

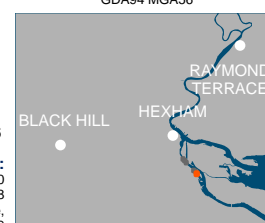


Date: 25/03/2022 Filename: IA301100_EIS_RFI_F002_ConceptDesignCoastalWetlands_v2

Legend

- | | | |
|--|-----------------------------|-----------------------------------|
| — The proposal | Design elements | ■ Cycle route - unpainted |
| ■ EIS area | — Proposed drainage design | ■ Bridge deck |
| ■ REF area | --- Proposed retaining wall | ■ CM SEPP Protected Areas |
| ■ Temporary construction area for vehicle turn around and laydown of materials prior to installation | — Open channel | ■ Coastal Wetlands |
| ■ Cadastre | | ■ Coastal Wetlands Proximity Area |
| ■ National Park | | |

0 10 20 m
Scale 1:1,000 at A4
GDA94 MGA56



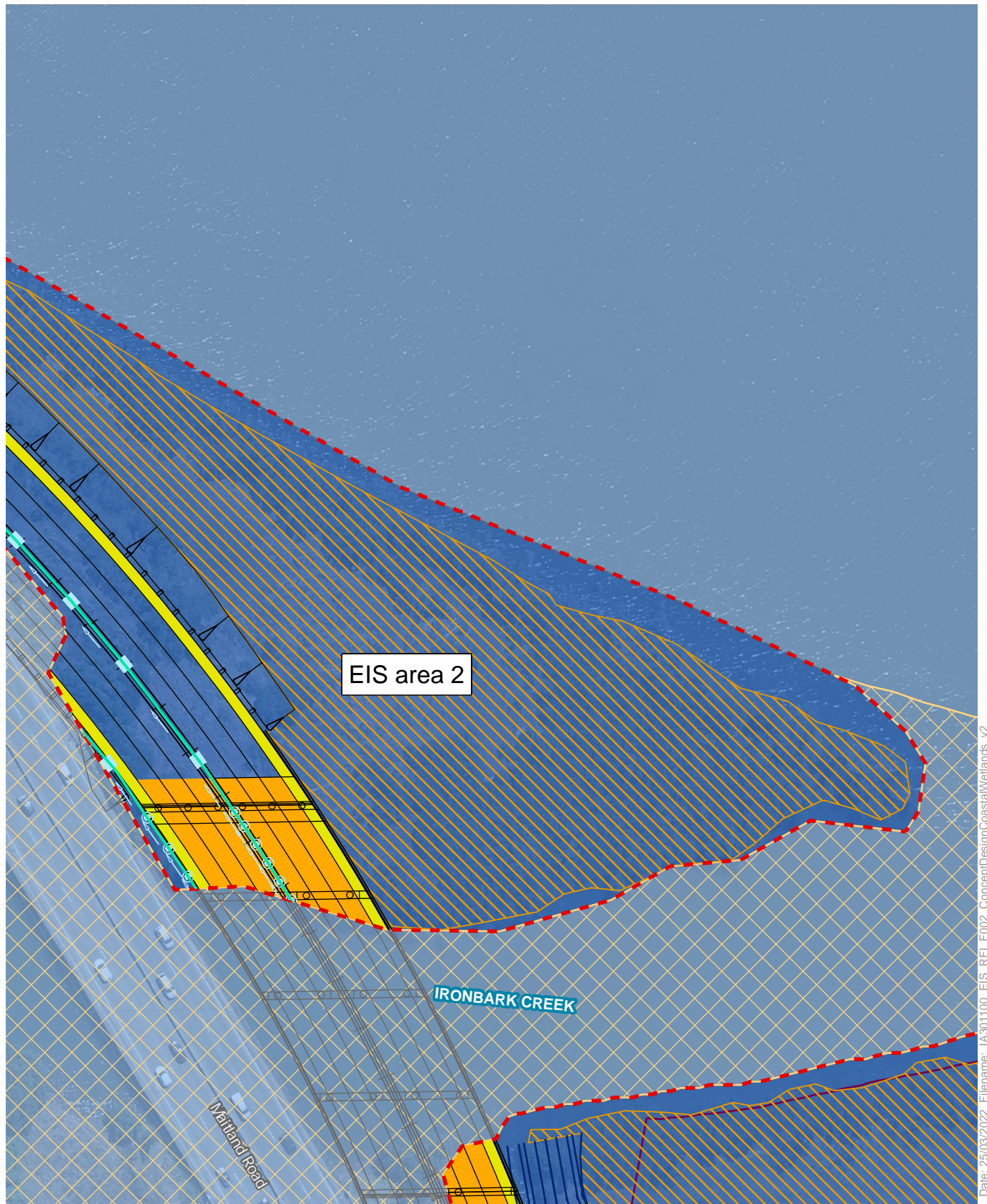
Page 1 of 6

Data sources:
Jacobs 2020
Ausimage 2018
Department Finance,
Services and Innovation 2020

Appendix 1 Figure A.1

Concept design features within Coastal Wetland areas and next to Coastal Wetlands Proximity Areas

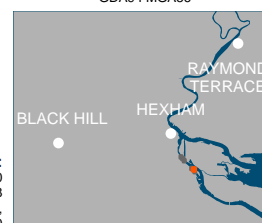
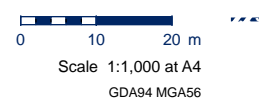
Hexham Straight Widening



Date: 25/03/2022 Filename: IA301100_EIS_RFI_F002_ConceptDesignCoastalWetlands_v2

Legend

	The proposal		Proposed drainage design		Cycle route - unpainted
	EIS area		Open channel		Bridge deck
	REF area		Culvert		CM SEPP Protected Areas
	Temporary construction area for vehicle turn around and laydown of materials prior to installation		Proposed (minor)		Coastal Wetlands
	Cadastre				Coastal Wetlands Proximity Area



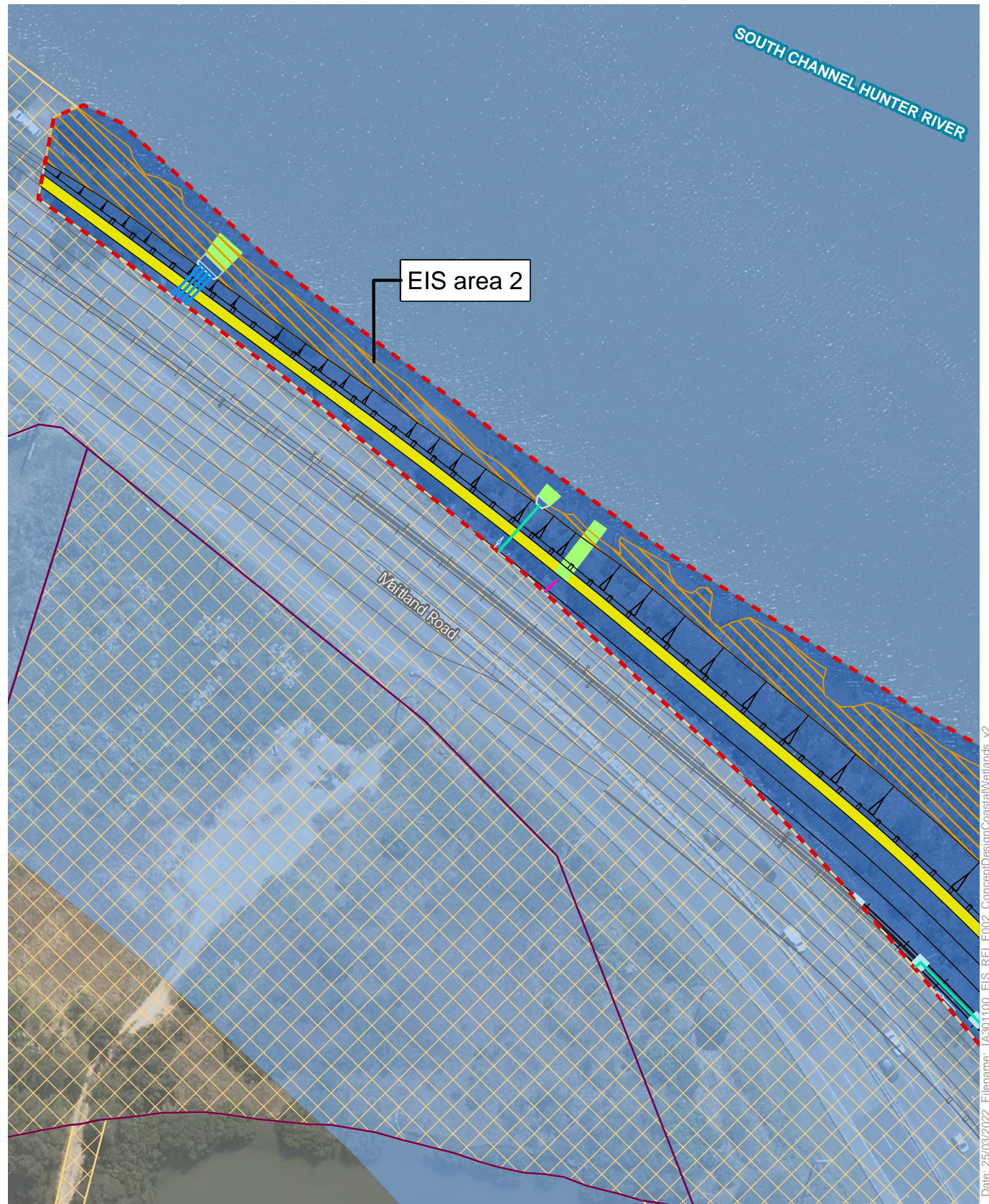
Page 2 of 6

Data sources:
 Jacobs 2020
 Ausimage 2018
 Department Finance,
 Services and Innovation 2020

