

# Drawings

HELIDON TO CALVERT ENVIRONMENTAL IMPACT STATEMENT

# Contents

The drawings provided in this volume (Volume 3: Drawings) have been based on the current Helidon to Calvert (H2C) Project (the Project) reference design used as the basis for the Environmental Impact Statement (EIS).

The drawing sheets provide additional information coverage of the Project, as described in the EIS.

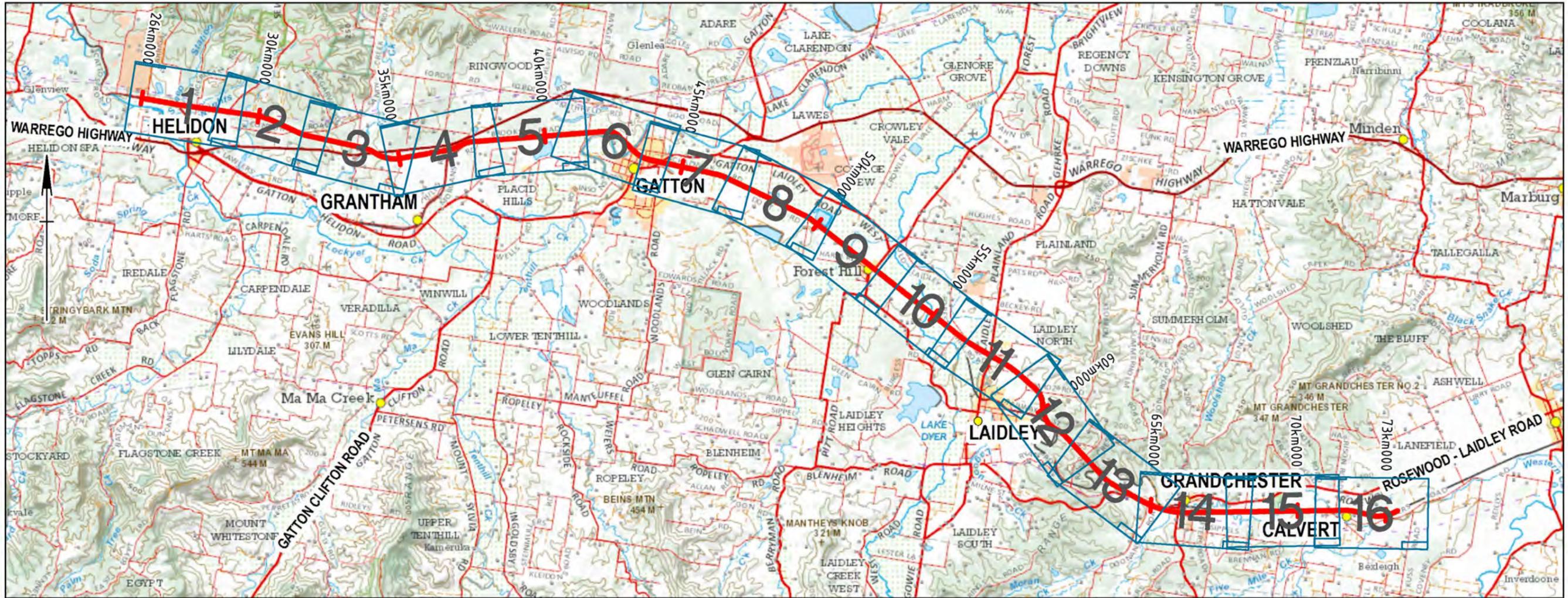
Volume C includes the following:

- ▶ Cover sheet and locality plan—1 sheet
- ▶ Legend—1 sheet
- ▶ Drawing Set A General arrangement plans—16 sheets
- ▶ Drawing Set B Rail civil plan and profiles—16 sheets
- ▶ Drawing Set C Environmental design matters—17 sheets
- ▶ Drawing Set D Select Little Liverpool Tunnel sheets (select)—12 sheets

These drawings support the Project EIS (refer Volume 1: Chapters and Volume 2: Appendices) and are not to be used for: tenure matters, corridor gazettal, boundary adjustments, property acquisition and/or land-based offset delivery considerations. The provided drawings are not for construction.

The Project will be subject to review, revision and refinement during future phases.

# ARTC - INLAND RAIL HELIDON TO CALVERT RAIL CIVIL



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Design Project Code:	Accepted By	2-0001-330-CAL-10-DR-0001
Designed R. du PLOOY 22/11/19	Approved By L. KLEIN	
Checked H. GOUWES 22/11/19	Signed Lindsay Klein	
Ind. Rev. Company AECOM	Ind. Rev. Name D. STEFFENS	
Ind. Review Signature David Steffens 22/11/19	Approve Date 22/11/19	

Sheet No. 1	SHEET SIZE A1
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Last Modified - Tuesday, Nov 26, 2019 10:17:36 AM



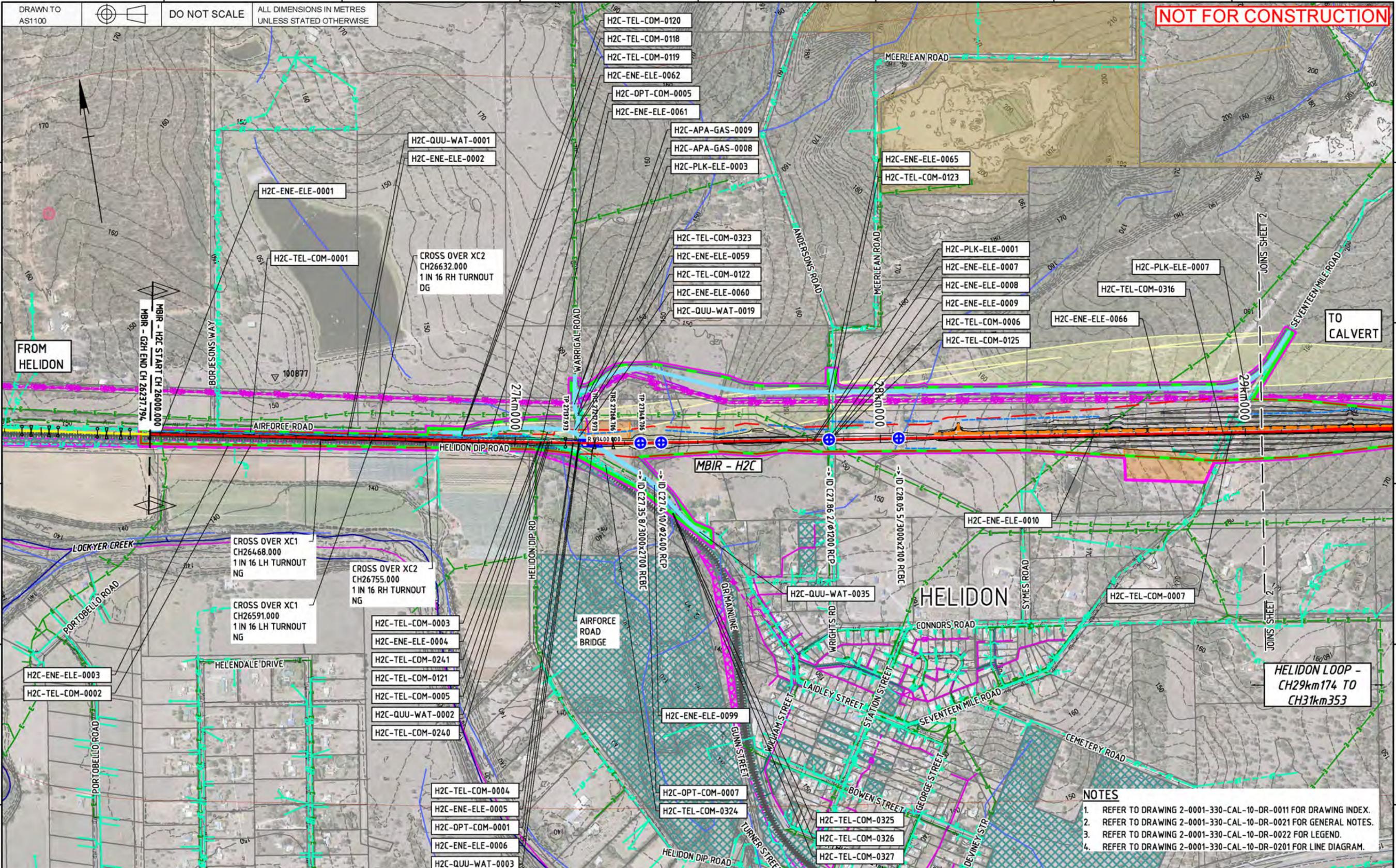
# DRAWINGS

## **Drawing Set A**    General Arrangement Plans

HELIDON TO CALVERT ENVIRONMENTAL IMPACT STATEMENT

DRAWN TO AS1100  
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HELIDON LOOP - CH29km174 TO CH31km353

- NOTES**
- REFER TO DRAWING 2-0001-330-CAL-10-DR-0011 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company: **Future Freight**  
Design Project Code: **ARTC ACCEPTANCE**

Designed: R. du PLOOY 22/11/19  
Approved By: L. KLEIN

Checked: H. GOUWS 22/11/19  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Ind. Review Signature: David Steffens 22/11/19

Approved By: Lindsay Klein  
Signed: 22/11/19  
Approval Date: 22/11/19

ARTC ACCEPTANCE  
Accepted By: [Signature]  
Signed: [Signature]  
Approval Date: [Date]

Sheet No. 1  
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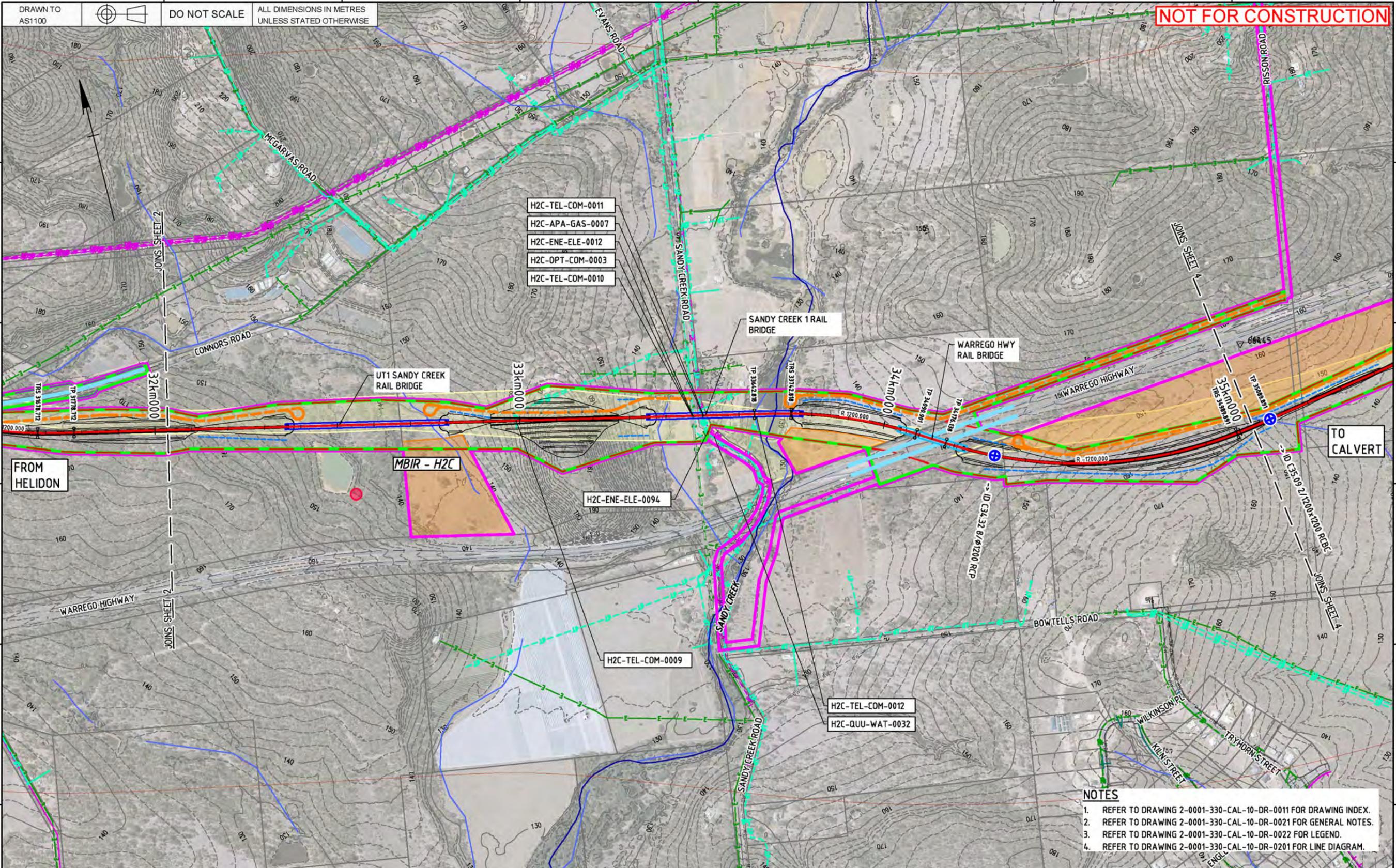
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RAIL CIVIL - GENERAL ARRANGEMENT PLAN  
SHEET 1

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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company: **Future Freight**

Design Project Code:

Designed: R. du PLOOY 22/11/19

Checked: H. GOUWS 22/11/19

Ind. Rev. Company: AECOM

Ind. Rev. Name: D. STEFFENS

Ind. Review Signature: David Steffens 22/11/19

Approved By: L. KLEIN

Signed: Lindsay Klein

Approve Date: 22/11/19

ARTC ACCEPTANCE

Accepted By:

Accepted Date:

Sheet No. 3

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**Inland Rail**

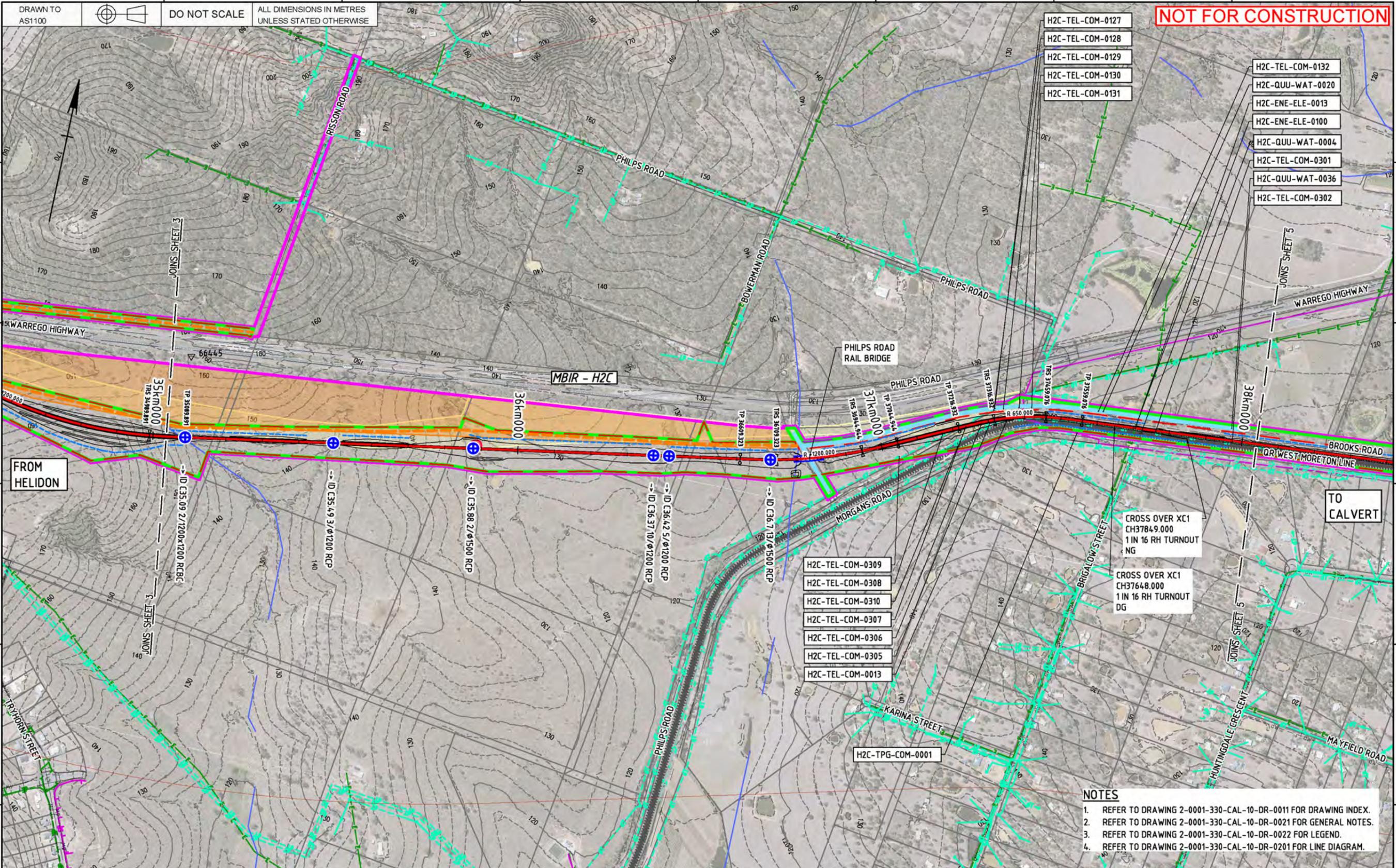
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RAIL CIVIL - GENERAL ARRANGEMENT PLAN  
SHEET 3

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- H2C-ENE-ELE-0013
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CROSS OVER XC1  
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 1 IN 16 RH TURNOUT  
 NG

CROSS OVER XC1  
 CH37648.000  
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 DG

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  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company:	Future Freight
Design Project Code:	
Designed:	R. du PLOOY 22/11/19
Checked:	H. GOUWES 22/11/19
Ind. Rev. Company:	AECOM
Ind. Rev. Name:	D. STEFFENS
Ind. Review Signature:	David Steffens 22/11/19
Approved By:	L. KLEIN
Signed:	Lindsay Klein
Approve Date:	22/11/19
Accepted By:	
Signed:	
Acceptance Date:	

ARTC ACCEPTANCE

InlandRail

2-0001-330-CCW-10-DR-1004

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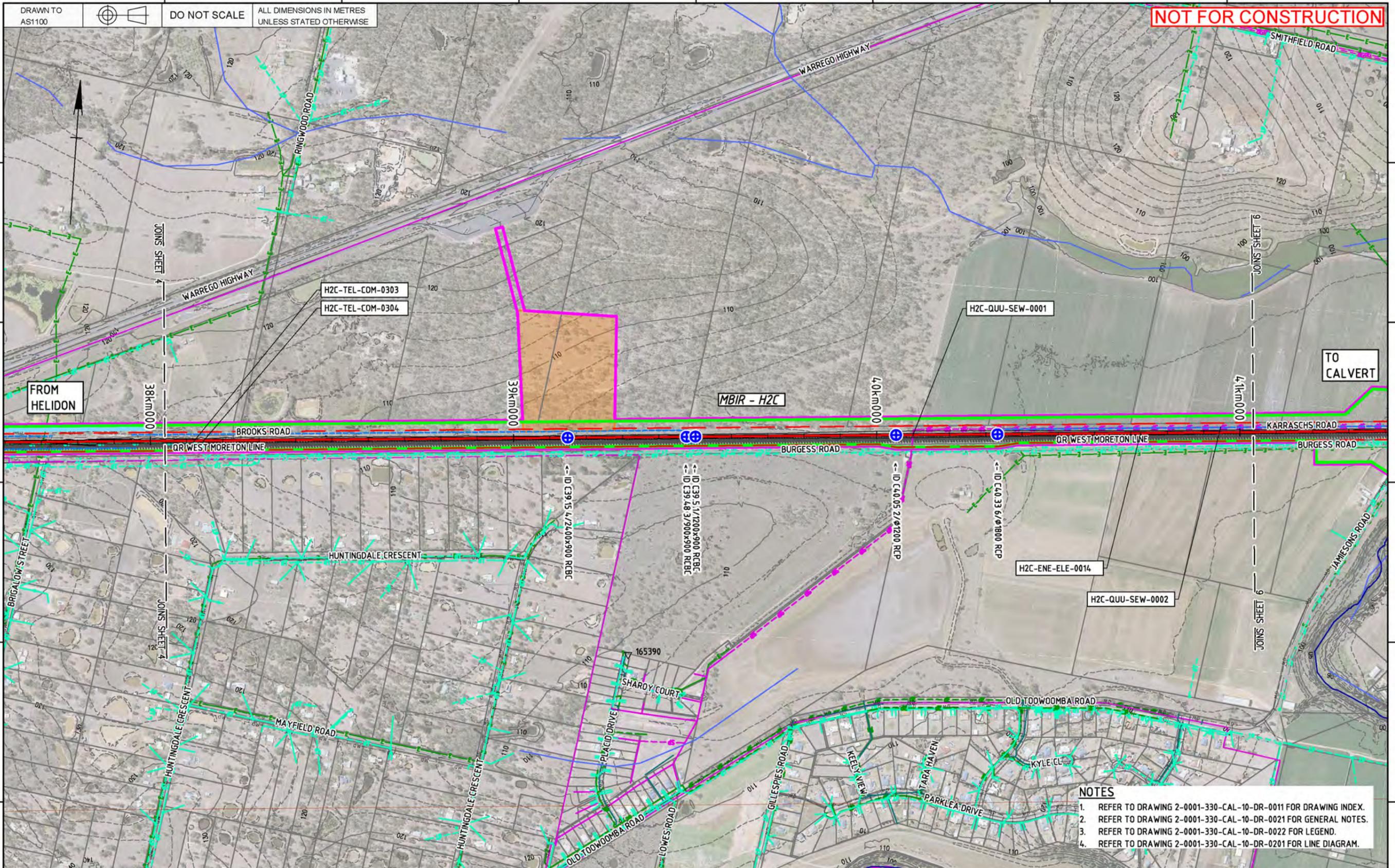
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 HELIDON TO CALVERT  
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- NOTES**
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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company:	<b>Future Freight</b>	ARTC ACCEPTANCE	
Design Project Code:		Accepted By:	
Designed:	R. du PLOOY 22/11/19	Approved By:	L. KLEIN
Checked:	H. GOUWS 22/11/19	Signed:	Lindsay Klein
Ind. Rev. Company:	AECOM	Ind. Rev. Name:	D. STEFFENS
Ind. Review Signature:	David Steffens 22/11/19	Approve Date:	22/11/19

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**InlandRail** 2-0001-330-CCW-10-DR-1005

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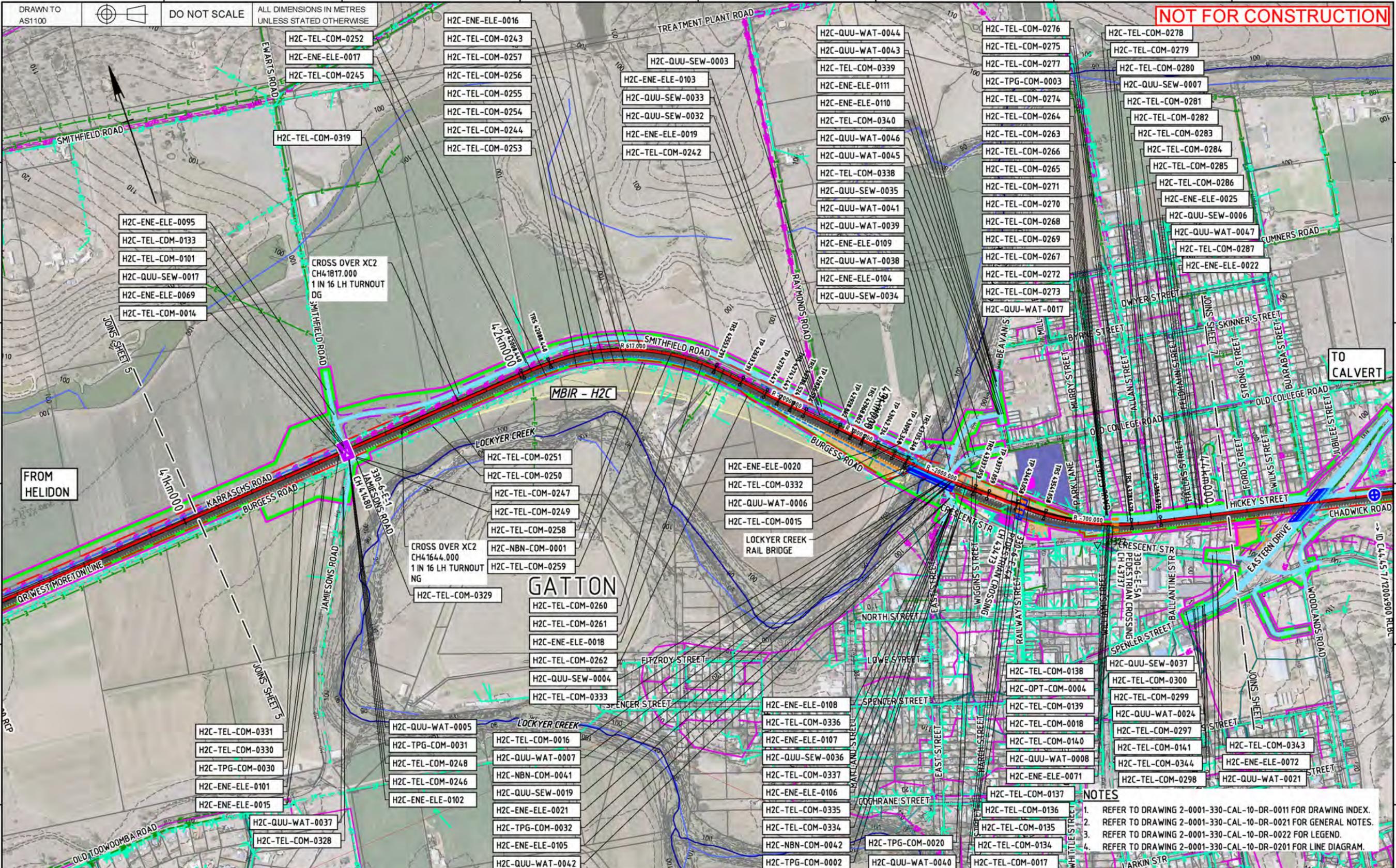
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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company: **Future Freight**

Design Project Code:

Designed: R. du PLOOY 22/11/19  
 Approved By: L. KLEIN

Checked: H. GOUWS 22/11/19  
 Ind. Rev. Company: AECOM  
 Ind. Rev. Name: D. STEFFENS  
 Ind. Review Signature: David Steffens 22/11/19

Approved By: Lindsay Klein  
 Signed: 22/11/19  
 Approve Date:

ARTC ACCEPTANCE

Accepted By:

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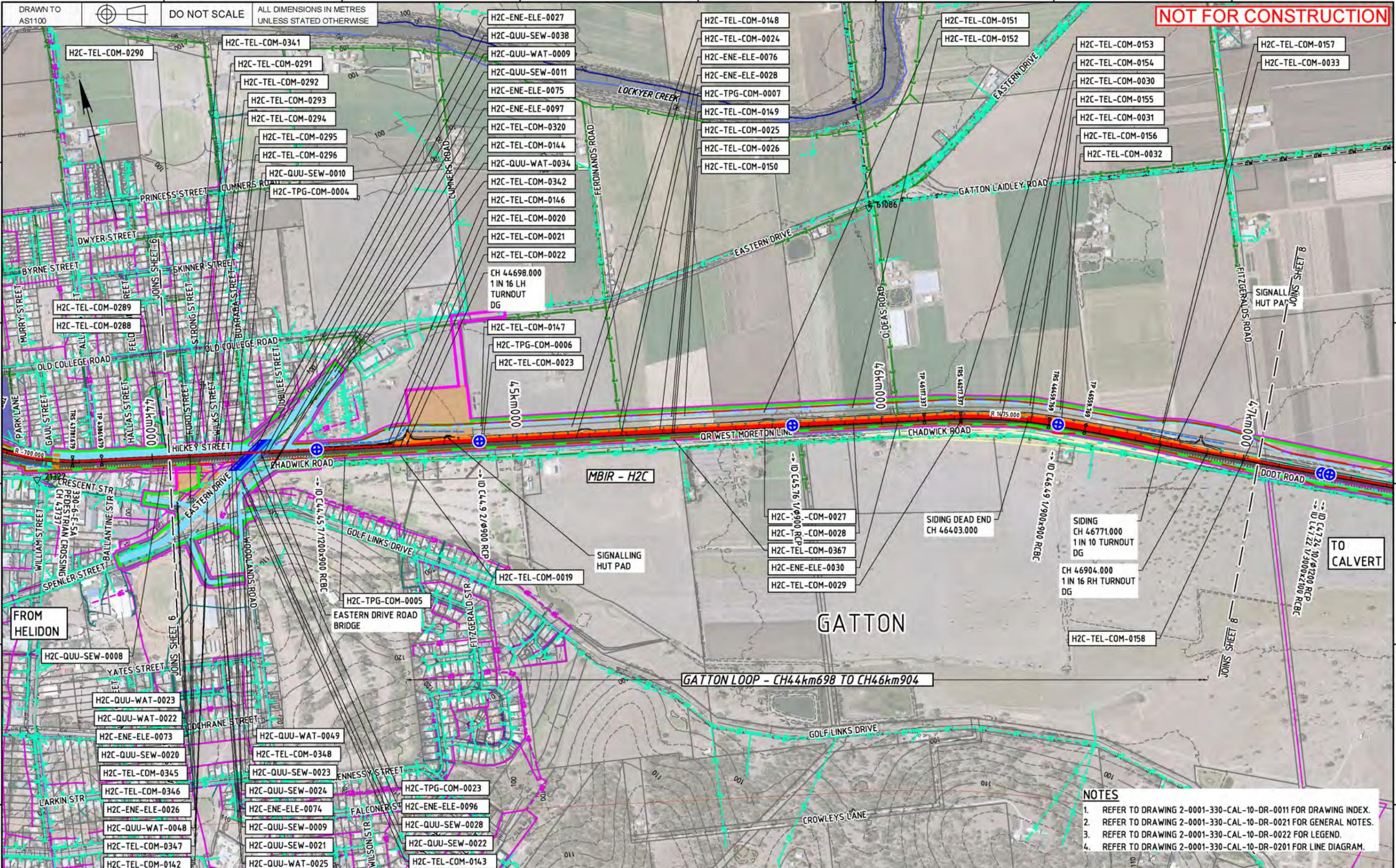
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  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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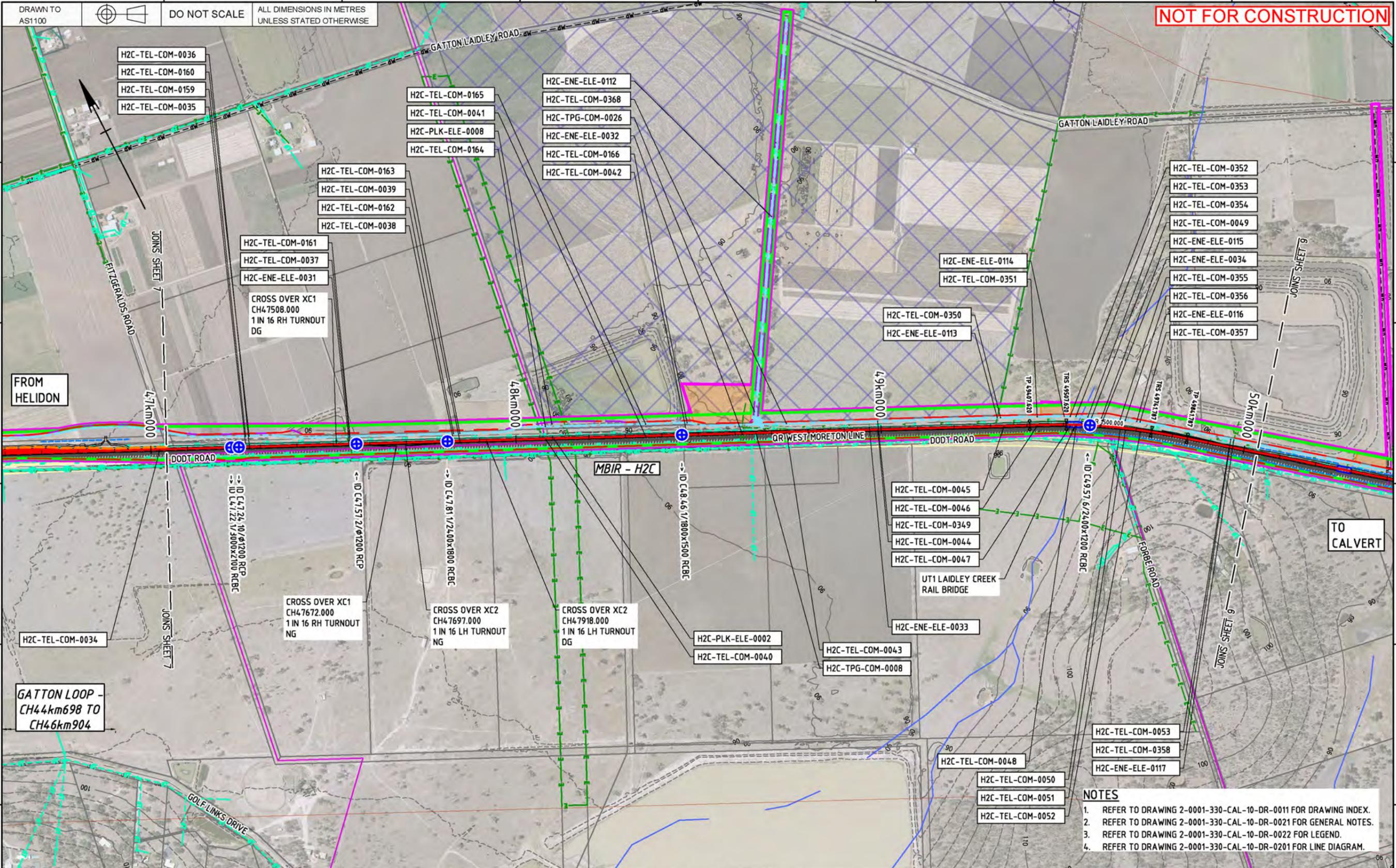
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Ind. Rev. Company:	AECOM
Ind. Rev. Name:	D. STEFFENS
Ind. Review Signature:	David Steffens 22/11/19
Approved By:	L. KLEIN
Approved Date:	22/11/19

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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company: **Future Freight**

Design Project Code:

Designed: R. du PLOOY 22/11/19

Ind. Rev. Company: H. GOUWES 22/11/19

Ind. Rev. Name: D. STEFFENS

Ind. Review Signature: David Steffens 22/11/19

Approved By: L. KLEIN

Signed: Lindsay Klein 22/11/19

Approval Date: 22/11/19

ARTC ACCEPTANCE

Accepted By:

Accepted Date:

