Hunter Transmission Project amendment report

Landscape character and visual impact assessment addendum

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Document Control

Hunter Transmission Project Amendment report

Landscape Character and Visual Impact Assessment addendum

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Data used in the maps contained in this EIS have been obtained from the following sources:

Imagery: Maxar 2023Update
Watercourse: Geoscience Australia 2016
Cadastral Boundary: NSW Department of Finance, Services and Innovation 2024
Surface analysis: 1 second SRTM Derived Hydrological (DEM-H) version 1.0: Geoscience Australia 2011

Executive summary

This LCVIA addendum considered proposed amendments and refinements to the exhibited project, and whether the amended project would result in changes to assessment findings or mitigation measures described in the LCVIA (IRIS, 2025) prepared for the EIS.

Methodology

Consistent with the LCVIA, the LCVIA addendum was undertaken in accordance with the *Transmission Guideline, Technical Supplement for Landscape Character and Visual Assessment* (DPHI 2024) (the *Technical Supplement*) and applied the same study area criteria specified in the *Technical Supplement*.

Additional site inspections were undertaken for the LCVIA addendum (16 and 17 October 2025).

Changes to the study area

The amended project results in a slight change to the extent of landscape character zones (LCZs) in the vicinity of Mount Thorley (LCZ1 and LCZ4). The change to the extent of the study area does not affect assessment findings. The amended project study area is reflected in the plans shown in Appendix D.

Changes to viewpoints

No additional public viewpoints were identified for assessment in this LCVIA addendum.

An additional secondary dwelling was identified in the vicinity of the the amended project relocated transmission line and towers at Mount Thorley (ID3525). This viewpoint has been included for assessment in this LCVIA addendum.

Changes to landscape character impact assessment

Five LCZs and two locations beyond the study area were reassessed as they would be potentially affected by the amended project: LCZ 1 Energy and mining; LCZ 4 Hunter River (Maison Dieu) rural valley; LCZ 8 Forested hills; LCZ 11 Narrow rural valley; LCZ 12 Managed forestry; Hebden Road; and Freemans Drive. A summary of the landscape character impacts of the amended project is provided in Table 5-4 to Table 5-7.

The assessment results show that the amended project would not change landscape character impacts identified for the exhibited project (LCVIA, IRIS, 2025), except for the narrow rural valley (LCZ 11) during the construction period (up to two years). This LCZ would be affected by the larger, temporary Wollombi Road construction support site (including temporary worker accommodation), which would be in use 24 hours a day. For this LCZ, landscape character impact during construction increased from moderate to high during the day, and from negligible to high at night. Additional mitigation measures have been identified to address the additional temporary impacts of the amended project.

Changes to visual impact assessment – public viewpoints

Public viewpoints identified in the LCVIA (IRIS, 2025) were reviewed considering the amended project. The review confirmed that there would be no changes to visual impacts identified in the EIS for the exhibited project during operation.

During construction, however, the review identified would be additional visual impacts experienced from public viewpoints 08 and 09 on Wollombi Road, west of Millfield. These viewpoints would be affected by the larger, temporary Wollombi Road construction support site (including temporary worker accommodation), that would be clearly visible, close to public road users, and in use 24 hours a day. Activities within the construction support site, intensive temporary structures, construction equipment, materials and vehicles, would substantially contrast and replace the existing rural view.

Changes to visual impact assessment – private viewpoints, rural setback

The rural setback for the amended project was reassessed due to the realignment of the transmission line. In accordance with the *Technical Supplement,* any dwelling within 400 metres of a transmission tower is identified as having a high potential visual impact.

The reassessment found:

- No dwellings were identified within the rural setback within the vicinity of the proposed realignment of the transmission line at Mt Thorley.
- Five private viewpoints were identified within the rural setback of the realignment of the transmission line at Gouldsville. Existing vegetation affects these views; which is consistent with the findings of the exhibited project, these viewpoints are therefore exempt from the setback and have been included in the revised Gouldsville detailed assessment in this LCVIA addendum.

Changes to visual impact assessment – private viewpoints (operation)

Changes to the alignment at Mount Thorley

The simple assessment was revised for 11 dwellings in the vicinity of the proposed realignment of the transmission line at Mount Thorley. The updated assessment in this LCVIA addendum found:

- four dwellings were eliminated from the assessment as they are now outside the visual study area
- three private viewpoints would have a potential high visual impact (compared to two identified in the EIS)
- no private viewpoints would have a potential moderate visual impact (reducing from seven identified in the EIS)
- four private viewpoints would have a potential low visual impact (increasing from one identified in the EIS).

The intermediate assessment was undertaken for the three dwellings with a potential moderate or high visual impact, and the newly identified secondary dwelling (ID3525). The revised intermediate assessment in this LCVIA addendum found:

- no private viewpoints would have a potential high visual impact (reducing from two identified in the EIS)
- all four private viewpoints would have a moderate visual impact (increasing from one identified in the EIS).

The detailed assessment was undertaken for the four dwellings with a potential moderate visual impact . The revised detailed assessment in this LCVIA addendum found:

- one private viewpoint with a moderate visual impact (ID2920), consistent with the EIS
- three private viewpoints with low visual impact (ID251, ID277 and ID3525).

Changes to the alignment at Gouldsville

A detailed assessment was undertaken for the five dwellings identified in the rural setback. The detailed assessment identified the potential for a moderate visual impact from ID2928 consistent with the EIS. The remaining for dwelling views experience low or no visual impacts.

Performance objectives

In the LCVIA (IRIS, 2025) performance objectives were applied to six dwellings with a moderate impact.

With the amended project, the visual impact on ID238 would reduce from moderate to low and therefore mitigation is no longer required. This is an improvement from the exhibited project.

Mitigation measures are proposed to address the moderate visual impacts identified for the amended project on views from three dwellings (ID467, ID2920 and ID2928). These measures would reduce the impact from moderate to low which is consistent with the exhibited project.

There would be two moderate visual impacts remaining: ID465 and ID 466. A reduction in the height of the transmission structures would potentially reduce the visibility of the project and reduce the visual impact. Alternatively, these views could be mitigated with screening vegetation in the foreground; however, this screening would also screen the attractive background views. These residual impacts are consistent with the exhibited project.

Changes to visual impact assessment – private viewpoints (construction, daytime)

There would be changes to private views for residents with a direct view of the Wollombi Road construction support site (including temporary worker accommodation). The construction support site would be around 500 metres from the nearest rural residents; however, it is likely direct views from these rural dwellings would be screened by surrounding dense vegetation.

Some residents would see the construction support site, and activities at the site, daily as they travel along Wollombi Road to access their property. The view would be temporary and brief (while in transit). These impacts are slightly increased from the exhibited project.

Changes to visual impact assessment – private viewpoints (construction, night-time)

There may be potential night-time visual impacts to private viewpoints near the Wollombi Road construction support site (including temporary worker accommodation), which would include lighting and 24/7 use by workers. The nearest rural dwellings are around 500 metres away and there are intervening trees. Lights at the accommodation may be visible from the nearest dwellings, however, would be relatively distant, temporary and not substantially change the existing nighttime view.

Cumulative impacts

There would be no changes to the cumulative effects described for the exhibited project.

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Glossary and abbreviations

Term	Definition
Access tracks	Temporary and permanent tracks used to access the project. Refer to Appendix A (Updated project description) of the amendment report for further details.
Amended project	The amendments and refinements to the project as described in the EIS (inclusive of clarifications for the exhibited project). The amendments and refinements to the project as described in the EIS (inclusive of clarifications for the exhibited project). The amendments to the project include: • realignment of the transmission line at Mount Thorley • realignment of the transmission line at Gouldsville • localised easement widening for conductor swing • changes to substation infrastructure at Eraring • changes to access track locations • minor adjustments to the project impact area for intersection upgrades • adjustments to the proposed access routes for construction • reconfiguration of the construction support sites and worker accommodation facilities • changes to the location of laydown areas within State forests • reconfiguration of the Flick Road emergency helicopter landing area • removal of a stringing site in Olney State Forest • changes to construction plant and equipment types and locations of use Refinements to the project include: • minor changes at Bayswater substation • changes to the disturbance area at Olney.
Amendment	Change(s) to the project description as included in the exhibited project. As a result, changes to what the proponent is seeking approval for are required, along with an amendment to the CSSI application for the project.
Bayswater Power Station	Existing power station at Bayswater owned by AGL.
Bayswater South switching station	The new switching station that would be constructed south of Bayswater Power Station.
Clarification	Additional information developed as a result of ongoing design and construction methodology development, submissions received during exhibition of the EIS, minor errors identified in the EIS, or further assessment that has been undertaken since exhibition of the EIS. Clarifications for the project include: • assessment of impacts from use of Pokolbin Mountains Road • assessment of potential contamination impacts at Eraring Power Station • description of intersection upgrades in the EIS.
Construction access routes	Roads used by construction vehicles (light and heavy).
Construction impact area	The area that would be directly impacted by the construction of the project, including (but not limited to) transmission towers and lines, stringing sites, access roads, access tracks, substations, switching stations, adjustments and upgrades to existing lines, communications infrastructure, temporary worker accommodation, construction support sites, laydown areas and utility adjustments.

Term	Definition
Construction support site	An area used as the base for construction activities, usually for the storage of plant/equipment and materials, processing facilities (concrete batching, aggregate crushing, grinding and screening), maintenance facilities/workshops, staff facilities, firefighting equipment, helicopter landing pad and support facilities, access and parking, and wastewater treatment. Some construction support sites would also include temporary worker accommodation. Construction support sites are discussed in section *A3.5 of Appendix A (Updated project description)* of the amendment report.
Critical State significant infrastructure (CSSI) application area	The critical State significant infrastructure (CSSI) application for the HTP covers five local government areas (Muswellbrook, Singleton, Cessnock, Central Coast and Lake Macquarie).
Cultural landscape	A cultural landscape is a physical area with natural features modified by human activity resulting in patterns of evidence layered in the landscape. These layers give a place its distinctive spatial, historical, aesthetic, symbolic and memorable character. Within cultural landscapes there are areas where human impact is more obvious
Cumulative impact	The combined impacts of the project on a matter with other relevant future projects
Disturbance area	This is used primarily to assess potential impacts on biodiversity values in Appendix F – Revised biodiversity development assessment report. Includes the following categories: • disturbance area A • disturbance area A (centreline) • disturbance area B • disturbance area HZ.
Disturbance area A	The area where vegetation would be completely removed. It includes areas at and around transmission towers (including tower pads and batters), stringing sites, laydown areas, switching stations, substation upgrades, construction support sites, new and upgraded access tracks and road upgrades. Impacts within this area would include sub-surface disturbance from construction activities such as grading, excavation, and full tree removal. With the exception of areas that only require temporary disturbance (i.e. temporary access tracks and stringing sites), this area would also be subject to ongoing maintenance during operation (including vegetation removal to ground level) for operational and safety requirements, including bushfire risk management.
Disturbance area A (centreline)	A 20-metre-wide centreline area between transmission towers where all vegetation would be removed to ground level during construction. This area would also be subject to ongoing maintenance during operation (i.e. removal to maintain vegetation clearance requirements) for operational and safety requirements, including bushfire risk management.
Disturbance area B	The area within the transmission line easement, excluding disturbance area A and disturbance area A (centreline), where partial clearing would be undertaken. Removal of vegetation (including trees) would be undertaken only where it has the potential to exceed vegetation clearance heights. These heights are set for operational and safety requirements, including bushfire risk management (a minimum of 13.5 metres below the conductors at maximum operating temperature). Vegetation with mature growth heights up to two metres can remain, while vegetation exceeding two metres will be managed to maintain these clearance heights.

Term	Definition
	This area would be subject to ongoing maintenance during operation.
Disturbance area hazard tree zone (HZ)	Hazard trees are those that have the potential to pose a risk to safe operation of the transmission line by falling onto the transmission towers, conductors and associated infrastructure within the easement. A hazard tree zone has been identified in limited areas on either side of the transmission line easement through LiDAR analysis of tree heights and topography. Hazard tree management would occur during operation to maintain safe operating clearances for the conductors and tower structures. The hazard tree zone will be inspected for trees in the height range of 20 metres or more, which is typically in the high-risk category. High-risk category trees will be assessed for structural instability and managed according to the risk present, including tree removal if required.
DMP	Destination Management Plan
DPE	(NSW) Department of Planning and Environment (until January 2024)
DPHI	(NSW) Department of Planning, Housing and Infrastructure (previously DPI, DPIE and DPE)
EIS	Environmental Impact Statement
EnergyCo	The Energy Corporation of New South Wales constituted by section 7 of the NSW Energy and Utilities Administration Act 1987 as the NSW Government-controlled statutory authority appointed as the infrastructure planner under the NSW Electricity Infrastructure Investment Act 2020 responsible for the delivery of NSW's REZs. The proponent for the HTP.
Eraring Power Station	Existing power station at Eraring operated by Origin Energy.
Exclusion zone	A safe clearance area around the transmission line and structures to protect public safety, the network and to maintain access to the asset. It delineates the area where most land use activities are prohibited The zone is located within the easement and is defined according to the operational voltage and design of the infrastructure
Exhibited project	The project as described in the publicly exhibited EIS.
Ha	hectares
HTP corridor	Comprises: • the transmission line corridor connecting Bayswater South switching station to Olney switching station • the transmission line corridor connecting the Bayswater South switching station to the existing 500 kV transmission line near Bayswater Power Station • the transmission line corridor connecting the Olney switching station to the existing 500 kV transmission line between Eraring and Kemps Creek. The HTP corridor is around 140 metres wide.
HTP corridor	The HTP corridor includes: • the transmission line corridor connecting Bayswater South switching station to Olney switching station • the transmission line corridor connecting the Bayswater South switching station to the existing Bayswater substation • the transmission line corridor connecting the Olney switching station to the existing 500 kV transmission line between Eraring and Kemps Creek

Term	Definition
Hunter Transmission Project (HTP) or project	The HTP as described in Appendix A (Updated project description) of the amendment report and identified in the overview figures of the amendment report.
HVO	Hunter Valley Operations
Interconnector	An electricity interconnector is a connection that allows power to flow in both directions between regions in the national electricity market (NEM), providing access to a larger number of electricity generators and greater ability to meet varying demand where and when it is needed most
km	kilometre
kV	Kilovolts (1000 volts)
Landowner(s)	People who own properties/land
Landscape	'A holistic area comprising its various parts including landform, vegetation, buildings, villages, towns, cities and infrastructure'. (DPHI 2024)
Landscape character	'The combined quality of built, natural and cultural aspects which make up an area and provide its unique sense of place'. (Transport for NSW 2023)
Landscape character zone	'An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately nearby'. (Transport for NSW 2023)
Laydown areas	Established to allow for flexibility in construction and to minimise the need for vehicle movements to and from the construction support sites. These would act as temporary staging, storage, and complex plant/equipment setup areas. They would also act as traffic control nodes during construction of the HTP.
LCVIA (IRIS, 2025)	Hunter Transmission Project, Technical Report 3: Landscape Character and Visual Impact Assessment (the landscape character and visual impact assessment of the exhibited project)
LCVIA addendum	Landscape character and visual impact assessment of the amended project (this report)
LEP	Local Environmental Plan
LGA	Local Government Area
LiDAR	Light Detection and Ranging
LSPS	Local Strategic Planning Statement
m	metre
Magnitude	'The apparent size of a transmission infrastructure project in the landscape of when viewed from a given viewpoint' (DPHI 2024)
mAHD	metres above Australian Height Datum
No clearing zone	Areas within the transmission line easement where vegetation removal is not required. These areas would occur where there is sufficient separation of 10 m or more between the maximum operating temperature conductor position and the existing vegetation This area is excluded from the disturbance area
Olney switching station	The new switching station that would be constructed in Olney State Forest.

