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Clean Energy Link North – Wangara to Neerabup Terminal 132 kilovolt (kV) Overhead Transmission Line – Application for a clearing permit

Western Power is proposing to construct a new 132 kilovolt (kV) overhead transmission line between the existing Neerabup Terminal to intersect an existing transmission line (MUL-WGA 81) at the intersection of Ocean Reef Road and Wanneroo Road, Woodvale, a length of approximately 23 kilometres (km) (Figure 1).

The purpose of the project is to upgrade the existing network to enable future connections of large-scale renewable energy generation and load in the Northern region of the Southwest Interconnected System (SWIS), in support of the State Government decarbonisation strategy. A future ready transmission network is critical to deliver Western Australia's wind and solar resources to major loads. This is referred to as Clean Energy Link – North program. The Proposal will create new circuits between Neerabup Terminal and the connecting zone substations to improve utilisation of the 330 kV and 132 kV networks in transferring electricity generated from the Mid-West to supply Perth's northern suburbs.

Project Description

Western Power proposes to clear up to 14 ha of native vegetation within a 78 ha Proposed Development Envelope (PDE) for the purpose of constructing a new double circuit 132kV transmission line, which involves the following activities:

- Installation of 132kV overhead conductors (dual circuit) and Optical Ground Wire (OPGW)
- Installation of approximately 171 steel poles
- Establishment of a vegetation clearance zone
- Construction of a permanent maintenance access track where existing tracks cannot be utilised.

Construction of the Proposal will include the following:

- Clearing for the purposes of establishing access and maintenance tracks (only where existing tracks cannot be utilised)
- Clearing for the purposes of establishing an electrical easement to meet electrical clearance safety requirements
- Clearing for temporary brake and winch pads (up to 60 m x 60 m) and pole pad footprints (up to 25 m x 25 m)
- Excavation activities for the installation of pole foundations using concrete footings.

Project Amendment

Project development has continued in parallel to the EPA environmental referral process. This submission includes non-material changes to account for clarifications in the transmission corridor and further design for the relocation requirements of existing distribution assets. This design has resulted in a 2.3 ha increase in the Development Area, and a 0.36 ha increase in clearing of native vegetation. These amendments are incorporated within updated impact and offset calculations and within the attached spatial data.

Survey results

Multiple biological surveys have been completed for the various design iterations and alignments during the planning phase of the Proposal with the most comprehensive and recent survey area (ELA, 2026) totalling 273.3 ha.

The following surveys have been completed for various areas of the PDE.

- Eco Logical Australia (ELA), 2026. Detailed Flora and Vegetation survey, Basic fauna survey, Targeted Flora survey and Targeted Black Cockatoo habitat assessment – Wangara to Neerabup 132kV Transmission Line.
- Invertebrate Solutions, 2026. Short Range Endemic Invertebrate Fauna Impact Assessment Technical Memorandum and Desktop Assessment.
- SLR, 2025 and 2026. Neerabup Terminal Transmission Corridor Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys.
- AECOM, 2024. Single phase Detailed Flora and Vegetation survey, Basic fauna and Targeted Black Cockatoo Assessment – Swan Coastal Plain North Region.
- AECOM, 2023. Single phase Detailed Flora and Vegetation survey – NT-NBT 330kV line project (overlaps the Neerabup Terminal of the PDE).

As the ELA (2026) survey presents the most recent and comprehensive assessment of the PDE, this has been used to inform the environmental impact assessment for the Proposal. Supplementary data from AECOM (2024) has been used where relevant, such as for Threatened and Priority flora records, introduced species records and LOO assessments. Both the AECOM 2024 and AECOM 2023 survey data have been used to inform the environmental values where the survey intersects the Neerabup Terminal portion of the PDE, which was not included within the ELA (2026) survey. There is a 1.58 ha gap within the *Disturbance Footprint* that has not been surveyed. Data for these areas has been inferred using a combination of the existing data from AECOM (2024) and ELA (2026) and review of aerial imagery.

