

PLAN 3

PLANNING APPLICATION P17-166

**MIDLAND HIGHWAY, ILLAWARRA ROAD & ADJOINING PROPERTIES,
PERTH**

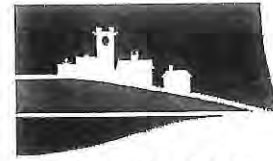
ATTACHMENTS

- A Application & plans, correspondence with applicant
- B Responses from referral agencies
- C Representations & applicant's response

Our ref: Various; P17-166; Department of State Growth (DSG)
Enquiries: Erin Boer

7th July 2017

Department of State Growth (DSG)
via email: kathryn.fry@stategrowth.tas.gov.au



**NORTHERN
MIDLANDS
COUNCIL**

Dear Ms Fry

Additional Information Required for Planning Application P17-166 - Perth link roads at Midland Hwy & Illawarra Rd, Perth

I refer to the abovementioned application, which has been further reviewed by Council's Planners. The following information is required to allow consideration of your application under the *Northern Midlands Interim Planning Scheme 2013*:

- **Revised application form**

A revised application form which details the specific property owners of the subject site is required (an attached list as per the submission report is sufficient).

✓ 10/7

- **Landslip**

A revised plan (sheet 0037) is required to detail the proximity of the development to land within the Landslip Hazard area. If the development is within the area marked land slip hazard or potentially subject to landslip hazard, a Landslip Risk Management Assessment will be required (as per clause E3.6.1 of the Planning Scheme).

✓ 10/7

- **Batter on properties in Minerva Drive**

Currently the proposal plans show batter affecting properties within Minerva Drive, Perth, which are not listed as owners of the subject site/affected by acquisition. Please provide a revised plan showing the batter line outside these properties or updated owner details.

✓ 10/7

- **Copy of original Flora/Fauna Report**

Please provide a copy of the original report, which is to be read in conjunction with the ECOTas Addendum. It is referenced as: ECOTas (2015). *Assessment of Potential Impact on Ecological Values of Proposed Perth to Breadalbane Bypass and Associated Connectors, Tasmania*. Report by Environmental Consulting Options Tasmania (ECOTas) for the Department of State Growth, 31 January 2015.

✓ 10/7

Therefore, in accordance with Section 54 of the *Land Use Planning and Approvals Act 1993*, the statutory period for processing the application will not recommence until the requested information has been supplied to the satisfaction of the Planning Authority. It is a requirement of the Planning Authority that all correspondence, if emailed, is sent to Planning@nmc.tas.gov.au and referenced with the planning application number P17-166. If you have any queries, please contact Council's Planning Section on 6397 7301, or e-mail Planning@nmc.tas.gov.au.

Yours sincerely

Erin Boer
PLANNER

PLANNING APPLICATION Proposal

Description of proposal: ~~Perte~~
 * Midland Highway - Perte Link Roads
 Development of dual carriageway around Perte
 Southern Link: connects Midland Hwy to Illawarra main Road
 Western Link: connects Illawarra MR to midland Highway in north
 (attach additional sheets if necessary)

Site address: Midland Highway + Illawarra MR
 + various private properties

or not: See attached report

Estimated cost of project \$61,000,000 (include cost of landscaping, car parks etc for commercial/industrial uses)

Are there any existing buildings on this property? Yes / No
 If yes - main building is used as

If variation to Planning Scheme provisions requested, justification to be provided:
 (attach additional sheets if necessary)

Is any signage required? road signs (exempt)
 (if yes, provide details)

Department of State Growth

STATE ROADS DIVISION

Enquiries Kathryn Fry

Ph 6166 3382 Fax

Email Kathryn.Fry@stategrowth.tas.gov.au Web www.stategrowth.tas.gov.au

Your Ref Our Ref



Mr Des Jennings
General Manager
Northern Midlands Council
13 Smith Street
Longford TAS 7301

Dear Mr Jennings

**MIDLAND HIGHWAY & ILLAWARRA MAIN ROAD – PERTH LINK ROADS
DEVELOPMENT APPLICATION
CONSENT TO THE MAKING OF A DEVELOPMENT APPLICATION PURSUANT TO
SECTION 52(1B) OF THE *LAND USE PLANNING AND APPROVALS ACT 1993***

Pursuant to Section 52(1B) of the *Land Use Planning and Approvals Act 1993* (the Act), I hereby give permission to the making of the above development application affecting land that forms part of the road reservation of the Midland Highway and Illawarra Main Road at Perth that is held under authority or ownership of the Department of State Growth.

I am authorised to provide such consent under delegation of the Minister for Infrastructure under Section 52(1F) of the Act.

Yours sincerely

Shane Gregory

GENERAL MANAGER STATE ROADS

9 May 2017

- FLORA:**
- STATE LISTED THREATENED FLORA
CAESHA CALLANTHA
 - STATE LISTED THREATENED FLORA
HALDRIGIS HETEROPHYLLA
 - POTENTIAL HABITAT TREES
 - POTENTIAL HABITAT TREES WITHIN
CONSTRUCTION ZONE - TO BE REMOVED
 - MAJOR TREE

- FAUNA:**
- POTENTIAL GREEN & GOLD FROG (WATERBODY)
TO BE PROTECTED UNLESS NOTED OTHERWISE

- HERITAGE:**
- HERITAGE SITE

- OTHER FEATURES:**
- REDUNDANT ROAD
 - SPRAY SEAL
 - ASPHALT
 - UNSEALED (GRAVEL) ACCESS

- GEOTECHNICAL BORE HOLE
- GEOTECHNICAL TEST PIT

- DRAINAGE:**
- NEW STORMWATER PIPE AND SIZE
 - NEW SURFACE DRAIN

- FENCES:**
- EXISTING PROPERTY BOUNDARY
 - NEW PROPERTY BOUNDARY
 - EXISTING FENCE
 - NEW FENCE
 - EXISTING WIRE ROPE SAFETY BARRIER
 - EXISTING STEEL BEAM SAFETY BARRIER
 - NEW WIRE ROPE SAFETY BARRIER
 - NEW STEEL BEAM SAFETY BARRIER

- UTILITIES:**
- EXISTING TELSTRA
 - EXISTING TELSTRA FIBRE OPTIC
 - NEW TELSTRA (INDICATIVE ROUTE ONLY)
 - EXISTING TELSTRA TO BE REMOVED
 - EXISTING NBN
 - NEW NBN (INDICATIVE ROUTE ONLY)
 - EXISTING TASNETWORKS - OVERHEAD
 - EXISTING TASNETWORKS - UNDERGROUND
 - NEW TASNETWORKS - OVERHEAD (BY OTHERS) (INDICATIVE ROUTE ONLY)
 - NEW TASNETWORKS - UNDERGROUND (INDICATIVE ROUTE ONLY)
 - EXISTING STREETLIGHT
 - EXISTING TASNETWORKS JUNCTION PIT

SCALES		DESIGNED		REVIEWED	
No. 1 DA SUBMISSION ISSUED FOR CLIENT REVIEW Amendment Description		S.L.C. M.S.G. Initials Date #		21.06.2017 12.06.2017 Date #	
As original This sheet may be prepared using colour and may be unrepresentative if copied		Cadastrian System: MCA Zone 5E		Height Datum: AHD	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LEGEND					
CONTRACT No.		DRAWING		PRINTED DATE	
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REGISTRATION NUMBER		SHEET No.		REVISION B	
A0087.038		0002		002	

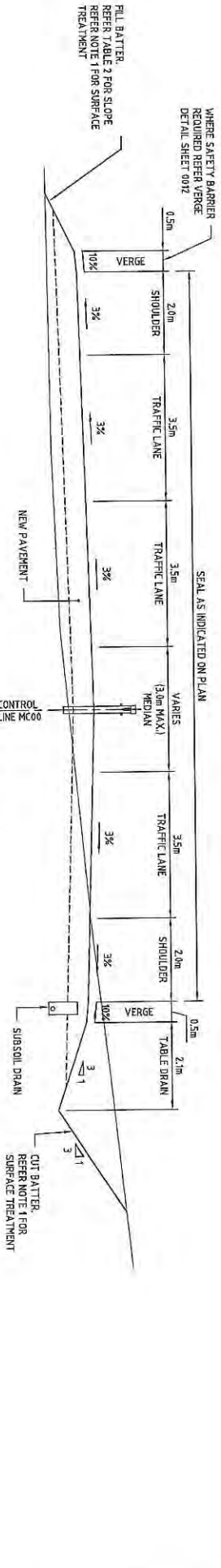
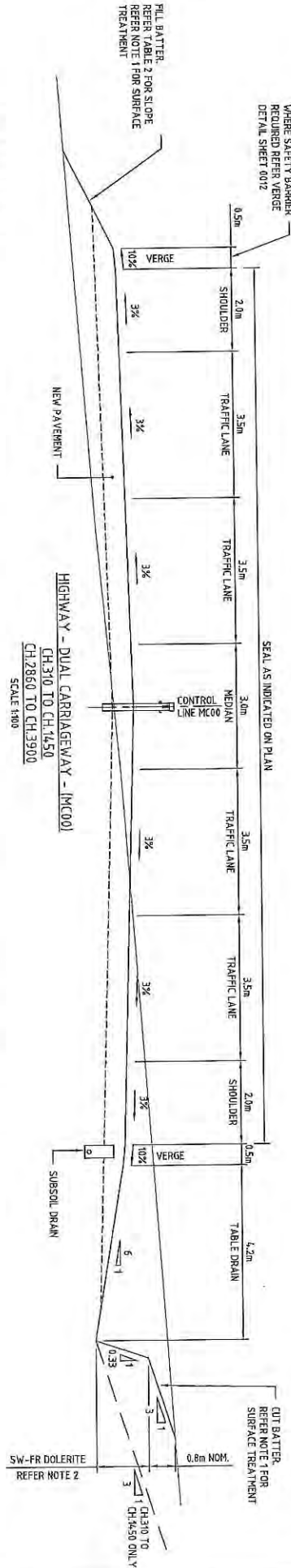
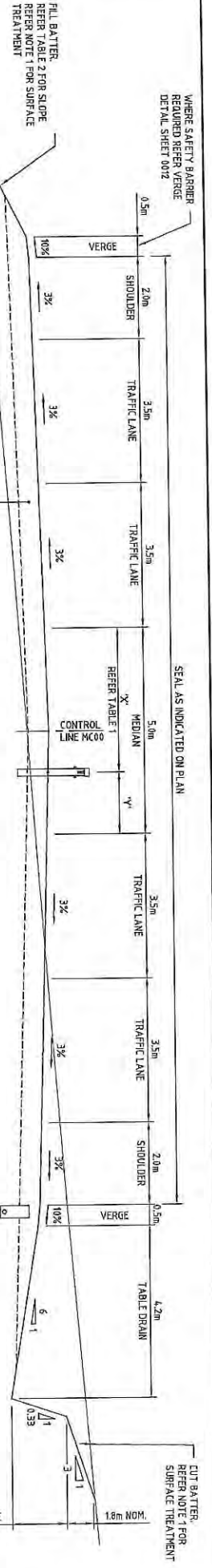


TABLE 2 - FILL BATTER

SLOPE	HEIGHT	COMMENT
6:1	≤ 1.2m	
4:1	1.2m TO 2.5m	
2:1	≥ 2.5m	WITH SAFETY BARRIER

TABLE 1 MEDIAN BARRIER OFFSET

CHAINAGE	X'	Y'
1560 TO 2760	3.5	1.5
4000 TO 4347	1.5	3.5

- NOTES:
- BATTER TREATMENT:
FILL: 50mm THICK TOPSOIL AND HYDROMULCH;
CUT: HYDROMULCH
(HYDROMULCH TO BE NATIVE SPECIES SEED MIX)
 - CONTRACTOR'S GEOTECHNICAL PRACTITIONER TO ASSESS THE CUT BATTER DURING CONSTRUCTION, ADDITIONAL REINFORCEMENT (SUCH AS ROCK ANCHORS) MAY BE REQUIRED IF THE JOINTING IS UNFAVOURABLE.

<p>Department of State Growth</p> <p>MIDLAND HIGHWAY (A0087)</p> <p>PERTH LINK ROADS ROADWORKS</p> <p>TYPICAL SECTIONS - SHEET 1</p>		<p>CONTRACT NO.</p> <p>DRAWING</p> <p>REGISTRATION NUMBER</p> <p>A0087.038</p>		<p>PRINTED DATE</p> <p>21-Jun-17, 12:28 PM</p> <p>SHEET No.</p> <p>0010</p> <p>REVISION B</p>	
<p>Amendment Description</p> <p>No. Amendment</p> <p>DA SUBMISSION</p> <p>ISSUED FOR CLIENT REVIEW</p>		<p>S.L.C.</p> <p>M.S.C.</p> <p>Initials</p> <p>Date</p> <p>21.06.2017</p> <p>12.06.2017</p>		<p>SCALE 1:100</p> <p>0 1 2 3 4 5</p> <p>Height Datum: A.H.D.</p>	
<p>DESIGNED</p> <p>CMONTY</p>		<p>REVIEWED</p>		<p>ICHD</p> <p>Tasmanian Government</p>	

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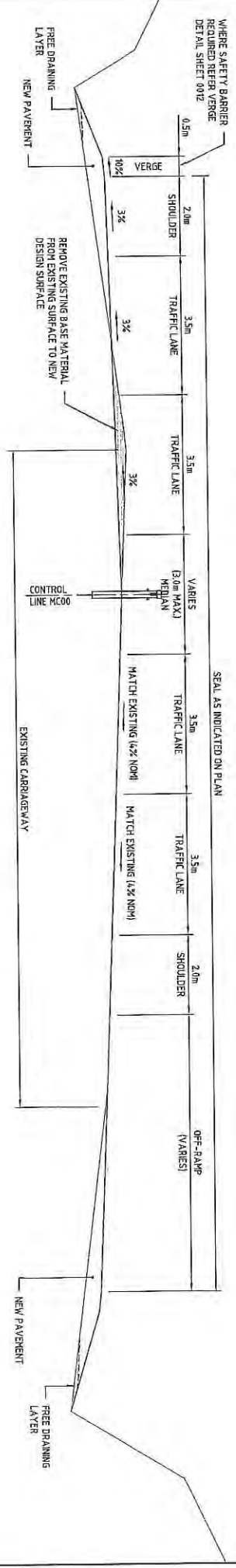
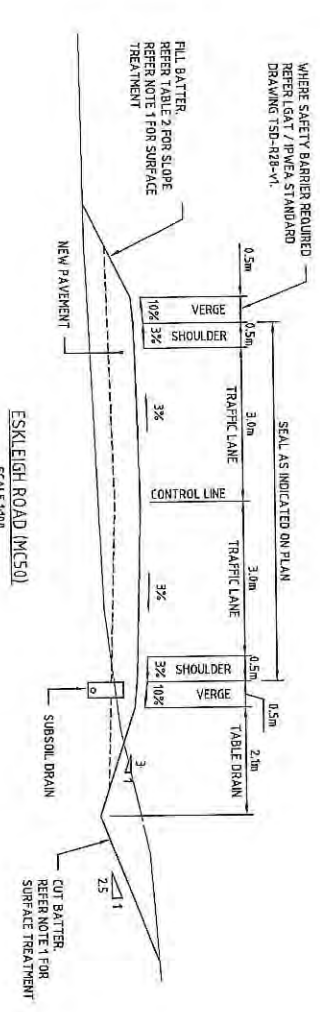
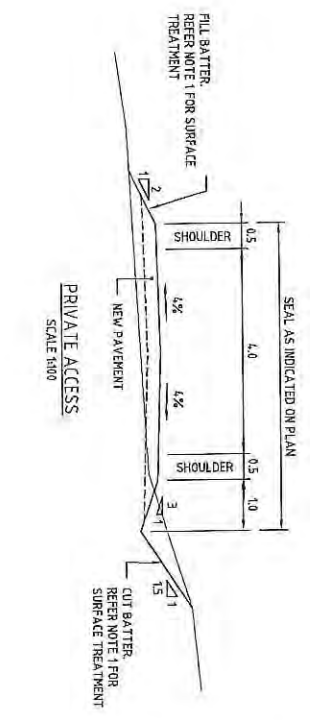
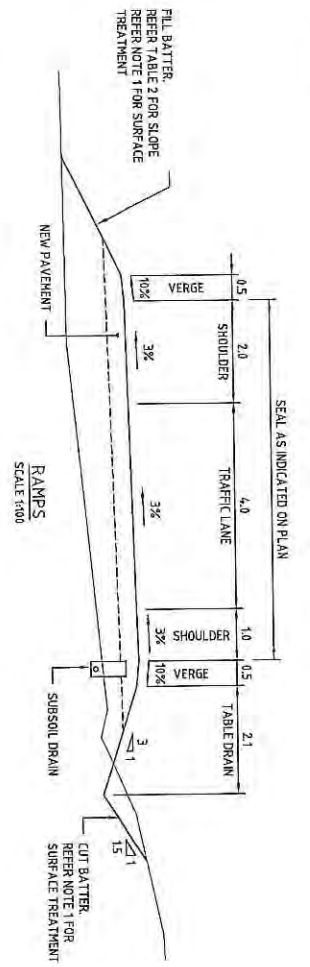
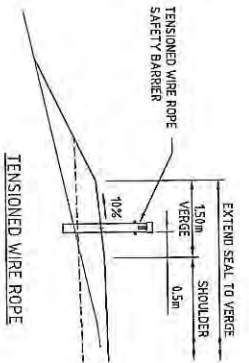


TABLE 2 - FILL BATTER

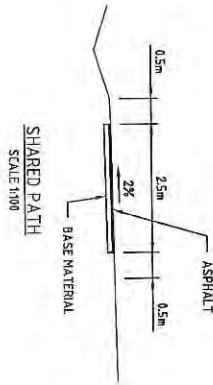
SLOPE	HEIGHT	COMMENT
6:1	≤ 1.2m	
4:1	1.2m TO 2.5m	
2:1	≥ 2.5m	WITH SAFETY BARRIER

- NOTES:
- BATTER TREATMENT:
FILL: 50mm THICK TOPSOIL AND HYDROMULCH
CUT: HYDROMULCH
(HYDROMULCH TO BE NATIVE SPECIES SEED MIX)
 - CONTRACTOR'S GEOTECHNICAL PRACTITIONER TO ASSESS THE CUT BATTER DURING CONSTRUCTION. ADDITIONAL REINFORCEMENT (SUCH AS ROCK ANCHORS) MAY BE REQUIRED IF THE JOINTING IS UNFAVOURABLE.

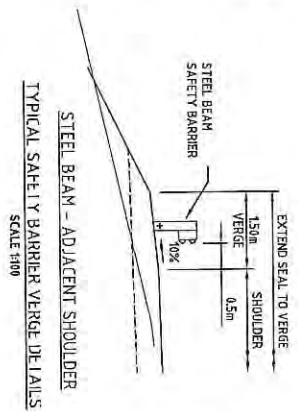
<p>Department of State Growth</p> <p>MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS</p> <p>TYPICAL SECTIONS - SHEET 2</p>		<p>CONTRACT No.</p> <p>DRAWING</p> <p>PRINTED DATE</p> <p>SHEET No.</p>	
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<p>DESIGNED CAMONTY</p>		<p>REGISTRATION NUMBER</p> <p>A0087.038</p>	
<p>REVIEWED</p>		<p>0011</p>	
<p>AS original</p>		<p>REVISION B</p>	



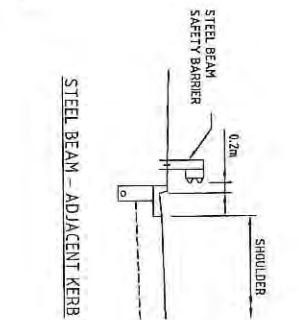
STOCK UNDERPASS & FROG CULVERT TYPICAL ARRANGEMENT
SCALE 1:100



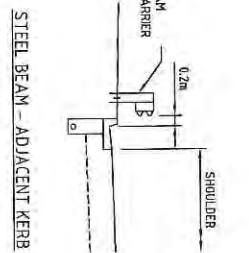
TYPICAL VERGE DETAIL AT ASPHALT
SCALE 1:50



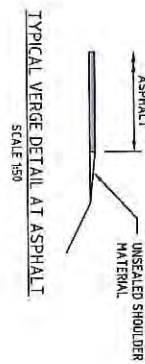
TYPICAL TRAFFIC ISLAND & RAMP NOSE DETAIL
SCALE 1:50



TYPICAL SAFETY BARRIER VERGE DETAILS
SCALE 1:100



STEEL BEAM - ADJACENT KERB
SCALE 1:100



TYPICAL VERGE DETAIL AT ASPHALT
SCALE 1:50

NO.	DESCRIPTION	DATE
5	DA SUBMISSION	21/06/2017
4	ISSUED FOR CLIENT REVIEW	M.S.G. 12/06/2017
3	AMENDMENT DESCRIPTION	DATE
2		
1		

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SCALE 1:100	SCALE 1:100
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SCALE 1:100	SCALE 1:100
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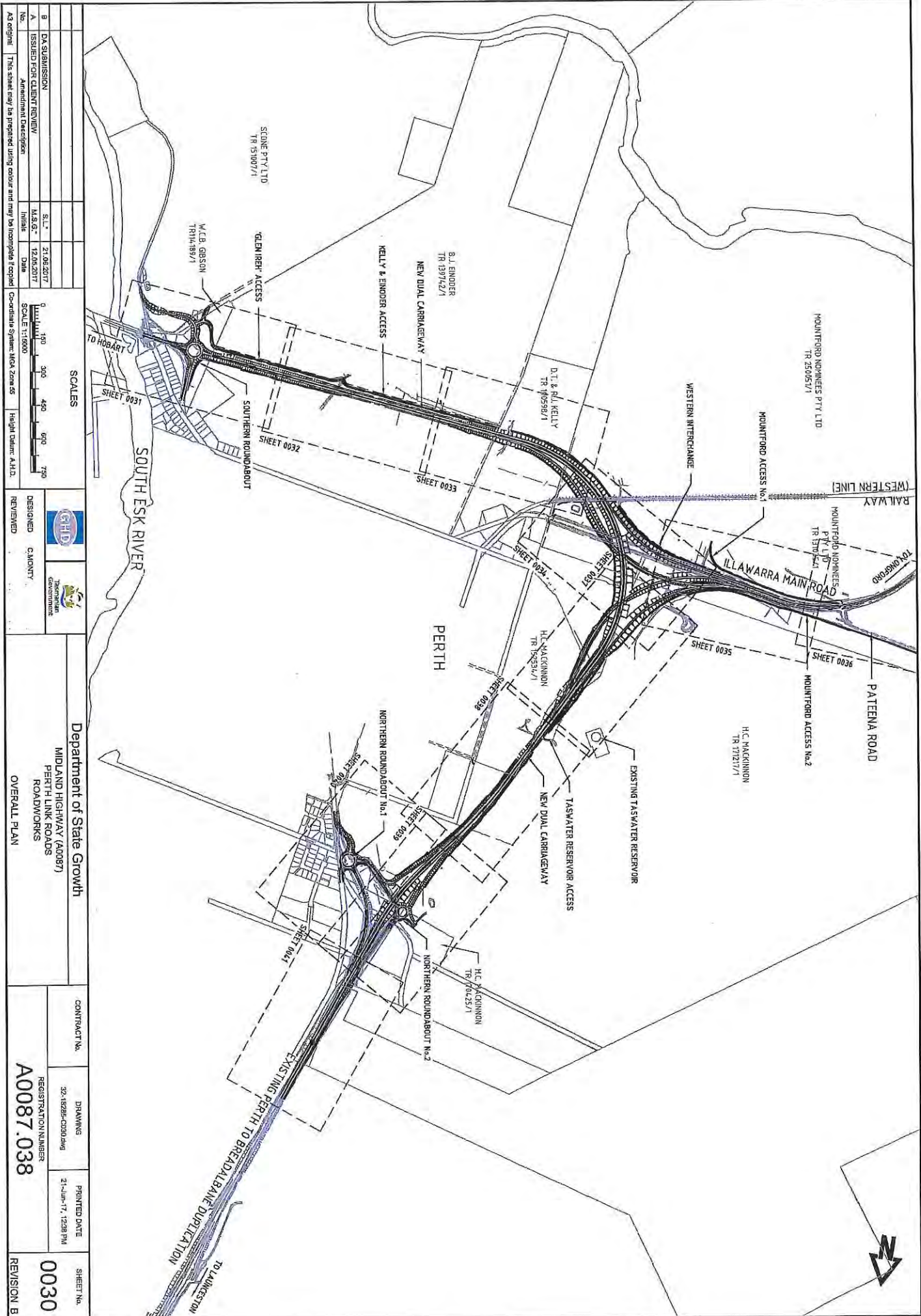
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CONTRACT NO.	DRAWING	PRINTED DATE	SHEET No.
32-18285-CO10-CON2AM	REGISTRATION NUMBER	21-Jun-17, 12:29 PM	0012
	A0087.038		REVISION B

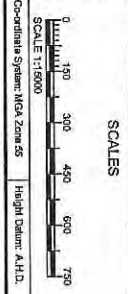
- NOTES:
- BATTER TREATMENT: FILL, 50mm THICK TOPSOIL AND HYDROMULCH CUT-HYDROMULCH (HYDROMULCH TO BE NATIVE SPECIES SEED MIX)
 - CONTRACTOR'S GEOTECHNICAL PRACTITIONER TO ASSESS THE CUT BATTER DURING CONSTRUCTION. ADDITIONAL REINFORCEMENT (SUCH AS ROCK ANCHORS) MAY BE REQUIRED IF THE JOINTING IS UNFAVOURABLE.

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS
TYPICAL SECTIONS - SHEET 3

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No.	Revision Description	Initials	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.09.2017
B	DA SUBMISSION	S.L.	21.09.2017



DESIGNED BY: GHID

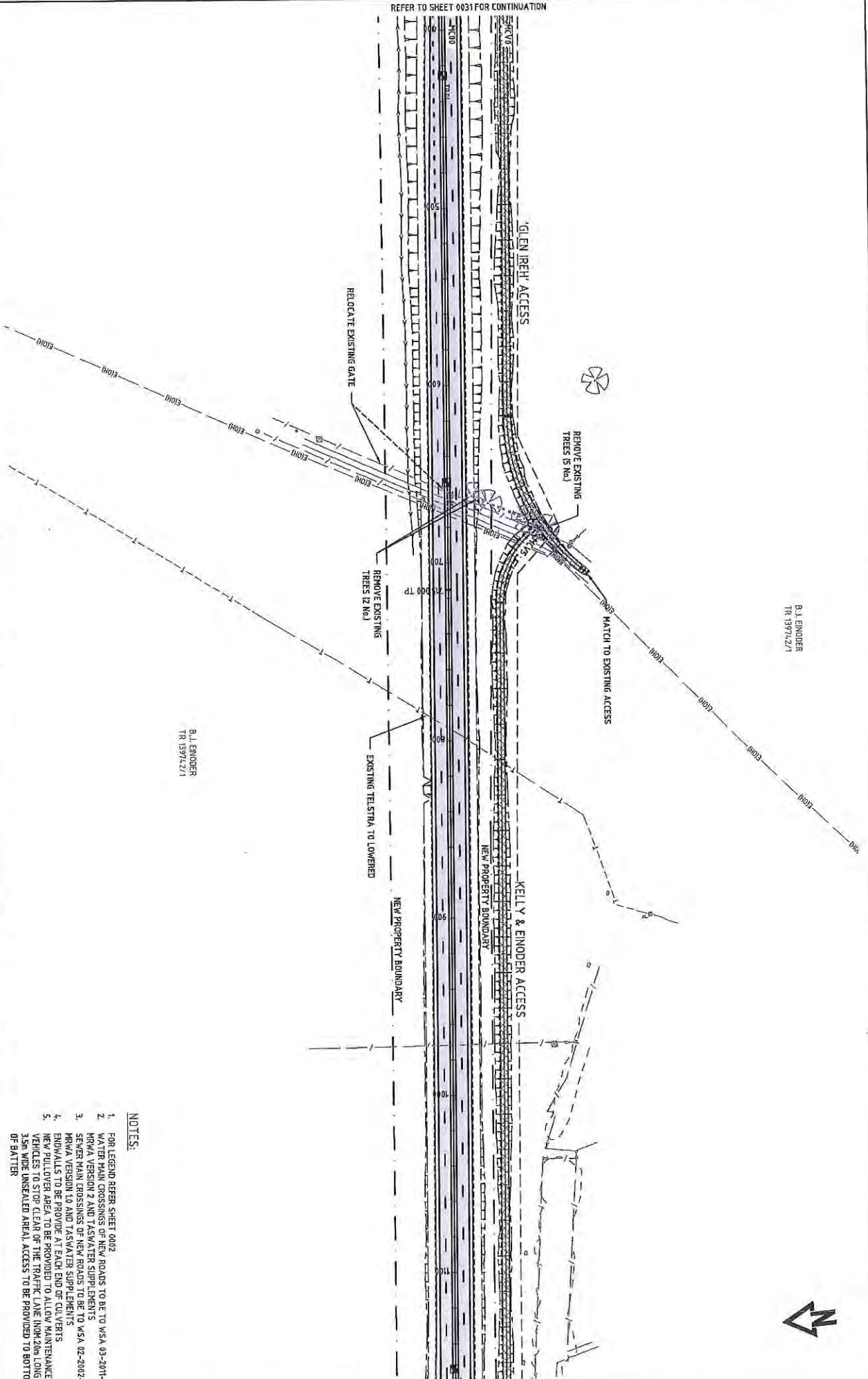
REVIEWED BY: TASMANIAN GOVERNMENT

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
 OVERALL PLAN

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	32-18285-C030-040	21-Jul-17, 12:28 PM	0030
	REGISTRATION NUMBER		REVISION B
	A0087.038		

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REFER TO SHEET 0031 FOR CONTINUATION



REFER TO SHEET 0033 FOR CONTINUATION

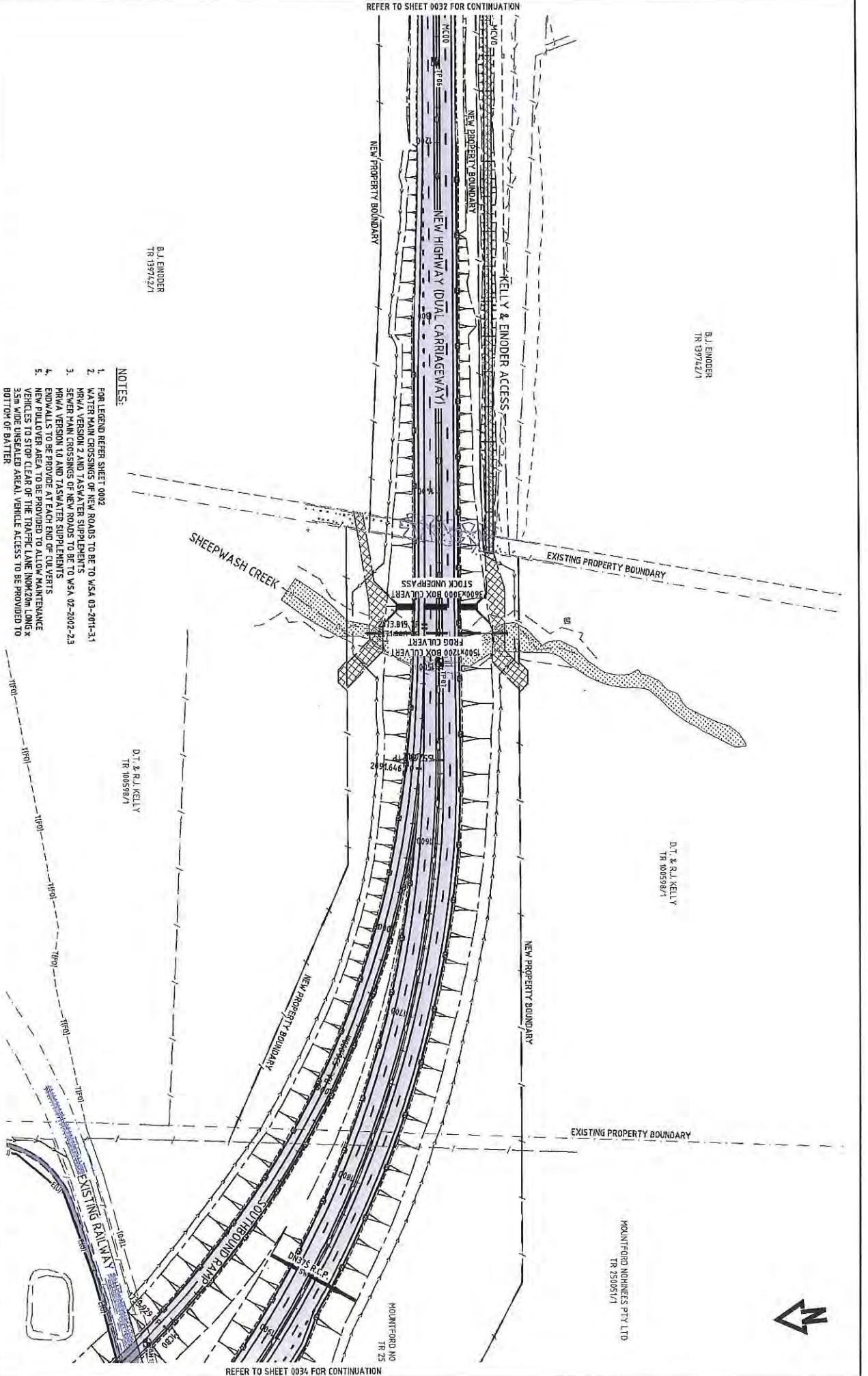
NOTES:

1. FOR LEGEND REFER SHEET 0002
2. WATER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 03-2011-31
3. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-23
4. NEW PULLOVER AREA TO BE PROVIDED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE (NON-20m LONG x 3.5m WIDE UNSEALD AREA), ACCESS TO BE PROVIDED TO BOTTOM OF BATTER
5. ENDWALLS TO BE PROVIDED AT EACH END OF CULVERTS
6. NEW PULLOVER AREA TO BE PROVIDED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE (NON-20m LONG x 3.5m WIDE UNSEALD AREA), ACCESS TO BE PROVIDED TO BOTTOM OF BATTER

NO.	AMENDMENT DESCRIPTION	DATE	
B	DA SUBMISSION	21.08.2017	
A	ISSUED FOR CLIENT REVIEW	12.08.2017	
<p>Coordinate System: MGA Zone 55 Height Datum: A.H.D.</p>			
<p>SCALES</p> <p>0 20 40 60 80 100</p> <p>SCALE 1:2000</p>			
		<p>DESIGNED BY: GHD CHECKED BY: GHD</p>	
<p>Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS</p>			
<p>GENERAL ARRANGEMENT PLAN - SHEET 2</p>			
CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	32-18286-031-0044.dwg	21-Jun-17, 12:38 PM	0032
REGISTRATION NUMBER			REVISION B
A0087.038			

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REFER TO SHEET 0032 FOR CONTINUATION



NOTES:

1. FOR LEGEND, REFER SHEET 0002
2. WATER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 03-2011-31
3. MRYLA VERSION 2 AND TASYATER SUPPLEMENTS
4. SEWER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-23
5. MRYLA VERSION 10 AND TASYATER SUPPLEMENTS
6. ENDWALLS TO BE PROVIDED AT EACH END OF CULVERTS
7. NEW PULLOVER AREA TO BE PROVIDED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE 10Mx20M LONG X 3.5M WIDE UNSEALED AREA. VEHICLE ACCESS TO BE PROVIDED TO BOTTOM OF BATTER

B.J. ENDODER
TR 139742/1

B.J. ENDODER
TR 139742/1

D.T. & R.J. KELLY
TR 100598/1

D.T. & R.J. KELLY
TR 100598/1

MOUNTFORD ENGINEERS PTY LTD
TR 250051/1



REFER TO SHEET 0034 FOR CONTINUATION

No.	Amendment Description	Issue	Date
A	ISSUED FOR CLIENT REVIEW	WS.G.	12.08.2017
B	DA SUBMISSION	S.L.	21.08.2017
C	NEW PROPERTY BOUNDARIES AMENDED	S.L.	08.07.2017

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Coordinate System: MGA Zones 55

Height Datum: A.H.D.