Term	Definition
Operation impact area	The area that would be occupied by permanent components of the project and/or maintained, including transmission line easements, transmission lines and towers, substations, switching stations, communications infrastructure, maintenance facilities, permanent access roads to substations and switching stations and access tracks to easement
Pre construction minor works	Minor works undertaken prior to construction that may include building and road dilapidation surveys; pre clearance surveys; investigative drilling, contamination investigations, excavation or salvage; installation of environmental impact mitigation measures; property acquisition adjustment works including installation of property fencing; archaeological testing; and maintenance of existing buildings or structures
Pre-construction minor works	Activities with a low potential to impact the environment that may be permissible in advance of construction and without the requirement for an approved construction environmental management plan (CEMP).
Private receiver	A private owned or used viewpoint type (DPHI 2024)
Project impact area	The area that has been assumed for the purpose of the amendment report to be directly affected by the construction and operation of the project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation.
Project impact area	The area that has been assumed for the purpose of this EIS to be directly affected by the construction and operation of the project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation
Proponent	The Energy Corporation of NSW (EnergyCo)
Public viewpoint	A publicly owned or used viewpoint type (DPHI 2024)
Refinement	A change that fits within the limits set by the project description of the exhibited project and does not change what the proponent is seeking approval for and/or does not require an amendment to the CSSI application for the project.
Renewable energy	Energy from a source that is not depleted when used, such as solar or wind power
Renewable Energy Zone (REZ)	A geographic area identified and declared by the NSW Government as a Renewable Energy Zone.
Rural dwelling	A dwelling within a rural zoned area (RU1, RU2, RU3, RU4 and RU6), large lot residential zoned area (R5), or environmental or conservation area zone (C2, C3 and C4)
SEARs	Secretary's environmental assessment requirements issued by the Department of Planning, Housing and Industry
Sensitive receivers	'Viewpoints that are more sensitive to change than others, including dwellings, historic homesteads, tourist and visitor accommodation, places of worship, town centres and central business districts' (DPHI 2024)
Sensitivity	'A measure of the capacity of an element of the landscape to absorb the impacts from a proposed land use change and/or build form' (DPHI 2024)
Sky glow	The 'brightening of the night sky that results from the reflection of radiation (visible and non-visible), scattered from the constituents of the atmosphere (gas molecules, aerosols and particulate matter), in the direction of observation.' It comprises natural and artificial sources of radiation. (AS4282:2023)

Term	Definition
Spill light	'Light emitted by a lighting installation that falls outside the boundaries of the property for which the lighting installation is designed ... Spill light may not necessarily be obtrusive' (AS4282:2023)
Stringing site	Used for the preparation, assembly and operation of stringing equipment to connect the transmission line to the towers. Stringing sites would be positioned along the HTP corridor. On other transmission projects, they may be referred to as 'brake and winch' sites.
Substation	A facility used to increase or decrease voltages between incoming and outgoing lines (e.g. 330 kV to 500 kV)
Switching station	A facility used to connect two or more distinct transmission lines of the same designated voltage
Technical Supplement	The Transmission Guideline, Technical Supplement for Landscape Character and Visual Impact Assessment (DPHI 2024). This guideline was released in November 2024 and provides guidance for the assessment of landscape character and a detailed methodology for the assessment of visual impacts of transmission projects in NSW.
Temporary worker accommodation	Temporary accommodation that would be erected and used during construction to house the construction workforce. Temporary worker accommodation would be located at some construction support sites.
Transgrid	Preferred network operator for the HTP.
Transmission line easement	An area surrounding and including the transmission lines which is a legal proprietary right and allows for ongoing access and maintenance of the transmission lines. Landowners can typically continue to use most of the land within transmission line easements, subject to some restrictions for safety and operational reasons.
Transmission tower	For 500kV transmission lines, this is typically a free-standing steel lattice structure (suspension or tension tower). Transmission towers for the HTP would generally be up to 85 m high.
Transposition	Transposition is the periodic swapping of positions of the conductors of a transmission line to maintain transmission reliability
Visual impact	The impact on views from private and public places, which is determined by considering the visual magnitude of the project, and sensitivity of the viewer or viewing location

Chapter 1: Introduction

1.1 Background

The Hunter Transmission Project (HTP, the project) involves the construction of a new overhead 500 kilovolt (kV) transmission line of around 110 kilometres connecting the existing 500 kV transmission line at Bayswater to the existing 500 kV transmission line in the Olney State Forest near Eraring in the Hunter region of New South Wales (NSW).

Due to its strategic importance, the NSW Minister for Planning and Public Spaces has declared the project to be critical State significant infrastructure (CSSI) under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

An EIS was prepared in accordance with the requirements of Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The EIS was placed on public exhibition by the NSW Department of Planning, Housing and Infrastructure (DPHI) for a period of 28 days, between 27 August 2025 and 24 September 2025.

EnergyCo has proposed amendments and refinements to the exhibited project. The amendments and refinements respond to stakeholder and contractor feedback on the project, as well as provide functional improvements to the design and construction methodology of the project. The proposed amendments and refinements take into account submissions received during the public exhibition of the EIS and ongoing design and construction methodology development since the EIS was exhibited. These amendments and refinements have been described and considered in relevant impact assessments.

1.2 The project (as exhibited)

The key elements of the project, as exhibited in the EIS, include:

- a new overhead 500 kV double circuit transmission line of around 110 kilometres
- two new switching stations (Bayswater South and Olney)
- upgrades to the existing Bayswater and Eraring substations
- adjustments and upgrades to existing transmission lines
- property adjustment works to facilitate access to the transmission lines and switching stations
- utility adjustments required for the construction of the transmission network infrastructure
- ancillary works to support construction including road upgrades, establishment of new access tracks and upgrades to existing access tracks, construction support sites (some with temporary worker accommodation), and other construction facilities such as laydown areas.

The HTP corridor runs mostly though power station, mining and government land between Bayswater and Broke. It then traverses the Pokolbin, Corrabare, Watagan and Olney State forests where it joins the existing 500 kV transmission line running between Eraring and Kemps Creek in western Sydney.

1.3 The project (as amended)

The proposed amendments and refinements to the exhibited project are collectively referred to in this *Landscape character and visual impact assessment addendum* (LCVIA addendum) as the 'amended project'.

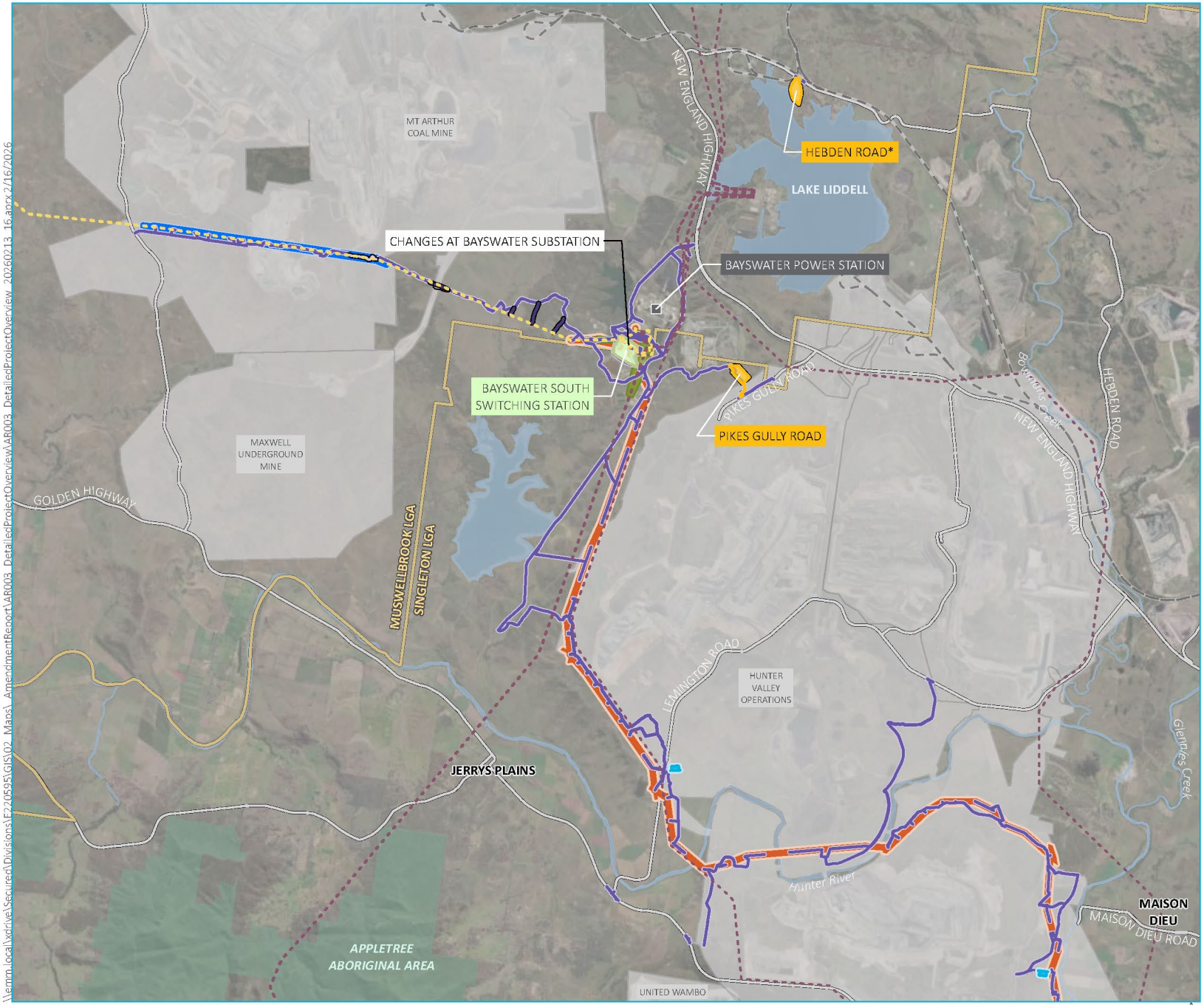
The key proposed amendments include:

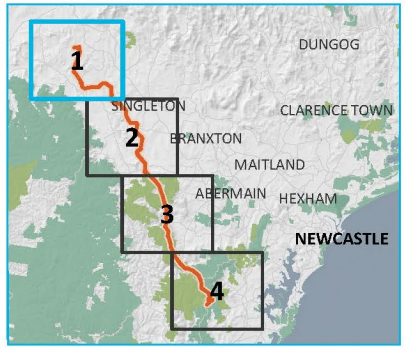
- realignment of the transmission line at Mount Thorley
- realignment of the transmission line at Gouldsville
- localised easement widening for conductor swing
- changes at Eraring substation
- changes to access tracks
- minor adjustments to the project impact area for intersection upgrades
- adjustments to the proposed access routes for construction
- reconfiguration of construction support sites and temporary worker accommodation facilities
- changes to laydown areas within State forests
- reconfiguration of the Flick Road emergency helicopter landing area
- removal of stringing site in Olney State Forest
- changes to construction plant and equipment types and locations

The key refinements include:

- minor changes at Bayswater substation
- changes to the disturbance area at Olney.

These amendments are further outlined in Figure 1-1, and descriptions of the amendments are included in *Chapter 2 (Description of amendments)*.





KEY

- Exhibited project impact area

Amended project impact area

- HTP corridor
- Bayswater South switching station
- Construction support site (*with temporary worker accommodation)
- Laydown area
- Adjustment to existing transmission line (lines 31 and 32)
- Upgrades to existing transmission line (lines 5A3 and 5A4)
- Access tracks, road upgrades and intersection upgrades
- New access track
- Access tracks no longer required

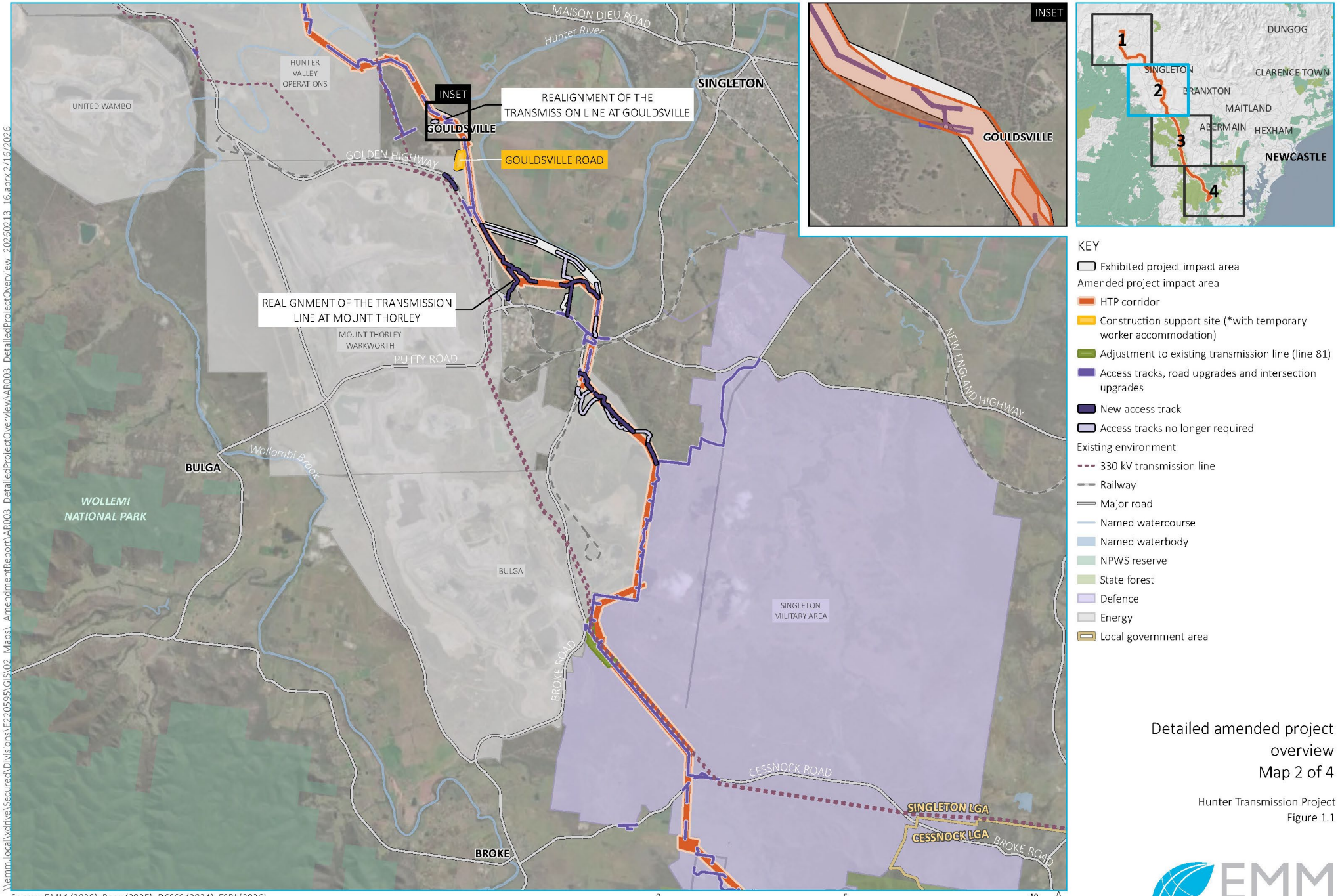
Existing environment

- Power station
- 330 kV transmission line
- 500 kV transmission line
- Railway
- Major road
- Named watercourse
- Named waterbody
- NPWS reserve
- Energy
- Local government area