Appendix 1 Figure A.2

Concept design features within Coastal Wetland areas and next to Coastal Wetlands Proximity Areas

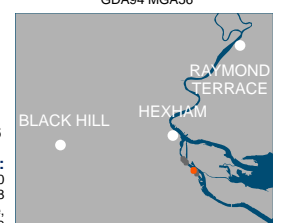
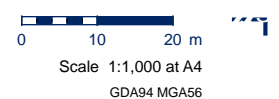
Hexham Straight Widening



Date: 25/03/2022 Filename: IA301100_EIS_RFI_F002_ConceptDesignCoastalWetlands_v2

Legend

	The proposal		Design elements		Cycle route - unpainted
	EIS area		Proposed drainage design		CM SEPP Protected Areas
	REF area		Culvert		Coastal Wetlands
	Temporary construction area for vehicle turn around and laydown of materials prior to installation		Existing		Coastal Wetlands Proximity Area
	Construction works within outlet channels		Proposed (minor)		
	Cadastre		Proposed		
			To be removed		



Page 3 of 6

Data sources:
Jacobs 2020
Ausimage 2018
Department Finance,
Services and Innovation 2020

Appendix 1 Figure A.3

Concept design features within Coastal Wetland areas and next to Coastal Wetlands Proximity Areas

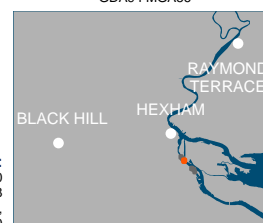
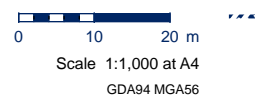
Hexham Straight Widening



Date: 25/03/2022 Filename: IA301100_EIS_RFI_F002_ConceptDesignCoastalWetlands_v2

Legend

- | | | |
|--|--------------------------|---------------------------------|
| The proposal | Design elements | Cycle route - unpainted |
| EIS area | Proposed drainage design | Cycle route - painted |
| REF area | Culvert | CM SEPP Protected Areas |
| Temporary construction area for vehicle turn around and laydown of materials prior to installation | Proposed (minor) | Coastal Wetlands |
| Construction works within outlet channels | Proposed | Coastal Wetlands Proximity Area |
| Cadastre | To be removed | |



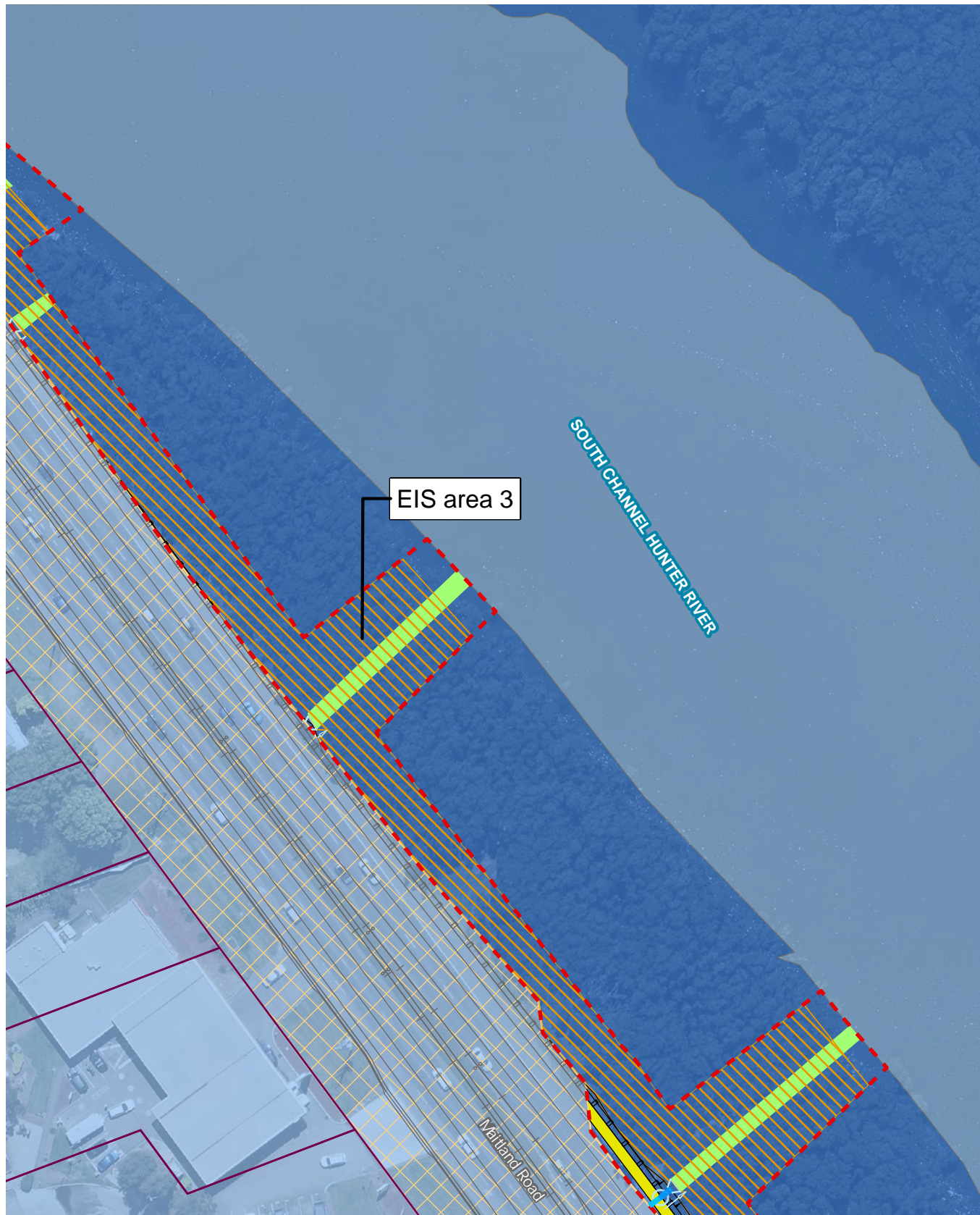
Page 4 of 6

Data sources:
Jacobs 2020
Ausimage 2018
Department Finance,
Services and Innovation 2020

Appendix 1 Figure A.4

Concept design features within Coastal Wetland areas and next to Coastal Wetlands Proximity Areas

Hexham Straight Widening



Date: 25/03/2022 Filename: IA301100_EIS_RFI_F002_ConceptDesignCoastalWetlands_v2

Legend

— The proposal

— EIS area

— REF area

— Temporary construction area for vehicle turn around and laydown of materials prior to installation

