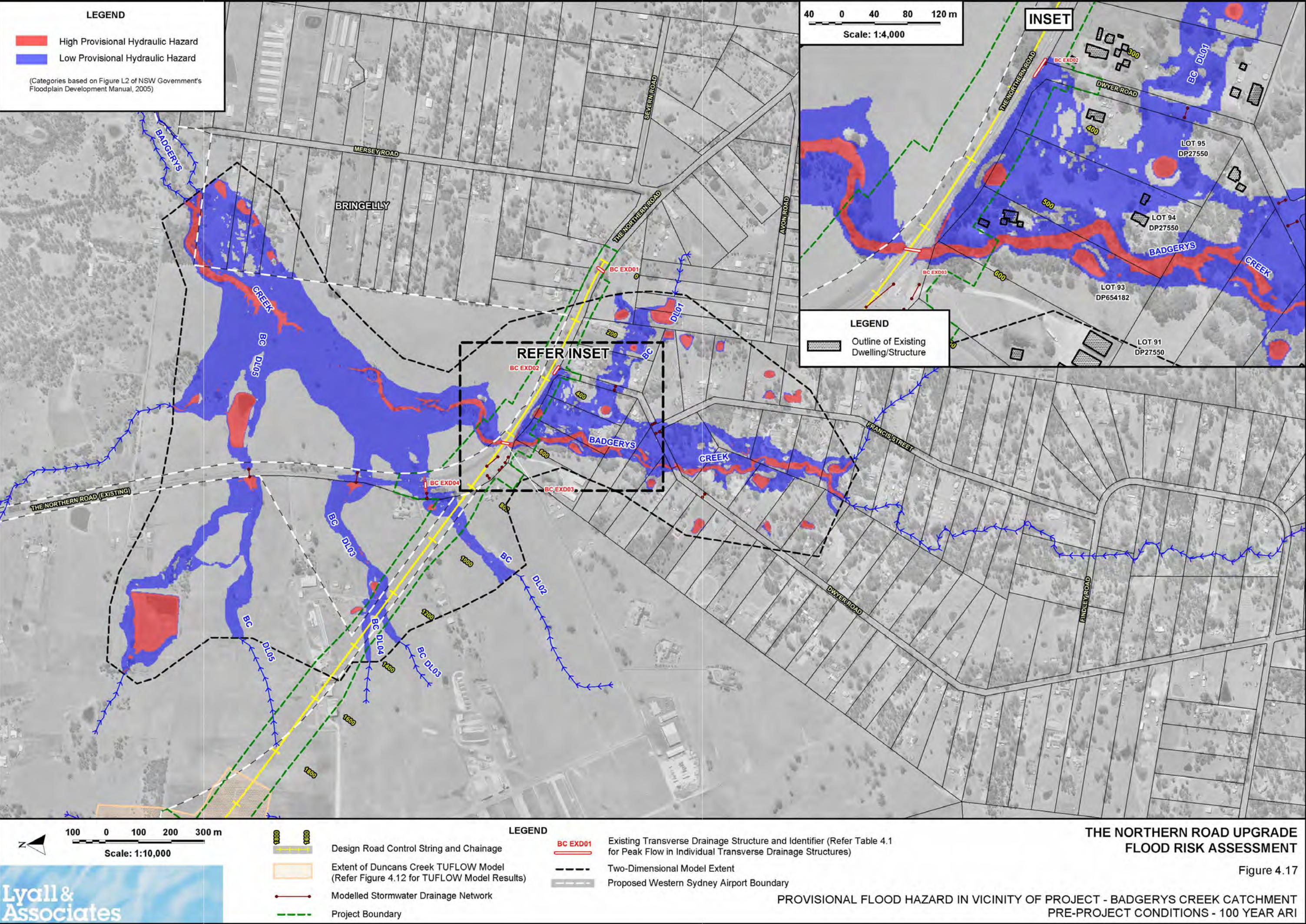
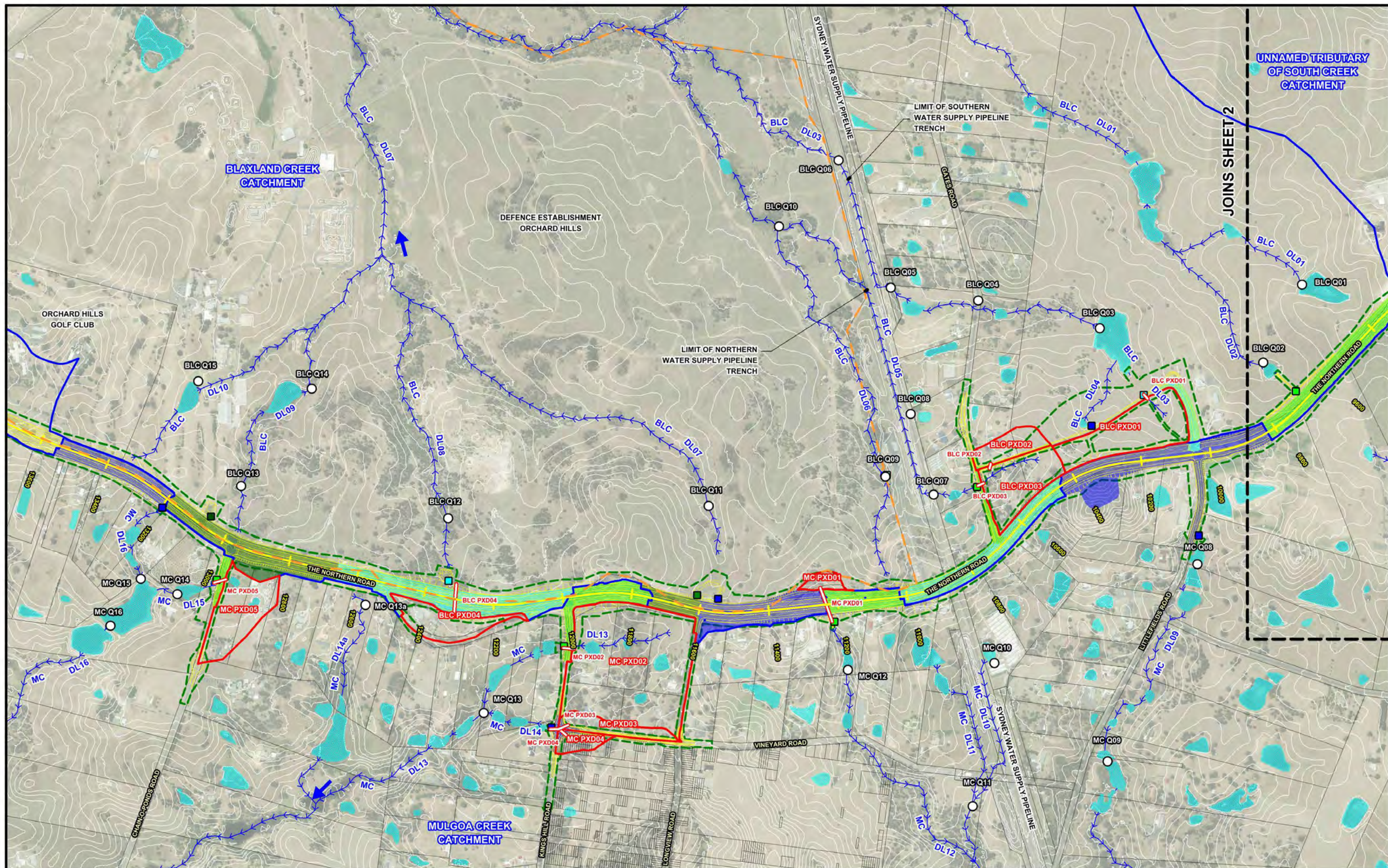


