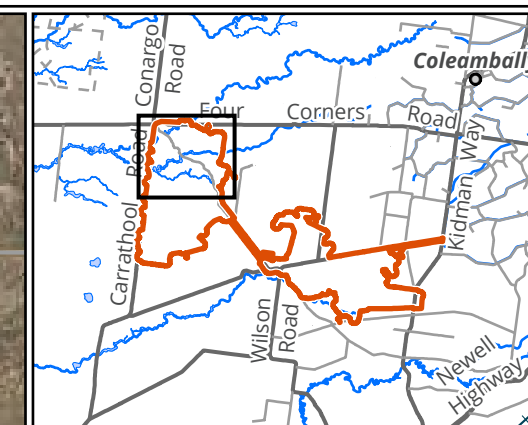
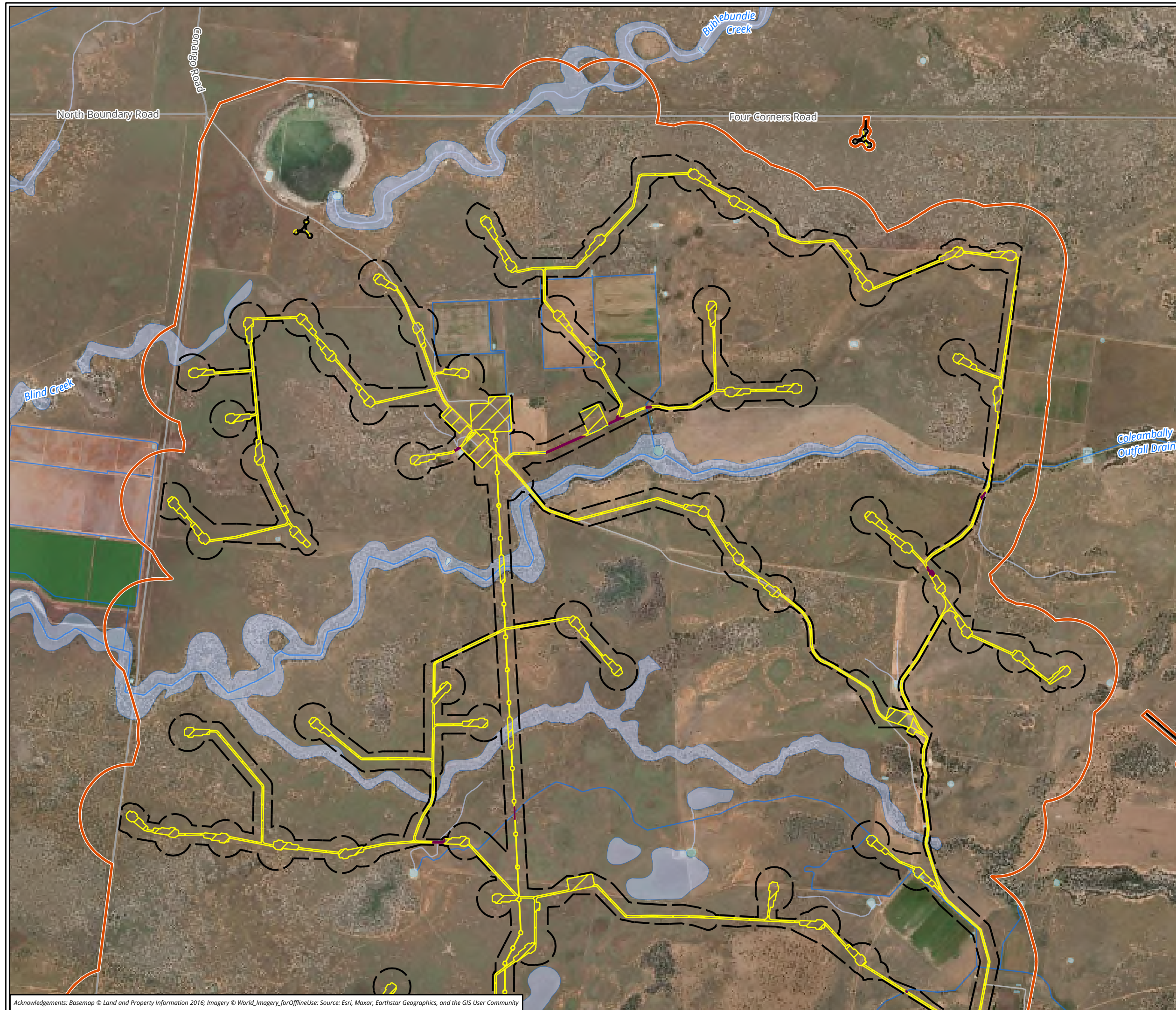




Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Austrostipa wakoolica*

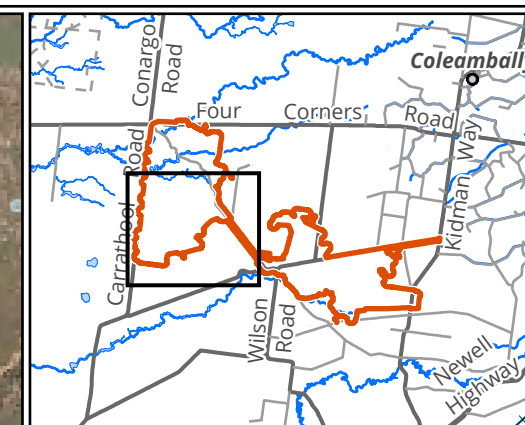
Figure 12A Threatened flora species polygon - *Austrostipa wakoolica*



Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



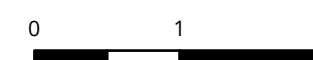
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Austrostipa wakoolica*

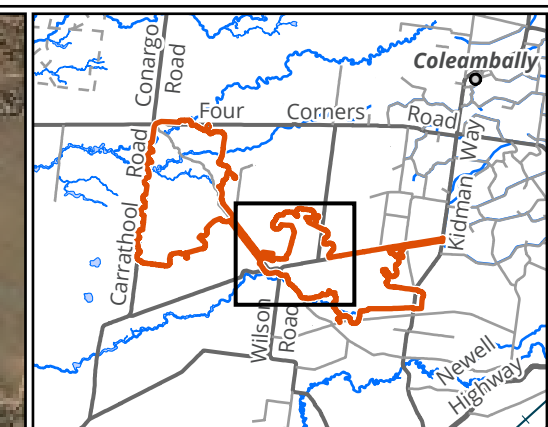
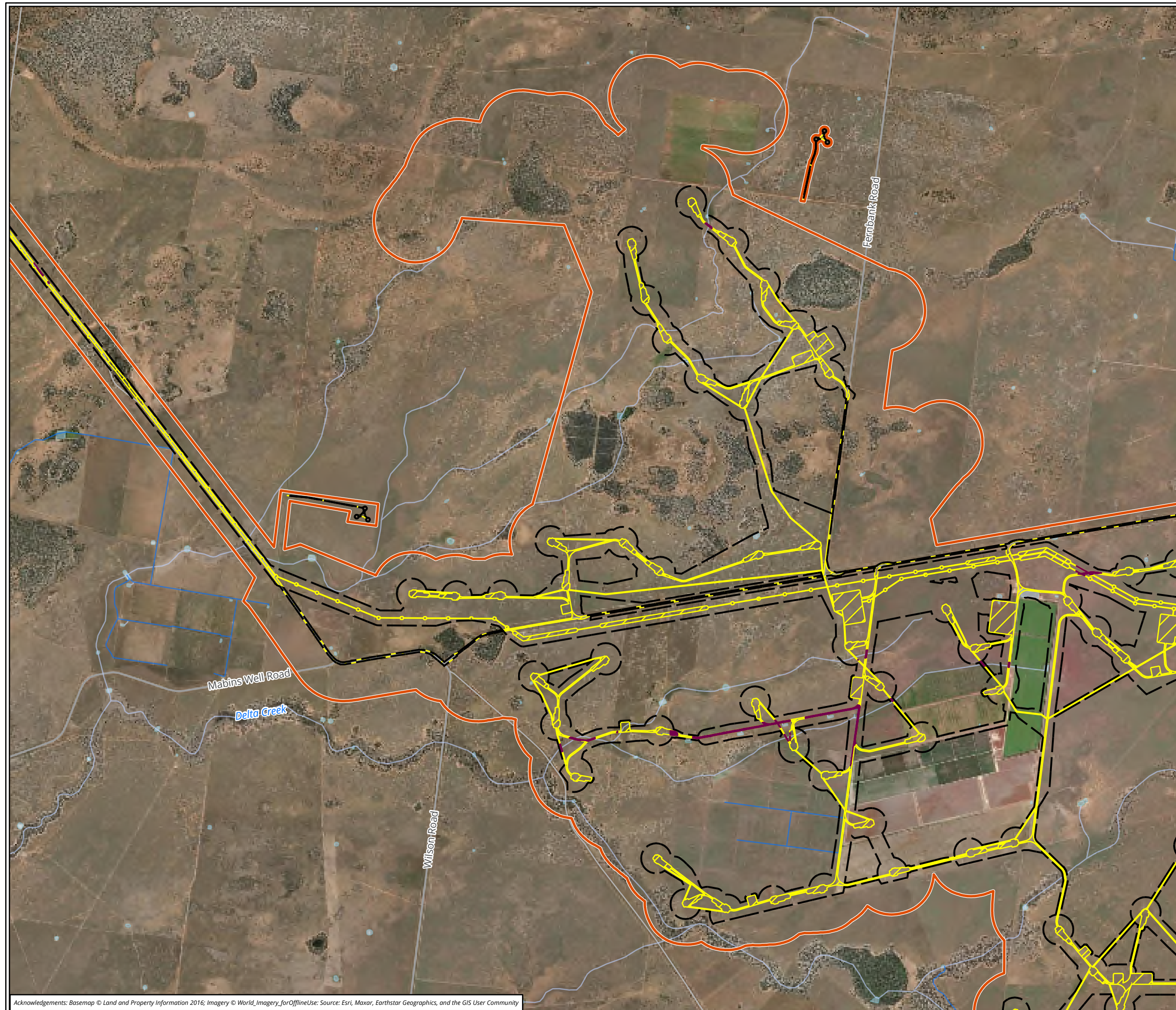
Figure 12A Threatened flora species polygon - *Austrostipa wakoolica*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



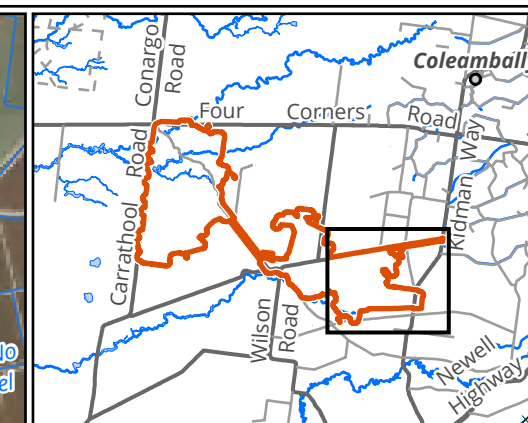
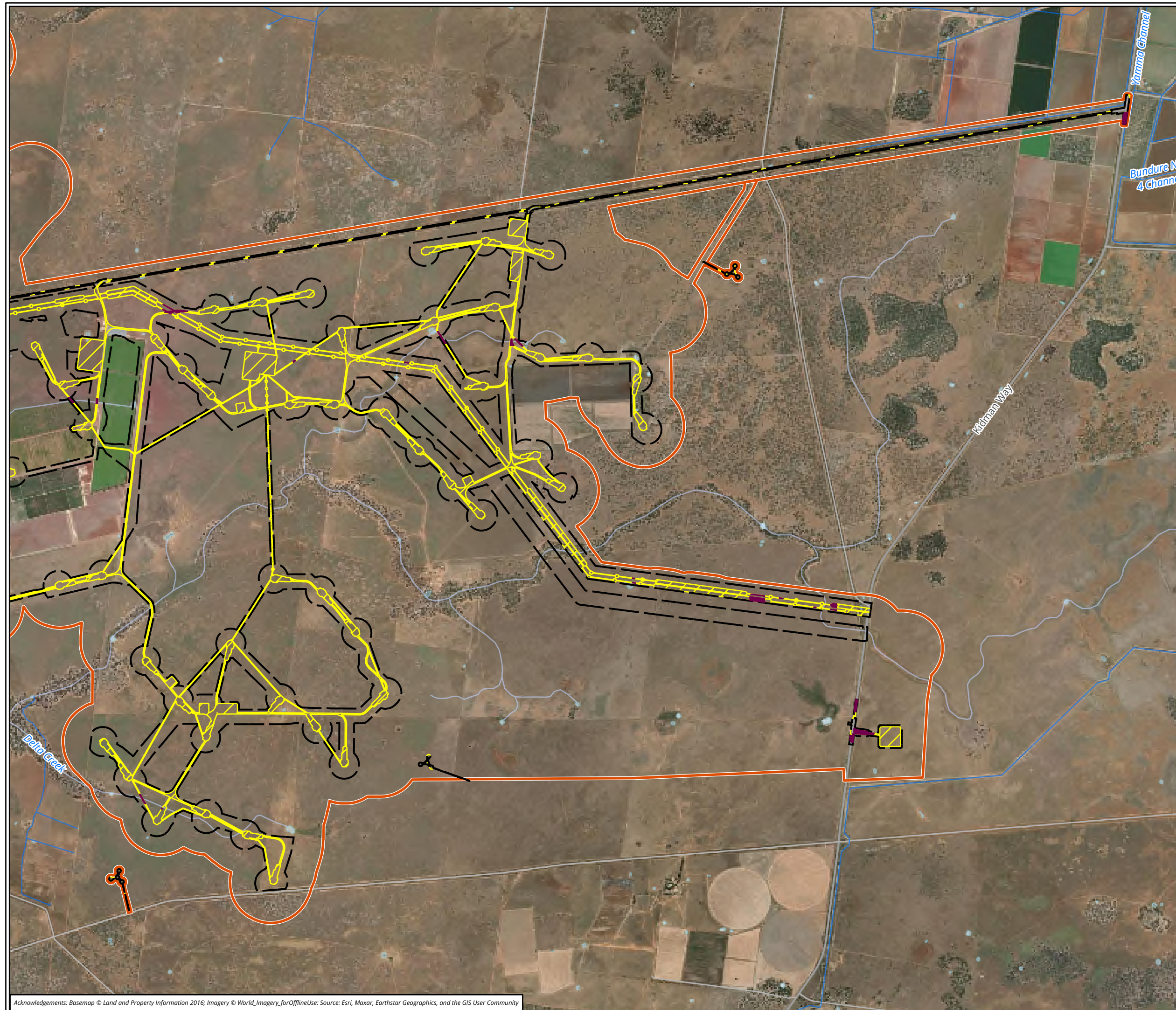
- Legend**
- Subject land
 - Development footprint
 - Development corridor
- Threatened flora species polygon**
- Austrostipa wakoolica*

Figure 12A Threatened flora species polygon - *Austrostipa wakoolica*

0 1
Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

 **biosis**

Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Austrostipa wakoolica*

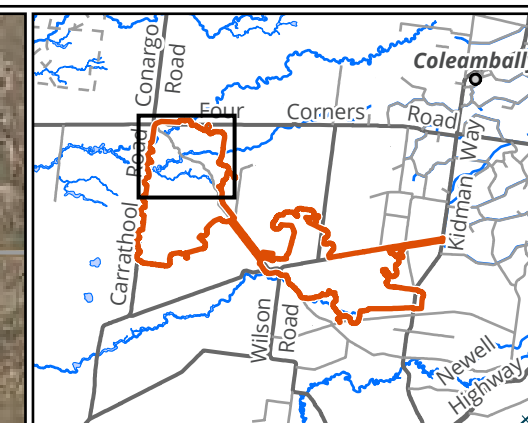
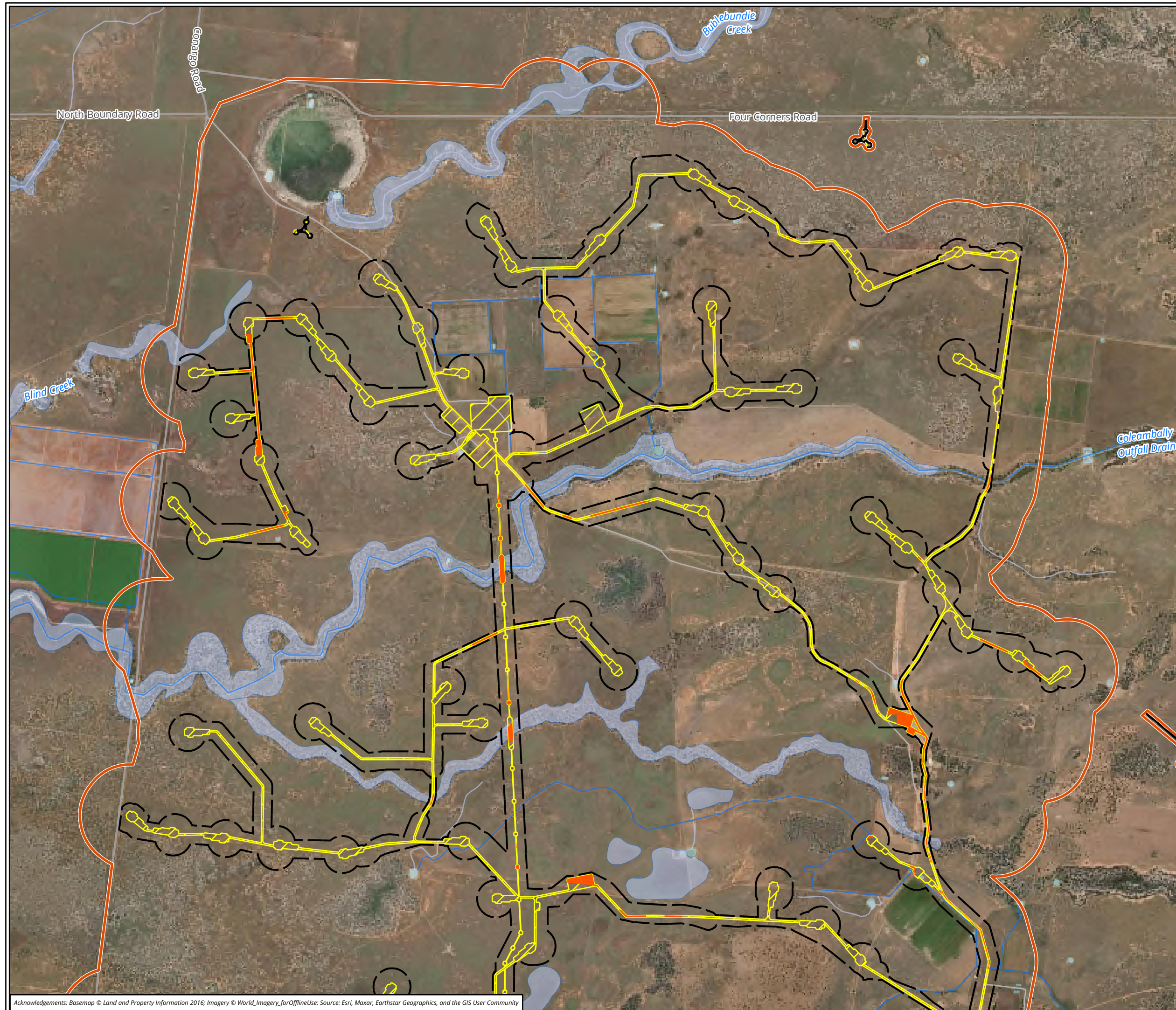
Figure 12A Threatened flora species polygon
- *Austrostipa wakoolica*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome papillosa*

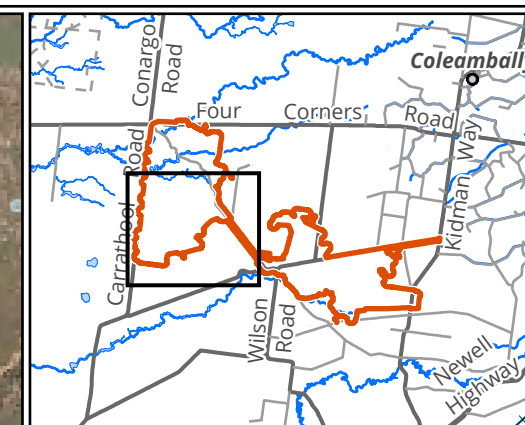
Figure 12A Threatened flora species polygon - *Brachyscome papillosa*

0 1

Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



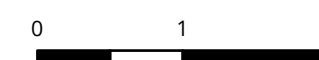
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome papillosa*

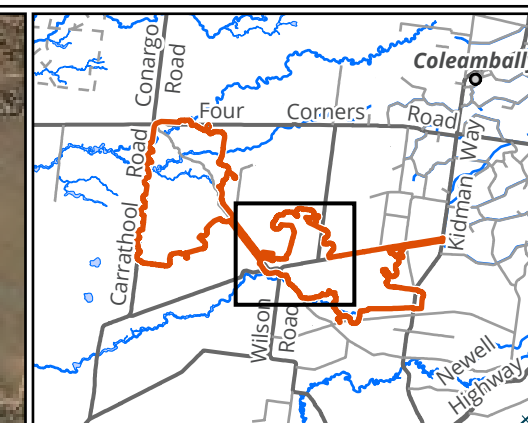
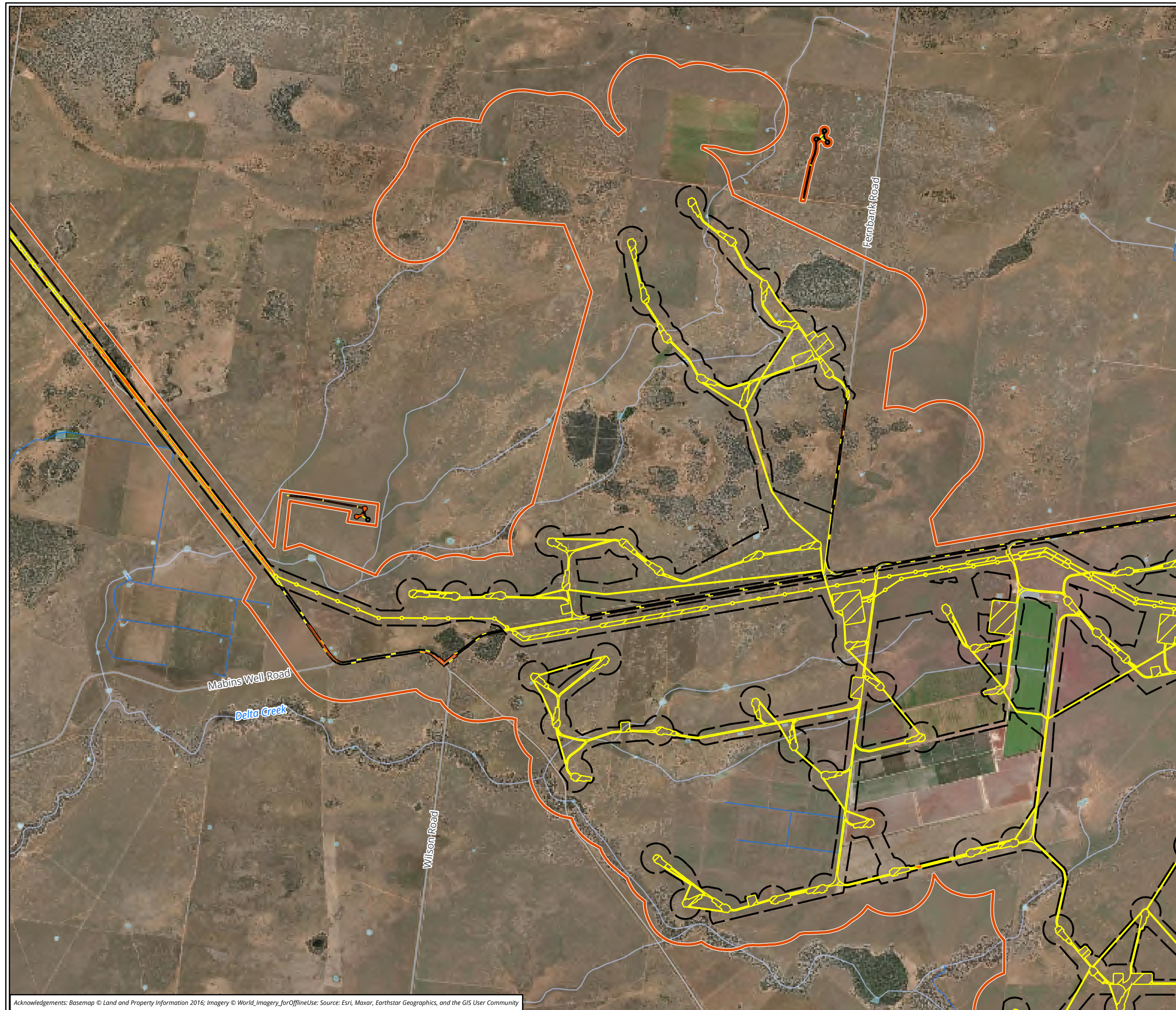
Figure 12A Threatened flora species polygon - *Brachyscome papillosa*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



- Legend**
- Subject land
 - Development footprint
 - Development corridor
- Threatened flora species polygon**
- Brachyscome papillosa*

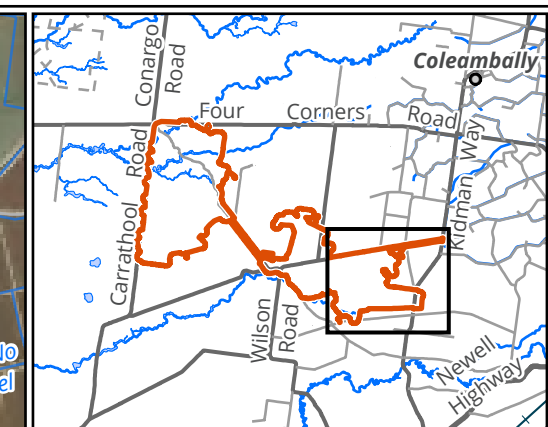
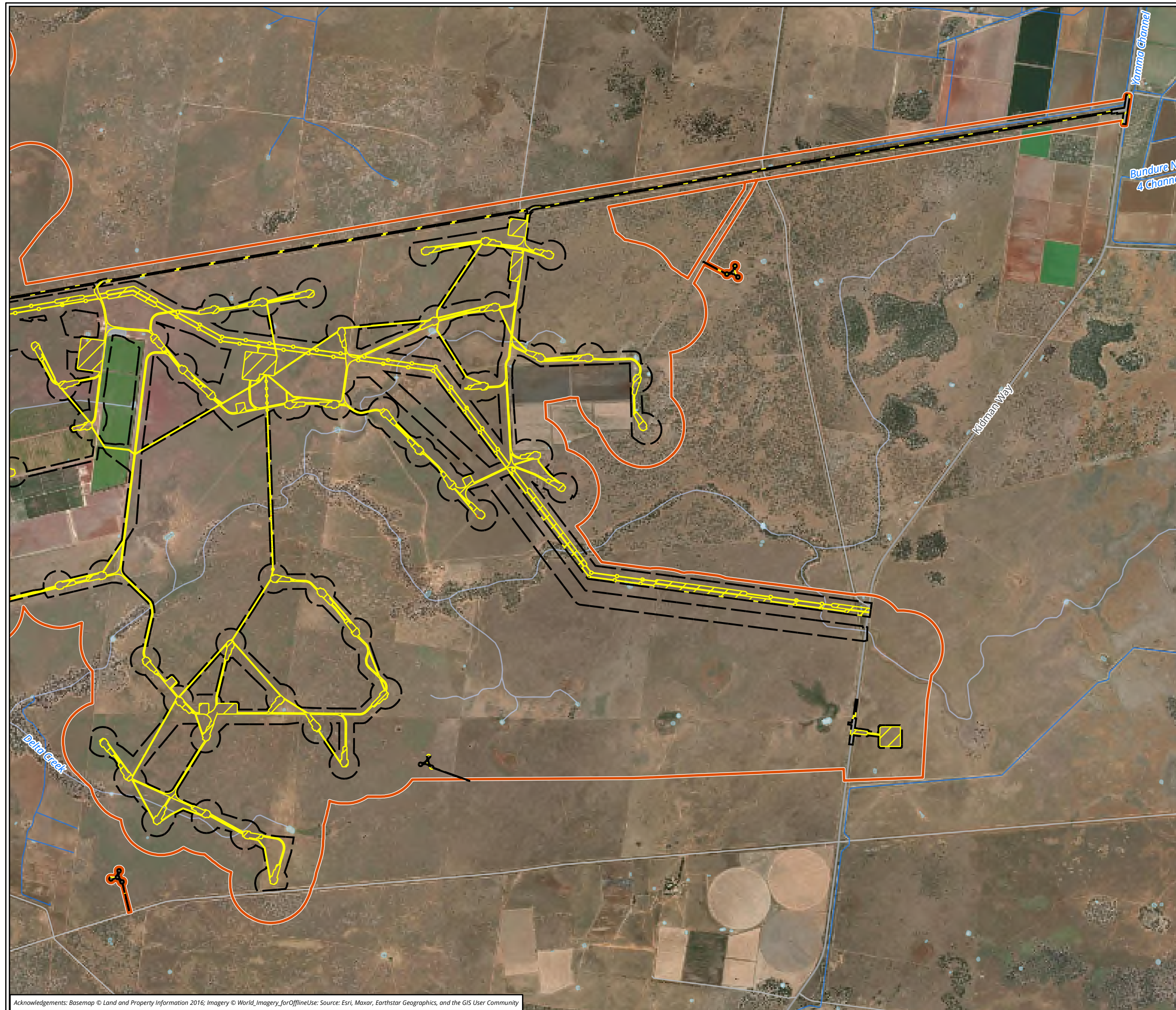
Figure 12A Threatened flora species polygon
- *Brachyscome papillosa*



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Brachyscome papillosa*

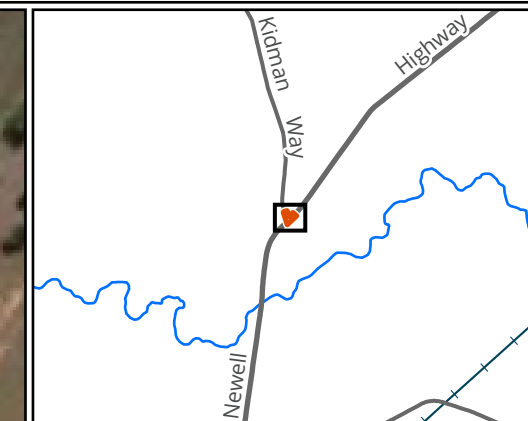
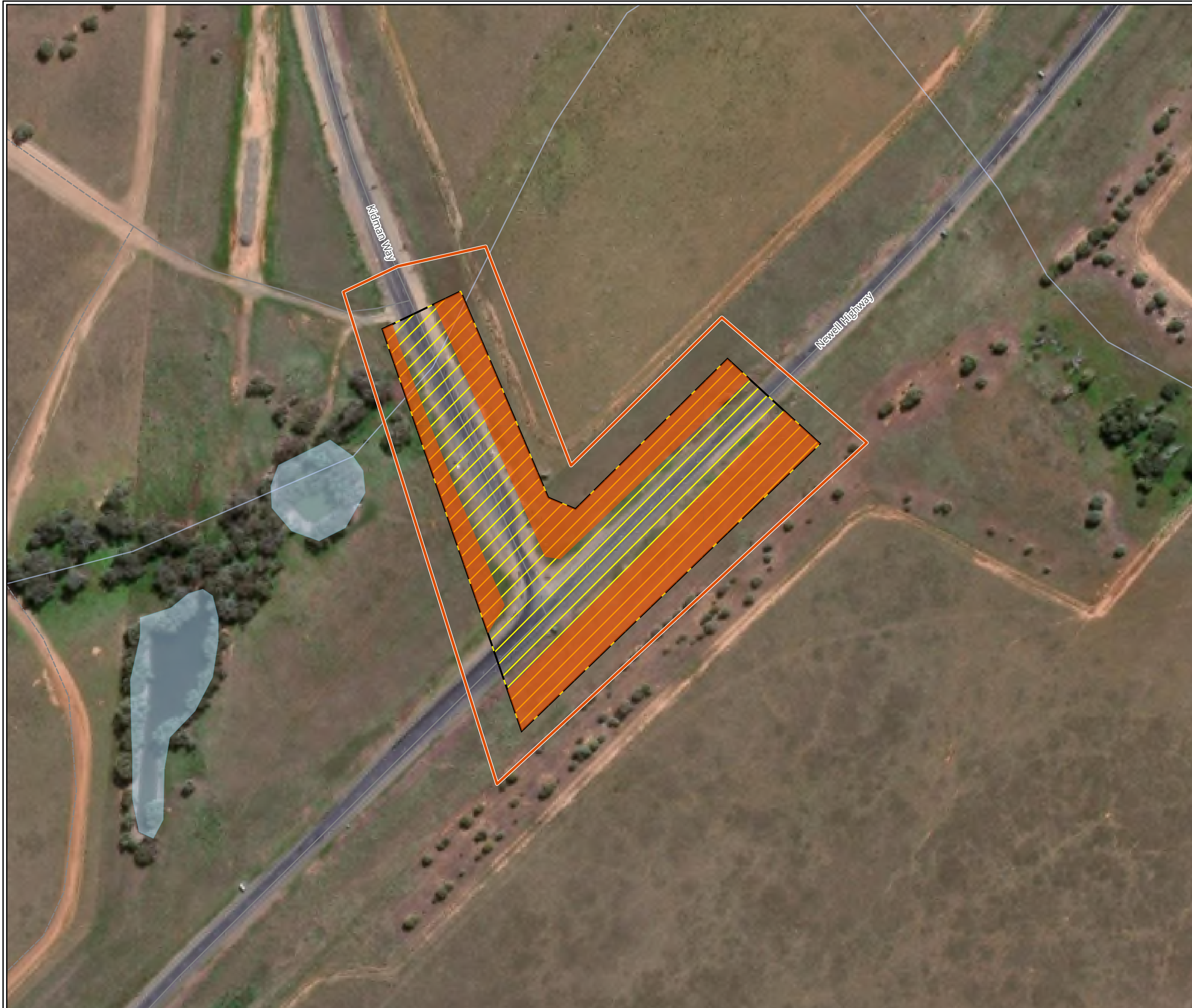
Figure 12A Threatened flora species polygon - *Brachyscome papillosa*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome papillosa*

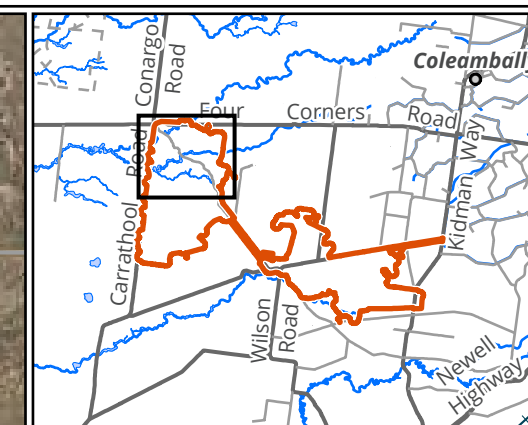
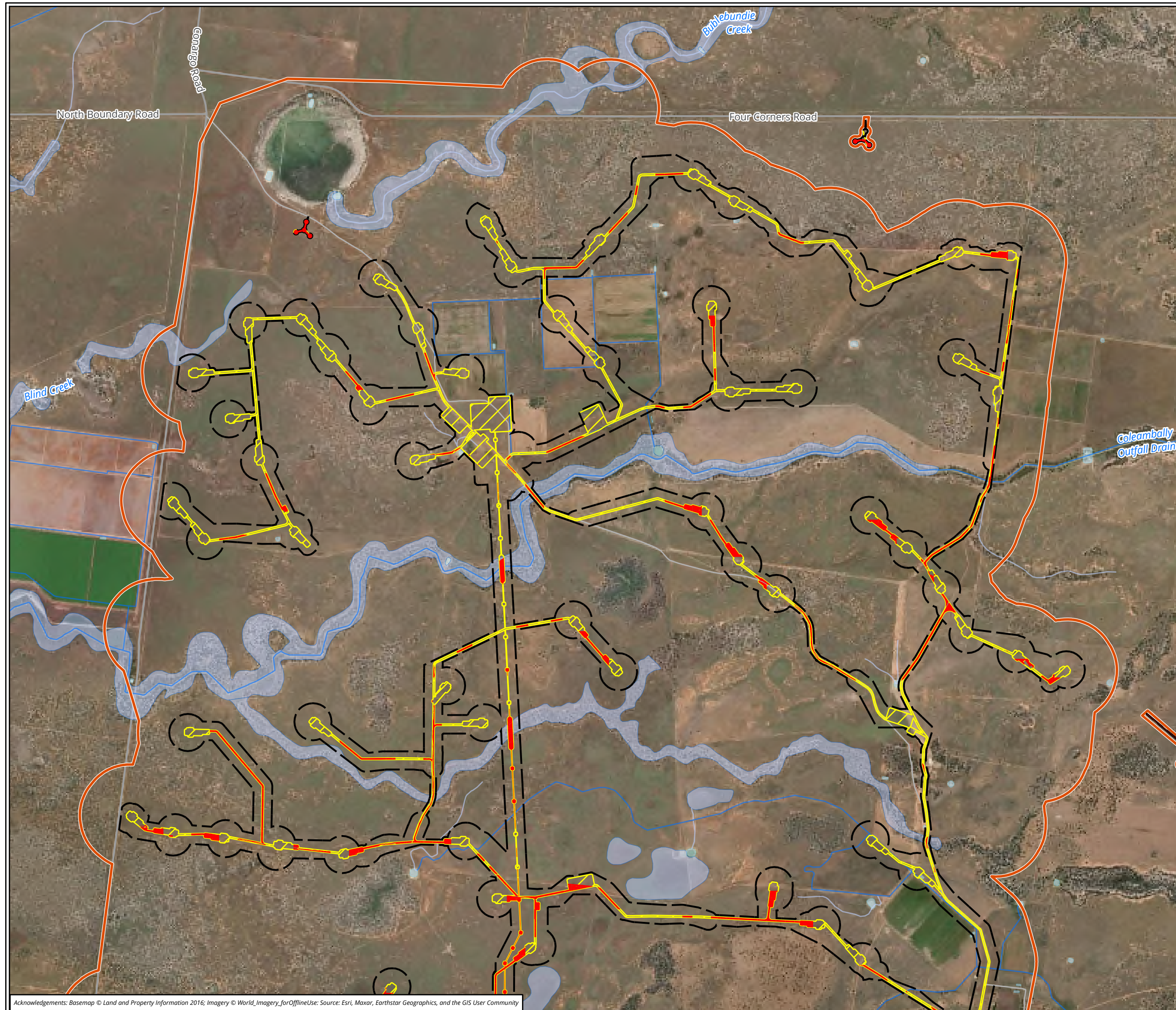
Figure 12A Threatened flora species polygon
- *Brachyscome papillosa*



Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

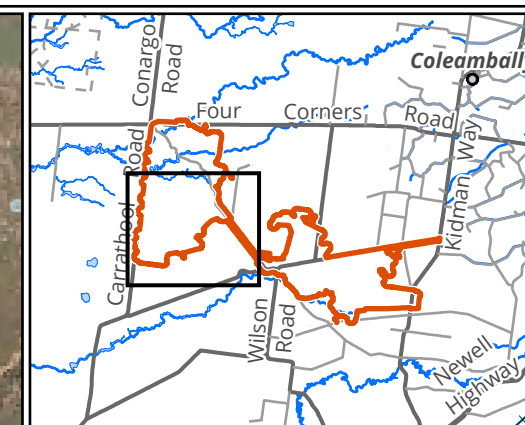
- Lepidium monolocoides*

Figure 12A Threatened flora species polygon - *Lepidium monolocoides*

0 1
Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



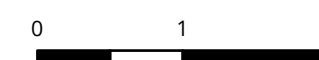
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Lepidium monoplocoides*

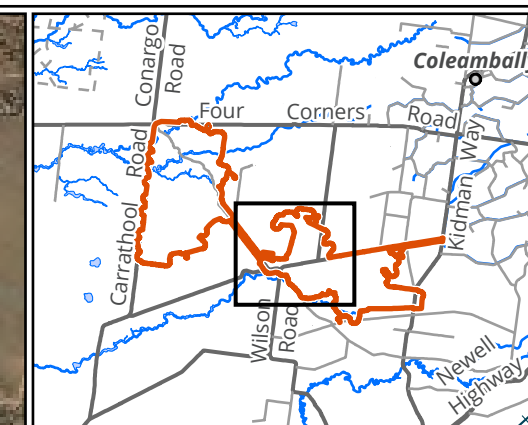
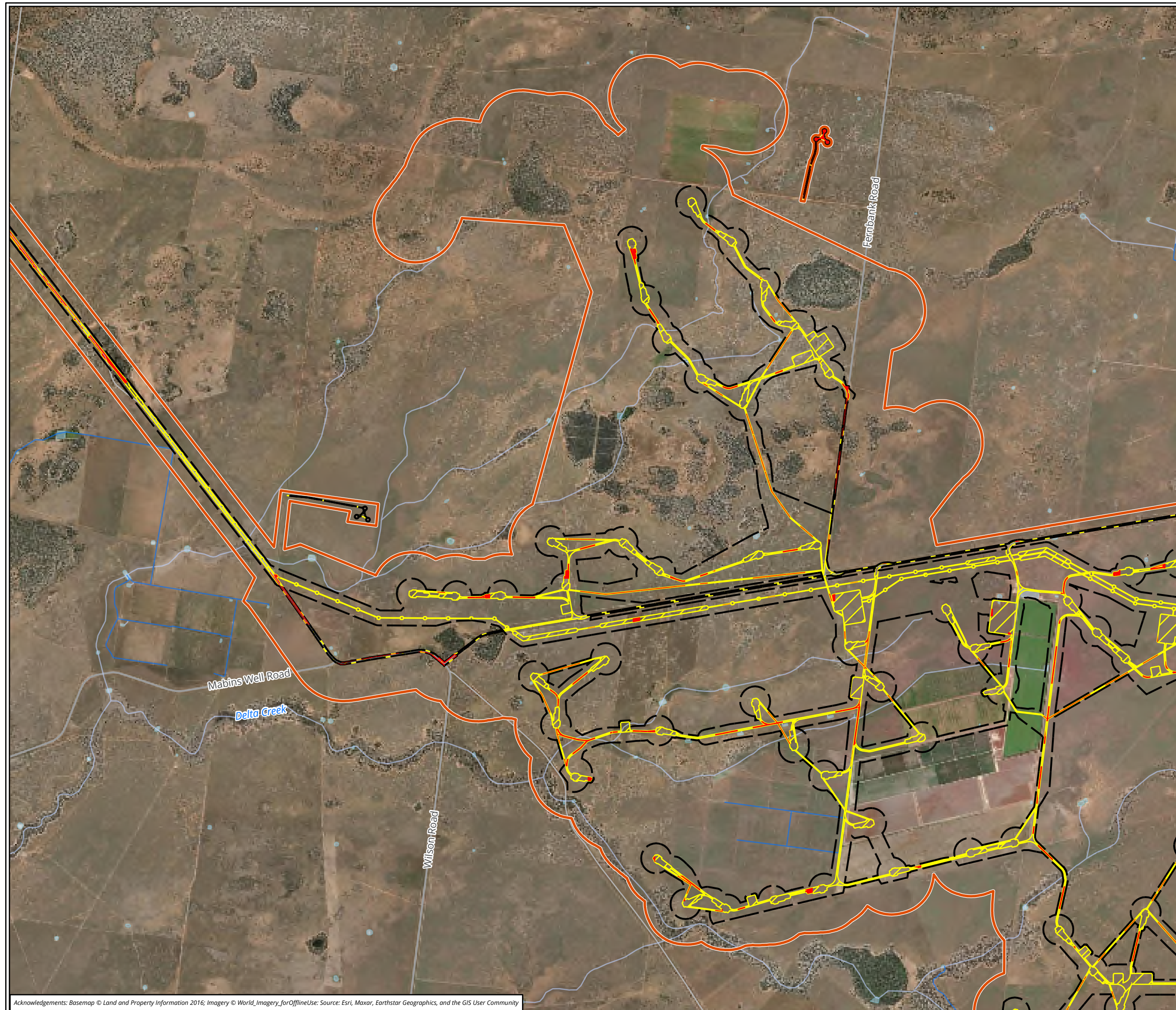
Figure 12A Threatened flora species polygon - *Lepidium monoplocoides*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Lepidium monolocoides*

