MARTINUS

aurecon BG&E

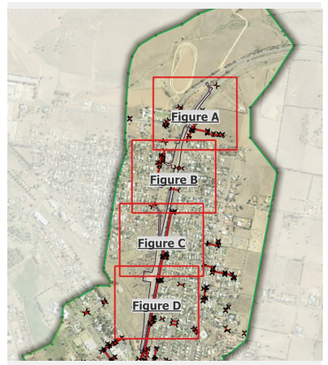
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 12d - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

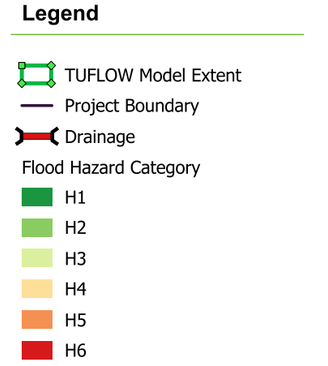
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 13 - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Existing Conditions

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Map by: SM

MARTINUS

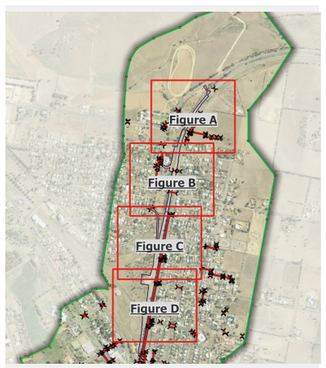
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 13a - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

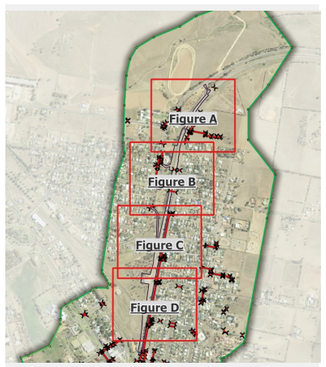
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 13b - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

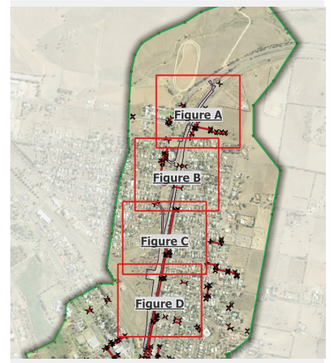
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 13c - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

aurecon BG&E

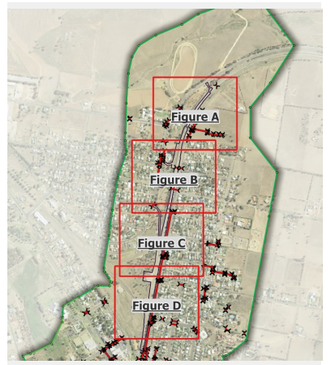
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 13d - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 14 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Existing Conditions

Map by: SM

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MARTINUS

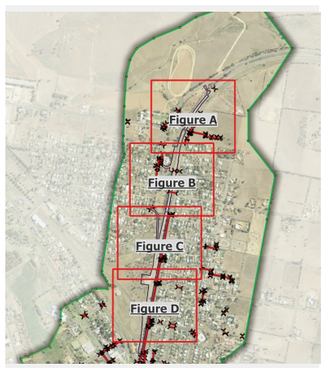
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 14a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

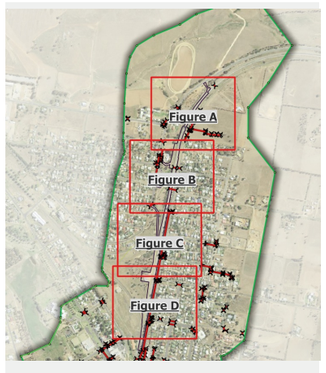
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 14b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

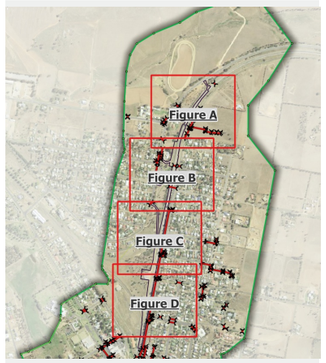
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 14c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

aurecon BG&E

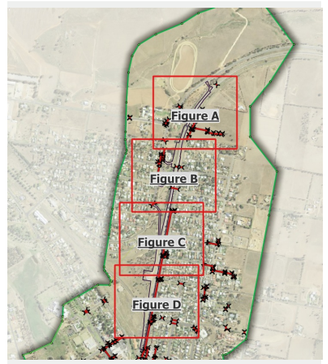
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Queen Street
Knight Street
Benbow Court
Cuttle Court
Waterworks Road
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 14d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

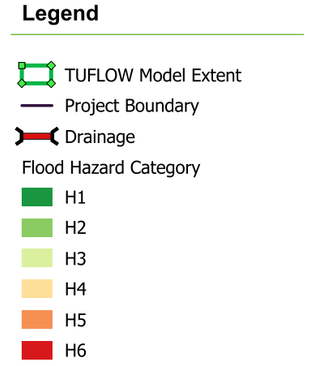
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 15 - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

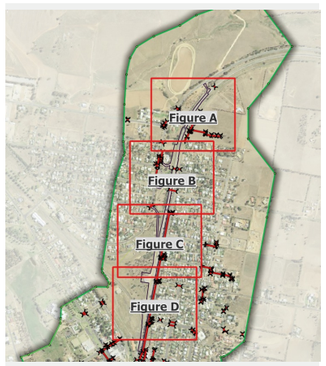
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 15a - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

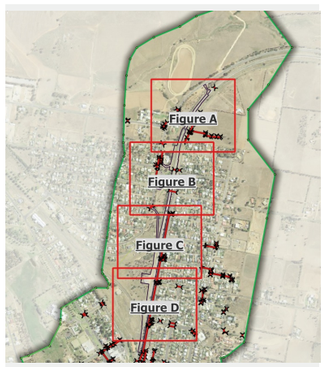
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 15b - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

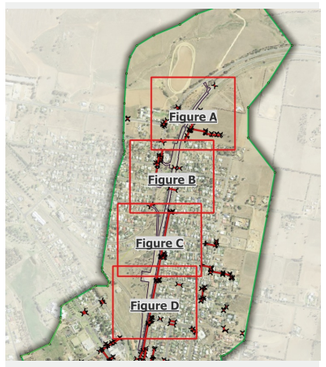
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 15c - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

aurecon BG&E

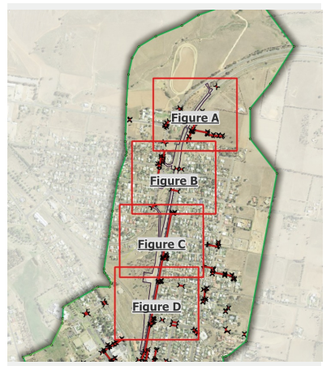
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 15d - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

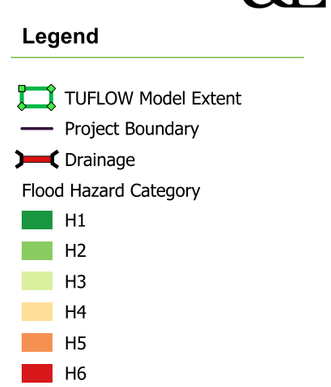
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Map by: SM

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Figure 16 - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

aurecon BG&E

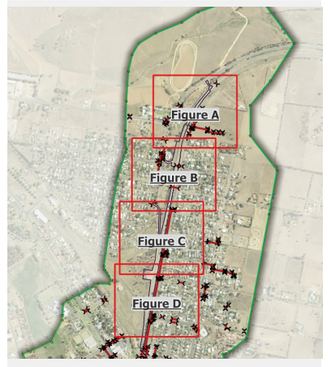
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 16a - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

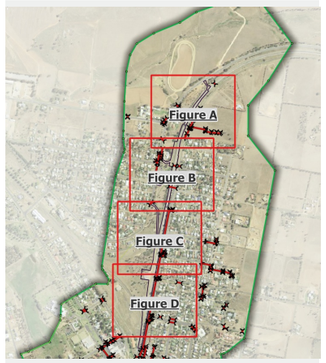
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 16b - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

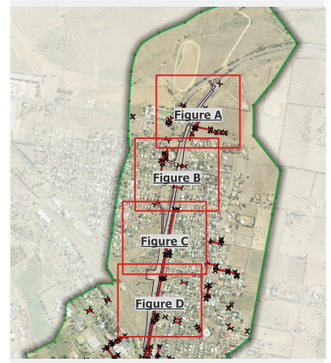
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 16c - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

aurecon BG&E

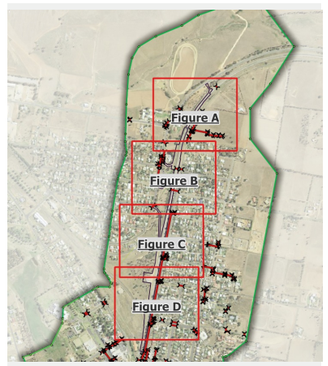
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Queen Street
Waterworks Road
Cuttle Court
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 16d - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Existing Conditions

MARTINUS

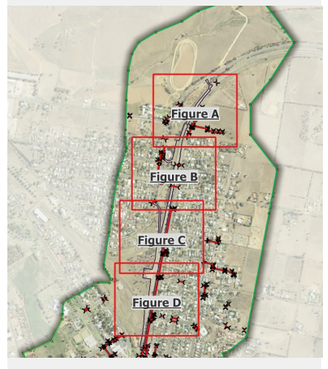
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 17 - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

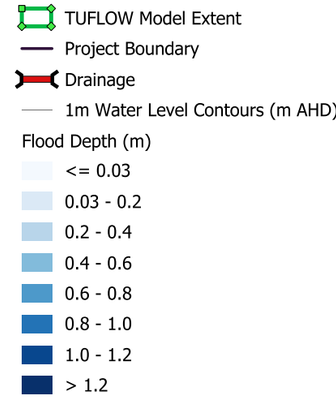
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 17a - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

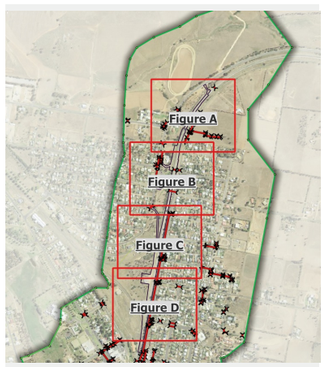
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 17b - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

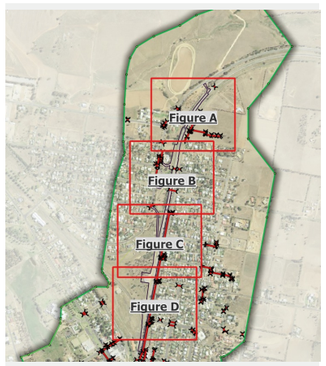
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 17c - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

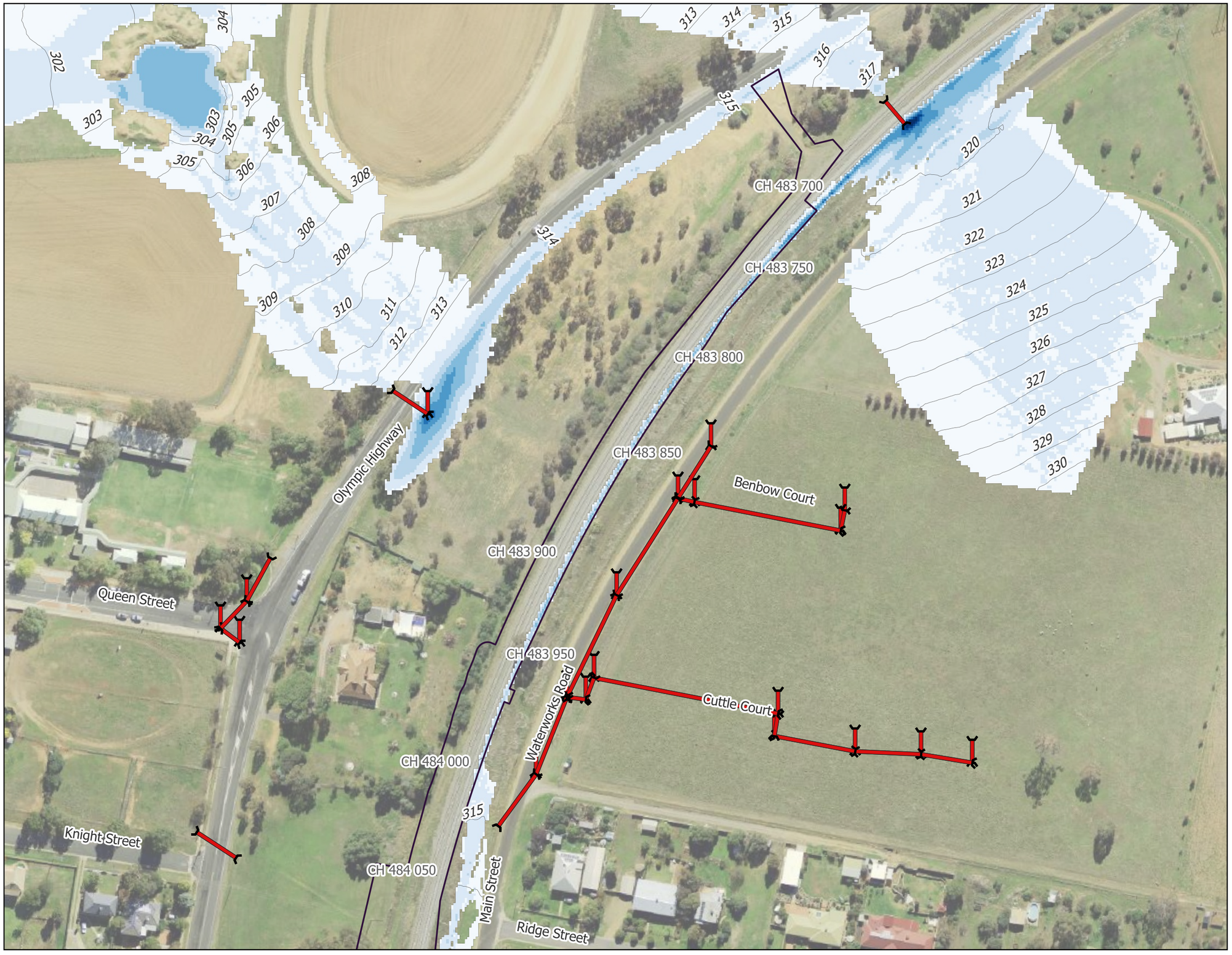
aurecon BG&E

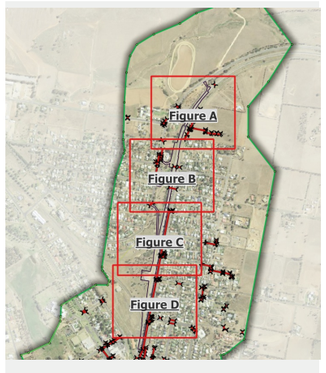
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2





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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 17d - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

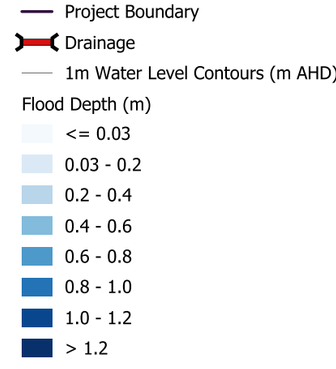
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 18 - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2

CH 484 800
CH 484 850
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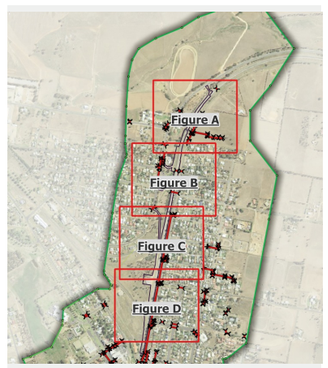
CH 485 050
CH 485 100
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 18a - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

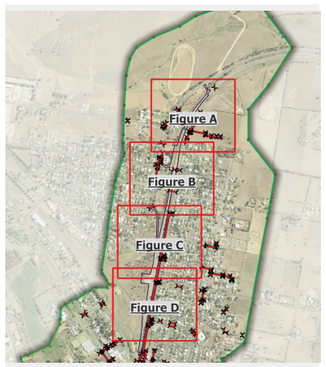
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 18b - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

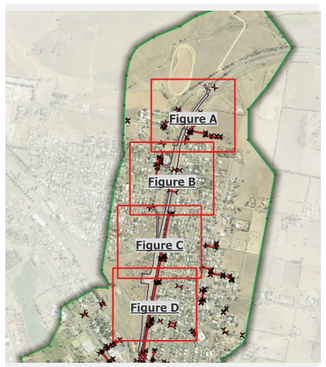
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 18c - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

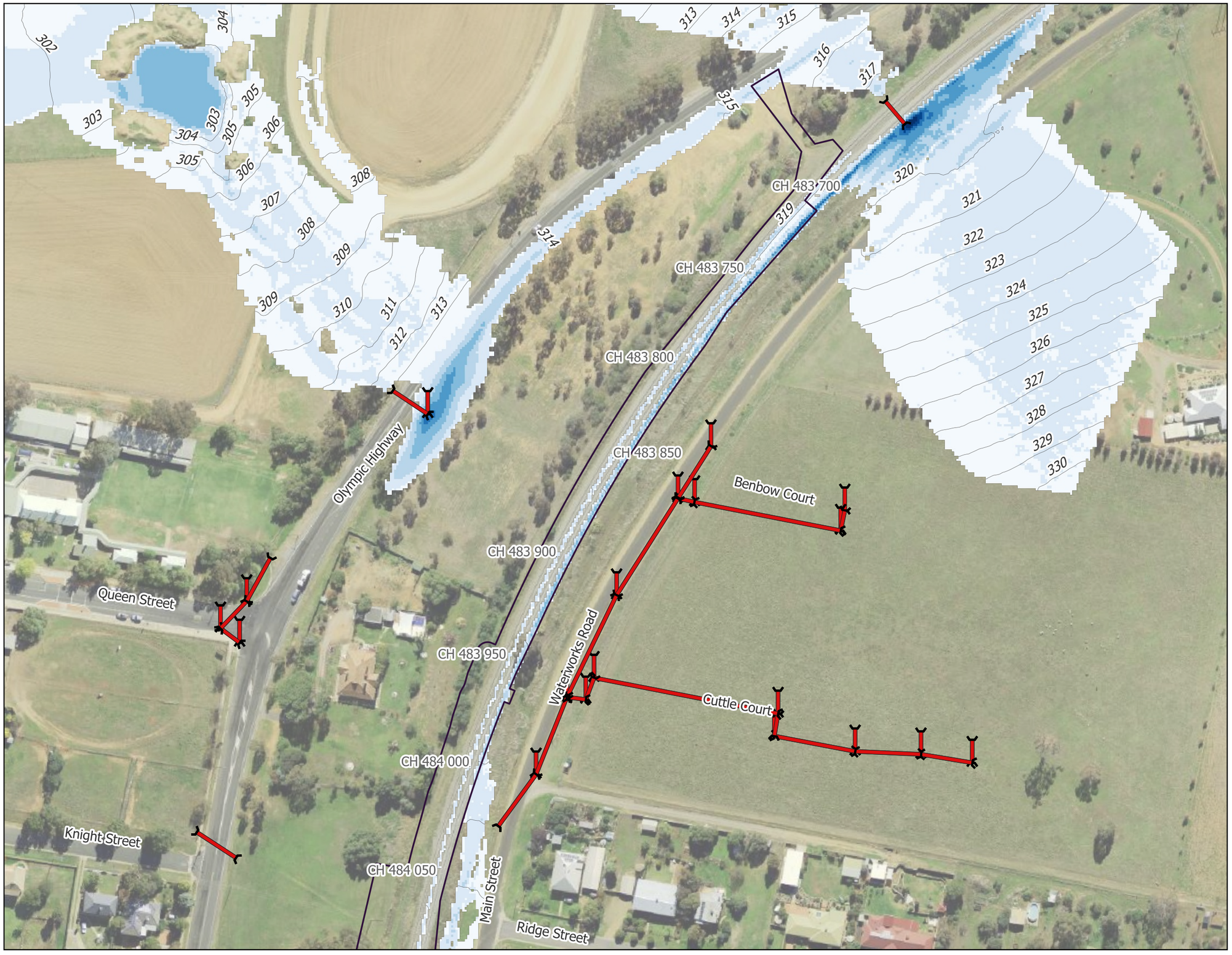
aurecon BG&E

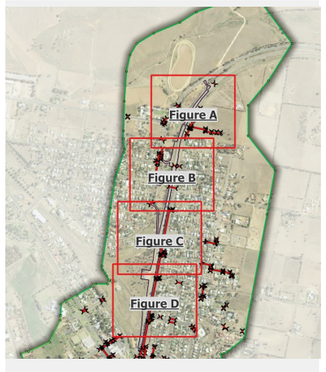
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2





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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 18d - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

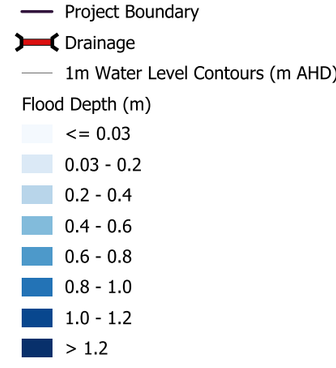
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 19 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2

CH 484 800
CH 484 850
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CH 484 950
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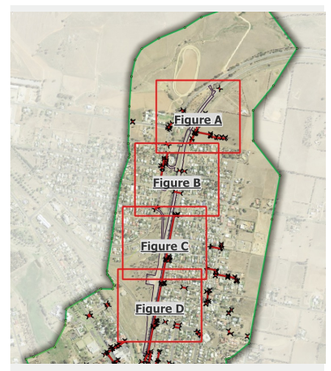
CH 485 050
CH 485 100
CH 485 150
CH 485 150

Pitt Street
Bolton Street
Commins Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 19a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

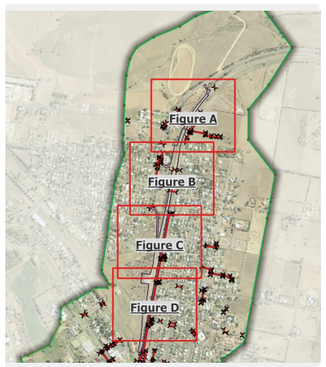
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 19b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

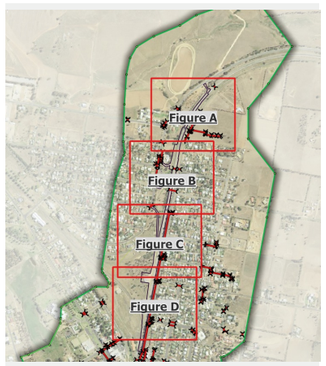
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 19c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

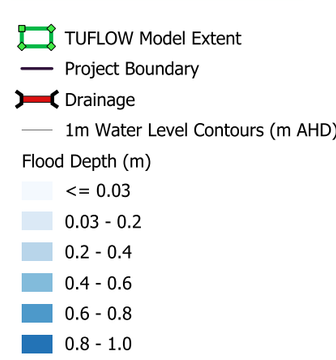
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 19d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

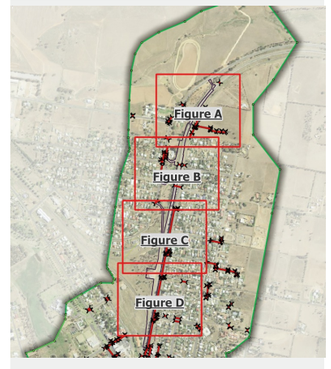
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 20 - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

aurecon BG&E

Legend

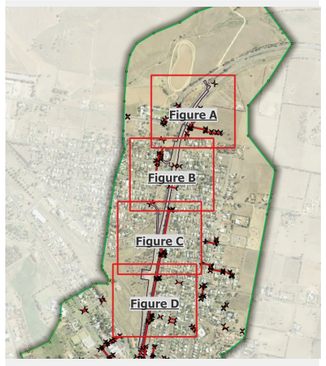
- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2

CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 150

Pitt Street
Bolton Street
Commins Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 20a - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

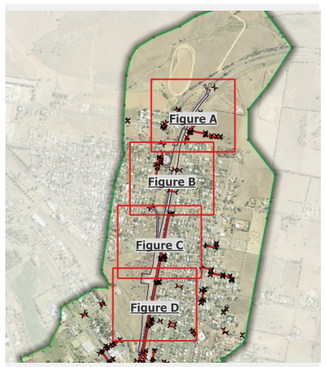
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 20b - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

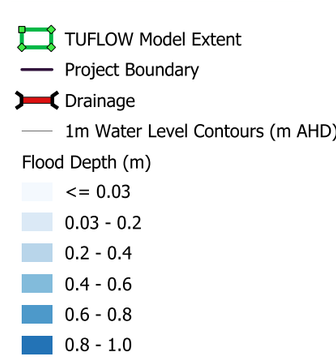
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 20c - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

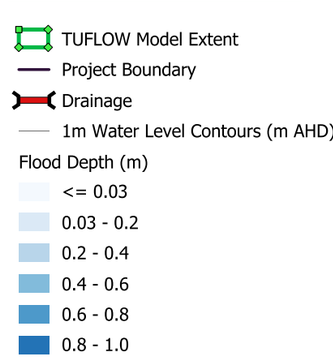
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 20d - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

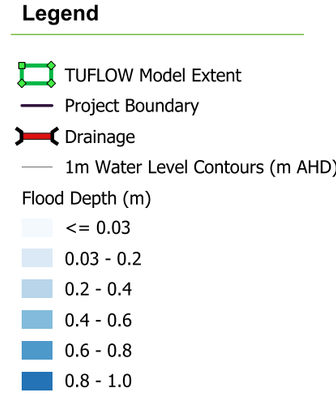
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 21 - Olympic Highway Underbridge - IFC Stage

PMF Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2

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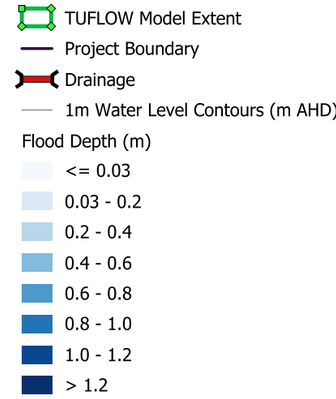
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street



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Map by: SM

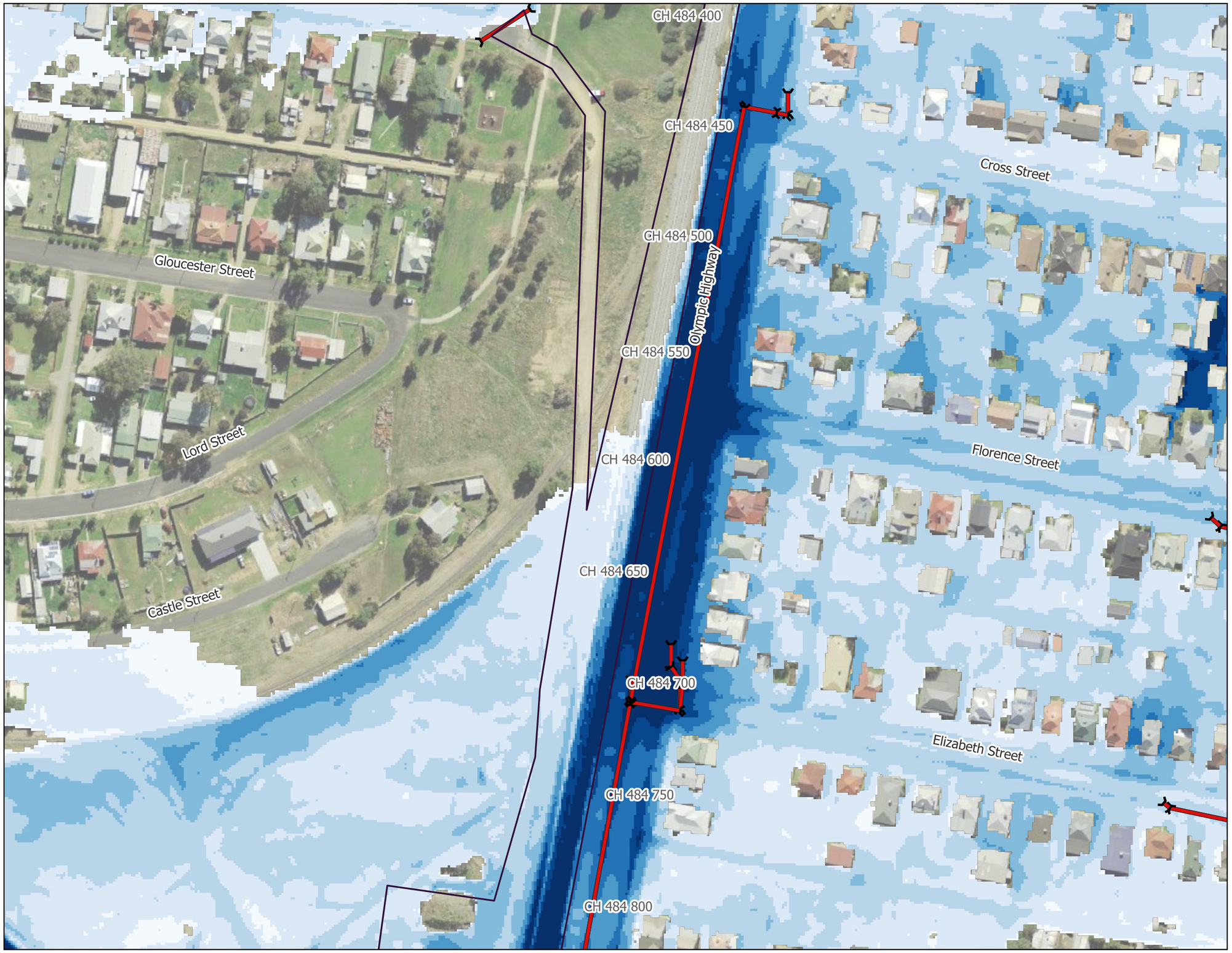
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 21a - Olympic Highway Underbridge - IFC Stage

PMF Flood Depth (m) and Levels (m AHD) - Developed Conditions



MARTINUS

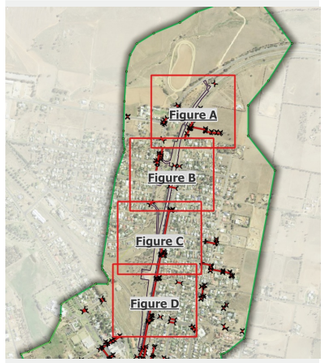
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

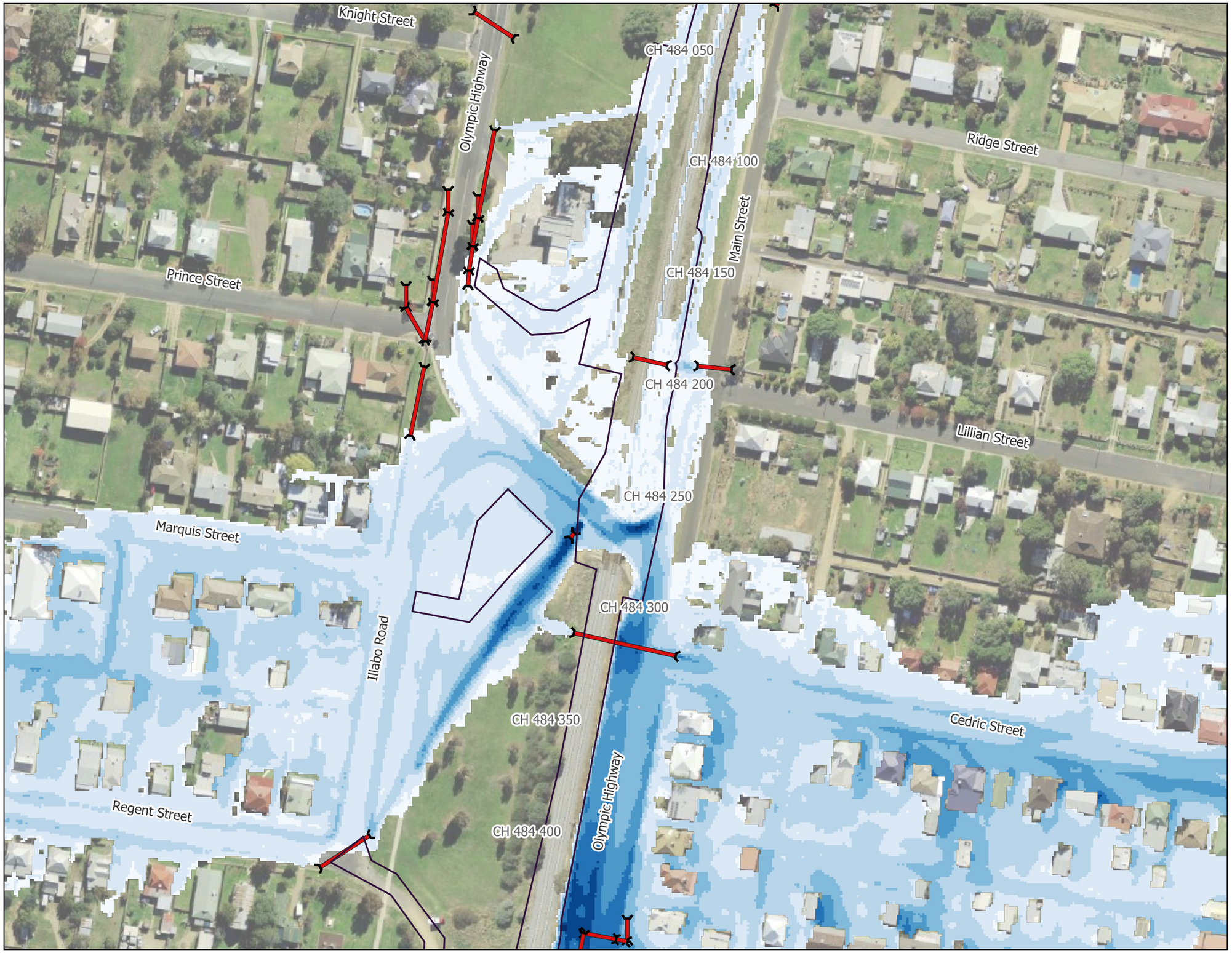
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 21b - Olympic Highway Underbridge - IFC Stage

PMF Flood Depth (m) and Levels (m AHD) - Developed Conditions



MARTINUS

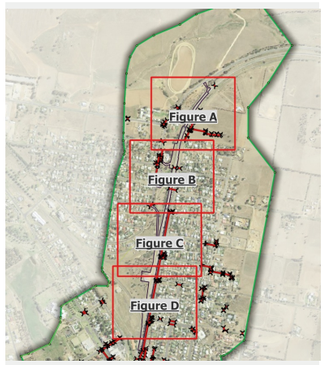
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 21c - Olympic Highway Underbridge - IFC Stage

PMF Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

aurecon BG&E

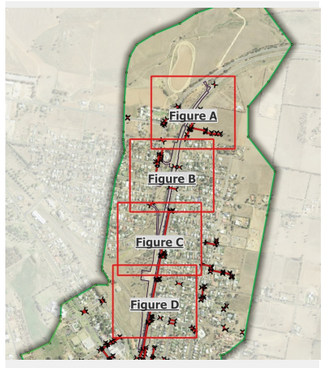
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 21d - Olympic Highway Underbridge - IFC Stage

PMF Flood Depth (m) and Levels (m AHD) - Developed Conditions

MARTINUS

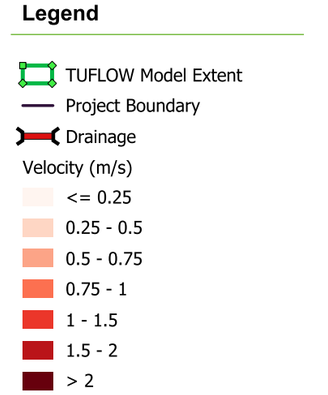
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 22 - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

aurecon BG&E

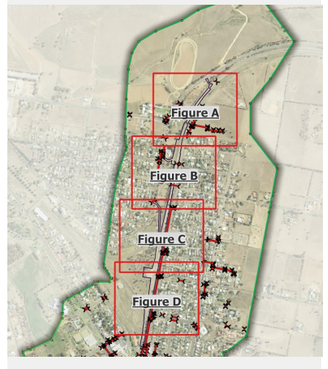
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 22a - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

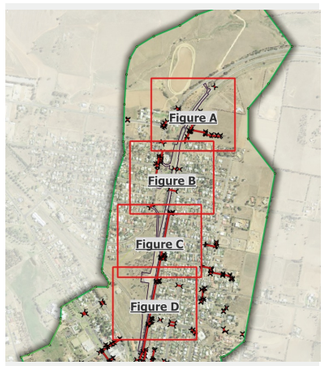
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 22b - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

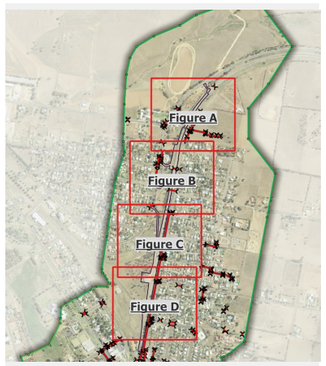
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 22c - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

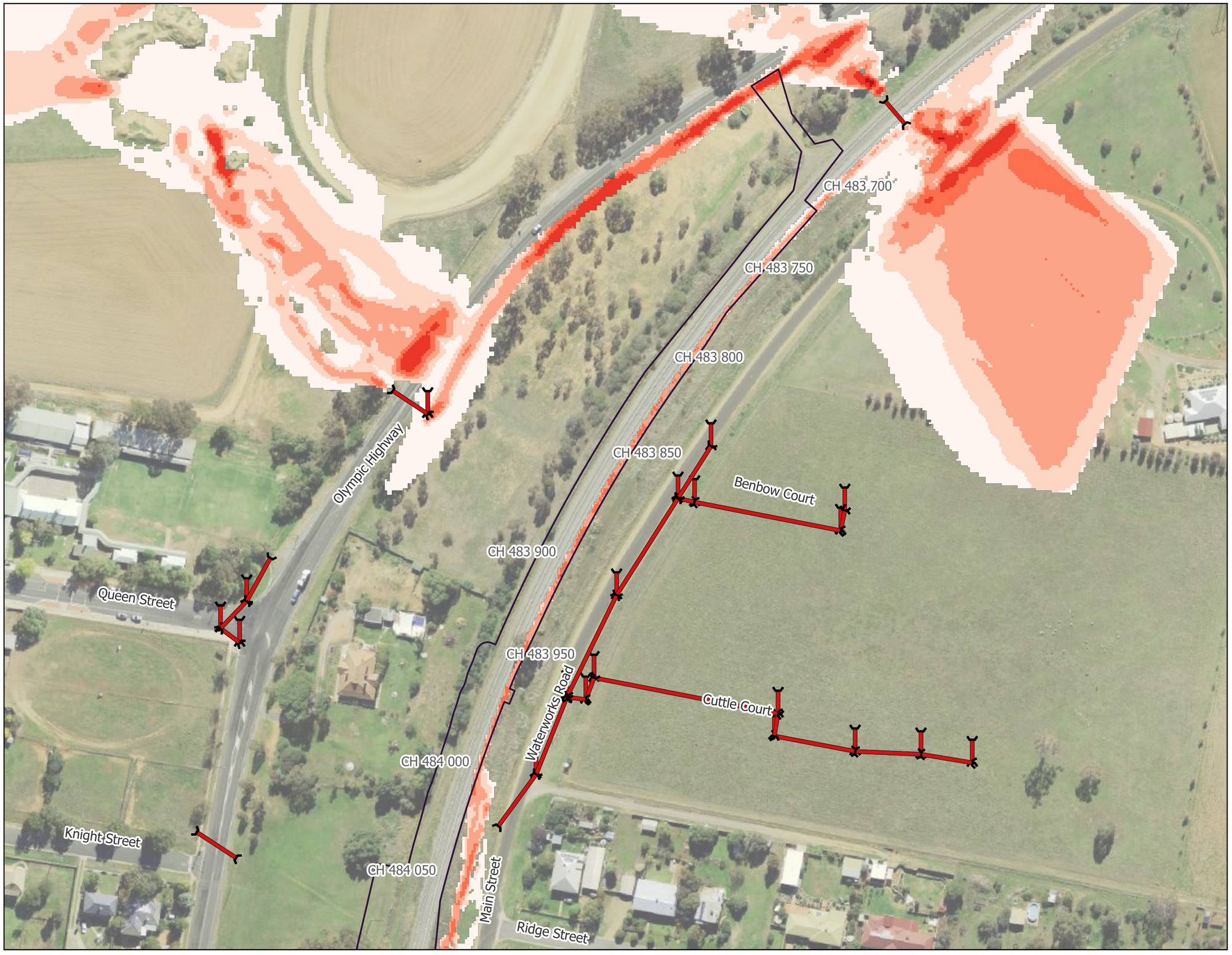
aurecon BG&E

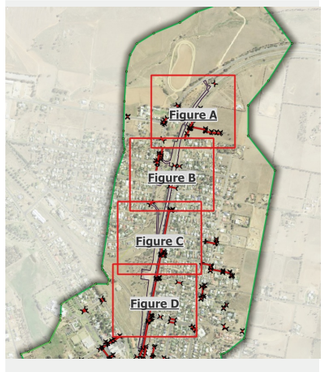
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2





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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 22d - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

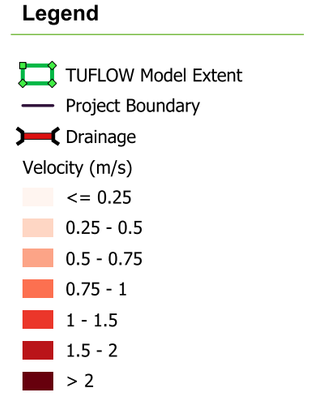
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Map by: SM

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Figure 23 - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

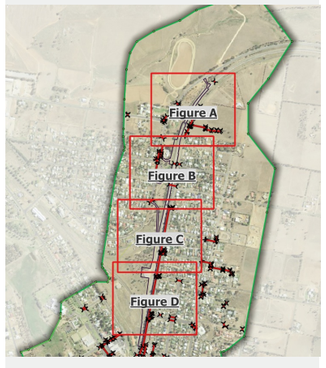
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 23a - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

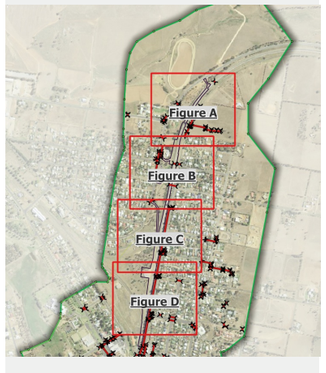
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 23b - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

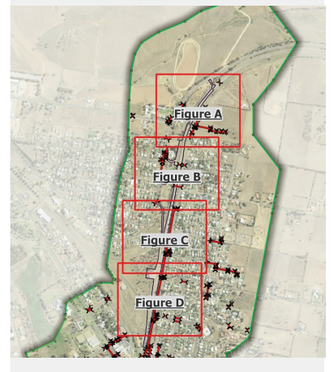
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 23c - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

aurecon BG&E

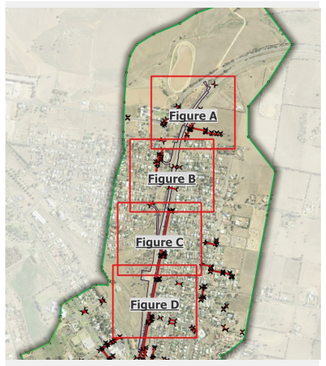
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 23d - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

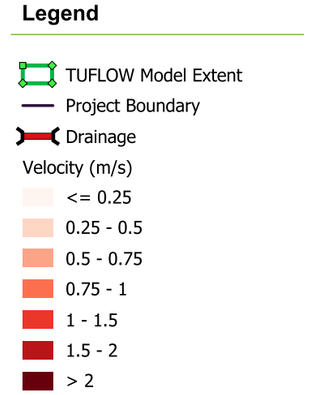
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 24 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

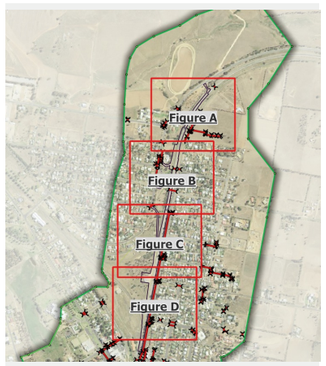
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

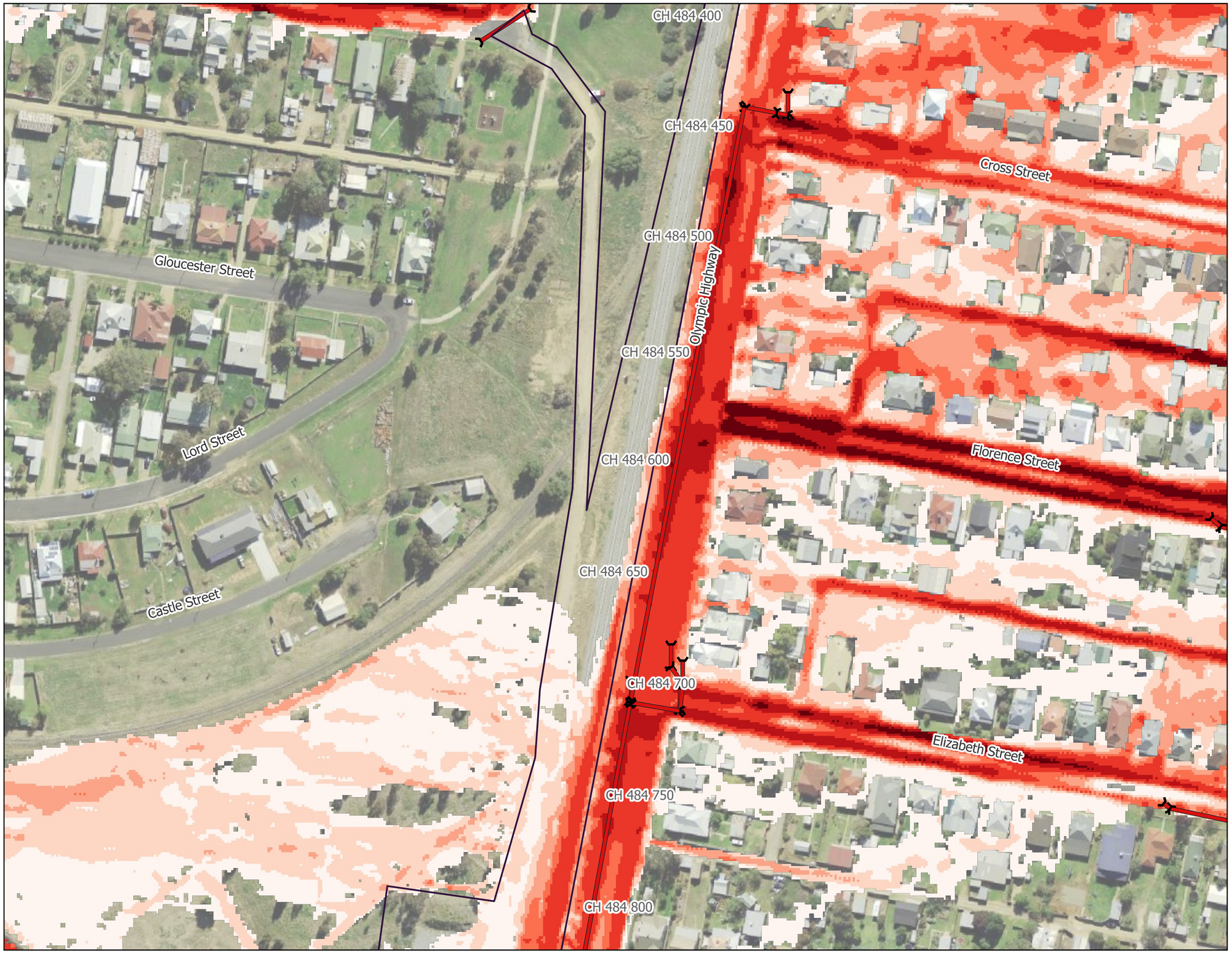
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 24a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Developed Conditions



