4th February 2026

James Hesford
Tetris Environmental
PO Box 3103
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Dear James,

Re: Verification of mapping within the Mummaloo IOP development envelope

The Mummaloo IOP development envelope (MIOP) (see figure 1) is a proposed offset area for the Mt Gibson project, specifically to offset the Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community (Eucalypt TEC).

EnviroWorks Consulting conducted a survey of the MIOP in 2012 and 2013 and mapped the Eucalypt TEC. Since that time, development within the MIOP has taken place, and several areas have been cleared for mining activities. To confirm any changes to the original vegetation mapping including the Eucalypt TEC, a verification of the vegetation boundaries was conducted.

This letter summarises the results of the assessment and the updates to the vegetation mapping.

1.0 Scope of work

The scope of work involved conducting a site assessment of the MIOP in Winter 2025. The assessment focused on verifying the boundaries of:

- Floristic Plant Communities (FPC)
- Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community
- Vegetation and Substrate Associations.

2.0 Methodology

2.1 Desktop assessment

A review was conducted of the original report for the MIOP (EnviroWorks 2013) as well as the shapefiles of the mapped Floristic Plant Communities (FPCs) and the extent of the Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community (Eucalypt TEC). The descriptions of the FPCs were reviewed to facilitate their recognition and verification in the field. An

Avenza map of the FPCs was prepared and loaded onto a mobile field device to confirm the boundaries.

One TEC was identified within the MIOP; Eucalypt Woodlands of the Western Australian Wheatbelt (Eucalypt TEC). This Eucalypt TEC corresponds to Floristic Plant Community 6: Salmon Gum Open Woodland. An Avenza map specifically displaying this FPC was prepared to assist in verifying the boundaries of the TEC.

2.2 Verification of previous mapping

Verification of the FPC boundaries was undertaken by traversing the MIOP by foot and by vehicle along existing tracks. The assessment was undertaken over two days from 31st July to 1st August 2025 by Principal Botanist Catherine Krens (Flora Collection Licence FB62000188). To enable comparison with the original FPC mapping (EnviroWorks 2013), a total of 132 mapping points were surveyed, where the floristic structure, condition, and dominant species were recorded (see figure 1).

The Eucalypt Woodlands of the Western Australian Wheatbelt TEC mapping was assessed against the diagnostic criteria specified in the conservation advice (DotEE 2015). The criteria include the location, presence of key Eucalyptus species (i.e. Salmon Gum), vegetation condition, native species understorey composition, and patch size.

2.3 Condition and quality score

The quality of the Eucalypt Threatened Ecological Community (TEC) is a key factor in assessing its conservation value. Vegetation condition, in combination with the quality criteria outlined in the Eucalypt TEC conservation advice (DotEE 2015), was used to determine the Eucalypt TEC quality score, as presented in Table 1. The quality score range reflects variations in vegetation condition; for example, a score of 6-7 indicates Good to Very Good condition. A score of 7 represents the lower threshold of Very Good, while a score of 8 represents the upper threshold of Very Good.

TABLE 1 CONDITION CATEGORIES AND QUALITY SCORE OF THE EUCALYPT TEC

Vegetation condition	Definition	Quality category	Quality score
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occassional vehicle tracks	High quality	9-10
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.	Medium quality	7-8
Good	Vegetation structure altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to generate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.	Good quality	5-6
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.	Low quality	3-4
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.	Very low quality	1-2

2.4 Vegetation and substrate associations

The Vegetation and Substrate Associations (VSAs) were mapped within the MIOP. Although these associations were not initially mapped by EnviroWorks in 2013, they will assist in identifying suitable habitats for conservation significant fauna known to occur within the Mt Gibson project area. This includes species such as the Malleefowl, Western Spiny-tailed Skink, and Lake Goorly Shield-backed Trapdoor Spider. VSAs provide a standardised method for describing fauna habitats based on vegetation structure, soil types, substrates, and landforms.

3.0 Results and discussion

3.1 Floristic plant communities

The boundaries of the FPCs have remained largely unchanged since the original mapping conducted by EnviroWorks in 2013, with a significant exception related to the areas affected by mining activities, which are now classified as cleared (see figure 2).

During the assessment, two mapping amendments were made (see figure 2). The first change occurred on the western boundary of the MIOP. It was initially mapped as Community 1: Allocasuarina-Melaleuca Shrubland Type 1; however, the boundary of the adjacent Community 6: Salmon Gum Open Woodland has been found to extend further south into the area originally designated as Community 1.