The following was recorded within the PDE:

- Native vegetation largely represents remnant Banksia and Melaleuca woodlands.
- ELA (2026) identified the condition of vegetation within the survey area to range from Excellent to Completely Degraded, with the majority of vegetation to be cleared in Degraded or worse condition (95%).
- A total of 79 introduced (weed) species were recorded within the survey area by ELA (2026), representing 27.3% of the total flora species recorded.

- The vegetation represents three Priority Ecological Communities (PEC);
  - FCT21c – Low lying *Banksia attenuata* woodlands or shrubland (P3 PEC)
  - FCT22 – *Banksia ilicifolia* woodlands (P3 PEC)
  - Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain (SCP) (P3 PEC)
- Three Priority flora species were recorded in the PDE;
  - *Schoenus griffinianus* (P4)
  - *Jacksonia sericea* (P4)
  - *Grevillea olivacea* (P4)
- Evidence of Carnaby's Black Cockatoo (*Zanda latirostris*), Forest red-tailed Black Cockatoo (*Calyptorhynchus banksia naso*) and Quenda (*Isoodon fusciventer*) were observed in the survey area.
- The vegetation represents suitable foraging habitat for the three threatened Black Cockatoos, ranging from low to moderate quality. From all three targeted Black Cockatoo surveys a total of 52 potential breeding trees (no hollows) occur in the Survey Area, with one tree being identified as a suitable nesting tree (containing 1 hollow) within the PDE. No known roosting sites or roosting activity were recorded within the PDE, however there are numerous records of confirmed roosting sites within 12 km of the PDE.
- One conservation significant SRE species, the Swan Coastal Plain Shield-backed Trapdoor Spider (*Idiosoma sigillatum*, DBCA P3) was identified during the desktop assessment as having a High LOO within the PDE due to their known distributions and habitat associations.

The vegetation is located within a highly disturbed corridor that has been affected by surrounding developments (housing, roads, utilities etc.). The vegetation is not considered to be under-represented on the Swan Coastal Plain nor form a significant remnant.

Alternative Alignments

Alternate transmission line routes and options have been considered by Western Power. Multiple alignments underwent a Multi-Criteria Analysis (MCA) which considered economic, environment, heritage, planning and social impacts. Alignments located further east were identified as having a higher environmental impact due to increased clearing of vegetation being required (particularly pine plantation) and were therefore not selected. Consultation with relevant government authorities, community groups and private landowners influenced the final line route.

Alternatives to the selected option (Figure 2), that were considered include the following:

- Wanneroo Road was not pursued as there were a high economic impact and the highest social impact.
- Lenore and Badgerup Road were discounted due to impact to future planning instruments for higher density Gnangara town centre and surrounding urban neighbourhood designations.
- Lindley Road was not pursued as it presented with the greatest impacts to environmental values of all line route options.
- Whiteman-Yanchep Highway was not pursued as it had the highest economic impact and second highest environmental impact.
- Turkey Road was a suggestion by East Wanneroo District Residents Association and members of the public however was not pursued due to the greater environmental impact to the Black Cockatoo foraging habitat.
- Undergrounding (part or majority of the route) was not pursued due to the financial multiplier costs and social impact during construction.
- An amalgamation of Sydney Road & Lindley Road alignments was adopted to reduce impact on Paini Way properties.

Avoidance and mitigation measures

The following avoidance measures have been implemented:

