MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

MAIN STREET

ORR STREET

BROADWAY STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A45: (Northern Extent) Existing Conditions - 1% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

MAIN STREET

ORR STREET

BROADWAY STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2I – Junee Yard IFC Stage

Figure A46: (Northern Extent) Existing Conditions - 1% AEP + Climate Change Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 100 200 m

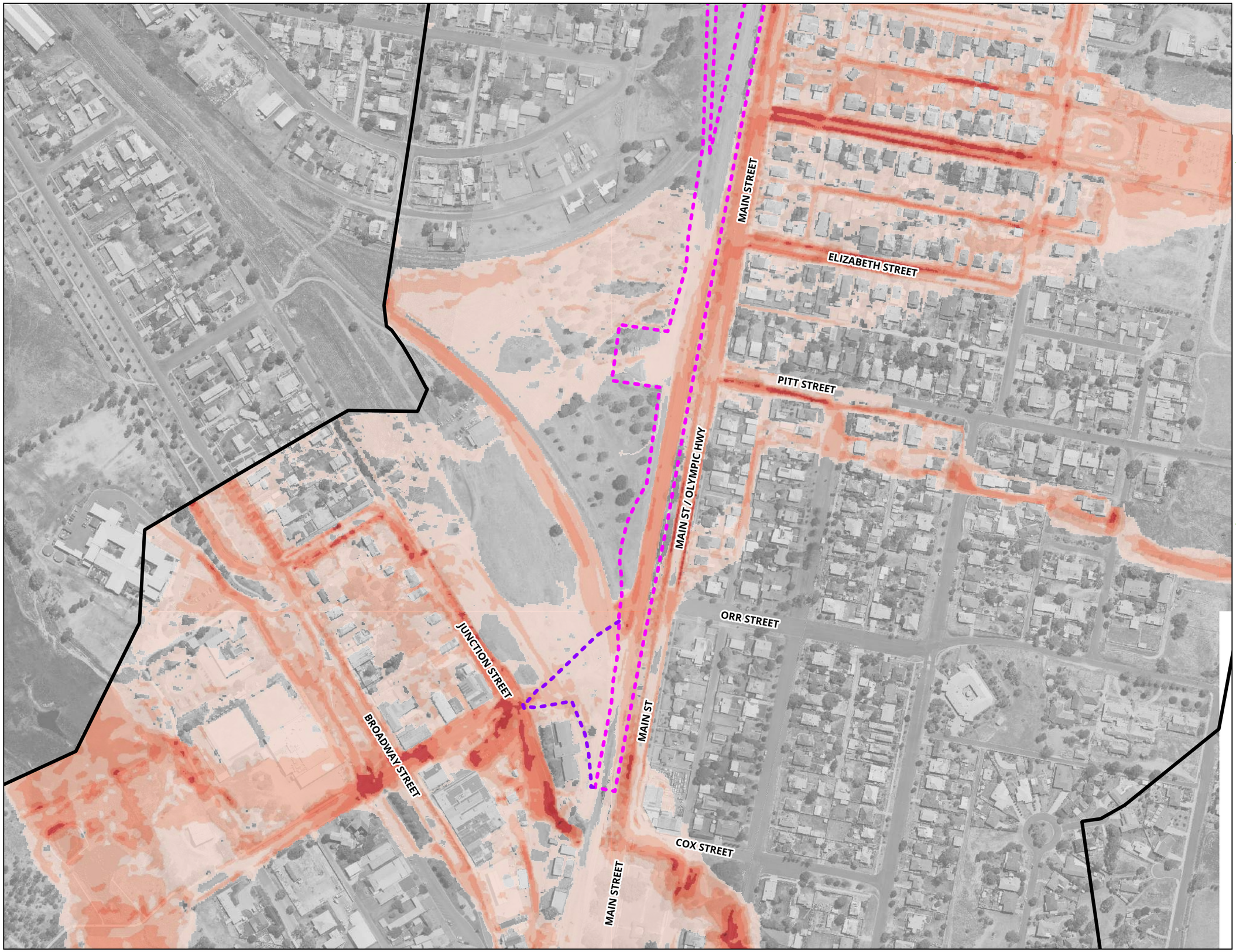
A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A47: (Northern Extent) Existing Conditions - PMF Event Peak Flood Depths and Flood Level Contours



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A48: (Northern Extent) Existing Conditions - 5% AEP Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

MAIN STREET
ELIZABETH STREET
PITT STREET
MAIN ST / OLYMPIC HWY
MAIN ST
ORR STREET
JUNCTION STREET
BROADWAY STREET
MAIN ST
COX STREET
MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A49: (Northern Extent) Existing Conditions - 2% AEP Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

MAIN STREET

ELIZABETH STREET

PITT STREET

MAIN ST / OLYMPIC HWY

MAIN ST

ORR STREET

JUNCTION STREET

BROADWAY STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

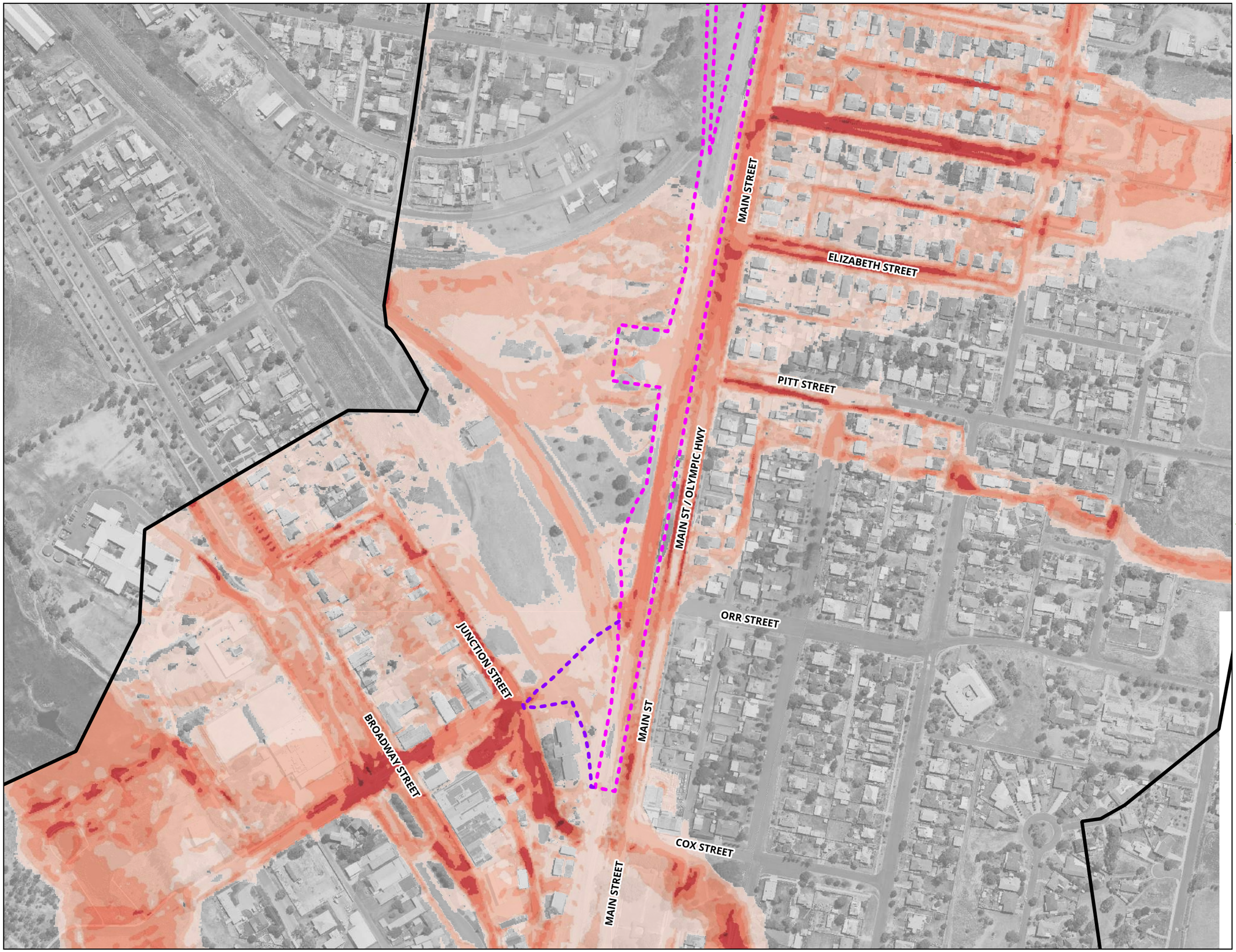
A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A50: (Northern Extent) Existing Conditions - 1% AEP Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A51: (Northern Extent) Existing Conditions - 1% AEP + Climate Change Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

MAIN STREET
ELIZABETH STREET
PITT STREET
MAIN ST / OLYMPIC HWY
MAIN ST
ORR STREET
JUNCTION STREET
BROADWAY STREET
MAIN ST
COX STREET
MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A52: (Northern Extent) Existing Conditions - PMF Event Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A53: (Northern Extent) Existing Conditions - 5% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A54: (Northern Extent) Existing Conditions - 2% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A55: (Northern Extent) Existing Conditions - 1% AEP Peak Flood Hazards

MAIN STREET
ELIZABETH STREET
PITT STREET
MAIN ST / OLYMPIC HWY
MAIN ST
ORR STREET
JUNCTION STREET
BROADWAY STREET
MAIN ST
COX STREET
MAIN STREET

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A56: (Northern Extent) Existing Conditions - 1% AEP + Climate Change Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A57: (Northern Extent) Existing Conditions - PMF Event Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

MAIN STREET

ORR STREET

BROADWAY STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A58: (Northern Extent) Design Conditions - 5% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

MAIN STREET

ORR STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A59: (Northern Extent) Design Conditions - 2% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

MAIN STREET

ORR STREET

BROADWAY STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2I – Junee Yard IFC Stage

Figure A60: (Northern Extent) Design Conditions - 1% AEP Peak Flood Depths and Flood Level Contours

MAIN STREET

ORR STREET

MAIN ST

COX STREET

MAIN STREET

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A61: (Northern Extent) Design Conditions - 1% AEP + Climate Change Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 100 200 m

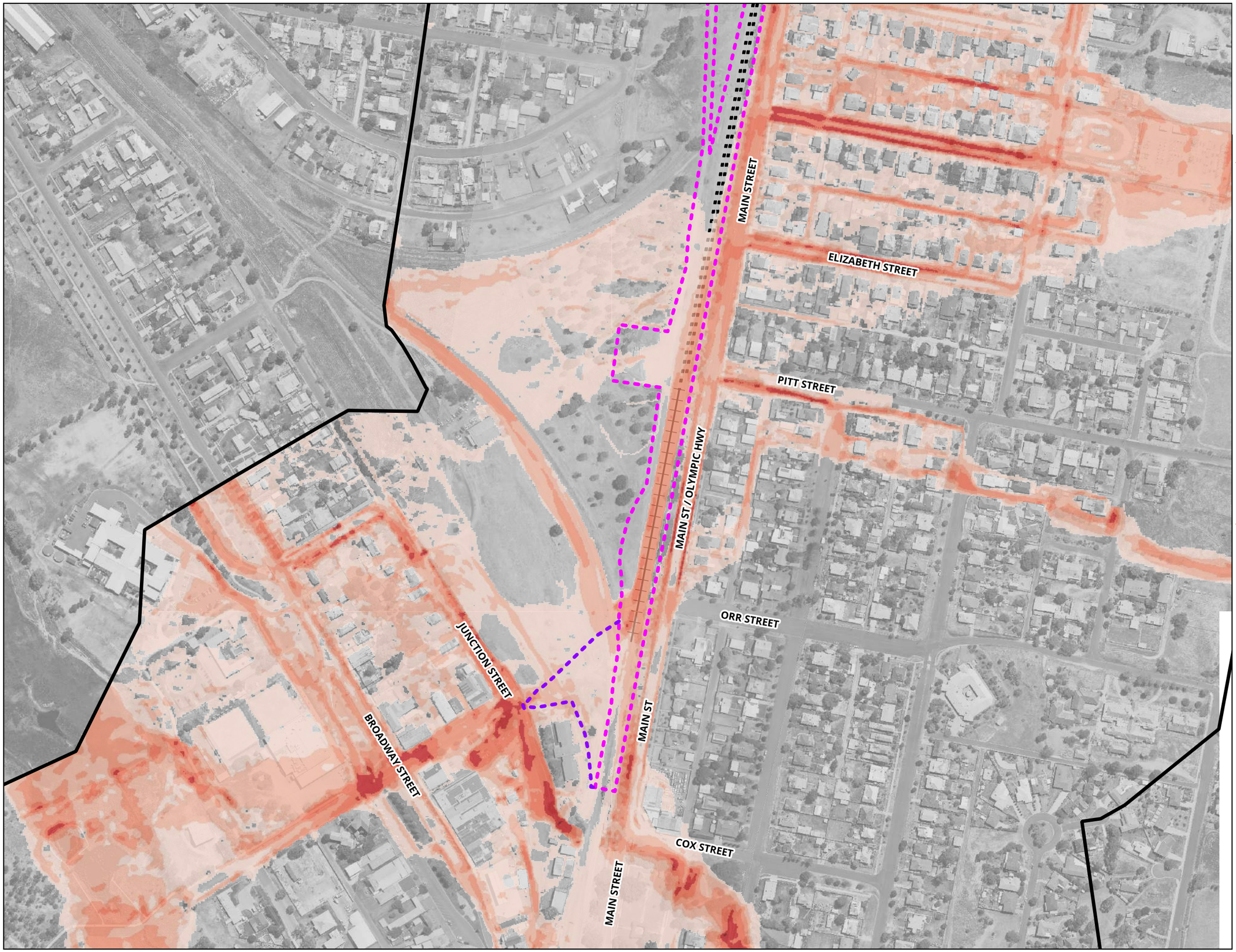
A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A62: (Northern Extent) Design Conditions - PMF Event Peak Flood Depths and Flood Level Contours



