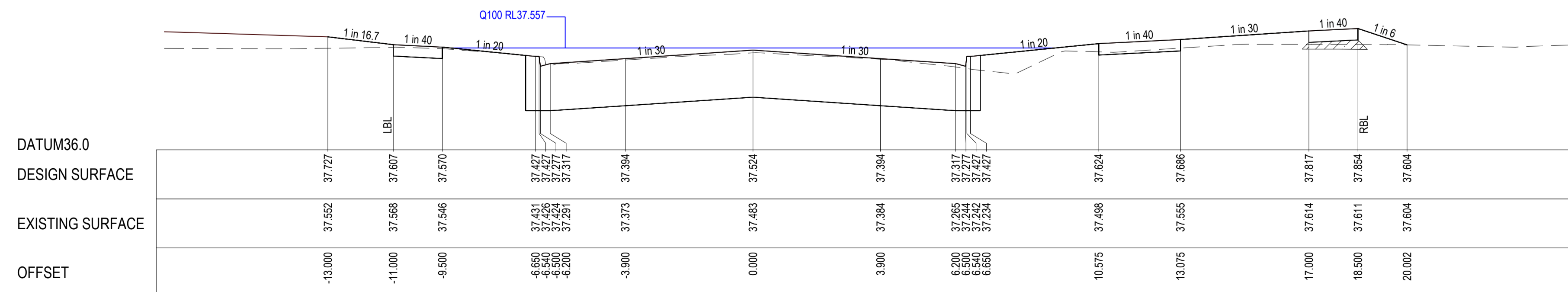
NOTE  
SELECT STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE NATURAL SURFACE

NOTE  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

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CH 191.434



CH 190.000

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	DESIGNED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
C	30/11/21	COUNCIL COMMENTS DATED 26/11/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
B	04/11/21	COUNCIL COMMENTS DATED 14/10/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	T.PALIOS