Sheet No. 8

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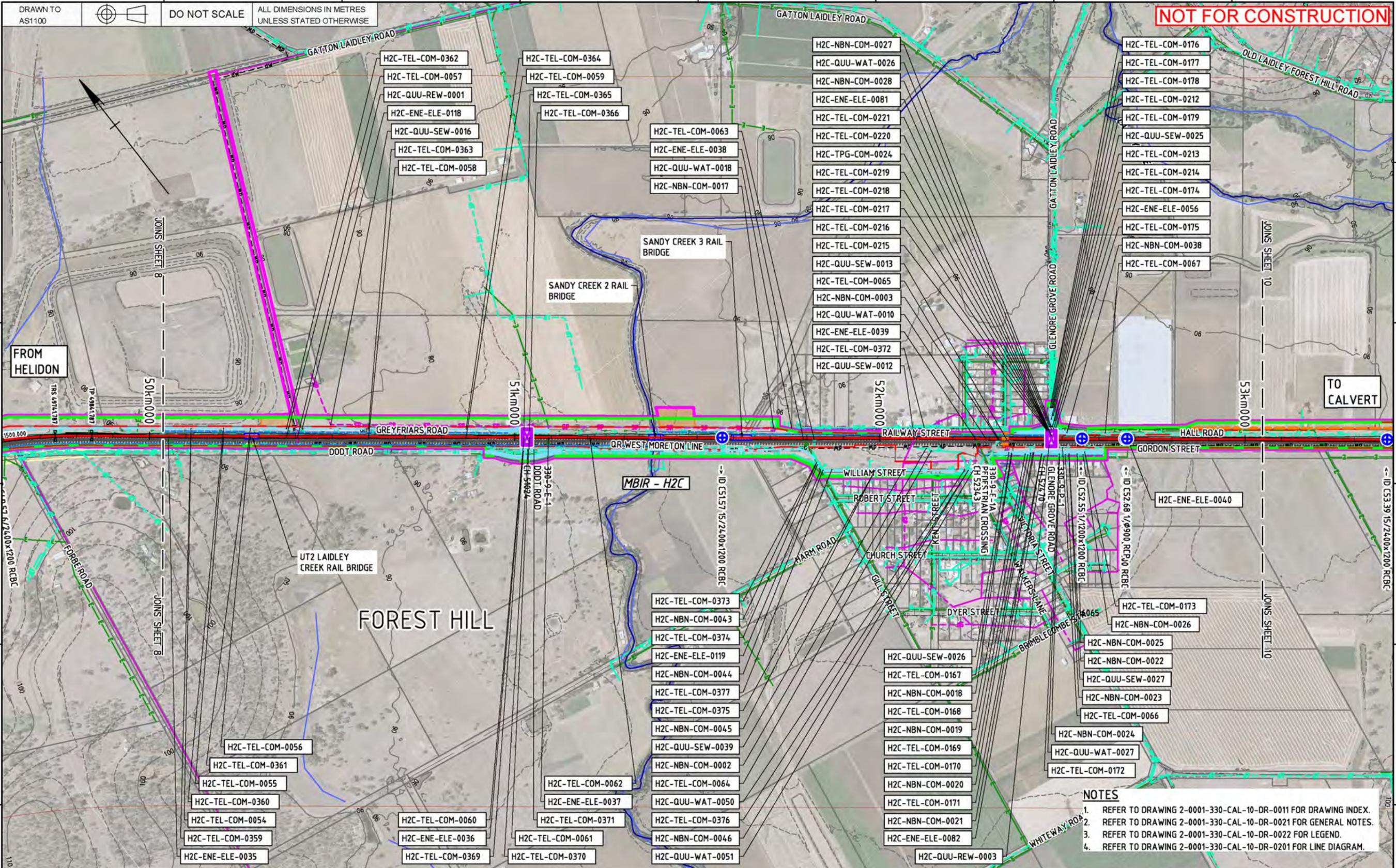
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- NOTES**
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  3. REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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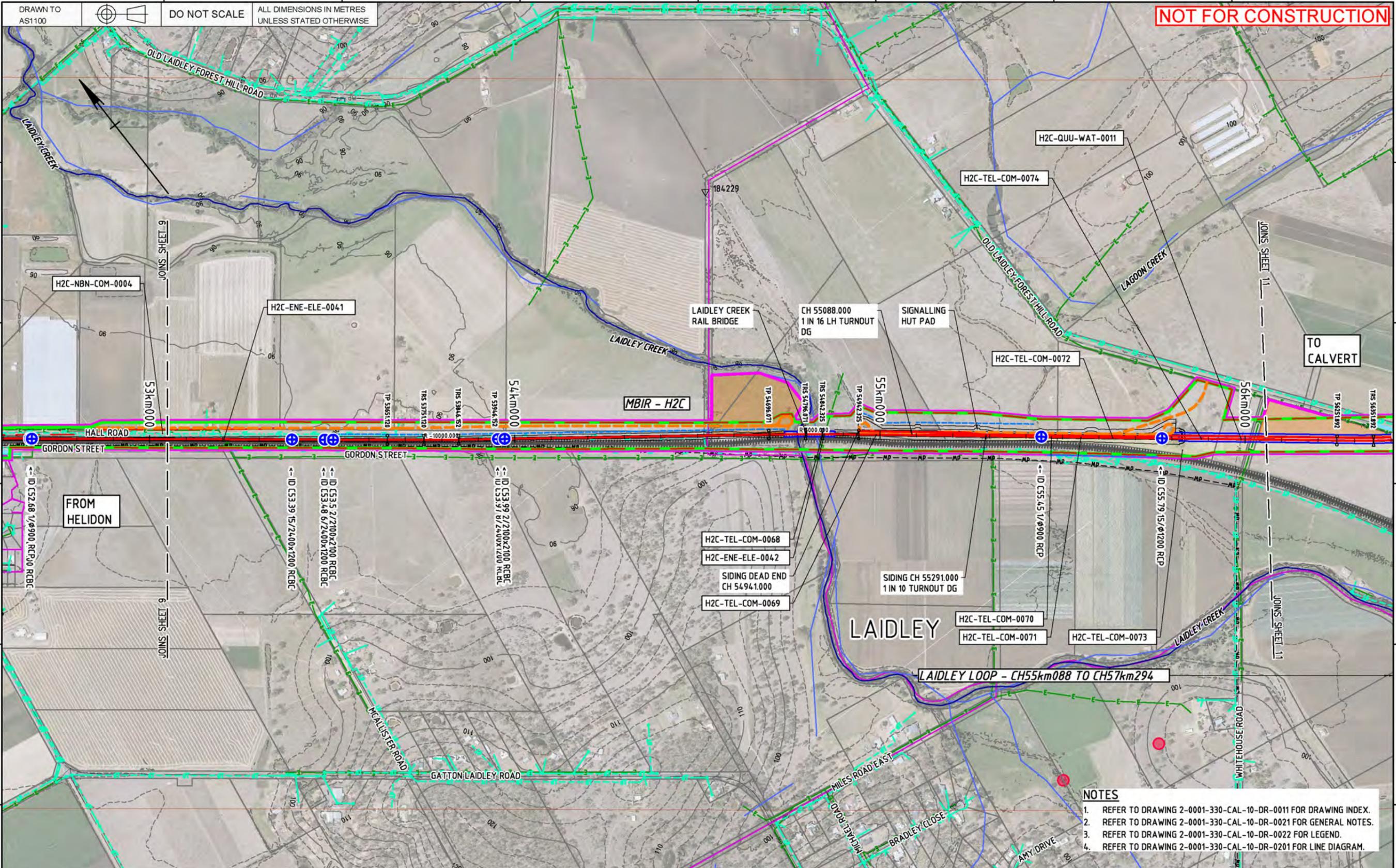
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Checked:	H. GOUWS 22/11/19	Signed:	Lindsay Klein
Ind. Rev. Company:	AECOM	Ind. Rev. Name:	D. STEFFENS
Ind. Review Signature:	David Steffens 22/11/19	Approve Date:	22/11/19

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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company: **Future Freight**  
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Designed: R. du PLOOY 22/11/19  
Approved By: L. KLEIN

Checked: H. GOUWS 22/11/19  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Ind. Review Signature: David Steffens 22/11/19

Approved By: Lindsay Klein  
Signed: 22/11/19  
Approve Date: 22/11/19

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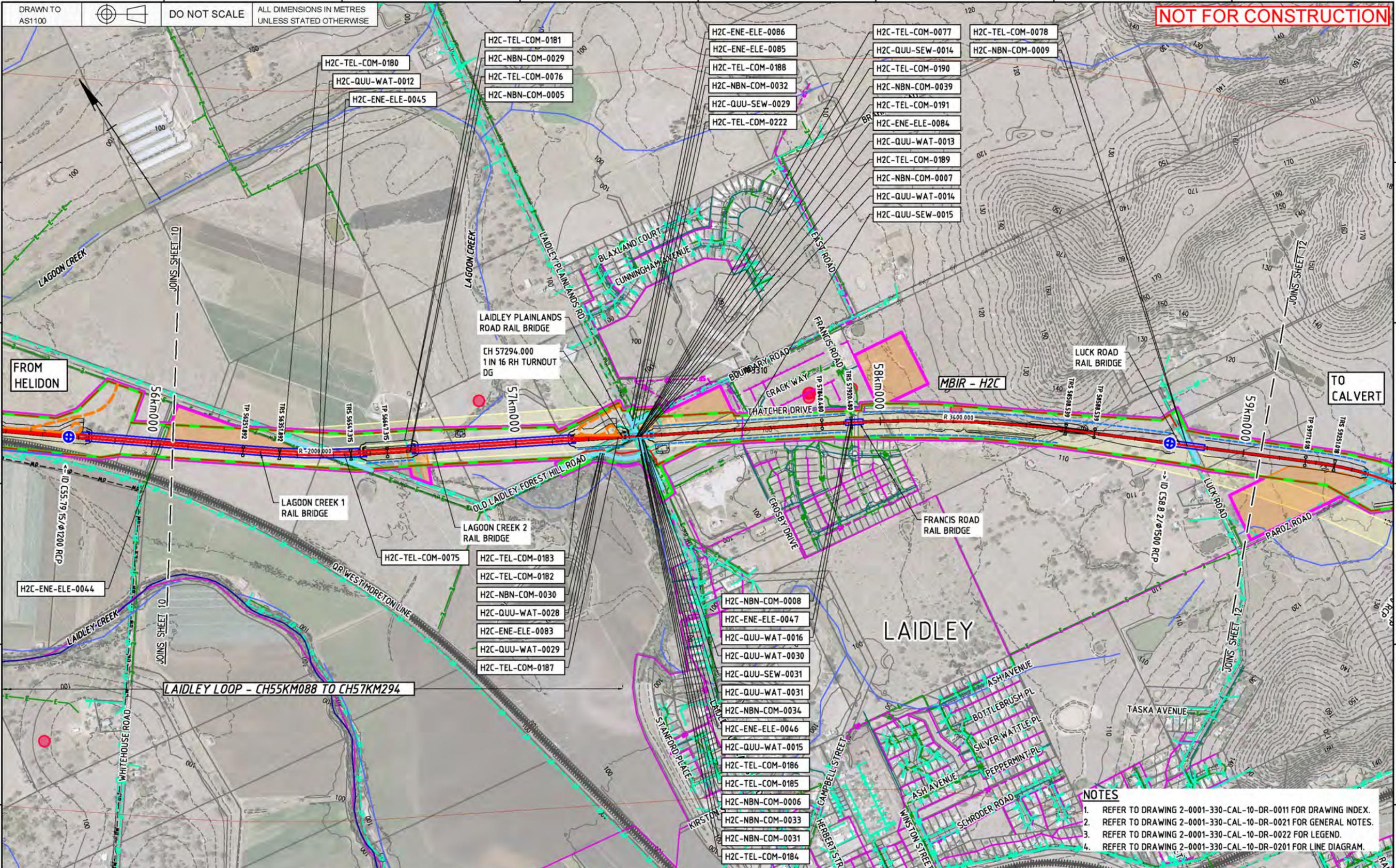
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- NOTES**
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  3. REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Designing Company: **Future Freight**  
Design Project Code: **ARTC ACCEPTANCE**

Designed: R. du PLOOY 22/11/19  
Approved By: L. KLEIN  
Checked: H. GOUWS 22/11/19  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Ind. Review Signature: David Steffens 22/11/19  
Approved Date: 22/11/19

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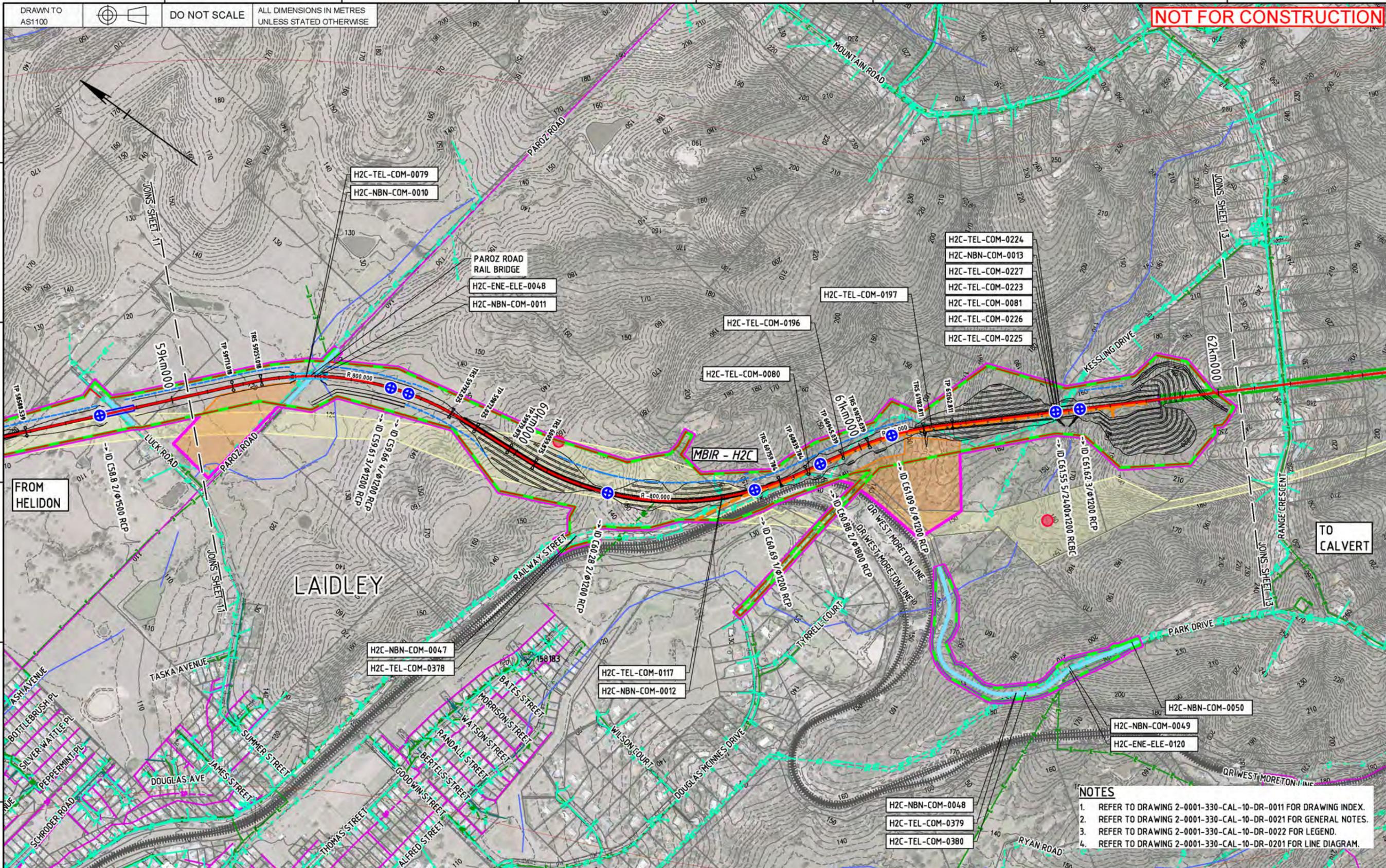
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- NOTES**
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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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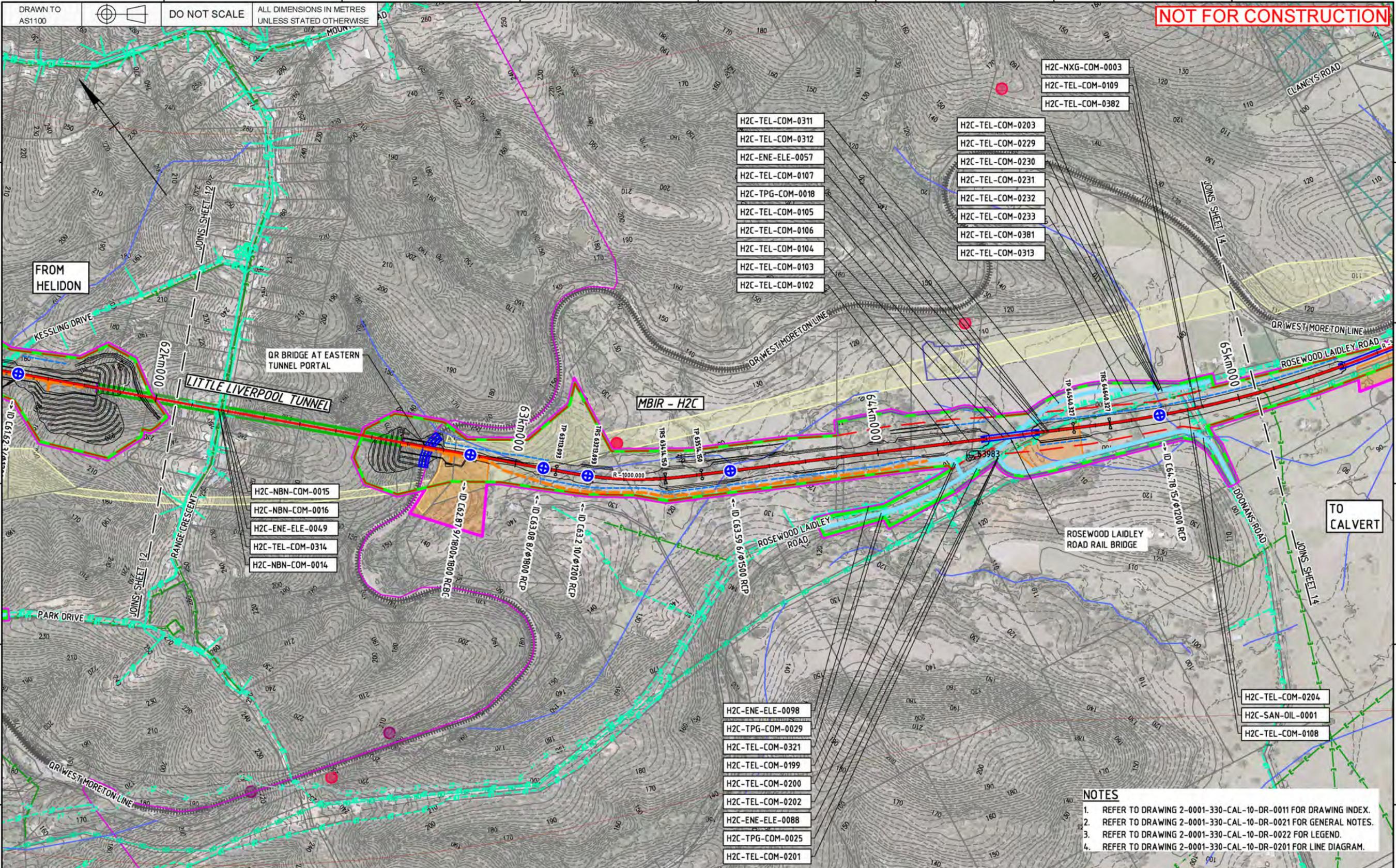
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Ind. Rev. Company: AECOM	Ind. Rev. Name: D. STEFFENS	Ind. Rev. Name: Lindsay Klein	22/11/19
Ind. Review Signature: David Steffens	22/11/19	Approval Date:	Acceptance Date:

ARTC ACCEPTANCE	0	Sheet No. 12	SHEET SIZE A1
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  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

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Scale: 1:5000 / 1:10000  
A1 / A3  
0 50 100 150 200m

Filename: 2-0001-330-CCW-10-DR-1013.DWG  
Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK	

Designing Company:	Future Freight
Design Project Code:	
Designed:	R. du PLOOY 22/11/19
Approved By:	L. KLEIN
Checked:	H. GOUWS 22/11/19
Ind. Rev. Company:	AECOM
Ind. Rev. Name:	D. STEFFENS
Ind. Review Signature:	David Steffens 22/11/19
Approved By:	Lindsay Klein
Ind. Review Name:	Lindsay Klein
Ind. Review Date:	22/11/19
Approved Date:	

ARTC ACCEPTANCE

InlandRail

2-0001-330-CCW-10-DR-1013

SHEET No. 13

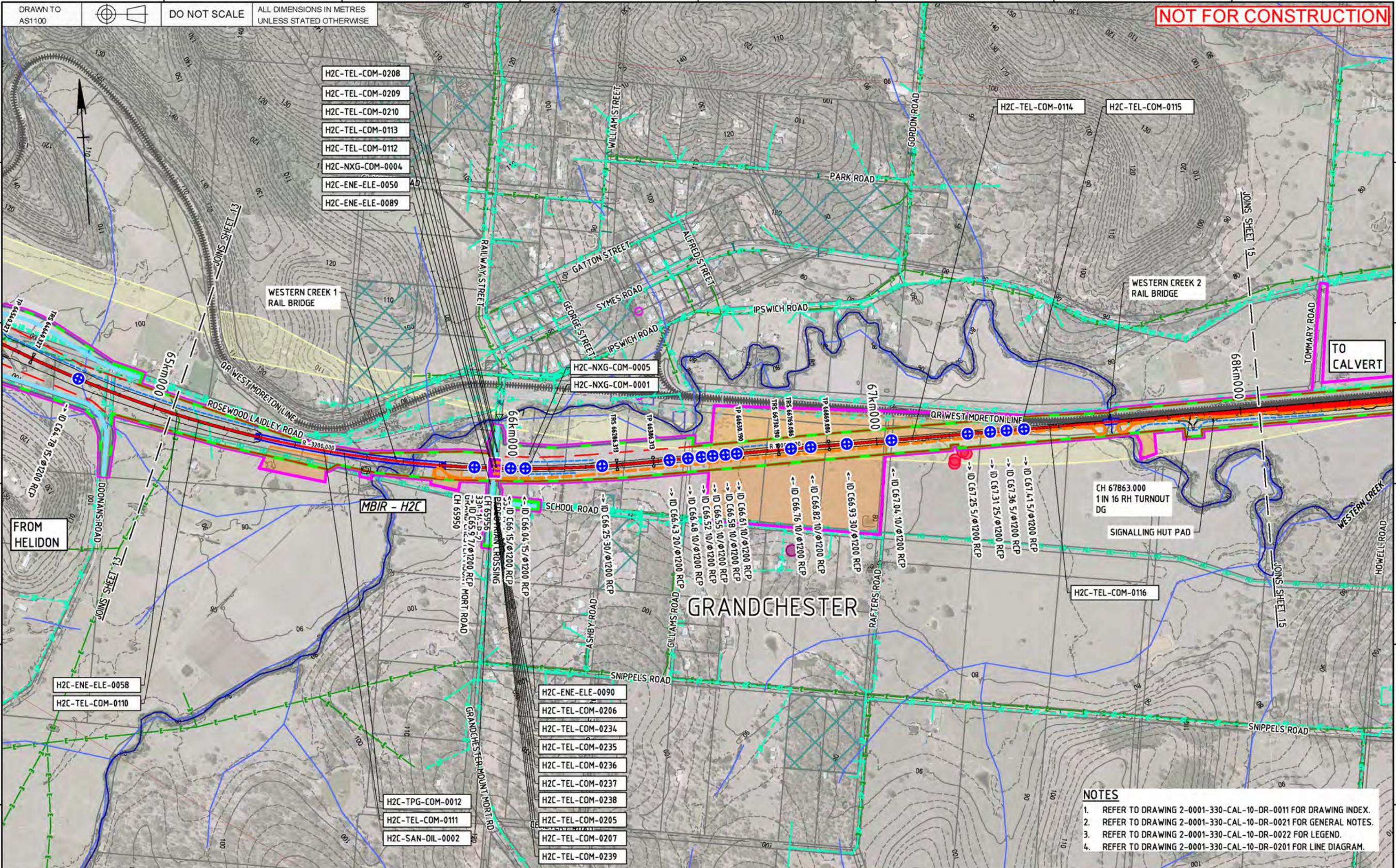
SHEET SIZE A1

TITLE: HELIDON TO CALVERT RAIL CIVIL - GENERAL ARRANGEMENT PLAN SHEET 13

Last Modified - Thursday, Nov 28, 2019 12:34:04 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- H2C-TEL-COM-0208
- H2C-TEL-COM-0209
- H2C-TEL-COM-0210
- H2C-TEL-COM-0113
- H2C-TEL-COM-0112
- H2C-NXG-COM-0004
- H2C-ENE-ELE-0050
- H2C-ENE-ELE-0089

- H2C-TEL-COM-0114
- H2C-TEL-COM-0115

- H2C-NXG-COM-0005
- H2C-NXG-COM-0001

- H2C-ENE-ELE-0058
- H2C-TEL-COM-0110

- H2C-ENE-ELE-0090
- H2C-TEL-COM-0206
- H2C-TEL-COM-0234
- H2C-TEL-COM-0235
- H2C-TEL-COM-0236
- H2C-TEL-COM-0237
- H2C-TEL-COM-0238
- H2C-TEL-COM-0205
- H2C-TEL-COM-0207
- H2C-TEL-COM-0239

- H2C-TPG-COM-0012
- H2C-TEL-COM-0111
- H2C-SAN-OIL-0002

- NOTES**
1. REFER TO DRAWING 2-0001-330-CAL-10-DR-0011 FOR DRAWING INDEX.
  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:

Scale: 1:5000 / 1:10000  
A1 / A3

Filename: 2-0001-330-CCW-10-DR-1014.DWG

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK	

Designing Company: **Future Freight**

Design Project Code:

Designed: R. du PLOOY 22/11/19

Checked: H. GOUWES 22/11/19

Ind. Rev. Company: AECOM

Ind. Rev. Name: D. STEFFENS

Ind. Review Signature: David Steffens 22/11/19

Approved By: L. KLEIN

Signed: Lindsay Klein

Approve Date: 22/11/19

ARTC ACCEPTANCE

Accepted By:

Scale: 14

SHEET SIZE: A1

Sheet No. 14

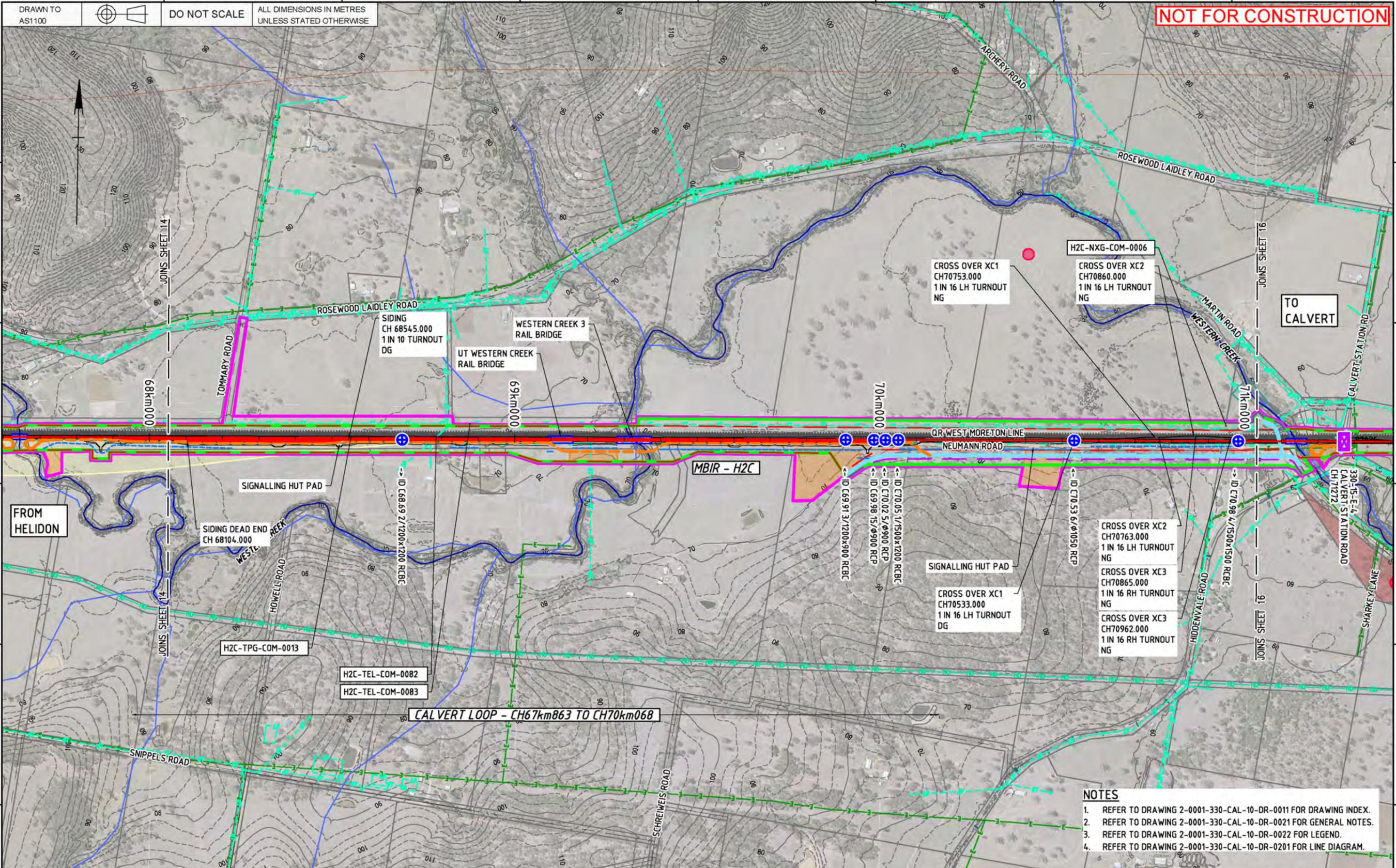
2-0001-330-CCW-10-DR-1014

TITLE: HELIDON TO CALVERT RAIL CIVIL - GENERAL ARRANGEMENT PLAN SHEET 14

Last Modified - Thursday, Nov 28, 2019 12:35:00 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-CAL-10-DR-0011 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1 / A3

Filename:  
2-0001-330-CCW-10-DR-1015.DWG

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
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Designing Company:	Future Freight	ARTC ACCEPTANCE	0
Design Project Code:		Accepted By:	Lindsay Klein
Designed:	R. du PLOOY 22/11/19	Approved By:	L. KLEIN
Checked:	H. GOUWES 22/11/19	Signed:	David Steffens 22/11/19
Ind. Rev. Company:	AECOM	Ind. Rev. Name:	D. STEFFENS
Ind. Review Signature:	David Steffens 22/11/19	Approve Date:	22/11/19

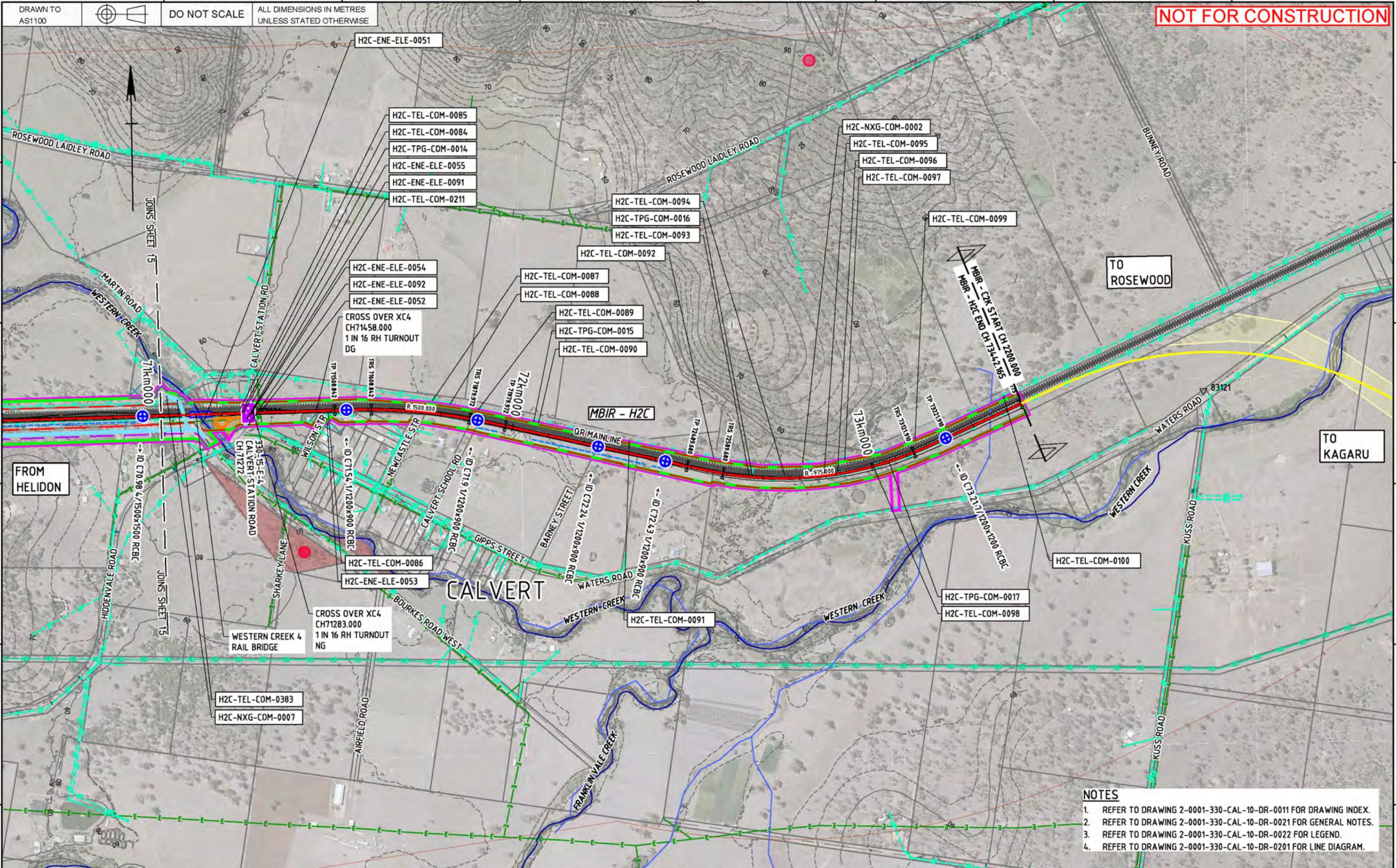
Sheet No. 15  
Scale: A1

TITLE  
**HELIDON TO CALVERT  
RAIL CIVIL - GENERAL ARRANGEMENT PLAN  
SHEET 15**

Last Modified - Thursday, Nov 28, 2019 12:36:08 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-CAL-10-DR-0011 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0022 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:

Scale: 1:5000 / 1:10000  
A1 / A3

Filename: 2-0001-330-CCW-10-DR-1016.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
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Designing Company: **Future Freight**

Design Project Code:

Designed: R. du PLOOY 22/11/19

Checked: H. GOUWS 22/11/19

Ind. Rev. Company: AECOM

Ind. Rev. Name: D. STEFFENS

Ind. Review Signature: David Steffens 22/11/19

Approved By: L. KLEIN

Signed: Lindsay Klein

Approved Date: 22/11/19

Acceptance Date:

ARTC ACCEPTANCE

Accepted By:

Accepted Date:

Sheet No. 16

Scale: A1

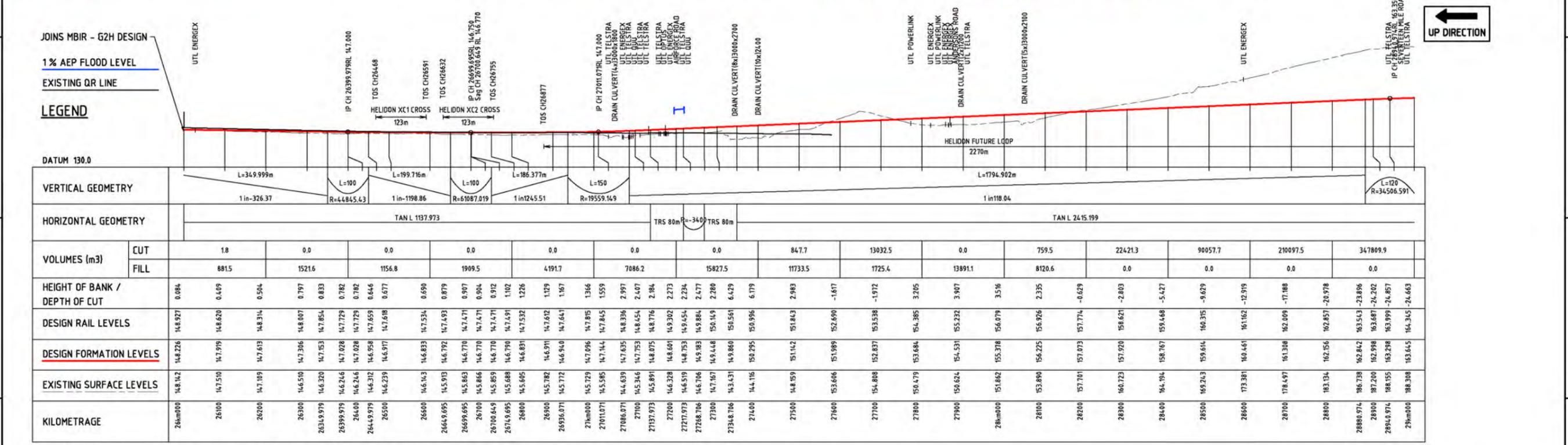
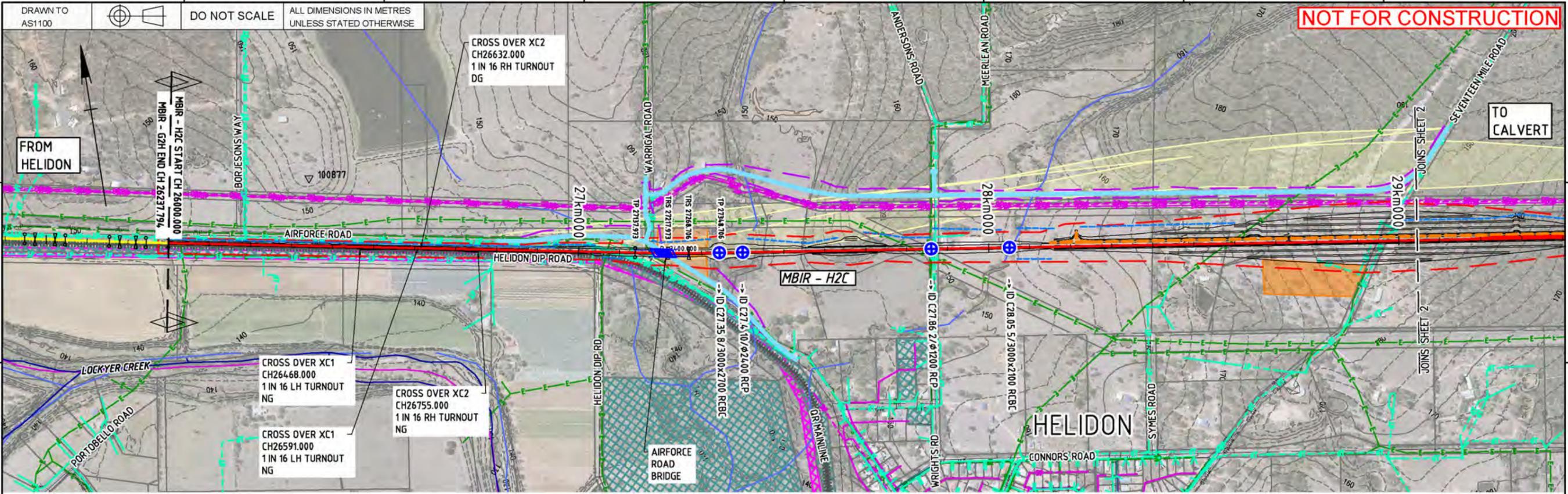
TITLE: **HELIDON TO CALVERT RAIL CIVIL - GENERAL ARRANGEMENT PLAN SHEET 16**