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A63: (Northern Extent) Design Conditions - 5% AEP Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

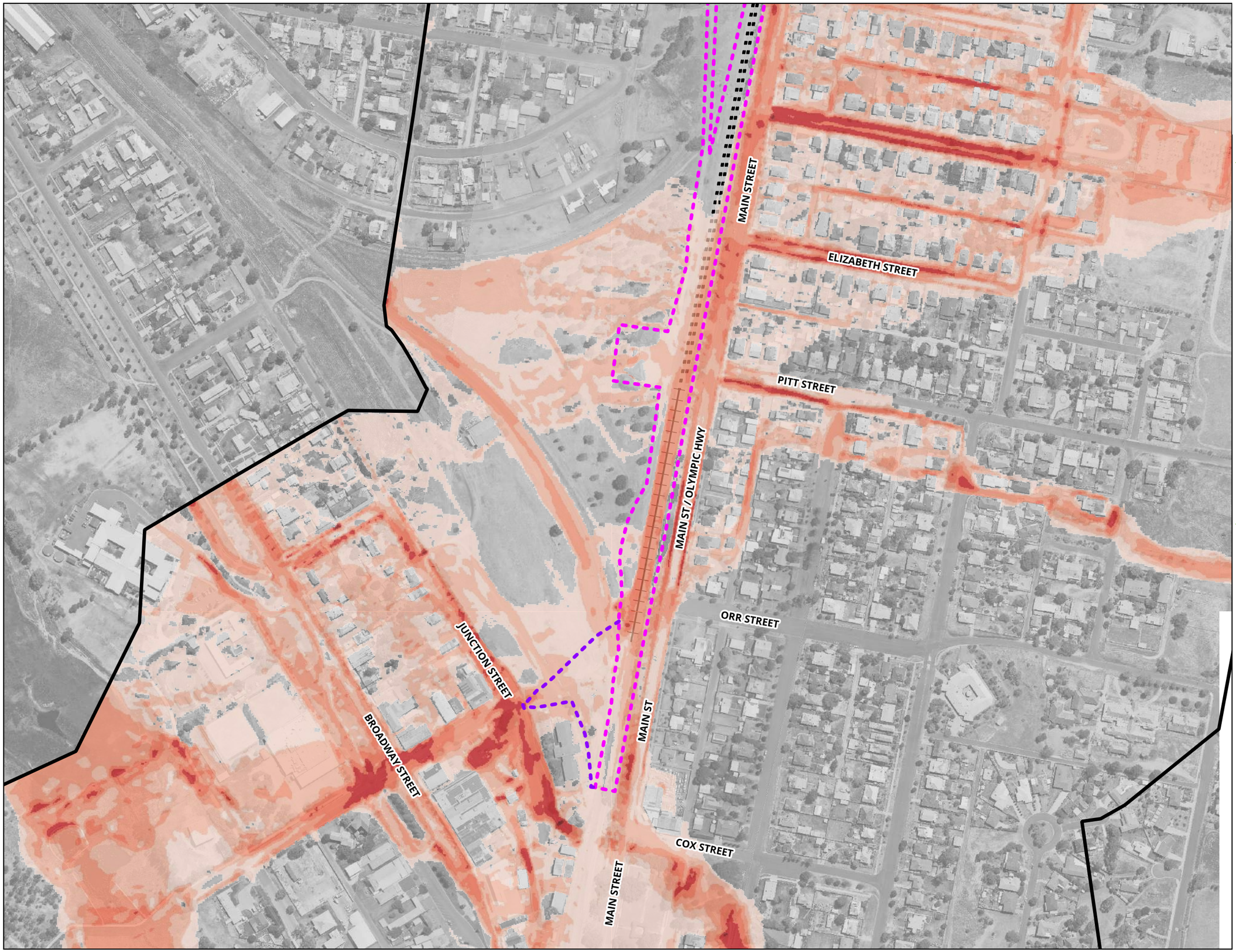
0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A64: (Northern Extent) Design Conditions - 2% AEP Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A65: (Northern Extent) Design Conditions - 1% AEP Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

MAIN STREET

ELIZABETH STREET

PITT STREET

MAIN ST / OLYMPIC HWY

MAIN ST

ORR STREET

JUNCTION STREET

BROADWAY STREET

MAIN ST

COX STREET

MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A66: (Northern Extent) Design Conditions - 1% AEP + Climate Change Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A67: (Northern Extent) Design Conditions - PMF Event Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A68: (Northern Extent) Design Conditions - 5% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A69: (Northern Extent) Design Conditions - 2% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A70: (Northern Extent) Design Conditions - 1% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A71: (Northern Extent) Design Conditions - 1% AEP + Climate Change Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

MAIN STREET
ELIZABETH STREET
PITT STREET
MAIN ST / OLYMPIC HWY
MAIN ST
ORR STREET
JUNCTION STREET
BROADWAY STREET
MAIN ST
COX STREET
MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A72: (Northern Extent) Design Conditions - PMF Event Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A73: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 5% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A74: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 2% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A75: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 1% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A76: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 5% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A77: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 2% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A78: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 1% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A79: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 5% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

MAIN STREET
ELIZABETH STREET
PITT STREET
MAIN ST / OLYMPIC HWY
ORR STREET
JUNCTION STREET
BROADWAY STREET
MAIN ST
COX STREET
MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A80: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 2% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

MAIN STREET
ELIZABETH STREET
PITT STREET
MAIN ST / OLYMPIC HWY
ORR STREET
JUNCTION STREET
BROADWAY STREET
MAIN ST
COX STREET
MAIN STREET

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A81: (Northern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 1% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A82: (Northern Extent) Flood Impacts (Design Blockage Conditions vs Design Conditions) - 1% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A83: (Northern Extent) Flood Impacts (Design Blockage Conditions vs Design Conditions) - 1% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by Olympic Hwy Package
- Design Rail by this Package
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

0 100 200 m

A3 Scale: 1:3,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2I – Junee Yard IFC Stage

Figure A84: (Northern Extent) Flood Impacts (Design Blockage Conditions vs Design Conditions) - 1% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

BELMORE STREET

OLYMPIC HIGHWAY

PRETORIA AVENUE

LORNE STREET

HILL STREET

EDGAR STREET

KEMP STREET

GEORGE STREET

HAROLD STREET

DUCKER STREET

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A85: (Southern Extent) Existing Conditions - 5% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

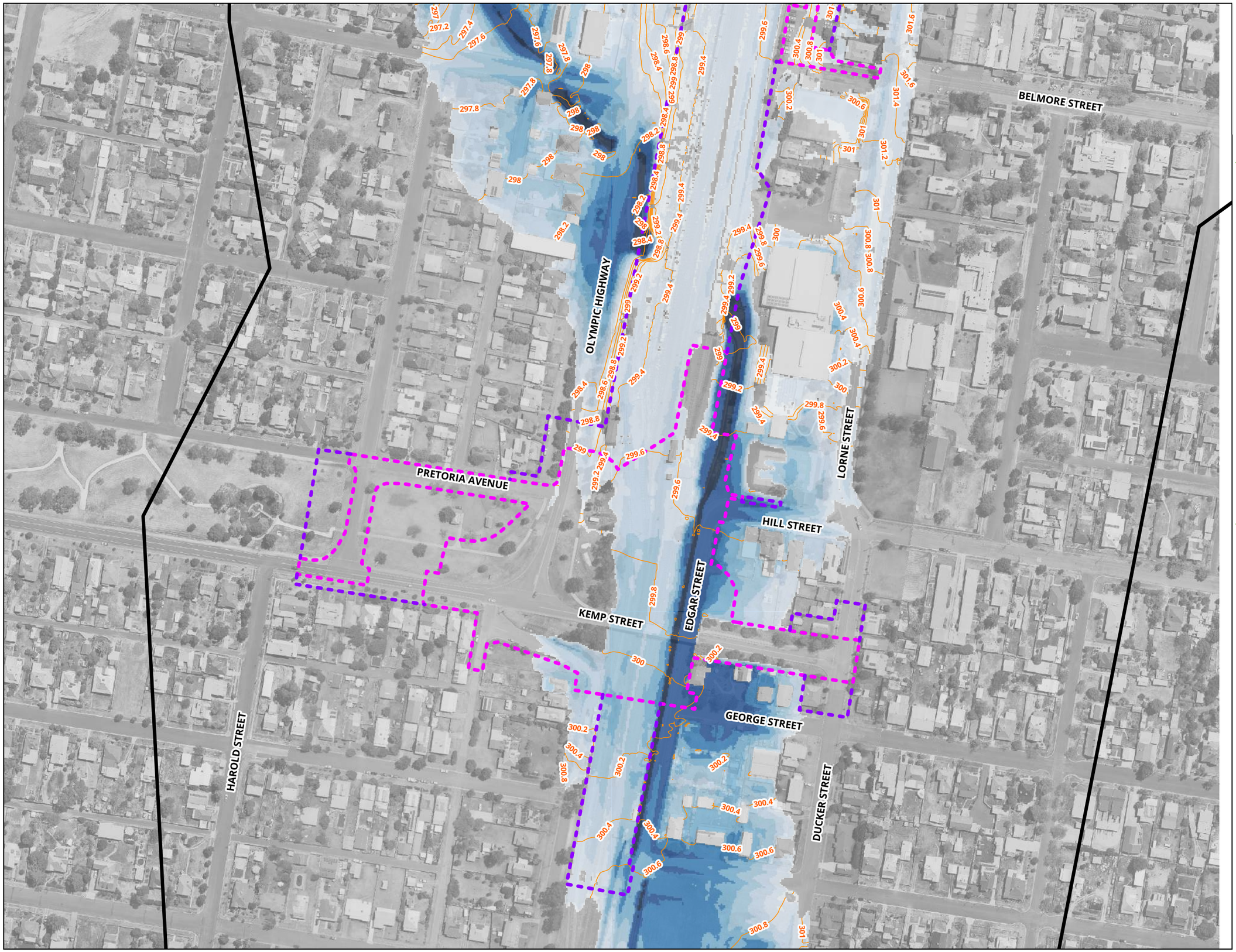
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A86: (Southern Extent) Existing Conditions - 2% AEP Peak Flood Depths and Flood Level Contours



MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A87: (Southern Extent) Existing Conditions - 1% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

BELMORE STREET

OLYMPIC HIGHWAY

PRETORIA AVENUE

LORNE STREET

HILL STREET

EDGAR STREET

KEMP STREET

GEORGE STREET

HAROLD STREET

DUCKER STREET

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A88: (Southern Extent) Existing Conditions - 1% AEP + Climate Change Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

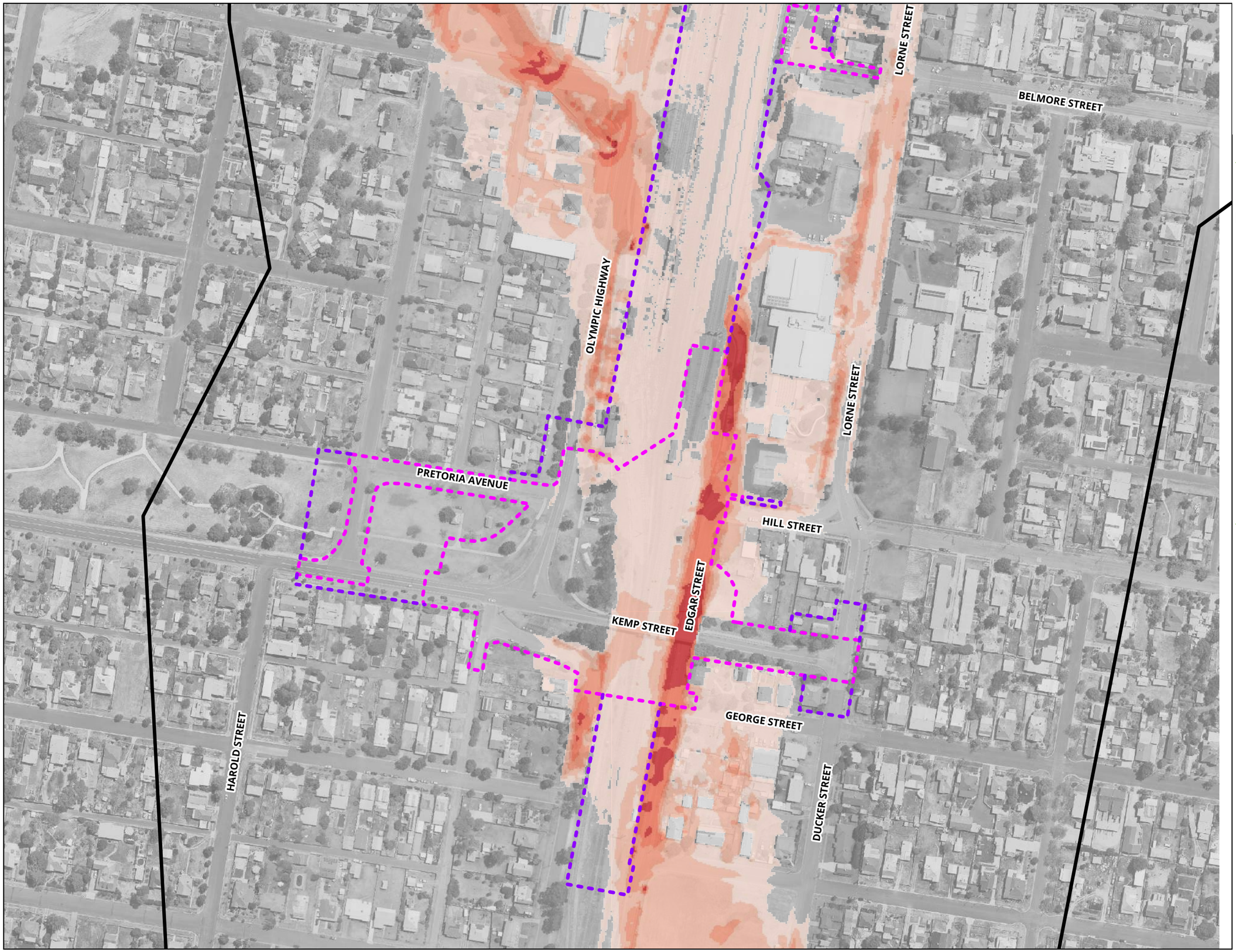
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A89: (Southern Extent) Existing Conditions - PMF Event Peak Flood Depths and Flood Level Contours



