

HOWARD STREET, EPSOM

GB4894

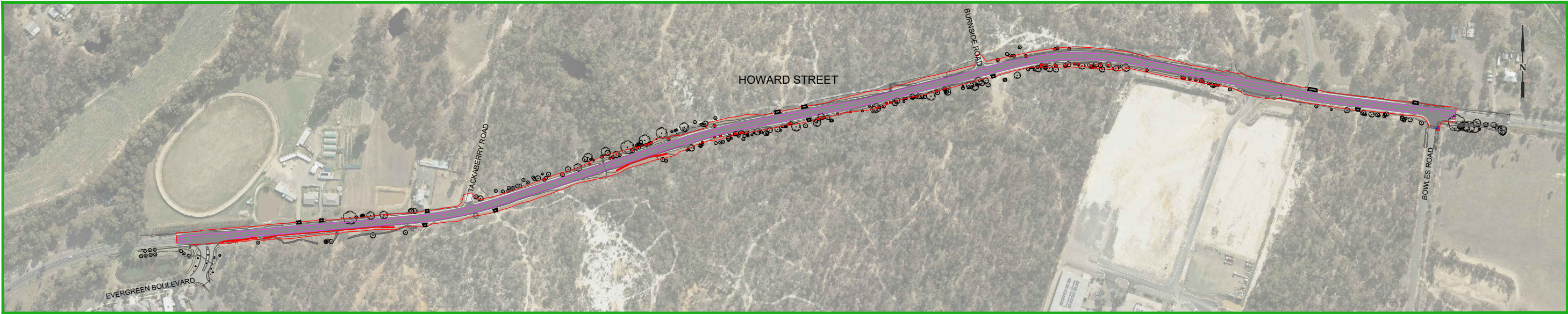
ROAD RECONSTRUCTION

NOVEMBER 2021



LOCALITY MAP

DOCUMENT CONTROL				
SHEET No.	SHEET DESC.	03/11/21	xx/xx/xx	xx/xx/xx
		DRAFT	TENDER	CONSTRUCTION
		REVISION	REVISION	REVISION
1	COVER SHEET	A		
2	GENERAL NOTES	A		
3	STANDARD SECTIONS	A		
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12	DETAIL PLAN AND LONG SECTION	A		
13	DETAIL PLAN AND LONG SECTION	A		
14	CROSS SECTIONS	A		
15	CROSS SECTIONS	A		
16	CROSS SECTIONS	A		
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PROJECT EXTENTS

PROJECT PLANNING REQUIREMENTS				AMENDMENTS			
Item	Required	Comments	Contractor	Revision	Description	Approved by	Date
Vegetation	No	-		-	-	-	-
RRV	No	-					
CMA	No	-					
Planning Permit	No	-					
Land Acquisition	No	-					
CHMP	No	-					
Other	No	-					



CITY OF GREATER BENDIGO

HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

COVER SHEET

Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision : A	
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PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS

VEGETATION PROTECTION NOTES

1.

If fencing is required as a condition of the Planning Permit or as a result of the pre-construction meeting, a three strand star picket and wire fence shall be constructed.
2.

All trees and shrubs are to be retained unless otherwise shown or directed by the Superintendent's Representative.
3.

No tree or native vegetation is to be disturbed or removed without prior approval. Any approved trees or vegetation removed as part of the works are not to be burnt onsite.
4.

If tree roots are discovered during excavation works, works in the immediate area shall cease until the Superintendent's Representative has inspected, and approved works to proceed.

FILL NOTES

1.

All earthworks and compaction are to be in accordance with VicRoad's Specification Section 204.
2.

All fill materials are to be approved by the Superintendent's Representative prior to being imported onto the site, and unless noted otherwise, shall be a clean clay based material free of vegetation matter or contaminants.
3.

All filling is to comply with AS3798-1996 Appendix B, level 1 (or 2) as specified
4.

The Contractor is responsible for ensuring that all imported fill material, including topsoil, satisfies the description for clean fill material in EPA bulletin publication No. 448 (Sep 95) and subsequent revisions. The Contractor shall provide verification including test certificates to the Superintendent's Representative.

ROAD CONSTRUCTION NOTES

1.

All Works to be carried out in accordance with CoGB Standard Drawings, Specifications, approved plans and to the satisfaction of the Superintendent's Representative.
2.

These notes also refer to the latest version of the Infrastructure Design Manual (IDM) and latest version of the IDM Standard Drawings.
3.

The Project Manager is to be notified seven days prior to the commencement of Works with a Pre-commencement meeting to be held between CoGB, the Consultant and the Contractor. A site management plan is to be submitted prior to the commencement of Works and prior to the onsite Pre-commencement meeting.
4.

Prior to commencement of the Works, the Contractor shall provide the following:

- Source of quarry material

- N.A.T.A. approved test results for the F.C.R that is to be used

- If the source of the quarry material is changed during the course of the Works, then new test results shall be provided.
5.

Prior to commencement of Works on site, the Contractor must ensure that all matters relating to the Occupational Health and Safety Act 2004, have been and will be complied with.
6.

On the commencement of construction, the Contractor must comply with the recommendation of the Environment Protection Authority publication "Construction Techniques for Sediment Pollution Control". Appropriate siltation control is to be maintained throughout the construction and maintenance period of the Works.
7.

The disposal site for spoil storage, and truck removal route, is to be submitted in writing to, and approved by the Superintendent's Representative prior to the commencement of Works.
8.

Where Works are in the vicinity of existing services, these services are to be located and exposed prior to commencement of the work. Relevant authorities are to be notified 7 days prior to the Works.
9.

All dimensions are in metres unless noted otherwise.
10.

All levels are to Australian Height Datum (AHD) unless noted otherwise.
11.

All co-ordinates are to Map Grid of Australia (MGA) unless noted otherwise.
12.

The Contractor must arrange the inspection of the Works with the Superintendent's Representative as per the hold points in the Specifications, or as directed by the Superintendent's Representative.
13.

All redundant assets are to be removed and disposed off site unless noted otherwise.
14.

All service conduit trenches under road pavements, under footpaths and under swales are to be backfilled as per IDM SD310 unless noted otherwise. Compaction standards noted in SD310 shall be achieved.
15.

Blasting is not generally accepted.
16.

All existing assets affected by the Works (i.e. signs, vehicle crossings, footpaths, kerb and line marking) shall be reinstated by the Contractor before the completion of Works, to the satisfaction of the Superintendent's Representative.
17.

At the completion of all Works, all rubbish, debris and surplus spoil shall be removed and the site shall be cleared to the satisfaction of the Superintendent's Representative.
18.

The Contractor is to obtain a Building Permit for any structures, fences and for any retaining walls over 1.0m in height.
19.

Any infrastructure damage incurred during the Defects Liability Period noted on the contract is the responsibility of the Contractor and is to be reinstated to the satisfaction of the Superintendent's Representative.
20.

All disturbed areas (eg. nature strips, batters, allotments and reserves) are to be reinstated to a clean, tidy condition, top dressed with 75mm min. depth approved top soil, and seeded with a CoGB approved blend or unless otherwise noted. Soil & seeded treated areas must be satisfactorily established prior to the end of the Maintenance Period otherwise further treatment is required by the Contractor.
21.

Any exposed aggregate concrete works are to be achieved by sandblasting only. Washing aggregate off with water is not permitted.
22.

The Contractor shall notify the public of any impending road closures by providing sufficient signage 2 weeks prior to construction commencing.

PAVEMENT NOTES

1.

Construction of road pavements is to be in accordance with the requirements of VicRoad's Standard Specifications for Roadworks (Section 304). Testing must be carried out by a N.A.T.A. approved laboratory, or by calibrated nuclear densometer test to the relevant Australian Standard.
2.

Compaction tests are to be undertaken in the following locations:

- At ⅔ depth of the pavement
- At alternating sides of the road
- 1.0m in from the seal edge or lip of kerb
- At even spacings.
3.

The number of compaction tests shall comply with the table below:

Location	Number of Compaction tests
Court bowls	3
Intersections	2
Straights	1 per 500m2 (1/50m for 10.2m wide pvmt.)
4.

Copies of the geotechnical results are to be submitted to the Superintendent's Representative.
5.

Sub-base and base materials are to be at 85% optimum moisture content (OMC) during compaction, and maintained at 85% OMC until proof rolling.
6.

Typical Compaction levels required (unless noted otherwise):

Subgrade: To be compacted to 100% standard dry density ratio.
Subbase: Flexible pavements shall be compacted in accordance with Scale C in VicRoads table 304.082.
Compaction shall be to 98% of the maximum dry density ratio determined by the modified compaction test.
Base: Flexible pavements shall be compacted in accordance with Scale C in VicRoads table 304.082.
Compaction shall be to 100% of the maximum dry density ratio determined by the modified compaction test.
7.

Proof rolling of the Subgrade, Sub base and Base must be undertaken as per Section 12.7.15 of the IDM. Proof rolling will be at the expense of the contractor in accordance with AS3798 and the requirements of section 173 and 204.12 of the VicRoad's Specification. The Superintendent's Representative must be present during the proof rolling. The Subgrade must not deflect more than 2mm vertically within 300mm of the test roller in isolated locations.
8.

Identification and treatment of soft areas during proof rolling shall be dealt with as per Sections 12.7.13 and 12.7.14 of the IDM and as approved by the Superintendent's Representative.

SPRAY SEAL NOTES:

1.

All works relating to the construction of a spray seal shall comply with VicRoad's Specification 408.
2.

The Contractor shall determine the design rates of application for primer, primerbinder, binder, surface pre-treatments, remedial works and aggregate in accordance with the procedures set out in the current Austroads Sprayed Seal design method as listed in Section 175.
3.

At least 1 week prior to the commencement of sealing works, the contractor shall submit the rates of application for bituminous material, aggregate, and rates for pre treatment for review by the Superintendent's Representative. This should be done via submission in writing of the form: 408.16 'Schedule of details' in VicRoads specification 408.
4.

At the completion of works, a job completion report (JCR) is to be submitted to the superintendent for review. The JCR form can be found in VicRoads Specification 408 Attachment A.
5.

Loose aggregate shall be removed within 48 hours of sealing or as directed by the Superintendent's Representative.

SIGNAGE, GUIDE POSTS, DELINEATORS AND GUARD FENCE NOTES

1.

All existing signage within Works site to be removed (where required) & reinstated unless noted otherwise or directed by the Superintendent's Representative.
2.

All signs to be installed shall be Class 1 high intensity type and comply with the requirements of AS1743-2001.
3.

All guideposts are to have delineators satisfying the requirements of AS1906.2 section 3.
4.

Guideposts are to be installed 150mm clear of the edge of shoulder or 600mm behind the face of kerb at the spacings detailed below:

Curve Radii (m)	Outside (m)	Inside (m)
< 100	6	12
100 - 199	10	20
199 - 299	15	30
300 - 399	20	40
400 - 599	30	60
600 - 799	40	60
800 - 1199	60	60
1200 - 2000	90	90
Straights	150	150
- NOTE:

- Reduce 90m spacings to 60m, or 150m spacings to 75m, in areas subject to fog.
- On guard fence, adjust increments to suit post spacings.
- Post on inside of curve is to be placed opposite post on the outside of the curve wherever practicable.

Guideposts on crests on a straight alignment are to be spaced such that at least 2 pairs of delineators (the nearest pair being not less that 40m ahead of the vehicle) are visible at all times.

On crests with a horizontal curve, this requirement is to be combined with those in the above table.
- a) At bridges or culverts the following guidepost and delineator conditions shall apply:

No Guard fence, structure >5m in length:
4 guideposts, one pair at each end.

No Guard fence, Structure <5m in length:
2 guideposts, one on each left hand approach adjacent to the headwall or kerb.

Guard fence and bridge rail within 4m of the closest traffic lane edge:
Delineators to be placed on mounting brackets on guard fence/bridge rail, spaced at 12.5m centres. A delineator shall be located 5.0m from the leading end of the fence, discounting any flared sections of fence (unless the flare is within 4m of the traffic lane, in which case the delineator should be installed on the start of the flare).
Guard fence/bridge rail more than 4.0m from closest traffic lane edge:
Delineators are not placed on the barrier, fence or rail, but guideposts are continued along the edge of formation at the required spacing's shown above.

Delineators are to be colored as per the following:

Red	- left side of roadways
White	- right side of roadways
yellow	- right side of one way roadways

ROADSIDE MANAGEMENT NOTES

- Unless otherwise directed by the Superintendent's Representative, the following roadside management conditions will apply:

1.

Confine machinery operations to the existing road formation or a designated construction zone. Identify machinery turn around point in areas that will not result in disturbance to the existing vegetation.

2.

Clearly mark the construction zone prior to the commencement of works. The construction zone is the area where all construction activities take place. (See CoGB 'Roadside Handbook'). The roadside is any area outside the construction zone.

3.

Plant and equipment must not be parked on the roadside in this zone.

4.

Avoid removal of native vegetation when locating drain cut off points.

5.

Spoil from grading and drain construction must not be placed or spread on the roadside. It is to be removed to a recognised dump site or tip, unless approved as fill material for incorporation in the works. Do not spread spoil onto the roadsides.

6.

Remove any topsoil (where necessary) prior to works and store in a designated area. Re-use as soon as practical.

7.

Incorporate hygienic procedures to minimise spread of weed. After working in weedy or disease affected areas, clean vehicles and machinery of all soil and plant debris prior working on High or Medium conservation value sites or weed free sites.



IMPORTANT!

The location of underground services have been derived from available information, however accuracy cannot be guaranteed. All existing service information should therefore be treated as indicative only, and service locations must be arranged prior to commencement of any excavation. The contractor will be held responsible for any damage caused to underground services.

GENERAL CONSTRUCTION NOTES

1.

All kerb, footpath and pram crossing constructions shall have bedding/boxing inspected by the Superintendent's Representative prior to pouring of concrete.
2.

If property stormwater outlets (not already identified on plan) are located during construction, it is the Contractors responsibility to connect them into council underground drainage or back of kerb (As per IDM SD 510 & IDM SD 505) to the approval of the Superintendent's Representative.
3.

Renewal of gas and water property service conduits to be 100mmØPVC (sewer grade).
4.

All sewer man-hole covers within the footpath alignment (wholly or partly) are to be renewed & adjusted to design finished levels unless noted otherwise or directed by the Superintendent's Representative.
5.

All redundant footpath, kerb and road seal to be saw cut and removed from site.
6.

All service pits are to be renewed and matched into design surface unless noted otherwise noted or directed by the Superintendent's Representative.
7.

All TGSi's are to be Black Fibre Reinforced Resin Polymer type manufactured by ESP Aust. Or approved equivalent. TGSi's to be cast in place on new concrete works and installed in accordance with AS1428, unless noted otherwise or directed by the Superintendent's Representative.

DRAINAGE CONSTRUCTION NOTES

1.

The Superintendent's Representative and Design Engineer must be notified if any any modifications to drainage design are required due to unforeseen circumstances identified during works onsite.
2.

Any property storm water pipes located during Works are to be plumbed to the nearest pit. Where this is not practical, seek approval from the Superintendent's Representative to connect stormwater into kerb or into the nearest storm water pipe.
3.

All drainage pits are to be constructed as per the noted Standard Drawing.
4.

Invert fall through pits is to be a min. of 30mm unless noted otherwise.
5.

Concrete pit walls are to be sponge finished and floors are to be shaped for best hydraulic efficiency unless noted otherwise.
6.

Pit lids are to be installed flush with the surrounding surface unless noted otherwise.
7.

Where concrete box culverts (CBC) or Crown Units are specified, they are to be compliant to AS1597.
8.

Pipe extensions are to be constructed by removing the remaining stub of the existing pipe to be extended, and then connecting the new pipe at the socket.
9.

All pipe backfill is to be constructed as per the noted Standard Drawing.
10.

The location of any saw cuts in asphalt are to be kept the minimum required trench width until after the pipe is laid and backfilled up to 300mm from surface. At this point, a further 150mm wide, 300mm deep section of asphalt/pavement is to be sawcut and excavated so as to provide a longitudinal pavement join over the drainage trench. This also should ensure a straight edge for re-asphalting. The top 300m depth of backfill should then be constructed accordingly.
11.

At the completion of the Works, pipes are to be visually inspected via inspection pits to check for construction debris, including crushed rock, soil and concrete over spill. Should a volume of debris be present enough to impede flows, pipe cleaning shall be undertaken at the contractors expense.
12.

Gas and water property services are generally not located during the design phase and therefore have not been shown on plans. It is therefore the Contractors responsibility to consider these services when excavating and adjust or realign accordingly whilst causing minimal disruption to property owners.
13.

Gas and Water property services encountered during construction are to be altered and reconnected to the appropriate standard and to the satisfaction of the Superintendents Representative.

FOOTPATH CONSTRUCTION NOTES

1.

Property storm water pipes located during works are to be plumbed to the nearest pit. Where this is not practical, seek approval from superintendent to plumb to kerb or into nearest storm water pipe.
2.

Footpath to be constructed to SD205 unless noted otherwise.
3.

Expansion joints as per SD210 to be constructed at all joins with existing footpath & driveways.
4.

SD210 Expansion joints along any new sections of footpath are to be at a maximum separation of 14m centres as per SD205.
5.

Tool joints are to be at 1.2m centres and constructed to SD210 unless noted otherwise.
6.

Batter work and associated top soiling is to be limited to 1.0m from design edge of the footpath, unless noted otherwise. This width cannot be altered unless direct consent from the Superintendent is sought.

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

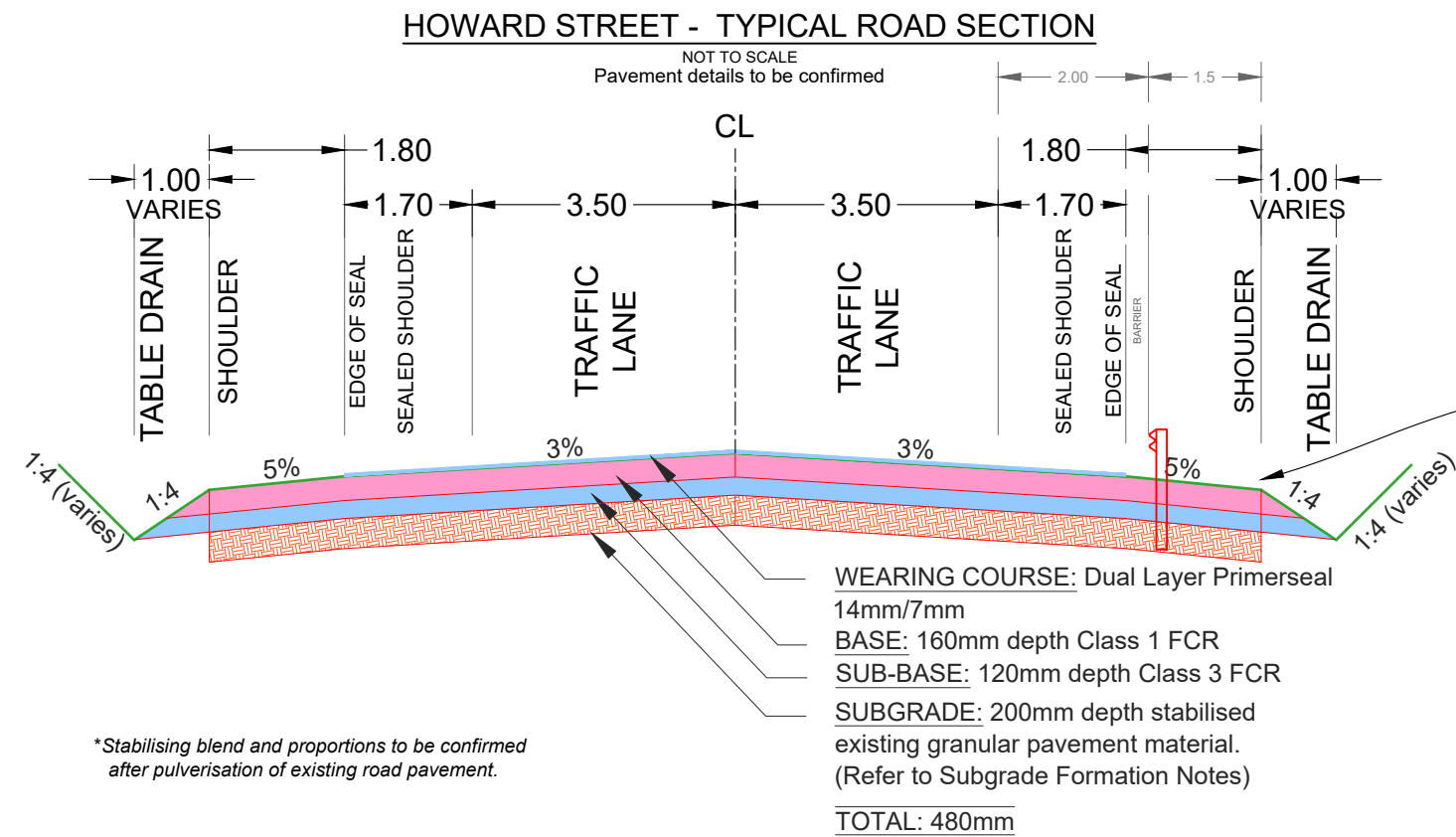
HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

