

LUCAS
RESIDENTIAL DEVELOPMENT - STAGE E1
CITY OF BALLARAT

CONSTRUCTION NOTES (CITY OF BALLARAT)

SITE MANAGEMENT

Prior to commencement of works on site, the contractor must ensure that all matters relating to the Occupational Health and Safety Act 2004, including all relevant regulations, have been addressed. In particular, the required notifications must be conveyed to the Victorian Workcover Authority - Health & Safety division with respect to trenching operations. Details of the contractors occupational health & safety procedures must be lodged with the Superintendent prior to commencement of works.

1. All native trees and shrubs to be retained unless road construction necessitates their removal or removal is directed by the engineer. A town planning permit is required for the removal of native trees and/or vegetation. The removal or retention of any existing trees must be in accordance with the approved landscape plan, or else approval will be required from the City of Ballarat landscape approvals officer.
2. Existing dams or watercourses to be excavated to a firm base and backfilled as specified. Consulting engineer to be notified when the dam or watercourses are excavated to a firm base. No filling is to be placed prior to dams being inspected and levels taken. Backfilling is to be carried out to the satisfaction of the Superintendent and Council Works Supervisor.
- 3.
4. Prior to commencement of works, the contractor must submit a Construction Management Plan (CMP) to the Superintendent for approval. The contractor must comply with the recommendations of the Environment Protection Authority publication No.275 "Construction techniques for sediment pollution control". Appropriate siltation control is to be maintained throughout the construction and maintenance period of the works.

GENERAL

5. All levels are in metres to Australian Height datum and taken from Level Plan by Beveridge Williams & Co. Pty Ltd.
6. All works to be carried out in accordance with AS2124:1992 General Conditions of Contract, City of Ballarat and Infrastructure Design Manual (IDM) current specification and standard drawings and to the satisfaction of the Superintendent and City of Ballarat works supervisor. The contractor shall ensure that they are conversant with all current revisions, amendments and updates that have been made that have been made that these standards.
7. The Superintendent, Council and all service authorities should be notified by the contractor, in writing, seven days prior to commencement of the works.
8. All existing services shall be confirmed to have been located prior to commencement of works. Where services have not been previously proven or located the Contractor shall make allowance or be satisfied that construction in accordance with the design can be achieved.
9. Where works are in the vicinity of existing services these services are to be located and the various authorities notified prior to the commencement of works.
10. The contractor 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 for the protection of the public.
11. Before commencement of works on trenches in excess of 1.5m deep, the civil contractors construction supervisor must give notice in writing of such proposals to Worksafe Victoria in accordance with Part 5.1, Division 4 of the Occupational Health & Safety regulations (2007) and undertake safety precautions in trenching operations in accordance with Workcover's Code of Practice (1988).
12. Lots to be graded (1 in 200 min slope) & left clean to the satisfaction of the engineer. Finished levels to be compatible with lots adjoining this stage.
13. On completion the contractor is responsible for the removal of all rubbish and spoil from site. No surplus trees, vegetation or other material is to be burnt on site.
14. Reserves to be free draining and to be left in a condition satisfactory to the Superintendent and City of Ballarat works supervisor.
15. All TBMs's and control points are to be maintained and protected at all times during construction. Should any marks be disturbed, the contractor will immediately notify the consultant to arrange re-instatement at the contractors expense.

EARTHWORKS

16. All areas shown on the drawings to be cut or filled are to be stripped of topsoil and all topsoil must be stockpiled on site.
17. Upon completion of the bulk earthworks topsoil is to be spread to a depth of 100mm over the nominated area and graded to finished levels shown on the drawings with a minimum slope of 1 in 200.
18. Batters to be 1 in 5 for fill and 1 in 5 for cut unless noted otherwise.
19. All nature strips and batters shall be covered with 100mm min. depth topsoil and seeded with an approved seed and fertilizer mixture.
20. Filling in all properties and road reserves is to be carried out using approved clay fill. Top soil and all vegetable matter to be stripped from site prior to filling. All filling to be carried out in 150mm layers and compacted to 95% of max dry density. All filling to comply with AS3798-2007 Section 8.2, Level 1 "Guidelines on Earthworks for Commercial and Residential Developments". A fill report must be submitted showing compliance from a NATA registered soil testing laboratory.
21. Importing Fill:- All imported fill must be tested by a NATA approved laboratory to ensure it is suitable for use on site, and any contaminants are within accepted levels. Under No circumstances should fill material enter or leave the site without the permission of the Superintendent or prior to it being appropriately tested.
22. All fill material shall be clean, uniform and free of organic matter and meet requirements of AS 3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments".
23. Fill material should be placed in layers of uniform thickness, deposited systematically across the fill area. The contractor must excavate or "box" into the existing surface at the edge of fill to provide a suitable junction with the existing surface and to avoid feathered edges.
24. Prior to disposal of excess spoil the truck route and disposal location is to be approved by the Superintendent prior to commencing to dispose of spoil.
25. All vehicles transporting fill material to and from the site must have appropriate measures in place to ensure that material does not get onto roads and into stormwater systems and natural waterways.
26. Cut batters behind vehicular accesses must not exceed maximum grade of 1 in 6.
27. Before any loose layer of fill is compacted, the material and its moisture condition should be as uniform as is practicable throughout its depth.
28. If there is a delay in the placement of subsequent fill layers, previously accepted layers must conform with the specification before further fill is placed. If these layers have wetted up or dried out, they may inhibit compaction or cause heaving of subsequent layers. In these instances, drying or wetting of the fill by the contractor will be required to achieve optimum compaction.

29. All lots are to be brought to a finished surface level and top soiled to ensure that front boundaries are a minimum of 150mm above the top of kerb.
30. The maximum particle size of any rocks or other lumps within the fill layer, after compaction, should not exceed 100mm or two-thirds of the compacted layer thickness.
31. Fill is to be tested in increments of depth not greater than 500mm.
32. Fill batter faces are to be overfilled and cut back, the trimmed and compacted face should have a roughened surface to reduce runoff.
33. The surface of all fill layers must be shaped to provide drainage and to prevent ponding.
34. All fill to be compacted to that shown or 95% standard density or better. Moisture content must be in the range of -10% to +5% optimum.
35. Where fill placement is less than 200mm stripping of topsoil may be deleted, in which case the contractor shall remove all organic matter from existing surface prior to placing topsoil.
36. Filling to be completed prior to sewer and drainage construction, unless approved by the Superintendent and relevant Authority.

ROADWORKS

37. 100mm dia. agricultural pipe drains (Refer BCC SD-D2-1) to be placed behind kerb and channel or as directed by Superintendent and at minimum grade of 1 in 250.
38. The water conduit offset from the lot boundary is given on the water reticulation plan. The contractor must construct conduits to accord with the given offset and ensure that the concreter marks the kerb and footpath exactly above the conduit.
39. All footpaths and shared pedestrian/bicycle paths are to be 125mm thick concrete as per IDM Standard Drawings SD05/210, 215, 220 and 225.
40. Telecommunication contractor to be notified seven (7) days prior to concrete works being placed.
41. Electrical distribution pits within footpaths are to be a minimum of 300mm within the edge of the path. Concrete is to be placed around distribution pits to a minimum depth of 200mm.
42. All street signs to be constructed and erected to current City of Ballarat standards including logo.
43. Traffic control signs, markings & delineators to be installed in accordance with AS1742.2. All line marking is to be long life road marking, with longitudinal lines in thermoplastic and transverse markings in cold applied.
44. Kerb transition to take place in the minor street over a 1.0m length from either the tangent point or TP pit.
45. Existing road works to be reconstructed as required to provide, without discontinuity, a connection in accordance with design levels and grades.
46. Tactile ground surface indicators (TGSIs) are to be installed at all pram crossings and pedestrian cross points in accordance with AS1428.4 : 2002 and BCC Standard Drawings SD-C4.

PAVEMENT

47. Pavement shall be constructed in accordance with construction plans, IDM and City of Ballarat Specifications and Standard Drawings.
48. Modification of the pavement requires approval by the City of Ballarat.
49. Prior to the commencement of the works, the contractor shall provide to Superintendent and Council the following information:-
 - a. Source of quarry material.
 - b. Optimum Moisture Content and Maximum Modified Dry Density of the F.C.R to be used (from NATA approved laboratory)
 - c. If the source of the quarry material is changed during the course of the works, new test results shall be provided.
51. Subgrade, sub base and base compaction densities shall be in accordance with that shown in Table 1 and Clause 304.07 of Vicroads Standard Specification for Roadworks and Bridgeworks.
52. Compaction testing must be undertaken by NATA approved laboratory.
53. Compaction testing and proof rolling shall be undertaken on same day.
54. Superintendent and Council must be given minimum 24 hours notice of proof roll.
55. All pavement areas shall be proof rolled in the presence of Superintendent and Council Inspection Engineer, at the expense of contractor and in accordance with AS 3798 and Clause 173 and 204.12 of Vicroads Standard Specification for Roadworks and Bridgeworks.
56. If more than 20 percent of pavement area fails proof roll then total area must be reworked.
57. The next layer of pavement shall not be placed until previous layer has been approved. Following approval the contractor shall ensure that the next layer is placed within a reasonable period of time. If this is not possible it is the contractors responsibility to protect the pavement already approved. Failure to do so shall render contractor responsible for any pavement damage and rectification.
58. All geotechnical and compaction results are to be submitted to Superintendent and Council.

DRAINAGE

59. Drainage and pits to be set out from offsets shown rather than from centreline pipe chainages.
60. Stormwater pits shall be reinforced concrete and constructed in accordance with IDM and City of Ballarat Specifications and Standard Drawings. Minimum drop through pit shall be 20mm unless shown otherwise. For specific details refer Pit Schedule and IDM Standard Drawings SD 400 to SD 495. Minimum Concrete Strength f'_{c} 25MPa at 28 Days.
61. Precast pits are permitted where manufacturer can demonstrate compliance with requirements of IDM and City of Ballarat Specifications and Standard Drawings.
62. Pit Covers and surrounds in trafficable areas shall be Class D Gatic or similar all other area shall be Class B precast reinforced concrete unless otherwise shown.
63. All pipes under pavement to be RCP(RR) Class 3. All 150mm diameter pipes to be UPVC SN4. Pipes other than under pavement or trafficable area may be approved ribbed stormwater pipe such as Blackmax or Stormpro®. Where ribbed stormwater pipe is used embedment shall be to manufacturers specification.
64. Pipe trenches beneath the road pavement and footpath to be backfilled with 20mm Class 3 F.C.R. At all other locations backfill with an approved material to a minimum 300mm above top of pipe. Backfill material shall be in maximum 150mm layers and in accordance with BCC Standard Drawing SD-D6-1.

65. Pipe trenches behind kerb and in easements or nature strips to be D8-filled with Red Dredge in 150mm layers to 300mm above top of pipe and in accordance with BCC Standard Drawing SD-D8-1.
66. Easement Property Inlets at rear of property shall be 100mm PVC SN4 constructed in accordance with BCC Standard Drawing SD-D9 located 1.0m. from the low corner of the lot unless otherwise shown.
67. House Drain Property Inlets at front of property shall be 100mm PVC SN4 constructed in accordance with BCC Standard Drawing SD-D9 and located 5.0m from the low corner of the lot unless otherwise shown. Lots denoted H shall be connected to kerb. Lots denoted PI shall be connected to pipe to pit.
68. Property Inlets for allotments shall be at a sufficient depth to control drainage at minimum of 1 in 200 fall from all points within the building area.
69. All proposed drainage stubs to be blanked off at end of pipe with timber planks to the satisfaction of the Superintendent and Council supervising engineer.
70. All drainage backfill under pavement shall be tested and results provided to the Superintendent.

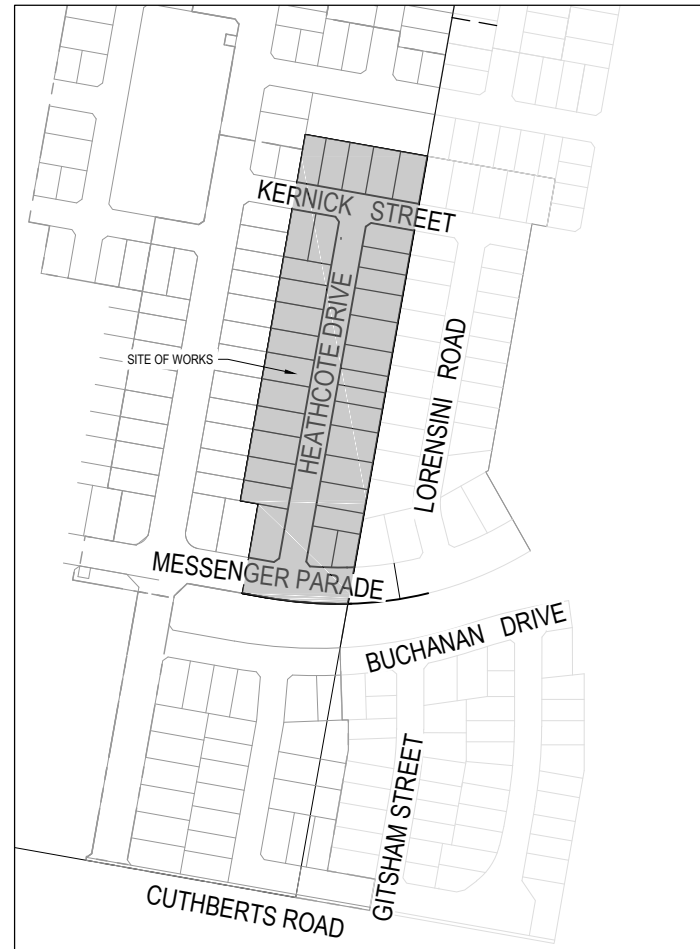
SERVICES

71. All service trenches under footpath, vehicular crossings and kerb & channel shall be backfilled with 20mm Class 2 crushed rock. All service conduit trenches laid over pavement shall be backfilled with compacted 2% cement treated crushed rock.
72. Gas and water conduits and mains must be laid in trenches excavated and backfilled by the contractor. Conduits are to be 50mm diameter Class 12 PVC service conduits laid at a minimum depth of 600mm below finished surface level. Contractor shall supply all sand embedment. The contractor shall give the gas contractor 7 days notice prior to commencing work.
73. Telecommunications conduits and cable ducts must be laid in trenches excavated and backfilled by the contractor. Conduits are to be type and size as shown on approved telecommunications plans and laid at a minimum depth of 600mm below finished surface level. Contractor shall supply all sand embedment. The contractor shall give the Telecommunications contractor 7 days notice prior to commencing work.
74. Electrical conduits and cables must be laid in trenches excavated and backfilled by a VEDN approved contractor. Conduits are to be type and size as shown on approved electrical plans and laid at a minimum depth of 600mm below finished surface level. Contractor shall supply all sand embedment. The contractor shall give the Electrical contractor 7 days notice prior to commencing work.
75. All conduit ends immediately upon placement of the conduit must be plugged.
76. Conduits under footpaths to be 450mm deep extending a minimum of 250mm either side of the path. The footpath above the conduits is to be marked with two contraction joints over the conduits 400mm apart.
77. The reinstatement and compaction of public authority service trenches shall be the contractor's responsibility.
78. The contractor must note the existence of telecom, gas, power, water and any other services in the area prior to tendering. Any disturbance to existing services, footpaths etc. shall be rectified at the contractor's expense to the satisfaction of the superintendent and relevant service authority as appropriate.