MARTINUS

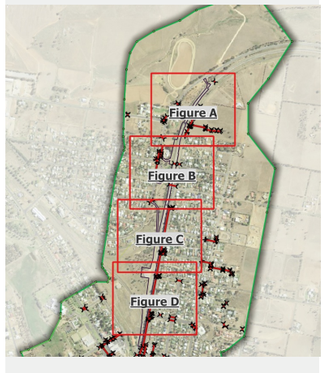
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 24b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

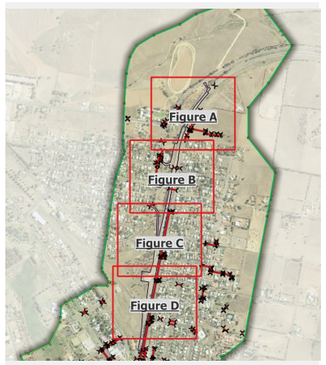
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 24c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

aurecon BG&E

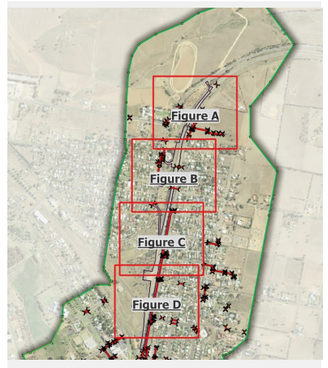
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Queen Street
Waterworks Road
Cuttle Court
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 24d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Developed Conditions

MARTINUS

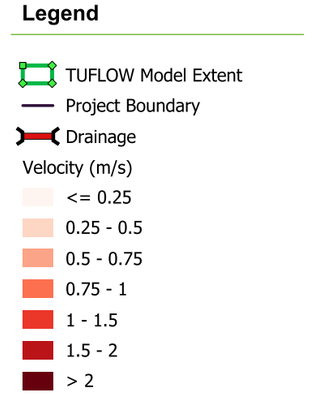
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 25 - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Velocity (m/s) - Developed Conditions

MARTINUS

aurecon BG&E

CH 484 800

CH 484 850

Pitt Street

CH 484 900

CH 484 950

CH 485 000

Bolton Street

Commins Street

CH 485 050

CH 485 100

CH 485 150

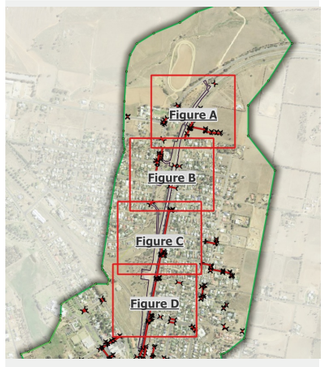
CH 485 150

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

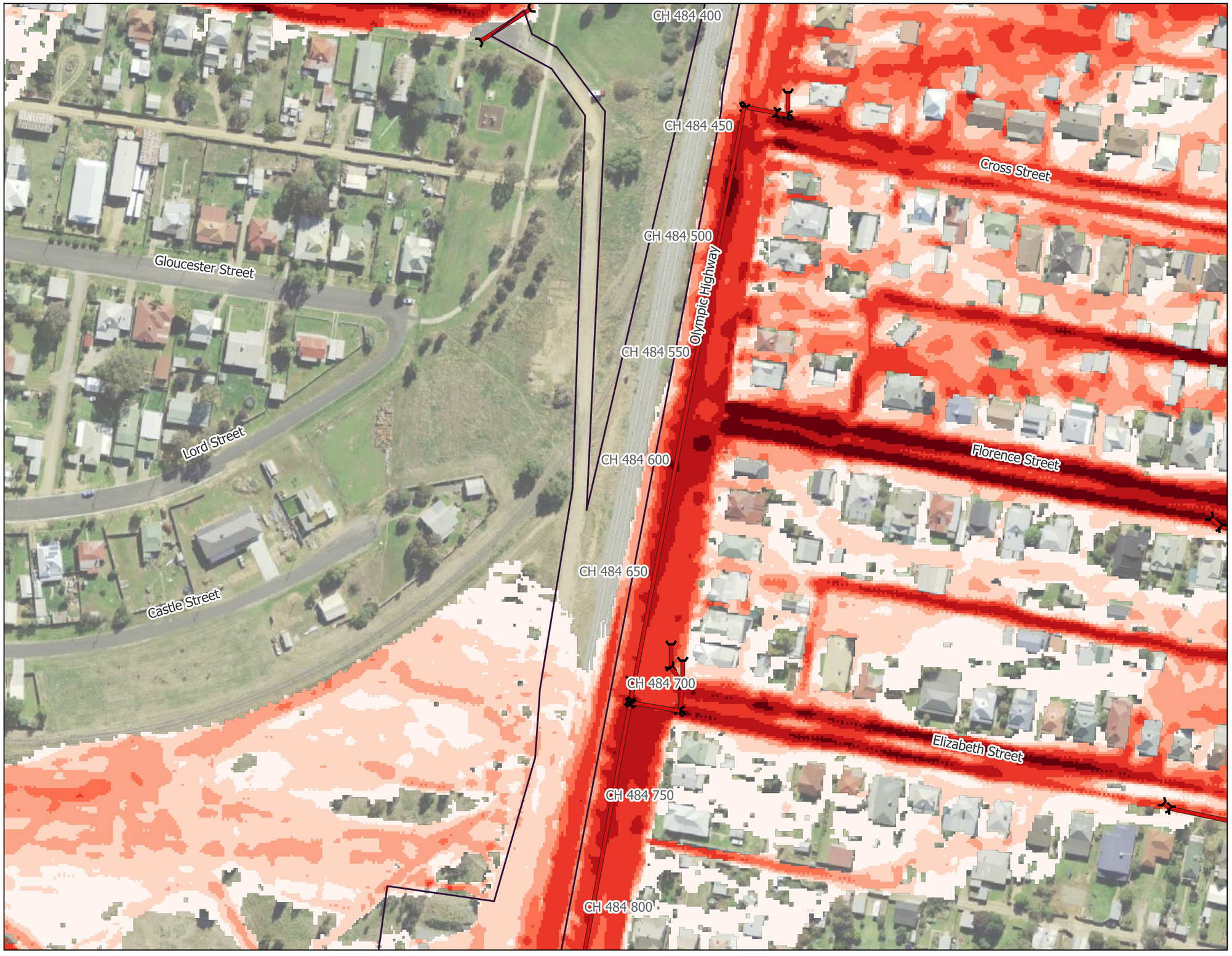
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 25a - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Velocity (m/s) - Developed Conditions



MARTINUS

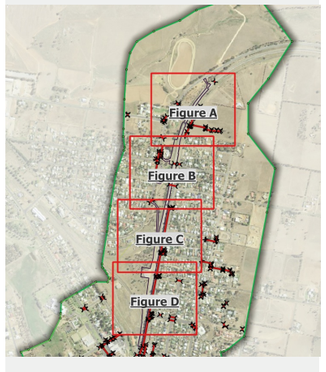
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

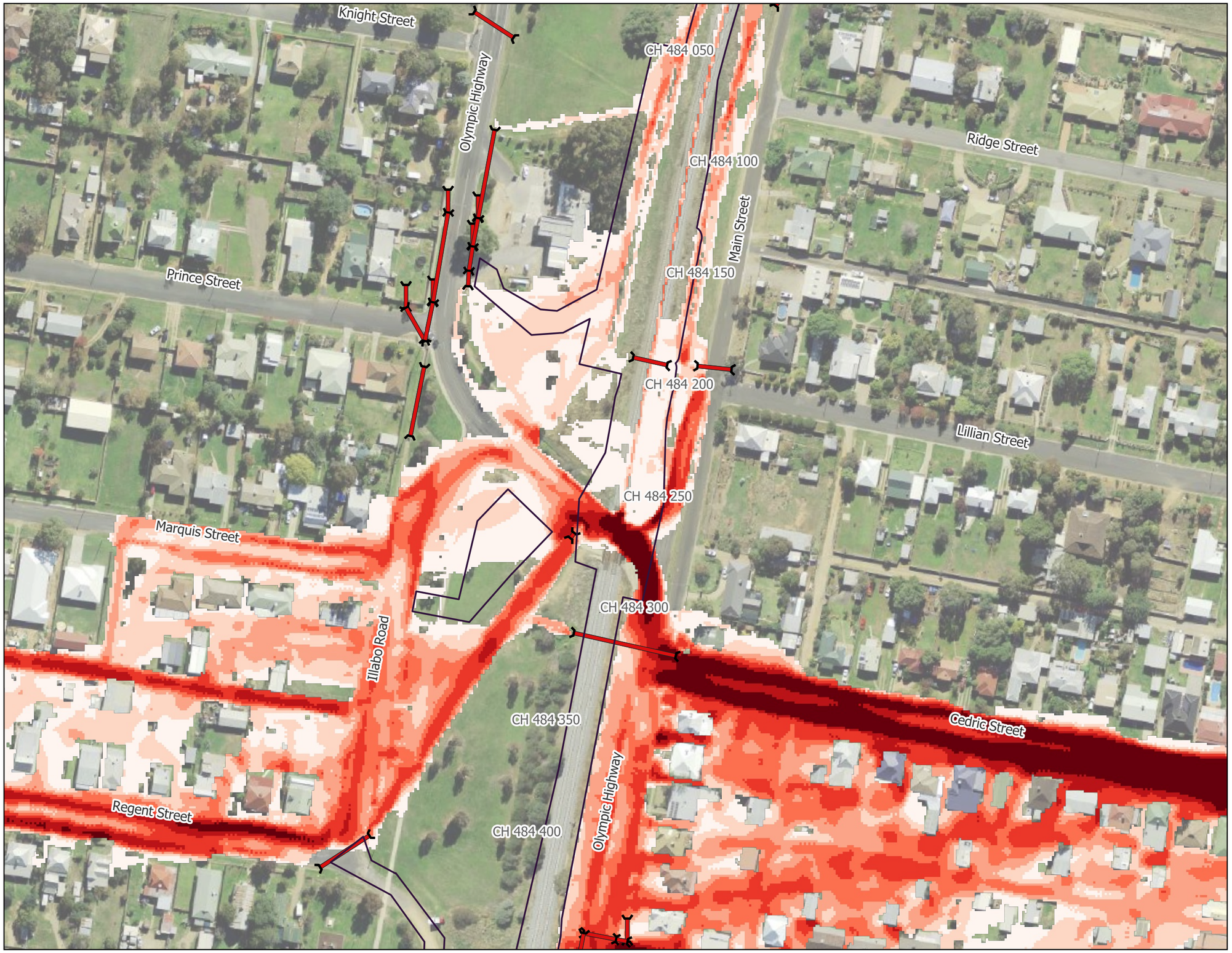
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 25b - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Velocity (m/s) - Developed Conditions



MARTINUS

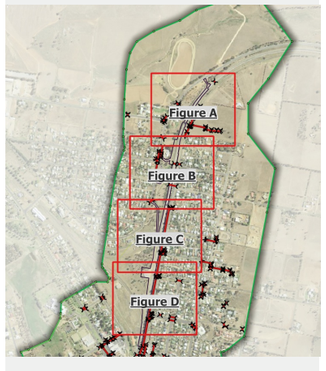
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 25c - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Velocity (m/s) - Developed Conditions

MARTINUS

aurecon BG&E

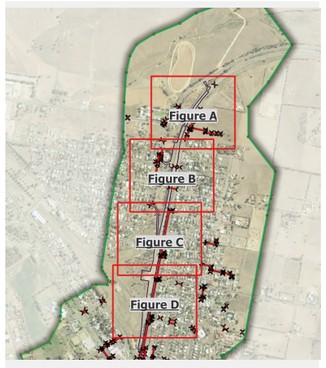
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Queen Street
Waterworks Road
Cuttle Court
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 25d - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Velocity (m/s) - Developed Conditions

MARTINUS

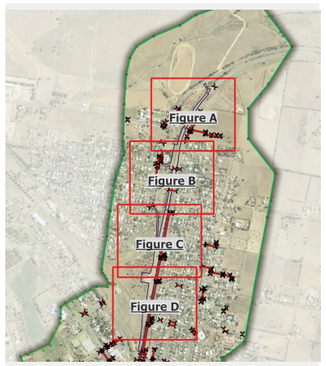
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 26 - Olympic Highway Underbridge - IFC Stage

PMF Flood Velocity (m/s) - Developed Conditions

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Map by: SM

MARTINUS

aurecon BG&E

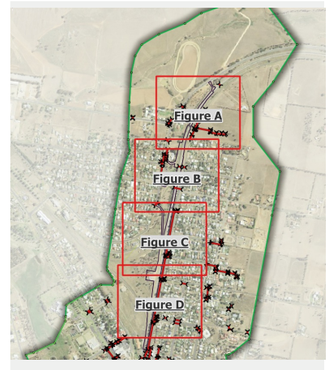
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street



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Map by: SM

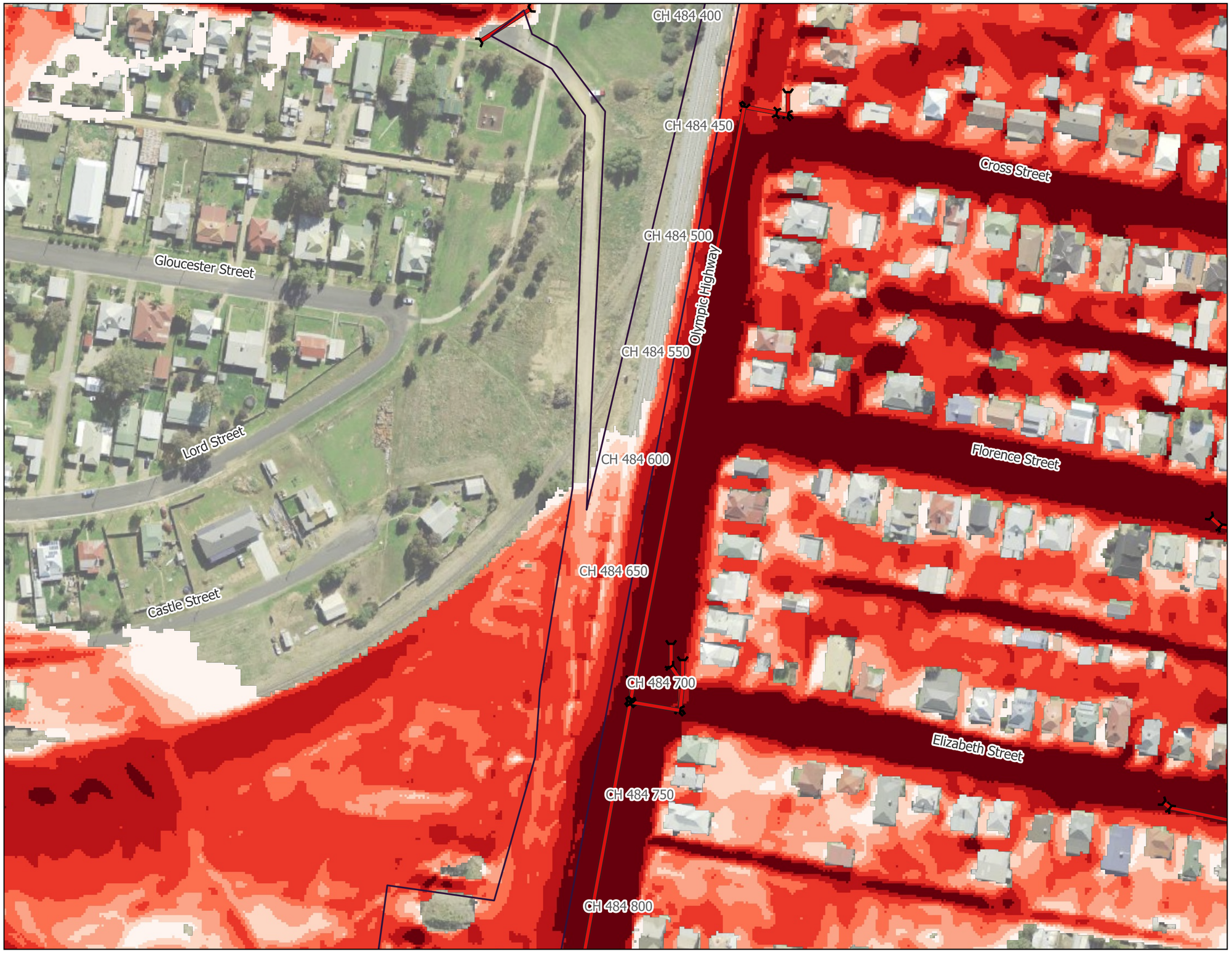
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 26a - Olympic Highway Underbridge - IFC Stage

PMF Flood Velocity (m/s) - Developed Conditions



MARTINUS

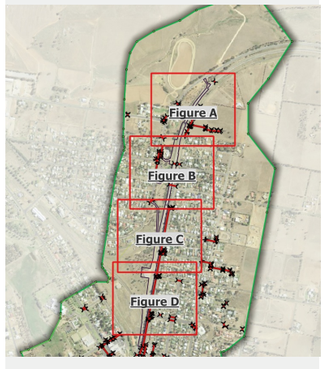
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

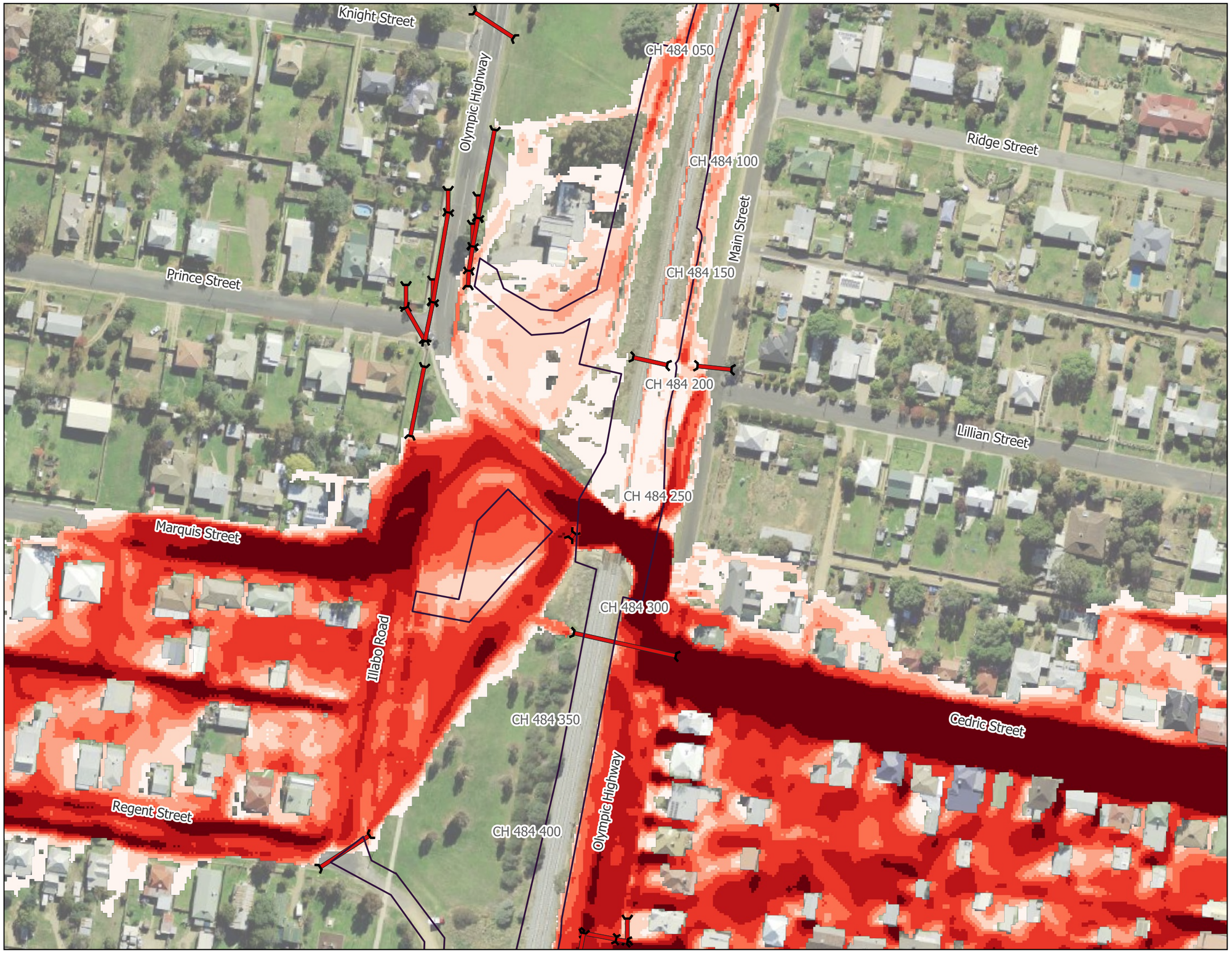
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 26b - Olympic Highway Underbridge - IFC Stage

PMF Flood Velocity (m/s) - Developed Conditions



MARTINUS

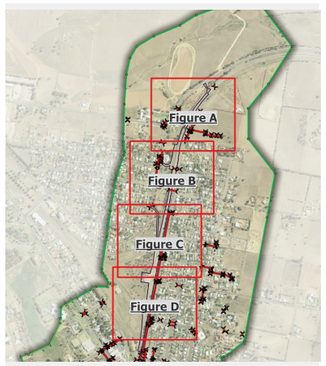
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 26c - Olympic Highway Underbridge - IFC Stage

PMF Flood Velocity (m/s) - Developed Conditions

MARTINUS

aurecon BG&E

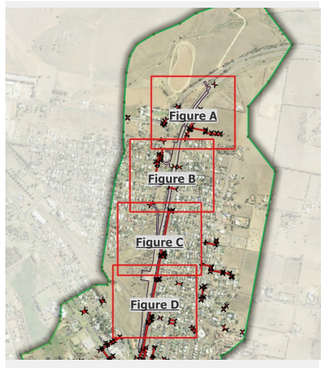
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Queen Street
Waterworks Road
Cuttle Court
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 26d - Olympic Highway Underbridge - IFC Stage

PMF Flood Velocity (m/s) - Developed Conditions

MARTINUS

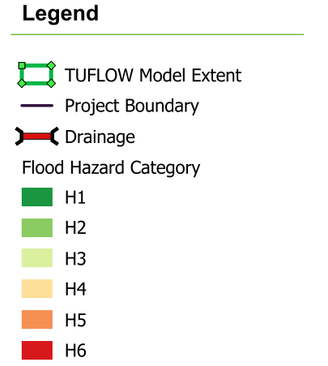
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 27 - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

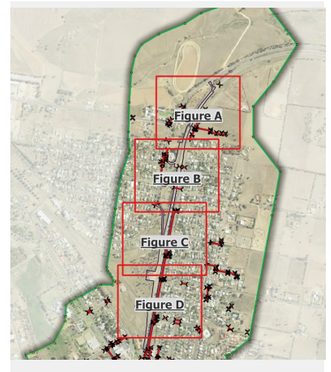
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 27a - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