The second amendment addresses an incorrectly assigned FPC; while the boundaries are accurate, the community was misidentified. It was originally mapped as Community 3: Acacia-Melaleuca Shrubland, but it should be classified as Community 6: Salmon Gum Open Woodland.

3.2 Threatened and Priority Ecological Communities

The Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community (Eucalypt TEC) is represented by Community 6: Salmon Gum Open Woodland, which was widespread across the original MIOP footprint. Clearing of the Eucalypt TEC has occurred within the mining areas; however, outside these areas, the boundaries of the TEC have remained unchanged, except for two locations; one being on the western side of the MIOP where the Eucalypt TEC extends slightly to the south and the other reclassified as the Eucalypt TEC (see figure 3). A 40-meter buffer is applied to all areas of the Eucalypt TEC.

Of the 132 mapping points, a total of 49 were determined to be the Eucalypt TEC. The Eucalypt TEC occurred on lower slopes and flats (see Plate 1), and the vegetation is described as:

> A medium open woodland of *Eucalyptus salmonophloia* and *Eucalyptus loxophleba* subsp. *supralaevis* over sparse tall shrubs of *Eremophila oldfieldii* subsp. *angustifolia*, *Exocarpos aphyllus,* and *Acacia tetragonophylla* over low shrubs of *Senna artemisioides var filifolia,* and *Olearia muelleri.*

PLATE 1 PHOTOGRAPH OF THE EUCALYPTUS TEC WITHIN THE MIOP

Most of the Eucalyptus TEC was determined to be in Very Good condition with a quality score of 7-8. There were some areas in Excellent condition in areas away from the disturbance footprint and tracks, in these areas the quality score was 9-10. A summary of the mapping points is provided in Table 2.

TABLE 2 SUMMARY OF THE EUCALYPTUS TEC MAPPING POINTS

Mapping point	Vegetation type	Eucalytpus TEC	Condition	Quality range	Quality score
1	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
5	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
8	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
ra11	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
17	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
18	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
19	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5

Mapping point	Vegetation type	Eucalytpus TEC	Condition	Quality range	Quality score
24	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
25	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
26	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
29	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
30	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
32	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
36	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
38	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
39	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
43	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
45	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
47	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
48	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
49	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
60	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
62	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
63	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
64	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
66	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
67	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
76	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
77	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5

Mapping point	Vegetation type	Eucalytpus TEC	Condition	Quality range	Quality score
78	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
79	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
83	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
98	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
103	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
104	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
105	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
107	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
108	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
110	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
112	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
114	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
115	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
117	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
118	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
119	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
121	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
126	Salmon Gum Open Woodland	Yes	Very Good	7-8	7.5
128	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
129	Salmon Gum Open Woodland	Yes	Excellent	9-10	9.5
Average				8.1	

3.3 Vegetation and structure associations

The Vegetation and Structure Associations (VSAs) were primarily determined by the vegetation structure (Bamford 2024) and closely aligned with the FPCs. Four VSAs were mapped (see figure 4):

- VSA 1 – Acacia shrubland
- VSA 2 – Allocasuarina shrubland
- VSA 4 – Eucalypt woodland
- VSA 8 – Cleared.

The most widespread VSA was VSA 4 – Eucalypt woodland which represents suitable habitat for the Western Spiny-tailed Skink and the Lake Goorly Shield-backed Trapdoor Spider. The preferred habitat is York Gum Open Woodland followed by Salmon Gum Open Woodland. VSA 1 – Acacia shrubland and VSA 2 – Allocasuarina shrubland are the key habitats for Malleefowl.

4.0 Assessment summary

The verification of the MIOP was undertaken in July 2025 over two days. The assessment consisted of confirming previous mapping undertaken by EnviroWorks in 2013 with the boundaries of the Floristic Plant Communities and the Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community confirmed. The Vegetation and Structure Associations were mapped to identify suitable habitat for conservation significant fauna.

Generally, the original mapping had not changed, apart from the clearing from mining activities and some minor boundary alignments and reclassification. Several amendments were made including:

- FPCs:
  - One boundary change extending Community 6: Salmon Gum Open Woodland
  - One change in FPC classification from Community 3: Acacia-Melaleuca Shrubland to Community 6: Salmon Gum Open Woodland
- TECs:
  - Two additional areas of the Eucalypt Woodlands of the Western Australian Wheatbelt TEC were added, which correspond to the FPC changes
  - The condition the Eucalypt TEC was mostly Very Good with a quality score of 7-8 (medium quality). Some areas away from existing disturbance and tracks were in Excellent condition and had a quality score of 9-10 (high quality).
- VSAs:
  - Four VSAs present; VSA1: Acacia shrubland, VSA2: Allocasuarina shrubland, VSA4: Eucalypt woodland, and VSA8: Cleared.