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

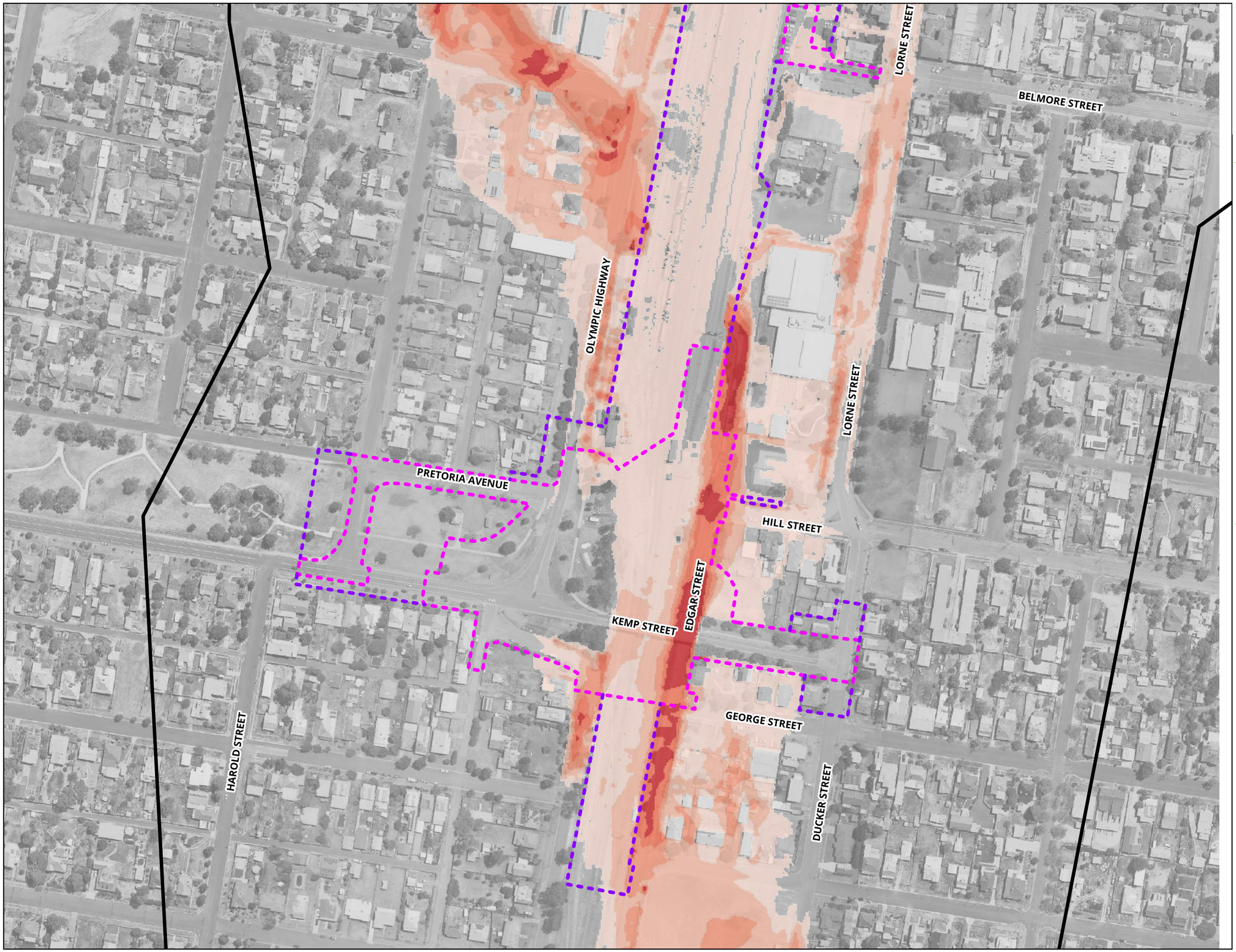
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A90: (Southern Extent) Existing Conditions - 5% AEP Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

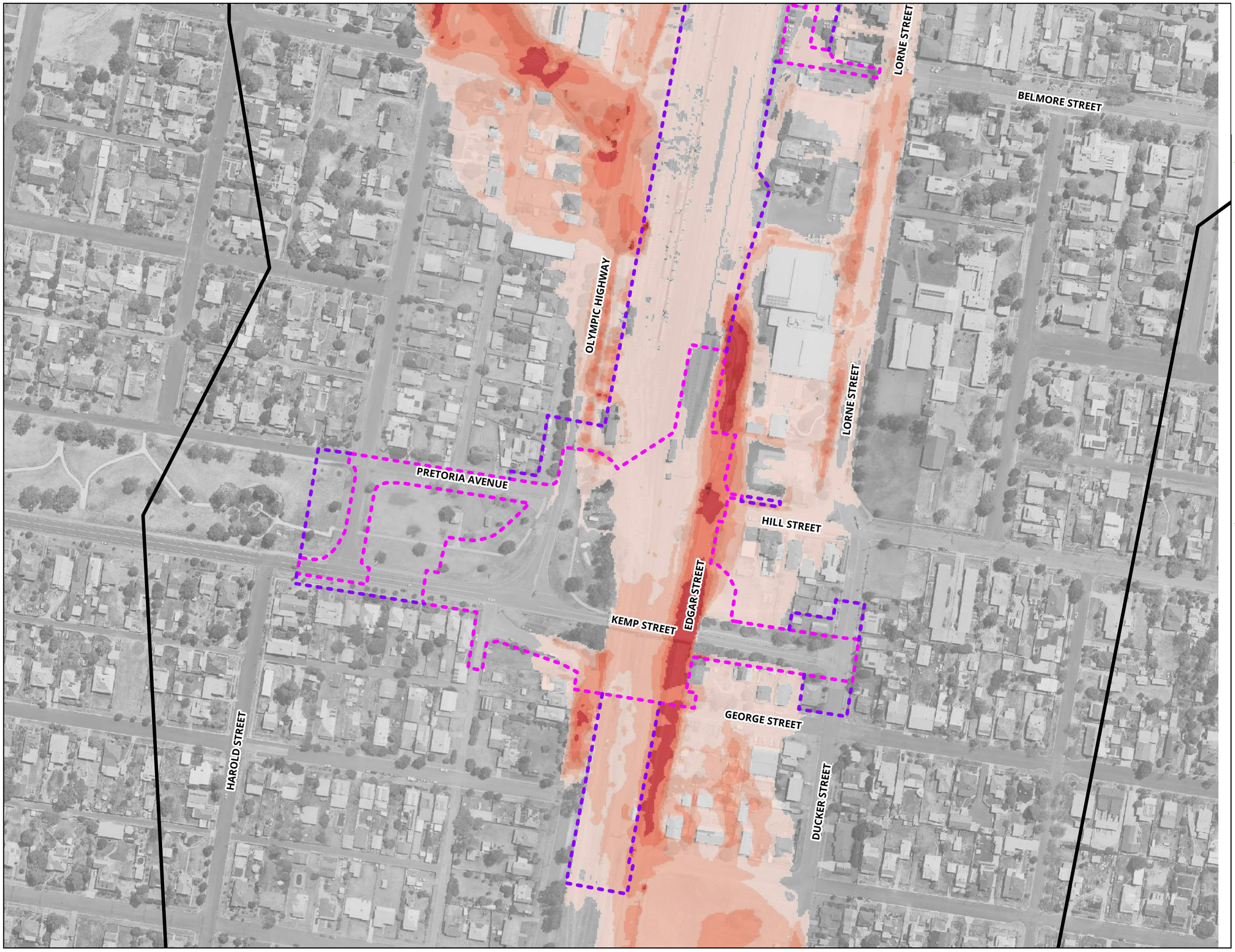
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A91: (Southern Extent) Existing Conditions - 2% AEP Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A92: (Southern Extent) Existing Conditions - 1% AEP Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

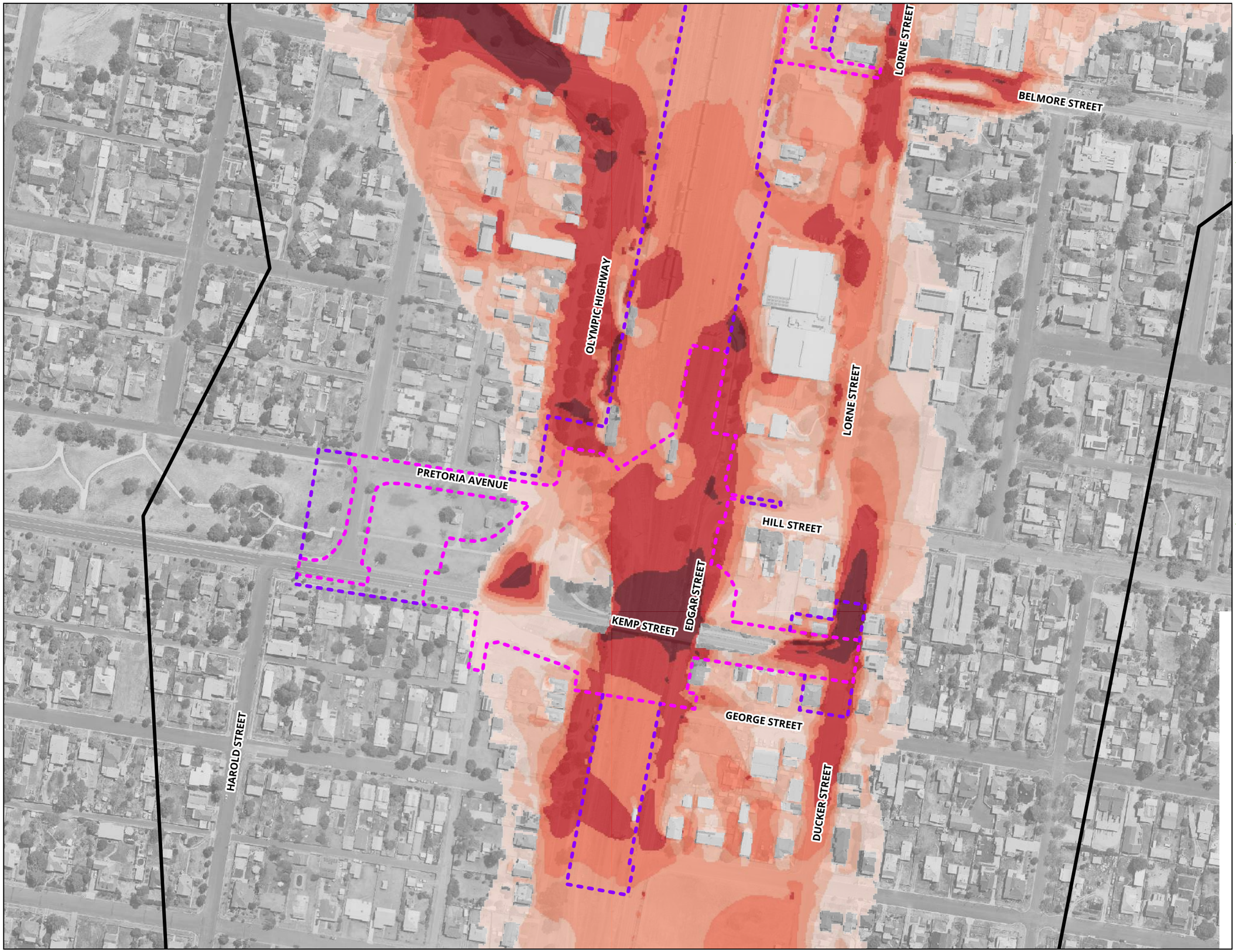
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A93: (Southern Extent) Existing Conditions - 1% AEP + Climate Change Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A94: (Southern Extent) Existing Conditions - PMF Event Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