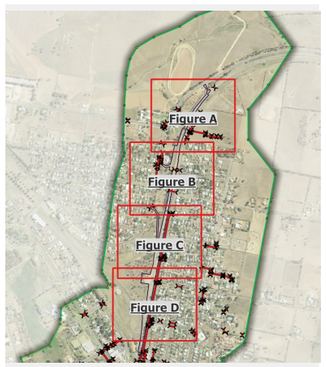
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 27b - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

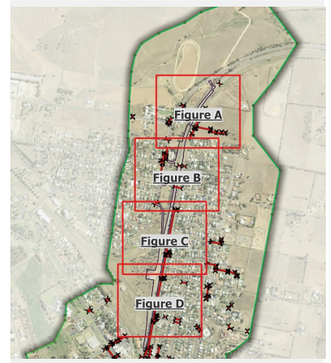
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 27c - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

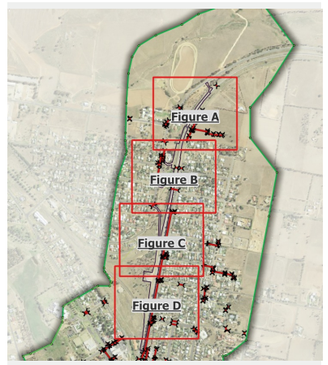
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 27d - Olympic Highway Underbridge - IFC Stage

5% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

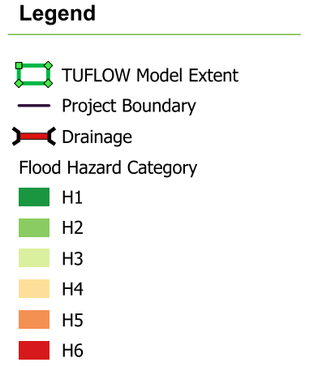
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 28 - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

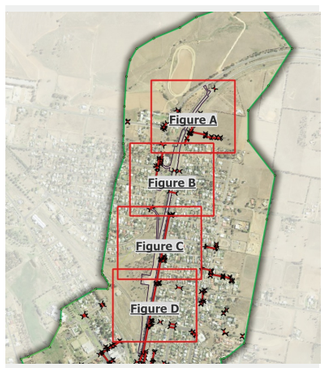
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 28a - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

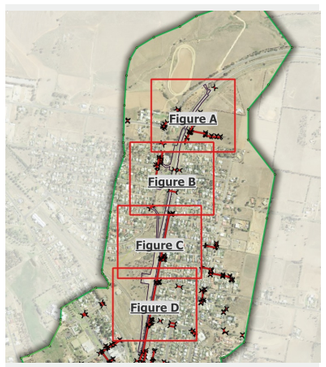
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 28b - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

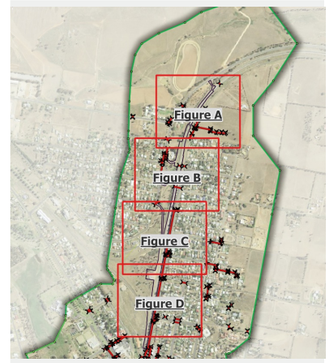
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 28c - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

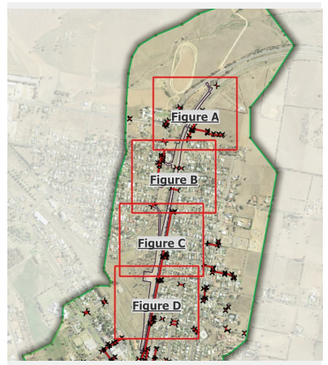
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 28d - Olympic Highway Underbridge - IFC Stage

2% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

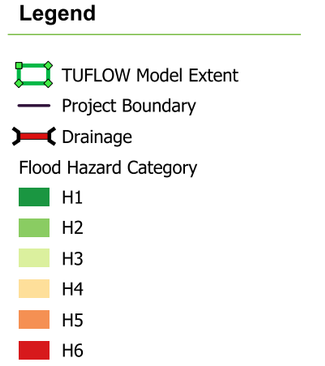
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 29 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

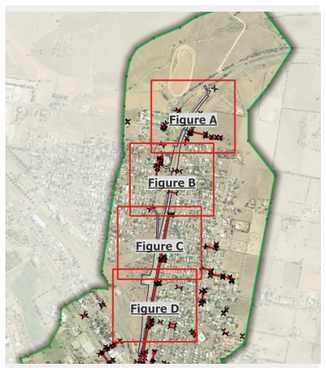
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 29a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

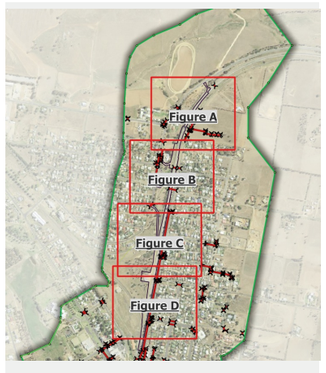
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 29b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

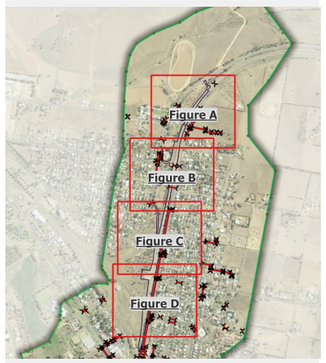
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 29c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

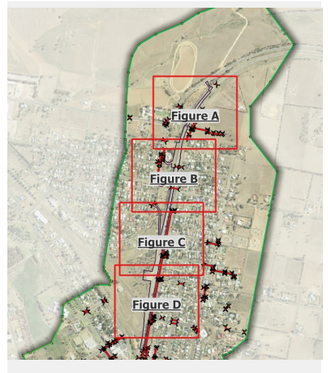
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 29d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

Olympic Highway
Queen Street
Knight Street
Prince Street
Marquis Street
Regent Street
Gloucester Street
Lord Street
Castle Street
Ridge Street
Main Street
Lillian Street
Illabo Road
Boundary Street
Cedric Street
Cross Street
Florence Street
Elizabeth Street
Pitt Street
Edward Street
Lydia Street
Button Avenue
Cooinda Lane
Bolton Street
Commins Street
Cuttle Court
CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
CH 484 100
CH 484 150
CH 484 200
CH 484 250
CH 484 300
CH 484 350
CH 484 400
CH 484 450
CH 484 500
CH 484 550
CH 484 600
CH 484 650
CH 484 700
CH 484 750
CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 190
CH 485 200
CH 485 210
CH 485 250

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

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Map by: SM

Figure 30 - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

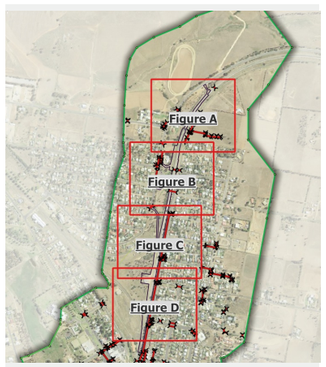
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 30a - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

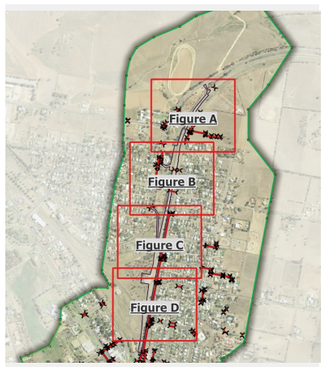
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 30b - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

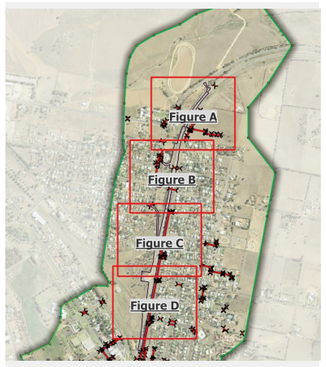
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 30c - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

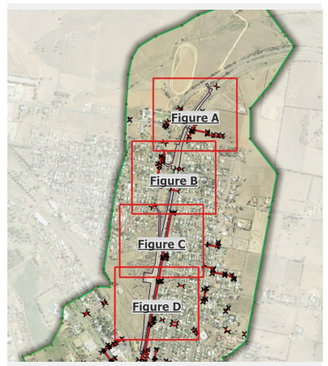
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 30d - Olympic Highway Underbridge - IFC Stage

1% AEP Climate Change Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

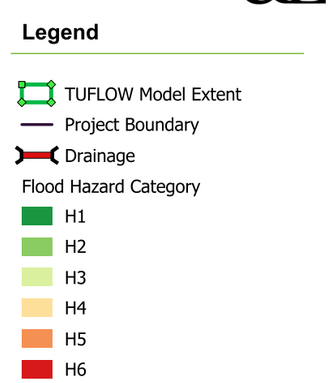
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 31 - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Developed Conditions

Map by: SM

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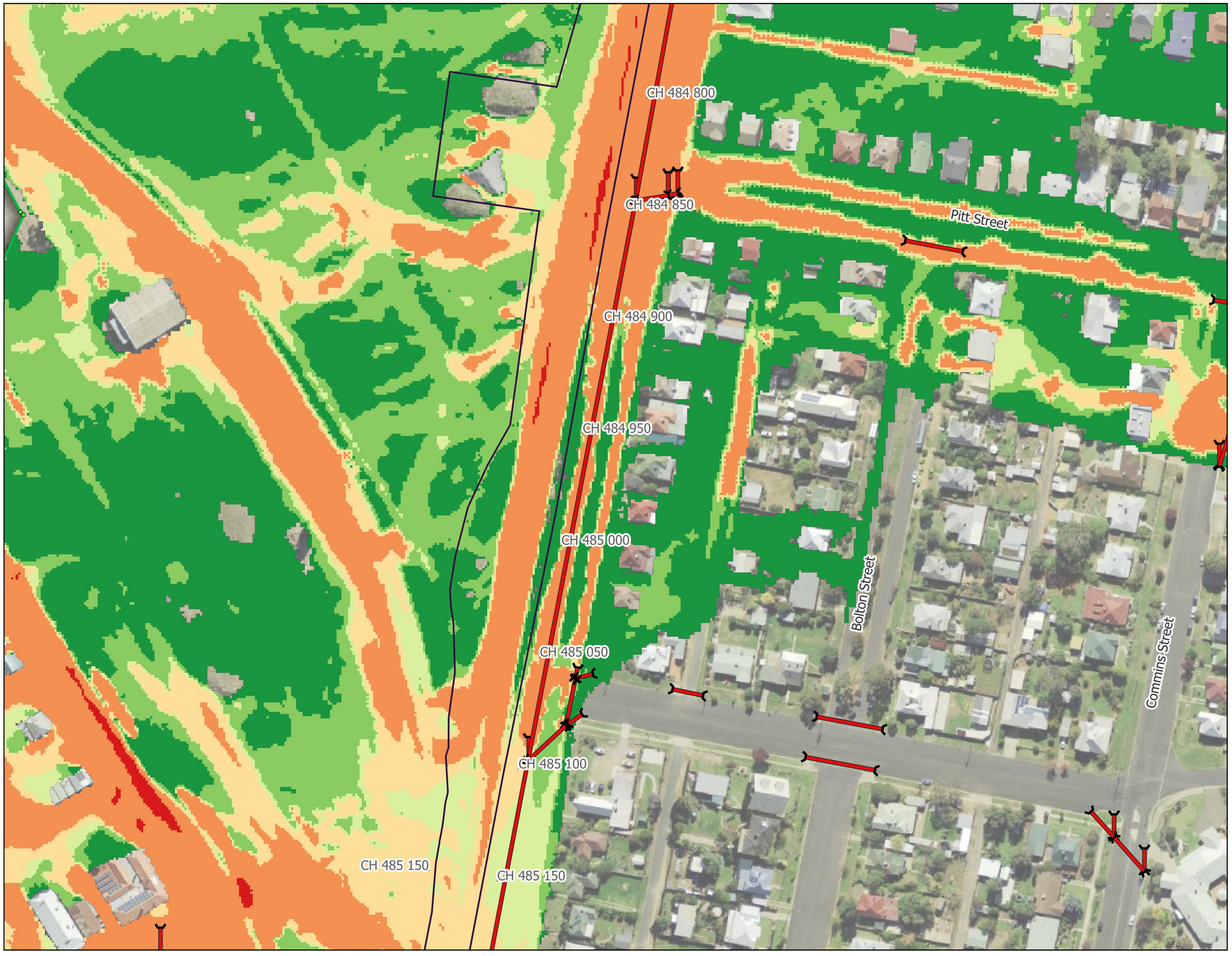


MARTINUS

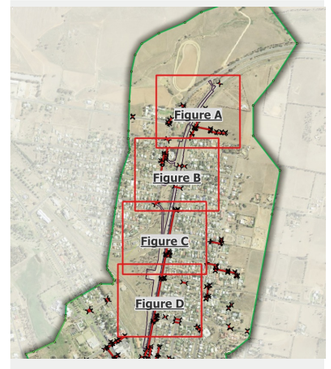
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 31a - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

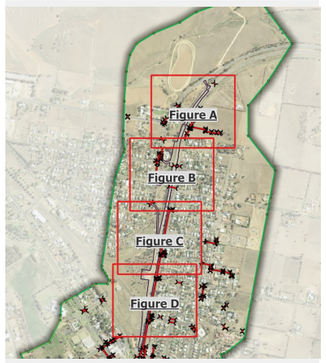
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

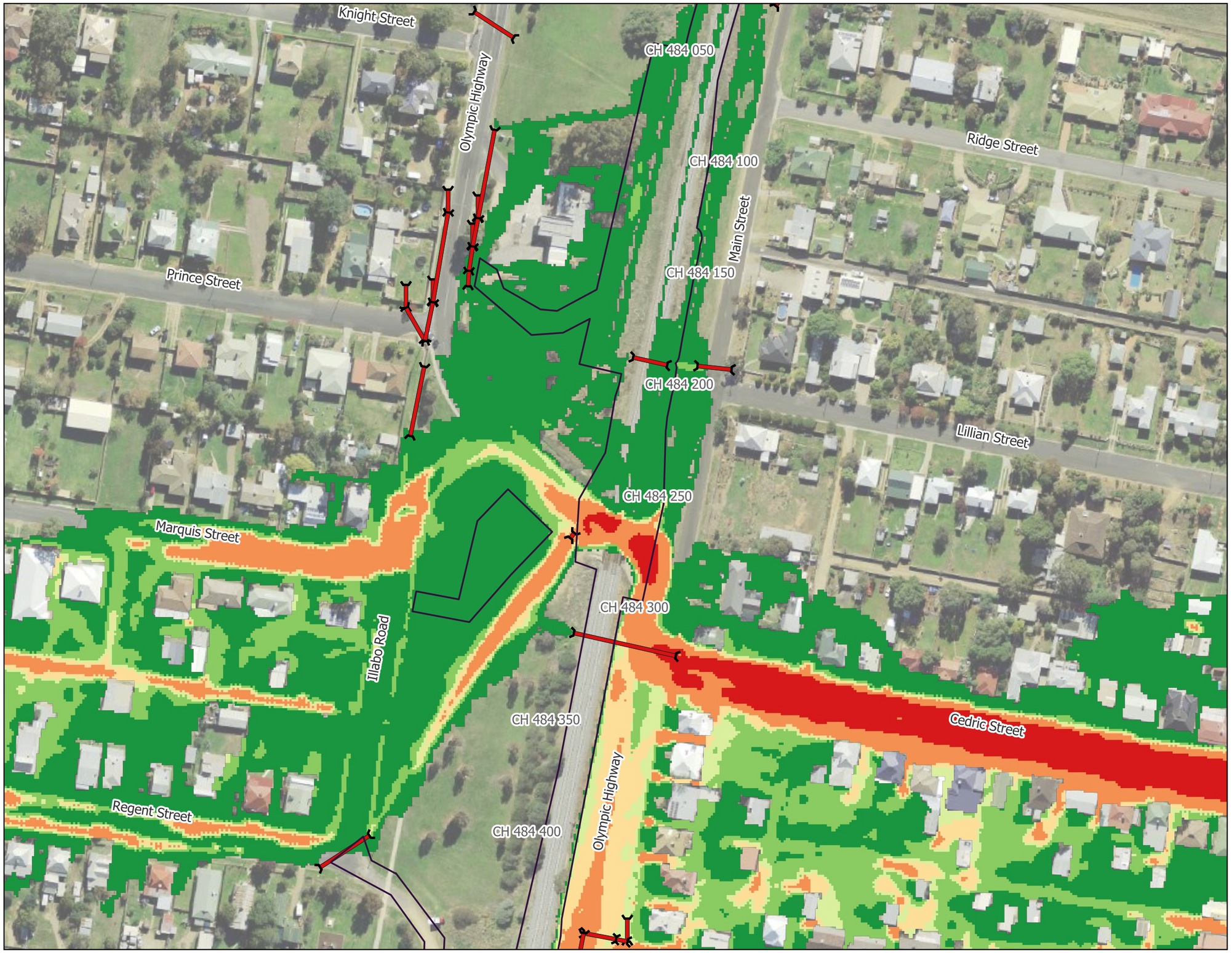
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 31b - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Developed Conditions



MARTINUS

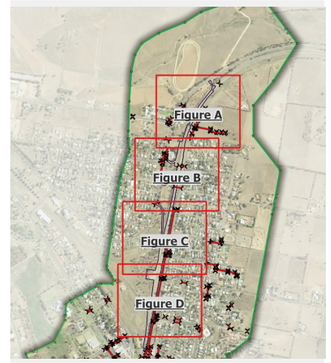
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 31c - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

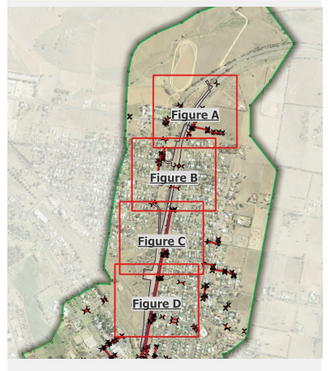
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 31d - Olympic Highway Underbridge - IFC Stage

PMF Flood Hazard (ARR2019) - Developed Conditions

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

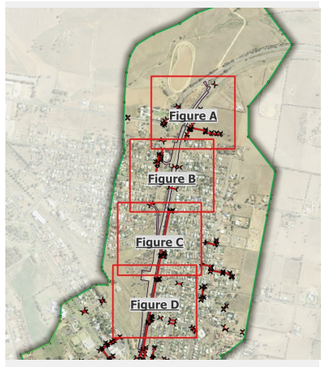
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 32 - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Levels (m) - Developed Less Existing

CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street

MARTINUS
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

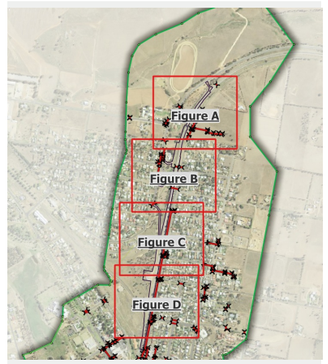
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 32a - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

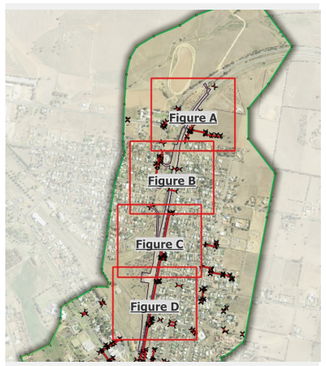
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 32b - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

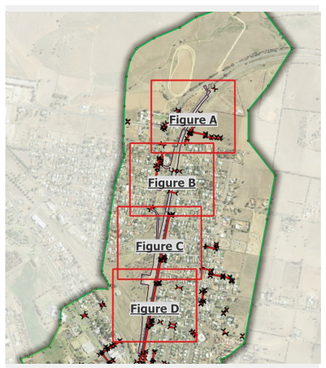
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

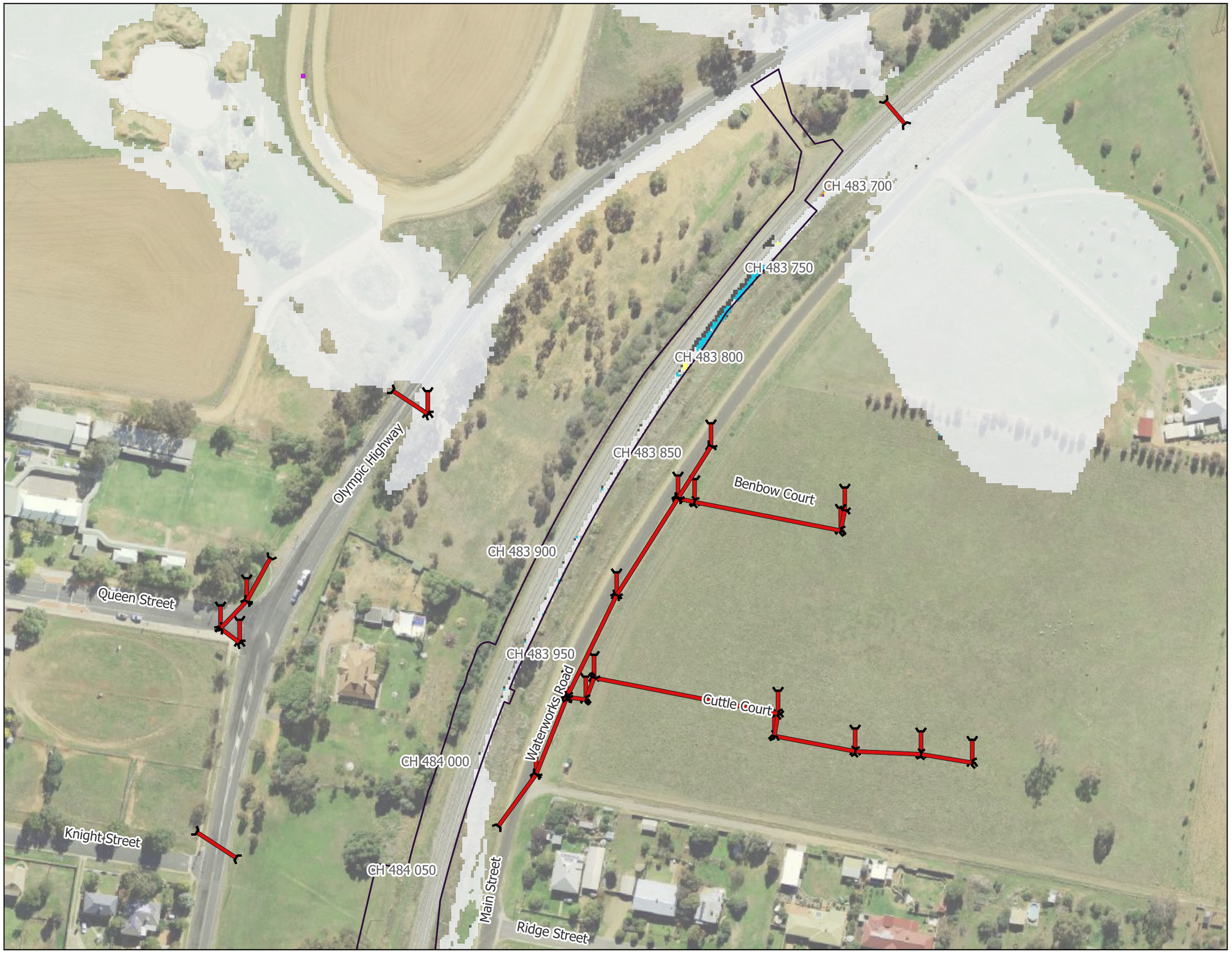
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 32c - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Levels (m) - Developed Less Existing



MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

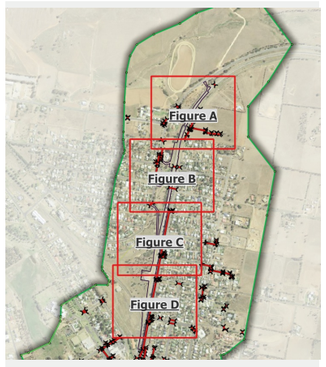
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 32d - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