- The transmission line alignment and associated infrastructure have been located within existing road reserves, State owned land, transport corridors, cleared areas and existing tracks wherever practicable to avoid impacts to native vegetation, wetlands and fauna habitat.
- Span over construction has been incorporated through sensitive areas including Banksia Woodlands TEC/PEC and wetlands and where vegetation can remain under the transmission line without ongoing clearance requirements.
- Pole locations have been selected, where practicable, outside wetlands and away from riparian and groundwater dependent vegetation to avoid impacts on water quality, hydrology and vegetation.
- Design measures including pole height selection and infrastructure placement have been used to minimise the extent of vegetation clearance required to maintain electrical safety clearances.
- The line route was moved to the southern side of Ocean Reef Road to avoid extensive impacts to the Tuart Woodlands of the SCP PEC identified within the road reserve on the northern side between Prestige parade and Badgerup Road.
- Alternative construction methodologies, including drone, manual and back hand stringing will be used to reduce the clearing footprint required in Banksia Woodlands TEC/PEC (high value foraging habitat for Black Cockatoos and conservation significant invertebrate species).
- The alignment has been designed to avoid additional fragmentation of remnant vegetation and fauna habitat and to minimise impacts to high value habitat and ecological communities where practicable.
- Clearing of potential Black Cockatoo breeding trees will be avoided where safe and practicable through construction-stage risk assessments and retention processes.
- Avoidance measures have allowed for the amount of native vegetation impacted within the PDE to be minimised such that it comprises only 0.65 ha within the *Disturbance Footprint is* in Good condition, with the remainder Degraded or Completely Degraded.

The following minimisation measures will be implemented;

- Proposed disturbance has been reduced as far as practicable through the design process, resulting in impacts being largely confined to degraded vegetation, existing disturbed areas and the edges of ecological community patches.
- Construction disturbance will be confined to approved work areas through onsite demarcation of clearing boundaries, establishment of no-go areas and use of pre-existing disturbed areas for laydown, storage and site facilities wherever practicable.
- Proposal-specific environmental management plans, including the Construction Environmental Management Plan (CEMP), Flora and Vegetation Environmental Management Plan (FVEMP), Fauna and Fauna Habitat Environmental Management Plan (FFHEMP), Dieback Management Plan (DMP) and Acid Sulfate Soil Management Plan (ASSMP) will be implemented to manage environmental risks and provide objective and outcome based targets aimed at minimising impacts to conservation significant species during construction and operation of the Proposal.
- A hold point has been put in place in the FFHEMP for 19 potential nesting trees and the one suitable breeding tree identified adjacent to Gnangara Lake. These 20 trees are located on the very edge of the electrical clearance buffer and will be risk assessed during construction as to whether they present a fall risk and can be retained without impacting on the safe operation of the transmission line.
- Stormwater and sedimentation controls will be implemented to prevent impacts to SRE habitat

- A FVEMP and DHMP have been developed for the Proposal to manage risks associated with weeds and disease and their potential impacts to fauna habitat.
- Areas disturbed during construction that are not required for operation or maintenance will be rehabilitated in accordance with approved rehabilitation objectives and completion criteria.

Further detail is available in the Environmental Review Document associated with the referral to the Environmental Protection Authority.

Offsets

The attached Offset Strategy has been developed by Western Power to address the Proposal's impacts to the three threatened species of Black Cockatoo, and the residual impacts that cannot be avoided or further minimised.

Additionally, this Offset Strategy will address the impacts to the vegetation and flora values of Bush Forever Sites which will be managed via the *State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region* (SPP2.8) and the Development Application (DA) process under the Planning Act.

Please find enclosed the following:

- NV-F01 Application for new permit or referral to clear native vegetation
- Property List
- Aboriginal Heritage Survey Report (Redacted)
- Fauna and Fauna Habitat Environmental Management Plan
- Flora and Vegetation Environmental Management Plan
- Dieback Management Plan
- Clearing Permit Offset Proposal Form
- Offset Strategy
- Offset Revegetation Management Plan
- Shapefiles of Project Area (Development Envelope and Disturbance Footprint)
- Shapefile of Offset Area (Offset Site and Project Allocation)