Detailed amended project overview
Map 1 of 4

Hunter Transmission Project
Figure 1.1

EMM creating opportunities



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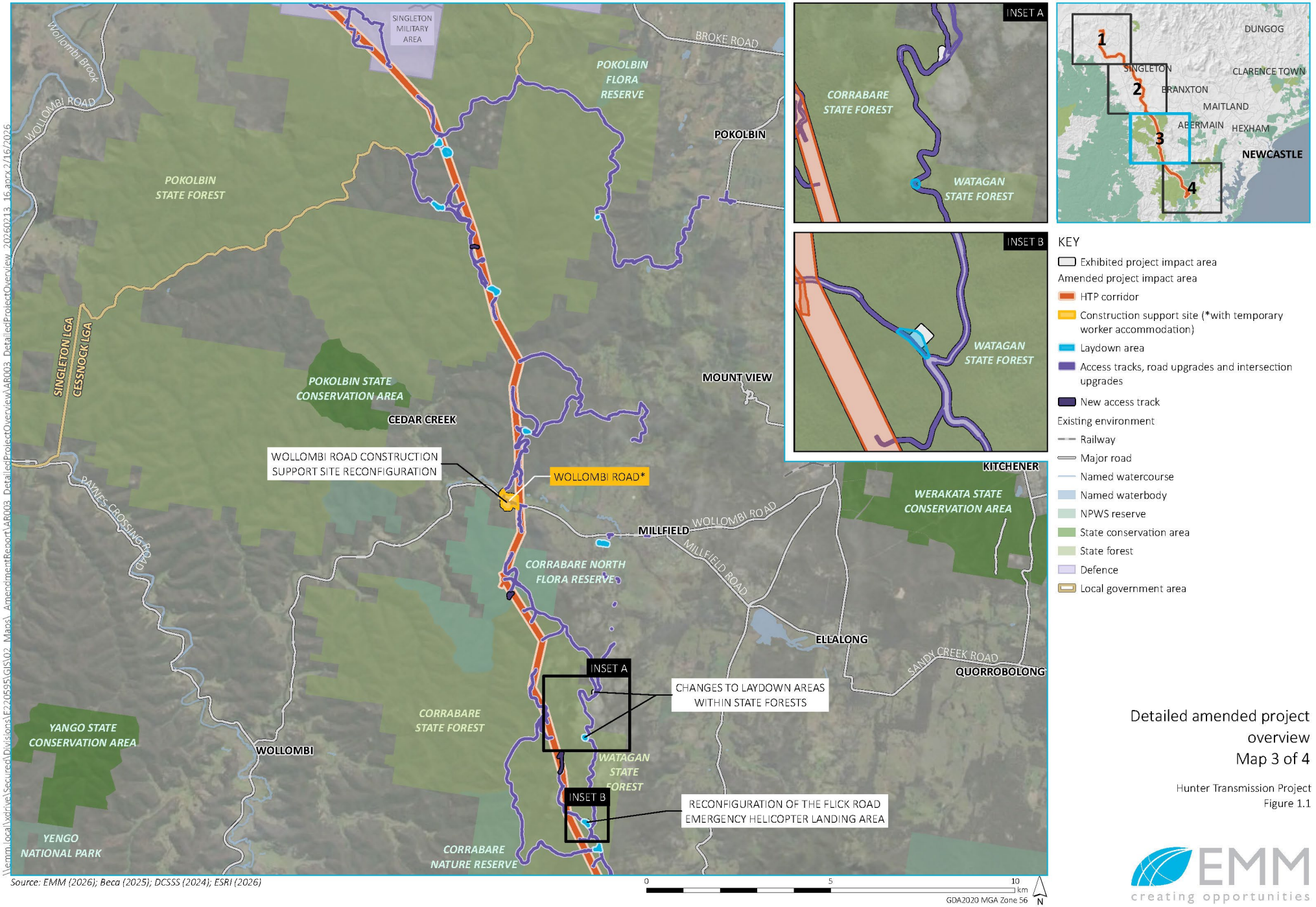
Source: EMM (2026); Beca (2025); DCSSS (2024); ESRI (2026)

Detailed amended project overview
Map 2 of 4

Hunter Transmission Project
Figure 1.1

EMM creating opportunities



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Source: EMM (2026); Beca (2025); DCSSS (2024); ESRI (2026)

Detailed amended project overview
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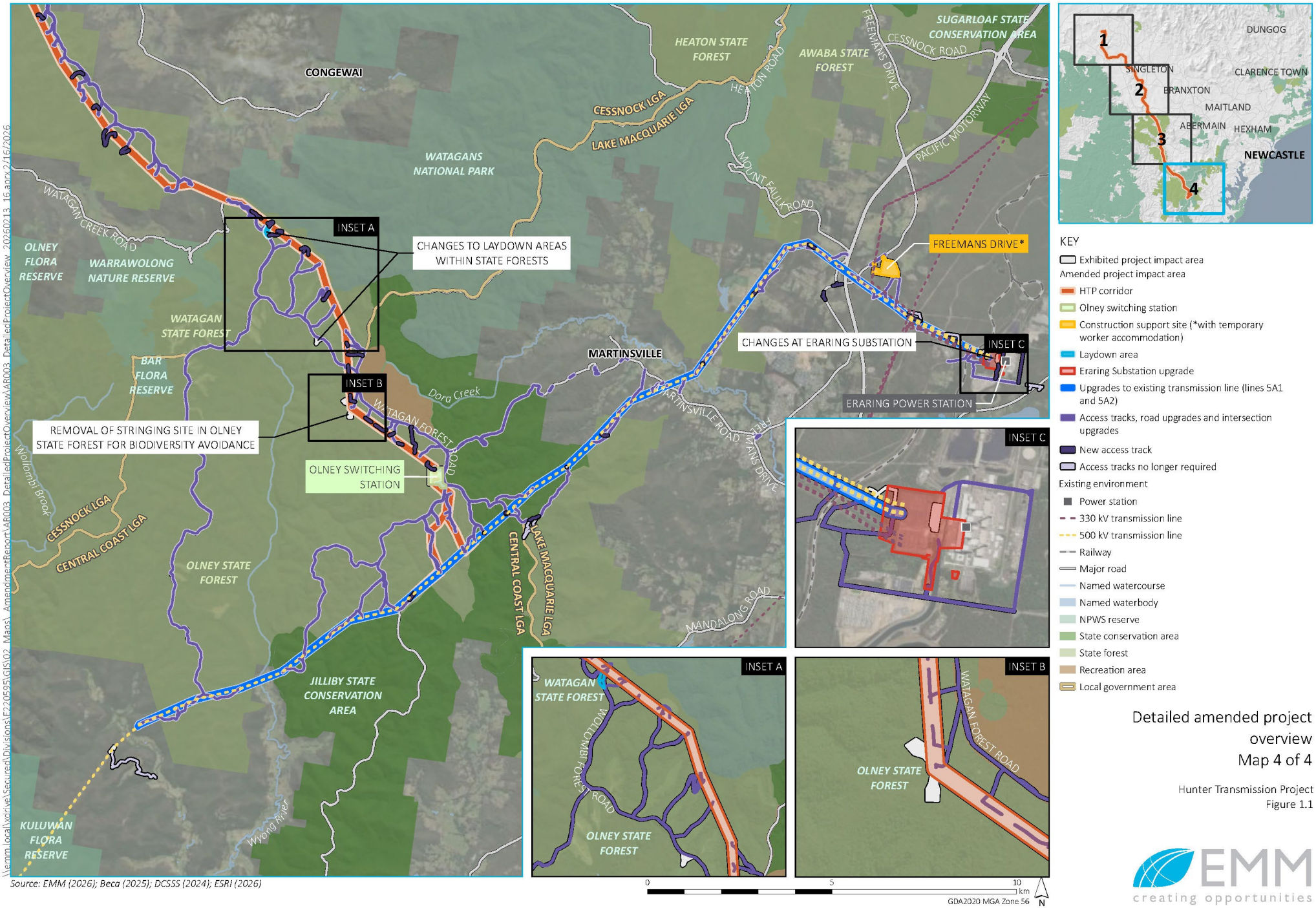
Hunter Transmission Project
Figure 1.1



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Source: EMM (2026); Beca (2025); DCSSS (2024); ESRI (2026)

Detailed amended project overview
Map 4 of 4

Hunter Transmission Project
Figure 1.1

1.4 Purpose and structure of this report

The purpose of this report is to inform the Hunter Transmission Project Amendment Report through assessment of the potential landscape character and visual impacts of the amended project. This report considers whether the proposed amendments and refinements would result in any changes to the predicted landscape character and visual impacts described in the EIS for the exhibited project, and whether any changes to mitigation measures are required.

This LCVIA addendum is to be read in conjunction with the EIS for the exhibited project and the exhibited landscape character and visual impact assessment (LCVIA, IRIS, 2025).

The structure and content of this LCVIA addendum is as follows:

- Chapter 1 – Introduction: provides an introduction to this LCVIA addendum
- Chapter 2 – Description of amendments and refinements: includes an overview of the proposed amendments and refinements compared to the description of project features as part of the exhibited project
- Chapter 3 – Methodology outlines the methodology used for the preparation of this LCVIA addendum
- Chapter 4 – Existing environment: describes the existing environmental context for the amended project, including any changes compared to the existing environment described as part of the exhibited project
- Chapter 5 – Assessment of landscape character impacts: includes an assessment of the potential construction and operational landscape character impacts of the amendments and refinements of the project compared to the impacts described as part of the exhibited project, and describes where the impacts of the proposed amendments and refinements would be consistent with those described as part of the exhibited project
- Chapter 6 – Assessment of visual impacts: includes an assessment of the potential construction and operational visual impacts of the amended project compared to the impacts described as part of the exhibited project, and describes where the impacts of the proposed amendments and refinements would be consistent with those described as part of the exhibited project
- Chapter 7 – Assessment of cumulative impacts: includes an assessment of the potential cumulative landscape character and visual impacts of the amended project, and describes where the impacts of the proposed amendments and refinements would be consistent with those described as part of the exhibited project
- Chapter 8 – Management: includes the proposed environmental management framework and mitigation measures for the landscape character and visual impacts of the amended project, including any changes to the mitigation measures presented as part of the exhibited project
- Chapter 9 – References: identifies the key reports and documents used to generate this LCVIA addendum.

Chapter 2: Description of amendments and refinements

This section provides a description of the proposed amendments and refinements compared to the exhibited project. These amendments and refinements have been made in response to stakeholder and contractor feedback, as well as feedback received from community submissions on the exhibited project. The design and construction methodology for the project would continue to be refined and confirmed during detailed design. An updated description of the project incorporating the proposed amendments and refinements is included in *Appendix A (Updated project description)* of the amendment report.

The amendments and refinements to the exhibited project (inclusive of the additional information and clarifications for the exhibited project) are collectively referred to in this report as the 'amended project'.

Descriptions of the proposed amendments and refinements as part of the amended project are included in Table 2-1.

Table 2-1 Description of proposed amendments and refinements compared to the exhibited project

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
Amendments			
Changes to 500 kV transmission line infrastructure	Realignment of the transmission line at Mount Thorley	The transmission line alignment between Bulga and Mount Thorley was designed to utilise mining-owned land wherever feasible and avoid the designated conservation offset area associated with the Bulga mining complex. To address safety concerns related to major hazardous facilities, the transmission line alignment has been developed to establish a safe minimum distance from facilities (Enaex and Dyno Nobel) in Mount Thorley Industrial Estate. Further refinements within Mount Thorley-Warkworth mining complex land, adjacent to the Golden Highway, shifted the transmission line alignment away from the Hunter River, further west. This adjustment allowed tower foundations to be sited in areas with reduced peak flood depths and velocities, improving resilience during flood events.	Around four kilometres of the new 500 kV double circuit transmission line at Mount Thorley would be realigned, moving it up to around 900 metres further south and away from the Hunter River. This proposed realignment of the transmission line at Mount Thorley as part of the amended project has been developed with input from the directly impacted landowners and stakeholders and would involve the transmission line continuing south adjacent to the Whittingham to Mount Thorley rail line before deviating in an eastward direction to join the exhibited HTP corridor north of the Putty Road / Broke Road intersection.
	Realignment of the transmission line at Gouldsville	The transmission line alignment in Gouldsville was designed to avoid impacts on high-quality threatened ecological communities through co-location with existing electrical infrastructure easements and access tracks.	Around one kilometre of the new 500 kV double circuit transmission line at Gouldsville would be realigned, moving it slightly south towards Long Point Road West and Gouldsville Road. This proposed realignment of the transmission line at Gouldsville as part of the amended project has been developed to further minimise impacts to threatened ecological communities, including the Central Hunter Grey Box – Ironbark Woodland threatened ecological community, listed as endangered under the NSW *Biodiversity Conservation Act 2016*.

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
	Localised easement widening for conductor swing	Section 4.5.1 of the EIS outlines that the operation of the transmission line would occur in a permanent 70-metre-wide easement.	Further development of the project design has identified localised areas of the transmission line easement where the span of conductors between transmission towers would 'swing' during periods of high wind, to a point where there is the potential that during these situations the conductors would extend outside of the 70-metre-wide operational easement. In consultation with Transgrid (as the preferred network operator for the project), the exhibited 70-metre-wide transmission line easement would be widened to be between 80 metres and around 140 metres wide in certain locations so that the transmission line assets stay wholly within the operational easement for the project.
Changes to substation infrastructure	Changes at Eraring substation	Section 4.2.3 in the EIS provides a general overview of the proposed upgrades at Eraring substation, which include: • expansion of the substation to accommodate the installation of new transformers • relocating generator connections from Eraring Power Station and installation/replacement of associated switchgear as required • relocation of the existing transformer spare unit • installation of new 500 kV/330 kV transformer units, augmentation of 500 kV/330 kV bays and associated switchgear and connections • adjustments to existing utilities and drainage infrastructure to accommodate the proposed substation expansion.	At Eraring substation, the amended project proposes to include: • a larger footprint for constructability, including for parking and the adjustment of utilities • substation generator connections on the existing hardstand area • modification works on the existing bench • new poles and adjustment of the existing generator connections into Eraring Power Station • localised undergrounding of the optical ground wire route by trenching between existing transmission towers.