— Construction works within outlet channels

— Cadastre

Design elements

— Proposed drainage design

Culvert

— Existing

— Proposed

— Cycle route - unpainted

CM SEPP Protected Areas

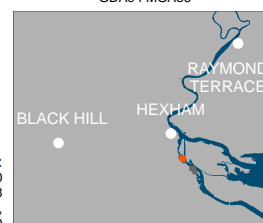
— Coastal Wetlands

— Coastal Wetlands Proximity Area



Scale 1:1,000 at A4

GDA94 MGA56



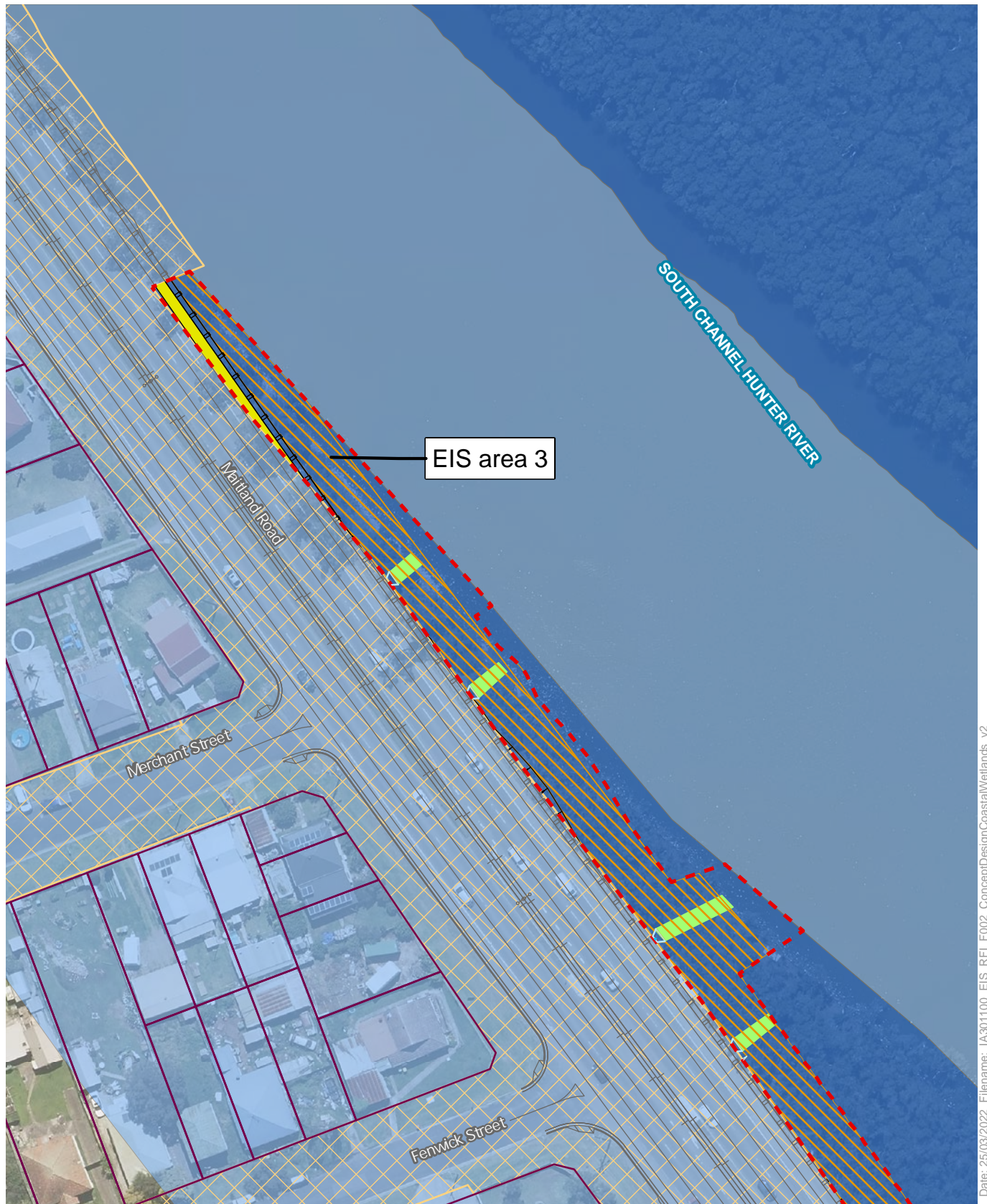
Page 5 of 6

Data sources:
Jacobs 2020
Ausimage 2018
Department Finance,
Services and Innovation 2020

Appendix 1 Figure A.5

Concept design features within Coastal Wetland areas and next to Coastal Wetlands Proximity Areas

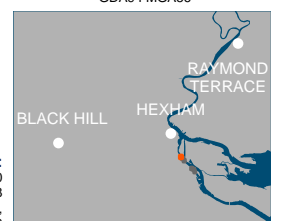
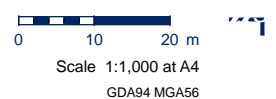
Hexham Straight Widening



Date: 25/03/2022 Filename: IA301100_EIS_RFI_F002_ConceptDesignCoastalWetlands_v2

Legend

- | | | |
|--|--------------------------|---------------------------------|
| The proposal | Design elements | Cycle route - unpainted |
| EIS area | Proposed drainage design | CM SEPP Protected Areas |
| REF area | Culvert | Coastal Wetlands |
| Temporary construction area for vehicle turn around and laydown of materials prior to installation | Existing | Coastal Wetlands Proximity Area |
| Construction works within outlet channels | | |
| Cadastre | | |



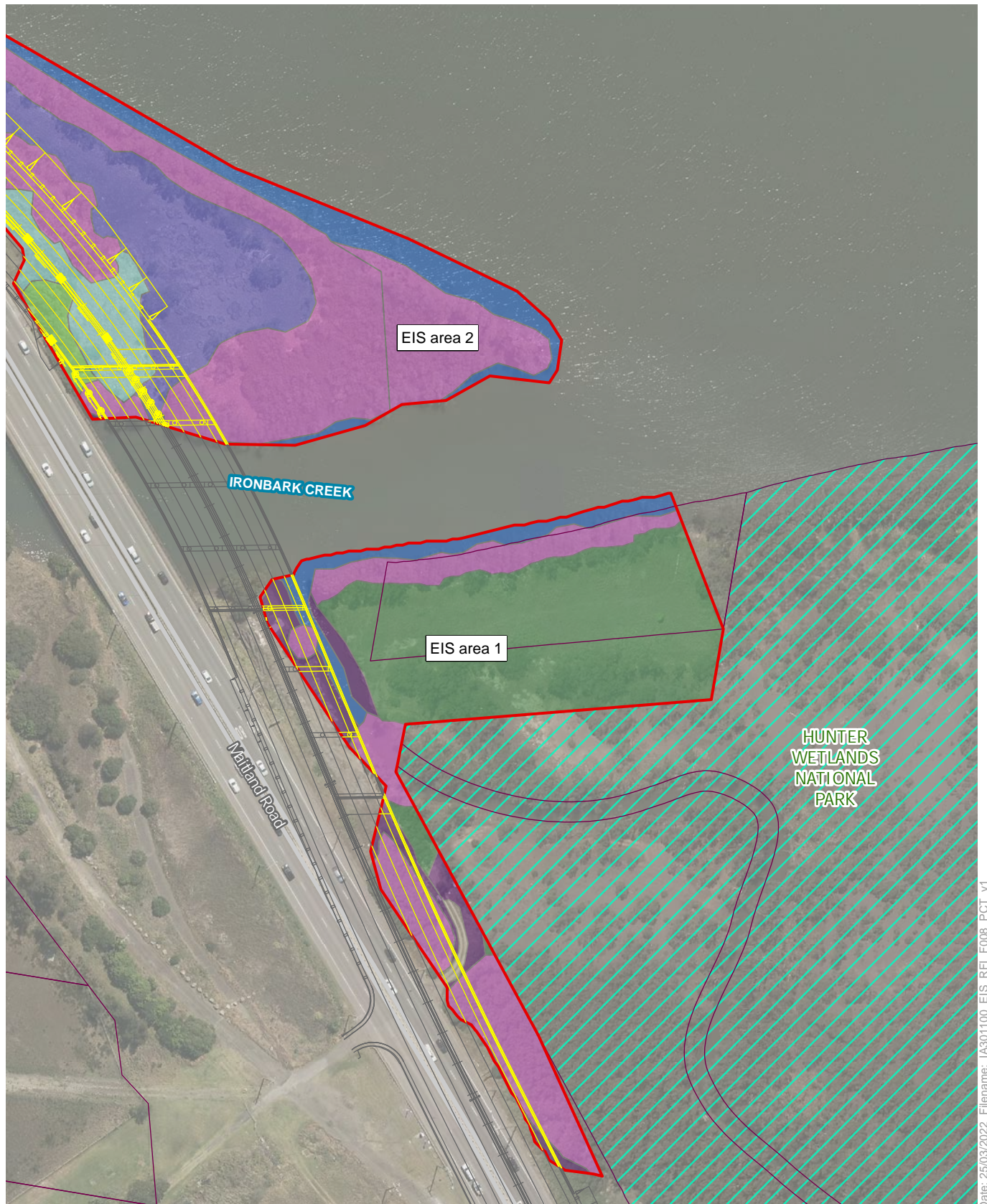
Page 6 of 6

Data sources:
Jacobs 2020
Ausimage 2018
Department Finance,
Services and Innovation 2020

Appendix 1 Figure A.6

Concept design features within Coastal Wetland areas and next to Coastal Wetlands Proximity Areas

Hexham Straight Widening



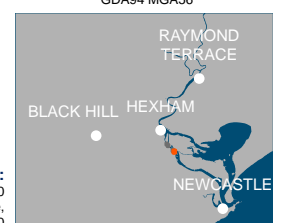
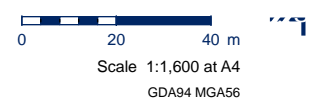
Date: 25/03/2022 Filename: IA301100_EIS_RFI_F008_PCT_v1