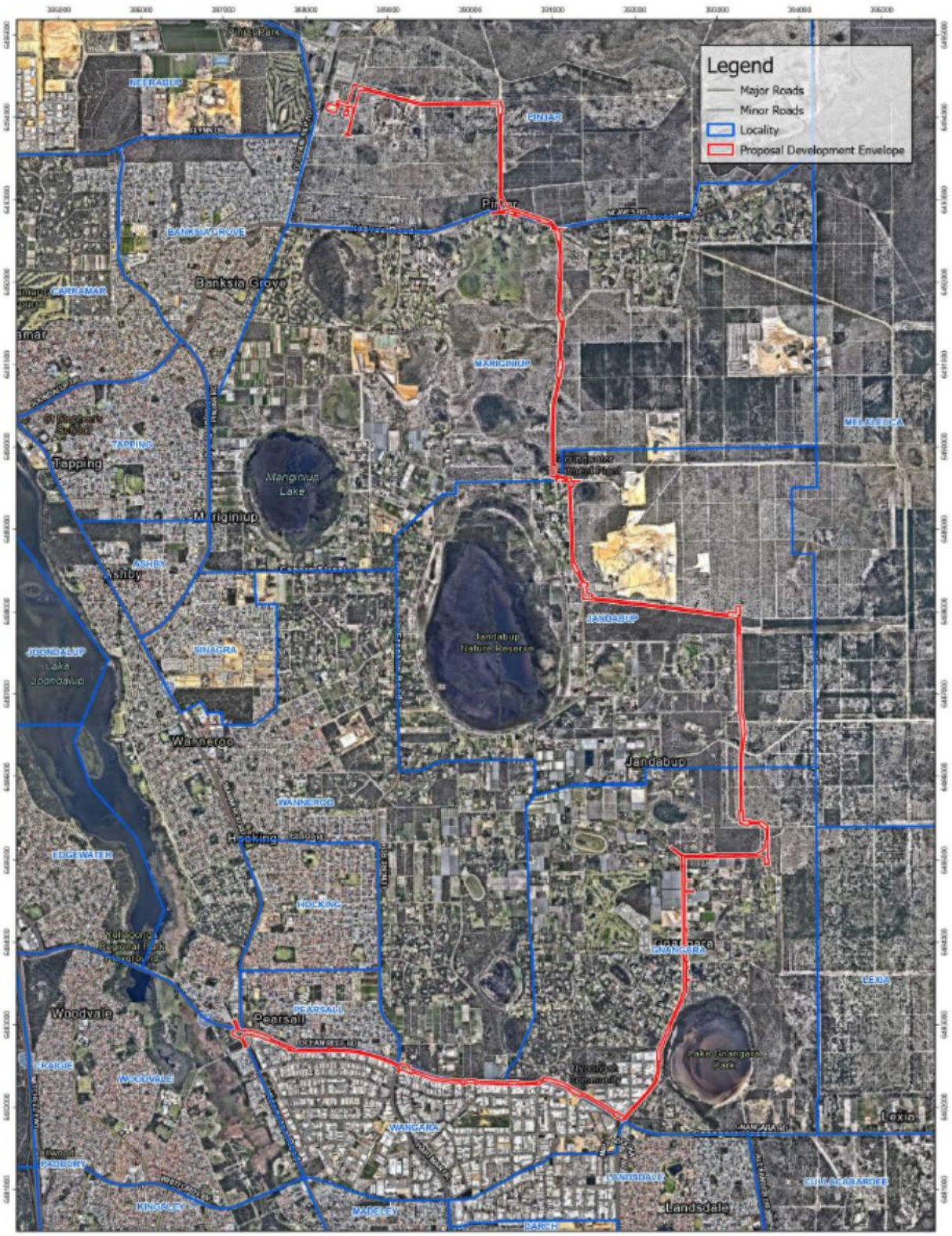
For any queries in relation to this matter please contact me on [redacted]

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Coordinate system: GDA 1994 MGA Zone 50
Scale: 1:40,000
Date: 2/09/2026