**THE NORTHERN ROAD UPGRADE
FLOOD RISK ASSESSMENT**

Figure 4.16

DESIGN WATER SURFACE PROFILES - BADGERYS CREEK CATCHMENT
PRE-PROJECT CONDITIONS





Scale: 1:10,000

Lycall & Associates

MC PXD05
12200
12000

- Proposed Transverse Drainage Structure and Identifier
- Design Road Control String and Chainage
- Existing Dam
- Existing Drainage Lines

LEGEND

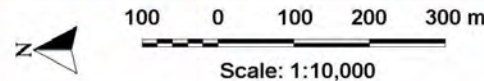
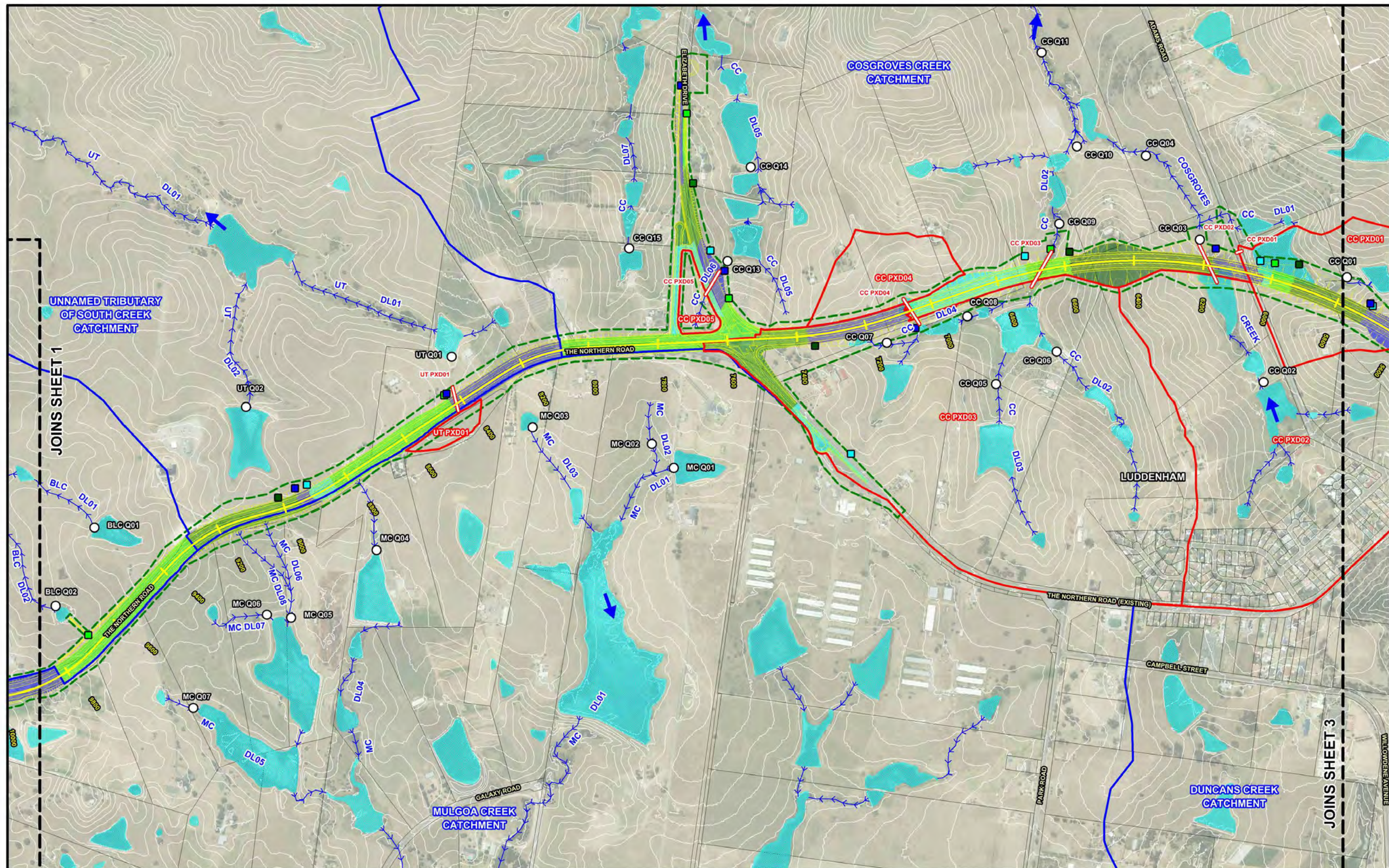
- MC PXD05
Extent of Catchment Draining into Proposed Transverse Drainage Structure and Identifier
- BLC Q12
Peak Flow Location and Identifier (Refer Table D1 of Appendix D)
- Project Boundary
- Defence Establishment Orchard Hills

- Design Strings
- Pavement Drainage Outlet Location
- Extent of Catchment Controlled by Proposed Pavement Drainage
- Catchment Boundary

THE NORTHERN ROAD UPGRADE FLOOD RISK ASSESSMENT

Figure 6.1
Sheet 1 of 4

TRANSVERSE DRAINAGE CATCHMENT PLAN
POST-PROJECT CONDITIONS



**Lycall &
Associates**

- MC PXD01 Proposed Transverse Drainage Structure and Identifier
- DL01 Design Road Control String and Chainage
- Proposed Western Sydney Airport Boundary
- Existing Dam
- Existing Drainage Lines

