# Environmental Impact Assessment (EIA)

Townsend Rd, Mariginiup

Native Vegetation Clearing Permit Application Supporting Documentation

February 2025.

City of Wanneroo

# Contents

# 1. Introduction

The City of Wanneroo (the City) is proposing to undertake the clearing of vegetation within Road Reserve PIN 1032897, Townsend Road, Mariginiup/ Jandabup. The City is proposing to clear 0.0342ha of native vegetation within a project footprint of 2.169ha. The clearing is to facilitate the road widening of Townsend Road from 6 meters to 9 meters as part of the 2025/2025 Commodity Routes Fund Program. The original road alignment was cleared, now 95% degraded and peppered with the a few native species along the 1.2km stretch such as *Eucalyptus leucoxylon* and *Acacia saligna*. To facilitate the clearing of vegetation within the proposed project footprint, the City submits this supporting documentation to assist the Department of Water and Environmental Regulation (DWER) assessment of the clearing permit application.

Table 1: Land Parcel Information

| **Project** | **Lot number** | **Deposited Plan** | **Reserve number** | **Address** | **Landowner** | **MRS zoning** |
|---|---|---|---|---|---|---|
| Road Reserve PIN: 1032897 Land Type: Road | | | | | | |
| Townsend Road | 3612398 | P road | | Townsend Rd, Mariginiup | City of Wanneroo | Rural (Zone), Rural - water protection (Zone) Bush forever area Site-324 |

This Environmental Impact Assessment (EIA) document focuses on the minimal impact of the proposed upgrade of Townsend Road.

# 2. Background

Townsend Road has been identified as a critical transport route under the 2024/25 Commodity Routes Fund Program. This route is essential for the year-round transport of bulk aggregates, decorative and architectural aggregates, road base materials, sands, and specialty products, supporting the infrastructure, building, and construction industries. The approved works under the program involve widening the road from 6 meters to 9 meters and rehabilitating the pavement structure to address current transport demands and ensure safety.

This section of Townsend Road is straight and narrow but in poor condition. It has been subjected to significantly increased volumes of heavy vehicles due to the rising demand for construction materials. As a direct access route to two quarries that supply these materials, Townsend Road is critical for the ongoing development of infrastructure projects.

Currently, the road's existing 6-meter seal is deteriorating across its entire width and lacks shoulders, further compounding safety risks. The increased traffic from heavy vehicles has raised significant public safety concerns, highlighting the urgent need for road widening and pavement rehabilitation to improve safety, operational efficiency, and durability.

The project will align with the Strategic Community Plan 2021-2031, Goal 5: *A well planned safe and resilient City that is easy to travel around and provides a connection between people and places.*

# 3. Scope

The purpose of this document is to provide an assessment against the Environmental Protection Act 1986- Ten Clearing Principles to determine whether the proposed clearing is likely to have a significant impact on the environment. Clearing of native vegetation is proposed to ensure that construction and widening of the existing Townsend Road, Mariginiup show in Figure 1.

The City proposes to widen the 1.2km straight section of Townsend Road between Rousset Road SLK 0.4 and Hawkins Road SLK 1.66. The works include widening from 6m to 9m, nominal 80mm granular overlay, foam bitumen stabilisation to 160mm, 8m wide two-coat seal and re-establishment of table drains.

The City is proposing to permanently clear 0.0342 ha of native vegetation within road reserve. The revegetation will comprise with some only native species identified during the vegetation assessment conducted 24 November 2024.