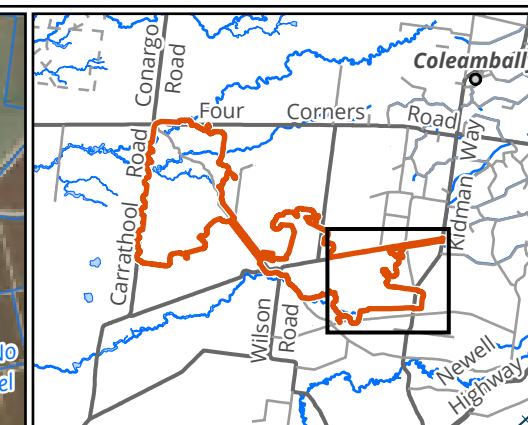
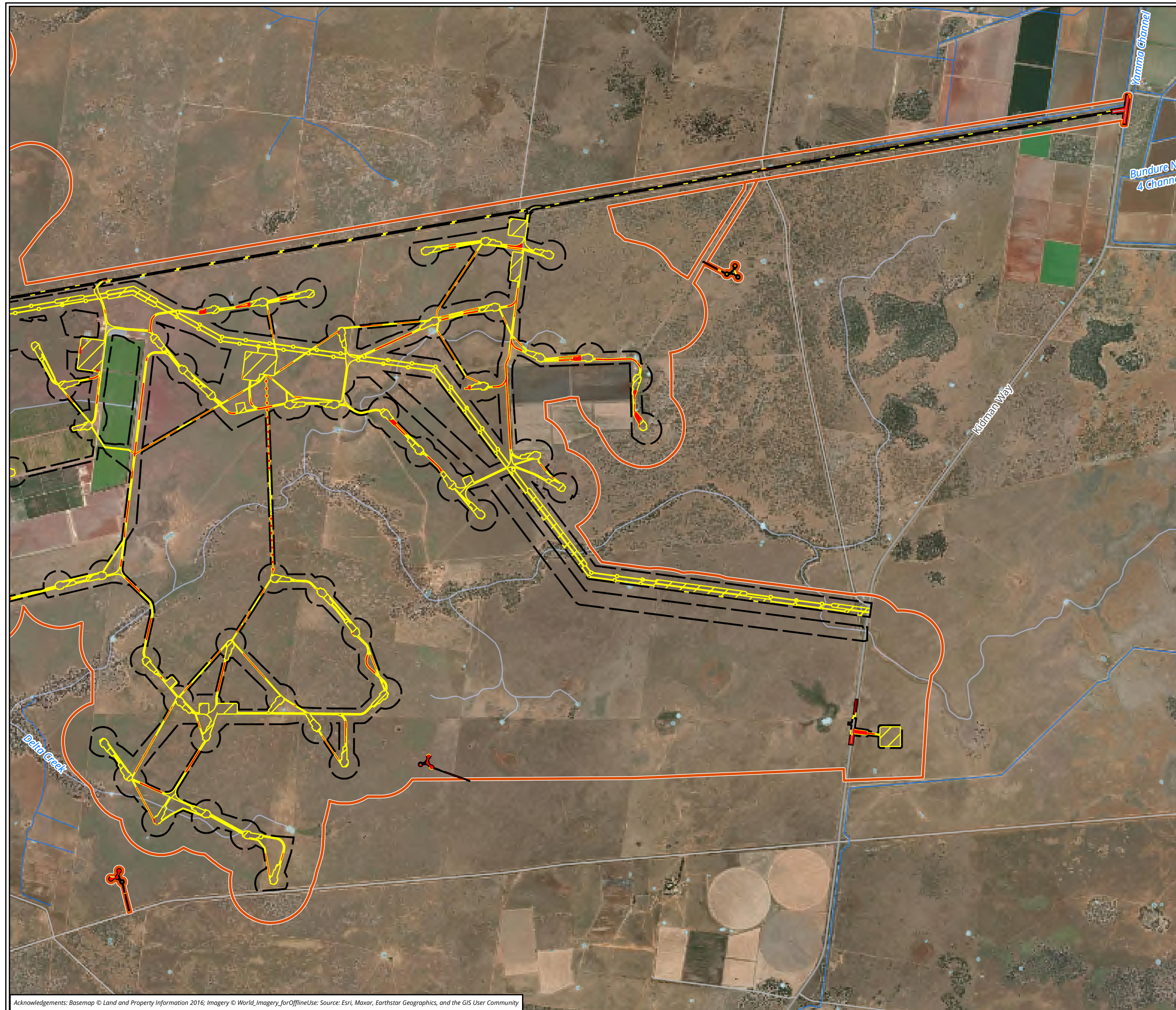
Figure 12A Threatened flora species polygon
- *Lepidium monolocoides*



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Lepidium monolocoides*

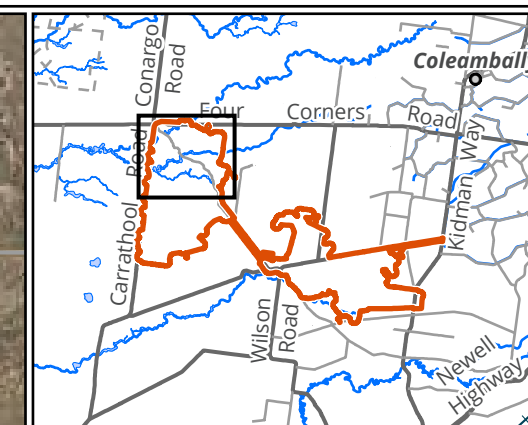
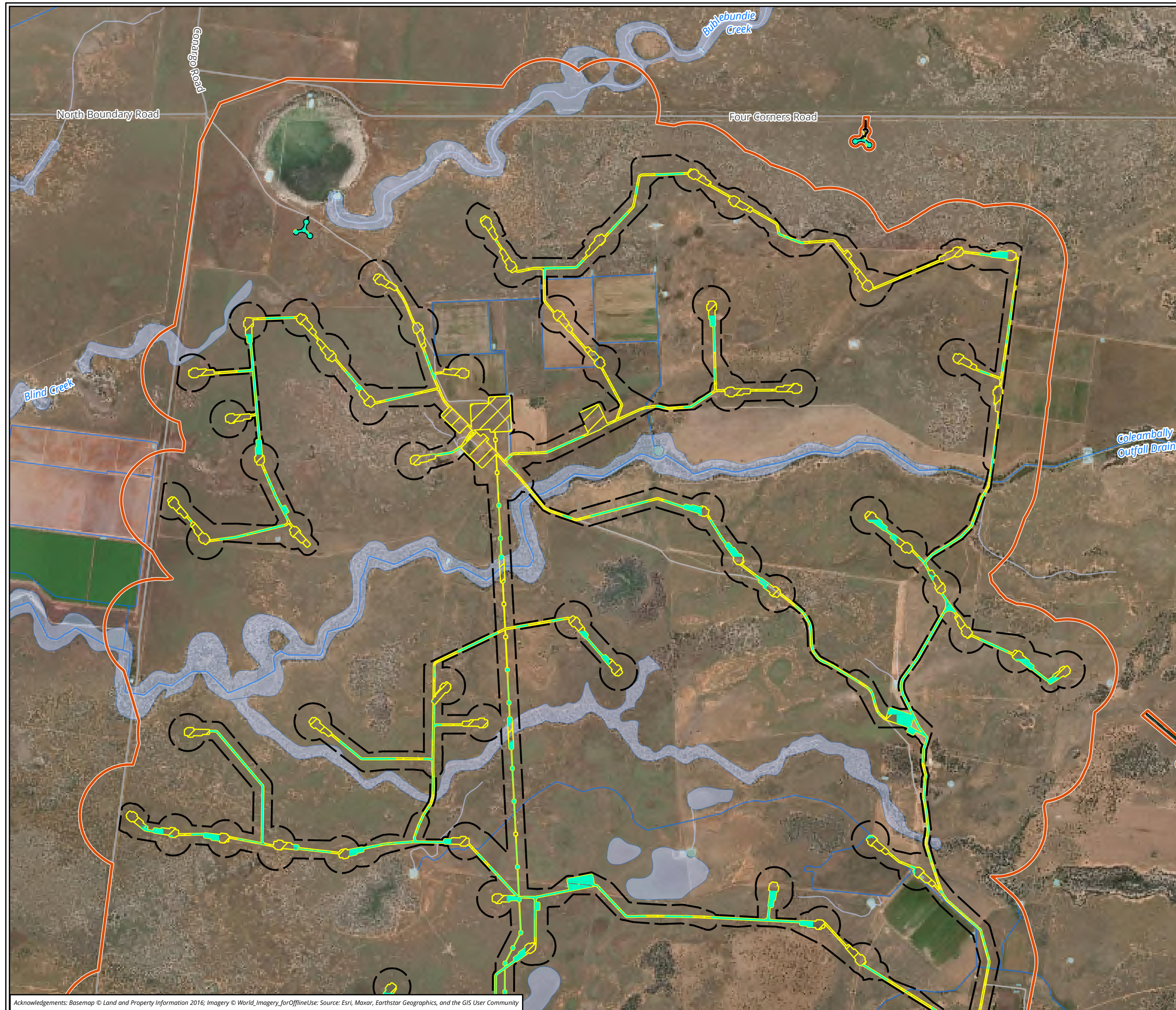
Figure 12A Threatened flora species polygon - *Lepidium monolocoides*



Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

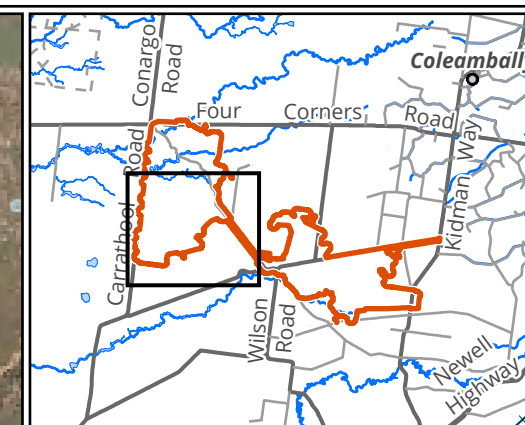
- Leptorhynchus orientalis*

Figure 12A Threatened flora species polygon - *Leptorhynchus orientalis*

0 1
Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

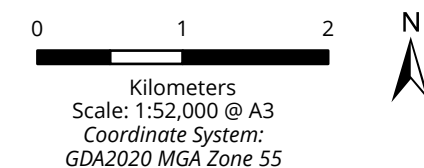


Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora

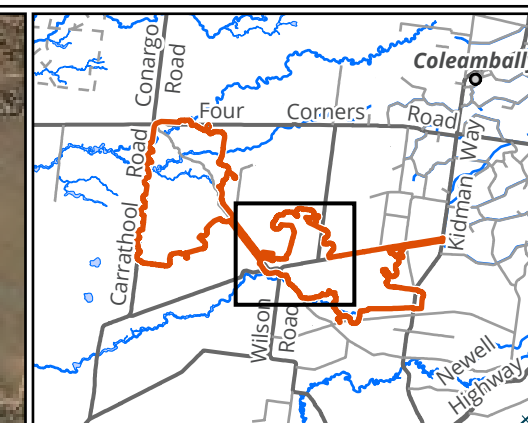
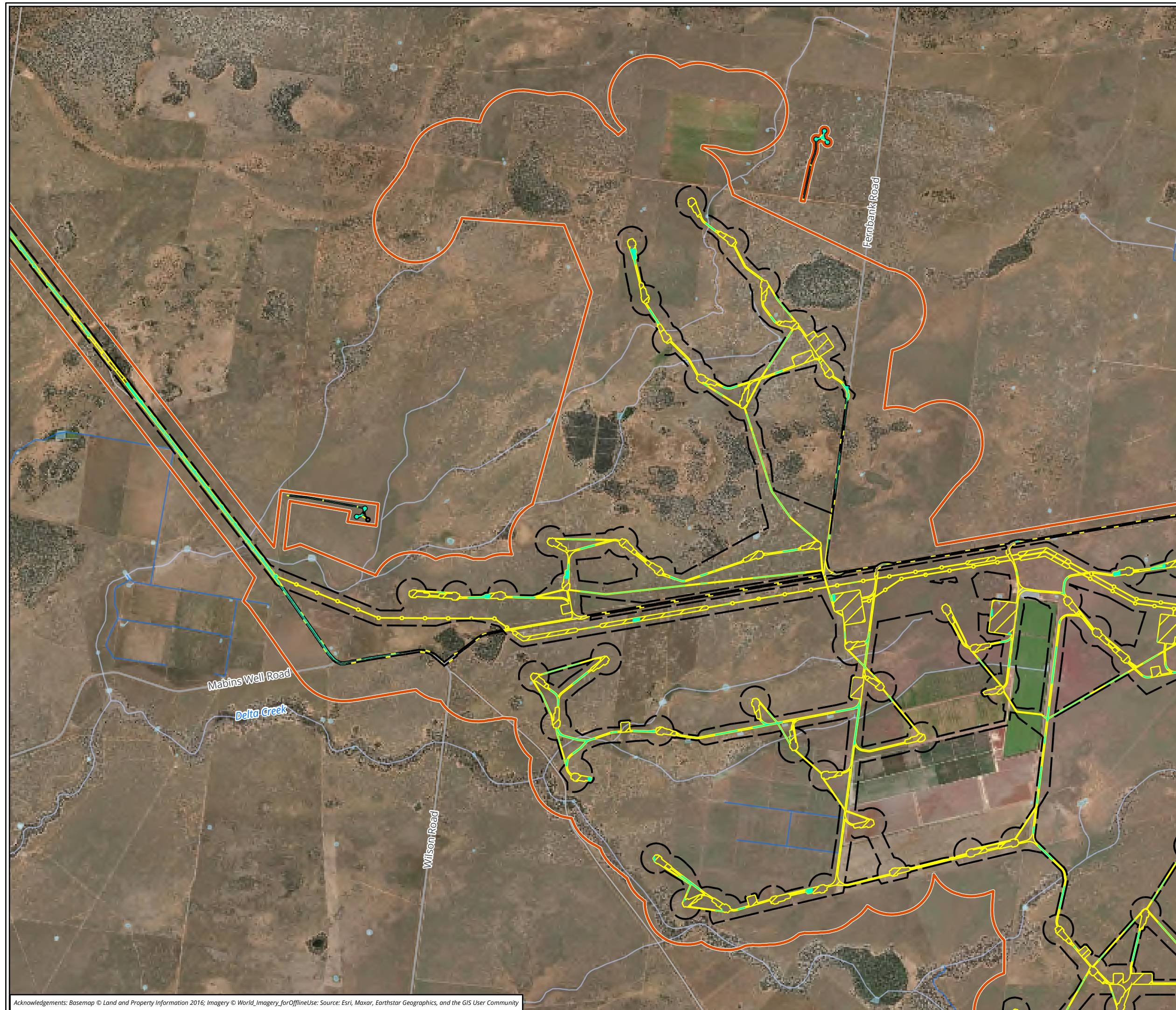


- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Leptorhynchos orientalis*

Figure 12A Threatened flora species polygon - *Leptorhynchos orientalis*



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Leptorhynchus orientalis*

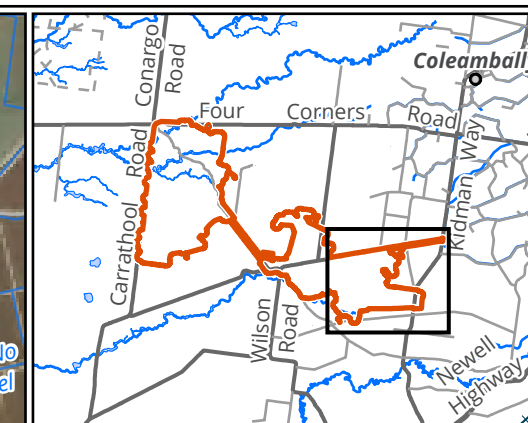
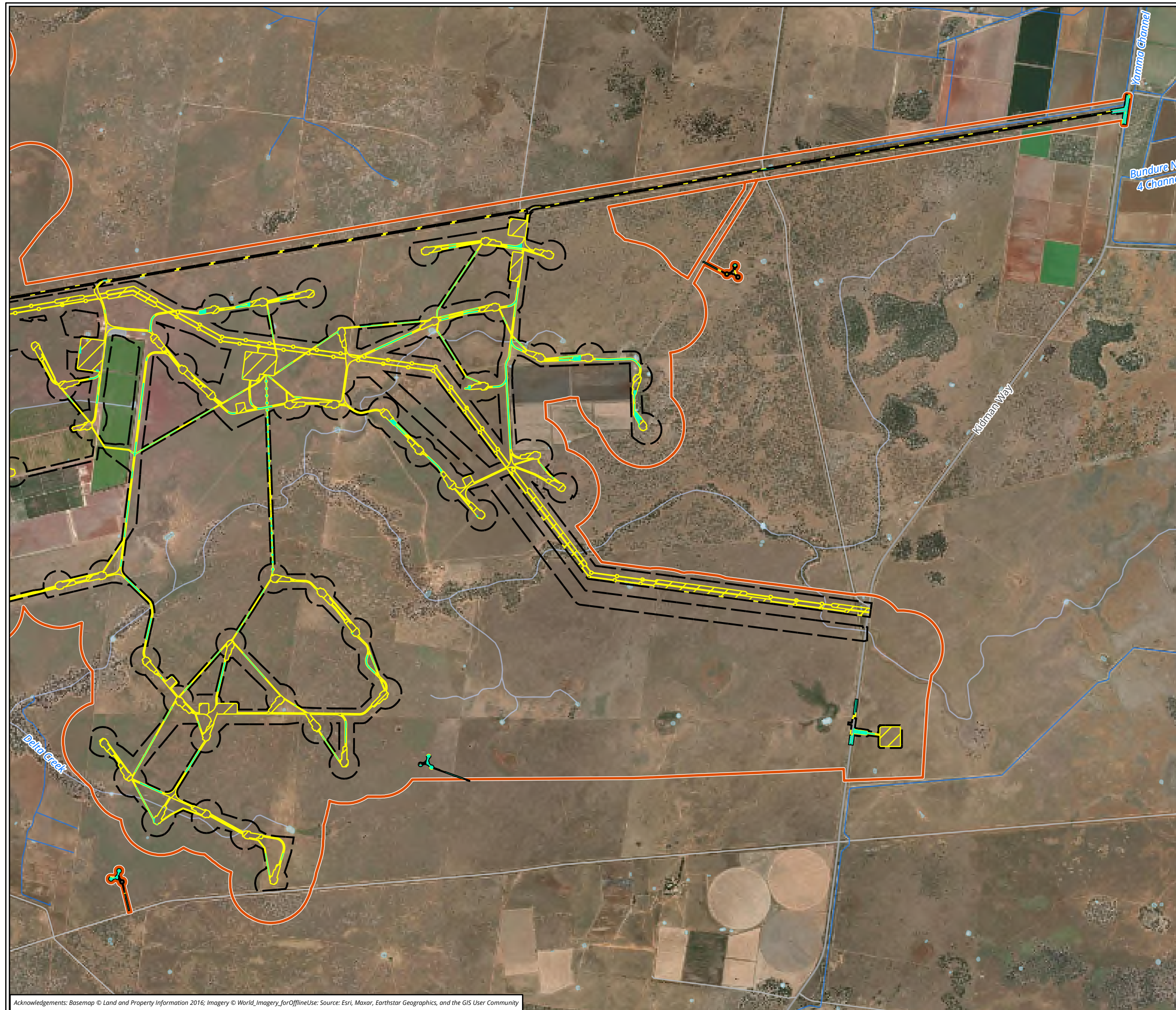
Figure 12A Threatened flora species polygon
- *Leptorhynchus orientalis*



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Leptorhynchus orientalis*

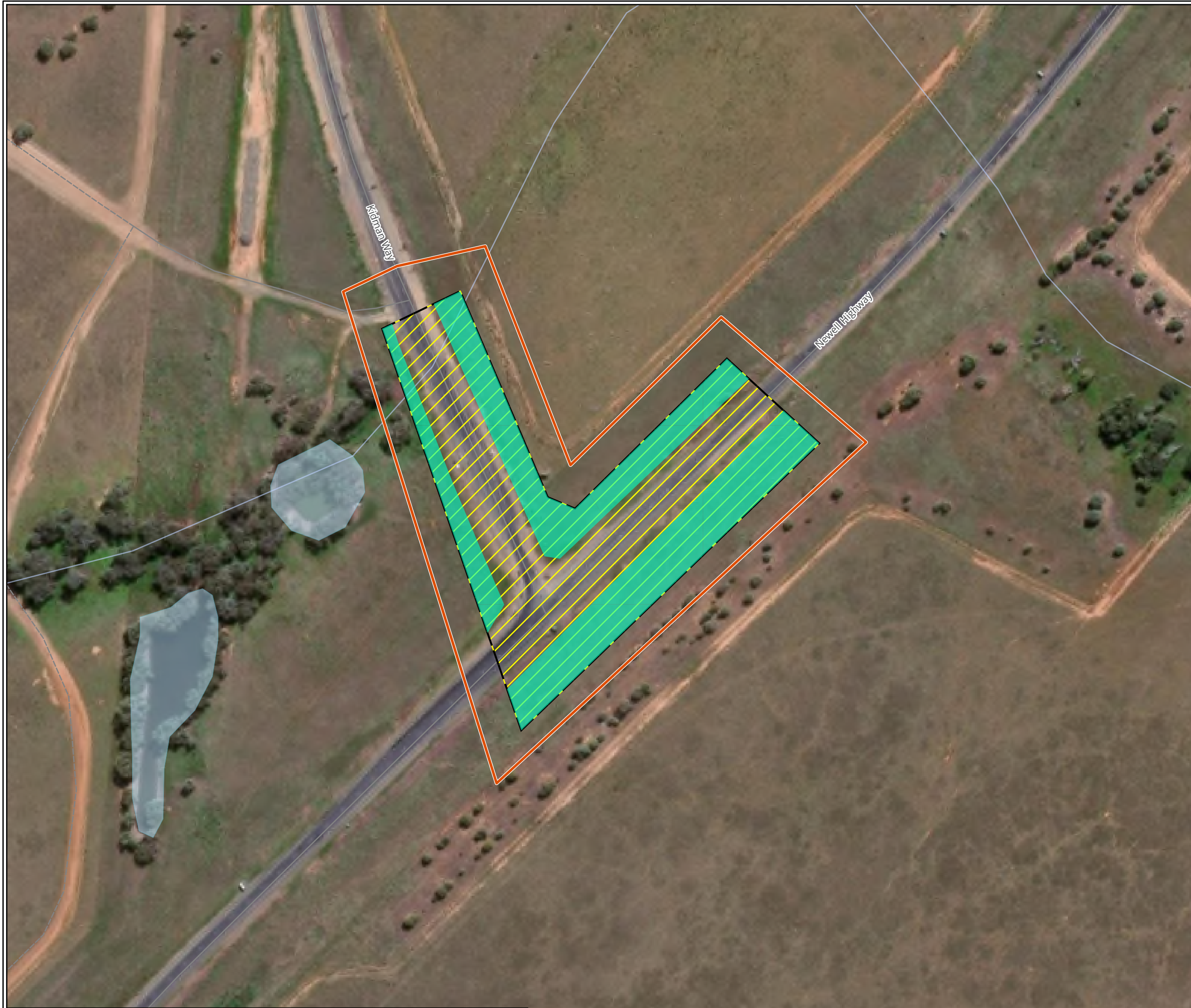
Figure 12A Threatened flora species polygon - *Leptorhynchus orientalis*



Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

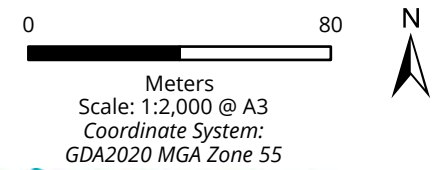


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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora

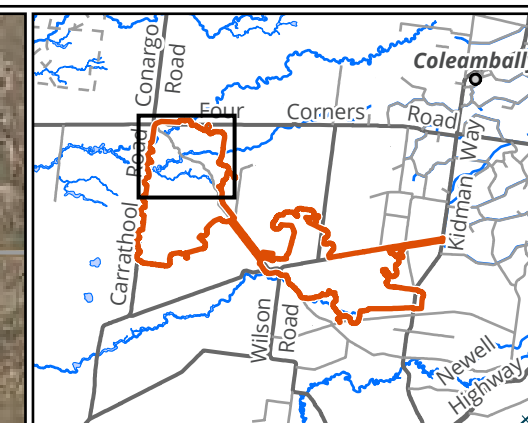
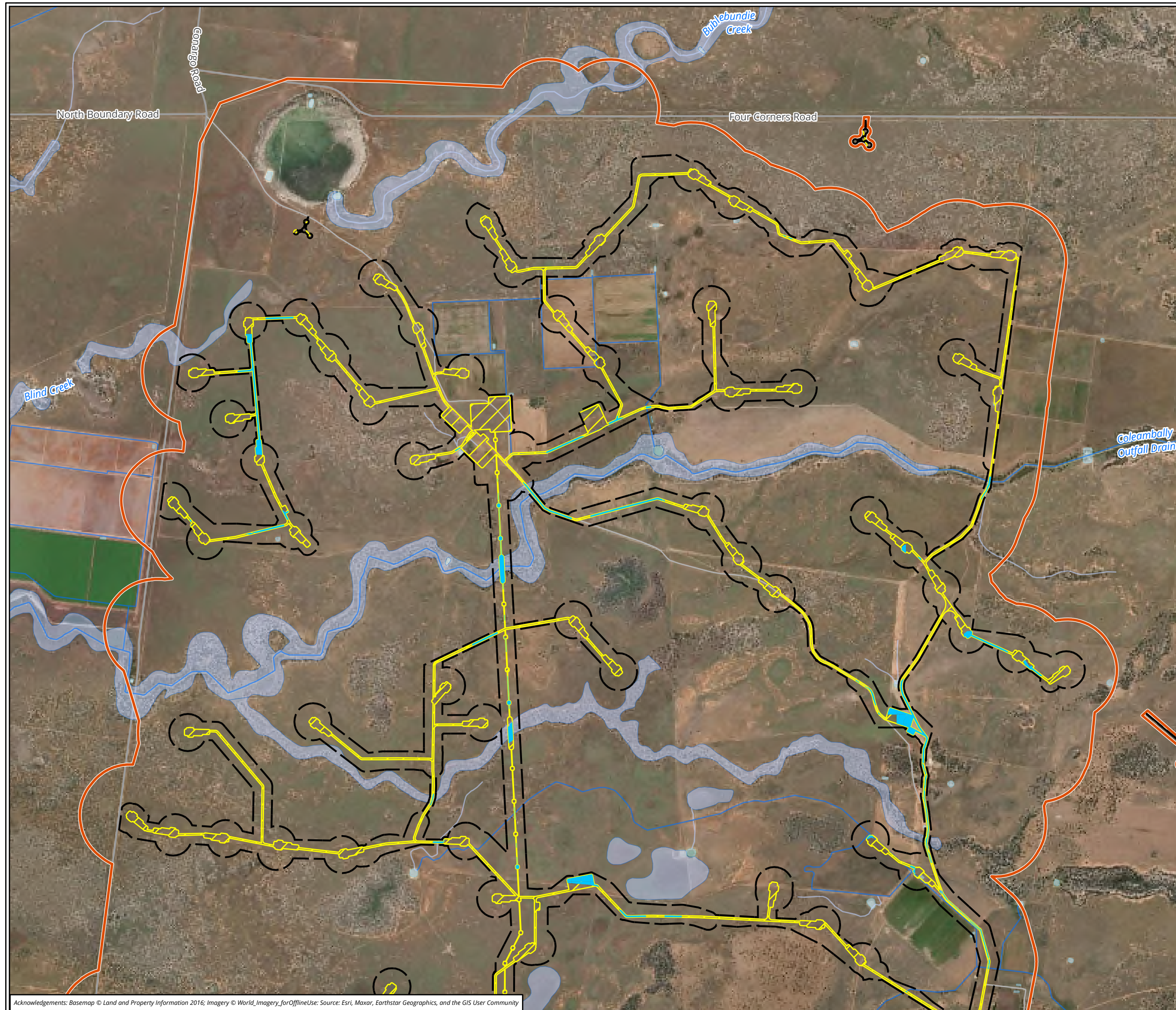


- Legend**
- Subject land
 - Development footprint
 - Development corridor
- Threatened flora species polygon**
- Leptorhynchos orientalis*

Figure 12A Threatened flora species polygon
- *Leptorhynchos orientalis*



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Pilularia novae-hollandiae*

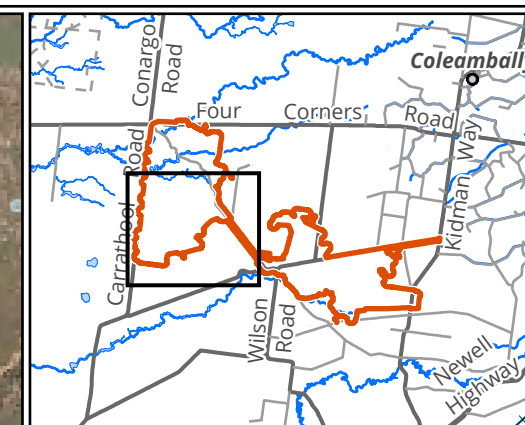
Figure 12A Threatened flora species polygon - *Pilularia novae-hollandiae*

0 1

Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



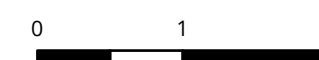
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Pilularia novae-hollandiae*

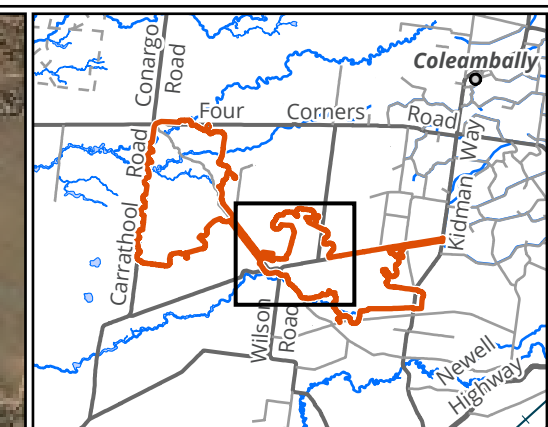
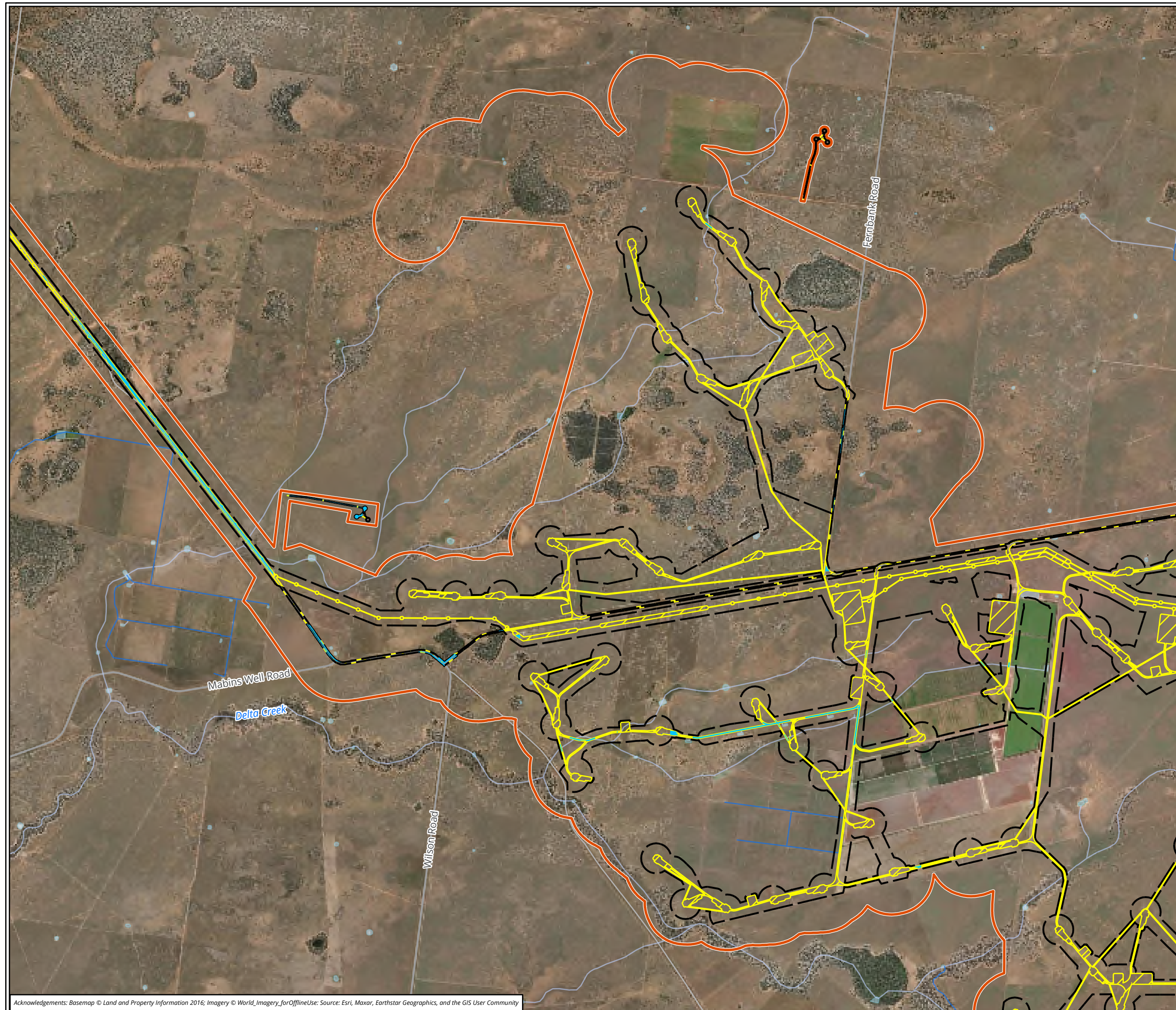
Figure 12A Threatened flora species polygon - *Pilularia novae-hollandiae*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

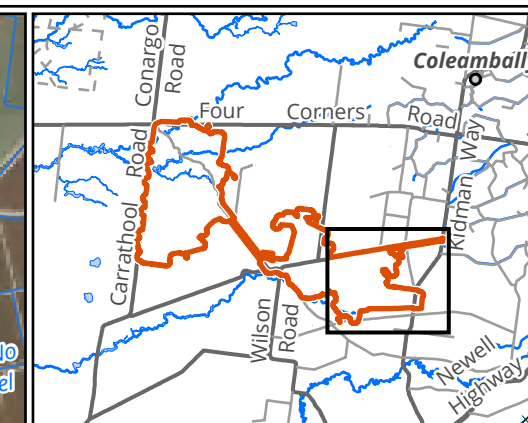
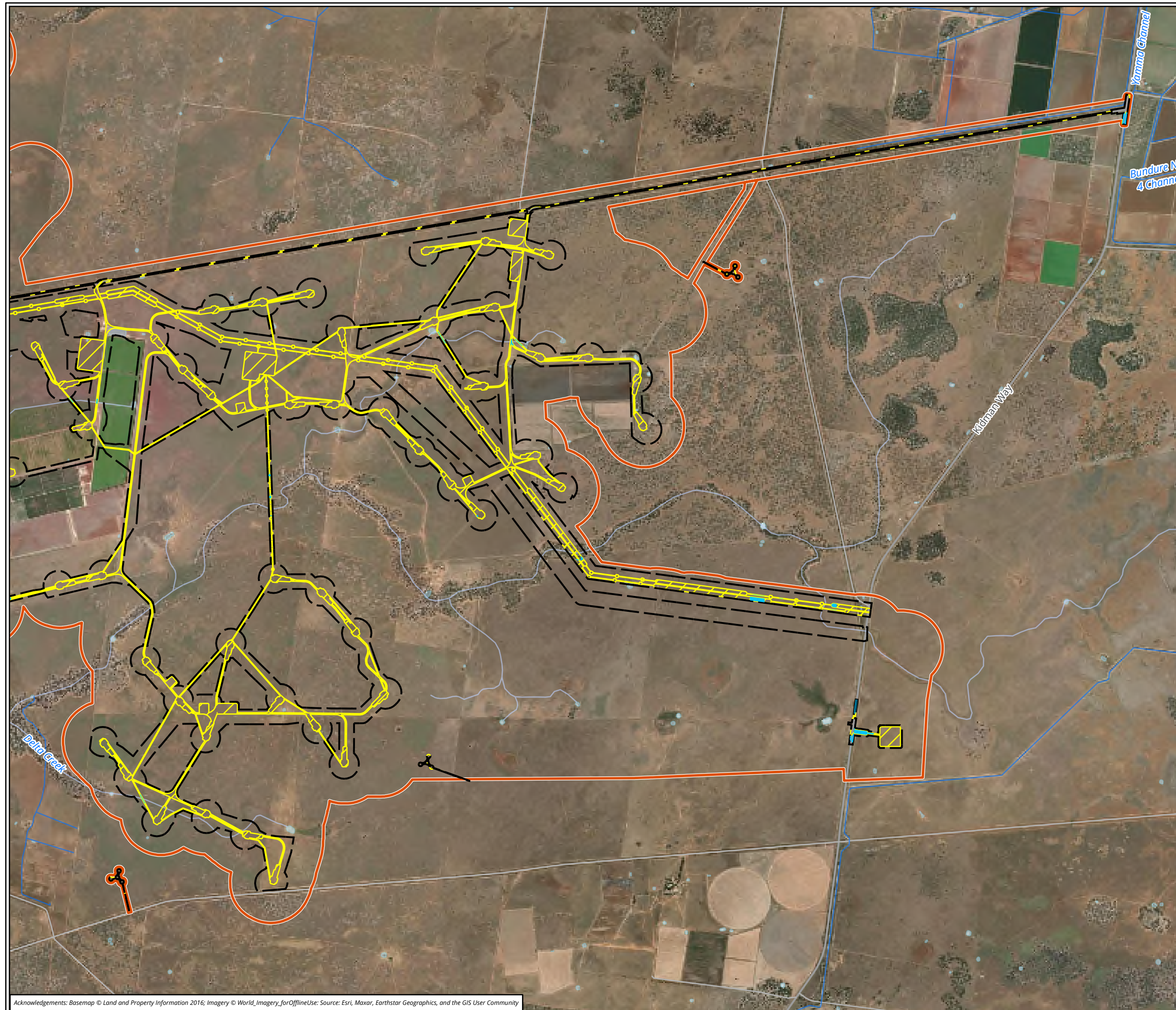
- Pilularia novae-hollandiae*

Figure 12A Threatened flora species polygon - *Pilularia novae-hollandiae*

0 1
Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

 **biosis**

Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Pilularia novae-hollandiae*

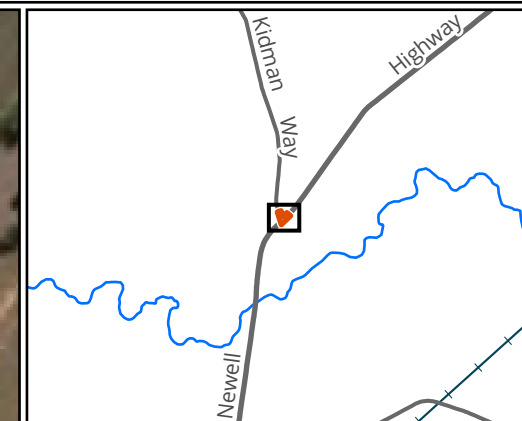
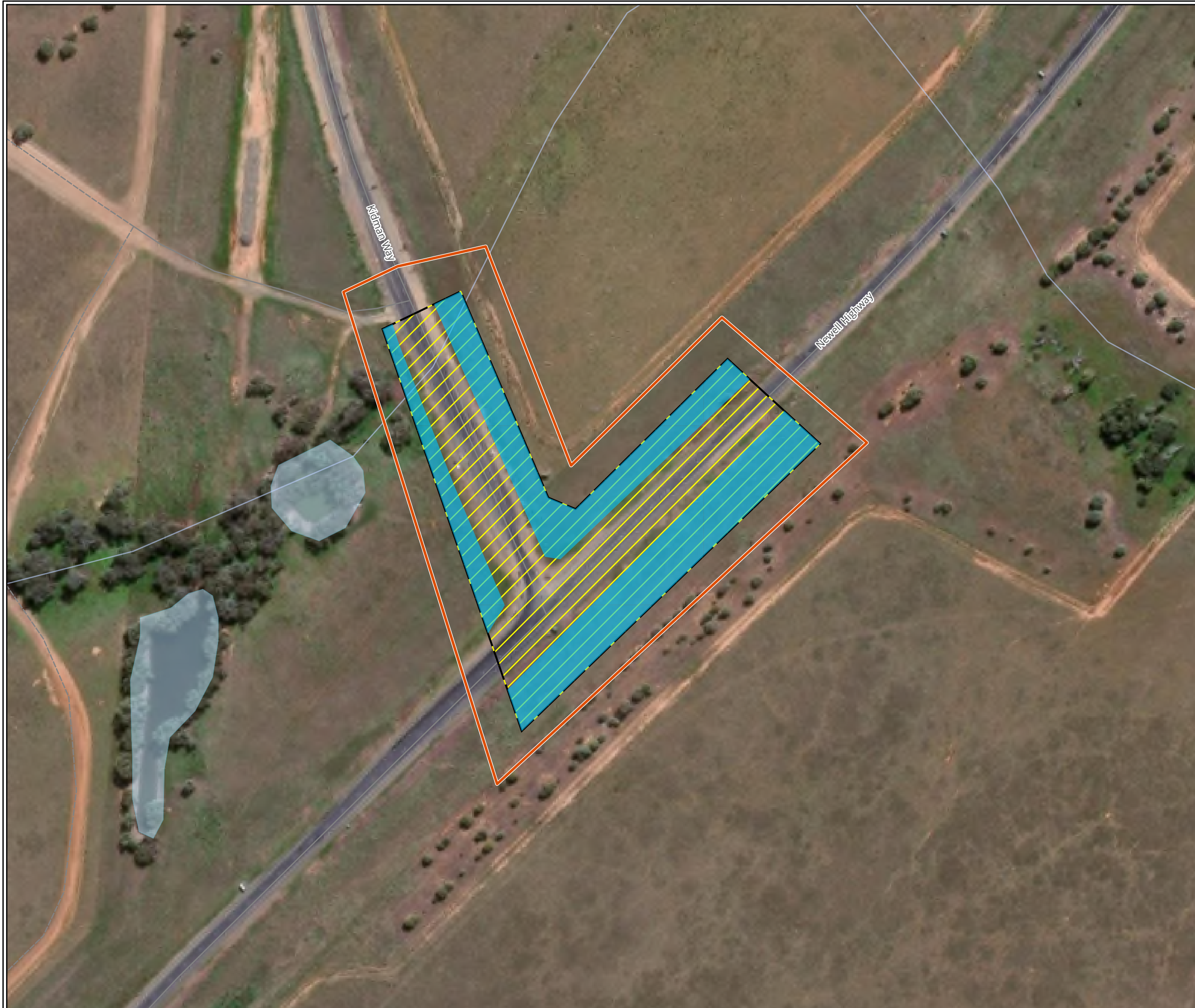
Figure 12A Threatened flora species polygon - *Pilularia novae-hollandiae*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Pilularia novae-hollandiae*

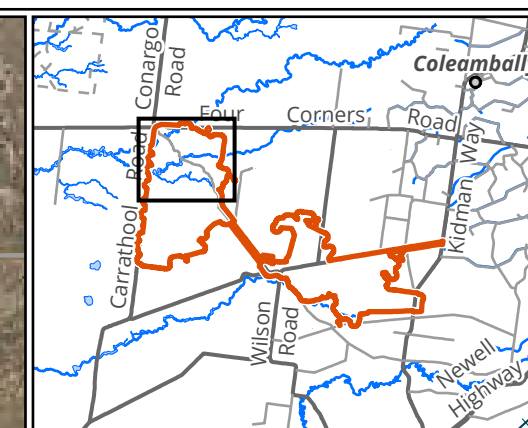
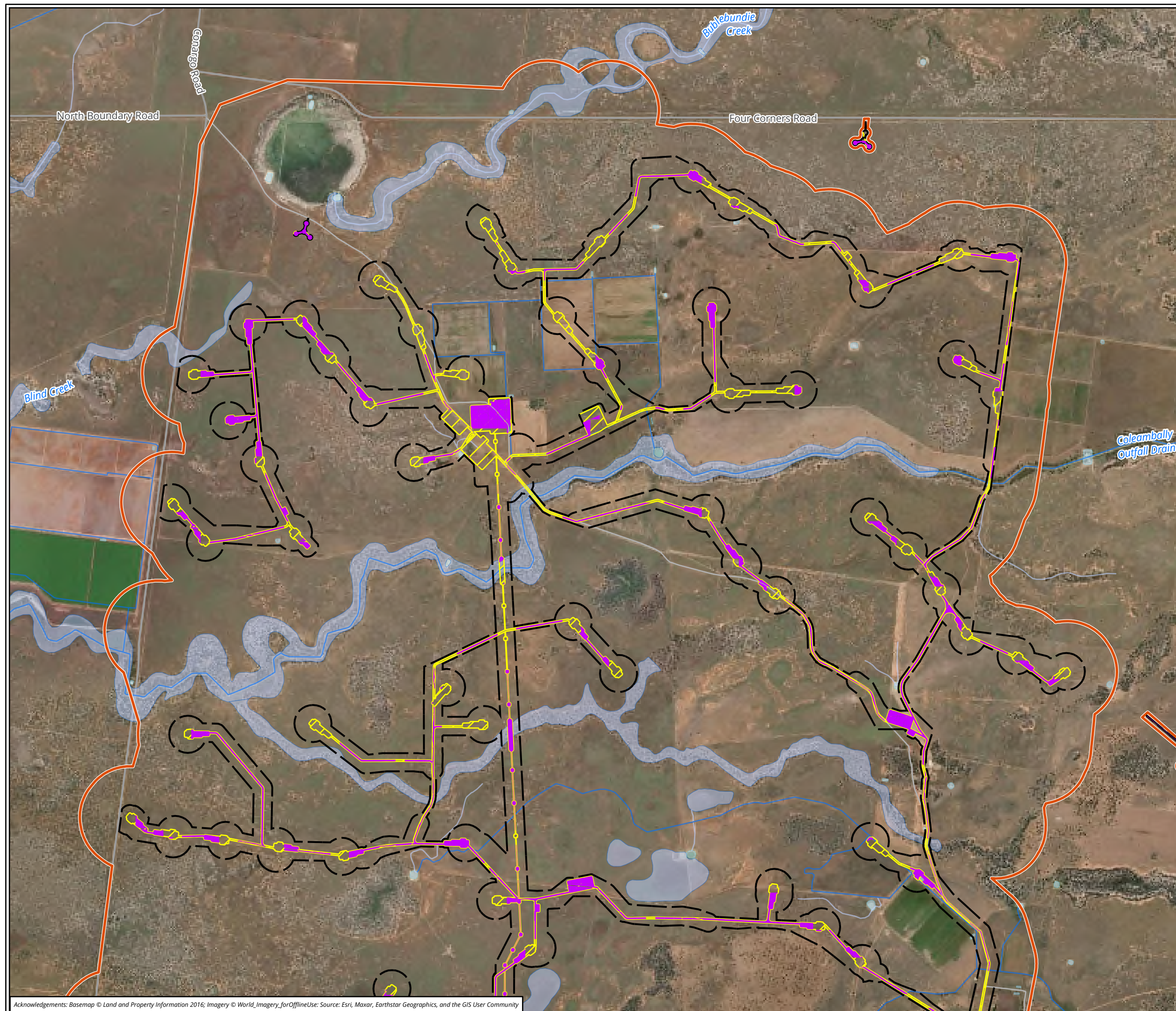
Figure 12A Threatened flora species polygon
- *Pilularia novae-hollandiae*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona murrayana* (assumed presence)