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
Changes to intersections, access roads and access tracks	Changes to access tracks	Access requirements for construction and operation of the project were described in *section 4.3.5* of the EIS. Based on the concept design and early construction planning, potential access routes, including access roads and access tracks, were identified and are listed in Table 4-7 and shown in Figure 4-10 of the EIS.	The amended project includes changes to access tracks proposed for use during construction and operation of the project, which have been identified through ongoing development of the project design and feedback received through consultation with landowners, stakeholders and government agencies. Construction of additional/changed sections of access tracks would be consistent with the construction methodology outlined in *section 4.3.5* of the EIS. Changes to access tracks would be: • within State forests to provide a more suitable route for construction vehicles, improve access to the HTP corridor for clearing, and avoid the need to cross riparian zones • within Olney State Forest to minimise impacts to a number of threatened amphibian species and their habitat • on land that forms part of the Bulga mining complex to avoid a clean water diversion, keep access for the project separate from access to the mining complex, and avoid direct impacts to existing biodiversity offset areas • for the upgrades to existing transmission lines and towers to ensure access tracks are fit for purpose and to reduce impacts to landowners • off Putty Road to access the proposed realignment of the transmission line at Mount Thorley.
	Minor adjustments to the project impact area for intersection upgrades	*Section 4.3.5* of the EIS noted that the project would rely on the use of existing public roads during construction and operation of the project. In several locations along the construction routes, upgrade works would be required, including at several intersections (which were listed in Table 4-10 of the EIS), to cater safely for the proposed construction traffic volumes and delivery of oversized equipment or construction material and ensure public road safety.	The assessment of the amended project as part of the revised traffic and transport impact assessment identified the need for an additional intersection upgrade at Jerrys Plains Road southbound off ramp / existing access track at Mount Thorley, as a result of the changes to access tracks associated with the change to transmission line alignment at Mount Thorley. In addition, revised turn warrant assessments were completed for the intersections required to be used for the construction of the

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
			project, which identified the need for different intersection treatments than what was included in the EIS for five intersections. This includes: • Freemans Drive / Martinsville Road (intersection ID I-23) – additional land acquisition to accommodate turning vehicle movements • Putty Road / existing access track (intersection ID I-31) – an eastbound merge lane along Putty Road • Cessnock Road / new access track (intersection ID I-37) – widening on Cessnock Road for acceleration and deceleration lanes • Long Point Road West / existing easement (intersection ID I-40) – a merge lane as part of the intersection upgrade • Putty Road / new access track (intersection ID I-52) – upgrade to an auxiliary left turn to comply with turn warrants. This has resulted in minor adjustments to the project impact area at these locations.
	Adjustments to the proposed access routes for construction	Table 4-7 of the EIS provided a summary of the proposed access routes to be used for construction of the project. This list was based on the concept design for the project and early construction planning.	Adjustments to the proposed access routes to be used for construction have been made following a review of the proposed construction methodology for the project. This included the addition of some construction routes now required and the removal of some construction routes no longer required. The complete list of proposed access routes for construction is provided in Table A-7 of the updated project description (refer to *Appendix A (Updated project description)* of the amendment report.
Changes to construction methods and facilities	Reconfiguration of the Wollombi Road construction support site	Section 4.3.6 of the EIS describes the Wollombi Road construction support site as being located off Wollombi Road west of Millfield in the central portion of the project impact area. An overview of the Wollombi Road construction support site as assessed in the EIS is included in Figure 4-18 of the EIS.	Further consideration of the construction methodology for the project has identified the need to reconfigure the Wollombi Road construction support site to include a temporary worker accommodation with capacity to house up to 300 construction workers. When in use during construction, the temporary worker accommodation would be

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
		The EIS assumed a peak construction workforce of 830 workers, with allowance for 780 workers to be housed in temporary worker accommodation at the Hebden Road, Gouldsville Road and Freemans Drive construction support sites.	operational 24 hours per day, seven days per week. This amendment would provide additional accommodation capacity for the construction workforce, but would not increase the assumed peak construction workforce. The amended project would therefore include a change in construction activities proposed to be carried out at the Wollombi Road construction support site, including an increase in light vehicle movements in and out of the construction support site and extended operating hours at the construction support site, resulting in potential changes to amenity impacts.
	Changes to laydown areas within State forests	Figure 4-2 of the EIS shows the locations of laydown areas located outside the HTP corridor. Laydown areas identified in the EIS as being located within the State forests include: • Broken Back Road in Cedar Creek • Campbell Spring Trail in Cedar Creek • Trig Road/Mf1 Road in Corrabare • Trig Road/Crumps Road in Corrabare • Wollombi Forest Road in Ravensdale.	Feedback received from the Forestry Corporation of NSW during continued development of the project design identified an alternative arrangement of laydown areas for construction within the State forests. As a result, the amended project includes: • removal of the laydown areas included in the EIS near: - the intersection of Trig Road / Mf1 Road / North Road in Corrabare State Forest - Wollombi Forest Road (south of Halls Road) in the State Forest of the Watagan Mountains • inclusion of two new laydown areas within the State forests, located near: - the Trig Road / Flick Road intersection in the Corrabare State Forest - the Watagan Creek Road / Burma Road intersection in the State Forest of the Watagan Mountains. These new laydown areas would perform the same functions as laydown areas described in the EIS. However, they would result in changes to the disturbance area compared to the EIS, and a change to the project impact area.

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
	Reconfiguration of Flick Road emergency helicopter landing area in response to feedback received from Forestry Corporation of NSW	The construction methodology described in the exhibited EIS noted the project would include the provision of emergency helipads at laydown areas on Wollombi Forest Road and Flick Road for helicopters to land in the event of an emergency.	Continued construction planning and consultation with Foresty Corporation of NSW identified that the arrangement of the emergency helicopter landing site along Flick Road would need to be reconfigured so that its design complements the natural site topography and terrain. As such, the amended project would include the reconfiguration of the emergency helicopter landing site at Flick Road. The amended Flick Road emergency helicopter landing site would result in a change in the disturbance area and project impact area.
	Removal of stringing site in Olney State Forest to minimise impacts to threatened amphibian species	*Section 4.3.2* of the EIS outlines the work that would be carried out within the HTP corridor, which includes stringing sites. It is noted that stringing sites would be used for the preparation, assembly and operation of stringing equipment to connect the transmission line to the towers. Stringing sites would be positioned along the HTP corridor at various locations, including in the Olney State Forest north of the Olney switching station.	In response to consultation carried out with species experts and regulators for the biodiversity assessment of the project, refinements to the project to reduce the extent of vegetation clearing have been made within the exhibited HTP corridor in the Olney State Forest to the north of the proposed Olney switching station. These changes have been made to minimise impacts to threatened species, particularly frog species such as the Littlejohn's Tree Frog, within the Olney State Forest. As a result of these changes, the proposed stringing site to the north of the Olney switching station has been removed to minimise disturbance in this location. Alternative construction methodologies would be implemented to connect the transmission line to the towers at this location.
	Changes to construction plant and equipment types and locations	Section 4.4.2 of the EIS outlines the plant and equipment required as part of construction for the project.	It is proposed to amend the list of plant and equipment required during construction of the project to also include the following: • diesel generators located at construction support sites and laydown areas • crushing and screening plant located at construction support sites and at laydown areas within State forests • washdown facilities located at construction support sites • wastewater treatment plants at construction support sites. These additional plant and equipment have been added to the proposed list to be used during construction in response to feedback from potential construction contractors.

Project feature	Amendment / refinement	Summary of exhibited project	Summary of amendment/refinement
Refinements			
Changes to substation infrastructure	Minor changes at Bayswater substation	*Section 4.2.3* of the EIS includes a general overview of the proposed upgrades to the Bayswater substation as part of the project, including: • works within the substation to trench and connect communications infrastructure to Bayswater South switching station via underground fibre cable • modifications and upgrades to protection, control, automation and communication equipment. *Section 4.2.3* of the EIS also includes a general overview of the proposed construction of Bayswater South switching station. Space would be provided at Bayswater South switching station to allow for additional switching station infrastructure, such as additional line shunt reactors and switching station bays, and connections for additional transmission lines in the future.	Based on continued development of the project design, it has been identified that the project is required to include an underground fibre optic communication connection between the Bayswater substation and the Bayswater South switching station. As part of the amended project, this underground fibre optic connection would be located in a trench within the exhibited HTP corridor. The trench would require excavation of about 200 metres in length and would be around 0.6 metres wide and one metre deep. Changes would also include the fitout of two additional switching bays at Bayswater South switching station. This would occur within the exhibited footprint of the Bayswater South switching station.
Changes to construction methods and facilities	Changes to the disturbance area at Olney	As described in *section 7.3* of the EIS, the assessment of biodiversity impacts includes a disturbance area within the project impact area to provide a more accurate estimation of the likely magnitude of vegetation clearance required, and any associated biodiversity impacts. The disturbance area takes a more precise approach than the project impact area and represents areas of direct impacts such as full clearing at transmission towers and partial clearing within the transmission line easement. This approach was adopted to avoid a substantial overestimation of the likely biodiversity impacts and the associated quantity of biodiversity offsets required.	In response to consultation carried out with species experts and regulators for the biodiversity assessment of the project, refinements to the project to reduce to the extent of vegetation clearing have been made within the exhibited HTP corridor in the Olney State Forest to the north of the proposed Olney switching station. These changes have been made to minimise impacts to threatened species and their habitat, particularly a number of amphibian species within the Olney State Forest, including the Littlejohn's Tree Frog. These refinements within Olney State Forest have included adjustments to the disturbance area used to assess the potential impacts to biodiversity. While changes have been made to the disturbance area at this location, the HTP corridor would remain the same within the Olney State Forest as the EIS, and the same approach to vegetation management in the disturbance area as the EIS would apply.

Chapter 3: Methodology

This section describes the methodology used to assess the proposed amendments as part of the assessment of landscape character and visual impacts. This section also notes where the methodology used to assess these impacts is consistent with the methodology used as part of the exhibited project.

3.1 Assessment screening

Table 3-1 includes a screening assessment of the proposed amendments and refinements for the project. The relevance of each amendment/refinement to landscape character and visual impacts is outlined to determine the level of assessment required in this LCVIA addendum.

Table 3-1 Screening assessment – Landscape character and visual impact assessment

Amendment/ refinement	Relevance to Landscape character and visual impact assessment	Level of assessment required
Amendments		
Realignment of the transmission line at Mount Thorley	• Minor changes to study area for landscape character assessment • Potential changes to landscape character impacts due to the relocation of transmission line and towers • Potential changes to visual impacts due to the relocation of transmission line and towers	• Update and revise the assessment of daytime impacts to the affected Landscape Character Zones (LCZs) • Revised simple, intermediate and detailed visual assessment for public and private viewpoints within the visual study area of the relocated towers.
Realignment of the transmission line at Gouldsville	• No change to the study area for landscape character assessment • Potential changes to landscape character impacts due to the relocation of transmission line and towers • Potential changes to visual impacts due to the relocation of transmission line and towers	• Update and revise the assessment of daytime impacts to the affected LCZs • Revised simple, intermediate and detailed visual assessment for public and private viewpoints within the visual study area of the relocated towers.
Localised easement widening for conductor swing	• Potential changes to landscape character impacts due to additional vegetation removal • No change to visual impacts likely as the alignment and tower positions would not change.	• Update and revise the assessment of daytime impacts to the affected LCZs during construction and operation
Changes at Eraring substation	• Eraring substation is beyond the study area identified for assessment in the LCVIA (IRIS, 2025). Changes along the Olney to Eraring substation alignment, concern upgrades to existing transmission line and existing infrastructure, and occur within an existing easement, and therefore were not within the scope of the LCVIA. • No change to landscape character or visual impacts as the adjustments would be similar to the exhibited project, concerning upgrades to existing transmission line and existing infrastructure within an existing easement.	• No further assessment proposed.

Amendment/ refinement	Relevance to Landscape character and visual impact assessment	Level of assessment required
Changes to access tracks	• Potential changes to landscape character impacts due to the redistribution of access tracks, including within the State forests that may be seen from recreational areas. • No changes to visual impacts likely as these changes would not be seen from any assessed viewpoints.	• Update and revise the assessment of daytime impacts to the affected Landscape Character Zones (LCZs) during construction and operation.
Minor adjustments to the project impact area for intersection upgrades	• No change to landscape character or visual impacts likely as the adjustments would be similar to the exhibited project.	No further assessment proposed.
Adjustments to the proposed access routes for construction	• No change to landscape character or visual impacts likely as the adjustments would be similar to the exhibited project.	No further assessment proposed.
Reconfiguration of the Wollombi Road construction support site	• Potential changes to landscape character impacts in the vicinity of the Wollombi Road construction support site during construction. • Potential changes to visual impacts during construction.	• Update and revise the assessment of daytime impacts to the affected Landscape Character Zones (LCZs) during construction. • Revised visual assessment for public and private viewpoints within the vicinity of the Wollombi Road construction support site.
Changes to laydown areas within State forests	• Potential changes to landscape character impacts within the State forests during construction • No changes to visual impacts likely as these changes would not be seen from any assessed viewpoints.	• Update and revise the assessment of daytime impacts to the affected Landscape Character Zones (LCZs) during construction.
Reconfiguration of the Flick Road emergency helicopter landing area in response to feedback received from Forestry Corporation of NSW	• No change to landscape character or visual impacts likely as the reconfigured landing area would be similar to the Exhibited project.	No further assessment proposed.
Removal of stringing site in Olney State Forest to minimise impacts to threatened amphibian species	• Potential changes to landscape character impacts within the State Forest during construction • No changes to visual impacts likely as these changes would not be seen from any assessed viewpoints.	• Update and revise the assessment of daytime impacts to the affected Landscape Character Zones (LCZs) during construction.
Changes to construction plant and equipment types and locations	• No change to landscape character or visual impacts likely as the visual assessment prepared for the Exhibited project has assumed a range of construction plant and equipment similar to the amended project.	No further assessment proposed

Amendment/ refinement	Relevance to Landscape character and visual impact assessment	Level of assessment required
Refinements		
Changes at Bayswater substation	• No change to landscape character or visual impacts due to the fitout and fibre optic cable upgrades • There are no viewpoints within the vicinity of this change.	No further assessment proposed
Changes to the disturbance area at Olney	• Potential changes to landscape character impacts within the State Forest during construction • No changes to visual impacts likely as these changes would not be seen from any assessed viewpoints.	Update and revise the assessment of daytime impacts to the affected Landscape Character Zones (LCZs) during construction.

The amendments and refinements noted in **Table 3-1** as requiring further assessment have been carried forward into this LCVIA addendum. Other amendments and refinements have been assumed to not result in landscape character or visual impacts and have therefore not been assessed in this LCVIA addendum.

For completeness, however, where the reassessment of landscape character zones is undertaken, those changes that would not have otherwise triggered further assessment will be included for completeness.

3.2 Legislation, policies, plans and guidelines

This LCVIA addendum has been undertaken in accordance with the *Transmission Guideline, Technical Supplement for Landscape Character and Visual Assessment* (DPHI 2024) (the *Technical Supplement*). The *Technical Supplement* provides guidance for the assessment of landscape character and a detailed methodology for the assessment of visual impacts of transmission projects.

Where the *Technical Supplement* does not provide guidance, this LCVIA addendum draws upon methodology from other national and international guidelines and standards, including:

- *Guidance Note for Landscape and Visual Assessment*, Australian Institute of Landscape Architects Queensland, 2018
- *Guidelines for Landscape and Visual Impact Assessment*, Third Edition, 2013, prepared by the Landscape Institute and Institute of Environmental Management & Assessment
- *AS/NZS 4282 Control of the obtrusive effects of outdoor lighting*, 2023.

3.3 Study area

The study area for this LCVIA addendum has been determined in accordance with the *Technical Supplement.* This includes different study areas for landscape character and visual impacts, including:

- the landscape character assessment study area includes all areas within five kilometres of the proposed development (page 14, DPHI 2024).
- the visual assessment study area is all areas within 1.625 kilometres of the amended project corridor (based on a maximum tower height of 85 metres) (page 36, DPHI 2024).

Those construction support sites outside the landscape character study area have also been considered for temporary landscape character.

3.4 Field surveys

Since completion of the LCVIA (IRIS, 2025), additional site inspections have been undertaken. The inspections occurred on the 16 and 17th of October of 2025.

3.5 Scope of this addendum assessment

This LCVIA addendum includes an assessment of landscape character and visual impacts resulting from the amended project, and covers the following types of impact:

- impacts to landscape character during the day and at night (throughout construction and operation)
- impacts to viewpoints from the public domain, and from private dwellings, during the day and night (throughout construction and operation)
- cumulative impacts.

3.6 Landscape character impact assessment methodology

Landscape character impact assessment methodology was described in section 3.4 of the LCVIA (IRIS, 2025) prepared for the EIS. The methodology uses to assess landscape character impacts of the amended project is consistent with that methodology, and follows the process prescribed in the *Technical Supplement* (DPHI 2024).

In summary, the methodology requires identification of landscape character zones within five kilometres of the project; identification of each character zone's 'sensitivity' to change; and identification of the 'magnitude of change' anticipated due to the project. The level of impact was determined by combining sensitivity and magnitude of change levels. These steps were followed to determine the level of impact to landscape character during construction and operation, during the daytime and night-time.

3.7 Visual impact assessment methodology

Visual impact assessment methodology was described in section 3.5 of the LCVIA (IRIS, 2025) prepared for the EIS. The methodology used to assess visual impacts of the amended project is consistent with that methodology.

In summary, the methodology to assess the impact of the operational project on daytime views followed the process prescribed in the *Technical Supplement* (DPHI 2024) and encompassed two steps, a rural setback assessment and a proportionate visual impact assessment. For the proportionate visual impact assessment, there are three sequential assessment types: simple, intermediate and detailed:

- The simple assessment identified and categorised receivers within four kilometres of the amended project and identified the potential magnitude of the project on each receiver's view using desktop tools in the *Technical Supplement.* Receivers with a moderate or higher rating proceeded to intermediate assessment
- The intermediate assessment identified the 'sensitivity' of each viewpoint (using desktop analysis) and 'magnitude of change' was measured using worst case scenario modelling (a 180 degree panorama using landform without trees or other features). The level of impact was determined by combining sensitivity and magnitude of change levels. Receivers with a moderate or higher rating proceeded to detailed assessment
- The detailed assessment was based on site inspection (where possible). Receiver sensitivity was confirmed on site and magnitude of change was confirmed by photomontages prepared of the view.