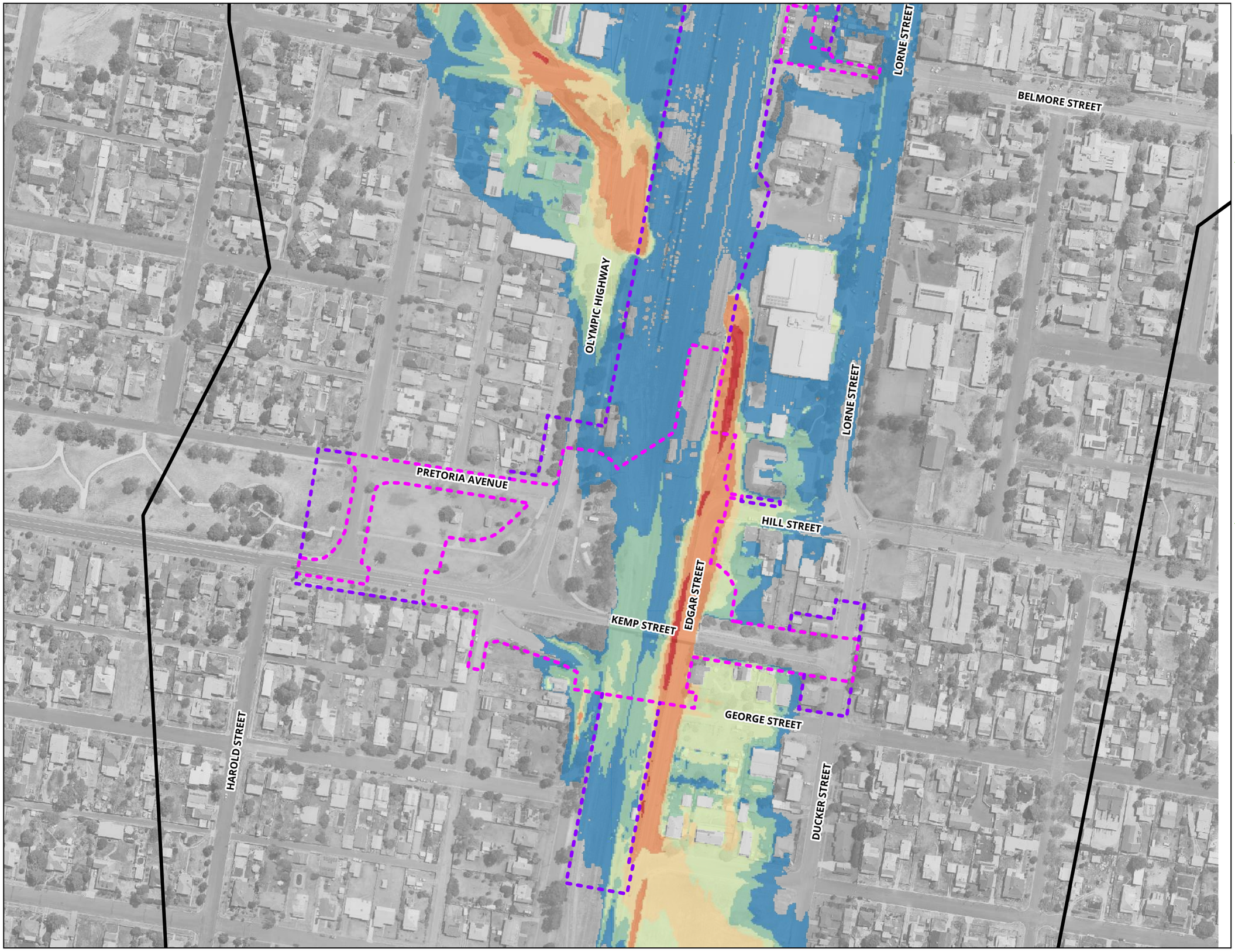
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A95: (Southern Extent) Existing Conditions - 5% AEP Peak Flood Hazards



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A96: (Southern Extent) Existing Conditions - 2% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

LORNE STREET

BELMORE STREET

OLYMPIC HIGHWAY

LORNE STREET

PRETORIA AVENUE

HILL STREET

EDGAR STREET

KEMP STREET

GEORGE STREET

HAROLD STREET

DUCKER STREET

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

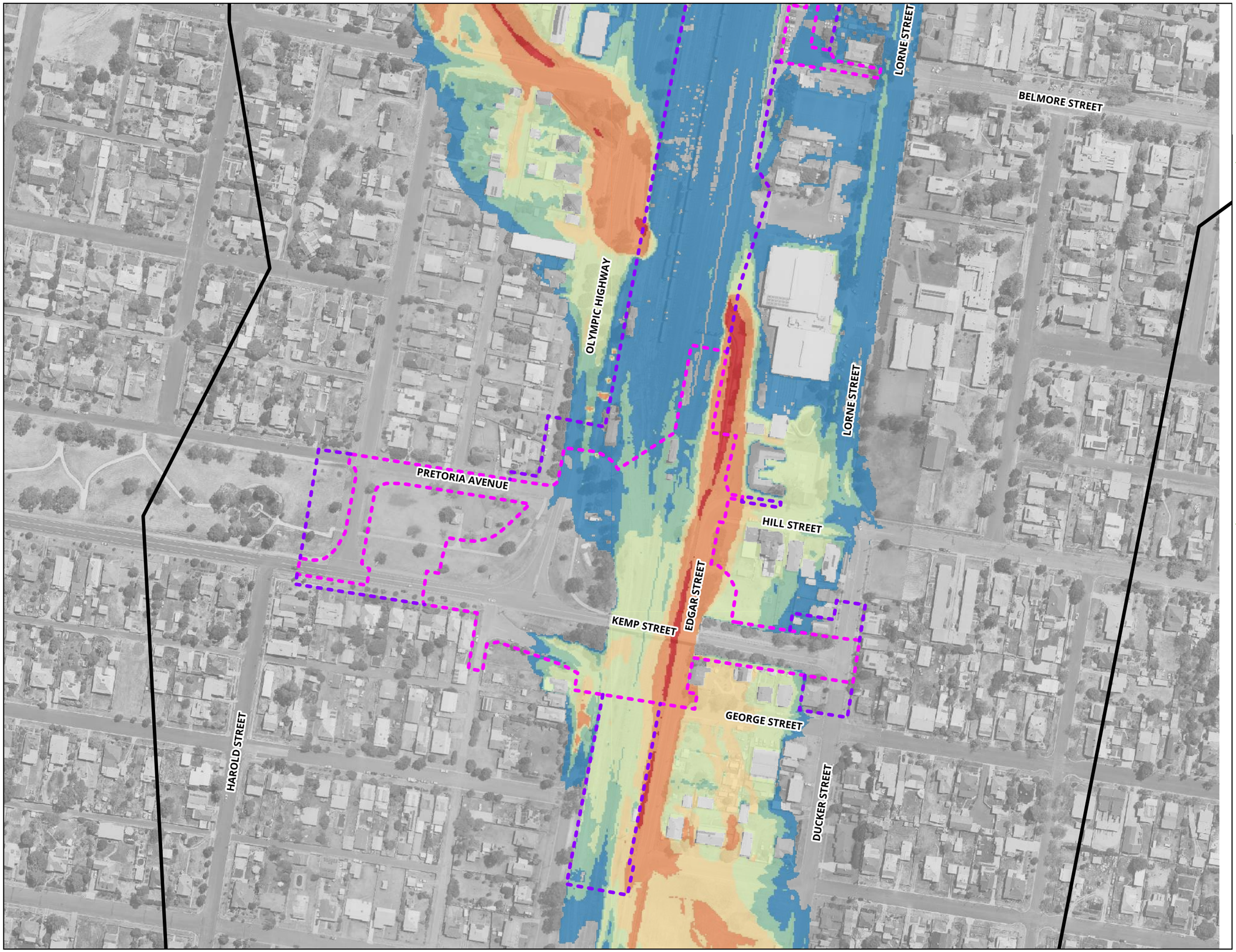
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A97: (Southern Extent) Existing Conditions - 1% AEP Peak Flood Hazards



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A98: (Southern Extent) Existing Conditions - 1% AEP + Climate Change Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- TUFLOW Model Extent

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A99: (Southern Extent) Existing Conditions - PMF Event Peak Flood Hazards

MARTINUS

aurecon BG&E

BELMORE STREET

OLYMPIC HIGHWAY

PRETORIA AVENUE

LORNE STREET

HILL STREET

EDGAR STREET

KEMP STREET

GEORGE STREET

HAROLD STREET

DUCKER STREET

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A100: (Southern Extent) Design Conditions - 5% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A101: (Southern Extent) Design Conditions - 2% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A102: (Southern Extent) Design Conditions - 1% AEP Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A103: (Southern Extent) Design Conditions - 1% AEP + Climate Change Peak Flood Depths and Flood Level Contours

MARTINUS

aurecon BG&E

Legend

- Peak Flood Level Contours (0.2m Intervals)
- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Depths (m)

- <= 0.03
- 0.03 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- 1 - 2
- > 2

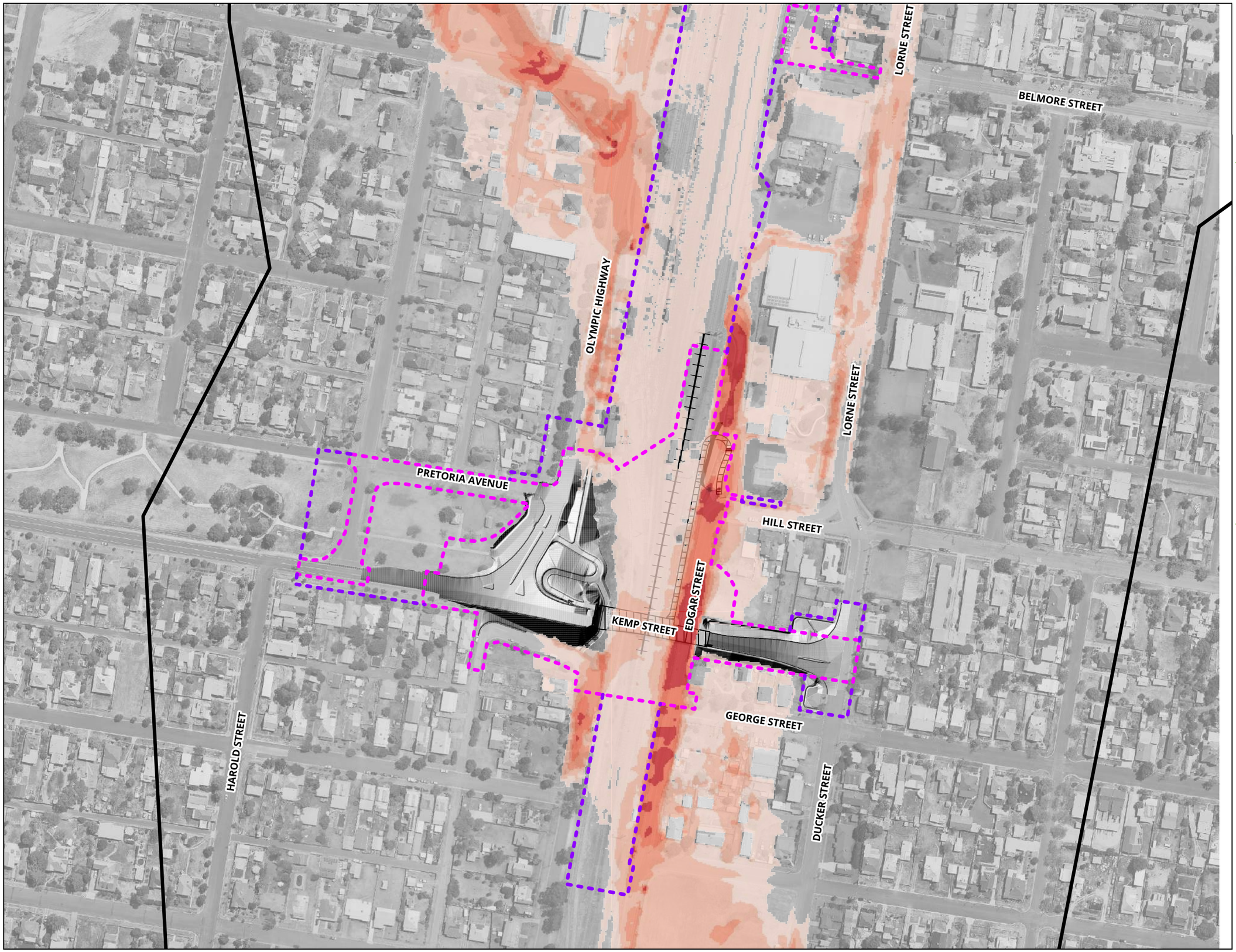
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A104: (Southern Extent) Design Conditions - PMF Event Peak Flood Depths and Flood Level Contours