Last Modified - Thursday, Nov 28, 2019 12:37:02 PM

# DRAWINGS

## **Drawing Set B** Rail Civil Plan and Profiles

HELIDON TO CALVERT ENVIRONMENTAL IMPACT STATEMENT

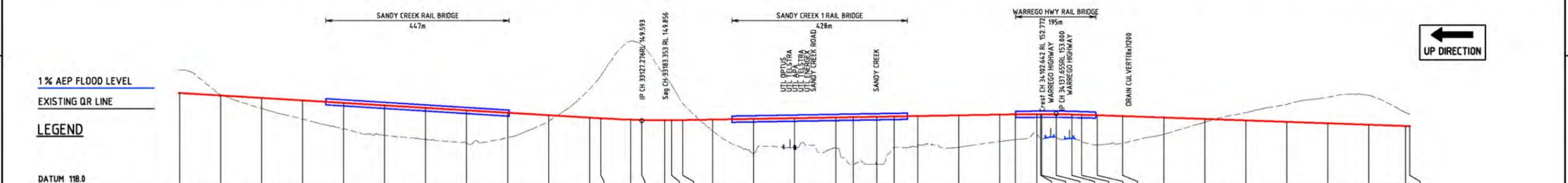
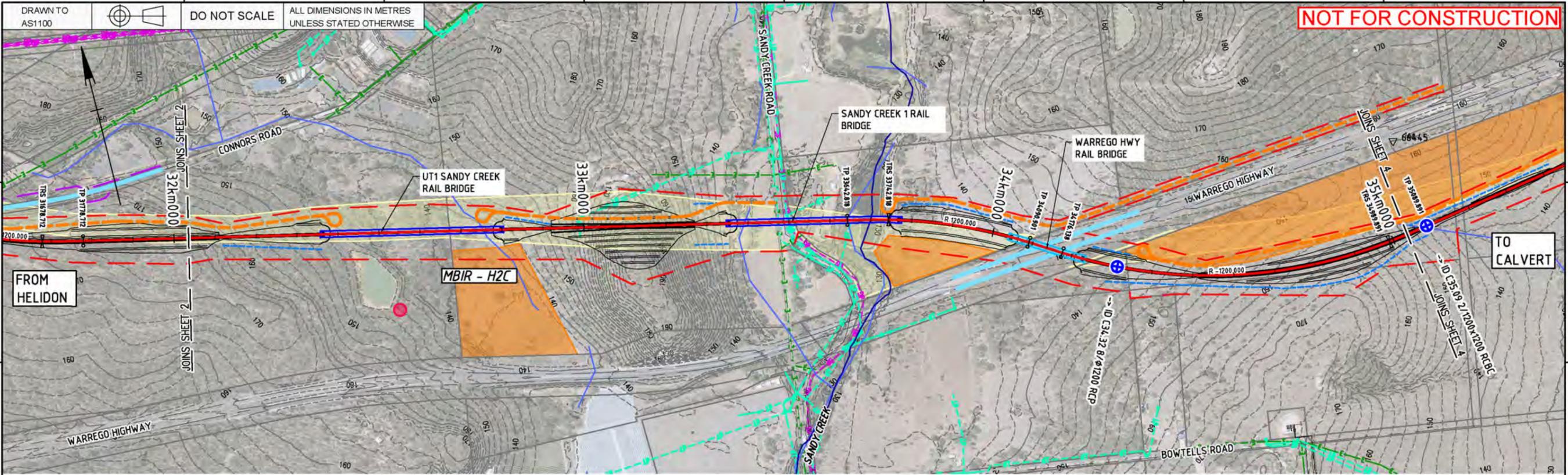


VERTICAL GEOMETRY		HORIZONTAL GEOMETRY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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LEVELS		146.927	148.620	148.314	148.007	147.854	147.729	147.729	147.659	147.688	147.534	147.493	147.471	147.471	147.471	147.491	147.532	147.612	147.641	147.815	147.845	148.336	148.454	148.776	149.302	149.454	149.884	150.149	150.581	150.996	151.142	151.843	152.690	153.684	154.385	155.079	155.774	156.468	157.163	157.858	158.553	159.248	159.943	160.638	161.333	162.028	162.723	163.418	164.113	164.808	165.503	166.198	166.893	167.588	168.283	168.978	169.673	170.368	171.063	171.758	172.453	173.148	173.843	174.538	175.233	175.928	176.623	177.318	178.013	178.708	179.403	180.098	180.793	181.488	182.183	182.878	183.573	184.268	184.963	185.658	186.353	187.048	187.743	188.438	189.133	189.828	190.523	191.218	191.913	192.608	193.303	193.998	194.693	195.388	196.083	196.778	197.473	198.168	198.863	199.558	200.253	200.948	201.643	202.338	203.033	203.728	204.423	205.118	205.813	206.508	207.203	207.898	208.593	209.288	209.983	210.678	211.373	212.068	212.763	213.458	214.153	214.848	215.543	216.238	216.933	217.628	218.323	219.018	219.713	220.408	221.103	221.798	222.493	223.188	223.883	224.578	225.273	225.968	226.663	227.358	228.053	228.748	229.443	230.138	230.833	231.528	232.223	232.918	233.613	234.308	235.003	235.698	236.393	237.088	237.783	238.478	239.173	239.868	240.563	241.258	241.953	242.648	243.343	244.038	244.733	245.428	246.123	246.818	247.513	248.208	248.903	249.598	250.293	250.988	251.683	252.378	253.073	253.768	254.463	255.158	255.853	256.548	257.243	257.938	258.633	259.328	260.023	260.718	261.413	262.108	262.803	263.498	264.193	264.888	265.583	266.278	266.973	267.668	268.363	269.058	269.753	270.448	271.143	271.838	272.533	273.228	273.923	274.618	275.313	276.008	276.703	277.398	278.093	278.788	279.483	280.178	280.873	281.568	282.263	282.958	283.653	284.348	285.043	285.738	286.433	287.128	287.823	288.518	289.213	289.908	290.603	291.298	291.993	292.688	293.383	294.078	294.773	295.468	296.163	296.858	297.553	298.248	298.943	299.638	300.333	301.028	301.723	302.418	303.113	303.808	304.503	305.198	305.893	306.588	307.283	307.978	308.673	309.368	310.063	310.758	311.453	312.148	312.843	313.538	314.233	314.928	315.623	316.318	317.013	317.708	318.403	319.098	319.793	320.488	321.183	321.878	322.573	323.268	323.963	324.658	325.353	326.048	326.743	327.438	328.133	328.828	329.523	330.218	330.913	331.608	332.303	332.998	333.693	334.388	335.083	335.778	336.473	337.168	337.863	338.558	339.253	339.948	340.643	341.338	342.033	342.728	343.423	344.118	344.813	345.508	346.203	346.898	347.593	348.288	348.983	349.678	350.373	351.068	351.763	352.458	353.153	353.848	354.543	355.238	355.933	356.628	357.323	358.018	358.713	359.408	360.103	360.798	361.493	362.188	362.883	363.578	364.273	364.968	365.663	366.358	367.053	367.748	368.443	369.138	369.833	370.528	371.223	371.918	372.613	373.308	374.003	374.698	375.393	376.088	376.783	377.478	378.173	378.868	379.563	380.258	380.953	381.648	382.343	383.038	383.733	384.428	385.123	385.818	386.513	387.208	387.903	388.598	389.293	389.988	390.683	391.378	392.073	392.768	393.463	394.158	394.853	395.548	396.243	396.938	397.633	398.328	399.023	399.718	400.413	401.108	401.803	402.498	403.193	403.888	404.583	405.278	405.973	406.668	407.363	408.058	408.753	409.448	410.143	410.838	411.533	412.228	412.923	413.618	414.313	415.008	415.703	416.398	417.093	417.788	418.483	419.178	419.873	420.568	421.263	421.958	422.653	423.348	424.043	424.738	425.433	426.128	426.823	427.518	428.213	428.908	429.603	430.298	430.993	431.688	432.383	433.078	433.773	434.468	435.163	435.858	436.553	437.248	437.943	438.638	439.333	440.028	440.723	441.418	442.113	442.808	443.503	444.198	444.893	445.588	446.283	446.978	447.673	448.368	449.063	449.758	450.453	451.148	451.843	452.538	453.233	453.928	454.623	455.318	456.013	456.708	457.403	458.098	458.793	459.488	460.183	460.878	461.573	462.268	462.963	463.658	464.353	465.048	465.743	466.438	467.133	467.828	468.523	469.218	469.913	470.608	471.303	471.998	472.693	473.388	474.083	474.778	475.473	476.168	476.863	477.558	478.253	478.948	479.643	480.338	481.033	481.728	482.423	483.118	483.813	484.508	485.203	485.898	486.593	487.288	487.983	488.678	489.373	490.068	490.763	491.458	492.153	492.848	493.543	494.238	494.933	495.628	496.323	497.018	497.713	498.408	499.103	499.798	500.493	501.188	501.883	502.578	503.273	503.968	504.663	505.358	506.053	506.748	507.443	508.138	508.833	509.528	510.223	510.918	511.613	512.308	513.003	513.698	514.393	515.088	515.783	516.478	517.173	517.868	518.563	519.258	519.953	520.648	521.343	522.038	522.733	523.428	524.123	524.818	525.513	526.208	526.903	527.598	528.293	528.988	529.683	530.378	531.073	531.768	532.463	533.158	533.853	534.548	535.243	535.938	536.633	537.328	538.023	538.718	539.413	540.108	540.803	541.498	542.193	542.888	543.583	544.278	544.973	545.668	546.363	547.058	547.753	548.448	549.143	549.838	550.533	551.228	551.923	552.618	553.313	554.008	554.703	555.398	556.093	556.788	557.483	558.178	558.873	559.568	560.263	560.958	561.653	562.348	563.043	563.738	564.433	565.128	565.823	566.518	567.213	567.908	568.603	569.298	569.993	570.688	571.383	572.078	572.773	573.468	574.163	574.858	575.553	576.248	576.943	577.638	578.333	579.028	579.723	580.418	581.113	581.808	582.503	583.198	583.893	584.588	585.283	585.978	586.673	587.368	588.063	588.758	589.453	590.148	590.843	591.538	592.233	592.928	593.623	594.318	595.013	595.708	596.403	597.098	597.793	598.488	599.183	599.878	600.573	601.268	601.963	602.658	603.353	604.048	604.743	605.438	606.133	606.828	607.523	608.218	608.913	609.608	610.303	610.998	611.693	612.388	613.083	613.778	614.473	615.168	615.863	616.558	617.253	617.948	618.643	619.338	620.033	620.728	621.423	622.118	622.813	623.508	624.203	624.898	625.593	626.288	626.983	627.678	628.373	629.068	629.763	630.458	631.153	631.848	632.543	633.238	633.933	634.628	635.323	636.018	636.713	637.408	638.103	638.798	639.493	640.188	640.883	641.578	642.273	642.968	643.663	644.358	645.053	645.748	646.443	647.138	647.833	648.528	649.223	649.918	650.613	651.308	652.003	652.698	653.393	654.088	654.783	655.478	656.173	656.868	657.563	658.258	658.953	659.648	660.343	661.038	661.733	662.428	663.123	663.818	664.513	665.208	665.903	666.598	667.293	667.988	668.683	669.378	670.073	670.768	671.463	672.158	672.853	673.548	674.243	674.938	675.633	676.328	677.023	677.718	678.413	679.108	679.803	680.498	681.193	681.888	682.583	683.278	683.973	684.668	685.363	686.058	686.753	687.448	688.143	688.838	689.533	690.228	690.923	691.618	692.313	693.008	693.703	694.398	695.093	695.788	696.483	697.178	697.873	698.568	699.263	699.958	700.653	701.348	702.043	702.738	703.433	704.128	704.823	705.518	706.213	706.908	707.603	708.298	708.993	709.688	710.383	711.078	711.773	712.468	713.163	713.858	714.553	715.248	715.943	716.638



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DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

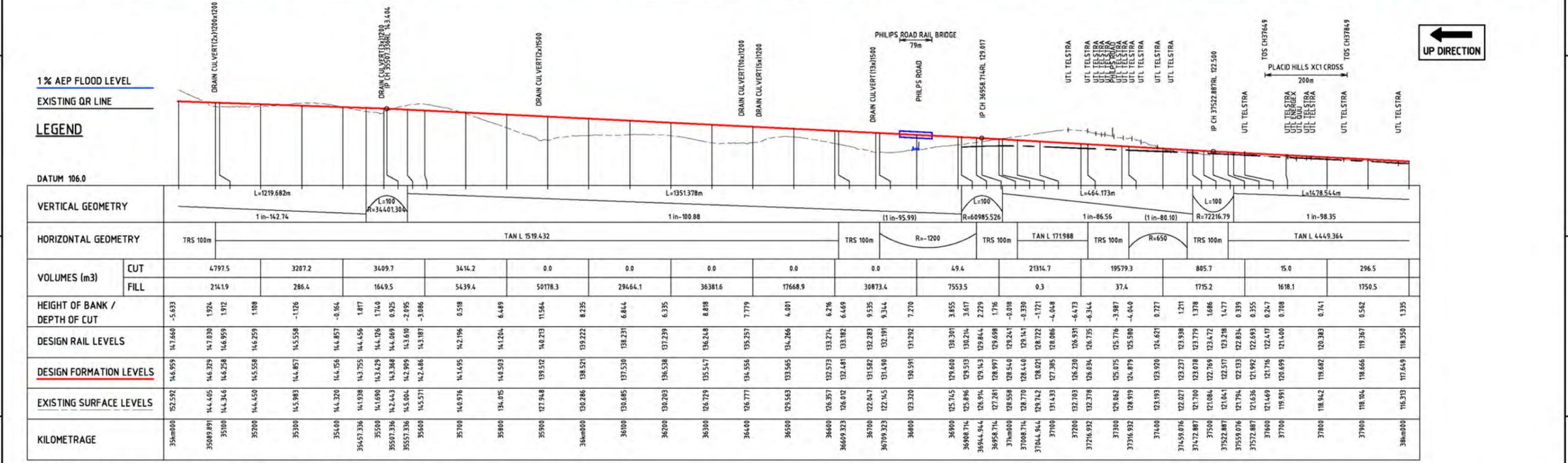
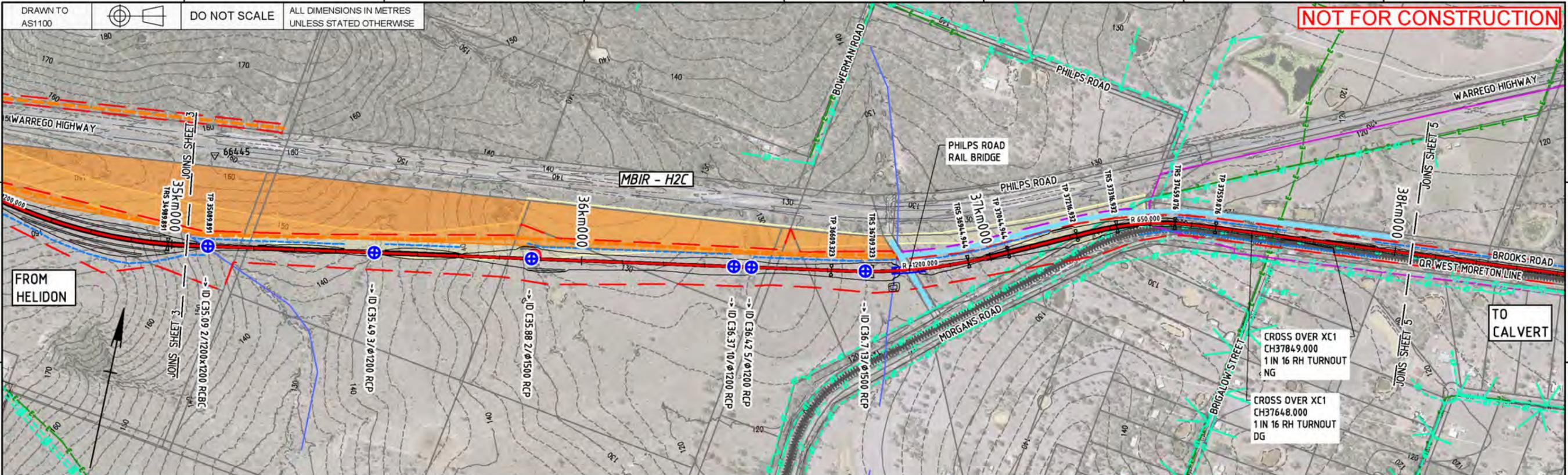
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HEIGHT OF BANK / DEPTH OF CUT	DESIGN RAIL LEVELS	163.801																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	DESIGN FORMATION LEVELS	163.100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
EXISTING SURFACE LEVELS	KILOMETRAGE	326000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			32100	32200	32300	32400	32500	32600	32700	32800	32900	33000	33100	33200	33300	33400	33500	33600	33700	33800	33900	34000	34100	34200	34300	34400	34500	34600	34700	34800	34900	35000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		162.372	155.582	150.399	145.495	142.483	140.553	138.645	141.317	149.413	165.371	171.442	188.192	186.369	171.235	149.856	149.867	151.968	144.637	133.719	136.631	136.388	128.319	128.341	136.630	137.319	136.646	139.449	140.386	142.996	140.428	140.068	141.568	141.093	139.557	137.882	138.704	142.951	148.821	153.436	157.545	160.931	161.837	153.559	147.029	146.959																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		-0.470	5.122	9.107	12.812	14.647	15.358	16.068	12.198	2.903	-14.053	-20.671	-38.069	-36.392	-21.379	-17.019	-8.038	5.539	16.793	14.219	14.799	23.012	23.184	15.039	14.542	15.552	13.087	12.277	9.863	12.344	12.704	11.173	11.540	12.970	14.477	13.159	8.211	1.641	-3.675	-8.484	-12.571	-16.178	-6.530	-5.633																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		162.603	161.405	160.207	159.008	157.810	156.612	155.414	154.215	153.017	151.819	150.621	149.423	148.225	147.027	145.829	144.631	143.433	142.235	141.037	139.839	138.641	137.443	136.245	135.047	133.849	132.651	131.453	130.255	129.057	127.859	126.661	125.463	124.265	123.067	121.869	120.671	119.473	118.275	117.077	115.879	114.681	113.483	112.285	111.087	109.889	108.691	107.493	106.295	105.097	103.899	102.701	101.503	100.305	99.107	97.909	96.711	95.513	94.315	93.117	91.919	90.721	89.523	88.325	87.127	85.929	84.731	83.533	82.335	81.137	79.939	78.741	77.543	76.345	75.147	73.949	72.751	71.553	70.355	69.157	67.959	66.761	65.563	64.365	63.167	61.969	60.771	59.573	58.375	57.177	55.979	54.781	53.583	52.385	51.187	49.989	48.791	47.593	46.395	45.197	43.999	42.801	41.603	40.405	39.207	38.009	36.811	35.613	34.415	33.217	32.019	30.821	29.623	28.425	27.227	26.029	24.831	23.633	22.435	21.237	20.039	18.841	17.643	16.445	15.247	14.049	12.851	11.653	10.455	9.257	8.059	6.861	5.663	4.465	3.267	2.069	0.871	-0.327	-1.525	-2.723	-3.921	-5.119	-6.317	-7.515	-8.713	-9.911	-11.109	-12.307	-13.505	-14.703	-15.901	-17.099	-18.297	-19.495	-20.693	-21.891	-23.089	-24.287	-25.485	-26.683	-27.881	-29.079	-30.277	-31.475	-32.673	-33.871	-35.069	-36.267	-37.465	-38.663	-39.861	-41.059	-42.257	-43.455	-44.653	-45.851	-47.049	-48.247	-49.445	-50.643	-51.841	-53.039	-54.237	-55.435	-56.633	-57.831	-59.029	-60.227	-61.425	-62.623	-63.821	-65.019	-66.217	-67.415	-68.613	-69.811	-71.009	-72.207	-73.405	-74.603	-75.801	-77.000	-78.198	-79.396	-80.594	-81.792	-82.990	-84.188	-85.386	-86.584	-87.782	-88.980	-90.178	-91.376	-92.574	-93.772	-94.970	-96.168	-97.366	-98.564	-99.762	-100.960	-102.158	-103.356	-104.554	-105.752	-106.950	-108.148	-109.346	-110.544	-111.742	-112.940	-114.138	-115.336	-116.534	-117.732	-118.930	-120.128	-121.326	-122.524	-123.722	-124.920	-126.118	-127.316	-128.514	-129.712	-130.910	-132.108	-133.306	-134.504	-135.702	-136.900	-138.098	-139.296	-140.494	-141.692	-142.890	-144.088	-145.286	-146.484	-147.682	-148.880	-150.078	-151.276	-152.474	-153.672	-154.870	-156.068	-157.266	-158.464	-159.662	-160.860	-162.058	-163.256	-164.454	-165.652	-166.850	-168.048	-169.246	-170.444	-171.642	-172.840	-174.038	-175.236	-176.434	-177.632	-178.830	-180.028	-181.226	-182.424	-183.622	-184.820	-186.018	-187.216	-188.414	-189.612	-190.810	-192.008	-193.206	-194.404	-195.602	-196.800	-198.000	-199.198	-200.396	-201.594	-202.792	-203.990	-205.188	-206.386	-207.584	-208.782	-209.980	-211.178	-212.376	-213.574	-214.772	-215.970	-217.168	-218.366	-219.564	-220.762	-221.960	-223.158	-224.356	-225.554	-226.752	-227.950	-229.148	-230.346	-231.544	-232.742	-233.940	-235.138	-236.336	-237.534	-238.732	-239.930	-241.128	-242.326	-243.524	-244.722	-245.920	-247.118	-248.316	-249.514	-250.712	-251.910	-253.108	-254.306	-255.504	-256.702	-257.900	-259.098	-260.296	-261.494	-262.692	-263.890	-265.088	-266.286	-267.484	-268.682	-269.880	-271.078	-272.276	-273.474	-274.672	-275.870	-277.068	-278.266	-279.464	-280.662	-281.860	-283.058	-284.256	-285.454	-286.652	-287.850	-289.048	-290.246	-291.444	-292.642	-293.840	-295.038	-296.236	-297.434	-298.632	-299.830	-301.028	-302.226	-303.424	-304.622	-305.820	-307.018	-308.216	-309.414	-310.612	-311.810	-313.008	-314.206	-315.404	-316.602	-317.800	-319.000	-320.198	-321.396	-322.594	-323.792	-324.990	-326.188	-327.386	-328.584	-329.782	-330.980	-332.178	-333.376	-334.574	-335.772	-336.970	-338.168	-339.366	-340.564	-341.762	-342.960	-344.158	-345.356	-346.554	-347.752	-348.950	-350.148	-351.346	-352.544	-353.742	-354.940	-356.138	-357.336	-358.534	-359.732	-360.930	-362.128	-363.326	-364.524	-365.722	-366.920	-368.118	-369.316	-370.514	-371.712	-372.910	-374.108	-375.306	-376.504	-377.702	-378.900	-380.098	-381.296	-382.494	-383.692	-384.890	-386.088	-387.286	-388.484	-389.682	-390.880	-392.078	-393.276	-394.474	-395.672	-396.870	-398.068	-399.266	-400.464	-401.662	-402.860	-404.058	-405.256	-406.454	-407.652	-408.850	-410.048	-411.246	-412.444	-413.642	-414.840	-416.038	-417.236	-418.434	-419.632	-420.830	-422.028	-423.226	-424.424	-425.622	-426.820	-428.018	-429.216	-430.414	-431.612	-432.810	-434.008	-435.206	-436.404	-437.602	-438.800	-440.000	-441.198	-442.396	-443.594	-444.792	-445.990	-447.188	-448.386	-449.584	-450.782	-451.980	-453.178	-454.376	-455.574	-456.772	-457.970	-459.168	-460.366	-461.564	-462.762	-463.960	-465.158	-466.356	-467.554	-468.752	-469.950	-471.148	-472.346	-473.544	-474.742	-475.940	-477.138	-478.336	-479.534	-480.732	-481.930	-483.128	-484.326	-485.524	-486.722	-487.920	-489.118	-490.316	-491.514	-492.712	-493.910	-495.108	-496.306	-497.504	-498.702	-499.900	-501.098	-502.296	-503.494	-504.692	-505.890	-507.088	-508.286	-509.484	-510.682	-511.880	-513.078	-514.276	-515.474	-516.672	-517.870	-519.068	-520.266	-521.464	-522.662	-523.860	-525.058	-526.256	-527.454	-528.652	-529.850	-531.048	-532.246	-533.444	-534.642	-535.840	-537.038	-538.236	-539.434	-540.632	-541.830	-543.028	-544.226	-545.424	-546.622	-547.820	-549.018	-550.216	-551.414	-552.612	-553.810	-555.008	-556.206	-557.404	-558.602	-559.800	-561.000	-562.198	-563.396	-564.594	-565.792	-566.990	-568.188	-569.386	-570.584	-571.782	-572.980	-574.178	-575.376	-576.574	-577.772	-578.970	-580.168	-581.366	-582.564	-583.762	-584.960	-586.158	-587.356	-588.554	-589.752	-590.950	-592.148	-593.346	-594.544	-595.742	-596.940	-598.138	-599.336	-600.534	-601.732	-602.930	-604.128	-605.326	-606.524	-607.722	-608.920	-610.118	-611.316	-612.514	-613.712	-614.910	-616.108	-617.306	-618.504	-619.702	-620.900	-622.098	-623.296	-624.494	-625.692	-626.890	-628.088	-629.286	-630.484	-631.682	-632.880	-634.078	-635.276	-636.474	-637.672	-638.870	-640.068	-641.266	-642.464	-643.662	-644.860	-646.058	-647.256	-648.454	-649.652	-650.850	-652.048	-653.246	-654.444	-655.642	-656.840	-658.038	-659.236	-660.434	-661.632	-662.830	-664.028	-665.226	-666.424	-667.622	-668.820	-670.018	-671.216	-672.414	-673.612	-674.810	-676.008	-677.206	-678.404	-679.602	-680.800	-682.000	-683.198	-684.396	-685.594	-686.792	-687.990	-689.188	-690.386	-691.584	-692.782	-693.980	-695.178	-696.376	-697.574	-698.772	-699.970	-701.168	-702.366	-703.564	-704.762	-705.960	-707.158	-708.356	-709.554	-710.752	-711.950	-713.148	-714.346	-715.544	-716.742	-717.940	-719.138	-720.336	-721.534	-722.732	-723.930	-725.128	-726.326	-727.524	-728.722	-729.920	-731.118	-732.316	-733.514	-734.712	-735.910	-737.108	-738.306	-739.504	-740.702	-741.900	-743.098	-744.296	-745.494	-746.692	-747.890	-749.088	-750.286	-751.484	-752.682	-753.880	-755.078	-756.276	-757.474	-758.672	-759.870	-761.068	-762.266	-763.464	-764.662	-765.860	-767.058	-768.256	-769.454	-770.652	-771.850	-773.048	-774.246	-775.444	-776.642	-777.840	-779.038	-780.236	-781.434	-782.632	-783.830	-785.028	-786.226	-787.424	-788.622	-789.820	-791.018	-792.216	-793.414	-794.612	-795.810	-797.008	-798.206	-799.404	-800.602	-801.800	-803.000	-804.198	-805.396	-806.594	-807.792	-808.990	-810.188	-811.386	-812.584	-813.782	-814.980	-816.178	-817.376	-818.574	-819.772	-820.970	-822.168	-823.366	-824.564	-825.762	-826.960	-828.158	-829.356	-830.554	-831.752	-832.950	-834.148	-835.346	-836.544	-837.742	-838.940	-840.138	-841.336	-842.534	-843.732	-844.930	-846.128	-847.326	-848.524	-849.722	-850.920	-852.118	-853.316	-854.514	-855.712	-856.910	-858.108	-859.306	-860.504	-861.702	-862.900	-864.098	-865.296	-866.494	-867.692	-868.890	-870.088	-871.286	-872.484	-873.682	-874.880	-876.078	-877.276	-878.474	-879.672	-880.870	-882.068	-883.266	-884.4

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



NOTES: REFER TO DRAWING 2-0001-330-CFM-10-DR-0651 FOR CROSS SECTION AT CH37.500km

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Scale: H 1:5000 / 1:10000, A1/A3, V 1:1000 / 1:2000

Designing Company: Future Freight  
Design Project Code: ARTC ACCEPTANCE  
Approved By: L. KLEIN  
Checked: H. GOUWS 22/11/19  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Ind. Review Signature: David Steffens 22/11/19

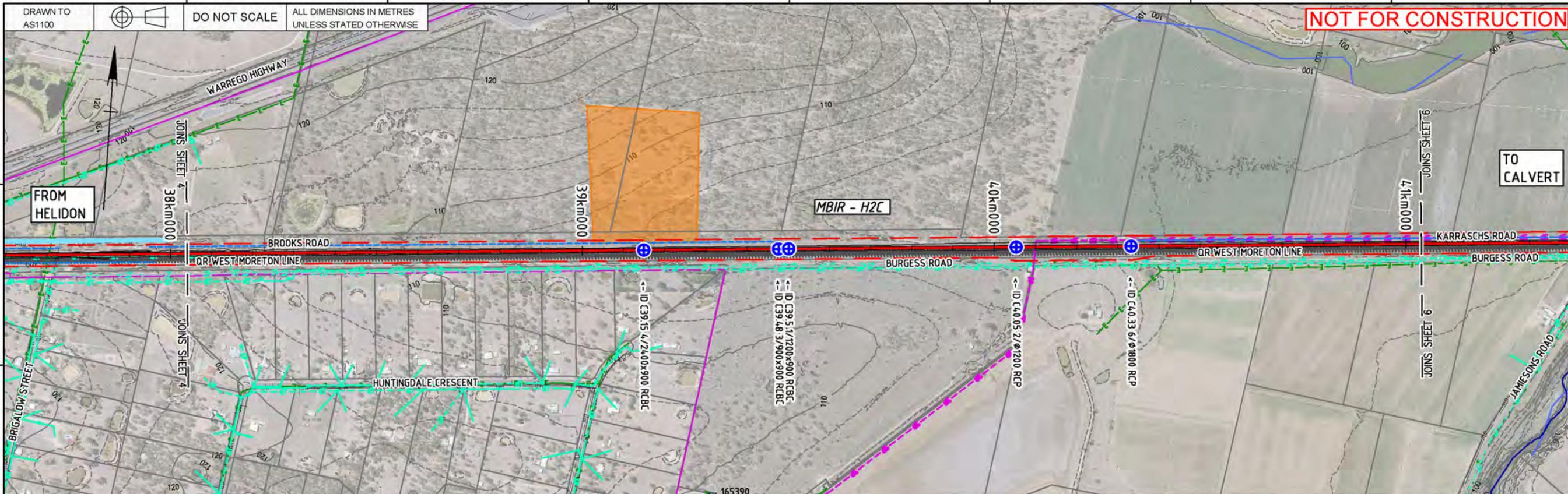
Accepted By: [Signature]  
Signed: [Signature]  
Approval Date: 22/11/19

Sheet No. 4  
Scale: A1  
TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 4

Last Modified - Thursday, Nov 28, 2019 11:13:42 AM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