LEGEND

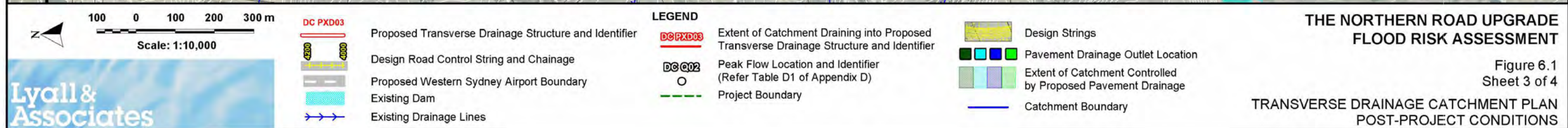
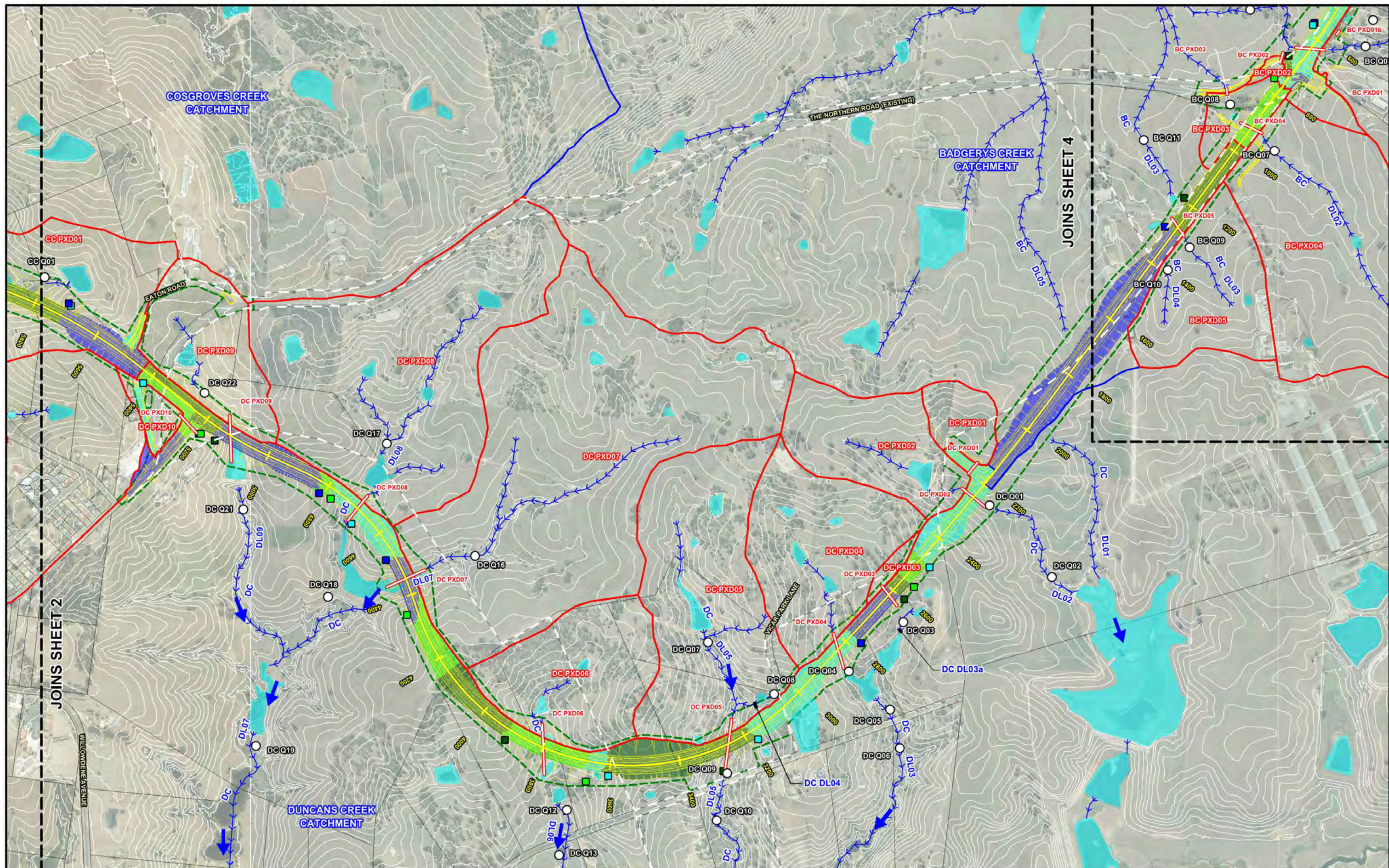
- MC PXD01 Extent of Catchment Draining into Proposed Transverse Drainage Structure and Identifier
- MC Q04 Peak Flow Location and Identifier (Refer Table D1 of Appendix D)
- Project Boundary

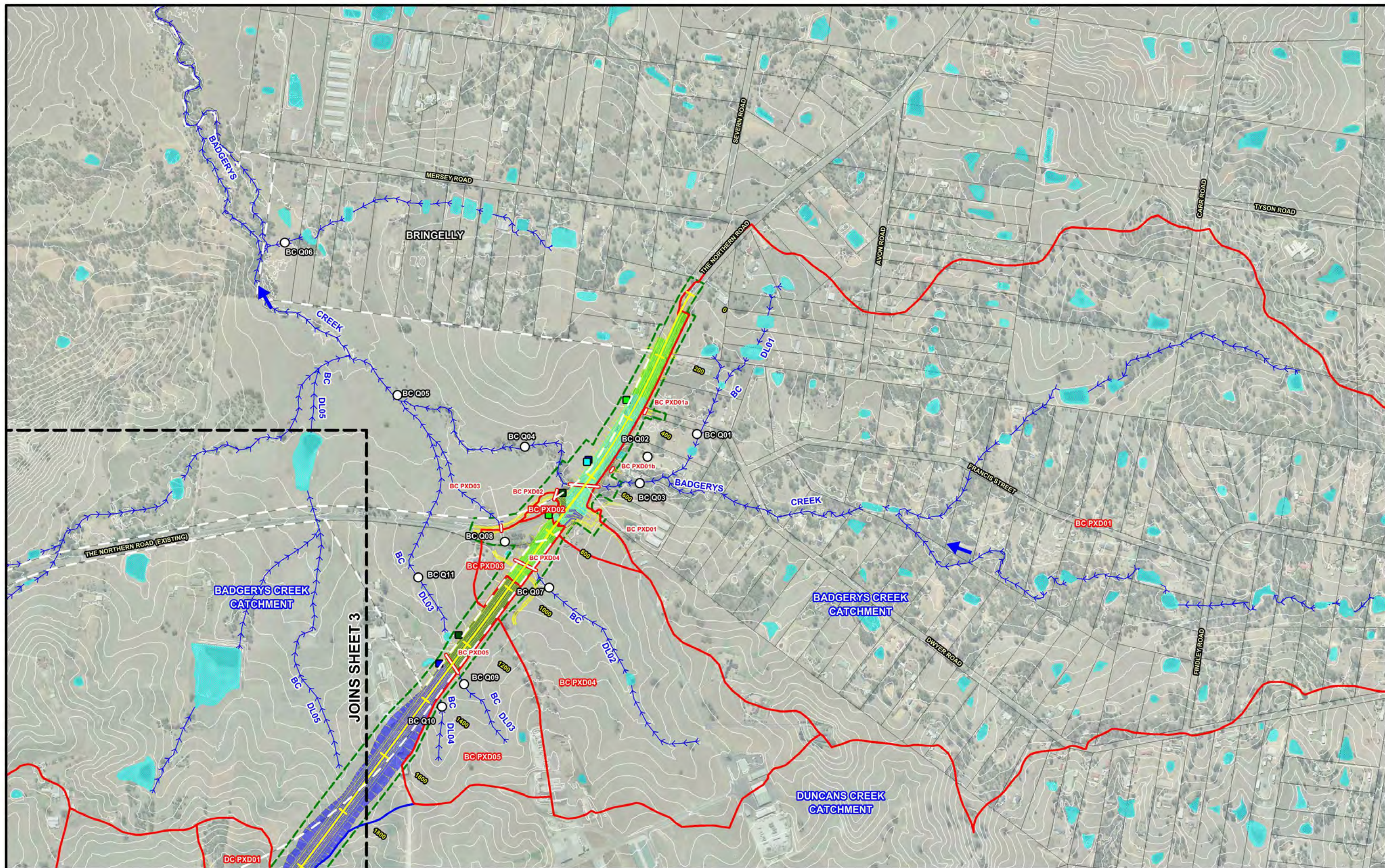
- Design Strings
- ■ ■ Pavement Drainage Outlet Location
- ■ ■ Extent of Catchment Controlled by Proposed Pavement Drainage
- Catchment Boundary

**THE NORTHERN ROAD UPGRADE
FLOOD RISK ASSESSMENT**

Figure 6.1
Sheet 2 of 4

**TRANSVERSE DRAINAGE CATCHMENT PLAN
POST-PROJECT CONDITIONS**





100 0 100 200 300 m
Scale: 1:10,000

Lycall & Associates

BC PXD03
Proposed Transverse Drainage Structure and Identifier

1500 1400
Design Road Control String and Chainage

Proposed Western Sydney Airport Boundary

Existing Dam

Existing Drainage Lines

LEGEND

BC PXD03
Extent of Catchment Draining into Proposed Transverse Drainage Structure and Identifier

BC Q07
Peak Flow Location and Identifier (Refer Table D1 of Appendix D)