To assess the impact of the project on daytime views during construction, and on views at night, a more descriptive approach was taken. Potential receivers with anticipated views of project construction, or receivers with potential nighttime views, were identified and the change to their view described.

3.8 3D renders, modelled views and photomontages

The process undertaken to prepare modelled views of the project was described in section 3.8 of the LCVIA (IRIS, 2025) prepared for the EIS. Preparation of modelled views of the amended project is consistent with that process.

3.9 Limitations

This LCVIA addendum has been undertaken with the following limitations:

- field work was undertaken during the day and the nighttime assessment has been made from daytime observations
- during detailed design the project (as amended) would undergo further refinement. This assessment and associated 3D modelling was undertaken based on the design of the amended project available in December of 2025.
- project construction planning would be undertaken by the project construction contractor at a later stage. For this assessment, assumptions have been made as to the scale and types of activities and infrastructure that would be required at the workforce accommodation and construction compounds

Where uncertainty exists, the assessment considers a worst-case scenario where possible.

Chapter 4: Existing environment

The existing environment described in section 10.2 of the EIS and Chapter 4 of the LCVIA (IRIS, 2025) prepared for the EIS is still applicable to the amended project. There are no updates to the existing environment resulting from changes to the project impact area.

Chapter 5: Assessment of landscape character impacts

This section outlines the potential construction and operational landscape character impacts resulting from the amended project and notes where the operational impacts from the proposed amendments and refinements are consistent with the operational impacts assessed as part of the exhibited project.

5.1 Landscape character zones

Of the landscape character zones (LCZs) identified within the study area and described in section 5.2 of the LCVIA (IRIS, 2025) prepared for the EIS, the following will potentially be changed by the amended project:

- LCZ 1 Energy and mining
- LCZ 4 Hunter River (Maison Dieu) rural valley
- LCZ 8 Forested hills
- LCZ 11 Narrow rural valley
- LCZ 12 Managed forestry

The location of the LCZs is shown in **Appendix D**: Landscape character plans.

The amended project alignment results in a slight change to the extent of several LCZs in the vicinity of Mount Thorley (LCZ1 and LCZ4). The change is reflected in the plans shown in **Appendix D.**

The sensitivity of each LCZ as described in section 5.2 of the LCVIA (IRIS, 2025), is still applicable to the amended project.

There are also two locations beyond the LCVIA study area that were identified in the LCVIA (IRIS, 2025) and will potentially be changed by the amended project, these are:

- along Hebden Road, northeast of the study area; and
- in the vicinity of Freemans Drive, southeast of the study area.

The sensitivity of these locations was described in section 5.2 of the LCVIA (IRIS, 2025) and are still applicable to the amended project.

5.2 Landscape character impacts during the day

5.2.1 Landscape character impact during construction

An assessment of the impact of the amended project on landscape character during the day throughout the temporary construction period (up to three years) is contained in **Table 5-1**.

5.2.2 Landscape character impact during operation

An assessment of the impact of the amended project on landscape character during the day throughout operation is contained in **Table 5-2.**

Table 5-1 Landscape character impact during construction, daytime

		Exhibited project		Amended project	
Landscape character zone	Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
LCZ 1: Energy and mining	Very low	Very low	Very low	Very low • additional construction works would be undertaken at Bayswater substation and switching station for the amended project, including 200m of trenching for a fibre optic connection and fit out of two additional switching bays. The construction changes would be consistent with existing landscape character of the substation and switching station • changes to access tracks within the LCZ, including a new access track off Putty Road and changed access arrangements in the HTP corridor, would have minimal impact on characteristics of the LCZ which includes heavy, industrial traffic travelling through a highly modified landscape • The amended project includes the following additional large plant and equipment at the Pikes Gully Road construction support site: diesel generators, crushing and screening plant, washdown facilities and wastewater treatment plant. The additional plant and equipment would be consistent with existing infrastructure and activities of the LCZ. Overall, the LCZ is highly modified for mining and energy generation and is zoned to provide for infrastructure and related uses. Construction of the amended project would be consistent with the existing and intended landscape character of the LCZ	Very low
LCZ 4: Hunter River (Maison Dieu) Rural Valley	Low	Low	Low	Low • realignment of four kilometres of 500 kV transmission affecting eight towers (124-117) in the LCZ. The realignment would move construction of the eight towers and stringing of the transmission line further from the Hunter River and closer to the Mount Thorley industrial area, reducing the presence of construction activities in the vicinity of the Hunter River • reconfiguration of construction access to suit the new alignment. Construction access tracks would be moved further from the Hunter River and some tracks identified in the exhibited EIS would no longer be used. Construction and use of the reconfigured access tracks would occur closer to the less sensitive Mount Thorley industrial area The amended project includes the following additional large plant and equipment at the Gouldsville Road construction support site: diesel generators, crushing and screening plant, washdown facilities and wastewater treatment plant. The temporary workers accommodation would be removed. Regardless of these changes, the construction support site footprint (10 ha) would remain unchanged from the exhibited project. The construction support site, including the additional plant and equipment, would be less prominent within the landscape during the temporary construction period. While there may be some slight reduction in the changes to the Hunter River (Maison Dieu) Rural Valley LCZ, the overall magnitude of change would continue to be low, which is consistent with the exhibited project.	Low

		Exhibited project		Amended project	
Landscape character zone	Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
LCZ 8: Forested hills	**Moderate**	**Moderate**	**Moderate**	**Moderate** • the amended project does not include any notable changes during construction from the exhibited project. Overall, there would be a moderate magnitude of change, which is consistent with the exhibited project.	**Moderate**
LCZ 11: Narrow Rural Valleys	**Moderate**	**High**	**Moderate**	**Very high** • a temporary worker accommodation to be located within the Wollombi Road construction support site. It would have capacity to house up to 300 construction workers and would operate 24 hours per day, seven days per week. The temporary worker accommodation would increase the number and extent of pre-fabricated modular buildings across the construction support site. Areas for parking would also increase, and light vehicle movements in and out of the construction support site would increase. The temporary worker accommodation would occupy a relatively large area in the context of the narrow valley (around 1.5 ha), be prominent close to Wollombi Road, and uncharacteristic of the rural landscape • additional large plant and equipment at the Wollombi Road construction support site: diesel generators, crushing and screening plant, washdown facilities and wastewater treatment plant. The additional plant and equipment would be large and noticeable in the landscape In combination with Wollombi Road construction support site facilities and activities already described in the exhibited project, the amended project temporary worker accommodation and additional plant and equipment, would result in a very high magnitude of change to landscape character during construction. The 15 ha Wollombi Road construction support site would temporarily become a major element in the landscape and temporarily dominate the existing characteristics of the LCZ. This impact is an increased impact from the exhibited project.	**High**
LCZ 12: Managed forestry	**Low**	**Low**	**Low**	**Moderate** • upgrades to additional forestry access tracks for use during the construction period to access transmission pad locations and the corridor for clearing. In addition, the amended project upgrades access tracks providing access to existing transmission lines and towers being upgraded. Access tracks throughout the LCZ are used by heavy equipment and vehicles for forestry harvesting and hauling. The upgrading of access tracks for construction traffic would not be uncharacteristic within the managed forestry LCZ • removal of two laydown areas from the LCZ identified in the exhibited EIS and includes two new laydown areas in the LCZ. Although the location of two of the exhibited project laydown areas would change, there would still be five laydown areas within state forest (consistent with the exhibited project). Clearing and proposed use of these locations is consistent with the characteristics of managed forestry	**Low**

		Exhibited project		Amended project	
Landscape character zone	Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
				• reconfiguration of the disturbance area associated with the emergency helicopter landing site at Flick Road within state forest. Clearing of vegetation and proposed use of the location is consistent with the characteristics of managed forestry • There would be no direct impact on recreational areas (campgrounds, picnic areas, walking tracks and lookouts). However, there would be construction vehicles travelling along forestry roads that are also used by recreational users. There would be some temporary landscape character impact experienced by recreational road users in these areas. • The extent of vegetation clearing within the exhibited HTP corridor in the Olney State Forest to the north of the proposed Olney switching station, has reduced to minimise impacts to threatened species habitat. Although vegetation clearance would reduce north of the proposed Olney switching station, overall, potential vegetation clearance would increase within the LCZ. The magnitude of change would be moderate, which is an increase from the exhibited project.	
Locations beyond the study area					
Hebden Road	**Very low**	**Low**	**Very low**	**Low** • additional large plant and equipment at the Hebden Road construction support site: diesel generators, crushing and screening plant, washdown facilities and wastewater treatment plant. Hebden Road and areas surrounding this site are designated for infrastructure and related uses. The construction support site (as per the exhibited project) including the additional plant and equipment, and temporary worker accommodation, would be consistent with the intended landscape character of this location Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	**Very low**
Freemans Drive	**Low**	**Low**	**Low**	**Low** • additional large plant and equipment at the Freemans Drive construction support site: diesel generators, crushing and screening plant, washdown facilities and wastewater treatment plant. The construction support site (as described in the exhibited project) and the additional plant and equipment, would be setback over 200 m from Freemans Drive, and would be surrounded by tall trees. Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	**Low**

Table 5-2 Landscape character impact during operation, daytime

		Exhibited project		Amended project	
Landscape character zone	Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
LCZ 1: Energy and mining	Very low	Very low	Very low	Very low • ongoing, periodic clearing of hazard trees within the corridor widened for conductor 'swing' between two towers (149-150). The vicinity of the two towers is disturbed by mining uses. Additional, ongoing selective tree removal between the two towers would not impact characteristics of the LCZ • Once installed, the amended project underground fibre optic connection and fitout changes at Bayswater substation and switching station would be compatible with the existing character of the LCZ Overall, there would be a very low magnitude of change, which is consistent with the exhibited project.	Very low
LCZ 4: Hunter River (Maison Dieu) Rural Valley	Low	Low	Low	Low • realignment of four kilometres of 500 kV transmission line, positions eight towers (124-117) and the transmission line further from the Hunter River and closer to the less sensitive Mount Thorley industrial area, reducing the prominence of transmission towers within the vicinity of the Hunter River Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	Low
LCZ 8: Forested hills	Moderate	Moderate	Moderate	Moderate • ongoing, periodic clearing of hazard trees within the corridor widened for conductor 'swing' (up to 140 m). The increased area subject to selective hazard tree removal would be small overall (occurring at one location between two towers (149-150)) and clearing would be limited to high-risk trees, at risk of falling on the tower or line. Regardless, the change would reduce the reappearance of tall, emergent trees over a larger area of vegetated foothills While there would potentially be slightly less vegetation within the vicinity of the transmission line, overall there would be a moderate magnitude of change, which is consistent with the exhibited project.	Moderate

		Exhibited project		Amended project	
Landscape character zone	Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
LCZ 11: Narrow Rural Valleys	**Moderate**	**Moderate**	**Moderate**	**Moderate** • ongoing, periodic clearing of hazard trees within the corridor widened for conductor 'swing' (up to 140 m). The increased area subject to selective hazard tree removal would be small overall (occurring between two towers (52-53)) and would be limited to high-risk trees, at risk of falling on the tower or line. However, the increased area would affect trees on a prominent, vegetated, ridge; noticeably increase the extent of tree removal either side of the valley; and reduce the reappearance of tall, emergent trees within a wider area While there would potentially be slightly less vegetation within the vicinity of the transmission line, overall there would be a moderate magnitude of change, which is consistent with the exhibited project.	**Moderate**
LCZ 12: Managed forestry	**Low**	**Moderate**	**Low**	**Moderate** • ongoing, periodic clearing of hazard trees within the corridor widened for conductor 'swing', reducing the reappearance of tall trees within the widened easement. However, some areas of this LCZ are actively harvested for forestry, ongoing additional localised tree clearing would not be uncharacteristic While there would potentially be slightly less vegetation within the vicinity of the transmission line, overall there would be a moderate magnitude of change, which is consistent with the exhibited project.	**Low**
Locations beyond the study area					
Hebden Road	**Very low**	**Negligible**	**Negligible**	No change from exhibited project	-
Freemans Drive	**Low**	**Negligible**	**Negligible**	No change from exhibited project	-

5.3 Landscape character impacts at night

5.3.1 Landscape character impact during construction at night

The amended project introduces additional lighting via the temporary worker accommodation at Wollombi Road construction support site. When in use during construction, the temporary worker accommodation facility would be operational 24 hours per day 7 days per week. An assessment of the potential landscape character impacts of the amended project at night during construction is shown in Table 5-3.

5.3.2 Landscape character impact during operation at night

There is no additional permanent lighting proposed in the amended project and therefore no changes to the landscape character impacts identified in the EIS.

Table 5-3 Landscape character impact during construction, nighttime

		Exhibited project (construction, nighttime)		Amended project (construction, nighttime)	
Landscape character zone	Nighttime Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
LCZ 1: Energy and mining	Very low	Negligible	**Negligible**	**Negligible** • the amended project does not include any changes at night during construction from the exhibited project. Overall, there would be a negligible magnitude of change, which is consistent with the exhibited project.	**Negligible**
LCZ 4: Hunter River (Maison Dieu) Rural Valley	Moderate	Low	**Low**	**Low** • the amended project removes the temporary worker accommodation from the Gouldsville construction support site any changes at night during construction from the exhibited project. Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	**Low**
LCZ 8: Forested hills	High	Low	**Negligible**	**Low** • the amended project does not include any changes at night during construction from the exhibited project. Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	**Negligible**
LCZ 11: Narrow Rural Valleys	Moderate	Negligible	**Negligible**	**Very high** • The amended project temporary worker accommodation within Wollombi Road construction support site would be operational 24/7. The change would include external lighting of access roads, car parks and pathways; a greater number of vehicle movements to/from the worker accommodation; and extended operating hours. The temporary worker accommodation would introduce a new source of night-time light to the LCZ. Lights would be spread across the 1.5-hectare temporary worker accommodation area, and be prominent adjacent to Wollombi Road Overall, for the amended project there would be a very high magnitude of change in the area west of Millfield. This is an increase from the exhibited project, which did not anticipate this scale of night time activity in this location.	**High**

		Exhibited project (construction, nighttime)		Amended project (construction, nighttime)	
Landscape character zone	Nighttime Landscape sensitivity	Magnitude of change	Landscape character impact	Magnitude of change	Landscape character impact
LCZ 12: Managed forestry	High	Low	**Moderate**	**Low** • the amended does not include any changes at night during construction from the exhibited project. Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	**Moderate**
Locations beyond the study area					
Hebden Road	**Low**	**Low**	**Low**	**Low** • the amended does not include any changes at night during construction from the exhibited project. Overall, there would be a low magnitude of change, which is consistent with the exhibited project.	**Low** (no change)
Freemans Drive	**Moderate**	**Moderate**	**Moderate**	**Moderate** • the amended does not include any changes at night during construction from the exhibited project. Overall, there would be a moderate magnitude of change, which is consistent with the exhibited project.	**Moderate**

5.4 Summary of landscape character impacts

A summary of the daytime (construction and operation) and nighttime (construction and operation) landscape character impacts of the amended project is provided in **Table 5-4** to **Table 5-7**.

The assessment results show that the amended project would not change the landscape character impacts identified for the exhibited project, except for the narrow rural valley (LCZ 11) which would have an increased landscape character impact during daytime construction and during construction at night. For this LCZ, landscape character impact increased from **moderate** to **high** during the day and from **negligible** to **high** at night during construction.