The assessment is considered complete, and no further surveys are recommended.

Yours sincerely

C Krens

Catherine Krens

Principal Botanist

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References

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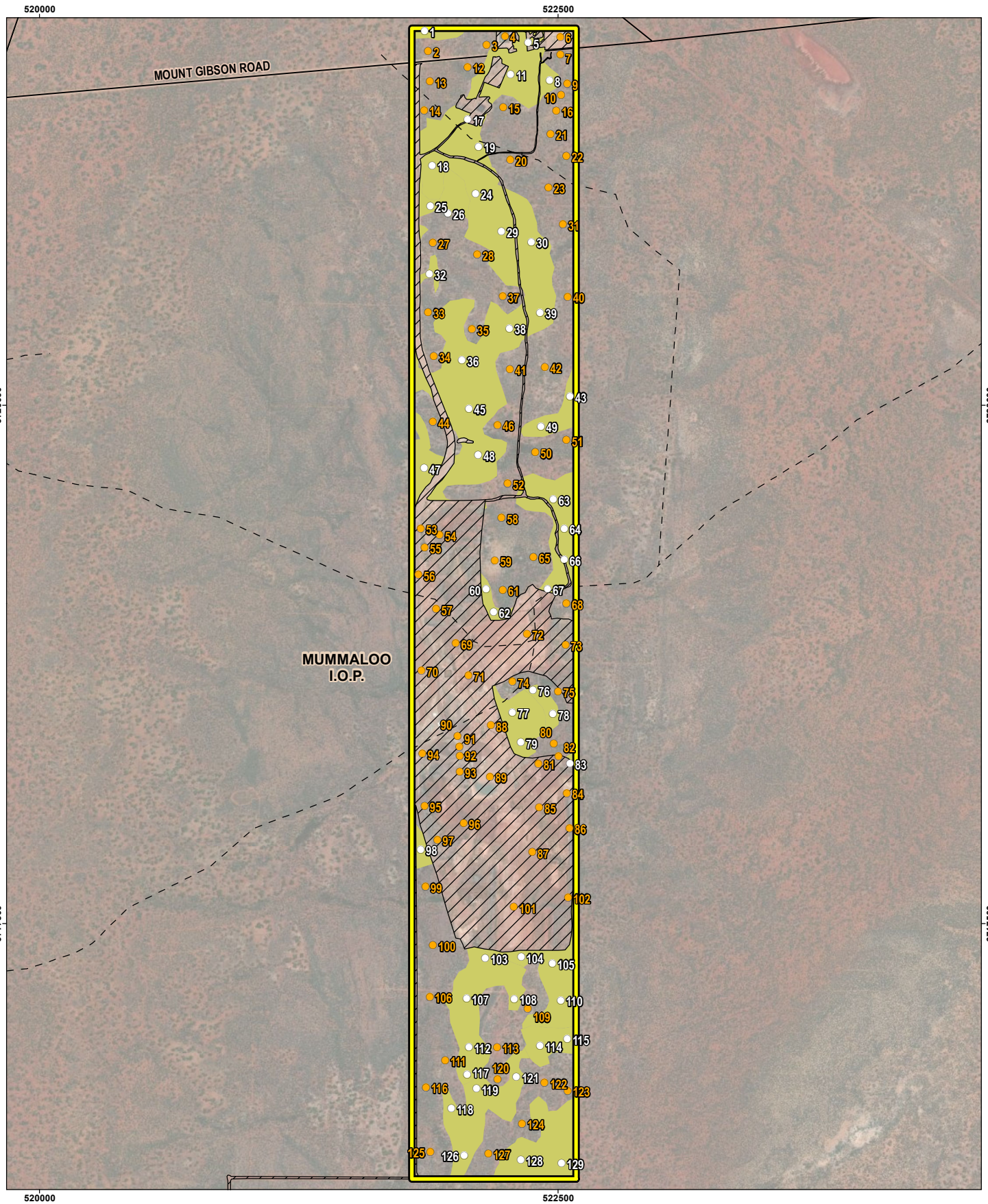
Figures



Legend

- Development Envelope
- Existing Disturbance
- Road
- Track
- Eucalypt TEC - Salmon Gum Open Woodland