Sub-Catchment Boundary

Design Strings

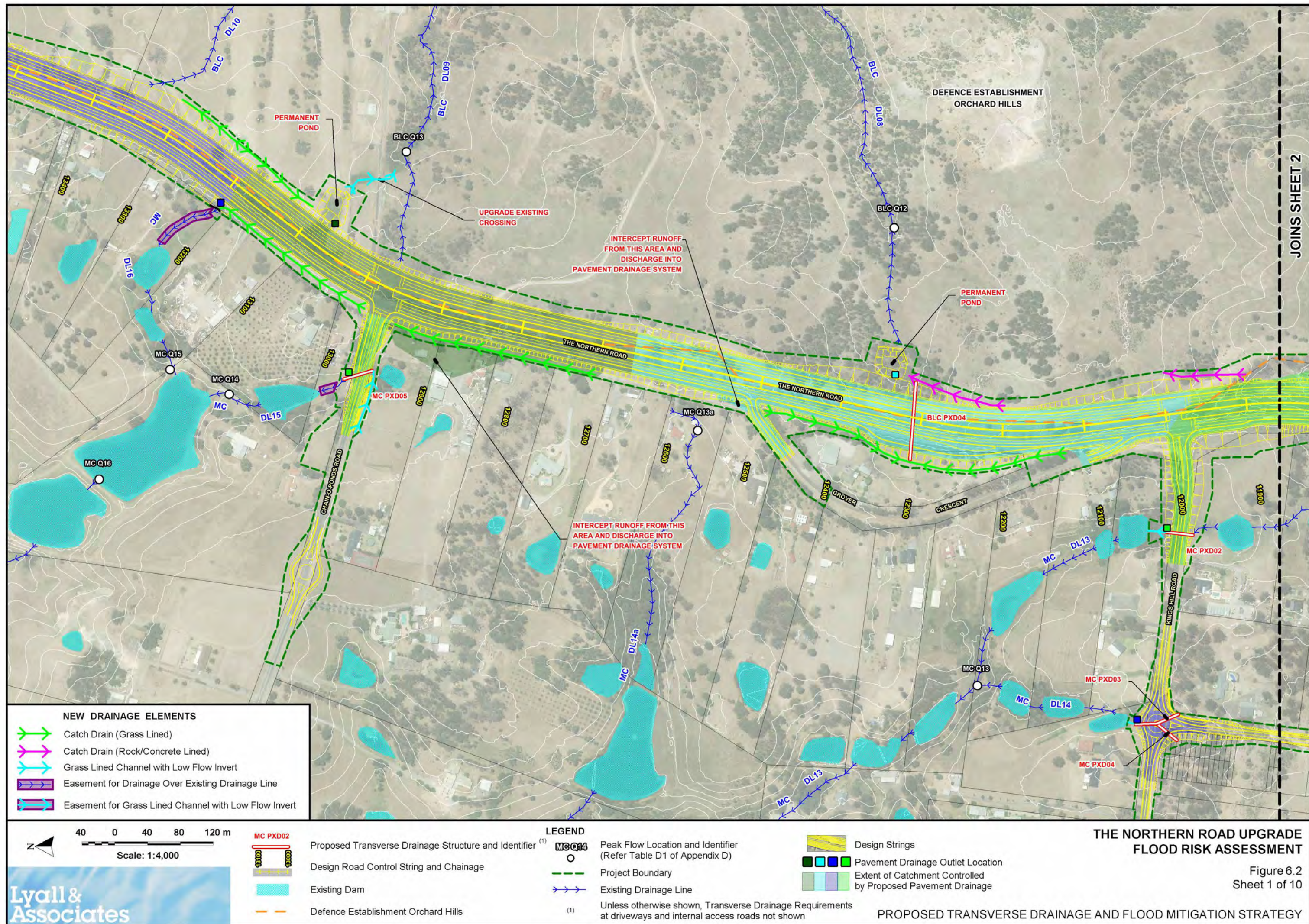
Pavement Drainage Outlet Location

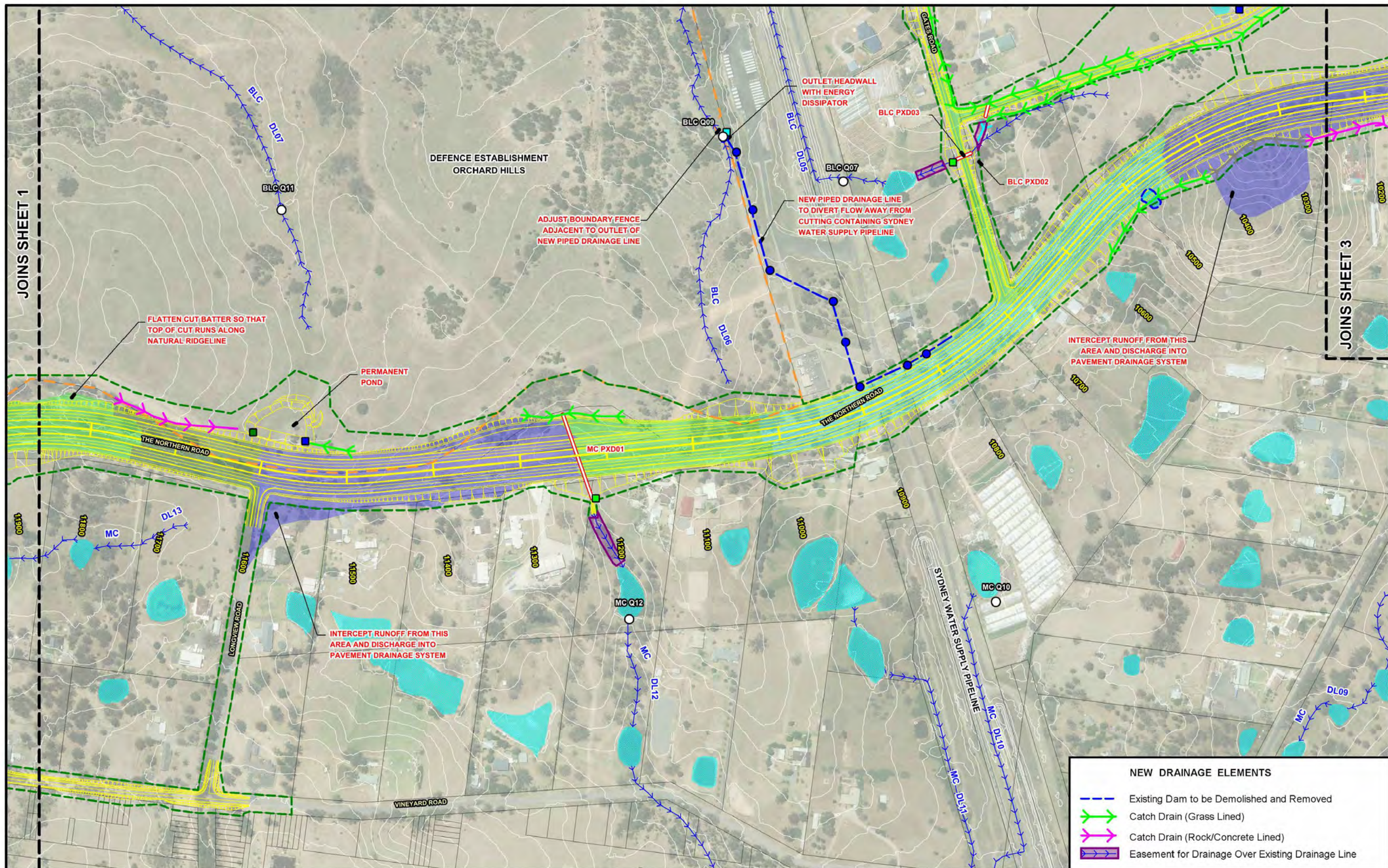
Extent of Catchment Controlled by Proposed Pavement Drainage