**villawood properties**  
Communities Designed for Living

**creo CONSULTANTS**  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

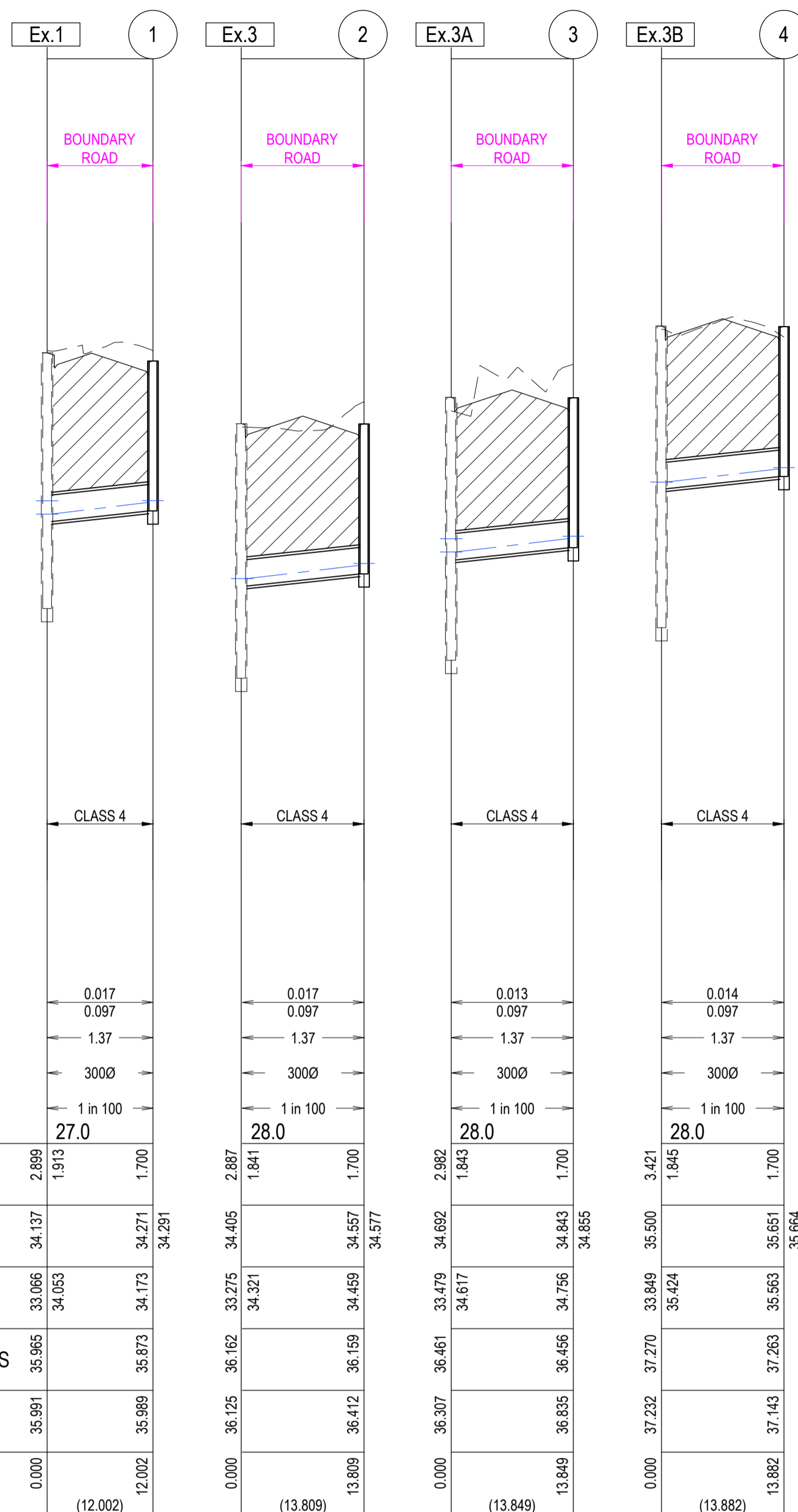
**ARMSTRONG**  
AT DUNDEE

**ARMSTRONG - STAGE 49  
ROAD CROSS SECTIONS - 04  
BOUNDARY ROAD**

**ISSUED FOR  
CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
180016.49	R503	0

P:\2018\180016 - VILLAWOOD ARMSTRONG\180016\_49\21\12\_DRAFTING\CAD\180016\_49\_RS03 - ROAD CROSS SECTIONS.DWG



	Ex.1	1	Ex.3	2	Ex.3A	3	Ex.3B	4
DESIGN FLOW (m3/s)		0.017		0.017		0.013		0.014
CAPACITY (m3/s)		0.097		0.097		0.097		0.097
AT GRADE VELOCITY (m/s)		1.37		1.37		1.37		1.37
PIPE SIZE (mm)		3000		3000		3000		3000
GRADE		1 in 100		1 in 100		1 in 100		1 in 100
DATUM		27.0		28.0		28.0		28.0
DEPTH TO INVERT	2.899	1.913	2.887	1.844	2.982	1.943	3.421	1.845
HYDRAULIC GRADE LINE	34.137	34.137	34.405	34.321	34.692	34.617	35.500	34.843
INVERT LEVEL	33.066	34.053	33.275	34.459	33.479	34.756	33.849	34.756
FINISHED SURFACE LEVELS	35.985	35.985	36.162	36.159	36.461	36.456	37.270	37.263
EXISTING SURFACE LEVEL	35.981	35.989	36.412	36.412	36.307	36.835	37.143	37.143
CHAINAGE (Reach Length)	0.000	(12.002)	0.000	(13.809)	0.000	(13.849)	0.000	(13.882)



NOT IN CONTRACT

**NOTE:**  
IN ACCORDANCE WITH C.O.G.G DESIGN NOTE 8 (DATED JANUARY 2020) EXISTING DRAINAGE LOCATED WITHIN PROPOSED STAGE WORKS ARE REQUIRED TO BE RE-CCTVD TO CONFIRM NO CONSEQUENTIAL DAMAGE HAS OCCURRED

**NOTE:**  
PIT COVERS ARE TO BE PROVIDED IN ACCORDANCE WITH CITY OF GREATER GEELONG DESIGN NOTE 13. ALL PITS WITHIN ROAD RESERVE ARE TO BE CLASS C FIBREGLASS REINFORCED PLASTIC (FRP) UNLESS AGREED OTHERWISE.