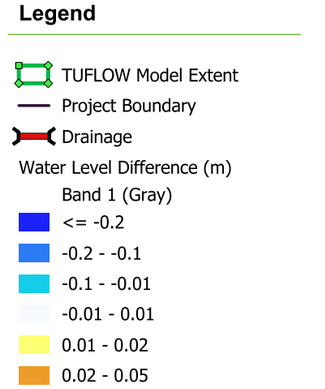
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 33 - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

CH 484 800

CH 484 850

Pitt Street

CH 484 900

CH 484 950

CH 485 000

Bolton Street

Commins Street

CH 485 050

CH 485 100

CH 485 150

CH 485 150

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

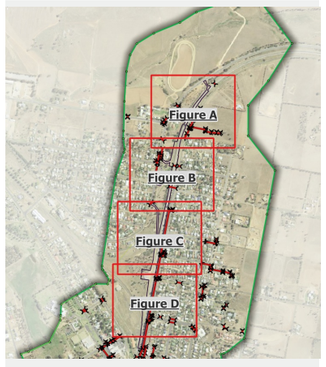
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 33a - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

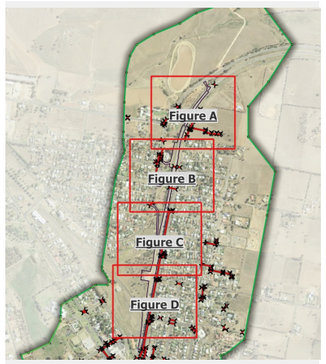
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 33b - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

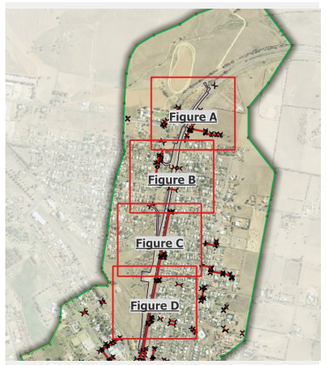
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 33c - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Water Level Difference (m)

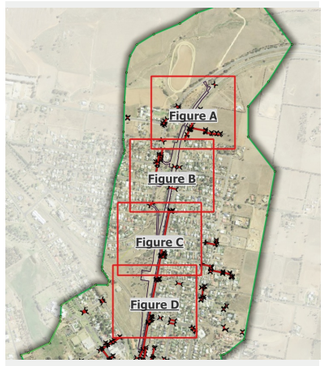
Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 33d - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

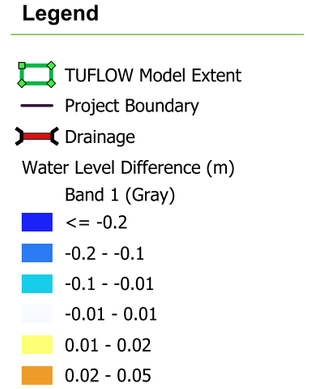
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 34 - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

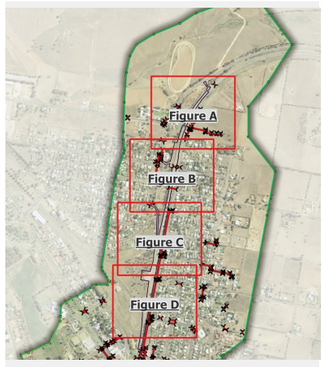
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 34a - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

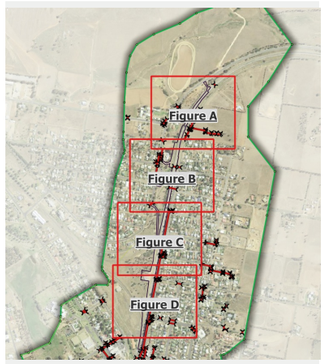
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

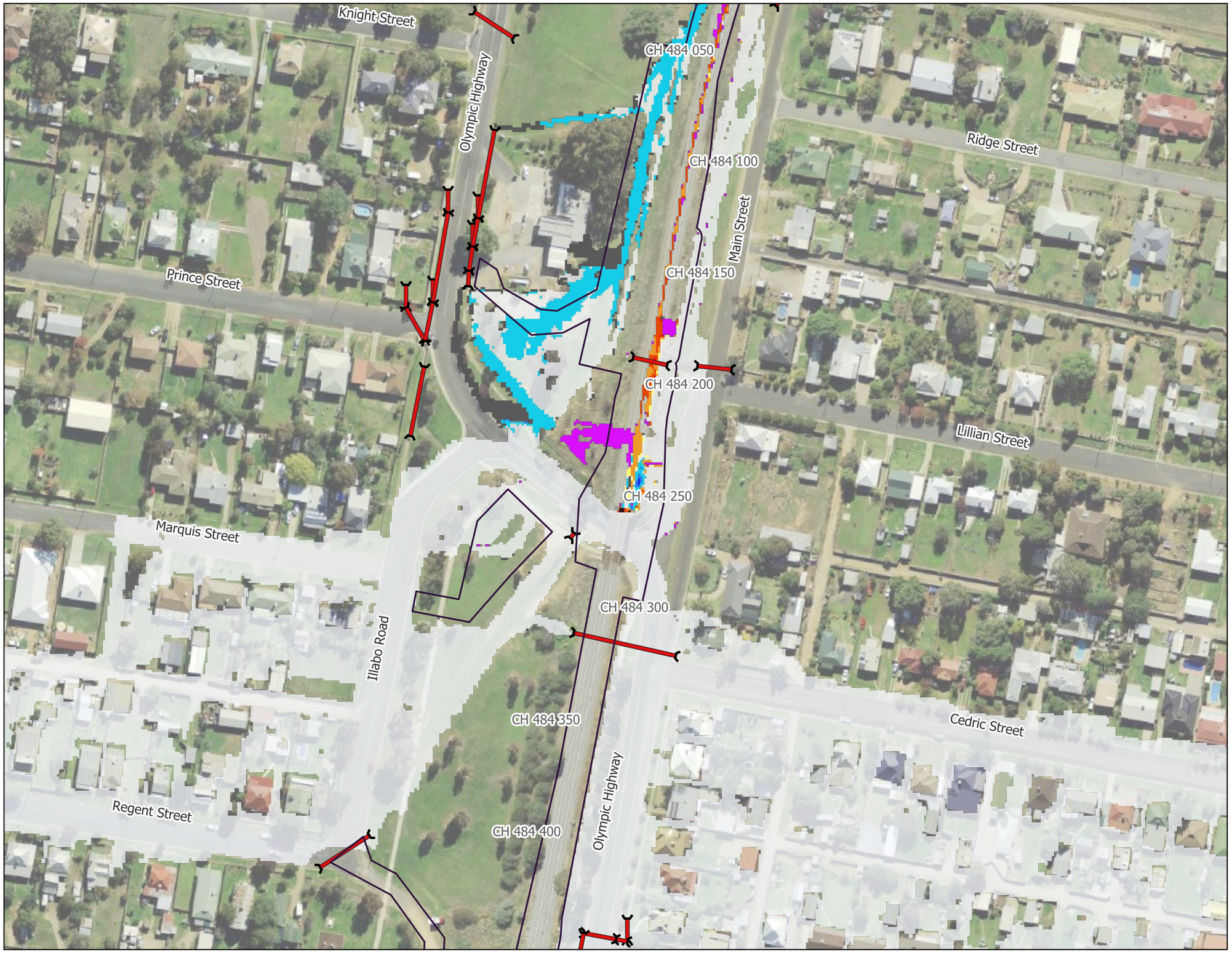
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 34b - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Levels (m) - Developed Less Existing



MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

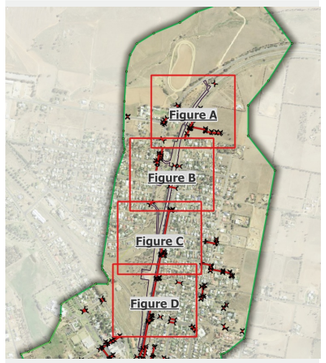
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

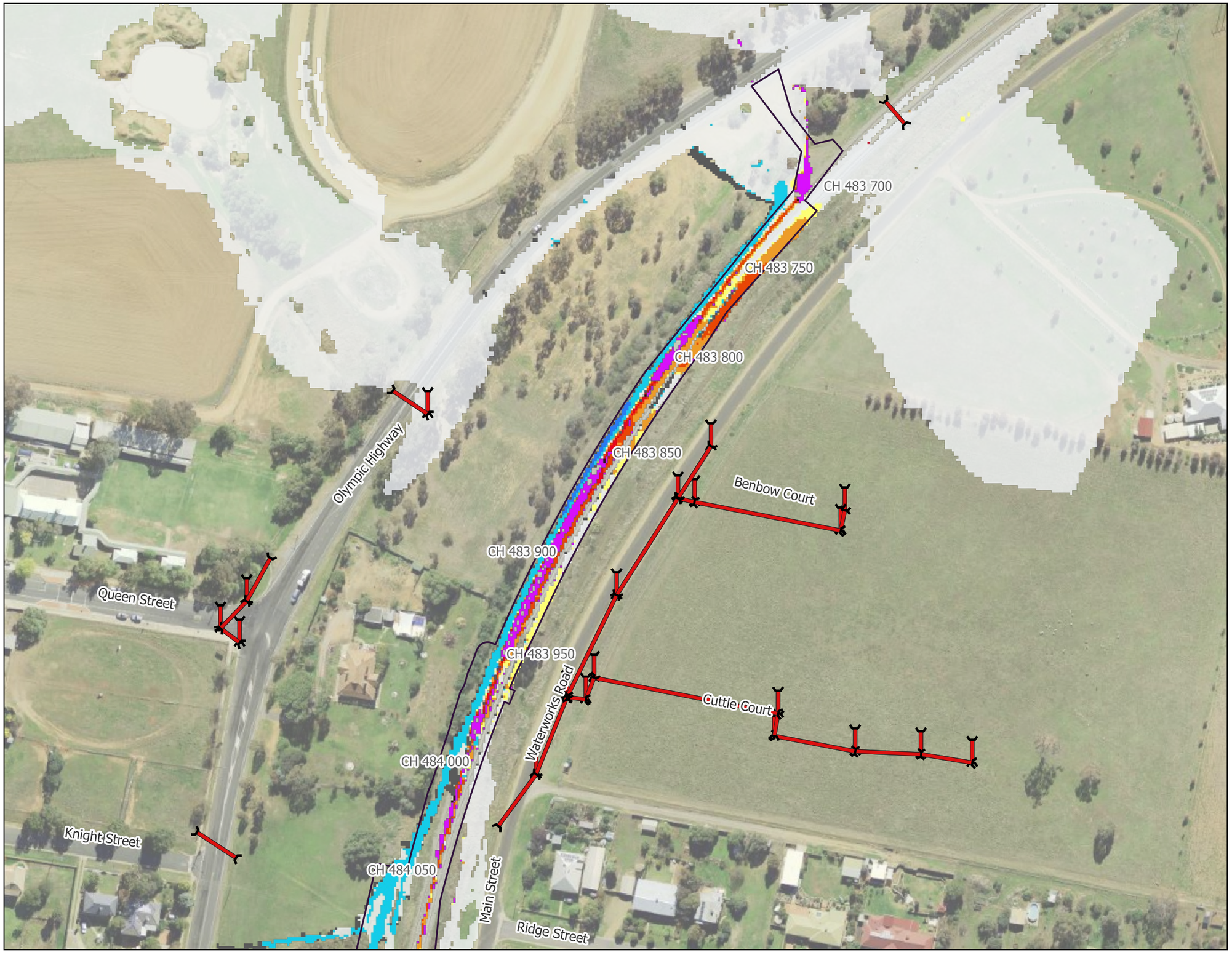
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 34c - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Levels (m) - Developed Less Existing



MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

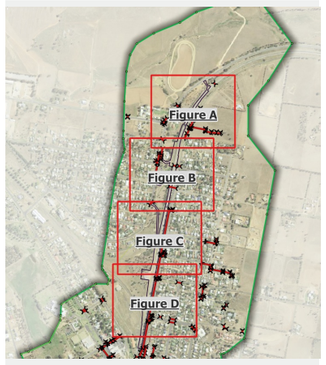
Water Level Difference (m)

Band 1 (Gray)

- <= -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- > 0.2

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 34d - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Levels (m) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

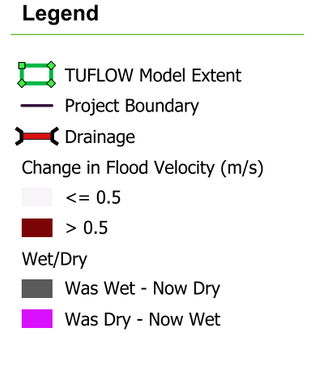
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 35 - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

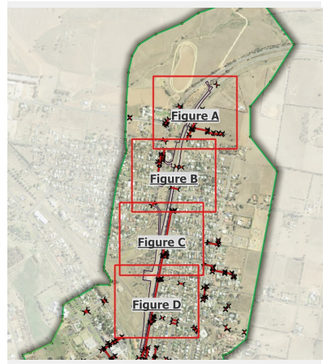
Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet

CH 484 800
CH 484 850
CH 484 900
CH 484 950
CH 485 000
CH 485 050
CH 485 100
CH 485 150
CH 485 150
Pitt Street
Bolton Street
Commins Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 35a - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

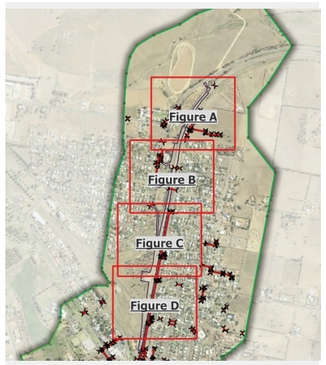
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 35b - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

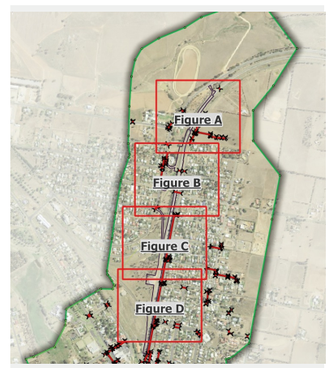
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 35c - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

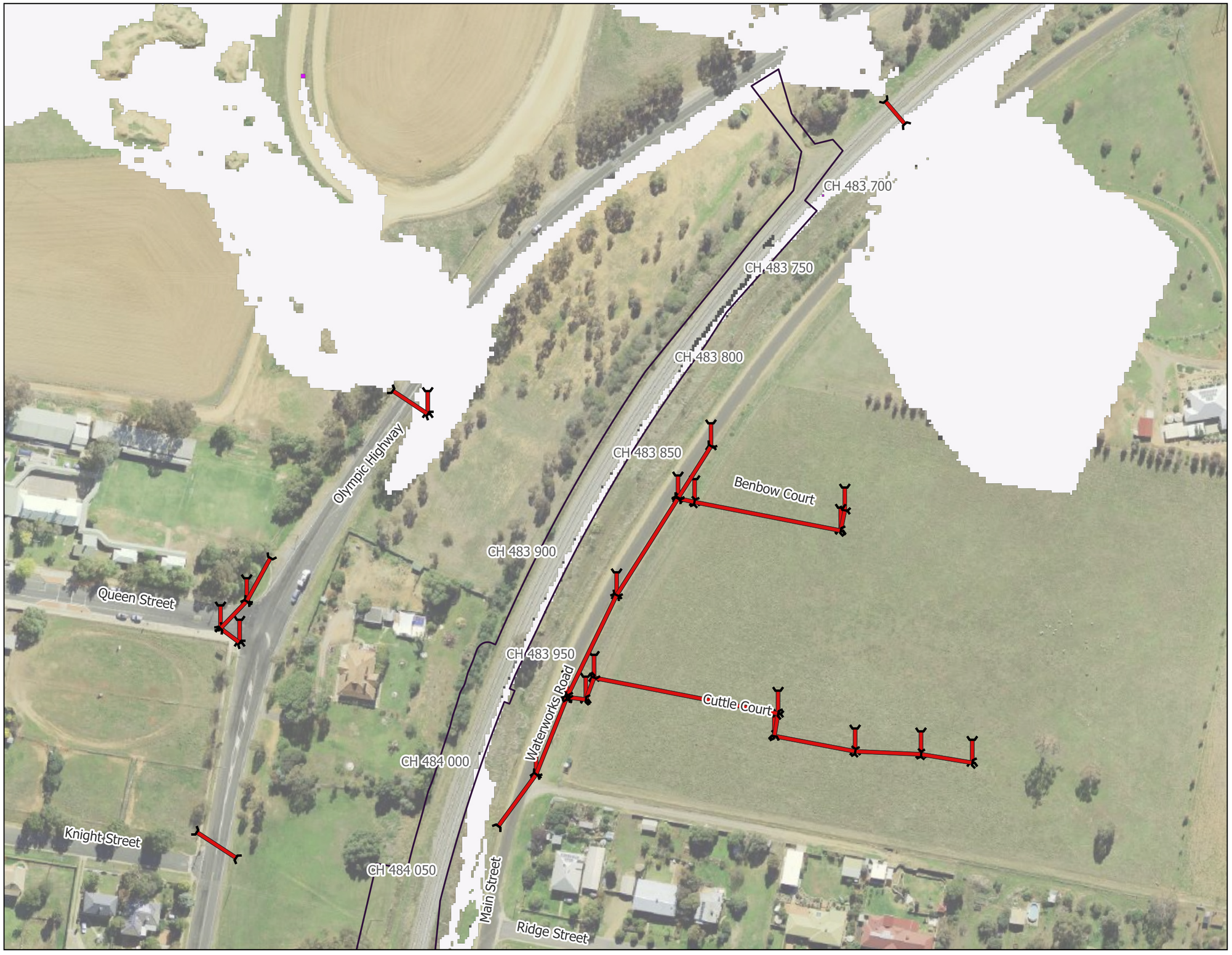
- TUFLOW Model Extent
- Project Boundary
- Drainage

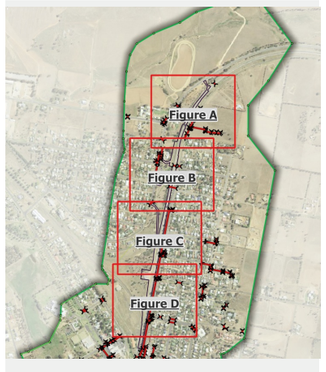
Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet





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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 35d - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

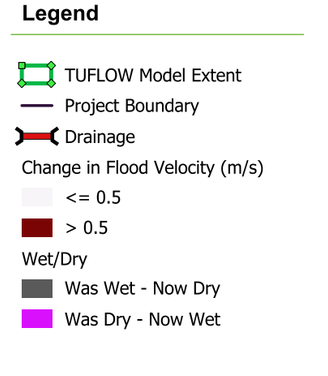
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 36 - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

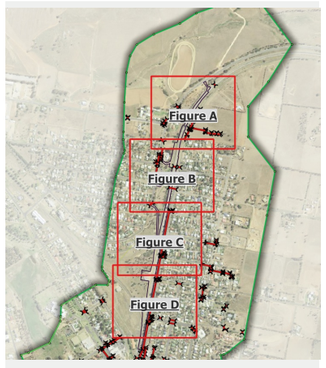
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 36a - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

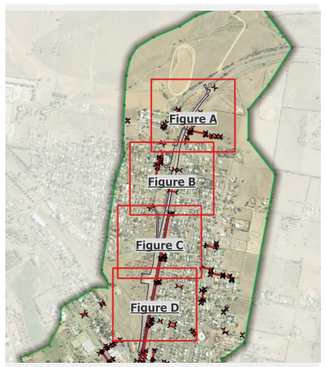
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 36b - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

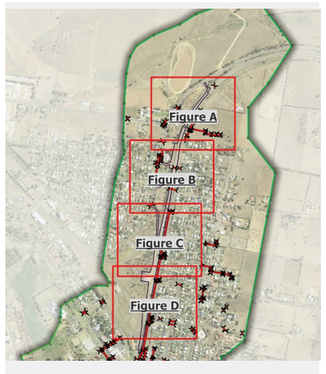
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 36c - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

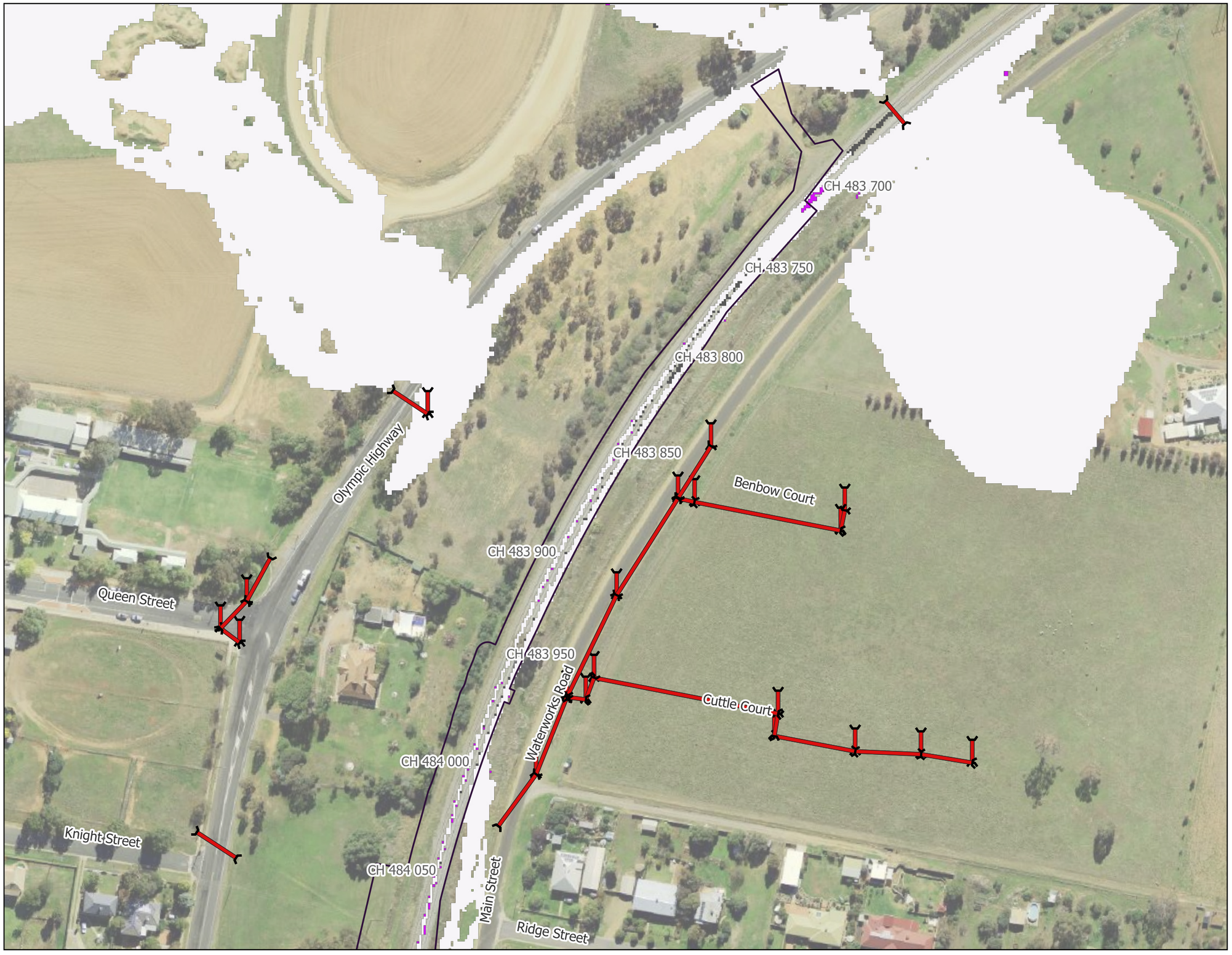
- TUFLOW Model Extent
- Project Boundary
- Drainage