ATTENTION TO CONTRACTOR

In accordance with Clause 15 of AS2124 Australian Standard Conditions of Contract, the contractor must ensure the safety of the contractor's employees and all other people who are on or adjacent to the site. The contractor must comply with the Victorian Occupational Health and Safety Act

79. The contractor must ensure that all people employed on the site wear approved safety apparel. This includes safety helmets, vests, safety boots, eye & ear protection, where appropriate.
80. The contractor shall reinstate any affected footpath, vehicle crossing and nature strip to the satisfaction of the City of Ballarat
81. Beveridge Williams & Co Pty Ltd is responsible for design of the works. Any proposed alterations to the design shall be directed to the consultant for approval prior to making any alterations to the design.
82. The contractor is directly responsible for the setout. Should actual site conditions conflict in any way with that documented the contractor must contact the office of Beveridge Williams & Co. Pty. Ltd. for clarification before proceeding.



SITE PLAN
NOT TO SCALE

DRAWING INDEX

DRAWING No.	TITLE
1800971-E1-001	COVER SHEET
1800971-E1-002	TYPICAL ROAD CROSS SECTIONS, PAVEMENT MAKEUP & GENERAL DETAILS
1800971-E1-010	LAYOUT PLAN
1800971-E1-011	FINISHED SURFACE & OVERLAND FLOW PLAN
1800971-E1-100	MESSENGER PARADE LONGITUDINAL SECTIONS (SHEET 1 OF 3)
1800971-E1-101	HEATHCOTE DRIVE LONGITUDINAL SECTIONS (SHEET 2 OF 3)
1800971-E1-102	KERNICK STREET LONGITUDINAL SECTIONS (SHEET 3 OF 3)
1800971-E1-200	MESSENGER PARADE CROSS SECTIONS (SHEET 1 OF 6)
1800971-E1-201	MESSENGER PARADE CROSS SECTIONS (SHEET 2 OF 6)
1800971-E1-202	MESSENGER PARADE CROSS SECTIONS (SHEET 3 OF 6)
1800971-E1-203	HEATHCOTE DRIVE CROSS SECTIONS (SHEET 4 OF 6)
1800971-E1-204	HEATHCOTE DRIVE CROSS SECTIONS (SHEET 5 OF 6)
1800971-E1-205	KERNICK STREET CROSS SECTIONS (SHEET 6 OF 6)
1800971-E1-300	INTERSECTION DETAILS
1800971-E1-350	SIGNAGE & LINE MARKING PLANS
1800971-E1-400	DRAINAGE LONGITUDINAL SECTIONS (SHEET 1 OF 2)
1800971-E1-401	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE (SHEET 2 OF 2)

APPROVED
By JeffColb at 11:09 am, May 31, 2019

AS CONSTRUCTED
PLANS



Project Ref	Stage No	Drawing No	Rev
1800971	E1	001	B

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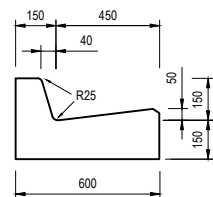
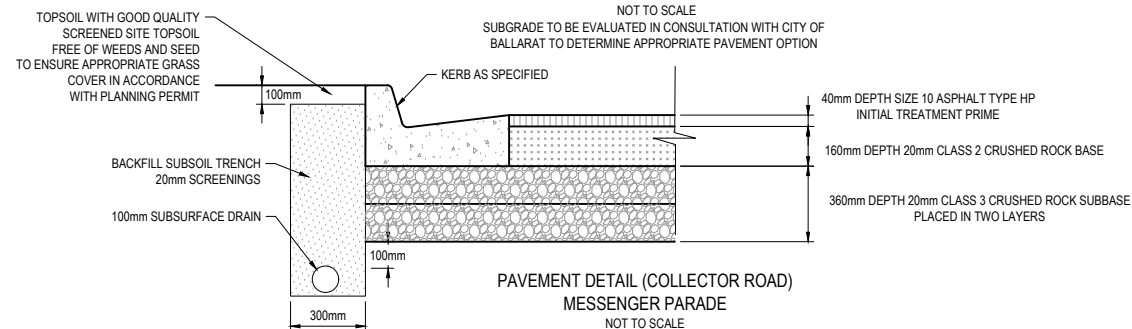
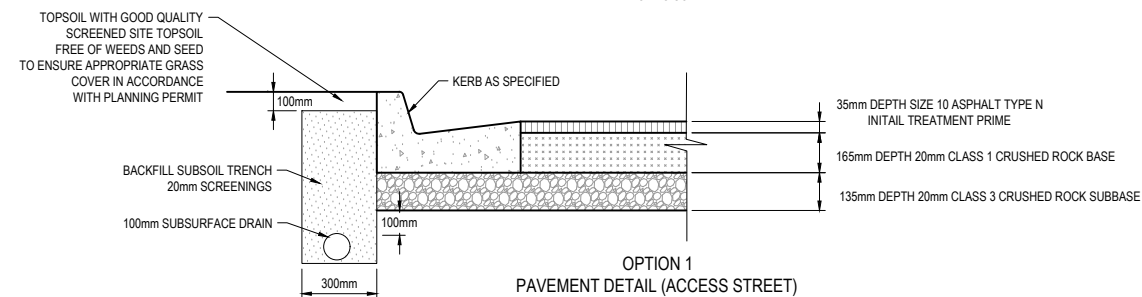
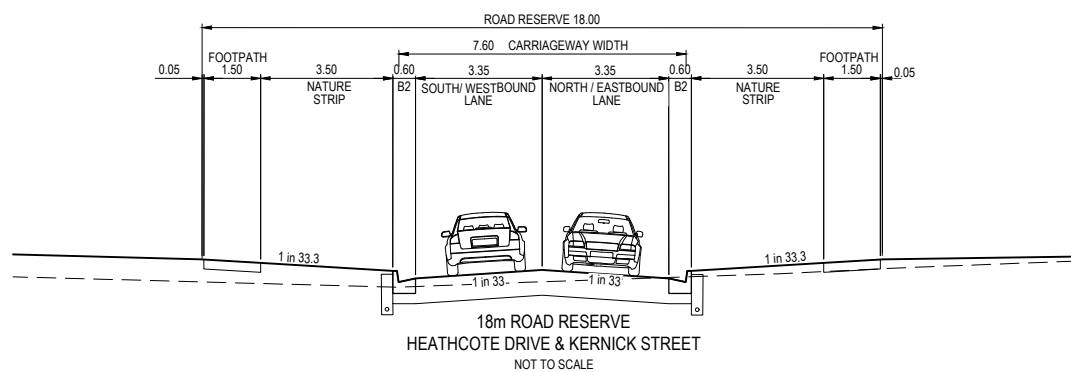
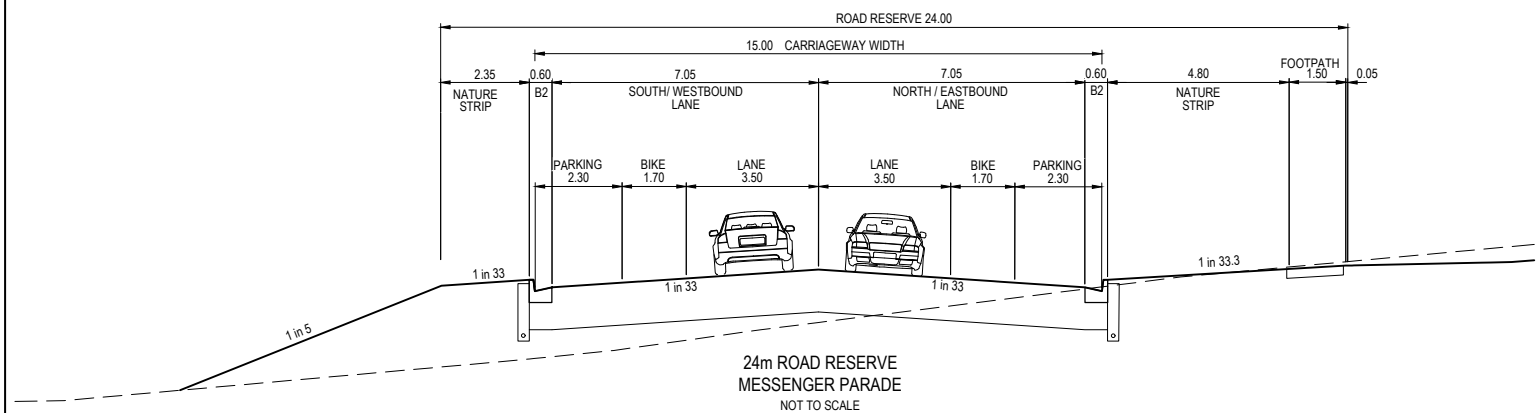
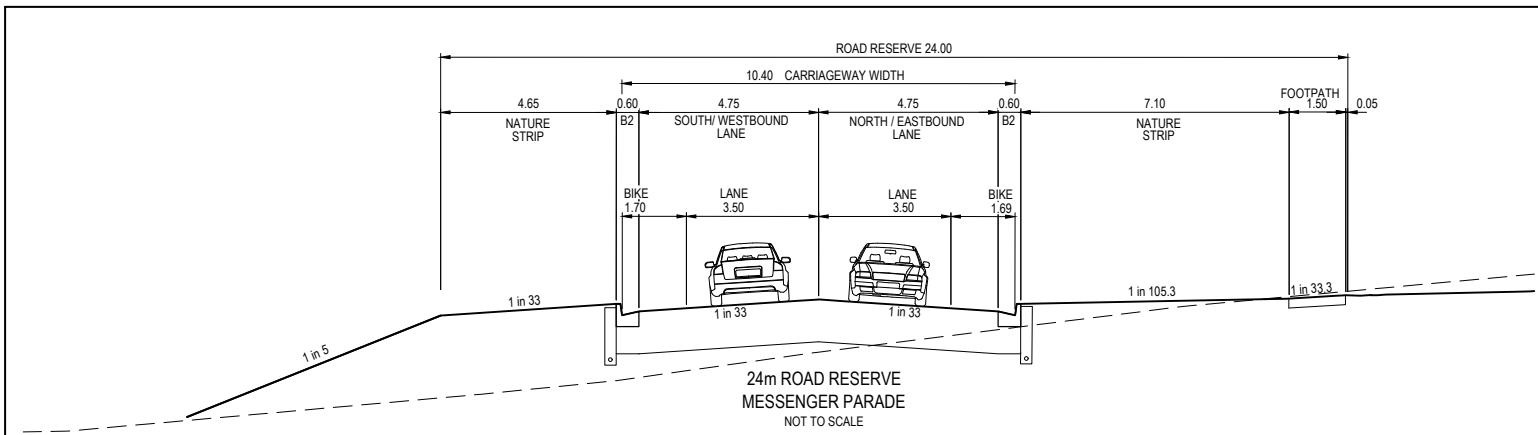
Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
Approved Date	J.ZAAL 25.07.2018
PS Number	PS1000



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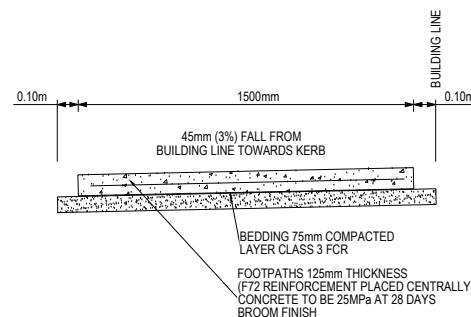
96 Main Road
Ballarat Vic 3350
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Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	COVER SHEET



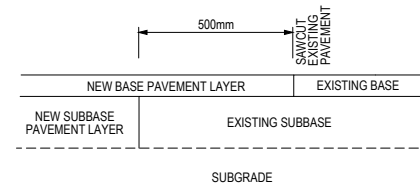
Barrier Kerb No. 2

Kerb Details



Footpath Detail

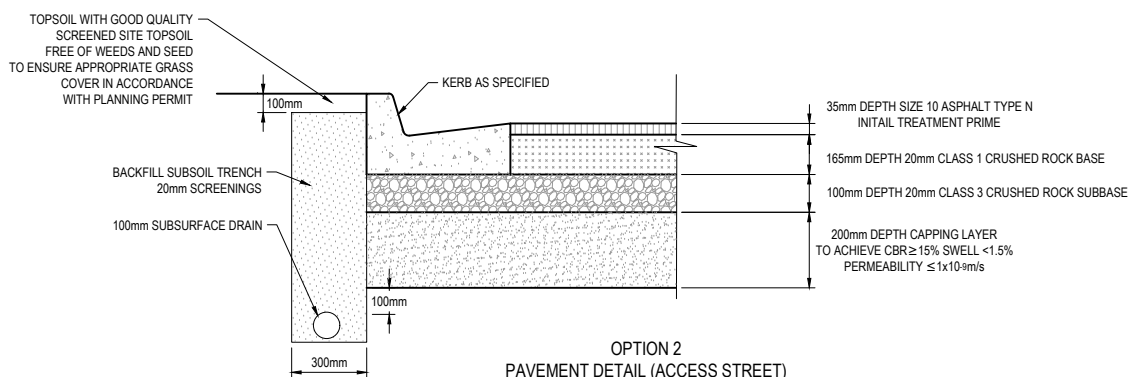
NOT TO SCALE



JOINTING FOR NEW PAVEMENTS TO EXISTING PAVEMENT. (TO BE APPLIED TO LONGITUDINAL JOINTS FOR WIDENING LINES)