Eucalypt TEC Assessment Point

- Yes (TEC)
- No (TEC)

TETRIS ENVIRONMENTAL

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km

Scale: 1:25,000 @ A4
GDA 1994 MGA Zone 50

Mt Gibson Gold Project

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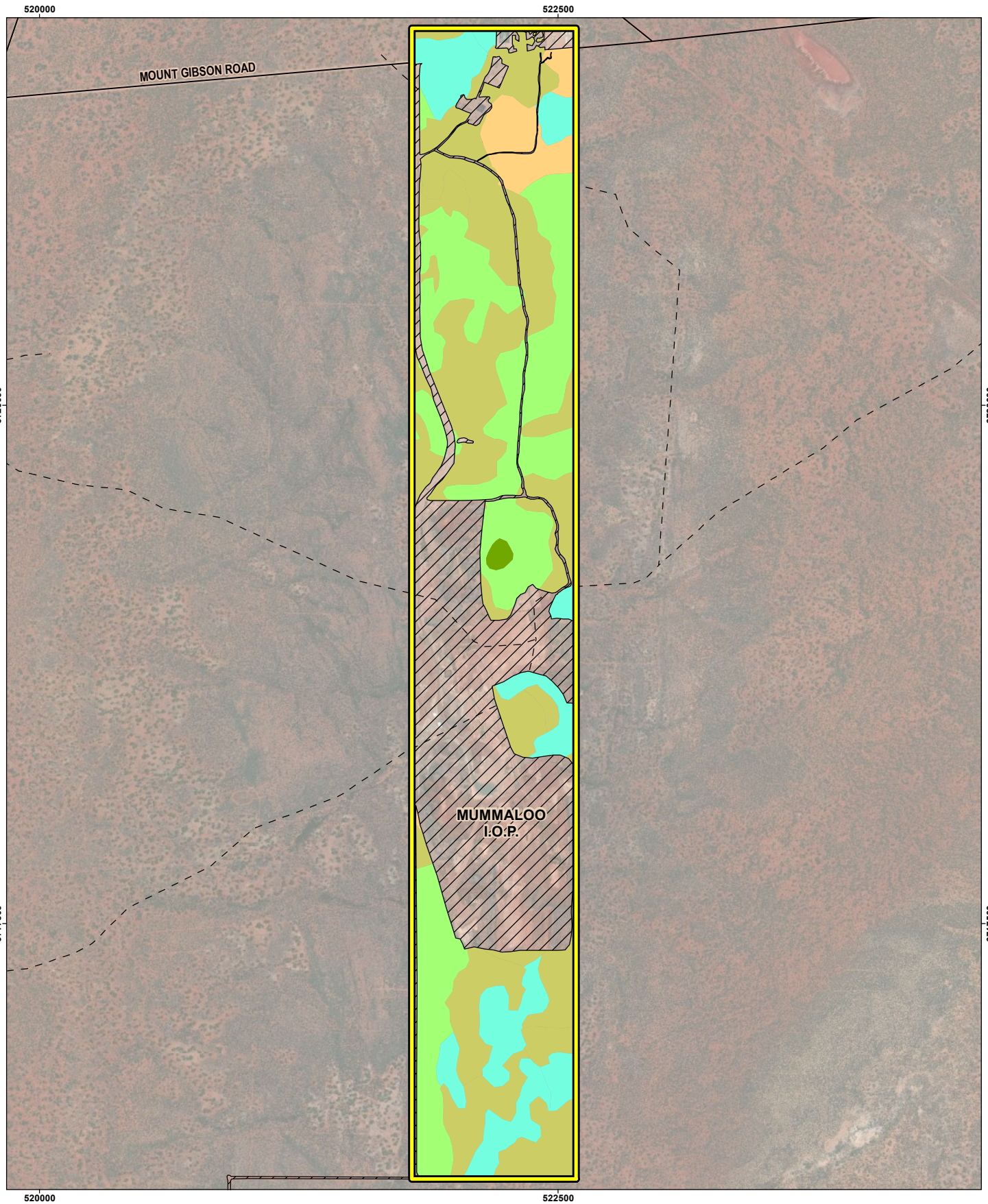
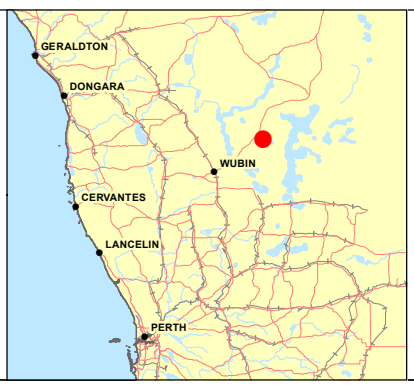