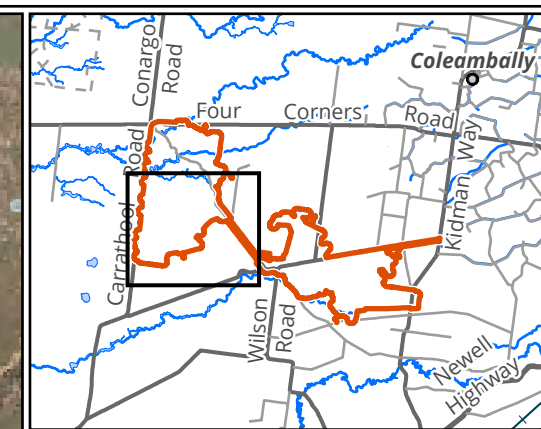
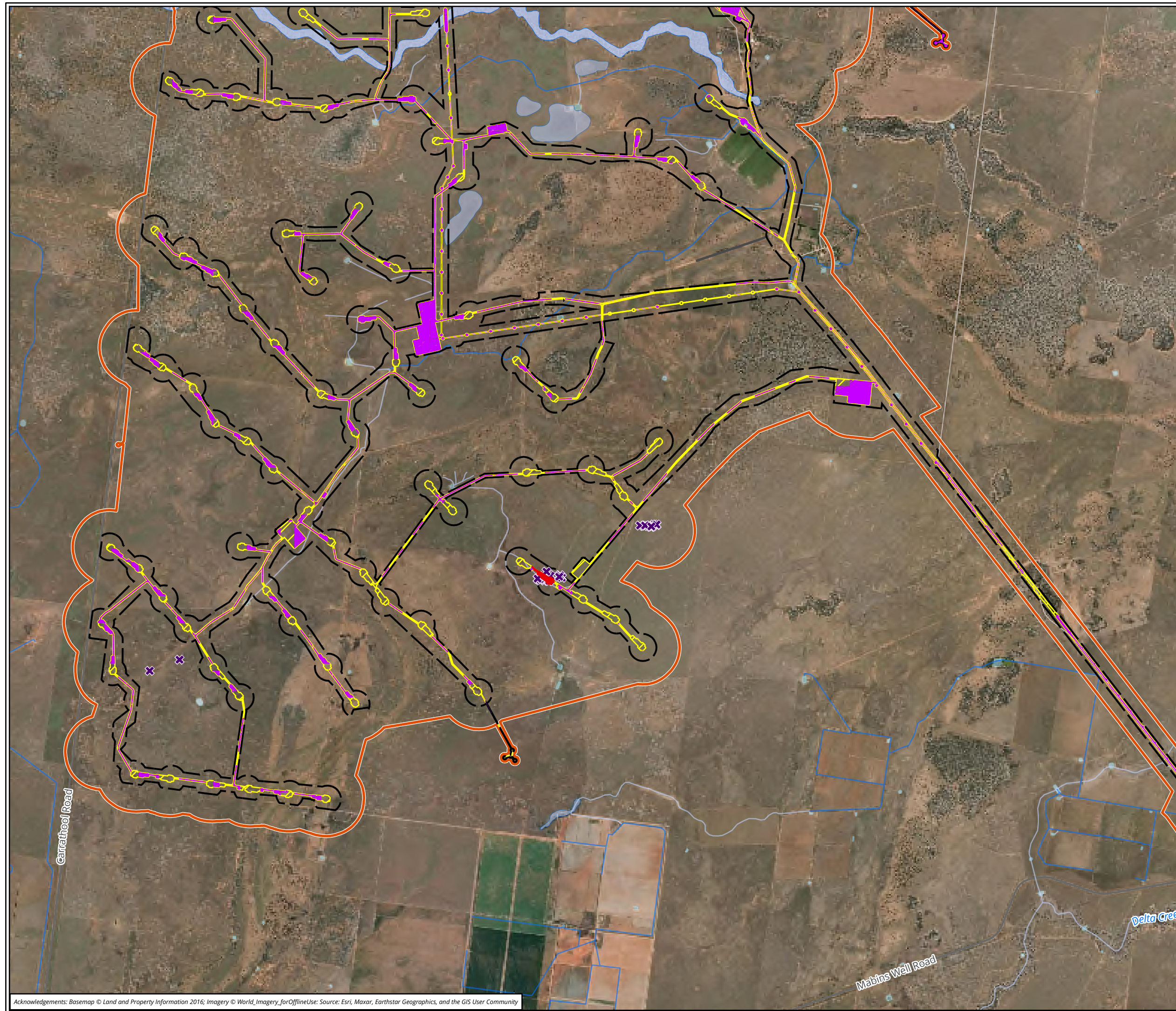
Figure 12A Threatened flora species polygon - *Swainsona murrayana*

0 1

Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



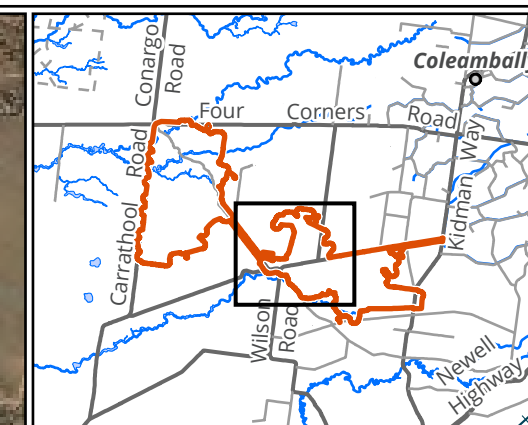
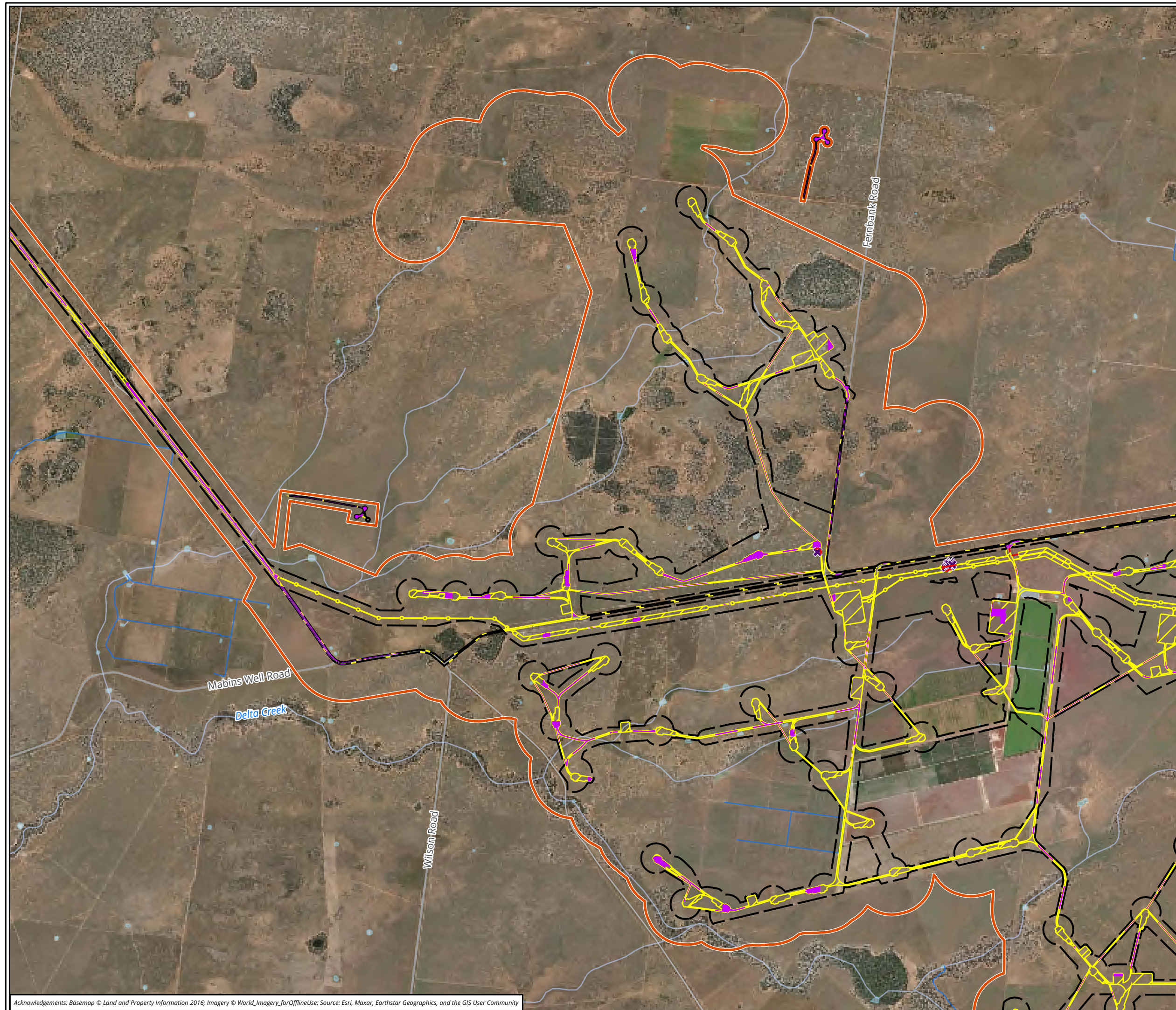
- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Swainsona murrayana* (assumed presence)
 - Swainsona murrayana* (confirmed presence)
 - Threatened flora species records (Biosis)**
 - Swainsona murrayana*

Figure 12A Threatened flora species polygon - *Swainsona murrayana*

0 1 2
Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

biosis

Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona murrayana* (assumed presence)
- Swainsona murrayana* (confirmed presence)

Threatened flora species records (Biosis)

- Swainsona murrayana*

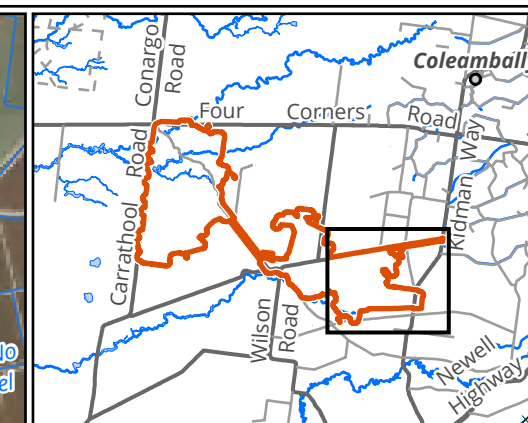
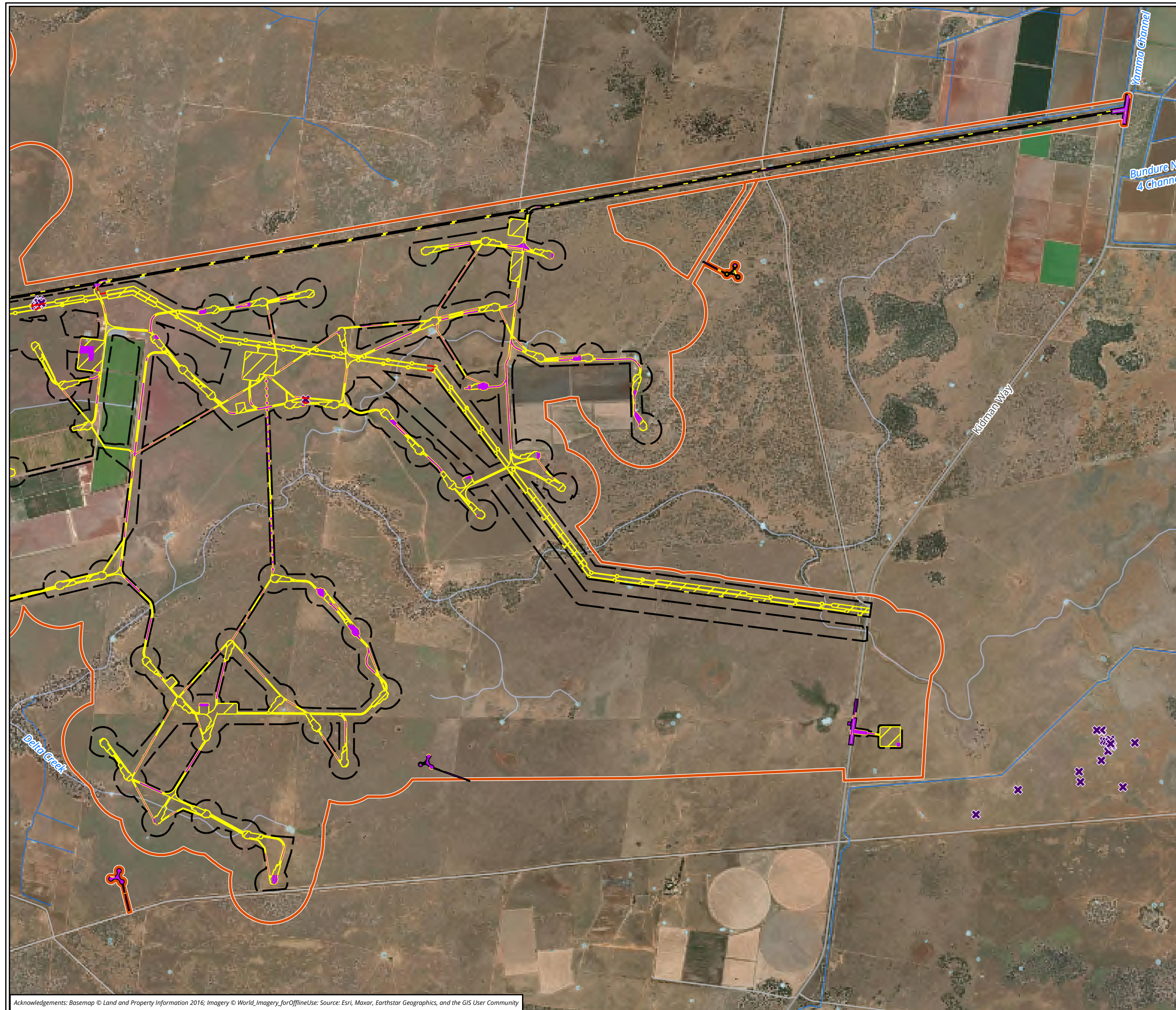
Figure 12A Threatened flora species polygon
- *Swainsona murrayana*

0 1

Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona murrayana* (assumed presence)
- Swainsona murrayana* (confirmed presence)

Threatened flora species records (Biosis)

- x *Swainsona murrayana*

Figure 12A Threatened flora species polygon
- *Swainsona murrayana*

0 1

Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona murrayana*
(assumed presence)

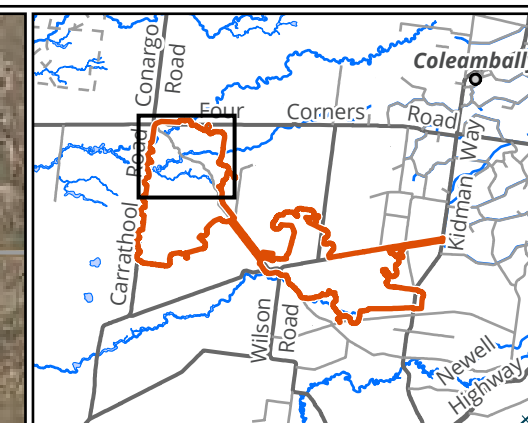
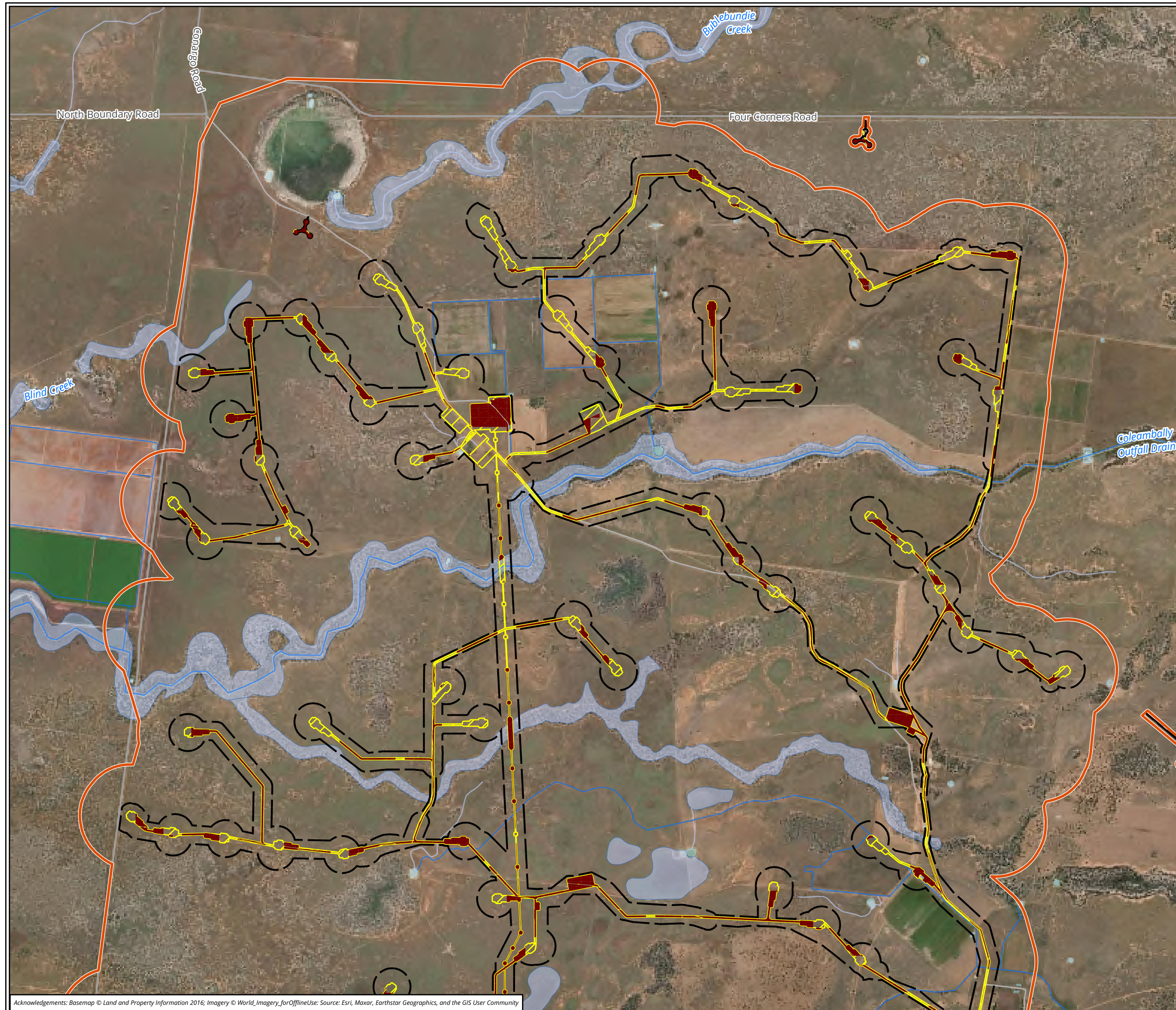
Figure 12A Threatened flora species polygon
- *Swainsona murrayana*



Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona sericea* (assumed presence)

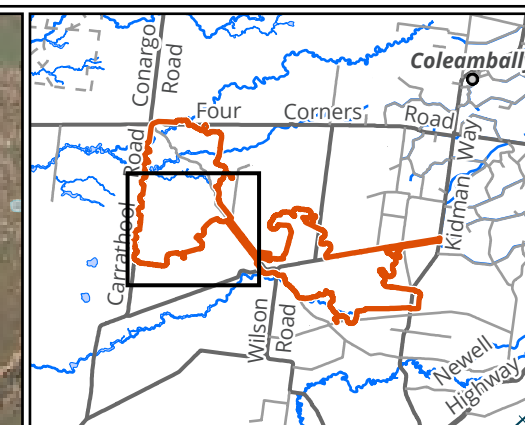
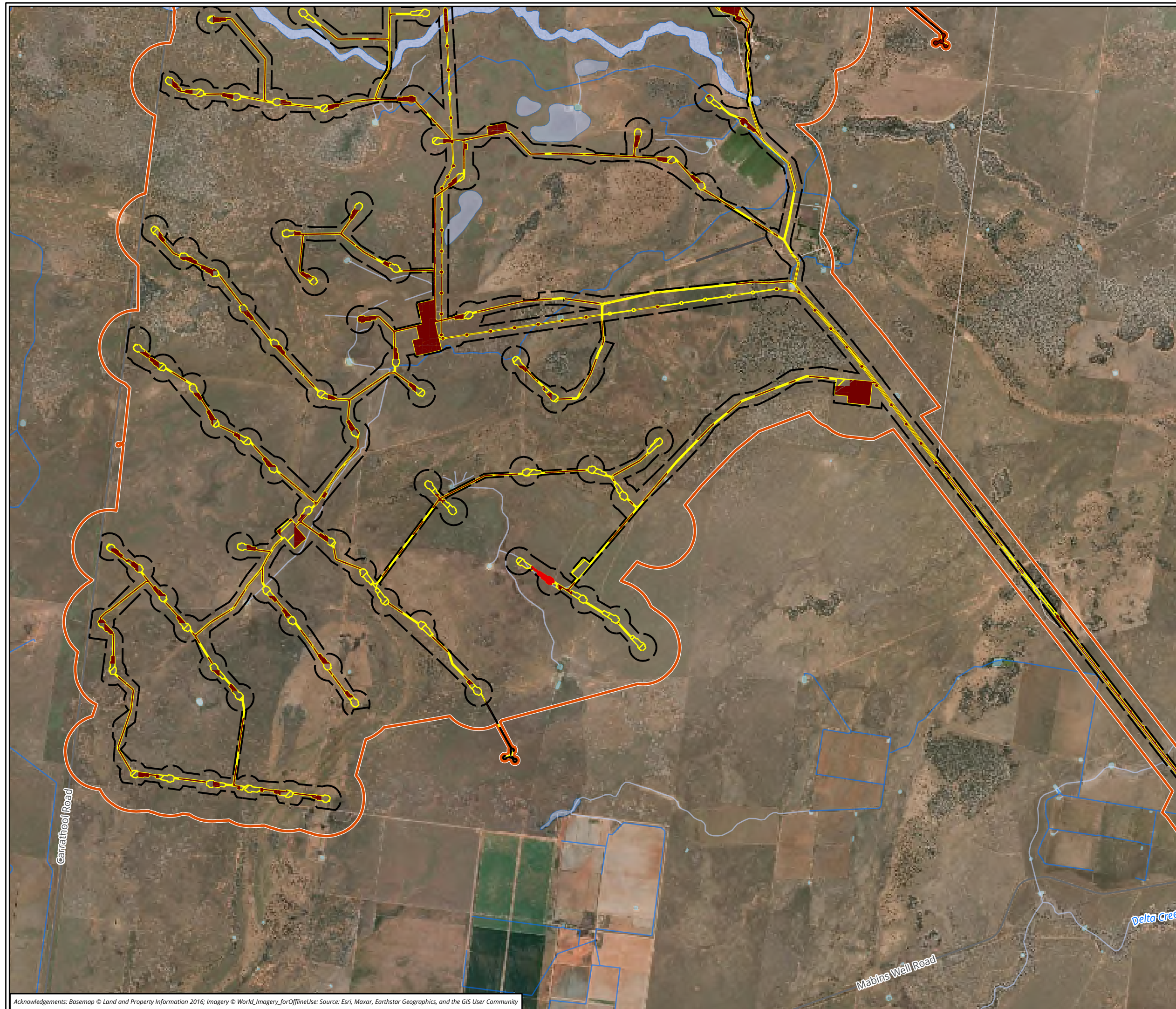
Figure 12A Threatened flora species polygon - *Swainsona sericea*

0 1

Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona sericea* (assumed presence)
- Swainsona sericea* (confirmed presence)

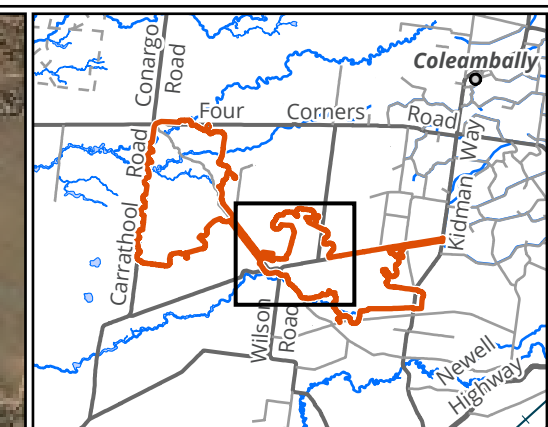
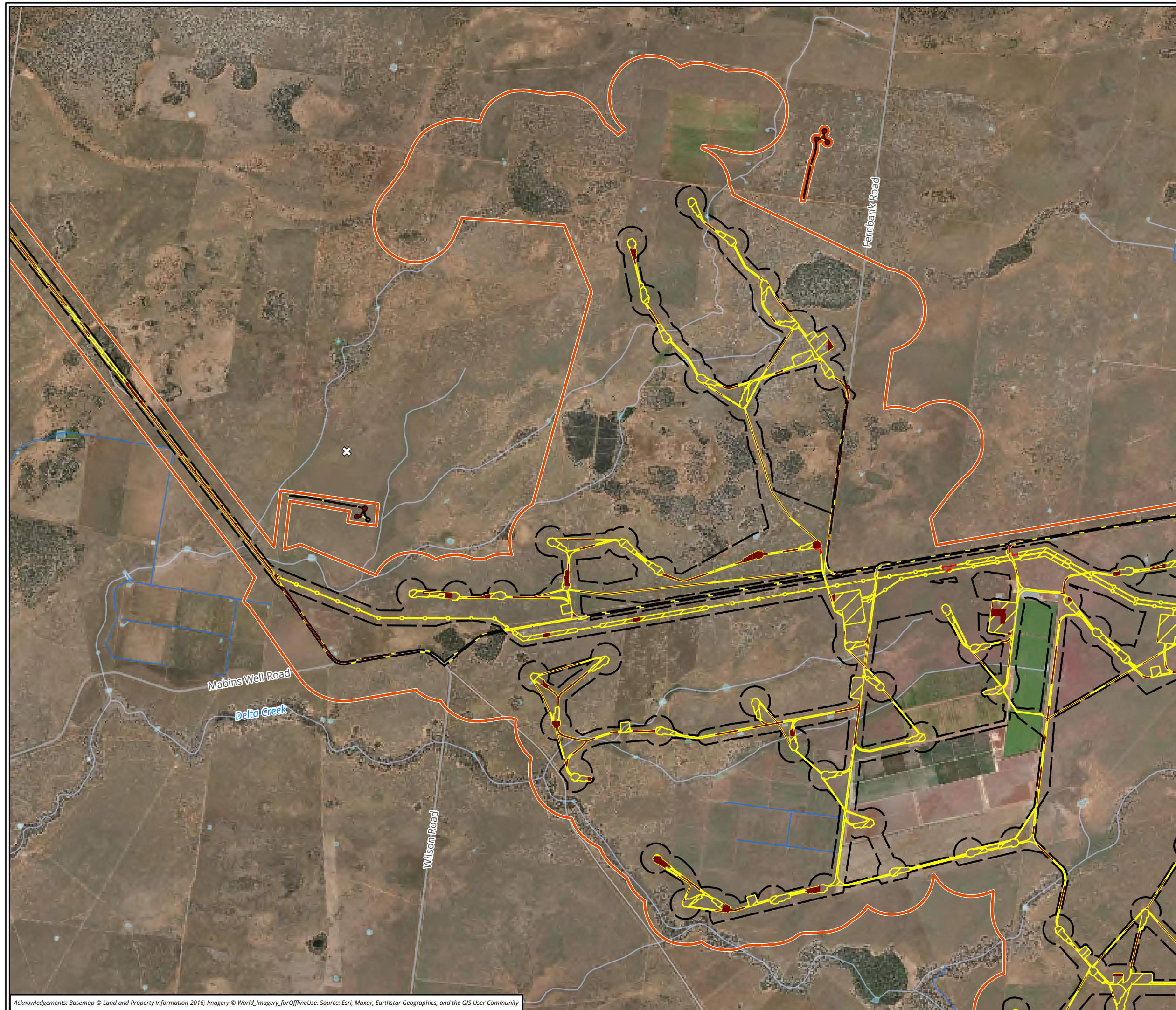
Figure 12A Threatened flora species polygon - *Swainsona sericea*

0 1 2

Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona sericea* (assumed presence)
- Swainsona sericea* (confirmed presence)

Threatened flora species records (Biosis)

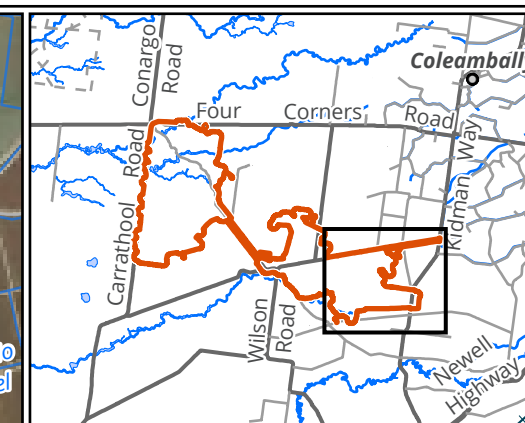
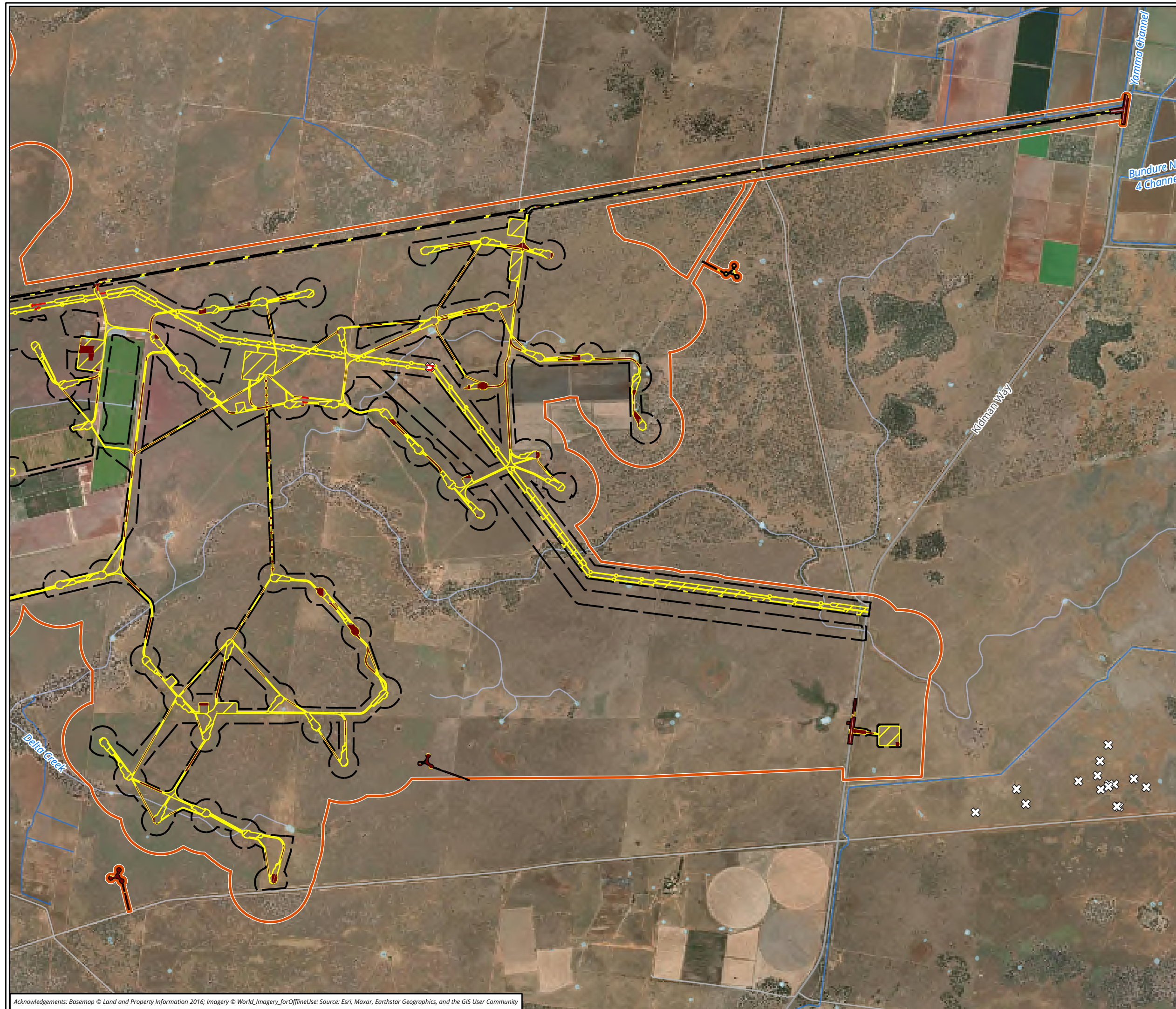
- Swainsona sericea*

Figure 12A Threatened flora species polygon - *Swainsona sericea*

0 1
Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

 **biosis**

Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



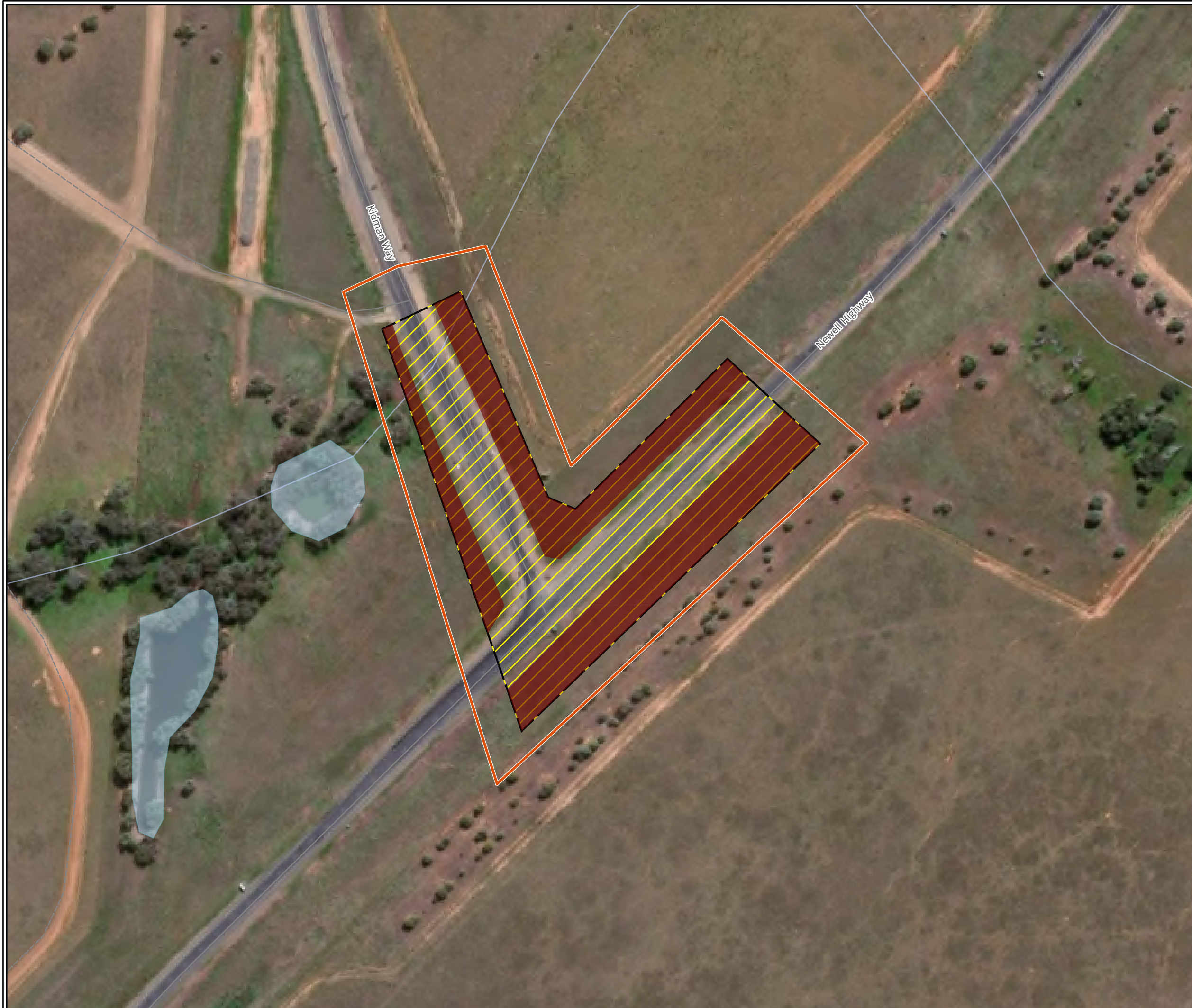
- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Swainsona sericea* (assumed presence)
 - Swainsona sericea* (confirmed presence)
 - Threatened flora species records (Biosis)**
 - Swainsona sericea*

Figure 12A Threatened flora species polygon - *Swainsona sericea*

0 1
Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona sericea* (assumed presence)

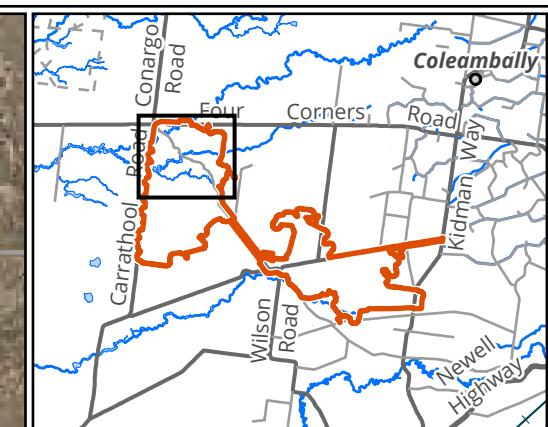
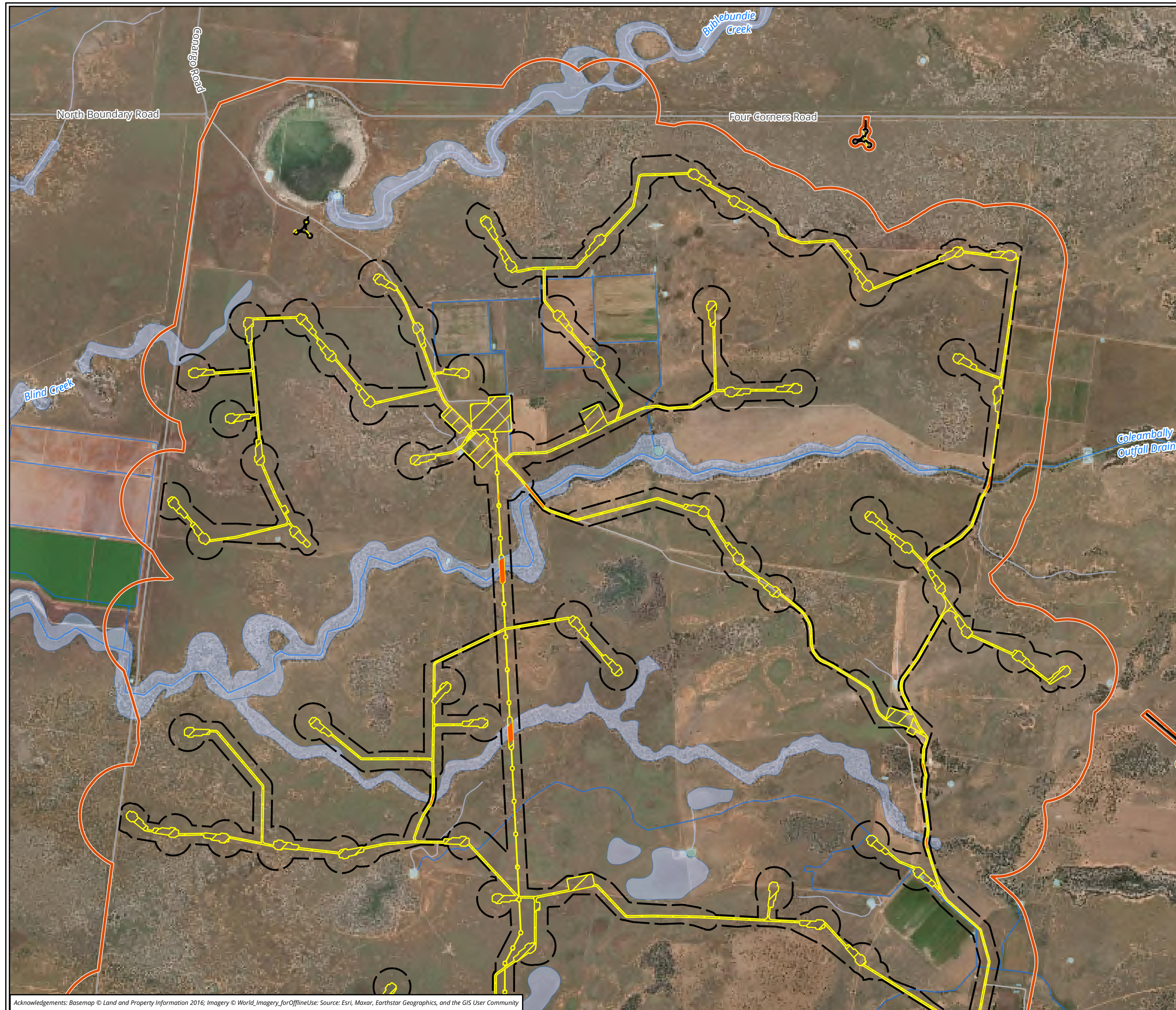
Figure 12A Threatened flora species polygon
- *Swainsona sericea*



Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Eucalyptus leucoxylon* subsp. *pruinosa*

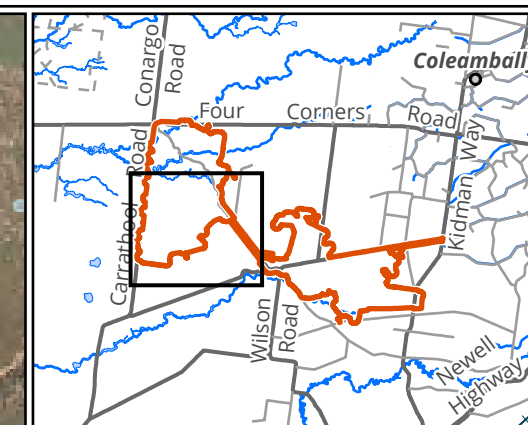
Figure 12A Threatened flora species polygon
- *Eucalyptus leucoxylon* subsp.



Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



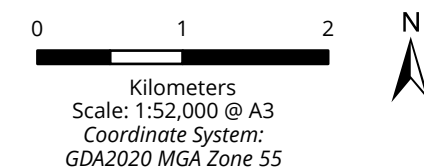
Legend

- Subject land
- Development footprint
- Development corridor

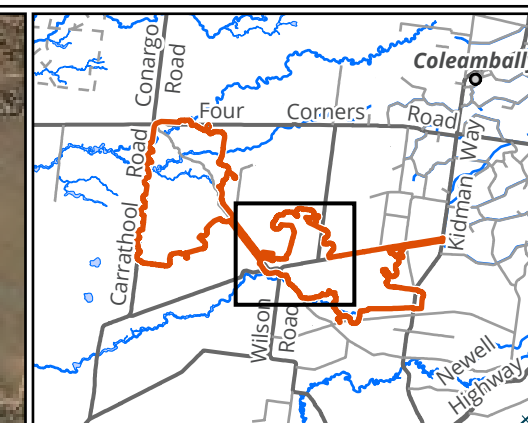
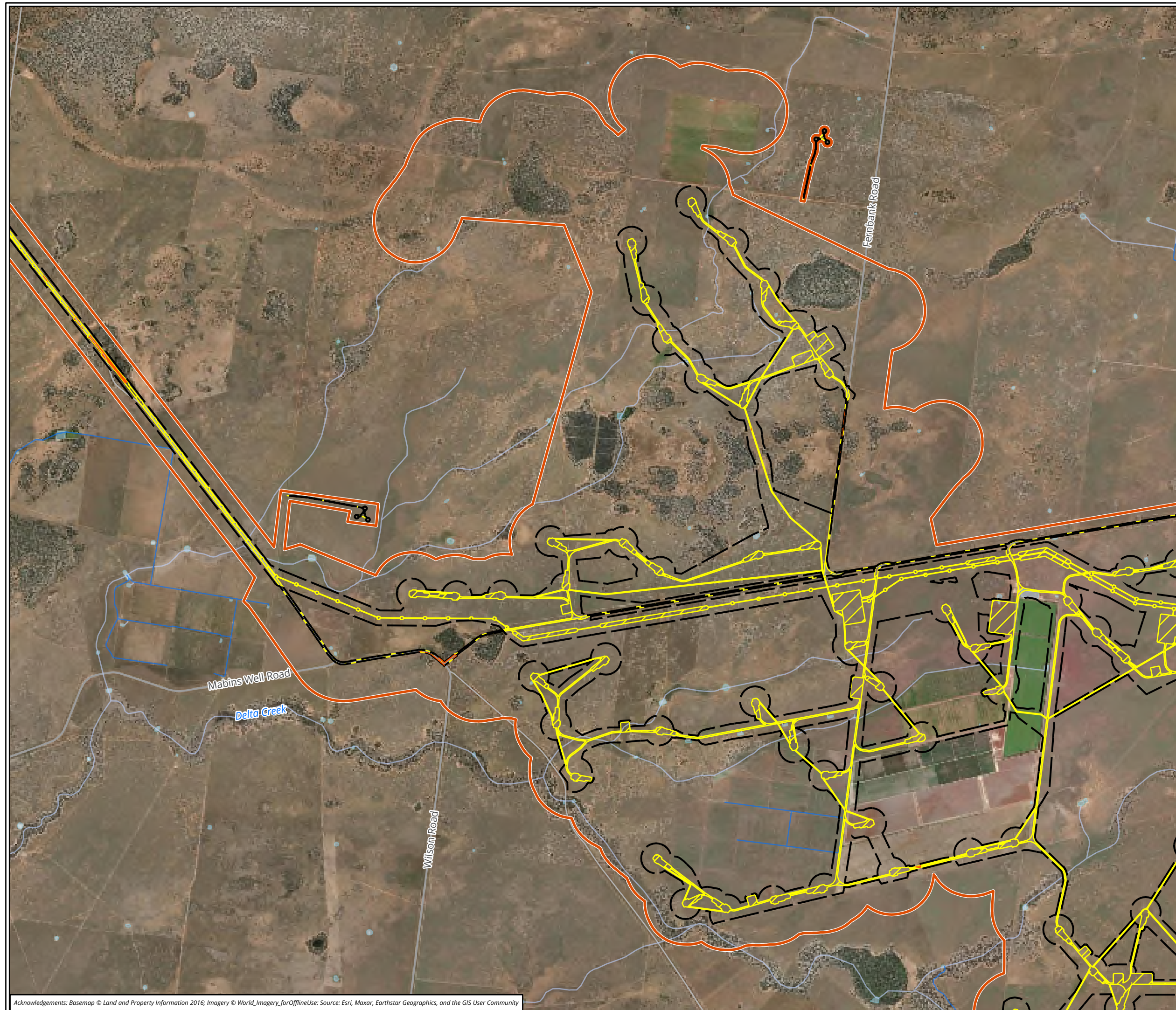
Threatened flora species polygon

- Eucalyptus leucoxylon* subsp. *pruinosa*

Figure 12A Threatened flora species polygon - *Eucalyptus leucoxylon* subsp. *pruinosa*



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Eucalyptus leucoxylon* subsp. *pruinosa*

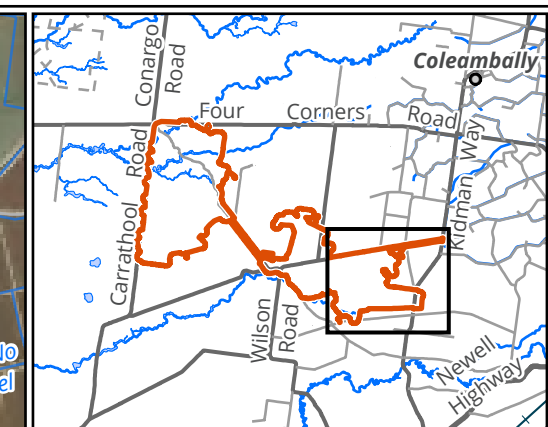
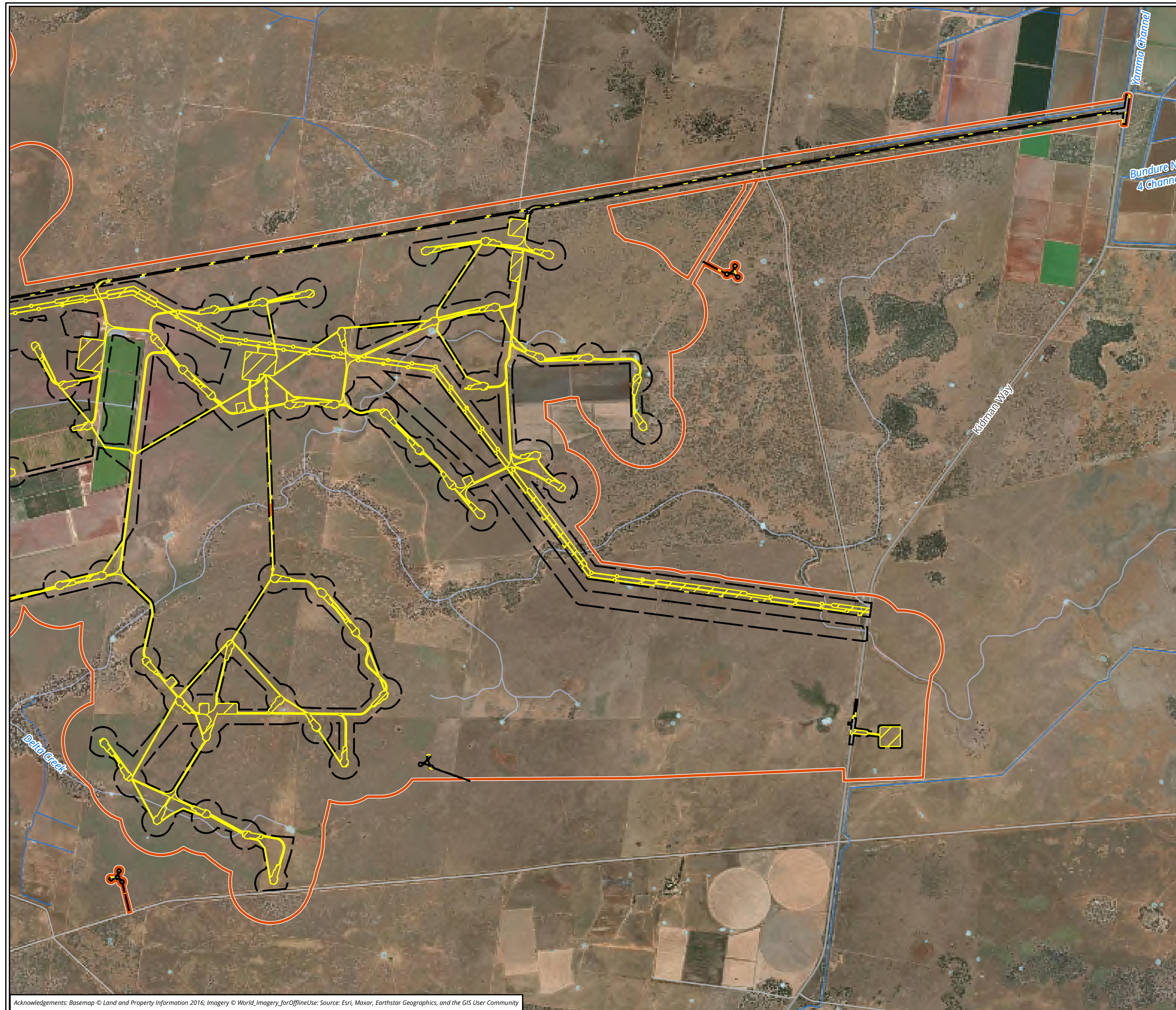
Figure 12A Threatened flora species polygon
- *Eucalyptus leucoxylon* subsp.



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



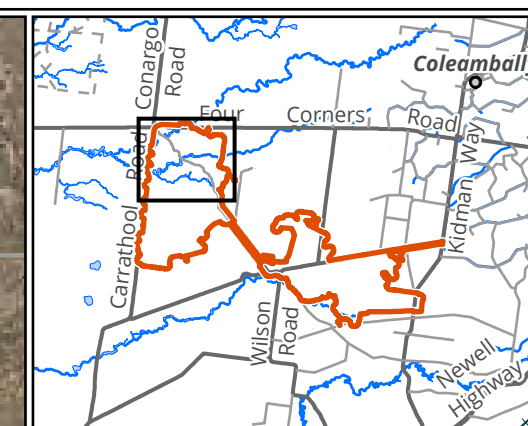
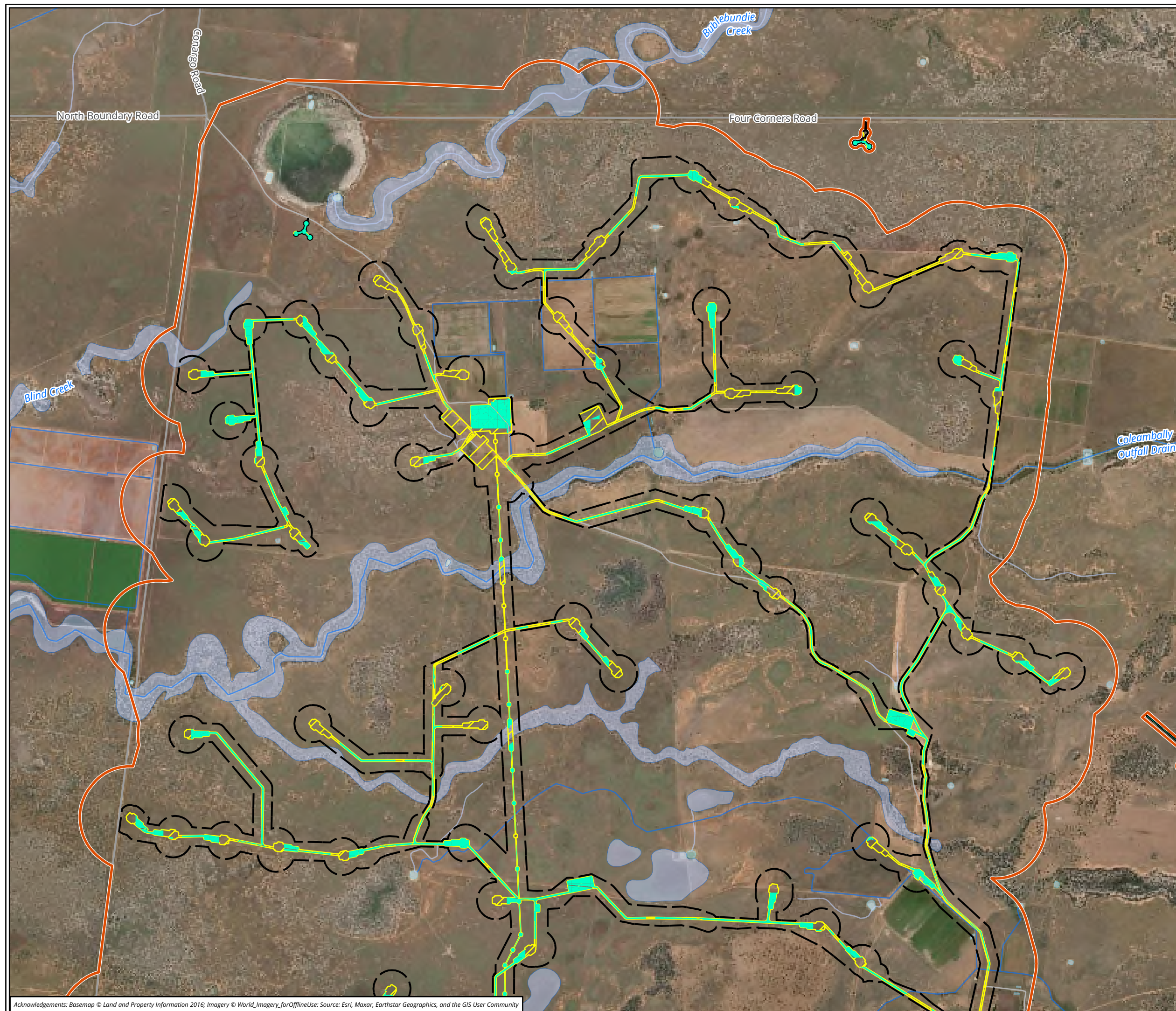
- Legend**
- Subject land
 - Development footprint
 - Development corridor
- Threatened flora species polygon**
- Eucalyptus leucoxylon* subsp. *pruinosa*

Figure 12A Threatened flora species polygon
- *Eucalyptus leucoxylon* subsp. *pruinosa*

0 1
Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona plagiotropis*

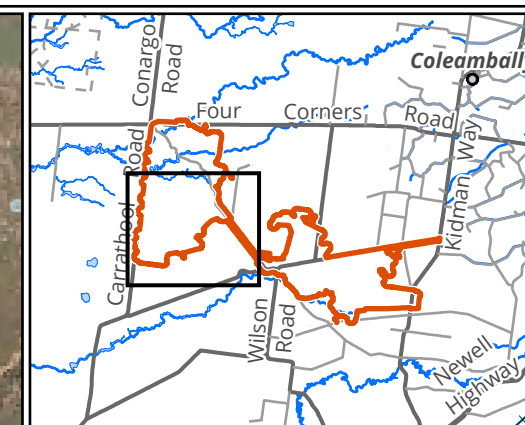
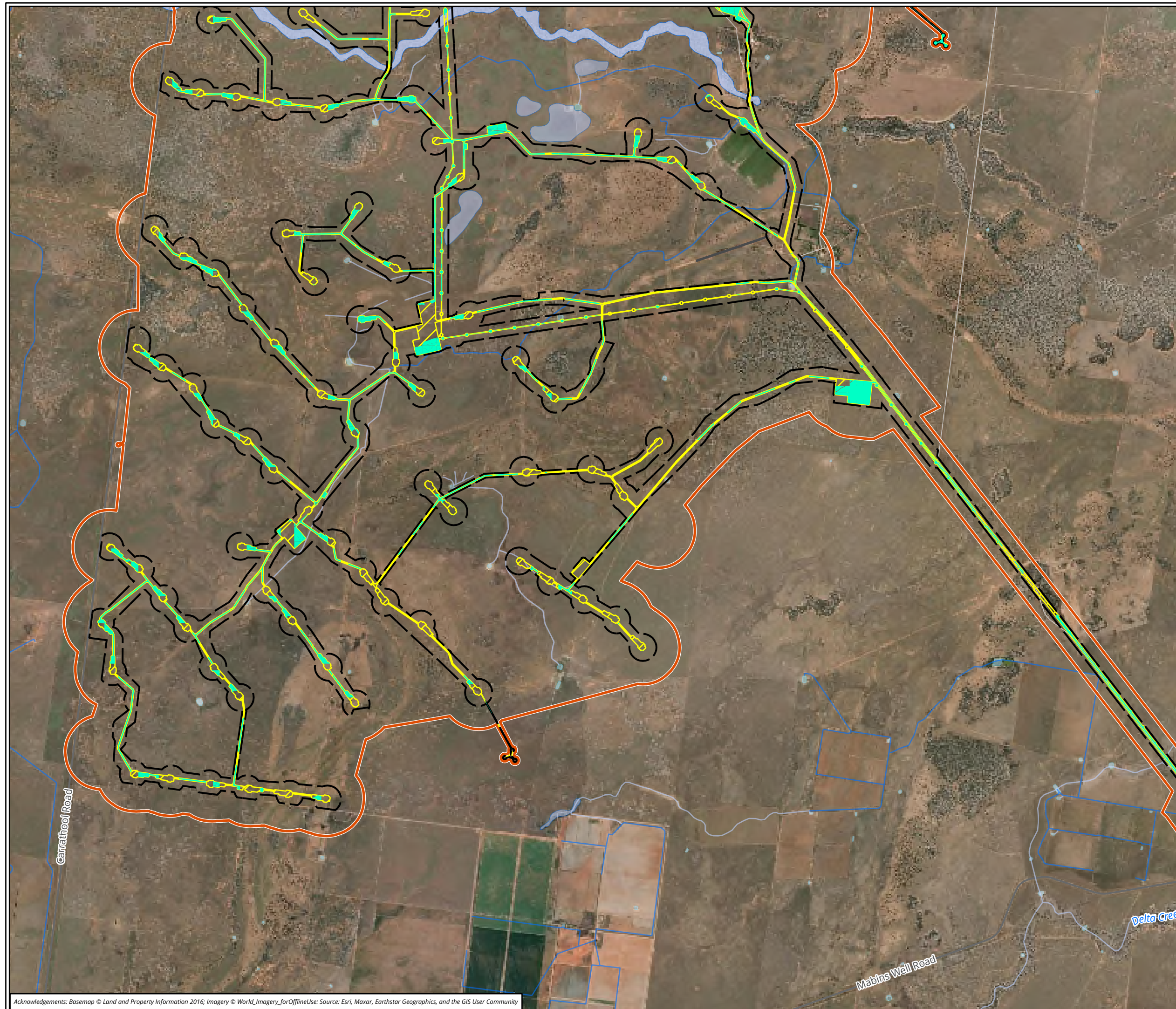
Figure 12A Threatened flora species polygon - *Swainsona plagiotropis*



Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



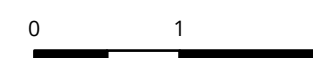
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona plagiotropis*

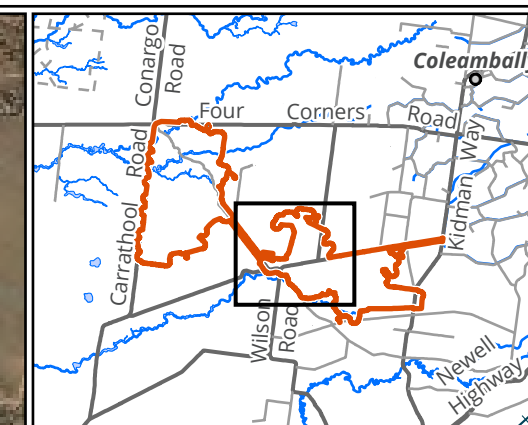
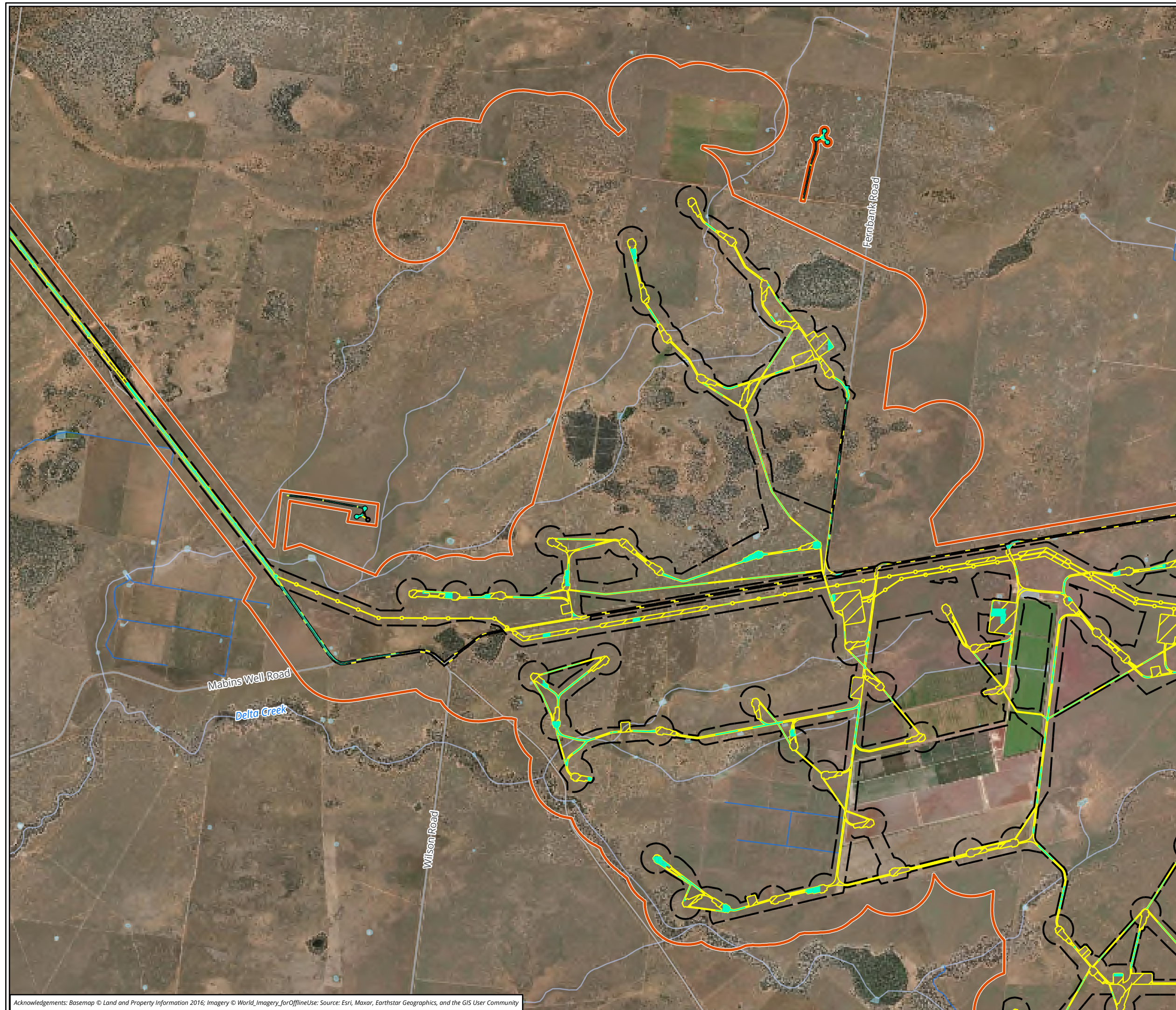
Figure 12A Threatened flora species polygon - *Swainsona plagiotropis*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona plagiotropis*

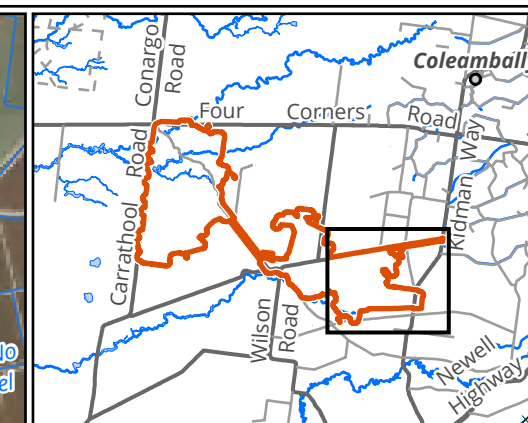
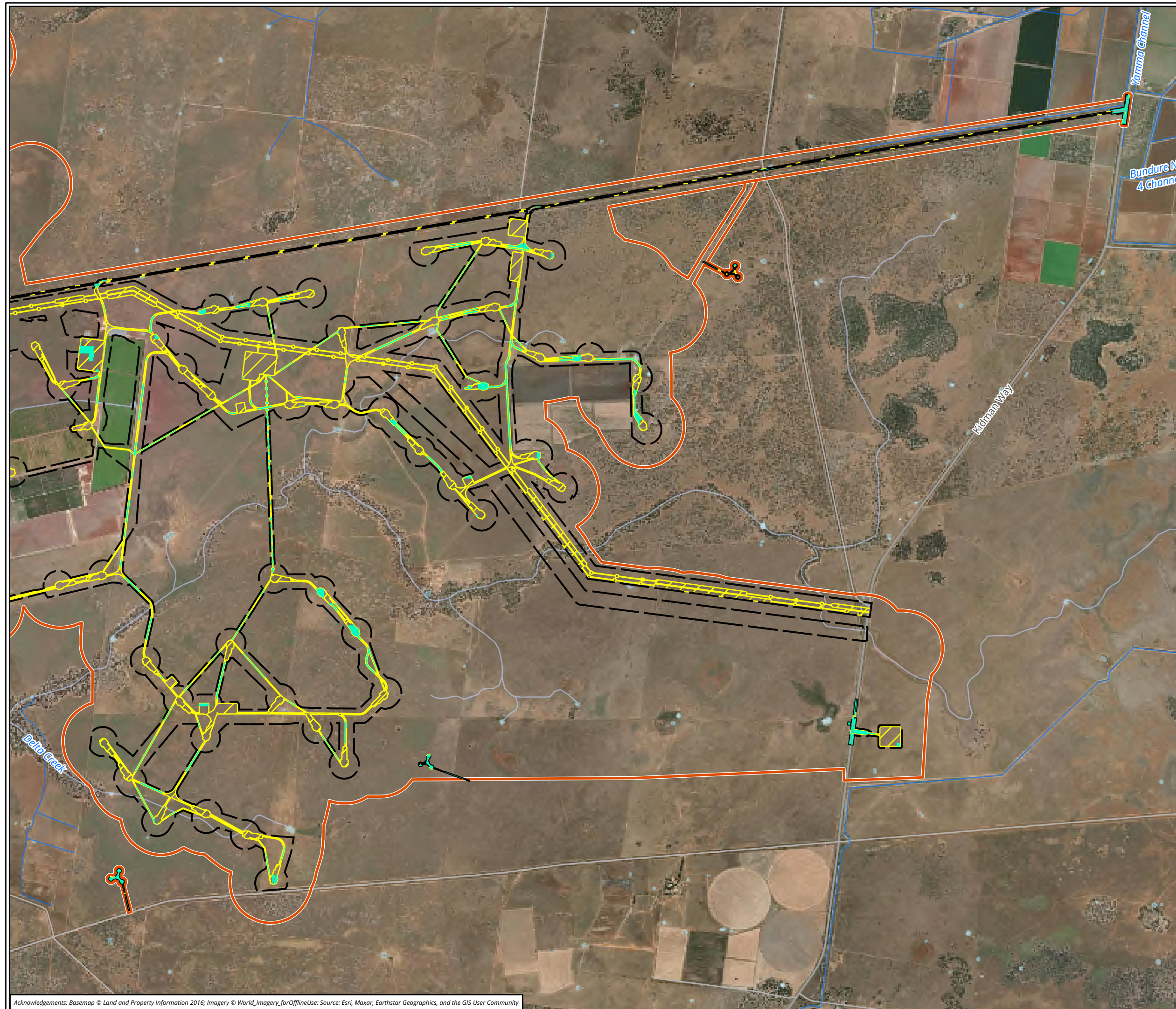
Figure 12A Threatened flora species polygon
- *Swainsona plagiotropis*



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona plagiotropis*

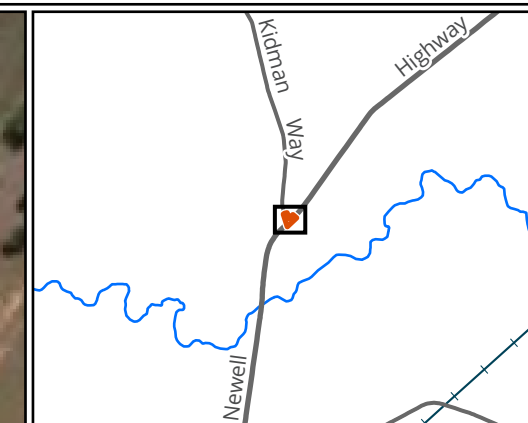
Figure 12A Threatened flora species polygon
- *Swainsona plagiotropis*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona plagiotropis*

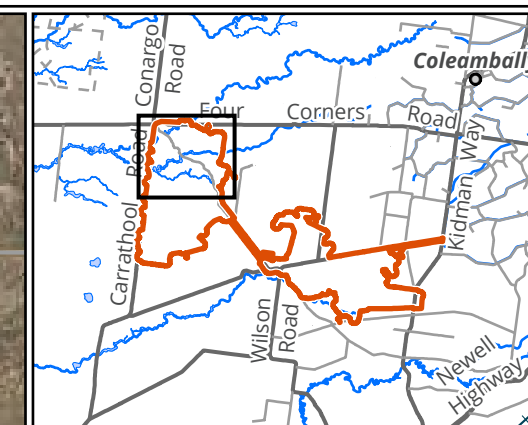
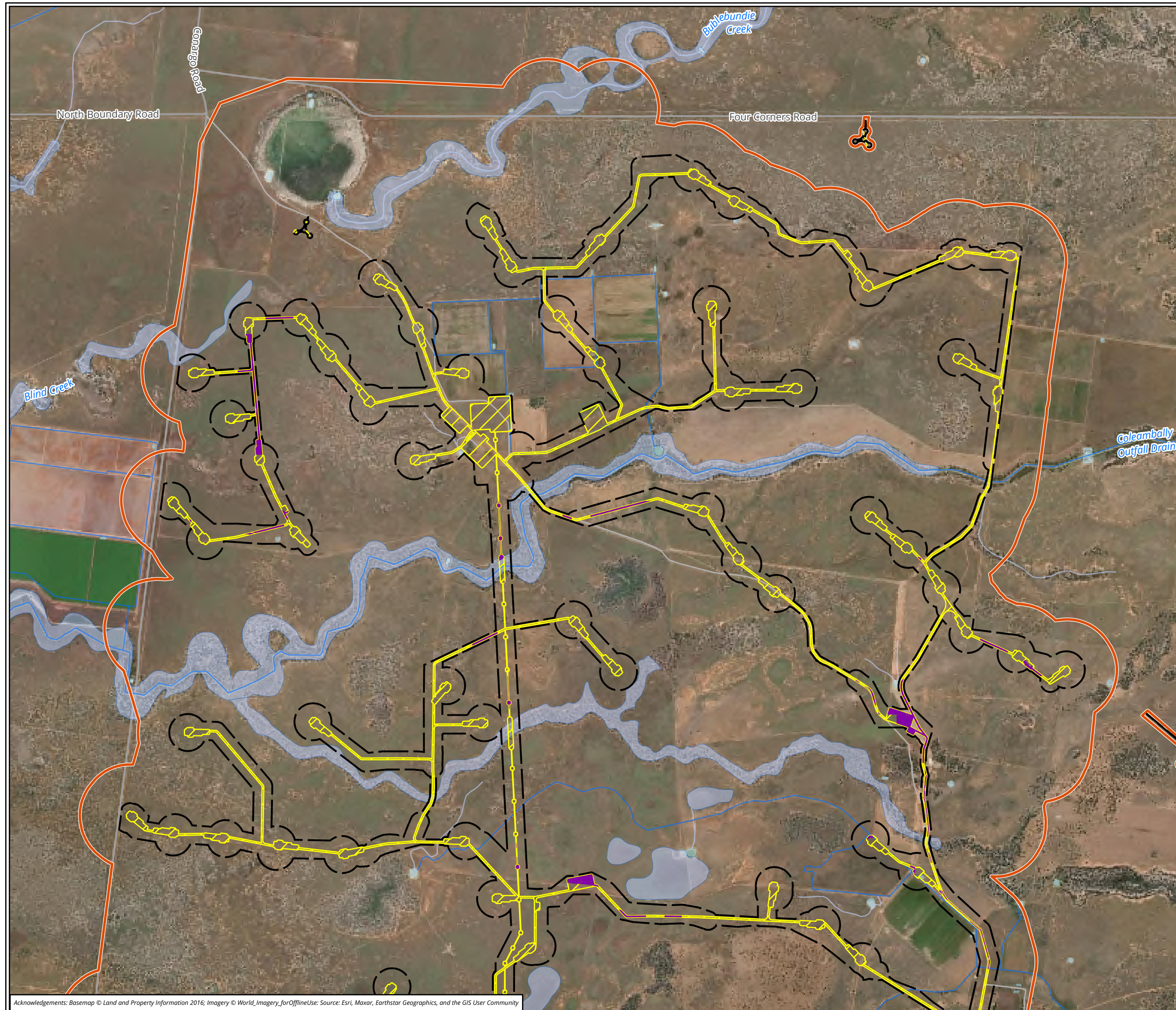
Figure 12A Threatened flora species polygon
- *Swainsona plagiotropis*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome muelleroides*

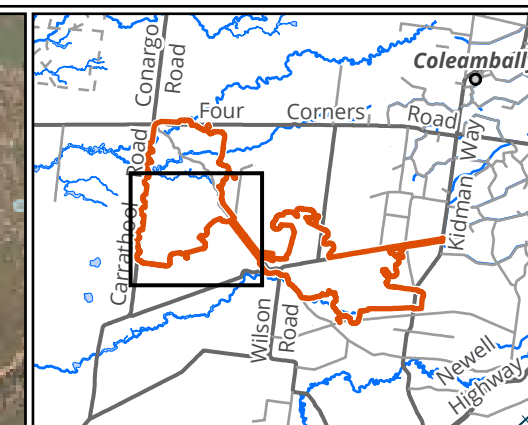
Figure 12A Threatened flora species polygon
- *Brachyscome muelleroides*

0 1

Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



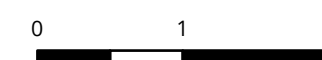
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome muelleroides*

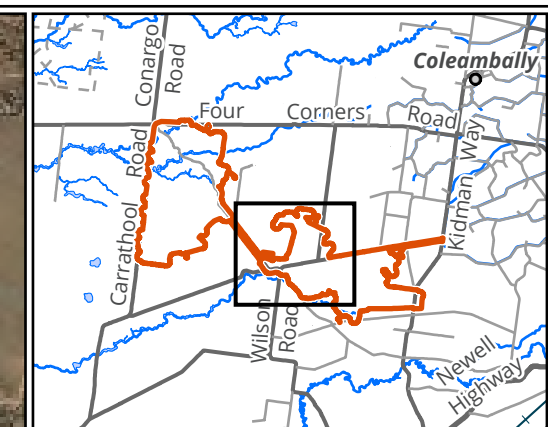
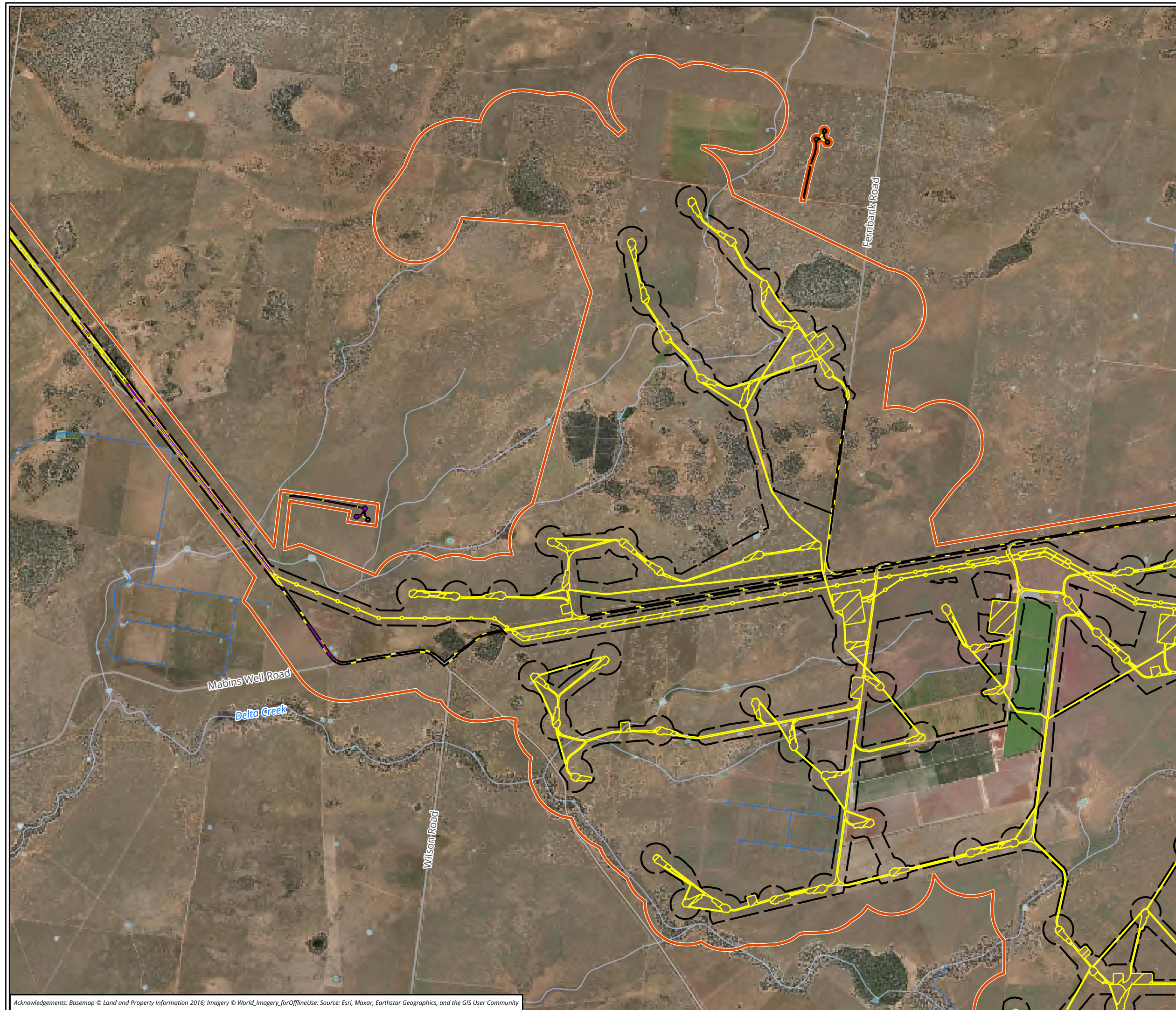
Figure 12A Threatened flora species polygon - *Brachyscome muelleroides*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
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Layout: 37263_Wind_F12A_TSPoly_Flora



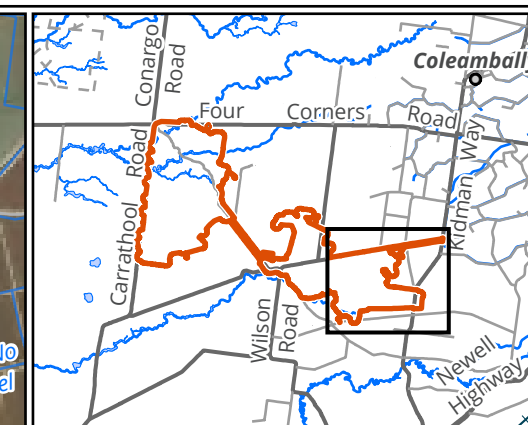
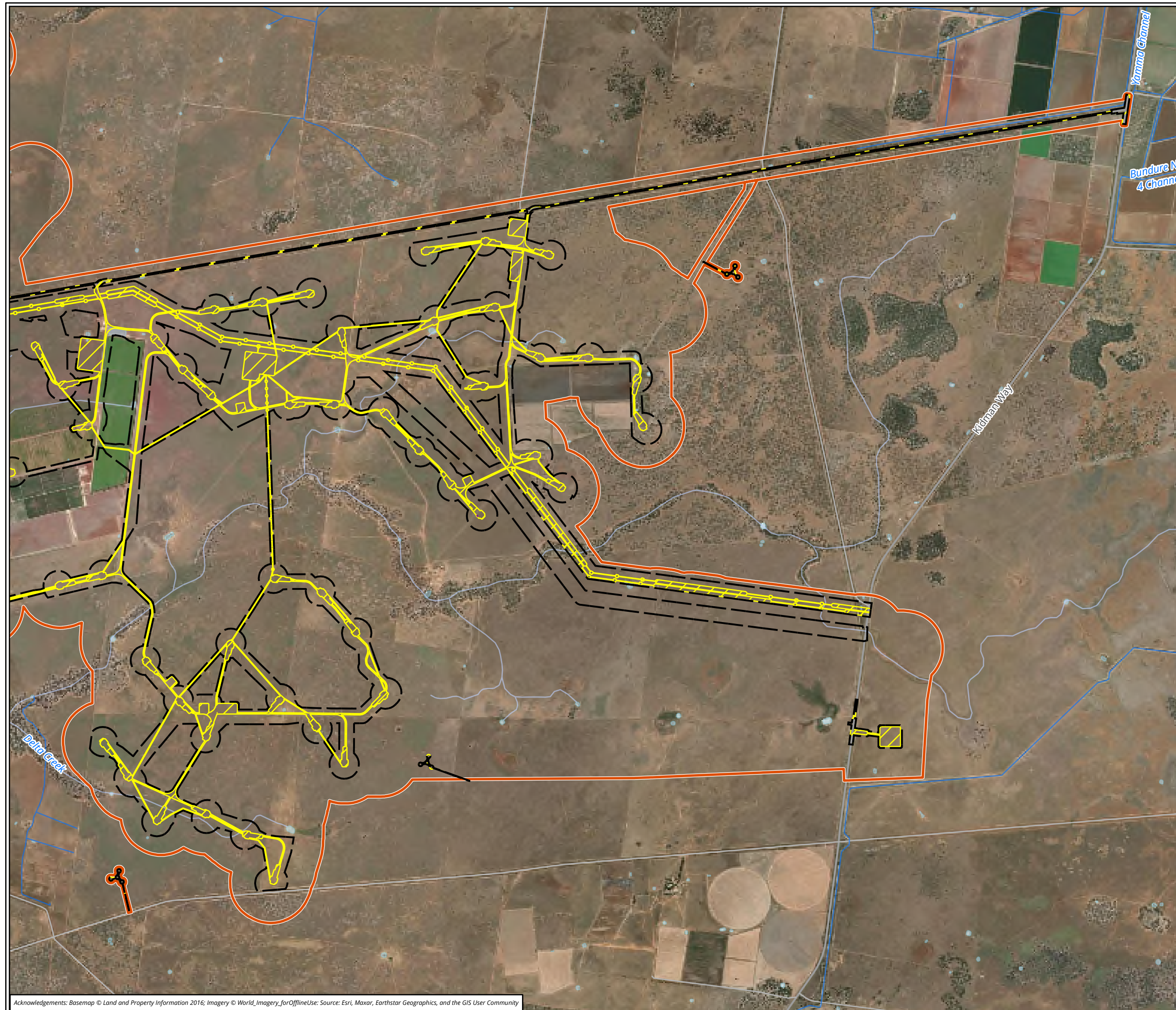
- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Brachyscome muelleroides*

Figure 12A Threatened flora species polygon
- *Brachyscome muelleroides*

0 1
Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome muelleroides*

Figure 12A Threatened flora species polygon
- *Brachyscome muelleroides*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

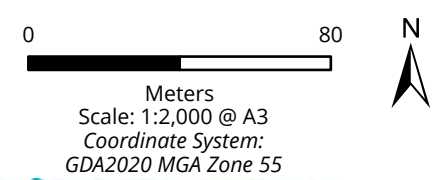


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GIS: JB, Checked by: MP, Last edited by: jbeckius
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Layout: 37263_Wind_F12A_TSPoly_Flora