Legend

- EIS area
- Construction activities
- The proposal
- Cadastre
- National Park
- Road

Plant community type (vegetation zone and condition)

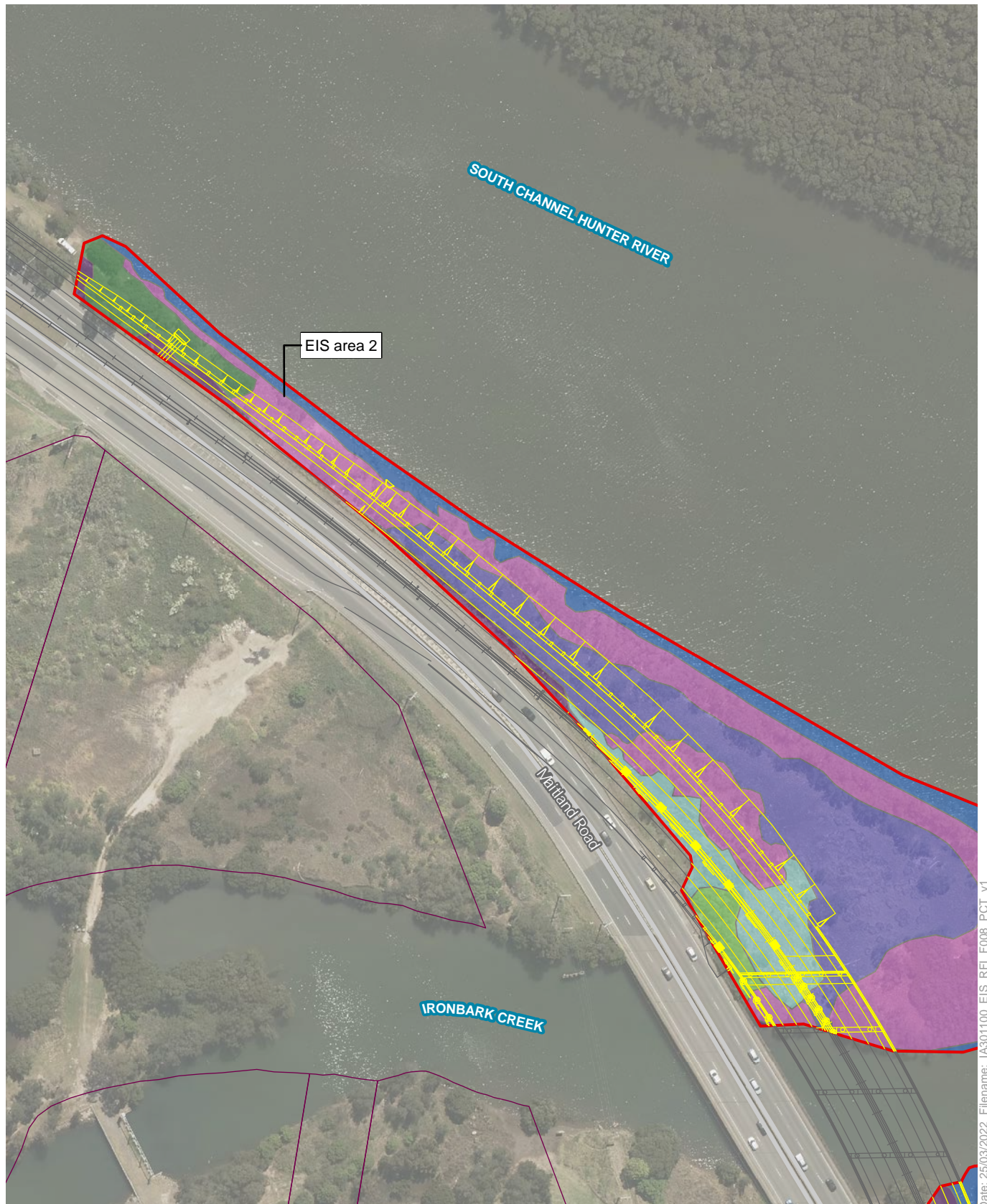
- Miscellaneous Ecosystem: Highly disturbed areas with no or limited native vegetation
- Miscellaneous Ecosystem: Urban/exotic plantings
- PCT 1071 Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion (VZ 5 - Low)
- PCT 1746 Saltmarsh Estuarine Complex (VZ 2 - Good)
- PCT 1746 Saltmarsh Estuarine Complex (VZ 3 - Modified)
- PCT 1747 Grey Mangrove low closed forest (VZ 1 - Good)
- Waterway



Data sources:
 Jacobs 2020
 Department Finance,
 Services and Innovation 2020

Appendix 1 Figure B.1 Plant community types

Hexham Straight Widening



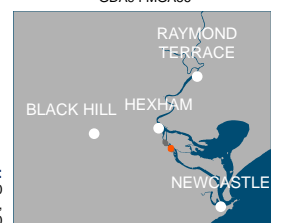
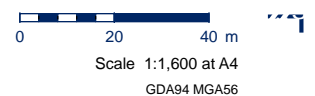
Date: 25/03/2022 Filename: IA301100_EIS_RFI_F008_PCT_v1

Legend

- EIS area
- Construction activities
- The proposal
- Cadastre
- National Park
- Road

Plant community type (vegetation zone and condition)

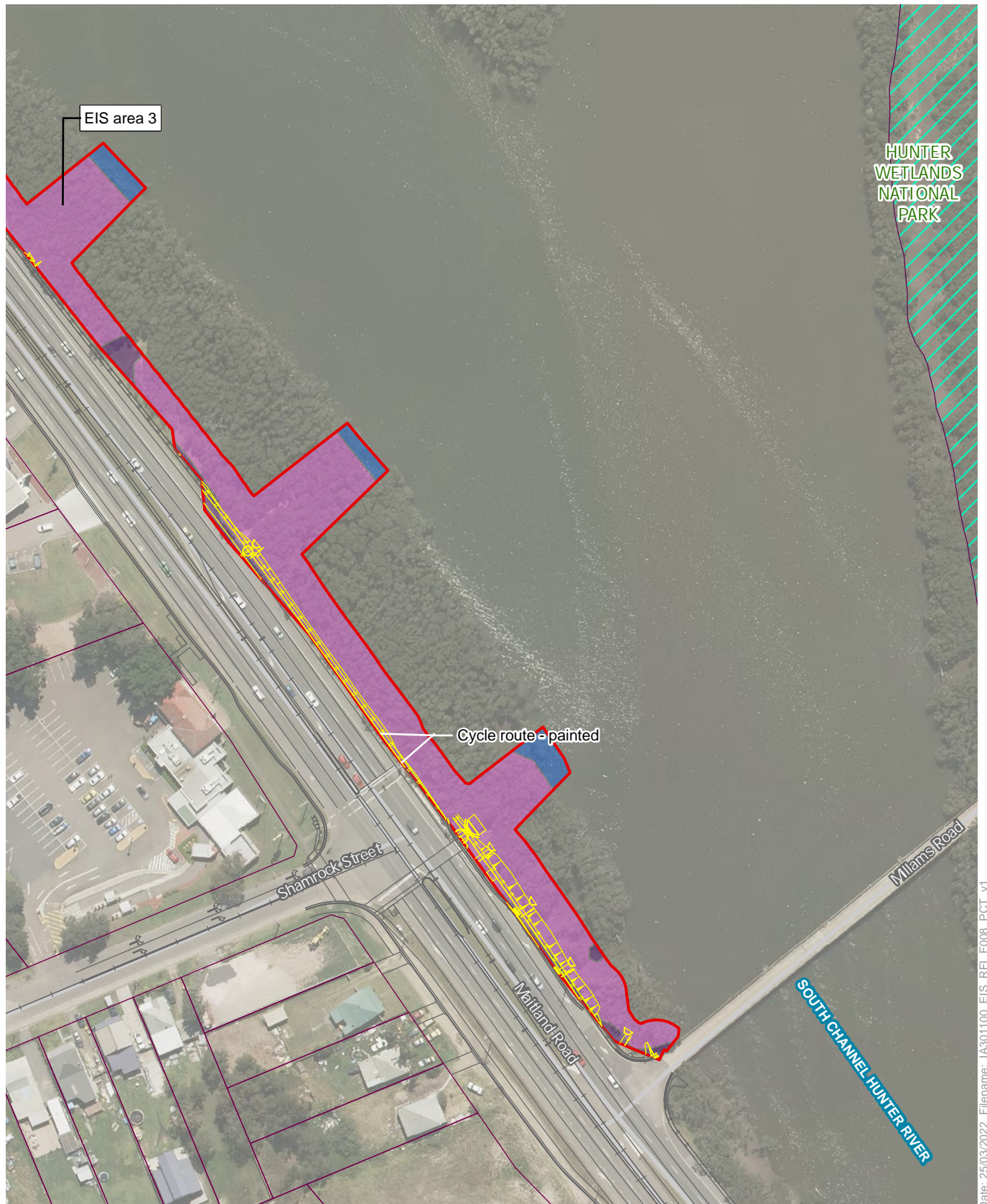
- Miscellaneous Ecosystem: Highly disturbed areas with no or limited native vegetation
- Miscellaneous Ecosystem: Urban/exotic plantings
- PCT 1071 *Phragmites australis* and *Typha orientalis* coastal freshwater wetlands of the Sydney Basin Bioregion(VZ 5 – Low)
- PCT 1746 Saltmarsh Estuarine Complex(VZ 2 – Good)
- PCT 1746 Saltmarsh Estuarine Complex(VZ 3 – Modified)
- PCT 1747 Grey Mangrove low closed forest(VZ 1 – Good)
- Waterway