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

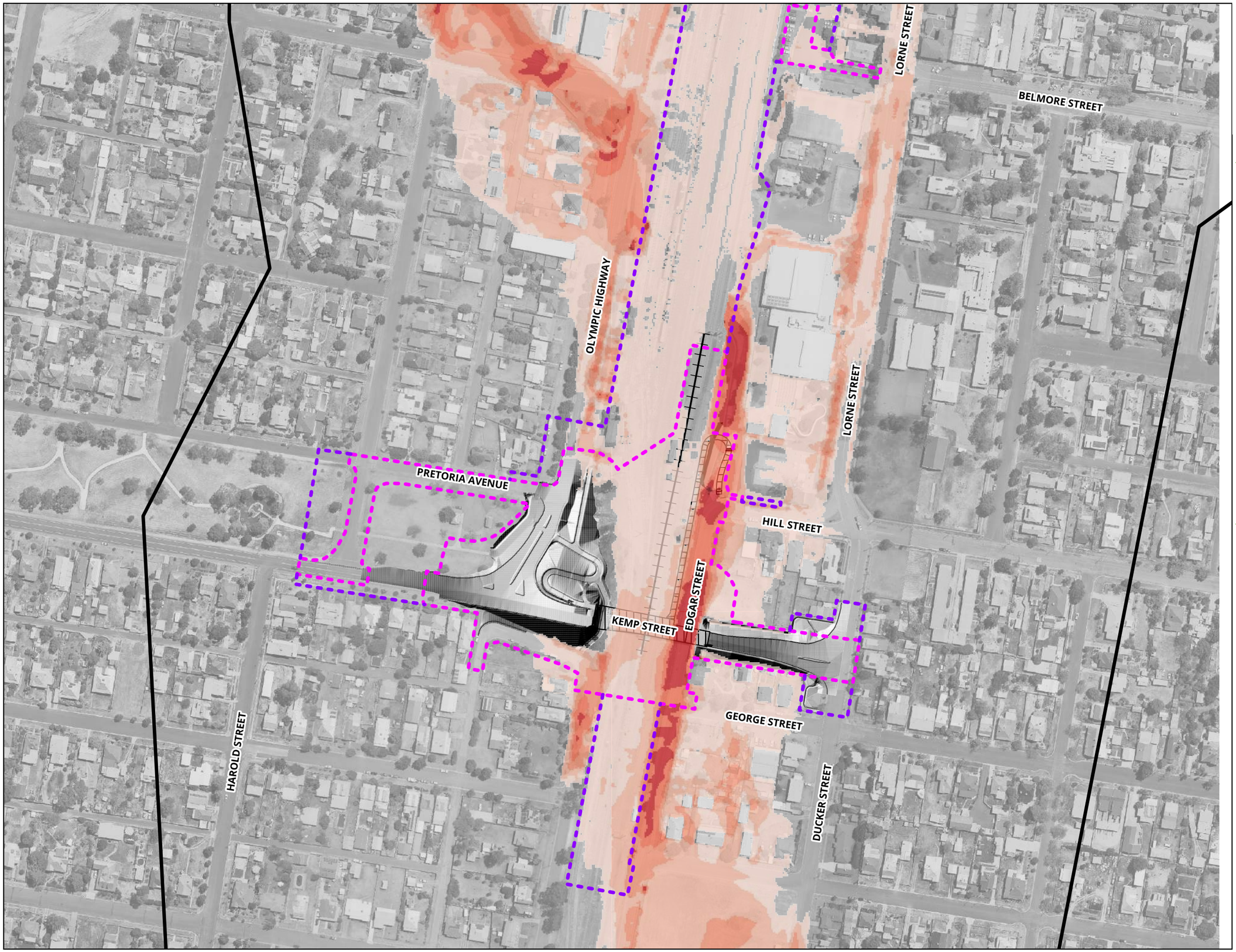
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A105: (Southern Extent) Design Conditions - 5% AEP Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A106: (Southern Extent) Design Conditions - 2% AEP Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

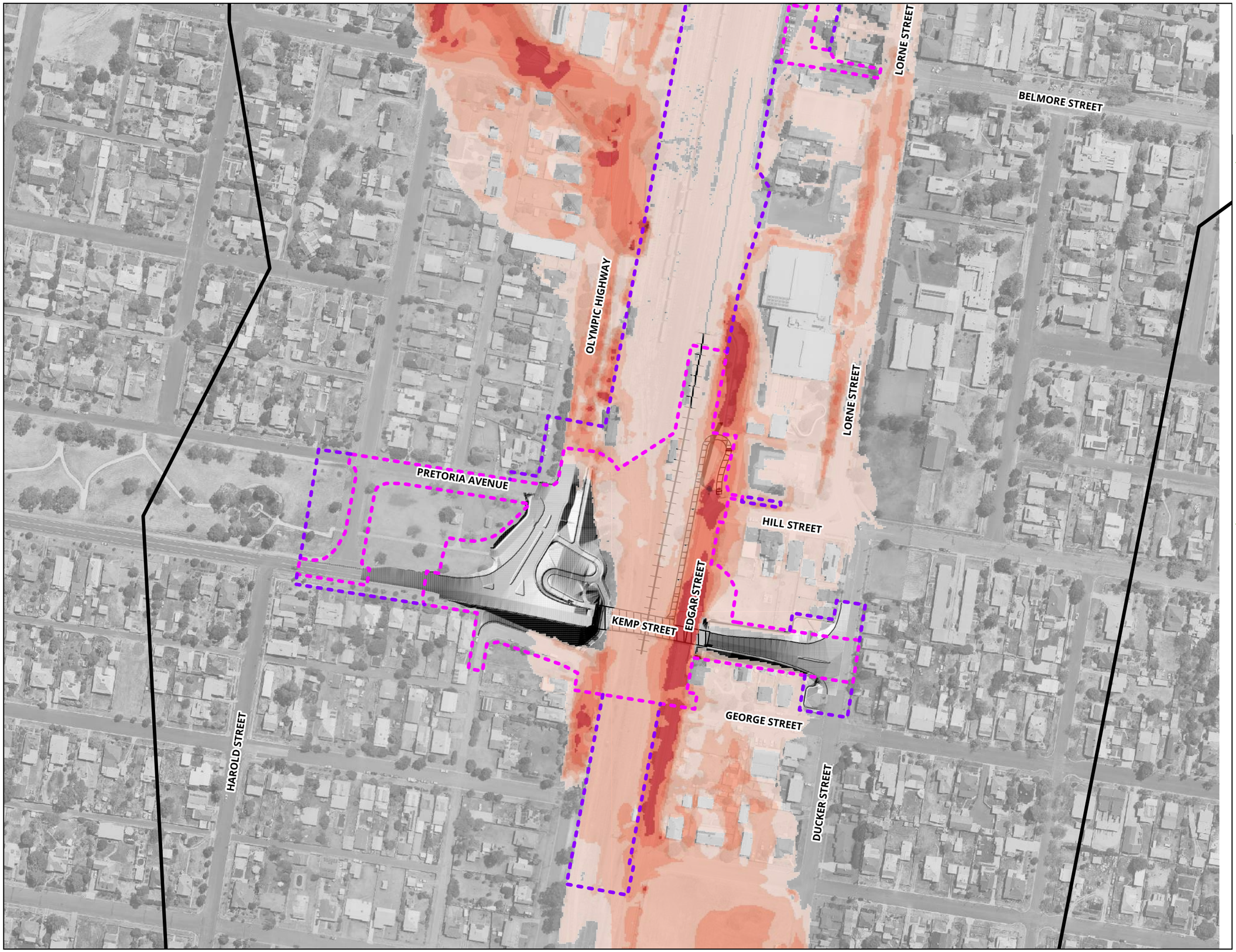
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A107: (Southern Extent) Design Conditions - 1% AEP Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

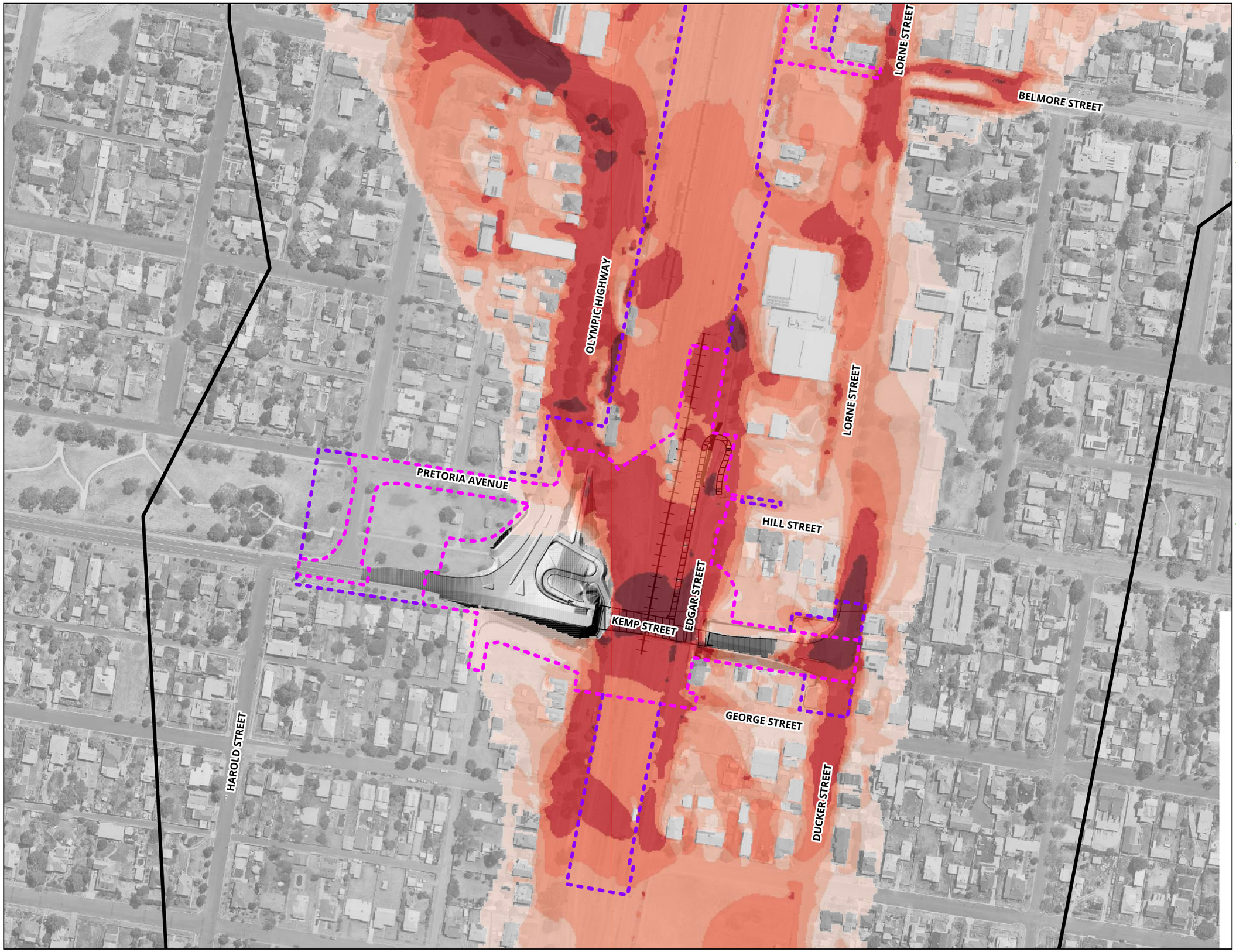
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A108: (Southern Extent) Design Conditions - 1% AEP + Climate Change Peak Flood Velocities



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Velocities (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 3.00
- > 3.00

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A109: (Southern Extent) Design Conditions - PMF Event Peak Flood Velocities

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

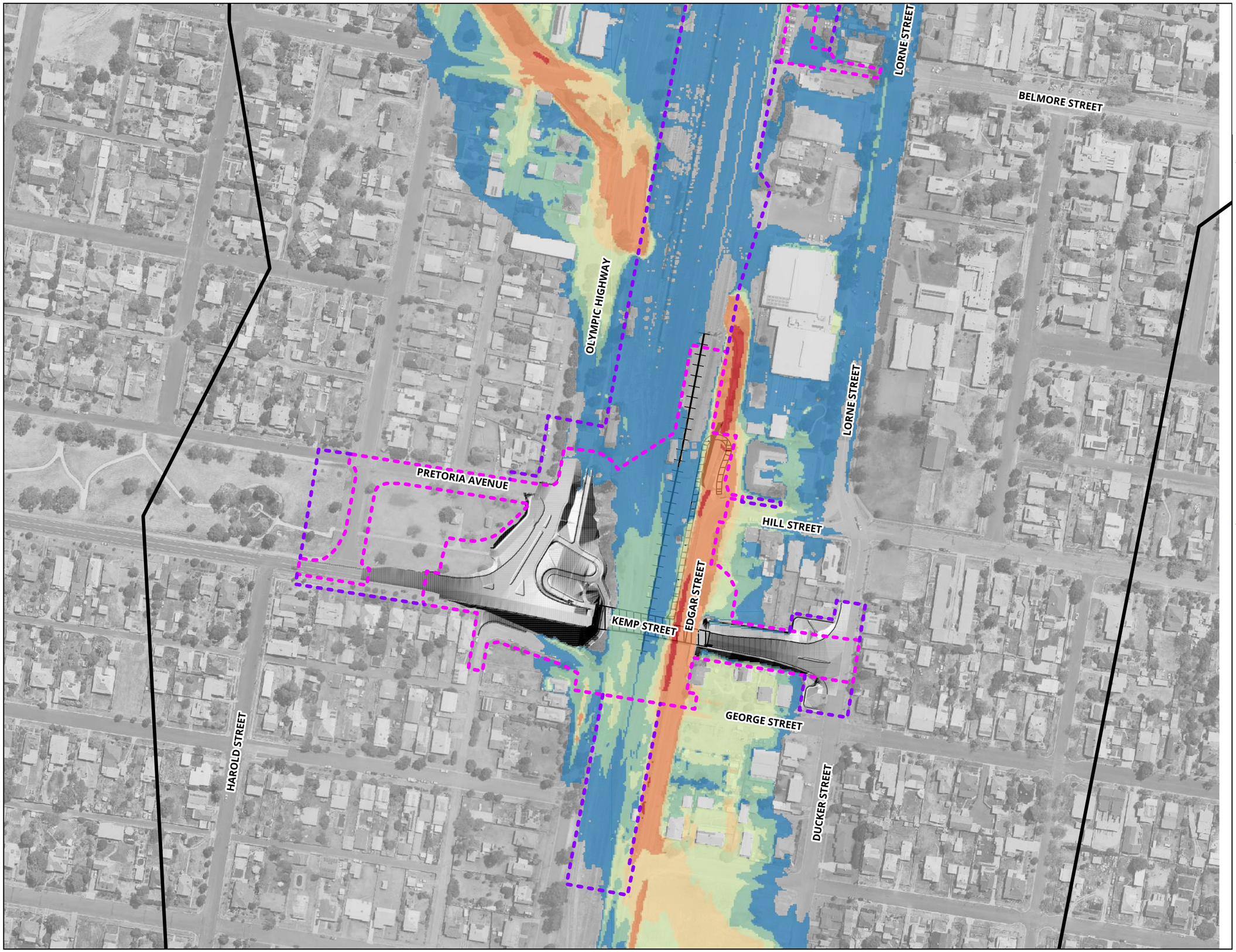
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A110: (Southern Extent) Design Conditions - 5% AEP Peak Flood Hazards