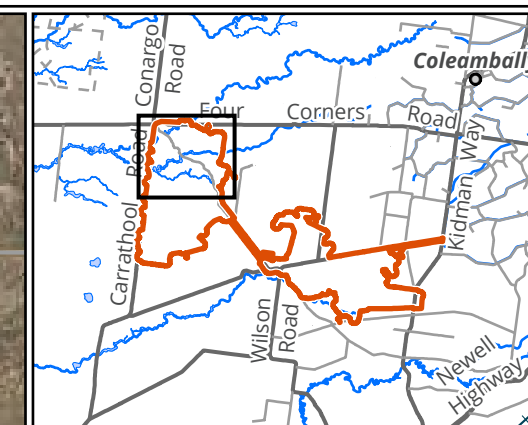
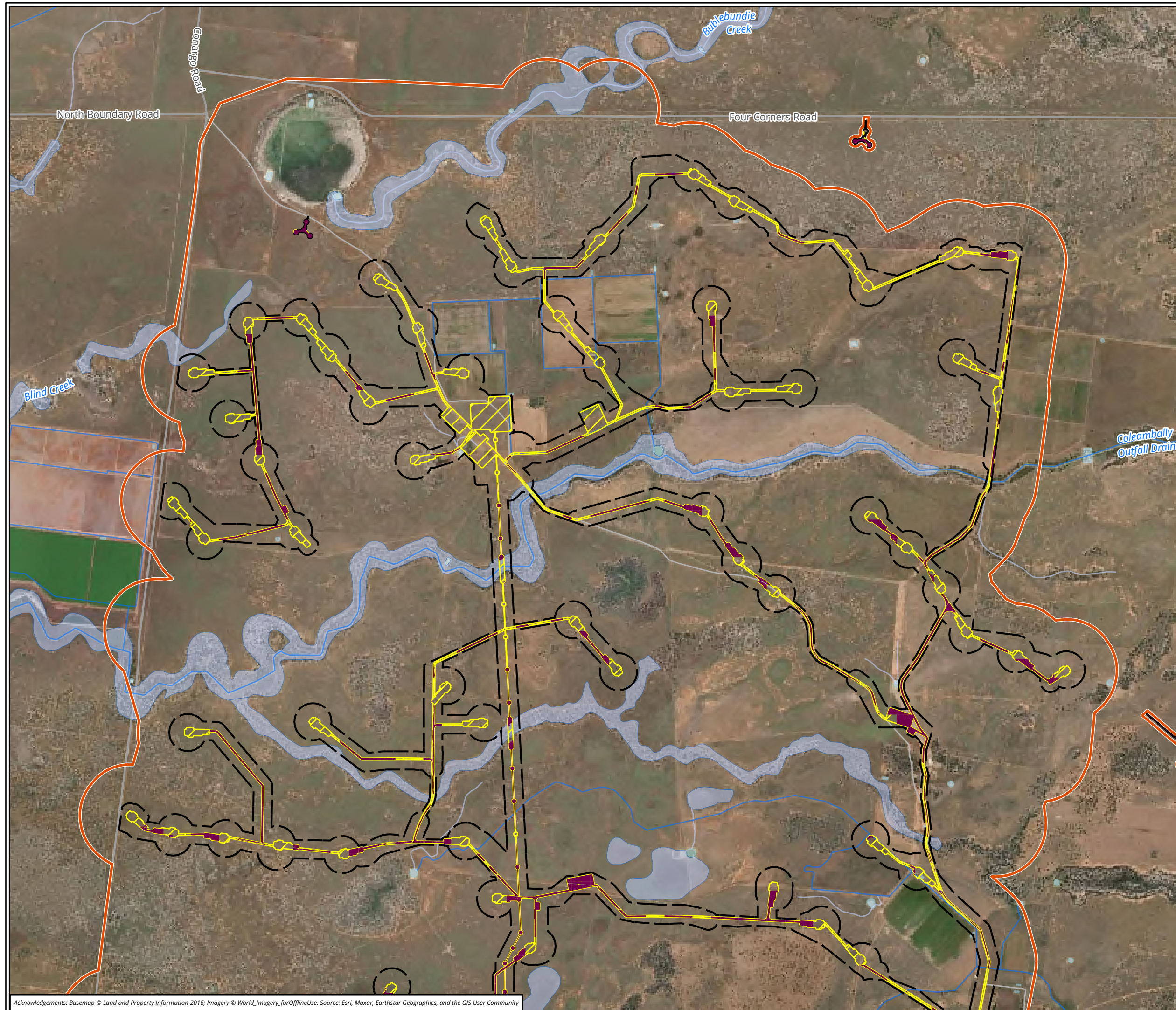


- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Brachyscome muelleroides*

Figure 12A Threatened flora species polygon
- *Brachyscome muelleroides*



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Maireana cheelii*

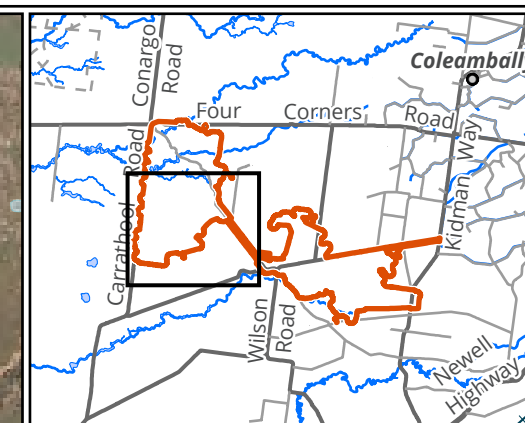
Figure 12A Threatened flora species polygon - *Maireana cheelii*

0 1

Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



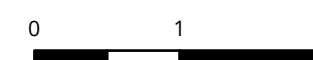
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Maireana cheelii*

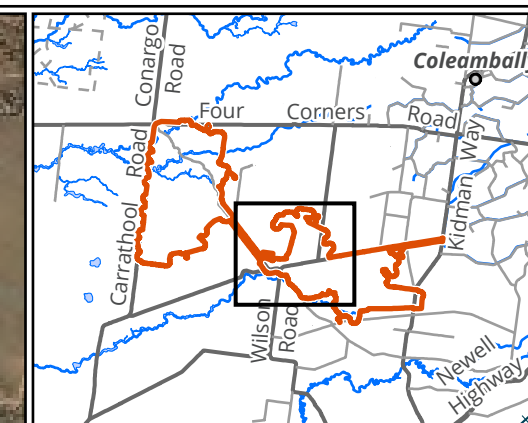
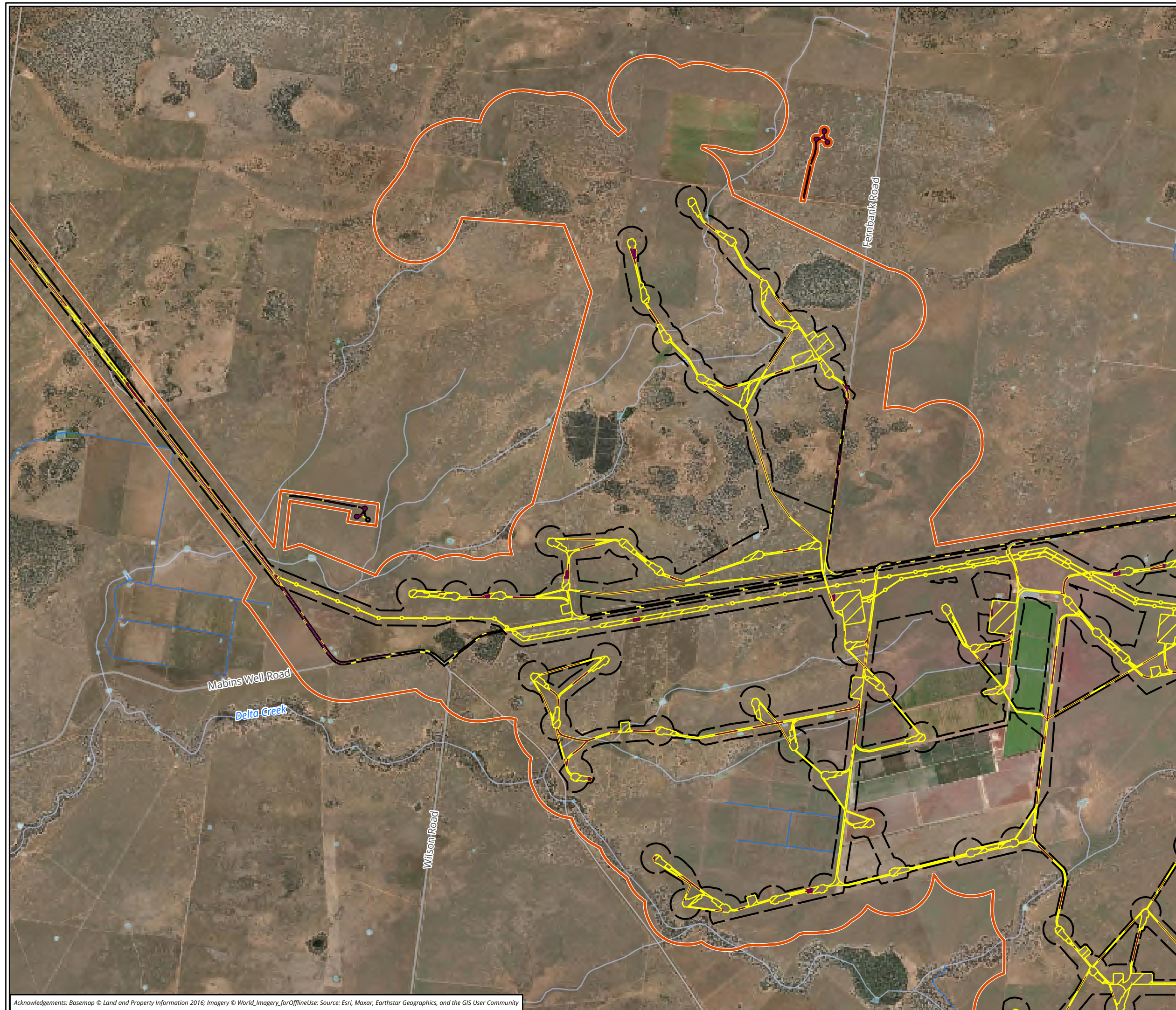
Figure 12A Threatened flora species polygon - *Maireana cheelii*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Maireana cheelii*

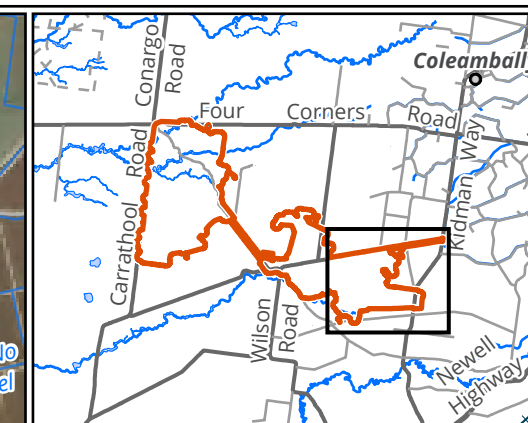
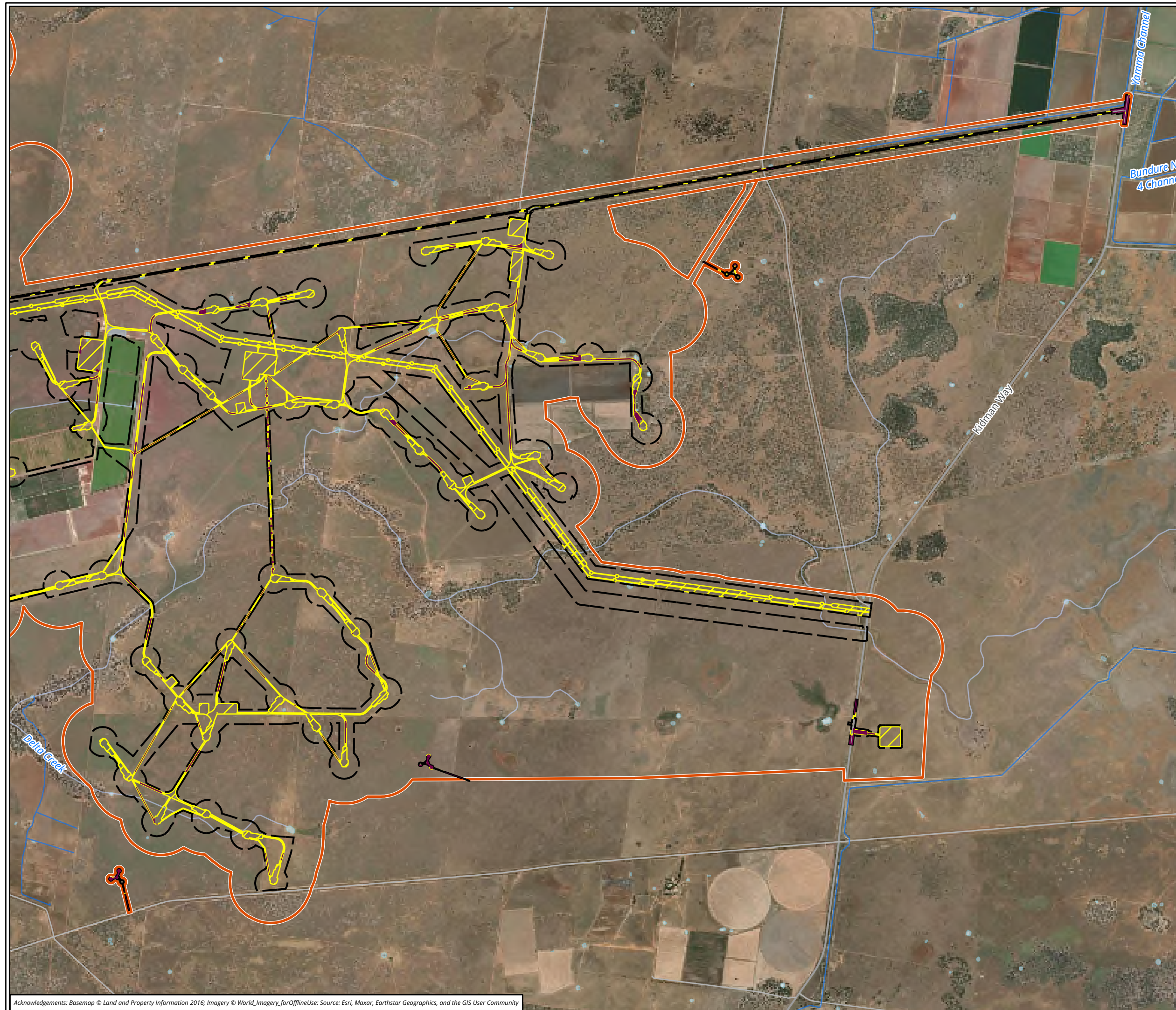
Figure 12A Threatened flora species polygon - *Maireana cheelii*



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Maireana cheelii*

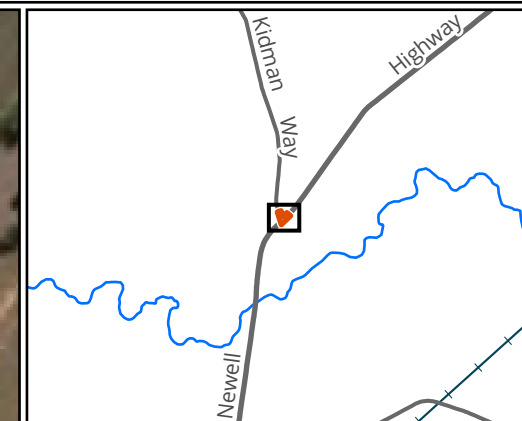
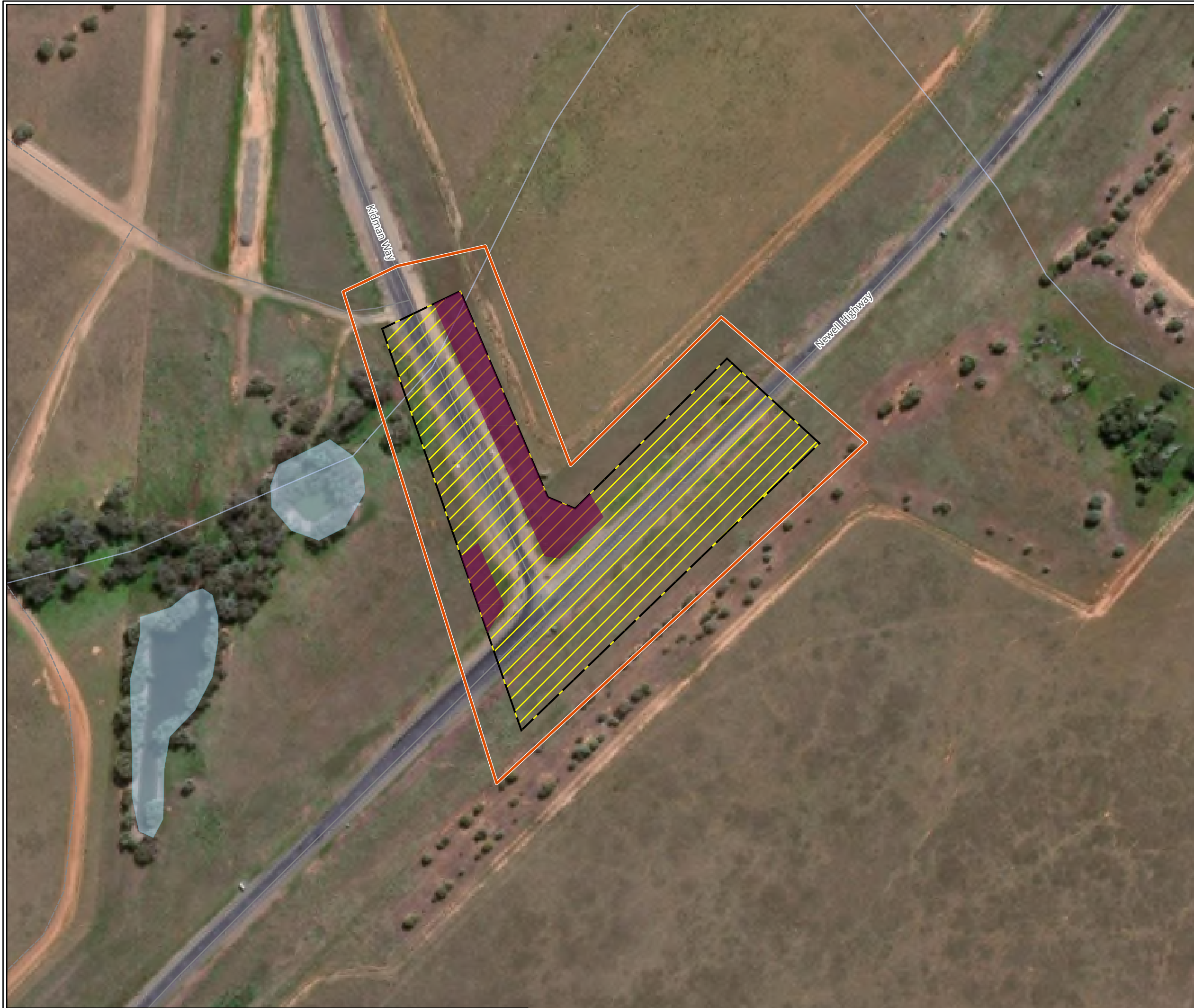
Figure 12A Threatened flora species polygon - *Maireana cheelii*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Maireana cheelii*

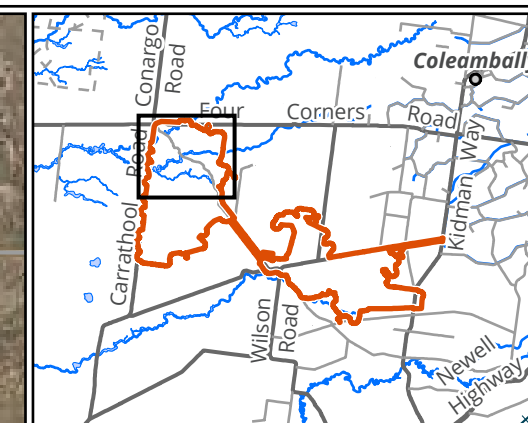
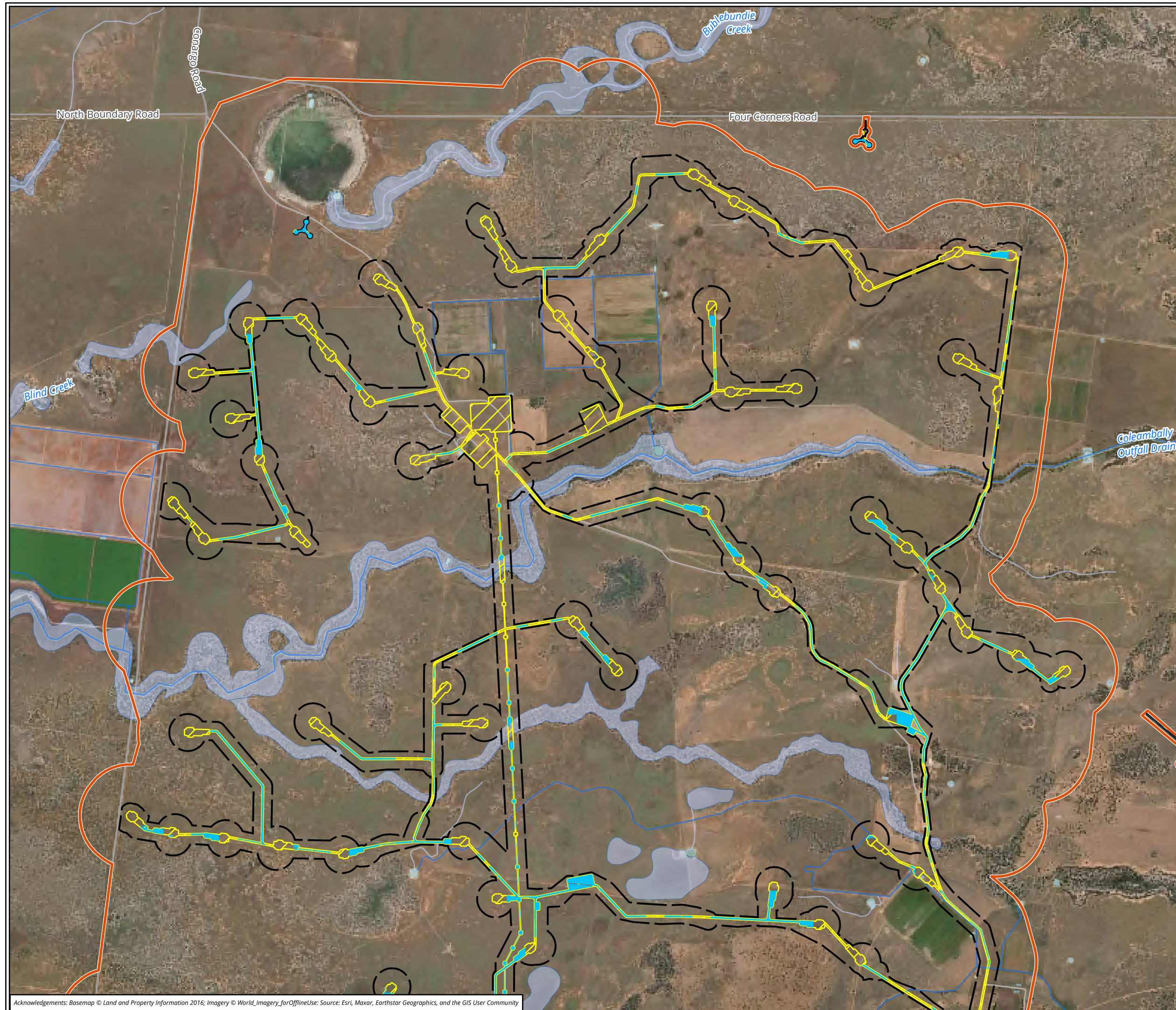
Figure 12A Threatened flora species polygon
- *Maireana cheelii*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Sclerolaena napiformis*

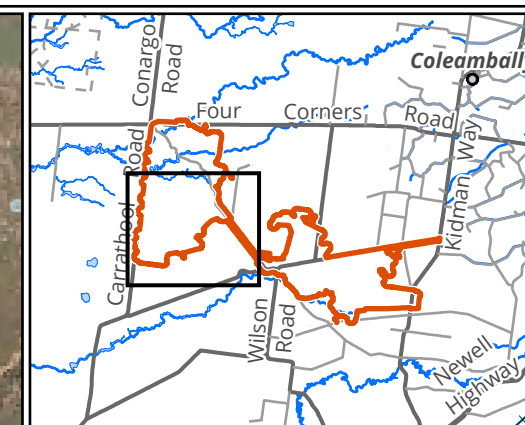
Figure 12A Threatened flora species polygon - *Sclerolaena napiformis*



Kilometers
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



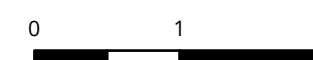
Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Sclerolaena napiformis*

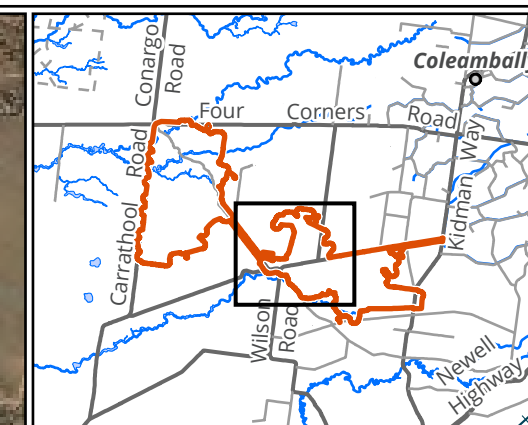
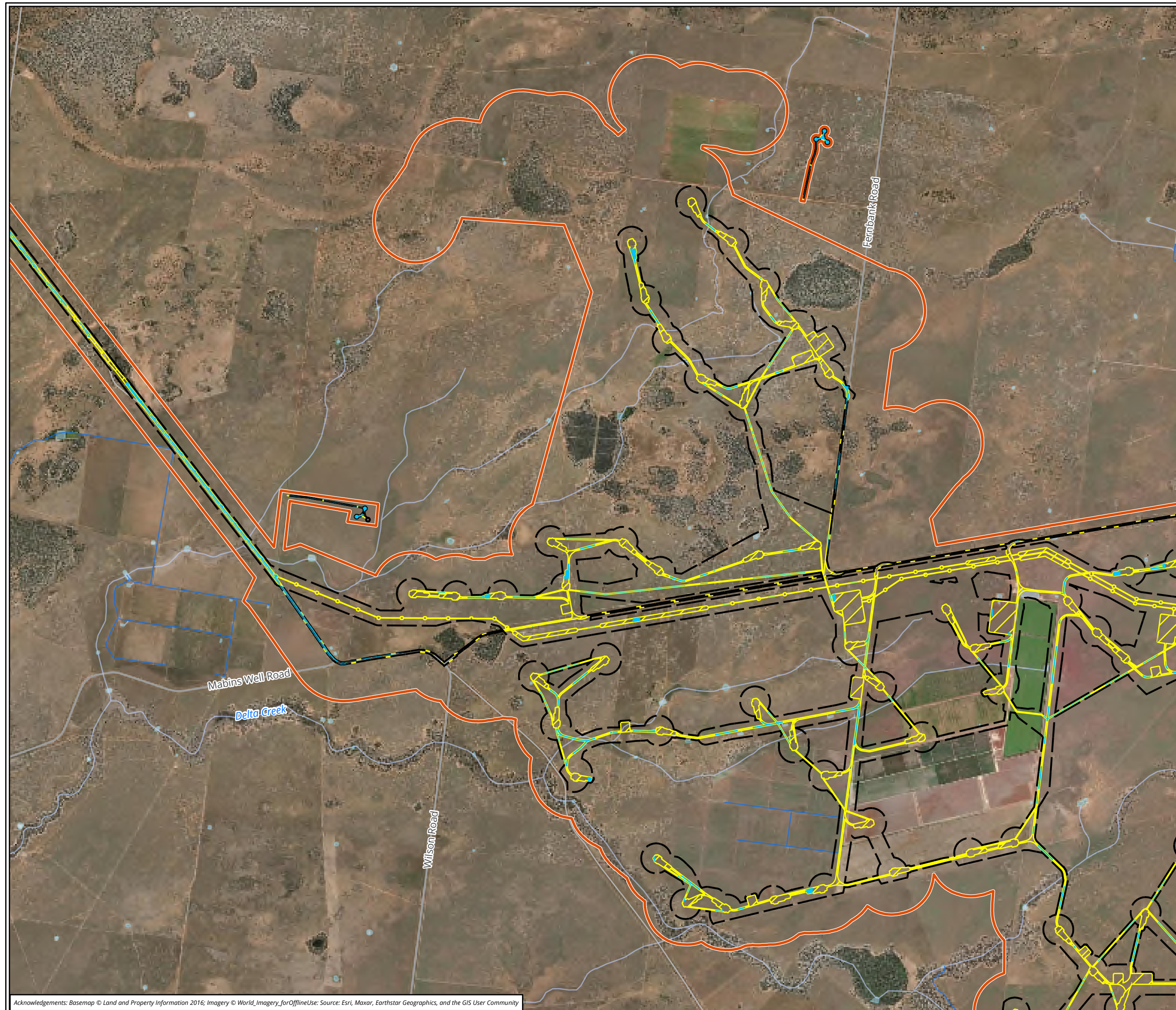
Figure 12A Threatened flora species polygon - *Sclerolaena napiformis*



Kilometers
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Sclerolaena napiformis*

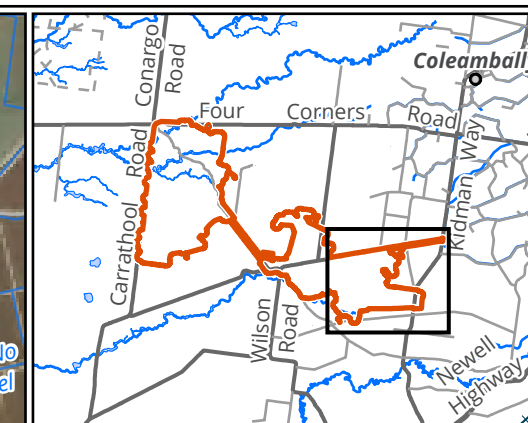
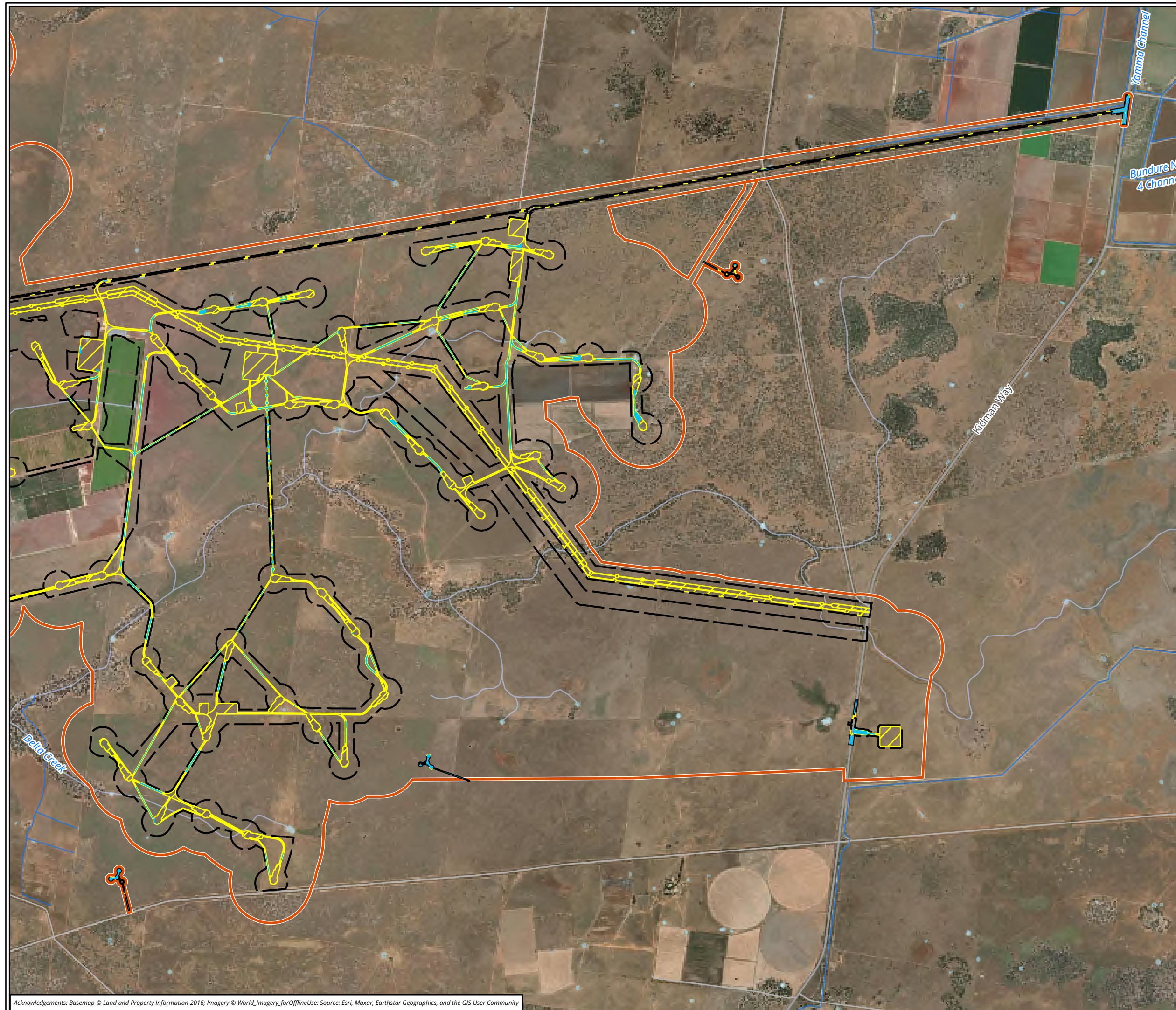
Figure 12A Threatened flora species polygon - *Sclerolaena napiformis*



Kilometers
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Sclerolaena napiformis*

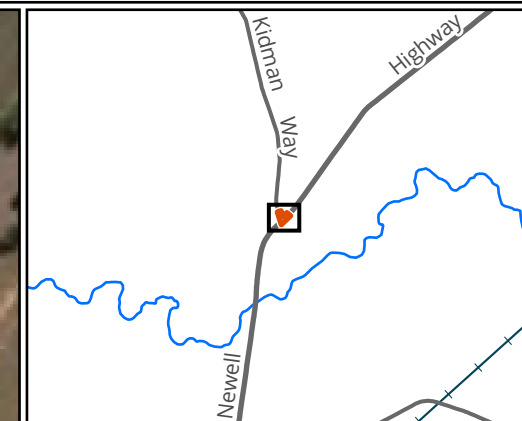
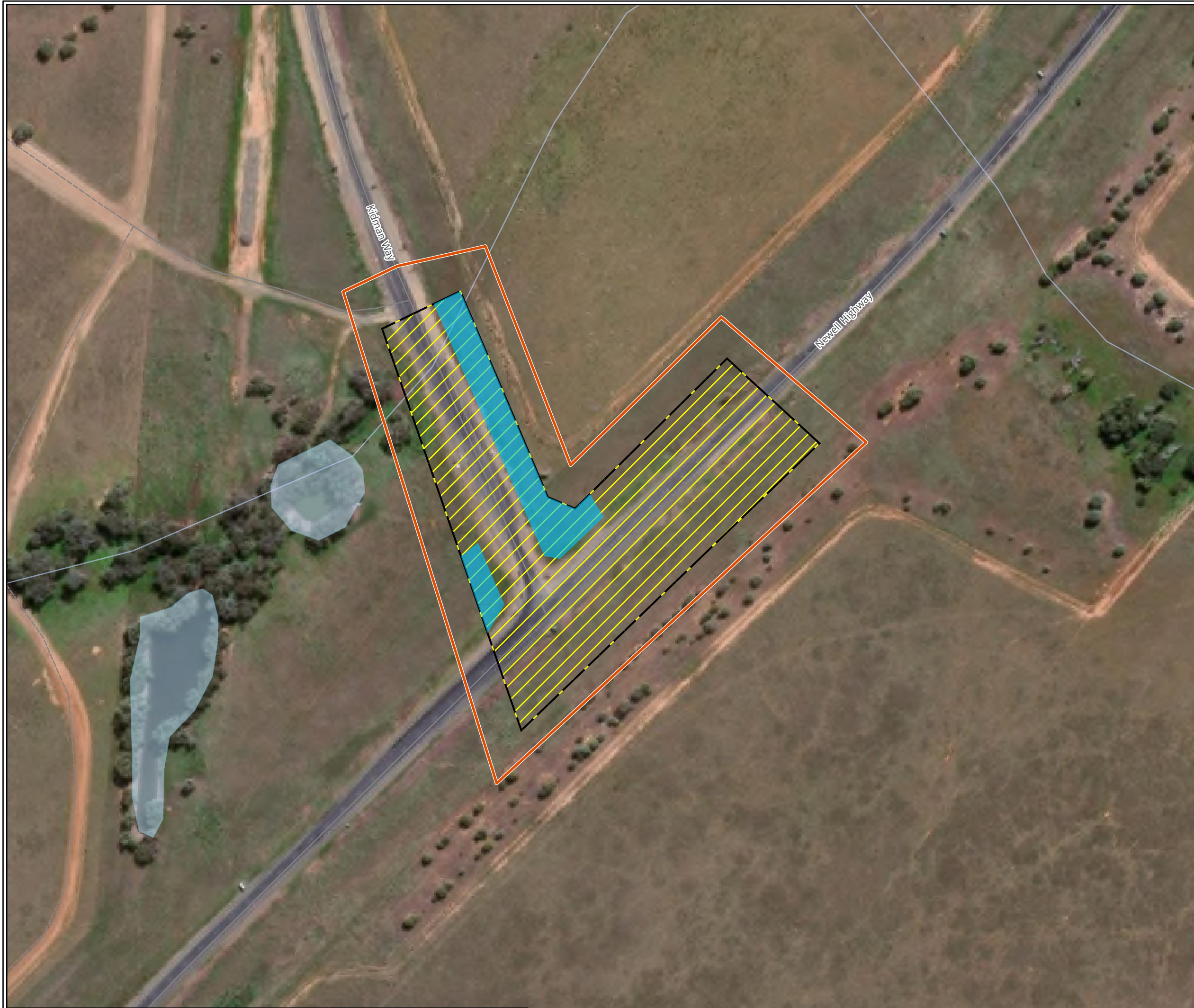
Figure 12A Threatened flora species polygon - *Sclerolaena napiformis*



Kilometers
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Sclerolaena napiformis*

Figure 12A Threatened flora species polygon
- *Sclerolaena napiformis*



Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

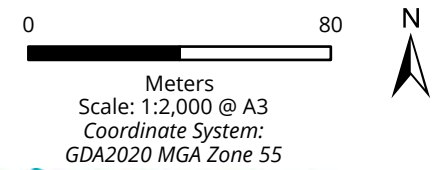


Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell

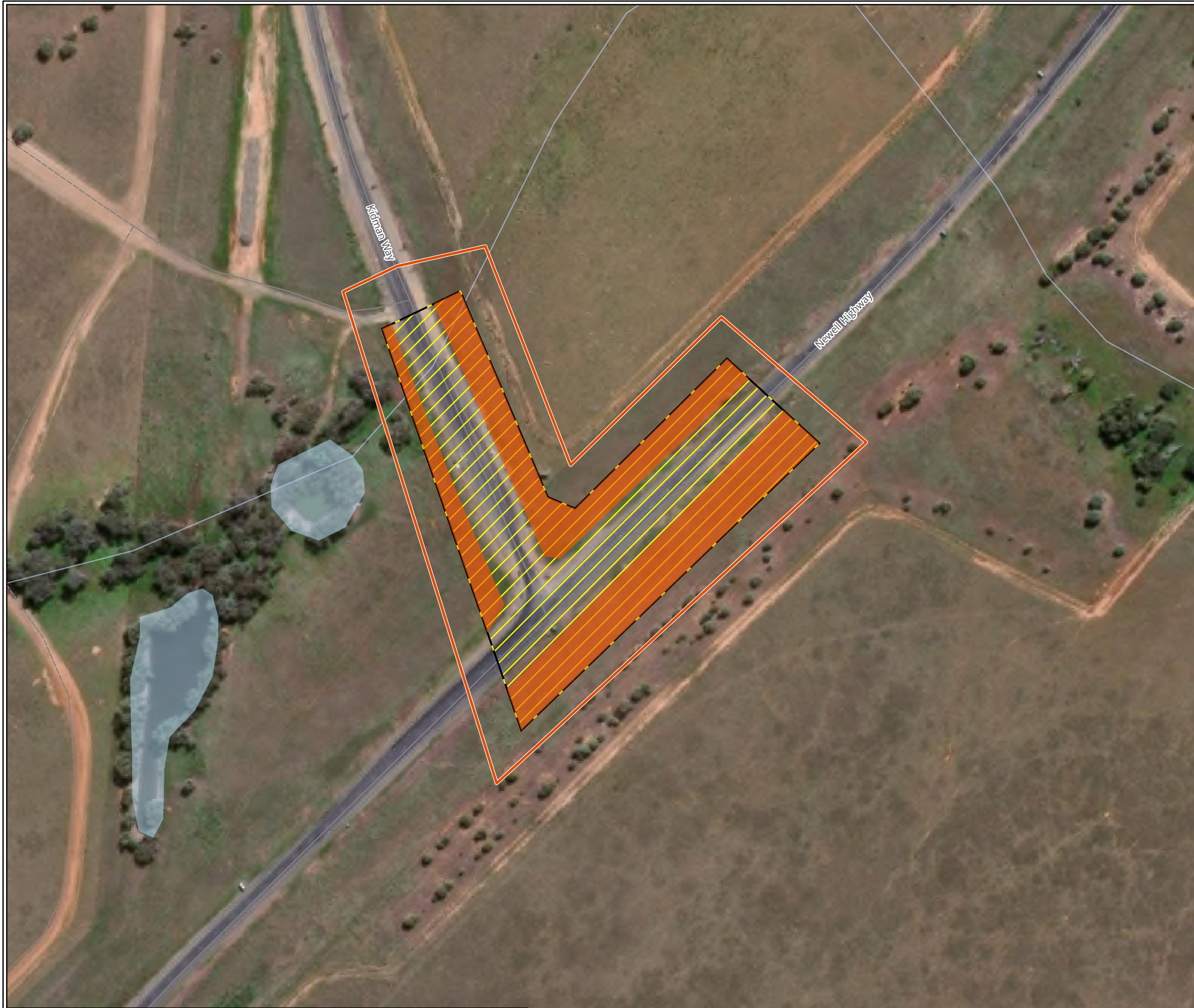


- Legend**
- Subject land
 - Development footprint
 - Development corridor
 - Threatened flora species polygon**
 - Brachyscome muelleroides*

Figure 12A Threatened flora species polygon
- *Brachyscome muelleroides*



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Brachyscome papillosa*

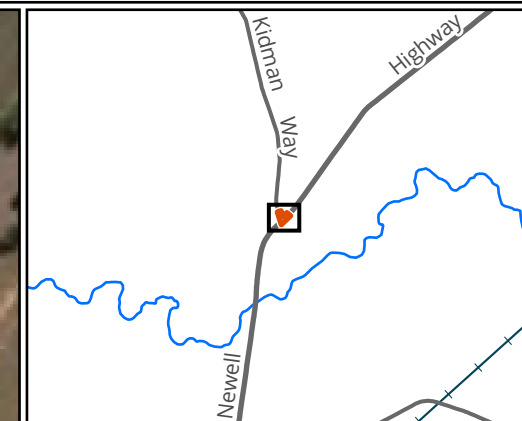
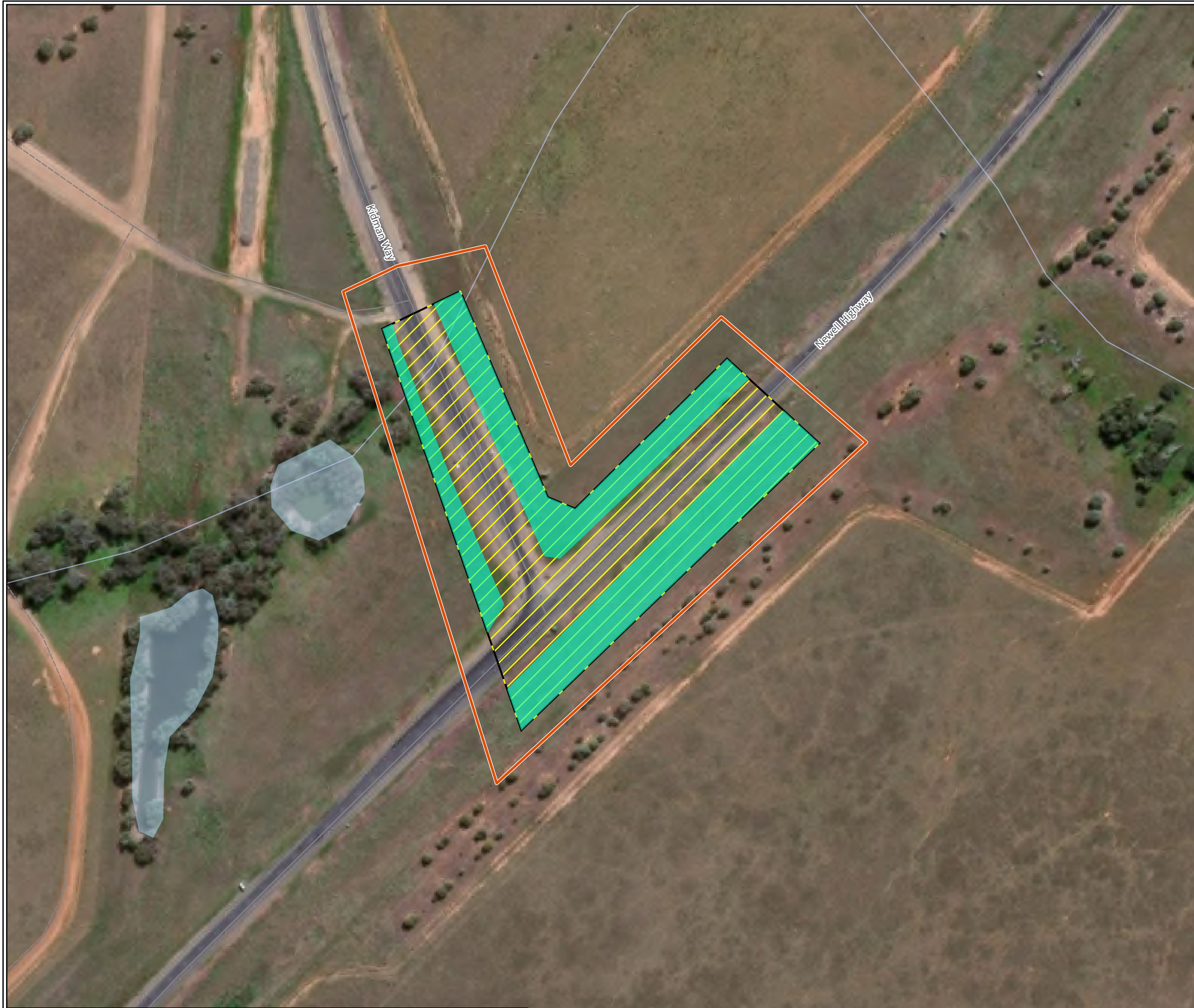
Figure 12A Threatened flora species polygon
- *Brachyscome papillosa*



Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Leptorhynchos orientalis*

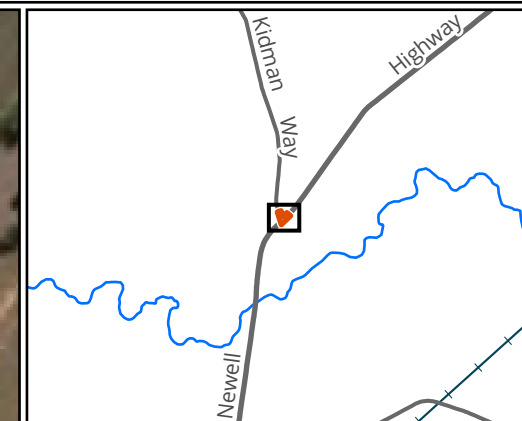
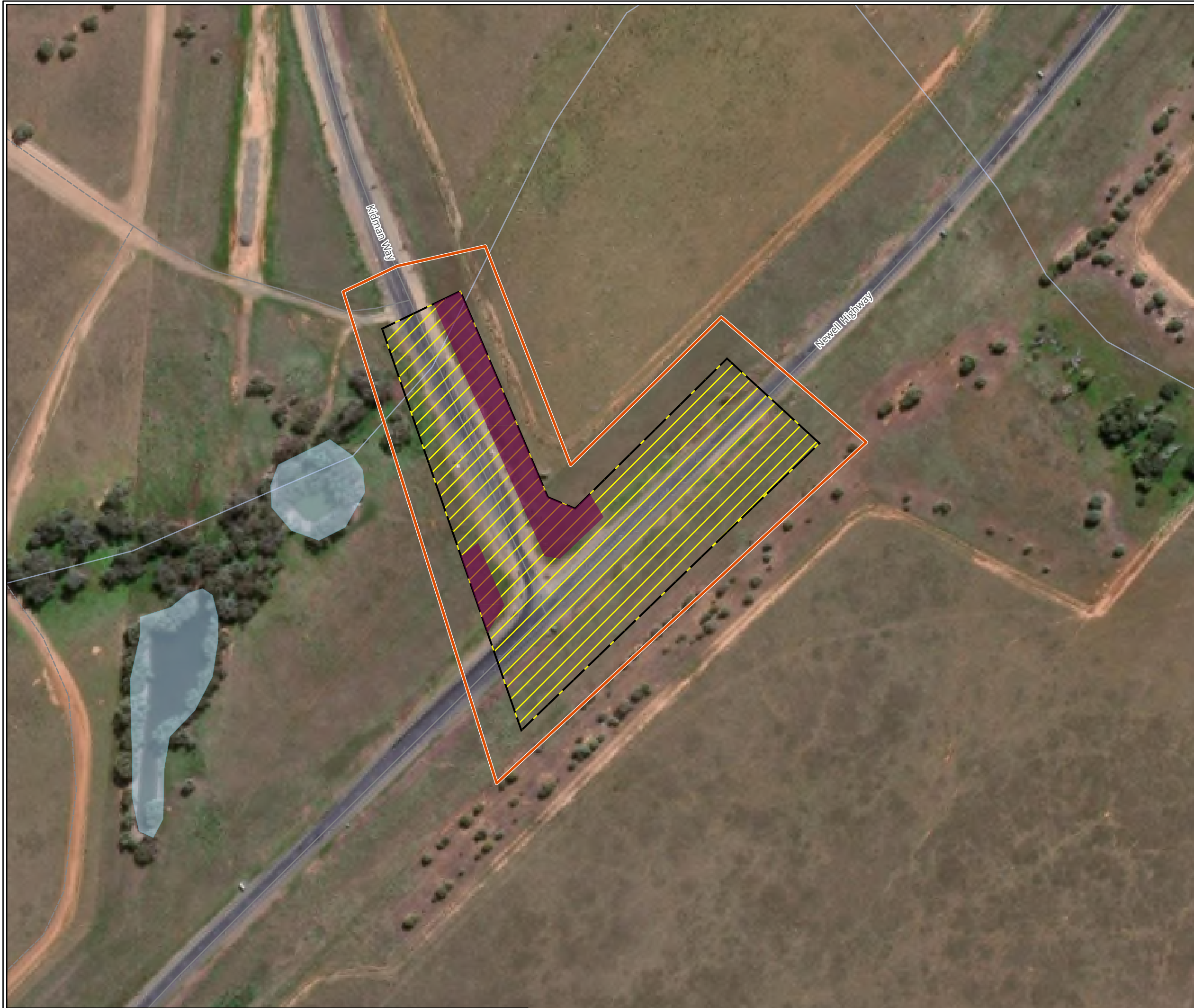
Figure 12A Threatened flora species polygon
- *Leptorhynchos orientalis*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Maireana cheelii*

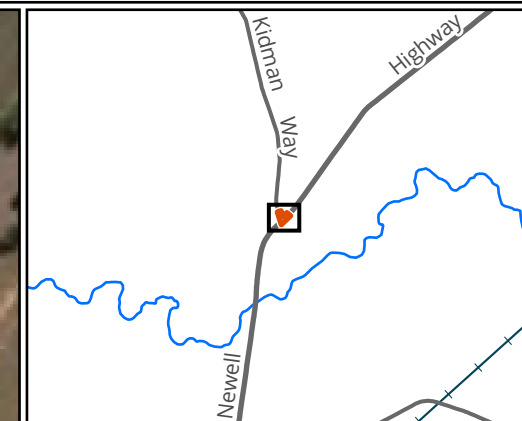
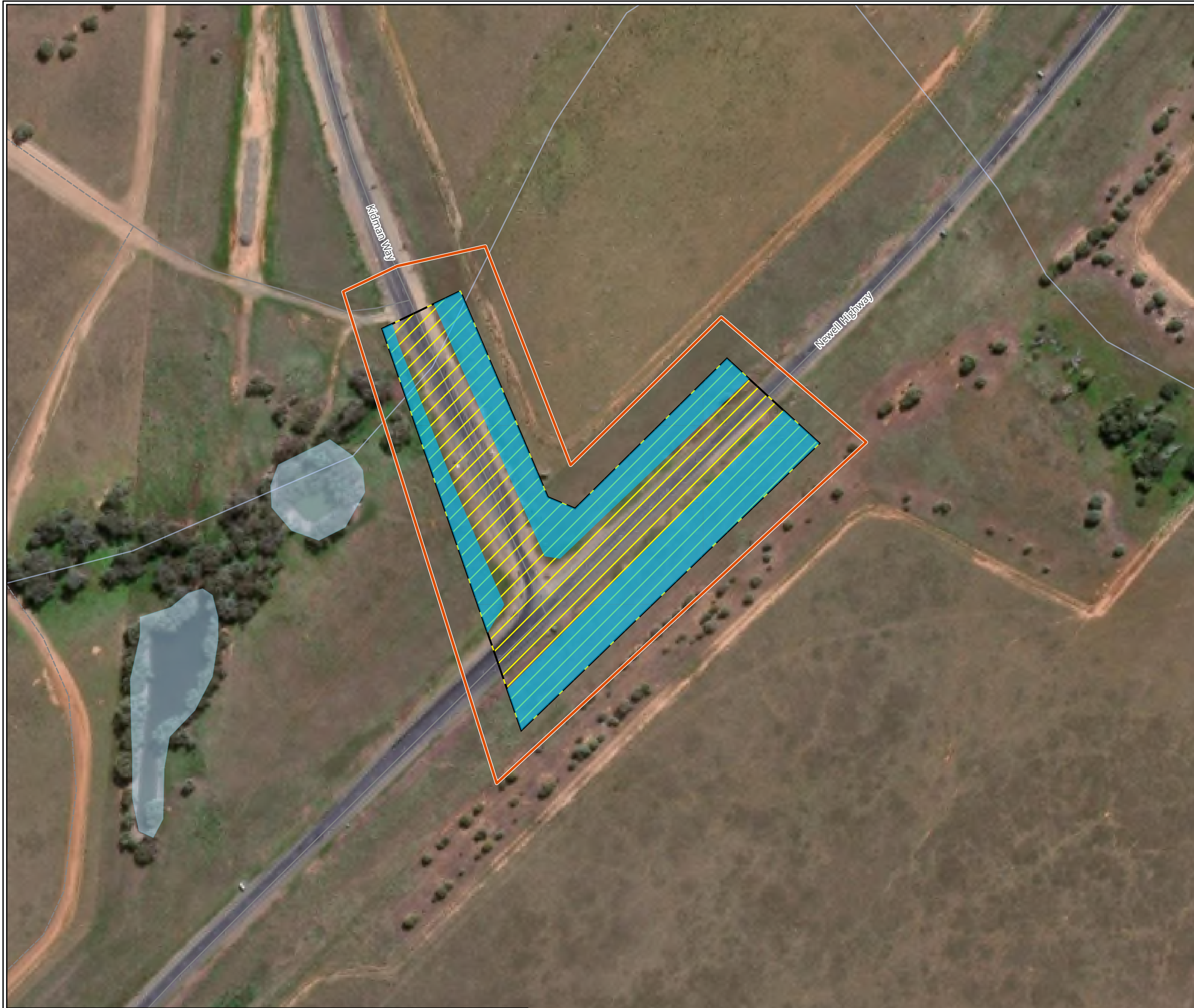
Figure 12A Threatened flora species polygon
- *Maireana cheelii*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Pilularia novae-hollandiae*

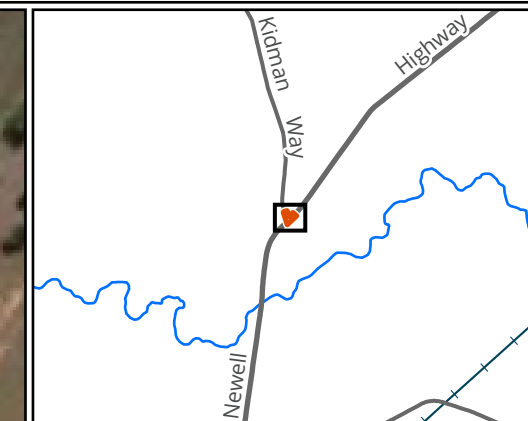
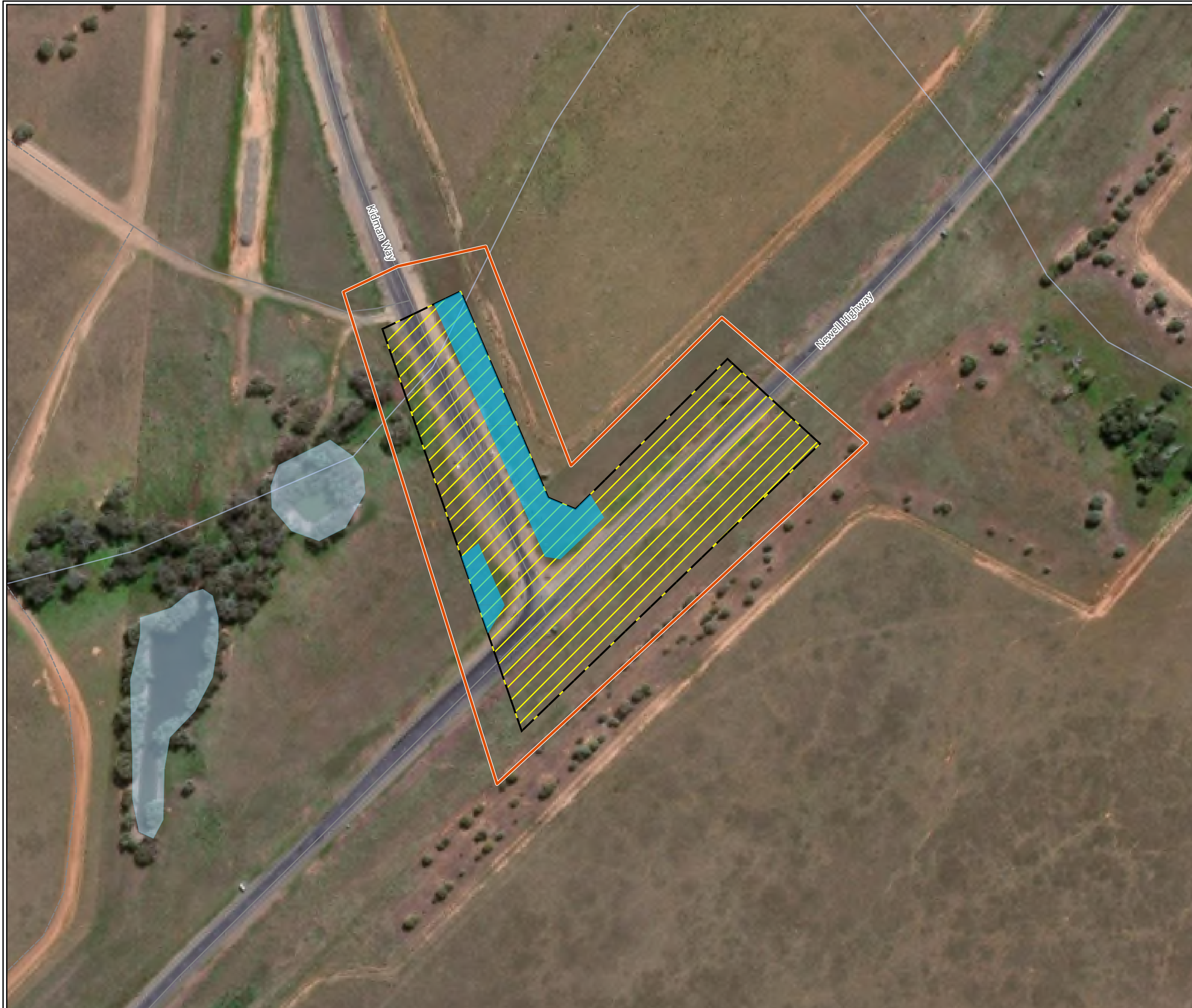
Figure 12A Threatened flora species polygon
- *Pilularia novae-hollandiae*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
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Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Sclerolaena napiformis*

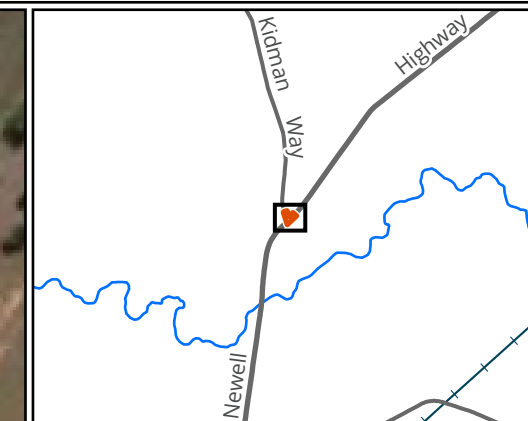
Figure 12A Threatened flora species polygon
- *Sclerolaena napiformis*



Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona murrayana*
(assumed presence)

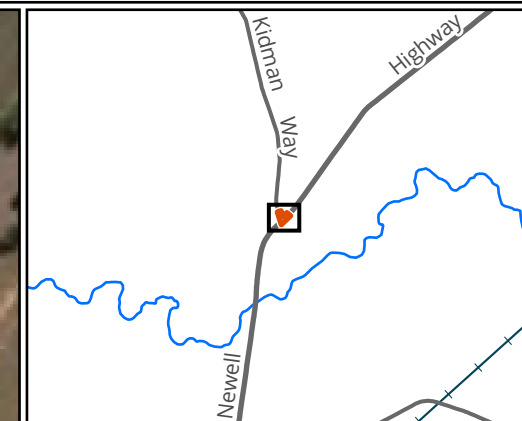
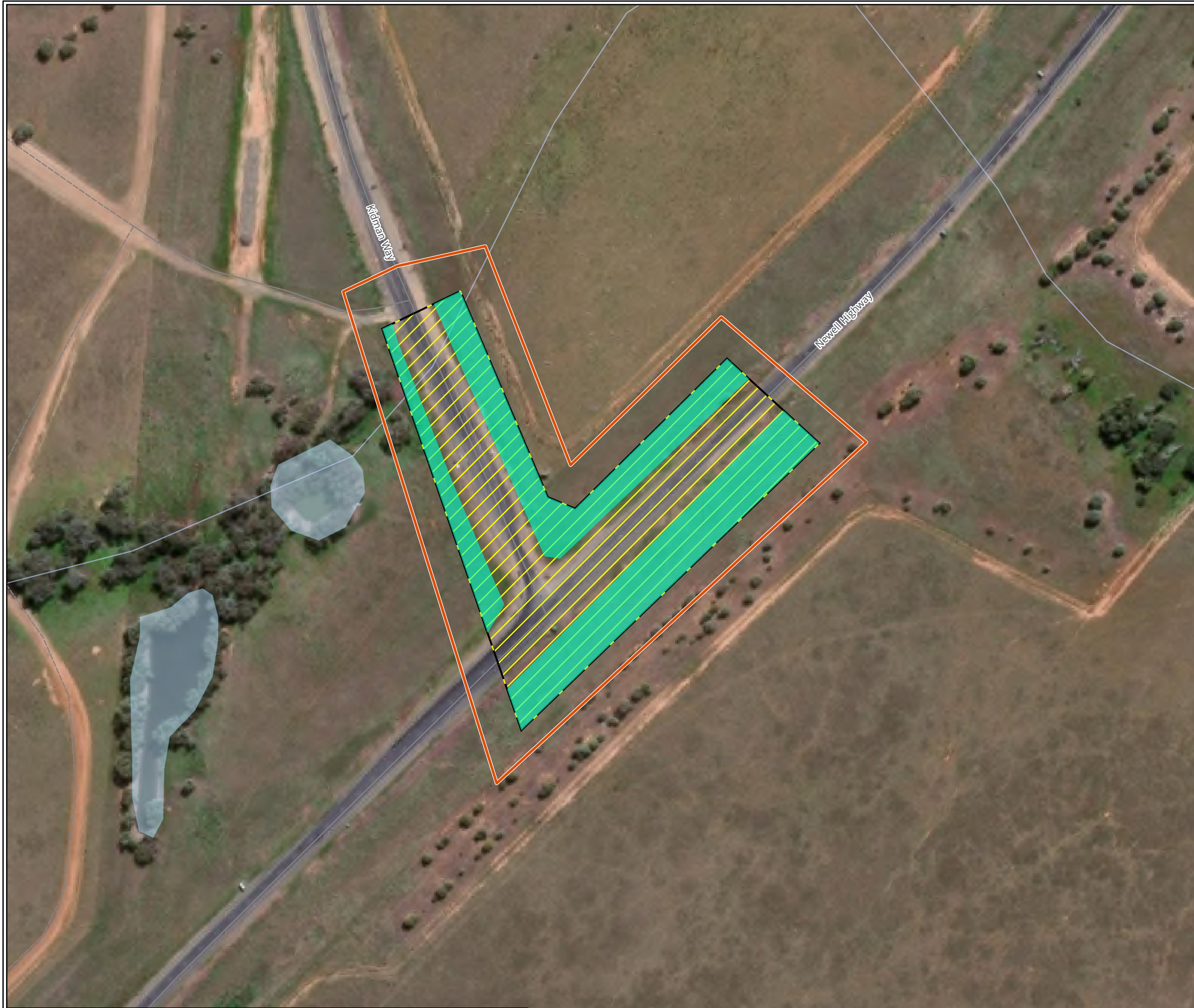
**Figure 12A Threatened flora
species polygon
- *Swainsona murrayana***

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona plagiotropis*

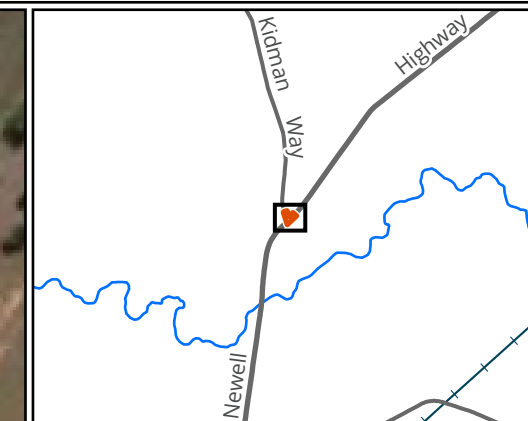
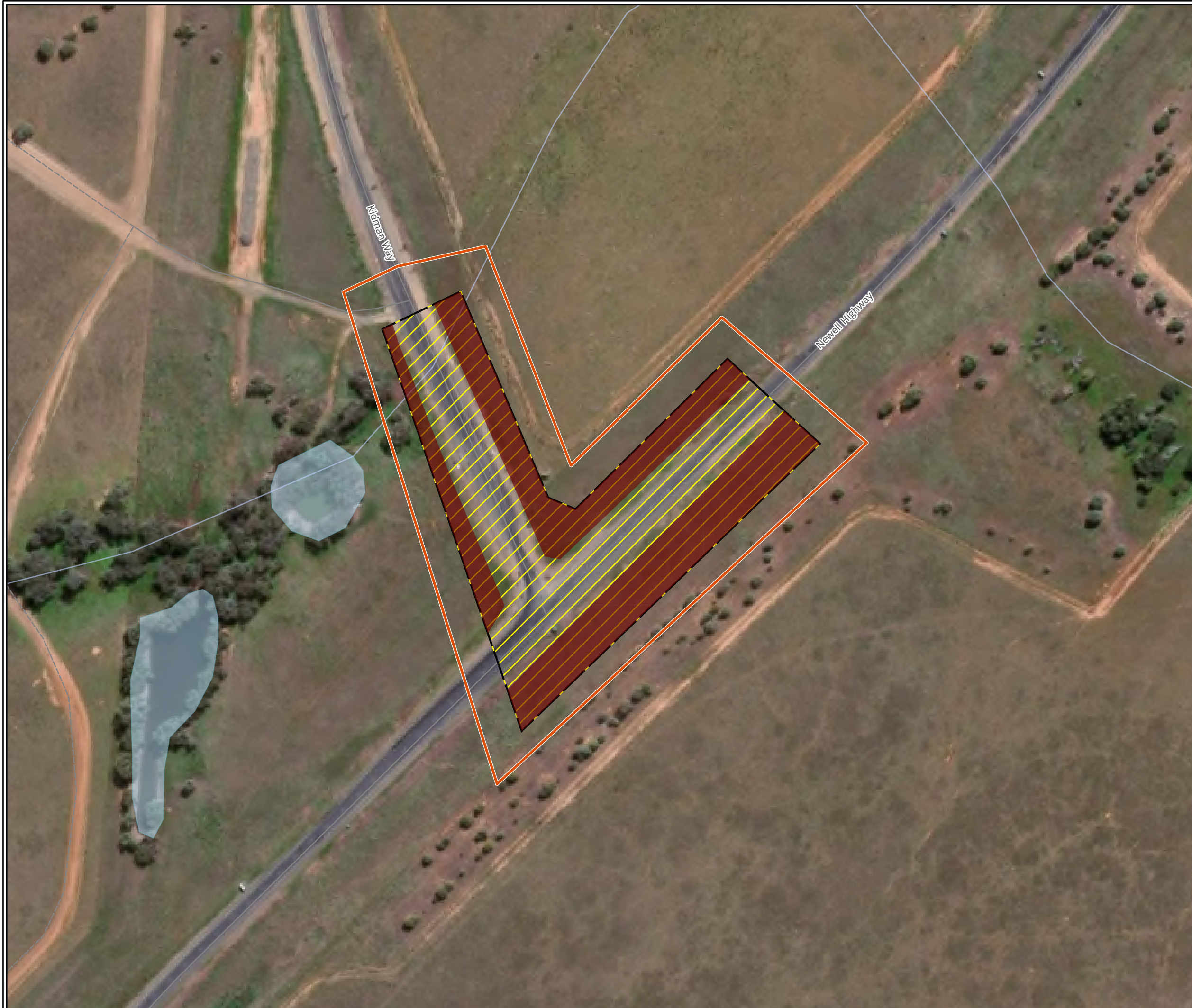
Figure 12A Threatened flora species polygon
- *Swainsona plagiotropis*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



Legend

- Subject land
- Development footprint
- Development corridor

Threatened flora species polygon

- Swainsona sericea* (assumed presence)

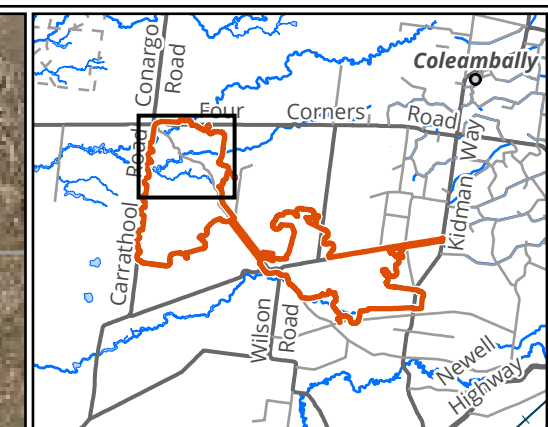
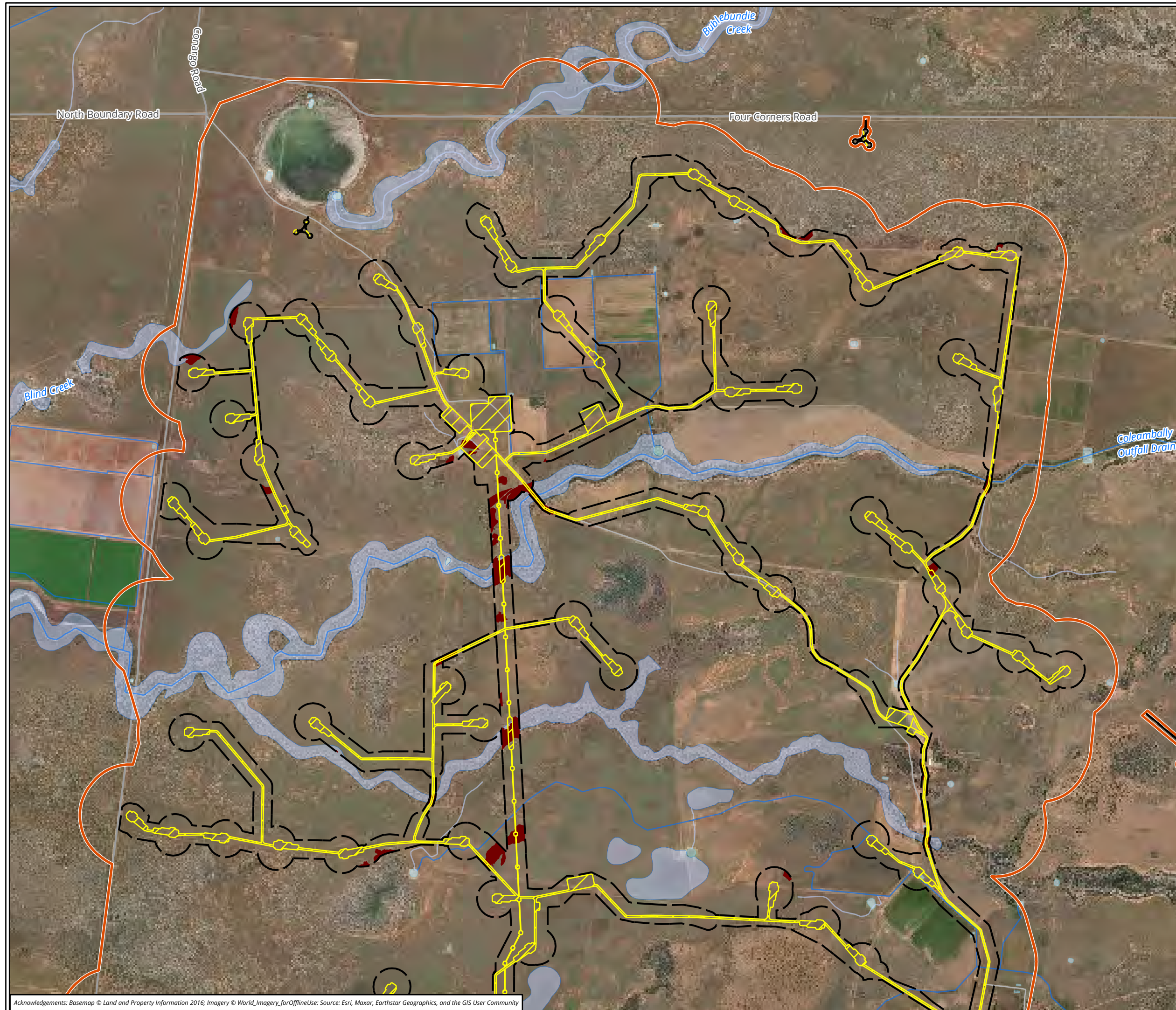
Figure 12A Threatened flora species polygon
- *Swainsona sericea*

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 09 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12A_TSPoly_Flora_Newell



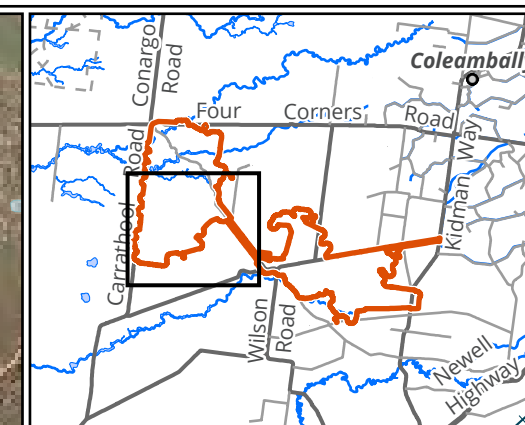
- Legend**
- Subject land
 - Development corridor
 - Development footprint
- Threatened fauna species polygon**
- Grey Snake - *Hemiaspis damelii* (assumed presence)

Figure 12B Threatened fauna species polygon - Grey Snake

0 1,000
Meters
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Grey Snake - *Hemiaspis damelii* (assumed presence)

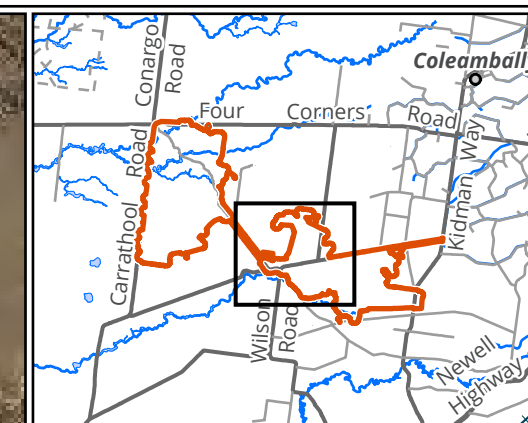
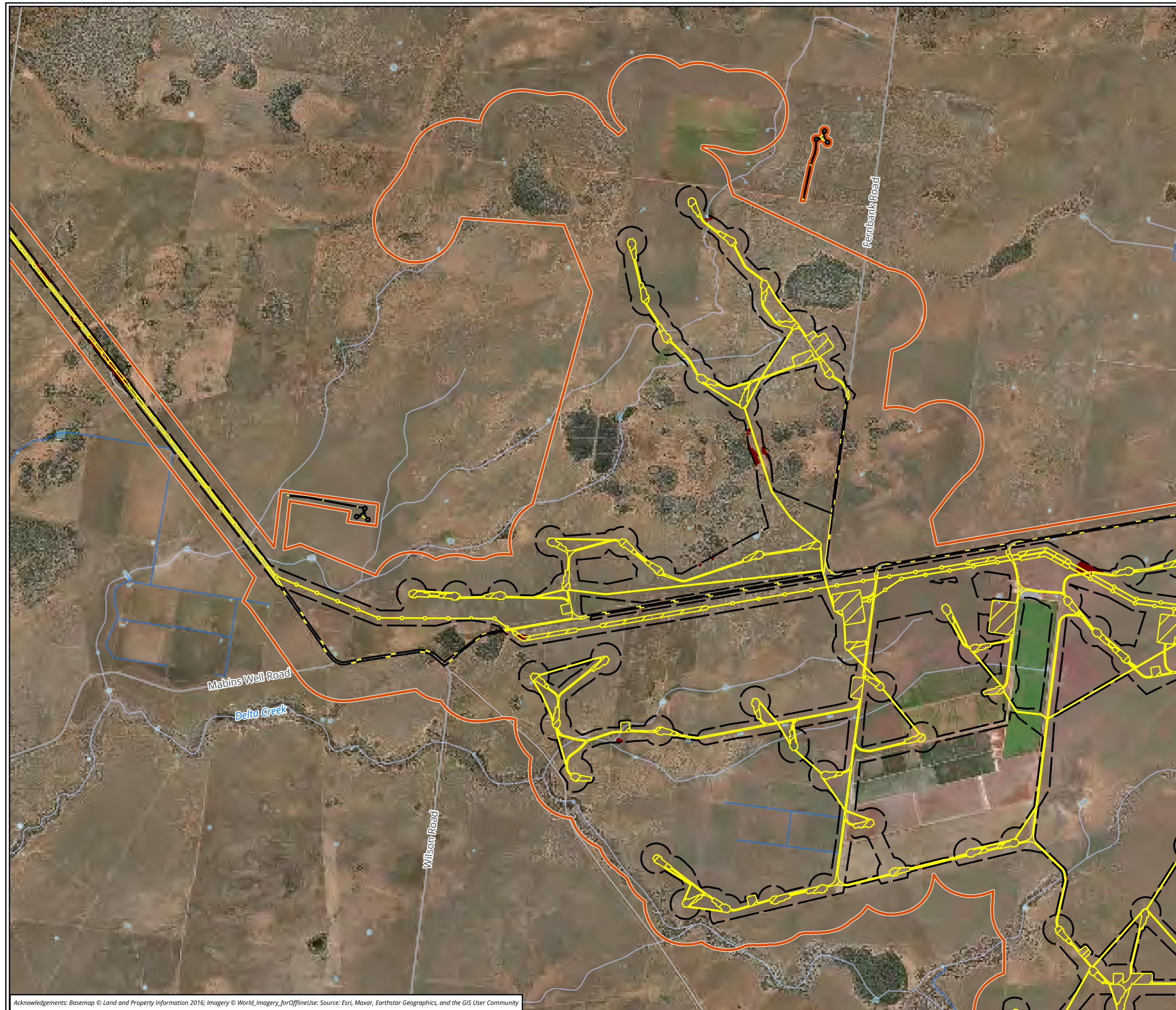
Figure 12B Threatened fauna species polygon - Grey Snake

0 1,000

Meters
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
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Layout: 37263_Wind_F12B_TSPoly_Fauna



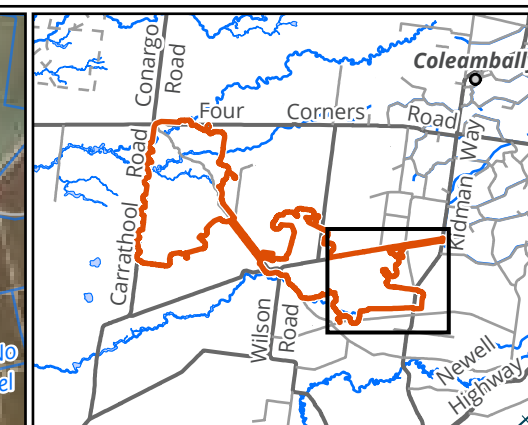
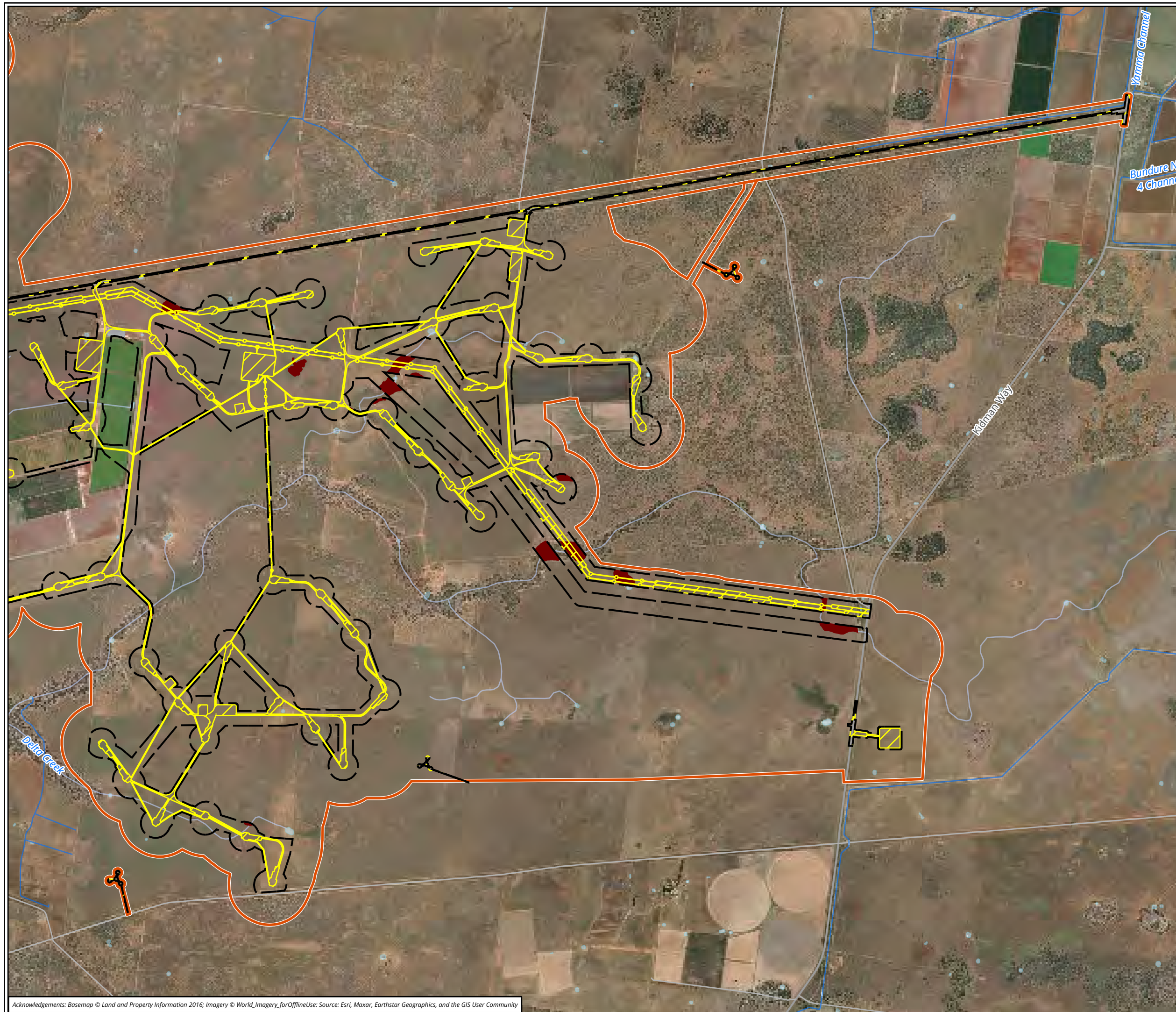
- Legend**
- Subject land
 - Development corridor
 - Development footprint
- Threatened fauna species polygon**
- Grey Snake - *Hemiaspis damelii* (assumed presence)

Figure 12B Threatened fauna species polygon - Grey Snake

0 1,000
Meters
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Grey Snake - *Hemiaspis damelii* (assumed presence)

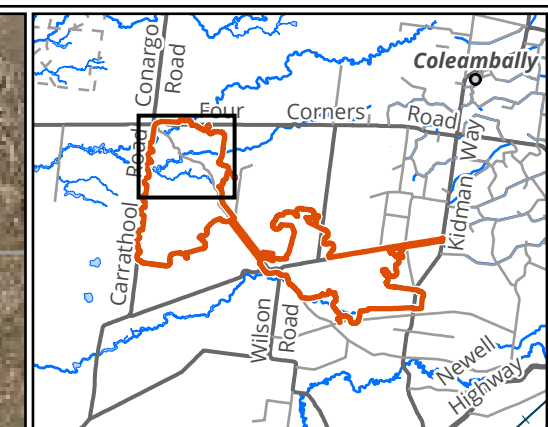
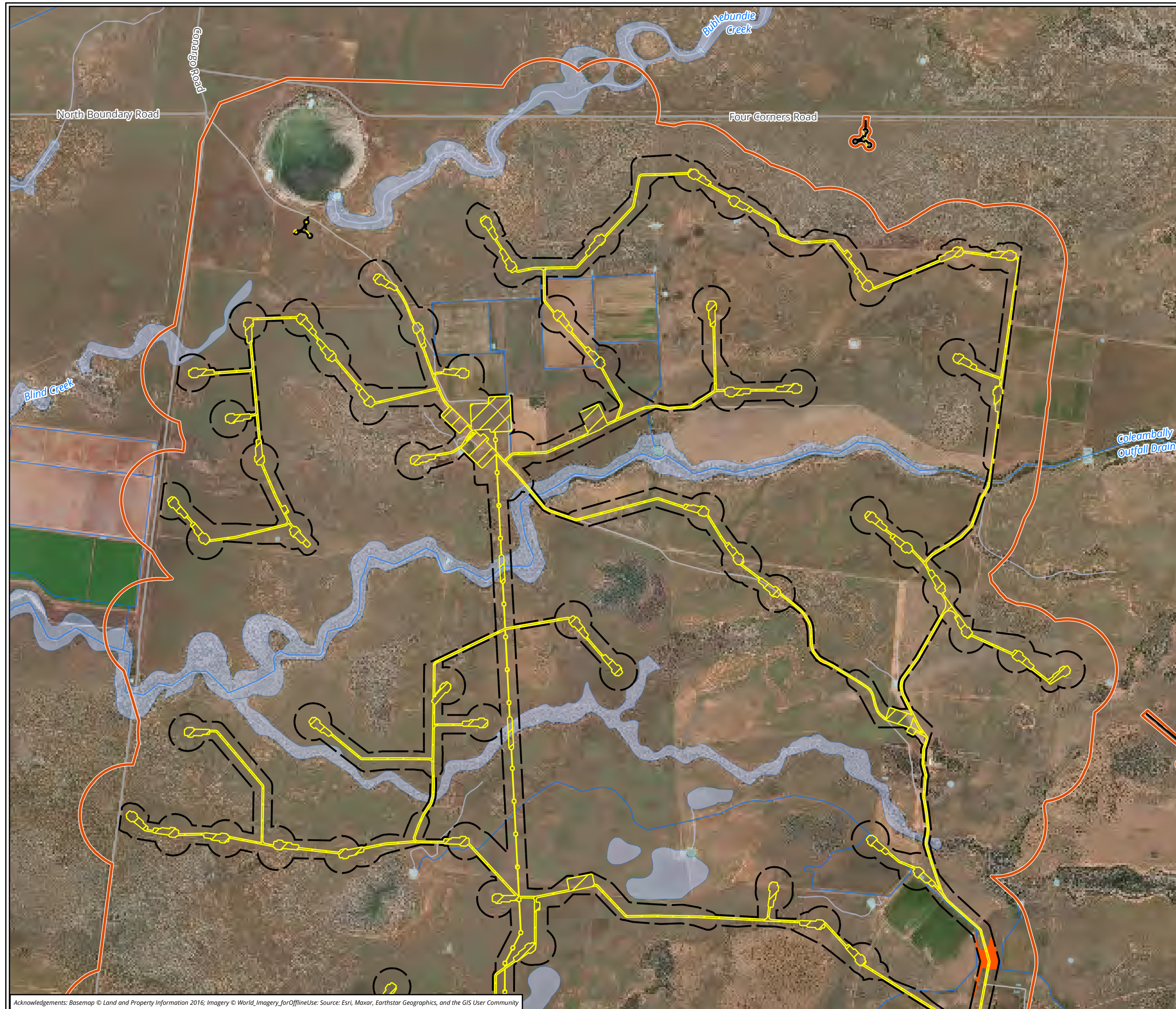
Figure 12B Threatened fauna species polygon - Grey Snake