Data sources:
 Jacobs 2020
 Department Finance,
 Services and Innovation 2020

Appendix 1 Figure B.2 Plant community types

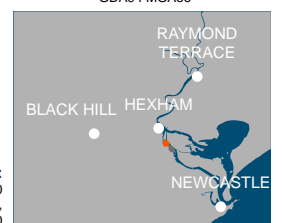
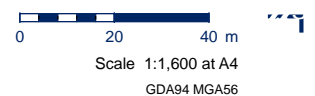
Hexham Straight Widening



Date: 25/03/2022 Filename: IA301100_EIS_RFI_F008_PCT_v1

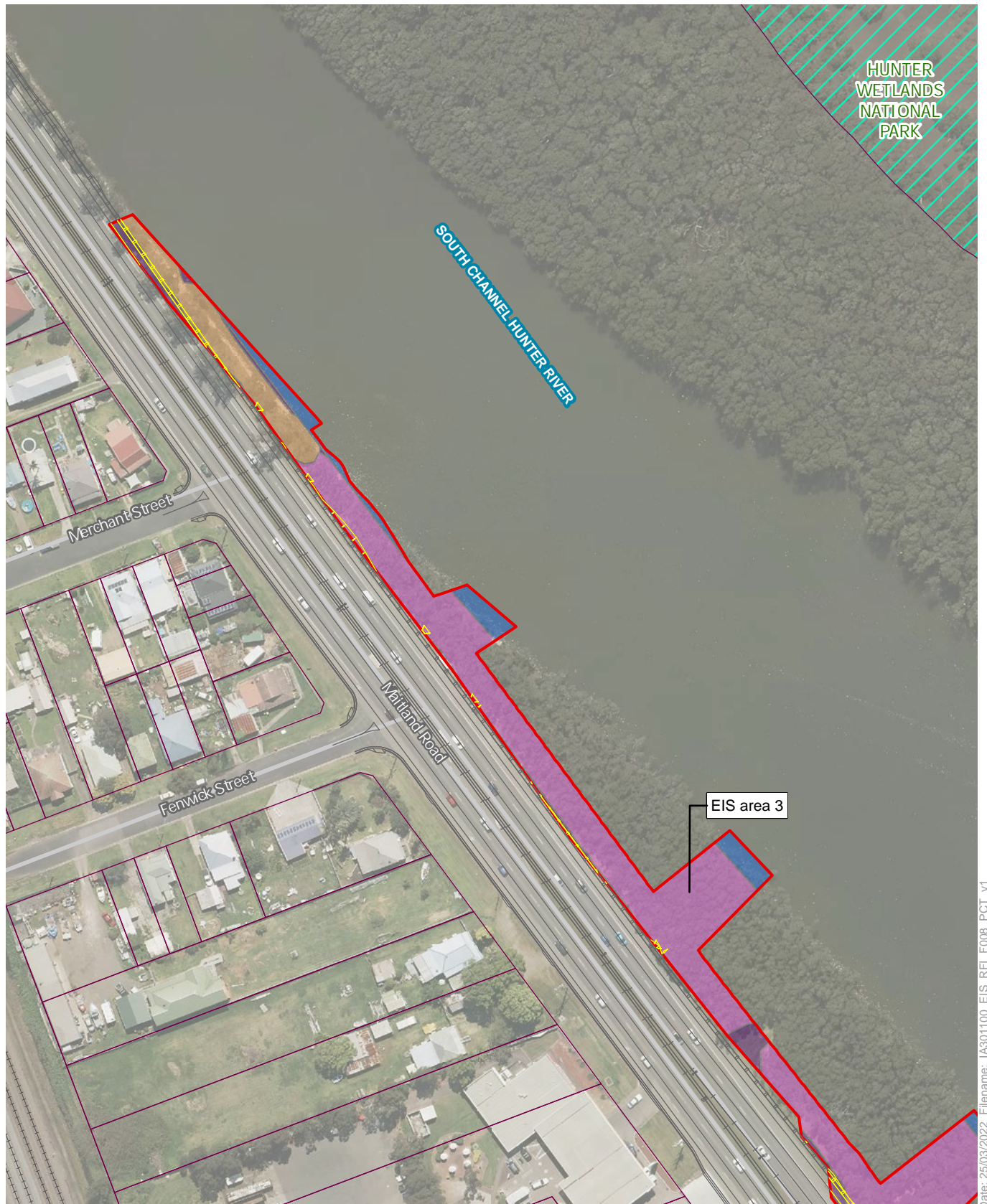
Legend

- | | |
|---|--|
| EIS area | Plant community type (vegetation zone and condition) |
| Construction activities | Miscellaneous Ecosystem: Highly disturbed areas with no or limited native vegetation |
| The proposal | PCT 1747 Grey Mangrove low closed forest(VZ 1 – Good) |
| Cadastre | Waterway |
| National Park | |
| Road | |



Data sources:
 Jacobs 2020
 Department Finance,
 Services and Innovation 2020

Appendix 1 Figure B.3 Plant community types
 Hexham Straight Widening



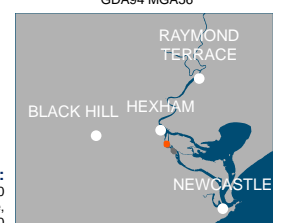
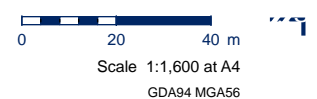
Date: 25/03/2022 Filename: IA301100_EIS_RFI_F008_PCT_v1

Legend

- EIS area
- Construction activities
- The proposal
- Cadastre
- National Park
- Road
- Railway

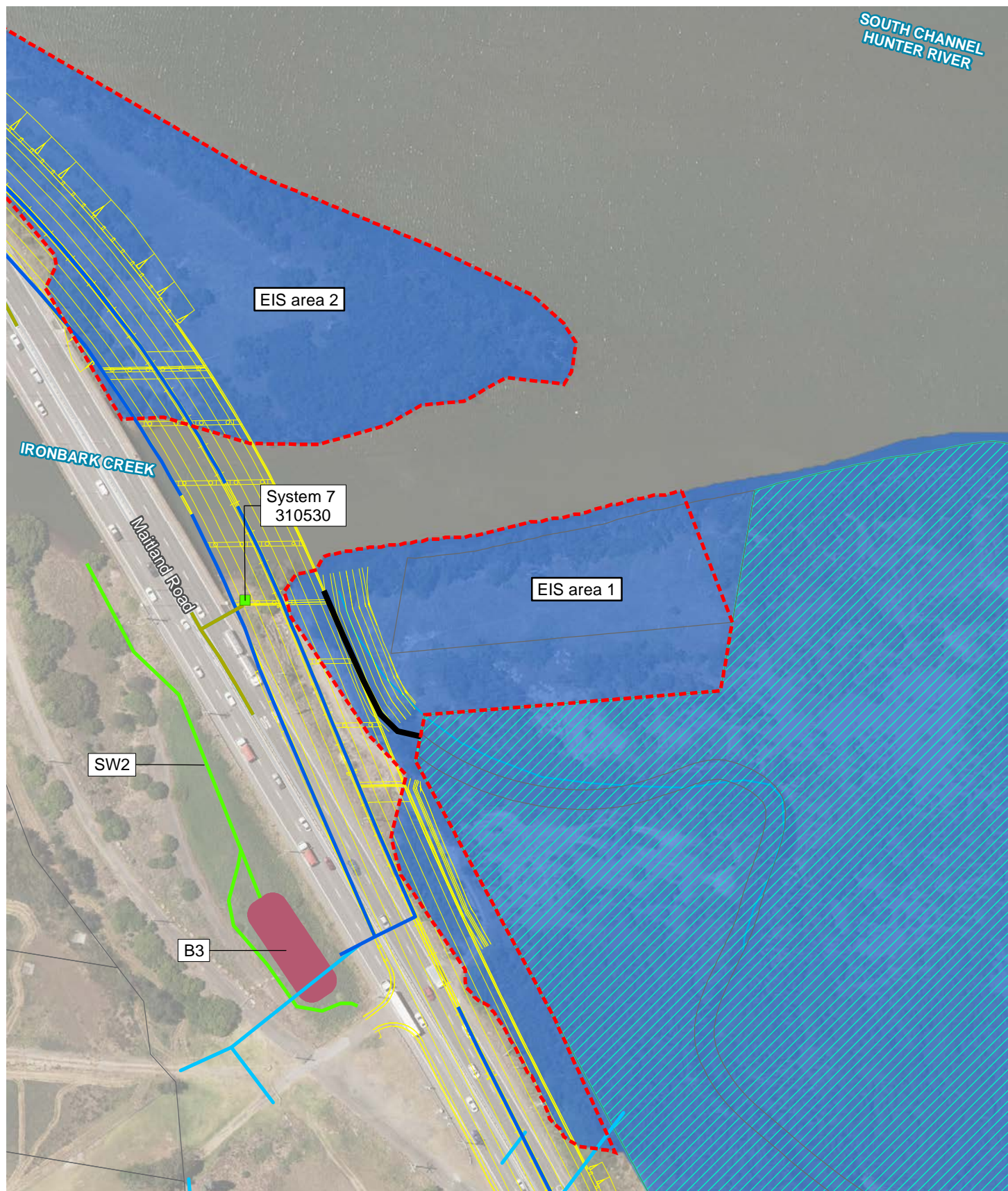
Plant community type (vegetation zone and condition)