GENERAL NOTES

Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
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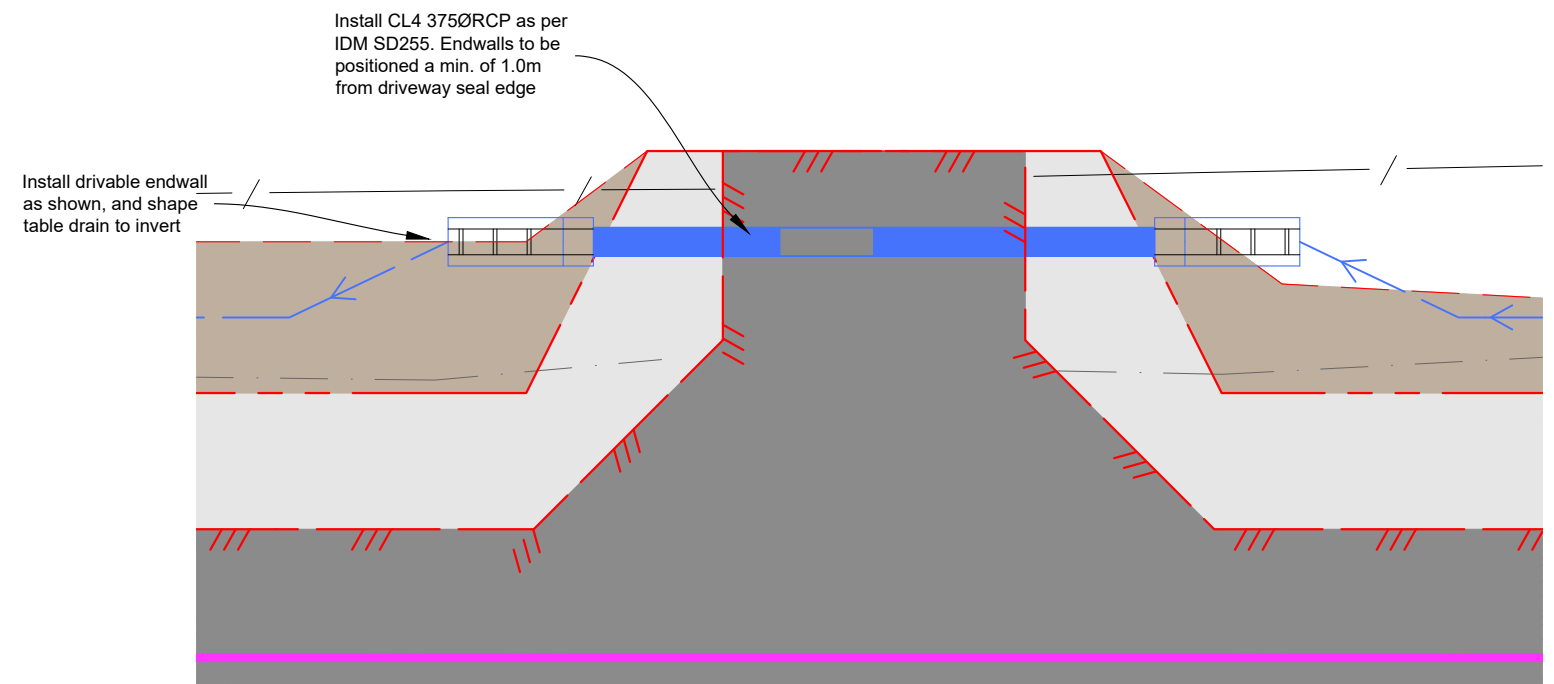
PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



Where shown, install EzyGuard Smart flexible guardrail with ET-SS end terminals per VicRoads RDN 06-04. At guard fence seal to be extended to 200mm behind guard rail.

STANDARD DRIVEWAY DETAIL See IDM SD255



AMENDMENTS			
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-	-	-	-

CITY OF GREATER BENDIGO

HOWARD STREET EPSOM ROAD RECONSTRUCTION

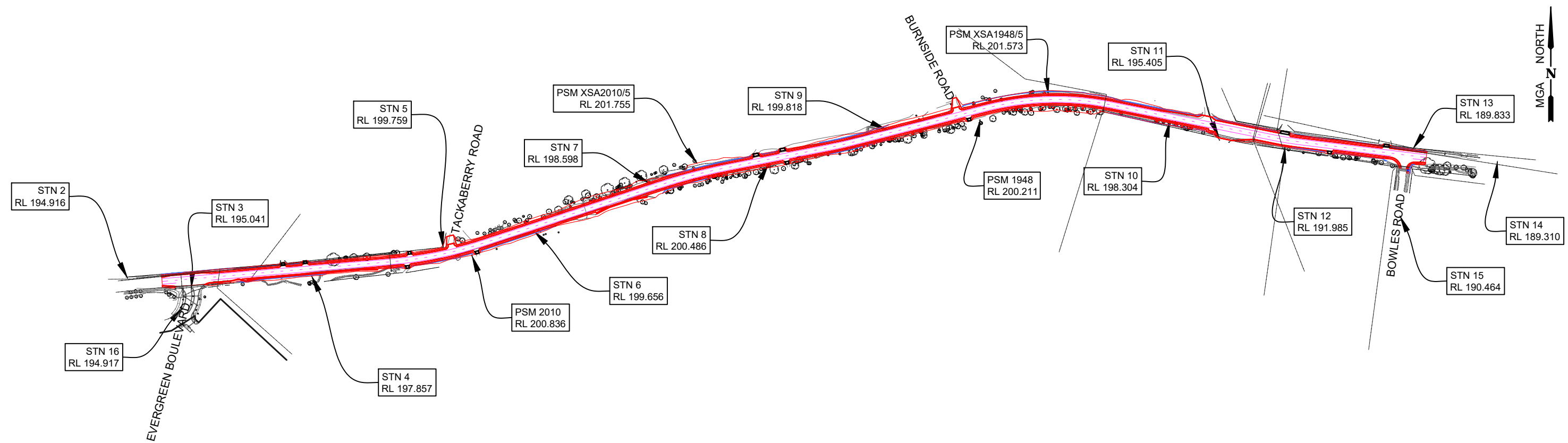
STANDARD SECTIONS

Survey	H. WHYTOK	AUG 21
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PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS

STATION DATA				
Point #	Description	Easting	Northing	Level
901	STN 2	257421.711	5934477.393	194.916
902	PSM 2010	257850.393	5934505.464	200.836
905	PSM XSA2010/5	258130.175	5934620.933	201.755
906	STN 3	257501.203	5934464.691	195.041
907	STN 4	257650.969	5934479.855	197.857
909	STN 5	257814.666	5934514.829	199.759
910	STN 6	257927.908	5934535.572	199.656
911	STN 7	258070.591	5934595.925	198.598
912	STN 8	258219.538	5934618.890	200.486
913	STN 9	258366.506	5934662.257	199.818
914	PSM 1948	258482.993	5934674.075	200.211
915	PSM XSA1948/5	258567.856	5934706.108	201.573
916	STN 10	258719.119	5934672.733	198.304
917	STN 11	258780.453	5934652.413	195.405
918	STN 12	258862.571	5934640.513	191.985
919	STN 13	259021.892	5934638.297	189.833
920	STN 14	259126.918	5934622.038	189.310
921	STN 15	259005.941	5934554.186	190.464
1145	STN 16	257490.759	5934440.535	194.917



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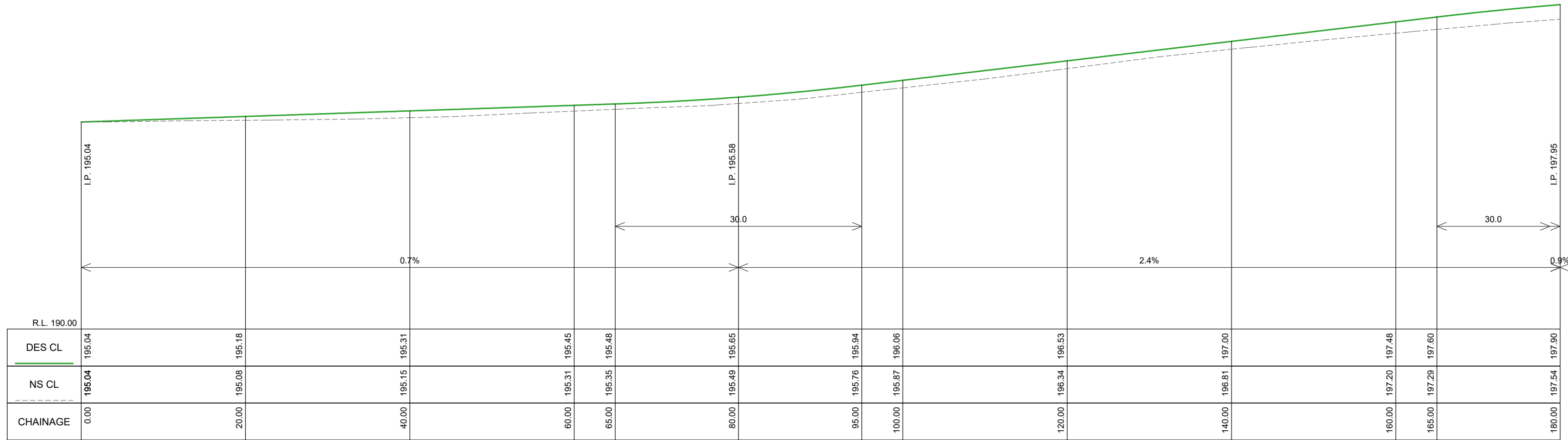
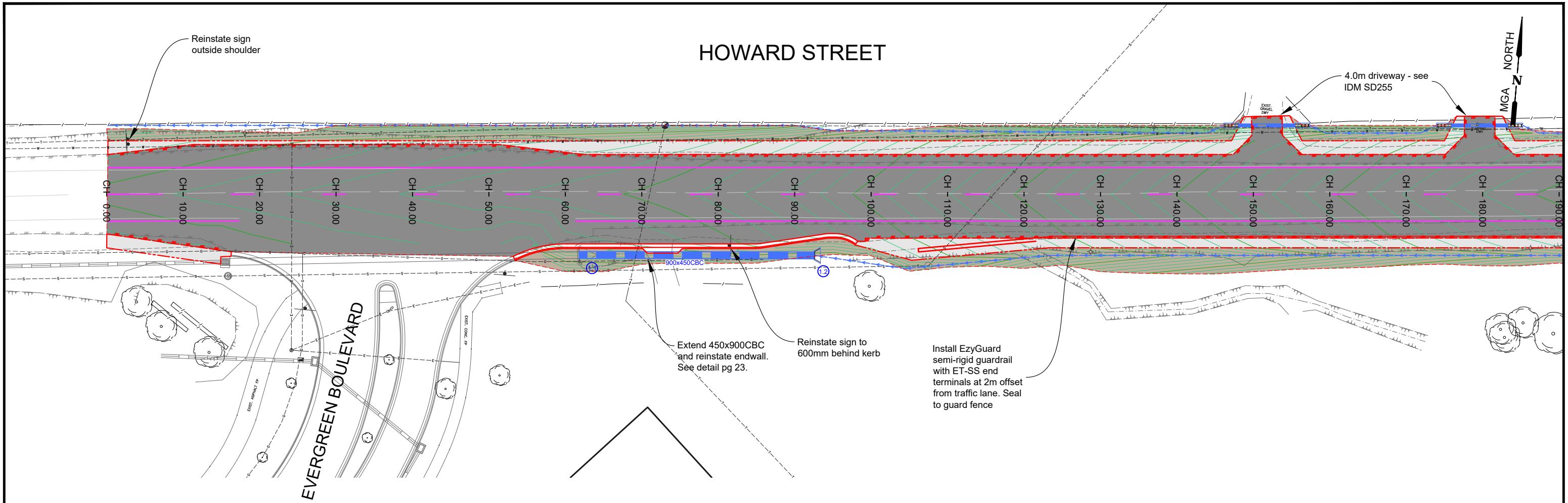
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OVERALL LAYOUT & CONTROL

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PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET SECTION CH 0.000 To 180.000
SCALES: H 1:500 V 1:100 (A3)

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CITY OF GREATER BENDIGO

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ROAD RECONSTRUCTION

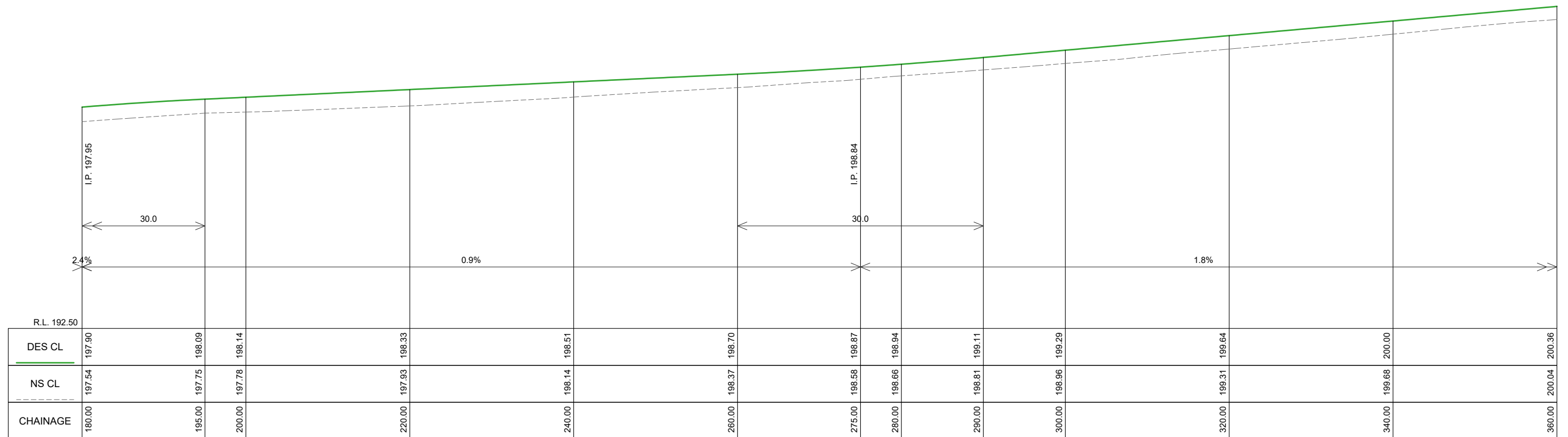
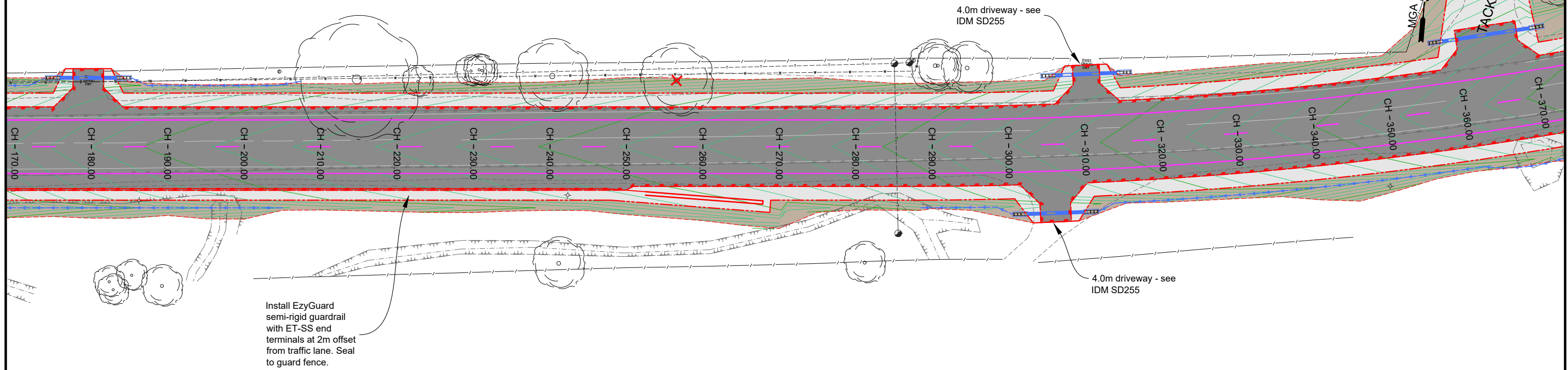
DETAIL PLAN AND LONG SECTION

Survey	H. WHYTECK	AUG 21
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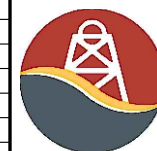
PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS

HOWARD STREET



HOWARD STREET LONGITUDINAL SECTION CH 180.000 To 360.000
 SCALES: H 1:500 V 1:100 (A3)

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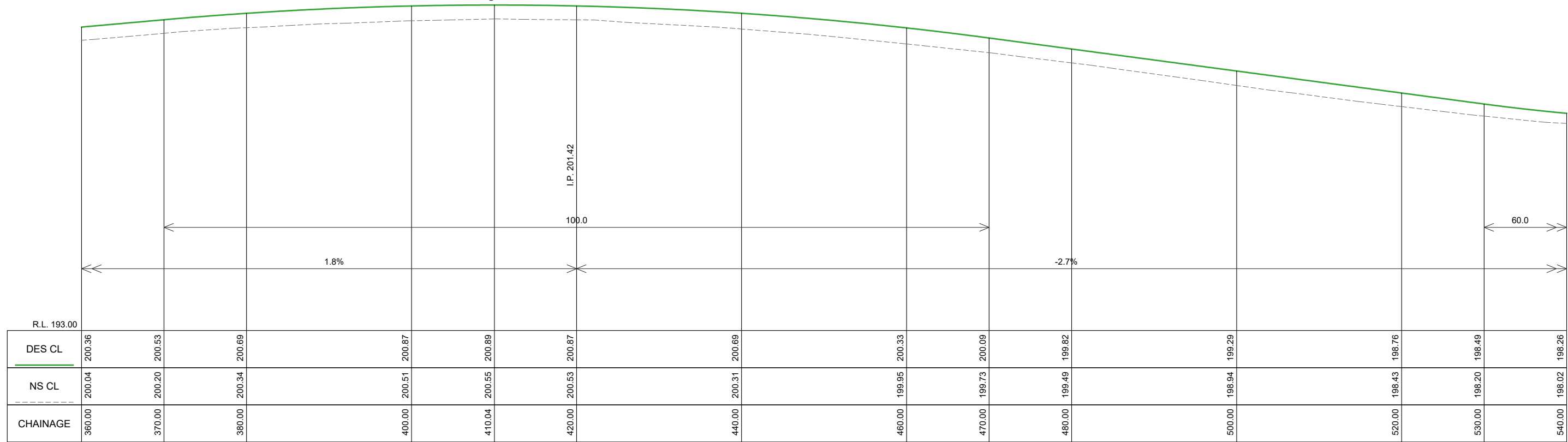
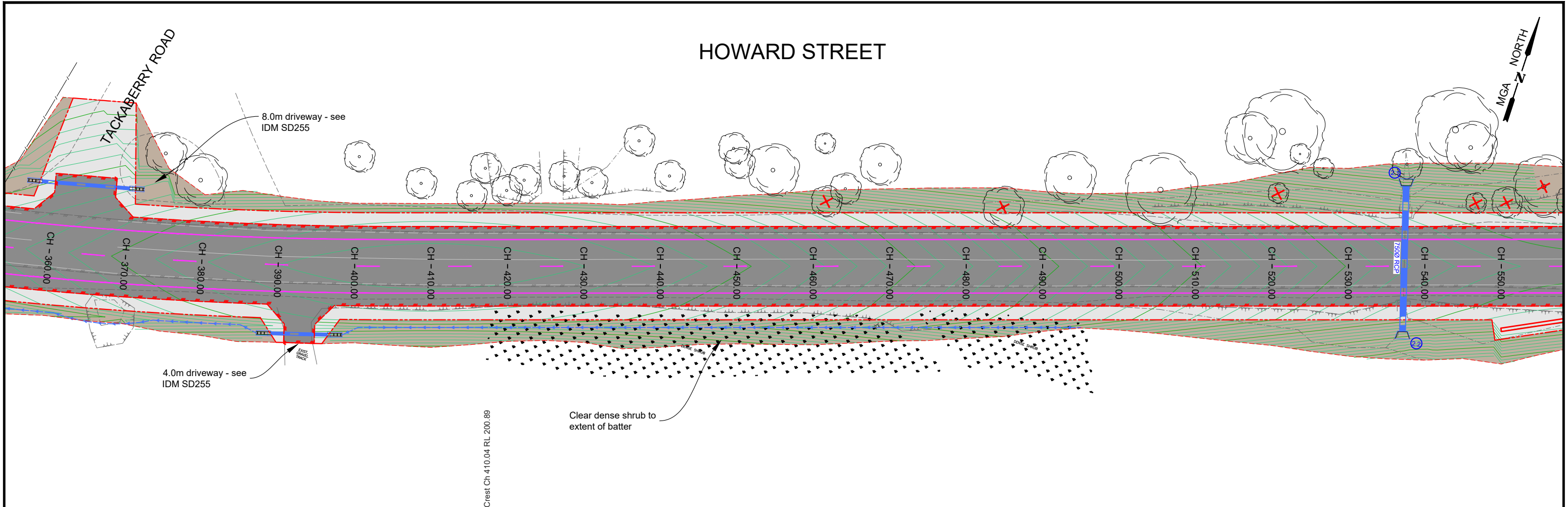
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HOWARD STREET
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DETAIL PLAN AND LONG SECTION