**REINFORCED CONCRETE PIPES**

ALL STORMWATER DRAINAGE PIPES SHALL NOT BE SUBJECTED TO CONSTRUCTION TRAFFIC LOADING DURING CONSTRUCTION UNLESS THE PIPE STRENGTH CHARACTERISTICS HAVE BEEN COMPUTED AND APPROVED BY THE CONTRACTORS ENGINEER. COMPUTATIONS ARE TO ACCORD WITH AS.3725-1989. LOADS ON BURIED PIPES. CONCRETE PIPES DAMAGED DUE TO CONSTRUCTION LOADS SHALL BE REPAIRED AT THE CONTRACTORS COST.

**NOTES**

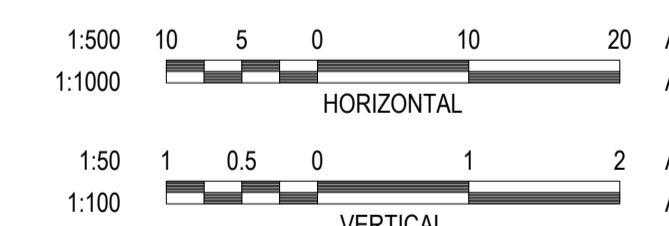
- PIPE TRENCHES WITHIN THE ROAD RESERVE MUST BE BACKFILLED WITH 20mm NOM. SIZE CLASS 3 CRUSHED ROCK TO BE COMPACTED TO A DRY DENSITY NOT LESS THAN 98% MODIFIED RELATIVE COMPACTION IN 150mm THICK LAYER FOR THE FOLLOWING:
  - BENEATH DRIVEWAY CROSSOVERS TO THE UNDERSIDE OF THE PAVEMENT OR CROSSOVER.
  - ADJACENT TO KERBING OR CONCRETE WORKS TO A LEVEL THAT IS NOT AFFECTED BY A 45 DEGREE ANGLE OF REPOSE FROM NEAR THE LOWER EDGE.
- ALL PIPES UNDER ROADS SHALL BE BACKFILLED WITH 2% STABILISED SAND TO SPRINGLINE. ABOVE THIS POINT, PROVIDE 20mm NOMINAL SIZE CLASS 3 FINE CRUSHED ROCK (WETMIX) COMPACTED TO 98% MODIFIED COMPACTION IN 150mm MAXIMUM LAYER.
- ALL DRAINAGE PIPES TO BE SPIGOT-SOCKET RUBBER RING JOINTED (RRJ).
- ALL DRAINAGE PIPES SHALL BE CLASS 2 RCP, UNLESS OTHERWISE NOTED.
- WHERE PITS DROP LESS THAN 50mm, THE PIT FLOOR MUST BE SHAPED TO MATCH THE LOWER HALF OF THE PIPE.
- ALL SPLAYED SECTIONS OF PIPE ARE TO BE BACKFILLED WITH 2% STABILIZED SAND, 300mm ABOVE TOP OF PIPE.