- Miscellaneous Ecosystem: Highly disturbed areas with no or limited native vegetation
- PCT 1234 Swamp Oak swamp forest fringing estuaries, Sydney Basin Bioregion and South East Corner Bioregion(VZ 4 – Low)
- PCT 1747 Grey Mangrove low closed forest(VZ 1 – Good)
- Waterway

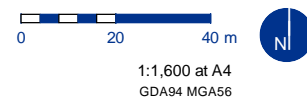


Data sources:
 Jacobs 2020
 Department Finance,
 Services and Innovation 2020

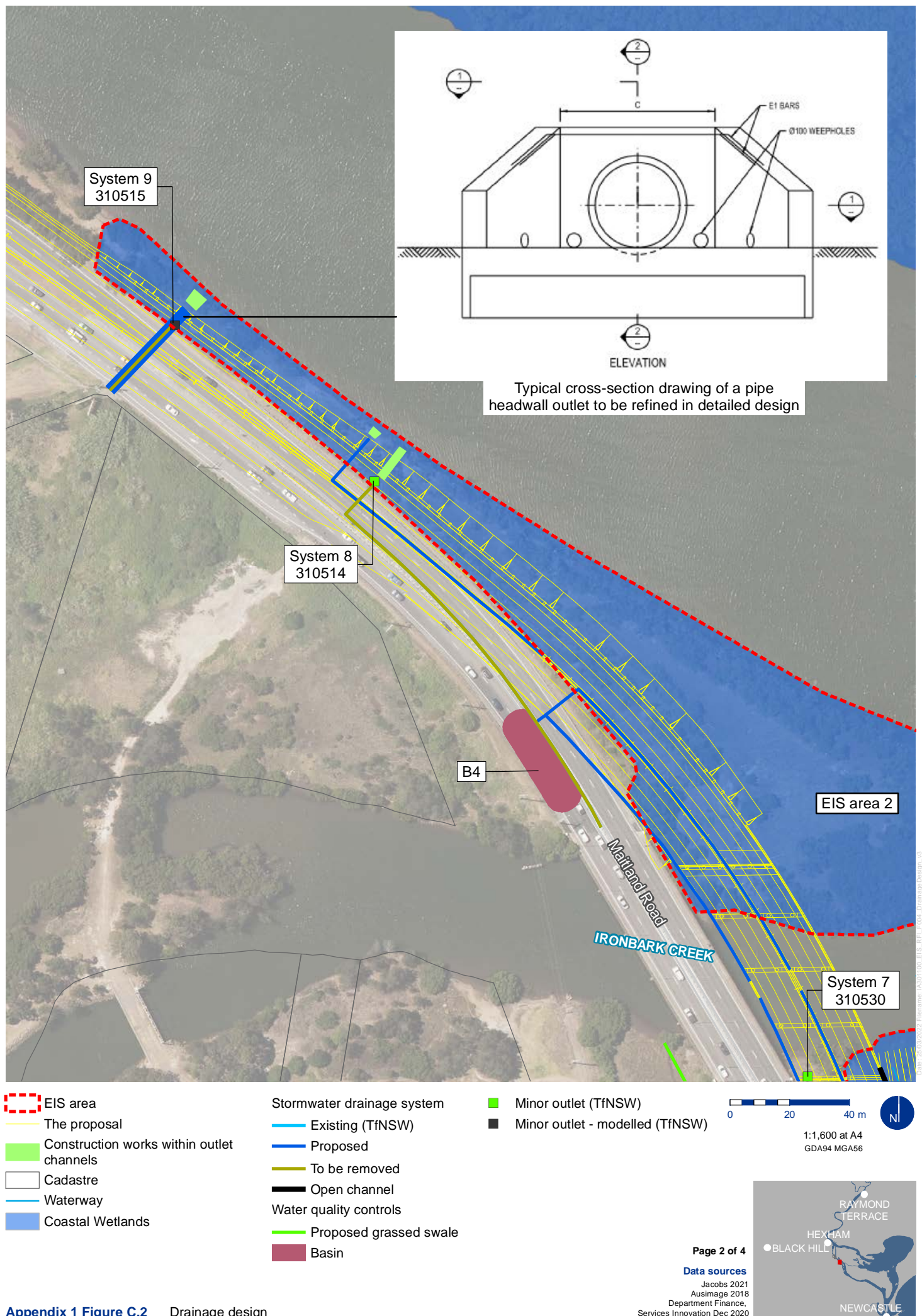
Appendix 1 Figure B.4 Plant community types
 Hexham Straight Widening