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**PRELIMINARY DESIGN
DRAFT 3**

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET LONGITUDINAL SECTION CH 360.000 To 540.000
SCALES: H 1:500 V 1:100 (A3)

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CITY OF GREATER BENDIGO

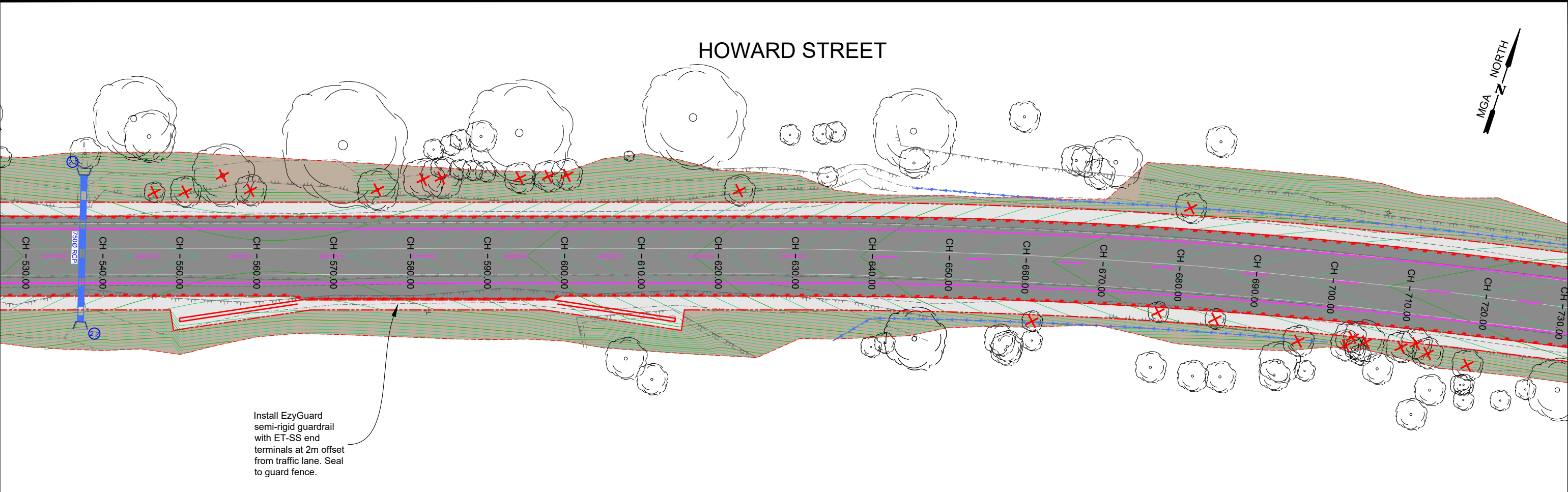
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DETAIL PLAN AND LONG SECTION

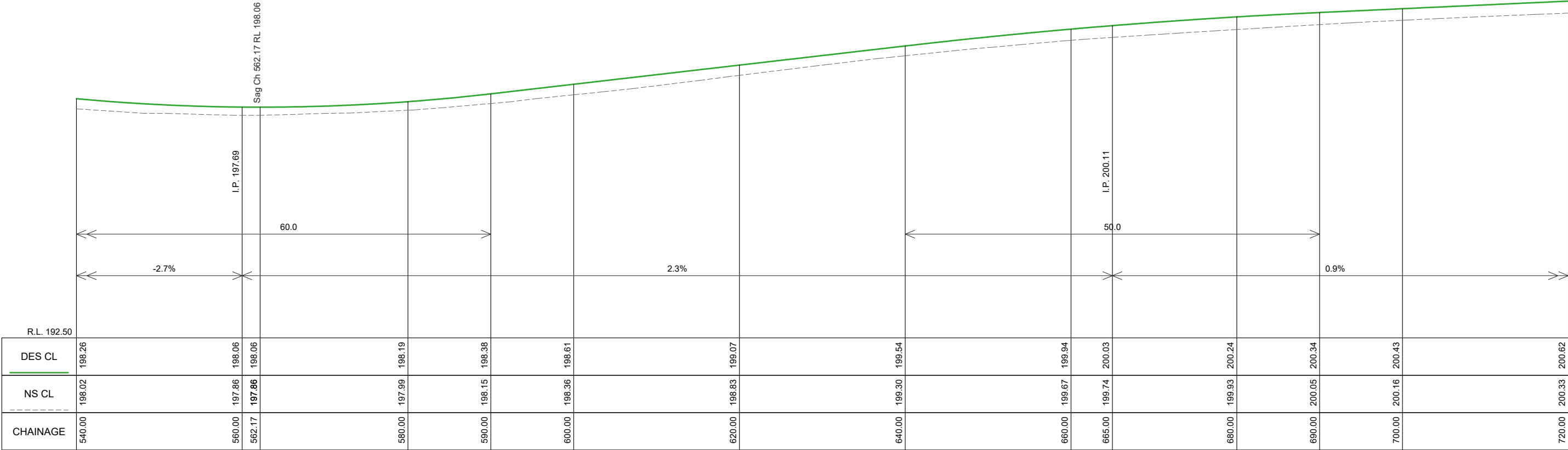
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PRELIMINARY DESIGN
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Plot Date: 4/11/2021
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Install EzyGuard
semi-rigid guardrail
with ET-SS end
terminals at 2m offset
from traffic lane. Seal
to guard fence.



HOWARD STREET LONGITUDINAL SECTION CH 540.000 To 720.000
SCALES: H 1:500 V 1:100 (A3)

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-	-	-	-

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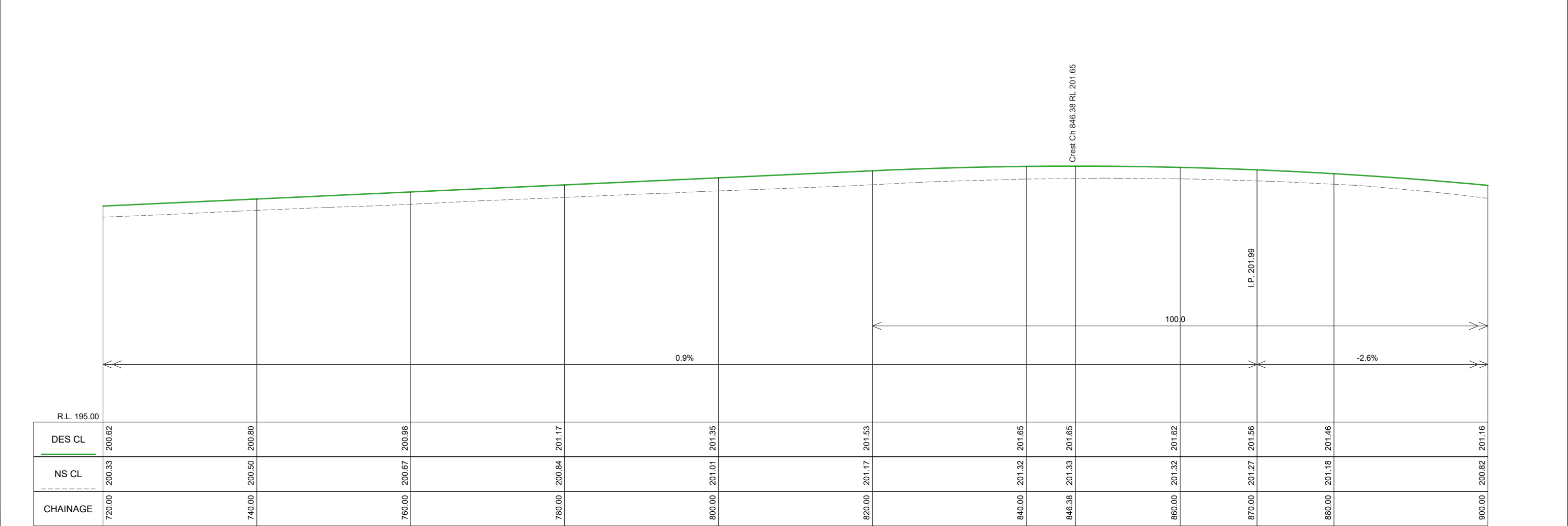
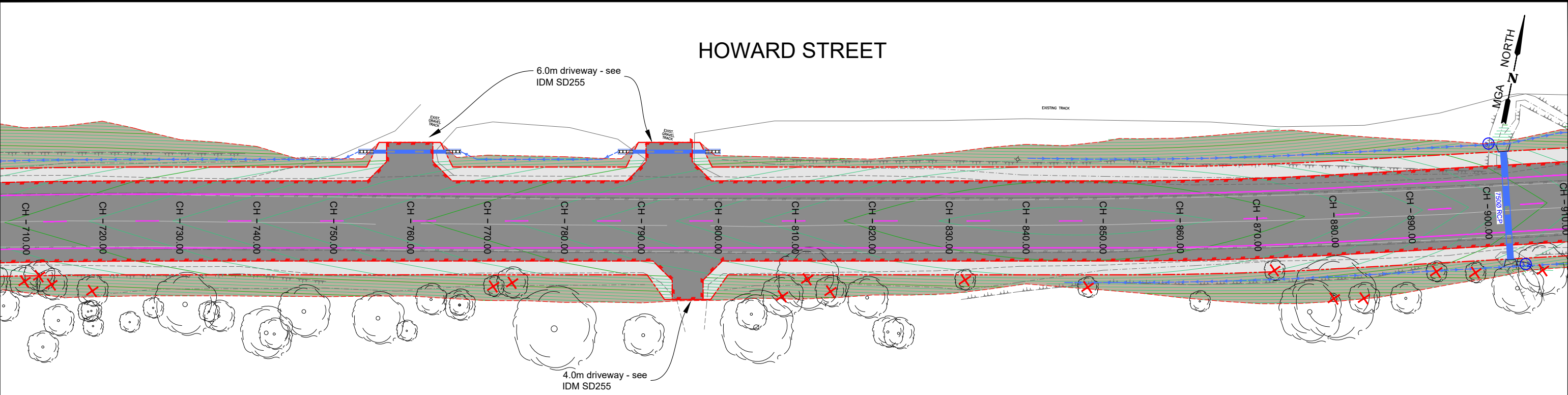


HOWARD STREET
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DETAIL PLAN AND LONG SECTION

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Sheet: 8 OF 24	Reference: GB4894	

PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET LONGITUDINAL SECTION CH 720.000 To 900.000
SCALES: H 1:500 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

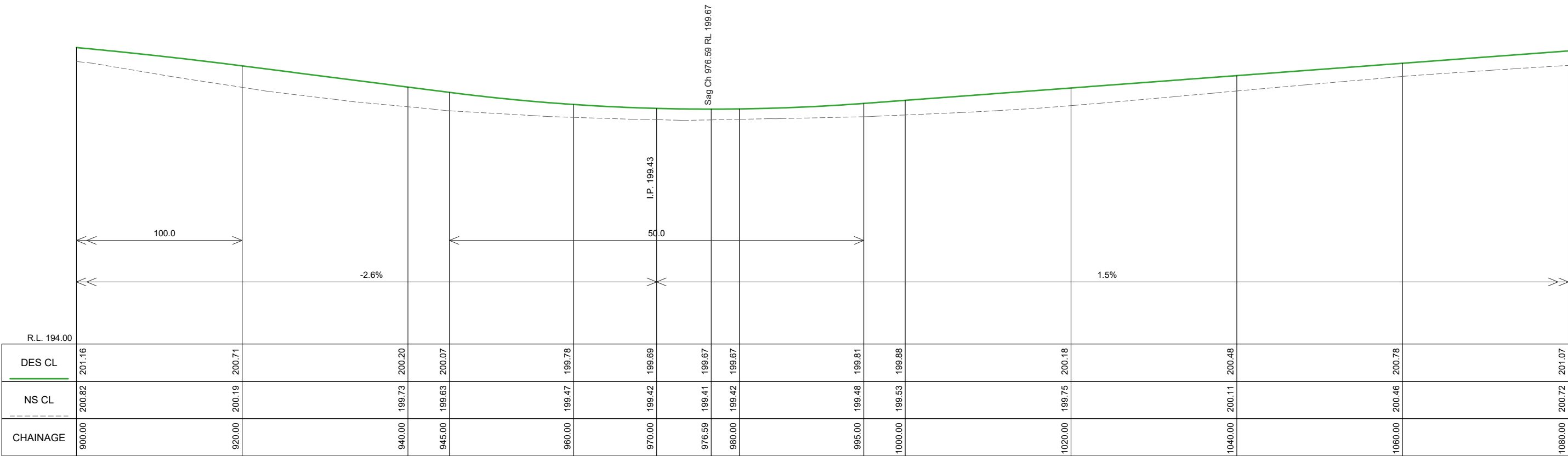
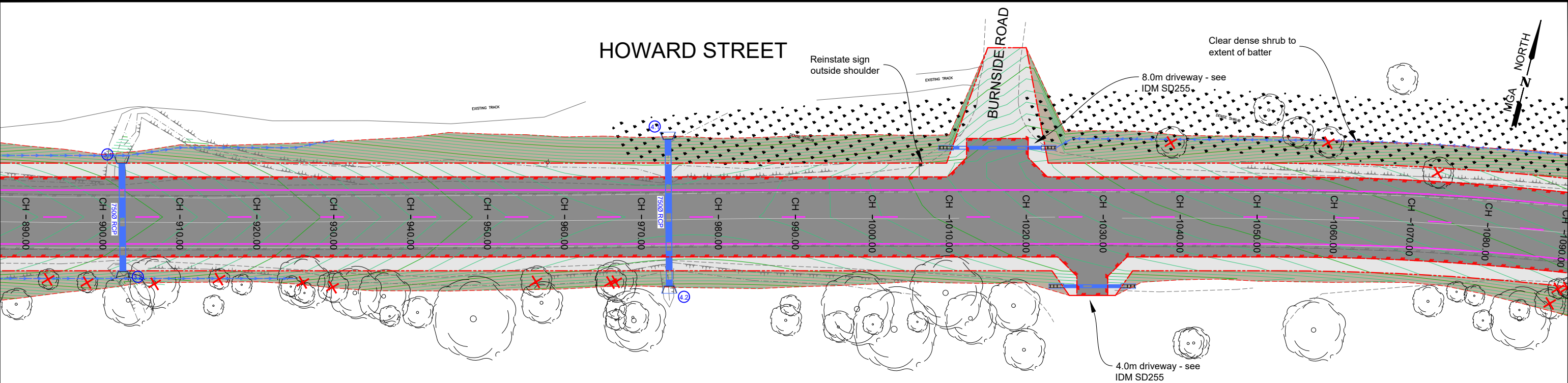
HOWARD STREET EPSOM ROAD RECONSTRUCTION

DETAIL PLAN AND LONG SECTION

Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 9 OF 24	Reference: GB4894	

PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET LONGITUDINAL SECTION CH 900.000 To 1080.000
SCALES: H 1:500 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

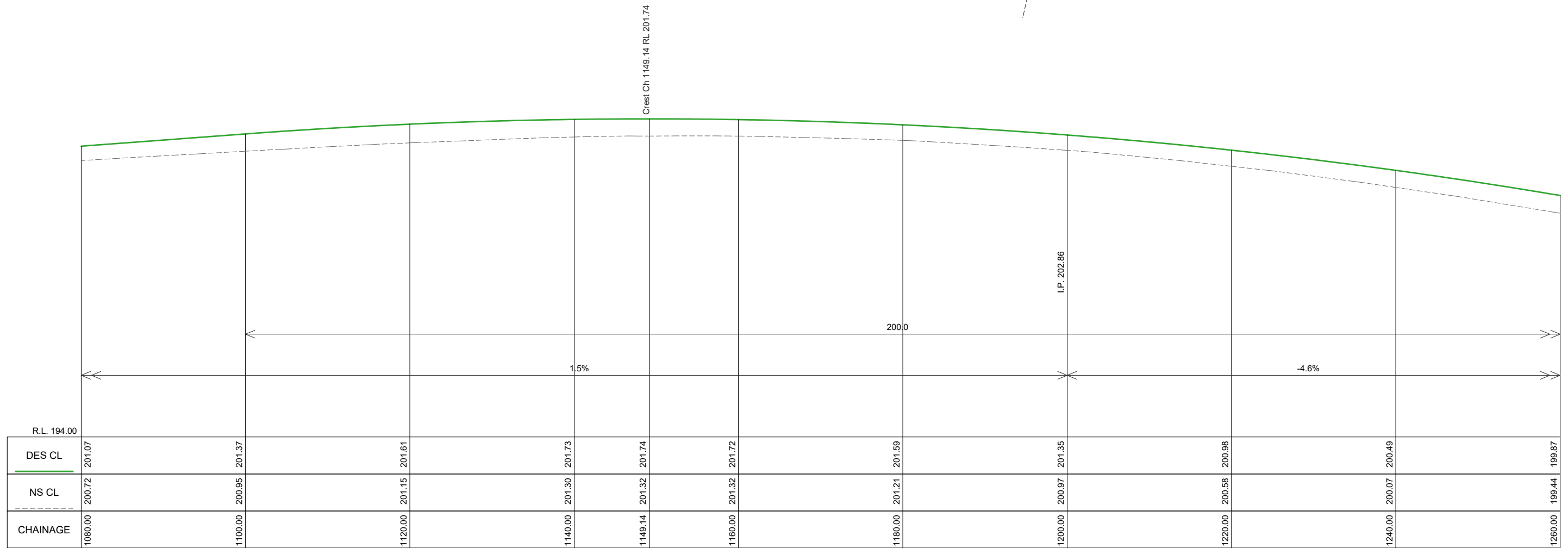
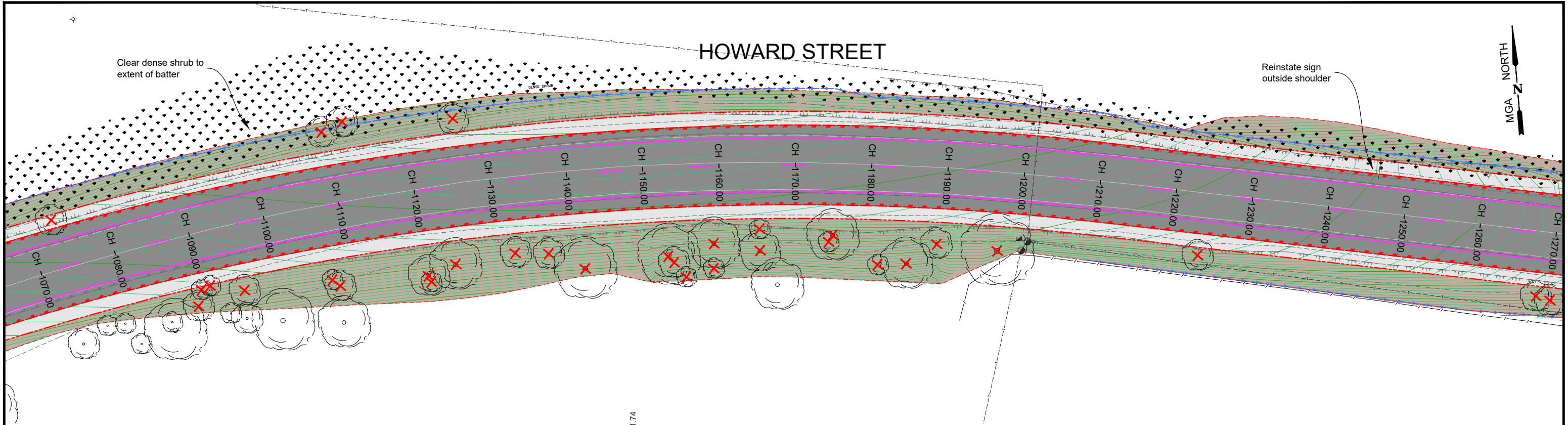
HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