0 1,000

Meters
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

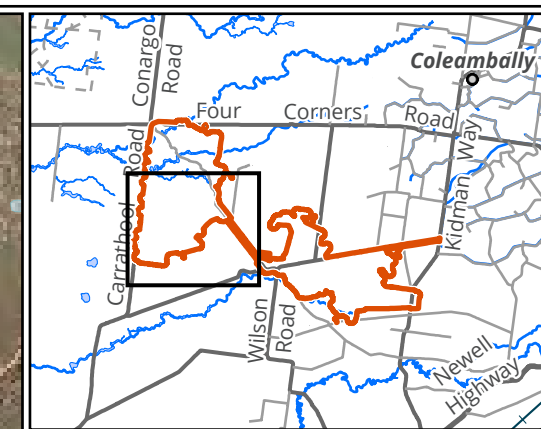
- Plains-wanderer - *Pedionomus torquatus*

Figure 12B Threatened fauna species polygon - Plains-wanderer

0 1,000
Meters
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



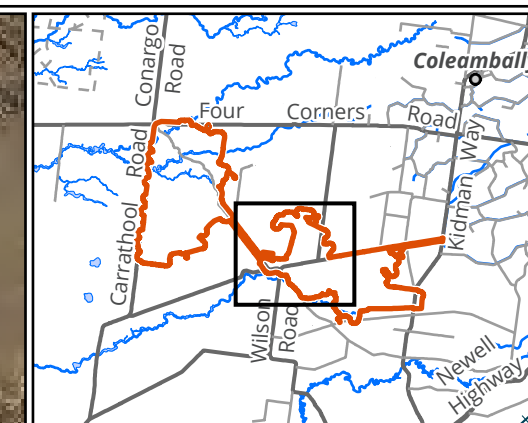
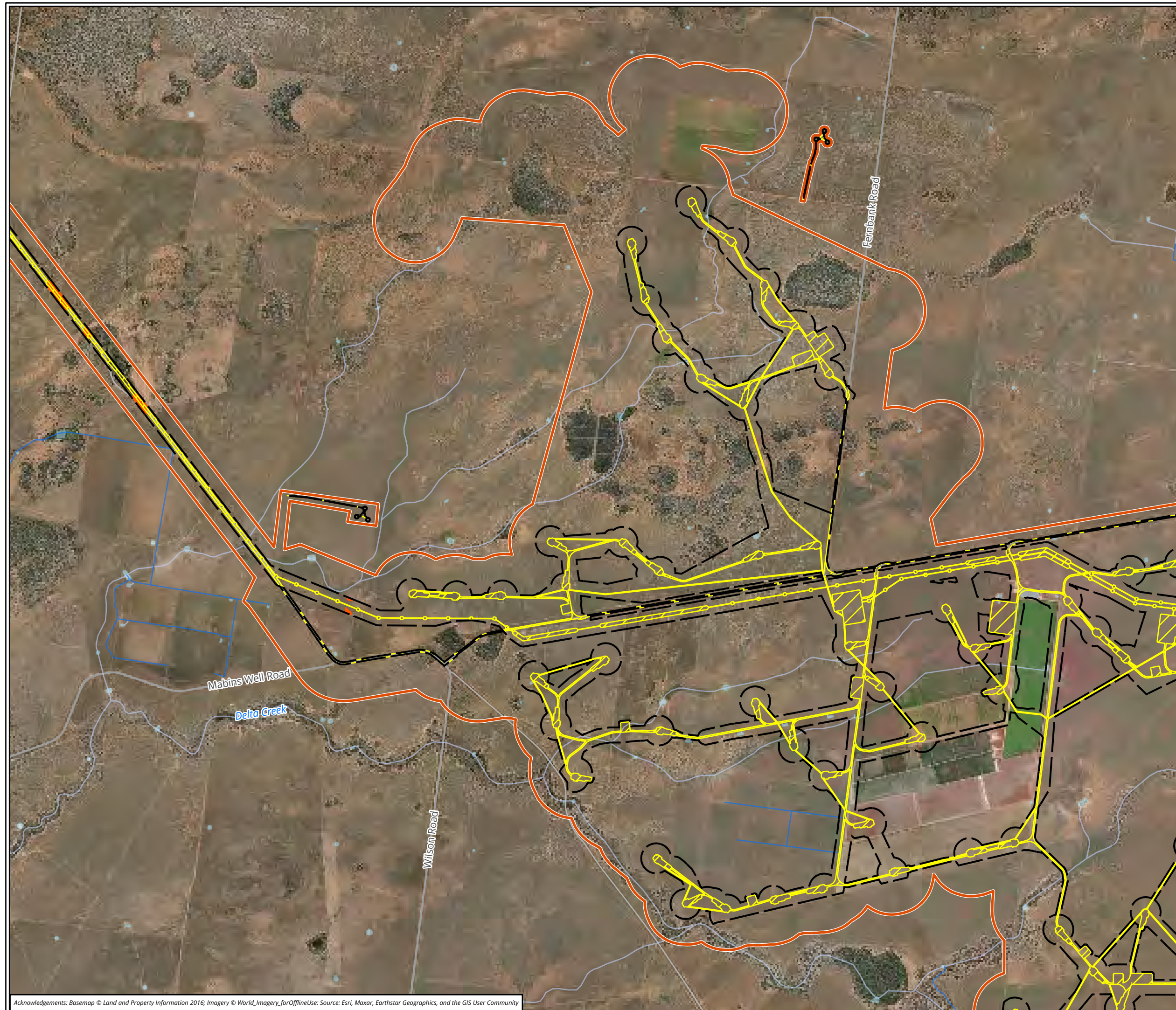
- Legend**
- Subject land
 - Development corridor
 - Development footprint
- Threatened fauna species polygon**
- Plains-wanderer - *Pedionomus torquatus*
- Threatened fauna species records (Biosis)**
- Plains-wanderer - *Pedionomus torquatus*

Figure 12B Threatened fauna species polygon - Plains-wanderer

0 1,000
Meters
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55

 **biosis**

Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
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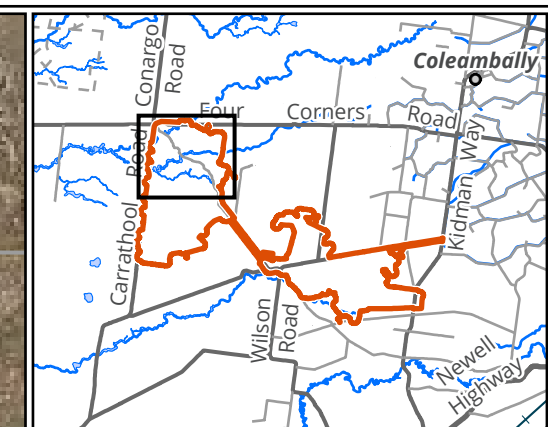
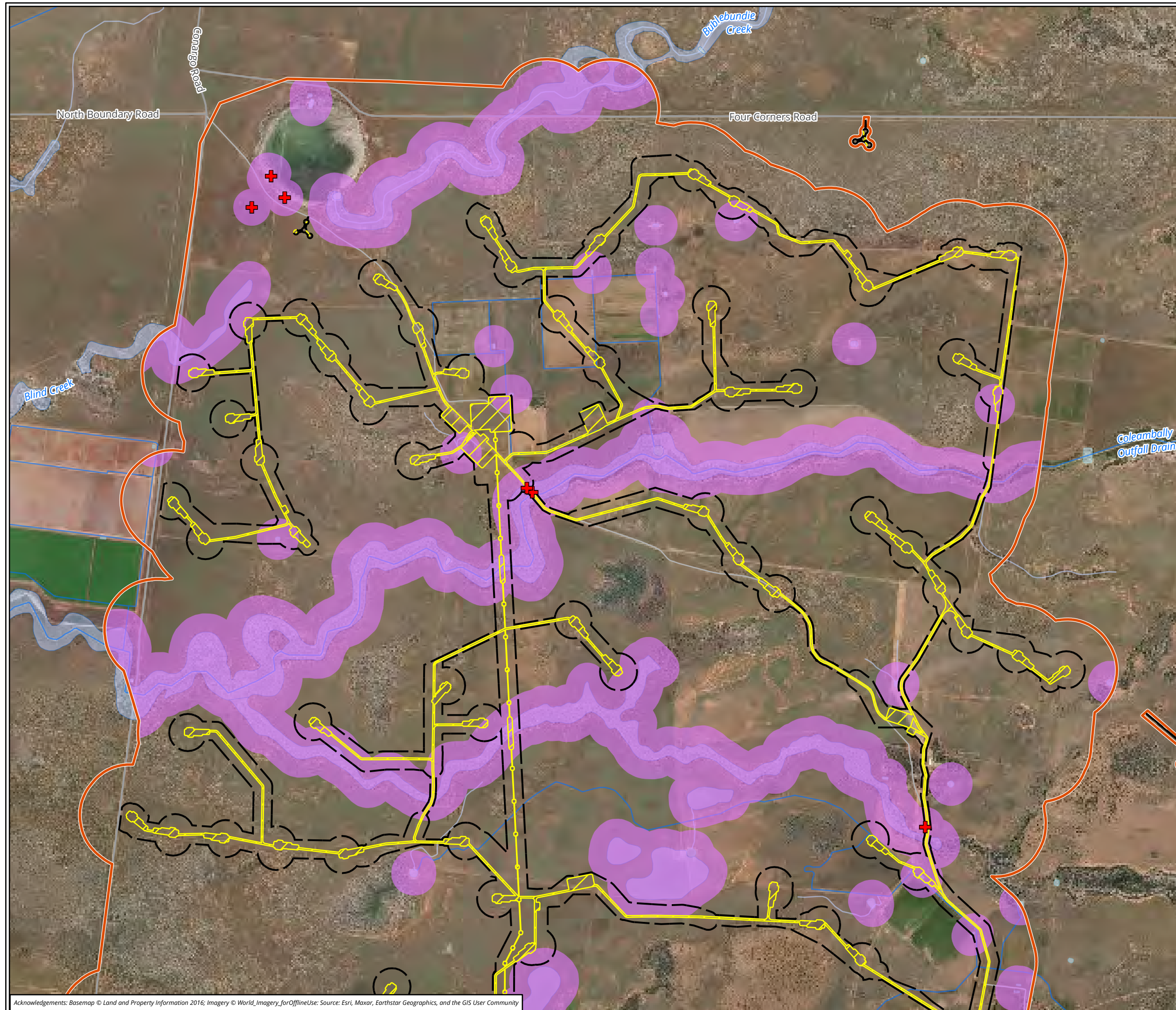
- Legend**
- Subject land
 - Development corridor
 - Development footprint
- Threatened fauna species polygon**
- Plains-wanderer - *Pedionomus torquatus*

Figure 12B Threatened fauna species polygon - Plains-wanderer

0 1,000
Meters
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Southern Bell Frog - *Litoria raniformis*

Threatened fauna species records (Biosis)

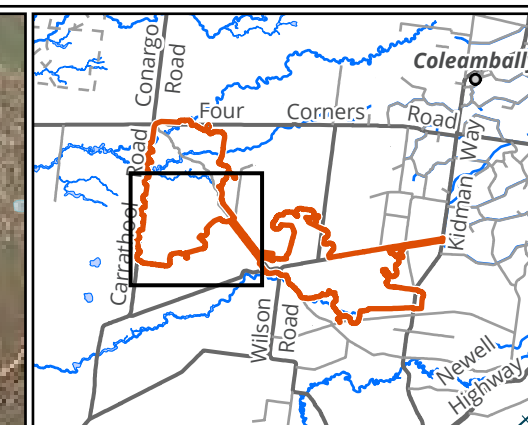
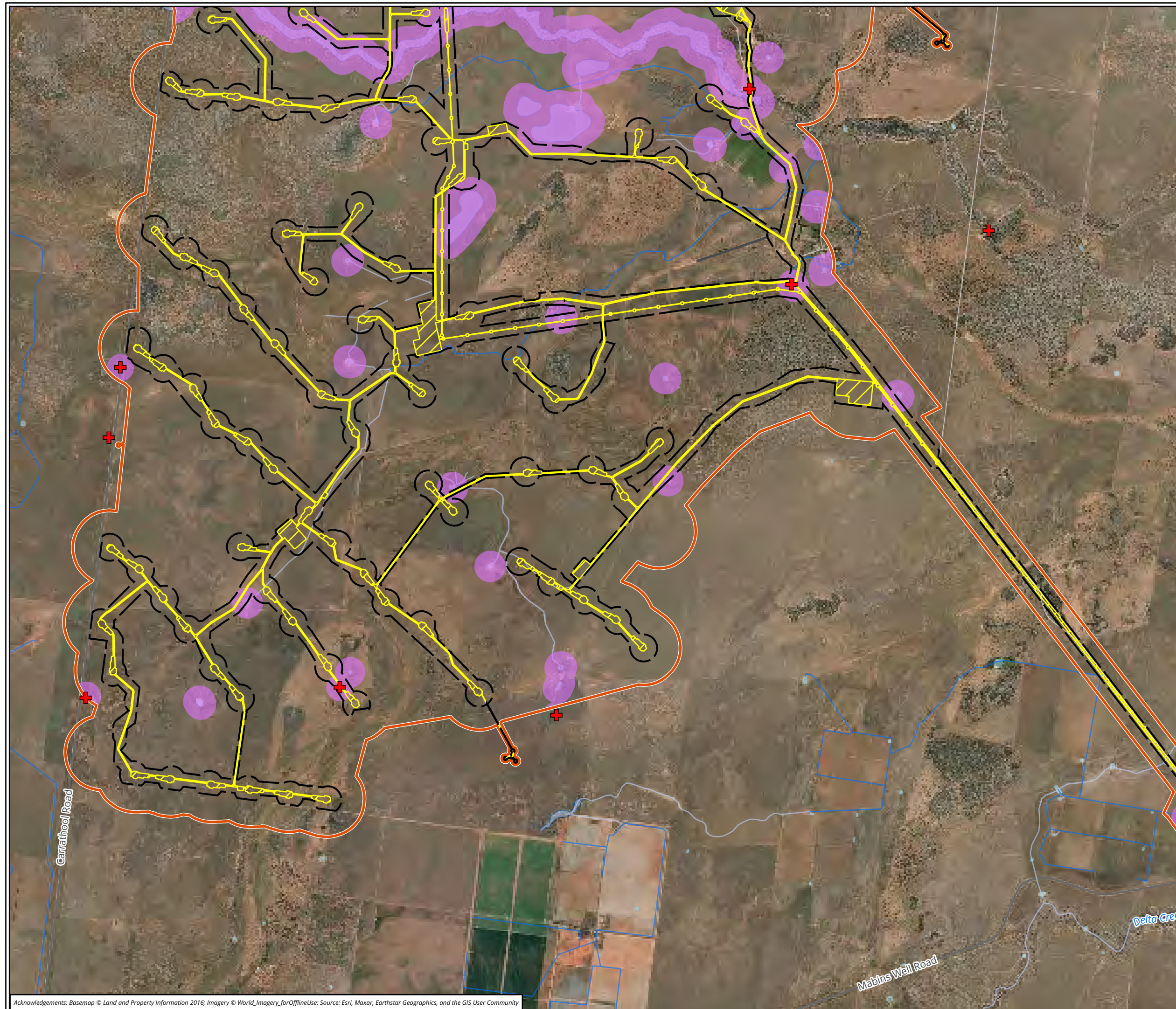
- Southern Bell Frog - *Litoria raniformis*

Figure 12B Threatened fauna species polygon - Southern Bell Frog

0 1,000
Meters
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
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Layout: 37263_Wind_F12B_TSPoly_Fauna



- Legend**
- Subject land
 - Development corridor
 - Development footprint
- Threatened fauna species polygon**
- Southern Bell Frog - *Litoria raniformis*
- Threatened fauna species records (Biosis)**
- Southern Bell Frog - *Litoria raniformis*

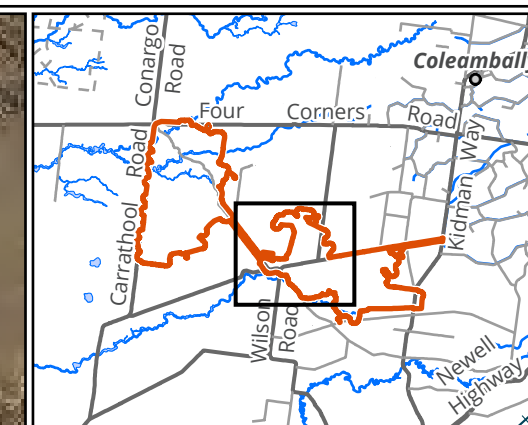
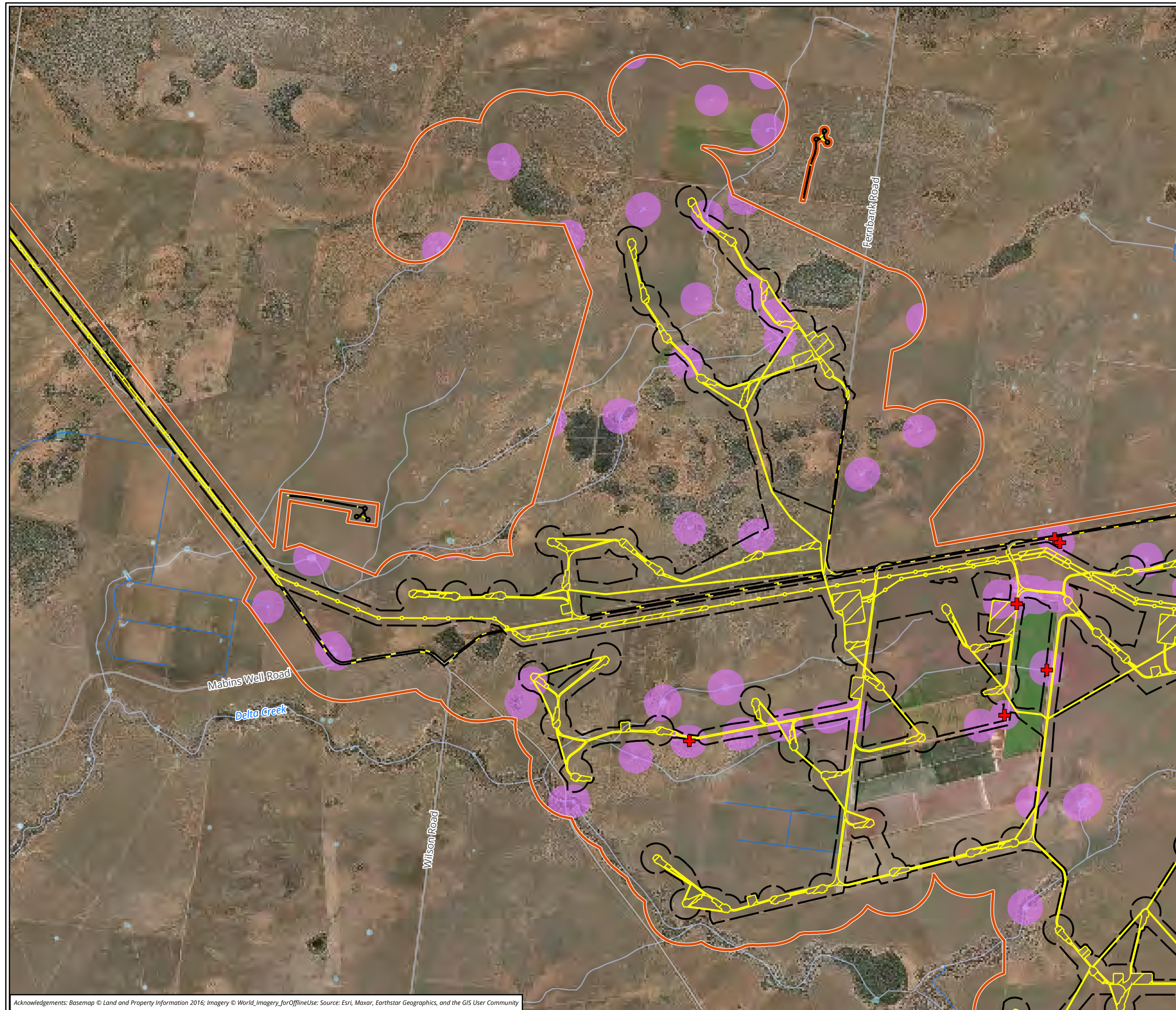
Figure 12B Threatened fauna species polygon - Southern Bell Frog

0 1,000

Meters
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Southern Bell Frog - *Litoria raniformis*

Threatened fauna species records (Biosis)

- + Southern Bell Frog - *Litoria raniformis*

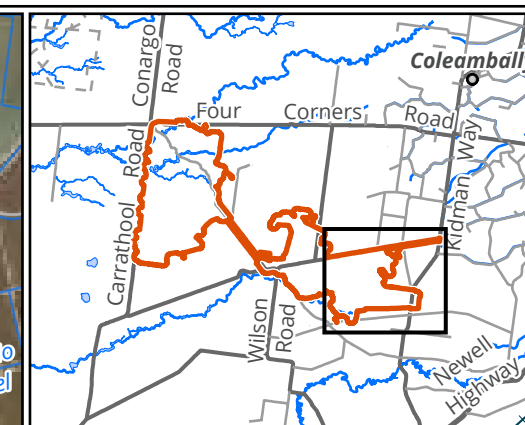
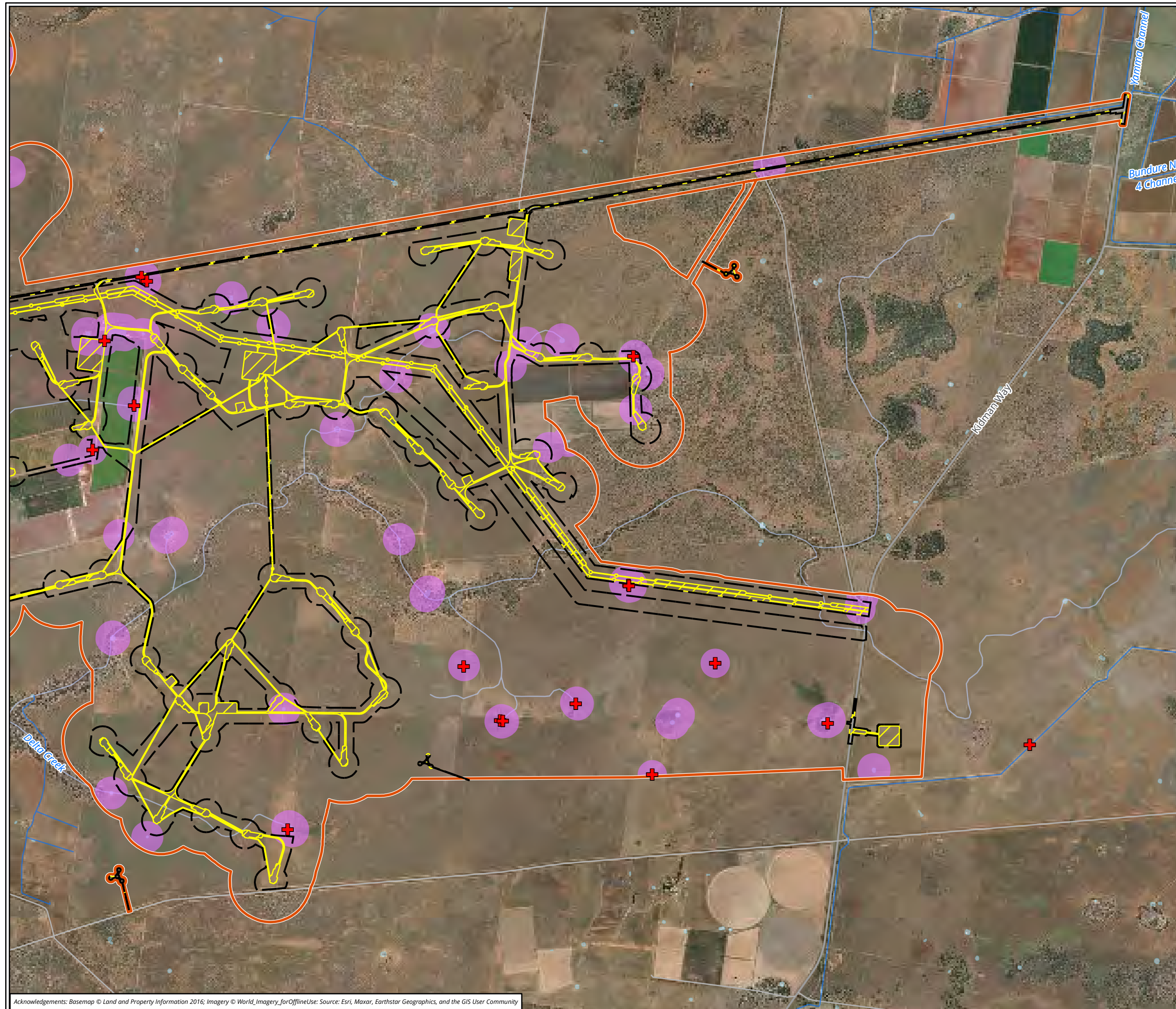
Figure 12B Threatened fauna species polygon - Southern Bell Frog

0 1,000

Meters
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Southern Bell Frog - *Litoria raniformis*

Threatened fauna species records (Biosis)

- + Southern Bell Frog - *Litoria raniformis*

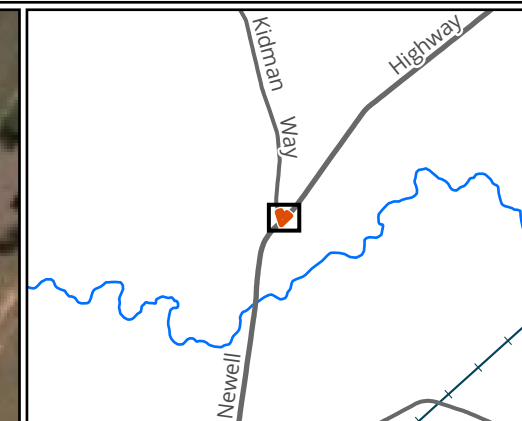
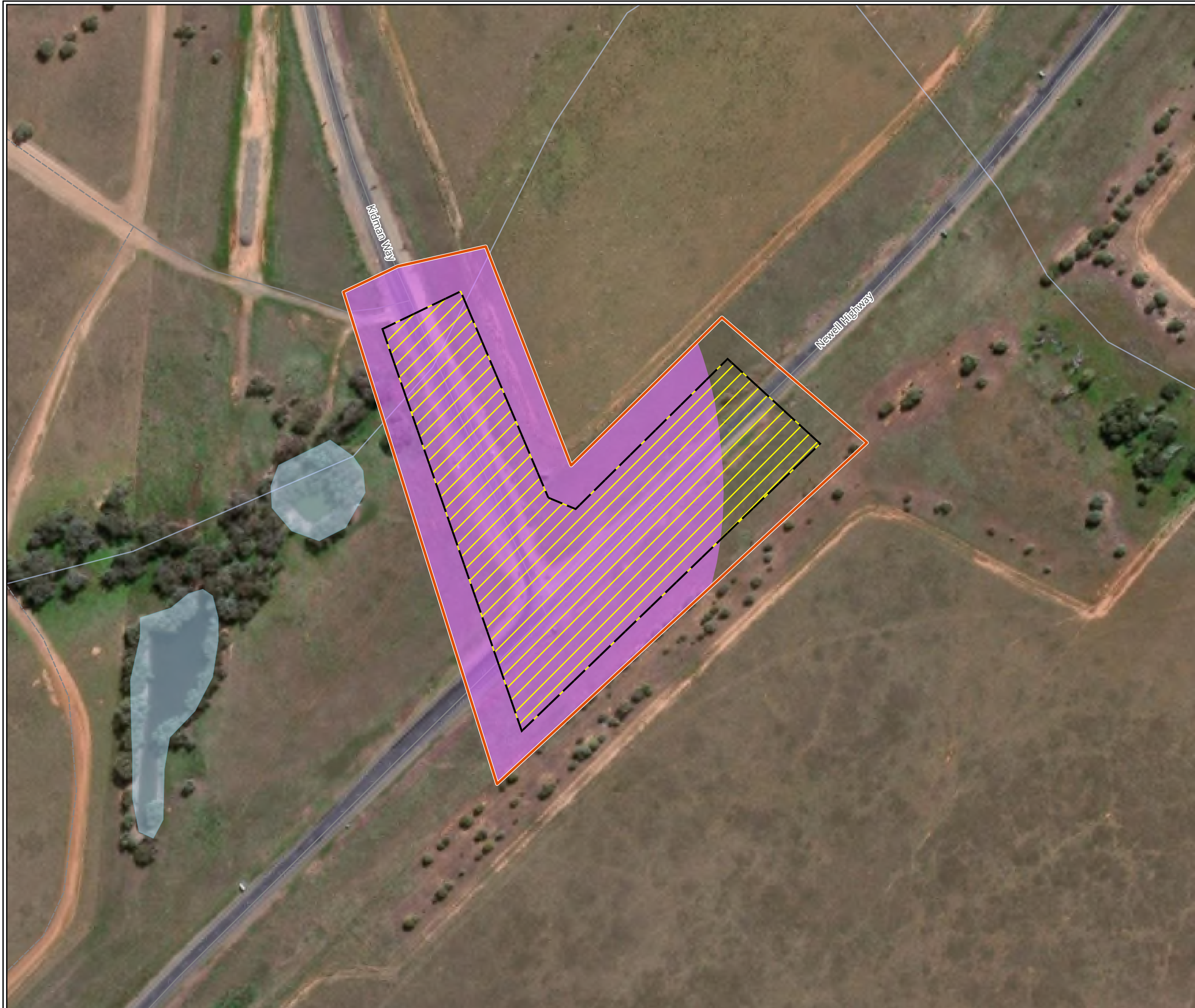
Figure 12B Threatened fauna species polygon - Southern Bell Frog

0 1,000

Meters
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
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Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Southern Bell Frog - *Litoria raniformis*

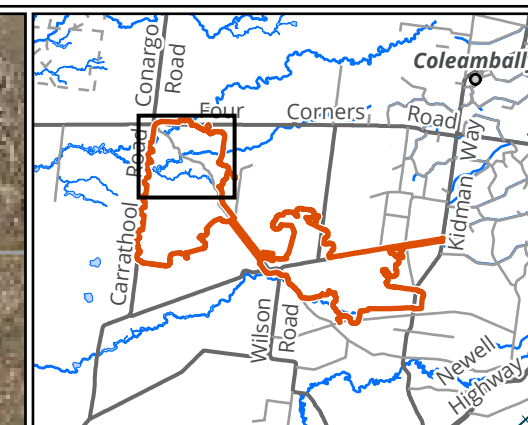
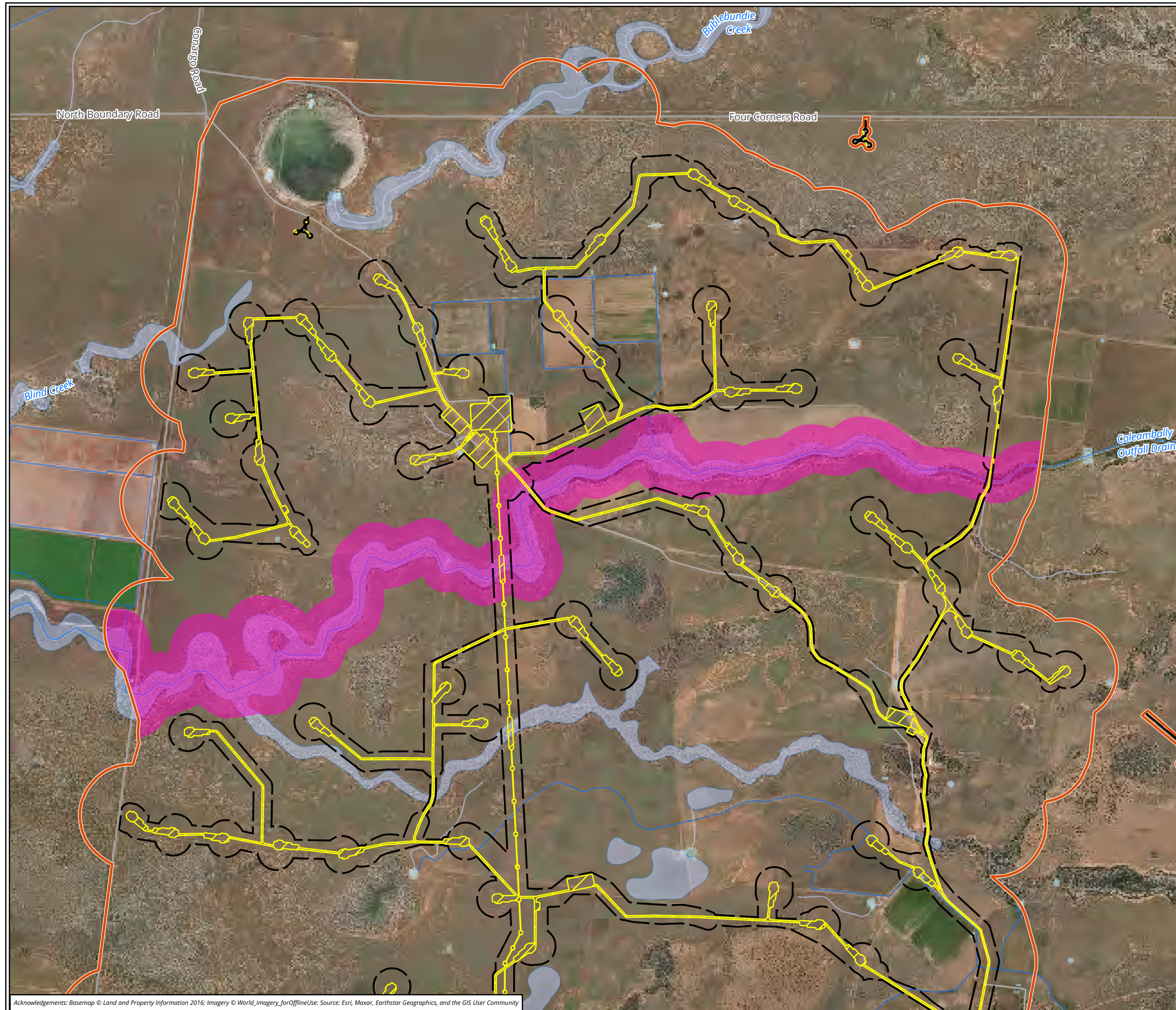
Figure 12B Threatened fauna species polygon - Southern Bell Frog

0 80

Meters
Scale: 1:2,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 19 March 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna_Newell



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

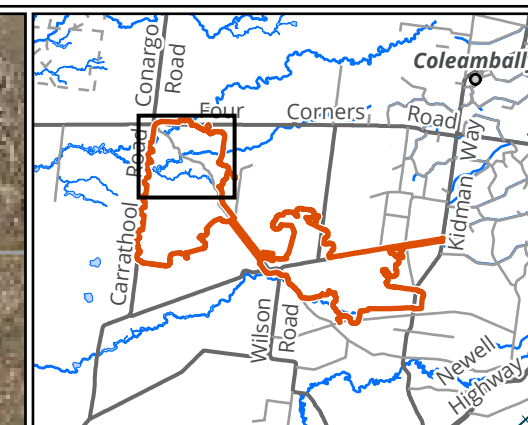
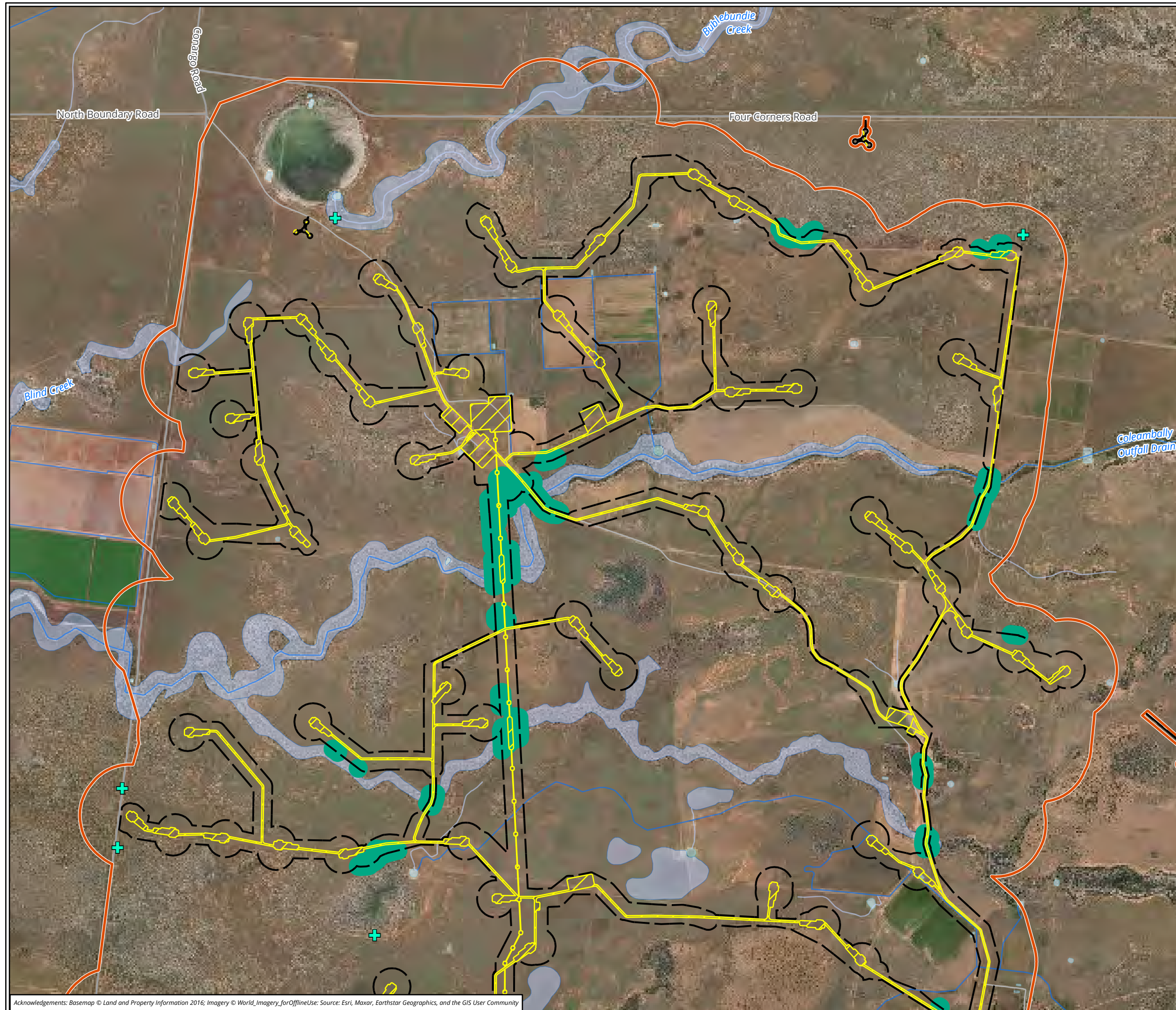
- Southern Myotis - *Myotis macropus*

Figure 12B Threatened fauna species polygon - Southern Myotis

0 1,000
Meters
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

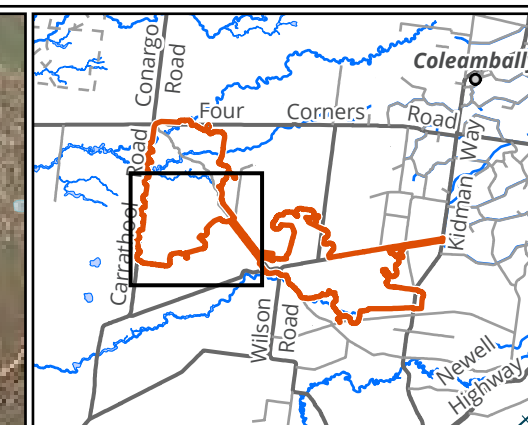
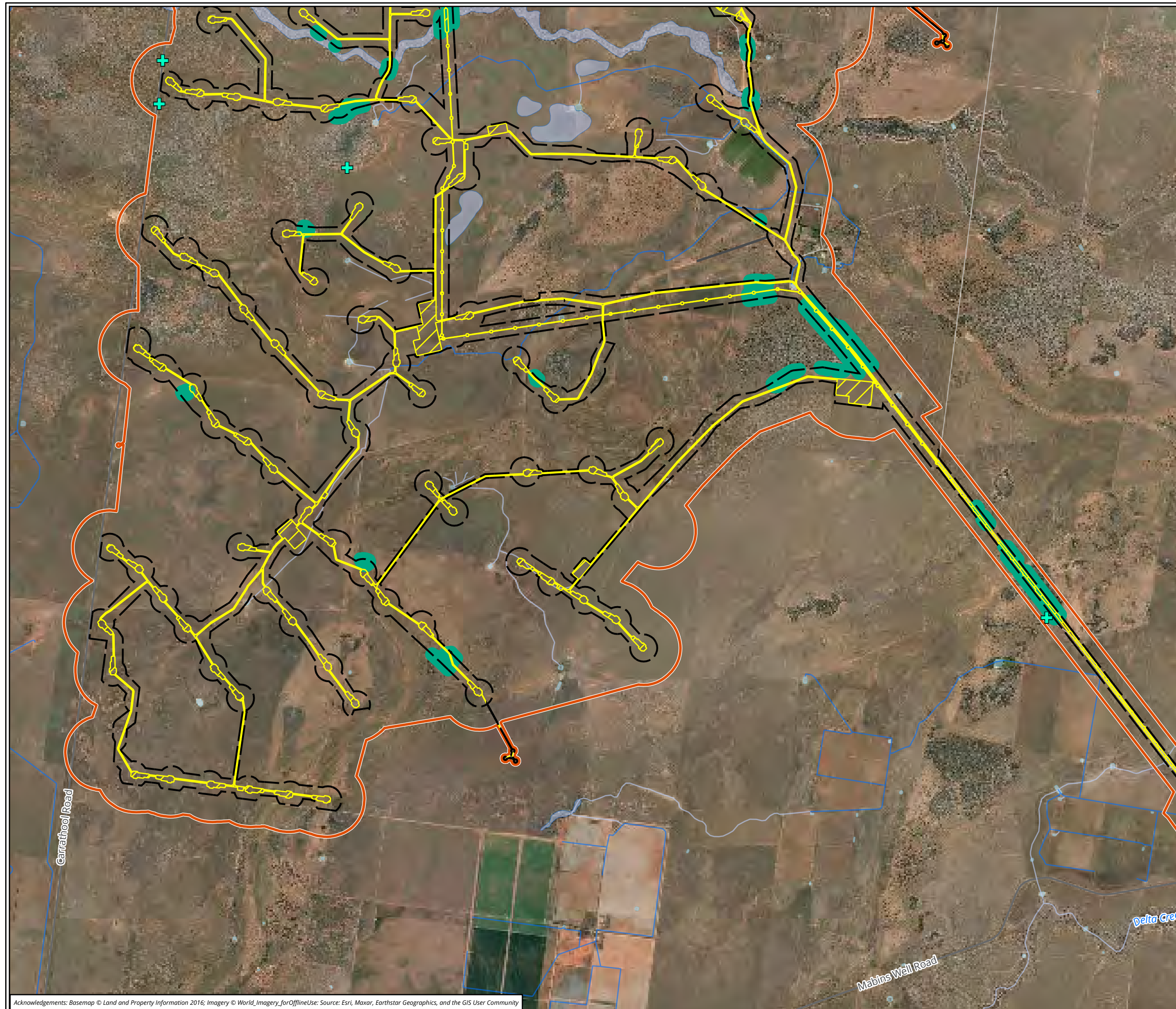
- Subject land
- Development corridor
- Development footprint
- Threatened fauna species polygon**
- Superb Parrot - *Polytelis swainsonii*
- Threatened fauna species records (Biosis)**
- + Superb Parrot - *Polytelis swainsonii*

Figure 12B Threatened fauna species polygon - Superb Parrot

0 1,000
Meters
Scale: 1:38,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Superb Parrot - *Polytelis swainsonii*

Threatened fauna species records (Biosis)