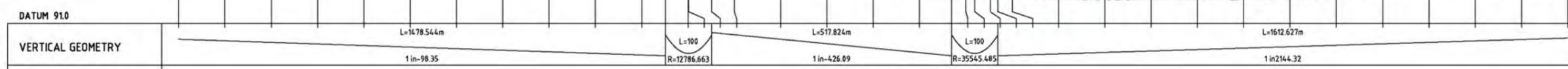
**NOT FOR CONSTRUCTION**



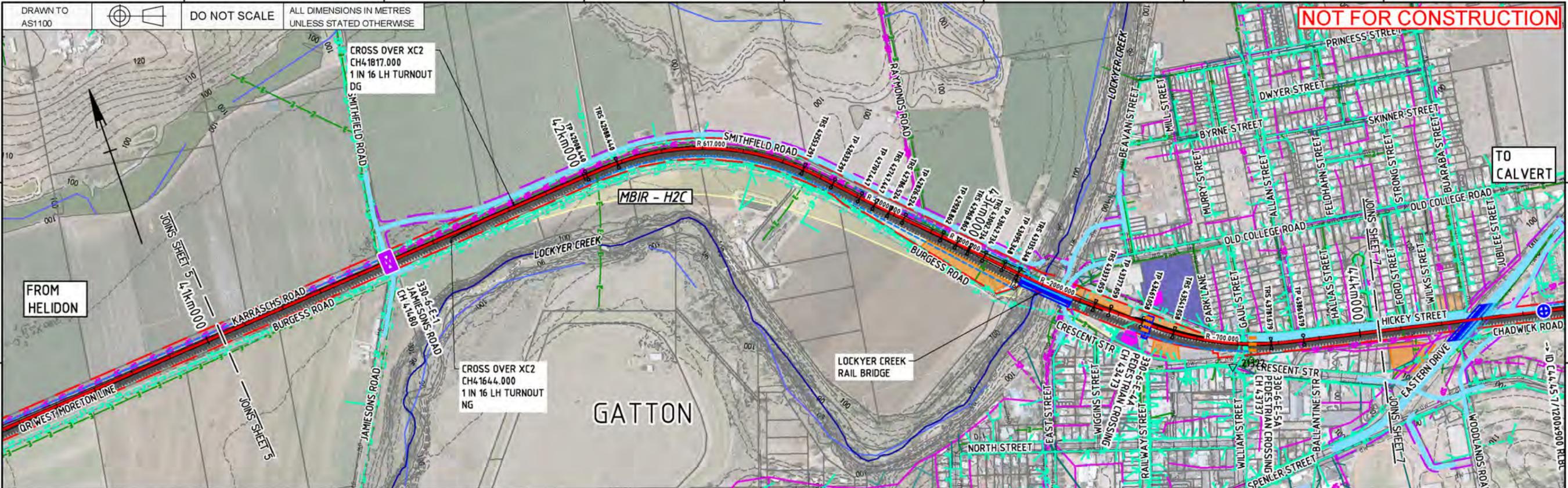
UP DIRECTION

1% AEP FLOOD LEVEL  
EXISTING QR LINE

**LEGEND**



VERTICAL GEOMETRY		L=1478.544m 1 in -98.35																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
HORIZONTAL GEOMETRY		TAN L 444.9364																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
VOLUMES (m3)	CUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	FILL	3032.0	4993.8	5261.2	3665.3	3028.4	2548.7	3047.5	3061.8	3593.0	7556.9	8963.2	8076.1	5302.9	3177.6	2217.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
HEIGHT OF BANK / DEPTH OF CUT		1.335	1.630	1.648	2.599	2.991	2.476	2.281	2.021	1.896	1.785	1.436	1.665	1.436	1.640	1.664	1.666	1.607	1.348	1.582	1.635	1.732	1.824	2.016	2.239	2.284	3.327	3.720	3.681	3.499	3.499	3.535	3.367	2.547	1.973	1.966	1.413	1.292	1.296																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
DESIGN RAIL LEVELS		118.350	117.333	116.316	115.300	114.283	113.266	112.249	111.233	110.216	109.199	108.182	107.165	106.148	105.131	104.114	103.097	102.080	101.063	100.046	99.029	98.012	96.995	95.978	94.961	93.944	92.927	91.910	90.893	89.876	88.859	87.842	86.825	85.808	84.791	83.774	82.757	81.740	80.723	79.706	78.689	77.672	76.655	75.638	74.621	73.604	72.587	71.570	70.553	69.536	68.519	67.502	66.485	65.468	64.451	63.434	62.417	61.400	60.383	59.366	58.349	57.332	56.315	55.298	54.281	53.264	52.247	51.230	50.213	49.196	48.179	47.162	46.145	45.128	44.111	43.094	42.077	41.060	40.043	39.026	38.009	36.992	35.975	34.958	33.941	32.924	31.907	30.890	29.873	28.856	27.839	26.822	25.805	24.788	23.771	22.754	21.737	20.720	19.703	18.686	17.669	16.652	15.635	14.618	13.601	12.584	11.567	10.550	9.533	8.516	7.499	6.482	5.465	4.448	3.431	2.414	1.397	0.380	-0.637	-1.654	-2.671	-3.688	-4.705	-5.722	-6.739	-7.756	-8.773	-9.790	-10.807	-11.824	-12.841	-13.858	-14.875	-15.892	-16.909	-17.926	-18.943	-19.960	-20.977	-21.994	-23.011	-24.028	-25.045	-26.062	-27.079	-28.096	-29.113	-30.130	-31.147	-32.164	-33.181	-34.198	-35.215	-36.232	-37.249	-38.266	-39.283	-40.300	-41.317	-42.334	-43.351	-44.368	-45.385	-46.402	-47.419	-48.436	-49.453	-50.470	-51.487	-52.504	-53.521	-54.538	-55.555	-56.572	-57.589	-58.606	-59.623	-60.640	-61.657	-62.674	-63.691	-64.708	-65.725	-66.742	-67.759	-68.776	-69.793	-70.810	-71.827	-72.844	-73.861	-74.878	-75.895	-76.912	-77.929	-78.946	-79.963	-80.980	-81.997	-83.014	-84.031	-85.048	-86.065	-87.082	-88.099	-89.116	-90.133	-91.150	-92.167	-93.184	-94.201	-95.218	-96.235	-97.252	-98.269	-99.286	-100.303	-101.320	-102.337	-103.354	-104.371	-105.388	-106.405	-107.422	-108.439	-109.456	-110.473	-111.490	-112.507	-113.524	-114.541	-115.558	-116.575	-117.592	-118.609	-119.626	-120.643	-121.660	-122.677	-123.694	-124.711	-125.728	-126.745	-127.762	-128.779	-129.796	-130.813	-131.830	-132.847	-133.864	-134.881	-135.898	-136.915	-137.932	-138.949	-139.966	-140.983	-141.000	-142.017	-143.034	-144.051	-145.068	-146.085	-147.102	-148.119	-149.136	-150.153	-151.170	-152.187	-153.204	-154.221	-155.238	-156.255	-157.272	-158.289	-159.306	-160.323	-161.340	-162.357	-163.374	-164.391	-165.408	-166.425	-167.442	-168.459	-169.476	-170.493	-171.510	-172.527	-173.544	-174.561	-175.578	-176.595	-177.612	-178.629	-179.646	-180.663	-181.680	-182.697	-183.714	-184.731	-185.748	-186.765	-187.782	-188.799	-189.816	-190.833	-191.850	-192.867	-193.884	-194.901	-195.918	-196.935	-197.952	-198.969	-199.986	-201.003	-202.020	-203.037	-204.054	-205.071	-206.088	-207.105	-208.122	-209.139	-210.156	-211.173	-212.190	-213.207	-214.224	-215.241	-216.258	-217.275	-218.292	-219.309	-220.326	-221.343	-222.360	-223.377	-224.394	-225.411	-226.428	-227.445	-228.462	-229.479	-230.496	-231.513	-232.530	-233.547	-234.564	-235.581	-236.598	-237.615	-238.632	-239.649	-240.666	-241.683	-242.700	-243.717	-244.734	-245.751	-246.768	-247.785	-248.802	-249.819	-250.836	-251.853	-252.870	-253.887	-254.904	-255.921	-256.938	-257.955	-258.972	-259.989	-261.006	-262.023	-263.040	-264.057	-265.074	-266.091	-267.108	-268.125	-269.142	-270.159	-271.176	-272.193	-273.210	-274.227	-275.244	-276.261	-277.278	-278.295	-279.312	-280.329	-281.346	-282.363	-283.380	-284.397	-285.414	-286.431	-287.448	-288.465	-289.482	-290.499	-291.516	-292.533	-293.550	-294.567	-295.584	-296.601	-297.618	-298.635	-299.652	-300.669	-301.686	-302.703	-303.720	-304.737	-305.754	-306.771	-307.788	-308.805	-309.822	-310.839	-311.856	-312.873	-313.890	-314.907	-315.924	-316.941	-317.958	-318.975	-319.992	-321.009	-322.026	-323.043	-324.060	-325.077	-326.094	-327.111	-328.128	-329.145	-330.162	-331.179	-332.196	-333.213	-334.230	-335.247	-336.264	-337.281	-338.298	-339.315	-340.332	-341.349	-342.366	-343.383	-344.400	-345.417	-346.434	-347.451	-348.468	-349.485	-350.502	-351.519	-352.536	-353.553	-354.570	-355.587	-356.604	-357.621	-358.638	-359.655	-360.672	-361.689	-362.706	-363.723	-364.740	-365.757	-366.774	-367.791	-368.808	-369.825	-370.842	-371.859	-372.876	-373.893	-374.910	-375.927	-376.944	-377.961	-378.978	-379.995	-381.012	-382.029	-383.046	-384.063	-385.080	-386.097	-387.114	-388.131	-389.148	-390.165	-391.182	-392.199	-393.216	-394.233	-395.250	-396.267	-397.284	-398.301	-399.318	-400.335	-401.352	-402.369	-403.386	-404.403	-405.420	-406.437	-407.454	-408.471	-409.488	-410.505	-411.522	-412.539	-413.556	-414.573	-415.590	-416.607	-417.624	-418.641	-419.658	-420.675	-421.692	-422.709	-423.726	-424.743	-425.760	-426.777	-427.794	-428.811	-429.828	-430.845	-431.862	-432.879	-433.896	-434.913	-435.930	-436.947	-437.964	-438.981	-439.998	-441.015	-442.032	-443.049	-444.066	-445.083	-446.100	-447.117	-448.134	-449.151	-450.168	-451.185	-452.202	-453.219	-454.236	-455.253	-456.270	-457.287	-458.304	-459.321	-460.338	-461.355	-462.372	-463.389	-464.406	-465.423	-466.440	-467.457	-468.474	-469.491	-470.508	-471.525	-472.542	-473.559	-474.576	-475.593	-476.610	-477.627	-478.644	-479.661	-480.678	-481.695	-482.712	-483.729	-484.746	-485.763	-486.780	-487.797	-488.814	-489.831	-490.848	-491.865	-492.882	-493.899	-494.916	-495.933	-496.950	-497.967	-498.984	-499.001	-500.018	-501.035	-502.052	-503.069	-504.086	-505.103	-506.120	-507.137	-508.154	-509.171	-510.188	-511.205	-512.222	-513.239	-514.256	-515.273	-516.290	-517.307	-518.324	-519.341	-520.358	-521.375	-522.392	-523.409	-524.426	-525.443	-526.460	-527.477	-528.494	-529.511	-530.528	-531.545	-532.562	-533.579	-534.596	-535.613	-536.630	-537.647	-538.664	-539.681	-540.698	-541.715	-542.732	-543.749	-544.766	-545.783	-546.800	-547.817	-548.834	-549.851	-550.868	-551.885	-552.902	-553.919	-554.936	-555.953	-556.970	-557.987	-558.004	-559.021	-560.038	-561.055	-562.072	-563.089	-564.106	-565.123	-566.140	-567.157	-568.174	-569.191	-570.208	-571.225	-572.242	-573.259	-574.276	-575.293	-576.310	-577.327	-578.344	-579.361	-580.378	-581.395	-582.412	-583.429	-584.446	-585.463	-586.480	-587.497	-588.514	-589.531	-590.548	-591.565	-592.582	-593.599	-594.616	-595.633	-596.650	-597.667	-598.684	-599.701	-600.718	-601.735	-602.752	-603.769	-604.786	-605.803	-606.820	-607.837	-608.854	-609.871	-610.888	-611.905	-612.922	-613.939	-614.956	-615.973	-616.990	-618.007	-619.024	-620.041	-621.058	-622.075	-623.092	-624.109	-625.126	-626.143	-627.160	-628.177	-629.194	-630.211	-631.228	-632.245	-633.262	-634.279	-635.296	-636.313	-637.330	-638.347	-639.364	-640.381	-641.398	-642.415	-643.432	-644.449	-645.466	-646.483	-647.500	-648.517	-649.534	-650.551	-651.568	-652.585	-653.602	-654.619	-655.636	-656.653	-657.670	-658.687	-659.704	-660.721	-661.738	-662.755	-663.772	-664.789	-665.806	-666.823	-667.840	-668.857	-669.874	-670.891	-671.908	-672.925	-673.942	-674.959	-675.976	-676.993	-678.010	-679.027	-680.044	-681.061	-682.078	-683.095	-684.112	-685.129	-686.146	-687.163	-688.180	-689.197	-690.214	-691.231	-692.248	-693.265	-694.282	-695.299	-696.316	-697.333	-698.350	-699.367	-700.384	-701.401	-702.418	-703.435	-704.452	-705.469	-706.486	-707.503	-708.520	-709.537	-710.554	-711.571	-712.588	-713.605	-714.622	-715.639	-716.656	-717.673	-718.690	-719.707	-720.724	-721.741	-722.758	-723.775	-724.792	-725.809	-726.826	-727.843	-728.860	-729.877	-730.894	-731.911	-732.928	-733.945	-734.962	-735.979	-736.996	-738.013	-739.030	-740.047	-741.064	-742.081	-743.098	-744.115	-745.132	-746.149	-747.166	-748.183	-749.200	-750.217	-751.234	-752.251	-753.268	-754.285	-755.302	-756.319	-757.336	-758.353	-759.370	-760.387	-761.404	-762.421	-763.438	-764.455	-765.472	-766.489	-767.506	-768.523	-769.540	-770.557	-771.574	-772.591	-773.608	-774.625	-775.642	-776.659	-777.676	-778.693	-779.710	-780.727	-781.744	-782.761	-783.778	-784.795	-785.812	-786.829	-787.846	-788.863	-789.880	-790.897	-791.914	-792.931	-793.948	-794.965	-795.982	-796.999	-798.016	-799.033	-800.050	-801.067	-802.084	-803.101	-804.118	-805.135	-806.152	-807.169	-808.186	-809.203	-810.220	-811.237	-812.254	-813.271	-814.288	-815.305	-816.322	-817.339	-818.356	-819.373	-820.390	-821.407	-822.424	-823.441	-824.458	-82



**NOT FOR CONSTRUCTION**

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

FROM HELIDON

TO CALVERT

GATTON

UP DIRECTION

1% AEP FLOOD LEVEL  
EXISTING QR LINE

LEGEND

DATUM 73.0

KILOMETRAGE	VOLUMES (m3)		HEIGHT OF BANK / DEPTH OF CUT	DESIGN RAIL LEVELS	DESIGN FORMATION LEVELS	EXISTING SURFACE LEVELS
	CUT	FILL				
41000	0.0	2398.5	1.296	106.298	105.597	104.301
41100	0.0	1762.4	1.635	106.315	105.644	104.089
41200	56.5	582.4	1.483	106.392	105.691	104.207
41300	0.2	1413.2	1.091	106.438	105.737	104.646
41381.882	0.0	1611.3	0.895	106.476	105.775	104.881
41400	272	1269.3	0.717	106.488	105.784	105.068
41481.882	2.0	1864.8	0.557	106.539	105.833	106.097
41500	0.1	2287.1	0.666	106.556	105.853	105.296
41581.882	1.6	3149.8	0.756	106.634	105.933	105.176
41600	0.1	5194.8	0.666	106.654	105.953	105.287
41700	0.0	1813.7	1.273	106.765	106.064	104.791
41800	0.0	133.2	1.239	106.876	106.175	104.936
41900	0.0	2287.1	1.407	106.987	106.286	104.879
41955.239	0.0	2287.1	1.278	107.048	106.347	105.070
41977.465	0.0	2492.3	1.182	107.061	106.360	105.178
41980.239	0.0	2287.1	1.012	107.060	106.359	105.347
42000	0.0	3149.8	1.143	107.045	106.347	105.284
42005.239	0.0	3149.8	1.230	107.041	106.340	105.100
42008.44	0.0	3149.8	1.270	107.037	106.336	105.066
42088.44	0.0	3149.8	0.160	106.976	106.225	106.065
42100	0.0	3149.8	0.211	106.970	106.209	105.998
42200	0.0	3149.8	1.248	106.771	106.070	104.822
42300	0.0	3149.8	1.448	106.633	105.932	104.484
42400	0.0	3149.8	1.393	106.494	105.793	104.400
42500	0.0	3149.8	1.284	106.355	105.654	104.371
42553.291	0.0	3149.8	1.747	106.281	105.580	103.833
42600	0.0	3149.8	1.959	106.217	105.516	103.556
42633.291	0.0	3149.8	1.691	106.170	105.469	103.778
42700	0.0	3149.8	1.156	106.078	105.377	104.221
42707.447	0.0	3149.8	1.039	106.068	105.367	104.327
42717.447	0.0	3149.8	1.291	106.012	105.311	104.020
42784.524	0.0	3149.8	1.340	105.958	105.257	103.971
42800	0.0	3149.8	1.375	105.939	105.238	103.863
42826.524	0.0	3149.8	1.450	105.903	105.202	103.752
42853.101	0.0	3149.8	1.329	105.866	105.165	103.836
42859.894	0.0	3149.8	1.285	105.861	105.160	103.875
42878.101	0.0	3149.8	1.272	105.895	105.194	103.922
42900	0.0	3149.8	1.535	106.032	105.324	103.789
42903.101	0.0	3149.8	1.523	106.051	105.350	103.827
42928.862	0.0	3149.8	1.708	106.279	105.578	104.070
42948.862	0.0	3149.8	2.107	106.632	105.931	103.823
43000	0.0	3149.8	2.265	106.906	106.205	103.940
43002.734	0.0	3149.8	2.243	106.930	106.229	103.986
43042.734	0.0	3149.8	2.535	107.283	106.644	104.041
43049.78	0.0	3149.8	2.661	107.345	106.677	103.983
43074.78	0.0	3149.8	2.920	107.512	106.811	103.991
43095.348	0.0	3149.8	3.089	107.568	106.867	103.779
43095.78	0.0	3149.8	3.187	107.571	106.870	103.683
43100	0.0	3149.8	2.954	107.579	106.878	103.683
43105.348	0.0	3149.8	2.966	107.580	106.879	103.923
43109.655	0.0	3149.8	2.923	107.580	106.879	103.933
43131.74	0.0	3149.8	2.621	107.580	106.879	103.956
43200	0.0	3149.8	20.240	107.664	106.966	104.000
43209.655	0.0	3149.8	11.623	107.339	106.796	103.995
43300	0.0	3149.8	1.932	106.882	106.638	103.959
43307.059	0.0	3149.8	1.749	106.601	106.239	104.308
43339.655	0.0	3149.8	1.687	106.574	106.214	104.186
43377.059	0.0	3149.8	1.369	106.190	105.849	104.120
43461.058	0.0	3149.8	1.076	105.328	105.555	104.204
43500	0.0	3149.8	0.302	104.928	105.194	104.529
43541.058	0.0	3149.8	-0.154	104.506	103.805	103.296
43600	0.0	3149.8	-0.096	103.901	103.200	102.550
43700	0.0	3149.8	0.023	102.874	102.173	102.150
43781.679	0.0	3149.8	0.121	102.036	101.335	102.121
43800	0.0	3149.8	0.150	101.848	101.147	101.996
43851.943	0.0	3149.8	-0.095	101.314	100.613	100.708
43861.679	0.0	3149.8	-0.092	101.218	100.517	100.689
43900	0.0	3149.8	0.277	100.912	100.208	99.990
43901.943	0.0	3149.8	0.287	100.896	100.195	99.908
43951.943	0.0	3149.8	0.314	100.668	99.967	99.623
44000	0.0	3149.8	0.596	100.541	99.840	99.244

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:	Scale: H 1:5000 / 1:10000 A1/A3 V 1:1000 / 1:2000
Filename: 2-0001-330-CCW-10-DR-2006.DWG	Alternate DMS number:

1	28/01/20	REISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK
Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved

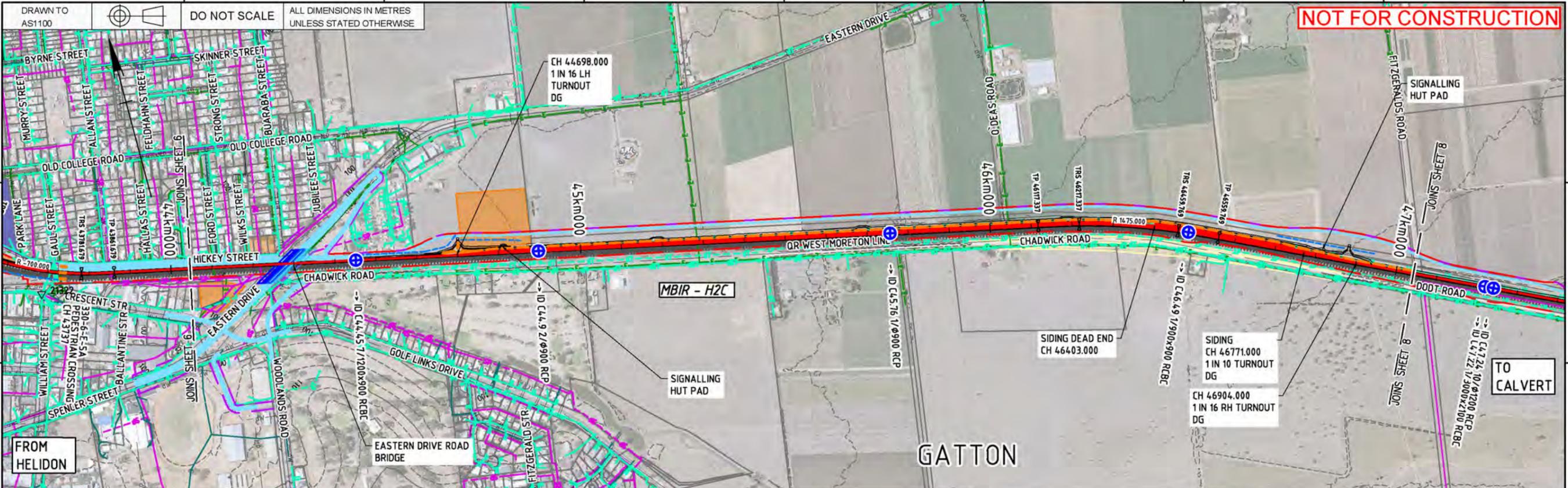
Designing Company: Future Freight	Design Project Code:	Approved By: L. KLEIN
Designed: R. du PLOOY 28/01/20	Checked: H. GOUWS 28/01/20	Ind. Rev. Name: D. STEFFENS
Ind. Rev. Company: AECOM	Ind. Rev. Name: D. STEFFENS	Signature: David Steffens 28/01/20

ARTC ACCEPTANCE	0 1	Sheet No. 6	SHEET SIZE A1
InlandRail	2-0001-330-CCW-10-DR-2006	Scale:	
TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 6			

Last Modified - Wednesday, Jan 28, 2020 9:24:57 AM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



1% AEP FLOOD LEVEL  
EXISTING QR LINE  
LEGEND  
UP DIRECTION

KILOMETRAGE	EXISTING SURFACE LEVELS	DESIGN FORMATION LEVELS	DESIGN RAIL LEVELS	HEIGHT OF BANK / DEPTH OF CUT	VOLUMES (m3)		HORIZONTAL GEOMETRY		VERTICAL GEOMETRY	
					CUT	FILL	TAN L	TR	L	R
44.000	99.244	99.840	100.541	0.596	40.9	1667.0	1 in -378.91	L=76.163m	R=1464.36.69	
44.100	99.030	99.592	100.300	0.562	1169.7	1014.6	1 in -776.76	L=200	R=1464.36.69	
44.200	98.735	99.534	100.235	0.800	0.0	2030.3	TAN L 2255.658	L=1244.431m	R=1464.36.69	
44.300	98.483	99.279	100.072	0.405	3084.1	149.8	TR 100m	L=100	R=78733.421	
44.400	97.517	99.150	99.851	1.633	297.1	2846.1	TR 100m	L=292.483m	R=1610.883	
44.500	97.539	99.021	99.722	1.482	0.0	4980.3	TR 100m	L=2720.687m	R=1610.883	
44.600	97.874	98.892	99.593	1.019	0.0	6984.3	TAN L 2847.851	L=1810m	R=1610.883	
44.700	99.265	98.764	99.465	-0.591	0.0	9142.8	TR 100m	L=1810m	R=1610.883	
44.800	98.986	98.635	99.336	-0.271	0.0	10315.1	TR 100m	L=1810m	R=1610.883	
44.900	97.279	98.506	99.207	1.227	0.0	9423.7	TR 100m	L=1810m	R=1610.883	
45.000	96.247	98.120	98.821	1.853	0.0	8118.3	TR 100m	L=1810m	R=1610.883	
45.100	96.568	98.249	98.959	1.681	0.0	8561.1	TR 100m	L=1810m	R=1610.883	
45.200	96.247	97.863	98.564	2.587	0.0	10932.1	TR 100m	L=1810m	R=1610.883	
45.300	95.593	97.991	98.692	2.489	0.0	11449.2	TR 100m	L=1810m	R=1610.883	
45.400	95.275	97.863	98.564	2.587	0.0	9066.1	TR 100m	L=1810m	R=1610.883	
45.500	95.139	97.769	98.470	2.630	0.0		TR 100m	L=1810m	R=1610.883	
45.600	94.981	97.739	98.444	2.858	0.0		TR 100m	L=1810m	R=1610.883	
45.700	94.831	97.721	98.422	2.682	0.0		TR 100m	L=1810m	R=1610.883	
45.800	94.681	97.704	98.405	3.023	0.0		TR 100m	L=1810m	R=1610.883	
45.900	94.531	97.703	98.404	2.891	0.0		TR 100m	L=1810m	R=1610.883	
46.000	94.381	97.702	98.403	2.994	0.0		TR 100m	L=1810m	R=1610.883	
46.100	94.231	97.700	98.401	2.982	0.0		TR 100m	L=1810m	R=1610.883	
46.200	94.081	97.686	98.387	2.897	0.0		TR 100m	L=1810m	R=1610.883	
46.300	93.931	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
46.400	93.781	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
46.500	93.631	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
46.600	93.481	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
46.700	93.331	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
46.800	93.181	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
46.900	93.031	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.000	92.881	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.100	92.731	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.200	92.581	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.300	92.431	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.400	92.281	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.500	92.131	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.600	91.981	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.700	91.831	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.800	91.681	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
47.900	91.531	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	
48.000	91.381	97.642	98.343	3.010	0.0		TR 100m	L=1810m	R=1610.883	

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Scale: 1:5000 / 1:10000  
A1 / A3  
V.1:1000 / 1:2000

Designing Company: Future Freight  
Design Project Code: ARTC ACCEPTANCE  
Approved By: L. KLEIN  
Checked: H. GOUWS  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Ind. Review Signature: David Steffens  
Date: 22/11/19

Accepted By: [Signature]  
Date: 22/11/19

Sheet No. 7  
Scale: A1

TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 7

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK	

Last Modified - Thursday, Nov 28, 2019 12:54:43 PM

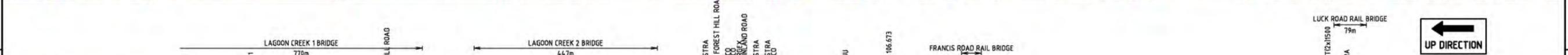
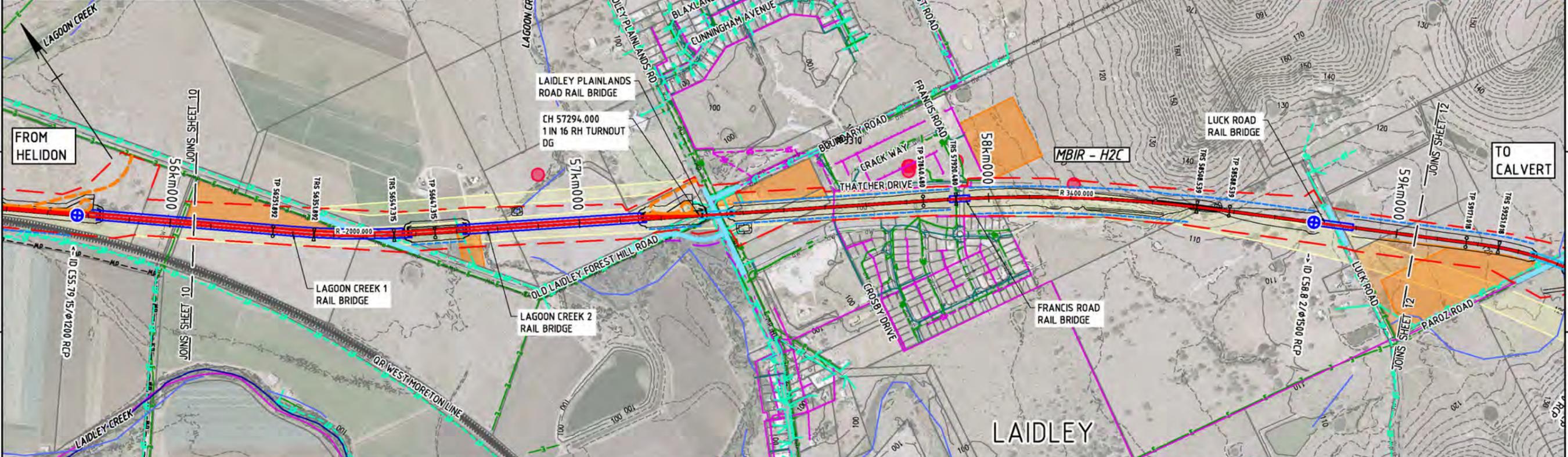






DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



1% AEP FLOOD LEVEL  
EXISTING QR LINE  
**LEGEND**

VERTICAL GEOMETRY		HORIZONTAL GEOMETRY		VOLUMES (m3)		HEIGHT OF BANK / DEPTH OF CUT	DESIGN RAIL LEVELS	DESIGN FORMATION LEVELS	EXISTING SURFACE LEVELS	KILOMETRAGE
L=2050.013m 1 in 200.70 R=30199.797		TAN L 1309.567 TRS 100m R=2000 TRS 100m		CUT	FILL					56km000
L=1406.459m 1 in 598.34		TAN L 1193.165 TRS 80m R=34.00 TRS 80m		0.0	2696.6	7.366	86.113	103.224	95.859	56000
L=200 R=16553.157		TAN L 582.479		0.0	2932.2	7.04	96.434	104.424	95.883	56100
L=3670.323m 1 in 72.71				0.0	10785.6	8.044	96.479	104.479	95.932	56200
				0.0	37511.7	8.834	96.519	104.519	96.079	56300
				0.0	30725.9	9.017	96.554	104.554	96.115	56400
				0.0	27862.7	9.234	96.589	104.589	96.150	56500
				0.0	28006.2	9.463	96.624	104.624	96.185	56600
				0.0	44002.9	9.697	96.659	104.659	96.220	56700
				0.0	37107.8	9.941	96.694	104.694	96.255	56800
				4560.3	36090.4	10.195	96.729	104.729	96.290	56900
				0.0	26515.2	10.459	96.764	104.764	96.325	57000
				0.0		10.733	96.799	104.799	96.360	57100
				0.0		11.017	96.834	104.834	96.395	57200
				0.0		11.311	96.869	104.869	96.430	57300
				0.0		11.615	96.904	104.904	96.465	57400
				0.0		11.929	96.939	104.939	96.500	57500
				0.0		12.253	96.974	104.974	96.535	57600
				0.0		12.587	97.009	105.009	96.570	57700
				0.0		12.931	97.044	105.044	96.605	57800
				0.0		13.285	97.079	105.079	96.640	57900
				0.0		13.649	97.114	105.114	96.675	58000
				0.0		14.023	97.149	105.149	96.710	58100
				0.0		14.407	97.184	105.184	96.745	58200
				0.0		14.801	97.219	105.219	96.780	58300
				0.0		15.205	97.254	105.254	96.815	58400
				0.0		15.619	97.289	105.289	96.850	58500
				0.0		16.043	97.324	105.324	96.885	58600
				0.0		16.477	97.359	105.359	96.920	58700
				0.0		16.921	97.394	105.394	96.955	58800
				0.0		17.375	97.429	105.429	96.990	58900
				0.0		17.839	97.464	105.464	97.025	59000
				0.0		18.313	97.499	105.499	97.060	59100
				0.0		18.797	97.534	105.534	97.095	59200
				0.0		19.291	97.569	105.569	97.130	59300
				0.0		19.795	97.604	105.604	97.165	59400
				0.0		20.309	97.639	105.639	97.200	59500
				0.0		20.833	97.674	105.674	97.235	59600
				0.0		21.367	97.709	105.709	97.270	59700
				0.0		21.911	97.744	105.744	97.305	59800
				0.0		22.465	97.779	105.779	97.340	59900
				0.0		23.029	97.814	105.814	97.375	60000

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Used on / Next higher assembly: A1/A3  
Scale: 1:5000 / 1:10000  
Filename: 2-0001-330-CCW-10-DR-2011.DWG  
Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK	

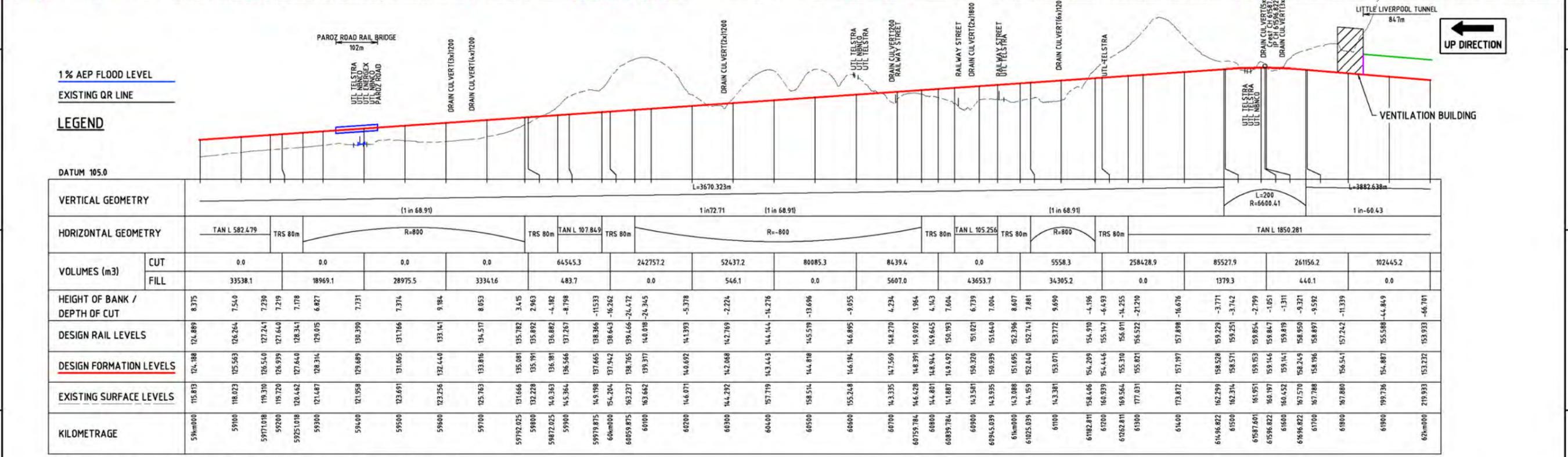
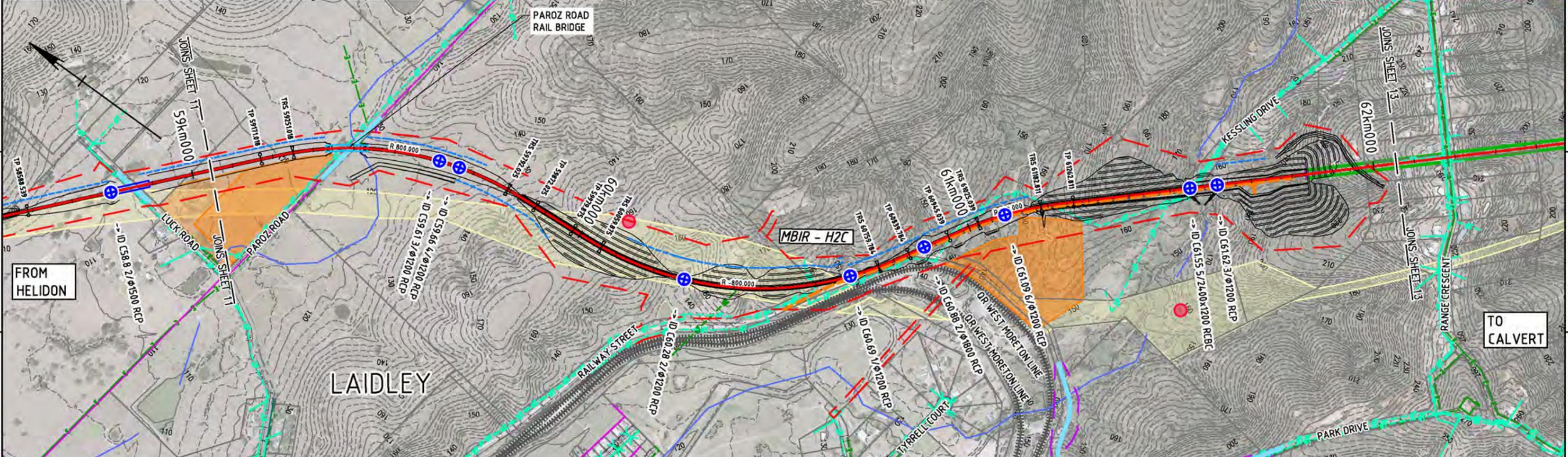
Designing Company: Future Freight  
Design Project Code: MBIR-H2C  
Designed: R. du PLOOY 22/11/19  
Checked: H. GOUWS 22/11/19  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Ind. Review Signature: David Steffens 22/11/19  
Approved By: L. KLEIN  
Approved Date: 22/11/19

ARTC ACCEPTANCE: 0  
InlandRail: 2-0001-330-CCW-10-DR-2011  
Sheet No: 11  
Scale: A1  
TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 11

Last Modified - Thursday, Nov 28, 2019 11:21:00 AM

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NOTES: REFER TO DRAWING 2-0001-330-CFM-10-DR-0651 FOR CROSS SECTION AT CH61.800km

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Scale: 1:5000 / 1:10000  
A1/A3  
V.1:1000 / 1:2000

File name: 2-0001-330-CCW-10-DR-2012.DWG

Designing Company: Future Freight  
Design Project Code: ARTC ACCEPTANCE  
Approved By: L. KLEIN  
Checked: H. GOUWS  
Ind. Rev. Company: AECOM  
Ind. Rev. Name: D. STEFFENS  
Signature: David Steffens 22/11/19

Accepted By: [Signature]  
Signed: [Signature] 22/11/19  
Acceptance Date: [Date]

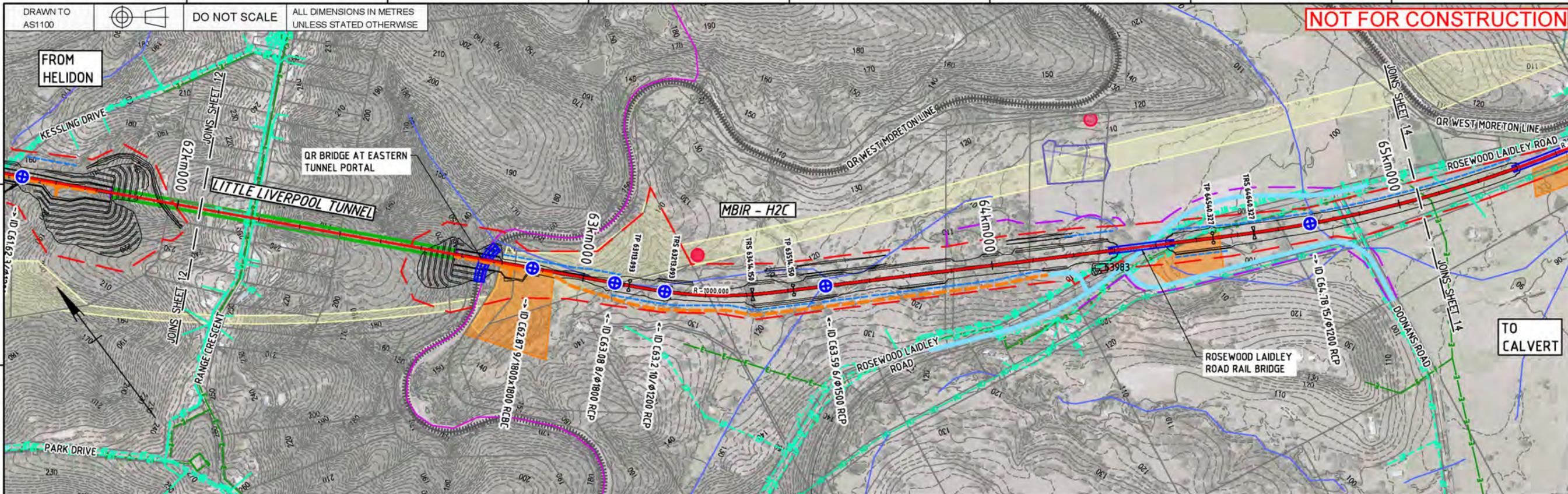
Sheet No. 12  
Scale: A1

TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 12

Last Modified - Thursday, Nov 28, 2019 11:22:03 AM

DRAWN TO AS1100  
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1% AEP FLOOD LEVEL  
EXISTING QR LINE

**LEGEND**

DATUM 85.0

**VERTICAL GEOMETRY**

**HORIZONTAL GEOMETRY**

**VOLUMES (m3)**

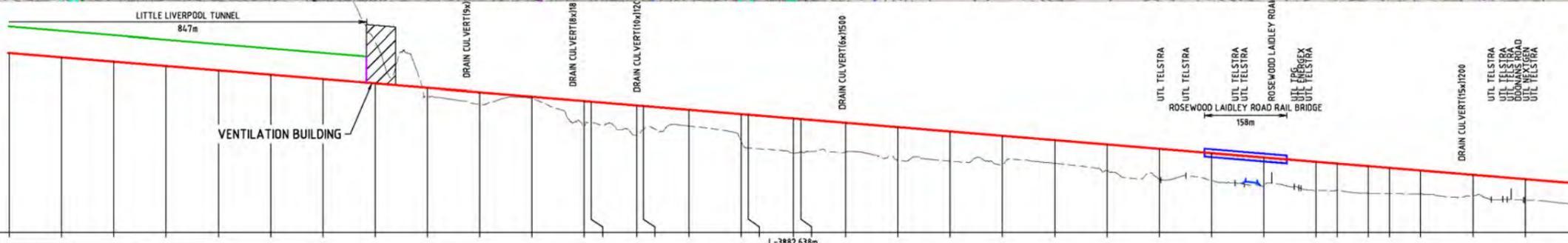
**HEIGHT OF BANK / DEPTH OF CUT**

**DESIGN RAIL LEVELS**

**DESIGN FORMATION LEVELS**

**EXISTING SURFACE LEVELS**

**KILOMETRAGE**

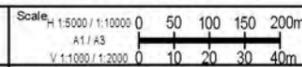


Kilometrage	VOLUMES (m3)		HEIGHT OF BANK / DEPTH OF CUT		DESIGN RAIL LEVELS		DESIGN FORMATION LEVELS		EXISTING SURFACE LEVELS	
	CUT	FILL	Height	Depth	Level	Level	Level	Level	Level	
62km+000	0.0	0.0	-66.701		153.933	153.933	219.933		219.933	
62100	0.0	0.0	-90.213		152.278	152.278	241.790		241.790	
62200	0.0	0.0	-95.547		150.623	149.922	245.470		245.470	
62300	0.0	0.0	-69.630		148.969	148.268	217.898		217.898	
62400	0.0	0.0	-63.815		147.314	146.613	210.428		210.428	
62500	0.0	0.0	-54.866		145.659	144.958	198.824		198.824	
62600	0.0	0.0	-45.935		144.004	143.303	189.238		189.238	
62700	83825.6	744.1	-15.725		142.350	141.649	157.374		157.374	
62800	499.8	12688.3	3.451		140.695	139.994	136.543		136.543	
62900	0.0	31005.3	0.598		139.040	138.339	133.825		133.825	
63000	0.0	33117.3	10.282		137.385	136.684	131.086		131.086	
63100	0.0	74637.1	12.672		135.731	135.030	128.343		128.343	
63200	0.0	66919.0	11.329		134.076	133.375	125.598		125.598	
63300	0.0	53321.5	10.897		132.421	131.720	122.853		122.853	
63400	0.0	61335.1	8.865		130.766	130.065	120.108		120.108	
63500	0.0	25513.2	9.931		128.111	127.410	117.363		117.363	
63600	0.0	45405.5	10.409		126.456	125.755	114.618		114.618	
63700	0.0	47381.7	11.005		124.801	124.100	111.873		111.873	
63800	0.0	37276.8	7.909		123.146	122.445	109.128		109.128	
63900	0.0	0.0	0.0		121.491	120.790	106.383		106.383	
64000	0.0	0.0	0.0		119.836	119.135	103.638		103.638	
64100	0.0	0.0	0.0		118.181	117.480	100.893		100.893	
64200	0.0	0.0	0.0		116.526	115.825	98.148		98.148	
64300	0.0	0.0	0.0		114.871	114.170	95.403		95.403	
64400	0.0	0.0	0.0		113.216	112.515	92.658		92.658	
64500	0.0	0.0	0.0		111.561	110.860	89.913		89.913	
64600	0.0	0.0	0.0		109.906	109.205	87.168		87.168	
64700	0.0	0.0	0.0		108.251	107.550	84.423		84.423	
64800	0.0	0.0	0.0		106.596	105.895	81.678		81.678	
64900	0.0	0.0	0.0		104.941	104.240	78.933		78.933	
65000	0.0	0.0	0.0		103.286	102.585	76.188		76.188	