DETAIL PLAN AND LONG SECTION

Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 10 OF 24	Reference: GB4894	

**PRELIMINARY DESIGN
DRAFT 3**

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET LONGITUDINAL SECTION CH 1080.000 To 1260.000
SCALES: H 1:500 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

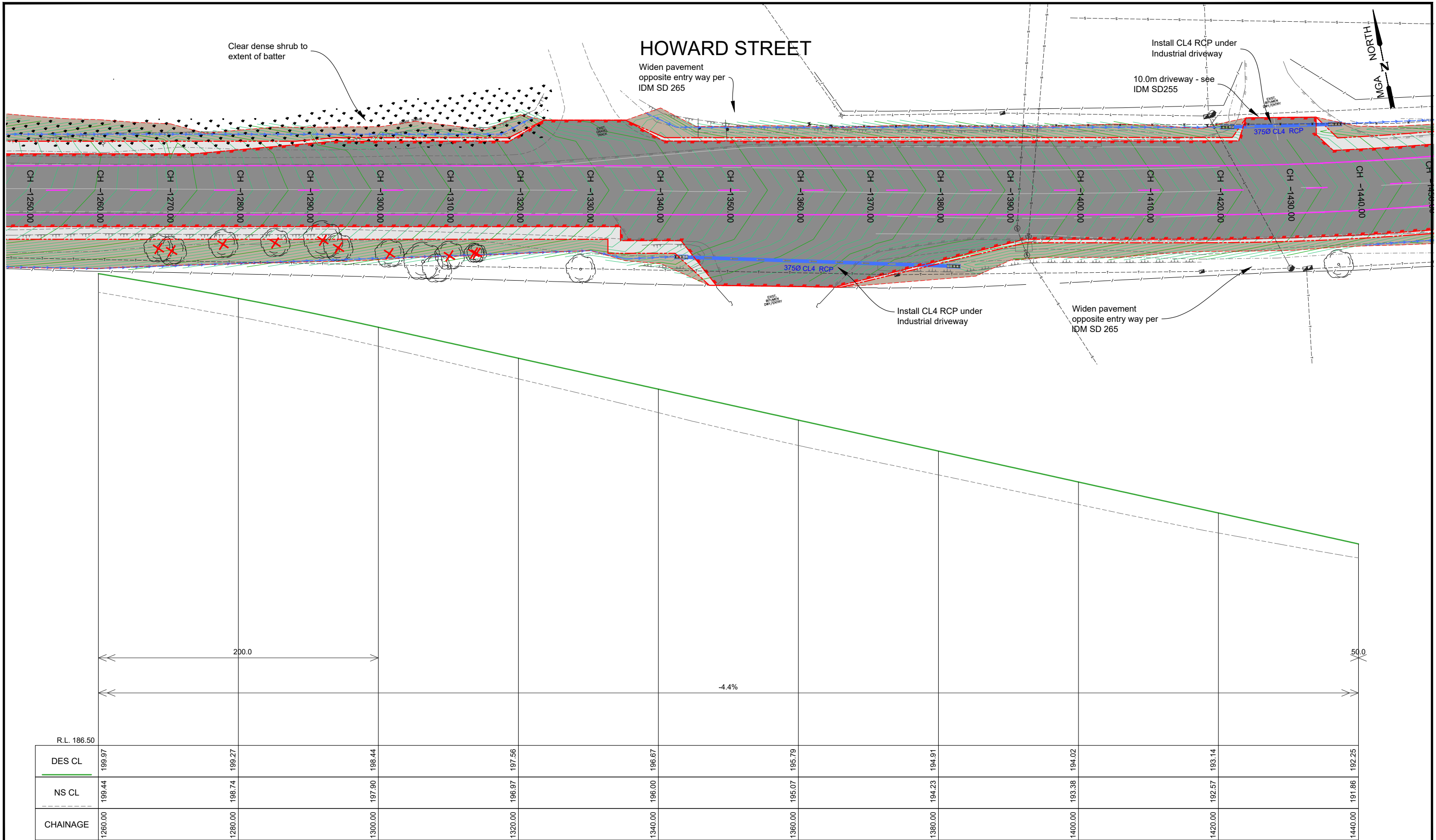
HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

DETAIL PLAN AND LONG SECTION

Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision: A	
Original sheet size: A3	File: GB4894.dwg	
Sheet: 11 OF 24	Reference: GB4894	

PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET LONGITUDINAL SECTION CH 1260.000 To 1440.000
SCALES: H 1:500 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

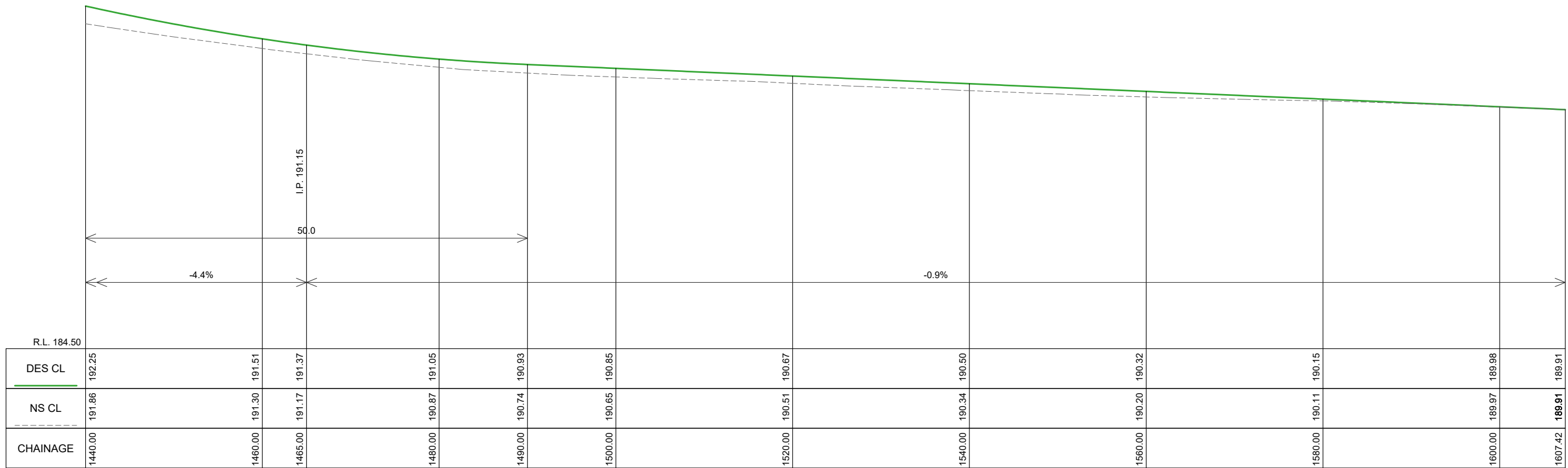
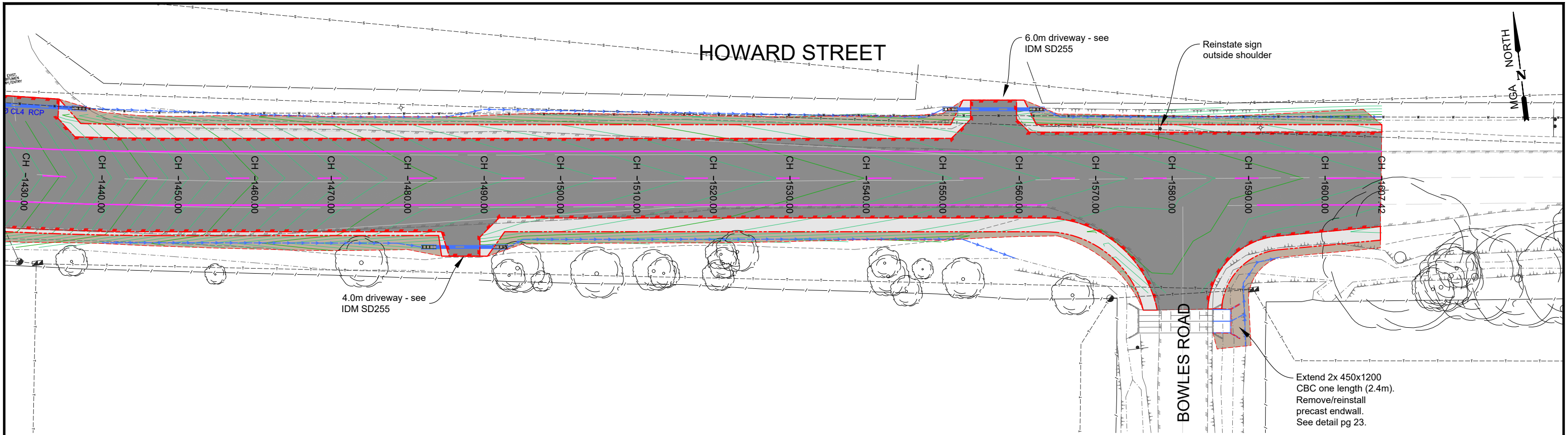
HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

DETAIL PLAN AND LONG SECTION

Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 12 OF 24	Reference: GB4894	

PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET LONGITUDINAL SECTION CH 1440.000 To 1607.422
SCALES: H 1:500 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



HOWARD STREET
EPSOM
ROAD RECONSTRUCTION
DETAIL PLAN AND LONG SECTION

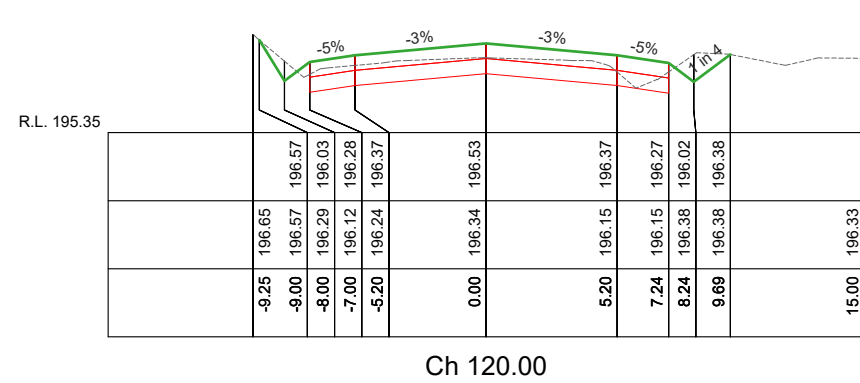
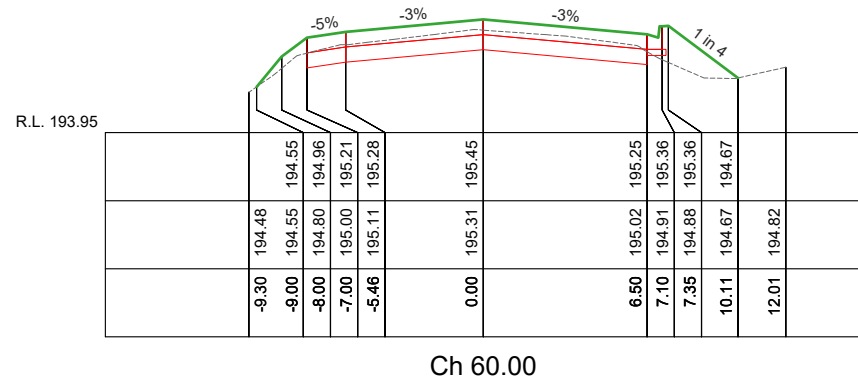
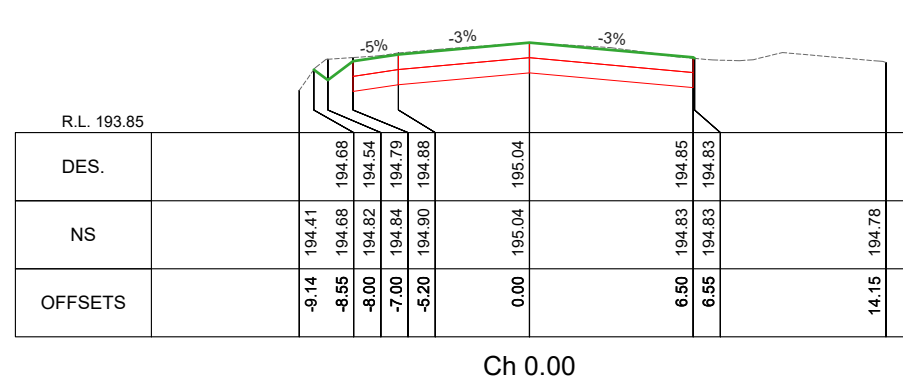
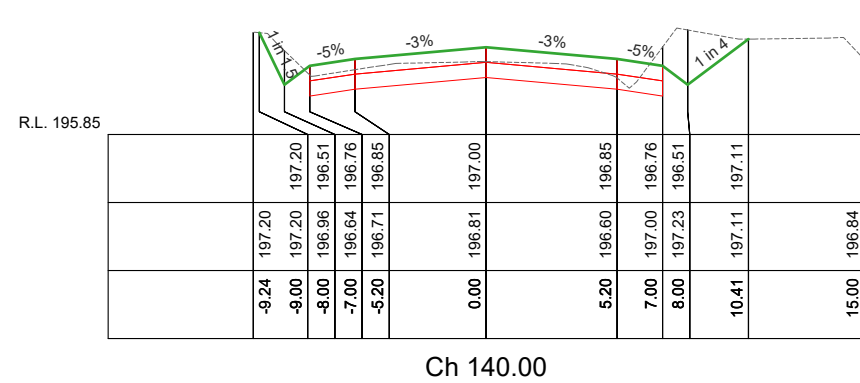
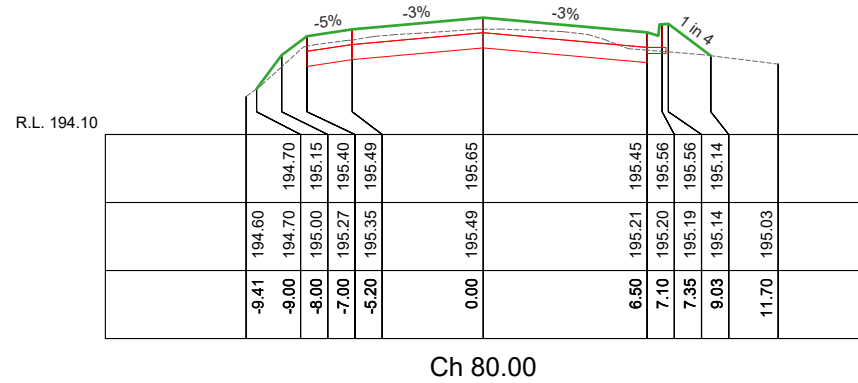
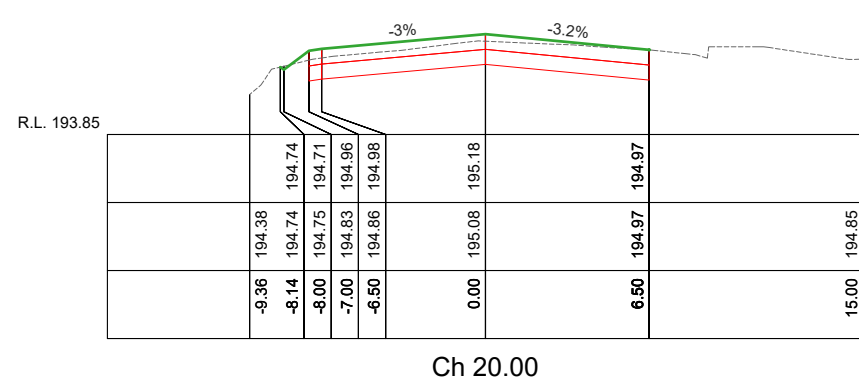
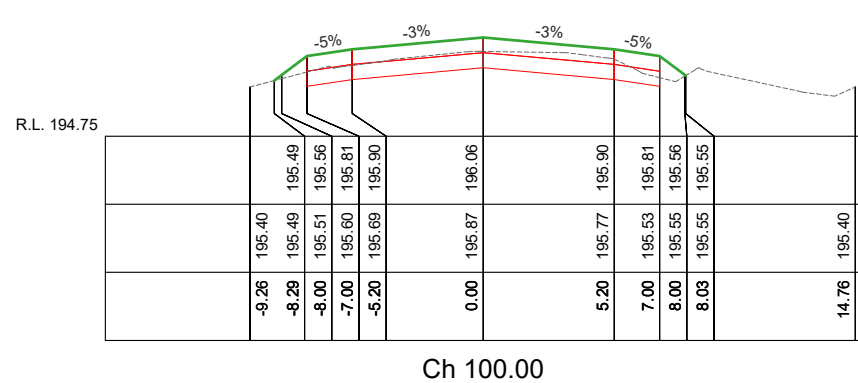
CITY OF GREATER BENDIGO

HOWARD STREET
EPSOM
ROAD RECONSTRUCTION
DETAIL PLAN AND LONG SECTION

Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision: A	
Original sheet size: A3	File: GB4894.dwg	
Sheet: 13 OF 24	Reference: GB4894	

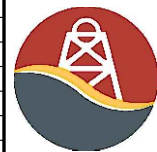
PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET CROSS SECTIONS
 SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-

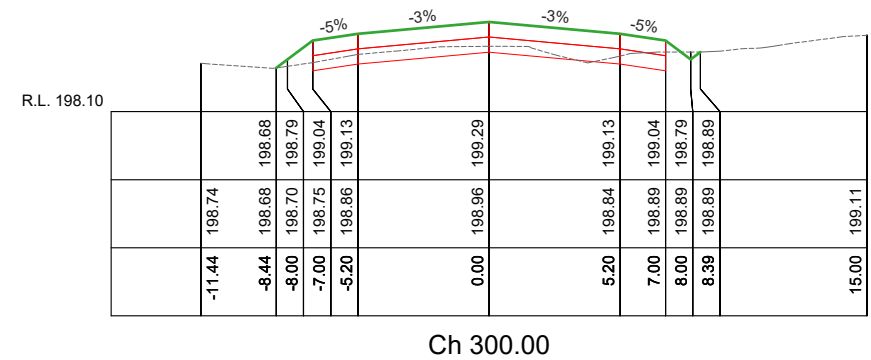
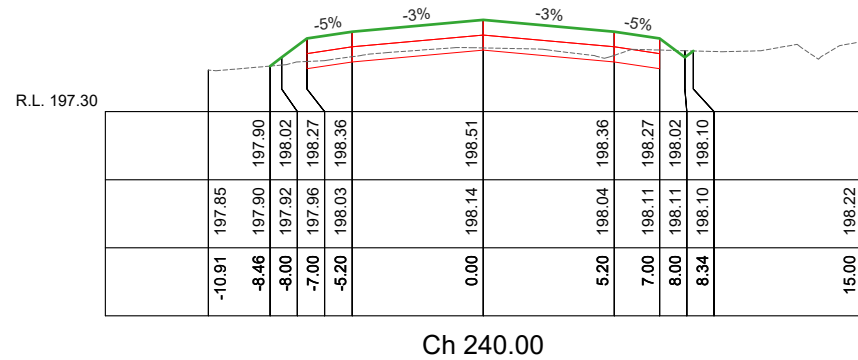
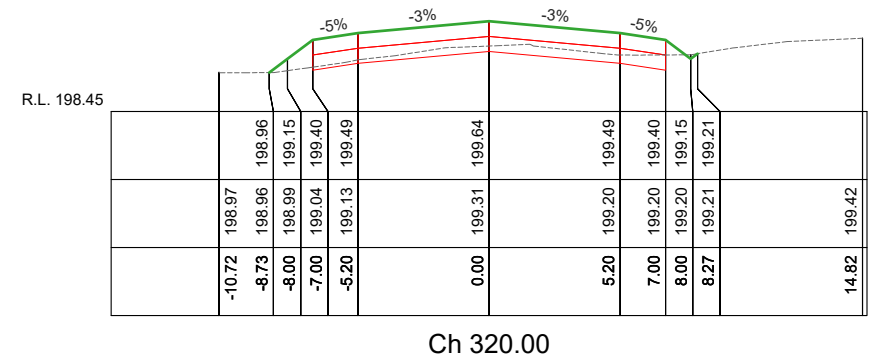
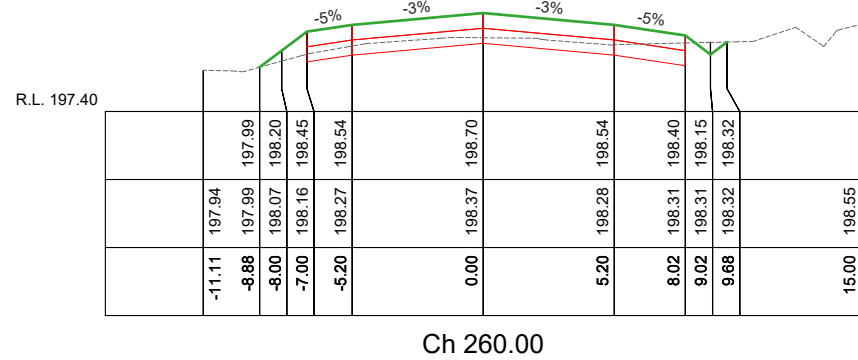
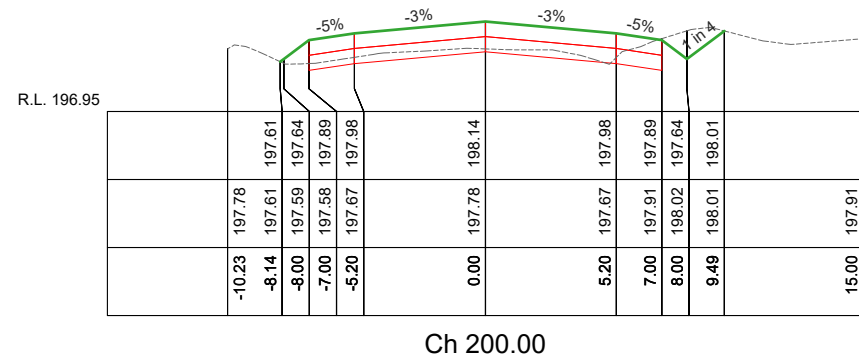
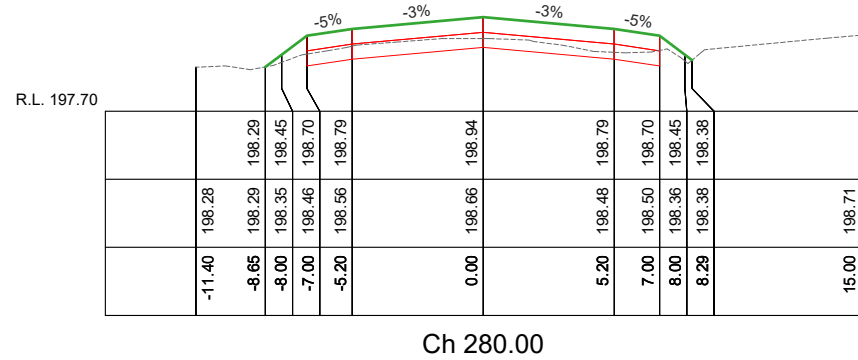