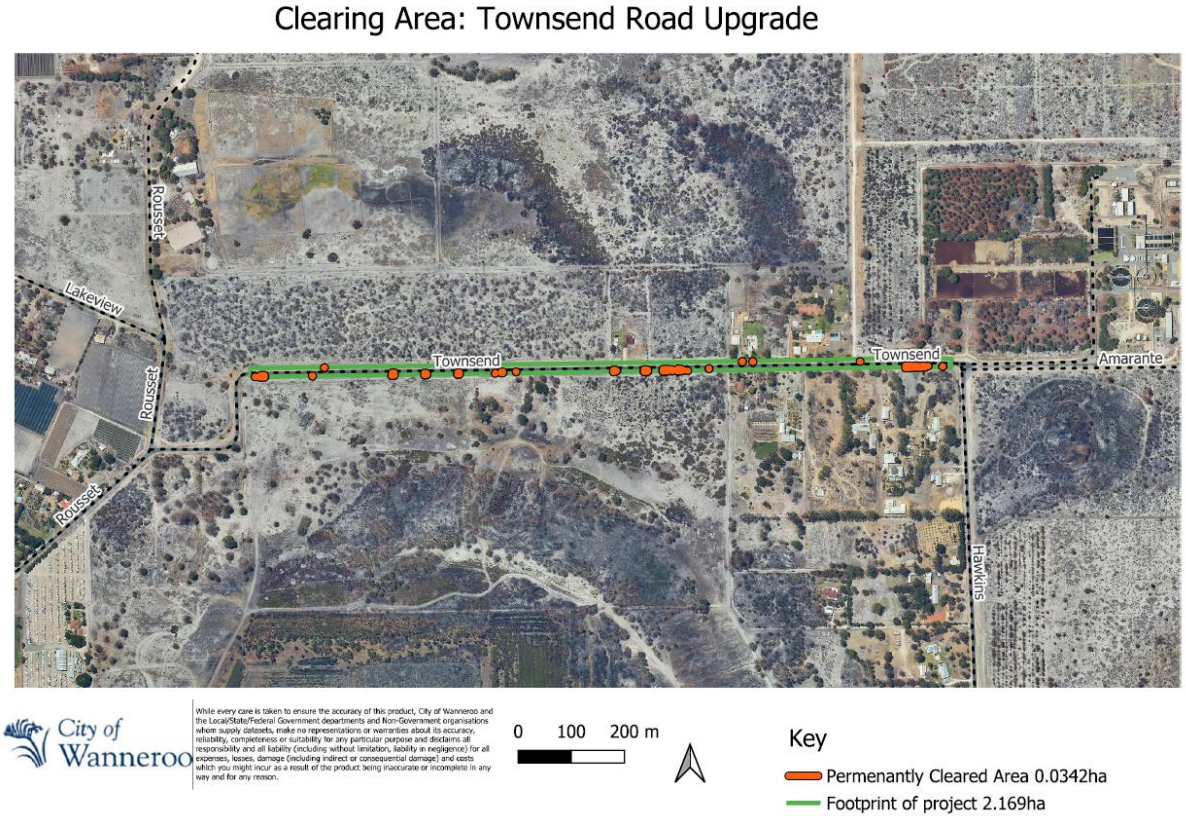


**Figure 1 Clearing Plan**- 0.0342ha Permanent Clearing Area

# 4. Flora and Vegetation

## 4.1 General information

The City's environmental team conducted a Vegetation Assessment of Townsend Road proposed project site in December 2024(**Attachment. C**).

The reserve adjacent to Townsend Road Mariginiup retains native vegetation representative of the BASSENDEAN_949- Low woodland or open low woodland of the Perth- SWA2 IBRA Subregion representative of Pinjar Complex (Heddle, 1980). The adjacent area retains remnant vegetation and is within Bush Forever Site 324 and an Environmentally Sensitive Area (ESA) 3.433 ha.

On Wednesday 22 November 2023, there was a bushfire on and around Townsend Road. The fire quickly spread out of control due to strong winds and unseasonably hot, dry weather. It burned through 1,900 hectares in four days. Due to this the vegetation on and adjacent Townsend Road is depleted. The vegetation within the proposed clearing site was assessed on the 3rd of December 2024 and it was confirmed that is in predominantly a degraded condition.