This increased impact is due to the temporary workers accommodation being included at the Wollombi Road construction support site, which would operate 24hrs a day. However, these construction impacts are temporary, lasting for a period of up to two years during the construction period. The mitigation measures provided for the exhibited project would apply to the Workers Wollombi Road construction support site and temporary workers accommodation facility. Refer to Chapter 7 of this report.

In summary, in the **daytime during construction** (see **Table 5-4**), there would be a:

- High impact on one landscape character zone: LCZ 11: Narrow rural valley (due to the proximity and prominence of construction activities in the LCZ)
- moderate impact on two landscape character zones: LCZ 7: Wollombi Brook rural valley (due to the higher scenic quality of the LCZ), and LCZ 8: Forested hills (due to the existing wooded characteristic of the landscape and proposed tree clearance)
- low impact on five landscape character zones and one location beyond the study area
- very low or negligible impact on remaining landscape character zones and area beyond the study area.

As summarised above, these impacts are unchanged from the exhibited project apart from the impact to LCZ 11: Narrow rural valley which would increase from **moderate** to **high**.

Table 5-4 Summary of landscape character impact – construction, day time

		Exhibited project		Amended project	
Location	Sensitivity	Magnitude	Impact	Magnitude	Impact
LCZ 1: Energy and mining	Very low	Very low	**Very low**	Very low	**Very low**
LCZ 2: Jerrys Plains rural village	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 3: Hunter River (Lemington) rural valley	Moderate	Low	**Low**	Low	**Low**
LCZ 4: Hunter River (Maison Dieu) rural valley	Low	Low	**Low**	Low	**Low**
LCZ 5: Bushland and open forest	Low	Very low	**Very low**	Very low	**Very low**
LCZ 6: Broke rural village	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 7: Wollombi Brook rural valley	Moderate	Moderate	**Moderate**	Moderate	**Moderate**
LCZ 8: Forested hills	Moderate	Moderate	**Moderate**	Moderate	**Moderate**
LCZ 9: Millfield suburban area	Low	Low	**Low**	Low	**Low**
LCZ 10: Congewai Creek rural valley	Moderate	Low	**Low**	Low	**Low**
LCZ 11: Narrow rural valleys	Moderate	High	**Moderate**	Very high	**High**
LCZ 12: Managed forestry	Low	Low	**Low**	Low	**Low**
Hebden Road	Very low	Low	**Very low**	Low	**Very low**
Freemans Drive	Low	Low	**Low**	Low	**Low**

In summary, in the **daytime during operation** (see **Table 5-5**), there would be a:

- moderate impact on three landscape character zones: LCZ 7: Wollombi Brook rural valley (due to the higher scenic quality of the landscape character zone), LCZ 8: Forested hills and LCZ 11: Narrow rural valley (due to the prominent location of towers and ongoing tree clearance within the LCZs),
- low impact on three landscape character zones
- very low or negligible impact on remaining landscape character zones.

Table 5-5 Summary of landscape character impact – operation, day time

		Exhibited project		Amended project	
Location	Sensitivity	Magnitude	Impact	Magnitude	Impact
LCZ 1: Energy and mining	Very low	Very low	**Very low**	Very low	**Very low**
LCZ 2: Jerrys Plains rural village	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 3: Hunter River (Lemington) rural valley	Moderate	Low	**Low**	Low	**Low**
LCZ 4: Hunter River (Maison Dieu) rural valley	Low	Low	**Low**	Low	**Low**
LCZ 5: Bushland and open forest	Low	Very low	**Very low**	Very low	**Very low**
LCZ 6: Broke rural village	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 7: Wollombi Brook rural valley	Moderate	Moderate	**Moderate**	Moderate	**Moderate**
LCZ 8: Forested hills	Moderate	Moderate	**Moderate**	Moderate	**Moderate**
LCZ 9: Millfield suburban area	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 10: Congewai Creek rural valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 11: Narrow rural valleys	Moderate	Moderate	**Moderate**	Moderate	**Moderate**
LCZ 12: Managed forestry	Low	Moderate	**Low**	Moderate	**Low**
Hebden Road	Very low	Negligible	**Negligible**	Negligible	**Negligible**
Freemans Drive	Low	Negligible	**Negligible**	Negligible	**Negligible**

In summary, during the **nighttime during construction** (see **Table** 5-6), there would now be a:

- high impact on one landscape character zone, the LCZ 11: Narrow rural valley (as the amended project includes a temporary worker accommodation that would operate 24/7 and include external lights over a large geographic area)
- moderate impact on one landscape character zones and one location beyond the LCVIA study area: LCZ 12: Managed forestry (due to nighttime construction of the proposed Olney switching station); and Freemans Drive (due to increased localised lighting of the rural area associated with the temporary worker accommodation)
- low impact on one landscape character zone and one location beyond the LCVIA study area: LCZ 4: Hunter River (Maison Dieu) Rural Valley and Hebden Road (due to lighting associated with temporary worker accommodation located within the LCZs).
- negligible impact on remaining landscape character zones.

These impacts are unchanged from the exhibited project apart from the impact to LCZ 11: Narrow rural valley which would increase from **negligible** to **high**.

Table 5-6 Summary of landscape character impact – construction, nighttime

		Exhibited project		Amended project	
Location	Sensitivity	Magnitude	Impact	Magnitude	Impact
LCZ 1: Energy and mining	Very low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 2: Jerrys Plains rural village	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 3: Hunter River (Lemington) Rural Valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 4: Hunter River (Maison Dieu) Rural Valley	Moderate	Low	**Low**	Low	**Low**
LCZ 5: Bushland and open forest	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 6: Broke rural village	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 7: Wollombi Brook rural valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 8: Forested hills	High	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 9: Millfield suburban area	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 10: Congewai Creek Rural Valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 11: Narrow Rural Valleys	Moderate	Negligible	**Negligible**	Very high	**High**
LCZ 12: Managed forestry	High	Low	**Moderate**	Low	**Moderate**
Hebden Road	Low	Low	**Low**	Low	**Low**
Freemans Drive	Moderate	Moderate	**Moderate**	Moderate	**Moderate**

In summary, during the **nighttime during operation** (see **Table 5-7**), there would be a:

- moderate impact on one landscape character zone: LCZ 12: Managed forestry (due to the introduction of occasional localised artificial light into an otherwise dark environment)
- negligible impact on the remaining landscape character zones during construction and operation.

These impacts are unchanged from the exhibited project.

Table 5-7 Summary of landscape character impact – operation, nighttime

		Exhibited project		Amended project	
Location	Sensitivity	Magnitude	Impact	Magnitude	Impact
LCZ 1: Energy and mining	Very low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 2: Jerrys Plains rural village	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 3: Hunter River (Lemington) Rural Valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 4: Hunter River (Maison Dieu) Rural Valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 5: Bushland and open forest	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 6: Broke rural village	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 7: Wollombi Brook rural valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 8: Forested hills	High	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 9: Millfield suburban area	Low	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 10: Congewai Creek Rural Valley	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 11: Narrow Rural Valleys	Moderate	Negligible	**Negligible**	Negligible	**Negligible**
LCZ 12: Managed forestry	High	Low	**Moderate**	Low	**Moderate**
Hebden Road	Low	Negligible	**Negligible**	Negligible	**Negligible**
Freemans Drive	Moderate	Negligible	**Negligible**	Negligible	**Negligible**

Chapter 6: Visual impact assessment

6.1 Public viewpoints

6.1.1 Representative viewpoint assessment

Ten public viewpoints were selected to represent views to the exhibited project during construction and operation. These viewpoints include a state highway and other public roads, a village and lookout. Due to the relatively minor nature of the alignment adjustments included for the amended project, and that there were already viewpoints identified at locations of more significant (temporary) change, no additional public viewpoints were selected for this assessment.

6.1.2 Daytime visual impacts during operation

Each viewpoint was reviewed and there were no changes to the alignment or tower positions within these representative viewpoints. Therefore, there would be no changes to the visual impacts identified in the EIS for the exhibited project during operation.

In summary, the findings of this assessment are consistent with the exhibited project and there no changes to the visual impacts from public viewpoints. The impacts for the exhibited project, were:

- moderate impact on one viewpoint: 07: Cessnock Road
- Low impact on six viewpoints: 03: Golden Highway; 04: Shearers Lane; 05 Hunter Valley Gliding Club; 06: Putty Road; 08 Wollombi Road (looking east) and 11: Olney Headquarters campground and picnic area
- Very low and negligible impact on all the remaining representative public viewpoints.

A summary of this review of public viewpoints is included in **Table 6-1**. The location of these viewpoints is included in **Appendix F** of the Landscape Character and Visual Impact Assessment for the exhibited project.

Table 6-1 Summary of visual assessment – public views

Viewpoint	Viewpoint type	Potential visual sensitivity	Exhibited project – Visual impact	Amended project – Magnitude of change	Amended project – Visual impact
01: New England Highway	Public road	Very low	Very low	No change to tower positions in view	Very low
02: Jerrys Plains	Town centre	Low	Very low	No change to tower positions in view	Very low
03: Golden Highway	Public road	Low	Low	No change to tower positions in view	Low
04: Shearers Lane	Public road	Very low	Low	No change to tower positions in view	Low
05: Hunter Valley Gliding Club	Community recreation	Low	Low	No change to tower positions in view	Low
06: Putty Road	Public road	Very low	Low	No change to tower positions in view	Low
07: Cessnock Road	Public road	Moderate	Moderate	No change to tower positions in view	Moderate
08: Wollombi Road (looking east)	Public road	Low	Low	No change to tower positions in view	Low
09: Wollombi Road (looking west)	Public road	Low	Very low	No change to tower positions in view	Very low
10: Flat Rock Lookout	Lookout	Moderate	None	No change to tower positions in view	None

Viewpoint	Viewpoint type	Potential visual sensitivity	Exhibited project – Visual impact	Amended project – Magnitude of change	Amended project – Visual impact
11: Olney Headquarters campground and picnic area	Campground and picnic area	Low	Low	No change to tower positions in view	Low
12: Watagan Forest Road	Public road	Very low	None	No change to tower positions in view	None

6.1.2.1 Performance objectives

There are no changes to the visual impacts from public viewpoints and therefore no changes to the management of impacts from these viewpoints.

As identified in the EIS, there would be a moderate visual impact from Viewpoint 07: Cessnock Road. As this view represents a point where the project crosses Cessnock Road, and because of the attractive roadside views from this location, no screening vegetation is proposed. Rather, in this area, the transmission line tower height would be minimised as far as practical to reduce the magnitude of change and reduce the visual impact. This approach is unchanged from the exhibited project.

6.1.3 Daytime visual impacts during construction

In addition to the potential visual impacts identified for the exhibited project, there would be additional visual impacts during construction from public viewpoints 08 and 09 on Wollombi Road, west of Millfield. The amended project includes a larger construction support site and temporary worker accommodation adjacent to Wollombi Road.

The construction support site and temporary worker accommodation facilities would be clearly visible, close to public road users, and on both sides of the road. The activities within the support site and temporary worker accommodation would substantially contrast with the existing view. Replacing a rural view with intensive temporary structures, construction equipment, materials and vehicles.

Construction impacts are temporary. Following construction, the construction support sites would be demobilised and temporary disturbance rehabilitated in consultation with the landowner as required. Machinery and vehicles associated with installation activities would no longer be present in the view.

6.1.4 Nighttime visual impacts during construction

In addition to the potential visual impacts identified for the exhibited project during construction at night, there would be additional visual impacts expected from public viewpoints 08 and 09 on Wollombi Road, west of Millfield. The amended project includes a temporary worker accommodation in addition to the construction support site that would operate 24/7 and be visible in views from Wollombi Road. This lighting would contrast with the existing low brightness rural setting. These impacts would occur for a short period, while in transit, travelling past the construction support and temporary worker accommodation site.

6.1.5 Nighttime visual impacts during operation

The amendment does not propose any additional lighting that would be seen from any of the representative public viewpoints. There is no proposed lighting that would require an additional public viewpoint to be assessed. Therefore, the assessment of night time visual impacts for the amended project is unchanged from the exhibited project.

6.2 Assessment of private viewpoints

6.2.1 Amendment screening

As identified in Table 3-1 of this report, the proposed amendments and refinements for the project would result in potential changes to the visual impacts of private property in the vicinity of relocated towers. Therefore, the private viewpoint assessment has been updated for the proposed realignment of the transmission line at:

- Mount Thorley (between transmission tower 116 to 124); and
- Gouldsville (tower 130 and 131, 129 and 132).

The revised assessment of views from private dwellings has been undertaken using the steps outlined in the *Technical Supplement* (as described in section 3.7 of the LCVIA (IRIS, 2025)). This includes a proportionate visual assessment (simple, intermediate and detailed assessment) to determine the impact to private viewpoints during the day throughout operation.

This assessment was conducted on private receivers, including dwellings, tourist and visitor accommodation located within the visual assessment study area. The visual study area for this revised assessment is 1.625 kilometres of the proposed realignment of the transmission line at Mount Thorley and Gouldsville. This assessment excluded easement affected dwellings; dwellings being acquired by the HTP, derelict or non-habitable dwellings; moveable dwellings; ancillary farm, industrial or commercial buildings; heritage ruins and non-habitable heritage items.

6.2.2 Proposed realignment of the transmission line at Mount Thorley

6.2.2.1 Rural setback

In accordance with the *Technical Supplement* the setback for an 85 metre high transmission tower is 400 metres in rural areas. The rural setback for the proposed realignment of the transmission line at Mount Thorley is shown Appendix A. Dwelling within these rural set back areas are identified as having a high potential visual impact and must be assessed against high-impact performance criteria unless there is an exemption.

There are no dwellings within the rural setback in the vicinity of the proposed realignment of the transmission line at Mt Thorley.

6.2.2.2 Simple visual assessment

The simple visual assessment has been revised for 11 dwellings assessed for the exhibited project, that are within the visual impact study area of the proposed realignment of the transmission line at Mount Thorley. During a recent site visit (as a part of the detailed assessment, see details below), a secondary dwelling was identified (ID3525) at 896 Putty Road, Mount Thorley. This dwelling has been added to the simple assessment. Overall, 12 dwellings have been considered in this simple assessment.

A site visit to each dwelling is not a component of the simple assessment and has not been undertaken. For this simple assessment, all views from dwellings are assumed to be primary views (that is, the highest sensitivity apart from listed heritage homes), and scenic quality is based on conservate assumptions of existing landscape character within each landscape character zone. A summary of the results of this assessment is contained in Table 6-2.

This assessment has identified:

- four private viewpoints with a potential high visual impact
- no private viewpoints with a potential moderate visual impact
- four private viewpoints with a potential low visual impact
- four dwellings were eliminated as they are now outside the visual study area and would not have a visual impact.

In accordance with the *Technical Supplement*, those viewpoints with a potential low visual impact are eliminated from further assessment. An intermediate assessment is conducted for the viewpoints identified as having a potential high visual impact.

6.2.2.3 Intermediate visual assessment

An intermediate assessment has been undertaken for those dwellings identified as having the potential for a moderate or high visual impact. For the intermediate assessment a 3D generated 'bare earth render' (or 'wireframe') of the project has been prepared to more accurately determine the magnitude rating. The bare earth render is a modelled view of the project within the landform. It does not include existing trees or other existing structures that could limit the view of the project. This assessment is contained in Appendix H. A summary of the results of this assessment is contained in Table 6-3Error! Reference source not found..

The intermediate assessment has identified:

- no private viewpoints with a potential high visual impact
- four private viewpoint with a moderate visual impact

Those views with a moderate potential visual impact rating proceeded to detailed assessment.

6.2.2.4 Detailed visual assessment

A detailed assessment has been conducted for private viewpoints with a moderate or higher impact rating. The detailed assessment was based on the analysis of photomontages (or detailed point-cloud (LiDAR) survey generated images) and field validation of scenic quality.

During the field investigations, the ratings of viewpoint sensitivity and scenic quality of individual views can be re-evaluated and adjusted if required. For this detailed assessment no changes were made.