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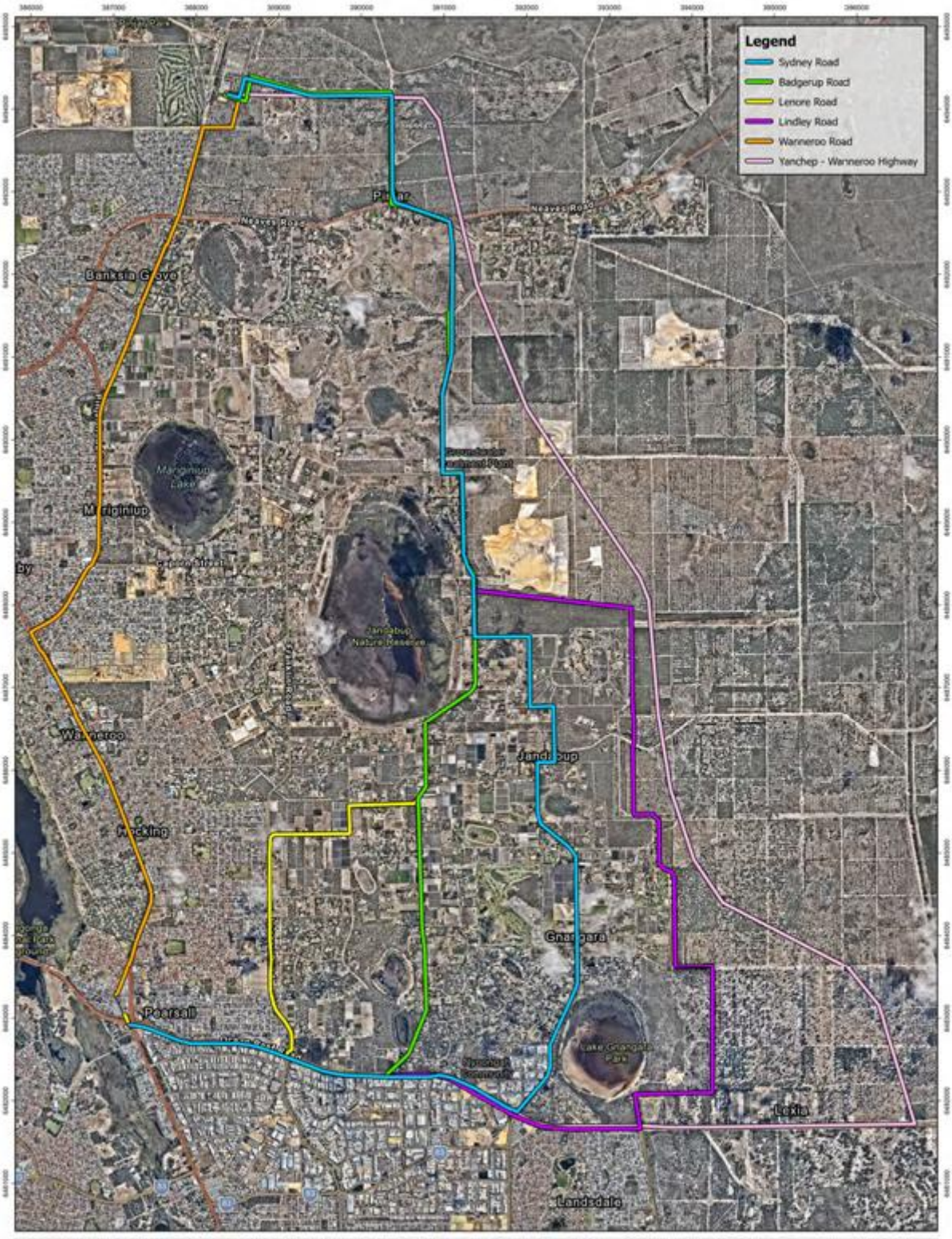
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Wangara to Neerabup Terminal 132 kV Overhead Transmission Line Project

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Proposal Development Envelope

FIGURE 1


Legend
Sydney Road
Badgerup Road
Lenore Road
Lindley Road
Warnerco Road
Yanchep - Wanneroo Highway
Banksia Grove
Meadow Springs
Landsdale
N
Coordinate system: GDA 1994 MGA Zone 50
Scale: 1:40,000
Date: 29/04/2026
KM
0 0.250.5 1 1.5 2
Wangara to Neerabup Terminal 132 kV
Overhead Transmission Line Project
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Alternatives Considered
FIGURE 2