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Used on / Next higher assembly:



Filename: 2-0001-330-CCW-10-DR-2013.DWG

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK	

Designing Company: **Future Freight**

Design Project Code: **ARTC ACCEPTANCE**

Designed: **R. du PLOOY** 22/11/19

Approved By: **L. KLEIN**

Checked: **H. GOUVENS** 22/11/19

Ind. Rev. Company: **AECOM**

Ind. Rev. Name: **D. STEFFENS**

Ind. Review Signature: **David Steffens** 22/11/19

Accepted By: **Lindsay Klein**

Accepted Date: **22/11/19**

Scale: **1:1000**

Sheet No: **13**

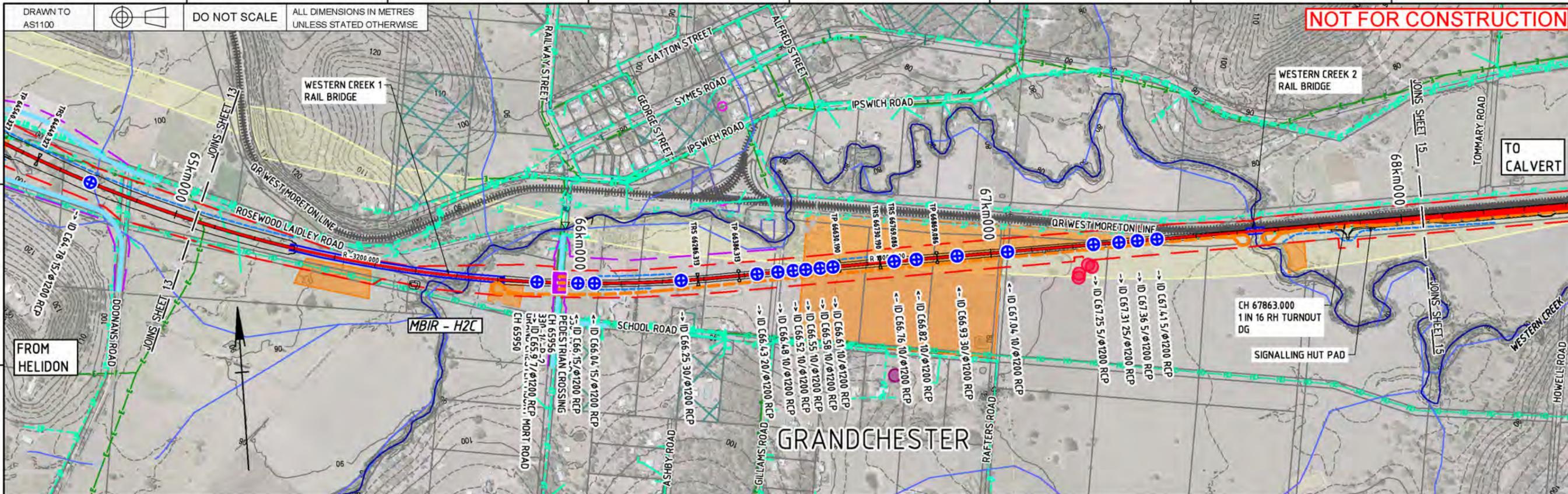
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Project ID: **2-0001-330-CCW-10-DR-2013**

TITLE: **HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 13**

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1% AEP FLOOD LEVEL

EXISTING QR LINE

**LEGEND**

DATUM 62.0

VERTICAL GEOMETRY

HORIZONTAL GEOMETRY

VOLUMES (m3)

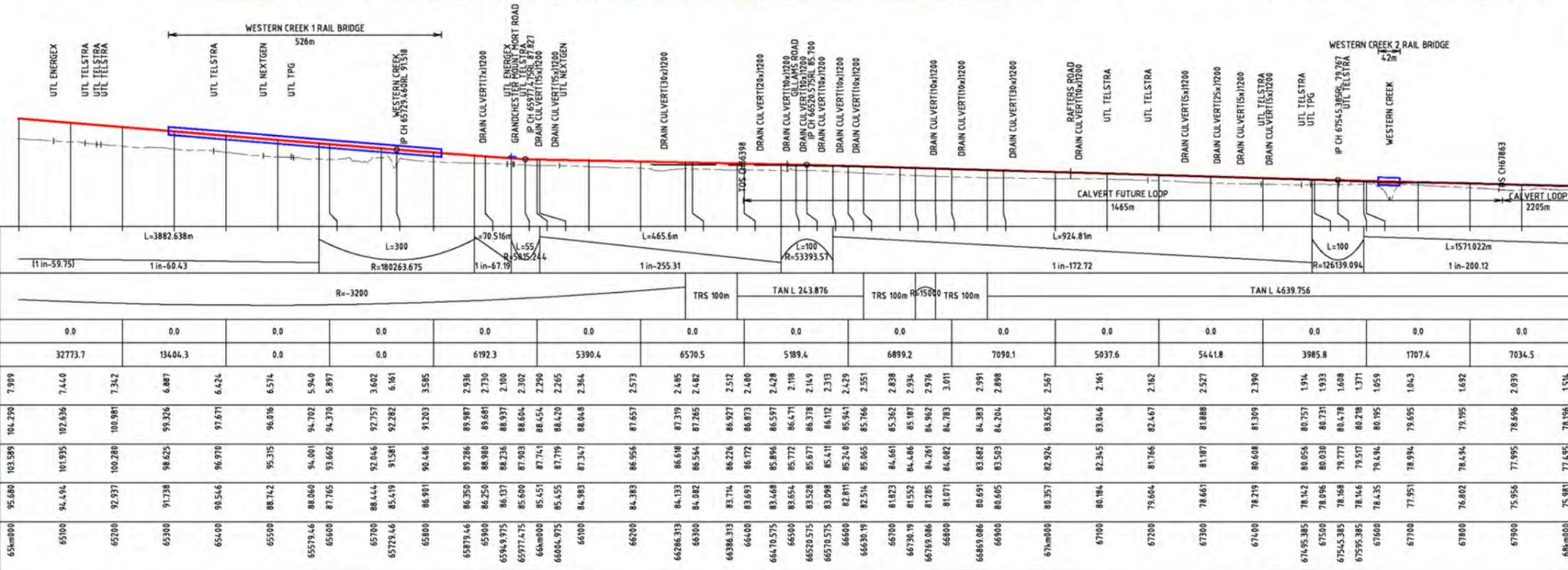
HEIGHT OF BANK / DEPTH OF CUT

DESIGN RAIL LEVELS

DESIGN FORMATION LEVELS

EXISTING SURFACE LEVELS

KILOMETRAGE



UP DIRECTION

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

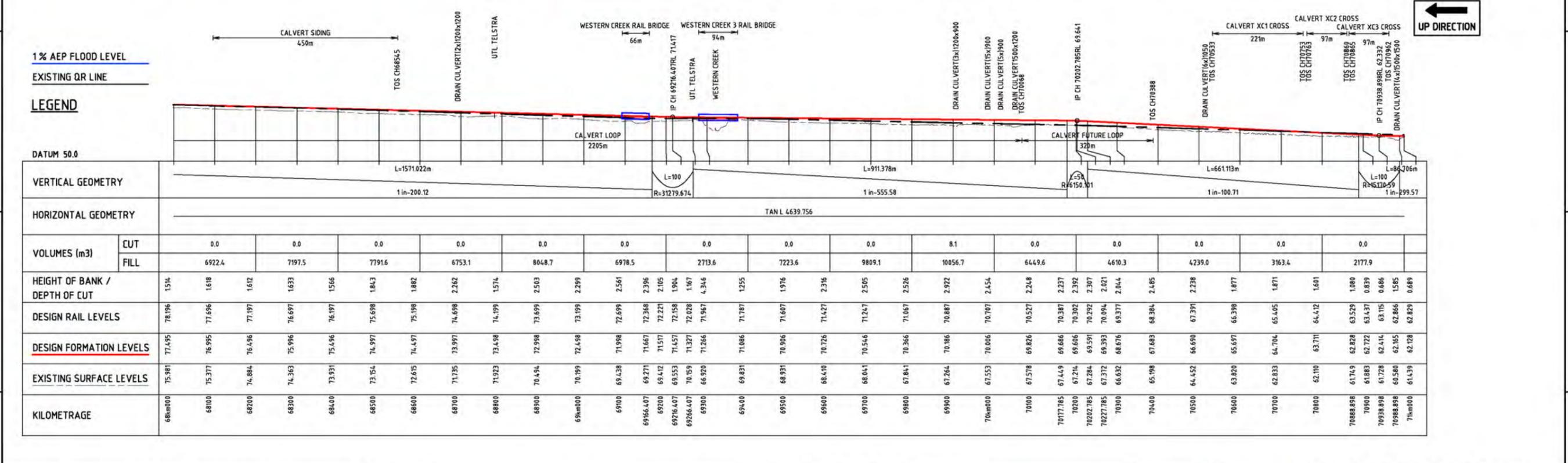
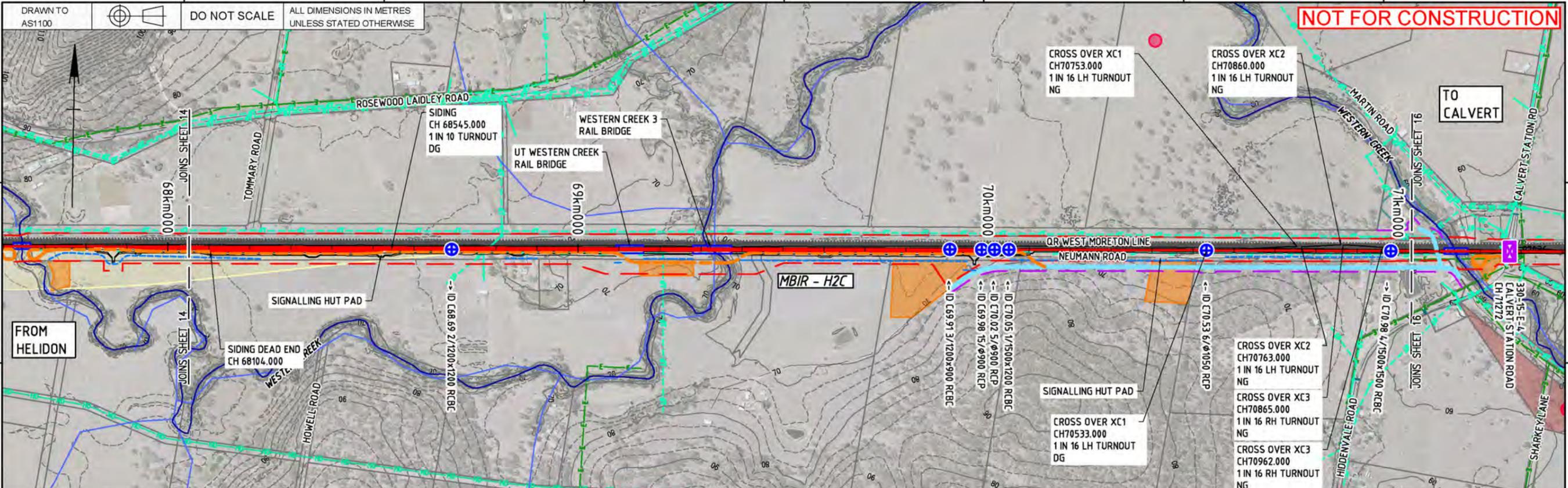
Used on / Next higher assembly:	Scale: H 1:5000 / 1:10000 A1/A3 V 1:1000 / 1:2000
Filename: 2-0001-330-CCW-10-DR-2014.DWG	Alternate DMS number:

0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	RdP	HG	DS	LK
Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved

Designing Company: Future Freight	Design Project Code:	Approved By: L. KLEIN
Checked: H. GOUWS	Ind. Rev. Company: AECOM	Ind. Rev. Name: D. STEFFENS
Ind. Review Signature: David Steffens	Ind. Review Date: 22/11/19	Approved Date:

ARTC ACCEPTANCE	0	Sheet No. 14	Scale: A1
InlandRail	2-0001-330-CCW-10-DR-2014	TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 14	

Last Modified - Thursday, Nov 28, 2019 11:24:16 AM



VERTICAL GEOMETRY		HORIZONTAL GEOMETRY																																							
VOLUMES (m3)		TAN L 4639.756																																							
CUT	FILL	0.0																																							
		6922.4	7197.5	7791.6	6753.1	8048.7	6978.5	2713.6	7223.6	9809.1	10056.7	6449.6	4610.3	4239.0	3163.4	2177.9																									
HEIGHT OF BANK / DEPTH OF CUT	1.514	1.618	1.612	1.633	1.566	1.843	1.882	2.262	1.574	2.503	2.299	2.561	2.396	2.105	1.904	1.167	4.346	1.255	1.976	2.316	2.505	2.526	2.922	2.454	2.248	2.237	2.392	2.307	2.021	2.844	2.485	2.238	1.877	1.871	1.691	1.080	0.839	0.686	1.585	0.689	
DESIGN RAIL LEVELS	76.196	71.696	71.197	76.697	76.197	75.698	74.199	73.699	74.698	73.199	72.699	71.697	72.368	71.517	72.221	71.457	72.028	71.967	71.086	71.787	71.607	71.427	71.247	70.887	70.707	70.527	70.387	70.302	70.292	70.094	69.377	68.384	67.391	66.398	65.405	64.412	63.529	63.437	63.115	62.866	62.829
DESIGN FORMATION LEVELS	77.495	76.995	76.496	75.996	75.496	74.997	73.997	73.498	72.998	72.498	71.998	71.667	71.667	71.517	71.457	71.327	71.266	71.086	70.906	70.726	70.546	70.366	70.186	70.006	69.826	69.646	69.606	69.591	69.393	68.676	67.683	66.690	65.697	64.704	63.711	62.718	62.722	62.414	62.165	62.128	
EXISTING SURFACE LEVELS	75.981	75.377	74.884	74.363	73.931	73.154	72.405	71.735	71.135	70.494	69.831	69.438	69.271	69.412	69.553	69.159	68.920	68.831	68.931	68.410	68.041	67.841	67.264	67.553	67.578	67.449	67.214	67.284	67.372	66.632	65.198	64.452	63.820	62.833	62.710	62.828	61.749	61.883	61.728	61.580	61.439
KILOMETRAGE	68100	68200	68300	68400	68500	68600	68700	68800	68900	69000	69100	69200	69300	69400	69500	69600	69700	69800	69900	70000	70100	70200	70300	70400	70500	70600	70700	70800	70900	71000	71100	71200	71300	71400	71500	71600	71700	71800	71900	72000	

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Scale: 1:5000 / 1:10000  
 A1/A3  
 V1:1000/1:2000

File name: 2-0001-330-CCW-10-DR-2015.DWG

Designing Company: Future Freight  
 Design Project Code: ARTC ACCEPTANCE  
 Approved By: L. KLEIN  
 Checked: H. GOUWS  
 Ind. Rev. Company: AECOM  
 Ind. Rev. Name: D. STEFFENS  
 Ind. Review Signature: David Steffens  
 Date: 22/11/19

Accepted By: [Signature]  
 Date: [Date]

Sheet No. 15  
 Scale: A1

TITLE: HELIDON TO CALVERT RAIL CIVIL - PLAN AND PROFILE SHEET 15

Last Modified - Thursday, Nov 28, 2019 11:25:34 AM



# DRAWINGS

## **Drawing Set C** Environmental Design Matters

HELIDON TO CALVERT ENVIRONMENTAL IMPACT STATEMENT

# ARTC - INLAND RAIL HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS

## DRAWING INDEX

DRAWING NUMBER	DESCRIPTION
2-0001-330-ELE-10-DR-1000	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - DRAWING INDEX AND LEGENDS
2-0001-330-ELE-10-DR-1001	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 1
2-0001-330-ELE-10-DR-1002	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 2
2-0001-330-ELE-10-DR-1003	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 3
2-0001-330-ELE-10-DR-1004	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 4
2-0001-330-ELE-10-DR-1005	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 5
2-0001-330-ELE-10-DR-1006	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 6
2-0001-330-ELE-10-DR-1007	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 7
2-0001-330-ELE-10-DR-1008	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 8
2-0001-330-ELE-10-DR-1009	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 9
2-0001-330-ELE-10-DR-1010	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 10
2-0001-330-ELE-10-DR-1011	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 11
2-0001-330-ELE-10-DR-1012	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 12
2-0001-330-ELE-10-DR-1013	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 13
2-0001-330-ELE-10-DR-1014	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 14
2-0001-330-ELE-10-DR-1015	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 15
2-0001-330-ELE-10-DR-1016	HELIDON TO CALVERT - ENVIRONMENTAL DESIGN MATTERS - SHEET 16

### CIVIL RAIL - DESIGN

- EXISTING CORRIDOR BOUNDARY
- PROPOSED RAIL CORRIDOR
- PROPOSED ROAD CORRIDOR
- EXISTING ROAD CORRIDOR
- ARTE STUDY BOUNDARY
- DESIGN RAIL BRIDGE
- DESIGN RAIL TUNNEL
- DESIGN ROAD
- CULVERTS
- PROPOSED CONSTRUCTION LAY DOWN AREAS
- PROPOSED LAY DOWN AREA TRACKS
- SEDIMENT BASIN

### ENVIRONMENTAL OVERLAYS

- 1% AEP FLOW PLAIN
- MINING LEASE
- STOCK ROUTES

- NATIONAL PARK
- STATE FOREST
- RESERVE
- EIS CONSTRUCTION DISTURBANCE FOOT PRINT
- EIS PERMANENT DISTURBANCE FOOT PRINT
- SENSITIVE RECEPTOR

### CULTURAL HERITAGE SITES

- QUEENSLAND CULTURAL HERITAGE INFORMATION MANAGEMENT SYSTEM (DEPARTMENT OF ENVIRONMENTAL AND SCIENCE)
- QUEENSLAND ABORIGINAL HERITAGE SITES (DEPARTMENT OF ABORIGINAL AND TORRES STRAIT ISLANDER PARTNERSHIPS)
- QUEENSLAND STATE HERITAGE REGISTER (DEPARTMENT OF ENVIRONMENTAL AND SCIENCE)
- QUEENSLAND LOCAL HERITAGE REGISTER (DEPARTMENT OF ENVIRONMENTAL AND SCIENCE)

### WATERWAY BARRIER WORKS

- LOW - DATA SOURCE: DAF (WATERCOURSE IDENTIFICATION MAP)
- MODERATE - DATA SOURCE: DAF (WATERCOURSE IDENTIFICATION MAP)
- HIGH - DATA SOURCE: DAF (WATERCOURSE IDENTIFICATION MAP)
- MAJOR - DATA SOURCE: DAF (WATERCOURSE IDENTIFICATION MAP)

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly: Scale: **NOT TO SCALE**

Filename: 2-0001-330-ELE-10-DR-1000.DWG  
 Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Design	Ind. Rev. Company	Ind. Rev. Name	Approved By
S. BROWN	AURECON	H. ESKE	S. BROWN
M. BROWN			S. Brown
			H. Eske

ARTC ACCEPTANCE

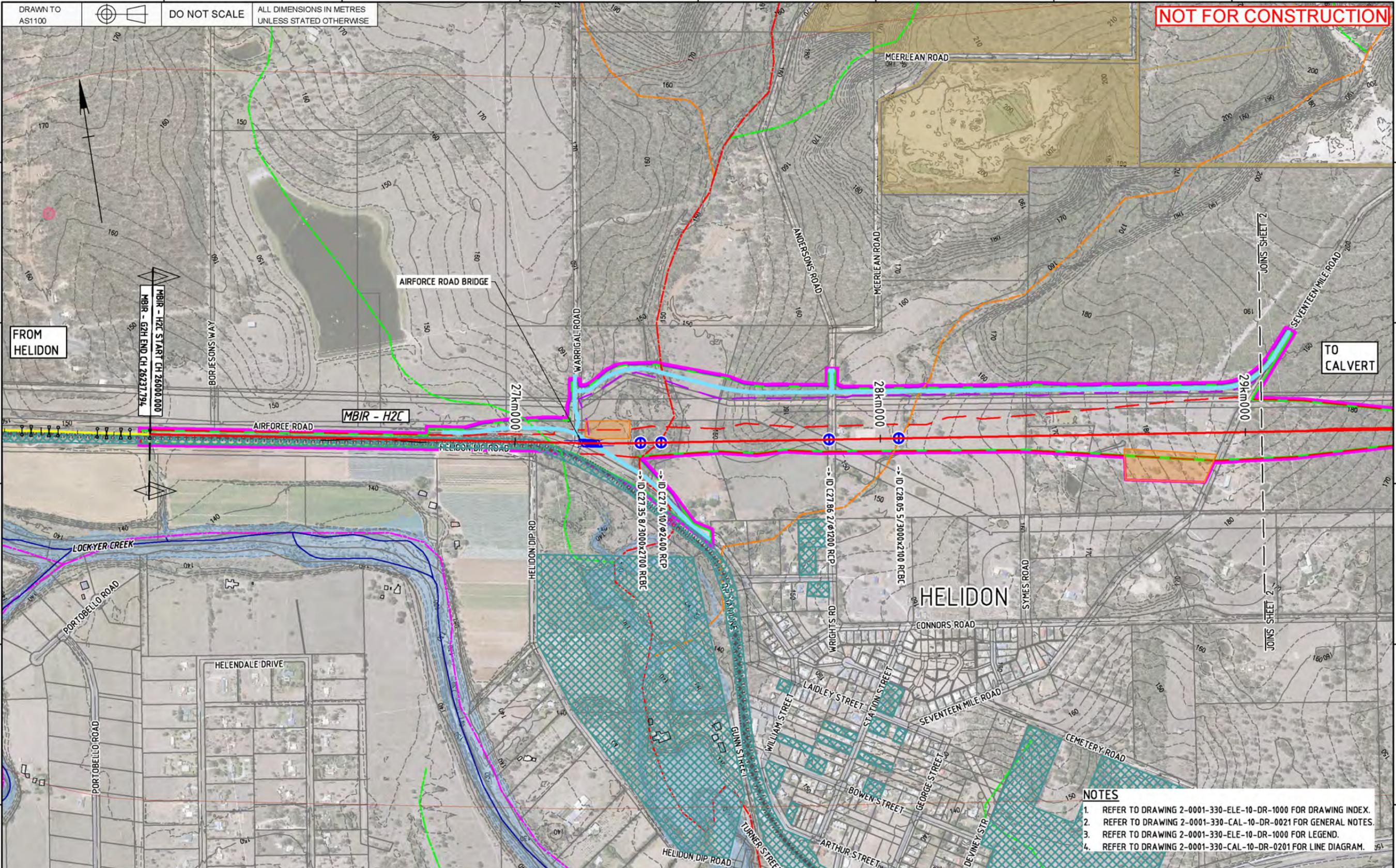
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SHEET NO. 0  
 SHEET SIZE: A1

TITLE: HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS DRAWING INDEX AND LEGEND

DRAWN TO AS1100  
 DO NOT SCALE  
 ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



FROM  
 HELIDON

TO  
 CALVERT

- NOTES**
1. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
 Scale: 1:5000 / 1:10000  
 A1/A3  
 0 50 100 150 200m

Filename:  
 2-0001-330-ELE-10-DR-1001.dwg

Alternate DMS number:

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0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

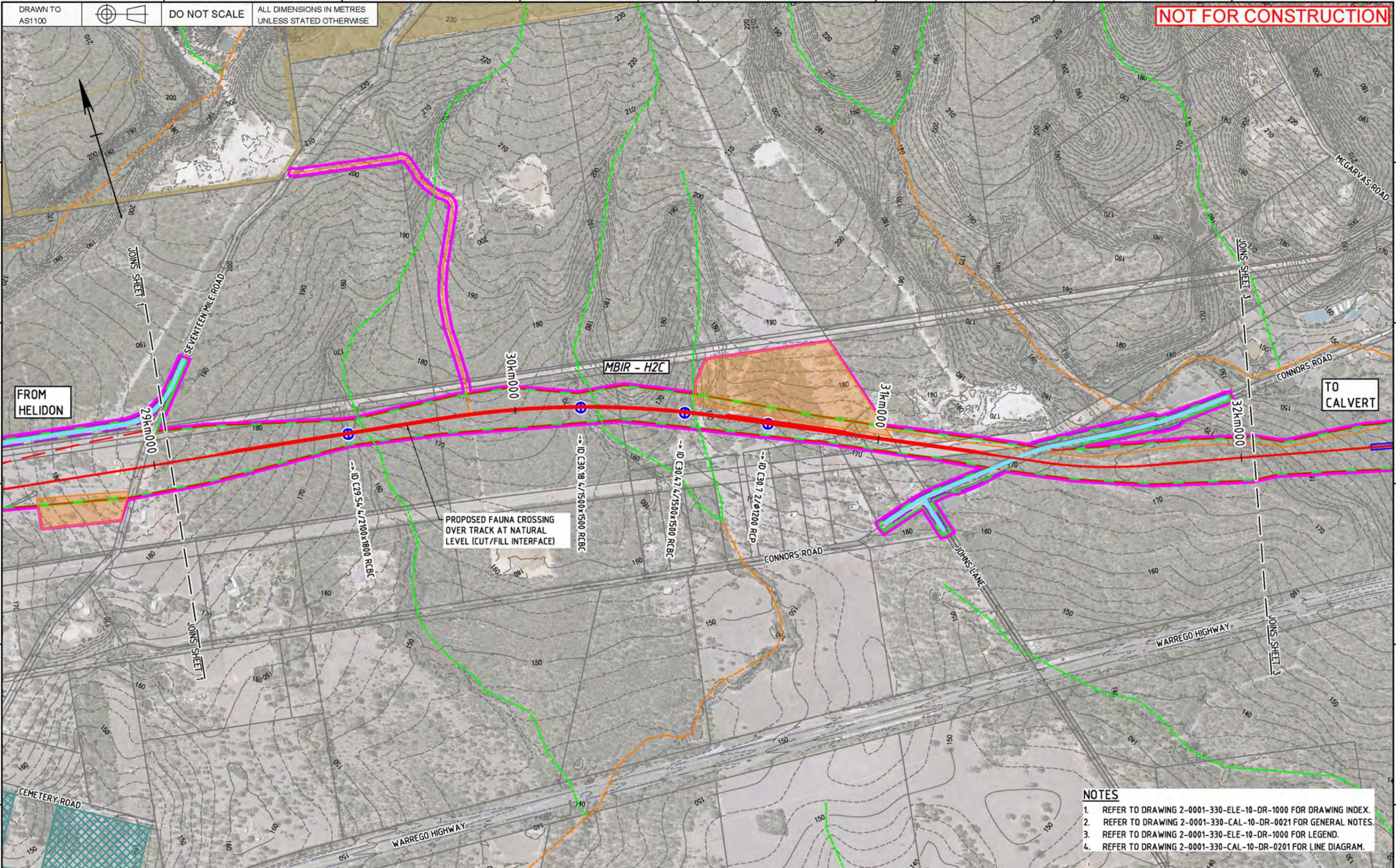
Designing Company:	Future Freight
Design Project Code:	
Designed:	S. BROWN 22/11/19
Checked:	M. BROWN 22/11/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19
Approved By:	S. BROWN
Signed:	S. Brown
Approve Date:	22/11/19

ARTC ACCEPTANCE	Accepted By:	
InlandRail	2-0001-330-ELE-10-DR-1001	Scale: 1/16
TITLE		SHEET SIZE
HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS		A1
SHEET 1		

Last Modified - Tuesday, Nov 26, 2019 2:58:54 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3

Filename: 2-0001-330-ELE-10-DR-1002.dwg  
Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company: Future Freight	Design Project Code:	ARTC ACCEPTANCE:
Designed: S. BROWN 22/11/19	Approved By: S. BROWN	Accepted By:
Checked: M. BROWN 22/11/19	Ind. Rev. Name: S. Brown	Signed:
Ind. Rev. Company: AURECON	Ind. Rev. Name: H. ESKE	Signed:
Ind. Review Signature: H. Eske 22/11/19	Approve Date: 22/11/19	Acceptance Date:

Sheet No. 2/16  
Scale: A1

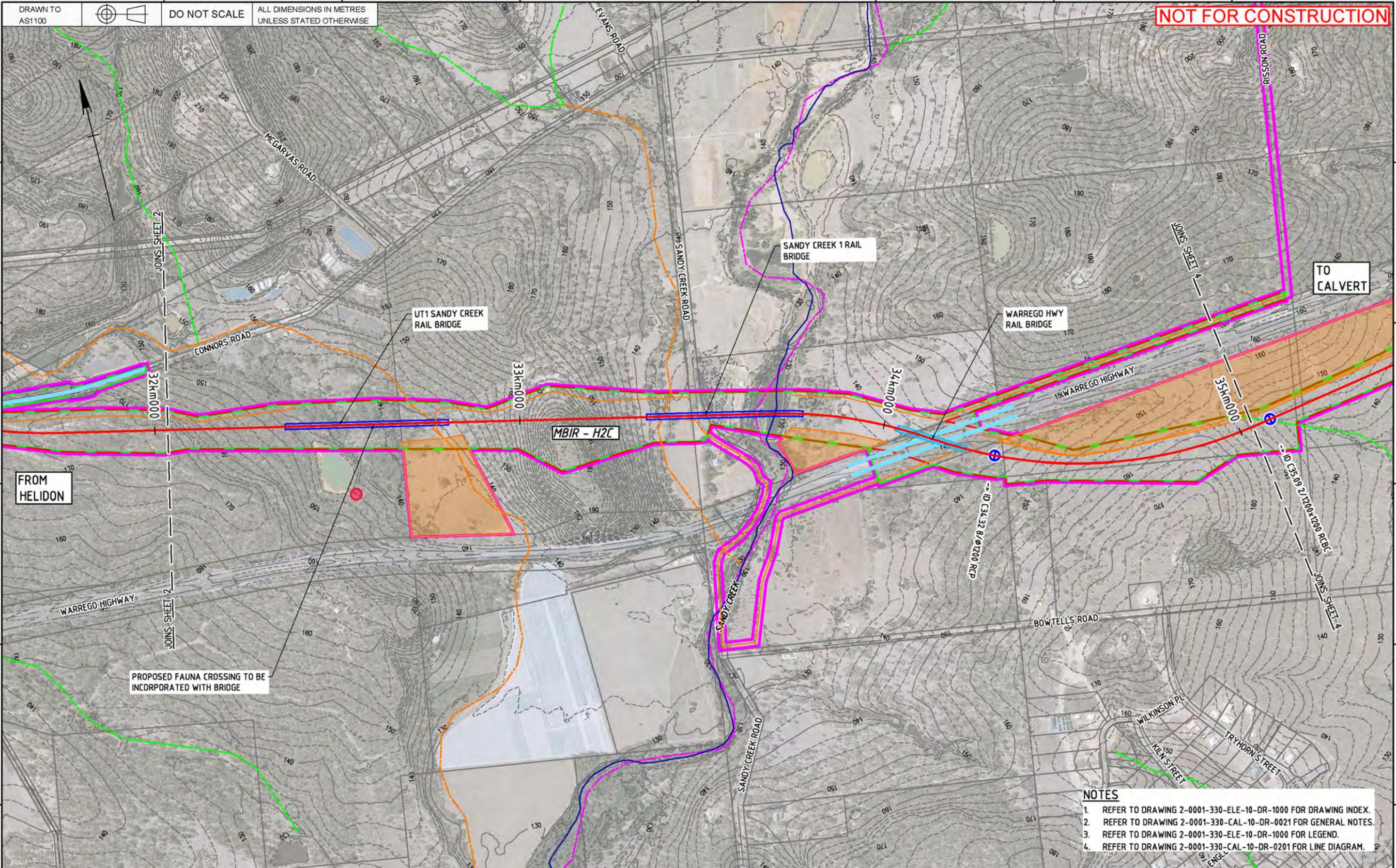
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TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 2

Last Modified - Tuesday, Nov 26, 2019 4:09:38 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



FROM  
HELIDON

TO  
CALVERT

MBIR - H2C

PROPOSED FAUNA CROSSING TO BE INCORPORATED WITH BRIDGE

- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3  
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Filename: 2-0001-330-ELE-10-DR-1003.dwg  
Alternate DMS number:

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0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight
Design Project Code:	
Designed:	S. BROWN 22/11/19
Checked:	M. BROWN 22/11/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19
Approved By:	S. BROWN
Signed:	S. Brown
Approval Date:	22/11/19

ARTC ACCEPTANCE

Accepted By:

InlandRail

2-0001-330-ELE-10-DR-1003

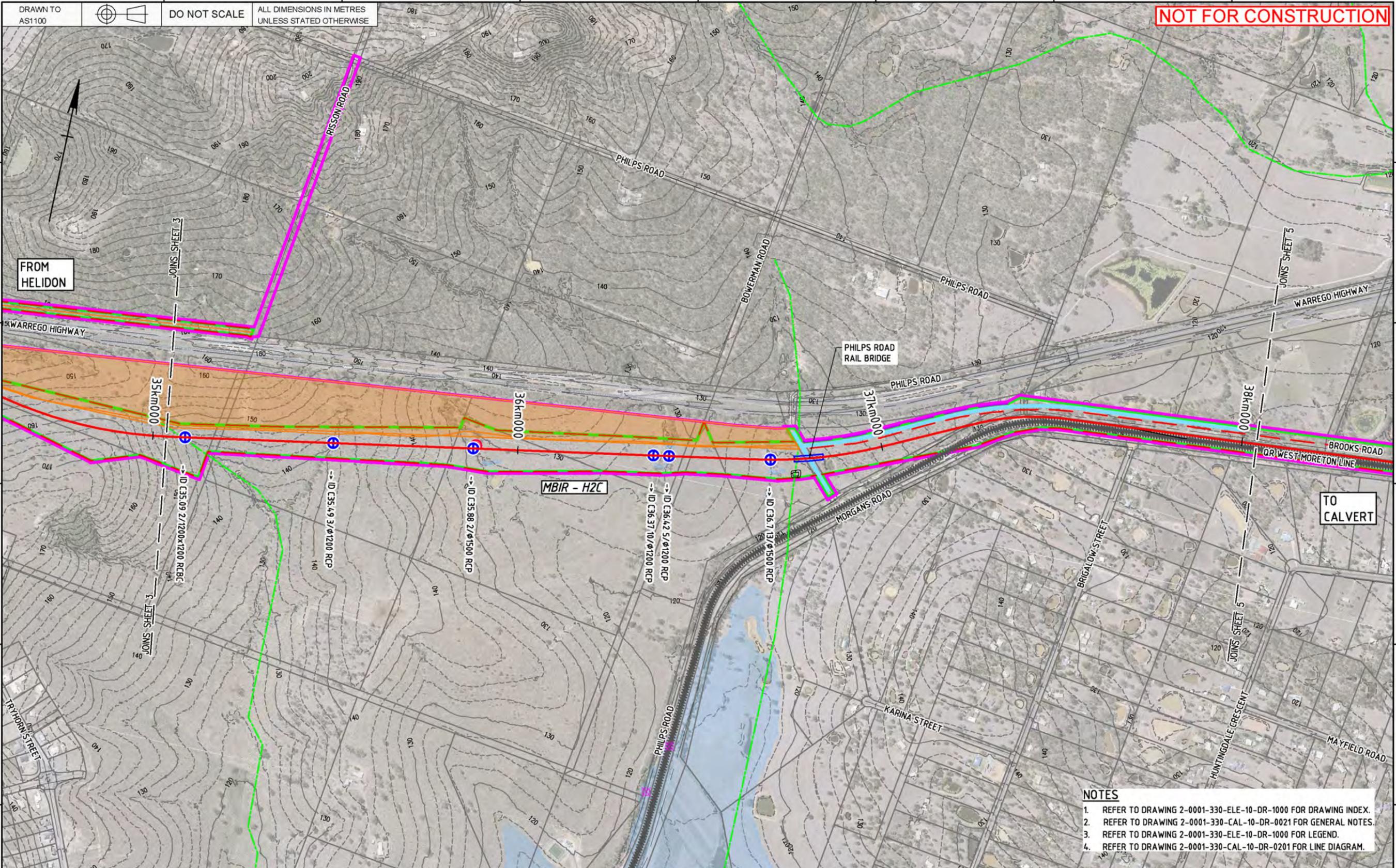
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Scale: A1

TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 3

Last Modified - Tuesday, Nov 26, 2019 3:02:10 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
1. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3  
0 50 100 150 200m

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Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight	ARTC ACCEPTANCE	
Design Project Code:		Accepted By:	
Designed:	S. BROWN 22/11/19	Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19	Signed:	S. Brown
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19	Signature:	
		Approve Date:	22/11/19
		Acceptance Date:	

Sheet No. 4/16  
Scale: A1

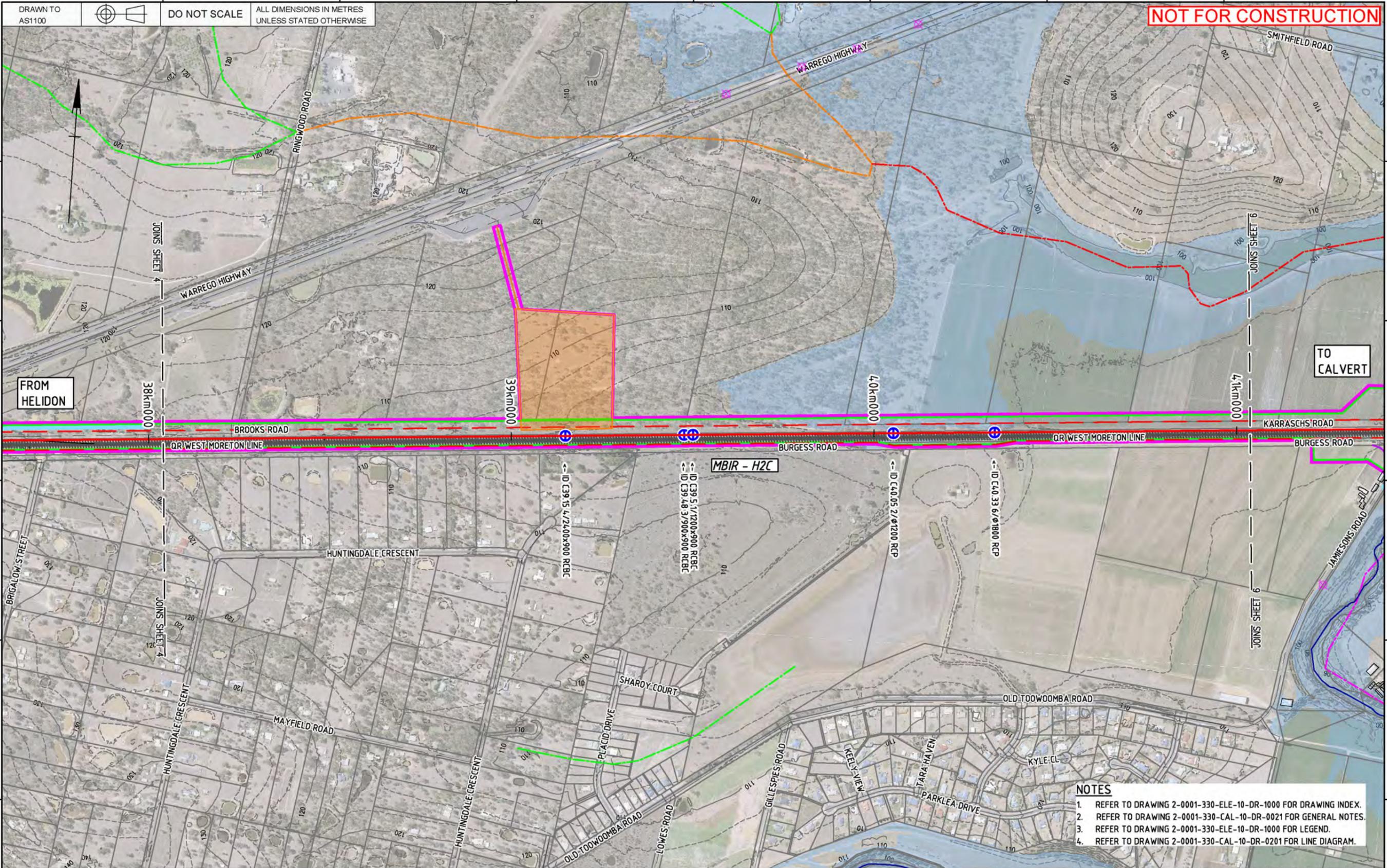
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TITLE  
**HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS SHEET 4**

Last Modified - Tuesday, Nov 26, 2019 2:58:56 PM

DRAWN TO AS1100  
 DO NOT SCALE  
 ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
 Scale: 1:5000 / 1:10000 0 50 100 150 200m  
 A1/A3

Filename:  
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Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight	ARTC ACCEPTANCE	
Design Project Code:		Accepted By:	
Designed:	S. BROWN 22/11/19	Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19	Signed:	S. Brown
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19	Approval Date:	22/11/19

Sheet No. 5/16  
 Scale: A1

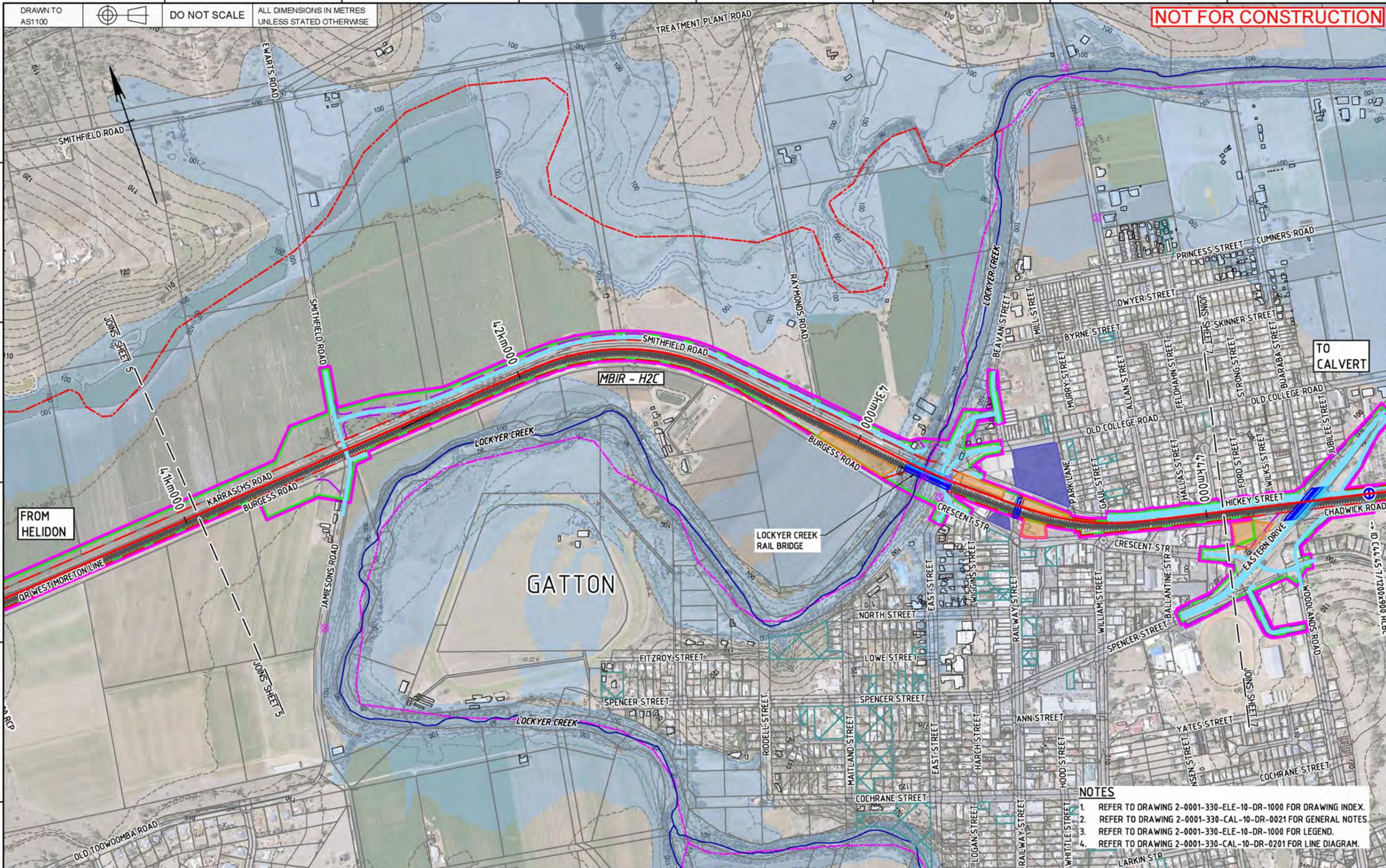
**InlandRail** 2-0001-330-ELE-10-DR-1005

TITLE  
**HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS SHEET 5**

Last Modified - Tuesday, Nov 26, 2019 2:58:57 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



FROM HELIDON

TO CALVERT

GATTON

- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3  
Filename: 2-0001-330-ELE-10-DR-1006.dwg  
Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight
Design Project Code:	
Designed:	S. BROWN 22/11/19
Checked:	M. BROWN 22/11/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19
Approved By:	S. BROWN
Approved Date:	22/11/19

ARTC ACCEPTANCE

InlandRail

2-0001-330-ELE-10-DR-1006

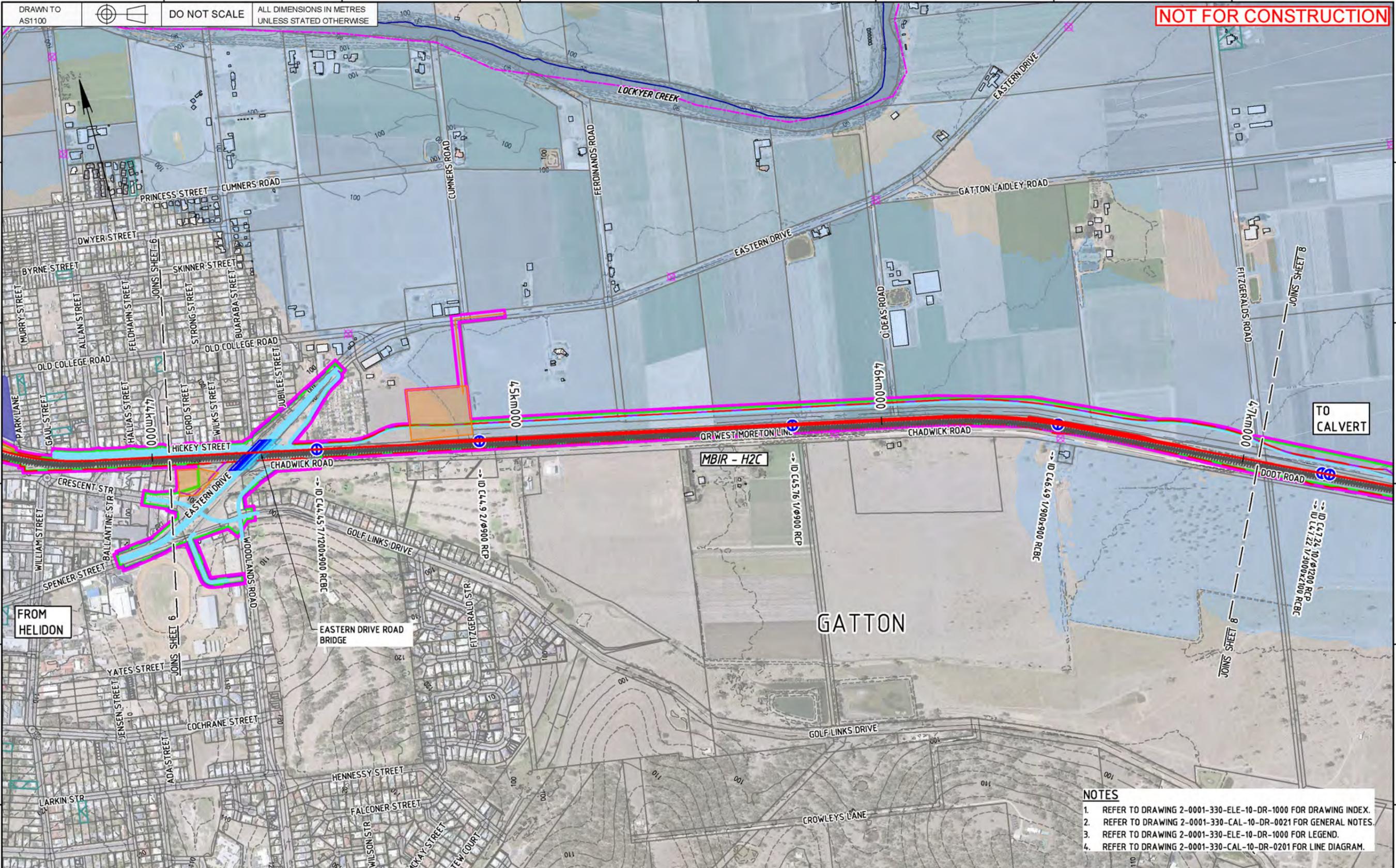
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TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 6

Last Modified - Tuesday, Nov 26, 2019 2:58:58 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3

Filename:  
2-0001-330-ELE-10-DR-1007.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight	ARTC ACCEPTANCE	
Design Project Code:		Accepted By:	
Designed:	S. BROWN 22/11/19	Signed:	S. Brown
Checked:	M. BROWN 22/11/19	Signature:	H. Eske
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19	Approval Date:	22/11/19

Sheet No. 7/16  
Scale: A1

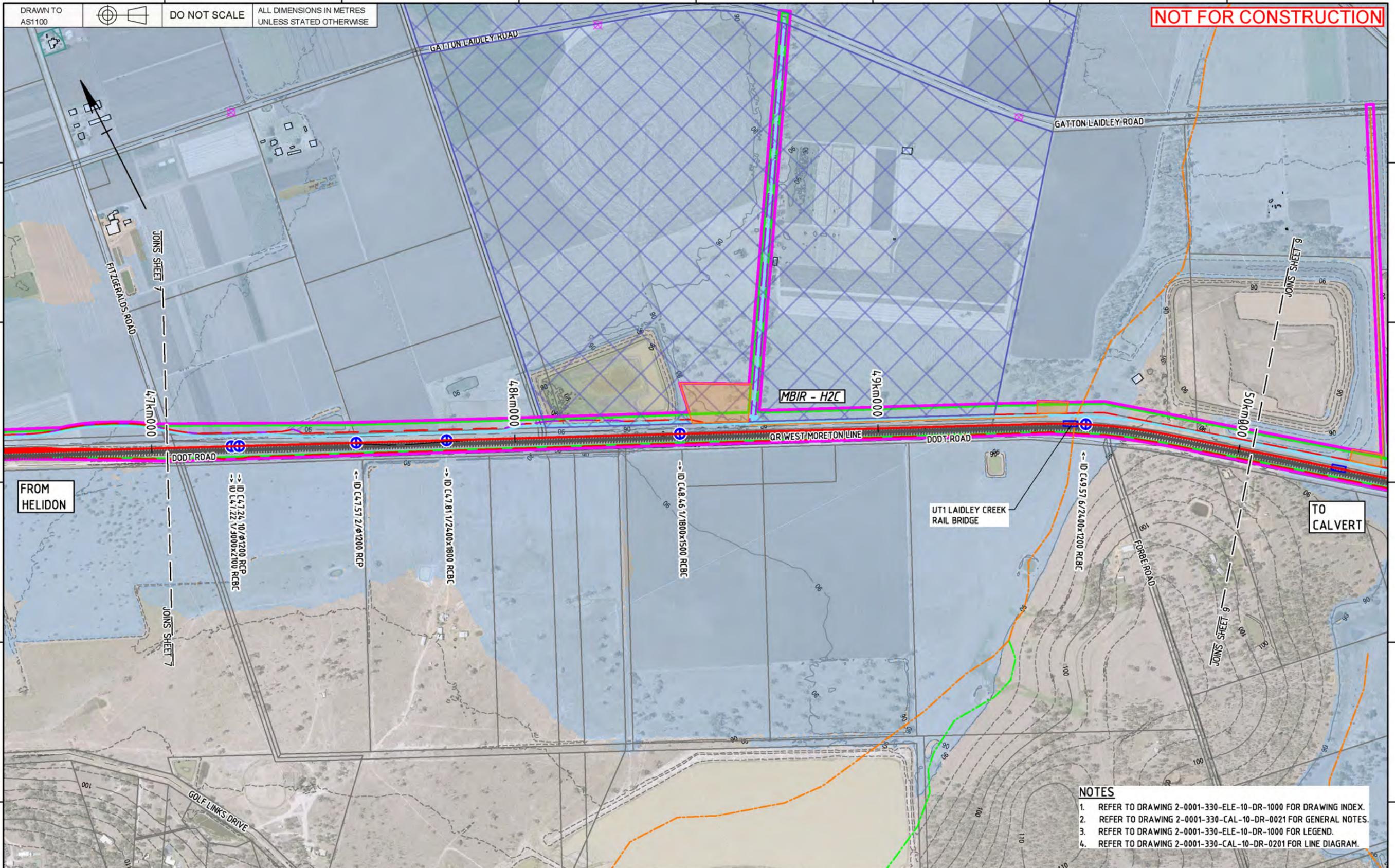
**InlandRail** 2-0001-330-ELE-10-DR-1007

TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 7

Last Modified - Tuesday, Nov 26, 2019 2:58:59 PM

DRAWN TO AS1100  
 DO NOT SCALE  
 ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



FROM  
HELIDON

TO  
CALVERT

- NOTES**
1. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
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 Filename: 2-0001-330-ELE-10-DR-1008.dwg  
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Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight
Design Project Code:	
Designed:	S. BROWN 22/11/19
Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19
Approval Date:	22/11/19
Acceptance Date:	

ARTC ACCEPTANCE

Accepted By: \_\_\_\_\_

Signed: \_\_\_\_\_

ARTC ACCEPTANCE

0

Sheet No. 8/16

Scale: A1

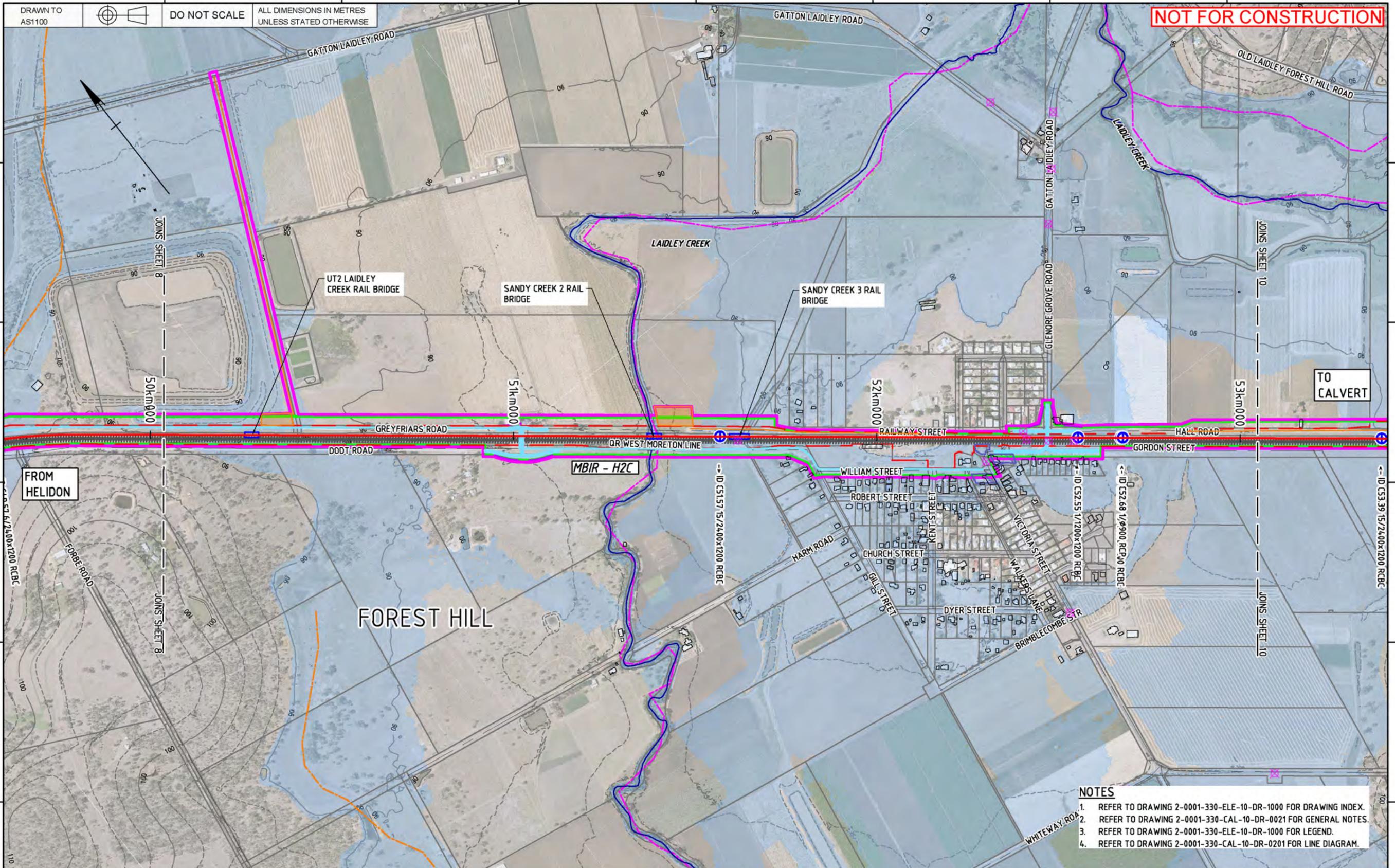
**InlandRail** 2-0001-330-ELE-10-DR-1008

TITLE  
 HELIDON TO CALVERT  
 ENVIRONMENTAL DESIGN MATTERS  
 SHEET 8

Last Modified - Tuesday, Nov 26, 2019 2:58:59 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
1. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000 0 50 100 150 200m  
A1/A3

Filename:  
2-0001-330-ELE-10-DR-1009.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight	ARTC ACCEPTANCE	
Design Project Code:		Accepted By:	
Designed:	S. BROWN 22/11/19	Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19	Signed:	S. Brown
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19	Approval Date:	22/11/19

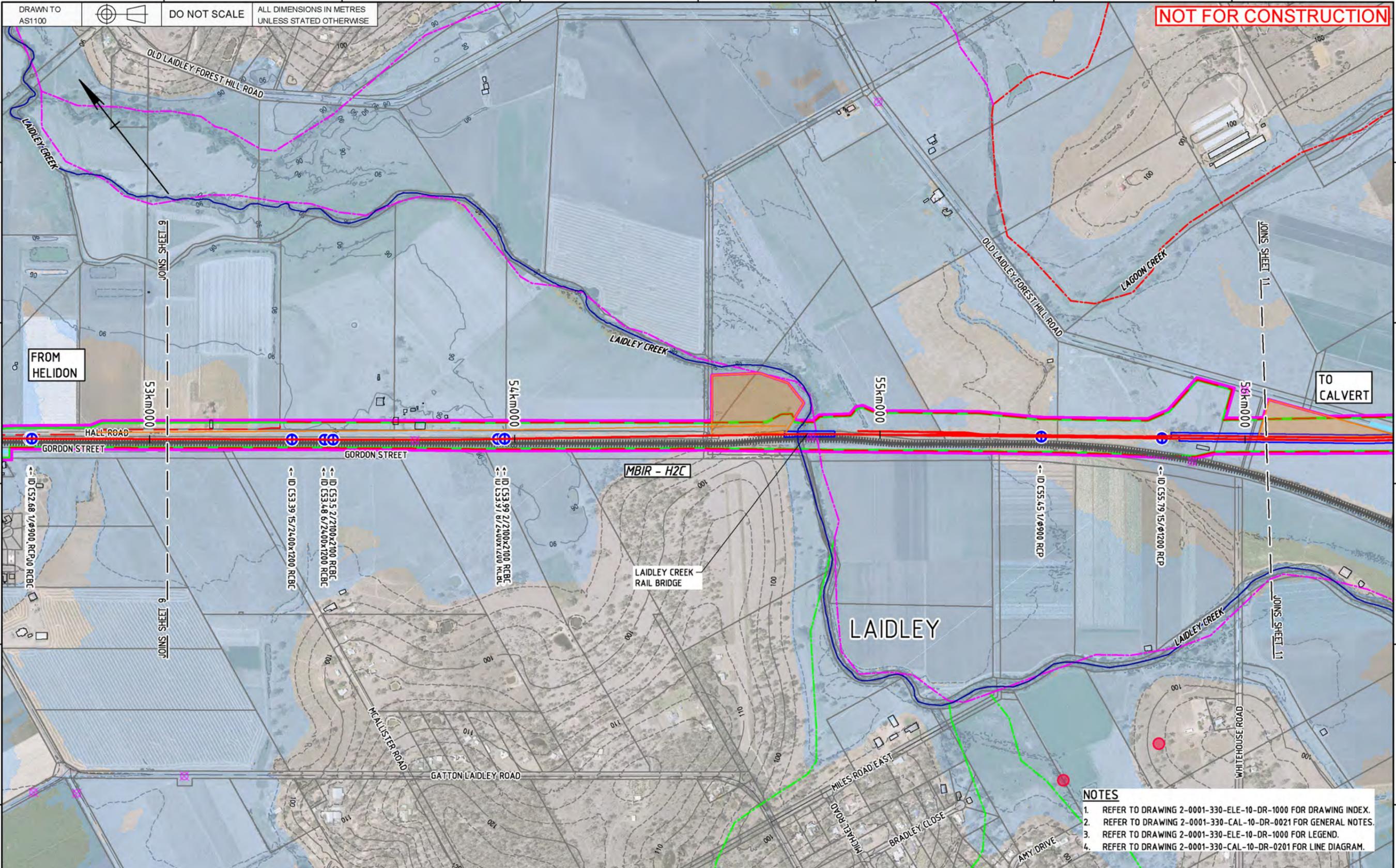
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Scale: A1

**InlandRail** 2-0001-330-ELE-10-DR-1009

TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 9

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



FROM HELIDON

TO CALVERT

MBIR - H2C

Laidley Creek Rail Bridge

Laidley

- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3

Filename: 2-0001-330-ELE-10-DR-1010.dwg  
Alternate DMS number:

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0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

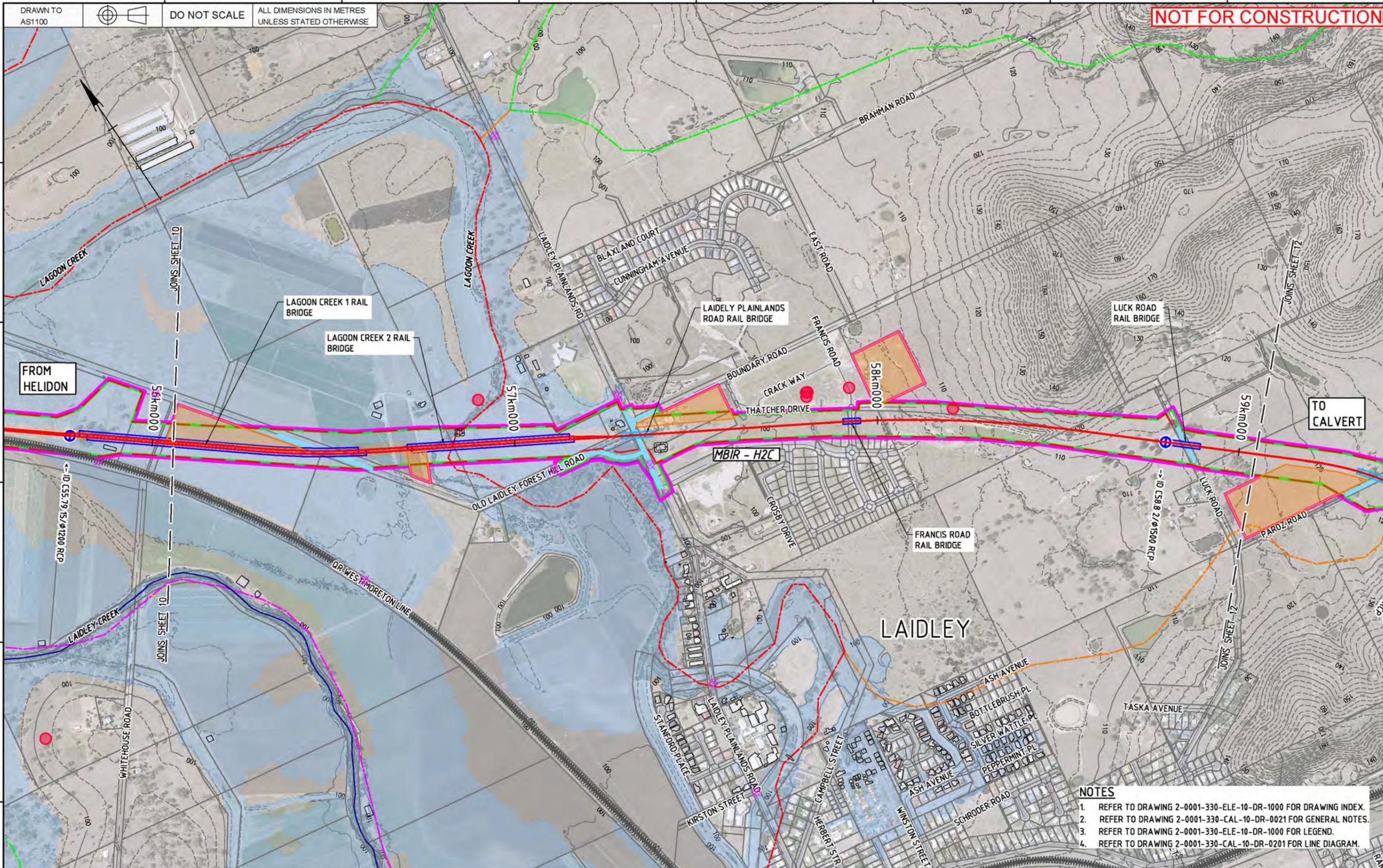
Designing Company:	Future Freight
Design Project Code:	
Designed:	S. BROWN 22/11/19
Checked:	M. BROWN 22/11/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19
Approved By:	S. BROWN
Signed:	S. Brown
Approval Date:	22/11/19

ARTC ACCEPTANCE	0	Sheet No. 10/16	SHEET SIZE A1
Accepted By:		Scale:	
TITLE		2-0001-330-ELE-10-DR-1010	
HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS SHEET 10			

Last Modified - Tuesday, Nov 26, 2019 2:59:01 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
1. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  2. REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  3. REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  4. REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3

Filename: 2-0001-330-ELE-10-DR-1011.dwg  
Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight	ARTC ACCEPTANCE	
Design Project Code:		Accepted By:	
Designed:	S. BROWN 22/11/19	Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19	Signed:	S. Brown
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	H. ESKE
Ind. Review:		Signature:	H. Eske 22/11/19
Ind. Review Date:	22/11/19	Approve Date:	
Ind. Review Signature:		Acceptance Date:	

Sheet No: 11/16  
Scale: A1

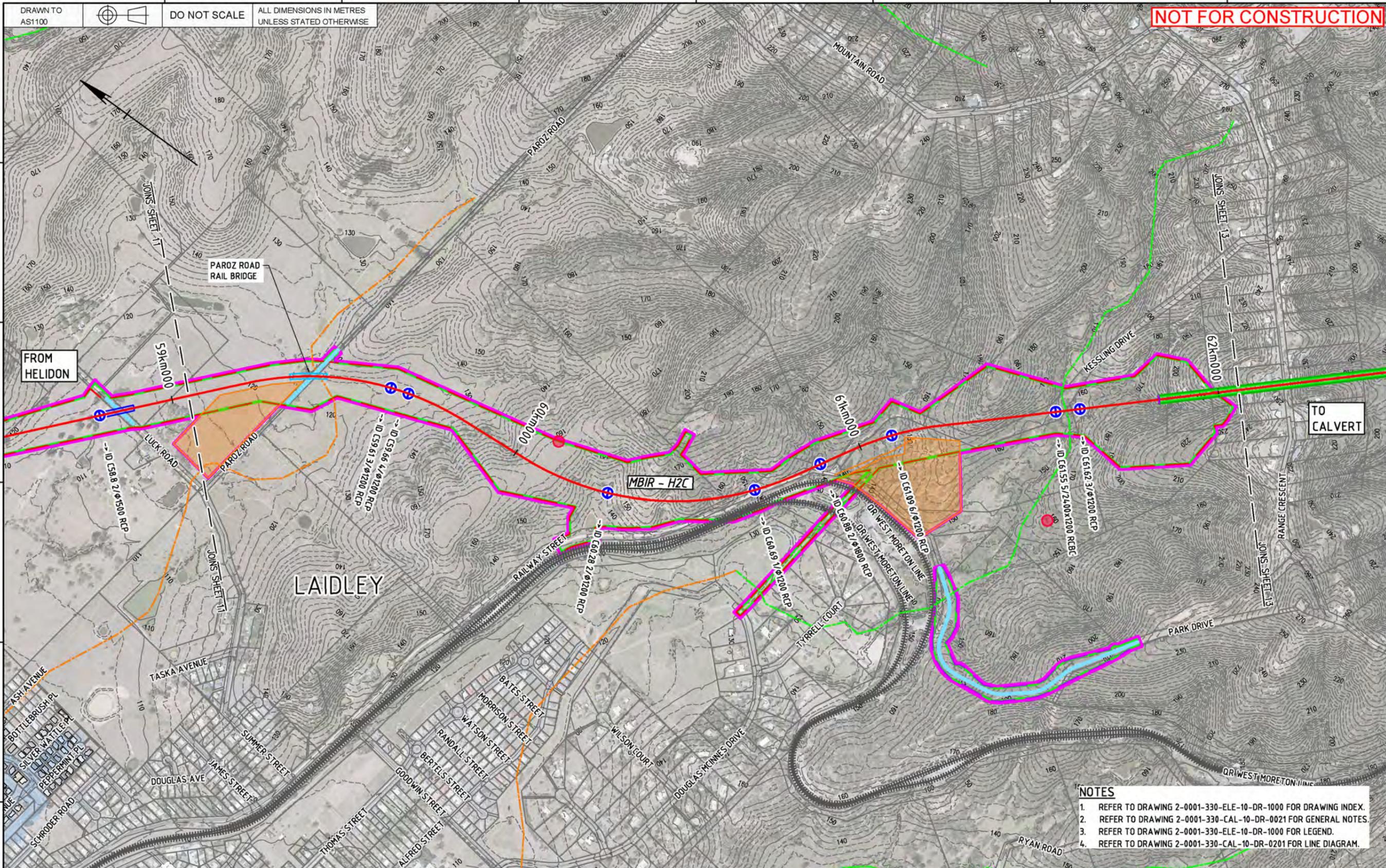
**2-0001-330-ELE-10-DR-1011**

TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 11

Last Modified - Tuesday, Nov 26, 2019 2:59:02 PM

DRAWN TO AS1100  
 DO NOT SCALE  
 ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
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 A1/A3  
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0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