## 4.2 Site assessment and photographs

On 3 December 2024, the City's Environmental Officers conducted vegetation assessments of the proposed 0.0342ha Townsend Road clearing area (**Attachment H** Clearing Plan and **Attachment B**- Clearing Area Shapefiles) identifying a total of 10 native flora and 4weed/ non-natives species. Based on the assessment, the project site comprises approximately 90% bare ground, 17% weed coverage, and 3% native vegetation. Consequently, the removal of the remaining 3% native vegetation is deemed to have minimal ecological impact.

The Townsend Road clearing area subject to this application is predominantly in degraded condition, (**Figure 2**). The site was observed to also have high weed cover with the dominant weed species being *Eragrotis* (Love grasses).

**Figure 2**: Photograph of vegetation taken on 3rd December 2024. (Photo ID TS(3))

**Table 1** Species identified during the Vegetation Assessment on 3rd December 2024.

| Native | Family | Common name | Number present | Notes |
|---|---|---|---|---|
| *Acacia cyperophylla* | *Fabaceae* | *Red mulga* | *1* | *Small shrub – burnt in recent fire* |
| *Acacia saligna* | *Fabaceae* | *Golden wreath wattle* | *1* | *Small shrub 2 foot* |
| *Adenanthos sericeus* | *Fabaceae* | *Woolly Bush* | *3* | *Small shrubs less than 2ft (1* 1m )* |
| *Eucalyptus leucoxylon* | *Proteaceae* | *Yellow gum* | *1* | *3ft tall* |
| *Lysimachia foemina* | *Primulaceae* | *Blue pimperne* | *1* | *Less than 10cm* |
| *Macrozamia communis* | *Myrtaceae* | *Burrawang* | *~6* | *Most 2 ft (1* 2m Tall)* |
| *Malia azedarach* | *Meliaceae* | *Chinaberry tree* | *1* | *Small shrub – burnt in recent fire* |
| *Native grasses* | *Poaceae* | *Varied* | | *Scattered all over the shoulder of the road* |
| *Rhodanthe anthemoides* | *Asteraceae* | *Chamomile sunray* | *1* | *Less than 10cm* |
| **Non native** | | | | |
| *Angallis arvensis* | *Primulaceae* | *Scarlet pimpernel* | *>10* | *Scattered all over the shoulder of the road* |
| *Eragrotis* | *Poaceae* | *Love grasses* | | *Scattered all over the shoulder of the road* |
| *Euphorbia maculata* | *Euphorbiaceae* | *Spotted spurge* | *>10* | *Scattered all over the shoulder of the road* |
| *Lagurus ovatus australia* | *Poaceae* | *Hare's tail grass* | *>10* | *Scattered all over the shoulder of the road* |
| *Oenothera drummandia* | *Onagraceae* | *Beach Evening Primrose* | *12* | *Scattered all over the shoulder of the road* |
| *Pelargonium cucullatum* | *Geraniaceae* | *Hooded-leaf pelargonium* | *>20* | *Scattered all along the roadside* |
| *Tipuana kuntze* | *Fabaceae* | *Tipu tree* | *4* | *<2m* |

## 4.2 Bush Forever Site 324

Part of the proposed clearing area is part of the larger (508.84ha) Bush Forever Site 324: Jandabup Lake and Adjacent bushland, Jandabup/ Mariginiup.

The proposed clearing areas is within the current road reserve and will be 0.00672% of the Bush Forever site. The clearing is required to ensure that safe transport route is maintained. The vegetation clearance will be confined exclusively to the designated road reserve project area, ensuring no encroachment into adjacent land parcels, thus, making impact of proposed works minimal. The road reserve cuts through the Bush Forever site as shown in Figure 4.