THE NORTHERN ROAD UPGRADE FLOOD RISK ASSESSMENT

Figure 6.1
Sheet 4 of 4

TRANSVERSE DRAINAGE CATCHMENT PLAN
POST-PROJECT CONDITIONS





NEW DRAINAGE ELEMENTS

- Existing Dam to be Demolished and Removed
- Catch Drain (Grass Lined)
- Catch Drain (Rock/Concrete Lined)
- Easement for Drainage Over Existing Drainage Line

THE NORTHERN ROAD UPGRADE FLOOD RISK ASSESSMENT

Figure 6.2
Sheet 2 of 10

Scale: 1:4,000

**Lycall &
Associates**

MC PXD01
11500
11400

- Proposed Transverse Drainage Structure and Identifier ⁽¹⁾
- Design Road Control String and Chainage
- Existing Dam
- Defence Establishment Orchard Hills

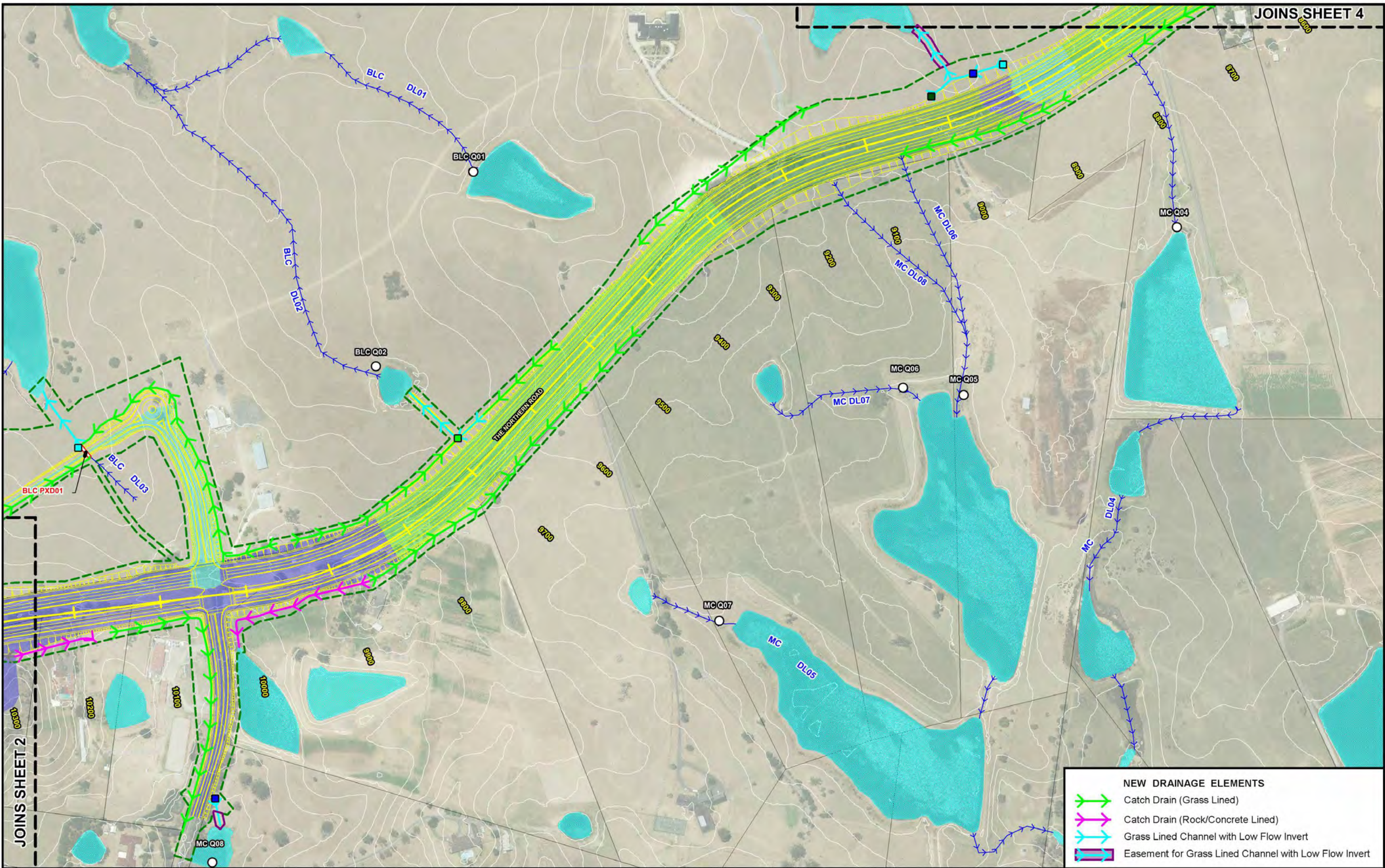
LEGEND

- **MC Q12** Peak Flow Location and Identifier (Refer Table D1 of Appendix D)
- Project Boundary
- Existing Drainage Line

⁽¹⁾ Unless otherwise shown, Transverse Drainage Requirements at driveways and internal access roads not shown

- Design Strings
- ■ ■ Pavement Drainage Outlet Location
- Extent of Catchment Controlled by Proposed Pavement Drainage

PROPOSED TRANSVERSE DRAINAGE AND FLOOD MITIGATION STRATEGY



Scale: 1:4,000

40 0 40 80 120 m

Lyall & Associates

LEGEND

BLC PXD01	Proposed Transverse Drainage Structure and Identifier ⁽¹⁾	MC Q04	Peak Flow Location and Identifier (Refer Table D1 of Appendix D)
9800	Design Road Control String and Chainage	---	Project Boundary
---	Existing Dam	---	Existing Drainage Line

⁽¹⁾ Unless otherwise shown, Transverse Drainage Requirements at driveways and internal access roads not shown

NEW DRAINAGE ELEMENTS

- Catch Drain (Grass Lined)
- Catch Drain (Rock/Concrete Lined)
- Grass Lined Channel with Low Flow Invert
- Easement for Grass Lined Channel with Low Flow Invert