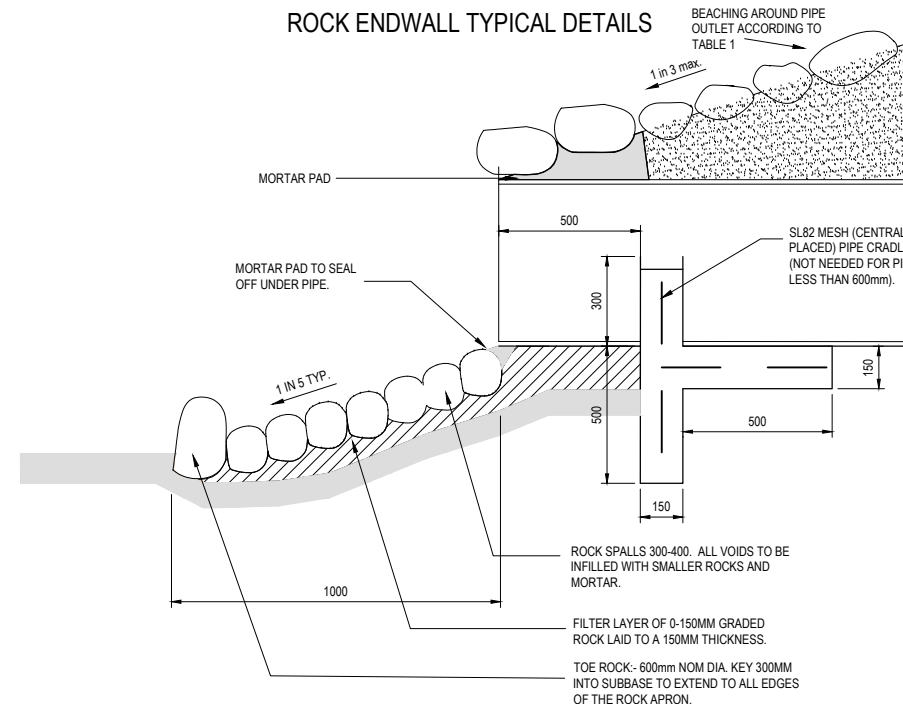
Pavement Joint Lapping Base Layer

NOT TO SCALE



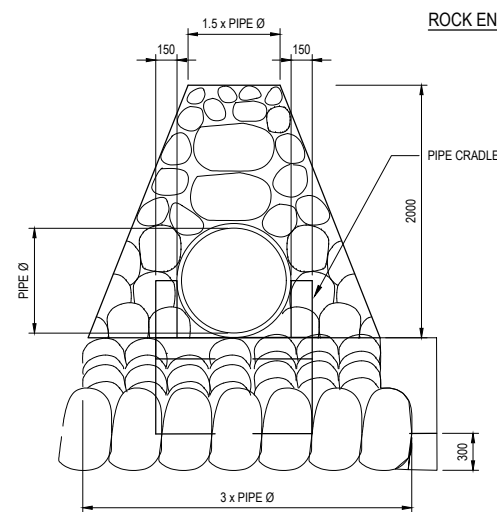
SUBGRADE TO BE EVALUATED IN CONSULTATION WITH CITY OF BALLARAT TO DETERMINE APPROPRIATE PAVEMENT OPTION

Rock Endwall Typical Details



Rock Endwall Typical Section

N.T.S.



Rock Headwall End Elevation

N.T.S.

TABLE 1

ROCK NOMINAL DIAMETER (mm)	% OF ROCK LARGER THAN
600	0
300	50
150	90

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works
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APPROVED
By JeffColb at 11:09 am, May 31, 2019

AS CONSTRUCTED
PLANS

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REV	DESCRIPTION	DATE	DRN	APP	REV	DESCRIPTION	DATE	DRN	APP
A	PLANS FOR APPROVAL	20.11.18	JS	JZ					
P3	AMENDMENT TO BACKFILL BEHIND KERB	25.09.18	JS	JZ					
P2	MINOR AMENDMENTS	17.09.18	JS	JZ					
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ					
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ	B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ

Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
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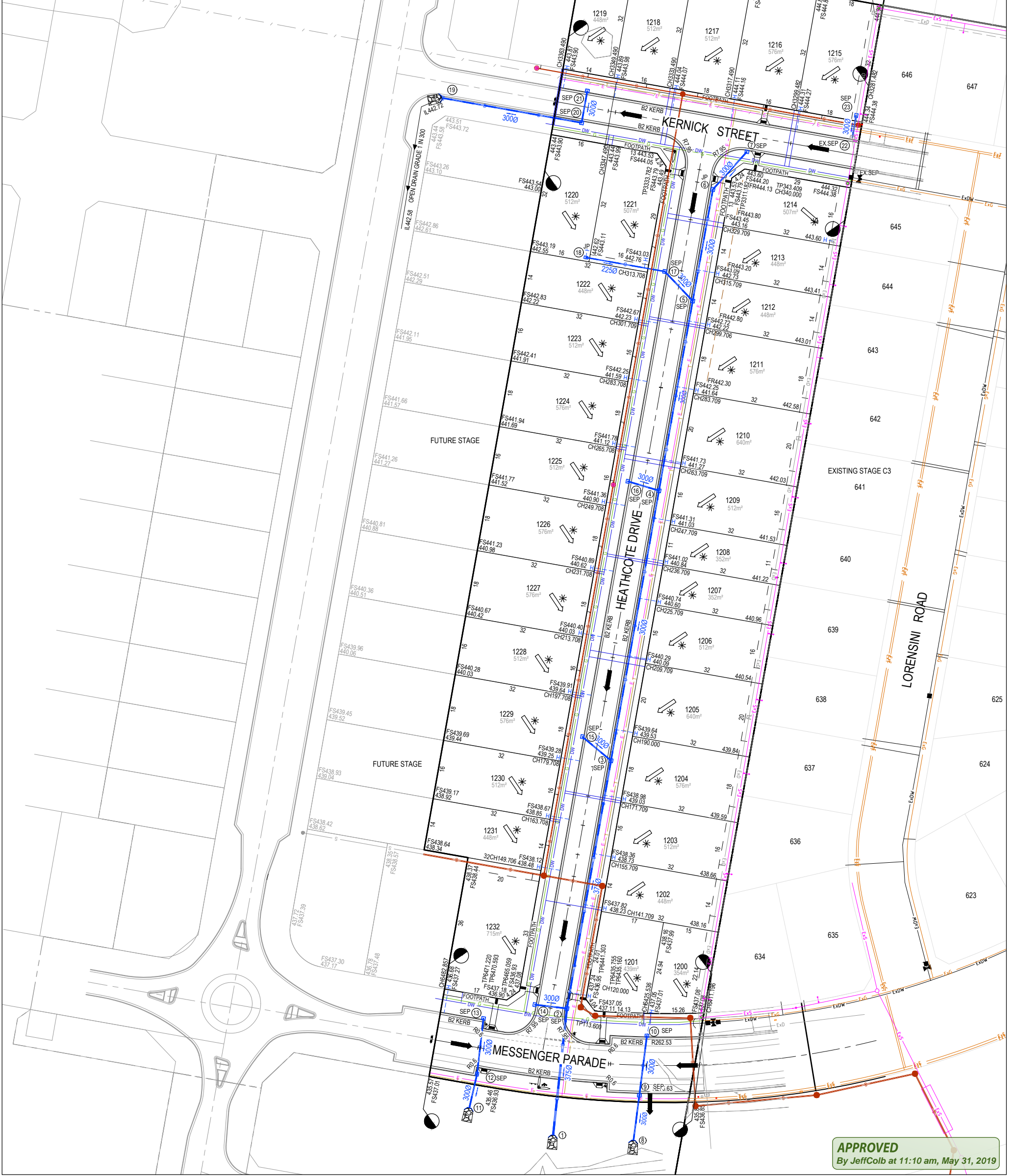


Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	TYPICAL ROAD CROSS SECTIONS, PAVEMENT MAKEUP & GENERAL DETAILS

Sheet 02 of 17		
Scale		
NOT TO SCALE		
Project Ref	Stage No	Drawing No
1800971	E1	002

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ROAD NAME	SERVICES OFFSET SCHEDULE									
	GAS		WATER		ELECTRICITY		TELECOMMUNICATIONS		SEWER	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET
MESSENGER PARADE	NORTH	2.35	NORTH	2.95	SOUTH	0.4	SOUTH	1.03	NORTH	1.0
HEATHCOTE DRIVE	EAST	2.1	EAST	2.7	WEST	2.7	WEST	2.2	WEST	1.0
KERNICK STREET	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.2	NORTH	1.0



APPROVED
By Jeff Colb at 11:10 am, May 31, 2019

LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- ELECTRICITY (UNDERGROUND)
- ELECTRICITY (OVERHEAD)
- OPTIC FIBRE
- TELECOMMUNICATIONS
- GAS
- WATER
- RECYCLED WATER
- EXISTING STORMWATER DRAIN
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- TACTILE PAVERS (INDICATIVE ONLY)
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- RIDGE LINE
- RETAINING WALL
- ZERO LOT LINES
- 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

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Project Details: LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title: LAYOUT PLAN

Sheet 03 of 17
Scale: 1:500 @ A1
Project Ref: 1800971 Stage No: E1 Drawing No: 010 Rev: C



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By Jeff Colb at 11:10 am, May 31, 2019

LEGEND - LAYOUT PLAN							
	STORMWATER DRAIN, PIT & PROPERTY INLET		EXISTING STORMWATER DRAIN		EXISTING SURFACE LEVEL		DIRECTION OF FALL
	SWALE DRAIN		EXISTING ELECTRICITY (UNDERGROUND)		FINISHED BUILDING LINE LEVEL		OVERLAND FLOW
	SEWER & MAINTENANCE STRUCTURES		EXISTING ELECTRICITY (OVERHEAD)		FINISHED RIDGE LINE LEVEL		ALLOTMENT TO BE GRADED EVENLY IN
	HOUSE DRAIN		EXISTING GAS		TOP OF RETAINING WALL		DIRECTION OF FALL TO LEVELS INDICATED
	SERVICE CONDUITS		EXISTING OPTIC FIBRE		BOTTOM OF RETAINING WALL		CONCRETE EDGE STRIP WITH SUBSOIL DRAIN.
	ELECTRICITY (UNDERGROUND)		EXISTING TELECOMMUNICATIONS		RIDGE LINE		"NO ROAD" SIGN & BARRIER
	ELECTRICITY (OVERHEAD)		EXISTING WATER		RETAINING WALL		LIMIT OF WORKS
	OPTIC FIBRE		EXISTING RECYCLED WATER		ZERO LOT LINES		EXISTING TREE TO BE REMOVED
	TELECOMMUNICATIONS		EXISTING SEWER		PAVEMENT TREATMENT		PERMANENT SURVEY MARK
	GAS		EXISTING HOUSE DRAIN		STRUCTURAL FILL > 200mm DEEP		TEMPORARY BENCH MARK
	WATER		EXISTING SWALE DRAIN		EX. STRUCTURAL FILL > 200mm DEEP		PROPOSED DRIVEWAY
	RECYCLED WATER		TACTILE PAVERS (INDICATIVE ONLY)				

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P2	MINOR AMENDMENTS	17.09.18	JS JZ
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS JZ
P0	ISSUED FOR INFORMATION	25.07.18	JS JZ
REV	DESCRIPTION	DATE	DRN. APP.

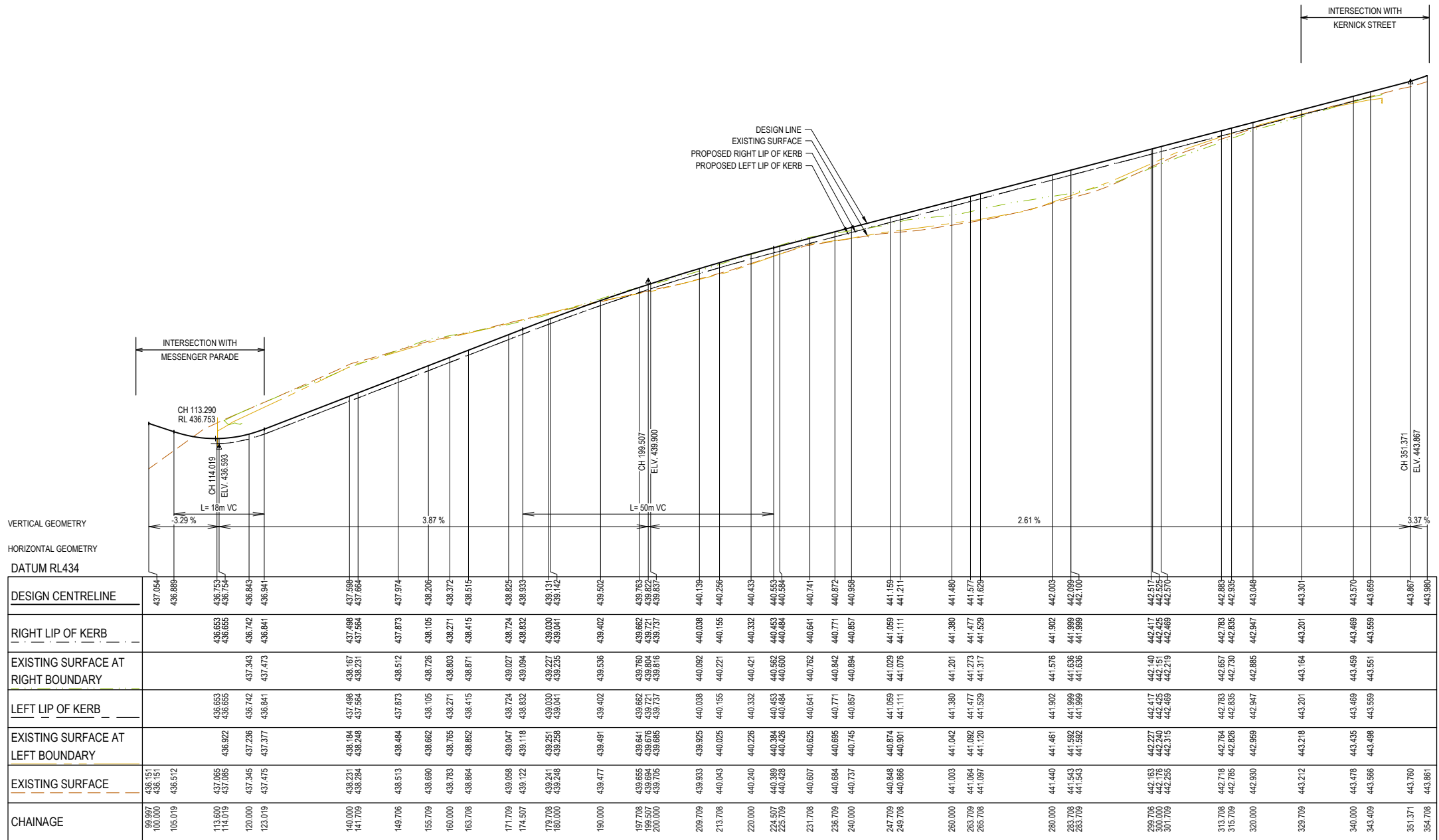


Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
Approved Date	J.ZAAL 25.07.2018
PS Number	PS1000

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Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	FINISHED SURFACE & OVERLAND FLOW PLAN

Sheet 04 of 17			
Scale	1:500 @ A1		
Project Ref	1800971	Stage No	E1
Drawing No	011	Rev	C