**PIT SCHEDULE**

PIT NUMBER	TYPE	INTERNAL		INLET		OUTLET		COVER LEVEL (m)	DEPTH (m)	STANDARD DRAWING	REMARKS
		WIDTH (mm)	LENGTH (mm)	DIA. (mm)	INVERT RL (m)	DIA. (mm)	INVERT RL (m)				
1	SIDE ENTRY PIT	600	900			300	34.173	35.873	1.700	IDM SD 430	
2	SIDE ENTRY PIT	600	900			300	34.459	36.159	1.700	IDM SD 430	
3	SIDE ENTRY PIT	600	900			300	34.756	36.456	1.700	IDM SD 430	
4	SIDE ENTRY PIT	600	900			300	35.563	37.263	1.700	IDM SD 430	
Ex 1	EXISTING SIDE ENTRY PIT	Ex 1350	Ex 1050	Ex. 1050	33.066	Ex. 1050	33.066	35.965	2.899	IDM SD 420	PIT TO BE MODIFIED TO JUNCTION PIT AND PROVIDED WITH CLASS D, TRAFFICABLE COVER
					300		34.053				
Ex 2	EXISTING SIDE ENTRY PIT	Ex 1350	Ex 900	Ex. 1050	33.104	Ex. 1050	33.104	35.921	2.817	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
Ex 3	EXISTING SIDE ENTRY PIT	Ex 1350	Ex 900	Ex. 1050	33.275	Ex. 1050	33.275	36.162	2.887	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
					300		34.321				
Ex 3A	EXISTING SIDE ENTRY PIT	Ex 1350	Ex 900	Ex. 900	33.479	Ex. 1050	33.479	36.461	2.982	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
					300		34.617				
Ex 3B	EXISTING SIDE ENTRY PIT	Ex 1350	Ex 900	Ex. 900	33.848	Ex. 900	33.848	37.246	3.398	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER
					300		35.424				
Ex 4	EXISTING SIDE ENTRY PIT	Ex 1350	Ex 1950	Ex. 900	35.323	Ex. 900	34.012	37.665	3.653	IDM SD 430	PIT TO BE ADJUSTED TO FSL AND PROVIDED WITH PERMANENT COVER

**LEGEND**

- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- CRUSHED ROCK BACKFILL



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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	DESIGNED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
C	30/11/21	COUNCIL COMMENTS DATED 26/11/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
B	04/11/21	COUNCIL COMMENTS DATED 14/10/21	K.MCKELVIE	M.TROUNCE	T.PALIOS
A	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	T.PALIOS