Scale: 1:2000

0 20 40 60 80 100

DESIGNED: C.MONTY

REVIEWED:

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS

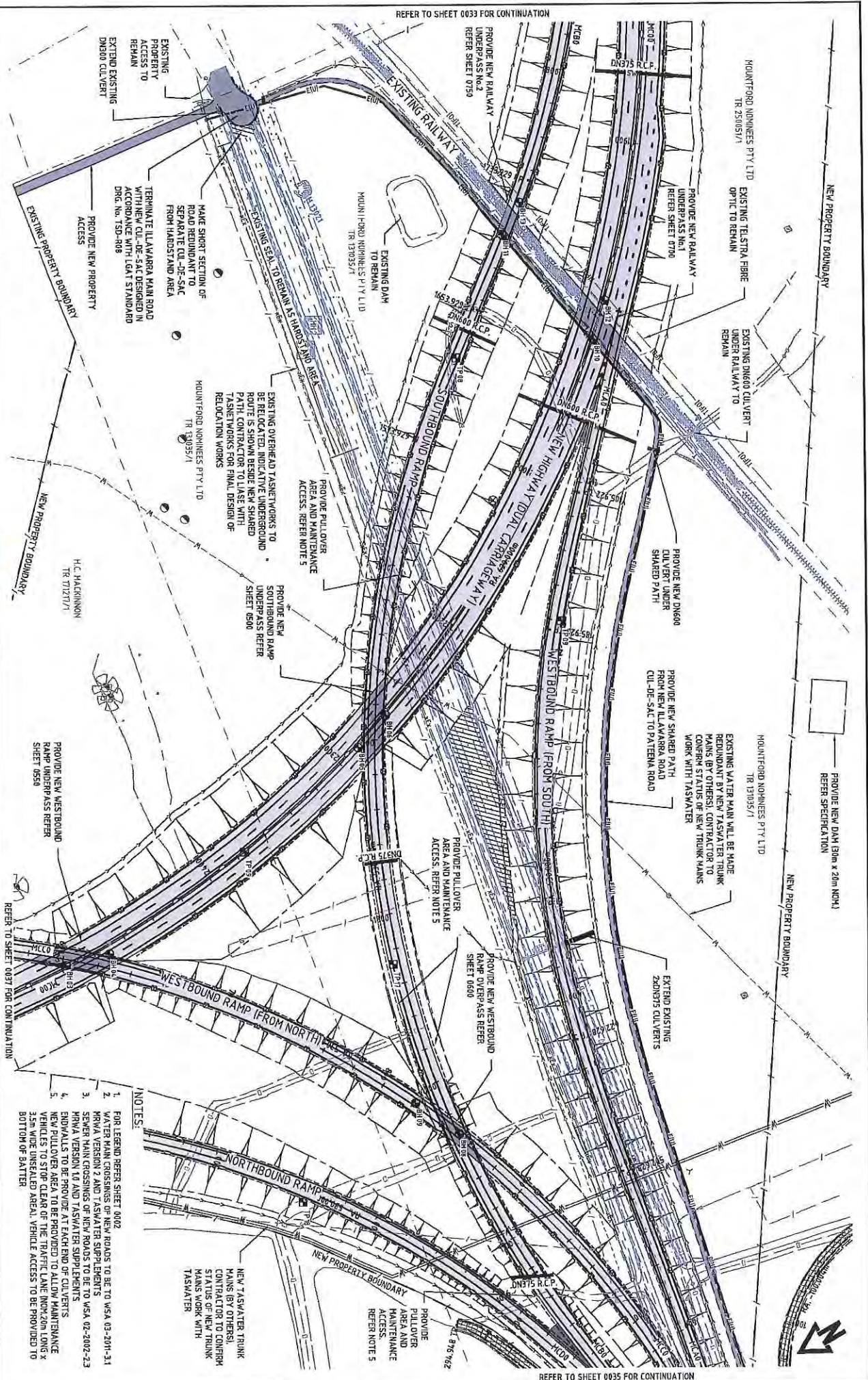
CONTRACT No. 33-18285-C031 - CH4, 4M4

DRAWING REGISTRATION NUMBER: A0087.038

PRINTED DATE: 05-10-17, 11:40 AM

SHEET No. 0033

REVISION C



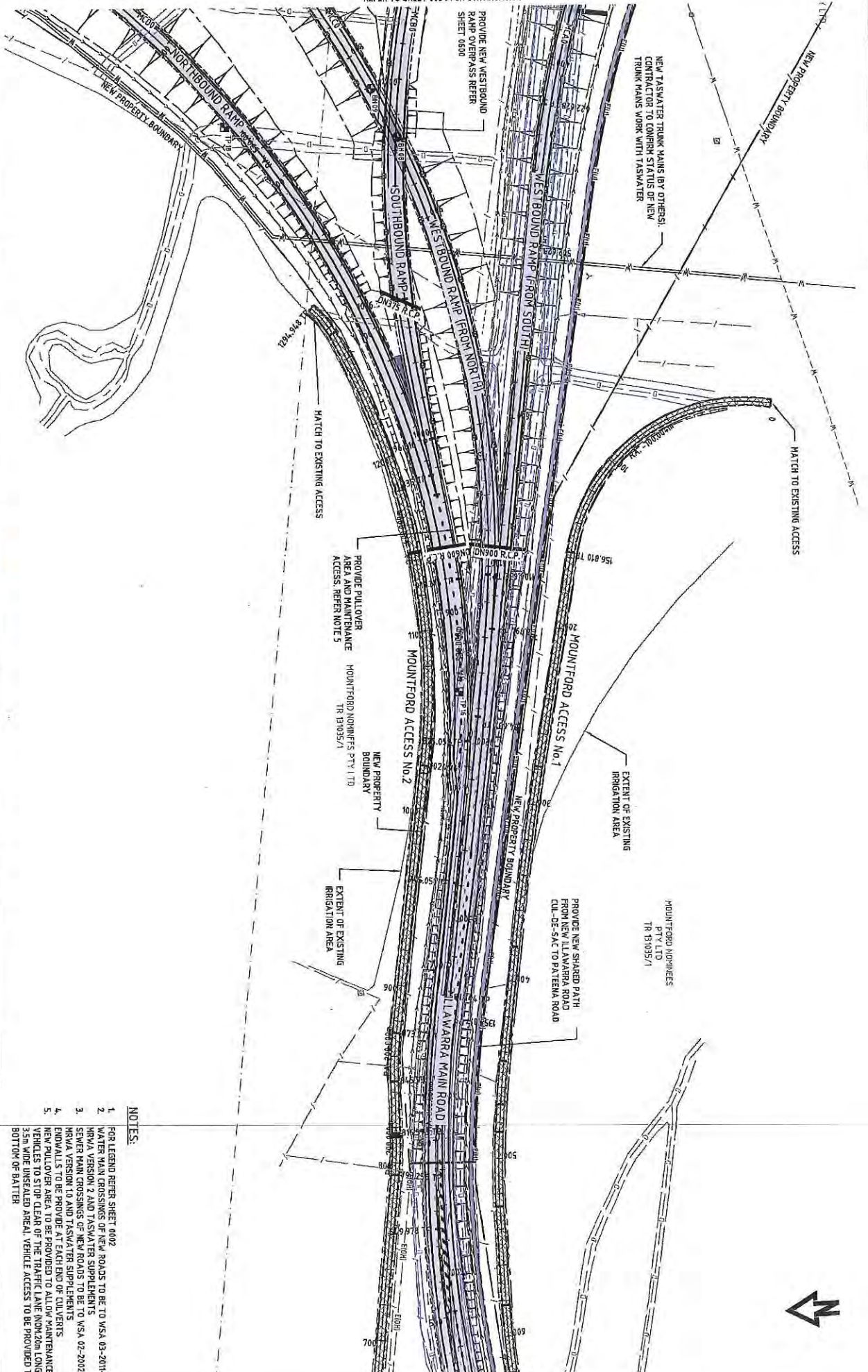
REFER TO SHEET 0033 FOR CONTINUATION

REFER TO SHEET 0035 FOR CONTINUATION

- NOTES:**
1. FOR LEGEND REFER SHEET 0002
 2. WATER MAIN CROSSINGS OF NEW ROADS TO BE TO USA 03-2011-31
 3. MPA VERSION 2 AND TASMATER SUPPLEMENTS
 4. SEWER MAIN CROSSINGS OF NEW ROADS TO BE TO USA 02-2002-23
 5. MPA VERSION 1.0 AND TASMATER SUPPLEMENTS
 6. ENDWALLS TO BE PROVIDED AT EACH END OF CULVERTS
 7. NEW PULLOVER AREA TO BE PROVIDED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE (NOW 20M LONG x 3.5M WIDE UNSEALD AREA). VEHICLE ACCESS TO BE PROVIDED TO BOTTOM OF BATTER

<p>Department of State Growth MIDLAND HIGHWAY (A0087) PERTHLINK ROADS ROADWORKS</p>		<p>CONTRACT No. 32-1B2B5-C031-C041-DWG DRAWING REGISTRATION NUMBER A0087.038 PRINTED DATE 06-Jul-17 11:41 AM</p>		<p>SHEET No. 0034 REVISION: C</p>	
<p>DESIGNED BY: GHID CHECKED BY: GHID REVIEWED BY: GHID</p>		<p>SCALE: 1:2000 0 20 40 60 80 100 MILLIMETRE</p>		<p>DATE: 12/05/2017 SCALE: 1:2000</p>	
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<p>NO. 4 DESCRIPTION: ISSUED FOR CLIENT REVIEW</p>		<p>NO. 5 DESCRIPTION: M.S.G.</p>		<p>NO. 6 DESCRIPTION: M.S.G.</p>	

REFER TO SHEET 0034 FOR CONTINUATION



REFER TO SHEET 0036 FOR CONTINUATION

No.	Amendment Description	Initials	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.03.2017
B	DA SUBMISSION	S.L.C.	21.08.2017
C	NEW PROPERTY BOUNDARIES AMENDED	S.L.C.	06.07.2017

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SCALES

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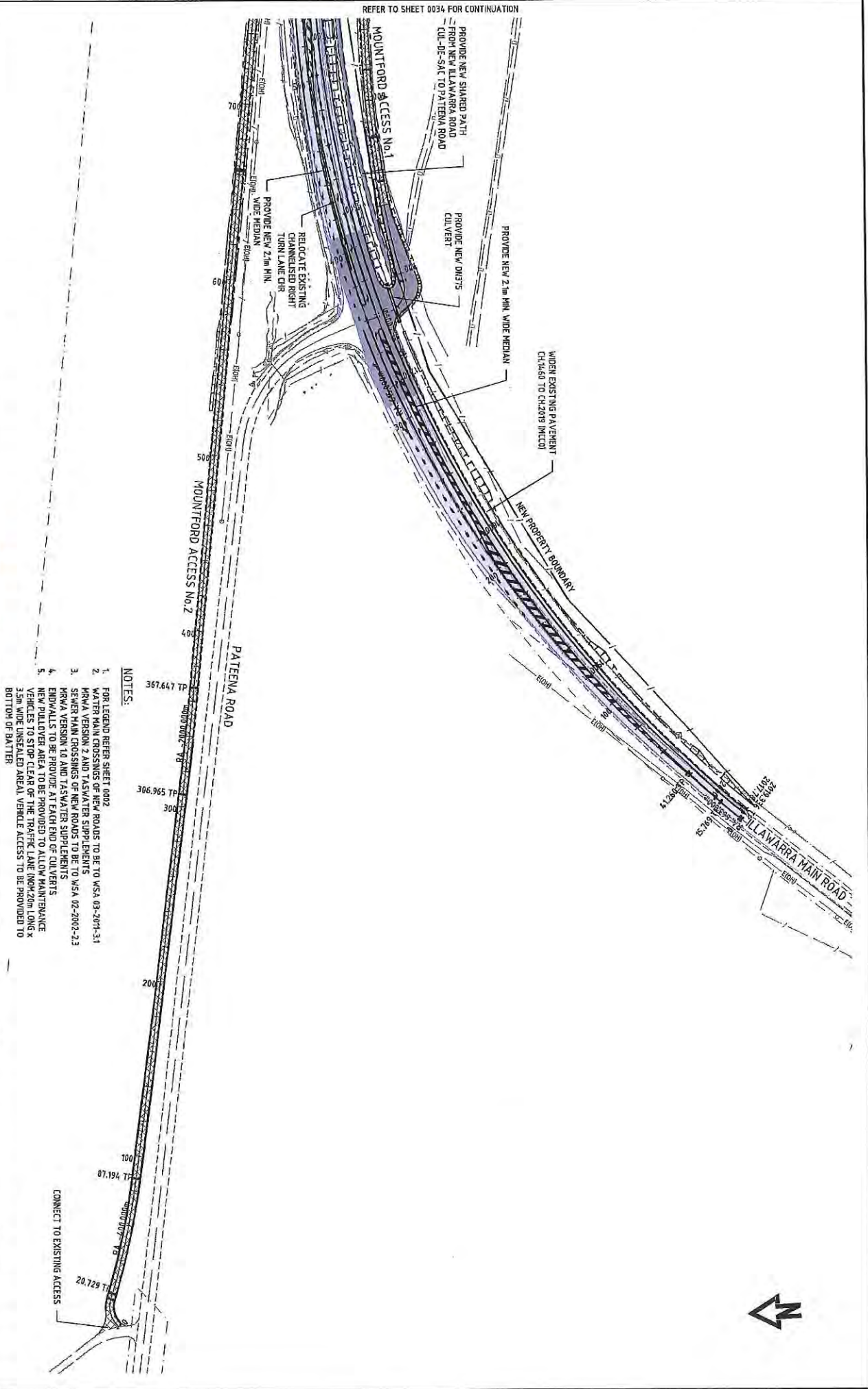
DESIGNED: **CAHID** CONSULTANTS
 REVIEWED: **CAHID** CONSULTANTS

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
A0087.038	32-18285-039_034.dwg	06-Jul-17, 1:54 AM	0035
REGISTRATION NUMBER	REVISION		
	C		

- NOTES:**
- FOR LEGEND REFER SHEET 0002
 - WATER MAIN GROSSINGS OF NEW ROADS TO BE TO USA 03-2011-31
 - SEWER MAIN GROSSINGS OF NEW ROADS TO BE TO USA 02-2002-23
 - SEWER MAIN GROSSINGS TYPICAL SUPPLEMENTS
 - NEW VENTS TO BE PROVIDED AT EACH END OF CURVERTS
 - NEW PULL OVER AREA TO BE PROVIDED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE (NON-ZONING) LONG X 3.5M WIDE UNSEALD AREA, VEHICLE ACCESS TO BE PROVIDED TO BOTTOM OF BATTER

REFER TO SHEET 0034 FOR CONTINUATION



- NOTES:**
1. FOR LEGEND REFER SHEET 0002
 2. WATER MAIN CROSSINGS OF NEW ROADS TO BE TO USA 03-2011-31
 3. SEWER MAIN CROSSINGS OF NEW ROADS TO BE TO USA 02-2002-23
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 - 5.

No.	Amendment Description	Date
A	ISSUED FOR CLIENT REVIEW	12.03.2017
B	DA SUBMISSION	21.03.2017
C	NEW PROPERTY BOUNDARIES AMENDED	08.07.2017

SCALES

0 30 60 90 120

SCALE 1:2000

Coordinate System: UTM Zone 55

Height Datum: A.H.D.

DESIGNED: **CHD**

REVIEWED: **C.MOONEY**

Perth and Kinross
Government

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS

GENERAL ARRANGEMENT PLAN - SHEET 6

CONTRACT No. 32-18286-C031_C041_04W

DRAWINGS

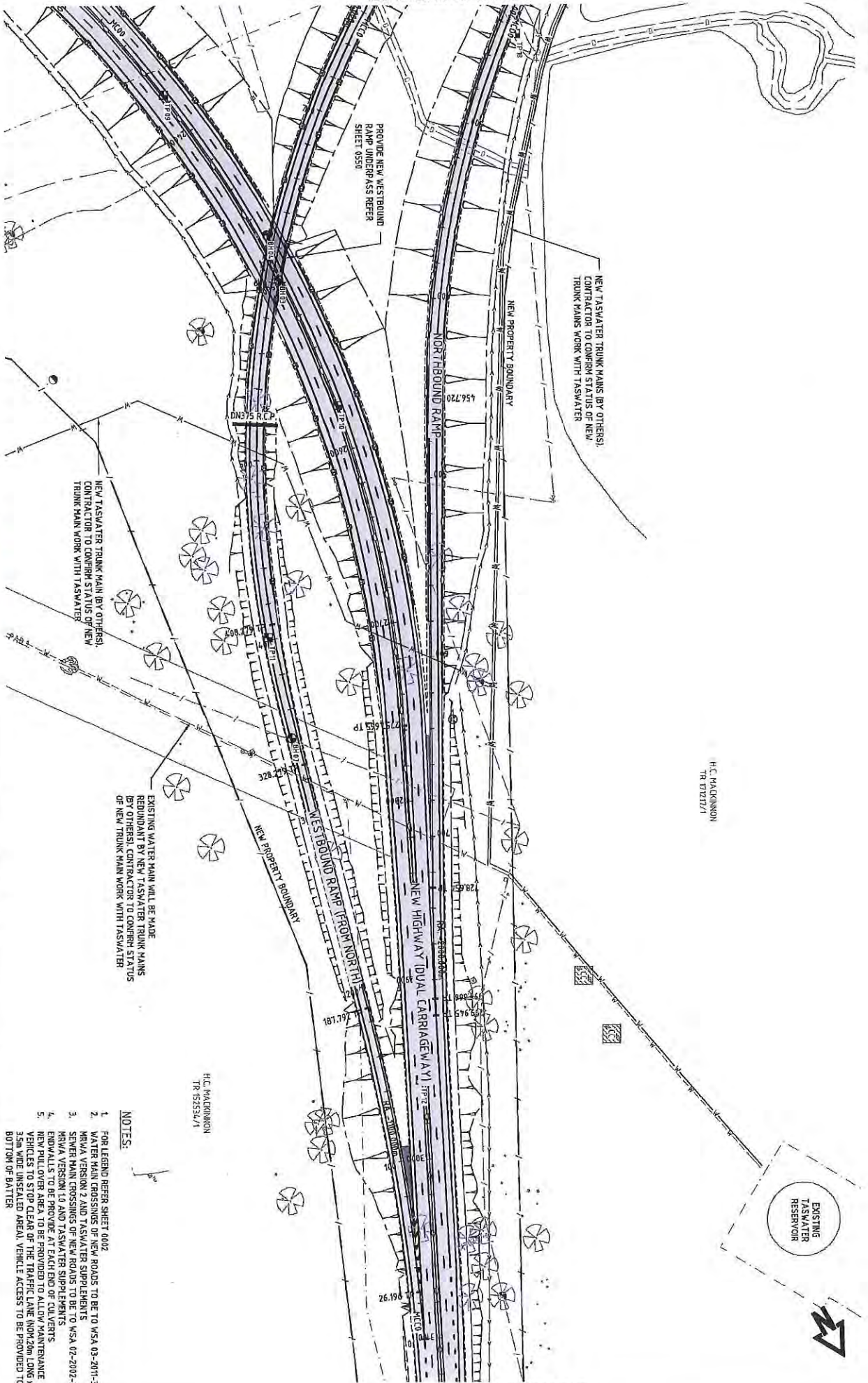
REGISTRATION NUMBER
A0087.038

PRINTED DATE
05-JUL-17, 11:41 AM

SHEET No.
0036

REVISION C

REFER TO SHEET 0034 FOR CONTINUATION



REFER TO SHEET 0038 FOR CONTINUATION

<p>NEW PROPERTY BOUNDARIES AMENDED</p>		S.L.	06.07.2017
<p>DA SUBMISSION</p>		S.L.	21.08.2017
<p>ISSUED FOR CLIENT REVIEW</p>		M.S.G.	12.08.2017
No.	Amendment Description	Initials	Date
<p>As of date: This sheet may be prepared using colour and may be incomplete if copied</p>			
<p>Coordinate System: MGA Zone 55</p>		Height Datum:	A.H.D.
<p>DESIGNED: CHD</p>		<p>REVIEWED: CAMONTY</p>	
<p>Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS</p>			
<p>CONTRACT No.</p>		<p>DRAWING</p>	
<p>32-18288-C03-1081 (A) & (B)</p>		<p>06-10-17, 11-01-18</p>	
<p>REGISTRATION NUMBER</p>		<p>PRINTED DATE</p>	
<p>A0087.038</p>		<p>0037</p>	
<p>GENERAL ARRANGEMENT PLAN - SHEET 7</p>		<p>SHEET No.</p>	
<p>REVISION C</p>		<p>REVISION C</p>	

- NOTES:
1. FOR LEGEND REFER SHEET 0002
 2. WATER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 03-2011-3.1
 3. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 4. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 5. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 6. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 7. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 8. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 9. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 10. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 11. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 12. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 13. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 14. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 15. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 16. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 17. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 18. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 19. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3
 20. NEW MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-2.3

EXISTING WATER MAIN WILL BE MADE REDUNDANT BY NEW TSWATER TRUNK MAINS BY OTHERS. CONTRACTOR TO CONFIRM STATUS OF NEW TRUNK MAIN WORK WITH TSWATER

PROVIDE NEW WESTBOUND RAMP UNDERPASS REFER SHEET 0550

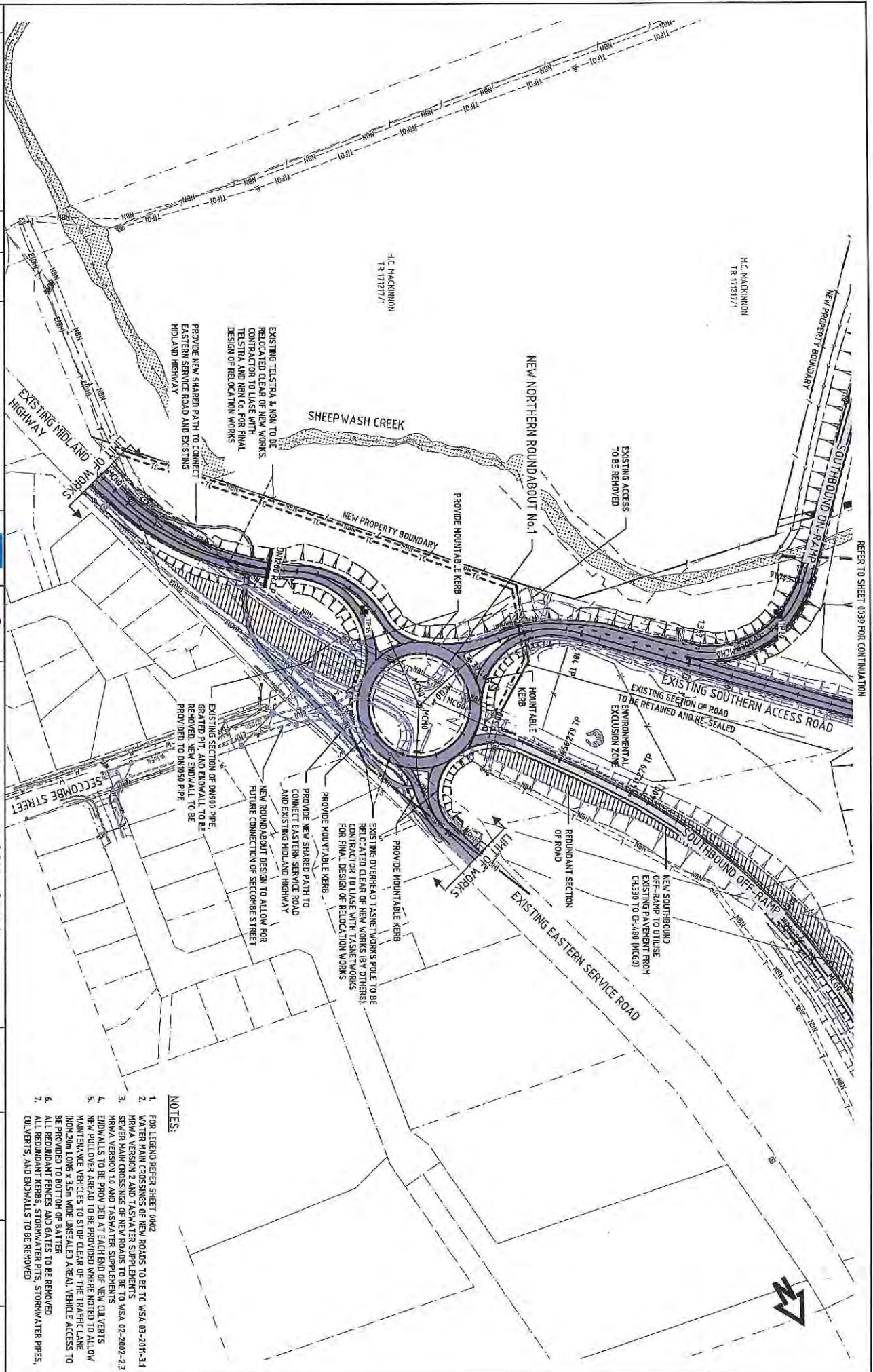
NEW TSWATER TRUNK MAINS BY OTHERS. CONTRACTOR TO CONFIRM STATUS OF NEW TRUNK MAINS WORK WITH TSWATER

H.C. MACKINNON TR 01217/1

H.C. MACKINNON TR 05233/1

EXISTING TSWATER RESERVOIR





REFER TO SHEET 0039 FOR CONTINUATION

No.	Amendment Description	Date
A	ISSUED FOR CLIENT REVIEW	12.06.2017
B	DA SUBMISSION	21.06.2017
C	EXTENT OF ERS KERB FOR MANG AMENDED	10.07.2017

SL -	10.07.2017
SL -	21.06.2017
MS - G -	12.06.2017

SCALES

0 20 40 80 160

SCALE 1:2000

Coordinate system: MGA Zone 55

Height datum: AHD

DESIGNED BY: **GHD**

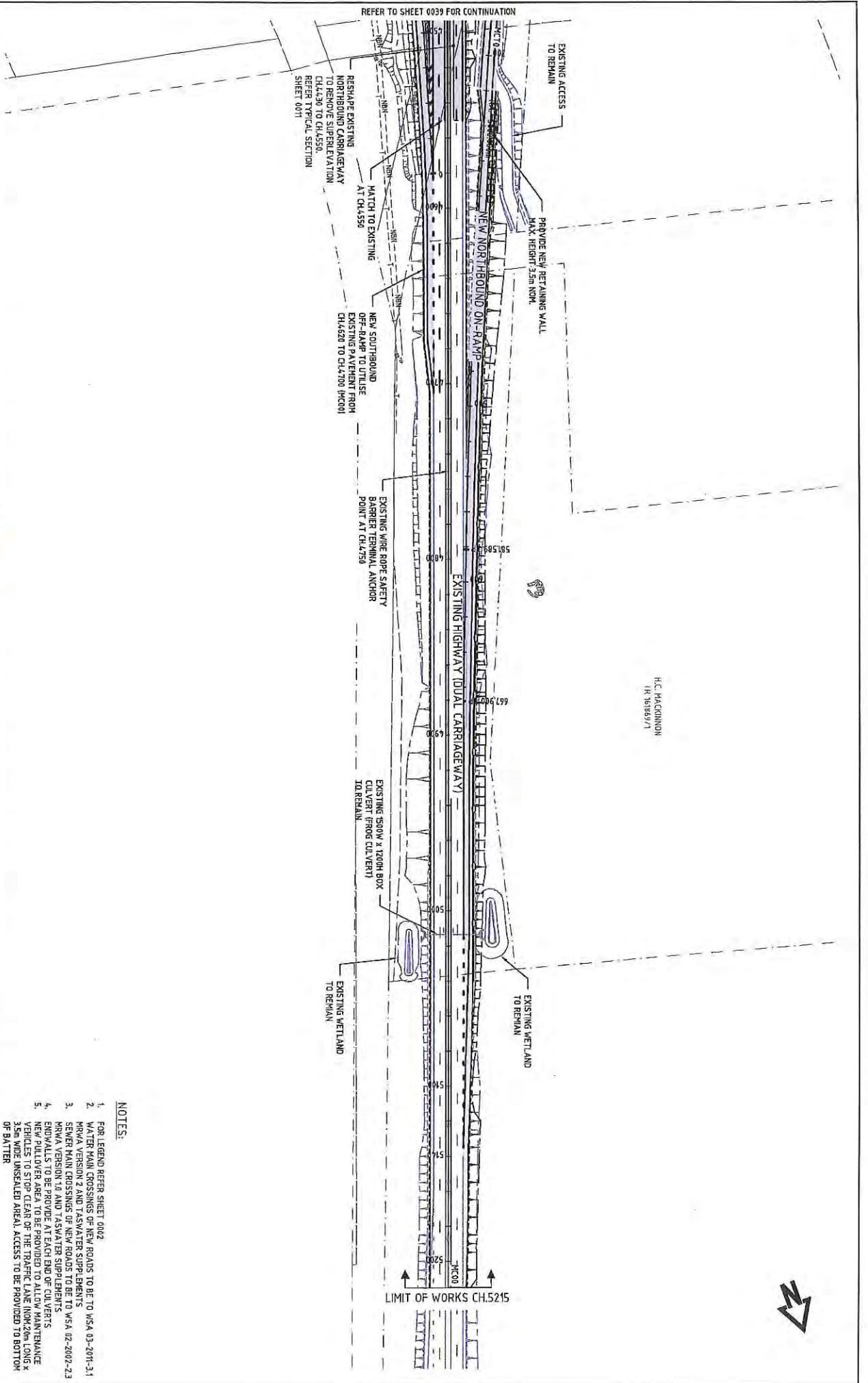
REVIEWED BY: **COMINTY**

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS

CONTRACT No.	22-18285-0381_0041.dwg	PRINTED DATE	10 JUL 17 10:58 AM
DRAWING	REGISTRATION NUMBER	SHEET No.	0040
A0087.038		REVISION C	

NOTES:

- FOR LEGEND REFER SHEET 0002
- WATER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 03-2011-31
- RYVA VERSION 2 AND TASMATER SUPPLEMENTS
- SEVERAL MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-23
- RYVA VERSION 16 AND TASMATER SUPPLEMENTS
- ENDWALLS TO BE PROVIDED AT EACH END OF NEW CURVERTS
- NEW PULLOVER AREAS TO BE PROVIDED WHERE NOTED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE
- NON-ZONE LONG x 2.5M WIDE UNSEALED AREAS, VEHICLE ACCESS TO BE PROVIDED TO BOTH SIDES OF 3METER
- ALL REDUNDANT FENCES AND GATES TO BE REMOVED
- ALL REDUNDANT TRENCHES, STORMWATER PITS, STORMWATER PIPES, COLLECTORS, AND ENDWALLS TO BE REMOVED



REFER TO SHEET 0039 FOR CONTINUATION

RESHAPE EXISTING NORTHBOUND CARRIAGEWAY TO REMOVE SUPERELEVATION REFER TYPICAL SECTION SHEET 0011

NEW SOUTHBOUND OFF-RAMP TO UTILESE EXISTING PAYMENT FROM CH4520 TO CH4700 (MCO1)

EXISTING WIRE ROPE SAFETY BARRIER TERMINAL ANCHOR POINT AT CH4750

EXISTING 1500W x 1200H BOX CULVERT (FROM CULVERT) TO REMAIN

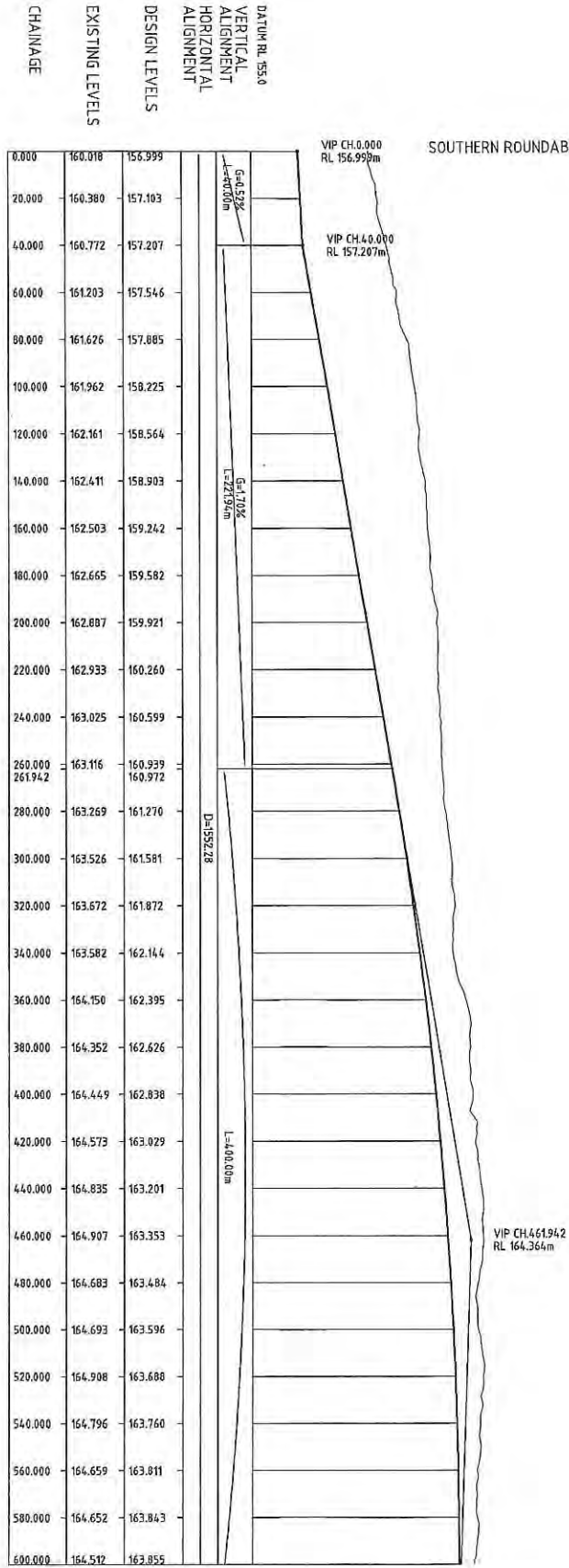
EXISTING WETLAND TO REMAIN

LIMIT OF WORKS CH.5215

- NOTES:**
- FOR LEGEND REFER SHEET 0002
 - WATER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 03-2011-31
 - MRWA VERSION 2 AND T&SWATER SUPPLEMENTS
 - SEWER MAIN CROSSINGS OF NEW ROADS TO BE TO WSA 02-2002-23
 - MRWA VERSION 1.0 AND T&SWATER SUPPLEMENTS
 - ENDWALLS TO BE PROVIDED AT EACH END OF CULVERTS
 - NEW PULLOVER AREA TO BE PROVIDED TO ALLOW MAINTENANCE VEHICLES TO STOP CLEAR OF THE TRAFFIC LANE (NON-20m LONG x 3.5m WIDE UNSEALED AREA). ACCESS TO BE PROVIDED TO BOTTOM OF BATTER