The 'detailed assessment' is contained in Appendix G and a summary of the results of the assessment is presented in Table 6-4.

The 'detailed assessment' identified the potential for:

- one private viewpoint with a moderate visual impact (ID2920)
- three private viewpoints with low visual impact (ID251, ID277 and ID3525).

The moderate visual impact for ID2920 is consistent with the visual impact rating for this dwelling in the exhibited project.

Table 6-2 Summary of updated simple assessment- realignment of the transmission line at Mount Thorley

				Exhibited project			Amended project				
ID.	Address	Sensitivity	Nearest tower no.	Distance to nearest tower (m)	Potential magnitude	Potential visual impact rating	Distance to nearest tower (m)	No. vertical cells	Potential magnitude	Potential visual impact rating	Comment
232	609A Hambledon Hill Road, Hambledon Hill	Moderate	118	845	High	Moderate	1418	4	Low	Low	No further assessment required
229	535C Hambledon Hill Road, Hambledon Hill	Moderate	118	1270	Moderate	Moderate	1740	-	-	-	Eliminated- Outside visual study area.
237	609 Hambledon Hill Road, Hambledon Hill	Moderate	118	873	High	Moderate	1430	4	Low	Low	No further assessment required
238	609C Hambledon Hill Road, Hambledon Hill	Moderate	118	706	Very high	High	1301	4	Low	Low	No further assessment required
251	478 Putty Road, Mount Thorley	High	116	742	Very high	High	866	6	High	High	Proceed to intermediate assessment
277	896 Putty Road, Mount Thorley	Moderate	119	740	Very high	Moderate	733	7	Very high	High	Proceed to intermediate assessment
2920	887 Putty Road, Mount Thorley	Moderate	119	980	Moderate	Moderate	792	7	Very high	High	Proceed to intermediate assessment
2923	41 Trefolly Road, Wylies Flat	Moderate	118	1600	Low	Low	2132	-	-	-	Eliminated- Outside visual study area.
2924	535A Hambledon Hill Road, Hambledon Hill	Moderate	118	1586	Low	Low	1838	-	-	-	Eliminated- Outside visual study area.
2925	535C Hambledon Hill Road, Hambledon Hill	Moderate	118	999	Moderate	Moderate	1487	4	Low	Low	No further assessment required
2926	535C Hambledon Hill Road, Hambledon Hill	High	118	1200	Moderate	Moderate	1637	-	-	-	Eliminated- Outside visual study area.
3525	896 Putty Road, Mount Thorley	Moderate	119	-	-	-	786	7	Very high	High	Proceed to intermediate assessment

Table 6-3: Summary of updated intermediate assessment- realignment of the transmission line at Mount Thorley

			Exhibited project			Amended project			
ID.	Address	Sensitivity	Occupied cells	Potential magnitude	Potential visual impact rating	Occupied cells	Potential magnitude	Potential visual impact rating	Proceed to detailed assessment
251	478 Putty Road, Mount Thorley	High	26	High	High	19	Moderate	Moderate	Yes
277	896 Putty Road, Mount Thorley	Moderate	39	Very high	High	31	High	Moderate	Yes
2920	887 Putty Road, Mount Thorley	Moderate	23	Moderate	Moderate	27	High	Moderate	Yes
3525	896 Putty Road, Mount Thorley (secondary dwelling)	Moderate	-	-	-	28	High	Moderate	Yes

Table 6-4 Summary of updated detailed assessment- realignment of the transmission line at Mount Thorley

			Exhibited project			Amended project			
ID.	Address	Sensitivity	Occupied cells	Potential magnitude	Potential visual impact rating	Occupied cells	Potential magnitude	Potential visual impact rating	Mitigation required
251	478 Putty Road, Mount Thorley	High	6	Very low	Low	4	Very low	Low	No
277	896 Putty Road, Mount Thorley	Moderate	13	Low	Low	4	Very low	Low	No
2920	887 Putty Road, Mount Thorley	Moderate	17	Moderate	Moderate	28	High	Moderate	Yes
3525	896 Putty Road, Mount Thorley (secondary dwelling	Moderate	N/A	N/A	N/A	7	Very low	Low	No

6.2.3 Proposed realignment of the transmission line at Gouldsville

6.2.3.1 Rural setback

There are five dwellings identified within the setback in the vicinity of Gouldsville (ID2928, 2929, 2930, 2931 and 2932). These five dwellings were also within the rural setback for the exhibited project. All of these dwellings are located on the one landholding and are clustered together. ID2931 is the closest dwelling to the HTP project. For the amended project the nearest proposed transmission tower would be around 250 metres away from this dwelling, which is closer than the exhibited project which was 310 metres away. However, the view in the direction of the proposed transmission tower, remains densely vegetated and is likely to be screened partly by vegetation (see **Figure 6-1**). The other dwellings on this property, ID2928, 2929, 2930 and 2932, would also have the nearest transmission tower mostly screened by intervening vegetation, with the view opening up as the distance increases.

In accordance with the *Technical Supplement,* 'if the transmission tower would be partially visible due to vegetation, topography or other mitigating factors, then the sensitive receiver is exempt from the setback' (page 21, DPHI 2024). In these cases, consistent with the approach undertaken for the exhibited project, the proportionate visual assessment process has been followed.

As shown in **Figure 6-1**, and confirmed through the detailed visual assessment, dense vegetation would provide substantial screening of the nearest transmission tower. The next closest transmission tower (to the south) is around 440 metres from these dwellings, consistent with the exhibited project and not within the rural setback.

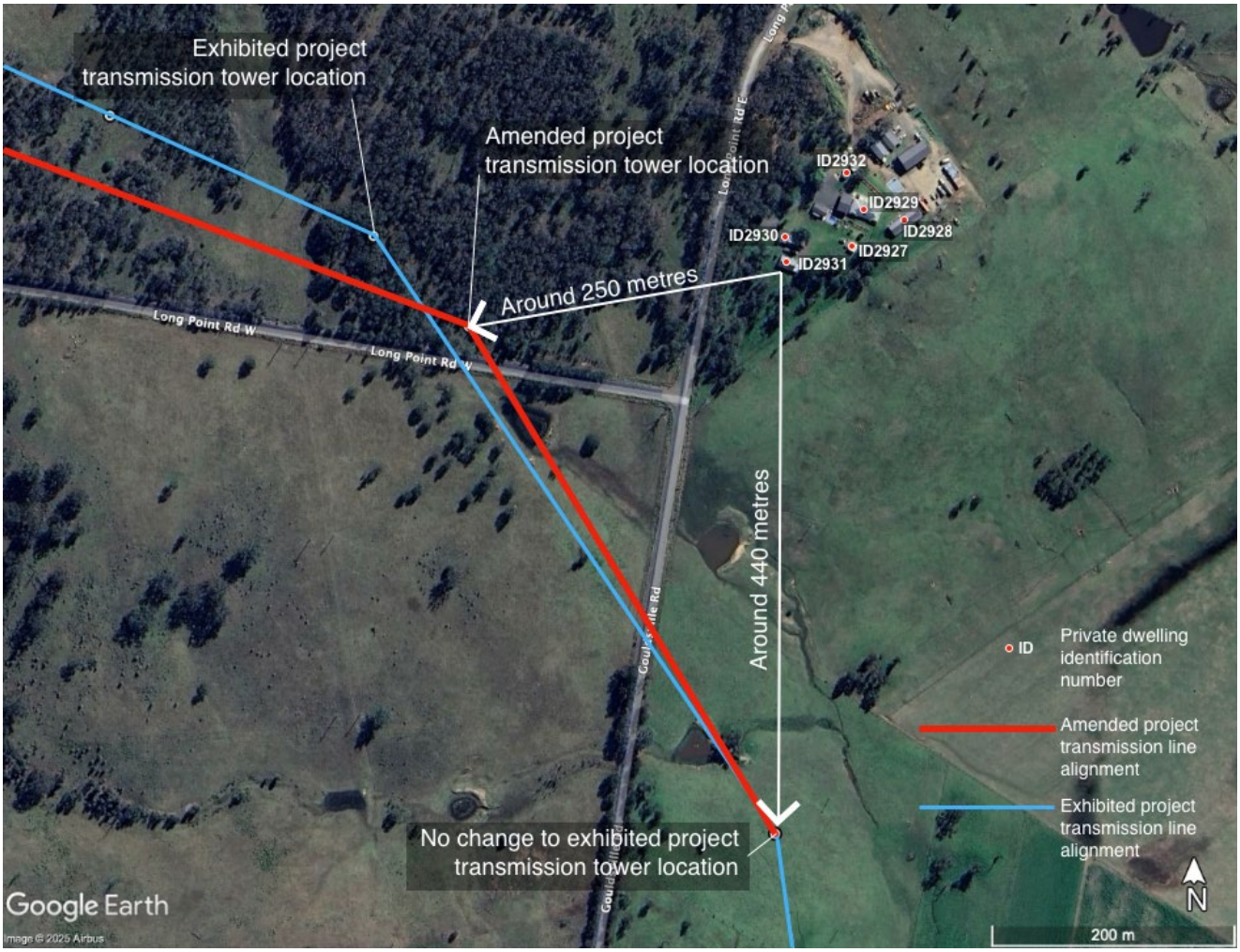

Figure 6-1 Rural setback - Proximity of ID2931 to transmision towers – exhibited and amended project

Therefore, ID2928, 2929, 2930, 2931 and 2932 would be exempt from the setback and have been included in the proportional visual assessment that follows. This includes an updated detailed assessment and photomontages for the two most affected dwellings (ID2929 and 2928), to confirm the effectiveness of this intervening vegetation (see Appendix I). This is consistent with the findings of the exhibited project.

6.2.3.2 Detailed visual assessment

A revised detailed assessment has been conducted for private viewpoints ID2928 and ID2929 which are representative of the five dwellings within the rural setback. The detailed assessment was based on the analysis of photomontages and field validation of scenic quality.

The 'detailed assessment' is contained in Appendix G and a summary of the results of the assessment is presented in Table 6-5. The 'detailed assessment' identified the potential for a moderate visual impact from ID2928 and a low visual impact from ID2929.

Table 6-5 Summary of updated detailed assessment- realignment of the transmission line at Gouldsville

			Exhibited project			Amended project			
ID.	Address	Sensitivity	Occupied cells	Potential magnitude	Potential visual impact rating	Occupied cells	Potential magnitude	Potential visual impact rating	Mitigation required
2928	16 Long Point Road East, Gouldsville	Moderate	22	Moderate	Moderate	17	Moderate	Moderate	Yes
2929	16 Long Point Road East, Gouldsville	Moderate	0	None	None	7	Very low	Low	No

6.2.4 Additional heritage viewpoint

Heritage NSW requested further information regarding the visual impacts on the Stafford homestead and Clifford homestead (ruins), Long Point West Road, Warkworth.

Stafford homestead is on an easement affected property and are not subject to an assessment according to the methodology in the Technical Supplement. However, a site visit to this property was undertaken and photomontages prepared. These photomontages are provided in Appendix L.

A discussion of the changes to view from this property is included in the following section.

6.2.4.1 Stafford homestead

Stafford homestead is located on Long Point, West Road, Warkworth. The Stafford homestead is in the northern portion of the heritage site. The Clifford homestead (which are ruins) are outside the heritage item curtilage and not near the project.

Stafford homestead is unoccupied and appears to be in an uninhabitable state. Immediately surrounding the homestead is a gently undulating rural landscape comprising open pastures with scattered trees, farm structures including timber post-and-wire fencing, gates and sheds. The open pastures are bordered by dense vegetation (mostly native trees) occupying the middle ground of the view. Behind the dense vegetation is a biomass facility. Tall facility infrastructure is visible rising above the treeline (including a stack, smaller chimneys, pipes, conveyor belts and steel frames). Existing transmission towers and lines are also visible above trees and on nearby rural fields. In the background are low hills comprising open pastures with scattered trees, and areas of densely vegetated trees. Also visible in narrow bands on the upper slopes of the low hills, is land highly disturbed by open cut mining.

The cultivated agricultural landscape of open pastures dominates the view, and there is a high degree of human presence through visibility of industrial-type infrastructure and landscape characteristics associated with mining. The view is typical of the Warkworth area which is dominated by mining and energy infrastructure.

The project would be prominent in views from this location, with several towers in close proximity, and crossing the view.

6.2.5 Summary of private viewpoint assessment – amended project

6.2.5.1 Summary of assessment results

The following table includes a summary of the proportionate viewpoint assessment results.

Table 6-6 Summary of private viewpoint assessment results

			Simple Assessment		Intermediate assessment		Detailed assessment	
ID.	Address	Sensitivity	Potential magnitude	Potential impact rating	Potential magnitude	Potential impact rating	Magnitude rating	Impact rating
65	956B Maison Dieu Road, Maison Dieu	Moderate	Low	Low	Low	Low	-	-
72	20 Shearers Lane, Maison Dieu	Moderate	Low	Low	Low	Low	-	-
74	20 Shearers Lane, Maison Dieu	Moderate	Low	Low	Low	Low	-	-
92	50 Shearers Lane, Maison Dieu	Moderate	Low	Low	Moderate	Moderate	Low	Low
95	20 Shearers Lane, Maison Dieu	Moderate	Low	Low	Low	Low	-	-
132	318 Dights Crossing Road, Maison Dieu	Moderate	Moderate	Moderate	Low	Low	Very low	Low
163	133 Long Point Road East, Long Point	Moderate	Low	Low	None	None	-	-
164	131 Long Point Road East, Long Point	Moderate	Low	Low	None	None	-	-
166	121 Long Point Road East, Long Point	Moderate	Low	Low	Low	Low	-	-
168	99 Long Point Road East, Long Point	Moderate	Moderate	Moderate	Very low	Low	-	-
170	83 Long Point Road East, Gouldsville	Moderate	High	Moderate	Low	Low	-	-
173	66 Long Point Road East, Gouldsville	Moderate	Very high	High	Moderate	Moderate	Low	Low
229	535C Hambledon Hill Road, Hambledon Hill	Moderate	Moderate	Moderate	Low	Low		
232	609A Hambledon Hill Road, Hambledon Hill	Moderate	Low	Low	-	-	-	-
237	609 Hambledon Hill Road, Hambledon Hill	Moderate	Low	Low	Low	Low		
238	609C Hambledon Hill Road, Hambledon Hill	Moderate	Low	Low	-	-	-	-
251	478 Putty Road, Mount Thorley	High	High	High	Moderate	Moderate	Very low	Low

			Simple Assessment		Intermediate assessment		Detailed assessment	
ID.	Address	Sensitivity	Potential magnitude	Potential impact rating	Potential magnitude	Potential impact rating	Magnitude rating	Impact rating
264	984 Putty Road, Mount Thorley	Moderate	Low	Low	None	None	-	-
277	896 Putty Road, Mount Thorley	Moderate	Very high	High	High	Moderate	Very low	Low
301	887 Putty Road, Mount Thorley	Moderate	High	Moderate	High	Moderate	Low	Low
463	385 Cessnock Road, Broke	High	Moderate	Moderate	Low	Moderate	None	None
465	367 Cessnock Road, Broke	High	Moderate	Moderate	Low	Moderate	Low	Moderate
466	359 Cessnock Road, Broke	High	Low	Moderate	Low	Moderate	Low	Moderate
467	368 Cessnock Road, Broke	High	Moderate	Moderate	Moderate	Moderate	Low	Moderate
471	118 Oakley Lane, Broke	High	Very high	High	High	High	Moderate	Low
472	36 Oakley Lane, Broke	High	Very high	High	High	High	Low	Low
1478	436 Cedar Creek Road, Cedar Creek	Moderate	Moderate	Moderate	Very low	Low		
1495	436 Cedar Creek Road, Cedar Creek	Moderate	Low	Low	None	None		
1624	225 Mount Baker Road, Mount View	Moderate	Very low	Low				
1661	83 Lewis Road, Millfield	Moderate	Low	Low	None	None		
1665	1726 Wollombi Road, Cedar Creek	Moderate	Moderate	Moderate	None	None		
1670	83 Lewis Road, Millfield	Moderate	Low	Low				
1679	83 Lewis Road, Millfield	Moderate	Moderate	Moderate	Low	Low		
1684	Wollombi Road, Cedar Creek	Moderate	Moderate	Moderate	Very low	Low		
1685	1700 Wollombi Road, Cedar Creek	Moderate	High	Moderate	Very low	Low		
1685b	1700 Wollombi Road, Cedar Creek	High	High	High	Very low	Low		
1689	1739 Wollombi Road, Cedar Creek	Moderate	Low	Low	Low	Low		
1978	25 Wollombi Road, Cedar Creek	Moderate	Low	Low	None	None		
2037	1469 Wollombi Road, Cedar Creek	Moderate	Moderate	Moderate	None	None		