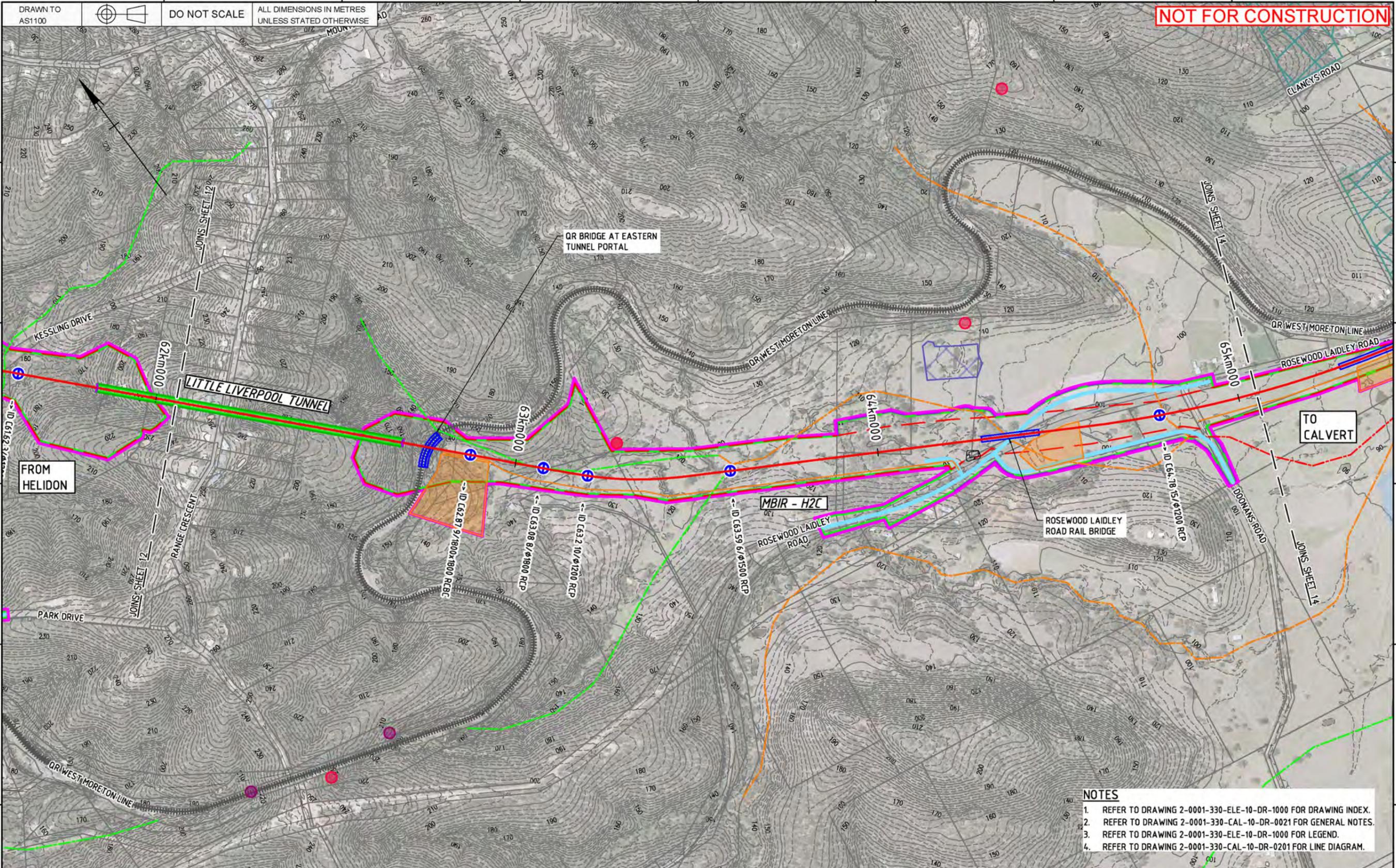
Designing Company:	Future Freight
Design Project Code:	
Designed:	S. BROWN 22/11/19
Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19
Ind. Review Date:	22/11/19

ARTC ACCEPTANCE	0	Sheet No. 12/16	SHEET SIZE A1
Accepted By:		Scale:	
		<b>2-0001-330-ELE-10-DR-1012</b>	
<b>TITLE</b> HELIDON TO CALVERT ENVIRONMENTAL DESIGN MATTERS SHEET 12			

Last Modified - Tuesday, Nov 26, 2019 2:59:03 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
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Filename: 2-0001-330-ELE-10-DR-1013.dwg  
Alternate DMS number:

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0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company: Future Freight	Design Project Code:	ARTC ACCEPTANCE
Designed: S. BROWN 22/11/19	Approved By: S. BROWN	Accepted By:
Checked: M. BROWN 22/11/19	Ind. Rev. Name: S. Brown	Signed:
Ind. Rev. Company: AURECON	Ind. Rev. Name: H. ESKE	Signed:
Ind. Review Signature: H. Eske 22/11/19	Approve Date: 22/11/19	Acceptance Date:

Sheet No. 13/16  
Scale: A1

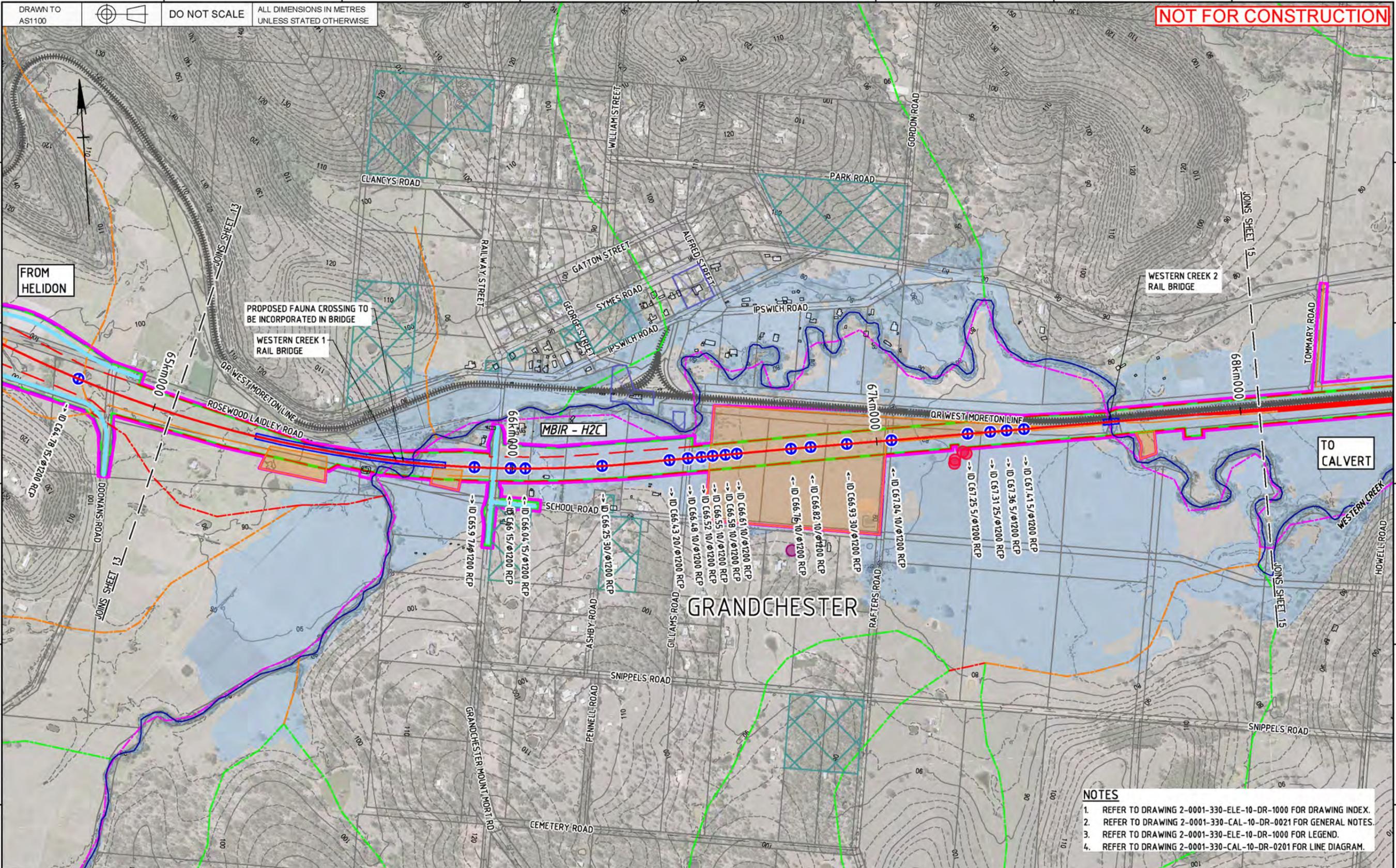
**InlandRail** 2-0001-330-ELE-10-DR-1013

TITLE  
**HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 13**

Last Modified - Tuesday, Nov 26, 2019 2:59:04 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:

Scale: 1:5000 / 1:10000  
A1/A3

Filename: 2-0001-330-ELE-10-DR-1014.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company	Future Freight	ARTC ACCEPTANCE	
Design Project Code		Accepted By	
Designed	S. BROWN 22/11/19	Approved By	S. BROWN
Checked	M. BROWN 22/11/19	Signed	S. Brown
Ind. Rev. Company	AURECON	Ind. Rev. Name	H. ESKE
Ind. Review		Signature	H. Eske 22/11/19
Ind. Review		Approve Date	22/11/19
Ind. Review		Acceptance Date	

Sheet No. 14/16  
Scale: A1

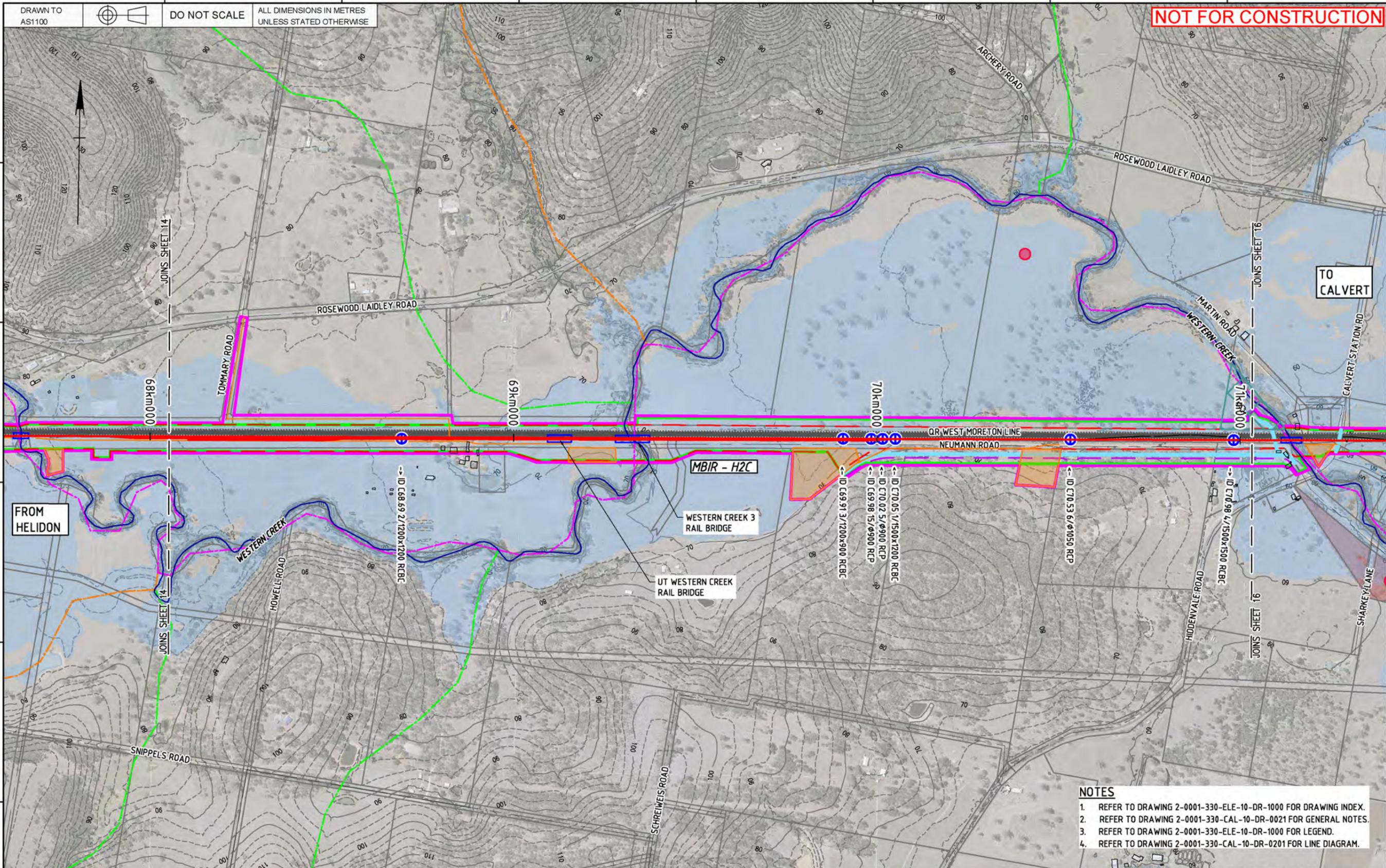
**InlandRail** 2-0001-330-ELE-10-DR-1014

TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 14

Last Modified - Tuesday, Nov 26, 2019 2:59:05 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



FROM HELIDON

TO CALVERT

- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Scale: 1:5000 / 1:10000  
A1/A3  
Filename: 2-0001-330-ELE-10-DR-1015.dwg  
Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

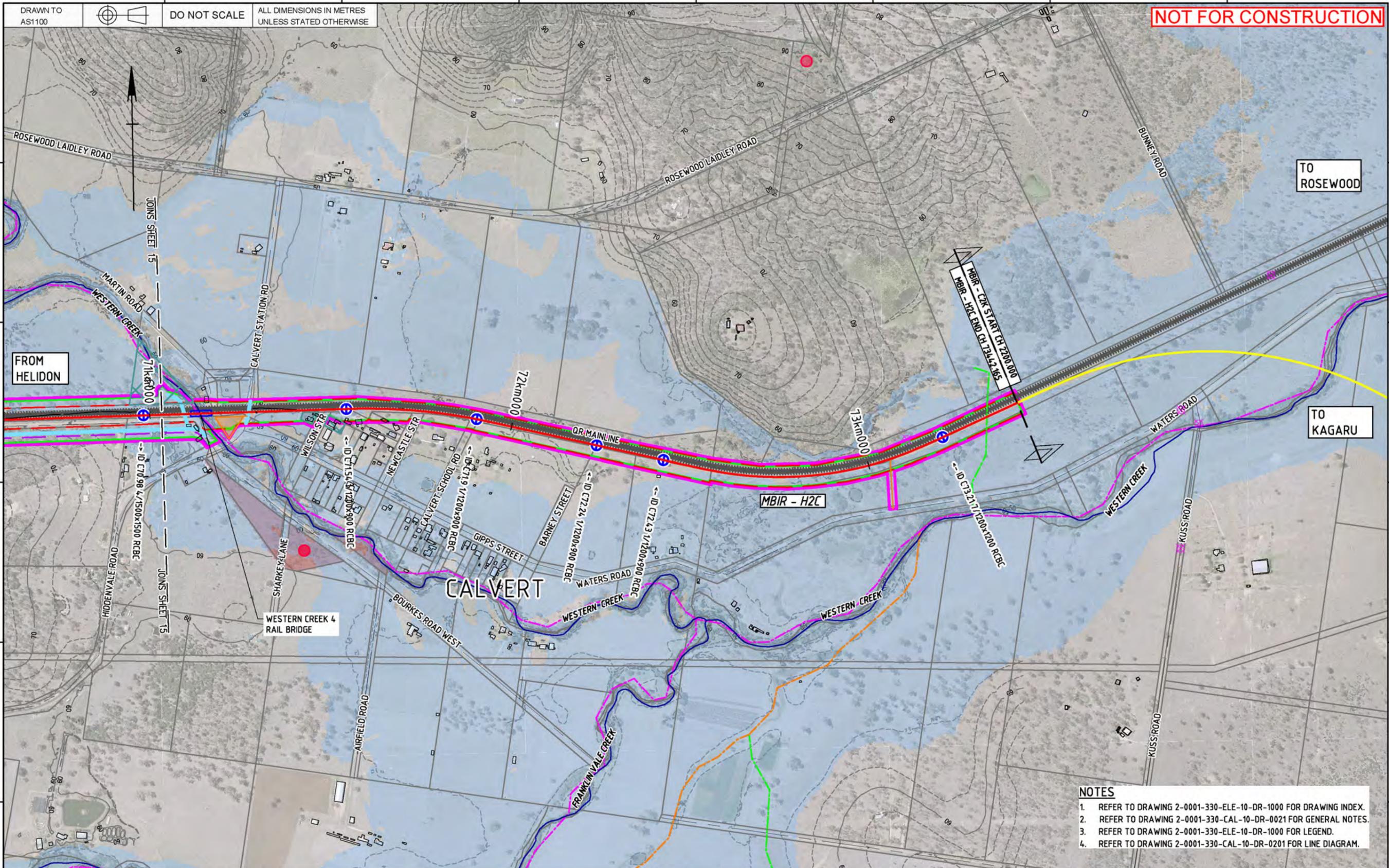
Designing Company: <b>Future Freight</b>	ARTC ACCEPTANCE
Design Project Code:	Accepted By:
Designed: S. BROWN 22/11/19	Approved By: S. BROWN
Checked: M. BROWN 22/11/19	Signed: S. Brown
Ind. Rev. Company: AURECON	Ind. Rev. Name: H. ESKE
Ind. Review Signature: H. Eske 22/11/19	Approval Date: 22/11/19

InlandRail  
2-0001-330-ELE-10-DR-1015  
SHEET 15  
SHEET SIZE: A1

Last Modified - Tuesday, Nov 26, 2019 2:59:06 PM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

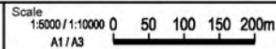
**NOT FOR CONSTRUCTION**



- NOTES**
- REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR DRAWING INDEX.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0021 FOR GENERAL NOTES.
  - REFER TO DRAWING 2-0001-330-ELE-10-DR-1000 FOR LEGEND.
  - REFER TO DRAWING 2-0001-330-CAL-10-DR-0201 FOR LINE DIAGRAM.

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
Filename:  
2-0001-330-ELE-10-DR-1016.dwg



Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	29/11/19	ISSUED FOR FEASIBILITY DESIGN	SB	MB	HE	SB	

Designing Company:	Future Freight	ARTC ACCEPTANCE	0
Design Project Code:		Accepted By:	
Designed:	S. BROWN 22/11/19	Approved By:	S. BROWN
Checked:	M. BROWN 22/11/19	Signed:	S. Brown
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	H. ESKE
Ind. Review Signature:	H. Eske 22/11/19	Approval Date:	22/11/19

Sheet No. 16/16  
Scale: A1

**InlandRail** 2-0001-330-ELE-10-DR-1016

TITLE  
HELIDON TO CALVERT  
ENVIRONMENTAL DESIGN MATTERS  
SHEET 16

Last Modified - Tuesday, Nov 26, 2019 2:59:07 PM

# DRAWINGS

## **Drawing Set D** Little Liverpool Tunnel Sheets (select)

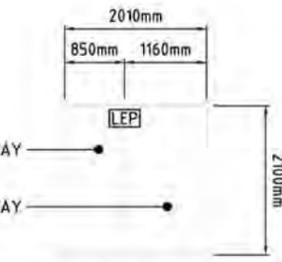
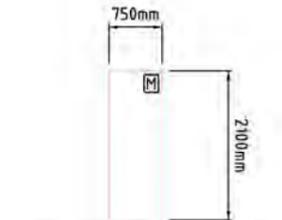
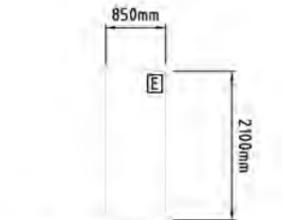
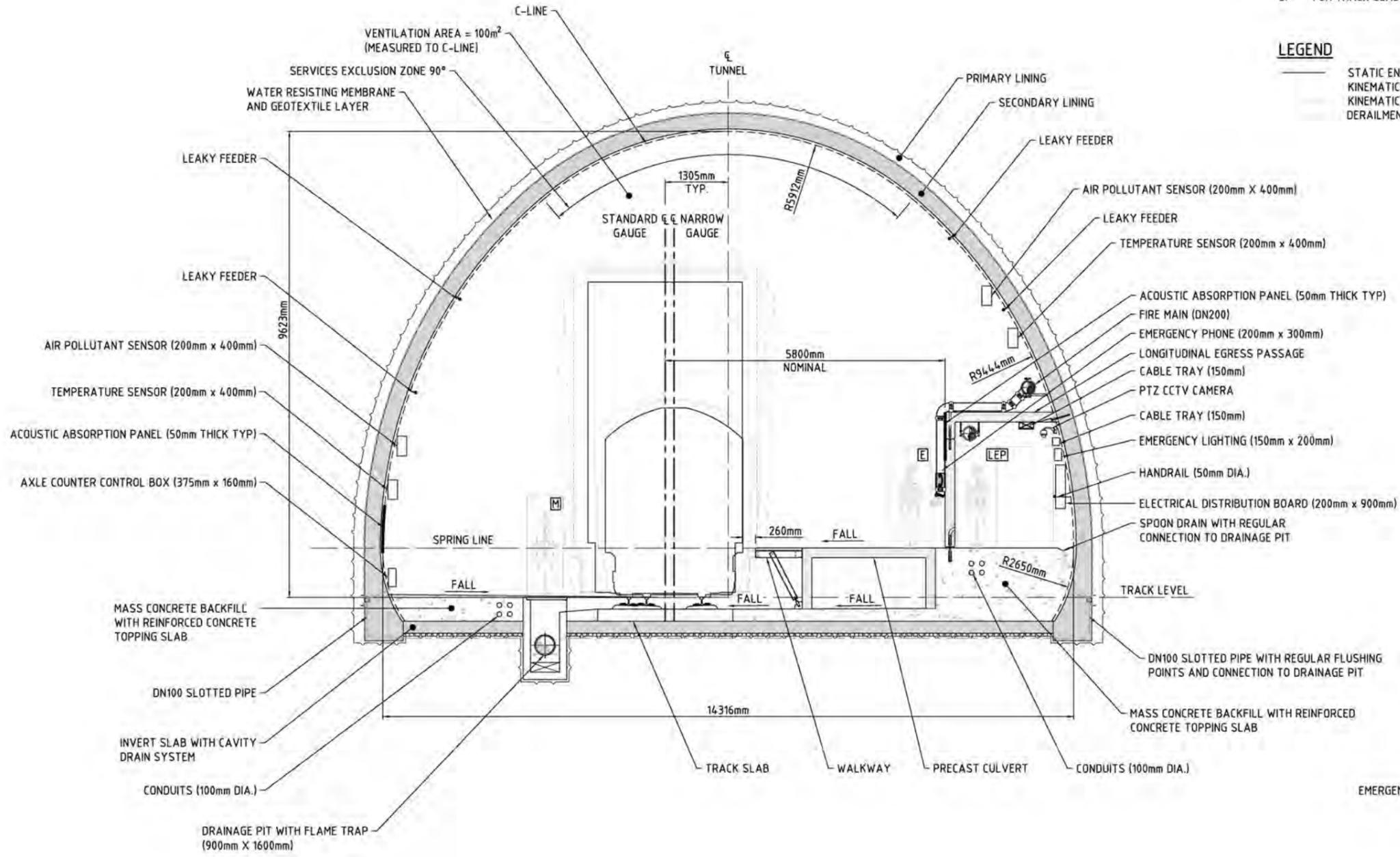
HELIDON TO CALVERT ENVIRONMENTAL IMPACT STATEMENT

**NOTES**

- C-LINE SHOWN HAS BEEN PROVIDED TO SUIT SPACEPROOFING REQUIREMENTS. PRIMARY AND SECONDARY SUPPORT AND TUNNEL FORM/SHAPE SHOWN ARE INDICATIVE ONLY.
- SECTION CUT PERPENDICULAR TO THE TRACK ALIGNMENT IN THE DIRECTION OF INCREASING CHAINAGE.
- FOR TRAIN PROFILE INCLUDING KINEMATIC ENVELOPE, REFER TO FEASIBILITY DESIGN REPORT (2-0001-330-PEN-10-RP-0001).
- KINEMATIC ENVELOPE SHOWN IS FOR STRAIGHT TRACK.
- CONDUITS FOR SERVICES REQUIRED BETWEEN EACH SIDE OF THE TUNNEL SHALL BE PROVIDED BENEATH THE TRACK SLAB IN LOCAL TRENCH AS REQUIRED.
- FOR TRACK SLAB DETAILS REFER TO DRAWING 2-0001-330-CTR-10-DR-506.

**LEGEND**

- STATIC ENVELOPE
- KINEMATIC ENVELOPE
- KINEMATIC ENVELOPE PLUS 200 AIR GAP
- DERAILMENT JACKING CLEARANCE



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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:

Scale: 1:50 (1:100)  
 A1/A3  
 0 1000 2000mm

Filename:  
 2-0001-330-TTT-20-DR-1101.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Int. Rev.	Approved	Accepted
0	27/09/19	ISSUED FOR FEASIBILITY DESIGN	BA	TP	DC	HA	

Designing Company:



Design Project Code:

Designed: B. AITCHISON 27/09/19

Checked: T. PEGLAS 27/09/19

Ind. Rev. Company: AURECON

Ind. Rev. Name: D. COOPER

Ind. Review Signature: D Cooper 27/09/19

Approved By: H. ASCHE

Signed: H. Asche

Approval Date: 27/09/19

Acceptance Date:

ARTC ACCEPTANCE

Accepted By:



2-0001-330-TTT-20-DR-1101

TITLE  
 HELIDON TO CALVERT - LTL LIVERPOOL TUNNEL  
 SPACEPROOFING  
 TYPICAL CROSS SECTION

Sheet No:

Scale:

A1

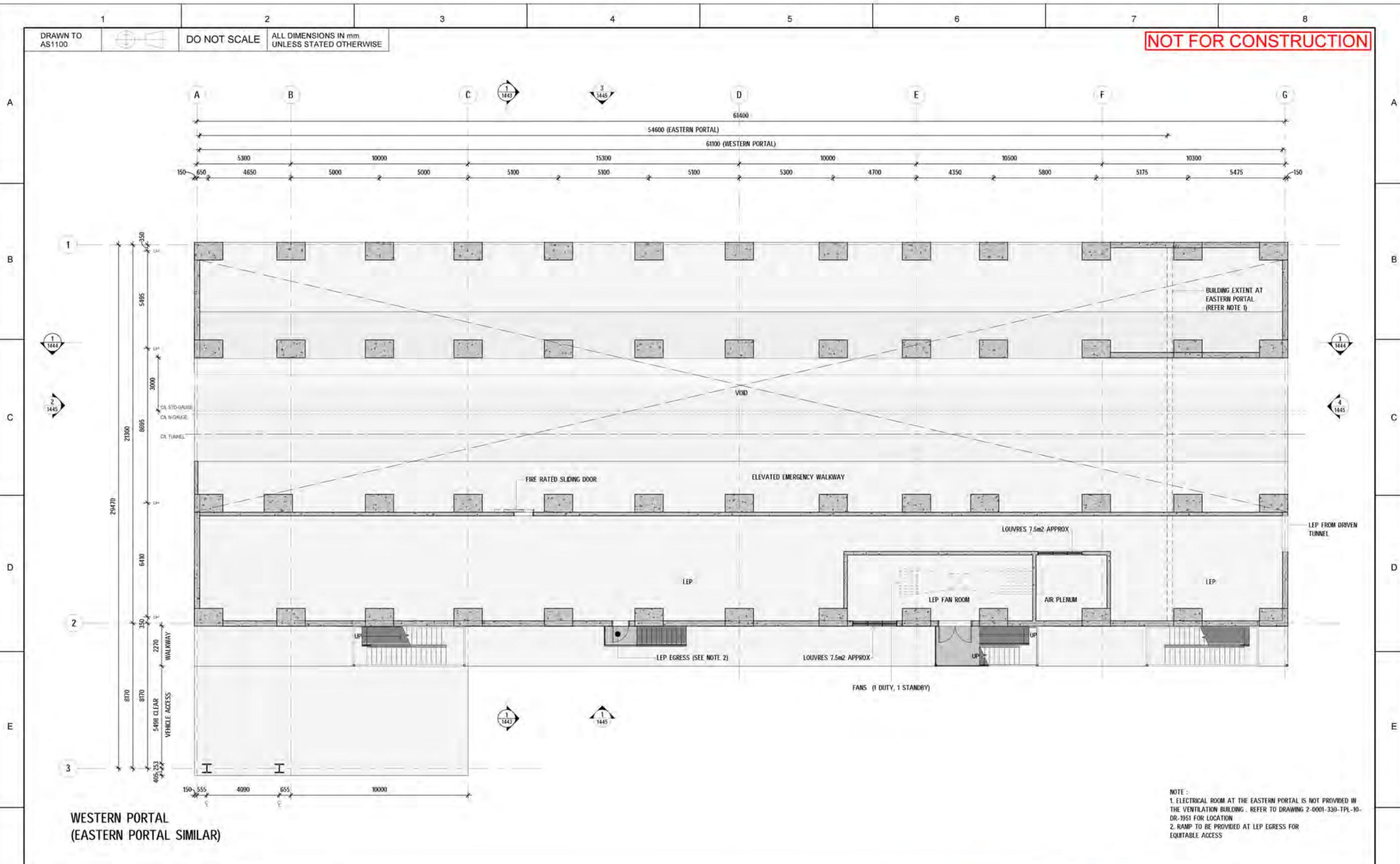
SHEET SIZE

A1



DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



WESTERN PORTAL  
(EASTERN PORTAL SIMILAR)

NOTE:  
1. ELECTRICAL ROOM AT THE EASTERN PORTAL IS NOT PROVIDED IN THE VENTILATION BUILDING. REFER TO DRAWING 2-0001-330-TPL-10-DR-1951 FOR LOCATION  
2. RAMP TO BE PROVIDED AT LEP EGRESS FOR EQUITABLE ACCESS

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Used on / Next higher assembly:	Scale 1:100 / 1:200 A1 / A3
Filename	Alternate DMS number:

0	13/11/2019	ISSUED FOR FEASIBILITY DESIGN	CB	TP	DJF	H.A
Rev	Date	Revision Description	Designed	Checked	Int. Rev.	Approved

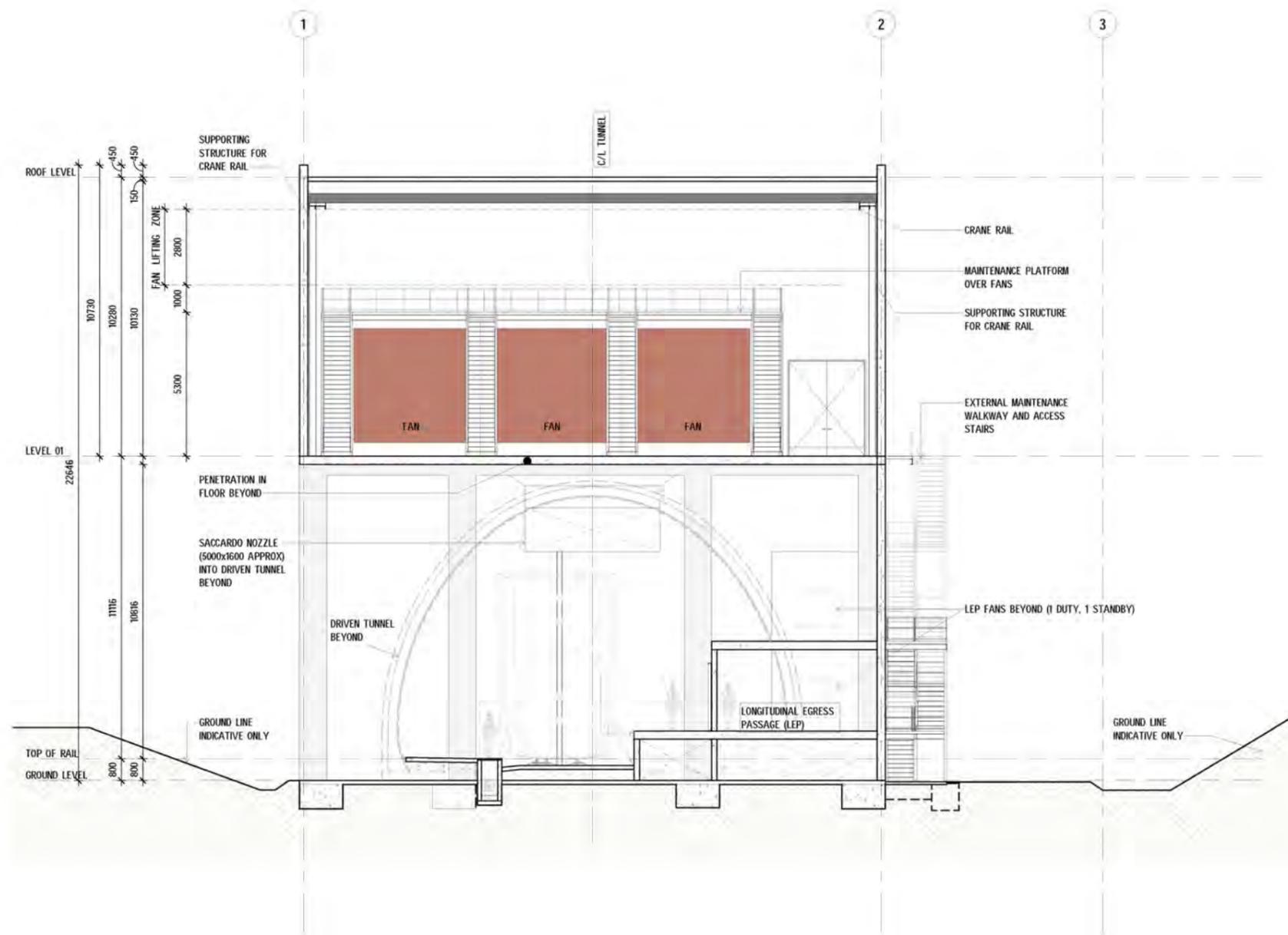
Designing Company: Future Freight		ARTG ACCEPTANCE	
Design Project Code:		Accepted By	
Designed	C.BAKER	26.11.18	Approved By
Checked	T.PEGLAS	26.11.18	H.A
Ind.Rev. Company	AECOM	Ind.Rev. Name	D.FORBES
Ind.Review Signature	D.FORBES	Approval Date	13/11/2019

InlandRail	2-0001-330-BAC-10-DR-1442	Sheet No. of	SHEET SIZE
TITLE		Scale:	A1
HELIDON TO CALVERT - LITTLE LIVERPOOL TUNNEL VENTILATION BUILDING GENERAL ARRANGEMENT PLAN - GROUND LEVEL			

Last Modified - 19/11/2019 11:56:08 AM

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 DO NOT SCALE  
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**NOT FOR CONSTRUCTION**



**WESTERN PORTAL  
 (EASTERN PORTAL SIMILAR)**

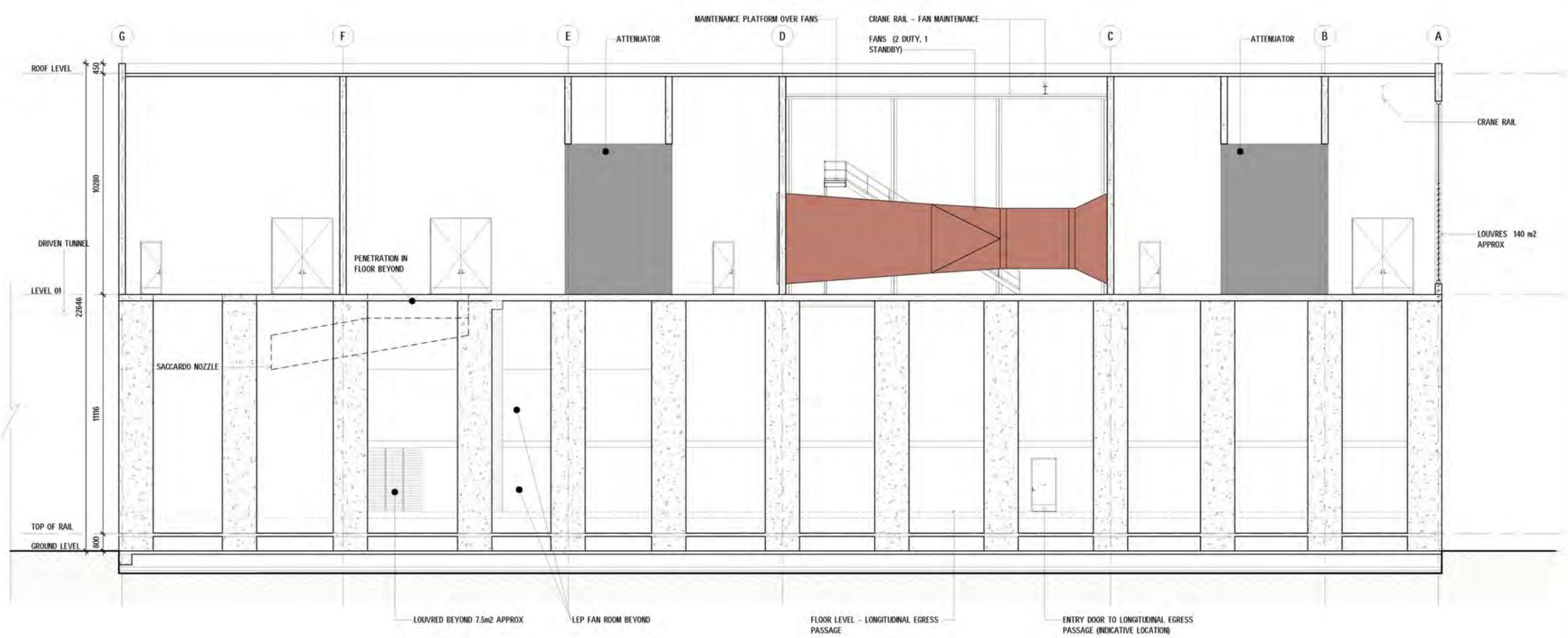
NOTE : FOR STRUCTURAL GRID DIMENSIONS REFER TO DRAWING  
 2-0001-330-BAC-10-DR-1441