<p>SCALES</p> <p>0 20 40 60 80 100</p> <p>SCALE 1:2000</p>		<p>DESIGNED GHD</p> <p>REVIEWED C.MONITY</p>		<p>Department of State Growth</p> <p>MIDLAND HIGHWAY (A0087)</p> <p>PERTH LINK ROADS</p> <p>ROADWORKS</p>		<p>CONTRACT No. 32-18285-C031_C044.dwg</p> <p>DRAWING</p>		<p>PRINTED DATE 21-Jun-17, 12:59 PM</p>		<p>SHEET No. 0041</p>			
<p>A3 Original</p> <p>The sheet may be prepared using colour and may be incorporated if copied</p>		<p>Amendment Description</p> <p>SL-1</p> <p>Date 21.06.2017</p>		<p>Co-ordinate System: NGA Zone 55</p>		<p>Height Datum: A.H.D.</p>		<p>GENERAL ARRANGEMENT PLAN - SHEET 11</p>		<p>REGISTRATION NUMBER</p> <p>A0087.038</p>		<p>REVISION A</p>	

SOUTHERN ROUNDABOUT

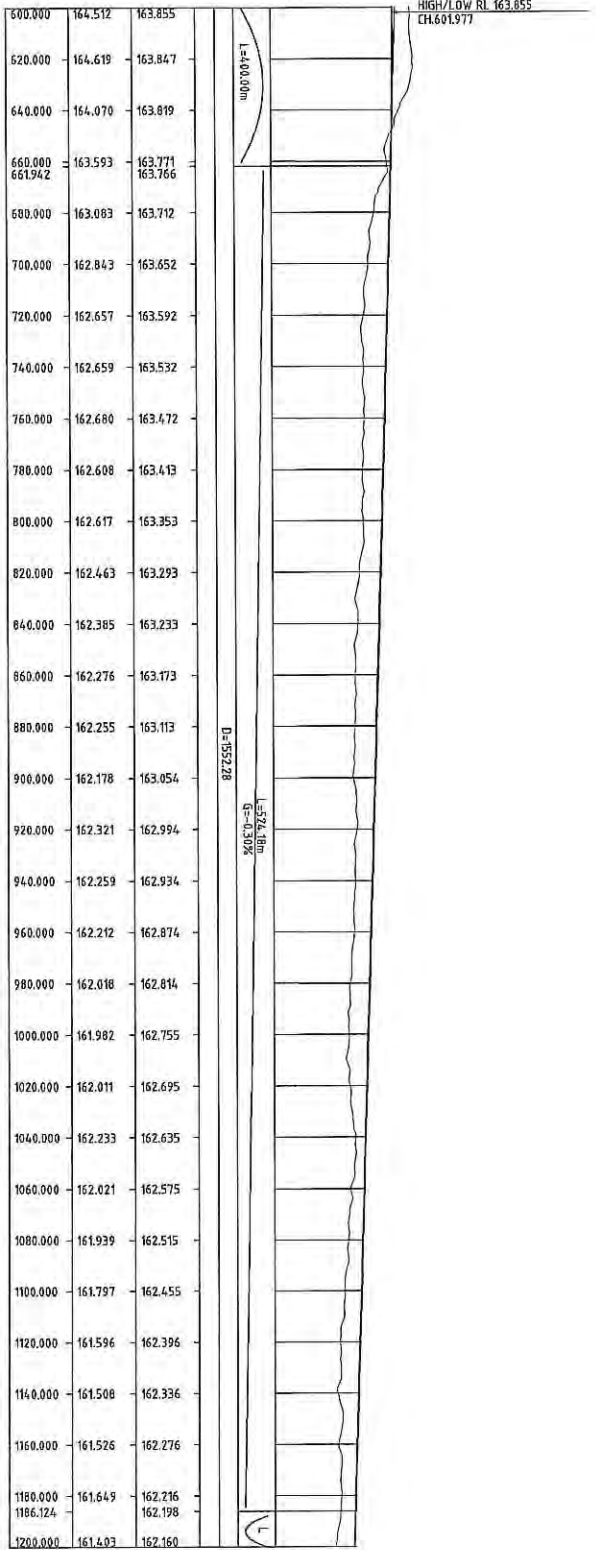


LONGITUDINAL SECTION (MCCO)
 SCALE 1:2000 HORIZ 1:200 VERT

No. DA SUBMISSION Issued For Client Review Initials S.L.* Date 21.08.2017		No. M.S.G. Amendment Description Initials M.S.G. Date 22.08.2017	
SCALES 0 2 4 6 8 10 HORIZ.		SCALES 0 2 4 6 8 10 VERT.	
DESIGNED CHAD REVIEWED CHAD		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION NEW HIGHWAY (MCCO) - CH.00 TO CH.600	
CONTRACT NO. 32-18285-C080_C088-049		DRAWING REGISTRATION NUMBER A0087.038	
PRINTED DATE 21-Jun-17 12:39 PM		SHEET NO. 0060	
REVISION B		REVISION B	

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DATUM RL 59.0
 VERTICAL ALIGNMENT
 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHAINAGE



LONGITUDINAL SECTION (MCD0)
 SCALE 1:2000 HORIZ 1:200 VERT

No.	Amendment Description	M.S.G.C. Initial	Date
8	DA SUBMISSION		21.08.2017
7	ISSUED FOR CLIENT REVIEW		12.02.2017

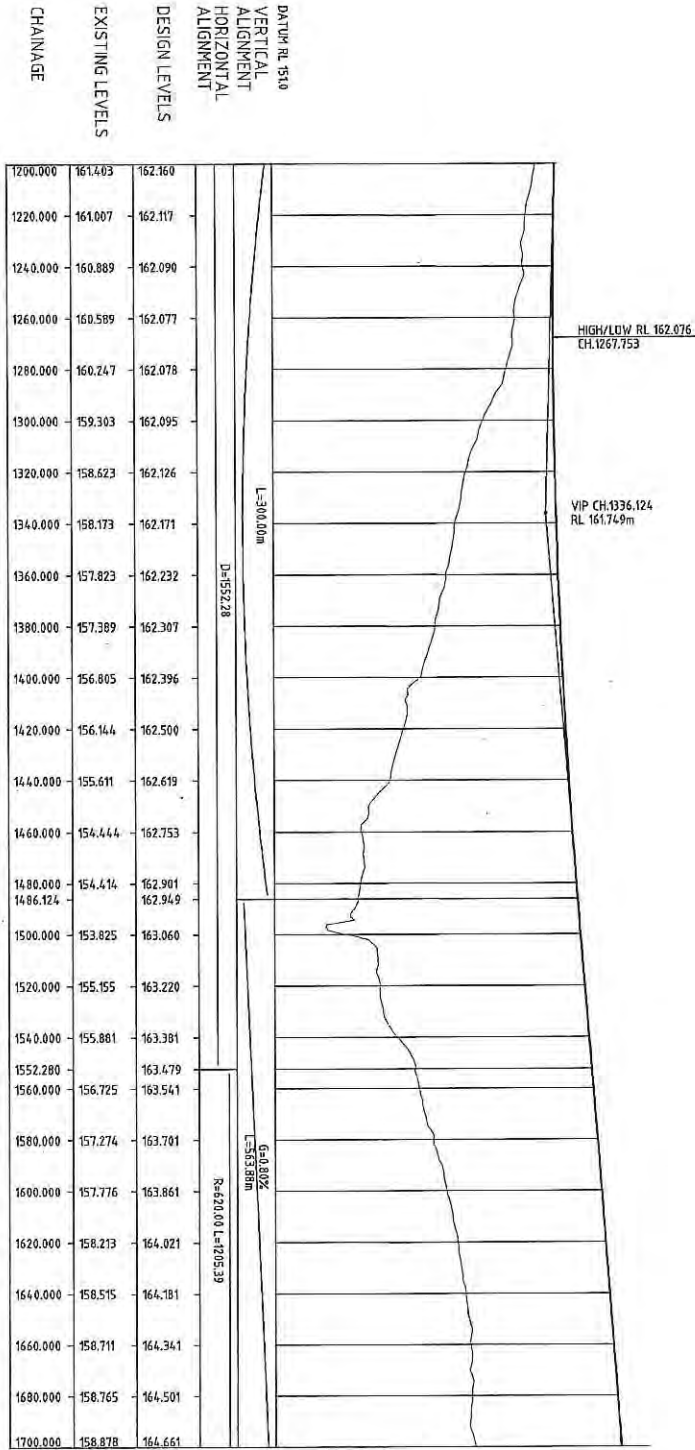
AS original This sheet may be prepared using colour and may be incomplete if copied

Co-ordinate System: MGA Zone 55
 Height Datum: AHD

DESIGNED: CH2M HILL
 REVIEWED: C.MONTY
 THIRTEENTH WESTERN GOVERNMENT

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADIMPROVRS
 LONGITUDINAL SECTION
 NEW HIGHWAY (MCD0) - CH1600 TO CH1200

CONTRACT No. 32-12895-C080_C088.dwg
 DRAWINGS
 PRINTED DATE 21-Jun-17, 12:39 PM
 REGISTRATION NUMBER A0087.038
 SHEET No. 0061
 REVISION B



LONGITUDINAL SECTION (MCD0)
SCALE 1:2000 HORIZ 1:200 VERT

No.	Revision Description	Initials	Date
8	DESIGN SUBMISSION		21.06.2017
7	ISSUED FOR CLIENT REVIEW		14.06.2017

SCALES

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0 20 40 60 80 HORIZ.

Co-ordinate System: NGA Zone 55

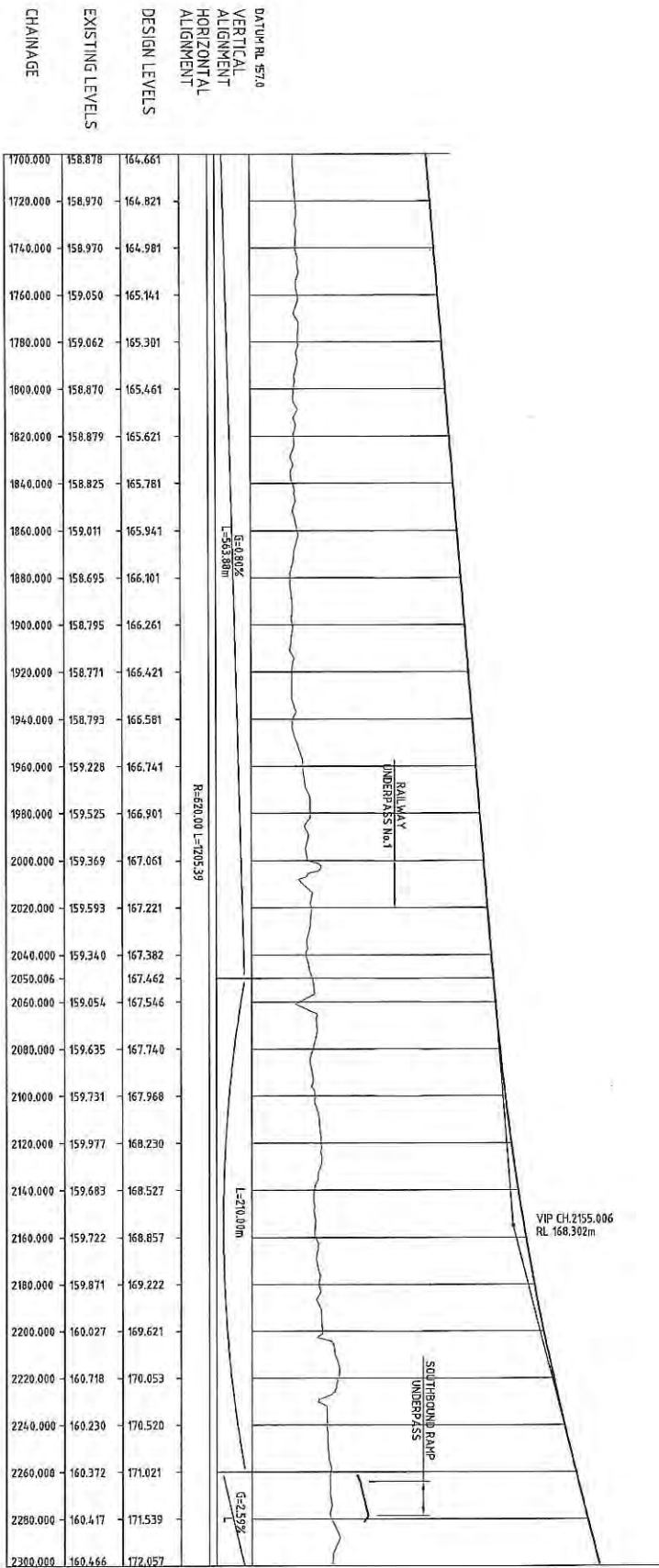
Height Datum: A.H.D.

DESIGNED BY: C.MONTY

REVIEWED BY:

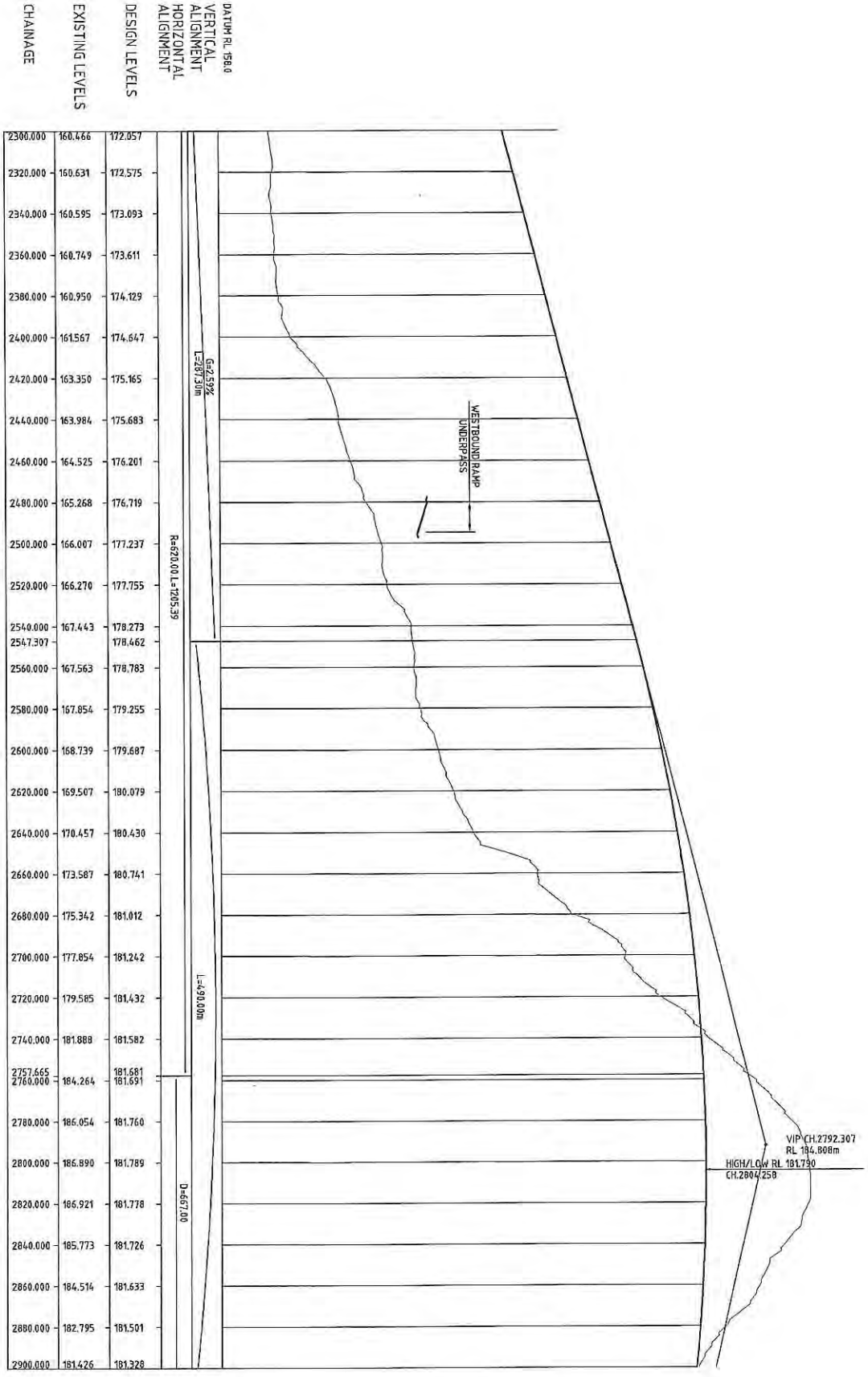
Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS
LONGITUDINAL SECTION
NEW HIGHWAY (MCD0) - CH. 1200 TO CH. 1700

CONTRACT No.	DRAWINGS	PRINTED DATE	SHEET No.
	32-18286-C080_C088.dwg	21-Jun-17, 12:39 PM	0062
REGISTRATION NUMBER	A0087.038		REVISION B



LONGITUDINAL SECTION (MFC001)
SCALE 1:2000 HORIZ 1:200 VERT

SCALES 0 2 4 6 8 10 0 20 40 60 80 VERT. HORIZ.		DESIGNED G.MONTY		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION NEW HIGHWAY (MCO0) - CH.1700 TO CH.2300	
DA SUBMISSION 21.06.2017 21.06.2017		CONTRACT NO. 32-19295-C080_C088.dwg		DRAWING 21-Jun-17, 12:29 PM	
ISSUED FOR CLIENT REVIEW 12.06.2017		REGISTRATION NUMBER A0087.038		PRINTED DATE 21-Jun-17, 12:29 PM	
Amendment Description Nil		SHEET NO. 0063		REVISION B	
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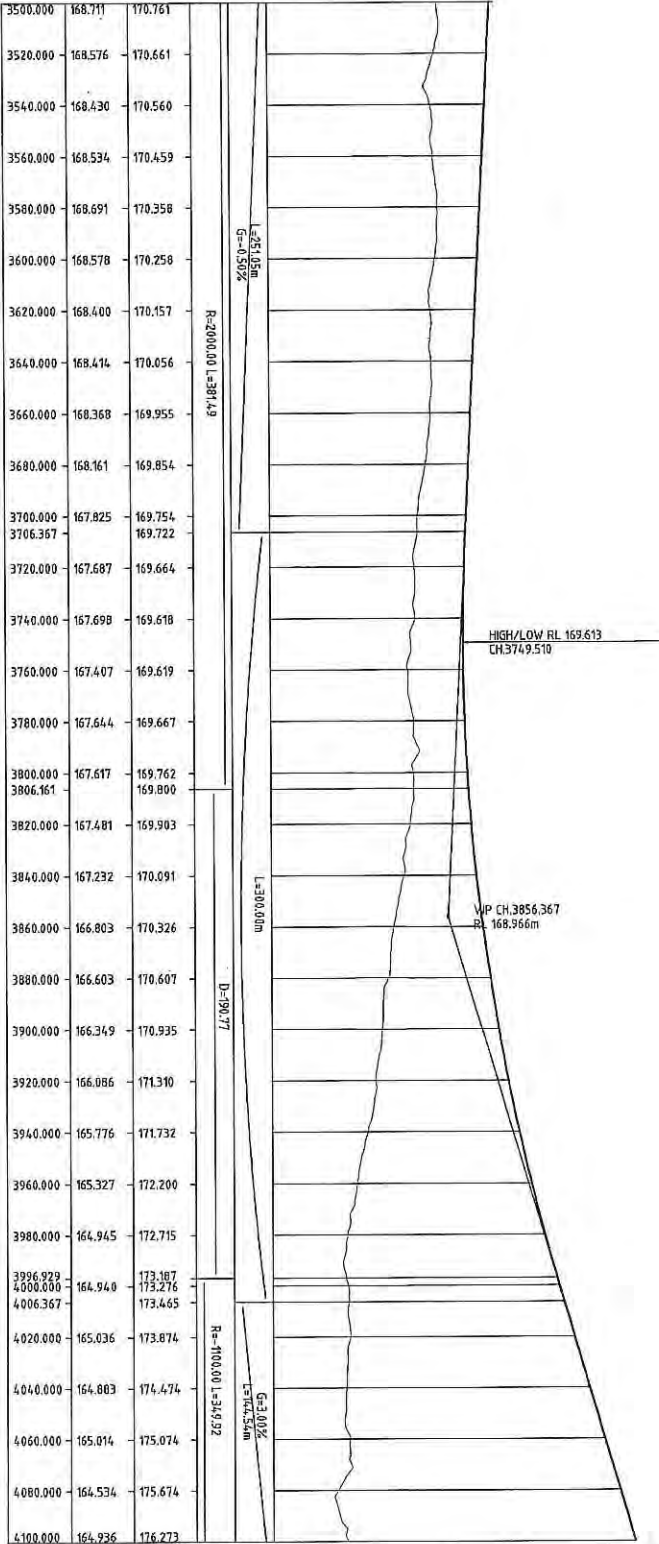


DATUM RL - 158.0
 VERTICAL ALIGNMENT
 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHAINAGE

LONGITUDINAL SECTION [MCO0]
 SCALE 1:2000 HORIZ 1:200 VERT

No. DA SUBMISSION ISSUED FOR CLIENT REVIEW M.S.G. - 12/08/2017 Date		S.L. - 21/08/2017 M.S.G. - 12/08/2017 Date	
Amended Description [This sheet may be prepared using colour and may be incomplete if copied]			
Co-ordinate System: High Zone 55		Height Datum: A.H.D.	
DESIGNED C.MOUNTY		REVIEWED	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION NEW HIGHWAY (MCO0) - CH.2300 TO CH.2900			
CONTRACT NO.	DRAWING	PRINTED DATE	SHEET NO.
30-14086-CR01-CR08-046	20-14086-CR01-CR08-046	21-Jun-17 12:38 PM	0064
REGISTRATION NUMBER A0087.038		REVISION B	

DATA: RL: 162.6
 VERTICAL ALIGNMENT
 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHANGE



LONGITUDINAL SECTION (MCD)
 SCALE 1:2000 HORZ 1:200 VERT

No.	Amendment Description	Date
A	AS SUBMISSION	21.06.2017
B	ISSUED FOR CLIENT REVIEW	12.02.2017

SCALES

VERT. 1:200
 HORZ. 1:2000

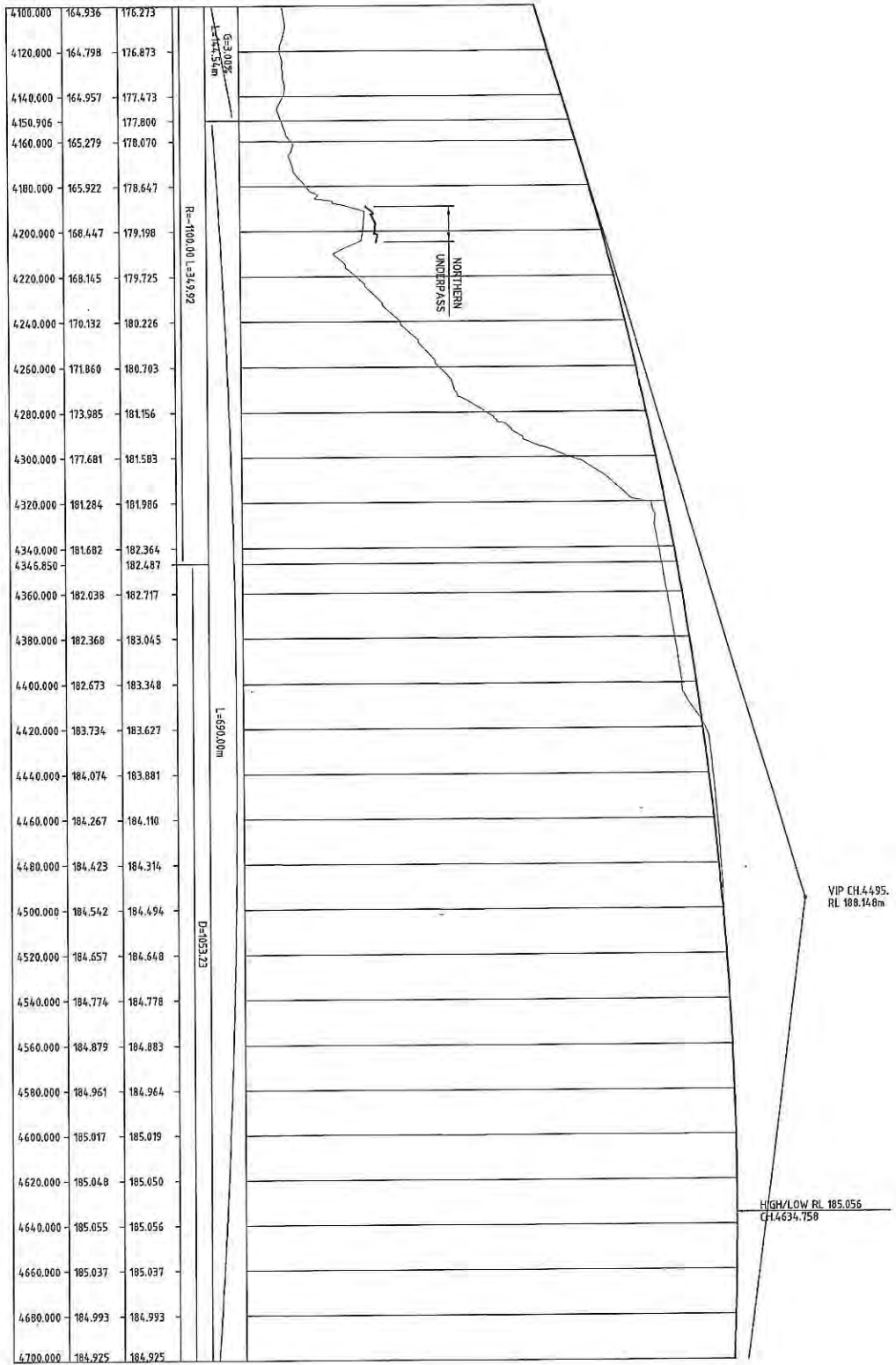
Coordinate System: MGA Zone 55
 Height Datum: A.H.D.

DESIGNED: C.MONTY
 REVIEWED: [Signature]

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
 LONGITUDINAL SECTION
 NEW HIGHWAY (MCD) - CH: 3800 TO CH: 4100

CONTRACT No. 32-18295-CR01 CR03 349
 DRAWING REGISTRATION NUMBER A0087.038
 PRINTED DATE 21-Jun-17 12:28 PM
 SHEET No. 0066
 REVISION B

DATUM RL: 63.0
 VERTICAL ALIGNMENT
 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHANGE



LONGITUDINAL SECTION (M.C.00)
 SCALE 1:2000 HORIZ, 1:200 VERT

No.	Amendment Description	Initials	Date
B	DA SUBMISSION		21.06.2017
A	ISSUED FOR CLIENT REVIEW	MSSC	12.06.2017

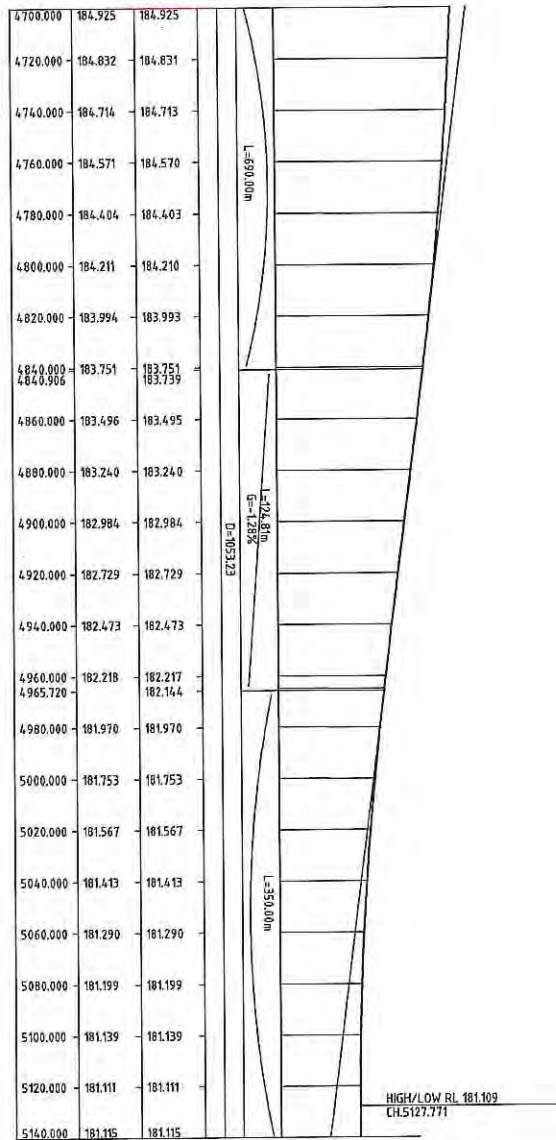
SCALES	
0	VERT.
20	
40	
60	
80	
100	HORIZ.

DESIGNED BY: CHD
 C.MONTY
 REVEREND

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
 LONGITUDINAL SECTION
 NEW HIGHWAY (MCO) - CH4100 TO CH4700

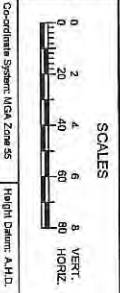
CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
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	REGISTRATION NUMBER		REVISION B
	A0087.038		

DATUM RL -78.0
 VERTICAL ALIGNMENT
 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHAINAGE



LONGITUDINAL SECTION (MCO0)
 SCALE 1:2000 HORIZ 1:200 VERT

No.	DA SUBMISSION	S.L. #	21.08.2017
A	ISSUED FOR CLIENT REVIEW	M.S.G. #	12.08.2017
Revision Description		Units	Days

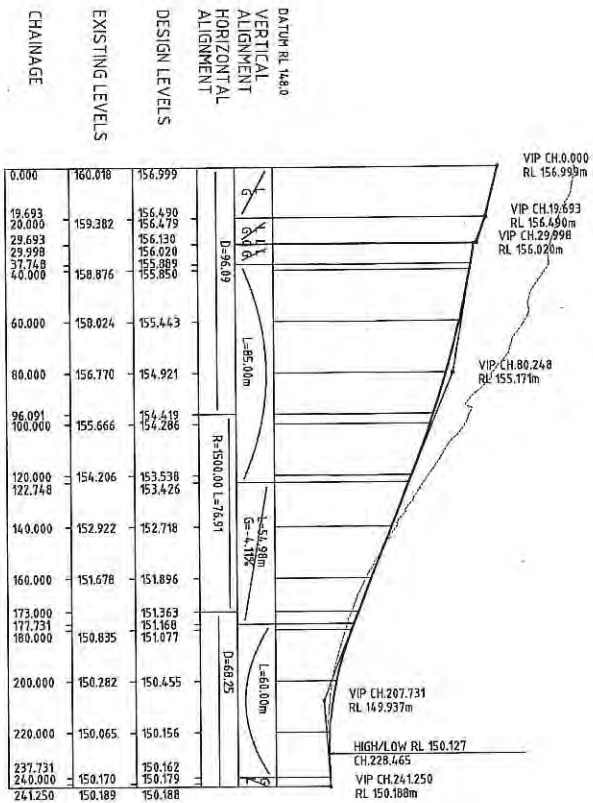


DESIGNED
 C.MONTY

REVIEWED

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
 LONGITUDINAL SECTION
 NEW HIGHWAY (MCO0) - CH.4700 TO CH.5140

CONTRACT No.	32-18285-C090_C098.dwg	PRINTED DATE	21-Jun-17, 12:30 PM
DRAWING	REGISTRATION NUMBER	SHEET No.	0068
A0087.038		REVISION B	



No.	Amendment Description	M.S.G.	Date
B	DA SUBMISSION	S.L.	21.08.2017
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.08.2017

A3 Original This sheet may be prepared using colour and may be incomplete if copied

SCALES

0 2 4 6 8 VERT.
0 20 40 60 80 HORIZ.