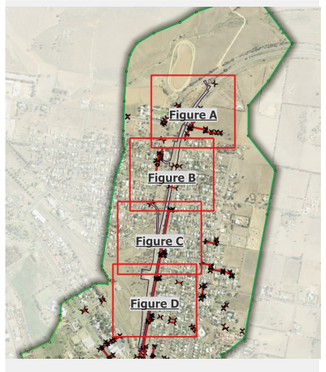
Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet





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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 36d - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

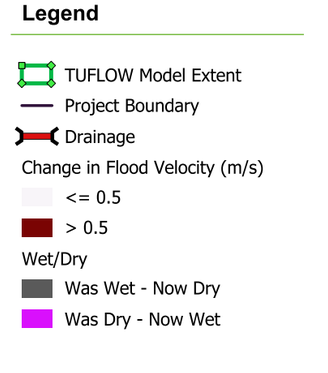
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 37 - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

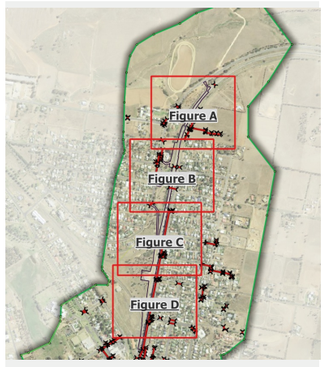
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 37a - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

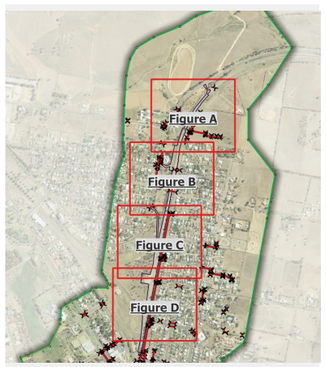
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 37b - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

Knight Street
Olympic Highway
CH 484 050
CH 484 100
Main Street
Ridge Street
Prince Street
CH 484 150
CH 484 200
Lillian Street
CH 484 250
Marquis Street
Illabo Road
CH 484 300
CH 484 350
Cedric Street
Regent Street
CH 484 400
Olympic Highway

MARTINUS
aurecon BG&E

Legend

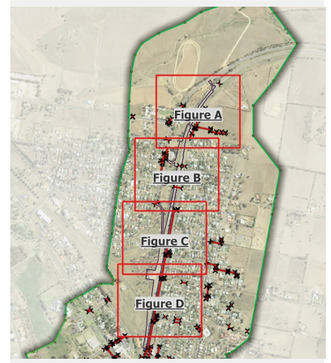
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 37c - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

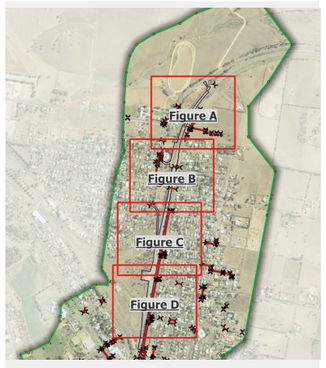
Change in Flood Velocity (m/s)

- <= 0.5
- > 0.5

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 37d - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Velocity (m/s) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

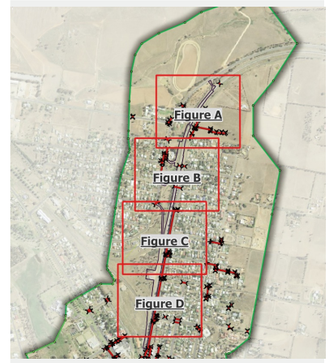
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 38 - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

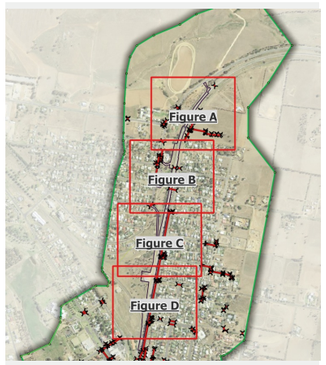
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 38a - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

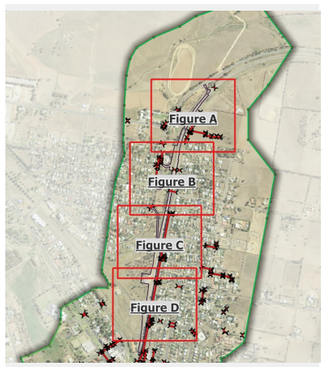
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 38b - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

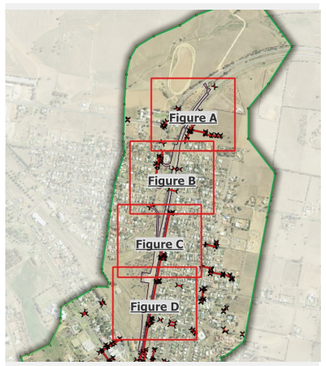
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

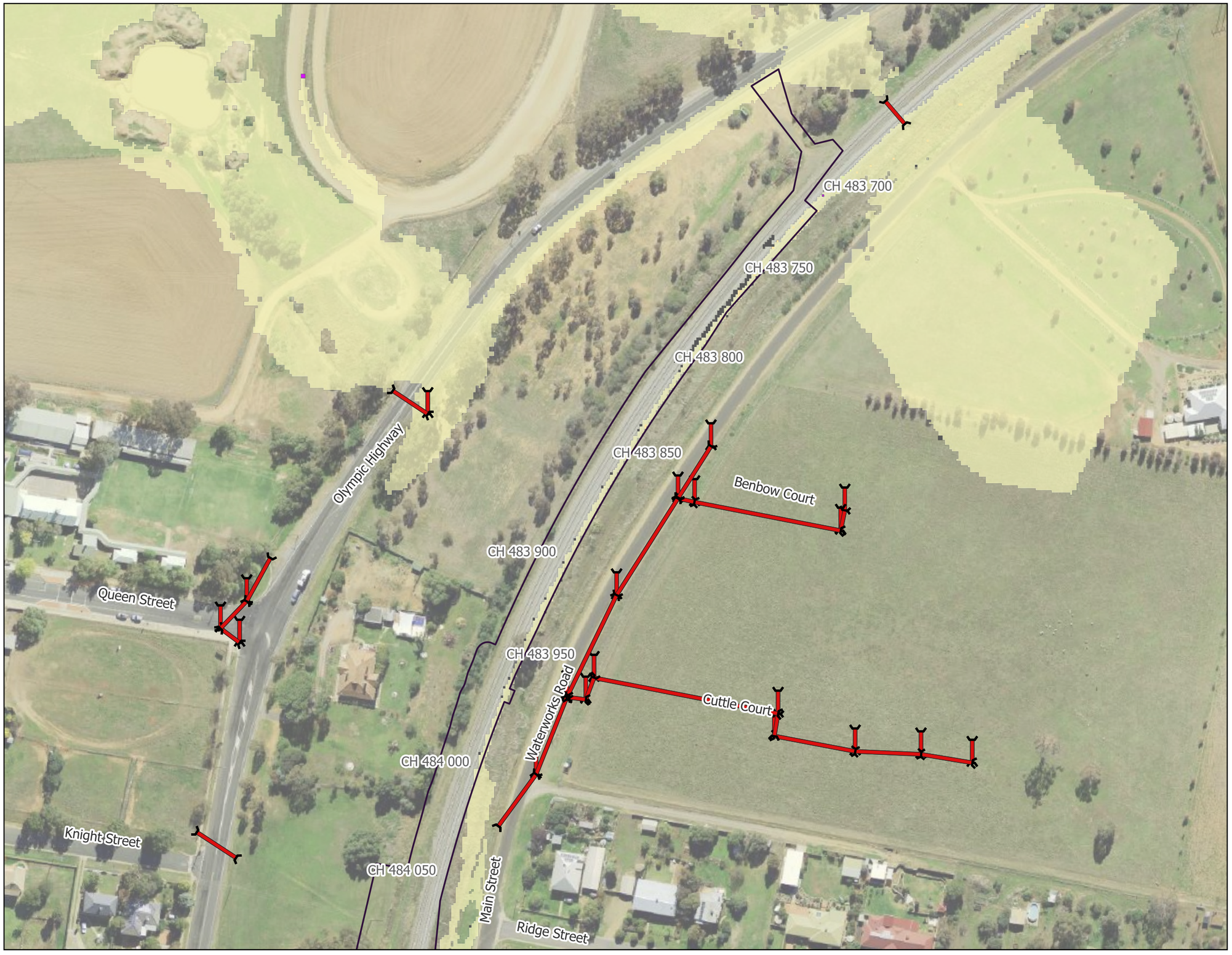
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 38c - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing



MARTINUS

aurecon BG&E

Legend

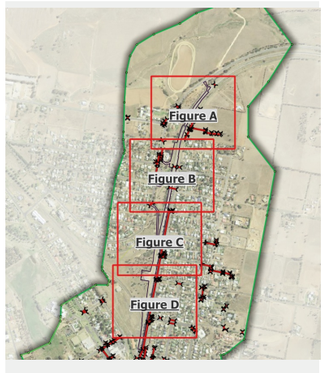
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 38d - Olympic Highway Underbridge - IFC Stage

5% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

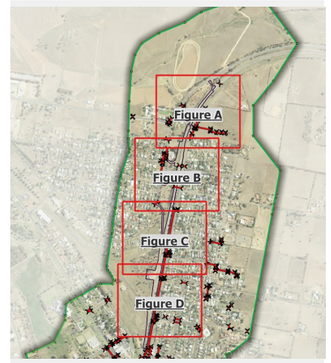
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 39 - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

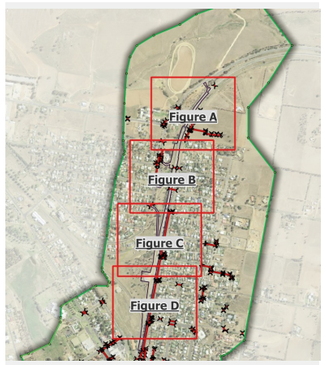
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 39a - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

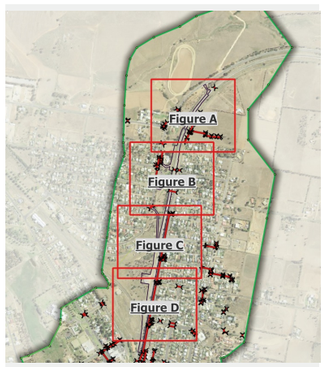
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 39b - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

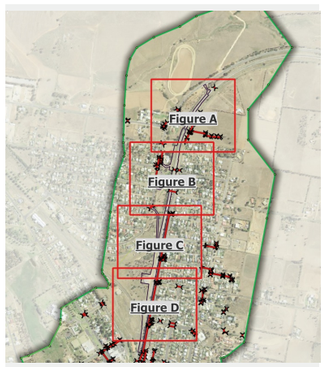
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

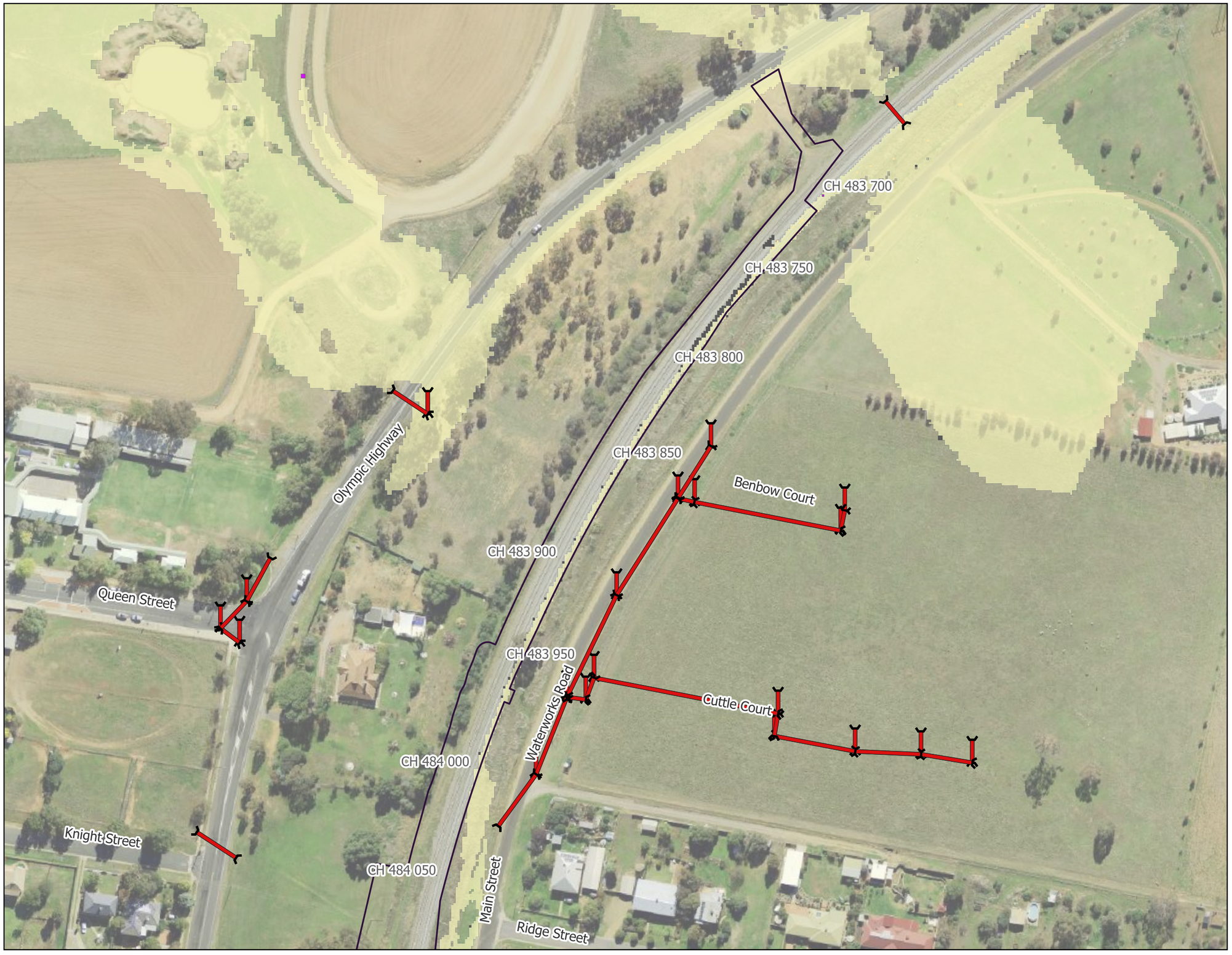
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 39c - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing



MARTINUS

aurecon BG&E

Legend

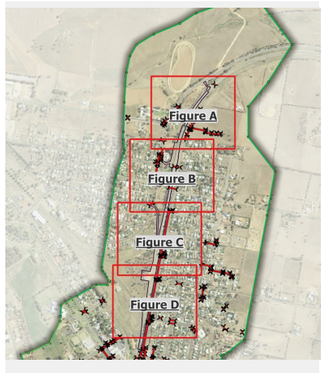
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 39d - Olympic Highway Underbridge - IFC Stage

2% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

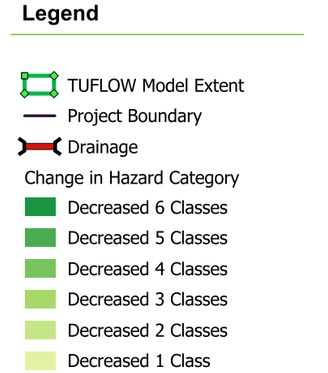
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 40 - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

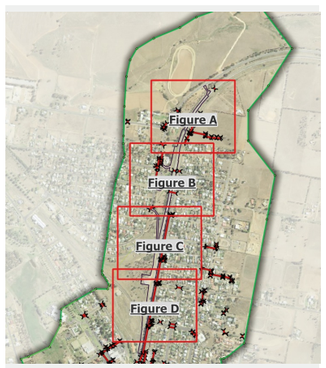
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 40a - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

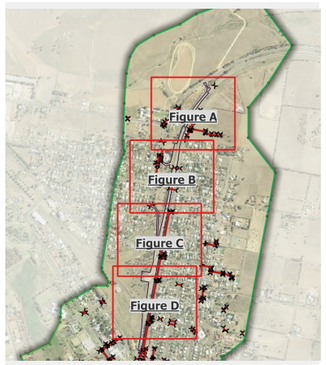
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 40b - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

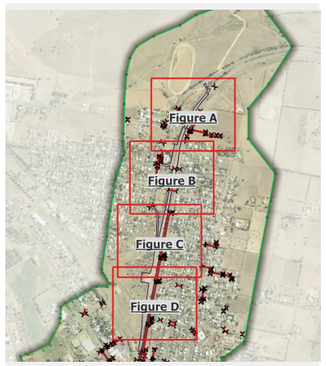
- TUFLOW Model Extent
- Project Boundary
- Drainage

Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 40c - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

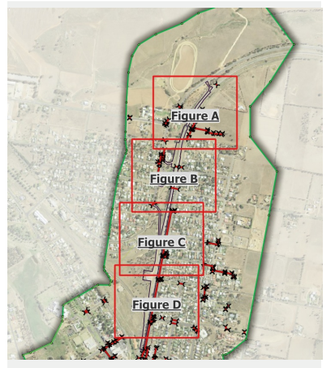
Change in Hazard Category

- Decreased 6 Classes
- Decreased 5 Classes
- Decreased 4 Classes
- Decreased 3 Classes
- Decreased 2 Classes
- Decreased 1 Class
- No Change
- Increased 1 Class
- Increased 2 Classes
- Increased 3 Classes
- Increased 4 Classes
- Increased 5 Classes
- Increased 6 Classes

Wet/Dry

- Was Wet - Now Dry
- Was Dry - Now Wet

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 40d - Olympic Highway Underbridge - IFC Stage

1% AEP Changes in Flood Hazard (ARR2019) - Developed Less Existing

MARTINUS

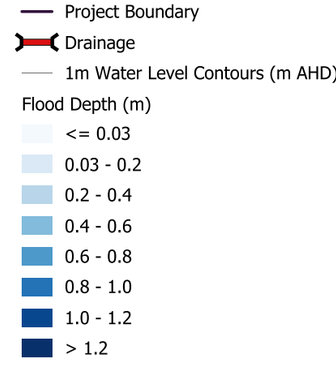
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 41 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Blockage Sensitivity

MARTINUS

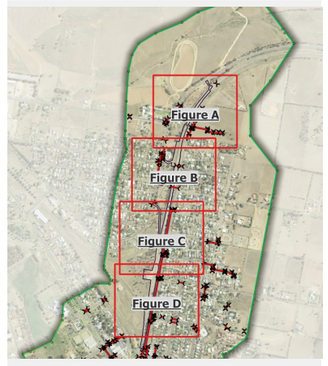
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 41a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Blockage Sensitivity

MARTINUS

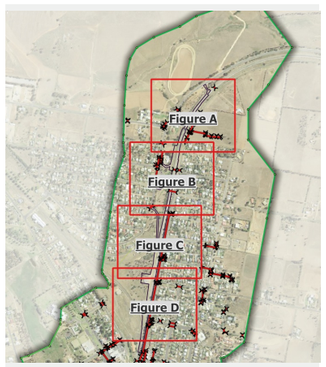
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



R:\BGE\BNE\BE22012.01 A2P ENHANCEMENT D&C\100 DRAW\100.8 Flooding\Workspace

Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 41b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Blockage Sensitivity

MARTINUS

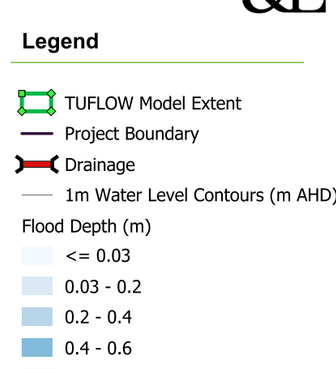
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



R:\BGE\BNE\BE22012.01 A2P ENHANCEMENT D&C\100 DRAW\100.8 Flooding\Workspace

Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 41c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Blockage Sensitivity

MARTINUS

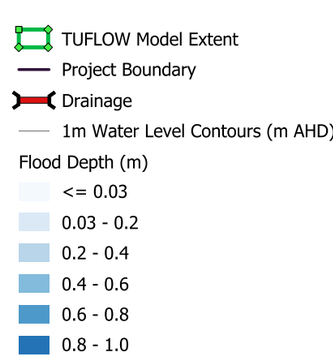
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage
- 1m Water Level Contours (m AHD)

Flood Depth (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.2
- > 1.2



R:\BGE\BNE\BE22012.01 A2P ENHANCEMENT D&C\100 DRAW\100.8 Flooding\Workspace

Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 41d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Depth (m) and Levels (m AHD) - Blockage Sensitivity

MARTINUS

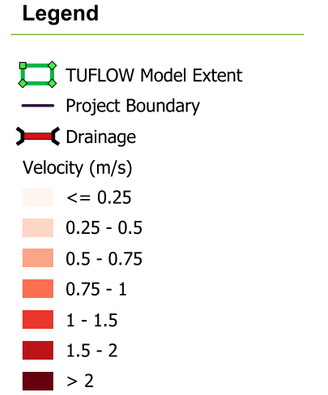
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

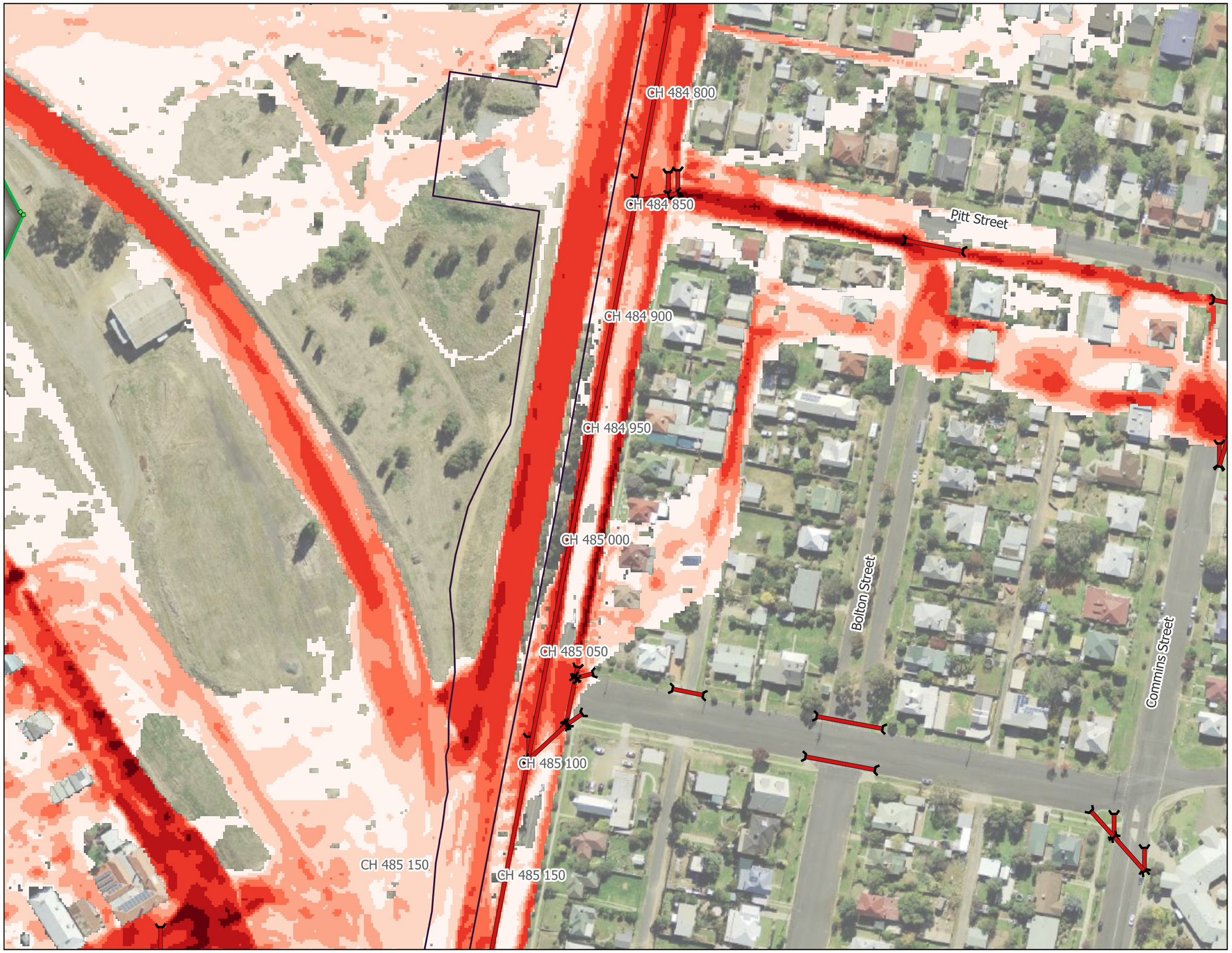
0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 42 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Blockage Sensitivity