Legend

- Development Envelope
- Existing Disturbance
- Road
- Track

Floristic Plant Communities

- Acacia – Melaleuca Shrubland
- Allocasuarina – Melaleuca Shrubland Type 1
- Allocasuarina – Melaleuca Shrubland Type 2
- Salmon Gum Open Woodland
- York Gum Open Woodland



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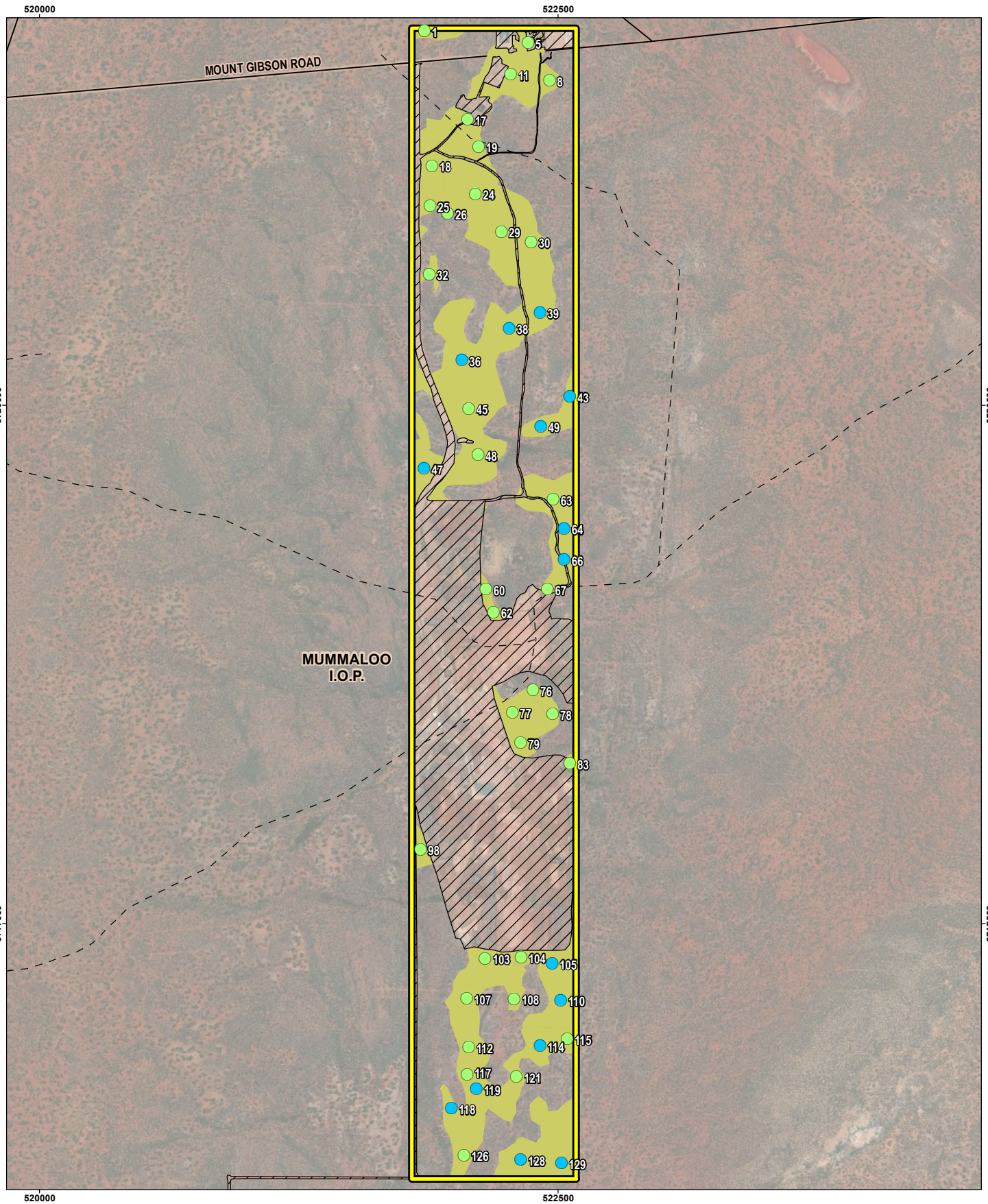

Legend

- Development Envelope
- Existing Disturbance
- Road
- Track
- Eucalypt TEC - Salmon Gum Open Woodland