DESIGNED BY: EHD
CHECKED BY: CAHONY

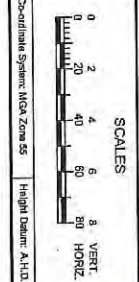
Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS
LONGITUDINAL SECTION - SOUTHERN ROUNDABOUT
MIDLAND HIGHWAY (MC20) - CH.00 TO CH.241.250

CONTRACT No. DRAWING 32-18285-C088.AMG PRINTED DATE 21-Jul-17, 12:59 PM SHEET No. 0069

REGISTRATION NUMBER A0087.038

REVISION B

No.	Amendment Description	M.S.G. Initials	Date
B	DA SUBMISSION	S.L.*	21.08.2017
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.08.2017



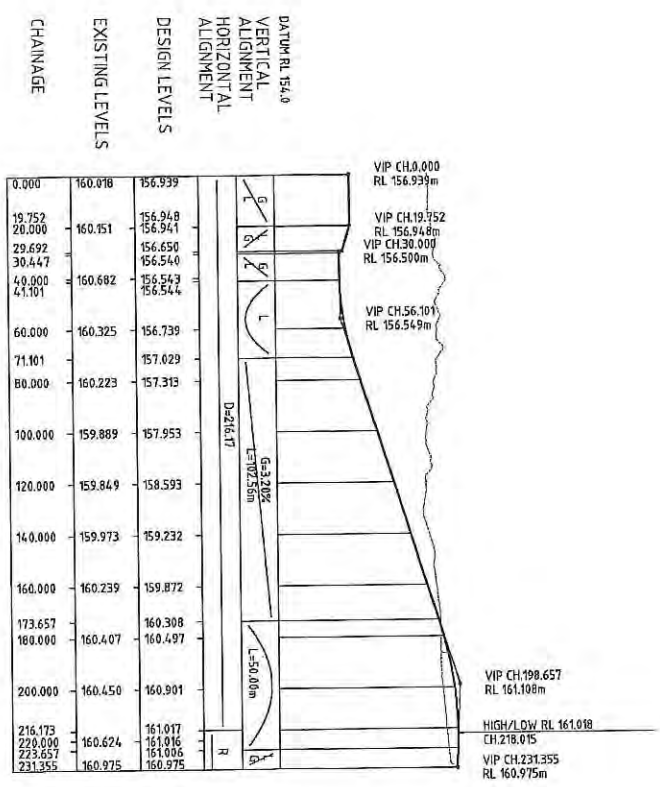
DESIGNED BY: **CHD** (Civil Highway Design) **CA/MONTY**

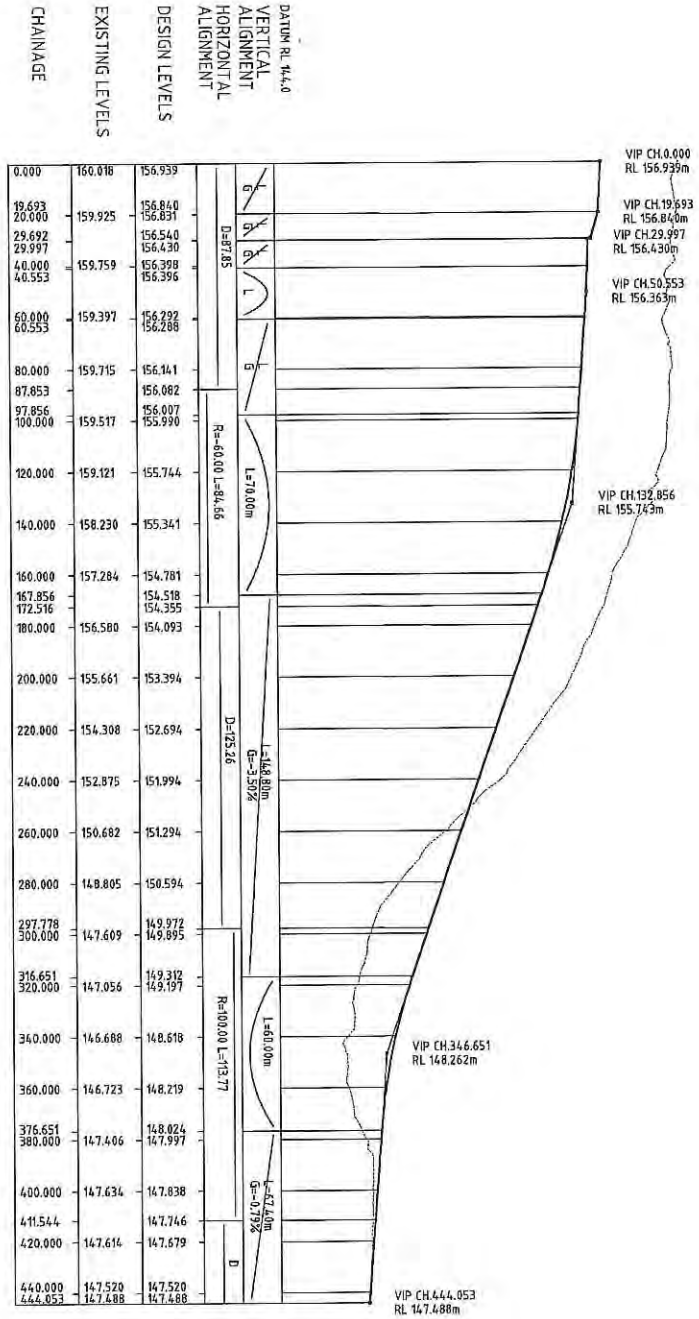
REVIEWED BY: **CHD** (Civil Highway Design) **CA/MONTY**

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS

LONGITUDINAL SECTION - SOUTHERN ROUNDABOUT
MAIN ROAD (MC40) - CH.00 TO CH.231.355

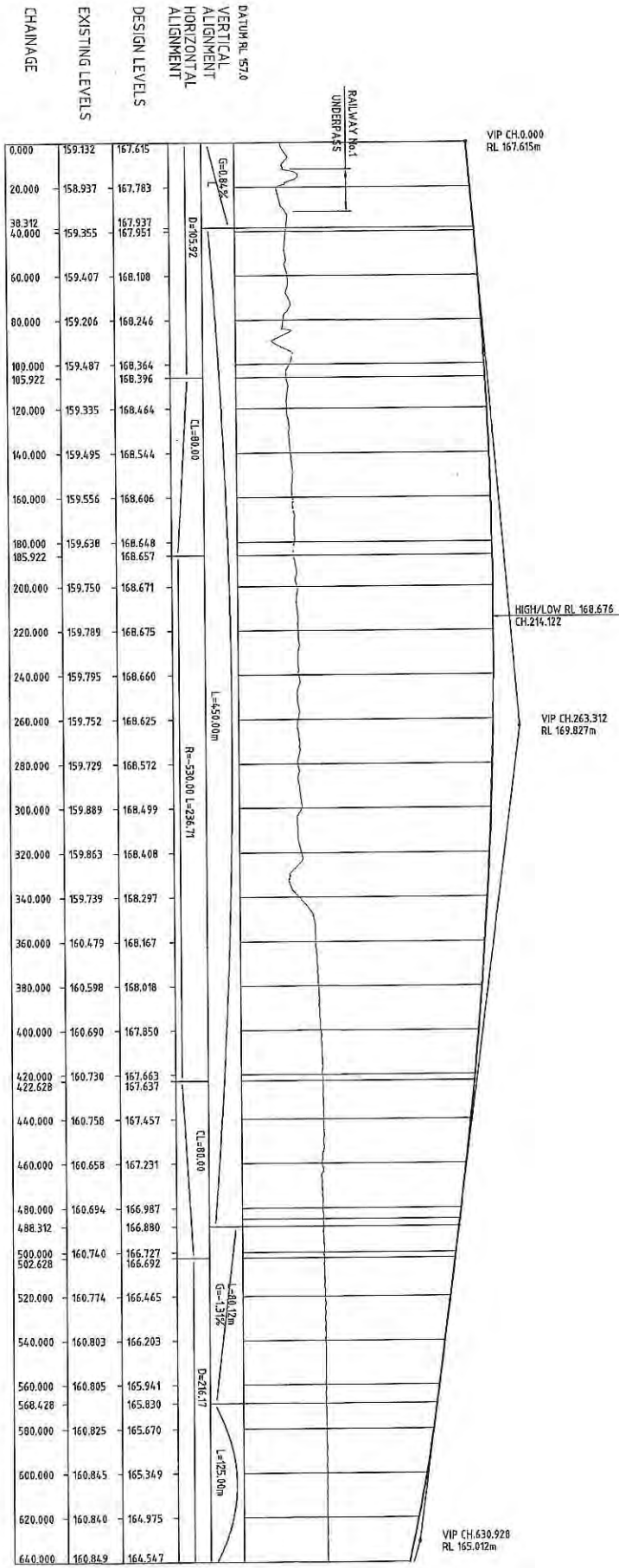
CONTRACT No.	DRAWING No. 22-16286-COTD46	PRINTED DATE 21-Jul-17 12:29 PM	SHEET No. 0070
REGISTRATION NUMBER A0087.038			REVISION B





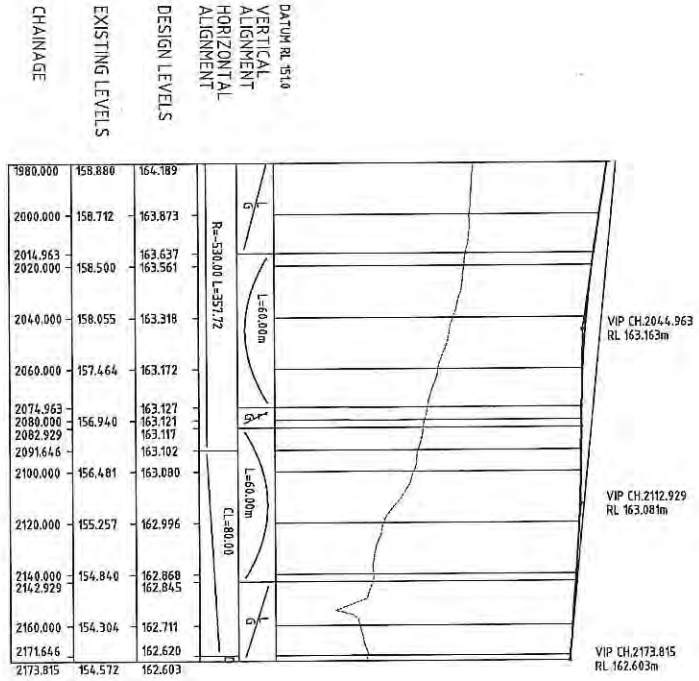
LONGITUDINAL SECTION (MCS0)
SCALE 1:2000 HORIZ 1:200 VERT

SCALES 0 20 40 60 80 100 HORIZ 0 2 4 6 8 VERT		DESIGNED C.MONTY		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - SOUTHERN ROUNDABOUT ESKLEIGH ROAD (MCS0) - CH.00 TO CH.444.053	
No. 1 Description Amendment Description Initials Date MS:G- 12/05/2017 DM		GHD Government		CONTRACT No. DRAWING REGISTRATION NUMBER A0087.038	
AD original The sheet may be prepared using colour and may be incompatible if copied		Height Datum: A.H.D.		PRINTED DATE 21-Jun-17, 12:39 PM SHEET No. 0071 REVISION B	



LONGITUDINAL SECTION (MCA0)
SCALE 1:2000 HORIZ 1:200 VERT

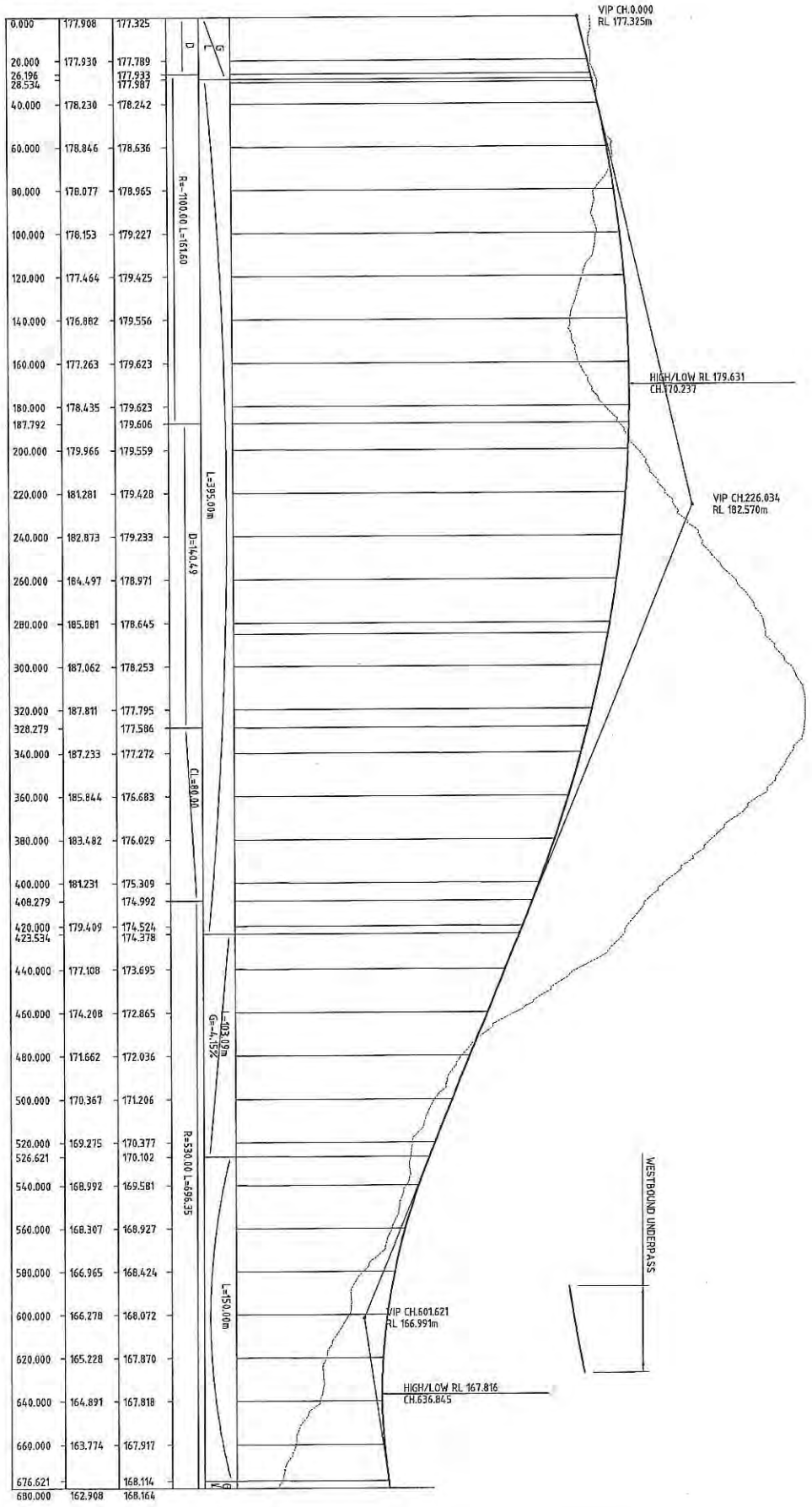
SCALES 0 2 4 6 8 10 0 20 40 60 80 100 VERT. HORZ. Height Datum: A.H.D.		DESIGNED CAMOUNTY REVIEWED	Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE WESTBOUND RAMP (MCA0) - CH.00 TO CH.640	CONTRACT NO. DRAWING 22-18285-COM2_2017.dwg REGISTRATION NUMBER A0087.038	PRINTED DATE 21-10-17 12:59 PM SHEET No. 0072
No. 1 DA SUBMISSION ISSUED FOR CLIENT REVIEW M.S.G. - 12.05.2017 Date		No. 1 Amendment Description This sheet may be prepared using colour and may be incomplete if copied	No. 1 Title Date	No. 1 Title Date	No. 1 Title Date



LONGITUDINAL SECTION (MCEB0)
SCALE 1:2000 HORIZ 1:200 VERT

DA SUBMISSION ISSUED FOR CLIENT REVIEW M.S.G. - 12.06.2017 Initial Date		Scales: 0 2 4 6 8 VERT. / 0 20 40 60 80 HORIZ.		Co-ordinate System: MGA Zone 55 Height Datum: A.M.D.	
DESIGNED C/MONTR		REVIEWED		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE SOUTHBOUND RAMP (MCEB0) - CH.1980 TO CH.2173.815	
CONTRACT NO. 32-18286-CTR4_CTR6A.MJ		DRAWING REGISTRATION NUMBER A0087.038		PRINTED DATE 21-Jun-17, 12:39 PM	
SHEET NO. 0076		REVISION B		This sheet may be prepared using colour and may be incomplete if copied	

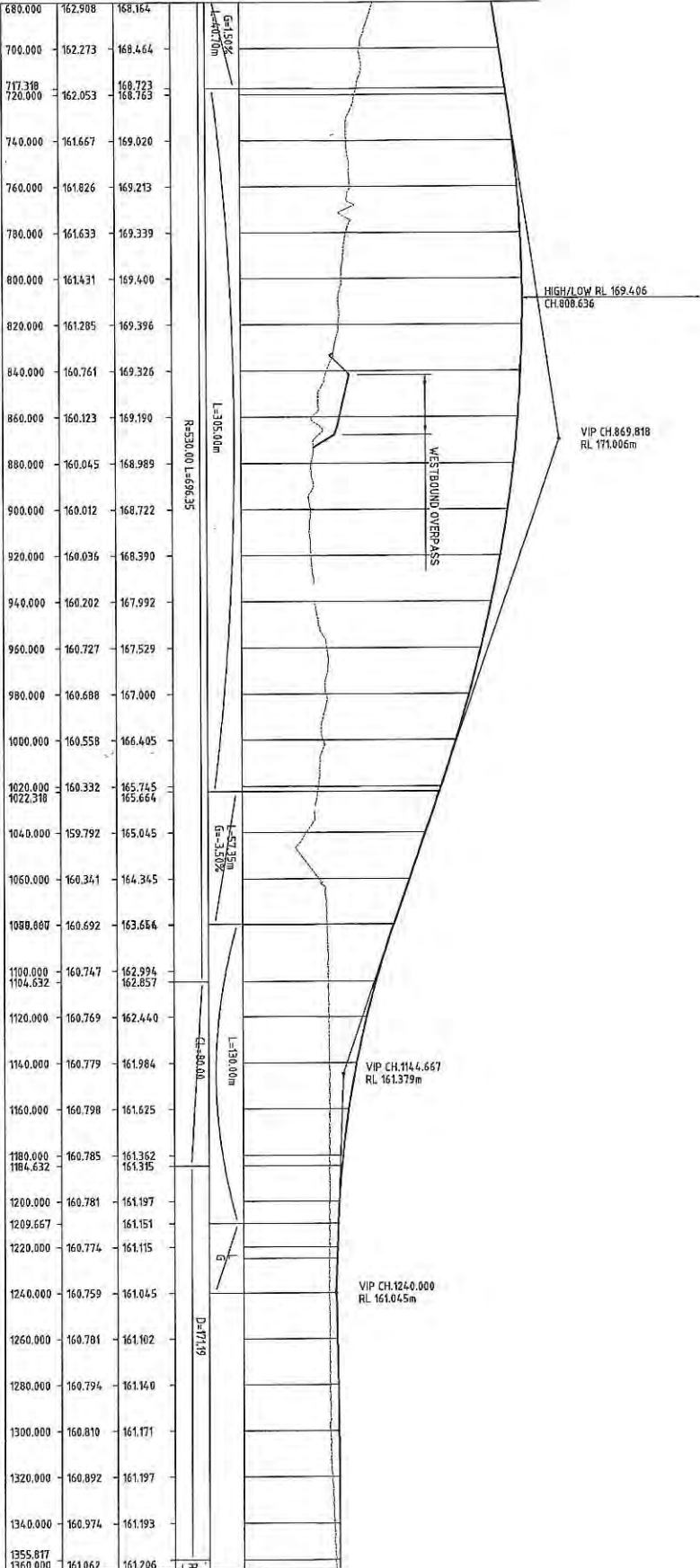
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 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHAINAGE



LONGITUDINAL SECTION (MCCO)
 SCALE 1:2000 HORIZ 1:200 VERT

No. 8 DA SUBMISSION No. 1 ISSUED FOR CLIENT REVIEW No. 2 Approved Design No. 3 Original		S.L. 21.06.2017 M.S.C. 12.06.2017 Initial Date	
SCALES 0 20 40 60 80 100 HORIZ. 0 2 4 6 8 VERT.		Co-ordinate System: Mea Zone 55 Height datum: A.H.D.	
DESIGNED BY: GHD CHECKED BY: C.MONTY		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE WESTBOUND RAMP (MCCO) - CH.00 TO CH.680	
CONTRACT NO. 33-18285-COT7_COT9A040 DRAWING REGISTRATION NUMBER A0087_038		PRINTED DATE 21-Jun-17 12:59 PM SHEET NO. 0077	
REVISION B		REVISION B	

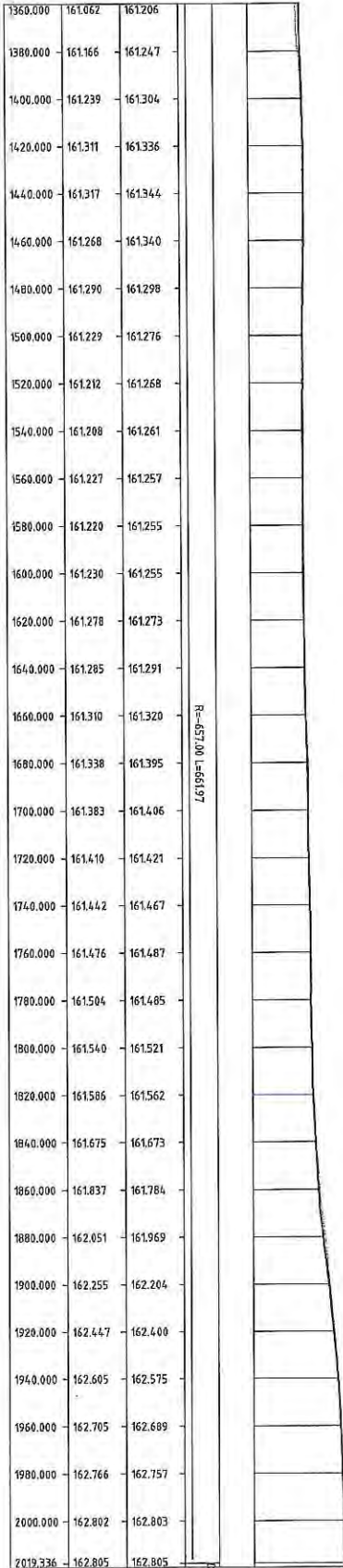
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 EXISTING LEVELS
 CHAINAGE



LONGITUDINAL SECTION (MCCO)
 SCALE 1:2000 HORIZ 1:200 VERT

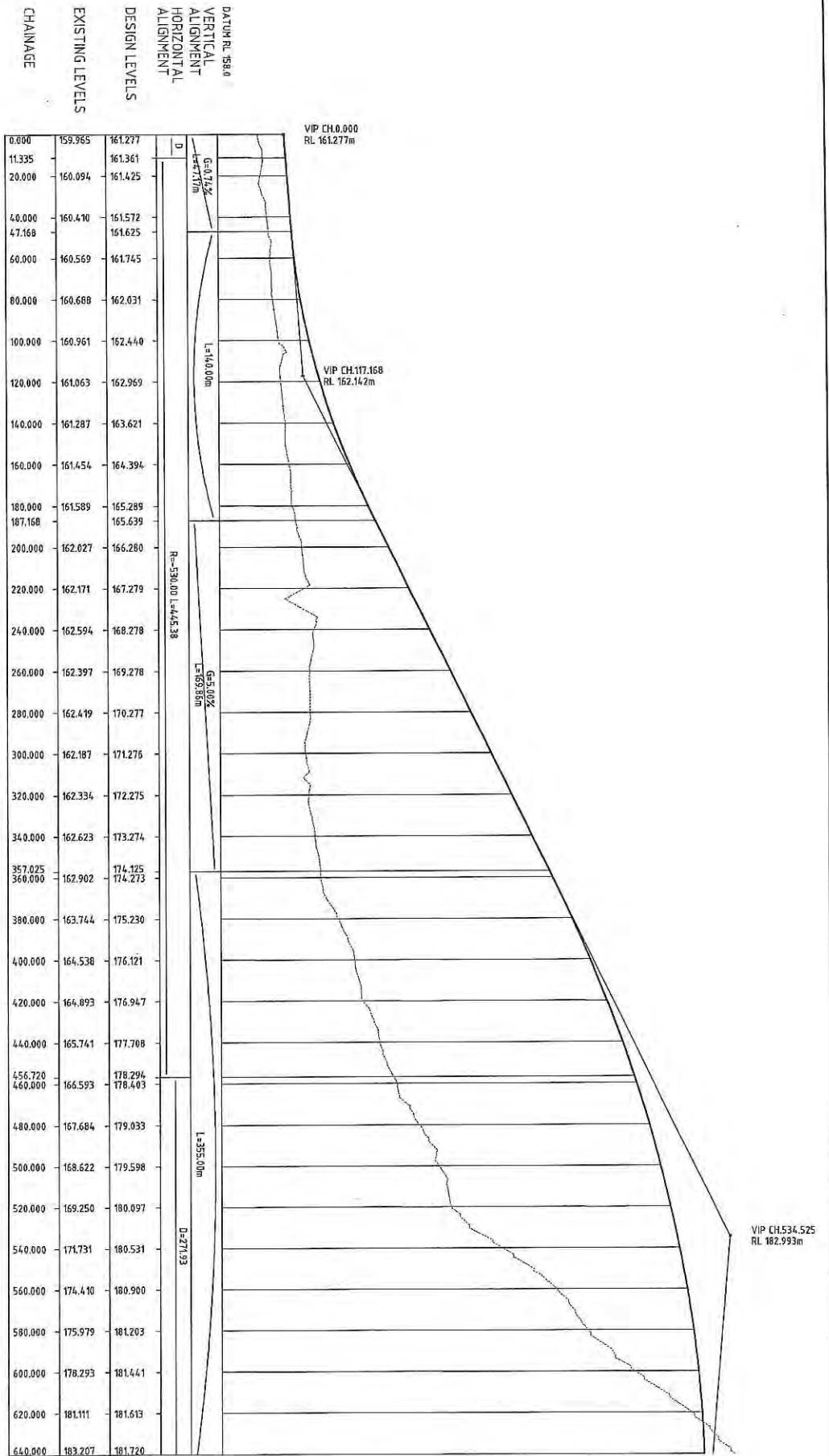
B DA SUBMISSION A ISSUED FOR CLIENT REVIEW No. Amendment Description Initials Date		S.L. 21/06/2017 M.S.G. 12/02/2017	
SCALES 0 2 4 6 8 0 20 40 60 80 VERT. HORIZ.		CHID Government	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE WESTBOUND RAMP (MCCO) - CH.680 TO CH.1360		CONTRACT NO. 32-18285-C077_C078A&B DRAWING REGISTRATION NUMBER A0087.038 PRINTED DATE 21-Jun-17, 12:59 PM SHEET NO. 0078 REVISION B	

DATUM RL 159.0
 VERTICAL ALIGNMENT
 HORIZONTAL ALIGNMENT
 DESIGN LEVELS
 EXISTING LEVELS
 CHANGE



LONGITUDINAL SECTION (MCCO)
 SCALE 1:2000 HORIZ 1:200 VERT

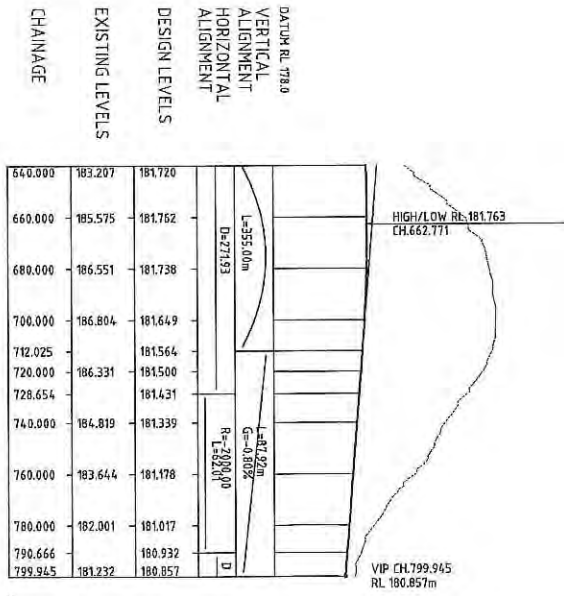
No. A ISSUED FOR CLIENT REVIEW M.A.S.C. 12.03.2017 Infile Date		No. B DA SUBMISSION S.L.C. 21.08.2017	
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No. A Arrangement Description Infile Date		No. B DA SUBMISSION S.L.C. 21.08.2017	
SCALES 0 2 4 6 8 10 0 20 40 60 80 100 VERT. HORZ.			
DESIGNED C.MONTY		REVIEWED	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE WESTBOUND RAMP (MCCO) - CH. 1580 TO CH. 2019.336			
CONTRACT No. 32-18285-C077_C079.dwg		DRAWING REGISTRATION NUMBER A0087.038	
PRINTED DATE 21-Jun-17, 12:38 PM		SHEET No. 0079	
REVISION B			



LONGITUDINAL SECTION (MCD0)
SCALE 1:2000 HORIZ 1:200 VERT

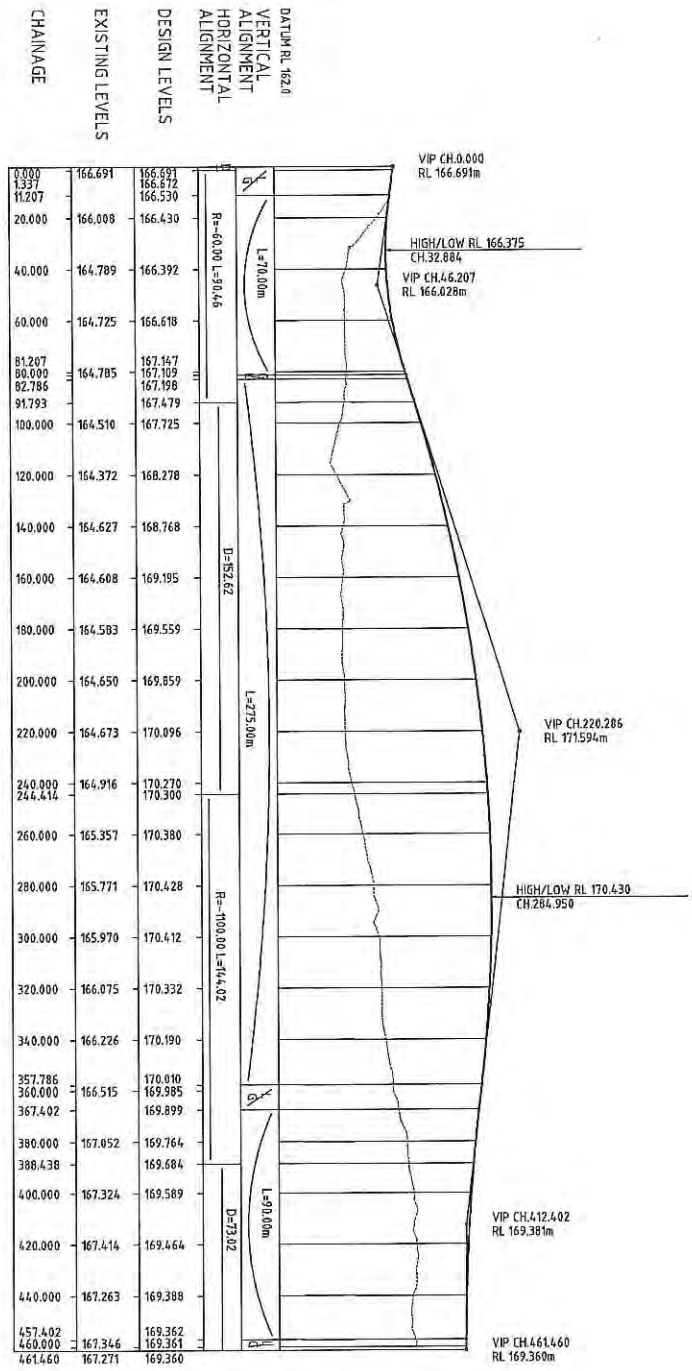
DA SUBMISSION ISSUED FOR CLIENT REVIEW Amendment Description M.S.G. - Initials Date 21/06/2017 12/05/2017		SCALES 0 2 4 6 8 10 0 20 40 60 80 100 VERT. HORIZ. Height Datum: A.M.D.		DESIGNED C.MOONEY REVIEWED		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE NORTHBOUND RAMP (MCD0) - CH100 TO CH 640		CONTRACT No. 32-18285-CORR-COR15M01		DRAWING REGISTRATION NUMBER A0087.038		PRINTED DATE 21-Jun-17, 12:39 PM		SHEET No. 0080 REVISION B	
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As original This sheet may be prepared using colour and may be incomplete if copied. Geo-coordinates system: WGA Zone 56 Height Datum: A.M.D.



LONGITUDINAL SECTION (MCD0)
SCALE 1:2000 HORIZ 1:200 VERT

No.		Amendment Description		M.S.G.	Date
A		ISSUED FOR CLIENT REVIEW		M.S.G.	12.04.2017
B		DA SUBMISSION		S.L.*	21.06.2017
As original This sheet may be prepared using colour and may be incompatible if copied Co-ordinate System: MGA Zones Height Datum: A.H.D.					
DESIGNED			REVIEWED		
C.MOONEY			C.MOONEY		
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - WESTERN INTERCHANGE NORTHBOUND RAMP (MCD0) - CH 640 TO CH 799.945					
CONTRACT No.		DRAWING		PRINTED DATE	
		32-18285-C090_C087.dwg		21-Jul-17 12:39 PM	
		REGISTRATION NUMBER		SHEET No.	
		A0087.038		0081	
REVISION B					



LONGITUDINAL SECTION (MCH0)
SCALE 1:2000 HORIZ 1:200 VERT

No.	Amendment Description	Initial	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.06.2017
B	DA SUBMISSION	S.L.	21.06.2017

SCALES

0 20 40 60 80 100

VERT. 1"=10'

HORIZ. 1"=100'

DESIGNED BY: GHD

REVIEWED BY: CAMONTY

Tasmanian Government

Department of State Growth

MIDLAND HIGHWAY (A0087)

PERTH LINK ROADS ROADWORKS

LONGITUDINAL SECTION - NORTHERN INTERCHANGE SOUTHBOUND ON-RAMP (MCH0) CH.00 TO CH.461.460

CONTRACT No. 32-18296-CR65A-04

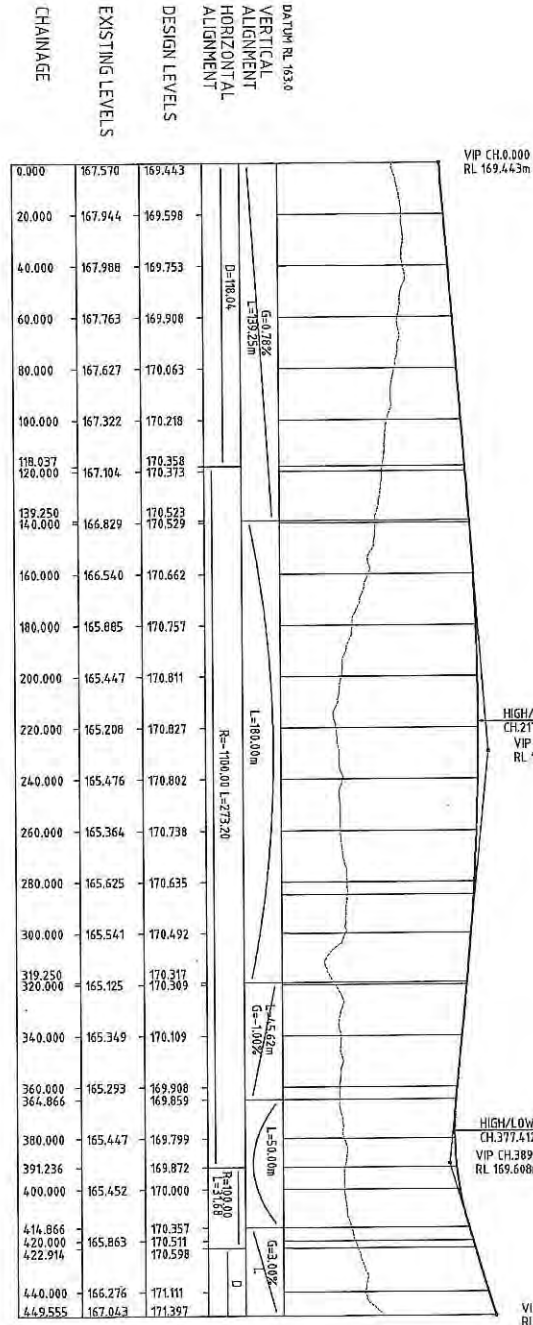
DRAWING REGISTRATION NUMBER A0087.038

PRINTED DATE 21-Jun-17 12:39 PM

SHEET No. 0085

REVISION B

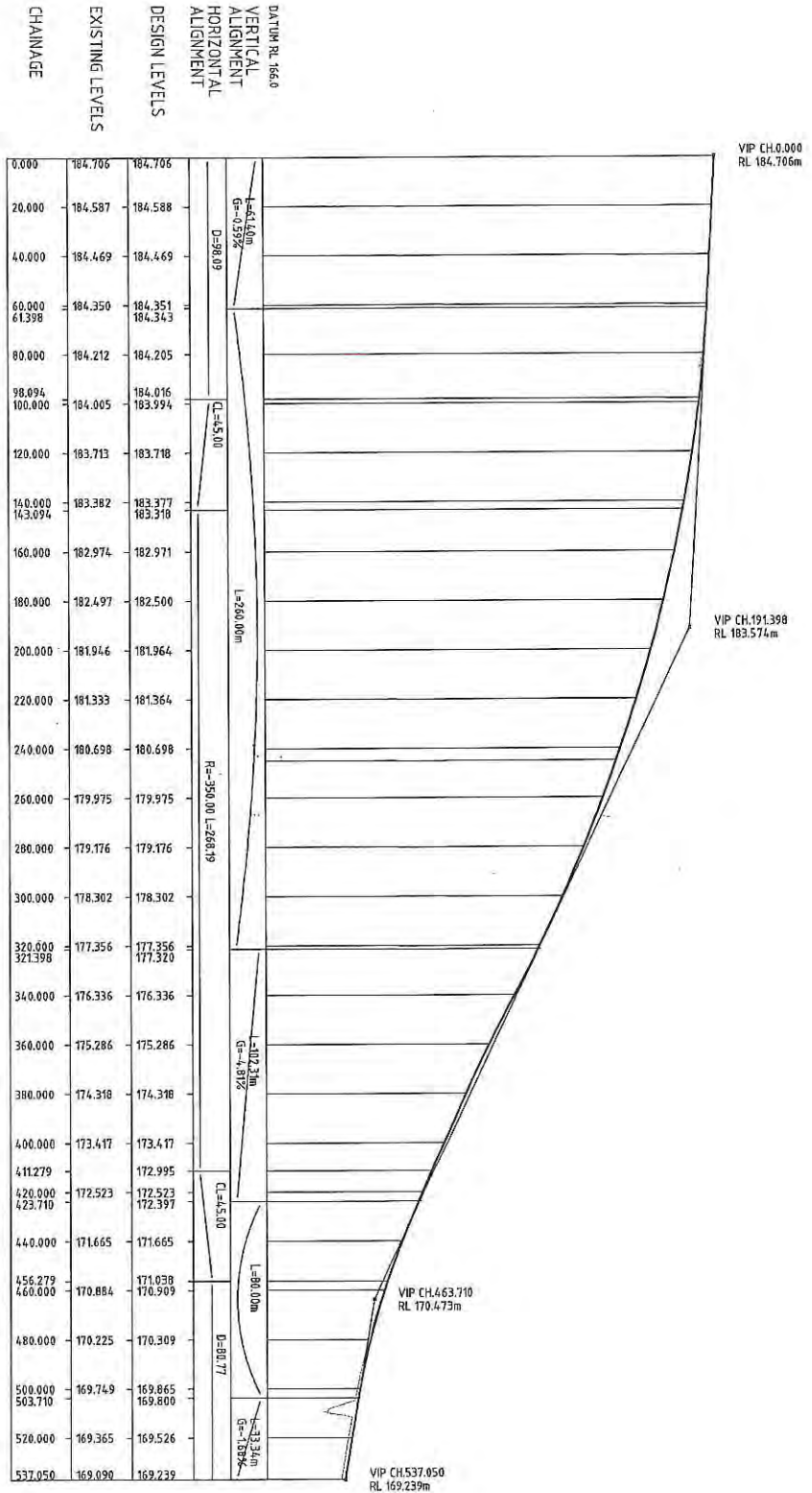
Ad original This sheet may be prepared using colour and may be incomplete if copied



LONGITUDINAL SECTION (M.C.J.O)
 SCALE 1:2000 HORIZ 1:200 VERT

DA SUBMISSION ISSUED FOR CLIENT REVIEW 21.06.2017 M.S.G. 12.05.2017		SCALES 0 2 4 6 8 VERT. 0 20 40 60 80 HORIZ. 1:100 VERT. 1:2000 HORIZ.	
DESIGNER C.MONTY		REVIEWER	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - NORTHERN INTERCHANGE NORTHBOUND OFF-RAMP (M.C.J.O) CH.00 TO CH.449.555			
CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	32-18286-C088.dwg	21-Jul-17, 12:40 PM	0086
	REGISTRATION NUMBER		REVISION B
	A0087.038		

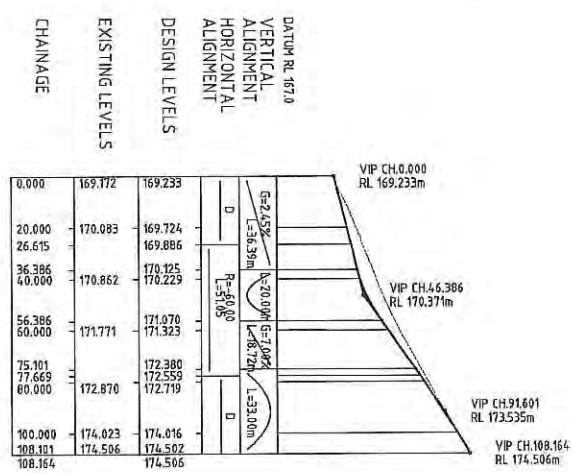
As original | This sheet may be prepared using colour and may be incomplete if copied | Coordinate System: MGA Zone 55 | Flight Cam: A.L.D.