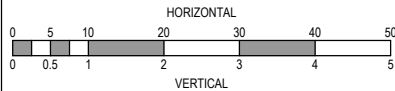


HEATHCOTE DRIVE LONGITUDINAL SECTION

APPROVED
By Jeff Colb at 11:10 am, May 31, 2019

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PLANS

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A	PLANS FOR APPROVAL	20.11.18	JS	JZ	
P3	AMENDMENT TO BACKFILL BEHIND KERB	25.09.18	JS	JZ	
P2	MINOR AMENDMENTS	17.09.18	JS	JZ	
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ	
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ	
REV	DESCRIPTION	DATE	DRN.	APP.	
B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ	



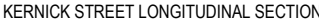
Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
Approved Date	J.ZAAL 25.07.2018
PS Number	PS1000



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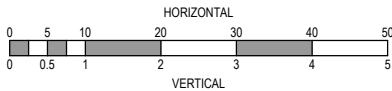
Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	HEATHCOTE DRIVE LONGITUDINAL SECTIONS (SHEET 2 OF 3)

Sheet 06 of 17			
Scale 1:500 H 1:50 V @ A1			
Project Ref	Stage No	Drawing No	Rev
1800971	E1	101	B



AS CONSTRUCTED PLANS

Project Ref	Stage No	Drawing No	Rev
1800971	E1	102	B

[illegible]

Designed	J.SPARK
Date	25.07.2018
Drawn	J.SPARK
Approved	J.ZAAL
Date	25.07.2018
PS Number	PS1000



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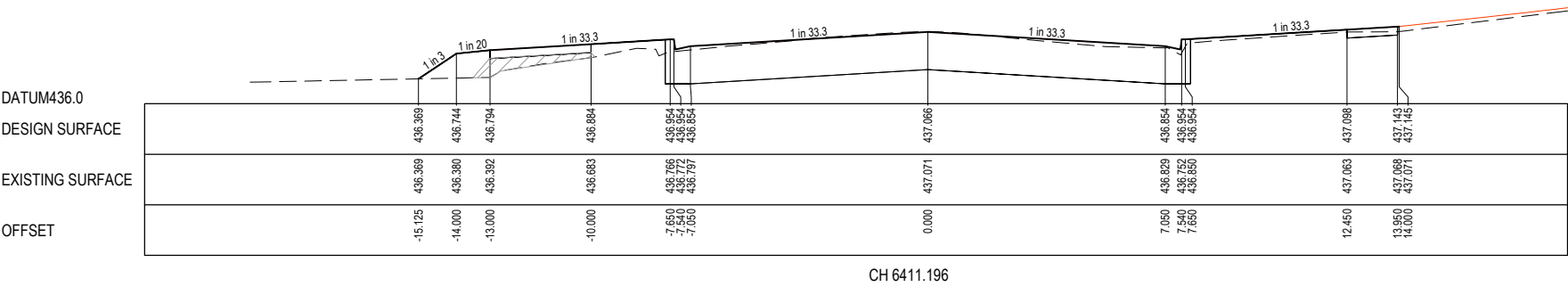
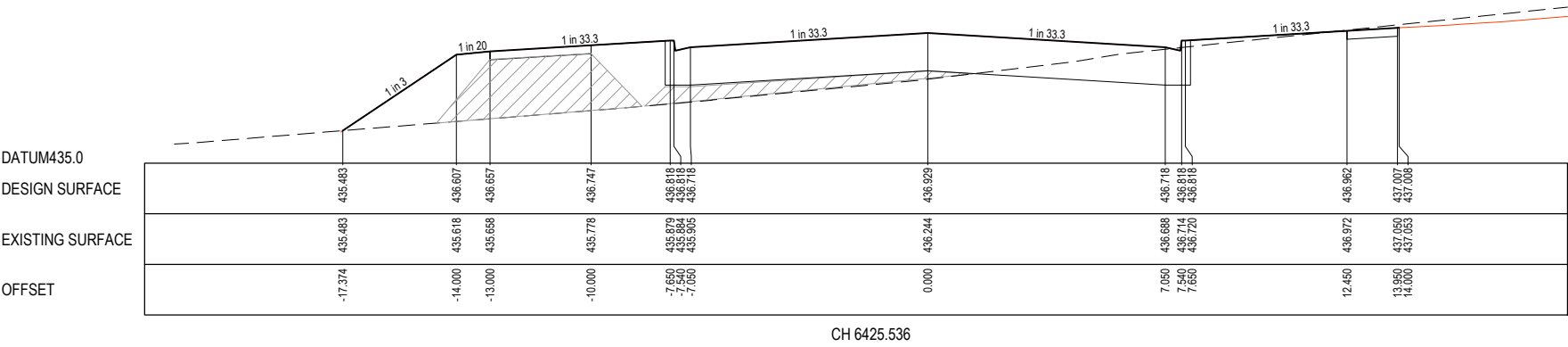
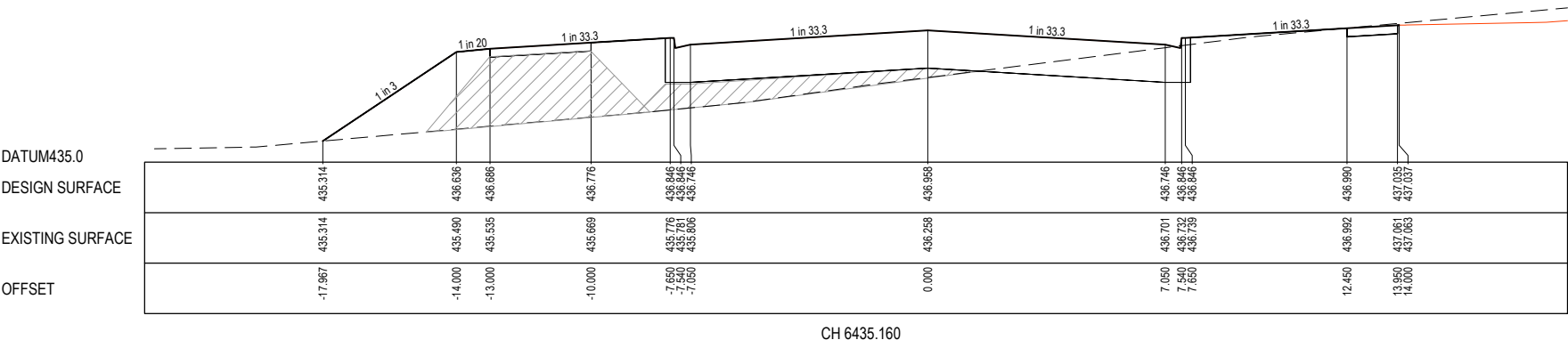
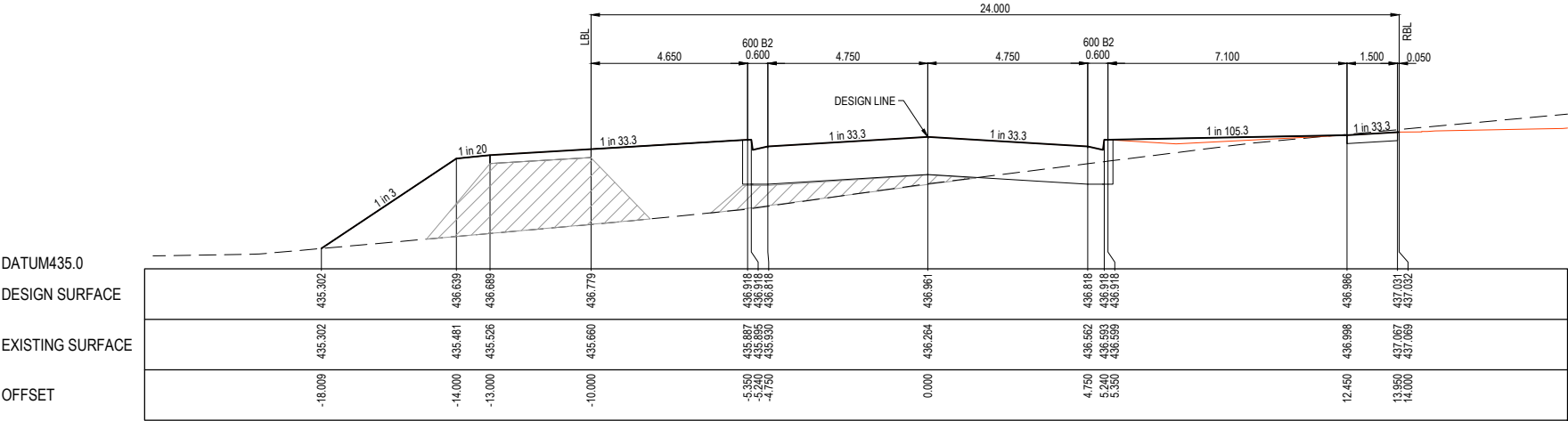
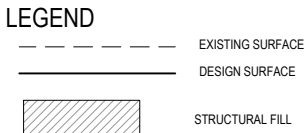
Project Details

LUCAS
STAGE E1
CITY OF BALLARAT

Drawing
Title

KERNICK STREET LONGITUDINAL SECTIONS
(SHEET 3 OF 3)

STRUCTURAL FILL REQUIRED UNDER PAVEMENT
AND FOOTPATHS WHERE CONSTRUCTED ABOVE
NATURAL SURFACE. REFER GEOTECH REPORT
FOR SPECIFICATION

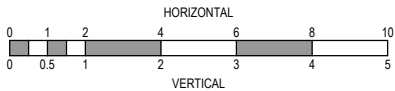


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REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION	DATE	DRN.	APP.
A	PLANS FOR APPROVAL	20.11.18	JS	JZ					
P3	AMENDMENT TO BACKFILL BEHIND KERB	25.09.18	JS	JZ					
P2	MINOR AMENDMENTS	17.09.18	JS	JZ					
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ					
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ	B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ



Designed
Date

J.SPARK
25.07.2018

Drawn

J.SPARK

Approved
Date

J.ZAAL
25.07.2018

PS Number

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Project
Details

LUCAS
STAGE E1
CITY OF BALLARAT

Drawing
Title

MESSENGER PARADE CROSS SECTIONS
(SHEET 1 OF 6)

Sheet 08 of 17

Scale
1:100 H 1:50 V @ A1

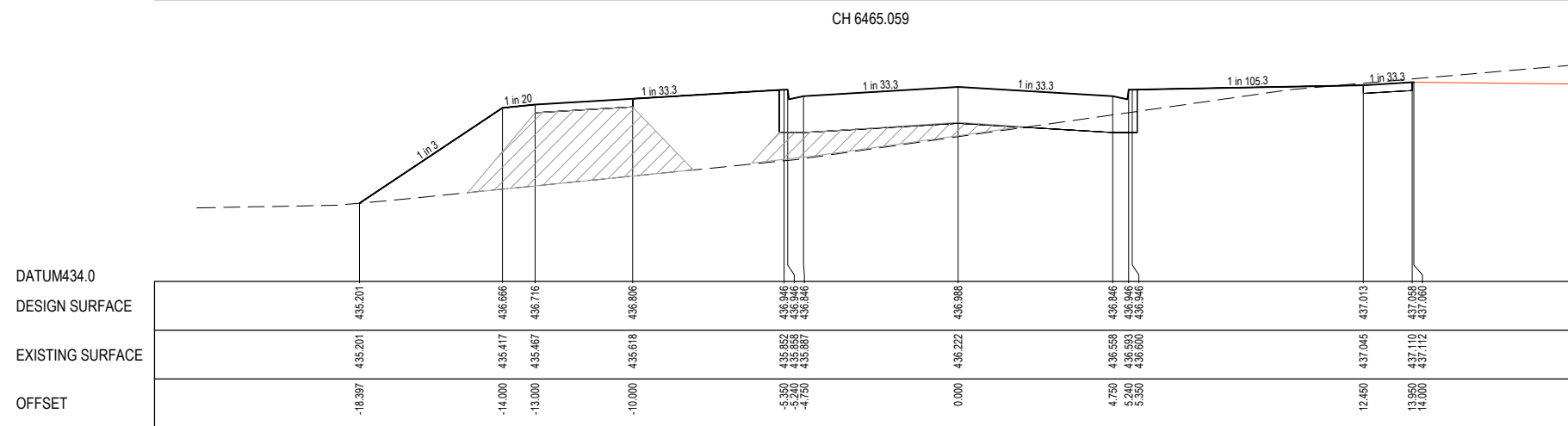
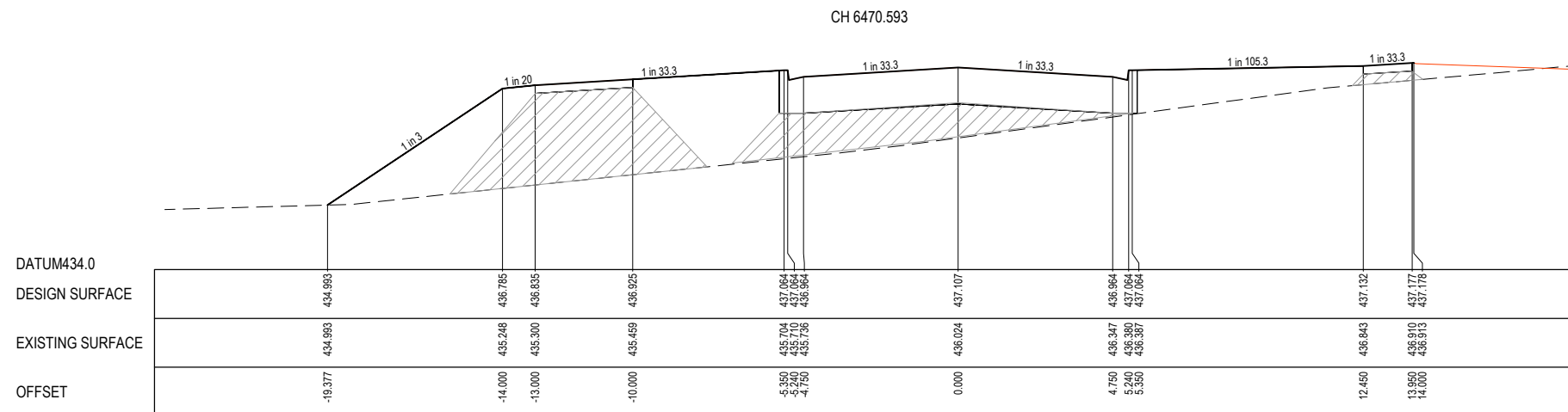
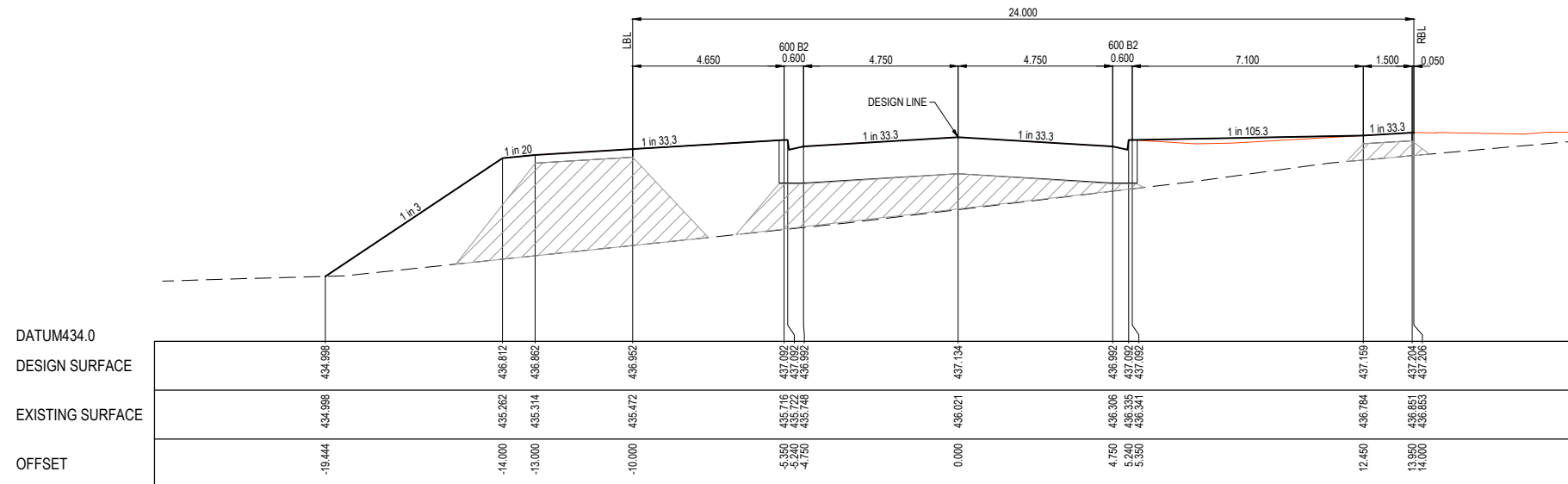
Project Ref	Stage No	Drawing No	Rev
1800971	E1	200	B