CITY OF GREATER BENDIGO	
	HOWARD STREET EPSOM ROAD RECONSTRUCTION
	CROSS SECTIONS

Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-/21
Approved by	N. SARTORI	-/-/21
Scale: -	Revision: A	
Original sheet size: A3	File: GB4894.dwg	
Sheet: 14 OF 24	Reference:	GB4894

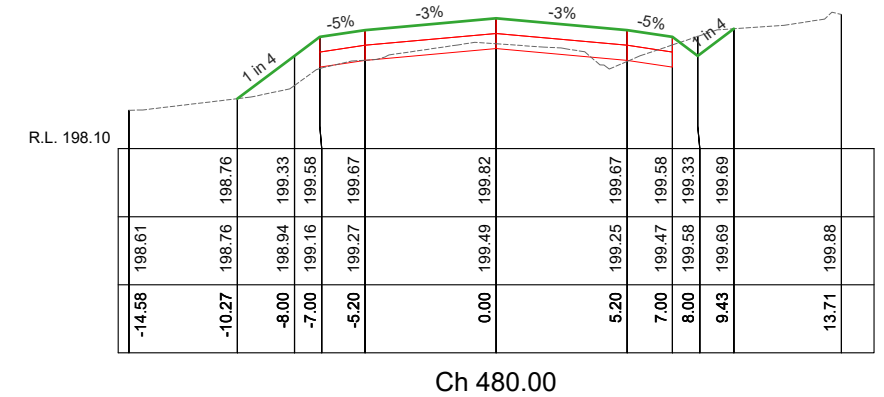
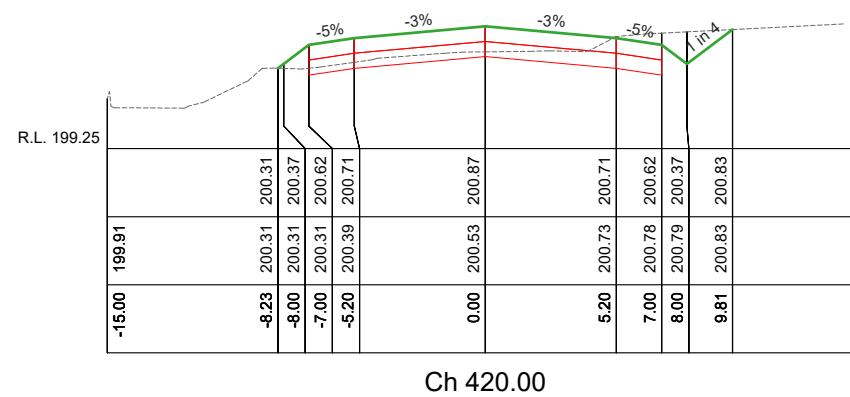
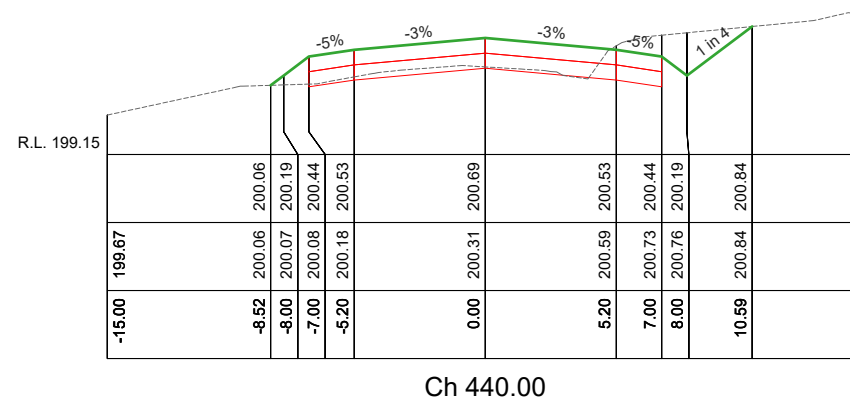
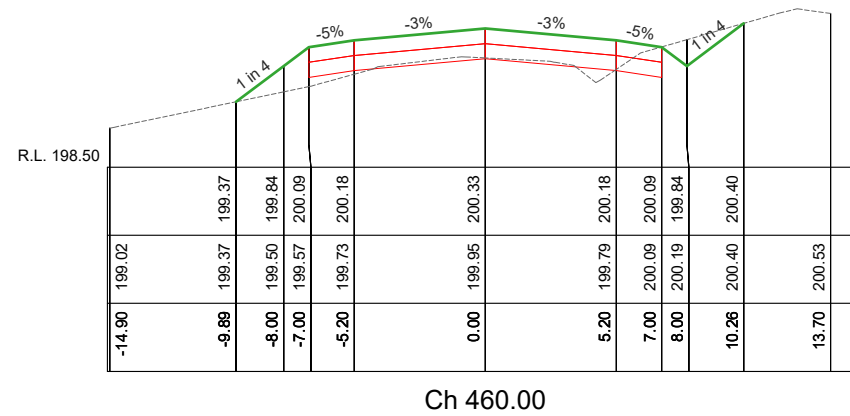
**PRELIMINARY DESIGN
DRAFT 3**

Plot Date:	4/11/2021
Plotted By:	MEGAN JENNINGS

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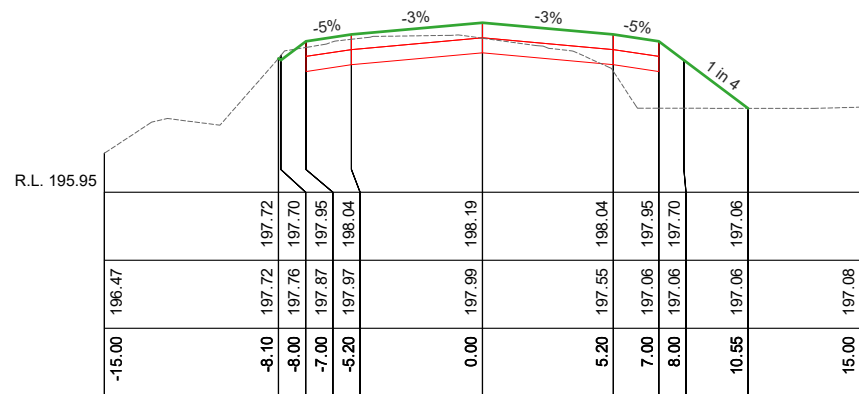
Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-/21
Approved by	N. SARTORI	-/-/21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 15 OF 24	Reference:	GB4894

Plot Date:	4/11/2021
Plotted By:	MEGAN JENNINGS

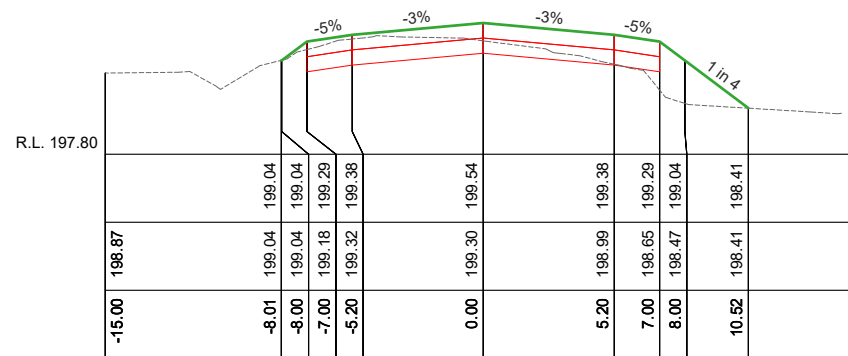


Ch 480.00

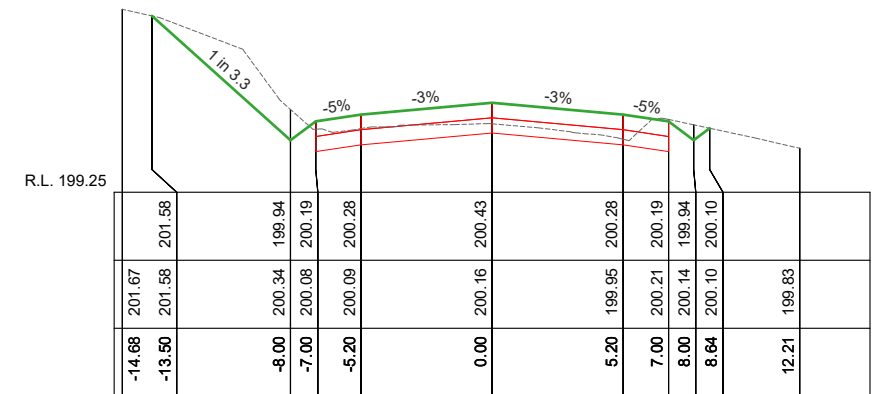
Plot Date:	4/11/2021
Plotted By:	MEGAN JENNINGS



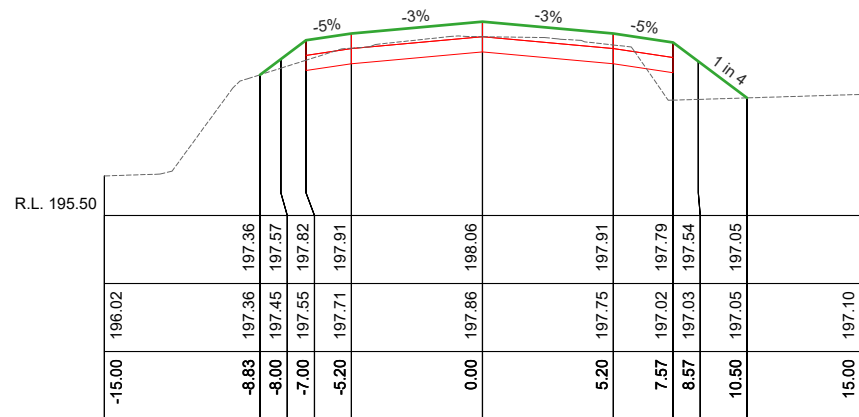
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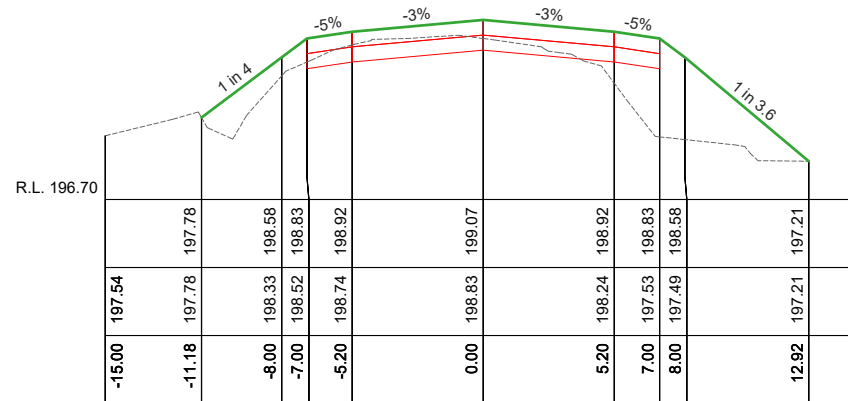
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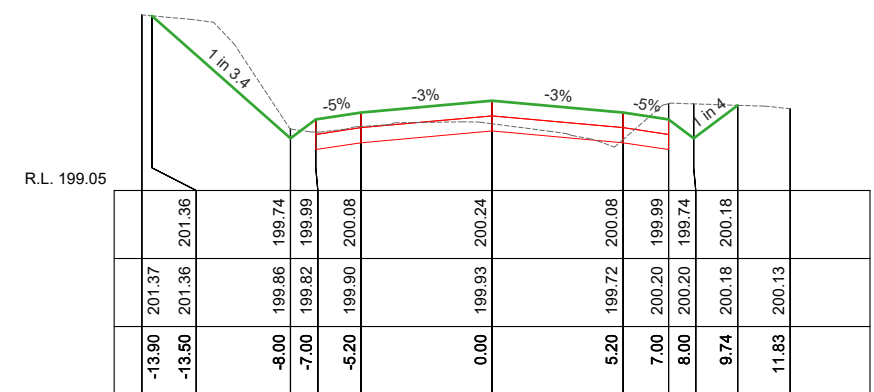
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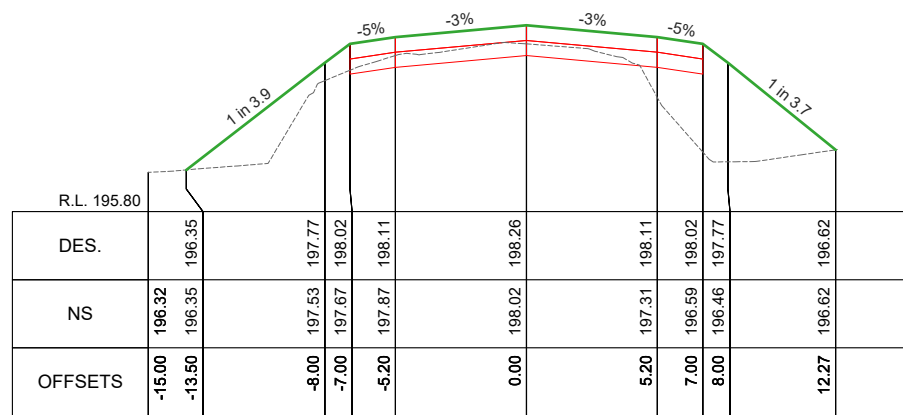
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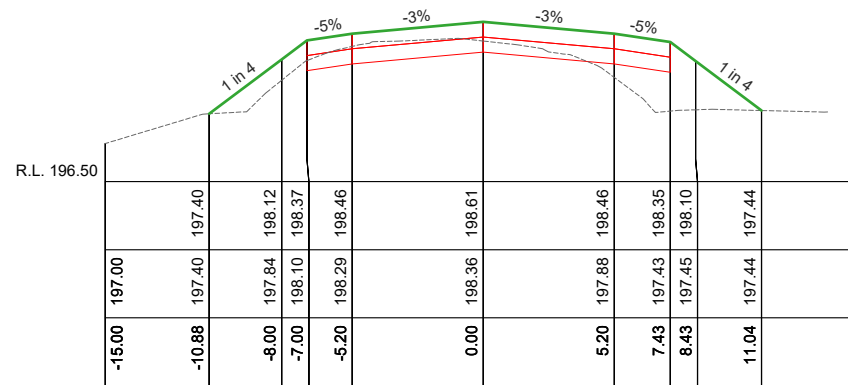
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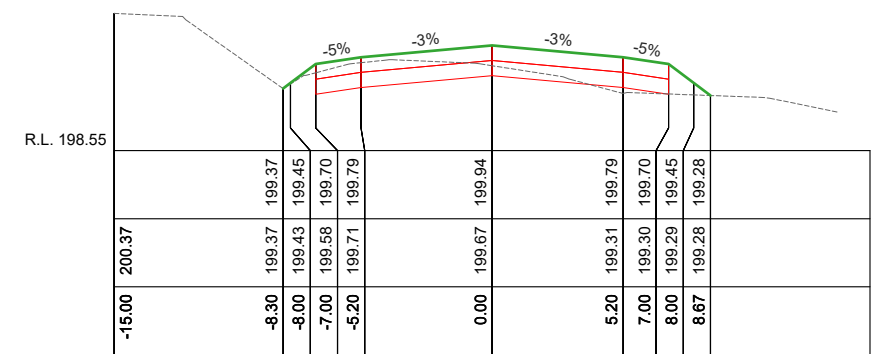
Ch 680.00



Ch 540.00



Ch 600.00



Ch 660.00

HOWARD STREET CROSS SECTIONS
SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

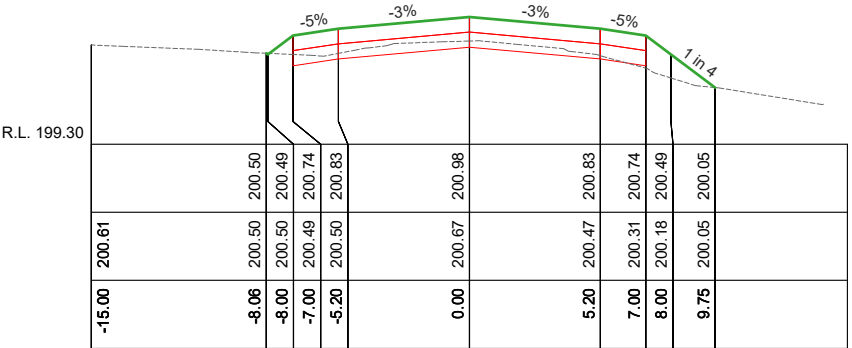
HOWARD STREET EPSOM ROAD RECONSTRUCTION

CROSS SECTIONS

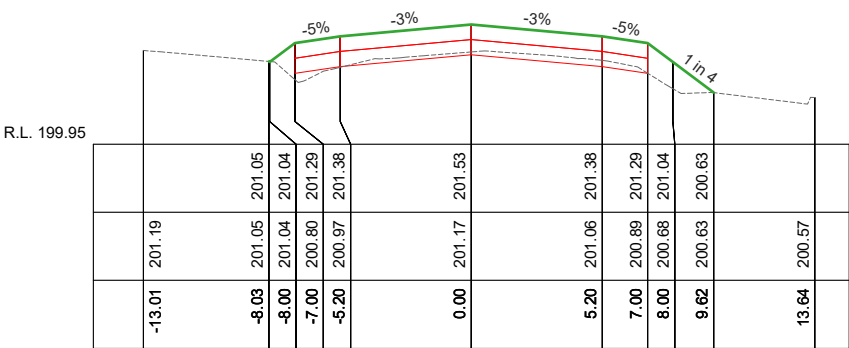
Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 17 OF 24	Reference: GB4894	