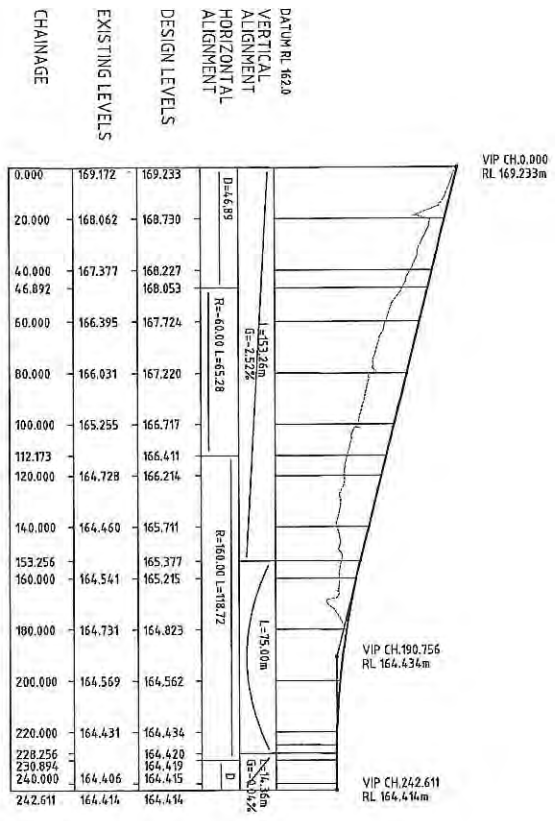


LONGITUDINAL SECTION (MCGO)
SCALE 1:2000 HORIZ 1:200 VERT

No. DA SUBMISSION ISSUED FOR CLIENT REVIEW M.A.S.C. 21.06.2017 Amendment Description Initials Date		SCALES 0 2 4 6 8 VERT. 0 20 40 60 80 HORIZ.			DESIGNED C.MONTY REVIEWED
No. AD ORIGINAL This sheet may be prepared using colour and may be incomplete if copied.		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - NORTHERN INTERCHANGE SOUTHBOUND OFF-RAMP (MCGO) CH.00 TO CH.537.276			
CONTRACT No. 32-18288-C088-2AW		DRAWING A0087.038		PRINTED DATE 21-Jun-17 12:40 PM	SHEET No. 0088
REGISTRATION NUMBER A0087.038		REVISION B			

No. A ISSUED FOR CLIENT REVIEW Amendment Description Initials Date		S.L.* M.S.G.*		21.08.2017 12.05.2017	
No. B DA SUBMISSION Amendment Description Initials Date		S.L.* M.S.G.*		21.08.2017 12.05.2017	
This sheet may be prepared using colour and may be non-metric if required					
SCALES 0 2 4 6 8 0 20 40 60 80 VERT. HORIZ.		COORDINATE SYSTEM: MGA ZONE 55 HEIGHT DATUM: A.H.D.		DESIGNED BY: C.MONTY REVIEWED BY:	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - NORTHERN INTERCHANGE EASTERN SERVICE ROAD (OLD HIGHWAY) (MCMV) CH.00 TO CH.108.164					
CONTRACT No.		DRAWING REGISTRATION NUMBER		PRINTED DATE	
32-18216-C089.dwg		A0087.038		21-Jun-17, 12:40 PM	
SHEET No.		REVISION B			
0089		0089			

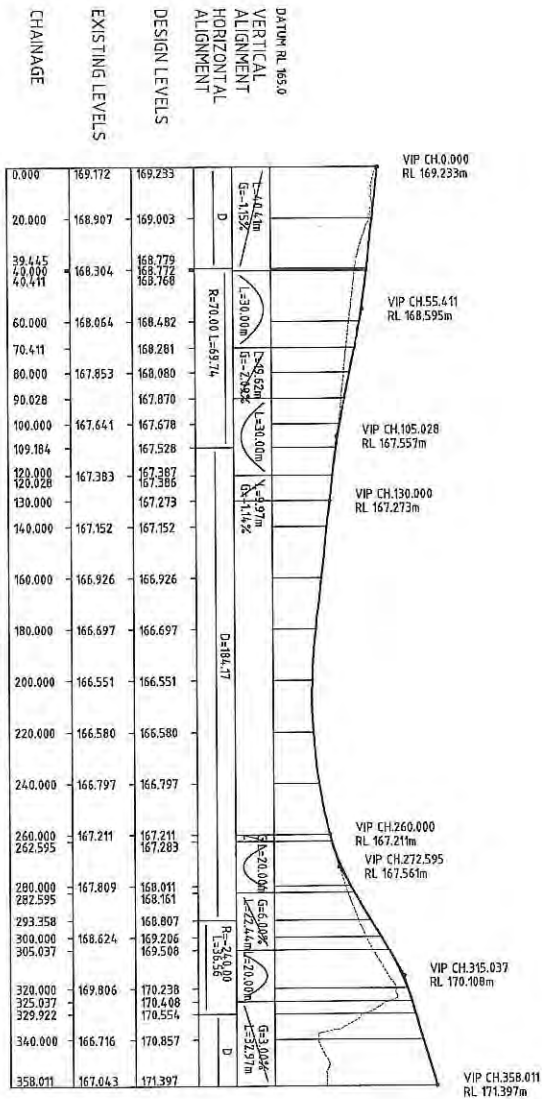




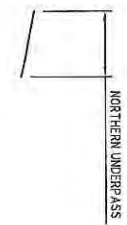
LONGITUDINAL SECTION (MCHN1)
SCALE 1:2000 HORIZ 1:200 VERT

SCALES 0 2 4 6 8 9 0 20 40 60 80 VERT. HORZ.		Co-ordinate System: MGA Zone 55 High Datum: A.H.D.	
DA SUBMISSION ISSUED FOR CLIENT REVIEW No.		S.I. - 21.08.2017 M.S.G. - 12.03.2017 Date	
AMENDMENT DESCRIPTION Amendement Description		Co-ordinate System: MGA Zone 55 High Datum: A.H.D.	
DESIGNED CMONTY		REVIEWED	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - (NORTHERN INTERCHANGE EXISTING MIDLAND HIGHWAY (MCHN1) CH:00 TO CH:242.611			
CONTRACT No.	DRAWING 32-42295-CR0303HW	PRINTED DATE 21-Jun-17, 12:40 PM	SHEET No. 0090
REGISTRATION NUMBER A0087.038		REVISION B	

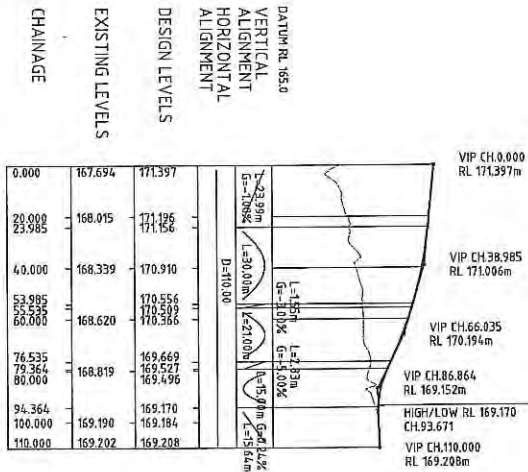
A3 original This sheet may be prepared using colour and may be incomplete if copied



LONGITUDINAL SECTION (MCOO)
SCALE 1:2000 HORIZ. 1:200 VERT.



SCALES 0 2 4 6 8 0 20 40 60 80 VERT. HORIZ.		DESIGNED 		Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION - NORTHERN INTERCHANGE SOUTHERN ACCESS ROAD (MCOO) CH.00 TO CH.173.608	
No. 1 DA SUBMISSION ISSUED FOR CLIENT REVIEW Amendment Description Initials Date 21/08/2017 12/05/2017		CONTRACT No. 32-18285-C031-DM5		DRAWING REGISTRATION NUMBER A0087.038	
As original This sheet may be prepared using colour and may be incomplete if copied		Height Datum: A.M.D.		PRINTED DATE 21-Jun-17, 12:40 PM	
SHEET No. 0091		REVISION B		REVISION B	



LONGITUDINAL SECTION (MCU01)
SCALE 1:2000 HORIZ 1:200 VERT

No.	Amendment Description	M.S.C.	Date
B	DA SUBMISSION	S.L.C.	21.06.2017
A	ISSUED FOR CLIENT REVIEW	M.S.C.	12.06.2017

As original

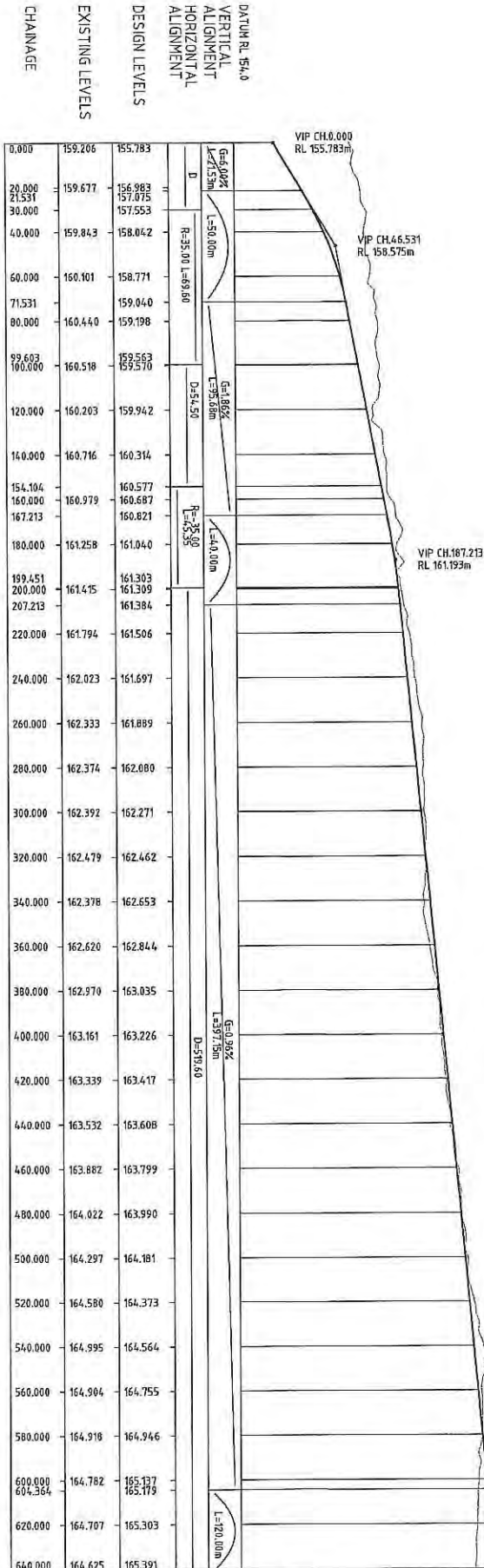
The sheet may be prepared using colour and may be non-plotable if copied

DESIGNED BY **CHIB** CORPORATION
 REVIEWED BY **C.MOITY**

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS



Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
 LONGITUDINAL SECTION
 MACKINNON ACCESS (NORTHERN INTERCHANGE) (MCU0) CH.00 TO CH.110

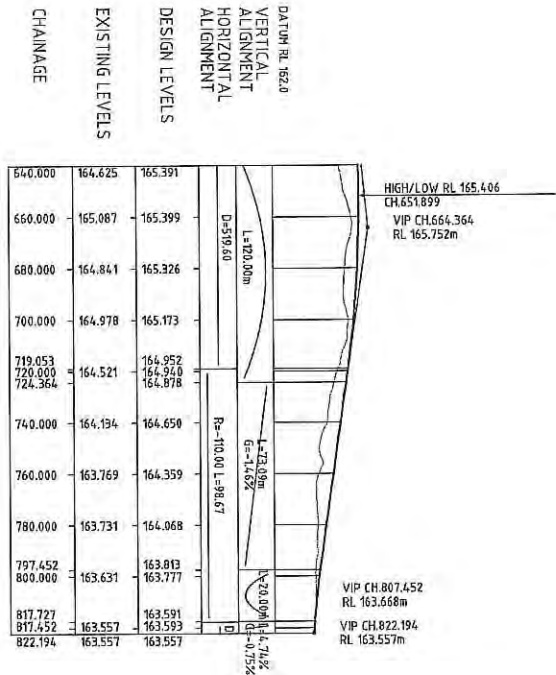
CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
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	REGISTRATION NUMBER		REVISION B
	A0087.038		



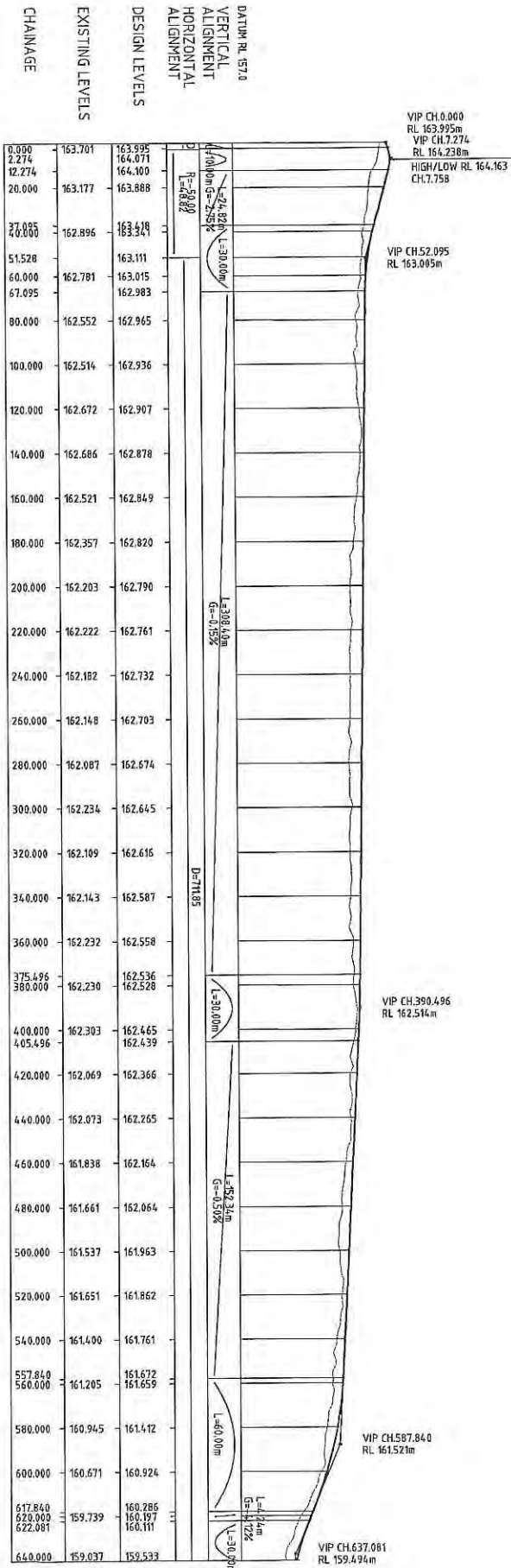
LONGITUDINAL SECTION (MCV0)
SCALE 1:2000 HORIZ 1:200 VERT

<p>DA SUBMISSION</p> <p>ISSUED FOR CLIENT REVIEW</p> <p>Amendment Description</p>		<p>S.I. No.</p> <p>M.S.G. Initials</p> <p>21/08/2017</p> <p>12/05/2017</p>		<p>SCALES</p> <p>0 2 4 6 8</p> <p>VERT. 1:200</p> <p>HORIZ. 1:2000</p>	
<p>AD original</p> <p>The sheet may be prepared using colour and may be incomplete if copied</p>		<p>Co-ordinate System: MGA Zone 55</p> <p>Height Datum: A.H.D.</p>		<p>DESIGNED: GHD</p> <p>REVIEWED: C.MOONEY</p>	
<p>Department of State Growth</p> <p>MIDLAND HIGHWAY (A0087)</p> <p>PERTH LINK ROADS</p> <p>ROADWORKS</p> <p>LONGITUDINAL SECTION</p> <p>GLEN IREH ACCESS (MCV0) CH.00 TO CH.640</p>					
<p>CONTRACT No.</p> <p>32-18285-C003-C004.dwg</p>		<p>DRAWING REGISTRATION NUMBER</p> <p>A0087.038</p>		<p>PRINTED DATE</p> <p>21-Jul-17 12:40 PM</p>	
<p>SHEET No.</p> <p>0093</p>				<p>REVISION B</p>	

No. A3 Original This sheet may be prepared using colour and may be incomplete if copied.		Amendment Description Amendment for CLIENT REVIEW		STA. # 21.06.2017 M.S.G.# 12.06.2017 Title: Draw	
SCALES 0 2 4 6 8 0 20 40 60 80 VERT. HORZ.		Co-ordinate System: Mev Zone 55 Height Datum: AHD		DESIGNED:  FHID REVIEWED:  Government	
Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS LONGITUDINAL SECTION GLEN IREH ACCESS (M/CV0) CH.640 TO CH.822.194					
CONTRACT No. 32-1828-C093_C094A49		DRAWING REGISTRATION NUMBER A0087.038		PRINTED DATE 21-Jul-17, 12:40 PM	
SHEET No. 0094		REVISION B			



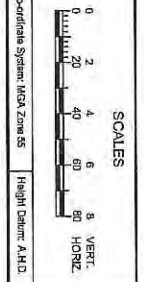
LONGITUDINAL SECTION (M/CV0)
SCALE 1:2000 HORZ. 1:200 VERT.



LONGITUDINAL SECTION (M/CV5)
SCALE 1:2000 HORIZ 1:200 VERT

<p>As original This sheet may be prepared using colour and may be incomplete if copied</p>	
<p>Amendment Description</p> <p>No. A ISSUED FOR CLIENT REVIEW</p> <p>M.S.G. 12.05.2017</p> <p>Date</p>	<p>Amendment Description</p> <p>No. B DA SUBMISSION</p> <p>S.L.* 21.08.2017</p> <p>M.S.G.* 12.05.2017</p> <p>Date</p>
<p>Coordinate System: MGA Zone 55</p> <p>Height Datum: AHD</p>	
<p>DESIGNED: CHD</p> <p>REVIEWED: CHADWY</p>	
<p>Department of State Growth</p> <p>MIDLAND HIGHWAY (A0087)</p> <p>PERTH LINK ROADS</p> <p>ROADWORKS</p> <p>LONGITUDINAL SECTION</p> <p>KELLY & EINODER ACCESS (M/CV5) CH.00 TO CH.640</p>	
<p>CONTRACT No.</p> <p>33-18285-C096-04M</p>	<p>DRAWING</p> <p>REGISTRATION NUMBER</p> <p>A0087.038</p>
<p>PRINTED DATE</p> <p>21-Jun-17, 12:40 PM</p>	<p>SHEET No.</p> <p>0095</p> <p>REVISION B</p>

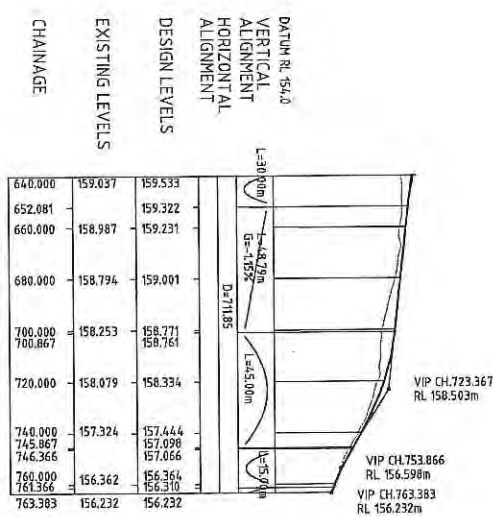
No.		Description		Date	
3		DA SUBMISSION		21.08.2017	
A		ISSUED FOR CLIENT REVIEW		12.08.2017	
Amendment Description					
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No.		Description		Date	
3		DA SUBMISSION		21.08.2017	
A		ISSUED FOR CLIENT REVIEW		12.08.2017	
Amendment Description					
This sheet may be prepared using colour and may be incomplete if copied					

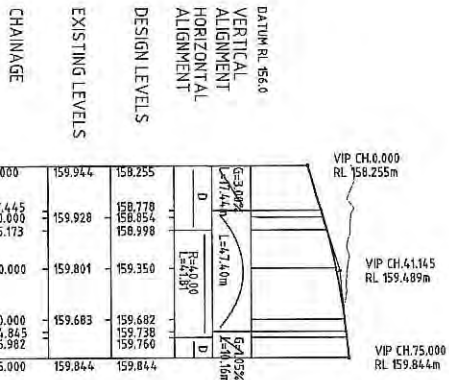


DESIGNED BY: C.MONTY
 REVIEWED BY: [Signature]

Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
 LONGITUDINAL SECTION
 KELLY & EINDORER ACCESS (MCV5) CH 640 TO CH 763.383

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	30-10285-0195-0086.dwg	21-AUG-17, 12:40 PM	0096
	REGISTRATION NUMBER		REVISION B
	A0087.038		





LONGITUDINAL SECTION (MCM/D)
SCALE 1:2000 HORIZ 1:200 VERT

No.	Amendment Description	Initials	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.06.2017
B	DA SUBMISSION	S.L.*	21.06.2017

SCALES

0	2	4	6	8
VERT.				
0	20	40	60	80
HORIZ				

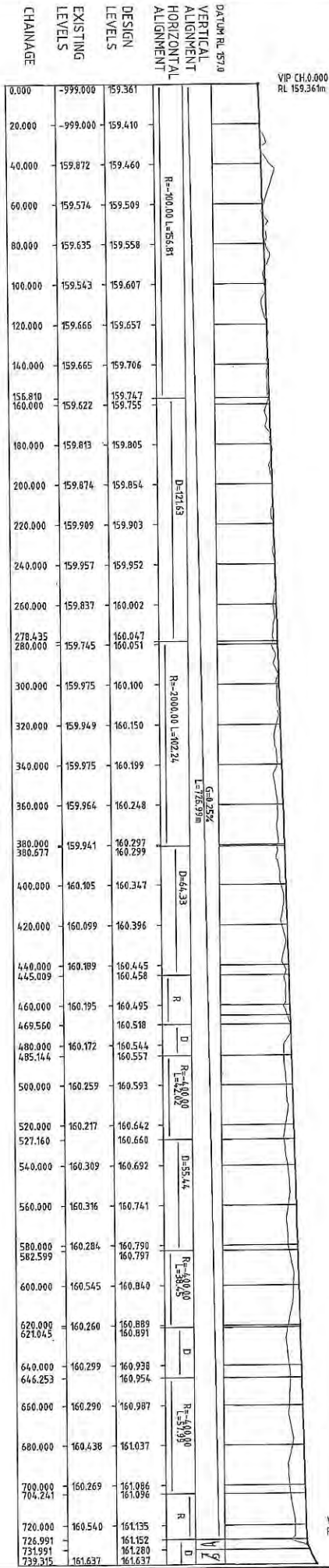
DESIGNED BY: GHID

REVIEWED BY: Tasmanian Government

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS
LONGITUDINAL SECTION
TASWATER SEWAGE LAGOONS ACCESS (MCIW0) CH.00 TO CH.75

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	32-18295-C097.dwg	21-Jul-17, 12:40 PM	0097
	REGISTRATION NUMBER		REVISION B
	A0087.038		

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LONGITUDINAL SECTION (MCKX01)
SCALE 1:2000 HORIZ 1:200 VERT

VIP CH.0.000
RL 159.361m

VIP CH.729.491
RL 161.159m
VIP CH.739.315
RL 161.637m

No.	Amendment Description	Initials	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.08.2017
B	DA SUBMISSION	S.L.	21.08.2017

SCALES

0 2 4 6 8 VERT.
0 20 40 60 80 HORIZ.

Co-ordinate System: WGA Zone 55
Height Datum: AHD.

DESIGNED BY: GHD

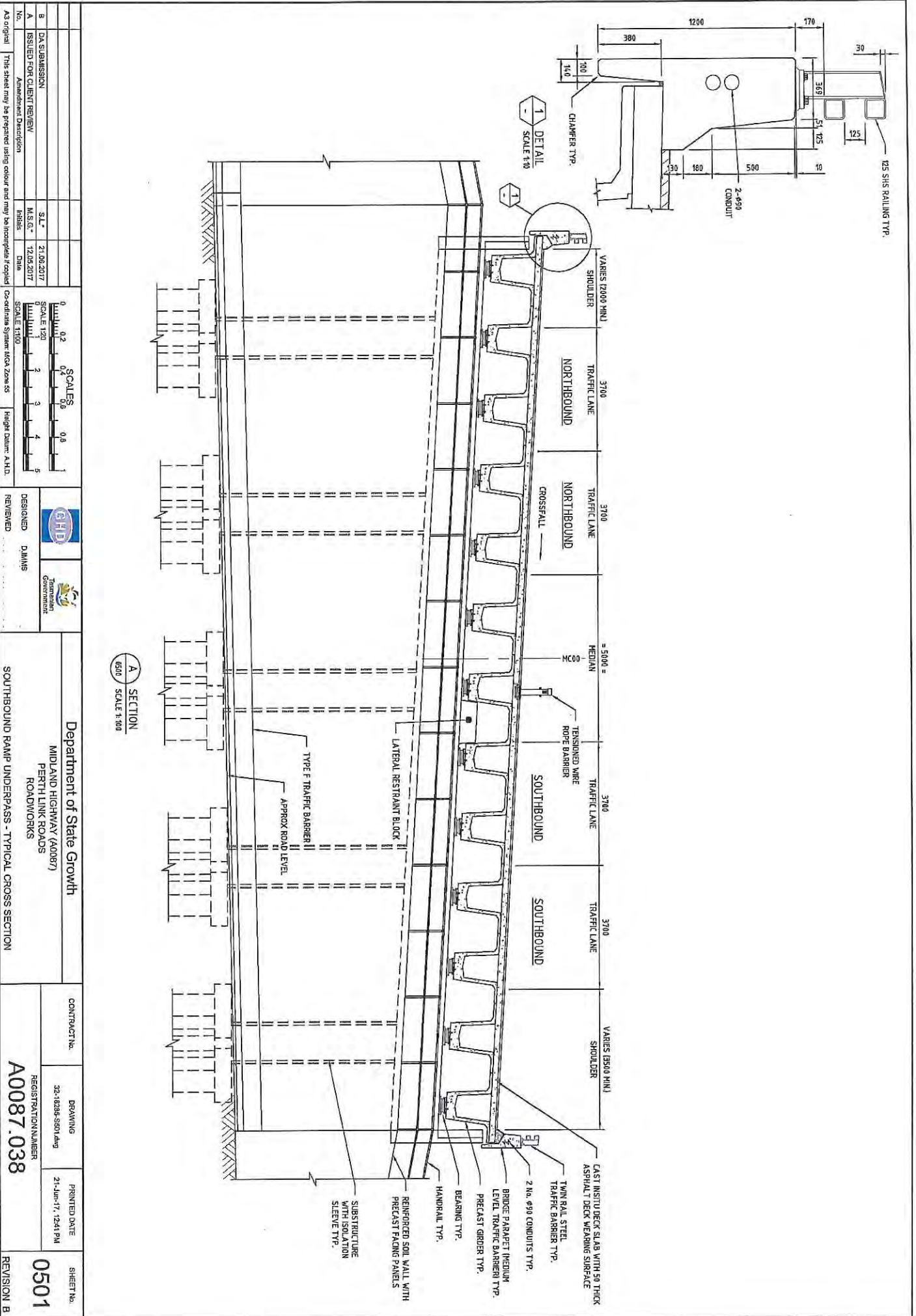
REVIEWED BY: MACKAY REGIONAL COUNCIL

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS
LONGITUDINAL SECTION
MOUNTFORD ACCESS No.1 (MCKX01) - CH.00 TO CH.739.315

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	32-18285-CORR.DWG	21-Jan-17, 12:40 PM	0098
REGISTRATION NUMBER	REVISION B		
A0087.038			

0098

REVISION B



No.	Amendment Description	Initials	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.05.2017
B	DA SUBMISSION	S.L.	21.06.2017

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Consolidation System MCA Zones SS

Height Datum: A.H.D.