© 2018 Australian Rail Track Corporation Ltd. Drawing standard in accordance with EGP-04-01 & EGP-04-02		Designing Company: <b>Future Freight</b> Design Project Code:		ARTC ACCEPTANCE		Sheet No. 0 Or Scale: 1:100 SHEET SIZE A1	
Used on / Next higher assembly:	Scale 1:100 / 1:200 A1 / A3 	Designed: C.BAKER 26.11.18 Approved By: H.A. Accepted By:		Checked: T.PEGLAS 26.11.18 Ind.Rev. Company: AECOM Ind.Rev. Name: D.FORBES Ind.Review Signature: D.FORBES		Approval Date: 13/11/2019 Acceptance Date:	
Filename:	Alternate DMS number:	0 13/11/2019 ISSUED FOR FEASIBILITY DESIGN Rev Date Revision Description		CB TP DJF HA Designed Checked Ind. Rev. Approved Accepted		TITLE HELIDON TO CALVERT - LITTLE LIVERPOOL TUNNEL VENTILATION BUILDING SECTION SHEET 01	

Last Modified - 19/11/2019 11:56:10 AM

DRAWN TO AS1100  
 DO NOT SCALE  
 ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



**WESTERN PORTAL  
 (EASTERN PORTAL SIMILAR)**

NOTE : FOR STRUCTURAL GRID DIMENSIONS REFER TO DRAWING  
 2-0001-330-BAC-10-DR-1441

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:  
 Scale: 1:100 / 1:200  
 A1 / A3

Filename: \_\_\_\_\_  
 Alternate DMS number: \_\_\_\_\_

Rev	Date	Revision Description	Designed	Checked	Ind. Rev.	Approved	Accepted
0	13/11/2019	ISSUED FOR FEASIBILITY DESIGN	CB	TP	DJF	HA	

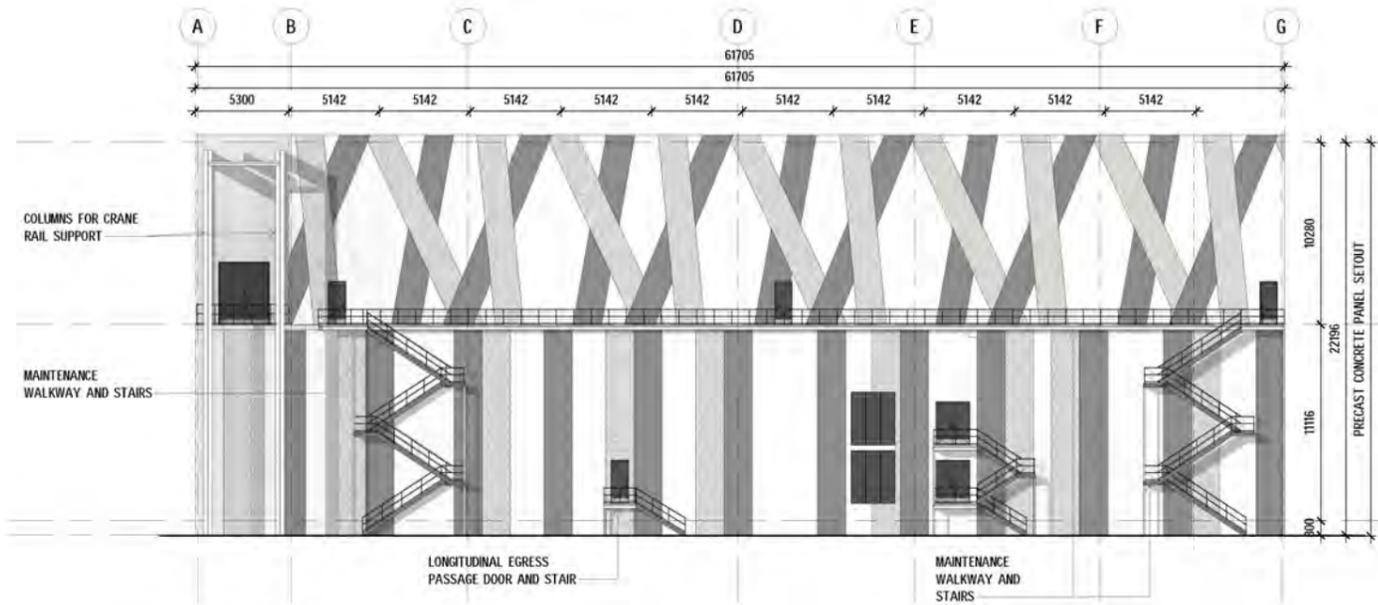
Designing Company: Future Freight		ARTC ACCEPTANCE	
Design Project Code:		InlandRail	
Designed	C.BAKER	26.11.18	Approved By
Checked	T.PEGLAS	26.11.18	Accepted By
Ind.Rev. Company	AECOM	Ind.Rev. Name	D.FORBES
Ind.Review Signature	D.FORBES	Signed	HASCHE
		Approval Date	13/11/2019
		Acceptance Date	

Sheet No. of	0	SHEET SIZE	A1
Scale:	1:100		
TITLE HELIDON TO CALVERT - LITTLE LIVERPOOL TUNNEL VENTILATION BUILDING SECTION SHEET 02			

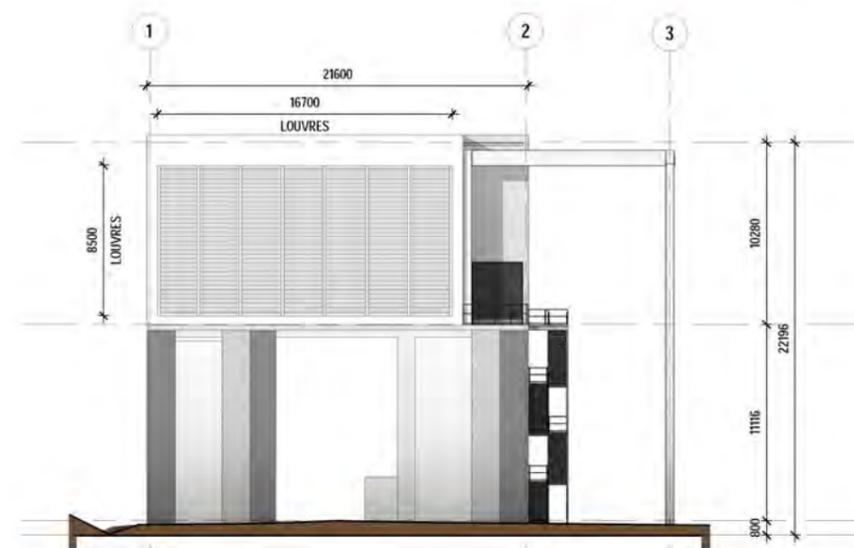
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DRAWN TO AS1100  
 DO NOT SCALE  
 ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE

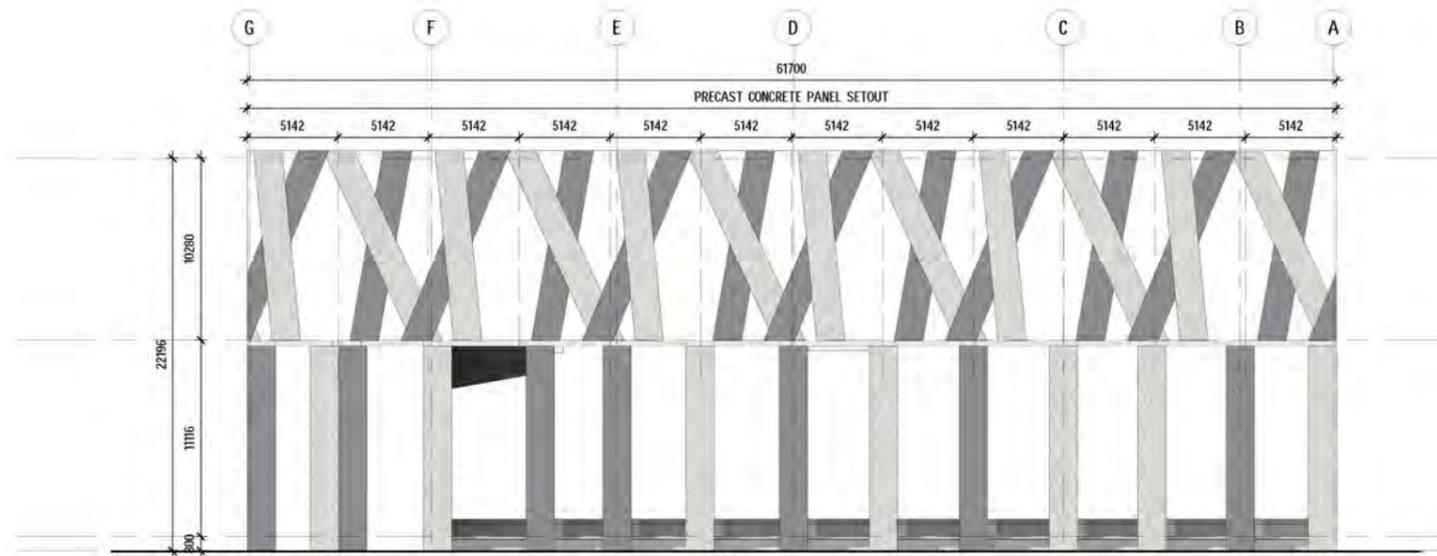
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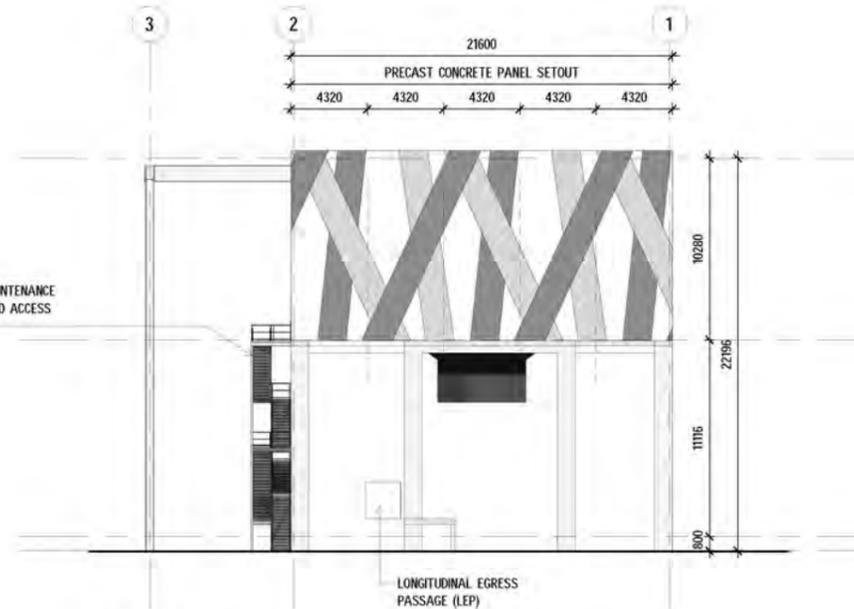
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 1441 Scale: 1 : 200



**2 ELEVATION**  
 1441 Scale: 1 : 200



**3 ELEVATION**  
 1441 Scale: 1 : 200



**4 ELEVATION**  
 1441 Scale: 1 : 200

WESTERN PORTAL  
 (EASTERN PORTAL SIMILAR)

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Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly:

Scale  
 1:200 / 1:400  
 A1/A3

Filename

Alternate DMS number:

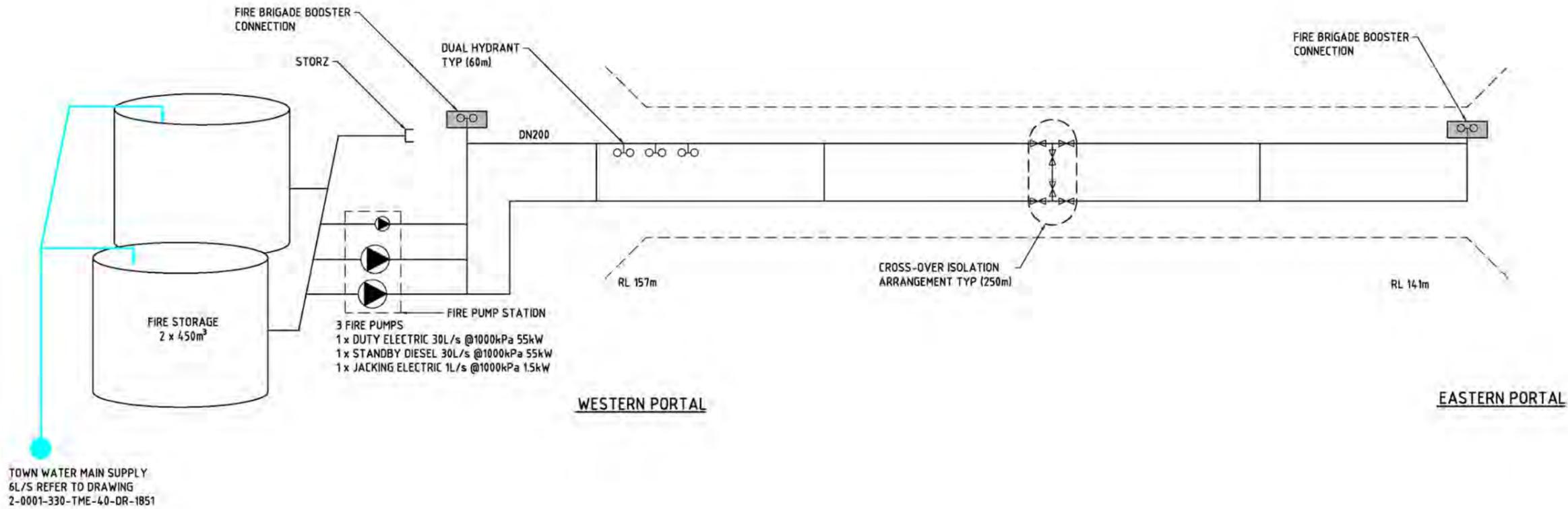
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0	13/11/2019	ISSUED FOR FEASIBILITY DESIGN	CB	TP	DJF	HA	

Designing Company: Future Freight	ARTC ACCEPTANCE	Sheet No. or SHEET SIZE A1
Design Project Code:	Accepted By H.A.	Scale: 1:200
Designed C.BAKER 26.11.18	Approved By H.A.	0
Checked T.PEGLAS 26.11.18	Signed HASCHE	2-0001-330-BAC-10-DR- 1445
Ind.Rev. Company AECOM	Ind.Rev. Name D.FORBES	TITLE HELIDON TO CALVERT - LITTLE LIVERPOOL TUNNEL VENTILATION BUILDING GENERAL ARRANGEMENT - ELEVATIONS
Ind.Review Signature D.FORBES	Approval Date 13/11/2019	Acceptance Date

Last Modified - 19/11/2019 12:00:10 PM

DRAWN TO AS1100  
 DO NOT SCALE  
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**NOT FOR CONSTRUCTION**



**LEGEND**

-  ISOLATION VALVE
-  PUMP
-  DUAL HYDRANT

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 Drawing standard in accordance with EGP-04-01 & EGP-04-02

Used on / Next higher assembly: Scale: **NOT TO SCALE**

Filename: 2-0001-330-TFL-10-DR-1501.DWG  
 Alternate DMS number:

Rev	Date	Revision Description
0	22/11/19	ISSUED FOR FEASIBILITY DESIGN

Checked: \_\_\_\_\_  
 Drawn: \_\_\_\_\_  
 Int. File: \_\_\_\_\_  
 Approved: \_\_\_\_\_  
 Issued: \_\_\_\_\_

Designed: C. BAKER 27/08/19  
 Checked: T. PEGLAS 27/09/19  
 Int. Rev. Company: AURECON  
 Int. Rev. Name: D. COOPER  
 Int. Review Signature: D. Cooper 27/08/19

Approved By: H. ASCHE  
 Approved Date: 27/09/19

ARTC ACCEPTANCE

Accepted By: \_\_\_\_\_  
 Approved Date: \_\_\_\_\_

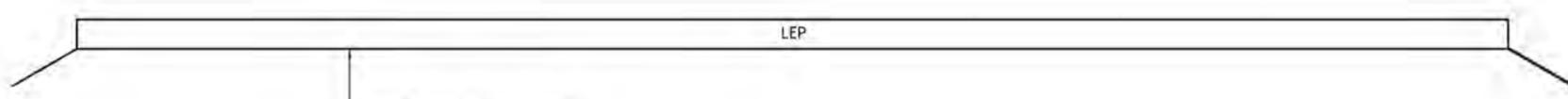
InlandRail  
 2-0001-330-TFL-10-DR-1501  
 TITLE: HELIDON TO CALVERT - LTL LIVERPOOL TUNNEL FIRE PROTECTION HYDRANT AND PUMP STATION SCHEMATIC

Sheet No. 0  
 Scale: A1

Last Modified - Wednesday, Nov 13, 2019 2:48:53 PM

DRAWN TO AS1100  
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FOR LEP VENTILATION SYSTEM SCHEMATIC, REFER TO DRAWING 2-0001-330-TVN-10-DR-1602

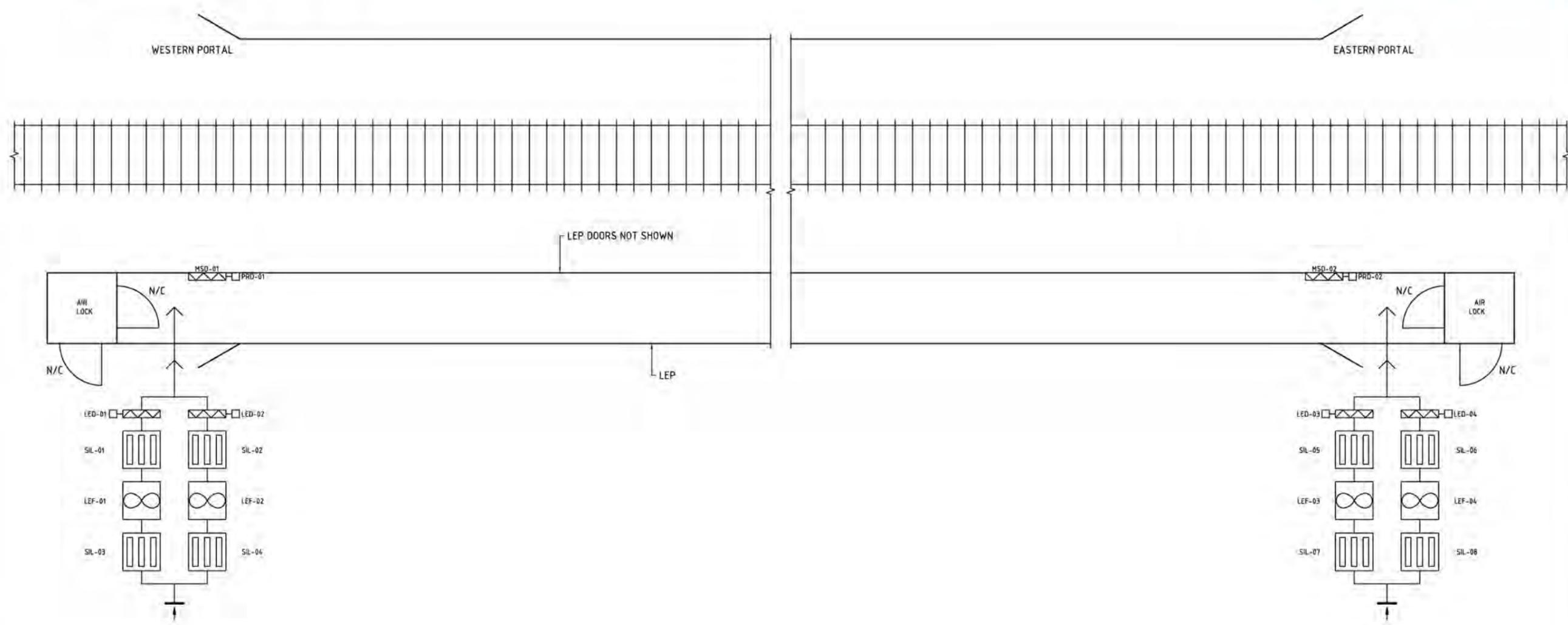


© 2018 Australian Rail Track Corporation Ltd. Drawing standard in accordance with EGP-04-01 & EGP-04-02		Designing Company: <b>Future Imagine</b>		ARTO ACCEPTANCE		InlandRail		0		Sheet No.		SHEET SIZE	
Used on / Next higher assembly:		Scale: <b>NOT TO SCALE</b>		Design Project Code:		Approved By: <b>H. ASCHE</b>		Accepted By:		2-0001-330-TVN-10-DR-1601		A1	
Filename: 2-0001-330-TVN-10-DR-1601.dwg		Alternate DMS number:		Designed: <b>C. BAKER</b> 27/09/19		Approved By: <b>H. ASCHE</b>		Accepted By:		Title: <b>HELIDON TO CALVERT - LTL LIVERPOOL TUNNEL VENTILATION SYSTEM SCHEMATIC</b>			
Rev: 0		Date: 27/09/19		Revision Description: ISSUED FOR FEASIBILITY DESIGN		Ind. Rev. Company: <b>AURECON</b>		Ind. Rev. Name: <b>D. COOPER</b>		Approval Date: 27/09/19		Signature: <b>D Cooper</b>	
				Designed: <b>CB</b>		Checked: <b>TP</b>		Init. Rev: <b>DC</b>		Approved: <b>HA</b>		Accepted:	

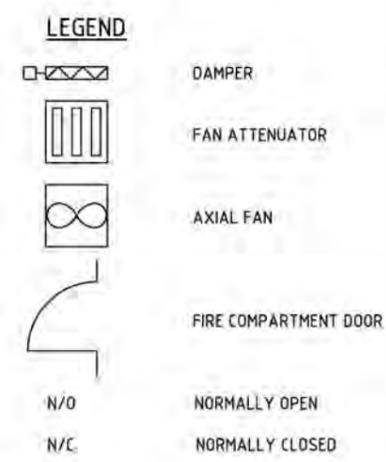
Last Modified: Thursday, Nov 07, 2019 11:13:54 AM

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LEP DOORS NOT SHOWN

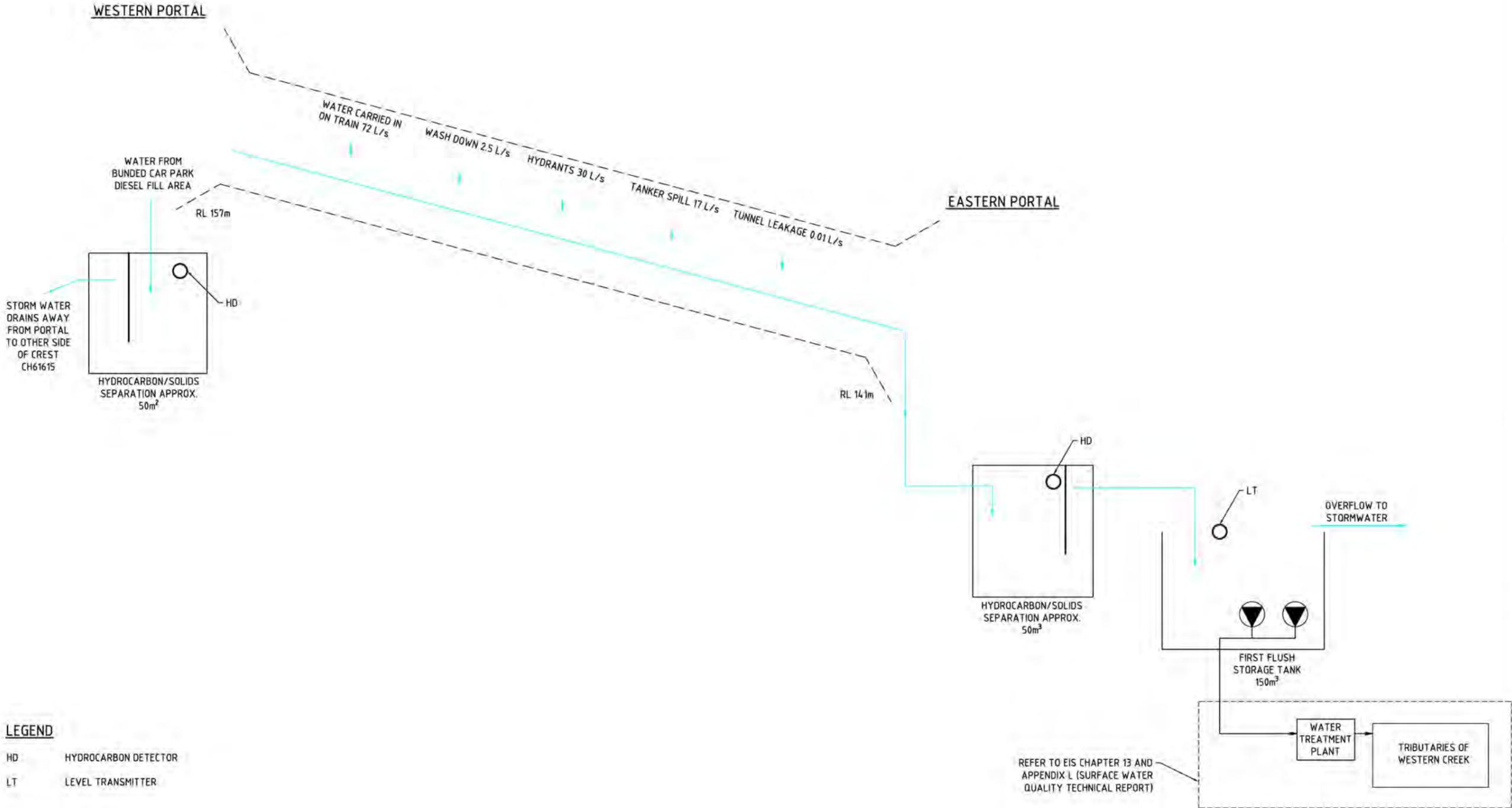


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Used on / Next higher assembly:		Scale: NOT TO SCALE		Designed: C BAKER 27/09/19		Approved By: H. ASCHE		Accepted By:		Scale: A1	
Filename: 2-0001-330-TVN-10-DR-1602.dwg		Alternate DMS number:		Checked: T. PEGLAS 27/09/19		Ind. Rev. Name: H. ASCHE		Signature:		Approval Date: 27/09/19	
Rev: 0		Date: 27/09/19		Revision Description: ISSUED FOR FEASIBILITY DESIGN		Design: CB		Checked: TP		Approved: DC	
Rev: 1		Date:		Revision Description:		Design:		Checked:		Approved:	

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**LEGEND**

- HD HYDROCARBON DETECTOR
- LT LEVEL TRANSMITTER

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Filename: 2-0001-330-TME-40-DR-1801.dwg  
 Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Int. Rev.	Approved	Accepted
0	27/09/19	ISSUED FOR FEASIBILITY DESIGN	CB	TP	DC	HA	

Designing Company:	Future Imagine
Design Project Code:	
Designed:	C. BAKER 27/09/19
Checked:	T. PEGLAS 27/09/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	D. COOPER
Ind. Review Signature:	D Cooper 27/09/19
Ind. Review Date:	27/09/19
Approved By:	H. ASCHE
Accepted By:	
Signed:	
Approval Date:	
Acceptance Date:	

ARTC ACCEPTANCE

InlandRail 2-0001-330-TME-40-DR-1801

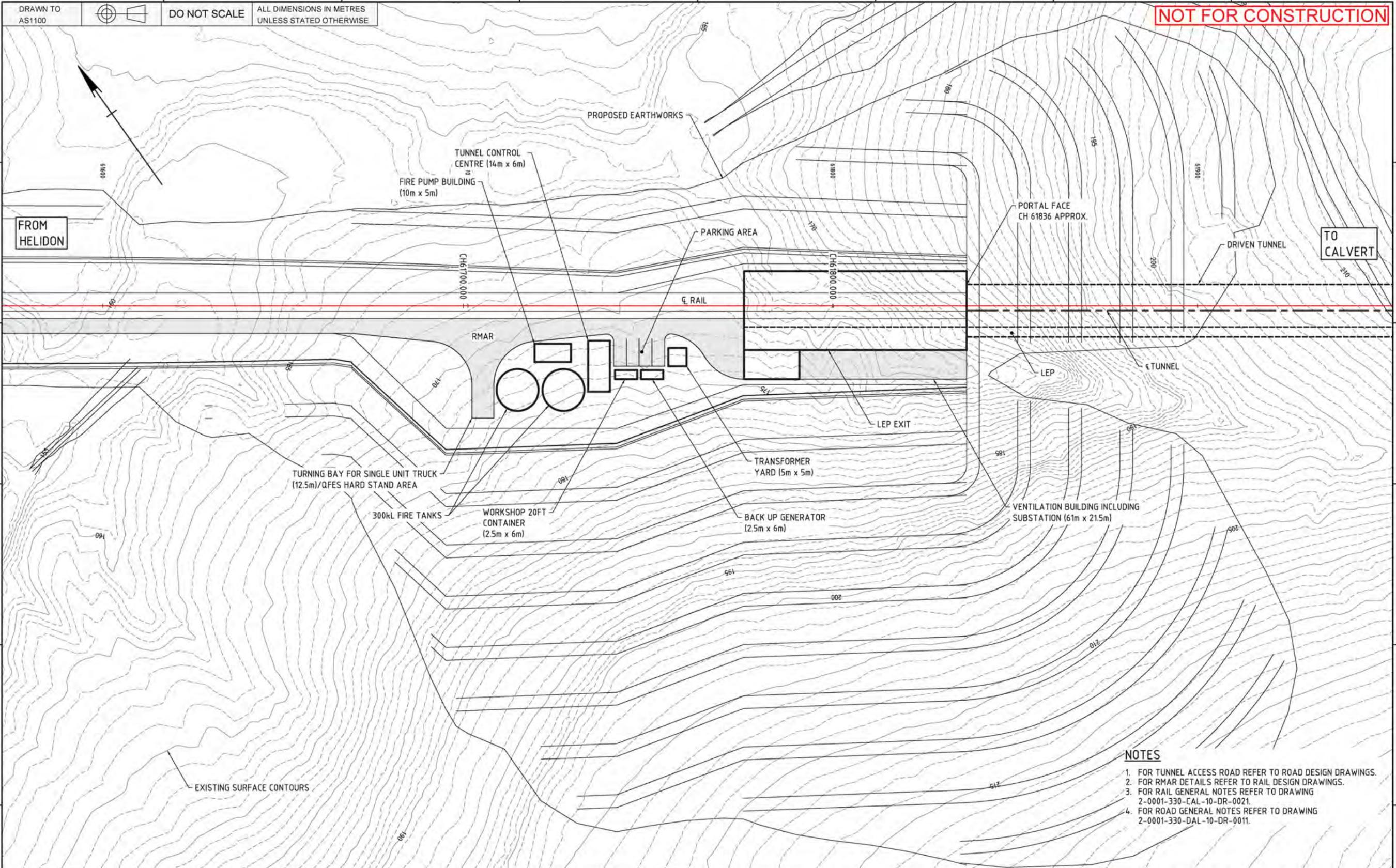
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TITLE: HELIDON TO CALVERT - LTL LIVERPOOL TUNNEL UTILITIES AND DRAINAGE DRAINAGE SCHEMATIC

Last Modified: Thursday, Nov 07, 2019 11:13:55 AM

DRAWN TO AS1100  
DO NOT SCALE  
ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE

**NOT FOR CONSTRUCTION**



- NOTES**
1. FOR TUNNEL ACCESS ROAD REFER TO ROAD DESIGN DRAWINGS.
  2. FOR RMAR DETAILS REFER TO RAIL DESIGN DRAWINGS.
  3. FOR RAIL GENERAL NOTES REFER TO DRAWING 2-0001-330-CAL-10-DR-0021.
  4. FOR ROAD GENERAL NOTES REFER TO DRAWING 2-0001-330-DAL-10-DR-0011.

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Scale: 1:500 / 1:1000  
A1 / A3

Filename:  
2-0001-330-TPL-10-DR-1901.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Int. Rev.	Approved	Accepted
0	27/09/19	ISSUED FOR FEASIBILITY DESIGN	CB	TP	DC	HA	

Designing Company:	<b>Future Freight</b>
Design Project Code:	
Designed:	C. BAKER 27/09/19
Checked:	T. PEGLAS 27/09/19
Ind. Rev. Company:	AURECON
Ind. Rev. Name:	D. COOPER
Ind. Review Signature:	D Cooper 27/09/19
Approval Date:	27/09/19

ARTC ACCEPTANCE

Accepted By: **InlandRail**

Accepted Date: 27/09/19

Sheet No: 0

Scale: A1

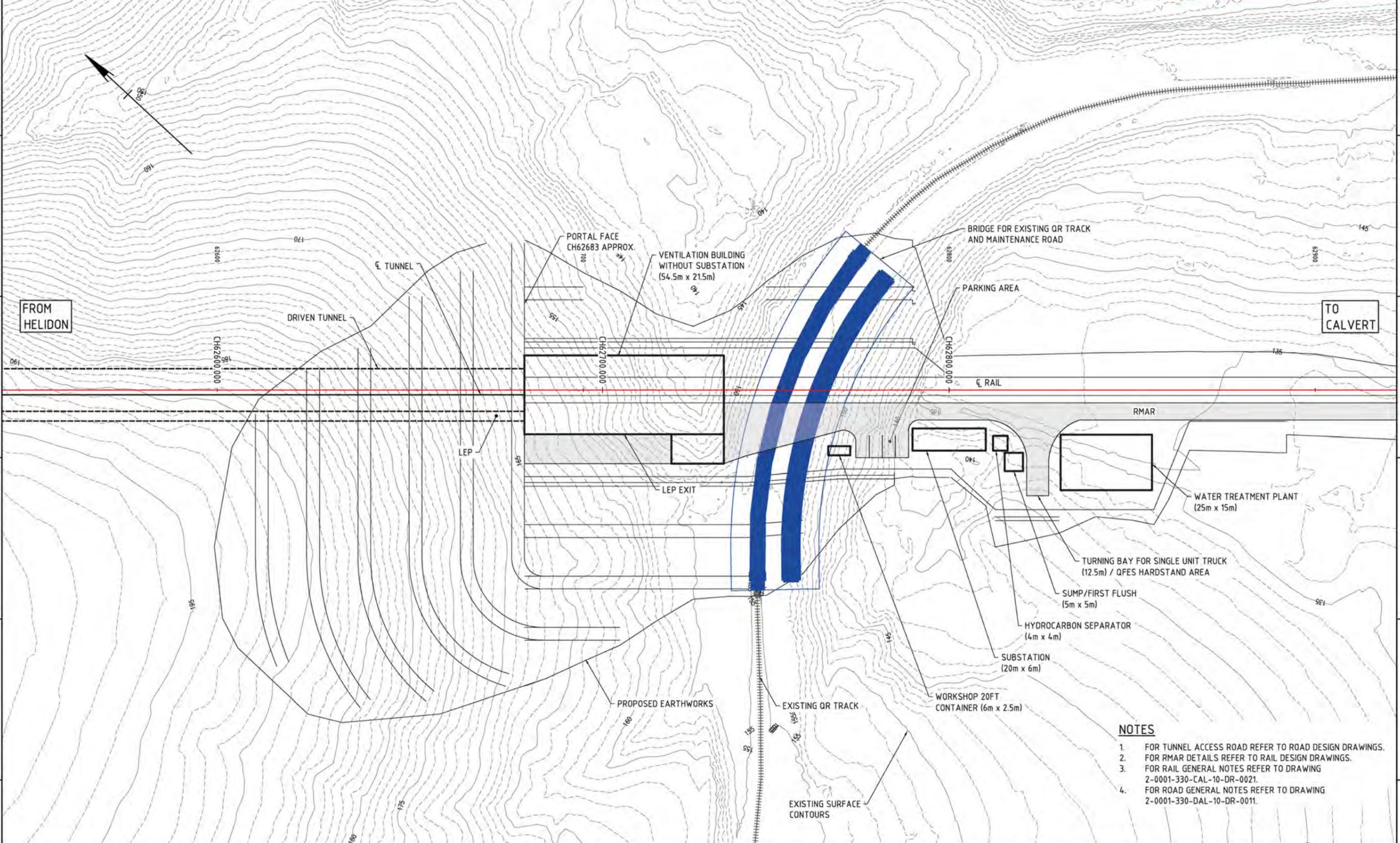
2-0001-330-TPL-10-DR-1901

**TITLE**  
HELIDON TO CALVERT - LTL LIVERPOOL TUNNEL  
WESTERN PORTAL  
GENERAL ARRANGEMENT - PLAN

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- NOTES**
1. FOR TUNNEL ACCESS ROAD REFER TO ROAD DESIGN DRAWINGS.
  2. FOR RMAR DETAILS REFER TO RAIL DESIGN DRAWINGS.
  3. FOR RAIL GENERAL NOTES REFER TO DRAWING 2-0001-330-CAL-10-DR-0021.
  4. FOR ROAD GENERAL NOTES REFER TO DRAWING 2-0001-330-DAL-10-DR-0011.

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Used on / Next higher assembly:  
Scale: 1:500 / 1:1000  
A1 / A3

Filename:  
2-0001-330-TPL-10-DR-1951.dwg

Alternate DMS number:

Rev	Date	Revision Description	Designed	Checked	Int. Rev.	Approved	Accepted
0	27/09/19	ISSUED FOR FEASIBILITY DESIGN	CB	TP	DC	HA	

Designing Company:	Future Freight	ARTC ACCEPTANCE	0
Design Project Code:		Accepted By:	
Designed:	C. BAKER 27/09/19	Approved By:	H. ASCHE
Checked:	T. PEGLAS 27/09/19	Signed:	H. Asche
Ind. Rev. Company:	AURECON	Ind. Rev. Name:	D. COOPER
Ind. Review Signature:	D Cooper 27/09/19	Approval Date:	27/09/19

InlandRail  
2-0001-330-TPL-10-DR-1951

SHEET SIZE: A1

TITLE: HELIDON TO CALVERT - LTL LIVERPOOL TUNNEL EASTERN PORTAL GENERAL ARRANGEMENT - PLAN

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