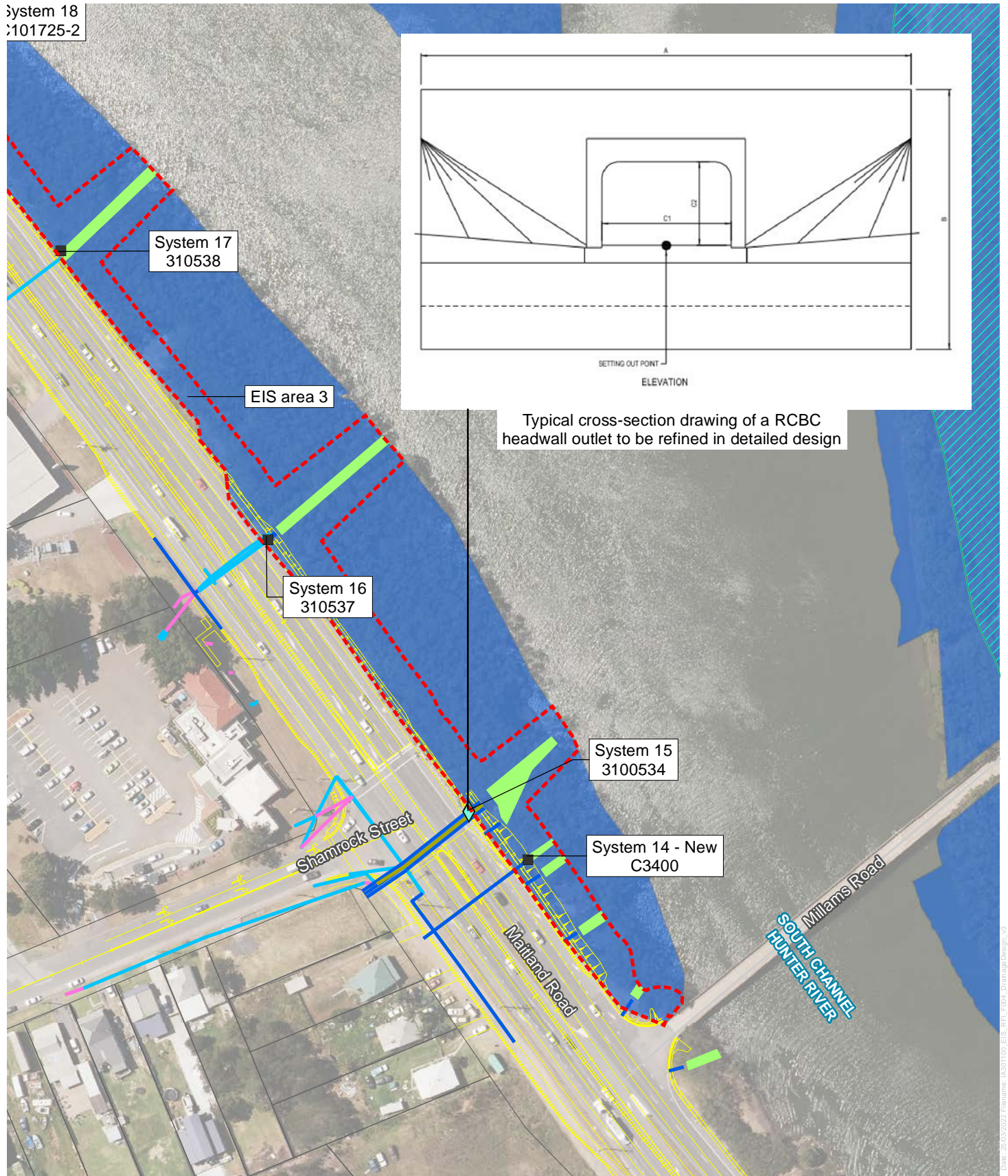


- | | | |
|--|--|---|
| EIS area | Stormwater drainage system | Minor outlet (TfNSW) |
| The proposal | Existing (TfNSW) | |
| Cadastre | Proposed | |
| Waterway | To be removed | |
| Hunter Wetlands National Park | Open channel | |
| Coastal Wetlands | Water quality controls | |
| | Proposed grassed swale | |
| | Basin | |

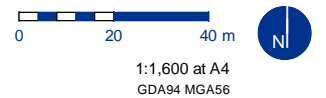


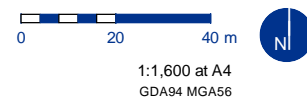
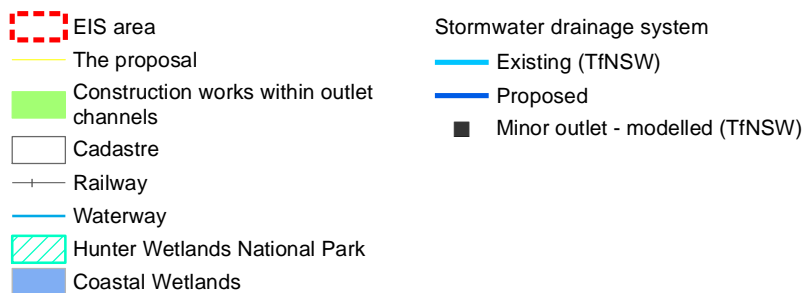
Appendix 1 Figure C.1 Drainage design
Hexham Straight Widening



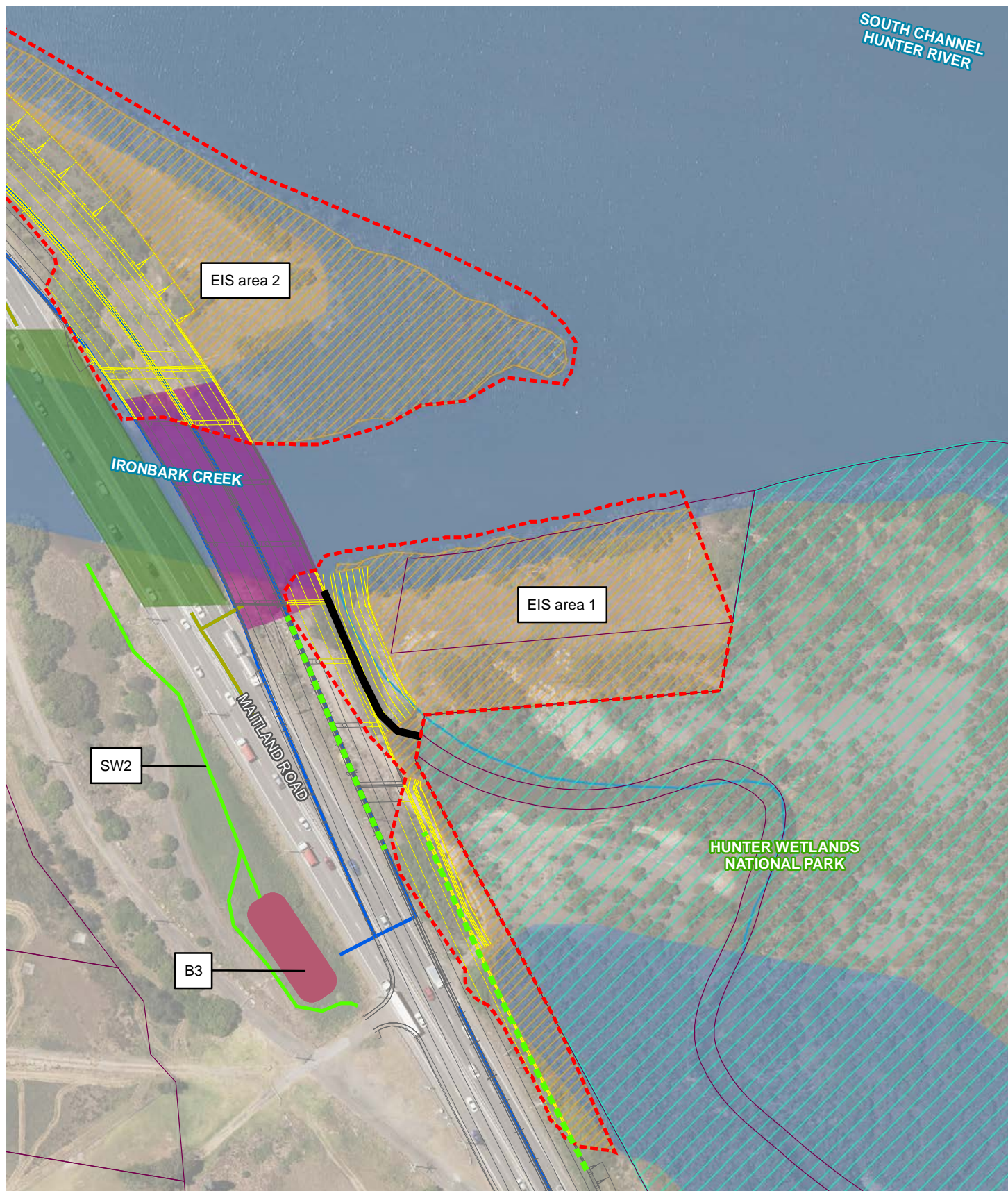


- EIS area
- The proposal
- Construction works within outlet channels
- Cadastre
- Waterway
- Hunter Wetlands National Park
- Coastal Wetlands
- Existing (TfNSW)
- Existing (City of Newcastle)
- Proposed
- To be removed
- ◆ Small outlet (City of Newcastle)
- Minor outlet - modelled (TfNSW)