- + Superb Parrot - *Polytelis swainsonii*

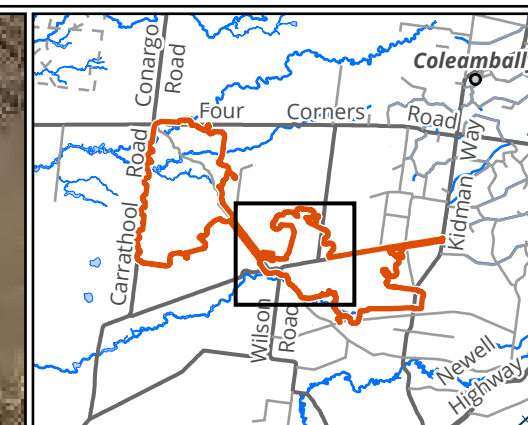
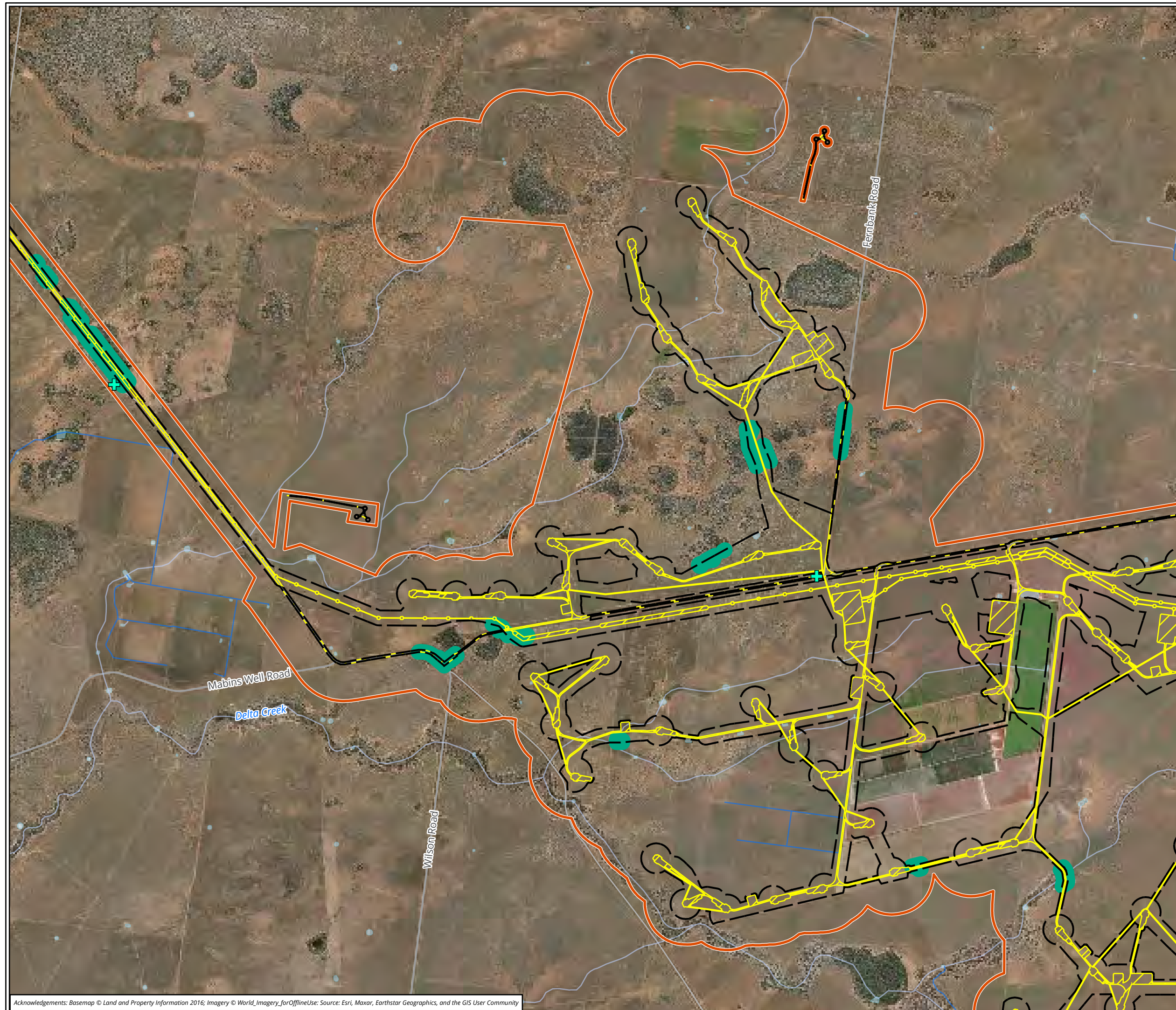
Figure 12B Threatened fauna species polygon - Superb Parrot

0 1,000

Meters
Scale: 1:52,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

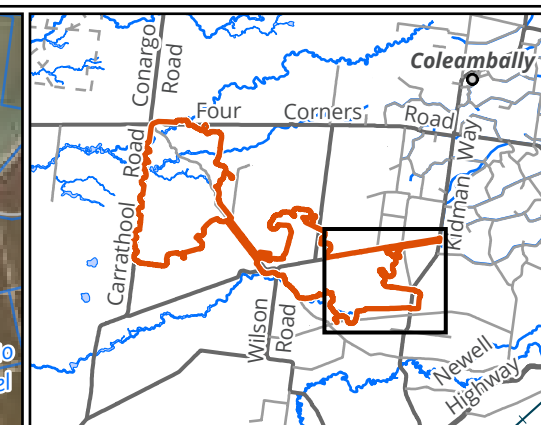
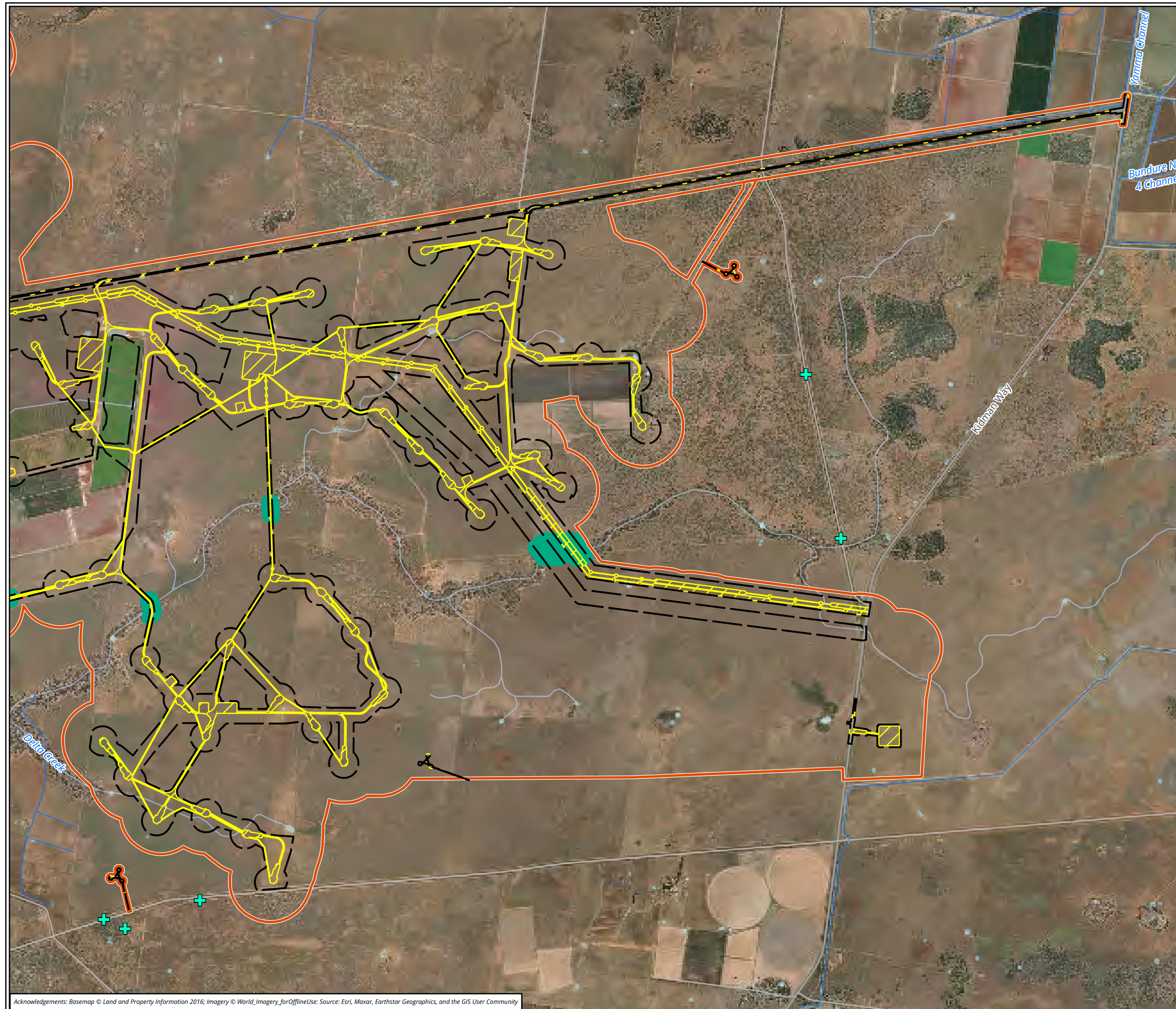
- Subject land
- Development corridor
- Development footprint
- Threatened fauna species polygon**
 - Superb Parrot - *Polytelis swainsonii*
- Threatened fauna species records (Biosis)**
 - Superb Parrot - *Polytelis swainsonii*

Figure 12B Threatened fauna species polygon - Superb Parrot

0 1,000
Meters
Scale: 1:47,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
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Location: P:\37200s\37263\Mapping\
37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna



Legend

- Subject land
- Development corridor
- Development footprint

Threatened fauna species polygon

- Superb Parrot - *Polytelis swainsonii*

Threatened fauna species records (Biosis)

- + Superb Parrot - *Polytelis swainsonii*

Figure 12B Threatened fauna species polygon - Superb Parrot

0 1,000

Meters
Scale: 1:48,000 @ A3
Coordinate System:
GDA2020 MGA Zone 55



Matter: 37263, Date: 08 April 2025,
GIS: JB, Checked by: MP, Last edited by: jbeckius
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37263_Dinawan_BDAR_Wind_F11-16.aprx
Layout: 37263_Wind_F12B_TSPoly_Fauna

5. Identifying prescribed impacts

5.1. Assessment of the occurrence of prescribed impacts

Prescribed impacts have been identified in accordance with Section 6 of the BAM and clause 6.1 of the BC Regulation. Identification of prescribed impacts are outlined below in Table 46 and Sections 5 and 6, and discussed in detail in Section 8.3.

Table 46 Prescribed impacts associated with the project

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.
Karst, caves, crevices, cliffs, rocks or other geological features of significance	No	No karst, caves, crevices, cliffs, rocks or other geological features of significance occur within the subject land or assessment area.	N/A
Human-made structures and non-native vegetation	Yes	Human made structures are present within the subject land. Within the development corridor the following human made structure are present: • Dams. • Irrigation channels • Farm tracks. • Public roads. • Existing transmission lines • Rural infrastructure (fences, shearing sheds, storage sheds) Non-native vegetation occurs, predominately in the form of irrigated and dryland cropping areas, and exotic components of retained native vegetation.	Avian fauna species are known to utilise artificial and human made structures for nesting due to historic clearing of native vegetation. Dams and irrigation channels are utilised by fauna species as permanent water resources throughout the year, some dams are created in areas that likely originally supported natural ephemeral billabongs. Microbats may use shearing sheds and storage sheds for roosting. Exotic vegetation, including irrigated cropping and dryland cropping areas are known to be utilised by raptor species and waterbirds for foraging. <i>Litoria raniformis</i> records were also observed within irrigation channels adjacent to cropping areas. Refer to Section 8.3.1.
Habitat connectivity	Yes	Natural corridors in the form of native vegetation and riparian watercourses in both a project level scale and broader landscape scale occur. Landscape scale habitat connectivity also exists for aerial species over the wind farm between water bodies present in the surrounding landscape. This includes both vegetation and non-vegetation (or farmed/cropped) areas.	All threatened fauna, flora and TECs within the landscape. Aerial species are particularly at risk from habitat connectivity issues arising from potential barrier effect of operations wind turbines. Refer to Section 8.3.2.
Waterbodies, water quality and hydrological processes	Yes	The subject land is characterised by low-lying flood prone terrain, with multiple unnamed ephemeral waterways that dissect the subject land and development corridor, with Delta Creek, Blind Creek and Bublebundie Creeks the most significant natural waterways. The subject land is largely flat with some minor drainage depressions that temporarily hold water during and	When containing water, migratory species, and fauna species have the potential to use creeks and floodplain depressions / watercourses outside the subject land. Ephemeral wetland areas that occur may become inundated during periods of high rainfall and wet seasons. Riparian areas are utilised by fauna species as connectivity corridors. Refer to Section 8.3.3

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.
		following rainfall. Several minor topographic depressions on the floodplain hold water for longer, creating scattered swamp environments.	
Wind turbine strikes	Yes	See Section 5.2 and 6 below.	See Section 5.2, Sections 6 and 8.3.4 below.
Vehicle strikes	Yes	Vehicle movement will increase during construction, and to a lesser extent during operation, of the project. this increase in vehicle movements has the potential to impact upon threatened fauna species.	During increased vehicle movements, particularly in the early stages of construction and potentially during vegetation clearing, low flying birds and ground dwelling mammals have the potential to collide with vehicles travelling to and from the project. Refer to Section 8.3.5.

5.2. Identification of potential impacts associated with wind farm developments

5.2.1. Background review and bird and bat utilisation surveys

Globally, the onshore wind farm industry continues to experience significant developments and expansion. Turbine infrastructure is larger in both scale and energy output and site footprints have increased in area and capacity. As such, there is an increasing threat to native taxa. The associated environmental impact must be granted appropriate consideration, with bat and bird fatalities representing the principal risk, with recorded instances occurring at international and domestic sites (de Lucas et al. 2012, Smales 2014, Moloney et al. 2019). Despite this, the impacts of wind farms are considered to be relatively low in comparison to other industries, and anthropogenic influences on native taxa (Smales 2014). It is currently estimated that wind farms account for approximately 0.1% of global anthropogenic causes of avian fatalities (Bennett et al. 2022). With the wind industry also being one of the only energy-generating enterprises that must continue systematic monitoring of birds (Smales 2014). While collisions are thought to be the primary cause of mortality, the construction and operation of wind farms can also lead to secondary impacts on bat and bird species including habitat loss or modification, and avoidance response of species (Fox et al. 2006, Masden & Cook 2016, Smales 2014).

Bird and bat collision risk on wind farms is due to a complex number of factors including species-specific elements, such as flight patterns, size and foraging behaviour, environmental factors, and site-specific factors pertaining to the layout of and configuration of turbine infrastructure (de Lucas et al. 2012, Smallwood & Bell 2020). Considering this, not all wind farm sites would contain the same level of collision risk. Quantifying individual collision for bat and bird species presents many challenges. Wind speeds, landscape features and weather events can also contribute to this (Gorman et al. 2021). Understanding collision risk is important to identifying species which may be susceptible and to determining population level impacts, specifically to threatened taxa, with a view to implementing strategies to reduce impacts (Smales 2014, Moloney et al. 2019).

Birds

Australia is home to considerable avian diversity, with many species inhabiting, utilising, or passing through wind farm sites throughout each year. Studies of bird and bat fatalities across south-eastern Australia have identified 24 species of bird and four species of bat that are most often impacted by direct collision, with larger birds being deemed more likely to collide than smaller birds (Smales 2014, Everaert 2014). Commonly struck species include the Australian Magpie *Cracticus tibicen*, the Nankeen Kestrel *Falco cenchroides*, and the Brown Falcon *Falco berigora* which constitute 24%, 15% and 12% respectively, of all species impacted (Smales 2014). Publicly accessible data from currently operating wind farms in New South Wales have reflected these findings with the Australian Magpie being the most commonly found species in post-construction monitoring searches constituting 18% of all bird carcasses found on these sites. This is followed by Nankeen Kestrels (17%), Wedge-tailed eagle (10%), Crimson rosella (6.6%), and the Sulphur-crested Cockatoo (4.8%).

A major focus of bird collision research has prioritised large raptors (Smales 2014, de Lucas et al. 2012, Hull et al. 2015, Hull & Cawthen 2013). This may be because there is a large number of threatened species within the order, they have a relatively low reproductive output and are thought to be prone to collision risk and are often of great community interest (Garvin et al. 2011). However other larger bird species including waterbirds, such as Ibis and Pelicans, parrots, and migratory species are also at risk.

Nesting densities of species may be useful in identifying some likelihood of collision risk (Marques et al. 2014). While important in assessing population and utilisation of a site by different species, abundance alone has been shown to be a poor predictor of collision mortality (Madders & Whitfield 2006, de Lucas et al. 2008).

Additionally, there are foraging and feeding behaviours that may make some species more susceptible to collision, such as aerial or shrub searching (Hull et al. 2015). This accounts for observations seen in collision fatality comparisons between raptor species occupying the same site. Species including the Wedge-tailed Eagle *Aquila audax*, Brown Falcon and White-bellied Sea Eagle account for a higher proportion of deaths than species such as the Brown Goshawk *Accipiter fasciatus*, Collared Sparrowhawk *Accipiter cirrocephalus* and Grey Goshawk *Accipiter novaehollandia* (Hull et al. 2015). Seasonal changes to behaviour have also been seen to affect collision risk for a species (Smith & McWilliams 2016).

Flight height, particularly species flying at rotor height, may expose some species to higher collision risk, but are not the sole factor (Smales 2014). There are some differences in rates of avoidance in eagle species (Hull et al. 2015). Species-dependent avoidance rates are prescribed by regulatory bodies, but more work is needed to understand the ecological differences between species such as the Wedge-tailed Eagle, and White-bellied Sea Eagle, which have been shown to exhibit differing avoidance rates (Hull et al. 2015). As such, collision risk models assume a great deal about bird behaviour, including uniform avoidance rates for all individuals within a species, which is considered to be unlikely (Masden & Cook 2016). It should be noted that the Biosis collision risk model applies a range of avoidance rates per species to factor in this potential variation in collision risk.

Given the distribution of potential and known habitat south (Victoria) and north (Coleambally/Leeton) of the subject land, and the likely local and seasonal movements from these areas, a portion of Australasian Bitterns using the local wetlands are expected to fly across the subject land on occasion. Satellite tracking and changes in local densities indicate Australasian Bitterns undertake seasonal and dispersive movements between breeding and non-breeding habitats, and as local habitat suitability conditions change (Bitterns in Rice Project 2017, Department of the Environment and Energy 2019). Local and daily movement patterns of Australasian Bitterns are not well documented. Given the similarities with the Eurasian Bittern, movements of the latter species may be helpful in understanding those of the Australasian Bittern, though local habitat suitability and conditions are likely to be strong drivers of movement behaviour. During the non-breeding season, individuals fly out to feed at dawn and return to the roost at dusk (White & Royal Society for the Protection of Birds 2006). Similar to the Eurasian Bitterns, Australasian Bitterns have been observed engaging in aerial displays and chasing of each other, flying out of wetlands before dawn and flying from a nest to forage (Biosis 2021a). These observations have included flights of up to 400 metres within and between wetlands at heights of approximately 2–30 metres, including above tree canopy height (I. Veltheim pers. obs.). However, they are known to ascend to higher altitudes on occasion, and although based on a small sample size of three individuals, recent GPS movement tracking of Australasian Bitterns in New Zealand has shown the species can fly within RSA height, with one individual spending 61% of its time at heights of 20–200 metres. Satellite tracking of the species in Australia has also shown the species flying at heights of 3–100 metres above ground (AOC 2023). At other times, such as during longer-range nomadic flights between coastal and wetland habitats it is likely that the species flies well above RSA height.

Bats (Microbats and Megabats)

The primary cause of bat collision with wind turbine infrastructure turbines is still debated (Hein & Schirmacher 2016, de Lucas et al. 2012). A current hypothesis includes turbines acting as a resource attractant, with food sources, including insects, often present. Other sources have attributed their attraction to the consequence of vegetation clearing and landscape modification that sees spaces between turbines mimic flyways (Kunz et al. 2010). There is also insufficient research to determine at what speed blade tips become invisible to echolocation, if any (Wellig et al. 2018, Lawson et al. 2020). Furthermore, we have limited capacity to study and analyse high-altitude bat behaviour (Werber 2024).

Regardless of the cause, bat fatalities have been recorded globally, with a number of high-flying species suspected to be more susceptible, including the White-striped freetail bat *Austronomus australis*, Gould's wattled bat *Chalinolobus gouldii* and the Chocolate wattled bat *Chalinolobus morio* in south-eastern Australia (Smales 2014, Bennett et al. 2022). The White-striped freetail bat is a common species of bat occurring throughout southern Australia, foraging in open cleared areas often at heights of 50 metres. This species was also the first wind farm-related fatality reported globally and is now known to be the most frequently struck species on sites in Victoria and south-east Australia (Smales 2014, Symbolix 2020). Accessible collision data in New South Wales mirror these findings, with the White-striped freetail bats shown to be the most commonly found microbat species during post-construction carcass monitoring searches. This species was found at seven out of the eight wind farms with accessible monitoring data and represented 40.6% of microbat mortalities found. Gould's wattled bat was the second most commonly found and represented 20.2% of mortalities, followed by Large Forest Bat *Vespadelus darlingtoni* (7.1%), Chocolate Wattled Bat (6.9%), Little Forest Bat *Vespadelus vulturnus* (6.05%), and the Southern free-tailed Bat *Ozimops planiceps* (5.5%).

There is limited data available in Australia for bat fatalities at large wind farms, with more information and monitoring required to further understand collision risk for the taxa. This is due to a number of factors including challenges involved with detection and movement, due to their cryptic nature; difficulties in carcass monitoring; the cost and time prohibitive nature of searches and methods, including detection dogs (Bennett et al. 2022, Wellig et al. 2018). Furthermore, wind farm monitoring programs contain considerable variation, with differences in objectives, design, intensity and duration (Moloney et al. 2019).

Identifying risk for collisions is more attainable for avian species, as their flights can be recorded during BUS. The same cannot be replicated with bat species, and ultrasonic recording or trapping must instead be used to identify species present on site. A key limitation to the current use of these detectors, is the inability to consistently install them within the rotor swept zone. Current survey methods include the deployment of detectors on meteorological towers, however, there is usually only one of these installed per site, the sampling area is quite small at these heights and limited in terms of habitat type sampled (Gration 2011), and there is limited ability to directly compare the findings to ground-based detectors.

The nocturnal foraging behaviour of bats makes it difficult to observe the differing heights at which certain species fly at and their landscape utilisation across a site. Megachiropteran species have also been known to travel significant distances in a night to forage. Collisions with aircraft are also common, and as these incidences are often recorded, height collisions ranging from zero to 1524 metres, with the largest proportion of strikes occurring at 152.4 metres (Parsons et al. 2008). The Grey-headed Flying-fox *Pteropus poliocephalus* is a vulnerable species in NSW and has been recorded as a collision fatality on Australian wind farms, mostly recently in Victoria, with Little-red Flying-fox also having unexpected collisions at the Crudine Ridge Wind Farm in central NSW.

Seasonal patterns in fatalities have been observed with Australian bats, with monitoring finding the majority of bat strikes to occur during January to April in temperate zones (Bennett et al. 2022). Bat activity in RSA has also been seen to decrease with higher wind speeds, which is an important environmental factor in assessing collision risk (Smith & McWilliams 2016, Wellig et al. 2018, Gorman et al. 2021).

It was previously accepted that barotrauma was the primary cause of mortality for bats. While conclusive evidence is difficult to attain, it is now accepted that it is unlikely that barotrauma is the predominant cause (Guest & Hein 2018, Lawson et al. 2020). Pressure changes necessary to cause barotrauma would be located at such close proximity to the blade itself, it is deemed unlikely that a bat could experience barotrauma without simultaneously being struck by the blade itself, likely resulting in fatal injury. Furthermore, evidence to suggest that visual inspection of bat carcasses may be less effective at identifying injuries related to collision-related mortalities, in contrast to other techniques such as radiography. Additionally, there are

similar characteristics that may present as signs of barotrauma, including internal bleeding and fluid buildup in the lung, that may also have been resultant of collision (Guest & Hein 2018). Regardless of the cause, bat interaction with wind turbines causes bat mortality, and a greater understanding is needed of bat activity near wind farm sites. Table 47 demonstrates the currently capacity of operational wind farms in NSW and links to annual reporting data where available.

Table 47 NSW operational wind farms reviewed for bird and bat collisions data

Wind farm name	Capacity (MW)	No. of turbines	Turbine Model	Year of completion	Collision data availability and notes
Bango Wind farm	244	46	GE 5.3MW	2023	No data available (new project)
Biala Wind Farm	145	31	Goldwind 3.5MW	2021	Some data available https://bialawindfarm.com/the-project/project-approvals-and-documents/
Blayney Wind Farm	10	15	Vestas V47-660kW	2000	No data available
Boco Rock Wind Farm	113	67	GE 100-1.7	2015	Data available. 8 years of monitoring https://www.bocorockwindfarm.com.au/files/ugd/bc9b99_c4b9d1d1dd324bedbaef1852f593f076.pdf
Bodangora Wind Farm	113.2	33	GE 3.43-130	2019	Data available (at least 2 years monitoring) https://www.infigenenergy.com/our-assets/owned-renewable-energy-assets/bodangora https://www.infigenenergy.com/assets/BOD-BBAMP-Annual-Report-2021.pdf
Capital Wind farm	140.7	67	Suzlon S88	2009	No data available
Collector Wind Farm	228	55	Vestas V117-4.2 MW turbines	2021	No data available – website currently inaccessible
Crookwell Wind Farm	4.8	8	Vestas V44-600kW	1998	First operational wind farm in NSW. Small scale project to prove the technology was scalable in Australia. No collision data available
Crookwell 2 Wind Farm	92	46	GE 130-3.4 MW	2018	No data available
Crudine Ridge Wind Farm	135	37	GE 3.8MW	2021	Data available for 2 years of carcass monitoring https://www.squadronenergy.com/our-projects/crudine-ridge-wind-farm
Cullerin Range Wind Farm	30	15	Senvion 2MW	2009	First fully operational wind farm in NSW to be significant in the National Electricity Market. No collision data available
Gullen Range Wind farm	165.5	73	GRW100-2.5MW (56 turbines) and	2013	Data available (at least 2 years monitoring) https://gullenrangewindfarm.com/wp-content/uploads/2017/05/2015-Annual-BBAMP-

Wind farm name	Capacity (MW)	No. of turbines	Turbine Model	Year of completion	Collision data availability and notes
			the GW82-1.5MW (17 turbines)		Report GRWF BLA Final.pdf
Gunning Wind Farm	46.5	31	1.5MW	2011	No collision data available
Hampton Wind Park	13.2	2	660 kW Vestas V-47	2001	No collision data. Small project
Sapphire Wind Farm	270	75	Vestas V126 3.6 (200m)	2018	Data available (4 years monitoring) https://www.squadronenergy.com/our-projects/sapphire-wind-farm
Silverton Wind Farm	200	58	GE 3.8MW	2019	Data available (2 years monitoring) https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/how-we-source-energy/silverton-wind-farm/220616-02022-238-silverton-wind-farm-bird-and-bat-mortality-survey-year-2-v3-with-appendices.pdf https://www.agl.com.au/about-agl/how-we-source-energy/silverton-wind-farm/documents
Taralga Wind Farm	107	51	Vestas V90-2.0MW, V100-1.8MW, V90-3.0MW	2015	Report accessible, however no specific data about species included https://www.taralga-windfarm.com.au/files/ugd/d232bb_5ef21aa789da421691d339d66379acf3.pdf Data not publicly accessible, but there are reports that indicated it was undertaken. (Section 6.0) https://www.taralga-windfarm.com.au/files/ugd/d232bb_b76545fd807c41698e8922897d52c688.pdf
White Rock Wind Farm	175	70	Goldwind 121 2.5MW	2018	Data available (at least 2 years monitoring) https://whiterockwindfarm.com/project/managing-impacts/
Woodlawn Wind Farm	48.3	23	Suzlon S88 2.1 MW	2011	No data available

5.2.2. Bird and bat utilisation survey results

A review of key guidelines with regard to impacts associated with bird and bat utilisation of the subject land, and associated impacts such as wind turbine strikes and barrier effect has been undertaken. The following sources of information were reviewed, and have been relied on in the completion of this portion of the BDAR:

- *Wind Farms and Birds – Interim Standards for Risk Assessment* issued by the Australian Wind Energy Association (AusWEA 2005).
- *Onshore Wind Farms – Interim guidance on bird and bat management* (DAWE 2022).
- *Onshore Wind Farm Guidance* (Cth DCCEEW 2023).
- *Best Practice Guidelines for Wind Energy Developments in Australia* (Clean Energy Council 2018).

- *Draft Wind Energy Guideline: Guidance for state significant wind energy development* (DPE 2023a).
- Unpublished South West Biodiversity and Conservation Division *Draft Turbine Risk Assessment and Avoidance Guidance* (NSW DCCEEW 2023a).
- Unpublished South West Biodiversity and Conservation Division *Suggested BBUS Method* (NSW DCCEEW 2023b).

Bird utilisation survey

Biosis undertook BUS in accordance with the requirements of the Best Practice Guidelines for Wind Energy Developments in Australia issued by the Clean Energy Council (2018) to provide baseline data on the pre-construction utilisation by avian species. Additional to this, surveys were completed in accordance with the *Onshore Wind Farms – Interim guidance on bird and bat management* (DAWE 2022).

Seasonal BUS were undertaken to inform collision risk modelling and therefore potential prescribed impacts, including the risk of collision with turbine blades. It was also used to inform the targeted species surveys for candidate species credit species. A full list per species at each BUS point is demonstrated in Appendix 4.

Background research and data sources were reviewed to identify all protected bird species records within 50 kilometres of the subject land. Information from relevant literature and incidental species sightings during other surveys were used to inform surveys and cover the following species groupings.

- All threatened species.
- Species which are rarely recorded.
- Species which exist naturally at relatively low densities.
- Waders.
- Larger birds such as raptors (eagles, hawks, kites) and waterbirds (herons, pelicans).
- Migratory birds.

A total of 26 fixed survey sites were established, including 16 impact sites and 10 control sites, across two years and eight seasons, and a total of 720 replicates. Methods of survey are described in Section 4.3.1. The survey locations were selected to represent likely turbine positions identified early in the project design and to obtain data at potential impact locations. They were distributed in different vegetation classes as a surrogate for habitat types. As the design developed, some turbine locations moved to avoid other environmental constraints, which resulted in modifications to the bird utilisation survey design, resulting in decommissioning of some sites early on and some control sites becoming impact sites (evident by number ID changes). Some BUS points were placed on the fringes of woodlands, where there is a continuum of habitats (woodland to grassland etc), therefore, some sites sampled multiple habitat types. There are also sites adjacent to or within cropped areas to capture the spatial extent of the subject land.

The locations for impact and control sites are shown in Figure 11b and Table 49.

Table 48 BUS survey seasons

Year	Summer	Autumn	Winter	Spring
2022	-	-	1- 5 August	21- 25 November
2023	6 - 10 February	8 - 12 May	23 -27 July	16 - 20 October
2024	22 - 26 January	13 - 17 March	-	-

Table 49 Bird utilisation survey points

Site	Point type	Purpose	Stage	PCT	Habitat type	Formation
CTL1	Control	CRM/BBAMP	2	160 mod_good	Inland Floodplain Shrublands	Freshwater Wetlands
CTL2	Control	BBAMP only	2	13 moderate	Inland Floodplain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
CTL3	Control	CRM/BBAMP	1	26 intact	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
CTL6	Control	BBAMP only	2	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
CTL7	Control	CRM/BBAMP	1	26 intact	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
CTL8	Control	BBAMP only	2	13 moderate	Inland Floodplain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
CTL9	Control	BBAMP only	2	Cat 1 exempt	Exotic/Cropping	-
CTL10	Control	BBAMP only	2	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
CTL11	Control	CRM/BBAMP	2	28 moderate	Riverine Sandhill Woodlands	Semi-arid Woodlands (Shrubby sub-formation).
CTL12	Control	BBAMP only	1	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP1	Impact	CRM	2	160 mod_good	Inland Floodplain Shrublands	Freshwater Wetlands
IMP2	Impact	CRM	1	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP3/18	Impact	CRM	1	13 thinned	Inland Floodplain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP4	Impact	CRM	2	13 moderate/46 Moderate	Inland Floodplain Woodlands and Riverine Plain Grasslands	Semi-arid Woodlands (Grassy sub-formation) and Grasslands
IMP5/19	Impact	CRM	2	26 intact	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP6	Impact	CRM	1	Cat 1 exempt	Exotic/Cropping	-
IMP7	Impact	CRM	2	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP9	Impact	CRM	1	26 DNG	Riverine Plain Woodlands (DNG)	Semi-arid Woodlands (Grassy sub-formation) and Grasslands
IMP10	Impact	CRM	1	26 DNG	Riverine Plain Woodlands (DNG)	Semi-arid Woodlands (Grassy sub-formation) and Grasslands
IMP11	Impact	CRM	1	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP13	Impact	CRM	2	26 DNG/15 moderate	Riverine Plain Woodlands (DNG) and	Semi-arid Woodlands (Shrubby sub-formation) and

Site	Point type	Purpose	Stage	PCT	Habitat type	Formation
					Inland Floodplain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP16	Impact	CRM	1	13 moderate	Inland Floodplain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP15	Impact	CRM	2	28 moderate/26	Riverine Sandhill Woodlands and Riverine Plain Woodlands	Semi-arid Woodlands (Shrubby sub-formation) and Semi-arid Woodlands (Grassy sub-formation)
IMP20	Impact	CRM	1	28 low	Riverine Sandhill Woodlands	Semi-arid Woodlands (Shrubby sub-formation)
IMP21	Impact	CRM	2	26 sparse	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)
IMP22	Impact	CRM	2	26 intact	Riverine Plain Woodlands	Semi-arid Woodlands (Grassy sub-formation)

The total Biosis survey effort across the eight seasons and two years equates to the equivalent of 28 replicates (720 replicates across 26 sites) at 20 minutes per point. The survey effort included in CRM equates to the equivalent of 28 replicates (574 replicates across 20 sites) at 20 minutes per point. This is adequate and within a reasonable survey tolerance for BBUS and the requirements of the CRM.

A total of 140 bird species were recorded within the subject land during BUS and incidentally within the eight seasons and two years of survey. The total list of species is provided in Appendix 4. The total number of flights recorded was 22,719 and the total number of flights within the Rotor Swept Area (RSA) height was 254 flights at height undertaken by 21 different species. The percentage of flights within RSA compared to that of all flights recorded is 1.12%.

The following height matrix was defined to classify bird height:

- Below RSA: <61 metres.
- Within RSA: 61 – 239 metres.
- Above RSA: >239 metres.

The following guilds were used to categorise species:

- Raptors.
- Grassland, shrubland and ground-dwelling birds.
- Waterbirds, seabirds and other aquatic foragers.
- Woodland birds (including parrots and songbirds).
- Exotic birds.

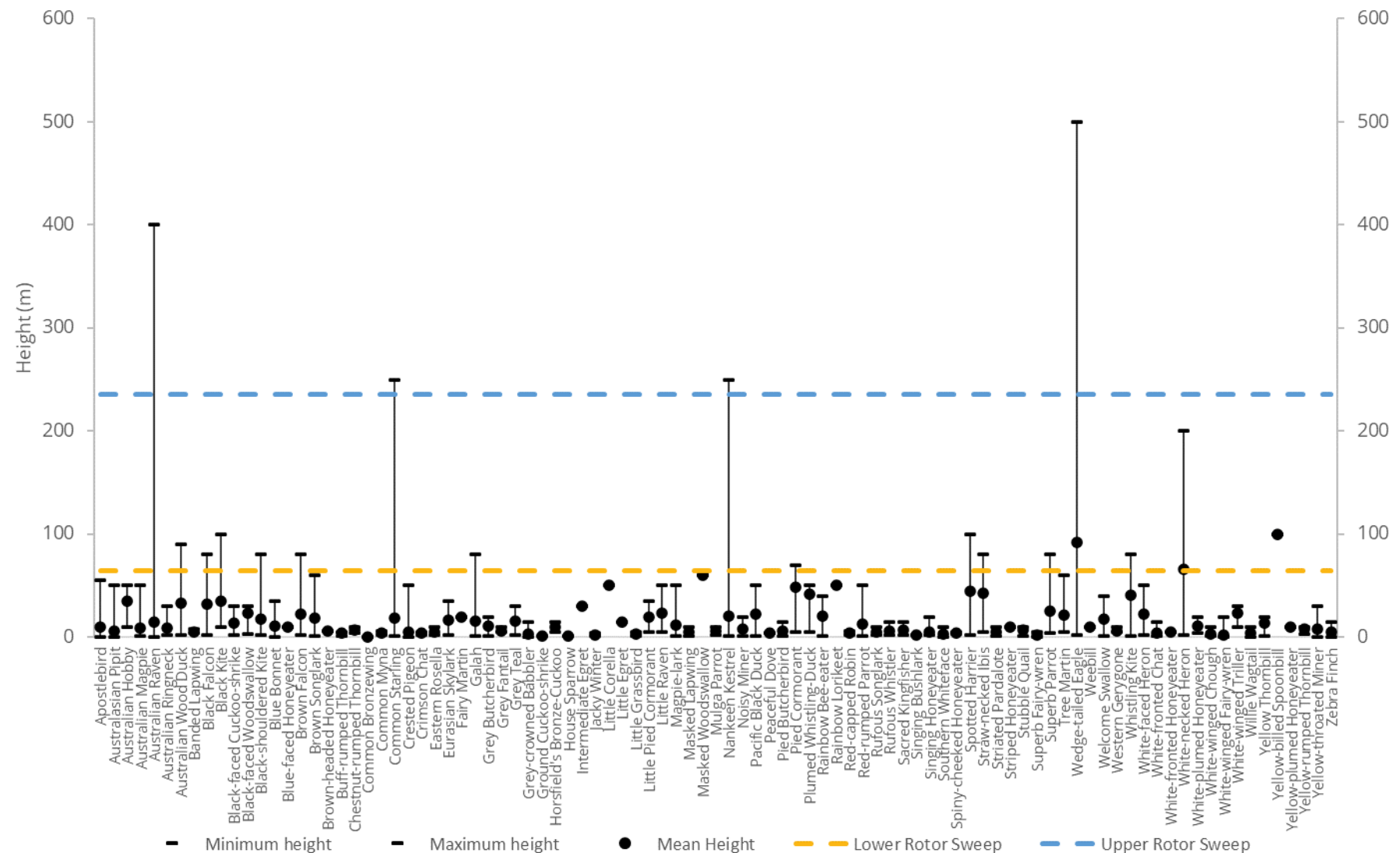
The following threatened species were recorded during the BUS and incidentally:

- Southern Whiteface *Aphelocephala leucopsis* (Vulnerable, EPBC Act).
- Dusky Woodswallow *Artamus cyanopterus cyanopterus* (Vulnerable, BC Act).
- Pied Honeyeater *Certhionyx variegatus* (Vulnerable, BC Act).
- Spotted Harrier *Circus assimilis* (Vulnerable, BC Act).
- White-fronted Chat *Epthianura albifrons* (Vulnerable, BC Act).
- Black Falcon *Falco subniger* (Vulnerable, BC Act).
- Painted Honeyeater *Grantiella picta* (Vulnerable, EPBC Act and BC Act).
- Square-tailed Kite *Lophoictinia isura* (Vulnerable, BC Act).

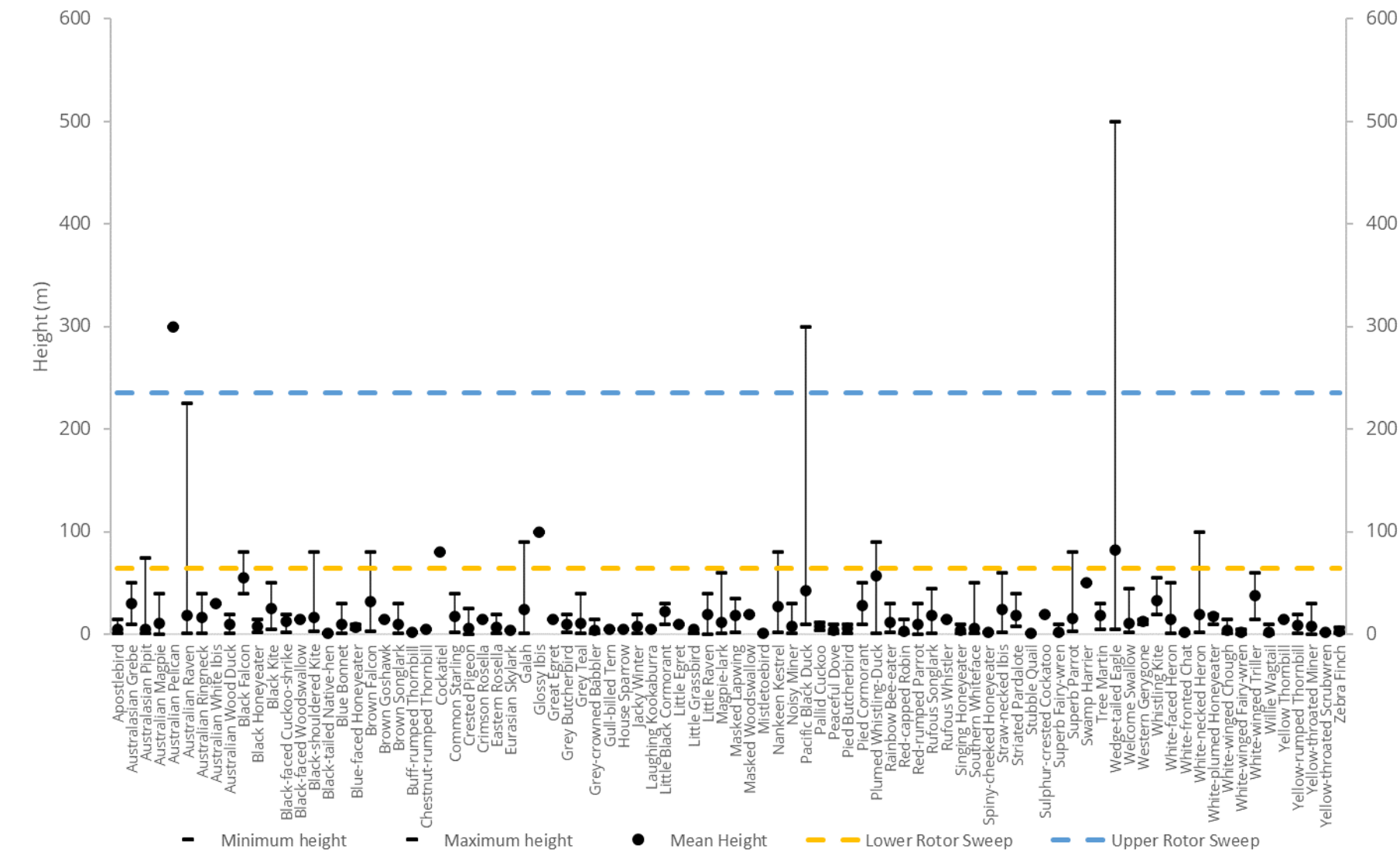
- Plains-wanderer *Pedionomus torquatus* (Critically Endangered, EPBC Act, Endangered, BC Act).
- Superb Parrot *Polytelis swainsonii* (Vulnerable, EPBC Act and BC Act).
- Grey-crowned Babbler (eastern subspecies) *Pomatostomus temporalis temporalis* (Vulnerable, BC Act).
- Diamond Firetail *Stagonopleura guttata* (Vulnerable, EPBC Act and BC Act).

The most diverse guild of birds detected during BUS were the woodland birds which made up about 60% of all species observed, with a total of 66 species. Up to 21 waterbird species were recorded, representing approximately 19% as the second-most recorded group. Raptors made up 10% of all species observed, with 11 species detected.

Graph 1 and Graph 2 below shows the average heights of birds recorded. Section 6 discusses further the results of the CRM and risk assessments for at risk species.



Graph 1 Average flight heights for bird species recorded at impact sites during BUS



Graph 2 Average flight heights for bird species recorded at control sites during BUS

Bat utilisation survey

Biosis completed seven seasons of surveys from 2022 to 2024 to provide baseline data on the pre-construction utilisation of the subject land by microbat species. The survey effort was a broad analysis undertaken to determine the presence or absence of all possible species predicted to occur in the area, with a particular focus on potential threatened species, as well as analysis of bat activity in conjunction with wind data from the on-site Met Mats.

Table 50 BUS survey seasons

Year	Summer	Autumn	Winter	Spring
2022	-	-	-	21- 25 November
2023	6 - 15 February	8 - 12 May	23 -27 July	15 - 20 October
2024	15 - 23 January	11 - 16 March	22-27 July	-

Bat activity was sampled across a range of habitat types within the subject land. The survey effort per habitat type is shown in Table 51.

Table 51 Microbat survey seasons

PCT	Zone	Vegetation class	Total bat calls recorded	Number of detector nights	Avg activity per detector per night
PCT13, Black Box, Lignum woodland wetland	Moderate	Inland Floodplain Woodlands	30,746	39	788
PCT17, Lignum shrubland wetland	Moderate	Inland Floodplain Shrublands	10,694	16	668
PCT28, White Cypress Pine woodland	Moderate	Riverine Sandhill Woodland	3400	33	103
PCT26, Weeping Myall Woodlands	Sparse	Riverine Plain Woodlands	9399	107	88
PCT26 Weeping Myall Woodlands	Sparse/DNG	Riverine Plain Woodlands/DNG	757	33	55
Totals			54,996	228	1702

It can be seen from Table 51, and Graph 3 below, that bat activity was found to be higher within wetter areas within the subject land such as floodplain woodland and shrublands. This is consistent with what would be expected in dry, open landscapes. Foraging resources are likely to be concentrated in wetter areas, where insect abundance and diversity is also likely to be higher. Structural vegetation diversity is also likely to be associated with increased foraging opportunities for a greater diversity of bats. Eucalypt woodland containing Black Box had the highest activity, which may also reflect increased roosting opportunities available in these habitats compared to other treed habitat types.