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— — — — — EXISTING SURFACE

————— DESIGN SURFACE



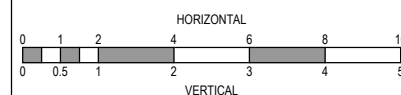
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By Jeff Colb at 11:11 am, May 31, 2019

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Sheet 09 of 17

Scale 1:100 H 1:50 V @ A1			
Project Ref	Stage No	Drawing No	Rev
1800971	E1	201	B

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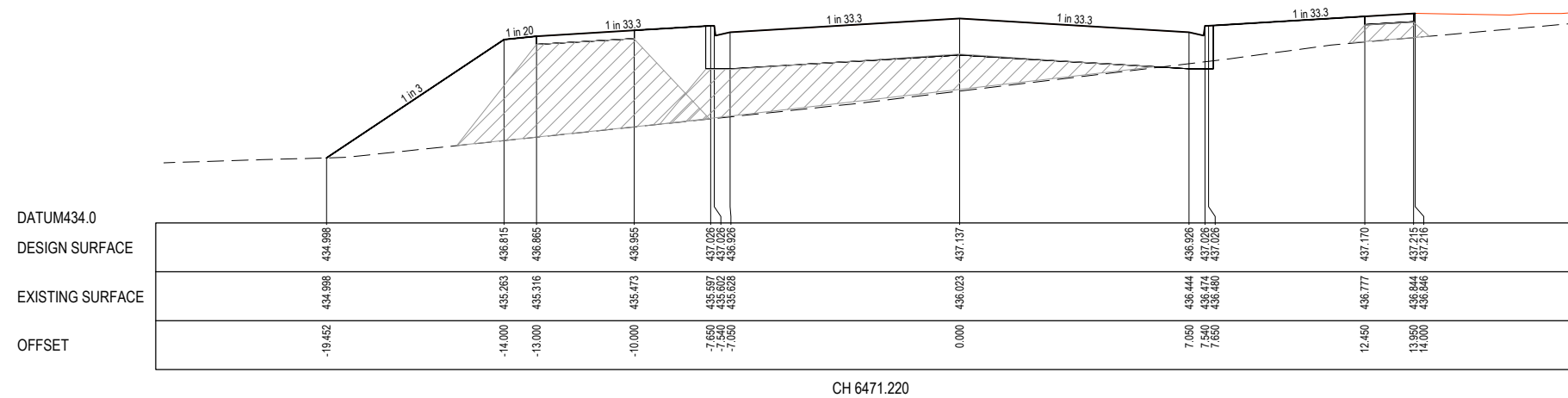
Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	MESSENGER PARADE CROSS SECTIONS (SHEET 2 OF 6)

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LEGEND

— — — — — EXISTING SURFACE

————— DESIGN SURFACE



AS CONSTRUCTED
PLANS

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

LEGEND

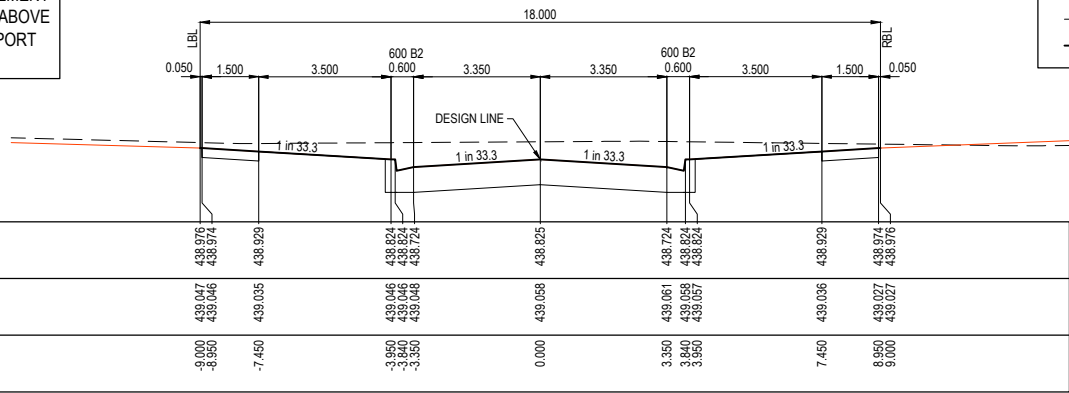
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— DESIGN SURFACE

DATUM438.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



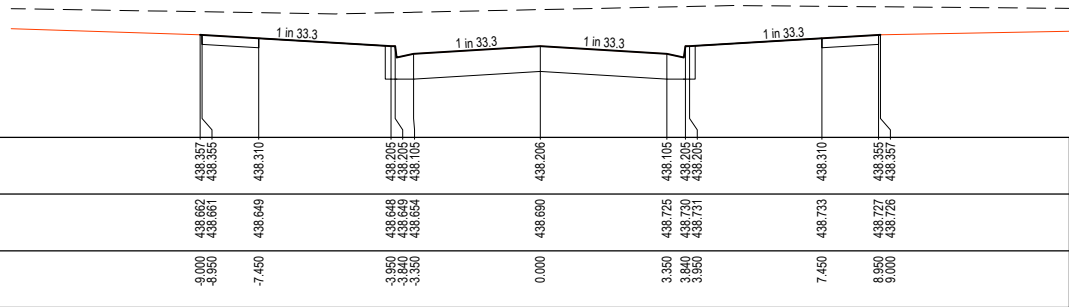
CH 171.709

DATUM437.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



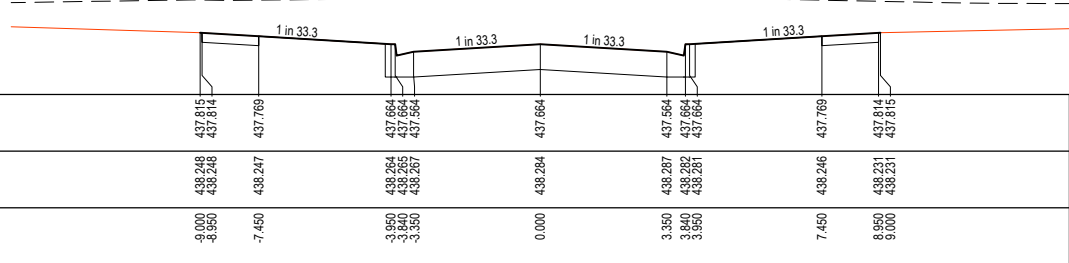
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DATUM437.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