DESIGNED: GHD

REVIEWED: DAMMS

Tasmanian Government

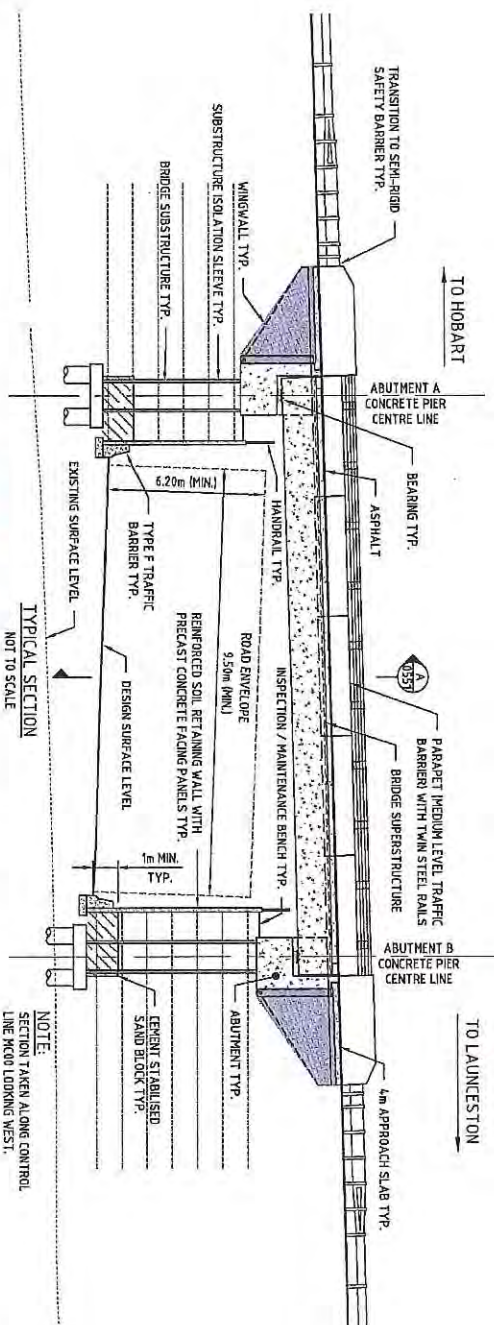
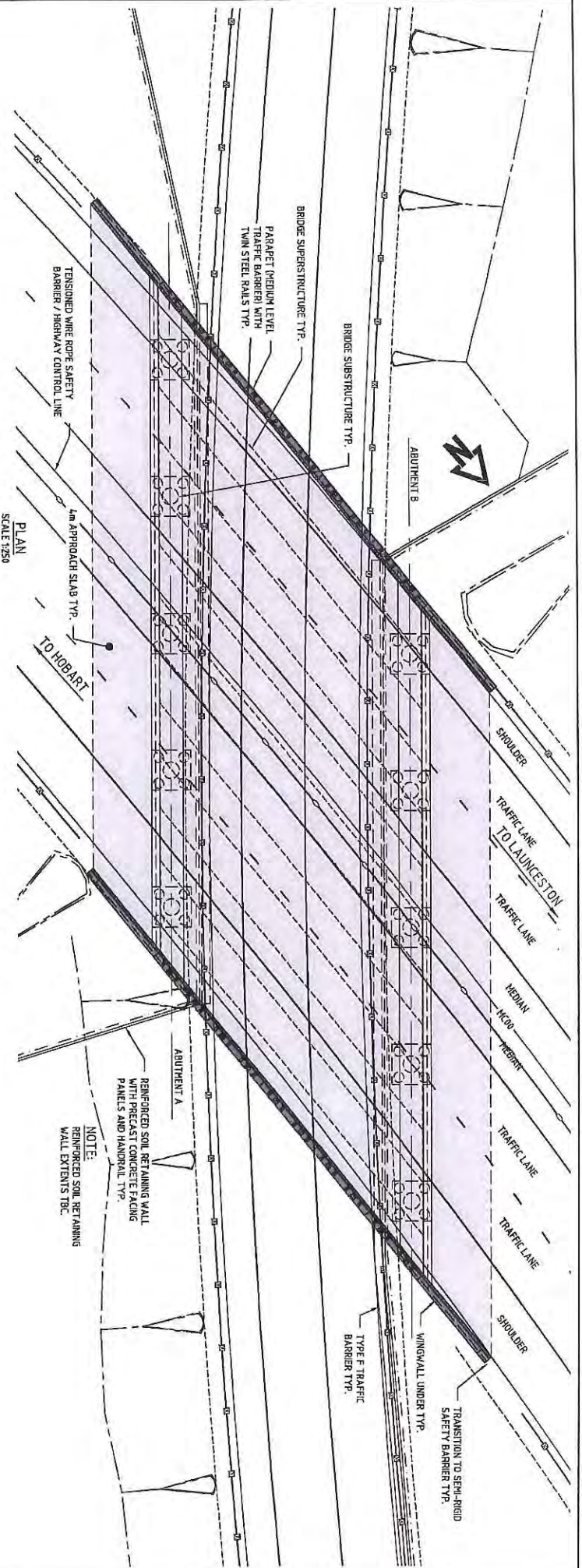
Department of State Growth

MIDLAND HIGHWAY (A0087)

PERTH LINK ROADS ROADWORKS

SOUTHBOUND RAMP UNDERPASS - TYPICAL CROSS SECTION

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	32-18288-S804.Awg	21-Jun-17, 12:41 PM	0501
	REGISTRATION NUMBER		REVISION B
	A0087.038		

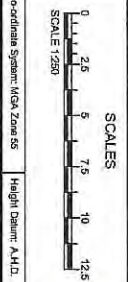


TYPICAL SECTION
NOT TO SCALE

NOTE:
SECTION TAKEN ALONG CONTROL
LINE M200 LOOKING WEST.

- NOTES:**
1. DESIGN IN ACCORDANCE WITH AS 5100.
 2. DESIGN TRAFFIC LOADS:
- SM 1600
- HL 1400 (POSITIONED AS PER SPECIFICATION)
 3. REFER TO CIVIL DRAWINGS FOR ROAD DESIGN.

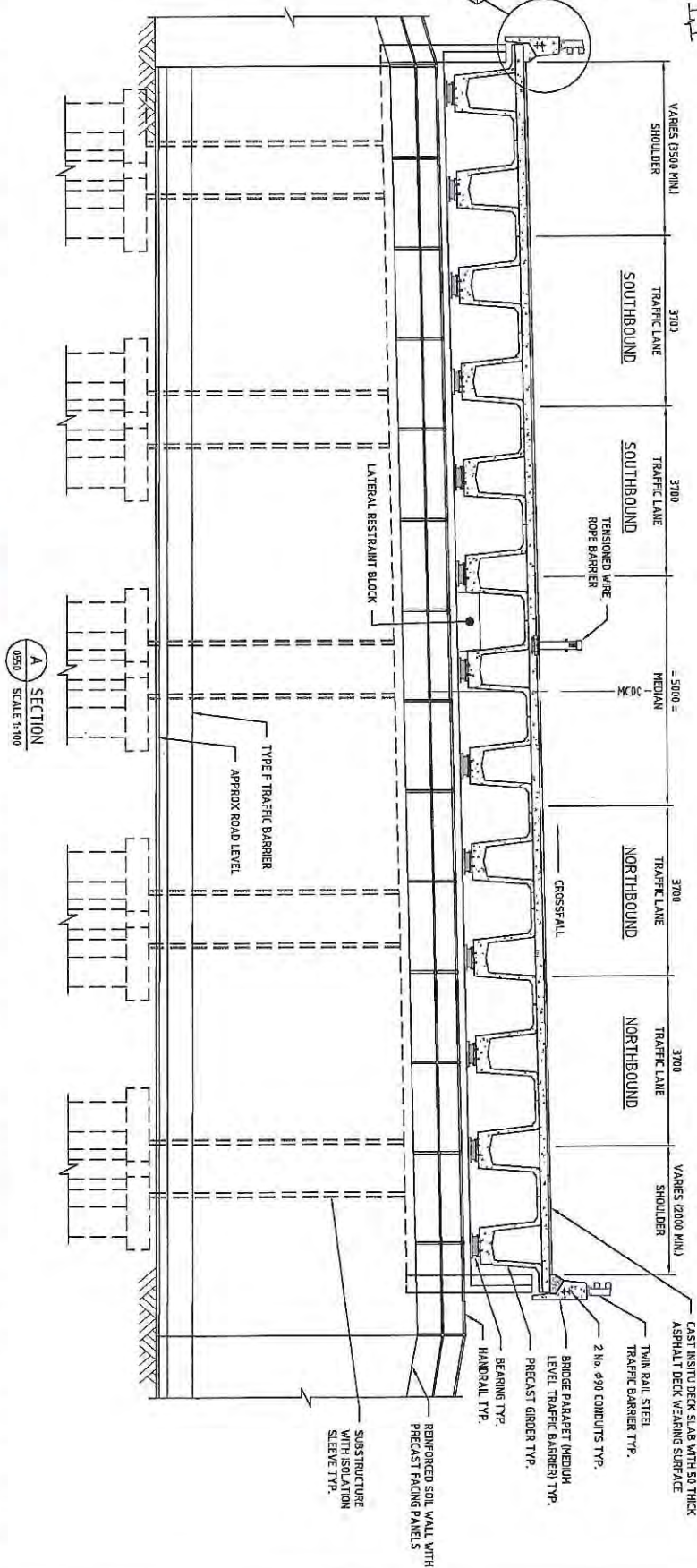
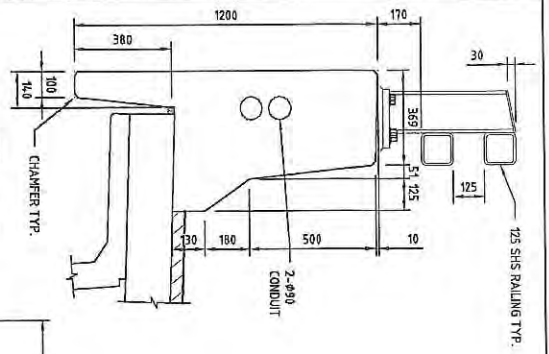
Ad original	This sheet may be prepared using colour and may be incomplete if copied.
No.	Amendment Description
B	DA SUBMISSION
A	ISSUED FOR CLIENT REVIEW
SL*	21/06/2017
M.S.G.*	12/05/2017
Initials	Date



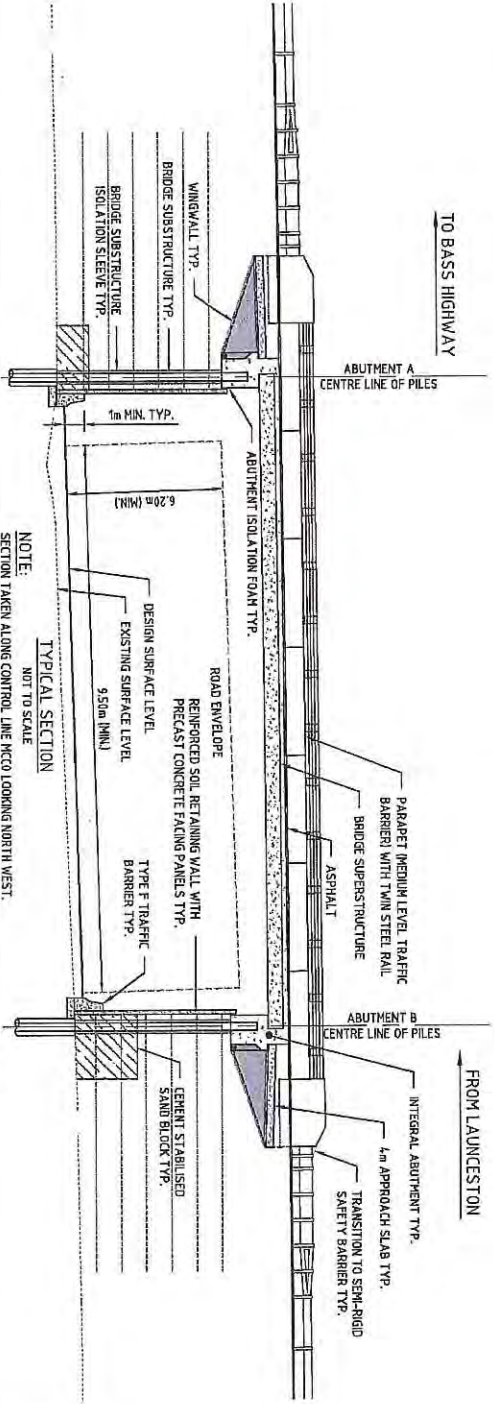
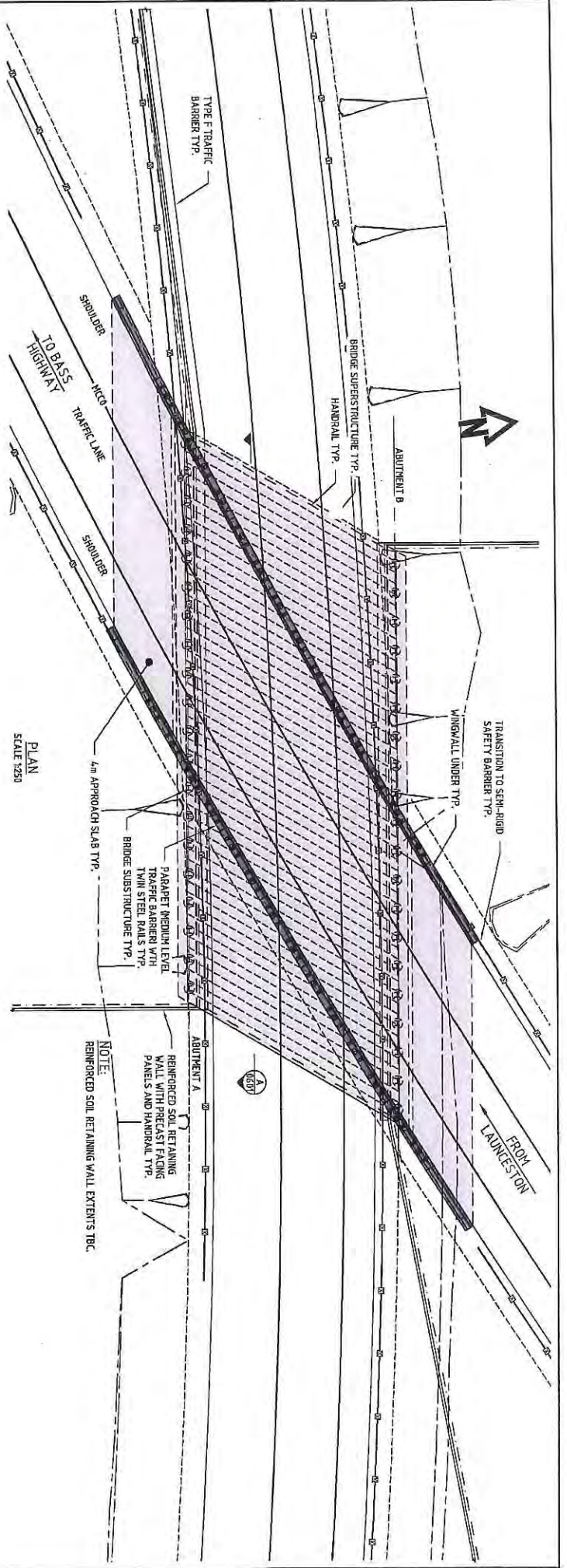
DESIGNED: D. JAMES
REVIEWED: [Signature]

Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS
WESTBOUND RAMP UNDERPASS - GENERAL ARRANGEMENT

CONTRACT No.	32-18285-S250/449	PRINTED DATE	21-Jun-17, 12:41 PM	SHEET No.	0550
DRAWING	REGISTRATION NUMBER			REVISION B	
	A0087.038				

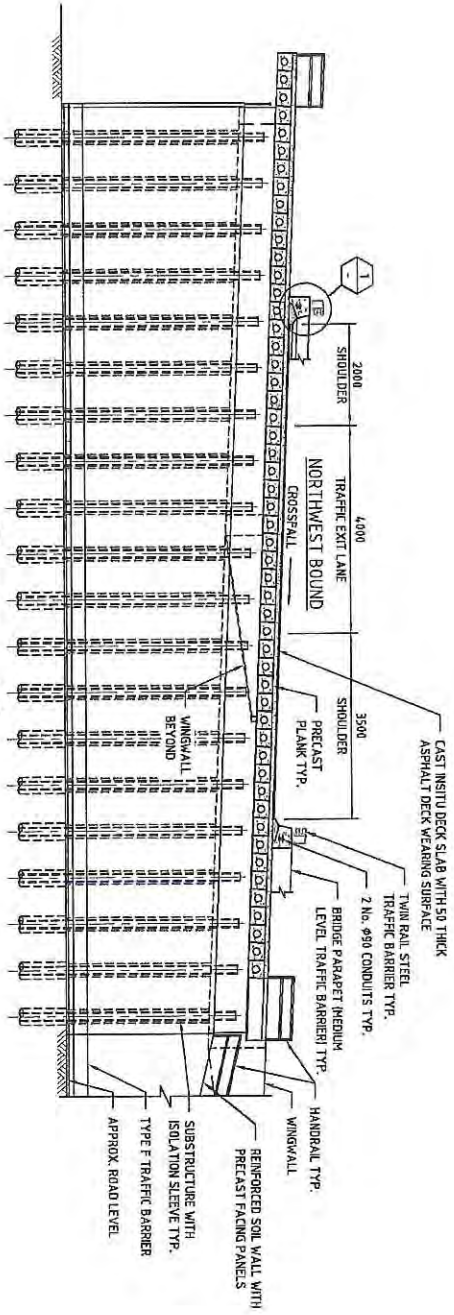
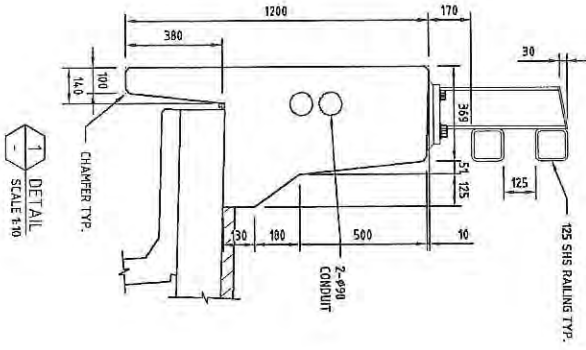


<p>Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS</p>		<p>CONTRACT No. 32418298-S851k4g</p>		<p>DRAWING PRINTED DATE 24-Jun-17, 12:41 PM</p>		<p>SHEET No. 0551</p>	
<p>DESIGNED BY: DJMNS REVIEWED BY:</p>		<p>REGISTRATION NUMBER A0087.038</p>		<p>SCALE: 1:100</p>		<p>REVISION B</p>	
<p>AS original</p>		<p>Amendment Description</p>		<p>Scale</p>		<p>Revision</p>	
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- NOTES:**
1. DESIGN IN ACCORDANCE WITH AS 5100.
 2. DESIGN TRAFFIC LOADS: - SM 1600 - HL 2400 (POSITIONED AS PER SPECIFICATION)
 3. REFER TO CIVIL DRAWINGS FOR ROAD DESIGN.

<p>Department of State Growth MIDLAND HIGHWAY (A0087) PERTH LINK ROADS ROADWORKS</p>		<p>CONTRACT No. 33-18295-SB00.dwg</p>	<p>DRAWING PRINTED DATE 21-Jun-17, 12:41 PM</p>	<p>SHEET No. 0600</p>
<p>DESIGNED D.J.MIMS</p>	<p>REVIEWED</p>	<p>WESTBOUND RAMP OVERPASS - GENERAL ARRANGEMENT</p>	<p>REGISTRATION NUMBER A0087.038</p>	<p>REVISION B</p>
<p>DA SUBMISSION ISSUED FOR CLIENT REVIEW</p>	<p>S.L.C. M.S.G.</p>	<p>21.08.2017 12.08.2017</p>	<p>SCALE 1:250</p>	<p>Amendment Description Initials Date</p>
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NOTE:
SECTION TAKEN ON BRIDGE SKEW.

No.	Amendment Description	Issue	Date
B	DA SUBMISSION	S.L.	21.08.2017
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.08.2017

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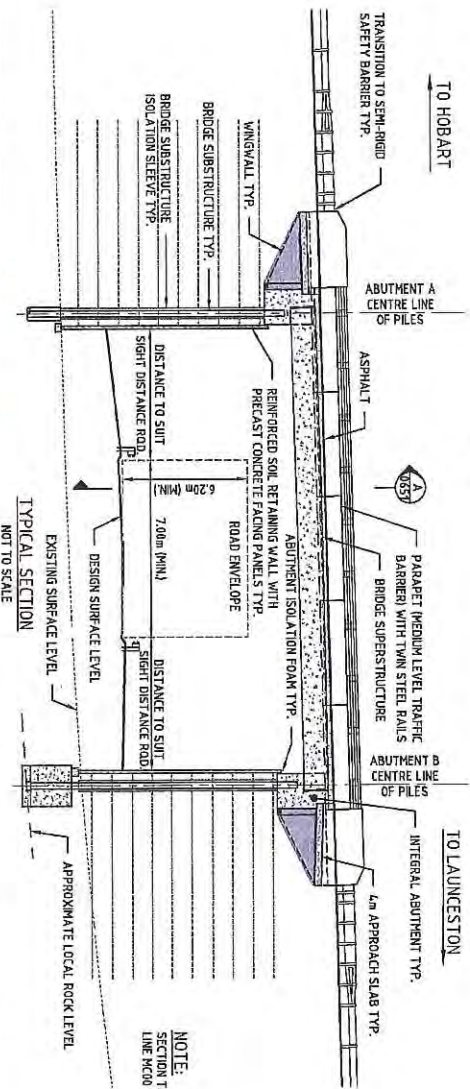
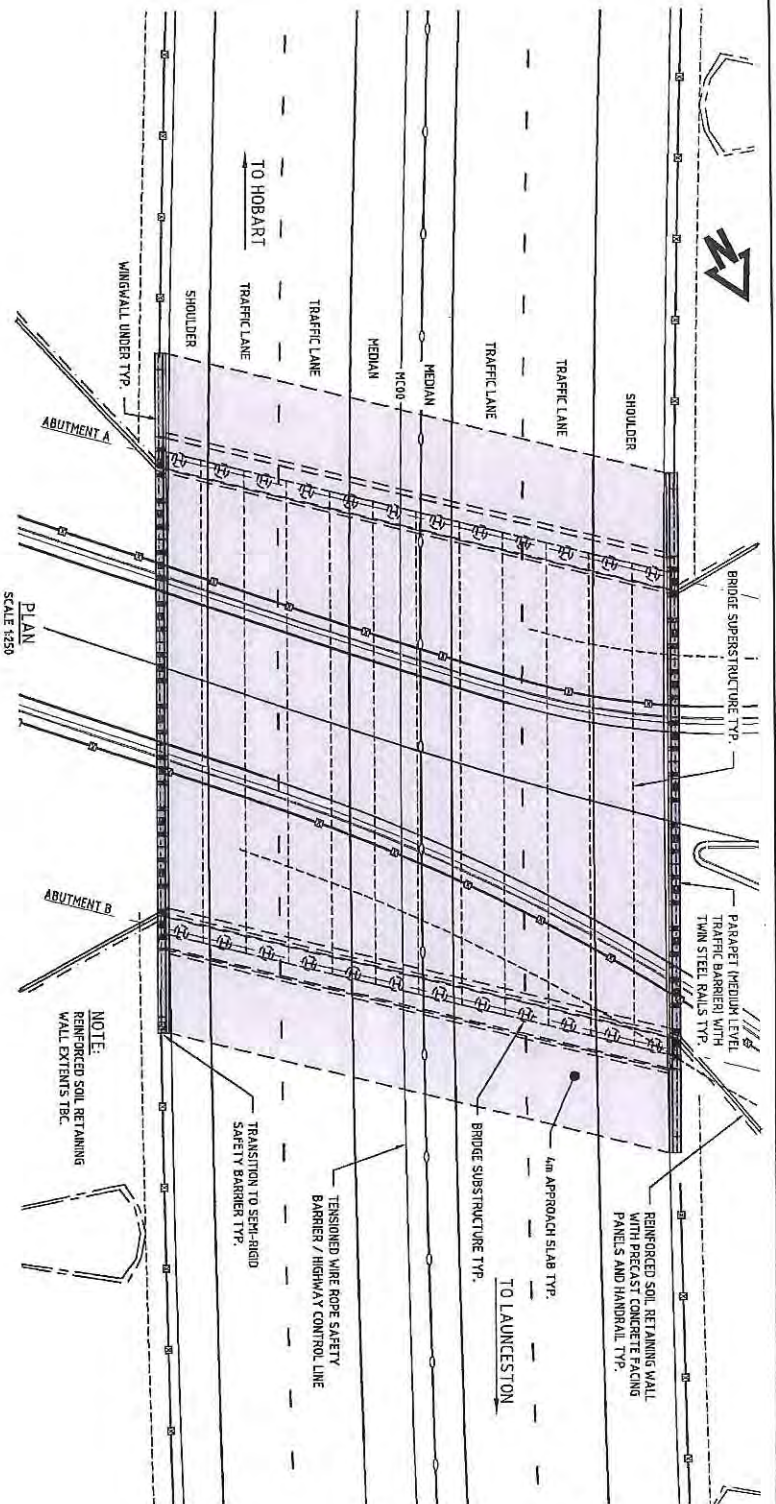
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DESIGNED: D.MIMS
REVIEWED:

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MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	324.82848-SB01.dwg	21-Jun-17, 12:41 PM	0601
	REGISTRATION NUMBER		REVISION B
	A0087.038		



- NOTES:**
1. DESIGN IN ACCORDANCE WITH AS 5100.
 2. DESIGN TRAFFIC LOADS:
 - SM 1600
 - HL P400 (POSITIONED AS PER SPECIFICATION)
 3. REFER TO CIVIL DRAWINGS FOR ROAD DESIGN.

No.	Amendment Description	Initials	Date
A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.08.2017
B	DA SUBMISSION	S.L.	21.08.2017

Co-ordinate System: MGA Zone 55
Height Datum: A.H.D.

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DESIGNED: **D.J.M.A.S.**

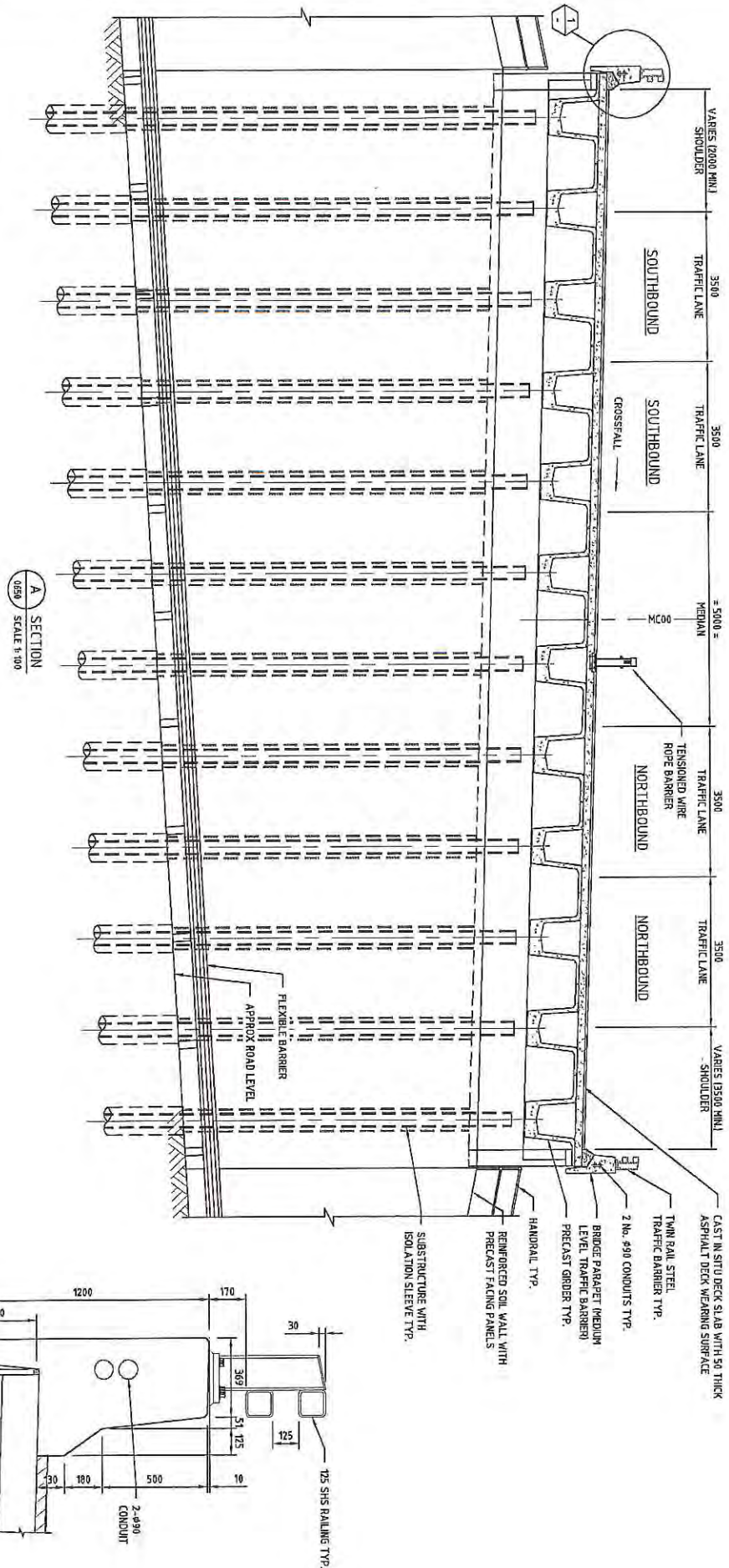
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Perthian Government

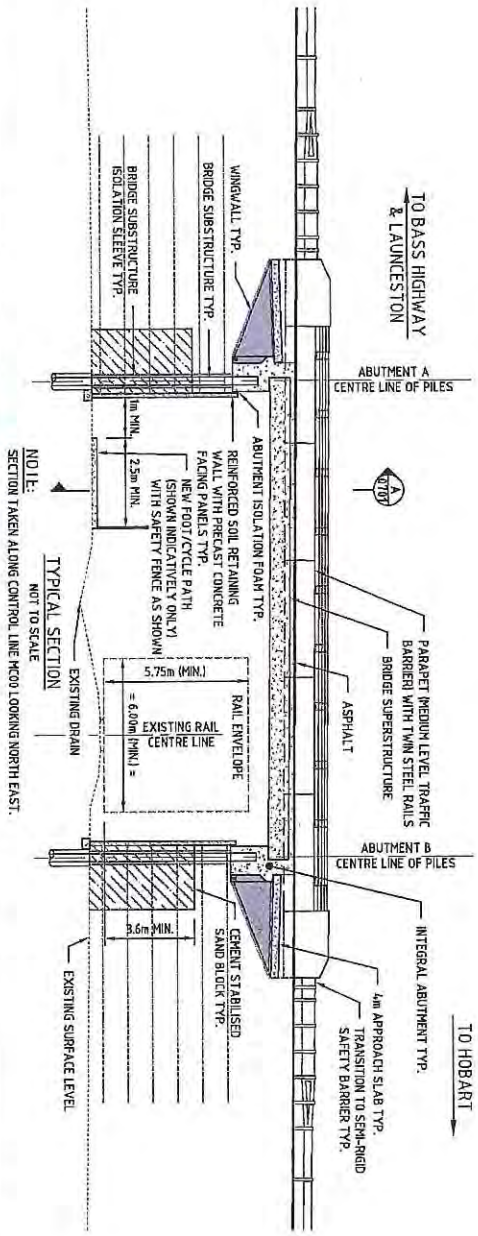
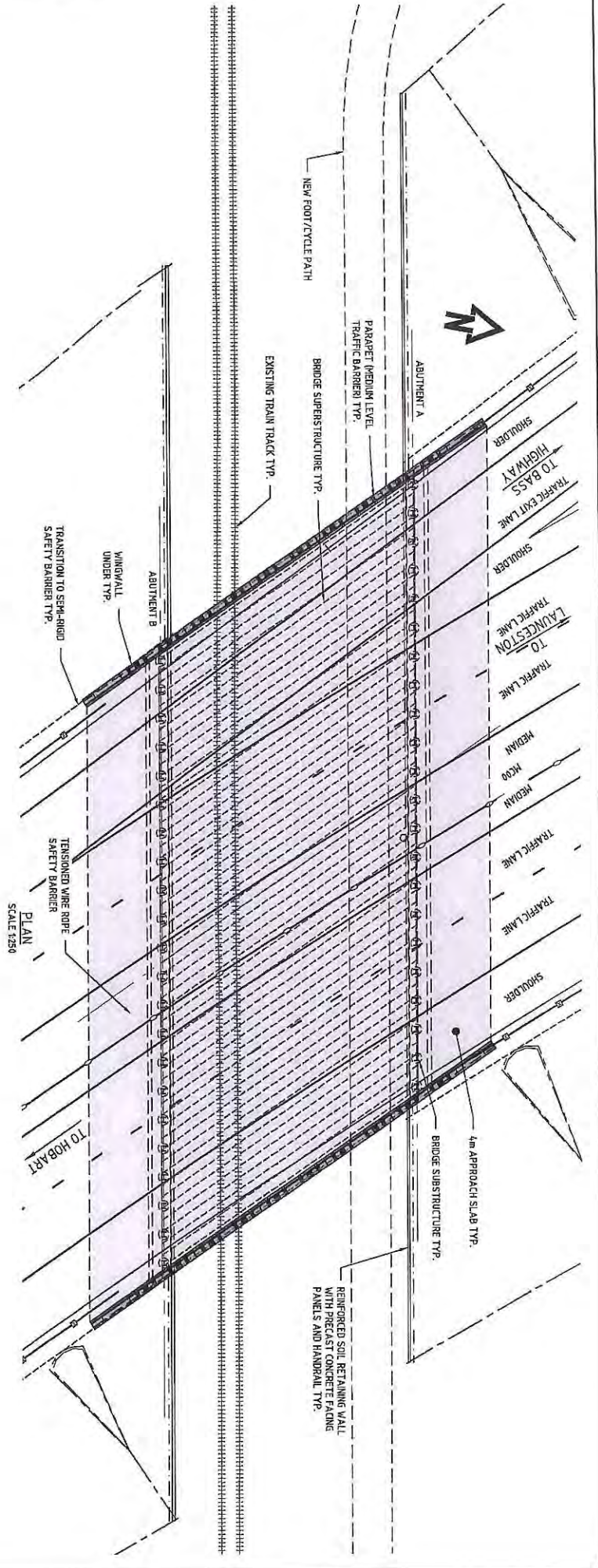
Department of State Growth
MIDLAND HIGHWAY (A0087)
PERTH LINK ROADS
ROADWORKS

NORTHERN UNDERPASS - GENERAL ARRANGEMENT

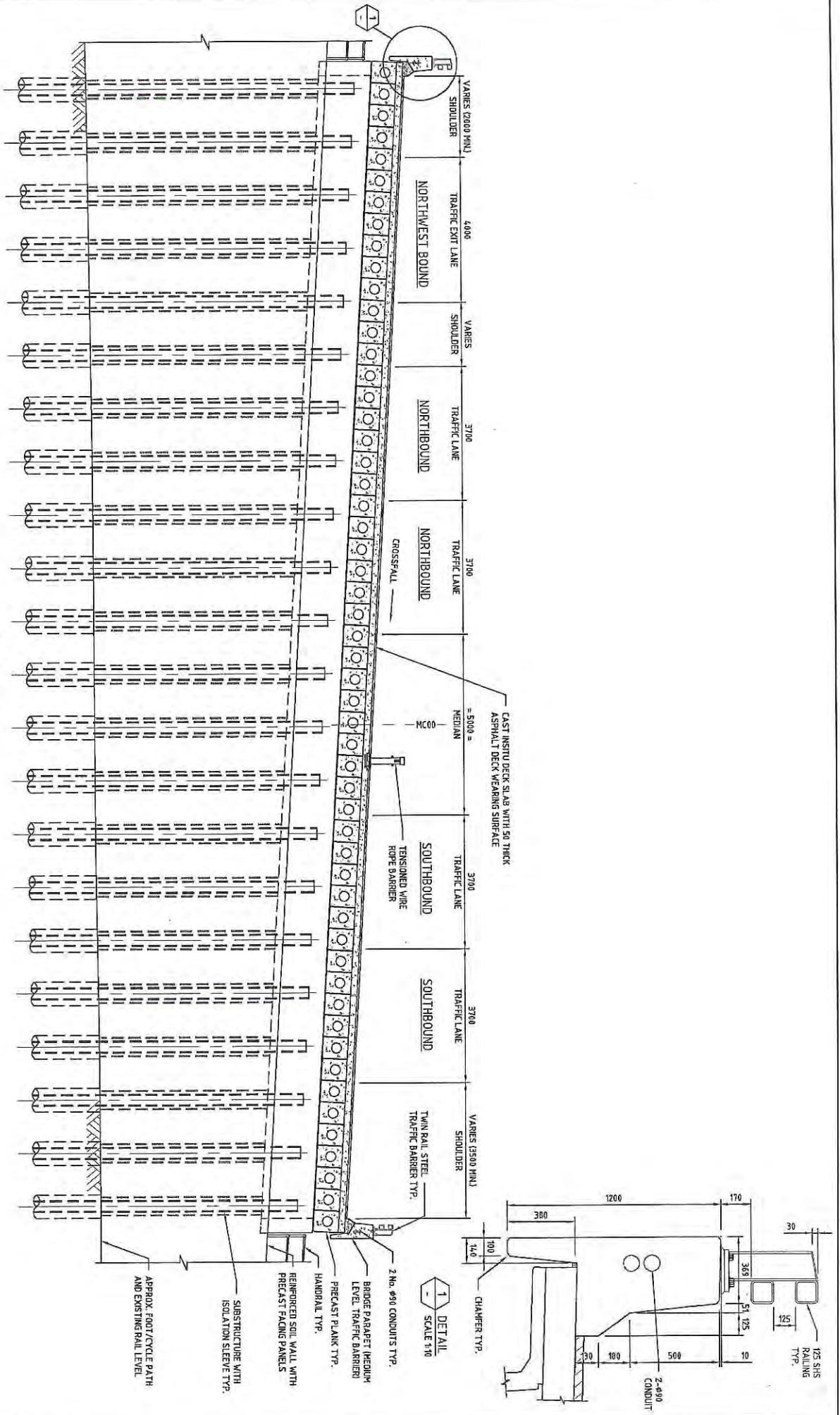
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REGISTRATION NUMBER	A0087.038		REVISION B