THE NORTHERN ROAD UPGRADE FLOOD RISK ASSESSMENT

PROPOSED TRANSVERSE DRAINAGE AND FLOOD MITIGATION STRATEGY

Figure 6.2
Sheet 3 of 10

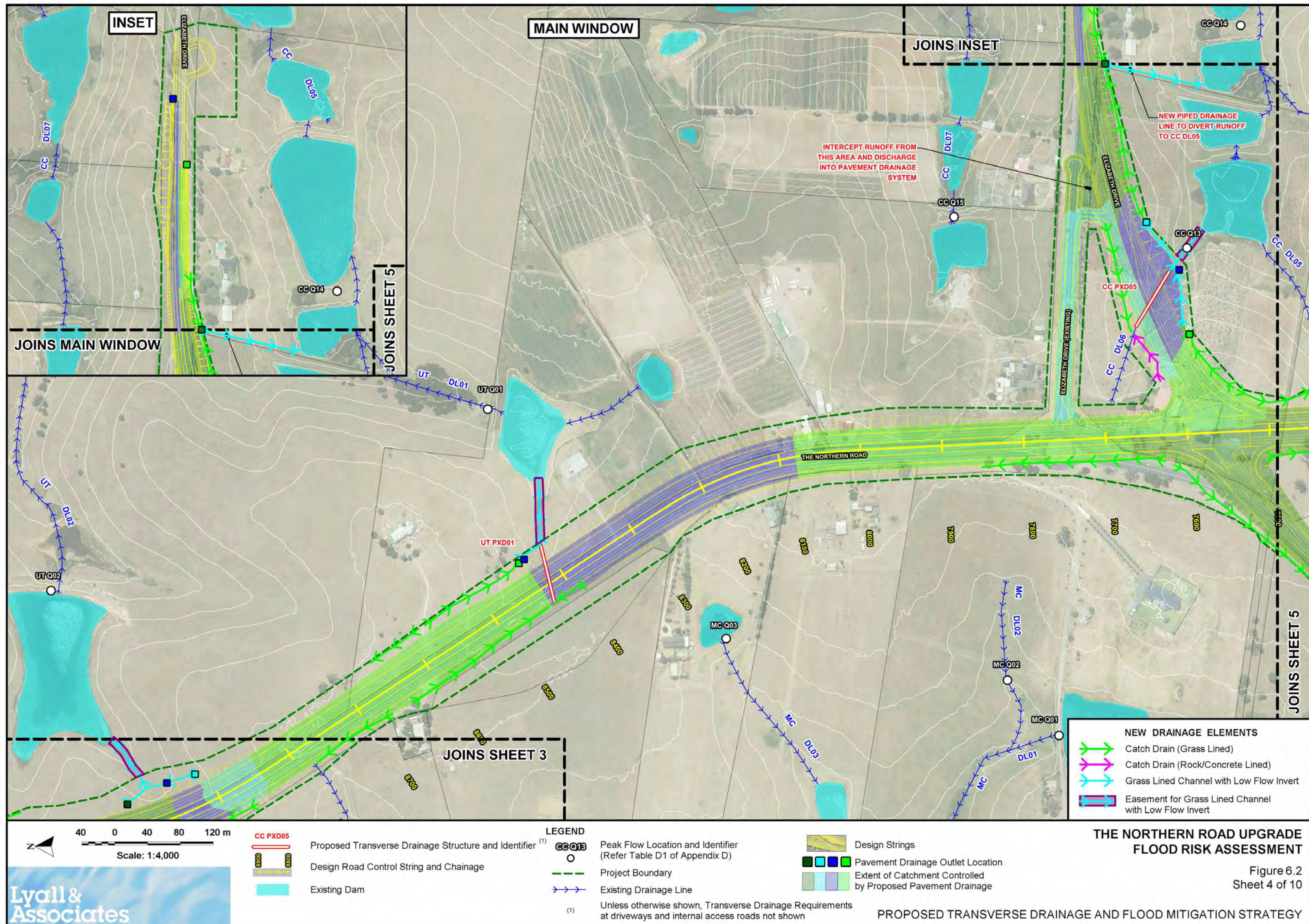
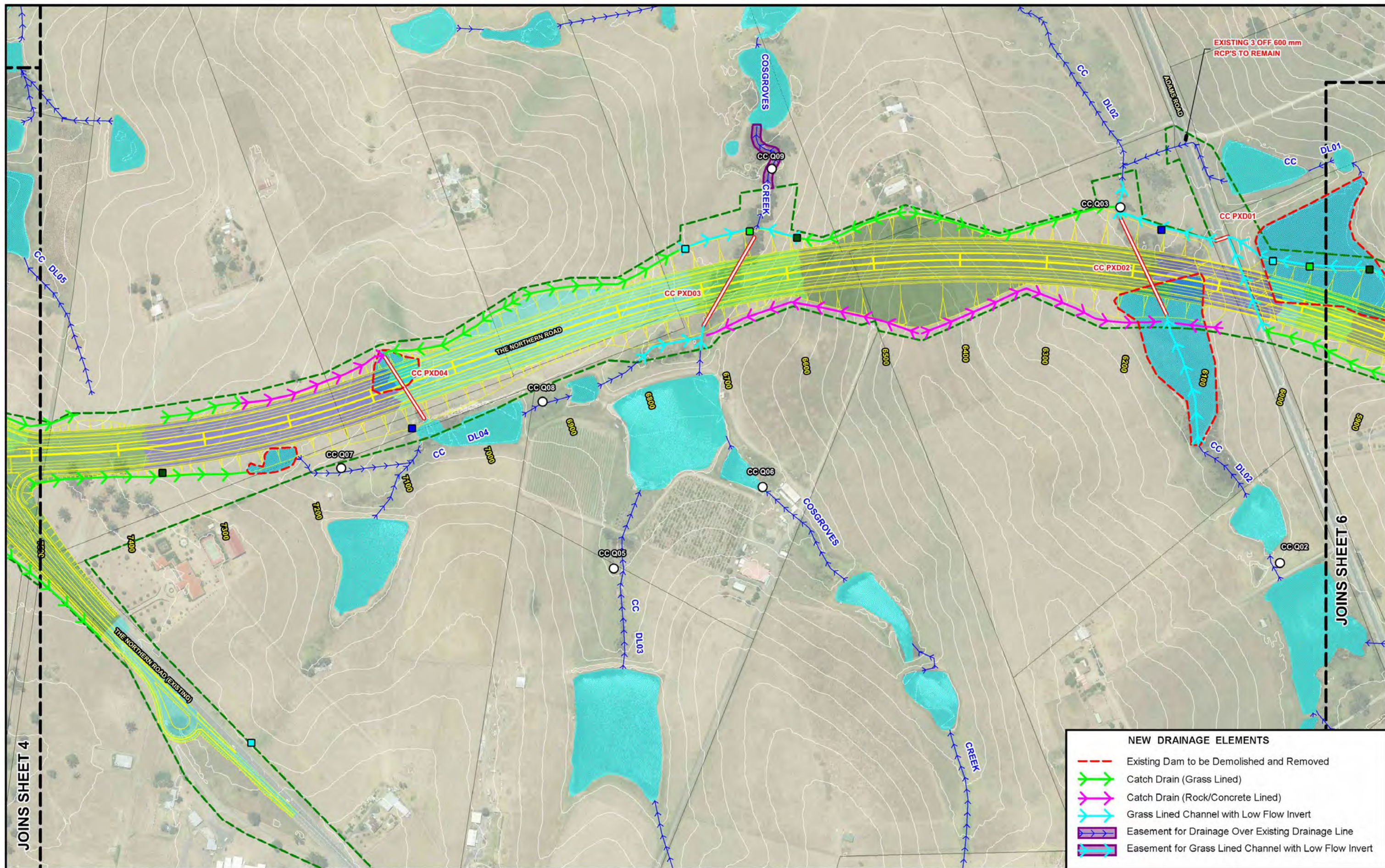


Figure 6.2
Sheet 4 of 10



NEW DRAINAGE ELEMENTS

- Existing Dam to be Demolished and Removed
- Catch Drain (Grass Lined)
- Catch Drain (Rock/Concrete Lined)
- Grass Lined Channel with Low Flow Invert
- Easement for Drainage Over Existing Drainage Line
- Easement for Grass Lined Channel with Low Flow Invert

40 0 40 80 120 m

Scale: 1:4,000

Lyall & Associates

LEGEND

- Proposed Transverse Drainage Structure and Identifier ⁽¹⁾
- Design Road Control String and Chainage
- Existing Dam
- Peak Flow Location and Identifier (Refer Table D1 of Appendix D)
- Project Boundary
- Existing Drainage Line