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

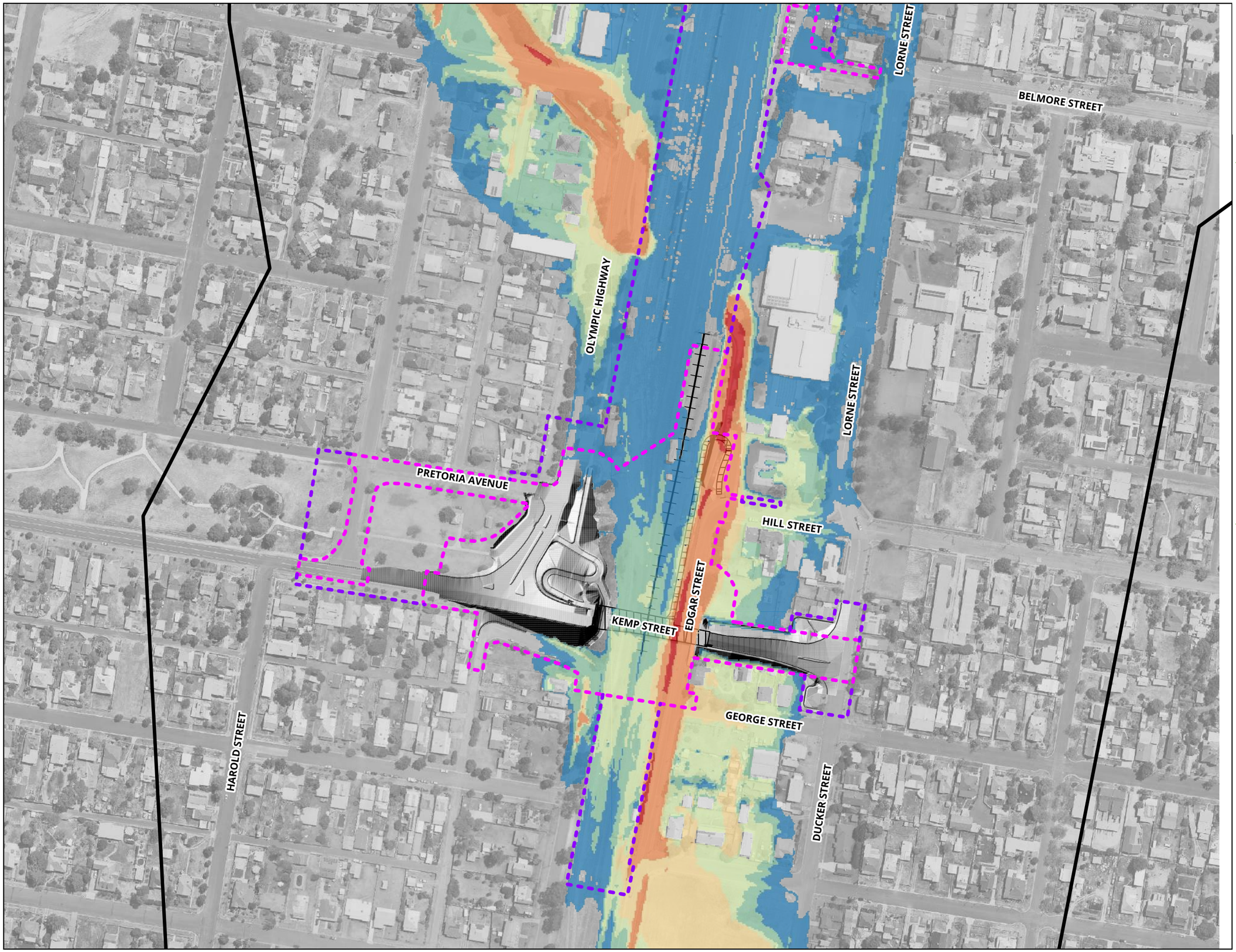
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A111: (Southern Extent) Design Conditions - 2% AEP Peak Flood Hazards



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A112: (Southern Extent) Design Conditions - 1% AEP Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A113: (Southern Extent) Design Conditions - 1% AEP + Climate Change Peak Flood Hazards

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Peak Flood Hazards

- H1 - Generally safe for vehicles, people and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for vehicles and people.
- H5 - Unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people. All building types considered vulnerable to failure.

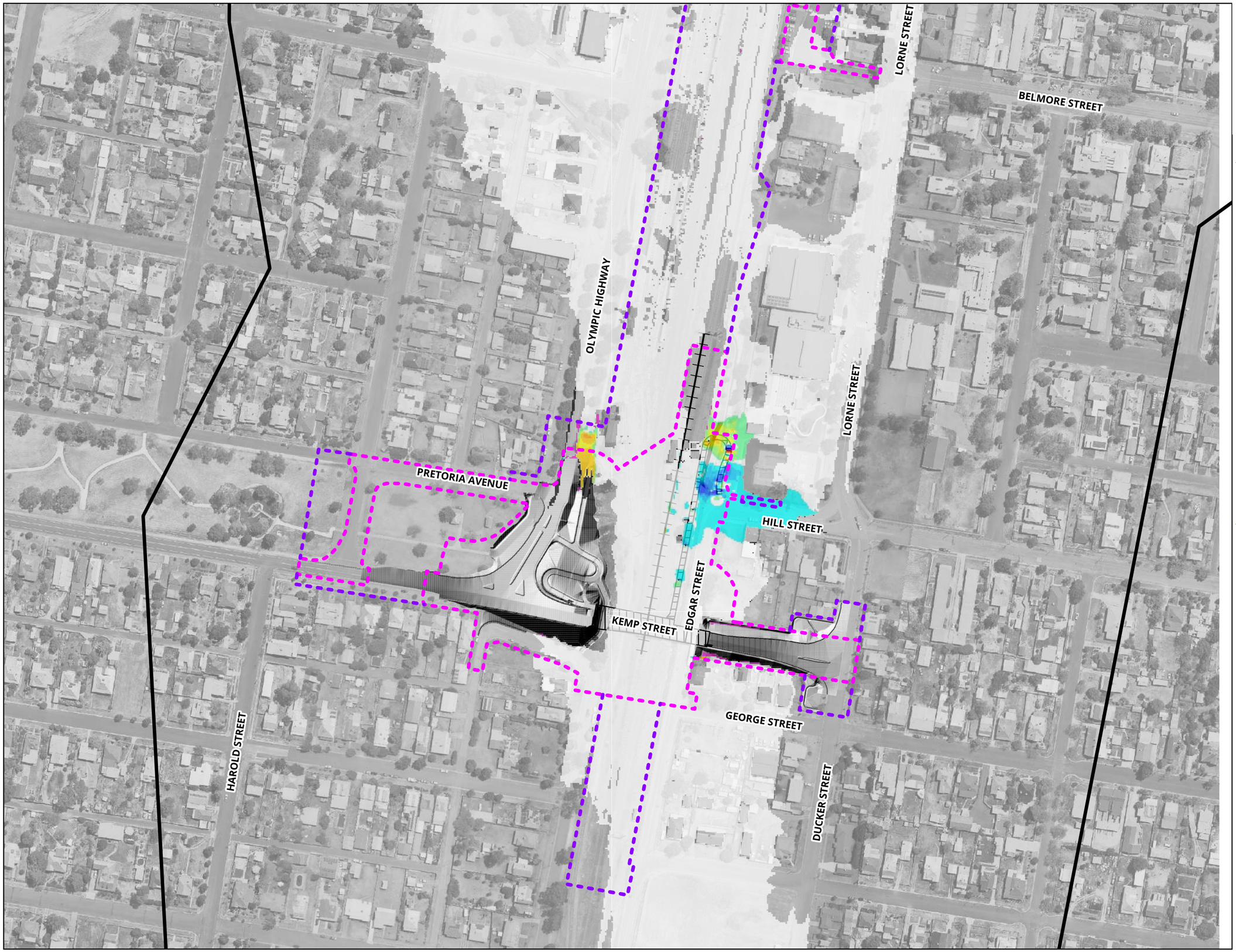
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A114: (Southern Extent) Design Conditions - PMF Event Peak Flood Hazards



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

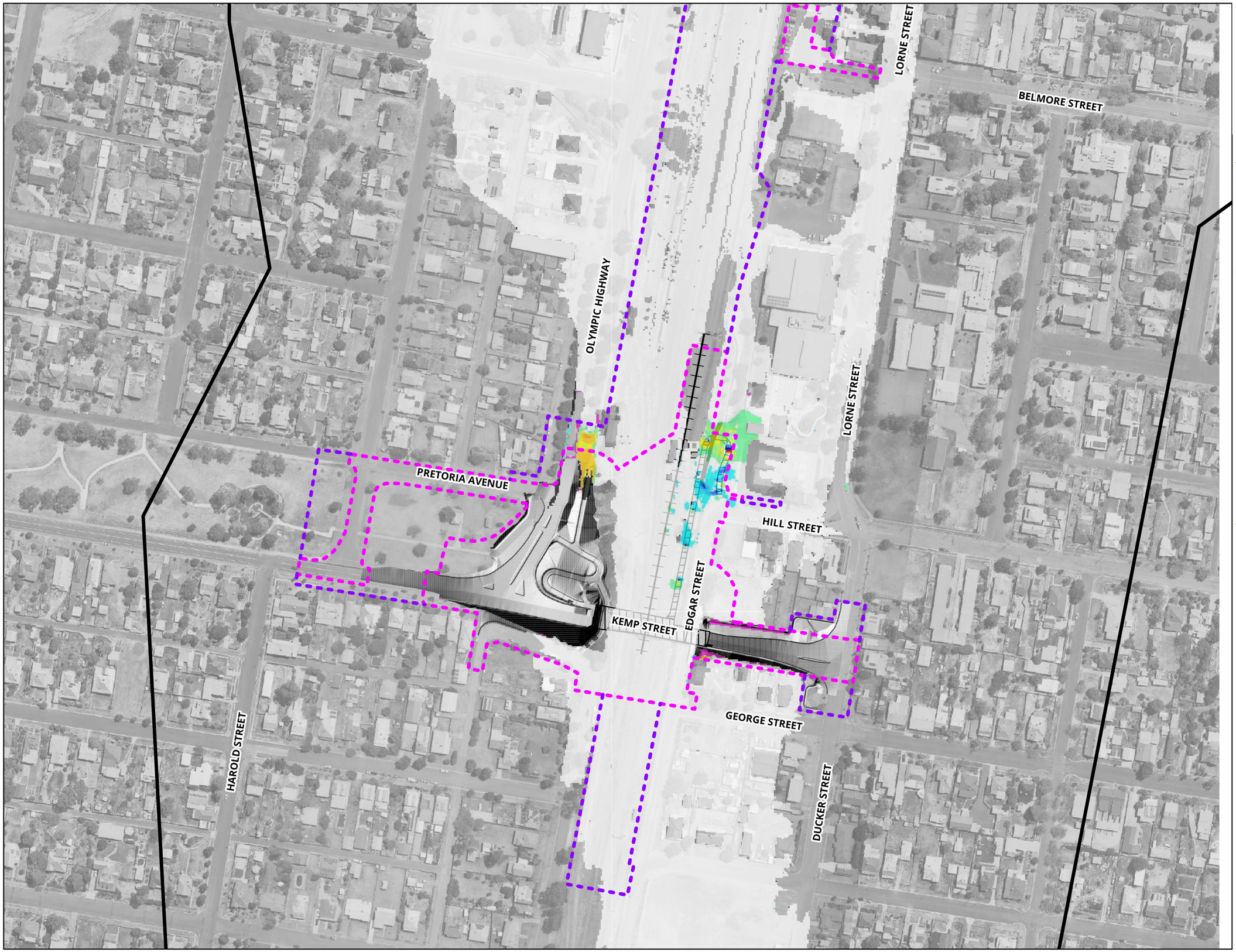
0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A115: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 5% AEP Changes in Peak Flood Level



MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A116: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 2% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A117: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 1% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55

Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A118: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 5% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A119: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 2% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A120: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 1% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A121: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 5% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A122: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 2% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A123: (Southern Extent) Flood Impacts (Design Conditions vs Existing Conditions) - 1% AEP Changes in Peak Flood Hazard

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Levels (m)

- <= -0.1
- -0.1 - -0.05
- -0.05 - -0.04
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.05
- 0.05 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- > 0.4
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A124: (Southern Extent) Flood Impacts (Design Blockage Conditions vs Design Conditions) - 1% AEP Changes in Peak Flood Level

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Velocities (m/s)

- <= 0.50
- > 0.50
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A125: (Southern Extent) Flood Impacts (Design Blockage Conditions vs Design Conditions) - 1% AEP Changes in Peak Flood Velocity

MARTINUS

aurecon BG&E

Legend

- Project Boundary
- Construction Impact Zone
- Design Rail by this Package
- Design Footbridge
- Design Overbridge
- TUFLOW Model Extent
- Hillshade of Design TIN DEMs