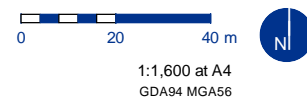




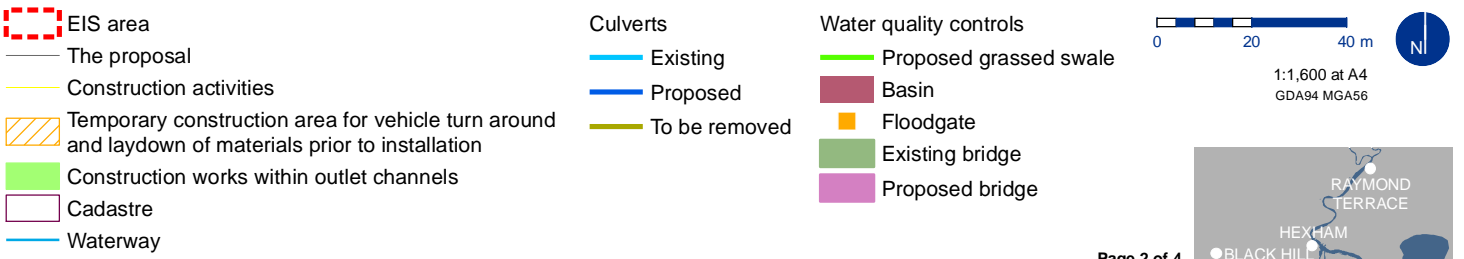
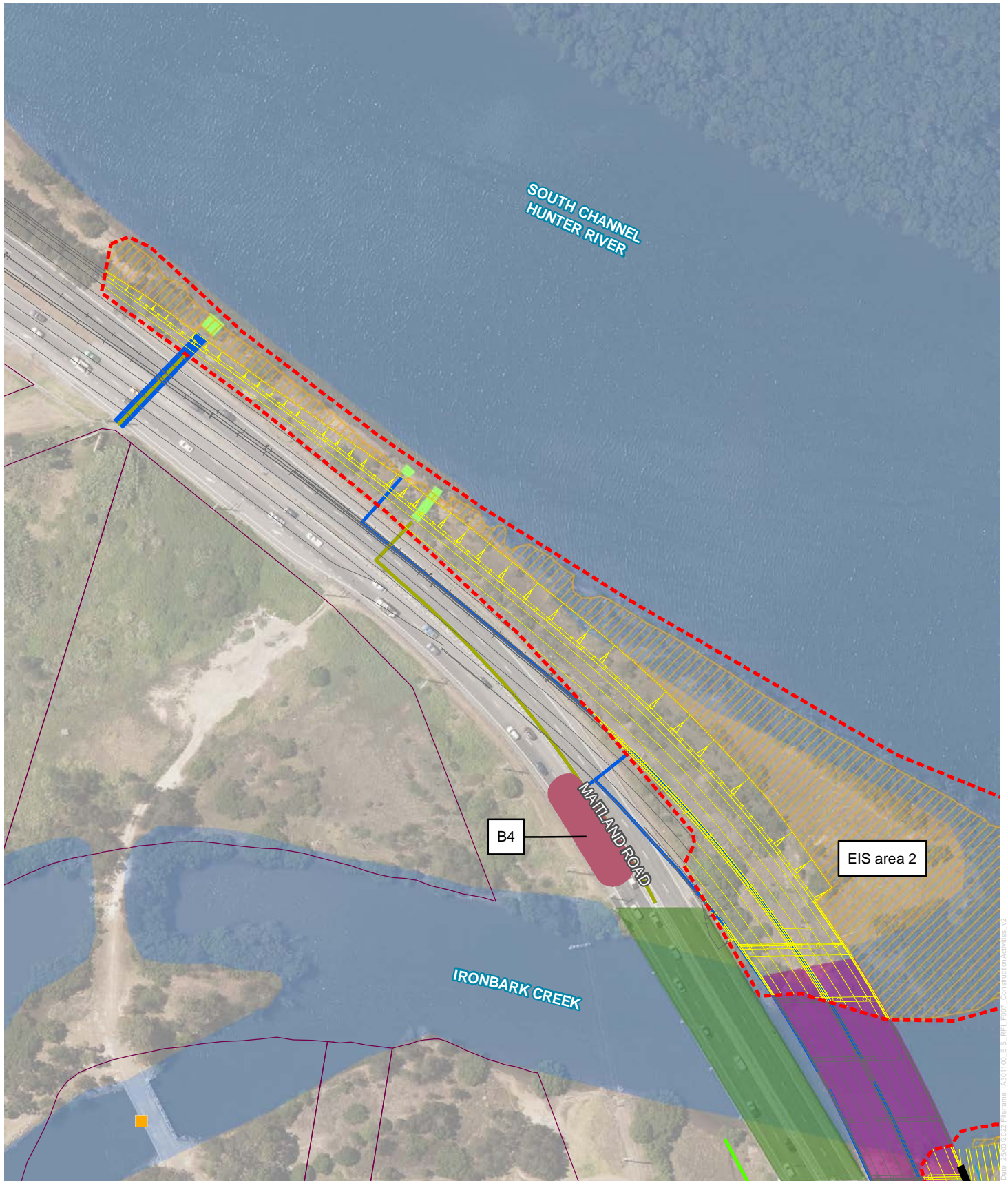
Appendix 1 Figure C.4 Drainage design
Hexham Straight Widening



- | | | |
|---|--|--|
| EIS area | — Culverts | — Water quality controls |
| — The proposal | — Existing | — Proposed grassed swale |
| — Construction activities | — Proposed | Basin |
| Temporary construction area for vehicle turn around and laydown of materials prior to installation | — To be removed | Existing bridge |
| Cadastre | | Proposed bridge |
| — Waterway | | - - - Proposed retaining wall |
| Hunter Wetlands National Park | | |



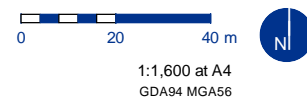
Appendix 1 Figure D.1 Construction activities
Hexham Straight Widening



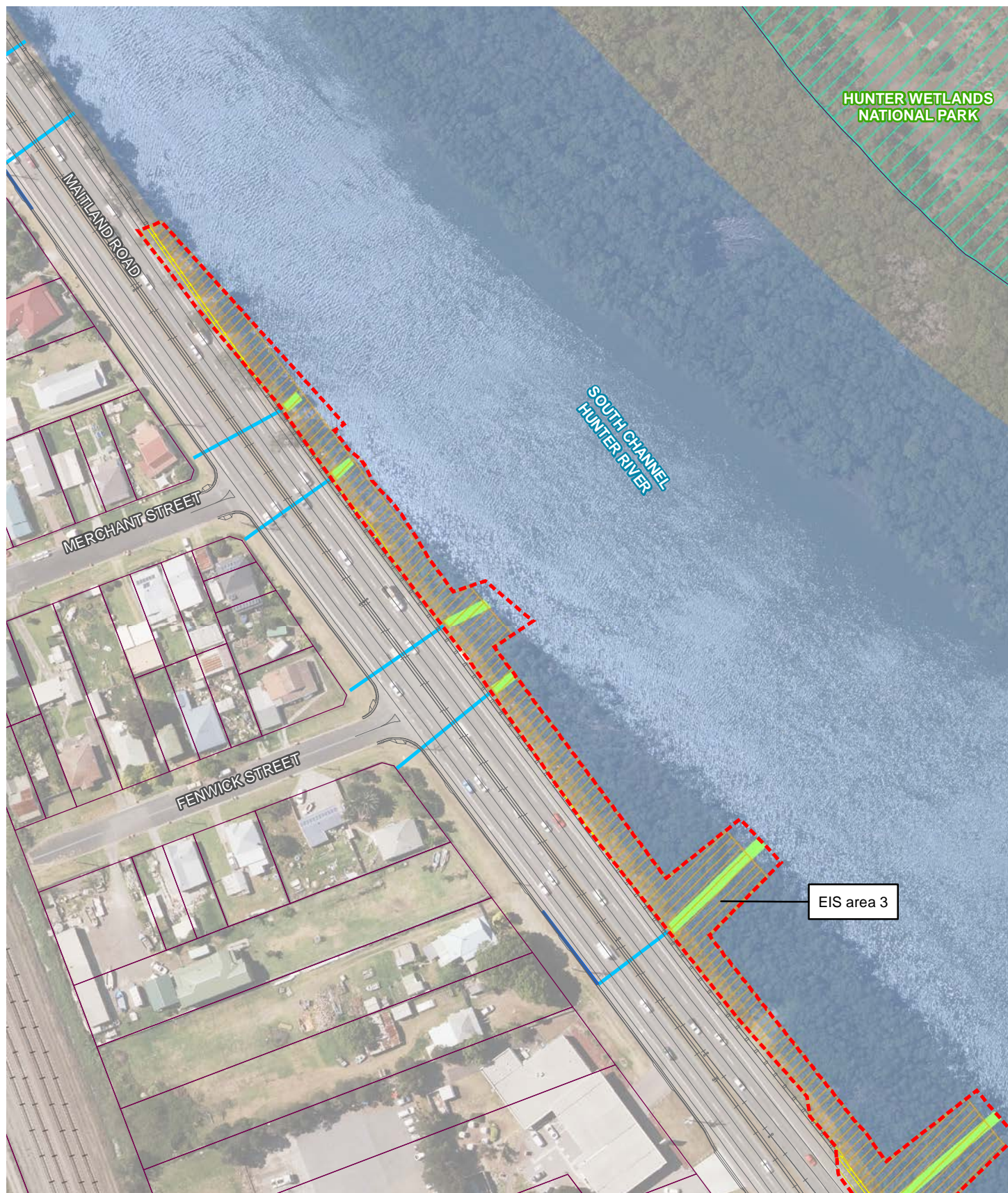
Appendix 1 Figure D.2 Construction activities
Hexham Straight Widening



- EIS area
 - The proposal
 - Construction activities
 - Temporary construction area for vehicle turn around and laydown of materials prior to installation
 - Construction works within outlet channels
 - Cadastre
 - Waterway
 - Hunter Wetlands National Park
- Culverts**
 - Existing
 - Proposed
 - To be removed

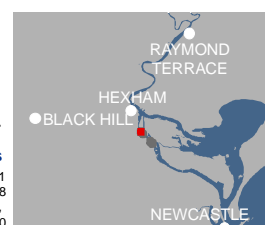
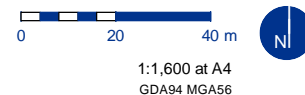


Appendix 1 Figure D.3 Construction activities
Hexham Straight Widening



- EIS area
- The proposal
- Construction activities
- Temporary construction area for vehicle turn around and laydown of materials prior to installation
- Construction works within outlet channels
- Cadastre
- Railway
- Waterway
- Hunter Wetlands National Park

- Culverts
- Existing
 - Proposed



Appendix 1 Figure D.4 Construction activities
Hexham Straight Widening