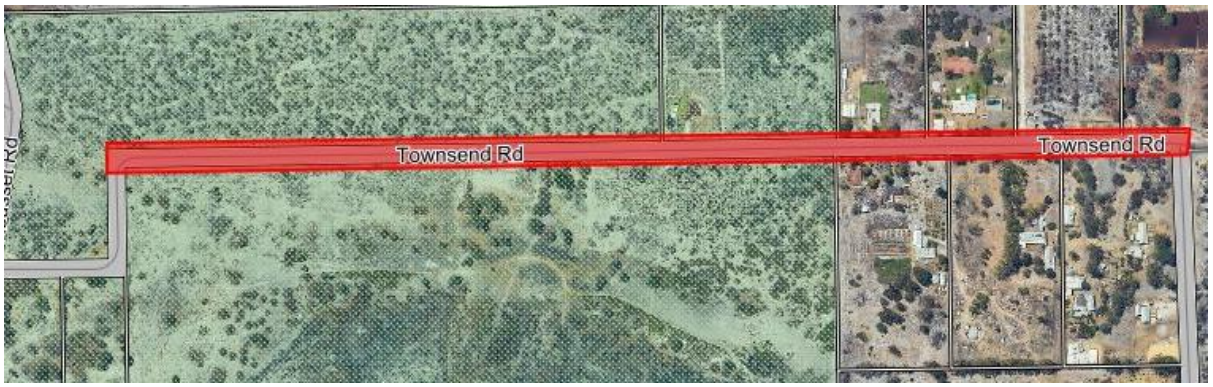


**Figure 3:** Bush Forever site shown in green hatching, and proposed clearing area shown in red.

## 4.4 Environmentally Sensitive Areas (ESA) and Ecological Linkages

Part of the proposed clearing area lies within an Environmentally Sensitive Area (**Figure 5**) and, therefore, no possible exemptions may be applied under *Part V* of the *Environmental Protection Act 1986.* The proposed site is also within Gnangara Mound Ecological Linkages (GMEL) and regional linkage area 16.


**Figure 4**: Environmentally Sensitive Area (ESA) shown in orange shading and the location of proposed works in red.

# 5. Fauna

No evidence of fauna presence was recorded within the extent of the proposed clearing area during the site inspection undertaken on the 21st of November 2024 except from one deceased Kangaroo on the side of the road. Due to the movement on heavy vehicles along this alignment it is unlikely that fauna will reside in this project area.

The City of Wanneroo's (the City's) Intramap's Environmental Planning Considerations Report (EPCR) identified the following (see **Attachment D** for further details):

- 'Remnant Vegetation' Carnaby cockatoo (*Zanda latirostris*) and a 'Confirmed feeding habitat' and Roosting area'.
- Ecological and regional linkage area.
- Key Biodiversity Area for Birds (Northern Swan Coastal Plain IBA). The IBA is bounded by Moore River to the north, Darling Range to the east, Swan River to the South and Indian Ocean to the West and includes remnant vegetation in Spearwood and Bassendean North Heddle vegetation types.
- Contains vegetation mapped as Potential Quenda (*Isoodon obesulus*) Habitat.

Due to the degraded condition of the vegetation and high volume of traffic on the exiting transport route, it is highly unlikely that fauna will be impacted during the construction of the road, fauna management measures will be implemented during the construction of this project.

# 6. Clearing Principles

An Environmental Planning Considerations Report (EPCR) (**Attachment D**) and a Desktop Assessment Report for Native Vegetation Clearing (NVC) Application (**Attachment E**) were generated for Townsend Road using the City's Mapping program Intramaps' as supporting documentation for the below clearing principal assessment. These two (2) reports, along with additional data sources such as by various state and federal departments, were reviewed to determine the level of impact and the level of variance of the clearing principles.

The following table summarises potential environmental impacts and the level of variance against the 10 clearing principles.