Change in Peak Flood Hazards

- -4 Class lower
- -3 Class lower
- -2 Class lower
- -1 Class lower
- No change
- 1 Class higher
- 2 Class higher
- 3 Class higher
- 4 Class higher
- Newly Flooded
- No Longer Flooded

0 70 140 m

A3 Scale: 1:2,500

Projection: GDA2020 / MGA zone 55 Date: 31/7/2025

A2l – Junee Yard IFC Stage

Figure A126: (Southern Extent) Flood Impacts (Design Blockage Conditions vs Design Conditions) - 1% AEP Changes in Peak Flood Hazard

APPENDIX B

ARR Data hub Data

BOM IFD

Duration	Duration in min	63.20%	50%	20%	10%	5%	2%	1%
1 min	1	1.6	1.82	2.52	3.03	3.53	4.23	4.79
2 min	2	2.72	3.1	4.3	5.14	5.98	7.13	8.05
3 min	3	3.72	4.23	5.87	7.02	8.17	9.76	11
4 min	4	4.58	5.21	7.23	8.65	10.1	12.1	13.6
5 min	5	5.34	6.07	8.42	10.1	11.8	14.1	15.9
10 min	10	8.09	9.2	12.8	15.3	17.9	21.5	24.3
15 min	15	9.91	11.3	15.7	18.8	22	26.3	29.8
20 min	20	11.3	12.8	17.8	21.4	25	29.9	33.8
25 min	25	12.3	14	19.5	23.4	27.4	32.8	37
30 min	30	13.2	15.1	21	25.1	29.4	35.1	39.7
45 min	45	15.3	17.4	24.2	29	33.8	40.5	45.7
1 hour	60	16.8	19.1	26.6	31.9	37.2	44.4	50.2
1.5 hour	90	19.1	21.7	30.2	36.1	42.1	50.3	56.9
2 hour	120	20.9	23.7	32.9	39.3	45.8	54.9	62
3 hour	180	23.7	26.8	37	44.3	51.7	61.9	70
4.5 hour	270	26.9	30.3	41.7	49.9	58.2	69.8	79.1
6 hour	360	29.4	33.1	45.4	54.2	63.3	76	86.1
9 hour	540	33.3	37.4	51.1	61.1	71.3	85.5	97
12 hour	720	36.4	40.8	55.5	66.3	77.5	92.9	105
18 hour	1080	41	45.9	62.2	74.2	86.7	104	117
24 hour	1440	44.4	49.7	67.2	80.1	93.4	111	126
30 hour	1800	47.2	52.7	71.1	84.7	98.7	117	132
36 hour	2160	49.4	55.1	74.3	88.4	103	122	137
48 hour	2880	52.8	59	79.3	94.1	109	129	145
72 hour	4320	57.4	64.1	86.1	102	118	138	154
96 hour	5760	60.5	67.6	90.5	107	123	144	160
120 hour	7200	62.8	70.2	93.9	110	127	149	165
144 hour	8640	64.7	72.3	96.5	113	130	152	169
168 hour	10080	66.4	74.1	98.8	116	133	156	173

ARR Data Hub

Results - ARR Data Hub
[STARTTXT]

Input Data Information
[INPUTDATA]
Latitude,-34.890813
Longitude,147.598348
[END_INPUTDATA]

River Region
[RIVREG]
Division,Murray-Darling Basin
River Number,12
River Name,Murrumbidgee River
[RIVREG_META]
Time Accessed,31 July 2024 03:17PM
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,31 July 2024 03:17PM
Version,2016_v1
[END_LONGARF]

Storm Losses
[LOSSES]
ID,16277.0
Storm Initial Losses (mm),26.0
Storm Continuing Losses (mm/h),4.6
[LOSSES_META]
Time Accessed,31 July 2024 03:17PM
Version,2016_v1
[END_LOSSES]

Temporal Patterns
[TP]
code,MB
Label,Murray Basin
[TP_META]
Time Accessed,31 July 2024 03:17PM
Version,2016_v2
[END_TP]

Areal Temporal Patterns
[ATP]
code,MB
arealabel,Murray Basin
[ATP_META]
Time Accessed,31 July 2024 03:17PM
Version,2016_v2
[END_ATP]

Median Preburst Depths and Ratios
[PREBURST]
min (h)\AEP(%),50,20,10,5,2,1

60 (1.0),2.6 (0.134),2.0 (0.074),1.6 (0.049),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 (0.017),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 (0.130),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 (0.059),1.1 (0.024),0.5 (0.010),0.0 (0.000),0.7 (0.009),1.3 (0.015)
720 (12.0),0.2 (0.004),1.1 (0.020),1.7 (0.026),2.3 (0.030),6.2 (0.066),9.0 (0.086)
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 (0.053)
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,31 July 2024 03:17PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST]From preburst class

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,31 July 2024 03:17PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST10]From preburst class

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,31 July 2024 03:17PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

[END_PREBURST25]From preburst class

75% Preburst Depths
[PREBURST75]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),13.2 (0.691),12.5 (0.470),12.0 (0.378),11.6 (0.311),14.8 (0.334),17.3 (0.344)
90 (1.5),15.1 (0.694),12.4 (0.411),10.6 (0.294),8.9 (0.212),9.1 (0.181),9.3 (0.163)
120 (2.0),15.9 (0.668),16.3 (0.495),16.5 (0.421),16.8 (0.367),11.1 (0.203),6.9 (0.111)
180 (3.0),12.7 (0.472),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 (0.358),11.3 (0.249),10.9 (0.201),10.6 (0.167),17.3 (0.228),22.3 (0.259)
720 (12.0),4.1 (0.101),8.2 (0.148),10.9 (0.165),13.5 (0.175),22.0 (0.237),28.4 (0.270)
1080 (18.0),3.5 (0.076),6.6 (0.106),8.7 (0.117),10.7 (0.123),15.5 (0.150),19.2 (0.163)
1440 (24.0),0.2 (0.004),3.3 (0.049),5.3 (0.066),7.3 (0.078),8.9 (0.080),10.1 (0.081)
2160 (36.0),0.0 (0.000),1.2 (0.016),2.0 (0.022),2.7 (0.026),3.7 (0.031),4.5 (0.033)
2880 (48.0),0.0 (0.000),0.3 (0.004),0.5 (0.006),0.7 (0.007),1.6 (0.013),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,31 July 2024 03:17PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST75]From preburst class

90% Preburst Depths
[PREBURST90]
min (h)\AEP(%),50,20,10,5,2,1
60 (1.0),26.6 (1.391),22.8 (0.858),20.3 (0.638),17.9 (0.482),26.1 (0.588),32.3 (0.644)
90 (1.5),33.8 (1.554),29.7 (0.984),27.0 (0.747),24.4 (0.579),26.6 (0.529),28.3 (0.497)
120 (2.0),34.8 (1.465),33.1 (1.008),32.0 (0.815),31.0 (0.676),31.7 (0.578),32.2 (0.520)
180 (3.0),24.9 (0.929),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 (0.710),27.1 (0.598),29.5 (0.545),31.9 (0.503),46.8 (0.616),58.0 (0.673)
720 (12.0),17.3 (0.423),25.3 (0.456),30.7 (0.463),35.8 (0.462),47.1 (0.507),55.6 (0.528)
1080 (18.0),16.1 (0.352),20.4 (0.327),23.2 (0.312),25.9 (0.299),42.8 (0.413),55.5 (0.473)
1440 (24.0),11.0 (0.222),14.8 (0.221),17.4 (0.217),19.8 (0.212),20.5 (0.184),21.0 (0.167)
2160 (36.0),3.5 (0.063),8.8 (0.118),12.3 (0.139),15.7 (0.152),16.6 (0.136),17.3 (0.126)
2880 (48.0),0.7 (0.011),6.8 (0.085),10.8 (0.115),14.7 (0.134),19.5 (0.151),23.1 (0.160)
4320 (72.0),0.2 (0.004),4.3 (0.050),7.0 (0.069),9.6 (0.081),13.3 (0.097),16.2 (0.105)
[PREBURST90_META]
Time Accessed,31 July 2024 03:17PM
Version,2018_v1
Note,Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.
[END_PREBURST90]From preburst class

Interim Climate Change Factors
[CCF]
,RCP 4.5,RCP6,RCP 8.5
2030,0.816 (4.1%),0.726 (3.6%),0.934 (4.7%)
2040,1.046 (5.2%),1.015 (5.1%),1.305 (6.6%)
2050,1.260 (6.3%),1.277 (6.4%),1.737 (8.8%)
2060,1.450 (7.3%),1.520 (7.7%),2.214 (11.4%)
2070,1.609 (8.2%),1.753 (8.9%),2.722 (14.2%)
2080,1.728 (8.8%),1.985 (10.2%),3.246 (17.2%)
2090,1.798 (9.2%),2.226 (11.5%),3.772 (20.2%)

[CCF_META]
Time Accessed,31 July 2024 03:17PM
Version,2019_v1

Note,ARR recommends the use of RCP4.5 and RCP 8.5 values. These have been updated to the values that can be found on the climate change in Australia website.
[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,31 July 2024 03:17PM
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),6.8,14.8,15.2,14.3,15.0,17.4
90 (1.5),7.4,14.8,14.7,13.6,13.8,15.2
120 (2.0),8.4,14.9,15.5,14.7,14.5,15.4
180 (3.0),7.5,13.3,14.8,13.9,15.0,18.0
360 (6.0),6.7,11.6,12.1,11.1,12.8,17.8
720 (12.0),4.0,9.7,10.8,10.1,13.4,19.1
1080 (18.0),3.3,8.1,8.8,8.4,11.5,16.1
1440 (24.0),1.8,6.5,6.2,5.2,6.9,13.1
2160 (36.0),0.1,4.4,4.2,2.8,5.0,10.1
2880 (48.0),0.0,3.7,3.5,2.1,4.3,11.0
4320 (72.0),0.0,3.2,1.8,1.1,3.3,7.8
[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]

[ENDTXT]

APPENDIX C

ARTC Review

Document Control Information			
	Contractor DC to update for re-submission	**Submitted Document No. or Transmittal No.:**	Martinus-PTRAN-001128
Project:	2100 - A2I	**Date Submission Received:**	26/03/2025
Comment Sheet Number_Revision:	5-0052-210-IHY-J4-CS-0001_C	**Comment Sheet Title:**	***External Comment Sheet - A2I | Junee Yard - Flood Design Report***
Revision Date:	8/04/2025	**Documents related in Aconex** (by IR DC)	*Yes*