**PRELIMINARY DESIGN
DRAFT 3**

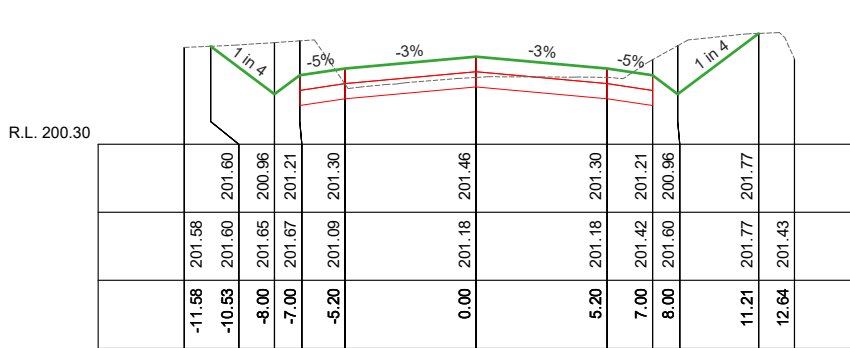
Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



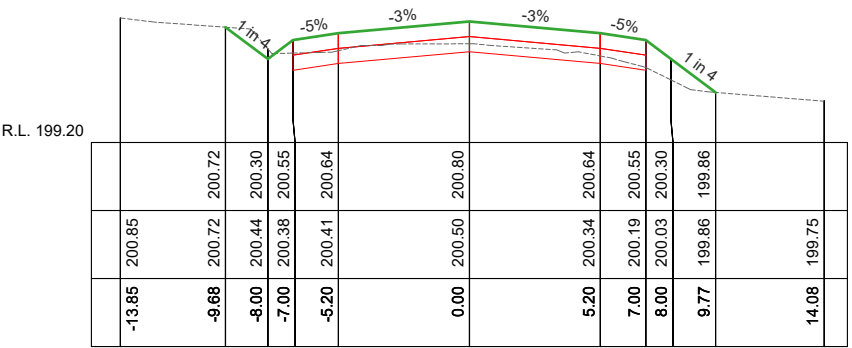
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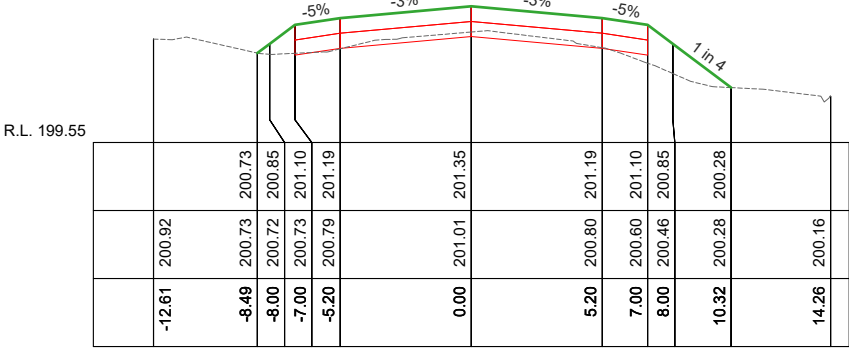
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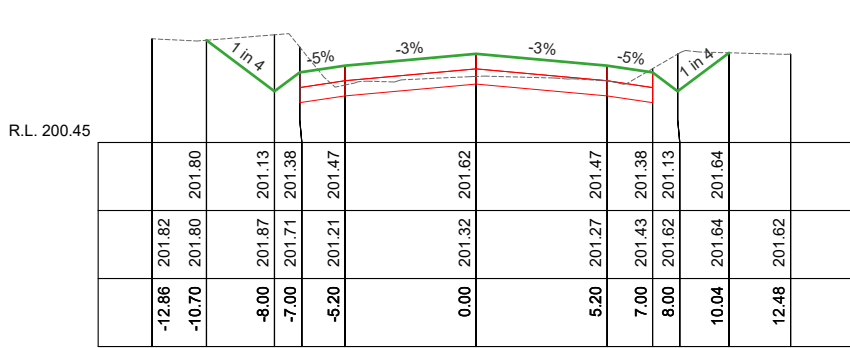
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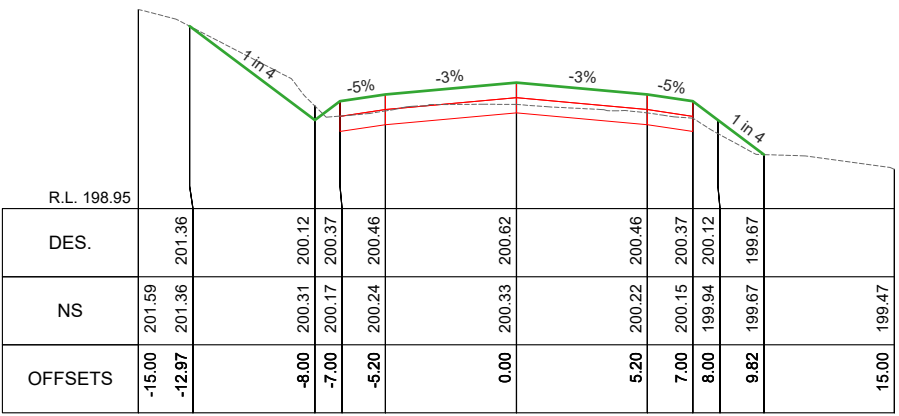
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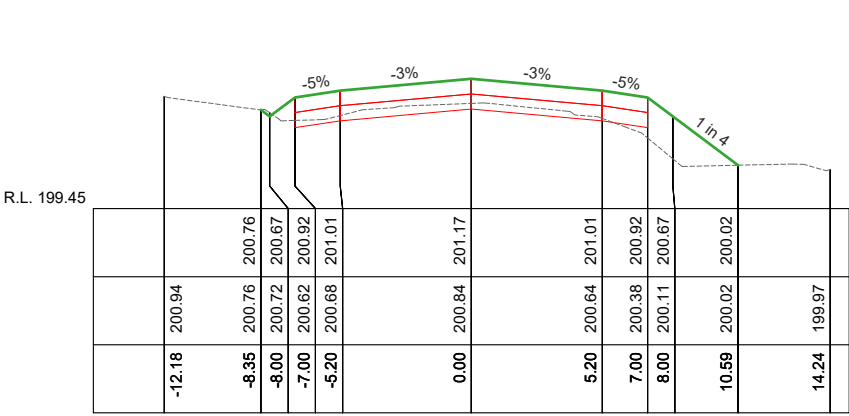
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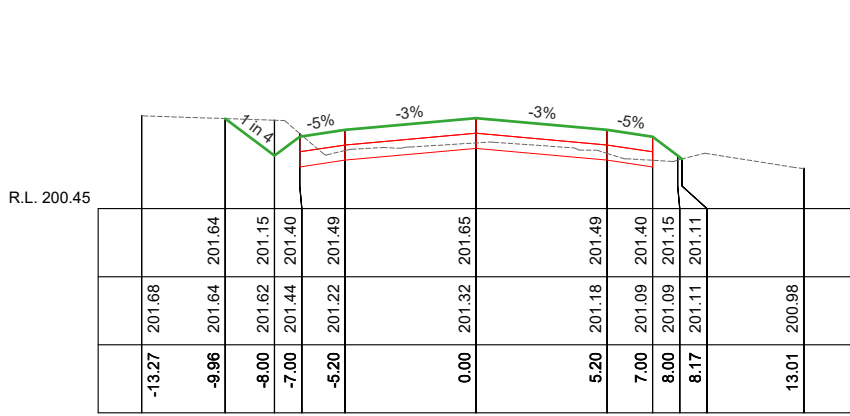
Ch 860.00



Ch 720.00



Ch 780.00



Ch 840.00

HOWARD STREET CROSS SECTIONS
SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

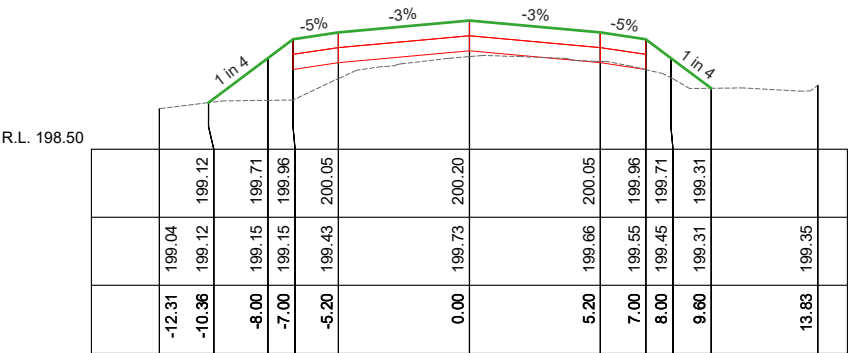
HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

CROSS SECTIONS

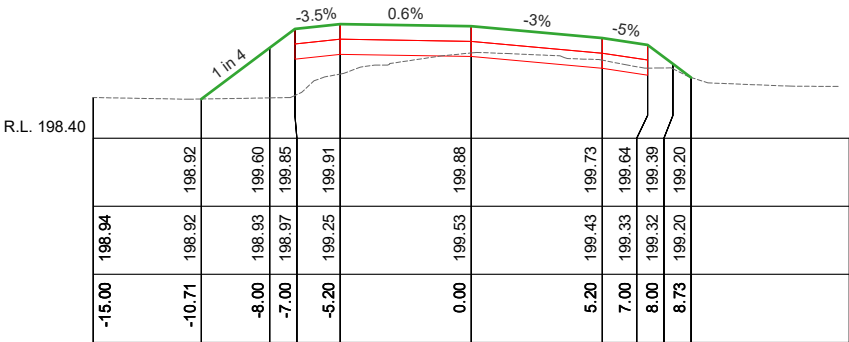
Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/21
Approved by	N. SARTORI	-/21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 18 OF 24	Reference: GB4894	

PRELIMINARY DESIGN
DRAFT 3

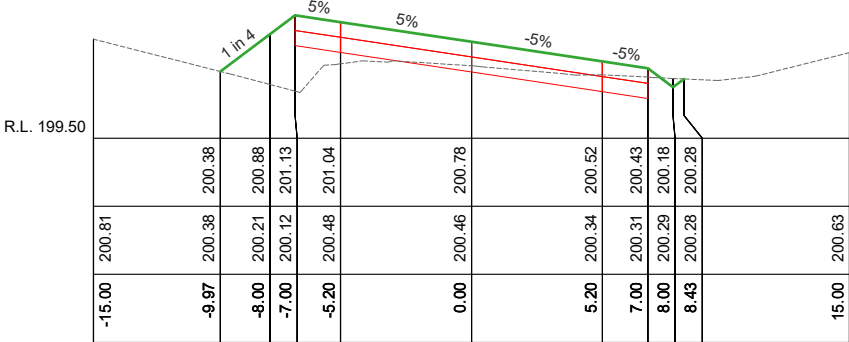
Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



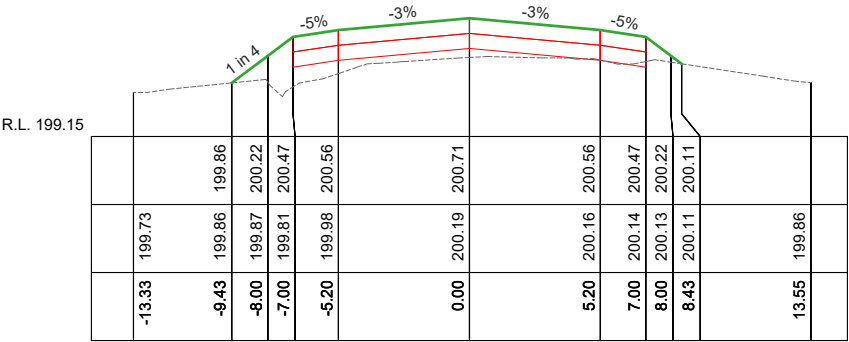
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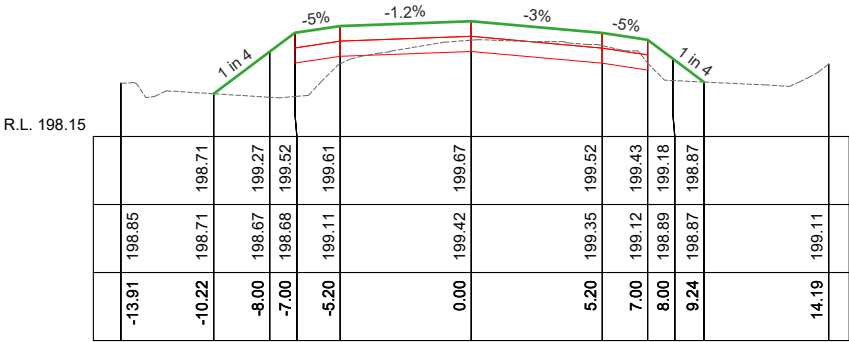
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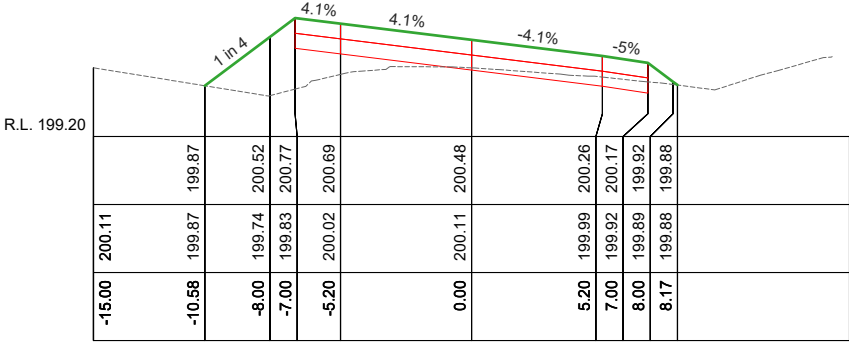
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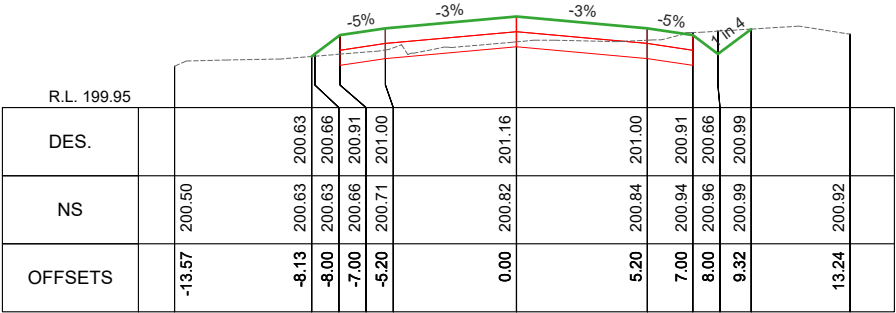
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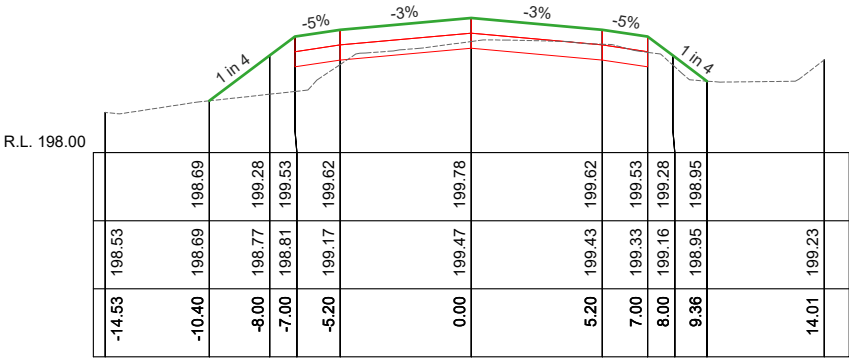
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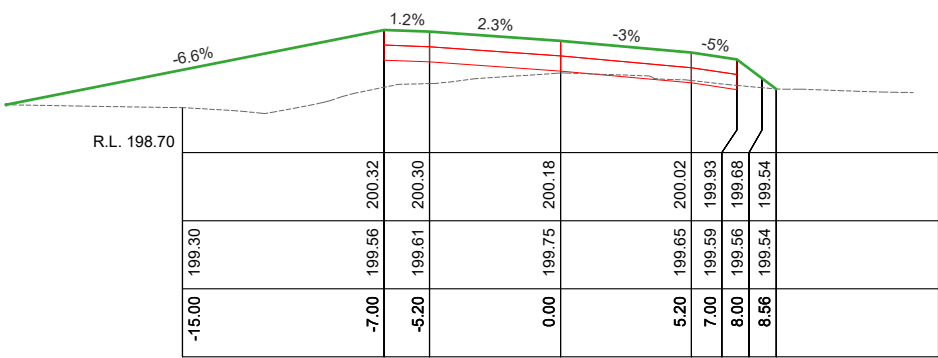
Ch 1040.00



Ch 900.00



Ch 960.00



Ch 1020.00

HOWARD STREET CROSS SECTIONS
SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