*Table 2: Assessment of the proposed Brazier Road projects' likely impacts against the 10 Clearing Principles and level of variance to each clearing principle*

| Clearing Principle and Impacts (Flag colours) | Proposed Project Impacts |
|---|---|
| ***Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity*** | **The Townsend Road application is unlikely to be at variance with clearing principle (a)**<br>An NVC (Attachment E) and EPC report (Attachment D) of the adjacent reserve to the proposed Townsend Road site, found that the vegetation is in a good or better (Keighery 1994) condition and there is flora, fauna, PEC, and TEC records within 5km of the application area.<br><br>The City's EPC and NVC Reports identified the following flora and fauna attributes within the Townsend Road project area:<br><br>• 'Remnant Vegetation' Carnaby cockatoo (*Zanda latirostris*) and a 'Confirmed feeding habitat', 'Confirmed Roosting Area' and 'Possible Roosting area buffer'.<br>• Key Biodiversity Area for Birds (Northern Swan Coastal Plain IBA). The IBA is bounded by Moore River to the north, Darling Range to the east, Swan River to the South and Indian Ocean to the West and includes remnant vegetation in Pinjar Complex.<br>• Contains vegetation mapped as Potential Quenda (*Isoodon obesulus*) habitat.<br>• Poorly known priority 2 taxa, priority 3 poorly known taxa<br><br>In comparison to the surrounding environment, there is minimal impact to native vegetation due to the proposed clearing zone being within the road reserve and the condition of vegetation being degraded with low comparable diversity.The vegetation assessment (conducted on the 03/12/2024) identified that the vegetation within the road reserve is highly degraded. This degradation is evident through the presence of weeds, bare soil and lack of native vegetation necessary to support biodiversity. The native vegetation in this road reserve does not support a diverse range of flora and fauna,the lack of biodiversity makes the area less critical for conservation. The continuous movement of heavy vehicles along this alignment has further contributed to the degradation of the vegetation providing an inhospitable habitat for native fauna. Due to the fire on Towsend Road in 2023, there has been further degradation of native species adding to the lack of biological diversity.T**herefore, the Townsend Road application area is unlikely to be at variance with clearing principle (a)** |
| **Principle (b) – Native vegetation should not** | **The proposed clearing will likely not be at variance with Principle (b)** |

| | |
|---|---|
| **be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia** | The City's EPC (Attachment D) and NVC Reports (Attachment E)identified the area being within an important birding area (Northern Swan Coastal Plain IBA) and containing Carnaby's Cockatoo foraging habitat and within confirmed 'feeding' and 'roosting' area buffer as well as a Potential Quenda habitat<br>A vegetation assessment on 03/12/2024 found that the vegetation condition was highly degraded,including bitumen roads and cleared native vegetation. The site visit found no evidence of Quenda habitat including no foraging pits, no droppings and no sightings were observed, due to the lack of vegetation suitable for Quenda habitat, it is unlikely that the project site is a Quenda habitat. The site visit found there are few suitable feeding resources for Carnaby's and Forest Redtail Black-Cockatoos, so they are unlikely to be significantly impacted by vegetation clearing. *Macrozamia communis, Acacia saligna ,Acacia cyperophylla and Eucalyptus leucoxylon* are all Cockatoo feeding resources, however, no evidence of feeding or sightings were observed during the site visit. It is unlikely that Cockatoos would be feeding within the project area due to it's degraged condition, the proximity to a major road (Townsend Road) and lack of food sources.<br><br>Considering the project will be within current road reserve and the condition is degraded, better quality habitat for fauna is present in surrounding areas and nearby reserve, therefore, **the proposed clearing will likely not be at variance with Principle (b)**. |
| ***Principle (c) – Native vegetation should not be cleared if it includes or is necessary for the continued existence of, rare flora.*** | **Proposed clearing is unlikely to be a Variance with Principle (c)**.<br>During a site visit on 03/12/2024, no rare flora was discovered, the absence of rare flora on the site indicates that the proposed clearing will not impact any species classified as rare or threatened. |
| ***Principle (d) - Native vegetation should not be cleared if it comprises the whole or a part of or is necessary for the maintenance of a*** | **Proposed clearing is unlikely to be at variance with Principal (d).**<br>The City's EPC report (Attachment D) identified 146 Threatened Ecological Communities (TEC) within a 5km radius of the application area and is summarised in the table below, however, a vegetation assessment on 03/12/2024 found that the vegetation condition was highly degraded due to already being cleared to construct a road, therefore, it is unlikely that TECs and PECs would be within the project area and, therefore, unlikely to contradict Principle d.<br><br>The application area is within and Environmentally Sensitive Area (ESA). |