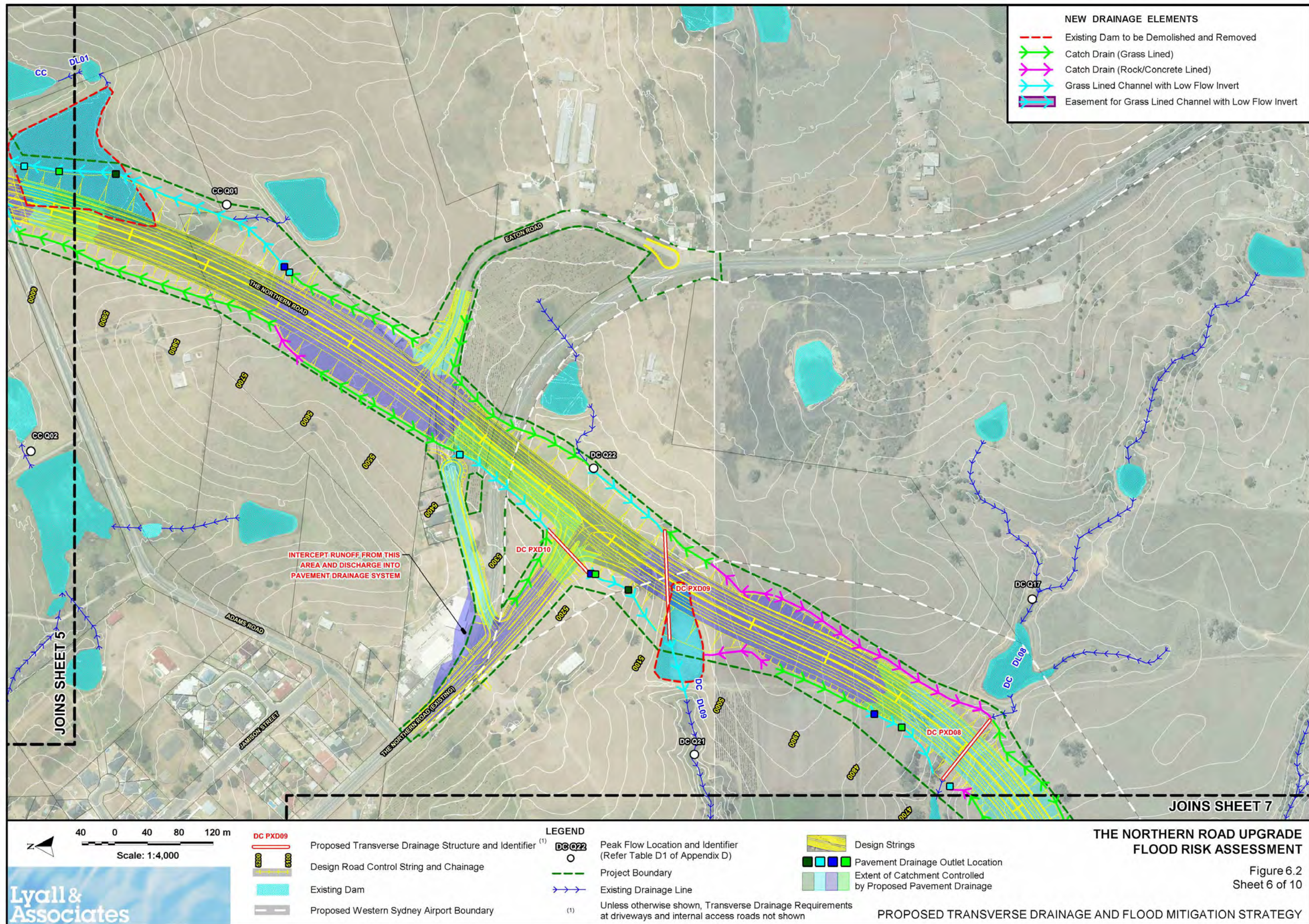
⁽¹⁾ Unless otherwise shown, Transverse Drainage Requirements at driveways and internal access roads not shown

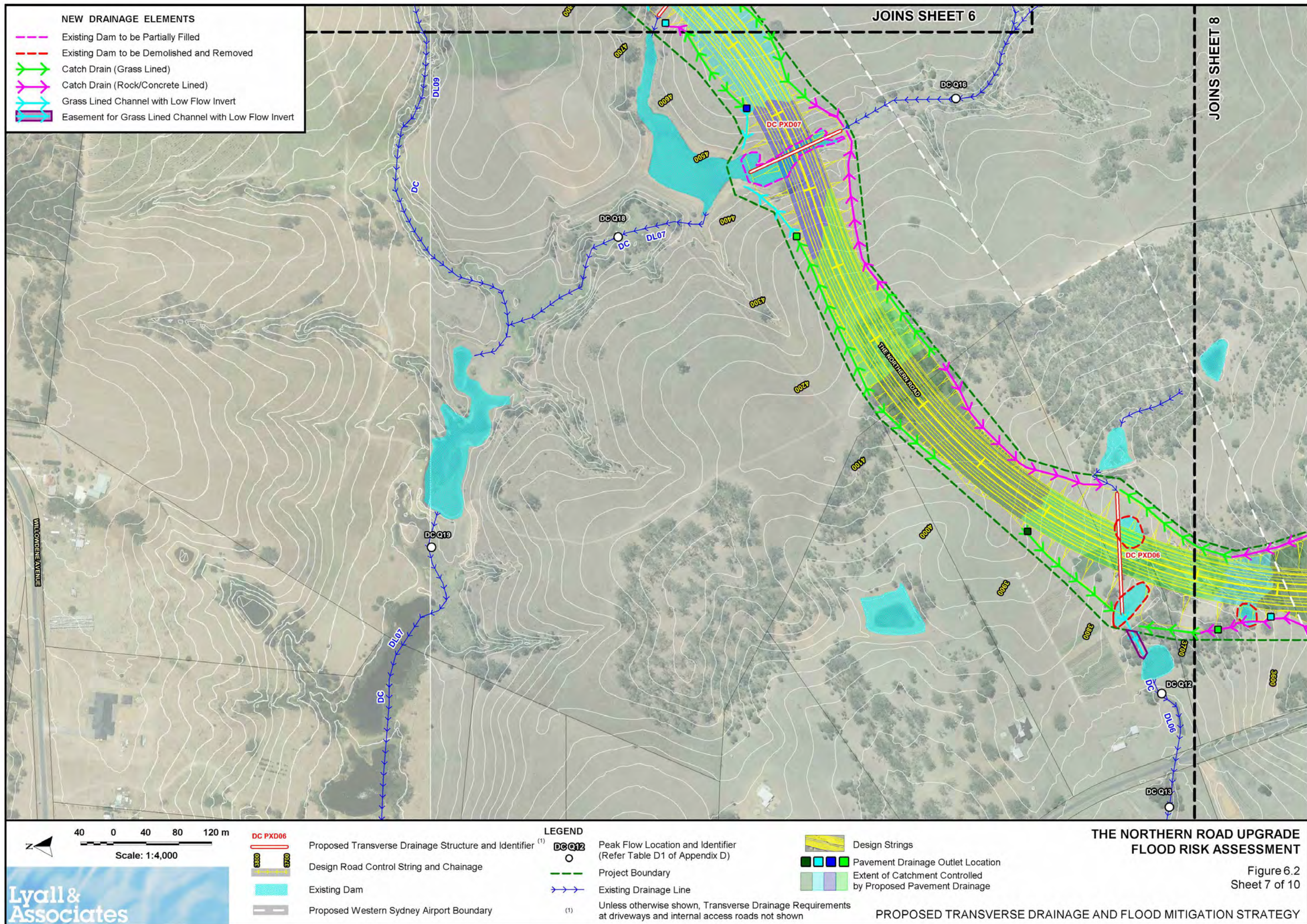
- Design Strings
- Pavement Drainage Outlet Location
- Extent of Catchment Controlled by Proposed Pavement Drainage