<p>Department of State Growth</p> <p>MIDLAND HIGHWAY (A0087)</p> <p>PERTH LINK ROADS ROADWORKS</p> <p>NORTHERN UNDERPASS - TYPICAL CROSS SECTION</p>		<p>CONTRACT No.</p> <p>32-18288-S931Am9</p>	<p>DRAWING</p> <p>REGISTRATION NUMBER</p> <p>A0087.038</p>	<p>PRINTED DATE</p> <p>21-Jun-17, 12:41 PM</p>	<p>SHEET No.</p> <p>0651</p>
<p>DA SUBMISSION</p> <p>ISSUED FOR CLIENT REVIEW</p> <p>Amendment Description</p> <p>S.L. 21.06.2017</p> <p>M.S.G. 12.06.2017</p> <p>Initial Date</p>	<p>DESIGNED</p> <p>DJAMS</p>	<p>REVISIONS</p>	<p>SCALES</p> <p>SCALE 1:20</p> <p>SCALE 1:100</p>	<p>Co-ordinate System: MGA Zones 55</p> <p>Height Datum: AHD</p>	<p>AS ORIGINAL</p> <p>This sheet may be prepared using colour and may be incorporated / copied</p>

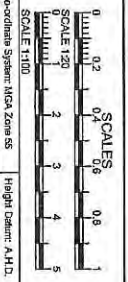


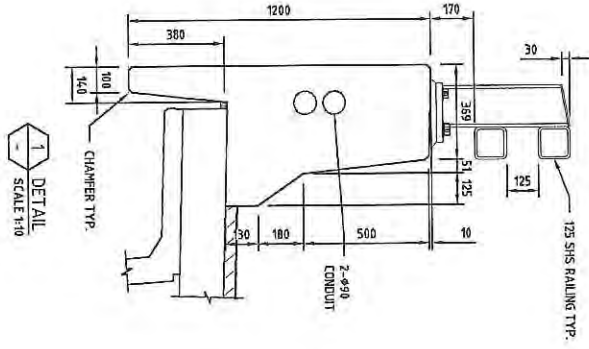
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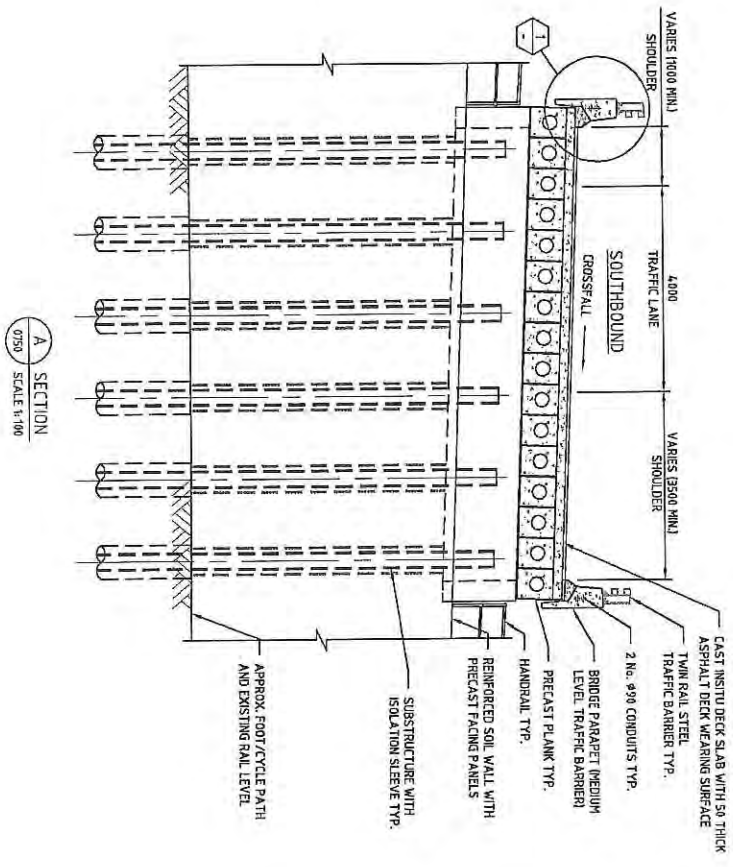
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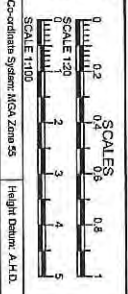




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No.	Amendment Description	Initials	Date
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A	ISSUED FOR CLIENT REVIEW	M.S.G.	12.06.2017



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 REVIEWED BY: **DJMMS**
 TERRACON CONSULTANTS
 Government

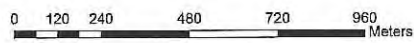
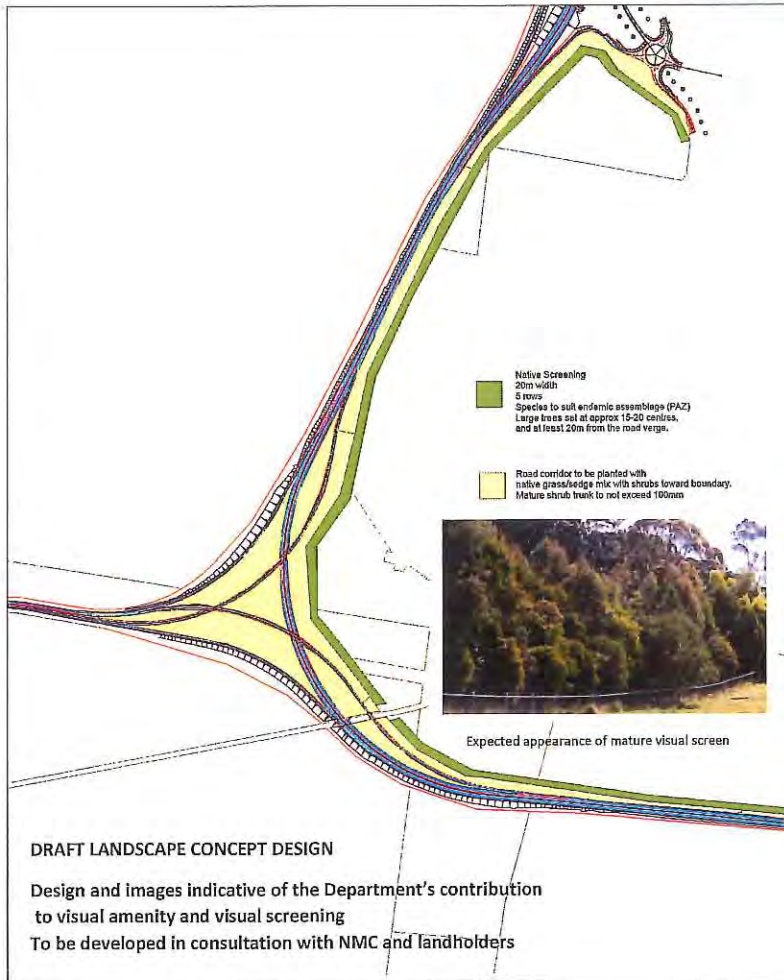
Department of State Growth
 MIDLAND HIGHWAY (A0087)
 PERTH LINK ROADS
 ROADWORKS
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	32-18295-5751.dwg	21-Jun-17, 12:42 PM	0751
	REGISTRATION NUMBER		REVISION B
	A0087.038		

REVISION B

PERTH LINKS LANDSCAPING CONCEPT DESIGN

Perth Links Road Design
Interchange



Native Screening Example



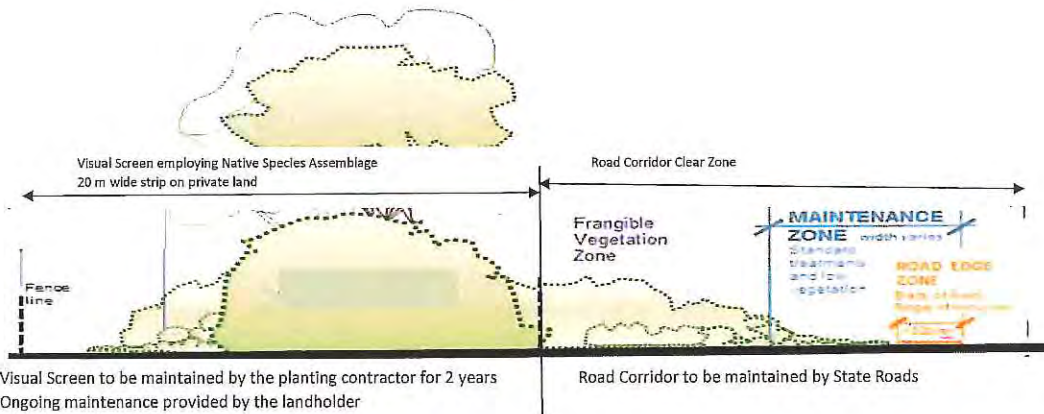
Expected appearance after 10 years



Planting

One year

Five years



Potential visual screening species selection.

Species lists:

Canopy Tree Species	Common Name
<i>Eucalyptus amygdalina</i>	black peppermint
<i>Eucalyptus pauciflora</i>	cabbage gum
<i>Eucalyptus viminalis</i>	white gum
<i>Eucalyptus ovata</i>	black gum

Typical Understorey Species *	Common Name
<i>Acacia dealbata</i>	silver wattle
<i>Ailacurima litoralis</i>	black sheak
<i>Banksia marginata</i>	silver banksia
<i>Bursaria spinosa</i>	prickly box
<i>Excarpus cupressiformis</i>	native cherry
<i>Acacia ericoides</i>	golden pea
<i>Bostiana cinerea</i>	showy bossia
<i>Devilina sejigata</i>	leafy spilly bitterpea
<i>Dillwynia</i> spp.	parrotpea
<i>Epacris impressa</i>	common heath
<i>Hibbertia</i> spp.	guineaflower
<i>Leucopogon</i> spp.	beardheath
<i>Lissanthe crugosa</i>	peachberry heath
<i>Lomatia tinctoria</i>	guitarplant
<i>Platylobium triangulare</i>	arrow flatpea
<i>Pultenaea juniperina</i>	prickly beauty
<i>Stenanthemum pimeleoides</i>	propeller plant
<i>Astelma humifusum</i>	native cranberry
<i>Acrotiche seculana</i>	ants delight
<i>Bostiana prostrata</i>	creeping bossia
<i>Hovea heterophylla</i>	winter purplepea
<i>Pultenaea pedunculata</i>	matted bushpea
<i>Dichaneta repens</i>	kidneyweed
<i>Genacopus tetragynus</i>	common raspwort
<i>Goodenia lanata</i>	trailing native-primrose
<i>Helichrysum scorpioides</i>	curling everlasting
<i>Lagenophora stipitata</i>	blue bottledaisy
Orchidaceae	orchids
<i>Oxalis perennans</i>	grassland woodcorrel
<i>Paranthera microphylla</i>	small paranthera
<i>Viola hederacea</i>	lyleaf violet
<i>Austrodorothia</i> spp.	wallabygrass
<i>Austrostepa</i> spp.	speargrass
<i>Dryevia</i> spp.	bentgrass
<i>Dichelachne</i> spp.	plumegrass
<i>Eufhorbia stipoides</i>	weeping grass
<i>Themeda triandra</i>	kanaroo grass
<i>Dianella revoluta</i>	spreading flaxlily
<i>Lomanchea longifolia</i>	sagg
<i>Lepidosperma</i> spp.	swordsedge
<i>Schoenus</i> spp.	bozedge

Town Entrance Road Landscaping.

Objectives

- Avenue plantings to be used to clearly differentiate the entrance roads from the highway.
- Trees should be reasonably closely spaced so that the canopy is touching (see examples below)
- Tree set-back from highway road verge to be no less than the expected mature tree height
- Ground cover to be "park" turf, with maintenance performed by council
- Planting avenue trees will be a more cost effective method of achieving a good visual amenity landscaping outcome over the large expenditure necessary for elaborate roundabout landscaping designs
- Roundabout design must be considered from the perspective of safety and ease of access for maintenance crews

Potential Roundabout Concept Designs – to be developed in consultation with Northern Midlands Council

Objectives

- Highlight the northern and southern entrance to Perth
- Be simple to maintain and have tidy appearance
- Be safe for both road users and maintenance crews
- Be cost effective both for establishment and on-going costs

Design Suggestion

Southern roundabout.

- Paved boundary 5m wide to allow parking of maintenance vehicles
- Central feature – ie house skeleton sculpture plus simple "cottage style" garden
- Remaining area "park" style" turf

Northern Roundabouts.

- Roundabout to interchange - "park" style" turf or native tussock grass
- Roundabout to Perth – as above but Avenue trees included if safety requirements can be met.

Perth Links Northern Entrance



Examples of desired effect



Buninyong, Victoria

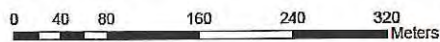
Appropriate set-back for Highway Avenue trees –
Mostly Oaks of several varieties

In the area of the Northern and Southern Roundabouts

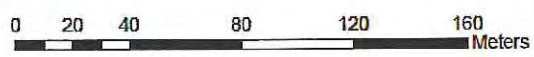


Lydiard Street Ballarat- Mostly English Elms, some English Oak

Note similar road corridor width to Main Road Perth



Perth Links Southern Entrance



Midland Highway Safety Upgrades

Perth Link Roads

Development Application Supporting Report

June 2017

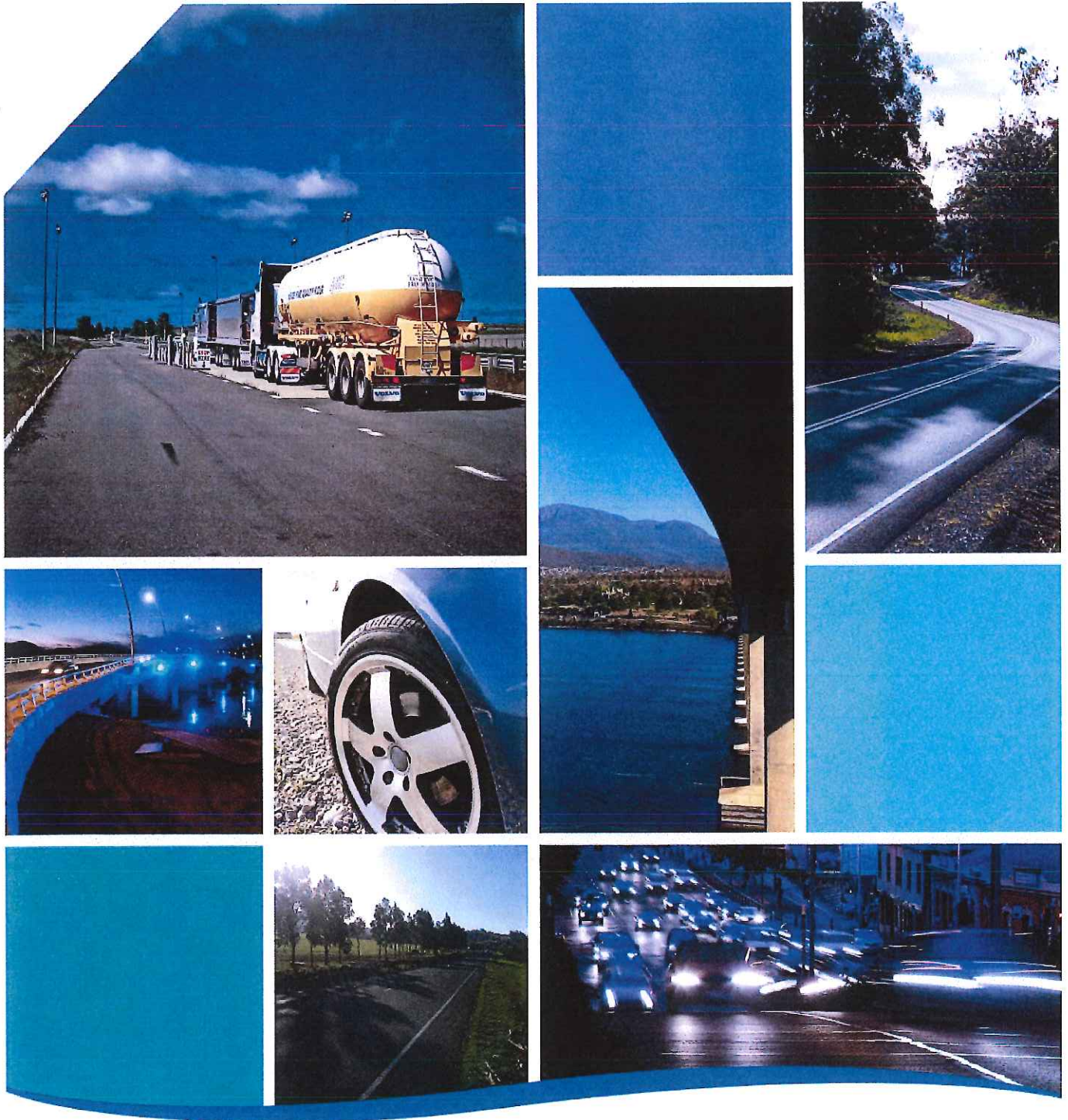


Table of Contents

1. INTRODUCTION	3
2. BACKGROUND	3
3. STRATEGIC RATIONALE	3
4. PROJECT OBJECTIVES	4
5. OPTIONS ANALYSIS	4
5.1 CONCEPT DESIGN.....	4
5.2 PRELIMINARY DESIGN	4
6. SITE DESCRIPTION	5
6.1 LOCATION	5
6.2 TITLES.....	5
6.3 EXISTING ROAD AND ROADSIDE ENVIRONMENT	6
7. PROPOSAL	8
7.1 DESIGN	9
7.2 BRIDGE STRUCTURE.....	10
7.3 PUBLIC TRANSPORT	11
7.4 PEDESTRIANS AND CYCLISTS	11
7.5 LOCAL ROADS	11
7.6 PRIVATE ACCESSES	11
7.7 DRAINAGE	11
7.8 UTILITIES AND SERVICES	12
7.9 LANDSCAPING	12
7.10 LIGHTING	12
7.11 LAND ACQUISITION	13
7.12 GEOLOGY.....	13
7.13 FLORA & FAUNA.....	14
7.14 LAND CAPABILITY.....	14
7.15 NATURAL HAZARDS.....	14
7.16 HISTORIC HERITAGE	14
7.17 ABORIGINAL HERITAGE	14
7.18 NOISE.....	15
7.19 CONSTRUCTION	16
8. STAKEHOLDER ENGAGEMENT	17
9. SITE PHOTOGRAPHS AND MONTAGES	19
10. PLANNING SCHEME	21
10.1 DETERMINING APPLICATIONS	21
10.2 PLANNING SCHEME OBJECTIVES	21
10.3 USE CATEGORISATION	22
10.4 PART C ZONES	22
10.5 PART D CODES.....	31
11. STATE POLICIES	40
11.1 STATE POLICY ON THE PROTECTION OF AGRICULTURAL LAND 2009.....	40
11.2 STATE POLICY ON WATER QUALITY MANAGEMENT 1997	40
11.3 STATE COASTAL POLICY 1996.....	40
12. CONCLUSION	41

1. Introduction

This report supports a development application by the Department of State Growth (State Growth) to the Northern Midlands Council (the Council) for the proposed Perth Link Roads project to the west and south of Perth. The site constitutes a total length of approximately 5 km.

The upgrade of the Midland Highway at Perth is a component of the staged upgrade of the highway from the South Esk River Bridge (south of Perth) to Breadalbane. The first stage, which commenced in 2016 and is due for completion in 2018, duplicates the highway between Perth and Breadalbane.

The remaining portion of the overall project is the subject of this development application and comprises the construction of the Southern and Western Links, which will realign the Midland Highway around Perth and provide a new connection to Illawarra Main Road.

The purpose of this report is to address the Northern Midlands Interim Planning Scheme 2013 and to consider issues of traffic flow and safety, accesses, natural and cultural values, water quality, land capability, amenity, cycling routes, and accommodation works for any impacted properties.

2. Background

The proposed Perth Link Roads will link with the Perth-Breadalbane duplication project and will realign the Midland Highway to the west and south of the existing Perth township, with interchanges linking to the major access routes into Perth and through to Devonport.

Completion of these projects will improve road safety by installing central median barriers on the Midland Highway and removing through traffic from the main thoroughfare of Perth; improve transport efficiency (including freight movement between the northern ports and Hobart); and ease traffic congestion within Perth.

The existing highway does not meet contemporary safety and design standards and has sections that significantly impact on the suitability of the National Land Transport Network for safe and efficient transport of freight and passengers across Tasmania.

In conjunction with the current upgrade between Perth and Breadalbane, completion of Perth Link Roads will provide a dual carriageway between Perth and Launceston, addressing current and future capacity constraints.

3. Strategic Rationale

The Perth Link Roads project is a component of the Midland Highway Upgrade Program, a 10-year plan with a total commitment of \$500 million from Commonwealth and State governments to upgrade the Midland Highway.

Upgrading of the Midland Highway was identified as a priority by all levels of government. The project is a key component of the Midland Highway Upgrade Program 2014 and Tasmanian Infrastructure Strategy and is identified as a priority project in the Northern Integrated Transport Plan 2013 and the Midland Highway Partnership Agreement 2009.

The AusRAP Star Rating Australia's National Network of Highways 2013 report found that the majority of the Midland Highway rated either only 1 or 2-star, in its 5-star safety rating scale. The Midland Highway upgrade projects will use the 'Safe System' approach, which has been adopted by all Australian state and territory road authorities to achieve the minimum 3 star AusRAP rating. This approach recognises that drivers will make mistakes, which result in crashes and road infrastructure be designed to take account of these errors.

4. Project Objectives

The project will support the key objective for the Midland Highway Action Plan to deliver a minimum 3-Star AusRAP rating for this section of the Midland Highway.

In particular, the project aims to:

- Provide a minimum 110km/h speed environment, consistent with National Land Transport Network standards;
- Provide capacity for projected growth in traffic volume to 2043;
- Provide for future road freight, in terms of productivity (improved geometry for more productive freight vehicles) and efficiency (more consistent speed environment for freight vehicles);
- Provide improved efficiency of the National Land Transport Network, particularly between the north-west and southern regions of Tasmania;
- Allow consolidation of growth of the Perth urban area; and
- Allow remnant portions of the Midland Highway, Illawarra Main Road and Youl Main Road to revert to Local Government ownership.

5. Options Analysis

5.1 Concept Design

A high level Concept Design Report was prepared to consider the alignment, junction treatments, land acquisition and accommodation works, and other ancillary works to complete the project.

5.2 Preliminary Design

Subsequent to the Concept Design Report, the concept design of the junctions was reviewed. Options considered included:

- At-grade and grade-separated options for the southern interchange;
- Provisions for future South Esk River bridge alignment;
- Utilising a temporary roundabout in lieu of constructing on-ramp loop at Illawarra Road interchange;
- Illawarra Main Road 'system' vs a 'service' interchange; and
- Ramp configuration at northern interchange.

Stakeholder consultation during the preliminary design process identified a number of key issues for consideration, including:

- "Entry statement" for accesses into Perth;
- Full connectivity (northbound and southbound access to Perth required); and
- Substandard geometry on the southern side of the South Esk River Bridge.

Considering this, the preliminary design reviewed many of the design elements from the concept and made some changes to the previously provided concept design, including:

- Revision of junction treatment at the Southern Connection and Western Connection;
- Consideration of replacement of the South Esk River Bridge; and
- Highway lane configurations.

The Design section (7.1) shows the final preliminary design.

6. Site Description

6.1 Location

The Project is located in the township of Perth, approximately 14km south of Launceston on the Midland Highway (A0087), starting from the South Esk River Bridge south of Perth township (Link 90/chainage 3.51 or $-41^{\circ} 34' 58.44''$; $147^{\circ} 10' 58.49''$) and ending at the new duplicated alignment north of Perth at Gibbet Hill ($-41^{\circ} 33' 37.10''$; $147^{\circ} 9' 46.12''$).

A map of the project location in relation to Perth and the existing road network is shown in Figure 7-1.

6.2 Titles

The following titles (Table 1) are affected by the proposed works and acquisition. A copy of these titles are provided as an attachment:

TABLE 1: LIST OF TITLES AFFECTED BY PROPOSED DEVELOPMENT

Title	Address	Owner	Extent of works	Approximate area of acquisition (m ²)
151007/1	Lot 1 Midland Highway, Perth	Scone Pty Ltd	Re-alignment of Eskleigh Road to new Southern Interchange	22,700
114189/1	Lot 1 Main Road, Perth	Gibson, Taylor and Knights	New southern roundabout and Access works	23,200
40/5436	Main Road, Perth	State Growth	New connection from new southern roundabout to Perth Main Road	NA
139742/1	'Glen Ireh' – 35 Drummond Street, Perth	Einoder	Southern Link Road and Access works	82,200
100598/1	Illawarra Road, Perth	Kelly	Southern Link Road	38,900
102564/3	Acquired road - Illawarra Road	State Growth	New cul-de-sac Western Interchange	NA
18945/7	Acquired road - Illawarra Road	State Growth	New cul-de-sac Western Interchange	NA
102564/2	Acquired road - Illawarra Road	State Growth	New cul-de-sac Western Interchange	NA
18945/4	Acquired road - Illawarra Road	State Growth	Western Interchange	NA
250051/1	'Mountford' – 389 Illawarra Road, Longford	Mountford Nominees Pty Ltd	Southern Link Road	53,000
235359/1	State Rail Network	State Growth	Bridges over railway	NA
131035/1	390 Illawarra Road, Longford	Mountford Nominees Pty Ltd	Western Interchange	184,200
171217/1	Illawarra Road, Perth	Mackinnon	Western Interchange, Western Link Road Access works Northern Interchange	249,240

Title	Address	Owner	Extent of works	Approximate area of acquisition (m ²)
152534/1	Illawarra Road, Perth	Mackinnon	Western Link Road	19,400
170425/1	Illawarra Road, Perth	Mackinnon	Western Link Road	6,300
171216/12	Acquired Road	State Growth	Northern Interchange	NA
170341/11	Acquired Road	State Growth	Northern Interchange	NA
170341/10	Acquired Road	State Growth	Northern Interchange	NA
170340/9	Acquired Road	State Growth	Northern Interchange	NA
19724/2	Acquired Road	State Growth	Northern Interchange	NA
19724/1	Acquired Road	State Growth	Northern Interchange	NA
170340/8	Acquired Road	State Growth	Northern Interchange	NA
170340/7	Acquired Road	State Growth	Northern Interchange	NA
35430/1	Acquired Road	State Growth	Northern Interchange	NA

6.3 Existing Road and Roadside Environment

The Midland Highway currently passes through Perth in a north / south direction, facilitating travel from the south to the north and north-west. The highway currently dissects the eastern and western sections of Perth. Perth also currently provides a link from the Midland Highway to the Bass Highway, via Illawarra Main Road, Drummond Street and Youl Main Road in Perth, for travellers between the south and north west of the state.

Both the Midland Highway and Illawarra Main Road are part of the National Land Transport Network. These roads are both two-lane single carriageway roads with a high number of direct property accesses, road intersections and an at grade rail crossing.

Both the Midland Highway through Perth and the Drummond Street connection to Illawarra Main Road do not meet National Land Transport Network standards and are deficient in terms of current and future productivity needs. The volume of both passenger and heavy vehicles travelling through the town day and night also have a detrimental impact on the safety and amenity of residents.

6.3.1 Existing road network and traffic data

There are three key roads through Perth – Midland Highway, Youl Main Road and Drummond Street (Illawarra Main Road). The Perth Link Roads will change the use of these three roads considerably. Figure 6-1 shows current traffic volumes across these three roads.

Traffic counts for the Midland Highway range from 6800 vehicles per day at the southern entrance to Perth, 5,800 vehicles per day in the middle of Perth and 12,000 vehicles per day north of Perth. The Midland Highway provides for traffic moving between southern and northern Tasmania, and also the north-west and south (via Drummond Street and Illawarra Main Road).

For traffic travelling between north-west and southern Tasmania, Drummond Street/Illawarra Main Road is a key route, and traffic travelling between Perth and Longford use this route. Traffic counts for Drummond Street are 3,700 vehicles per day (18% heavy vehicles) and at Illawarra Main Road (near Pateena Road) are 7,400 vehicles per day. There is a significant proportion of heavy vehicles on this route, reflective of its importance for freight moving between the key north-west ports (Burnie and Devonport) and southern Tasmania.

Youl Main Road provides for traffic moving between Longford (and surrounding areas) and Launceston. It has relatively high traffic volumes with 4800 vehicles per day, with 7% heavy vehicles.

All three of the above roads also provide for localised movements by residents living on these roads.

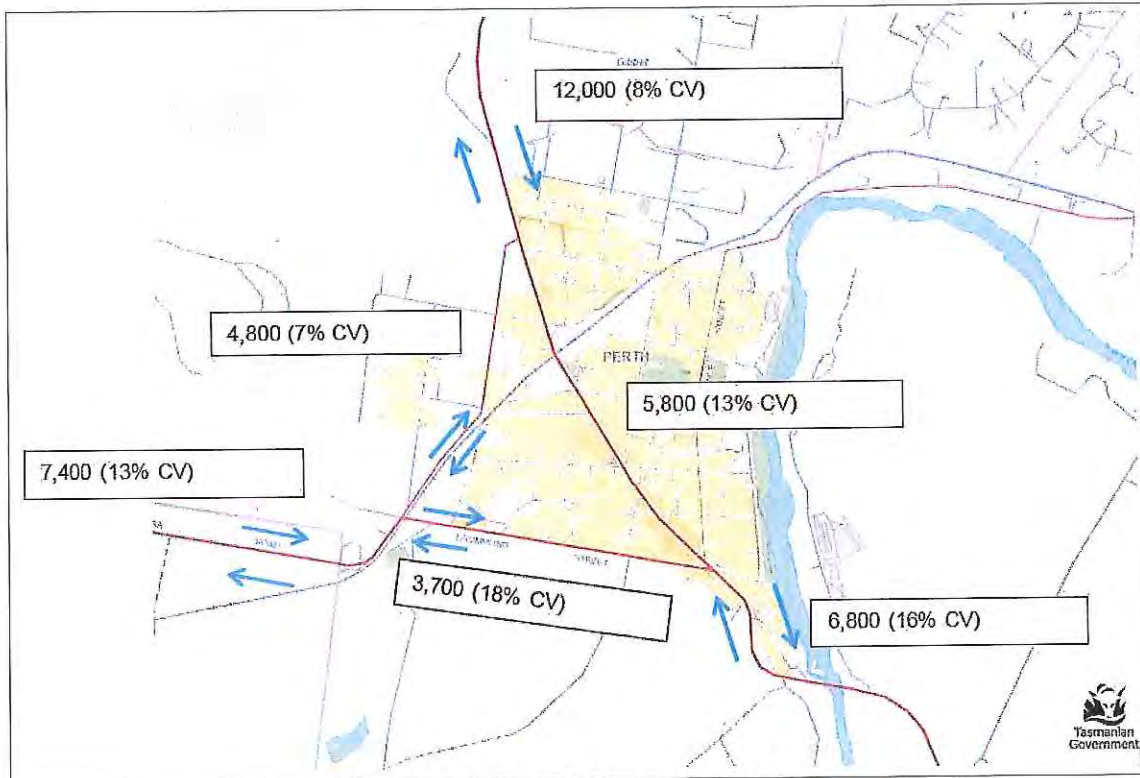


FIGURE 6-1 CURRENT TRAFFIC VOLUMES

6.3.2 Crash Data

The Department's crash data between 2012 and 2017, for the project area is summarised in below. Between 1 January 2012 and 31 January 2017, a total of 59 crashes were recorded, including two fatal crashes and 19 casualty crashes.



FIGURE 6-2 CRASH LOCATIONS AND SEVERITY 2012 - 2017

Source: Google Earth, Department of State Growth (2012-2017)

7.1 Design

The Perth Link Roads project involves construction of three new junctions and a 5 km road to move traffic from the existing Midland Highway to west of Perth on the new link road.

The Perth Link Road includes two distinct sections of dual carriageway:

- Southern Link - South Esk River Bridge to Illawarra Main Road; and
- Western Link - Illawarra Main Road to the beginning of the Perth-Breadalbane duplication¹.

The Western Link aims to remove most of the vehicles currently using Youl Main Road, shift the majority of traffic travelling through Perth onto the Midland Highway, and remove a level railway crossing from the National Land Transport Network (the level crossing will still exist, but only crosses the local road).

The Southern Link aims to shift most of the vehicles currently using Drummond Street to the new road, along with vehicles from the existing Midland Highway through Perth.

Access to Perth and other destinations will be provided for in one of the three junctions. The three junctions proposed are:

- South – a roundabout at the southern entrance to Perth, including local access for Eskleigh and other properties to the south of the Link Roads
- Western – a grade-separated service interchange between the new junction of Illawarra Main Road and the Link Roads (Midland Highway), including on and off ramps for vehicles travelling between the north-west and south
- North – a grade separated interchange, with two roundabouts to provide access from the Midland Highway to the north of Perth

The design also includes a pedestrian and cycle path from Drummond Street to Illawarra Main Road, which incorporates an underpass to separate pedestrians and cyclists from the new dual carriageway.

7.1.1 Design Speed

The design speed adopted for the project is 110 km/h, consistent with the adjacent sections of the National Land Transport Network. It is anticipated that the posted speed will be 110 km/h for the majority of the length of the Perth Link Roads. For the roundabout at the southern entrance to Perth it is expected that this will be posted at a 60 km/h speed limit, consistent with the existing speed limit across the South Esk River bridge.

The design has been developed in accordance with the Department of State Growth's specifications and guidelines, Austroads Guidelines and relevant Australian Standards.

7.1.2 Design Vehicle

The design vehicle adopted for the Perth Link Roads alignment is a Performance Based Standards Level 3A vehicle (e.g. B-triple) for the main carriageway and Illawarra Main Road ramps. The accesses into Perth (north and south) are designed for a 26m B-double.

7.1.3 Road safety improvements

The works are forecast to decrease crash frequency on the Midland Highway, Youl Main Road and Drummond Street, with 10 fewer crashes per year (including 3 injury crashes).

Currently, crashes in the study area occur at an overall rate of 65 crashes per 100MVKT², resulting in 12 crashes per year. The rate on individual links in the existing network varies from 11 crashes per

¹ The Perth to Breadalbane duplication is currently under construction.