***Threatened Ecological Community.***

**Table 3:** TEC and Priority EC within 5km buffer

| Summary of Threatened and Priority Listed Ecological Community's Records Intersecting EPC Site within 5km Buffer | |
|---|---|
| Threatened- EPBC Act Listed | 344 |
| Threatened/Specially protected- State listed | 7 |
| Priority | 340 |

The proposed clearing area is next to a Threatened Ecological Community (TEC), but the proposed clearing area is in the road reserve, and it won't affect the TEC. **Therefore, it's unlikely to contradict Principle (d).**

***Principle (e) - Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been significantly cleared.***

**Proposed clearing is unlikely to be at variance with principal (e).** The Townsend Road application area is mapped in the Northern Swan Coastal Plain, Pinjar Complex remnant vegetation.

The table below summarises the native vegetation statistics as described by the Department of Biodiversity, Conservation and Attractions (DBCA) (Government of WA, 2019).

**Table 4**: Native vegetation statistics (Government of WA, 2019).

| IBRA bioregion | Pre-European Extent (ha) | | Current Extent (ha) | Extent remaining % |
|---|---|---|---|---|
| Swan Coastal Plain/ Perth (SWA02)- BASSENDEAN | 38,885.12 | 30,558.65 | 38.65 | |

Given the proposed clearing area is degraded within the road reserve and that the cleared area will be revegetated, **it is unlikely to contradict Principle (e)**

***Principle (f) - Native vegetation should not be cleared if it is growing in, or in association with, an***

**Proposed clearing is unlikely to be at variance with Principle (f)**.

The area does not contain a watercourse or wetland. The proposed works are situated several kilometers from the nearest wetlands. Given that the project site is located over 50 meters away from these wetlands, there will be no adverse impacts on the wetland ecosystems.

**Unlikely to be at variance with Principle (f).**

| | |
|---|---|
| ***environment associated with a watercourse or a wetland*** | |
| ***Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.*** | **Proposed clearing is not likely to be at variance with Principle (g)**.<br><br>The Department of Primary Industry and Regional Development's (DPIRD) Natural Resource Information (WA) mapping tool maps the proposed clearing zones as one soil landscape:<br>212 Bassendean System described as coastal sand dunes and sand plains with pale deep sand, semi wet and wet soil. (Banksia- paperbark woodlands and mixed heaths) (DPIRD, 2024).<br>DWER's Perth Groundwater Map identifies the surface geology within the footprint area as: Bassendean Sand, predominantly quartz sand (DWER, 2024).<br><br>The Groundwater Salintiy (Total Dissolved Solids) within the proposed clearing area footprint has a salinity range of between 250-500mg/L (DWER, 2024).<br><br>The surrounding area receives an annual rainfall mean of 677mm (DPIRD) and has a medium to low-risk Acid Sulphate Soil (ASS) risk area. Construction of the road would not impact the ASS greatly as there will not be a need to dewater (CoW, 2024b).<br><br>Table. 5 summarises the land degradation hazards as described by DPIRD (2024).<br><br>**Table 5:** Summary of land degradation hazards for the surrounding area of Townsend Road. |

| Hazard categories | Hazard ratings and descriptions |
|---|---|
| Wind erosion | A large proportion of Townsend Road,50-70% of map unit has a high to extreme hazard of wind erosion. |
| Water erosion | 3-10% of map unit has a very high to extreme hazard water erosion risk. |
| Water repellence | 50-70% of the map unit has a high susceptibility to water repellence. |
| Salinity hazard | 3-10% of map unit has moderate salinity hazard. |