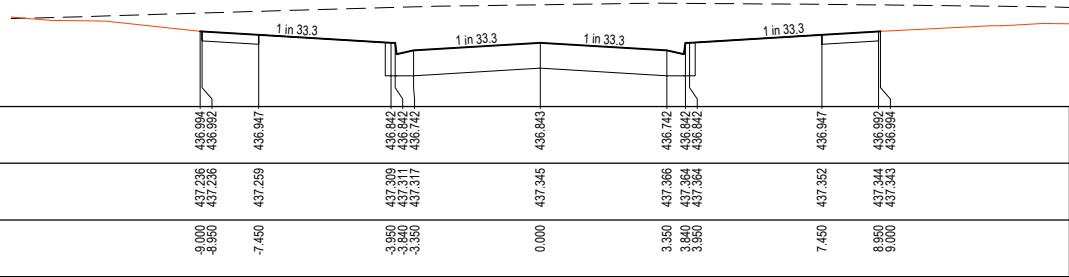
CH 141.709

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DESIGN SURFACE

EXISTING SURFACE

OFFSET



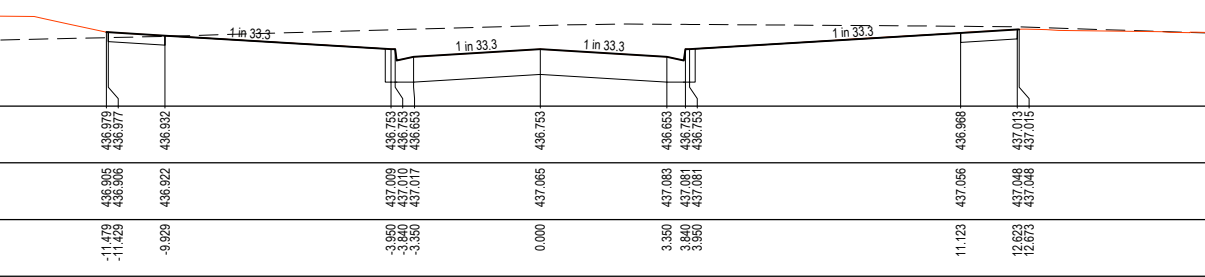
CH 120.000

DATUM436.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



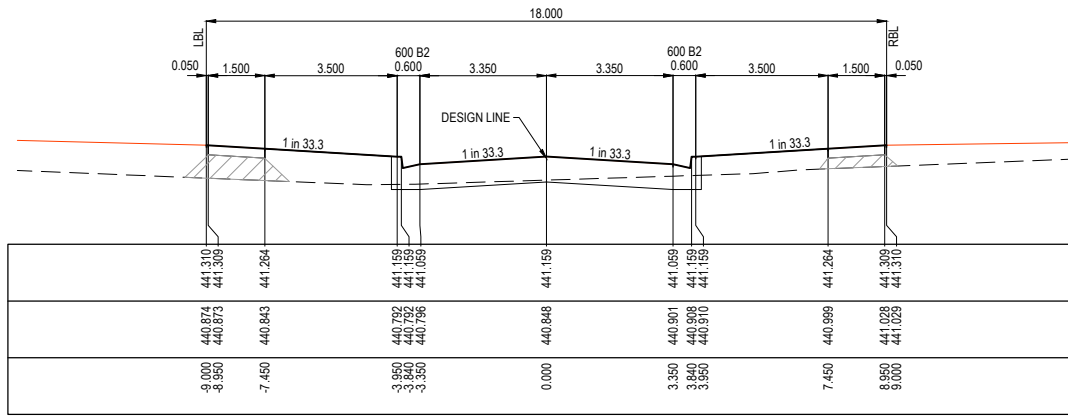
CH 113.600

DATUM440.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



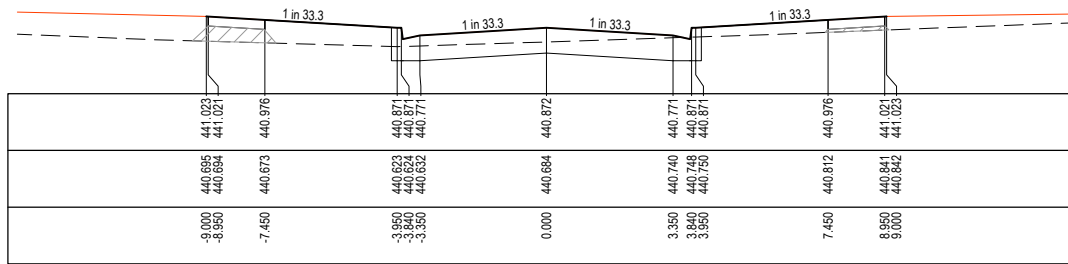
CH 247.709

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DESIGN SURFACE

EXISTING SURFACE

OFFSET



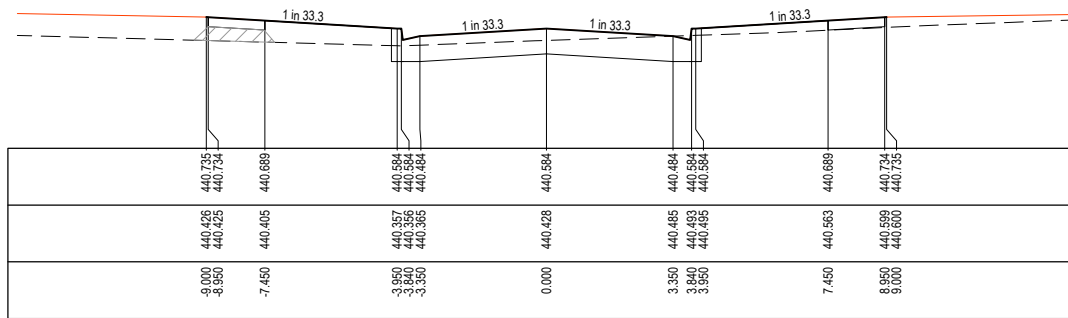
CH 236.709

DATUM439.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



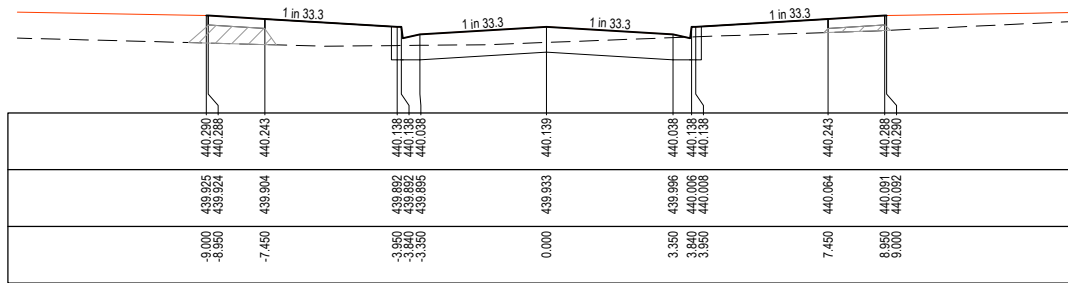
CH 225.709

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DESIGN SURFACE

EXISTING SURFACE

OFFSET



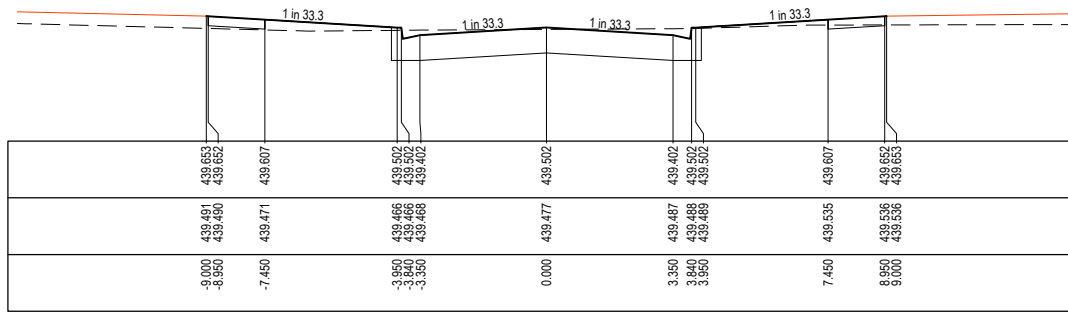
CH 209.709

DATUM438.0

DESIGN SURFACE

EXISTING SURFACE

OFFSET



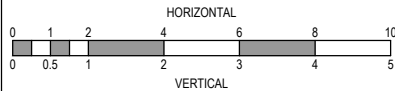
CH 190.000

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REV	DESCRIPTION	DATE	DRN	APP	REV	DESCRIPTION	DATE	DRN	APP
A	PLANS FOR APPROVAL	20.11.18	JS	JZ					
P3	AMENDMENT TO BACKFILL BEHIND KERB	25.09.18	JS	JZ					
P2	MINOR AMENDMENTS	17.09.18	JS	JZ					
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ					
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ					
					B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ



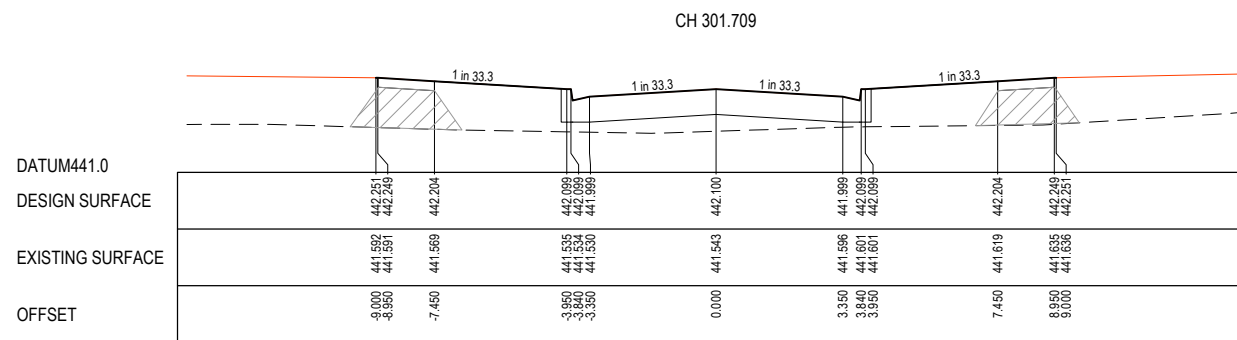
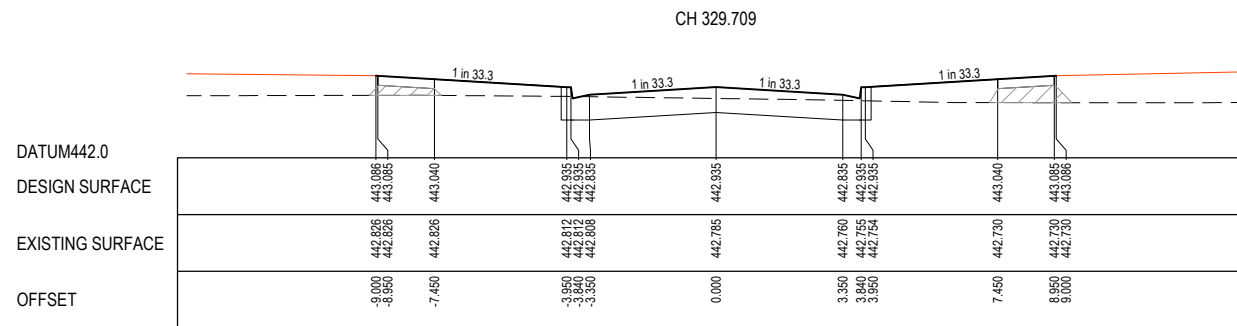
Designed Date
J.SPARK
25.07.2018
Drawn
J.SPARK
Approved Date
J.ZAAL
25.07.2018
PS Number
PS1000



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Project Details
LUCAS
STAGE E1
CITY OF BALLARAT
Drawing Title
HEATHCOTE DRIVE CROSS SECTIONS
(SHEET 4 OF 6)

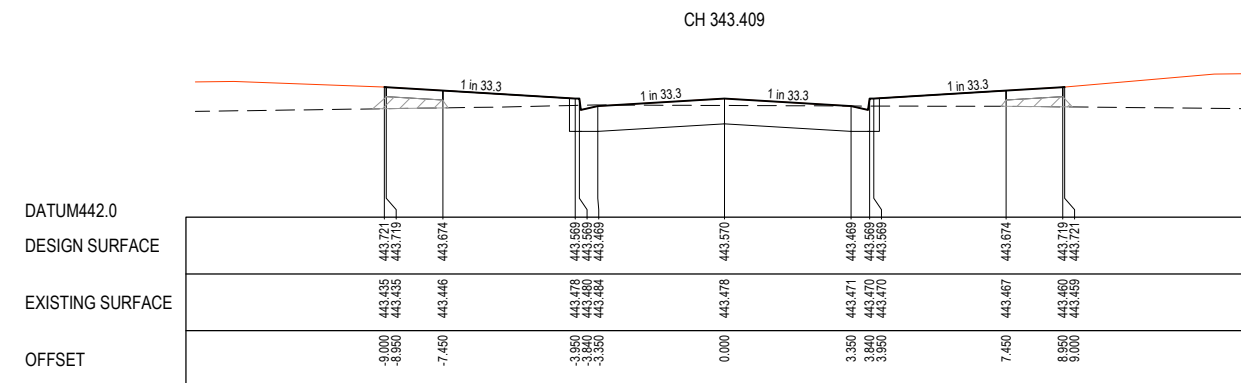
Sheet 11 of 17
Scale
1:100 H 1:50 V @ A1
Project Ref
1800971
Stage No
E1
Drawing No
203
Rev
B



LEGEND

— — — — — EXISTING SURFACE

————— DESIGN SURFACE



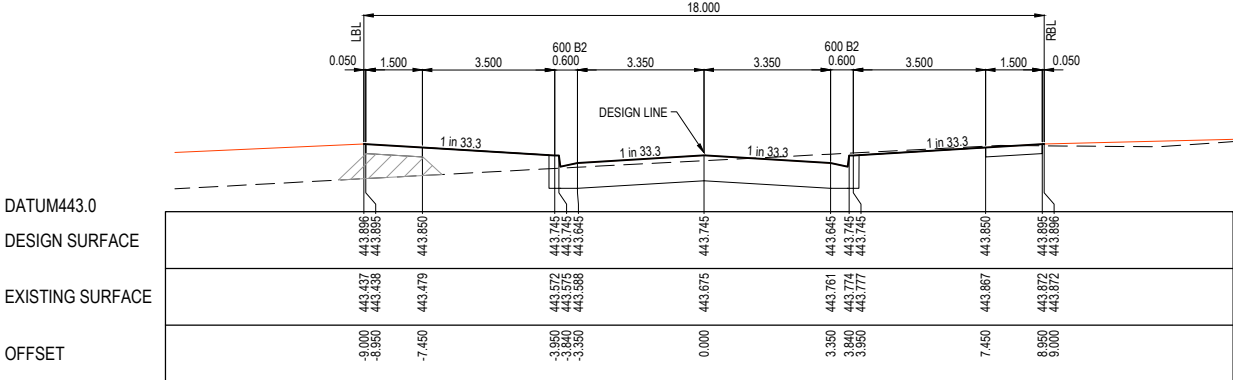
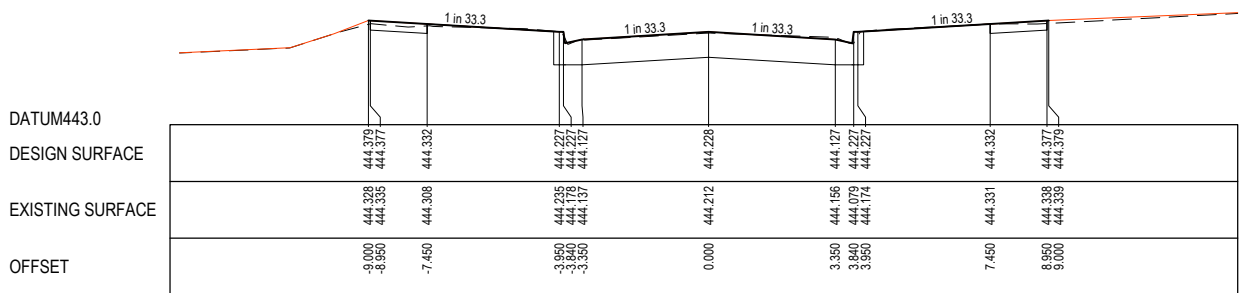
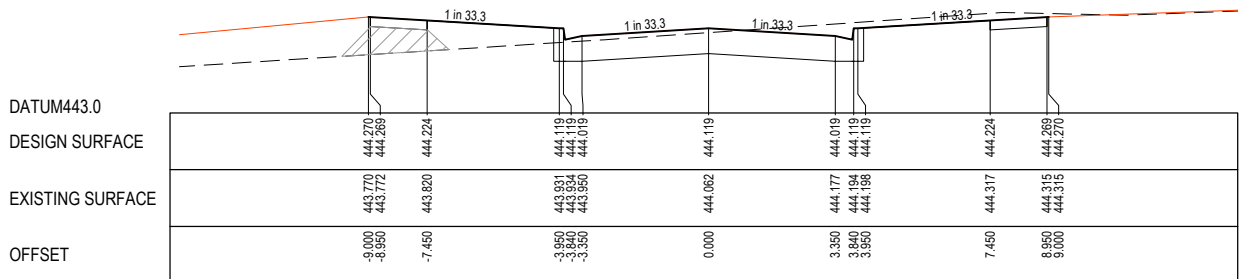
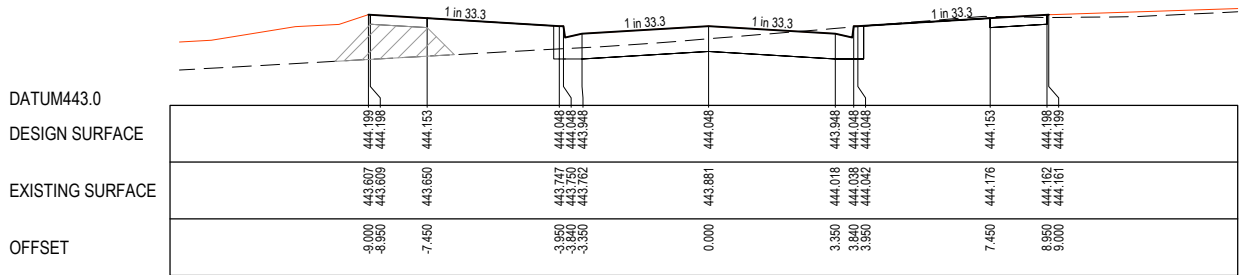
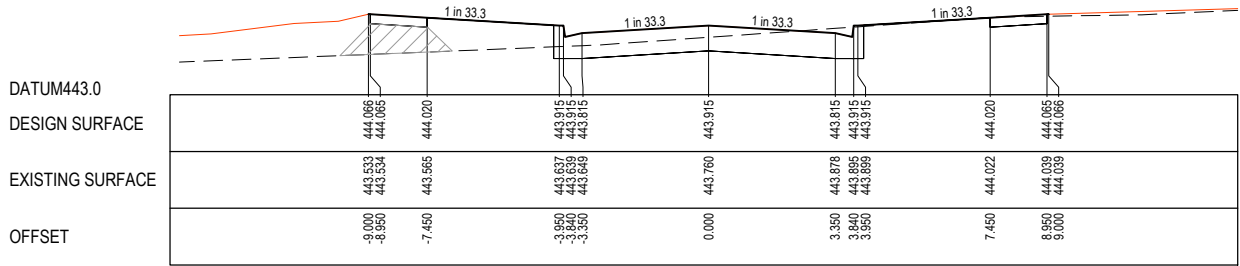
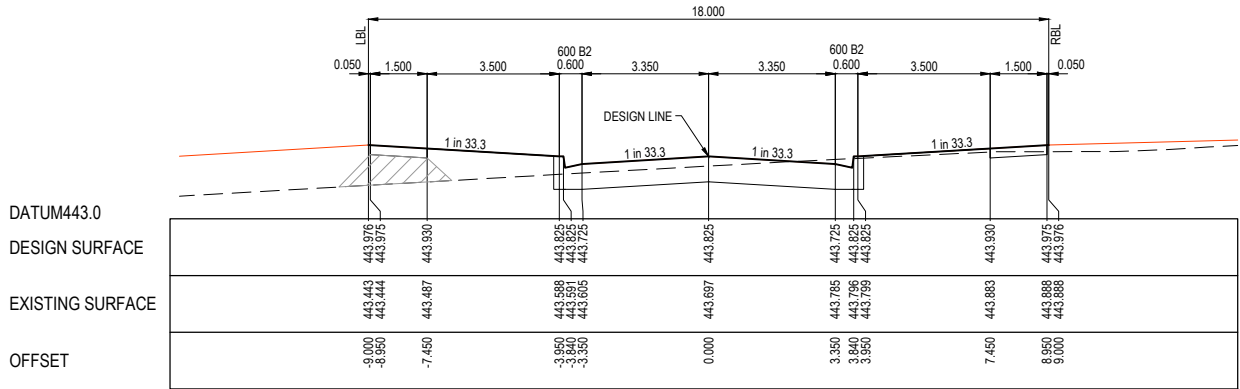
AS CONSTRUCTED PLANS