Eucalypt TEC Assessment Point Condition

- Excellent
- Very Good

TETRIS ENVIRONMENTAL

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km

Scale: 1:25,000 @ A4
GDA 1994 MGA Zone 50

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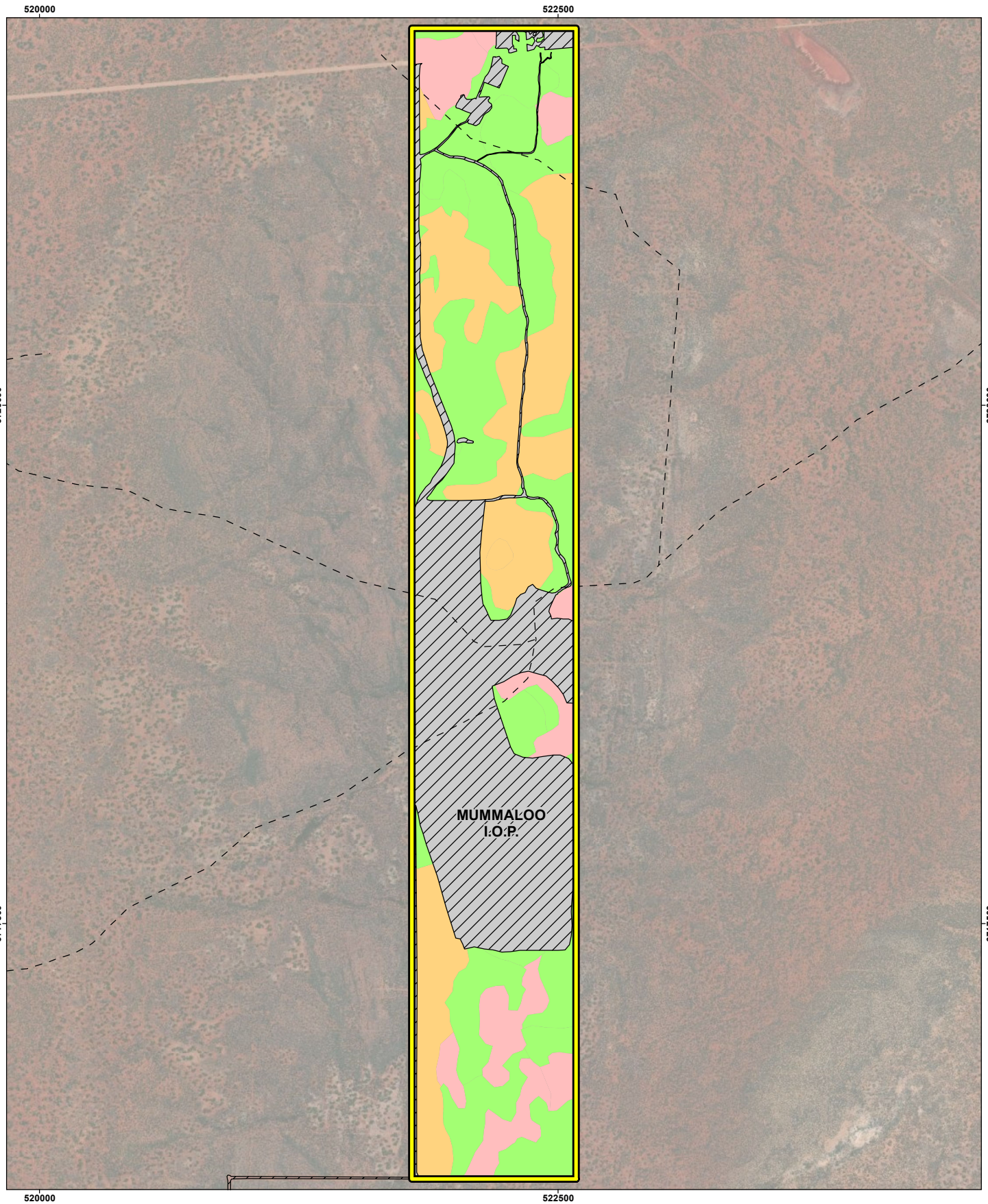

Legend

- Development Envelope
- Existing Disturbance
- Track

Fauna VSA

- VSA1: Acacia shrubland
- VSA2: Allocasuarina Shrubland
- VSA4: Eucalypt woodland
- VSA8: Cleared

TETRIS ENVIRONMENTAL

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Scale: 1:25,000 @ A4
GDA 1994 MGA Zone 50

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