MARTINUS

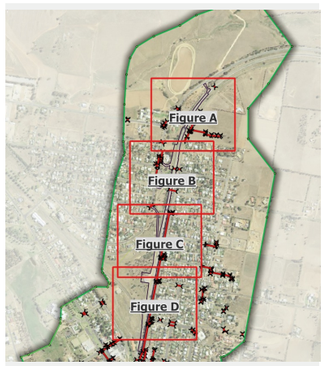
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



R:\BGE\BNE\BE22012.01 A2P ENHANCEMENT D&C\100 DRAW\100.8 Flooding\Workspace

Map by: SM

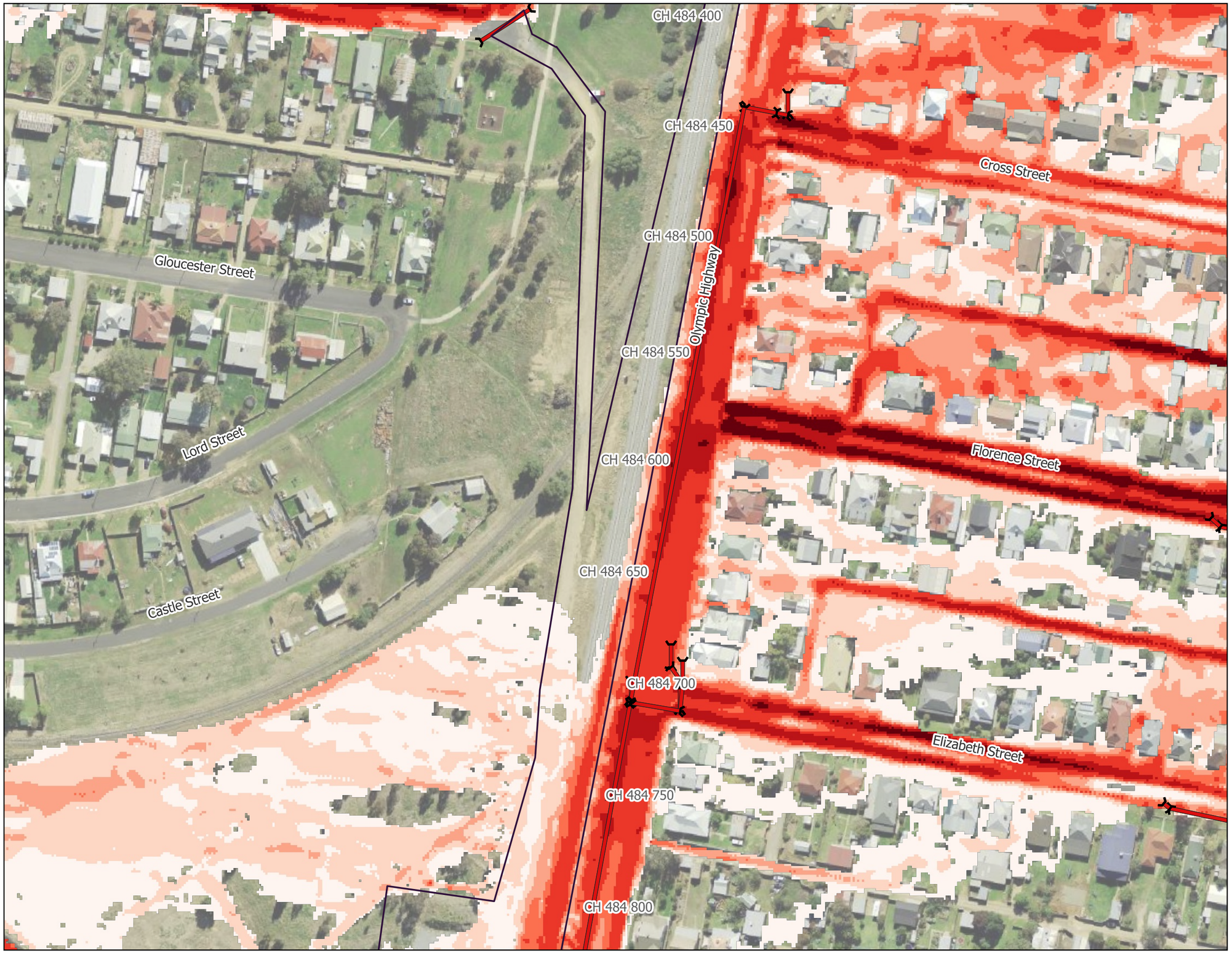
0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 42a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Blockage Sensitivity



MARTINUS

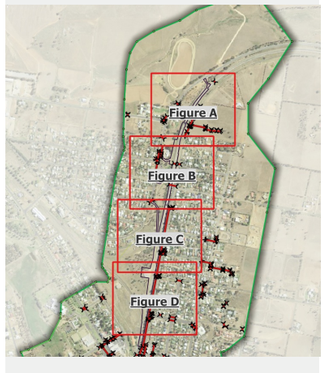
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 42b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Blockage Sensitivity

MARTINUS

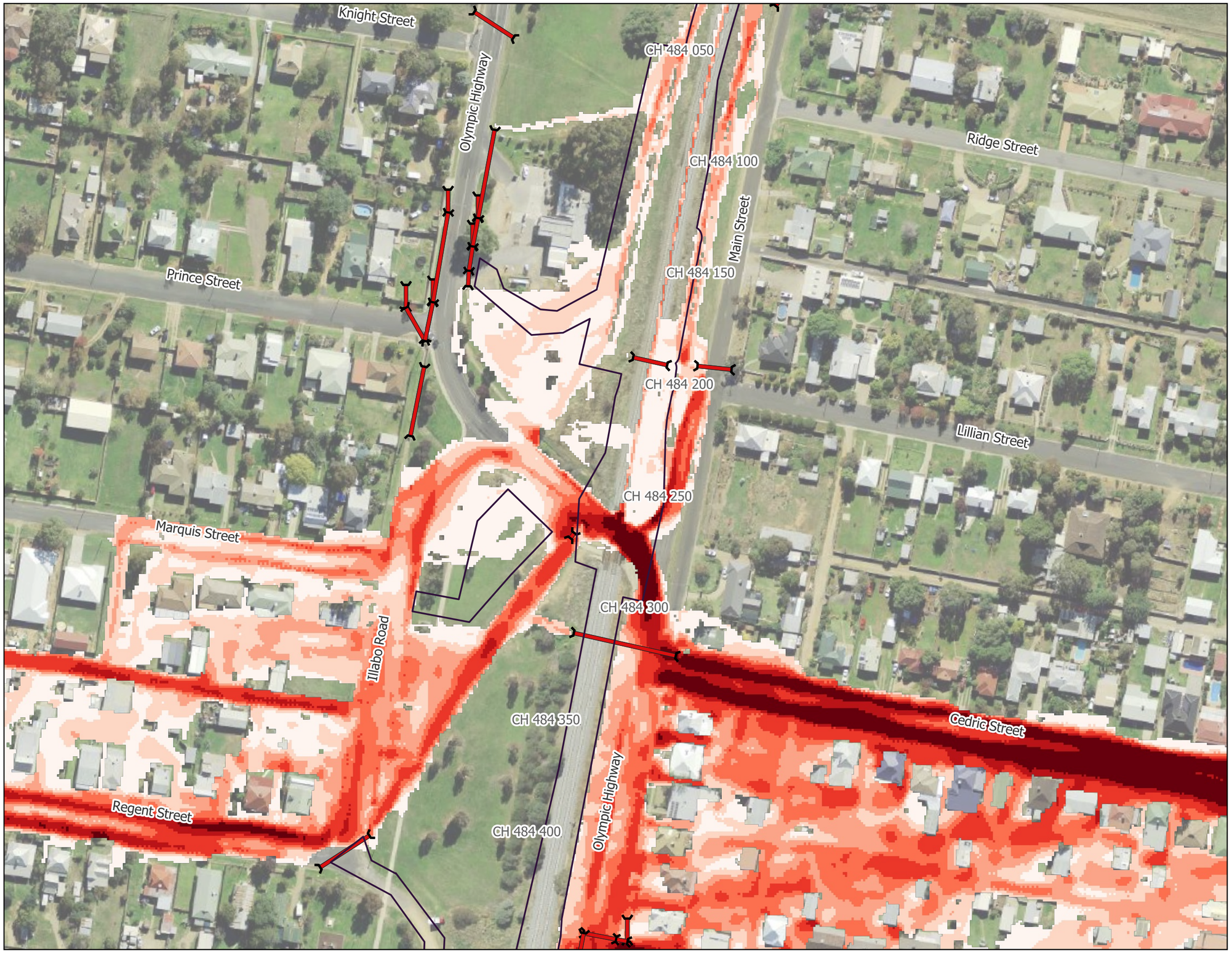
aurecon BG&E

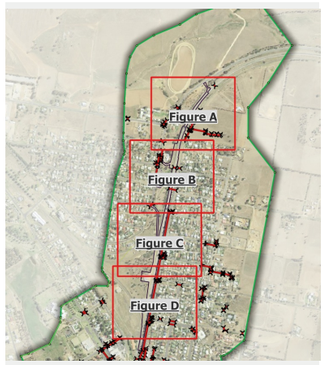
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2





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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 42c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Blockage Sensitivity

MARTINUS

aurecon BG&E

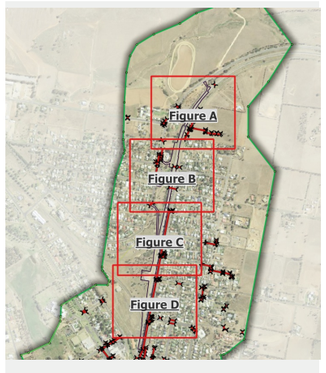
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Velocity (m/s)

- <= 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- > 2

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Queen Street
Waterworks Road
Cuttle Court
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 42d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Velocity (m/s) - Blockage Sensitivity

MARTINUS

aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

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Map by: SM

0 200 400 m

A3 Scale: 1:6,951.772763

28/7/2025 GDA2020 MGA Zone55

Figure 43 - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Blockage Sensitivity

MARTINUS

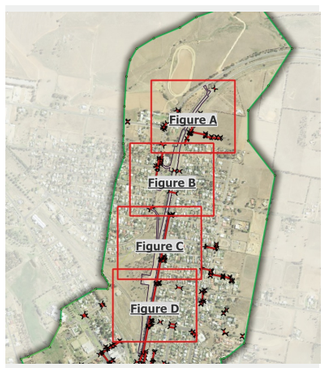
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



R:\BGE\BNE\BE22012.01 A2P ENHANCEMENT D&C\100 DRAW\100.8 Flooding\Workspace

Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 43a - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Blockage Sensitivity

MARTINUS

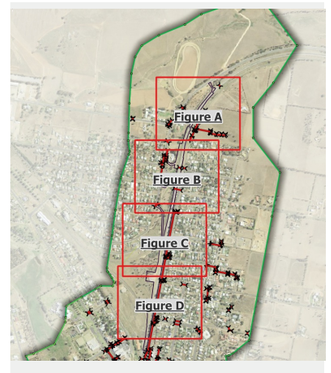
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 43b - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Blockage Sensitivity

MARTINUS

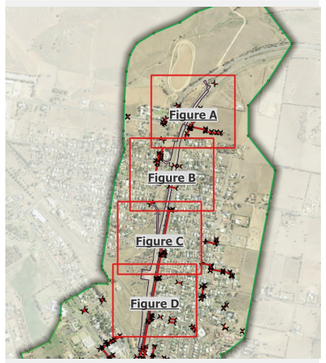
aurecon BG&E

Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 43c - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Blockage Sensitivity

MARTINUS

aurecon BG&E

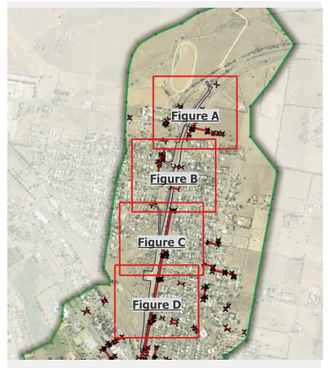
Legend

- TUFLOW Model Extent
- Project Boundary
- Drainage

Flood Hazard Category

- H1
- H2
- H3
- H4
- H5
- H6

CH 483 700
CH 483 750
CH 483 800
CH 483 850
CH 483 900
CH 483 950
CH 484 000
CH 484 050
Olympic Highway
Benbow Court
Cuttle Court
Waterworks Road
Queen Street
Knight Street
Main Street
Ridge Street



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Map by: SM

0 60 120 m

A3 Scale: 1:1,658.667834

28/7/2025 GDA2020 MGA Zone55

Figure 43d - Olympic Highway Underbridge - IFC Stage

1% AEP Flood Hazard (ARR2019) - Blockage Sensitivity

APPENDIX B

Hydrologic Data (ARR Data Hub)

Results - ARR Data Hub
[STARTTXT]

Input Data Information
[INPUTDATA]
Latitude,-34.851554
Longitude,147.601247
[END_INPUTDATA]

River Region
[RIVREG]
division,Murray-Darling Basin
rivregnum,12
River Region,Murrumbidgee River
[RIVREG_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v1
[END_RIVREG]

ARF Parameters
[LONGARF]
Zone,Southern Temperate
a,0.158
b,0.276
c,0.372
d,0.315
e,0.000141
f,0.41
g,0.15
h,0.01
i,-0.0027
[LONGARF_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v1
[END_LONGARF]

Storm Losses
[LOSSES]
id,16681.0
Storm Initial Losses (mm),27.0
Storm Continuing Losses (mm/h),4.5
[LOSSES_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v1
[END_LOSSES]

Temporal Patterns
[TP]
code,MB
Label,Murray Basin
[TP_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v2
[END_TP]

Areal Temporal Patterns
[ATP]
code,MB

arealabel,Murray Basin
[ATP_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v2
[END_ATP]

BOM IFD Depths
[BOMIFD]
No data,No data found at this location!
[BOMIFD_META]
Time Accessed,08 April 2025 05:49PM
[END_BOMIFD]

Median Preburst Depths and Ratios
[PREBURST]
min (h)\AEP(%),50,20,10,5,2,1,
60 (1.0),2.6 (0.135),2.0 (0.075),1.6 (0.050),1.2 (0.032),1.0 (0.022),0.8 (0.017),
90 (1.5),1.9 (0.087),1.4 (0.046),1.1 (0.029),0.7 (0.018),0.6 (0.011),0.4 (0.008),
120 (2.0),4.2 (0.176),3.3 (0.101),2.8 (0.070),2.2 (0.049),1.0 (0.018),0.1 (0.001),
180 (3.0),3.5 (0.129),3.2 (0.087),3.1 (0.069),2.9 (0.056),1.4 (0.023),0.3 (0.004),
360 (6.0),1.9 (0.058),1.1 (0.024),0.5 (0.010),0.0 (0.000),0.7 (0.009),1.3 (0.014),
720 (12.0),0.2 (0.004),1.1 (0.020),1.7 (0.026),2.3 (0.029),6.2 (0.065),9.0 (0.085),
1080 (18.0),0.0 (0.000),0.4 (0.007),0.7 (0.009),0.9 (0.011),4.0 (0.038),6.2 (0.052),
1440 (24.0),0.0 (0.000),0.2 (0.003),0.3 (0.004),0.4 (0.004),0.5 (0.005),0.7 (0.005),
2160 (36.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
2880 (48.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
4320 (72.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
[PREBURST_META]
Time Accessed,08 April 2025 05:49PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST]

10% Preburst Depths
[PREBURST10]
min (h)\AEP(%),50,20,10,5,2,1,
60 (1.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
90 (1.5),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
120 (2.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
180 (3.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
360 (6.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
720 (12.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
1080 (18.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
1440 (24.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
2160 (36.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
2880 (48.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
4320 (72.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
[PREBURST10_META]
Time Accessed,08 April 2025 05:49PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST10]

25% Preburst Depths
[PREBURST25]
min (h)\AEP(%),50,20,10,5,2,1,

60 (1.0),0.1 (0.005),0.1 (0.002),0.0 (0.001),0.0 (0.000),0.0 (0.000),0.0 (0.000),
90 (1.5),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
120 (2.0),0.1 (0.002),0.0 (0.001),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
180 (3.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
360 (6.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
720 (12.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
1080 (18.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
1440 (24.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
2160 (36.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
2880 (48.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
4320 (72.0),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),0.0 (0.000),
[PREBURST25_META]
Time Accessed,08 April 2025 05:49PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST25]

75% Preburst Depths
[PREBURST75]
min (h)\AEP(%),50,20,10,5,2,1,
60 (1.0),13.2 (0.694),12.5 (0.474),12.0 (0.381),11.6 (0.314),14.8 (0.337),17.3 (0.348),
90 (1.5),15.1 (0.695),12.4 (0.413),10.6 (0.296),8.9 (0.213),9.1 (0.182),9.3 (0.164),
120 (2.0),15.9 (0.668),16.3 (0.496),16.5 (0.422),16.8 (0.368),11.1 (0.204),6.9 (0.112),
180 (3.0),12.7 (0.471),15.2 (0.410),16.9 (0.380),18.5 (0.357),18.6 (0.300),18.7 (0.267),
360 (6.0),11.9 (0.355),11.3 (0.247),10.9 (0.200),10.6 (0.165),17.3 (0.226),22.3 (0.257),
720 (12.0),4.1 (0.099),8.2 (0.146),10.9 (0.163),13.5 (0.172),22.0 (0.234),28.4 (0.265),
1080 (18.0),3.5 (0.075),6.6 (0.105),8.7 (0.115),10.7 (0.121),15.5 (0.147),19.2 (0.160),
1440 (24.0),0.2 (0.004),3.3 (0.048),5.3 (0.065),7.3 (0.076),8.9 (0.078),10.1 (0.079),
2160 (36.0),0.0 (0.000),1.2 (0.016),2.0 (0.022),2.7 (0.026),3.7 (0.030),4.5 (0.032),
2880 (48.0),0.0 (0.000),0.3 (0.004),0.5 (0.006),0.7 (0.007),1.6 (0.012),2.3 (0.016),
4320 (72.0),0.0 (0.000),0.0 (0.000),0.1 (0.001),0.1 (0.001),0.2 (0.001),0.3 (0.002),
[PREBURST75_META]
Time Accessed,08 April 2025 05:49PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST75]

90% Preburst Depths
[PREBURST90]
min (h)\AEP(%),50,20,10,5,2,1,
60 (1.0),26.6 (1.398),22.8 (0.865),20.3 (0.643),17.9 (0.487),26.1 (0.594),32.3 (0.650),
90 (1.5),33.8 (1.558),29.7 (0.989),27.0 (0.752),24.4 (0.583),26.6 (0.532),28.3 (0.501),
120 (2.0),34.8 (1.466),33.1 (1.011),32.0 (0.817),31.0 (0.679),31.7 (0.580),32.2 (0.522),
180 (3.0),24.9 (0.926),29.0 (0.782),31.7 (0.715),34.2 (0.663),36.2 (0.585),37.6 (0.537),
360 (6.0),23.5 (0.703),27.1 (0.593),29.5 (0.541),31.9 (0.499),46.8 (0.611),58.0 (0.668),
720 (12.0),17.3 (0.417),25.3 (0.450),30.7 (0.456),35.8 (0.455),47.1 (0.500),55.6 (0.520),
1080 (18.0),16.1 (0.345),20.4 (0.322),23.2 (0.307),25.9 (0.293),42.8 (0.406),55.5 (0.464),
1440 (24.0),11.0 (0.218),14.8 (0.217),17.4 (0.213),19.8 (0.208),20.5 (0.180),21.0 (0.163),
2160 (36.0),3.5 (0.062),8.8 (0.116),12.3 (0.136),15.7 (0.149),16.6 (0.133),17.3 (0.123),
2880 (48.0),0.7 (0.011),6.8 (0.083),10.8 (0.112),14.7 (0.131),19.5 (0.148),23.1 (0.156),
4320 (72.0),0.2 (0.004),4.3 (0.049),7.0 (0.067),9.6 (0.080),13.3 (0.094),16.2 (0.103),
[PREBURST90_META]
Time Accessed,08 April 2025 05:49PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

[END_PREBURST90]

Interim Climate Change Factors
[CCF]
2030,0.85 (4.3%),0.845 (4.2%),0.974 (4.9%),
2040,1.086 (5.4%),1.05 (5.3%),1.341 (6.7%),
2050,1.303 (6.5%),1.283 (6.4%),1.734 (8.7%),
2060,1.478 (7.4%),1.539 (7.7%),2.212 (11.1%),
2070,1.629 (8.1%),1.775 (8.9%),2.753 (13.8%),
2080,1.741 (8.7%),2.036 (10.2%),3.26 (16.3%),
2090,1.793 (9.0%),2.316 (11.6%),3.748 (18.7%),
[CCF_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v1
Note,ARR recommends the use of RCP4.5 and RCP 8.5 values
[END_CCF]

Probability Neutral Burst Initial Loss
[BURSTIL]
min (h)\AEP(%),50.0,20.0,10.0,5.0,2.0,1.0
60 (1.0),19.2,11.2,10.8,11.7,11.0,8.6
90 (1.5),18.6,11.2,11.3,12.4,12.2,10.8
120 (2.0),17.6,11.1,10.5,11.3,11.5,10.6
180 (3.0),18.5,12.7,11.2,12.1,11.0,8.0
360 (6.0),19.3,14.4,13.9,14.9,13.2,8.2
720 (12.0),22.0,16.3,15.2,15.9,12.6,6.9
1080 (18.0),22.7,17.9,17.2,17.6,14.5,9.9
1440 (24.0),24.2,19.5,19.8,20.8,19.1,12.9
2160 (36.0),25.9,21.6,21.8,23.2,21.0,15.9
2880 (48.0),27.0,22.3,22.5,23.9,21.7,15.0
4320 (72.0),27.5,22.8,24.2,24.9,22.7,18.2
[BURSTIL_META]
Time Accessed,08 April 2025 05:53PM
Version,2018_v1
Note,As this point is in NSW the advice provided on losses and pre-burst on the NSW Specific Tab of the ARR Data Hub is to be considered. In NSW losses are derived considering a hierarchy of approaches depending on the available loss information. Probability neutral burst initial loss values for NSW are to be used in place of the standard initial loss and pre-burst as per the losses hierarchy.
[END_BURSTIL]
Transformational Pre-burst Rainfall
[PREBURST_TRANS]
min (h)\AEP(%),50.0,20.0,10.0,5.0,2.0,1.0
60 (1.0),7.3,15.3,15.7,14.8,15.5,17.9
90 (1.5),7.9,15.3,15.2,14.1,14.3,15.7
120 (2.0),8.9,15.4,16.0,15.2,15.0,15.9
180 (3.0),8.0,13.8,15.3,14.4,15.5,18.5
360 (6.0),7.2,12.1,12.6,11.6,13.3,18.3
720 (12.0),4.5,10.2,11.3,10.6,13.9,19.6
1080 (18.0),3.8,8.6,9.3,8.9,12.0,16.6
1440 (24.0),2.3,7.0,6.7,5.7,7.4,13.6
2160 (36.0),0.6,4.9,4.7,3.3,5.5,10.6
2880 (48.0),0.0,4.2,4.0,2.6,4.8,11.5
4320 (72.0),0.0,3.7,2.3,1.6,3.8,8.3
[PREBURST_TRANS_META]