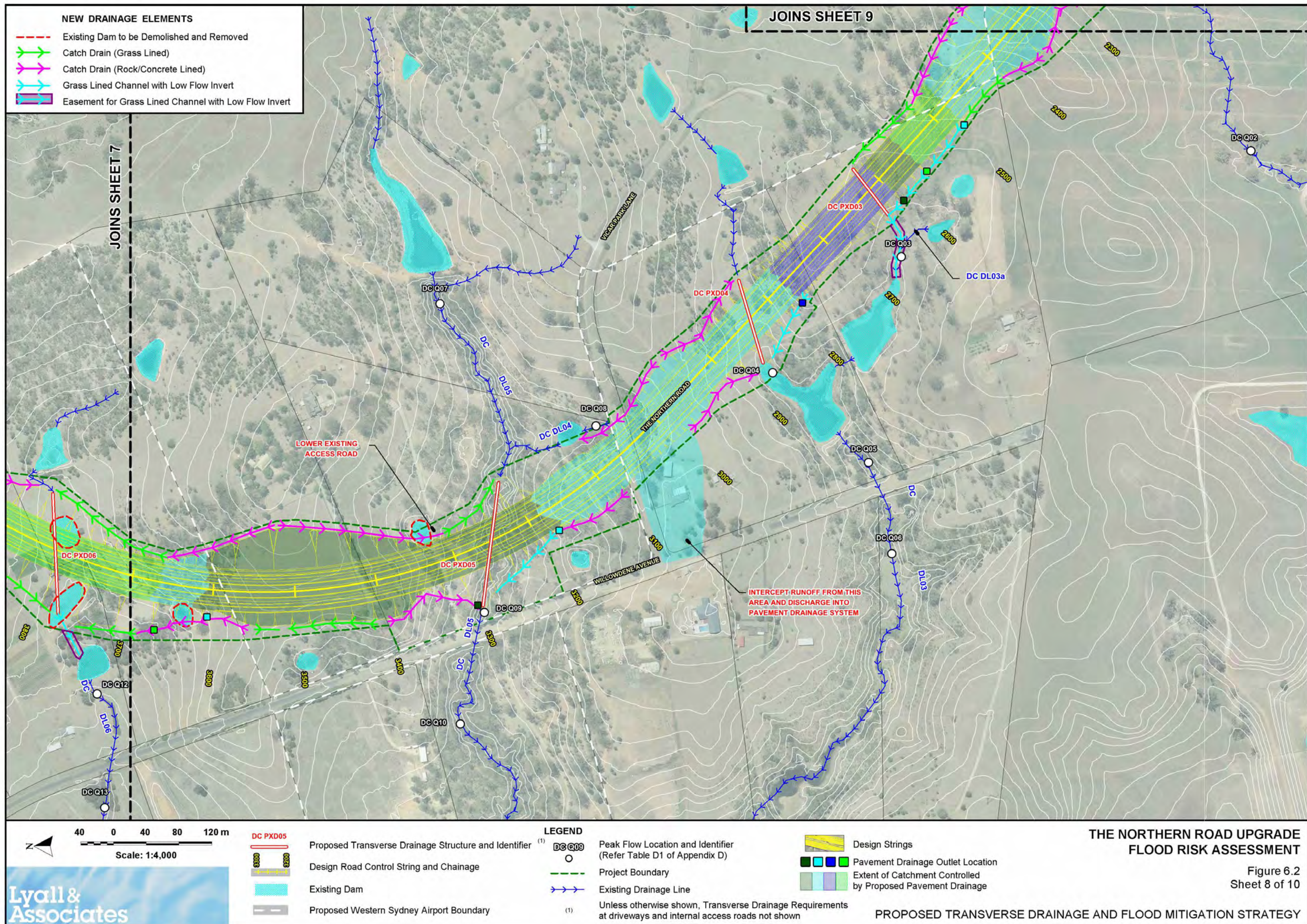
**THE NORTHERN ROAD UPGRADE
FLOOD RISK ASSESSMENT**

Figure 6.2
Sheet 5 of 10

PROPOSED TRANSVERSE DRAINAGE AND FLOOD MITIGATION STRATEGY







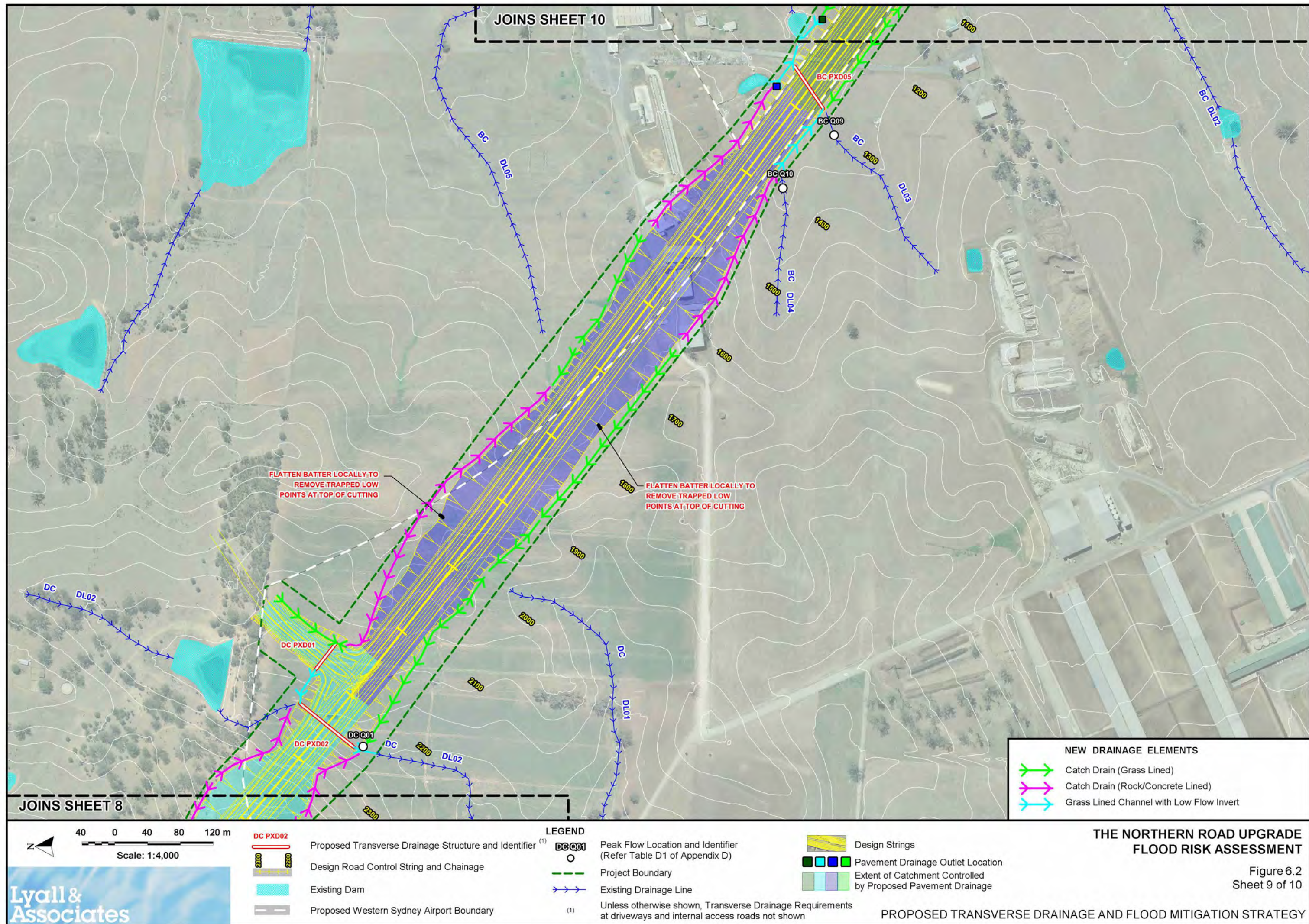


Figure 6.2
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