100MVKT up to more than 300 crashes per 100MVKT. A rate of 12 crashes per 100MVKT has been adopted for the new Perth Links.

By 2043, it is expected that crashes would occur approximately 17 times per year. The construction of the Perth Links would reduce this by 10 crashes per year. In terms of casualty crashes, where a person is injured, these are expected to reduce by more than 3 injury crashes per year as a result of the Perth Links project.

7.1.4 Typical Cross Sections

The road cross section will vary between different sections of the project, such as the main highway, ramps, and service roads. The typical cross section for the Perth Link Roads is provided in .

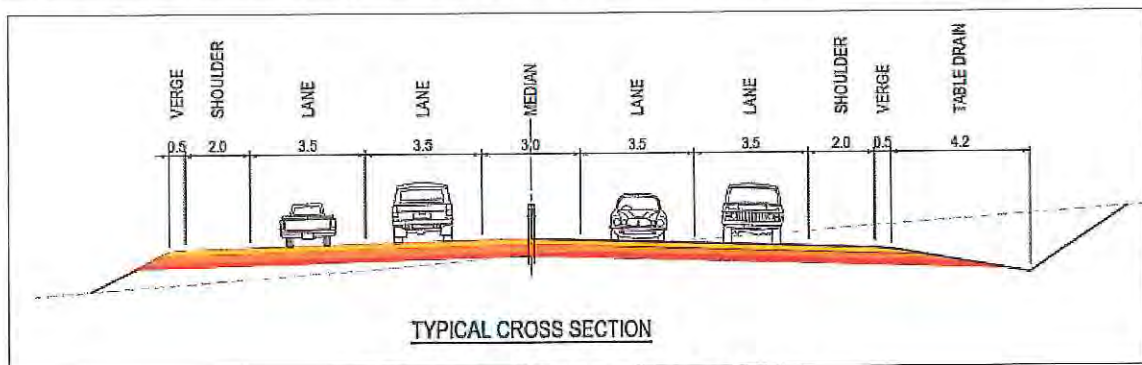


FIGURE 7-2 TYPICAL CROSS SECTION

The proposed cross section generally includes:

- 2 x 3.5m traffic lanes in both directions
- 3.0 m centre median (with flexible safety barrier)
- 2.0m sealed shoulders
- 0.5m unsealed verge

Some sections will have flexible safety or other traffic barrier, where an appropriate clear zone for vehicles cannot be provided or roadside hazards exist. The proposed geometry is consistent with that provided on other Category 1 Roads across the State Road network.

7.2 Bridge Structure

In addition to the earthworks and pavement construction, the project includes the construction of six (6) bridges and four (4) boxed culvert structures, as listed below:

- Northern Interchange – Underpass
- Western Interchange – Westbound Underpass
- Western Interchange – Southbound Underpass
- Western Interchange – Westbound Overpass
- Western Interchange – Rail Underpass No.1
- Western Interchange – Rail Underpass No.2
- Northern Sheepwash Creek Frog Culvert and Stock Underpass (Ch 4080)
- Southern Sheepwash Creek Frog Culvert and Stock Underpass (Ch 1480)

There are no changes to existing South Esk River bridge under the proposed design.

² MVKT – million vehicle kilometres travelled

7.3 Public Transport

The re-routing of the road connection between Illawarra Main Road and Drummond Street will necessitate a restructuring of the existing Launceston-Evandale-Perth-Longford-Cressy bus route.

The bus operator will be consulted during detailed design and construction, and a range of potential options for bus routes post-construction. More detail on public transport is provided in the Traffic Impact Assessment.

7.4 Pedestrians and Cyclists

Pedestrian and cyclist movements travelling from north to south through Perth will most likely remain on the existing Midland Highway, which provides a more direct route. The removal of through traffic will also improve amenity and safety for pedestrians and cyclists using this route.

Pedestrian and cyclist movements to or from Illawarra Main Road will be encouraged to remain on the existing road network, even though general traffic will need to use the new Perth Links. A pedestrian/cyclist pathway (including an underpass under the new Perth Link Roads) will be provided to connect Illawarra Main Road with Drummond Street and Youl Road.

7.5 Local Roads

Through traffic using Drummond Street, Youl Road and Midland Highway (Main Road) will be diverted onto the new Link roads. Traffic on Drummond Street is expected to decrease by 2,400 vehicles per day, when the Link Road is constructed. Similarly, traffic on Youl Road is expected to decrease by 5,500 vehicles, and traffic on the existing Midland Highway (Main Road) through Perth, is expected to have a daily reduction of 6,400 vehicles.

The proposal will reduce travel time for the majority of routes for trips between the north and the west (Longford to Launceston). For traffic travelling from the South to the North of Perth travel times will be essentially be the same as via the current network, but in most other cases travel times will be improved.

The proposal will divert significant volumes of traffic away from Drummond Street, Youl Road and the Midland Highway. As discussed in Section 6.3.3, the majority of crashes in the study area have occurred on these roads, and crash frequency is expected to decrease where traffic activity is reduced as a result of traffic diverting to the new Perth Link Roads.

7.6 Private Accesses

As the Perth Link Roads project is a greenfield construction project, there is limited changes to existing local private accesses. The Department has been consulting with landholders who are directly affected, to ensure that the design includes appropriate property accesses where feasible.

7.7 Drainage

The existing stormwater network within the project area generally follows natural drainage lines, and there is limited formal stormwater infrastructure.

The main creek in the project area is Sheepwash Creek. The alignment for the Perth Link Roads crosses Sheepwash Creek in two locations – at the northern end of the works (near the northern interchange) and near the eastern side of the Illawarra Main Road interchange.

The main culverts along Sheepwash Creek have been designed to convey flood flows and maintain the existing flow of water. Council has recently commissioned a flood study for this area (conducted

by Hydrodynamica), and the results of this have been used to inform the drainage design for the Perth Link Roads.

The two culverts are adjacent to crossings (underpasses) also provided to allow access between land each side of the highway for light vehicles and stock. These crossings would also provide additional drainage capacity in high flow events. Crossings have been maintained in their current location where practicable. Where relocation is required, localised diversion of the waterway has been minimised.

Stormwater drainage from the new pavements will be diverted through new culverts and/or more typically along the new table drains constructed at the base of the new road embankments. The stormwater drains will eventually discharge into the existing waterways.

The project has adopted a fauna-friendly culvert design, to maintain habitat connectivity for frogs across the local landscape. The design adopted is similar to that used for the Perth-Breadalbane duplication, with drainage culverts designed and constructed in accordance with the Department's Green and Gold Frog Management Guidelines.

The drainage system will convey runoff from all pavement areas and adjacent verges and earthworks, and all runoff affected by the Perth Link Roads to suitable discharge locations for rainfall events up to and including the 1 in 100 ARI event.

Drainage easements are to be acquired for any new drainage outfalls on private property (excludes discharge directly to existing creeks).

7.8 Utilities and Services

7.8.1 Overhead Power

There are a number of overhead power lines and support poles around the southern, western and northern junctions on the Perth Link Roads.

The majority of these will need to be relocated to enable the construction to proceed. Some sections will be replaced with underground conduits due to local site conditions and constraints. The Department is in consultation with TasNetworks regarding the proposed design and the construction program for works.

7.8.2 Telecommunications Cables

There are a number of existing telecommunication cables (including fibre-optic cable) that will be affected by the proposed highway. The Department is currently consulting with relevant infrastructure owners on relocation of these service utility assets.

7.8.3 Sewer and Water

TasWater has confirmed there are water and sewer assets located in the area that will be affected by the roadworks. The Department is currently consulting with TasWater on relocation of these service utility assets.

7.9 Landscaping

The Department has been in discussion with Northern Midland Council regarding landscaping and is currently considering select replacement planting within the broader project area.

A concept landscaping plan has been developed and is attached. Its key objectives are to highlight the entrances to Perth and provide visual screening of the highway; be simple to maintain and have tidy appearance; be safe for both road users and maintenance crews; and be cost effective to establish. The broad elements of the plan include road landscaping at the following locations:

- Avenue tree plantings beside Main Road at the town entrances.
- Road landscaping at the southern and northern roundabouts (dependent on safety and maintenance requirements).
- Row plantings along the new carriageways on the Perth side, comprising a strip of minimum 20 metres wide of dense native vegetation with scattered tall trees. This will help screen the view of the new highway from houses and reduce light spillage from vehicle and intersection lights. Planting is planned to occur near the beginning of construction, subject to the availability of plants and suitable weather conditions to give them the best chance of survival and growth.

The Department will continue to work with Council and landowners to finalise landscaping works during detailed design and construction.

7.10 Lighting

Street lighting will be required for many of the new junctions. The Department is also in consultation with TasNetworks regarding design and installation of new street lighting at appropriate locations across the project.

The lighting design for the Perth Link Roads has used the below assumptions:

- main carriageways do not require lighting;
- traffic islands, roundabouts, gore areas and terminals lit to AS1158.1.1 "Road lighting" category V5;
- LED lights will be used where practical;
- all wiring to be underground and must be installed in accordance with relevant Australian Standards and any requirements of relevant Authorities; and
- low loss control gear must be used.

A detailed lighting plan for the works will be developed in the detailed design phase, in close consultation with TasNetworks. A key consideration for the detailed lighting plan will be to minimise light spill into surrounding areas, and implement shielding, where required.

7.11 Land Acquisition

The Perth Link Roads will be predominantly constructed on greenfield and acquisition will be required from a number of rural properties. Acquisition is required from nine titles, owned by six entities, as detailed in Table 1 under Section 6.2.

7.12 Geology

The Department has undertaken geotechnical investigations as part of the design development process. The geotechnical investigations indicate that the natural sub-grade for the Perth Link Roads consists of medium to high plasticity clays, clayey/silty gravel, basalt and dolerite bedrock. Investigations have included interpretations, inferred design values and recommendations on the following items:

- Inferred geology along the alignment;
- Subgrade conditions and recommendations for road pavements;
- Excavations and suitable batter slopes for cuttings;
- Re-use of available materials;
- Batter slopes for road embankments;
- Foundation types, bearing capacities and estimated settlements for bridge and culvert structures; and
- Earthquake load design parameters.

It is anticipated that further investigations will be required during the detailed design phase.

7.13 Flora & Fauna

Flora and fauna assessments have been undertaken and compiled by Mark Wapstra of Environmental Consulting Options Tasmania and David James in May 2017 (see attached reports). The assessments found that the project area is within a highly modified landscape with no "critical habitats", "priority vegetation communities", or "vulnerable and threatened species" identified.

However, the assessment did identify potential habitat for Tasmanian *Threatened Species Protection Act 1995*– and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*-listed threatened fauna within the project's footprint. The assessment notes that mitigation measures have been included in the design to ensure that disturbance to such potential habitat will be minimised, including installation of specially-designed culverts to allow fauna movement (in relation to the green and gold frog) thereby maintaining connectivity. During construction, the Department's standard environmental management protocols will be applied to ensure impacts to flora and fauna are effectively managed.

A project-level weed and hygiene management plan will be developed, as part of the Construction Management Plan, to ensure that appropriate weed management actions are undertaken during construction.

7.14 Land Capability

The development site comprises land identified as Class 4 (land well suited to grazing but which is limited to occasional cropping or a very restricted range of crops) and Class 5 (land unsuited to cropping and with slight to moderate limitations to pastoral use). As such, there is no Prime Agricultural Land located within the development site.

The southernmost portion of the site is within a Water District (Lower South Esk Scheme Map extending from Perth / Evandale to Campbelltown). However, the affected land is situated between the proposed southern link and Drummond Street and is identified as the South Perth Outline Development Plan (ODP) in Council's recently adopted Perth Structure Plan. The South Perth ODP 'is designated as an emerging residential area and represents a prime opportunity for redevelopment to accommodate the town's future growth' (GHD and Northern Midlands Council, Perth Structure Plan – A Strategy for the Future, 2017, p. 12).

7.15 Natural Hazards

No natural hazards have been identified within the project footprint.

7.16 Historic Heritage

There are no registered historic heritage sites within the project area. The Tasmanian Heritage Register listed 'Mill Race, Charles Berryman Reserve' at Lot 1 Old Bridge Rd, Perth is the closest historic heritage listed property to the proposed works, however the works will not affect this property.

7.17 Aboriginal Heritage

Aboriginal Heritage Tasmania undertook a desktop assessment and recommended that a site survey be conducted. The Aboriginal Heritage Assessment was undertaken by Cultural Heritage Management Australia in September 2016 and May 2017.

During the course of the field assessment, two Aboriginal sites (under the definitions under the *Aboriginal Relics Act 1975*) were identified, both which are isolated artefacts. A permit is required where the works impact on any Aboriginal sites under the *Aboriginal Relics Act 1975*. The Department

is currently working with Aboriginal Heritage Tasmania to ensure that the permit requirements for this project are met.

Additionally as part of the Construction Management Plan, the construction contractor will be required to implement an Unanticipated Discovery Plan to manage any unanticipated finds encountered during construction.

7.18 Noise

The area comprises an existing highway (Midland Highway), along with two other key routes for traffic – Drummond Street and Youl Main Road. The proposal will change the nature of traffic noise within the Perth area.

The Perth Link Roads project required a noise assessment under the Department's *Tasmanian State Road Traffic Noise Management Guidelines* (Guidelines). The Guidelines are endorsed by the Environmental Protection Authority (EPA) Tasmania as the Department's strategy for managing traffic noise.

A noise assessment, consistent with the assessment process outlined in the Guidelines was undertaken in May 2017. The assessment included all sensitive receivers (i.e. buildings) within 300 m either side of the road project, as required by the Guidelines, and 205 residences were within the assessment area. The noise assessment involved two key elements:

- a baseline noise survey to establish the existing noise environment parameters, and verify the noise model results;
- development of a noise model (consistent with the Guidelines).

From the model, a series of traffic noise predictions were generated. This included modelling five scenarios:

- Current (2017)
- Post-construction (2019), without Perth Link Roads
- Post-construction (2019), with Perth Link Roads
- 10 years post-construction (2029), without Perth Link Roads
- 10 years post-construction (2029), with Perth Link Roads

The modelling showed that 89% of receivers assessed experienced a decrease in noise levels, when comparing no build and build scenarios for the year 2029. The majority of residences that experienced increased noise as part of the works are on Napoleon Street on the western side of Perth.

The detailed noise modelling results were assessed against the noise criteria within the Guidelines to determine whether any buildings qualified for noise mitigation. The results are presented in the Noise Assessment report, and a summary is provided below.

Under current conditions, the modelling under the Noise Assessment found that existing road traffic noise at identified receivers is generally under the 63 dB(A) $L_{A10\ 18hr}$ target criteria, with the 63 dB(A) $L_{A10\ 18hr}$ target criteria exceeded at 46 receivers.

Following construction of the Perth Link Roads, 42 of these residences (i.e. currently exceeding the target) are predicted to have future noise levels below the 63 dB(A) $L_{A10\ 18hr}$ target criteria.

Road traffic noise is predicted to exceed the 63 dB(A) $L_{A10\ 18hr}$ target criteria at four dwellings under the predicted 2029 traffic volumes. Two of these dwellings have existing noise levels higher than 63 dB(A) and predicted traffic noise levels are lower than 68 dB(A), and are ineligible for mitigation under the Guidelines.

The Noise Assessment modelled two dwellings as being eligible for consideration of noise mitigation under the Guidelines. It is considered that the most cost-effective and practical mitigation measures

for these dwellings will be to undertake building specific architectural treatments. Consistent with the Guidelines, existing noise attenuating architectural features of this property will be investigated, with a range of potential building treatments considered, in consultation with the property owner.

7.19 Construction

The Department is planning to deliver this project under a detailed Design and Construct contract. This would mean that that construction contractor would be responsible for detailed design, development of construction methodology and management of construction works. Tendering for this contract is expected between August and October 2017, with contract award in December, and construction works planned to commence in early 2018. It is expected that the works will be conducted over a 30 month construction period.

7.19.1 Construction Traffic Management

The construction methodology and staging of the intersection upgrade is a major consideration, given the high traffic volumes along the Midland Highway and Illawarra Main Road. Due to the nature of the works, disruption to traffic will be unavoidable at some stages of the construction phase of the project.

The detailed design phase of the project will consider ways in which this can be minimised. The final construction methodology and program will also need to consider traffic management as a priority. The construction contractor will be required to develop a construction methodology and traffic management plan that provides minimal disruption to road users and residents.

Construction for the project is intended to be undertaken during normal construction hours. The need to ensure minimal disruption to road users may necessitate rare overnight or Sunday works. If these works are required, they will generally consist of works necessary for transitional traffic arrangements or that are unable to be undertaken during busier traffic times. All practical steps will be undertaken to minimise impacts of noise and disturbance to surrounding residents. Where possible, State Growth undertakes stakeholder engagement prior to road works through provision of advance warnings and the like, particularly for works outside of normal hours, where local residents and regular road users are advised in advance of such works.

7.19.2 Construction Environmental Management Plan

State Growth requires all contractors to submit a Construction Environmental Management Plan (CEMP) that demonstrates compliance with best practice guidelines and relevant legislation and regulation.

The CEMP must be compliant with the Department's Section 176 Environmental Specification. CEMPs are reviewed and approved by the Department's Environmental Approvals and Compliance Officer, prior to site award to ensure the contractor has effectively identified and attributed construction related environmental risks, and has the systems and processes in place to effectively mitigate risk and respond to and report environmental incidents and emergency scenarios.

All construction contractors must have ISO 14001 certification. A copy of the State Growth-approved CEMP and final Weed and Hygiene Management Plan can be provided to Council during construction for information purposes if required.

8. Stakeholder Engagement

State Growth has undertaken active engagement with stakeholders, including the Northern Midlands Council (both salaried staff and elected members), local residents, Heritage Tasmania, bus operators, RACT, Tasmanian Transport Association, Perth Local District Committee, property owners, business owners and commercial operators.

In the initial stage of the project, a Stakeholder Engagement Plan was developed which identified stakeholders and categorised their level of interest in or influence over the project, as well as the best means and timing for reaching these stakeholders.

Stakeholder engagement activities undertaken have included briefings to Councillors and management (including the Perth Local District Committee), individual meetings with key stakeholders, multiple meetings with individual landowners, telephone discussions, two public displays of the preliminary design, an online forum seeking feedback as well as correspondence introducing the project and advertising the public display.

Information about the project is available on the Department of State Growth – Midland Highway website at http://www.midlandhighway.tas.gov.au/projects/perth_link_roads.

The Department has received considerable feedback from the local community regarding the project. This includes:

- Around 230 people attending two public displays
- 34 comments on an online forum
- Nine (9) letters and emails to the Department

The public displays and online forum were advertised by:

- Web – project webpage and Northern Midlands Council web page
- Facebook sites – Council and RACT
- Email – Council groups, including the local district committees
- Print media adverts – Examiner newspaper
- Poster – local businesses
- Letter drop to houses in Perth (second display only).

Public displays

Two separate events provided community members with the opportunity to view the design plans and project information, and provide feedback. These were held at the Perth Community Centre with approximately 110 people attending the first on the afternoon of Saturday, 18 March 2017 and around 120 attending the second on the evening of Wednesday, 17 May 2017.

Project team members were available to answer questions and to actively seek and record feedback from attendees.

The design was also displayed at the Northern Midlands Council offices in Longford from 20 March to 3 April 2017.

Online forum

An online forum (Social Pinpoint) was available from 10 - 17 May 2017. Social Pinpoint allowed the public to provide general feedback about the project or to 'pin' specific comments to a location of their choice on the design plan, with the ability for others to like or dislike comments made. 34 comments were made and 30 likes and 1 dislike of the comments recorded.

Direct contact with the Department

Nine (9) individual letters and emails relating to the project were sent directly to the Department.

Summary of feedback

The majority of feedback received at the public displays, via correspondence and Social Pinpoint was positive, with participants seeing the proposal as an opportunity for the town to unite. Positive feedback also related to the timing of construction (bringing it forward), safety improvements (heavy vehicles away from Main Street), and the cycleway. A number of comments congratulated the Department on a "great design". Reasons given for this included taking heavy vehicles off the Perth main street and providing Perth residents with a high standard road for the future. Respondents were often keen for the project to commence as soon as possible.

Concerns were raised over the impact of noise and light on residential amenity, the potential impact of stormwater and flooding, the bridge not being replaced as part of the project, and tree plantings and screenings.

The local access at the Illawarra Road interchange was the most commented upon issue. It was raised as both a positive (improved amenity and safety) and negative (increased travel time for west Perth residents on the journey between Perth and Longford). Across the public displays, Social Point and correspondence, the feedback recorded showed the majority (68%) of respondents not wanting local access at the Illawarra Road interchange, and 32% in favour of local access at the Illawarra Road interchange into west Perth.

Concerns about noise impact from the highway came mainly from residents around the outskirts of Perth. This theme was closely related to calls for screening and landscaping. There was also concern that the design could exacerbate existing storm water issues. Some participants wanted to ensure commercial activity in Perth was not reduced and that visitors were still attracted into Perth. Some respondents wanted the South Esk River Bridge upgraded to 4 lanes.

There was also considerable interest in the design of the cycleway.

Concerns raised through feedback have been addressed where appropriate in Section 10 of this report for compliance against the applicable Planning Scheme standards.

9. Site Photographs and Montages



FIGURE 9-1 SOUTH OF PERTH LOOKING NORTH-EAST



FIGURE 9-2 SOUTH OF PERTH LOOKING NORTH-WEST



FIGURE 9-3 WEST OF PERTH LOOKING EAST



FIGURE 9-4 NORTH OF PERTH LOOKING SOUTH

10. Planning Scheme

The applicable Planning Scheme is the Northern Midlands Interim Planning Scheme 2013 and the relevant Planning Authority is the Northern Midlands Council.

10.1 Determining Applications

In determining a permit application Council must have regard to (Clause 8.10.1):

- (a) all applicable standards and requirements in this planning scheme; and
- (b) any representations received pursuant to and in conformity with ss57(5) of the Act,

An assessment in accordance with subclause 8.10.1(a) is provided in Section 10 of this report. In determining any discretionary aspects of the proposal, Council must, in addition to 8.10.1, have regard to 8.10.2:

- (a) the purpose of the applicable zone;
- (b) any relevant local area objective or desired future character statement for the applicable zone;
- (c) the purpose of any applicable code; and
- (d) the purpose of any applicable specific area plan.

but only insofar as each such purpose, local area objective or desired future character statement is relevant to the particular discretion being exercised.

The proposal is permitted within the Utilities Zones. The proposal requires exercise of discretion within the General Residential and Rural Resource Zones in relation to use and development.

The proposal also requires discretion under the following Codes:

- E4 Road & Railway Assets Code.
- E5 Flood Prone Areas Code
- E9 Water Quality Code

An assessment in accordance with Clause 8.10.2 of the Scheme is provided in Section 10 of this report.

None of the subdivision standards apply to the use and development as the land is to be compulsorily acquired under the *Land Acquisition Act 1993* and is not subject to the *Land Use Planning and Approvals Act 1993*.

10.2 Planning Scheme Objectives

The following local principle and strategy under Clause 2.2.2.7 of the Scheme relevantly states the following in relation to transport:

b) Recognise the regional importance of, and protect the viability of, State Highways for the movement of goods, services and people, and the role of rail to augment the road transport system.

The following planning scheme objective under Clause 3.2.3 of the Scheme recognises the benefits of the proposal to divert through-traffic from the town centre:

Proposed State highway construction projects at Perth to improve the junction of the NW / Launceston / Hobart links and divert through-traffic from the town centre can substantially improve the outlook for Perth. Residential and consequently retail and community services development should be directed into sites east of the bypass corridor and close to the existing town centre.

10.3 Use Categorisation

The use classification for the proposed use and development is 'Utilities', which is defined in Table 8.2 of the Scheme as follows:

Utilities:

Use of land for utilities and infrastructure including:

- a) telecommunications;*
- b) electricity generation;*
- c) transmitting or distributing gas, oil or power;*
- d) transport networks;*
- e) collecting, treating, transmitting, storing or distributing water; or*
- f) collecting, treating, or disposing of storm or floodwater, sewage or sullage.*

Examples include an electrical sub-station or power line, gas, water or sewerage main, optic fibre main or distribution hub, pumping station, railway line, retarding basin, road, sewage treatment plant, storm or flood water drain, water storage dam and weir.

10.4 Part C Zones

The existing Midland Highway is zoned:

- Utilities

Land to be used for the proposed new Link Roads is zoned:

- General Residential; and
- Rural Resource

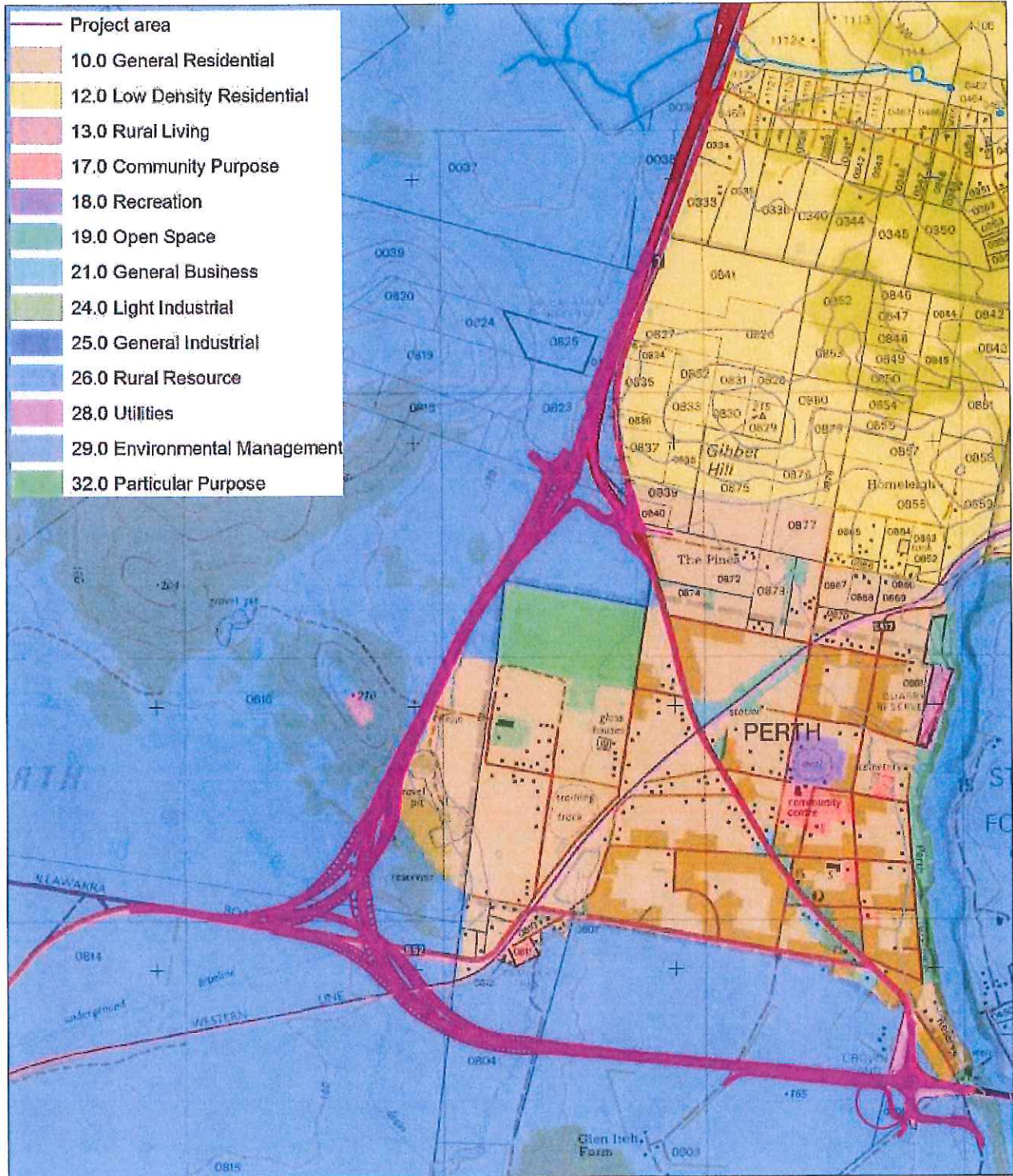


FIGURE 10-1 PLANNING ZONES

Source: the LIST; ECOTas

10.4.1 10.0 General Residential Zone

Approximately 1.6 hectares of land within the General Residential zone will be required for the construction of the western link road.

10.1 Zone Purposes, Local Area Objective and Desired Future Character Statement

The General Residential Zone Purpose is:

10.1.1.1 To provide for residential use or development that accommodates a range of dwelling types at suburban densities, where full infrastructure services are available or can be provided.

10.1.1.2 To provide for compatible non-residential uses that primarily serve the local community.

10.1.1.3 Non-residential uses are not to be at a level that distorts the primacy of residential uses within the zones, or adversely affect residential amenity through noise, activity outside of business hours traffic generation and movement or other off site impacts.

10.1.1.4 To encourage residential development that respects the neighbourhood character and provides a high standard of residential amenity.

The Local Area Objectives relevantly provides for:

To consolidate growth within the existing urban land use framework of the towns and villages.

To manage development in the General residential zone as part of or context to the Heritage Precincts in the towns and villages.

To ensure developments within street reservations contribute positively to the Heritage Precincts in each settlement.

The proposed new highway alignment requires acquisition of approximately 1.6 hectares of land, within the General Residential zone (as described in Section 7.11 above). While the land is zoned general residential, it is currently used for rural purposes and is comprised of a single parcel of land (CT 152534/1), 21.1 hectares in area. The proposed western link road will therefore only require 7.5% of the parcel of land within the zone.

The proposed link roads will define the boundary of the Perth growth areas in accordance with the Perth Structure Plan endorsed by Council at the Council meeting on 10 April 2017 and consolidate growth within the existing urban land use framework of Perth in accordance with the local area objective.

A noise assessment (against the *Tasmanian State Road Traffic Noise Management Guidelines*) and traffic impact assessment have been undertaken (both attached) to ensure that impacts to adjacent land uses are not unreasonable and mitigated where required.

10.2 Use Table

Utilities, other than minor utilities, are a discretionary use within the zone.

10.3 Use Standards

The portion of the works within the General Residential Zone meets the Amenity Use Standards objective by ensuring that there will be no unreasonable loss of amenity to nearby residential uses. The proposal also complies with the specific performance criteria 10.3.1, Amenity, which requires:

Acceptable Solution/Performance Criteria	Compliance Statement
P1 The use must not cause or be likely to cause an environmental nuisance through emissions including noise and traffic movement, smoke, odour, dust and illumination.	<p>Complies.</p> <p>Traffic noise assessments were conducted in April 2017 in accordance with the <i>Tasmanian State Road Traffic Noise Management Guidelines</i> (Guidelines). These Guidelines are endorsed by the EPA.</p> <p>The assessment determined that only two dwellings are eligible for mitigation measures (under the Guidelines).</p> <p>Existing noise attenuating architectural features of these dwellings will be investigated in the</p>

	<p>detailed design phase and considered in accordance with the Guidelines. In consultation and agreement with the property owners, the Department will implement appropriate measures to mitigate noise at these dwellings.</p> <p>It should also be noted that noise levels for the majority of residences have been modelled as decreasing when comparing 'no build' and 'build' scenarios for the year 2029 (see attached Noise Assessment).</p>
<p>P3 External lighting must demonstrate that:</p> <ul style="list-style-type: none"> a) floodlighting or security lights used on the site will not unreasonably impact on the amenity of adjoining land; and b) all direct light will be contained within the boundaries of the site. 	<p>Complies.</p> <p>The main carriageways do not require lighting. Street lighting is only proposed at the roundabouts and on and off ramps where necessary to maintain appropriate levels of safety. The lighting will be lit to AS1158.1.1 "road lighting" category V5 and designed to minimise light spill to avoid unreasonable impacts on the adjoining land and to contain all direct light within the boundary of the site.</p>

The proposal also complies with all Acceptable Solutions under 10.3.2, Residential Character – Discretionary Uses, in that there will be no storage of goods, material or waste.

10.4 Development Standards

The portion of the works within the General Residential Zone meets the Non-Residential Development Standards objective by ensuring that all non-residential undertaken in the Residential zone is sympathetic to the form and scale of residential development and does not affect the amenity of nearby properties. This is achieved by meeting the specific performance criteria 10.4.14, Non-Residential Development, which requires:

Acceptable Solution/Performance Criteria	Compliance Statement
<p>P1 Development must be designed to protect the amenity of surrounding residential use and must have regard to:</p> <ul style="list-style-type: none"> a) the setback of the building (road) to the boundaries to prevent unreasonable impacts on the amenity, solar access and privacy of habitable room windows and private open space of adjoin dwellings; and b) the setback of the building (road) to a road frontage and if the distance is appropriate to the location and character of the area, the efficient use of the site, the safe and efficient use of the road and the amenity of residents; and 	<p>Complies.</p> <p>The main carriageway portion within the General Residential zone is located on the western edge of Perth township and some distance from existing houses. It impacts on areas that have yet to be developed for residential purposes. No existing dwelling will have its amenity, solar access, privacy, or private open space unreasonably impacted. A Traffic Noise Assessment has been undertaken in accordance with the Department's Tasmanian State Road Traffic Noise Management Guidelines. Only two dwellings are eligible for consideration of noise mitigation, under the Guidelines.</p> <p>Complies.</p> <p>As noted above, the provision has limited application to the particular circumstances of the proposed non-residential development.</p>

<p>c) the height of development having regard to:</p> <ul style="list-style-type: none"> i) the effect of the slope of the site on the height of the building; ii) the relationship between the proposed building height and the height of existing adjacent buildings; and iii) the visual impact of the building when viewed from the road and from adjoin properties; and iv) the degree of overshadowing and overlooking of adjacent properties; and 	<p>Complies.</p> <p>There are no properties on the adjacent General Residential zoned land, and this area is yet to be subdivided. Visual impact will be managed by implementation of appropriate landscaping, consistent with the concept landscaping plan.</p>
<p>d) the level and effectiveness of physical screening by fences or vegetation; and</p>	<p>Complies.</p> <p>The Department has developed a concept landscaping plan for the Perth Link Roads. This plan will be further developed in consultation with Council and landowners, and will provide for vegetation screening of the Link Road from this area.</p>
<p>e) the location and impacts of traffic circulation and parking and the need to locate parking and the need to locate parking away from residential properties.</p>	<p>Not Applicable</p>
<p>f) the location and impacts of illumination of the site; and</p>	<p>Complies.</p> <p>The main carriageway portion within the General Residential zone do not require lighting.</p>
<p>g) passive surveillance of the site; and</p>	<p>Not applicable.</p>
<p>h) landscaping to integrate development with the streetscape.</p>	<p>Complies.</p> <p>The Department has been in discussions with Northern Midlands Council regarding landscaping and will continue to work with Council and landowners to finalise landscaping works during detailed design and construction. In the context of integrating the development into the 'streetscape' it is noted that the Perth Structure Plan Report shows a 'green edge' being developed on the western boundary adjacent to future infill housing in the balance of the General Residential Zone. The concept landscape plan that forms part of this Development Application will integrate with this approach.</p>

10.4.2 26.0 Rural Resource Zone

10.1 Zone Purposes, Local Area Objective and Desired Future Character Statement

The Rural Resource Zone Purpose is:

26.1.1.1 To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.