| | |
|---|---|
| | <table><tr><td>Subsurface acidification</td><td>50-70%% of map unit has a high susceptibility.</td></tr><tr><td>Subsurface compaction</td><td>3-10% of map unit has moderate subsurface compaction susceptibility.</td></tr><tr><td>Flood hazard</td><td>3-10% of map unit has moderate to high flood risk hazard.</td></tr><tr><td>Water logging and inundation risk</td><td>3-10% of map unit has moderate to high water logging and inundation hazard risk.</td></tr></table><br>Because of the current conditions including the proposed site being within a road reserve and the vegetation is degraded in nature, it is not likely for the clearing to result in appreciable land degradation and, therefore, **is not likely to be at variance to Principle (g).** |
| ***Principle (h) - Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.*** | **The proposed clearing area is unlikely to be at variance with Principle (h).**<br><br>The proposed clearing is within and road reserve, the area has heavily been cleared and fenced off to delineate the alignment of the existing road reserve. The proposed clearing will have minimal impact on the already fragmented area. Fauna movements has been restricted due to the fence current fence alignment along the road reserve, this fence will remain in place for the works to be undertaken.<br>**The proposed clearing is unlikely (to have further impact or) to be at variance with Principle (h).** |
| ***Principle (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.*** | Wetlands or watercourses are not located within the Townsend Road clearing permit area. The proposed works are situated several kilometers from the nearest wetlands. Given that the project site is located over 50 meters away from these wetlands, there will be no adverse impacts on the wetland ecosystems. Dewatering is not needed as part of this project.<br><br>**Therefore, the proposed clearing area is not likely to be at variance with Principle (i)** |
| ***Principle (j) Native vegetation should not*** | According to DPIRD (2024) 3-10% of map unit has moderate to high flood risk hazard. The proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding. |

| | |
|---|---|
| ***be cleared if the clearing of the vegetation is likely to cause or exacerbate the incidence or intensity of flooding.*** | **The proposed clearing is not likely to be at variance with Principle (j)** |

***Red** – Likely to be at variance, **Orange** – May be at variance, **Green** – Not likely to be or not at variance

# 9. Conclusion

The City of Wanneroo has assessed the proposed clearing area of 0.0342 ha of native vegetation (permanently clear) within road reserve of Townsend Road within the project area against the ten clearing principles and has found that the clearing is unlikely to be at variance to the clearing **principles.**

# 10. References

City of Wanneroo (2024a). Intramaps. Environmental Planning Considerations (EPC) Report. (Accessed 16/12/2024).

City of Wanneroo (2024b). Intramaps. Native Vegetation Clearing (NVC) Application Report. (Accessed 16/12/2024).

City of Wanneroo. (2021). *Strategic Community Plan 2021-2031*. Retrieved from: https://www.wanneroo.wa.gov.au/downloads/file/4226/strategic_community_plan_2021-2031

Department of Primary Industries and Regional Development (DPIRD). (2024). *Natural resource information (WA) mapping tool.* Retrieved from: https://dpird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f (Accessed 26/11/2024).

Department of Water and Environmental Regulation (DWER). (2023). *A guide to the assessment of applications to clear native vegetation*. Government of Western Australia. Retrieved from: https://www.wa.gov.au/government/publications/guide-the-assessment-of-applications-clear-native-vegetation (Accessed 20/11/2024).

Department of Water and Environmental Regulation (DWER). (2024). Perth groundwater map. Retrieved from: https://maps.water.wa.gov.au/Groundwater/ (Accessed 26/11/2024).

Government of Western Australia. (2000b). *Bush Forever: Keeping the Bush in the City*. Perth.

## Appendix A
## Site photos taken 03/12/2024

**Figure 5** *Looking South along Townsend Rd*

**Figure 6** *Looking South along Townsend Rd*

**Figure 7** *Looking North along Townsend Rd*

**Figure 8** *Looking North along Townsend Rd*