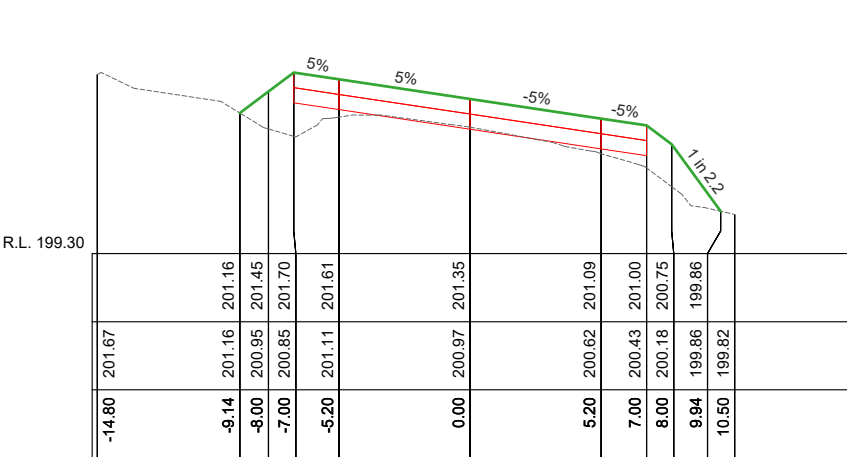
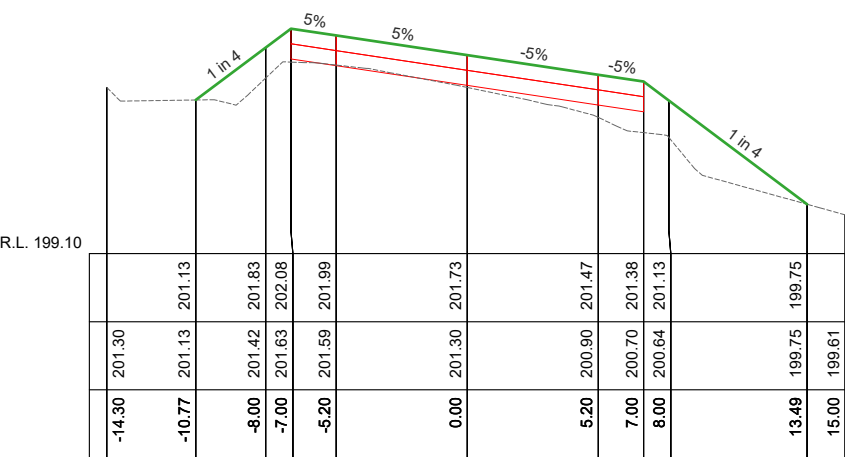
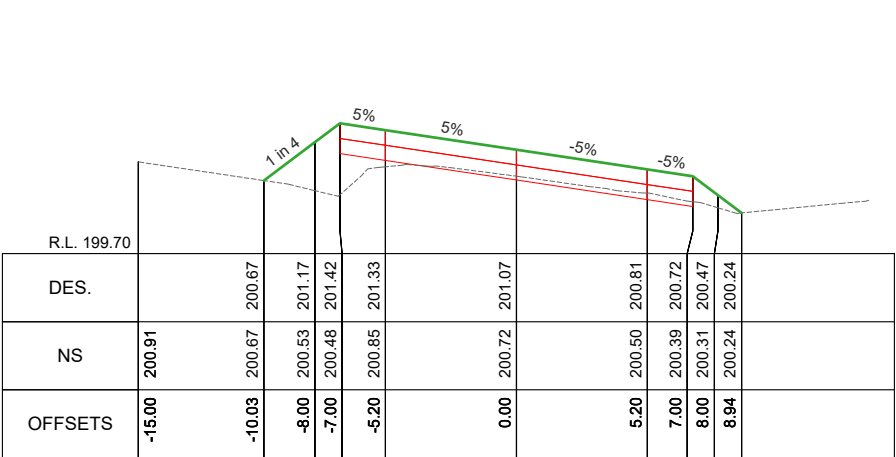
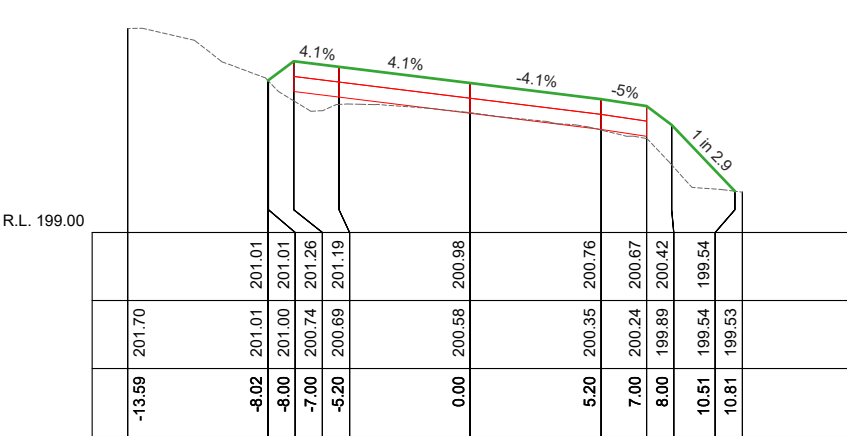
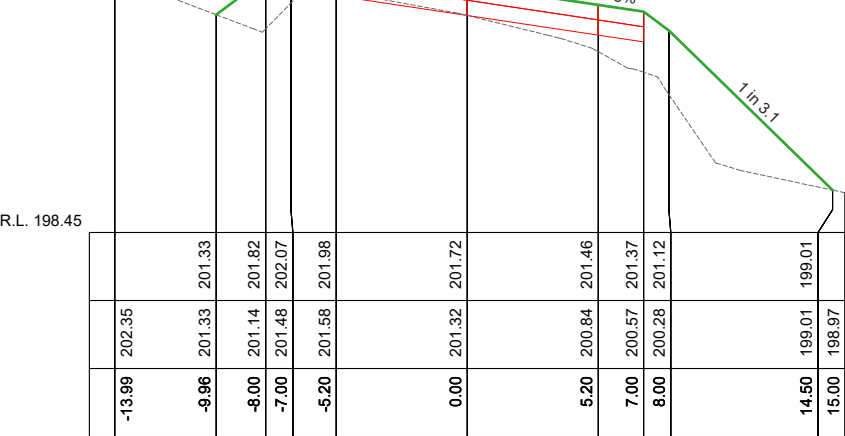
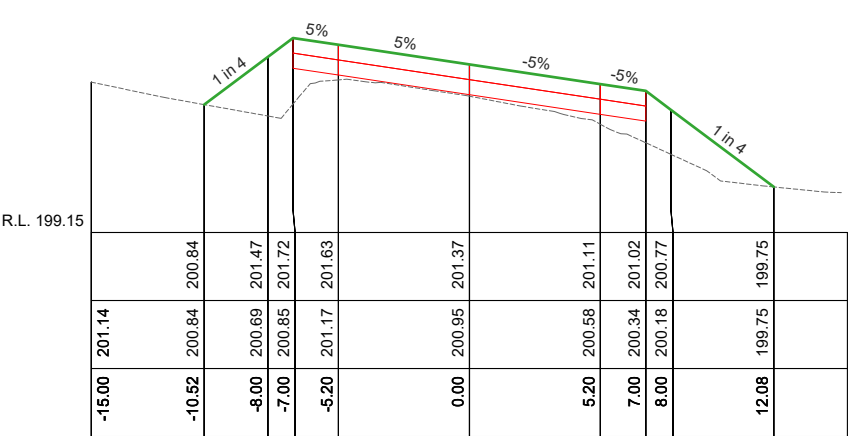
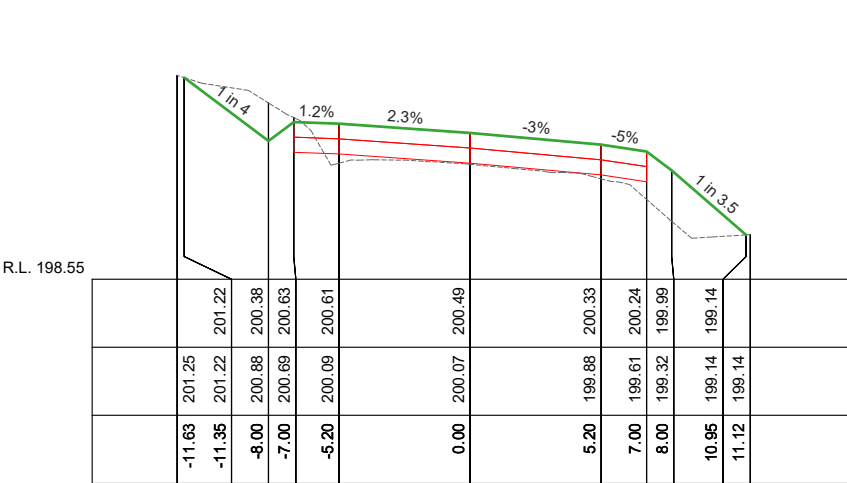
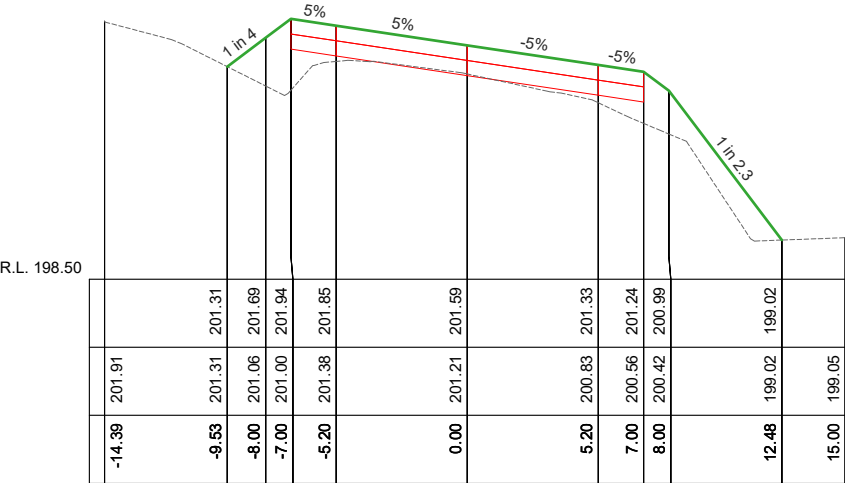
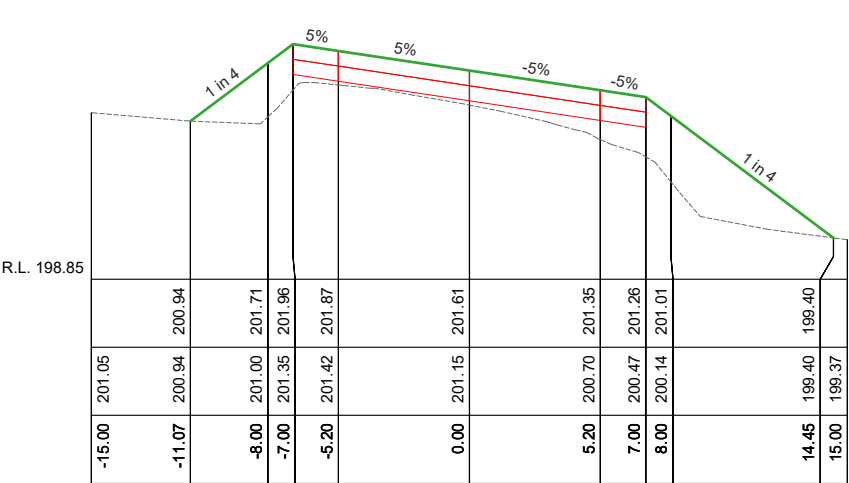
HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

CROSS SECTIONS

Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/21
Approved by	N. SARTORI	-/21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
Sheet: 19 OF 24	Reference: GB4894	

PRELIMINARY DESIGN
DRAFT 3

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET CROSS SECTIONS
SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

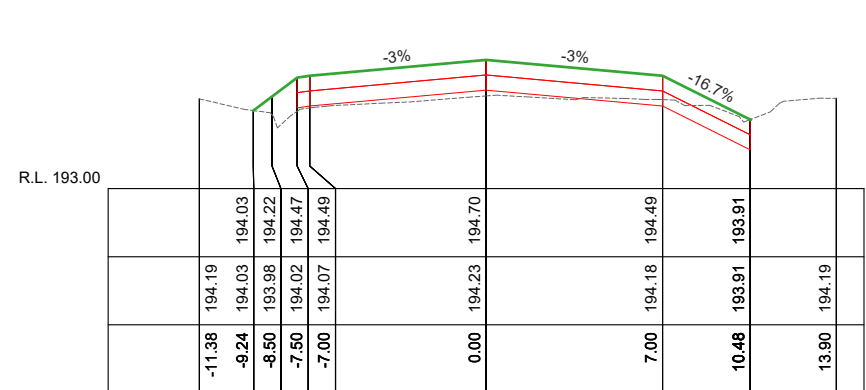
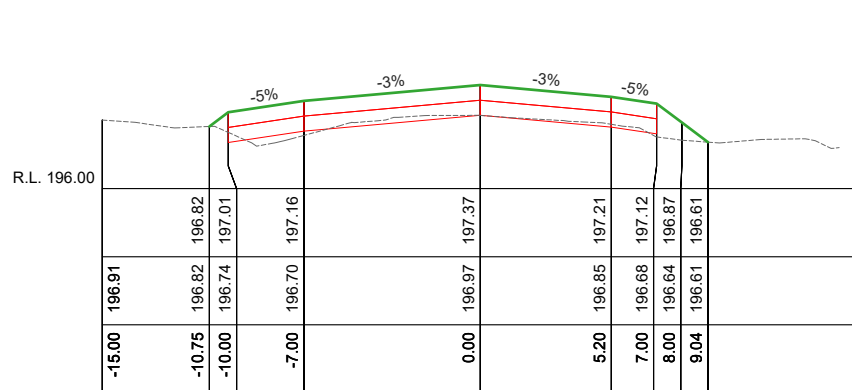
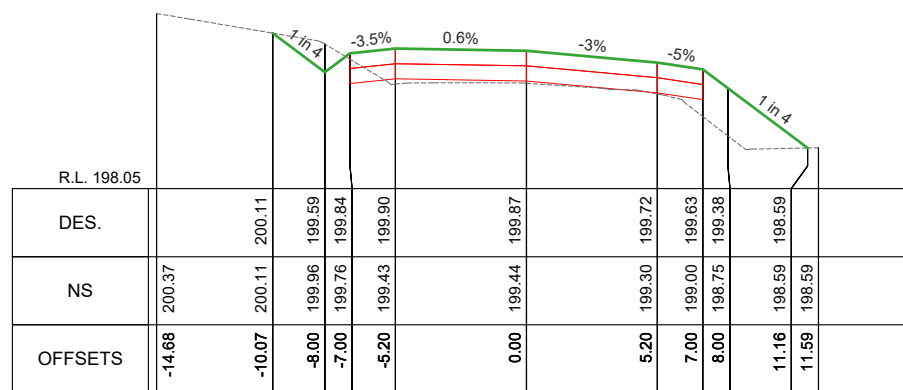
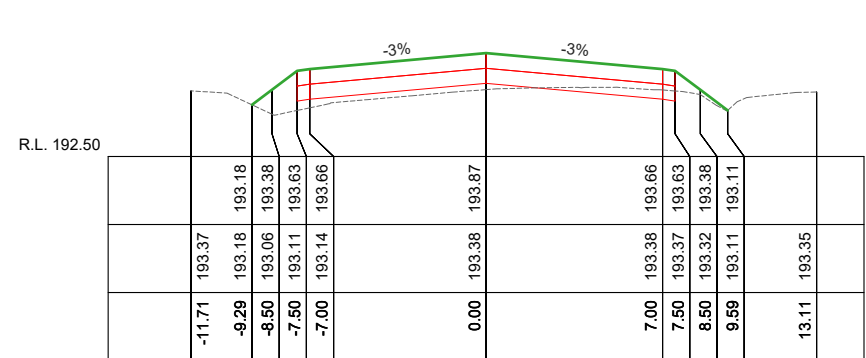
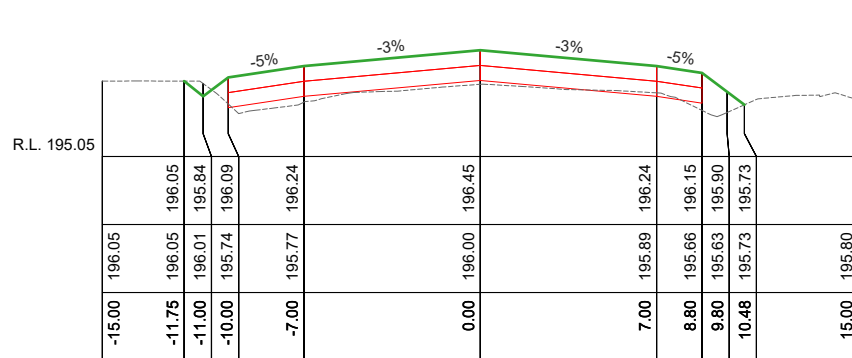
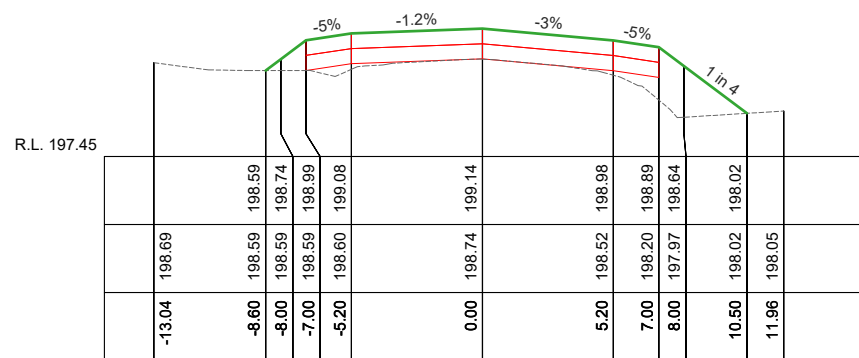
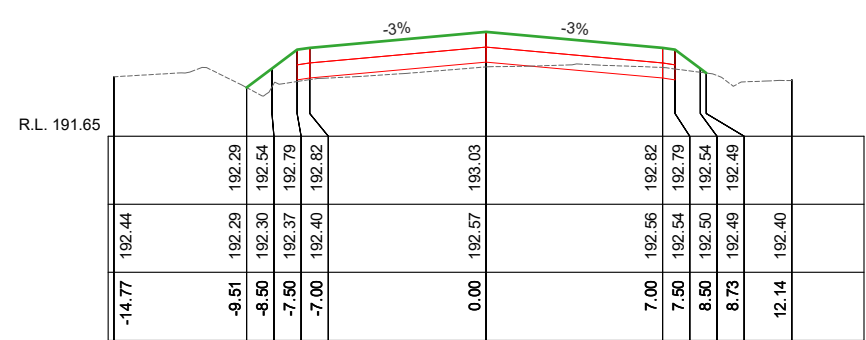
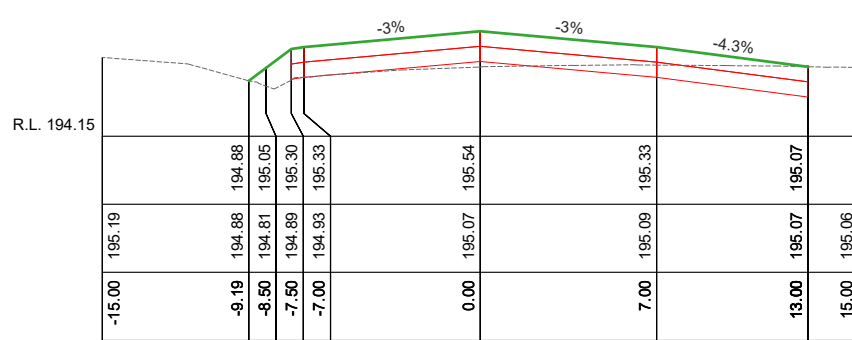
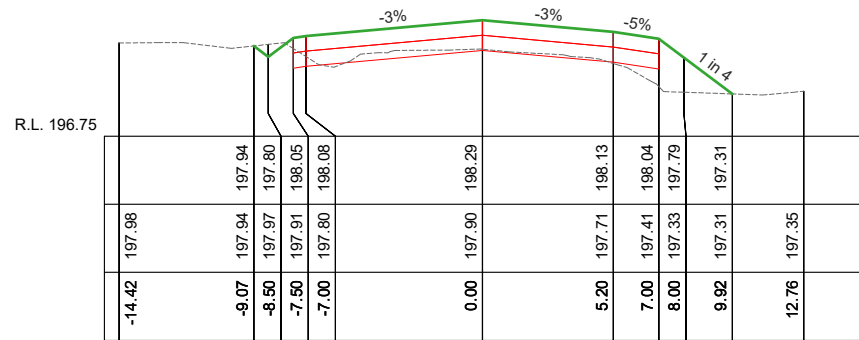
HOWARD STREET EPSOM ROAD RECONSTRUCTION

CROSS SECTIONS

Survey	H. WHYTECK	AUG 21
Design	M. JENNINGS	OCT 21
Checked	A. SMITH	-/-21
Approved by	N. SARTORI	-/-21
Scale: -	Revision : A	
Original sheet size: A3	File : GB4894.dwg	
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**PRELIMINARY DESIGN
DRAFT 3**

Plot Date: 4/11/2021
Plotted By: MEGAN JENNINGS



HOWARD STREET CROSS SECTIONS
SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