Sheet 12 of 17			
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Project Ref	Stage No	Drawing No	Rev
1800971	E1	204	B

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

LEGEND

--- EXISTING SURFACE
— DESIGN SURFACE



CH 3363.482

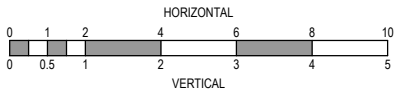
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REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION	DATE	DRN.	APP.
A	PLANS FOR APPROVAL	20.11.18	JS	JZ					
P3	AMENDMENT TO BACKFILL BEHIND KERB	25.09.18	JS	JZ					
P2	MINOR AMENDMENTS	17.09.18	JS	JZ					
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ					
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ	B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ



Designed Date
J.SPARK
25.07.2018

Drawn
J.SPARK

Approved Date
J.ZAAL
25.07.2018

PS Number
PS1000



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Project Details
LUCAS
STAGE E1
CITY OF BALLARAT

Drawing Title
KERNICK STREET CROSS SECTIONS
(SHEET 6 OF 6)

Sheet 13 of 17

Scale
1:100 H 1:50 V @ A1

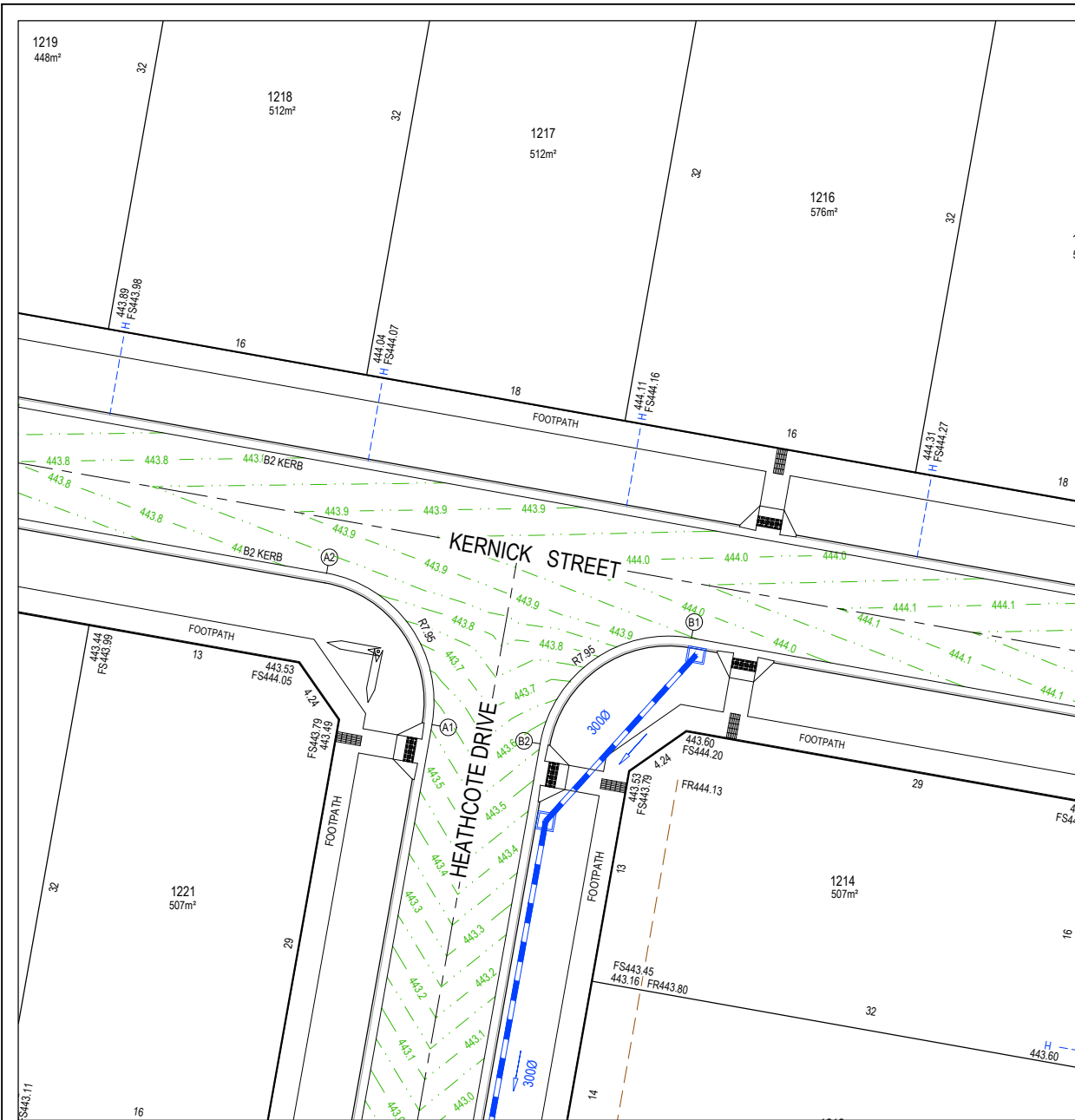
Project Ref
1800971

Stage No
E1

Drawing No
205

Rev
B

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Alignment A

Point no	Easting	Northing	RL
A1	744823.081	5840918.921	443.558
A2	744816.644	5840928.140	443.815

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
A1 - A2	90.003	7.950	12.488	2.329	1.723	3.042	2.579	3.122	443.736

Alignment B

Point no	Easting	Northing	RL
B1	744838.896	5840924.186	443.948
B2	744829.678	5840917.750	443.559

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
B1 - B2	89.997	7.950	12.487	2.328	1.723	3.042	2.579	3.122	443.784

Alignment C

Point no	Easting	Northing	RL
C1	744773.510	5840685.049	436.964
C2	744782.664	5840691.496	436.654

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
C1 - C2	89.530	7.950	12.423	2.305	1.707	3.027	2.571	3.106	436.804

Alignment D

Point no	Easting	Northing	RL
D1	744789.467	5840691.487	436.653
D2	744796.661	5840682.171	436.846

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
D1 - D2	95.511	7.950	13.253	2.605	1.925	3.218	2.667	3.313	436.751

Alignment E

Point no	Easting	Northing	RL
E1	744767.908	5840688.368	436.926
E2	744767.610	5840686.694	436.976
E3	744768.104	5840686.043	436.992

Alignment F

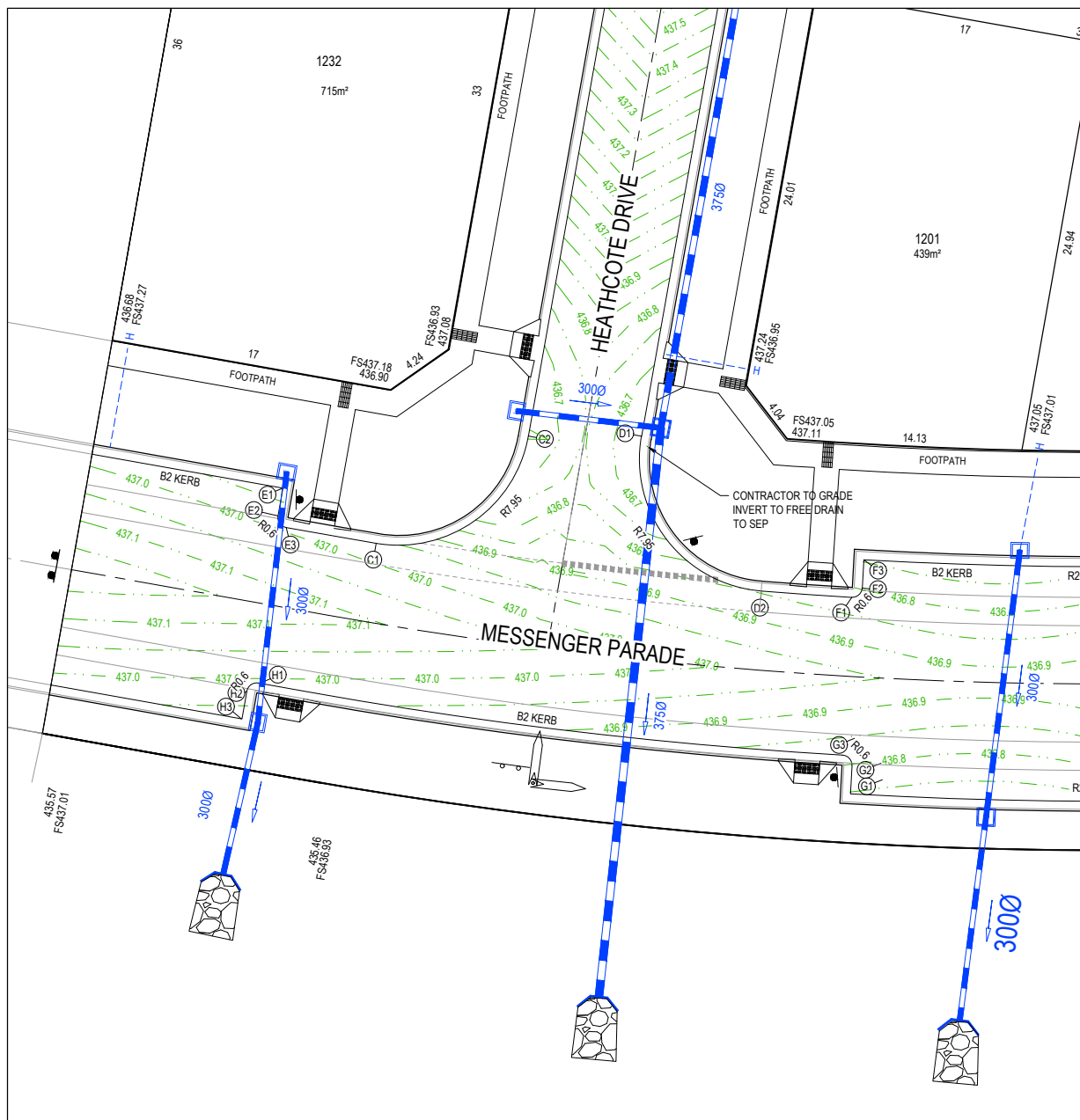
Point no	Easting	Northing	RL
F1	744802.101	5840681.796	436.818
F2	744802.735	5840682.362	436.797
F3	744802.828	5840684.058	436.746

Alignment G

Point no	Easting	Northing	RL
G1	744802.022	5840689.981	436.746
G2	744802.118	5840671.679	436.797
G3	744801.553	5840672.312	436.818

Alignment H

Point no	Easting	Northing	RL
H1	744766.434	5840676.645	436.992
H2	744765.738	5840676.159	436.977
H3	744765.441	5840674.486	436.926



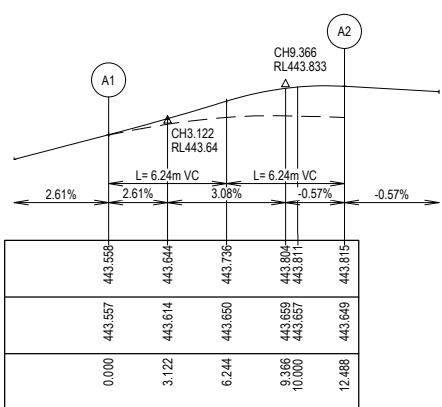
VERTICAL GEOMETRY

DATUM RL443

DESIGN LEVEL

EXISTING SURFACE

CHAINAGE



LIP LINE A

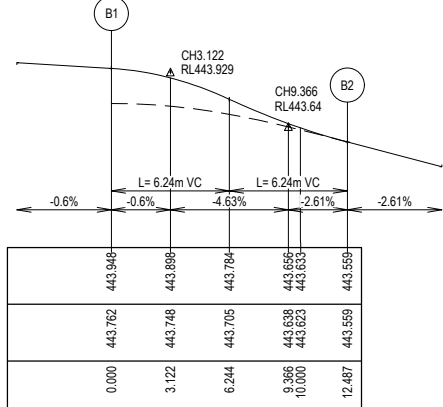
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DATUM RL443

DESIGN LEVEL

EXISTING SURFACE

CHAINAGE



LIP LINE B

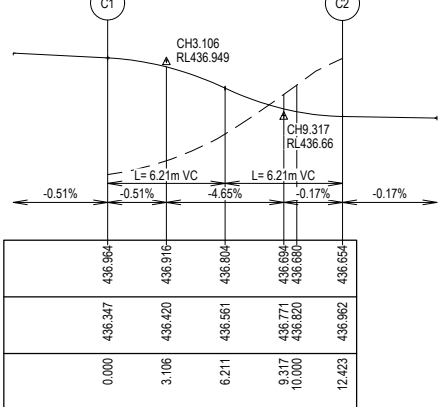
VERTICAL GEOMETRY

DATUM RL436

DESIGN LEVEL

EXISTING SURFACE

CHAINAGE



LIP LINE C

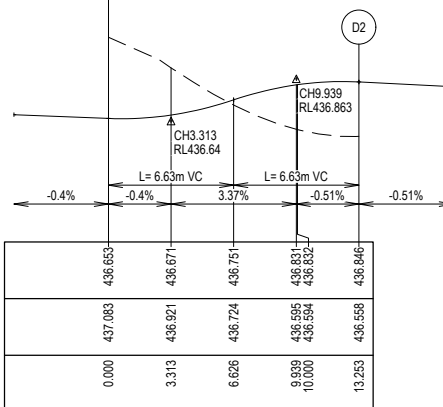
VERTICAL GEOMETRY

DATUM RL436

DESIGN LEVEL

EXISTING SURFACE

CHAINAGE



LIP LINE D

LEGEND

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN & PIT
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- TACTILE PAVERS (INDICATIVE ONLY)
- EXISTING HOUSE DRAIN
- RETAINING WALL
- PAVEMENT TREATMENT
- 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

AS CONSTRUCTED
PLANS

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REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION	DATE	DRN.	APP.
A	PLANS FOR APPROVAL	20.11.18	JS	JZ					
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P2	MINOR AMENDMENTS	17.09.18	JS	JZ					
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ					
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ					
B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ					

Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
Approved Date	J.ZAAL 25.07.2018
PS Number	PS1000