**villawood properties**  
Communities Designed for Living

**creo CONSULTANTS**  
Suite 1, 2 Bloomsbury Street  
Geelong, VIC, Australia 3220

**ARMSTRONG**  
AT DUNNEED

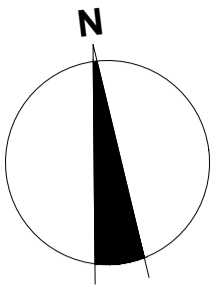
**ARMSTRONG - STAGE 49**  
**DRAINAGE LONG SECTIONS & PIT SCHEDULE**

**ISSUED FOR CONSTRUCTION**

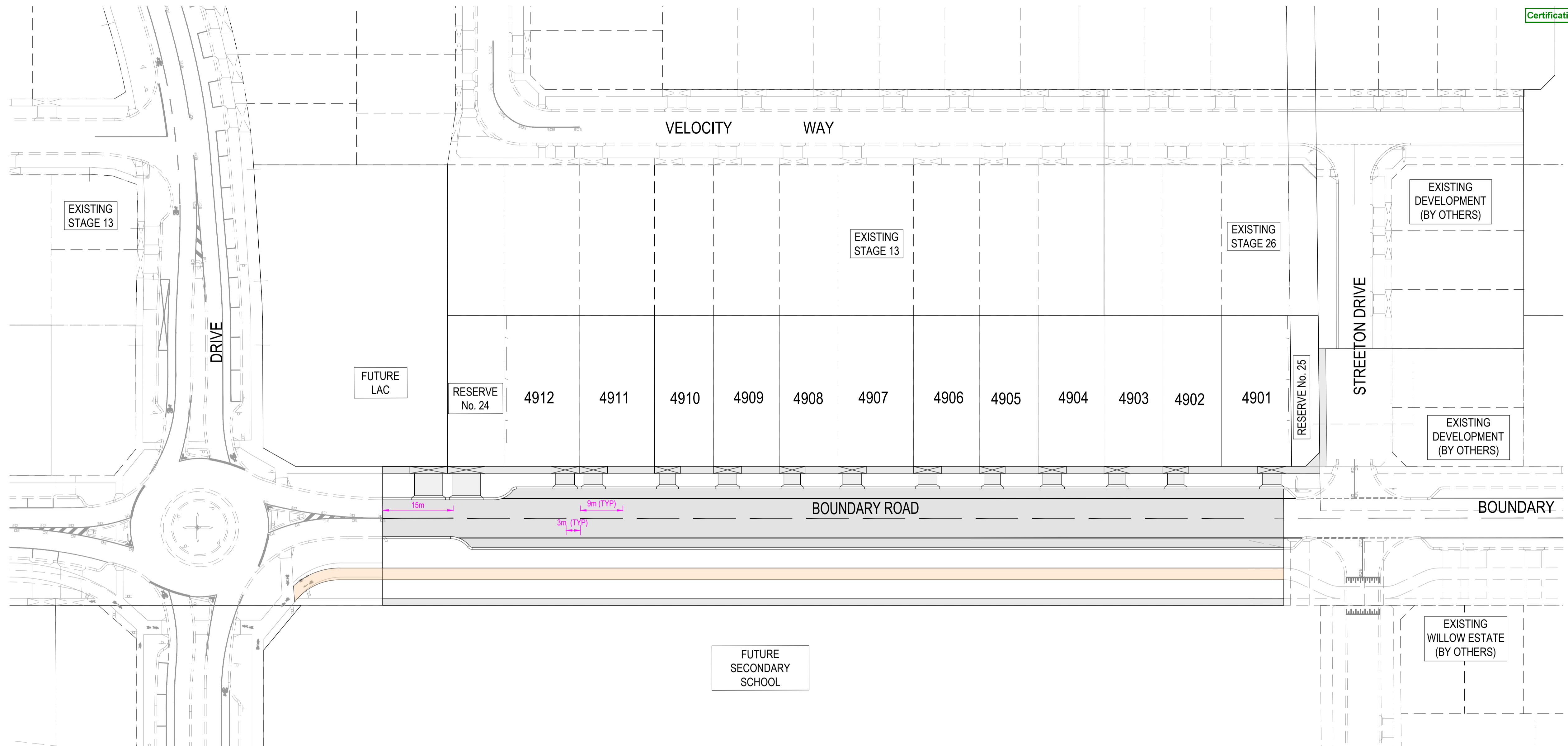
SCALE AT A1	DRAWN	DESIGNED
AS SHOWN	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No:	DRAWING No:	REVISION
<b>180016.49</b>	<b>R600</b>	<b>0</b>

P:\2018\180016 - VILLAWOOD ARMSTRONG\180016-49\DWG\12\_DRAINAGE LONG SECTIONS.DWG





Certification No: 13902



**SIGNAGE & LINEMARKING NOTES:**

- 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPMS AT MAX 6m SPACING.
- RRPMS TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOL 2.
- ALL LINEMARKING AND SIGNAGE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.
- ALL SIGNS AND LINEMARKING TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOLUME 2 - SIGNS & MARKINGS.
- ALL SIGN POSTS TO BE SLEEVED IN ACCORDANCE WITH COGG SD CGG710 - SIGN POSTS.
- ALL LINEMARKING TO BE THERMOPLASTIC PERMANENT PAINT.
- ALL STREET HYDRANTS TO BE IDENTIFIED IN ACCORDANCE WITH C.F.A. DOCUMENT - IDENTIFICATION OF STREET HYDRANTS FOR FIREFIGHTING PURPOSES, PUBLISHED JULY 2019 INCLUDING INSTALLATION OF BLUE RAISED REFLECTIVE PAVEMENT MARKERS & PAINTED WHITE REFLECTIVE TRIANGLES.

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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	03/12/21	ISSUED FOR CONSTRUCTION	K.MCKELVIE	M.TROUNCE	T.PALIOS
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0	17/09/21	ISSUED FOR APPROVAL	K.MCKELVIE	M.TROUNCE	T.PALIOS

**CLIENT**

Communities Designed for Living

**PROJECT**

Suite 1, 2 Bloomsbury Street  
 Geelong, VIC, Australia 3220

**DRAWING TITLE**

MT DUNED.

**DRAWING TITLE**

**ARMSTRONG - STAGE 49  
 SIGNAGE & LINEMARKING PLAN**

**STATUS**

**ISSUED FOR  
 CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
1:500 @ A1	K.MCKELVIE	K.MCKELVIE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
M.TROUNCE	M.TROUNCE	OCTOBER 2021
PROJECT No.	DRAWING No.	REVISION
<b>180016.49</b>	<b>R800</b>	<b>0</b>