Review Comments (Reviewer)									Responses (Document Owner)				Close-Out			
#	PSR ID No. or Compliance Reference Document (State the fully qualified reference)	Document / drawing number - Revision Number	Section # / page #	Engineering Assurance Stage	Comment (for example must be specific on non compliance. Reference mark-ups, if required)	Comment Type	Full Name	Date	Full Name	Company	Date	Response (must be specific on how the comment has been addressed. Agreed approach for re-submission.)	Documentation Section # / Figure #	Full Name	Date	Comment Status	Close-Out Comment
Example	*IR-SR-A2I-517 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*	*Jane Doe*	*27/09/2023*	CLOSED	
1	A2I Instrument of Approval 8/10/24.	5-0052-210-IHY-J4-RP-0001_A - 1	Page 11, NC	DDR	Confirming project is now approved. Please update section to reflect this	Non-Compliant	Dallas Nixon	10/03/2025	Scott Mortimer	BG&E	24/03/2025	Acknowledged, this will be udpated **Environmental Impact Statement** An EIS which has been approved, supports the application for approval of the Proposal under Division 5.2 of the Environmental Planning and Assessment Act 1979 (EP&A Act). It addresses the environmental assessment requirements set by the Secretary of the NSW Department of Planning, Industry and Environment, which is commonly referred to as the SEARs. The A2I CSSI Environmental Impact Statement contains the following relevant prior assessment documents: • Albury to Illabo Environmental Impact Statement (EIS) Technical Paper 11 – Hydrology, flooding and water quality (July 2022)		Soodi Ghahremani	8/04/2025	CLOSED	the section has been updated as screenshot on final rev.
2	CSSI CoA E40	5-0052-210-IHY-J4-RP-0001_A - 1	Page 13, 5-0052-210-IHY-J4-RP-0001_A - Part 1 of 3, Section 1.11	DDR	What type of drainage infrastructures require surveying? Is there any survey being undertaken? If yes, when and how this survey data will be utilised in the flood study. If not, what is risk of not having the survey data and how that risk is mitigated/minimised.	Non-Compliant	Ayub Ali	3/03/2025	Scott Mortimer	BG&E	24/03/2025	The rail culverts under the track were not modelled with survey in this package. Survey for these culverts have now been received (04/03/2025), and the model will be updated with this survey data in the IFC stage. The following culverts will be updated with survey. All culverts have been sized through council GIS or survey information. Table 4-8: Drainage Infrastructure within the Model Extent ID / Type / Dimensions / Number of Barrels / Source of Dimensions JY_001 Pipe 0.45m W x 0m H 2 Survey Information JY_002 Pipe 0.45m W x 0m H 2 Survey Information JY_003 Box Culvert 2.4m W x 1.5m H 3 Survey Information JY_004 Box Culvert 2.4m W x 1.5m H 3 Survey Information JY_005 Box Culvert 2.1m W x 0.9m H 2 Survey Information JY_006 Box Culvert 3.4m W x 2.8m H 3 Survey Information JY_007 Box Culvert 1.8m W x 1.5m H 6 Survey Information JY_008 Box Culvert 1.8m W x 0.9m H 2 Council GIS JY_009 Box Culvert 1.8m W x 0.9m H 2 Council GIS JY_010 Box Culvert 2.4m W x 0.9m H 2 Council GIS JY_011 Box Culvert 2.4m W x 0.9m H 2 Council GIS KS_01 Box Culvert 2.4m W x 1.8m H 3 Survey Information KS_010 Pipe 0.6m W x 0m H 2 Council GIS KS_02 Box Culvert 2.7m W x 2.4m H 3 Survey Information KS_03 Box Culvert 2.4m W x 1.8m H 3 Survey Information KS_04 Box Culvert 3.65m W x 2.1m H 5 Survey Information KS_05 Box Culvert 1.6m W x 1.2m H 2 Council GIS KS_06 Pipe 0.75m W x 0m H 2 Council GIS KS_07 Pipe 0.75m W x 0m H 2 Council GIS KS_08 Pipe 0.375m W x 0m H 1 Council GIS KS_09 Pipe 0.375m W x 0m H 1 Council GIS		Ayub Ali	3/04/2025	CLOSED	This item is closed based on the report 5-0052-210-IHY-J4-RP-0001_A - Part 1 of 3
3	CSSI CoA E40	5-0052-210-IHY-J4-RP-0001_A - 1	Page 13, 5-0052-210-IHY-J4-RP-0001_A - Part 1 of 3, Sectio 1.11	DDR	Is there any interaction of stormwater runoff from these two sites and their catchments? Please clarify whether it was necessary to include both developments in this flood assessment study or not. Why is it not included if it was necessary?	Non-Compliant	Ayub Ali	3/03/2025	Scott Mortimer	BG&E	24/03/2025	Yes there is interaction between these package two catchments. It is necessary for both design packages to be modelled in a cumulative assessment. It was not undertaken for this stage as the PDR design of the Kemp Street Road Bridge and Footbridge was not finalised in time for the DDR submission of the Junee Yard. A cumulative assessment of the works at Junee Yard and Kemp Street (J2) is being undertaken in the Kemp Street Road Bridge and Footbridge PDR submission (5-0052-210-IHY-J2-RP-00 3.2. SDR to PDR Key design changes between the SDR Design and the PDR Design are listed in the table below. Table 3-2: Design Differences Between SDR and PDR Item / Difference / Reason for Difference 1 The Kemp Street Footbridge connection to Kemp Street on the western side has been aligned to Kemp Street as opposed to the previous design which included a separate abutment. Modelling of the most recent PDR design. 2 Junee Yard DDR works (track slows) were included in the Kemp Street model. These were included due to the vicinity of the works occurring in the same catchment that an accumulative assessment was undertaken to assess that changes to the floodplain would not compound and create non-compliance with the CoA.		Ayub Ali	3/04/2025	CLOSED	This item is closed based on the report 5-0052-210-IHY-J2-RP-0001_B
4	CSSI CoA E40	5-0052-210-IHY-J4-RP-0001_A - 1	Page 20, 5-0052-210-IHY-J4-RP-0001_A - Part 1 of 3, Section 4	DDR	What about blockage assessment? Please include why blockage assessment has not been done in case it is not.	Non-Compliant	Ayub Ali	3/03/2025	Scott Mortimer	BG&E	24/03/2025	A blockage assessment was undertaken as seen in Section 5.5.1, this will be included in the summary of modelling methdology. 4 MODELLING METHODOLOGY The overall approaches for flood modelling are listed below • A WBNM runoff routing hydrologic model was developed to calculate flood hydrographs from rainfall and catchment characteristics. • Based on ARR 2019, utilise the hydrological model and generate flow hydrographs for input to the hydraulic model for all events (0% AEP, 2% AEP, 1% AEP, 1% AEP with Climate Change and 1EY) to perform critical duration analysis. • The flood hydrographs generated in the WBNM runoff routing model were compared against the Regional Flood Frequency Estimation (RFFT) Model to validate the runoff routing model. There is no stream level gauges within the catchment 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. • A Rainfall on grid simulation was undertaken in the created TUFLOW model to assess if local overland flooding or overstream flooding from Lowes Pinches Gully and Rock Creek was dominant at the site. • The TUFLOW model was updated from the existing conditions to the design condition model by incorporating the proposed Junee Yard track works into the existing model. • The flood impact was assessed up to the 1% AEP event as per the CoA and the flood results are shown within this report. • A Climate Change and Blockage sensitivity assessment was conducted for the 1% AEP to inform the potential impact on the railway track flood immunity	Section 5.5.1	Ayu Ali	3/04/2025	CLOSED	Section 4 of the report (modelling methodology) has not been updated. SG 8/4/2025: section 4 has been updated as Martinus-RFI-000825 and Ayub is happy to close the comment.
5	N/A	5-0052-210-IHY-J4-RP-0001_A - 1	Page 28, 5.1 Existing Conditions	DDR	Should this not be "east towards the west"?	Opportunity	Hartley Bulcock	11/03/2025	Scott Mortimer	BG&E	24/03/2025	Acknowledged, the wording here will be updated. 5 FLOOD ASSESSMENT 5.1 Existing Condition Existing flood maps, including peak flood depth and levels, peak flood velocity, and peak flood hazard for the modelled events, are provided in Appendix A. In the existing scenario, the floodwaters generally flow from the south and east towards the west. There are two major flow paths from Rock Creek (west) and Lower Butlers Gully (south)		Soodi Ghahremani	8/04/2025	CLOSED	the section has been updated as screenshot on final rev.

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

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	Full Name	Role	Date	Response (must be specific on how this comment has been addressed)	Where addressed (Section # / Figure #)	Full Name	Company	Date	Comment Outcome	Close-Out Comment
	CPHR	A2I-Junee Yard-Flood Design Report (5-0052-210-IHY-J4-RP-0001)	Section 1.11	10/04/2025	Survey and Kemp St Bridge	1st dot point states that detailed survey of the drainage infrastructure at this site has not been included in the flood assessment. Why? Also, 3rd dot point indicates that the impacts of the Kemp St Bridge works has not been included in the assessment. Due to their proximity suggest that a cumulative assessment of both sites (Junee yard and Kemp St Bridges) needs to be completed similar to that done for Wagga Yard that included in the Edmonson St bridge works.	Scott Mortimer	DJV flood mdoeller	22/05/2025	Detailed survey had not been received at the time of the DDR submission for Junee Yard. Due the package submission timings the Junee package is submitted before the Kemp Street package, when the Kemp Street design has not been fully developed and therefore a cumulative assessment cannot take place in this package. A cumulative assessment has been undertaken in the Kemp Street package.					OPEN	
	CPHR	A2I-Junee Yard-Flood Design Report (5-0052-210-IHY-J4-RP-0001)	Section 4.2.2	10/04/2025	Drainage Network	Why is only Council-supplied data being used for the ARTC drainage elements? Detailed survey should be used.	Scott Mortimer	DJV flood mdoeller	22/05/2025	Detailed survey of the ARTC elements has since been acquired post the submission of this document. The modelling and report will be updated in the next design stage.					OPEN	
	CPHR	A2I-Junee Yard-Flood Design Report (5-0052-210-IHY-J4-RP-0001)	Section 5.1	10/04/2025	Existing Conditions flood assessment	All references to "Rock Creek" should be changed to "Rocky Creek". Also, this creek flows from east to west not west to east. Several typos in the section require correcting.	Scott Mortimer	DJV flood mdoeller	22/05/2025	The typos were updated in the report. 					OPEN	
	CPHR	A2I-Junee Yard-Flood Design Report (5-0052-210-IHY-J4-RP-0001)	Section 5.2	10/04/2025	Design Conditions flood assessment	A figure that shows the location of any new or existing drainage elements (including culverts under the rail) would assist greatly in understanding the flow patterns.	Scott Mortimer	DJV flood mdoeller	22/05/2025	Please refer to Figure 4-3 about the existing drainage elements in the modelling with their assoicated sizes and as per Section 4.2.2. The IFC flood assessment is ongoing and the drainage elements for existing and design will be added into Figure 5-3 in the IFC design submission.	5-0052-210-IHY-J4-RP-0001, Section 5.2				OPEN	
	CPHR	A2I-Junee Yard-Flood Design Report (5-0052-210-IHY-J4-RP-0001)	Table 5-11	10/04/2025	Impacts on the Junee Aquatic Centre	Table 5-11 states that there are increases of up to 0.1m in the 1% AEP on the eastern side of the rail outside the project boundary but do not impact the neighbouring Junee Recreation and Aquatic Centre. However, Figure 33a shows some impacts within the grounds of the Aquatic Centre with some isolated patches of newly flooded land. Does this comply with the QDL's? If not mitigation measures need to be developed. Also need to include a more accurate description of the flood risks within this property.	Scott Mortimer	DJV flood mdoeller	22/05/2025	As seen in the mapping this flooding does not affect the floor levels of the Aquatic Centre as the site is raised higher than the Edgar Street Channel, and is compliant with E42(c) no increase of 10 mm in above floor inundation to habitable rooms. As per E42(d) a maximum increase of 50mm is allowable in land zoned as residential or commercial. The increase in flood levels does not affect the floor levels and there are no increases on Lorne Street where the site is accessed there is a negligible increase to flood risk at the property. Please note that a cumulative flood assessment together with Kemp Street Bridge and Footbridge has been undertaken. The results and description will be included in the IFC stage report.					OPEN	
	CPHR	A2I-Junee Yard-Flood Design Report (5-0052-210-IHY-J4-RP-0001)	Section 7	10/40/2025	Recommendations for the next stage	It is noted that these recommendations for the next stage (IFC) address some of the issues identified above. Why were these were not addressed in this detailed design stage?	Scott Mortimer	DJV flood mdoeller	22/05/2025	Survey of the rail culverts was not yet received at the time that the DDR design was submitted, and due the package submission timings the Junee package is submitted before the Kemp Street package, when the Kemp Street design has not been fully developed and therefore a cumulative assessment cannot take place in this package. A cumulative assessment has been undertaken in the Kemp Street package.					OPEN	
State Government	TfNSW	5-0052-210-IHY-J4-RP-0001_A.1_Junee	Figures	14/04/2025	Flood Impacts	Please update/extend the flood impact figures to show the area where the Railway bridges over the Olympic Highway in between Cedric Street and Illabo Road. There is a drainage trap-low point on the highway in this location that is prone to flooding and TfNSW needs to be assured that the project will not detrimentally impact the highway in this location. The project boundary extends beyond the mapped area in the figures.	Scott Mortimer/Mal Gunasekera	DJV flood mdoeller	27/05/2025	The scope of works for this package is at Junee Yard and the extent of the works is shown in Figure 1-1 of the report. All impacts from this package of works is shown within the mapping. The works occurring as part of the A2P project between Illabo Road and Cedric Street are included in the Olympic Highway Underbridge (5-0052-210-IHY-J6-RP-0001). In this report and associated figures in Appendix A, it shows there are no material impacts from the project works in terms of afflux, velocity or hazard increase					OPEN	
State Government	TfNSW	5-0052-210-IHY-J4-RP-0001_A.1_Junee	Figure 31a	14/04/2025	Flood Impacts	This figure appears to show flood impacts to the Olympic Highway in the 5% AEP. However the exact extent of this impact is difficult to determine. Please provide TfNSW with a summary of the increase in flood levels at this location in all flood events.	Scott Mortimer	DJV flood mdoeller	27/05/2025	Ther impacts on Olympic Highway are discussed in Section 5.4.1 and Table 5-12 in Point 2. The impacts in the 5% AEP is up to 24mm and there is no increases in the 2% and 1%. The increases in the 5% AEP partially affect the road and the road corridor. The impacts in this area is compliant with the CoA E42 (d).					OPEN	

APPENDIX E

Independent Flood Consultant Review

Schedule 12 Consultant Certificate

Part A – Consultant's Statement of Conformance for Services

(clause 5.3 (b))

Date:	5 August 2025
Project:	Albury to Parkes Enhancement Project (A2P) (the Project) J4 – Junee Yard Flood (IFC)
Consultant:	Hatch Pty Ltd ABN 59 008 630 500
In relation to:	The contract between the Consultant and Martinus Rail Pty Ltd (MR) dated …18 March 2024…….with respect to the Project

1. This Statement of Conformance is given in relation to the Agreement.

2. The Consultant hereby certifies to MR that:

   a. the design calculations and drawings are agreed with the Designer; and

   b. it has provided a full and independent assessment of all factors influencing the final integrity of the specified components of the Works,

   c. it has reviewed the design calculations, models and drawings, and undertaken separate calculations for critical aspects of the Works,

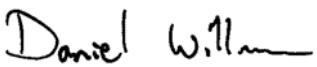
   d. it has undertaken an independent detailed check of the Design Documentation,

   e. it has provided all advice and comment, including calculations, in writing.

   Statement 2 above applies to the extent clarified in Section 3 and 4 on the following page.

……..

Signature of Authorised Person



……..

Signature of Witness

Darren Lyons

……..

Name of Authorised Person

Daniel Williams

……..

Name of Witness

Schedule 12 Consultant Certificate

Part A – Consultant's Statement of Conformance for Services

(clause 5.3 (b))

3. This statement of conformance applies to the following work packages only:

    a. J4 – Junee Yard Flood (IFC)

4. Statement 2 is limited to the degree at which the design and review has progressed at the relevant phase (SDR, PDR, DDR & IFC) and the information provided by Martinus.

    All proof engineering comments identified as part of our IFC review have been closed.

MARTINUS

Head Office | 1/23-27 Waratah Street | KIRRAWEE NSW 2232