CITY OF GREATER BENDIGO

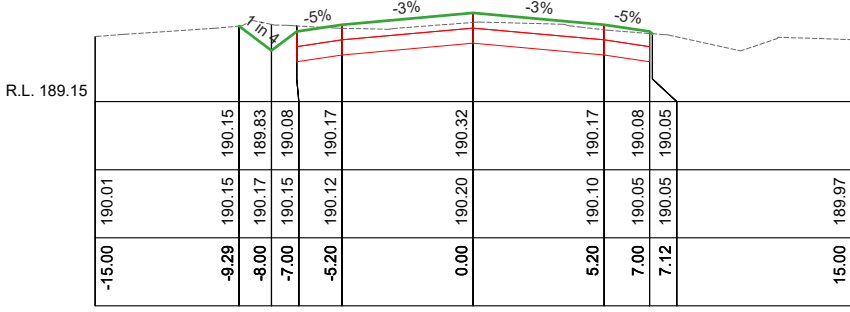
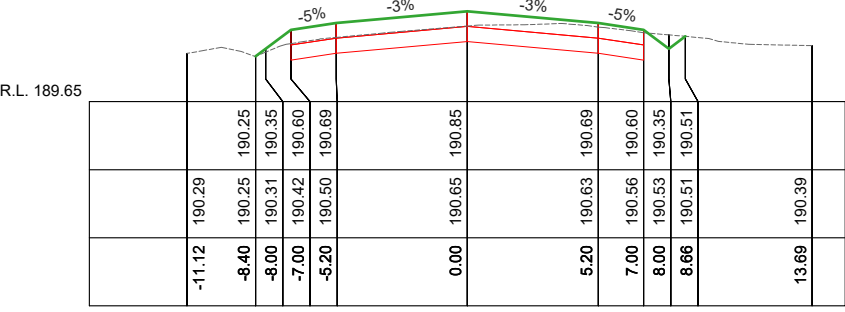
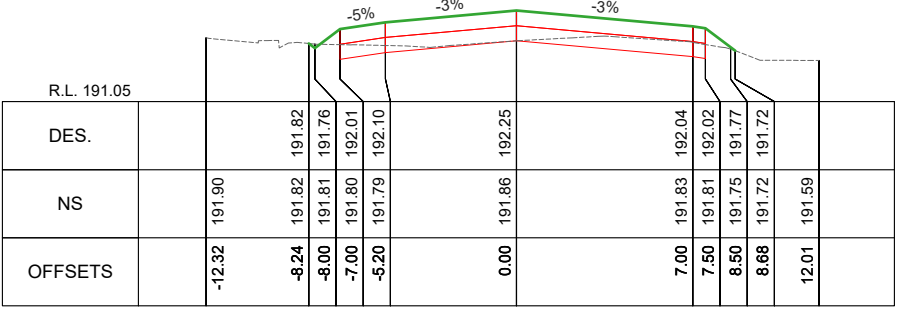
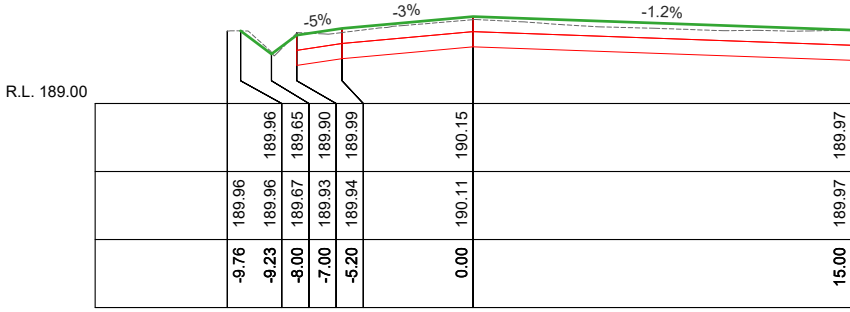
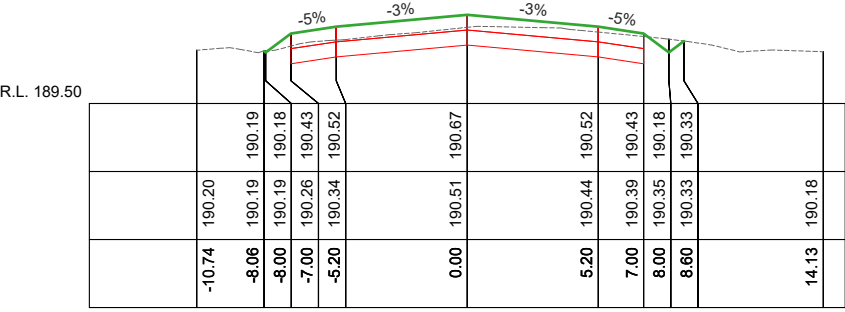
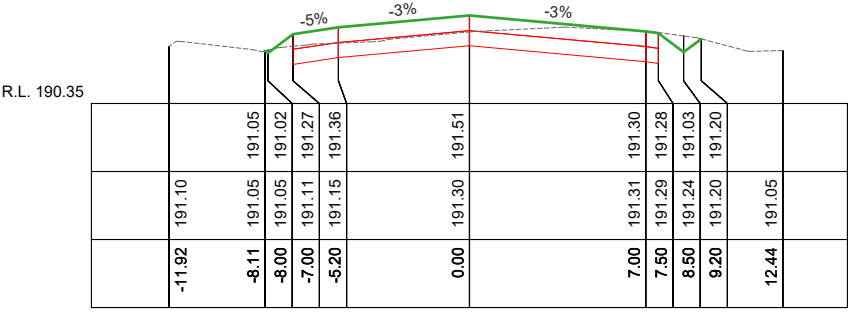
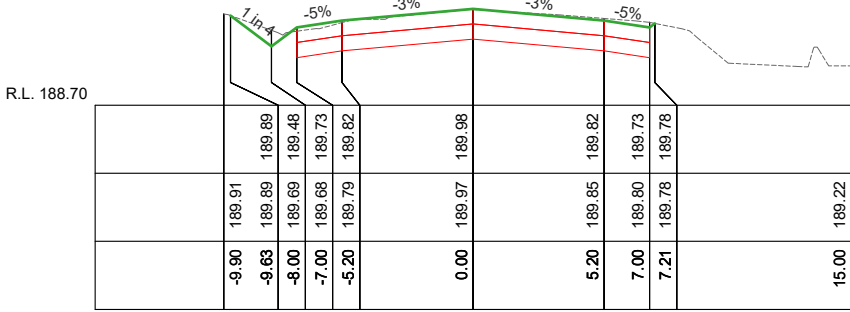
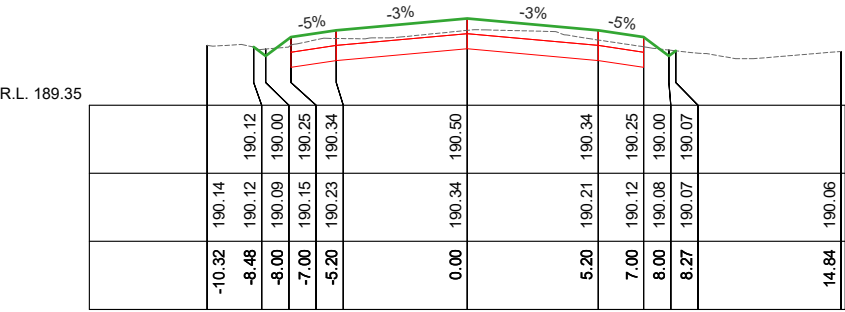
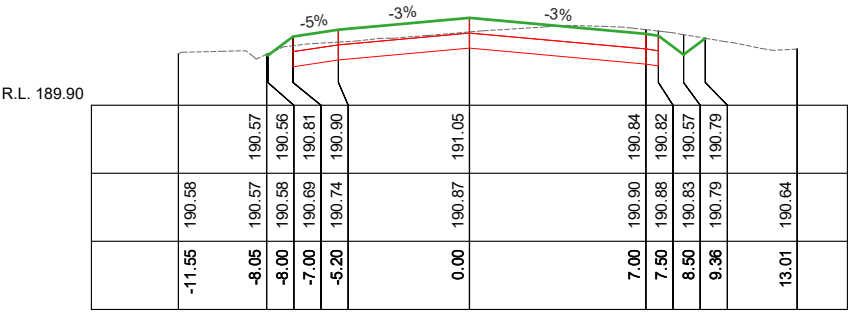
HOWARD STREET EPSOM ROAD RECONSTRUCTION

CROSS SECTIONS

Survey	H. WHYTOCK	AUG 21
Design	M. JENNINGS	OCT 21
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HOWARD STREET CROSS SECTIONS
SCALES: H 1:300 V 1:100 (A3)

AMENDMENTS			
Revision	Description	Approved by	Date
-	-	-	-



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HOWARD STREET EPSOM ROAD RECONSTRUCTION

CROSS SECTIONS

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Sheet: 22 OF 24	Reference: GB4894	

**PRELIMINARY DESIGN
DRAFT 3**

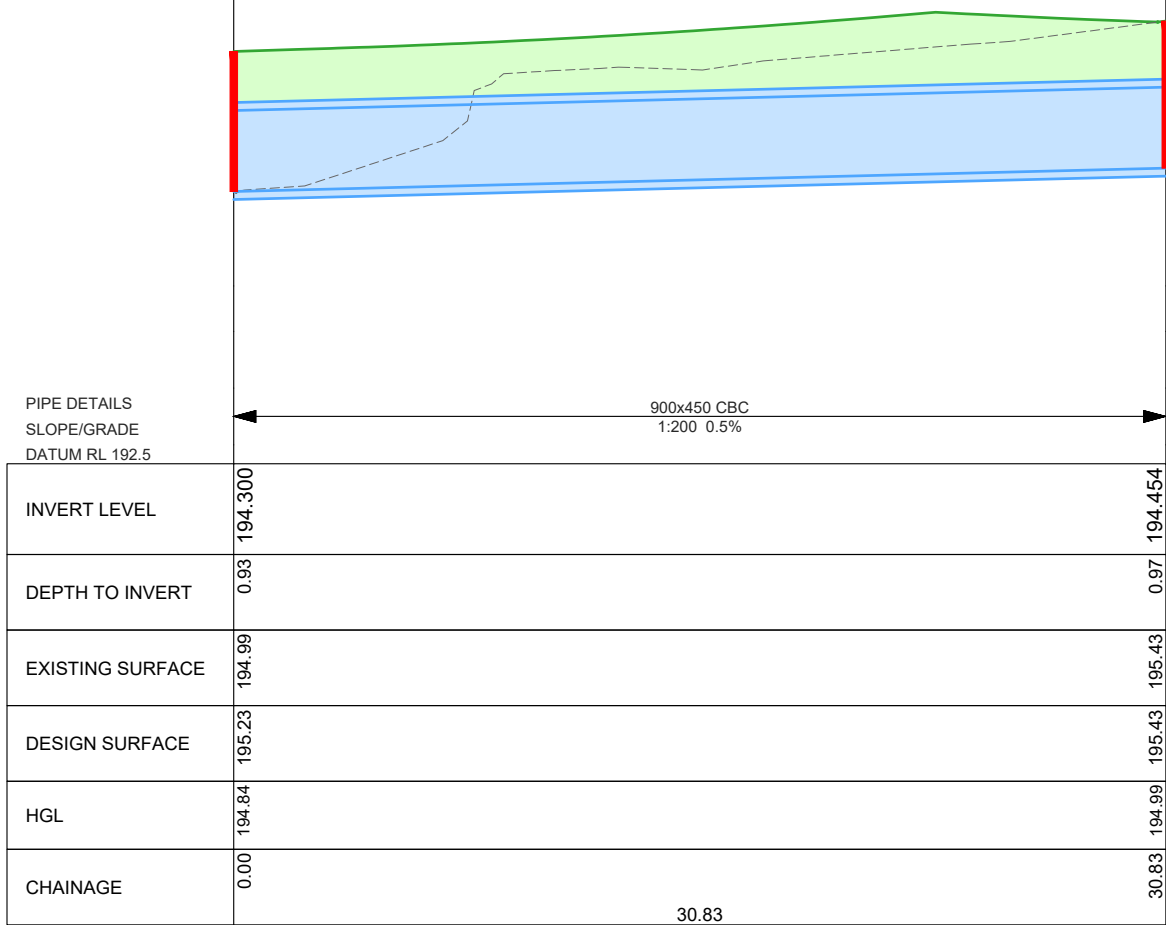
Plot Date: 4/11/2021
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1.1

Default

1.2

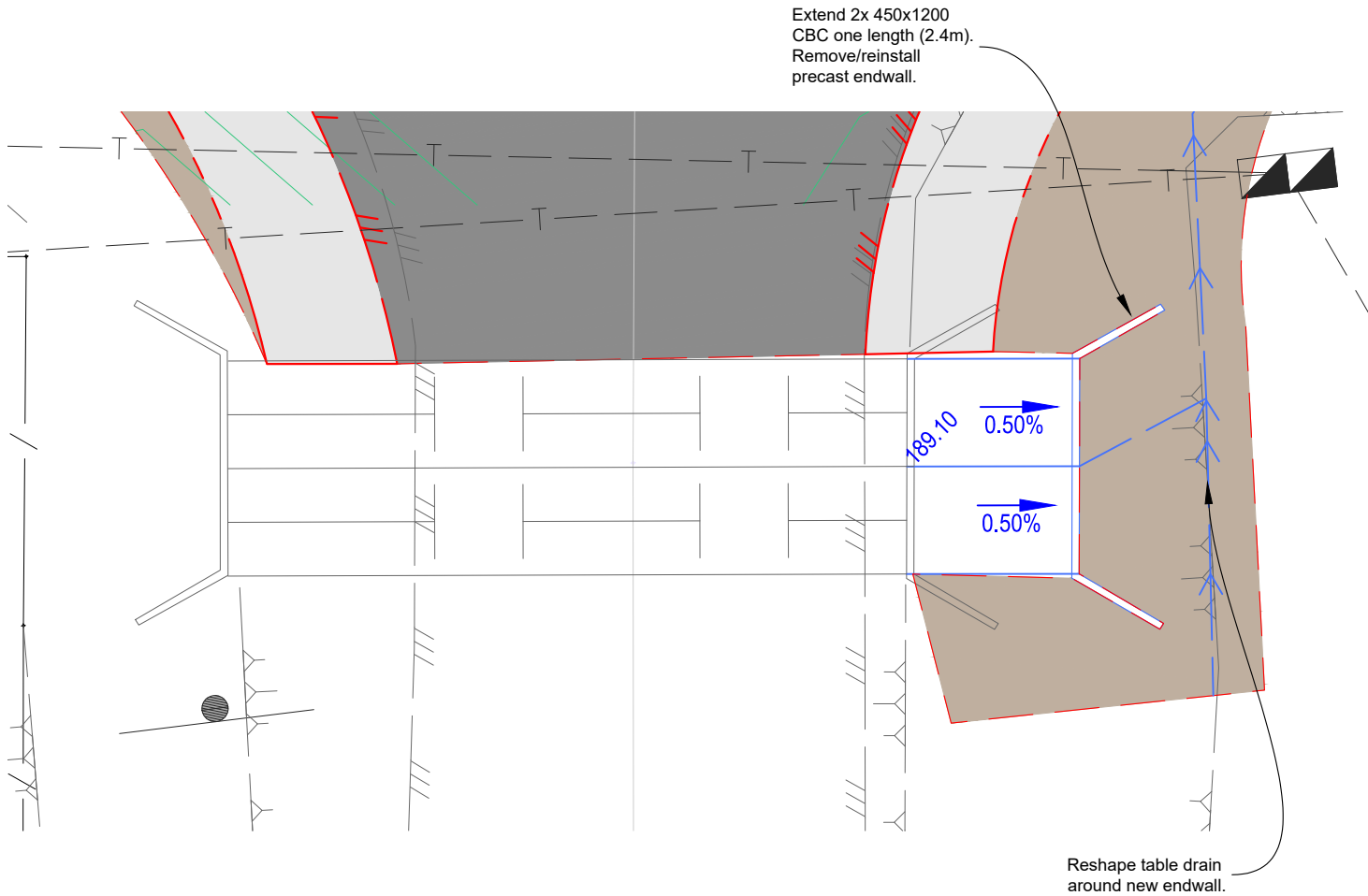
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DRAINAGE LONGITUDINAL SECTION
SCALES: HORIZONTAL 1:250 VERTICAL 1:50

Pit Schedule

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	
1.1	JP	600	900			900x450	194.300	Extend pipe. Install JP if required.
1.2	Precast Endwall	-	-	900x450	194.454			
2.1	Precast Endwall	-	-			600	196.213	
2.2	Precast Endwall	-	-	600	196.404			
3.1	Precast Endwall	-	-			600	199.902	
3.2	Precast Endwall	-	-	600	200.093			
4.1	Precast Endwall	-	-			600	198.400	
4.2	Precast Endwall	-	-	600	198.500			



LEGEND

AMENDMENTS

CITY OF GREATER BENDIGO



HOWARD STREET
EPSOM
ROAD RECONSTRUCTION
DRAINAGE DETAIL

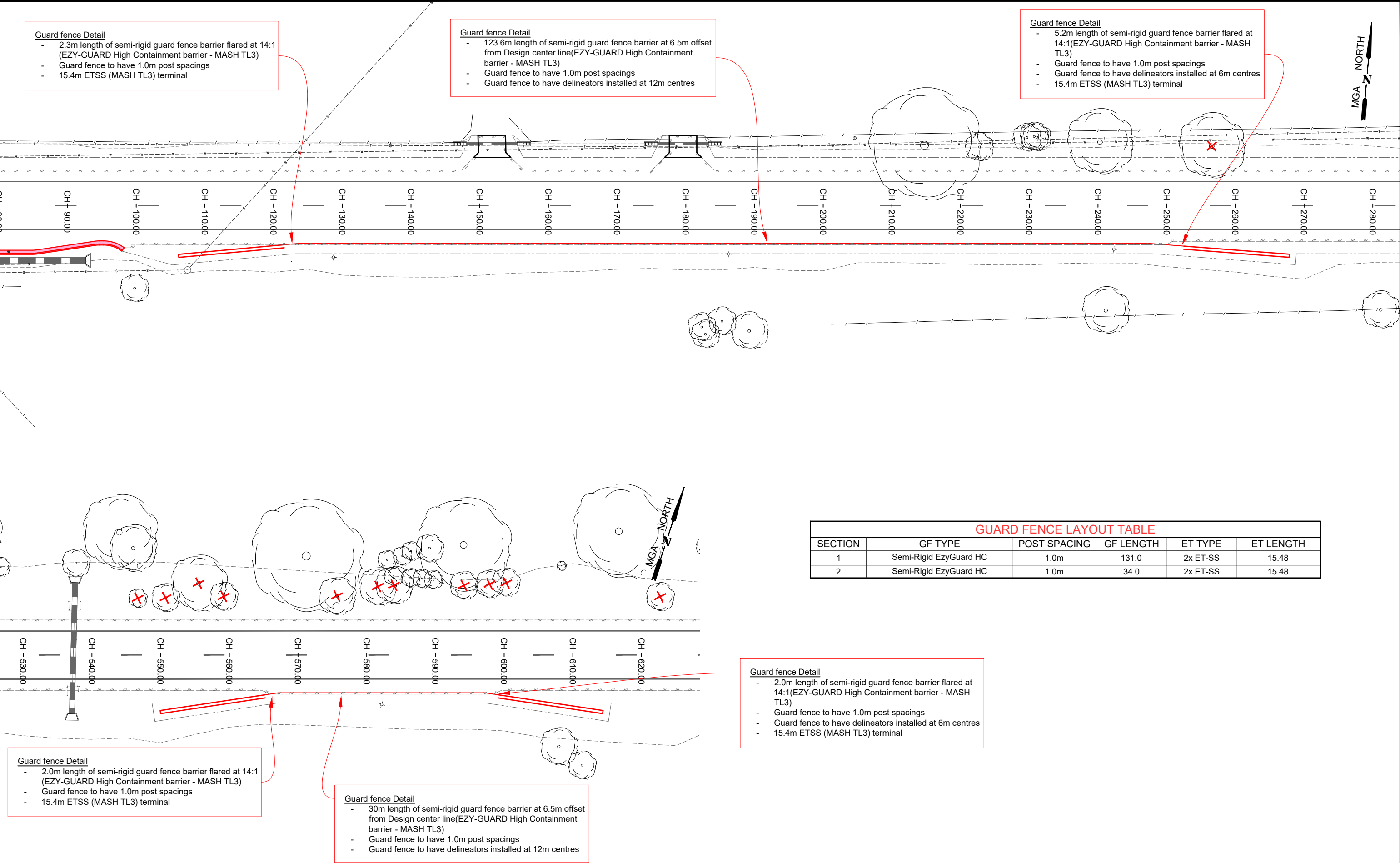
Survey	H. WHYTOK	AUG 21
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PRELIMINARY DESIGN
DRAFT 3

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EXISTING PIPE TO REMAIN
DESIGN PIPE / PIT or ENDWALL

CoGB SD390 TRENCH BACKFILL (BEHIND KERB)
CoGB SD391 TRENCH BACKFILL (UNDER NEW ROAD)
CoGB SD392 TRENCH BACKFILL (UNDER EXISTING ROAD)



Guard fence Detail

- 2.3m length of semi-rigid guard fence barrier flared at 14:1 (EZY-GUARD High Containment barrier - MASH TL3)
- Guard fence to have 1.0m post spacings
- 15.4m ETSS (MASH TL3) terminal

Guard fence Detail

- 123.6m length of semi-rigid guard fence barrier at 6.5m offset from Design center line(EZY-GUARD High Containment barrier - MASH TL3)
- Guard fence to have 1.0m post spacings
- Guard fence to have delineators installed at 12m centres

Guard fence Detail

- 5.2m length of semi-rigid guard fence barrier flared at 14:1(EZY-GUARD High Containment barrier - MASH TL3)
- Guard fence to have 1.0m post spacings
- Guard fence to have delineators installed at 6m centres
- 15.4m ETSS (MASH TL3) terminal

GUARD FENCE LAYOUT TABLE					
SECTION	GF TYPE	POST SPACING	GF LENGTH	ET TYPE	ET LENGTH
1	Semi-Rigid EzyGuard HC	1.0m	131.0	2x ET-SS	15.48
2	Semi-Rigid EzyGuard HC	1.0m	34.0	2x ET-SS	15.48

Guard fence Detail

- 2.0m length of semi-rigid guard fence barrier flared at 14:1(EZY-GUARD High Containment barrier - MASH TL3)
- Guard fence to have 1.0m post spacings
- Guard fence to have delineators installed at 6m centres
- 15.4m ETSS (MASH TL3) terminal

Guard fence Detail

- 2.0m length of semi-rigid guard fence barrier flared at 14:1 (EZY-GUARD High Containment barrier - MASH TL3)
- Guard fence to have 1.0m post spacings
- 15.4m ETSS (MASH TL3) terminal

Guard fence Detail

- 30m length of semi-rigid guard fence barrier at 6.5m offset from Design center line(EZY-GUARD High Containment barrier - MASH TL3)
- Guard fence to have 1.0m post spacings
- Guard fence to have delineators installed at 12m centres

PROJECT PLANNING REQUIREMENTS				AMENDMENTS			
Item	Required	Comments	Contractor	Revision	Description	Approved by	Date
Vegetation	No	-		-	-	-	-
RRV	No	-					
CMA	No	-					
Planning Permit	No	-					
Land Acquisition	No	-					
CHMP	No	-					
Other	No	-					



CITY OF GREATER BENDIGO

HOWARD STREET
EPSOM
ROAD RECONSTRUCTION

GUARD FENCE DETAIL

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