The tranformational pre-burst is intended for software suppliers in the NSW area and is simply the Initial Loss - Burst Initial Loss. It is not appropriate to use these values if considering a calibrated initial loss.
[END_PREBURST_TRANS]

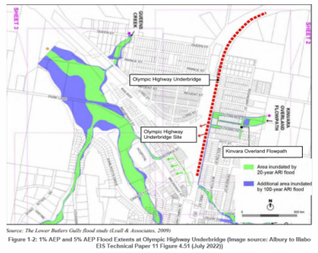
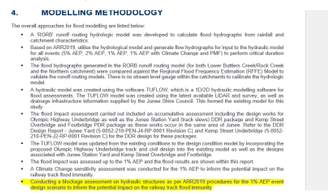
Baseflow Factors
[BASEFLOW]
downstream,10673
area_sqkm,1286.073216
catch_no,10569
Volume Factor,0.140353
Peak Factor,0.050919
[BASEFLOW_META]
Time Accessed,08 April 2025 05:49PM
Version,2016_v1
[END_BASEFLOW]

[ENDTXT]

APPENDIX C

ARTC Review

Document Control Information			
	Contractor DC to update for re-submission	**Submitted Document No. or Transmittal No.:**	Martinus-PTRAN-001321
Project:	2100 - A2I	**Date Submission Received:**	16/05/2025
Comment Sheet Number_Revision:	5-0052-210-IHY-J6-CS-0001_C	**Comment Sheet Title:**	***External Comment Sheet - A2I | Olympic Highway Bridge - Flood Design Report***
Revision Date:	28/08/2025	**Documents related in Aconex** (by IR DC)	Yes

	Review Comments (Reviewer)								Responses (Document Owner)				Close-Out			
#	PSR ID No. or Compliance Reference Document	Document / drawing number - Revision Number	Section # / page #	Engineering Assurance Stage	Comment	Comment Type	Full Name	Date	Full Name	Company	Date	Response	Documentation Section # / Figure #	Full Name	Date	Comment Status	Close-Out Comment
Example	*IR-SR-A2I-317 or 01-3500-PD-P00-DE-0008-A*	*0-0000-900-PEN-00-TE-0020_A*		*CRR*	*Is there sufficient space for a 10m maintenance vehicle to turn around at the end of the RMAR?*	*Non-Compliant*	*Joe Bloggs*	*15/02/2023*	*Fred Bloggs*	*Designer*	*15/03/2023*	*The area has been increased - now possible to turn 12.5m vehicle. The drawings are updated.*	*01-3500-PD-P00-DE-0008-A 01-3500-PD-P00-DE-0015-C*	*Jane Doe*	*27/09/2023*	CLOSED	
1	PSR Ann F	5-0052-210-IHY-J6-RP-0001_A	Page 2, 5-0052-210-IHY-J6-RP-0001, Page 1, Document Control	DDR	M Gunasekera, unable to verify EDPM Competency in RIW	Non-Compliant	Mick Parnell	16/06/2025	Yucen Lu	DJV	29/07/2025	DJV in process with ARTC Competency application forms for Flooding team , to still be assessed by Assessor. We plan to have this in place by latest mid-Aug 25		Michael Parnell	27/08/2025	CLOSED	
2	PSR Ann F	5-0052-210-IHY-J6-RP-0001_A	Page 2, 5-0052-210-IHY-J6-RP-0001, Page 1, Document Control	DDR	Y Lu, unable to verify EDPM Competency in RIW	Opportunity	Mick Parnell	16/06/2025	Yucen Lu	DJV	29/07/2025	DJV in process with ARTC Competency application forms for Flooding team , to still be assessed by Assessor. We plan to have this in place by latest mid-Aug 25		Michael Parnell	27/08/2025	CLOSED	
3	PSR Ann F	5-0052-210-IHY-J6-RP-0001_A	Page 2, 5-0052-210-IHY-J6-RP-0001, Page 1, Document Control	DDR	J Lee, unable to verify EDPM Competency in RIW	Non-Compliant	Mick Parnell	16/06/2025	Yucen Lu	DJV	29/07/2025	DJV in process with ARTC Competency application forms for Flooding team , to still be assessed by Assessor. We plan to have this in place by latest mid-Aug 25		Michael Parnell	27/08/2025	CLOSED	
4	*Clarification*	5-0052-210-IHY-J6-RP-0001_A	Page 10, 5-0052-210-IHY-J6-RP-0001_A P1, Section 1.6.3	DDR	I believe it would be "quantitative" instead of "qualitative"	Opportunity	Ayub Ali	26/05/2025	Malinda Gunasekera	DJV	29/07/2025	Noted. Corrected and updated for IFC report. Screenshot below **1.6.3. Detailed Design** Flooding assessment for the Olympic Highway Underbridge was included as a variation to the A2I Detailed Design works, as it was not originially included in the Reference Design stage. During tender, the draft EIS assessment and draft Conditions of Approval were used to form the position that qualitative and drainage assessment only would be required for the site. However, upon CSSI project approval, the conditions of approval required quantitative assessment. Refer Section 1.6.4 below.	DOC NO: 5-0052-210-IHY-J6-RP-0001_0 - Section 1.6.3	Ayub Ali	4/08/2025	CLOSED	This item is closed based on the screenshot evidence.
5	*Clarification*	5-0052-210-IHY-J6-RP-0001_A	Page 10, 5-0052-210-IHY-J6-RP-0001_A P1, Section 1.6.4	DDR	Is there any flood map in support of this claim? Inclusion of such map here would be helpful.	Opportunity	Ayub Ali	26/05/2025	Malinda Gunasekera	DJV	29/07/2025	The flood map shown in Figure 1-2 demonstrates that the site is not affected by river flooding in the 1% AEP event, as stated in the EIS.	DOC NO: 5-0052-210-IHY-J6-RP-0001_0 - Section 1.6.4	Ayub Ali	4/08/2025	CLOSED	This item is closed based on the satisfactory response.
6	*Clarification*	5-0052-210-IHY-J6-RP-0001_A	Page 10, 5-0052-210-IHY-J6-RP-0001_A P1, Figure 1-2	DDR	Can you please clarify why 5% AEP flood extended further from 1% AEP flooded area?	Opportunity	Ayub Ali	26/05/2025	Malinda Gunasekera	DJV	29/07/2025	As noted in the comment, it does not make sense that the 5% AEP has a larger flood extent than the 1% AEP. This appears to be an issue with the original EIS document figures. The previous figure in the document for Junee Yards EIS, has the same figure symbology but the green colour represents the 20 year ARI (5% AEP) and the blue represents the 100 year ARI (1% AEP). This appears to be the correct symbology. This symbology will be updated for the IFC report. Screenshot below.  Source: *The Lower Butters Gully flood study (Lyall & Associates, 2009)* **Figure 1-2: 1% AEP and 5% AEP Flood Extents at Olympic Highway Underbridge (Image source: Albury to Illabo EIS Technical Paper 11 Figure 4.51 (July 2022))**	DOC NO: 5-0052-210-IHY-J6-RP-0001_0 - Figure 1.2	Ayub Ali	4/08/2025	CLOSED	This item is closed based on the satisfactory response.
7	Clarification	5-0052-210-IHY-J6-RP-0001_A	Page 20, 5-0052-210-IHY-J6-RP-0001_A P1, Section 4	DDR	What about blockage assessment?	Opportunity	Ayub Ali	26/05/2025	Malinda Gunasekera	DJV	29/07/2025	Updated to reflect blockage assessment as per ARR2019 procedures. Screenshot below.  **4. MODELLING METHODOLOGY** The overall approaches for flood modelling are listed below: • A 1D/2D rainfall runoff routing hydrologic model was developed to calculate flood hydrographs from rainfall and catchment characteristics. • Based on ARR2019, utilise the hydrological model and generate flow hydrographs for input to the hydraulic model for all events (5% AEP, 2% AEP, 1% AEP, 1% AEP with Climate Change and PMF) to perform critical duration analysis. • The flood hydrographs generated in the SCIRS runoff routing model (for both Lower Butters Creek/Rock Creek and the Northern catchment) were compared against the Regional Flood Frequency Estimation (RFFE) Model to validate the runoff routing models. There is no stream level gauge within the catchments to calibrate the hydrologic model. • A hydraulic model was created using the software TUFLOW, which is a 1D/2D hydraulic modelling software for flood assessments. The TUFLOW model was created using the latest available LiDAR and survey, as well as drainage infrastructure information supplied by the Junee Shire Council. This formed the existing model for this study. • The flood impact assessment carried out included an accumulative assessment including the design works for Olympic Highway Underbridge as well as the Junee Station Yard (track slews) DDR package and Kamp Street Overbridge and Footbridge PDR package as these works occur in the same area of Junee. Refer to the DDR Design Report - Junee Yard (5-0052-210-PEN-JI-RP-0001 Revision C) and Kamp Street Underbridge (5-0052-210-PEN-JJ-RP-0001 Revision C) for the DDR design for these packages. • The TUFLOW model was updated from the existing conditions to the design condition model by incorporating the proposed Olympic Highway Underbridge track and civil design into the existing model as well as the designs associated with Junee Station Yard and Kamp Street Overbridge and Footbridge. • The flood impact was assessed up to the 1% AEP and the flood results are shown within this report. • A Climate Change sensitivity assessment was conducted for the 1% AEP to inform the potential impact on the railway track flood immunity. • Conducting a blockage assessment on hydraulic structures as per ARR2019 procedures for the 1% AEP event design scenario to inform the potential impact on the railway track flood immunity.	DOC NO: 5-0052-210-IHY-J6-RP-0001_0 - Section 4	Ayub Ali	4/08/2025	CLOSED	This item is closed based on the screenshot evidence.
8	Clarification	5-0052-210-IHY-J6-RP-0001_A	Page 35, 5-0052-210-IHY-J6-RP-0001_A P1, Section 5.4.3	DDR	Can you please check whether it is a mistake or not?	Opportunity	Ayub Ali	26/05/2025	Malinda Gunasekera	DJV	29/07/2025	This was not a mistake, its a function of the ZAEM1 Hazard classification graph. If the flood velocity changes from 1.95m/s to 2 m/s (even at a very shallow flood depth) it changes from H1 to H5. As discussed in the following sentences in the report, comparison of Z0 hazard values determined that it was not a material impact on hazard conditions. Further note that this flood hazard increase is not present in the subsequent IFC modelling and report.	DOC NO: 5-0052-210-IHY-J6-RP-0001_0 - Section 5.4.3	Ayub Ali	4/08/2025	CLOSED	This item is closed based on the satisfactory response.
9	Clarification	5-0052-210-IHY-J6-RP-0001_A	Page 35, 5-0052-210-IHY-J6-RP-0001_A P1, Section 5.4.4	DDR	Can you please check whether it is a typo or not?	Opportunity	Ayub Ali	26/05/2025	Malinda Gunasekera	DJV	29/07/2025	It is a typo and will be corrected in the IFC **5.4.4. Changes in Duration of Inundation** The analysis around the change in duration of inundation was undertaken by comparing the water level vs time for locations upstream and downstream of the site in the design and existing conditions. Reporting location A is downstream of the site on Regent Street while reporting location B is upstream of the site on Main Street. As seen in Figure 5-5 to Figure 5-9 the change in time in inundation is less than 1 hour and is therefore compliant with the CoA.	DOC NO: 5-0052-210-IHY-J6-RP-0001_0 - Section 5.4.4	Ayub Ali	4/08/2025	CLOSED	This item is closed based on the screenshot evidence.

Non-Compliant:	Non-compliance which requires correction before further design development occurs.
Opportunity:	Comment which identifies an opportunity to save capex, achieve increased quality or operational outcome. Not a non-compliance.

OPEN:	Comment has not been addressed.
CLOSED:	Comment is closed. No further action.
NEXT PHASE:	Comment response has been accepted. Resulting actions have been deferred to the next Phase of the Project (for Doc Control purposes the comment is considered OPEN)
TRANSFERRED:	Response is not acceptable or review has been split and the comment has been transferred to another comment sheet. (for Doc Control purposes comment is considered CLOSED)

APPENDIX D

External Consultation Review

D1 – TfNSW Review

D2 – CPHR Review

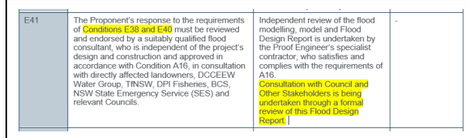
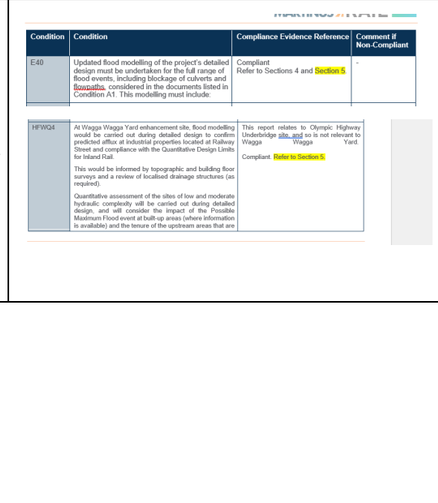
(NIL Council review)

APPENDIX D1

TfNSW Review

A2I Flood Design Report CONSULTATION - COMMENTS REGISTER Olympic Hwy bridge

Comment Sheet Number_Revision:	5-0052-210-IHY-J6-CS-0001-TW_B
Title:	External Comment Sheet - A2I | Olympic Highway Bridge - Flood Design Report - Transport for NSW (TfNSW)

Stakeholder Category	Stakeholder Name	Flood Design Report name	Document reference (e.g. section, figure, table)	Date raised	Topic that comment	Comments	Responder Name	Date	Response	Doc Evidence
State Government Agency	TfNSW	Olympic Hwy Flood Design Report 5-0052-210-IHY-J6-RP-0001_A	2.2. Conditions of Approval - Flooding	23/06/2025	Conditions of approval	In Table 2-2 for Condition of Approval E41 this should read "The Proponent's response to the requirements of Conditions E38 and E40..." - please correct.	Malinda Gunasekera / Zoe Cruice	27/06/2025	This has been corrected for the IFC report. Please see the screenshot below.	 E41 The Proponent's response to the requirements of Conditions E38 and E40 must be reviewed and endorsed by a suitably qualified flood consultant, who is independent of the project's design and construction and approved in accordance with Condition A16, in consultation with directly affected landowners, DCCEEW Water Group, TfNSW, DPI Fisheries, BCS, NSW State Emergency Service (SES) and relevant Councils. Independent review of the flood modelling, model and Flood Design Report is undertaken by the Proof Engineer's specialist contractor, who satisfies and complies with the requirements of A16. Consultation with Council and Other Stakeholders is being undertaken through a formal review of this Flood Design Report. -
State Government Agency	TfNSW	Olympic Hwy Flood Design Report 5-0052-210-IHY-J6-RP-0001_A	2.2. Conditions of Approval - Flooding	23/06/2025	Editorial	There are broken cross-references in the document i.e. Compliance Evidence Reference for E40 in Table 2-2 refers to Section 0. Please rectify all broken cross-references in the document for readability.	Malinda Gunasekera	27/06/2025	This has been corrected for the IFC report. Please see the screenshots below.	 Condition: E40 — Condition: Updated flood modelling of the project's detailed design must be undertaken for the full range of flood events, including blockage of culverts and floodpaths, considered in the documents listed in Condition A1. This modelling must include: — Compliance Evidence Reference: Compliant Refer to Sections 4 and Section 5. — Comment if Non-Compliant: - HFWQ4 — At Wagga Wagga Yard enhancement site, flood modelling would be carried out during detailed design to confirm predicted afflux at Industrial properties located at Railway Street and compliance with the Quantitative Design Limits for Inland Rail. This would be informed by topographic and building floor surveys and a review of localised drainage structures (as required). Quantitative assessment of the sites of low and moderate hydraulic complexity will be carried out during detailed design, and will consider the impact of the Possible Maximum Flood event at built-up areas (where information is available) and the tenure of the upstream areas that are — This report relates to Olympic Highway Underbridge sits, and so is not relevant to Wagga Wagga Yard. Compliant Refer to Section 5.

APPENDIX D

D2 – CPHR Review

A2I Flood Design Report CONSULTATION - COMMENTS REGISTER

Stakeholder Category	Stakeholder Name	Flood Design Report name	Document reference (e.g. section, figure, table)	Date raised	Topic that comment relates to	Comments	Responder Name	Date	Response	Doc Evidence
	CPHR	A2I-Olympic Highway Underbridge-Flood Design Report (5-0052-210-IHY-J6-RP-0001)	Generally	6/02/2025	Comparison with current Council flood modelling	As per the Kemp St works FDR, it is recommended that Martinus liaise with Junee Council to ensure consistency with the flood modelling they are currently completing for Junee.	Zoe Cruice	9/08/2025	Olympic Hwy UB site, Junee Yard, and Kemp St bridge package are all considered within a single flood assessment model, due their proximity. Each site's assessment considers the cummulative impact of the works from all 3 sites. The reports for all these sites is provided to Junee Shire Council for their review	IFC Report Section 5.4.5
	CPHR	A2I-Olympic Highway Underbridge-Flood Design Report (5-0052-210-IHY-J6-RP-0001)	Section 1.6.1	6/02/2025	Recommendation from the FRM Study and Plan (2011)	There were several recommendations included in the Lower Butlers Gully FRMS&P (2011) to mitigate flood risks in this area. Most notable is the recommendation to investigate the construction of detention basins on the Kinvara overland flow path and Rock(y) creeks to mitigate local flood impacts. Concept designs were even developed by Council as part of a subsequent project. Need to consult with Council on the status of these and include a discussion in subsequent reports.	Zoe Cruice	9/08/2025	The proposed works are compliant with the project and CSSI CoA criteria. There is no project approval requirement to further mitigate flood risks outside project scope.	IFC Report Section 2
	CPHR	General		6/11/2025	Blockages	Note that a 20% blockage has been adopted, but the reports lack discussion around why this blockage factor is realistic. Describe why a sensitivity analysis of a higher blockage percentage (eg. 50%) has not been completed.	Zoe Cruice	9/08/2025	A technical memo on the blockage sensitivity assessment has been prepared to address this query. Please refer 5-0052-210-IHY-99-ME-0001. This has been provided to TfNSW previously.	5-0052-210-IHY-99-ME-0001 'Flood Design Report - Blockage Assessment Methodology Memo'
	CPHR	General		6/11/2025	Attachments	Peer review and consultation was generally missing in all documents (some Council comments were included in one report). Being able to review these comments and understand how concerns have been addressed is an important part of the Department's review.	Zoe Cruice	9/08/2025	Reports are provided to external stakeholders for review, but they are under no obligation to make comments. Review comment sheets are only included if they are received by external stakeholders. Indep Flood Consultant review is consistently provided with reports, as this is a requirement of the project approval conditions.	Appendix to the Flood Design Report

APPENDIX E

Independent Flood Consultant Review

Project: 2300 **Deliverable:** Junee to Illabo - Olympic Highway Underbridge

Comment Sheet Reference: 5-0052-210-IHY-J6-CS-0001-PE_F

Review Comments (Reviewer)										Responses (Document Owner)					Close-Out				
#	Document number / drawing number - Revision Number	Section # / page #	Company	Full Name	Functional Area	Date	Design Gate	Comment (for example must be specific on non compliance. Reference	Comment Type	Full Name	Role	Date	Response (must be specific on how the comment has been addressed)	Where addressed (Section # / Figure #)	Full Name	Company	Date	Comment Outcome	Close-Out Comment
1	5-0052-210-IHY-J6-RP-0001_A	TUFLOW files	Hatch	Dan Williams	Flood Assessment	8/07/2025	DDR	It is recommended that details of the apparent cross-drainage asset at chainage 483.660 are included in the model.	Minor	Malinda Gunasekera	DJV	9/07/2025	Noted. This culvert will be included for the IFC stage flood modelling but does not have a material impact on flood results or compliance. See screenshot below for updated report. Table 3-4: Design Differences Between PDR and DDR Item 1 | Difference: Update Flood Model to include existing culvert at CH 483 + 660MB | Reason for Difference: To address review comments		Darren Lyons	Hatch	7/10/2025	CLOSED	It will have an impact on the flood results in that less water will flow south within the rail corridor but that is a positive impact. Agreed that it does not impact compliance.
2	5-0052-210-IHY-J6-RP-0001_A	TUFLOW files	Hatch	Dan Williams	Flood Assessment	8/07/2025	DDR	It is recommended that the conveyance of overland flow within the rail corridor is considered in the context of a potential risk to design and requirement for stormwater drainage management measures.	Minor	Malinda Gunasekera	DJV	9/07/2025	While flow is conveyed within the rail corridor, there are no non-compliances with regards to flood impacts (as they are all maintained within the project boundary) or flood immunity. From a drainage perspective, there are no earthworks or drainage design changes due to the relateively minor track slew (<300mm). In addition, as the track has been lifted (improving flood immunity), there was no risk identified to the project.		Darren Lyons	Hatch	7/10/2025	CLOSED	No further comment as it is not within our scope. The comment was only raised to ensure the impact indicated within the flood assessment has been communicated to the design team and considered accordingly.
3	5-0052-210-IHY-J6-RP-0001_0	3.4 & App. A	Hatch	Dan Williams	Flood Assessment	30/07/2025	IFC	The FDR acknowledges changes to the track design and the cross-drainage structure at ch. 483.660 have been implemented. However, changes have also been made to the hydrological inflow distribution (as evident in Section 5 and Appendix A mapping) but this is not acknowledged in Section 3.4 or Table 4.7. Can the reasoning behind this significant change in model setup please be explained and documented in the FDR.	Minor	Malinda Gunasekera	DJV Flood Modeller	8/06/2025	The model extent and one inflow location was modified as a part of the Junee Yard IFC package. For this package, a combined Junee model was used (comprising of the entire Junee town area which includes the Olympic Highway, Junee Yard and Kemp Street sites) and as part of this, the inflow boundary was moved upstream and refined by taking into account the topography and the delineation of the sub catchments for that tributary. To keep consistency, this update was also undertaken for the Olympic Highway IFC package model. It should be noted that while there was a change in inflow location, it did not cause any non-compliances at the Olympic Highway site. These changes will be documented in Section 3.4 of the FDR. **3.4. DDR to IFC** **Table 3-4: Design Differences Between DDR and IFC** Item 1 | Difference: Update Flood Model to include IFC Track design | Reason for Difference: To undertake an assessment for IFC design Item 2 | Difference: Update Flood Model to include existing culvert at CH 483 + 660km | Reason for Difference: To address Proof Engineer review comments Item 3 | Difference: Update Flood Model to include shift in location of the inflow boundary and flood model extent at the eastern edge of the flood model east of Boundary Street (between around CH484+450km and CH485+000km) | Reason for Difference: To better represent the inflow with respect to topography and delineation of the relevant sub catchment and to keep consistency with other sites within Junee town (Junee Yard and Kemp Street) for the combined flood model.	Section 3.4 of 5-0052-210-IHY-J6-RP-0001_1	Darren Lyons	Hatch	8/08/2025	CLOSED	Noted. It is agreed that the updated inflow representation better matches the local catchment topography and this change does not affect the outcome of the assessment of the design works. The addition to the change log in the FDR is sufficient.

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