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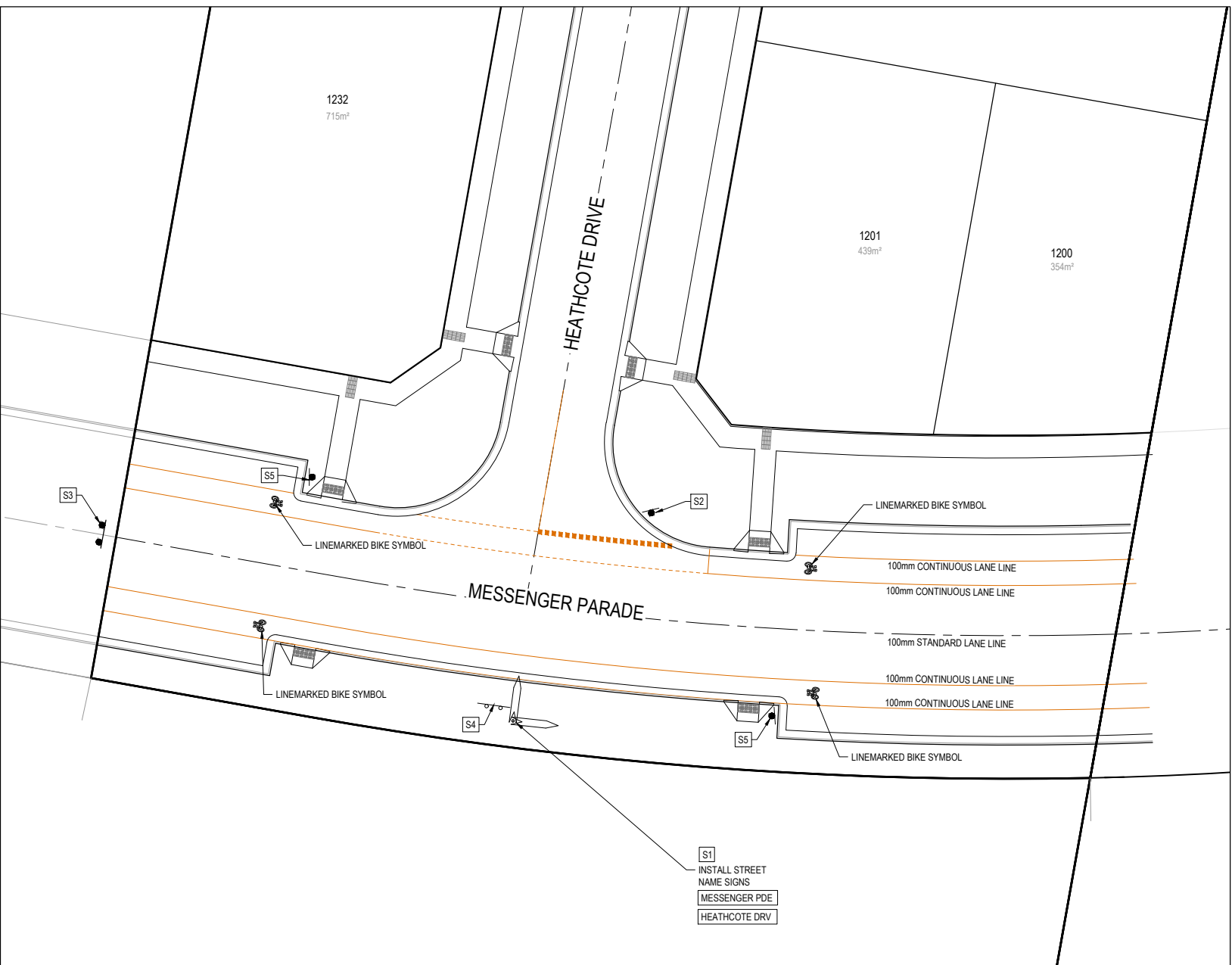
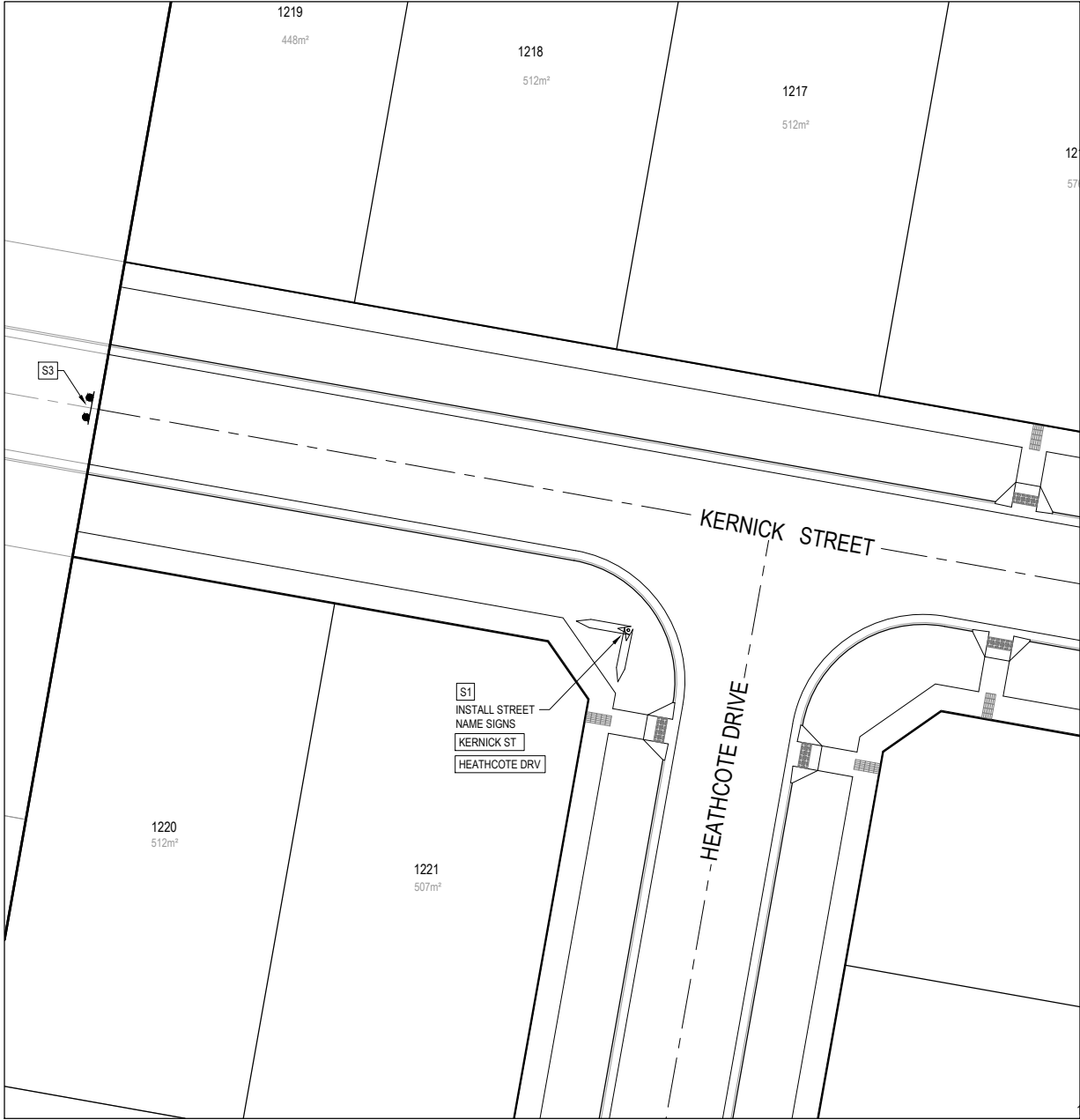
Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	INTERSECTION DETAILS

Sheet 14 of 17

Scale

Project Ref	Stage No	Drawing No	Rev
1800971	E1	300	B

X:\118\1800971_Lucas_Eng\Stage E1\Drawings\1800971-E1-300-INT.dwg



SIGN SCHEDULE

IDENTIFIER	NUMBER	SIGN
S1	STREET NAME SIGN	
S2	R1-2	
S3	D4-5	
S4	D4-2-1	
S5	R7-14B	

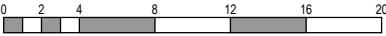
SIGNS SHALL BE LOCATED SUCH THAT THE EDGE OF THE SIGN IS MINIMUM 0.5m BEHIND THE KERB INVERT.

- NOTES
- RRPM'S AT MAX 6m SPACING.
 - LINEMARKING TO BE EXTENDED AT LEAST 5m FROM THE TANGENT POINT
 - LINEMARKING IN ACCORDANCE WITH AS1742.
 - TGSI TO BE INSTALLED IN ACCORDANCE WITH VICROADS RDN 06-06 - JULY2010

APPROVED
By JeffColb at 11:12 am, May 31, 2019

AS CONSTRUCTED
PLANS

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A	PLANS FOR APPROVAL	20.11.18	JS	JZ					
P3	AMENDMENT TO BACKFILL BEHIND KERB	25.09.18	JS	JZ					
P2	MINOR AMENDMENTS	17.09.18	JS	JZ					
P1	PIT AND PAVEMENT AMENDMENTS	28.08.18	JS	JZ					
P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ	B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ
REV	DESCRIPTION	DATE	DRN	APP	REV	DESCRIPTION	DATE	DRN	APP



Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
Approved Date	J.ZAAL 25.07.2018
PS Number	PS1000

BW Beveridge Williams

96 Main Road
Ballarat Vic 3350
ph: 03 5327 2000
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Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	SIGNAGE & LINE MARKING PLANS

Sheet 15 of 17

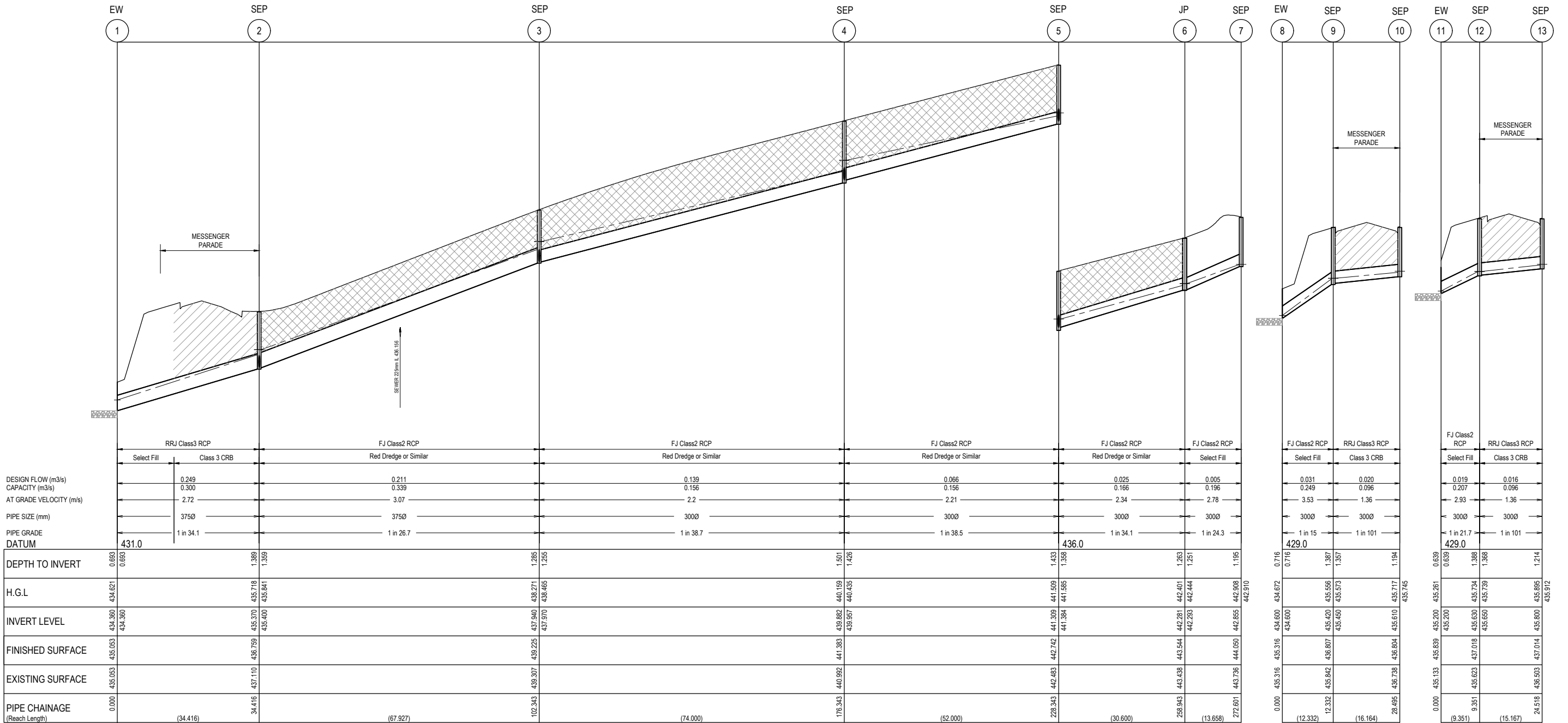
Scale
1:200 @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	E1	350	B



NOTES:
ALL STORMWATER DRAINS UP TO AND INCLUDING 750mm DIA. ARE TO BE CLASS 2 R.R.J. PIPES UNLESS NOTED OTHERWISE.

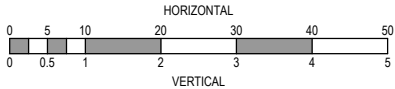
LEGEND	
	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE PIPE/PIT
	EXISTING DRAINAGE PIPE/PIT
	HYDRAULIC GRADE LINE
	DENOTES 20mm CLASS 3 FCR BACKFILL.
	DENOTES RED DREDGE OR OTHER APPROVED QUARRIED PRODUCT.



APPROVED
By JeffColb at 11:12 am, May 31, 2019

AS CONSTRUCTED
PLANS

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P0	ISSUED FOR INFORMATION	25.07.18	JS	JZ	B	AS-CONSTRUCTED PLANS	30.05.19	JS	JZ
REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION	DATE	DRN.	APP.



Designed Date	J.SPARK 25.07.2018
Drawn	J.SPARK
Approved Date	J.ZAAL 25.07.2018
PS Number	PS1000



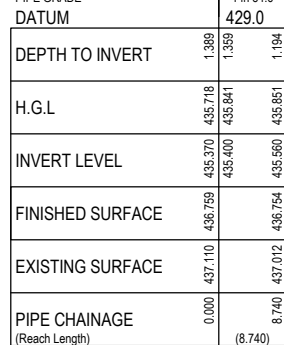
Project Details	LUCAS STAGE E1 CITY OF BALLARAT
Drawing Title	DRAINAGE LONGITUDINAL SECTIONS (SHEET 1 OF 2)

Sheet 16 of 17

Scale
1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	E1	400	B

X:\18\1800971 Lucas_Eng\Stage E1\Drawings\1800971-E1-400-DLS.dwg



NOTES

1. SETOUT CO-ORDINATES TO PIT CENTRE OF A 900x900 PIT
2. SETOUT LEVEL TO PIT COVER LEVEL
3. STEP IRONS ARE TO BE PROVIDED IN PITS DEEPER THAN 1m
4. COVER LEVELS AND PIT CO-ORDINATES ARE APPROX ONLY AND SHOULD BE CONSTRUCTED TO SUIT FINISHED SURFACE
5. PITS IN NON TRAFFICABLE AREAS TO HAVE CONCRETE LIDS AND SURROUNDS AS PER BALLARAT CITY STANDARD DRAWING SD-P11-1 / SD-P10-1

Sheet 17 of 17

Scale
1:500 H 1:50 V @ A