			Simple Assessment		Intermediate assessment		Detailed assessment	
ID.	Address	Sensitivity	Potential magnitude	Potential impact rating	Potential magnitude	Potential impact rating	Magnitude rating	Impact rating
2184	52 Millfield Road, Millfield	Moderate	Low	Low	None	None		
2198	232 MF1 Road, Millfield	Moderate	Low	Low	Low	Low		
2203	147 Trig Road, Congewai	Moderate	Low	Low	None	None		
2205	284 Thursbys Road, Congewai	Moderate	Low	Low	None	None		
2214	168 Eglinford Lane, Congewai	Moderate	Low	Low	None	None		
2218	191 Eglinford Lane, Congewai	Moderate	Moderate	Moderate	None	None		
2219	153 Eglinford Lane, Congewai	Moderate	Moderate	Moderate	None	None		
2221	121 Eglinford Lane, Congewai	Moderate	Low	Low	None	None		
2222	125 Eglinford Lane, Congewai	Moderate	Low	Low	None	None		
2223	Eglinford Lane, Congewai	Moderate	Low	Low	None	None		
2224	Eglinford Lane, Congewai	Moderate	Low	Low	None	None		
2228	940 Congewai Road, Congewai	Moderate	Low	Low	None	None		
2254	1297 Watagan Creek Road, Laguna	Moderate	Low	Low	None	None		
2274	1831 Watagan Creek Road, Laguna	Moderate	Moderate	Moderate	None	None		
2277	1713 Watagan Creek Road, Laguna	Moderate	Low	Low	None	None		
2278	1999 Watagan Creek Road, Laguna	Moderate	Low	Low	None	None		
2279	1753 Watagan Creek Road, Laguna	Moderate	Low	Low	None	None		
2283	1861 Watagan Creek Road, Laguna	Moderate	Low	Low	None	None		
2920	887 Putty Road, Mount Thorley	Moderate	Very high	High	High	Moderate	High	Moderate
2923	41 Trefolly Road, Wylies Flat	Moderate	-	-				
2924	535A Hambledon Hill Road, Hambledon Hill	Moderate	-	-				
2925	535C Hambledon Hill Road, Hambledon Hill	Moderate	Low	Low				

			Simple Assessment		Intermediate assessment		Detailed assessment	
ID.	Address	Sensitivity	Potential magnitude	Potential impact rating	Potential magnitude	Potential impact rating	Magnitude rating	Impact rating
2926	535C Hambledon Hill Road, Hambledon Hill	High	-	-				
2926b	535C Hambledon Hill Road, Hambledon Hill	Moderate	-	-				
2928	16 Long Point Road East, Gouldsville	Moderate	Very high	High	High	High	Moderate	Moderate
2929	16 Long Point Road East, Gouldsville	Moderate	Very high	High	High	High	Very low	Low
2930	16 Long Point Road East, Gouldsville	Moderate	Very high	High	High	High	None	None
2931	16 Long Point Road East, Gouldsville	Moderate	Very high	High	High	High	None	None
2932	16 Long Point Road East, Gouldsville	Moderate	Very high	High	High	High	None	None
3525	896 Putty Road, Mount Thorley (secondary dwelling)	Moderate	Very high	High	High	Moderate	Very low	Low

6.2.6 Performance objectives

In accordance with the *Technical Supplement*, the relevant performance objectives must be met for each assessable viewpoint corresponding to the level of impact identified during detailed assessment.

For private receivers with a moderate impact, 'visual impact mitigation should be implemented within the project corridor and/or offered to the affected landowner and should be proportionate to the scale of impact' (page 33, DPHI 2024). For receivers with a low, or very low visual impact, no mitigation is required.

For the exhibited project there were seven dwellings were identified with a moderate impact and required mitigation, the amended project reduces this number to five. The visual impact on ID238 would be reduced due to the realignment of the project at Mt Thorley.

Table 6-7 identifies the specific mitigation measures proposed to address the moderate visual impacts identified for the project and includes a revised assessment of these private viewpoints, incorporating the proposed mitigation opportunities to determine the residual impact rating.

These opportunities would reduce the visual impact level from a moderate to a low visual impact for three private viewpoints: ID2928, ID467 and ID2920. The reduced impacts for these dwellings are consistent with the exhibited project.

There would be two moderate visual impacts remaining: ID465 and ID 466. These residual impacts are consistent with the exhibited project.

These and other mitigation measures are also addressed in section Chapter 8: Management.

Table 6-7 Response to performance objectives – Private viewpoints

ID.	Address	Visual impact – Exhibited project	Visual impact – Amended project	Mitigation opportunity	Residual visual impact rating
238	609c Hambledon Hill Road, Hambledon Hill	Moderate	Low	Mitigation no longer required	Low
465	367 Cessnock Road, Broke	Moderate	Moderate	A reduction in the height of the transmission structures would potentially reduce the visibility of the project and reduce the visual impact. Opportunities will be investigated to reduce the height of the transmission towers visible from this dwelling (Refer to Mitigation Measure LV5). Alternatively, this view could be mitigated with screening vegetation in the foreground; however, this screening would also partly screen the attractive background view.	Moderate
466	359 Cessnock Road, Broke	Moderate	Moderate	A reduction in the height of the transmission structures would potentially reduce the visibility of the project and reduce the visual impact. Opportunities will be investigated to reduce the height of the transmission towers visible from this dwelling (Refer to Mitigation Measure LV5). Alternatively, this view could be mitigated with screening vegetation in the foreground; however, this screening would also partly screen the attractive background view.	Moderate
467	368 Cessnock Road, Broke	Moderate	Moderate	Opportunity for screening vegetation along property boundary to reduce visibility of the project over time to be offered to landowner. Screening vegetation should avoid obstructing the view of the ridgeline (of high scenic quality). Refer **Appendix K**.	Low
2920	887 Putty Road, Mount Thorley	Moderate	Moderate	Screening vegetation adjacent to the cabin to screen towers to the east. Screening vegetation should avoid obstructing views of the distant hills to the north (of higher scenic quality). Refer **Appendix K**.	Low
2928	16 Long Point Road East, Gouldsville	Moderate	Moderate	Opportunity for screening vegetation along property boundary to reduce visibility of the project over time to be offered to landowner. Refer **Appendix K**.	Low

6.2.7 Changes to daytime private viewpoint impacts during construction

The level of impact to private views during the temporary construction period would vary according to their visibility of, and distance from, proposed construction support sites and construction activities. Most construction support sites, including the two proposed worker accommodation sites, are located away from dwellings:

There are no changes to the:

- Hebden Road temporary worker accommodation and construction support site
- Pikes Gully Road construction support site
- Gouldsville Road temporary worker accommodation and construction support site
- Freemans Drive temporary worker accommodation and construction support site

However, there may be changes to the daytime private viewpoint impacts of the Wollombi Road construction support site which would be amended to include a temporary worker accommodation.

The Wollombi Road construction support site (in the Congewai Creek rural valley) is around 500 metres from the nearest rural residents; however, it is likely direct views of the site from these rural dwellings would be screened by dense vegetation surrounding dwellings. Dwellings with a more direct view (although still filtered by existing vegetation) are around 1 kilometre away. Their view would change throughout the construction period to include the temporary construction support site with its associated site offices, stockpiles and vehicle movements. Installation of the transmission towers and associated vegetation clearance on the elevated ridge either side of the rural valley would likely be visible from some rural dwellings within the Congewai Creek rural valley. Some residents would see the worker accommodation and activities at the construction support site daily during the construction period, as they travel along Wollombi Road to access their property. The view would be temporary and brief, while in transit alongside the construction support site. These impacts are slightly increased from the exhibited project.

6.2.8 Changes to night-time private viewpoint impacts during construction

At night, the exhibited project identified potential temporary visual impacts identified for night time construction at the Freemans Drive worker accommodation; Gouldsville Road worker accommodation; and Hebden Road worker accommodation. For the amended project the temporary worker accommodation is no longer proposed at the Gouldsville Road site. However, there would be potential additional visual impacts to private viewpoints near the additional temporary worker accommodation facilities at the proposed temporary worker accommodation at Wollombi Road, which would include lighting and 24/7 use by workers.

The nearest rural dwellings to the Wollombi Road worker accommodation is around 500 metres away and there are intervening trees. Lights at the accommodation may be visible from the nearest dwellings, however, they would be relatively distant, temporary and not substantially change the existing nighttime view.

6.2.9 Nighttime visual Impacts during operation

There is no additional permanent lighting proposed for the amended project that would be seen in private residential viewpoints. The assessment of nighttime visual impacts during operation is consistent with the exhibited project.

6.3 Assessment of viewpoints beyond the study area

Due to the minor changes proposed for the amended project, there would be no changes to any sensitive viewpoints beyond the study area. This includes views from Greater Blue Mountains Area World Heritage Property; NPWS-managed land; Golden Highway toward Muswellbrook and broader view-lines between prominent landscape features (Mount Yengo and other culturally significant areas).

Chapter 7: Assessment of cumulative impacts

This section outlines the potential cumulative landscape character and visual impacts resulting from the amended project and notes where the cumulative impacts from the proposed amendments and refinements are consistent with the cumulative impacts assessed as part of the exhibited project.

7.1 Projects in the vicinity

The potential cumulative landscape character and visual impacts of the exhibited project with the relevant projects that may be developed concurrently with the Hunter Transmission Project (HTP) was provided in the LCVIA (IRIS, 2025).

There were two projects that had the potential for a visual impact: the Hunter-Central Coast Renewable Energy Zone (Ausgrid HCC REZ) and the Maison Dieu Solar Farm. Other projects reviewed for potential cumulative landscape character and visual impacts are located too far away from the HTP corridor or would be out of sync with its construction to cause significant visual cumulative impacts.

There were no additional relevant projects identified since exhibition of the EIS.

7.2 Cumulative impacts

The amended project would not change in the vicinity of the Hunter-Central Coast Renewable Energy Zone (Ausgrid HCC REZ) or Maison Dieu Solar Farm and there would be no changes to the cumulative effects described for the exhibited project.

Chapter 8: Management

8.1 Environmental management

The approach to management of impacts undertaken for the LCVIA (IRIS, 2025) prepared for the EIS, is still applicable to the amended project.

8.2 Summary of mitigation measures

Table 8-1 provides a summary of the mitigation measures for the potential landscape character and visual impacts for the amended project, where **bold** and ~~strikethrough text~~ indicates a change to the mitigation measures as included in the exhibited project. These amended mitigation measures form the finalised mitigation measures to inform the approval of the project and management of impacts through the construction and operation of the project, should it be approved.

The following mitigation measures were identified for the exhibited project.

There are no additional Mitigation Measures required to address the landscape character and visual impacts.

Table 8-1 Summary of landscape character and visual mitigation measures

Reference	Impact	Mitigation measure	Timing	Relevant location(s)
LV1	Landscape character and visual impacts	A landscape character visual impact management plan (LCVIMP) will be prepared as part of the project environmental management strategy. The LCVIMP would include mitigation measures to manage: • potential impacts on landscape character during the day during construction and operation • potential impacts on landscape character at night during construction and operation • potential impacts on views from the public domain during construction and operation where there is a moderate or higher potential visual impact • potential impacts on views from private dwellings, that are not associated with property that is hosting project infrastructure, and that have a predicted moderate or higher potential visual impact during construction and operation details regarding the installation and maintenance of any proposed on-site mitigation measures such as vegetation for screening.	Detailed design Construction	All

Reference	Impact	Mitigation measure	Timing	Relevant location(s)
~~LV1~~ LV2	Vegetation retention	Vegetation clearance for the project will be limited to the minimum extent necessary for construction and operation to maximise existing visual screening and retention of the existing landscape character. Retained vegetation will be clearly demarcated on site as 'no-go zones' prior to the commencement of construction **in the area.** Construction personnel will be made aware of no-go zones as part of environmental site induction(s).	Detailed design Construction Operation	All locations
~~LV2~~ LV3	Construction lighting	Lighting at construction support sites will be designed and operated in accordance with *AS 4282 2019 Control of the obtrusive effects of outdoor lighting.*	**Detailed design** Construction	Construction support sites
~~LV3~~ LV4	Visual changes near residences	For private properties assessed as having a moderate or higher visual impact **(ID465, 466, 467, 2920 and 2928),** screening options will be agreed with the landowners. Screening options may include vegetation that will be installed and established by a contractor. Any screening vegetation will be installed in accordance with ~~a plan and specification prepared~~ **advice provided** by a qualified Landscape Architect or designer.	Construction	Private dwellings assessed as having a moderate or higher visual impact
~~LV4~~ LV5	Visual changes near residences	Opportunities will be investigated to reduce the height of the transmission towers visible from those dwellings with a moderate visual impact in the vicinity of Cessnock Road, Broke.	Detailed design	Private dwellings assessed as having a moderate or higher visual impact near Cessnock Road, Broke.

Reference	Impact	Mitigation measure	Timing	Relevant location(s)
LV6	Visual changes due to the temporary workers accommodation facility on Wollombi Road	The visual prominence of the temporary workers accommodation facility will be minimised, including: • Structures visible from surrounding areas (including buildings, fences storage containers etc.) will have a non-reflective and neutral grey finish (or similar) to reduce their prominence. • Signage will be limited to what is required for identification and safety purposes to avoid visual clutter. • Temporary screen planting and mounding will be investigated and implemented where appropriate, to obstruct views from the most affected residents. If appropriate, screening vegetation will incorporate fast growing natives. • Where feasible and reasonable, the elements within construction sites would be located to minimise visual impacts, for example storage and machinery would be stored behind fencing or screened by the temporary worker accommodation buildings. Where suitable, site fencing to incorporate fabric screen-printed mesh banners to obstruct views from residents and road users. A pattern to create a camouflage effect or community artwork would be considered if appropriate e.g. along Wollombi Road.	Construction	Wollombi temporary workers accommodation facility
LV7	Visual impacts	All screening vegetation will be installed in accordance with advice provided by a qualified Landscape Architect or designer. The vegetation will comprise appropriate local plant species at a suitable density and layout to achieve screening over time. This vegetation will be established by the contractor and should be self-sustaining.	Detail design Construction	Moderately and highly impacted dwellings
LV8	Visual impacts	Visual mitigation would be implemented as soon as feasible and reasonable after the commencement of construction and remain for the duration of the construction period.	Detail design Construction	All locations

Reference	Impact	Mitigation measure	Timing	Relevant location(s)
-	Cultural heritage management	The clearing of vegetation between significant cultural viewing locations will be managed in accordance with Aboriginal heritage mitigation measure AH7.	Detailed design Construction	Flat Rock Lookout (HTP-C-CP01 45-3-5003) Other important cultural viewlines and viewscapes, including but not limited to SL5 and SL8
-	Cultural heritage management	The positioning of project elements to minimise their visibility within culturally important view-lines will be managed in accordance with Aboriginal heritage mitigation measure AH8	Detailed design Construction	Important cultural viewlines and viewscapes, including but not limited to SL5

Chapter 9: References

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Appendices

Sheet 1 of 4

Hebden Road temporary construction support site

Bayswater South switching station

LCZ3 Hunter River (Maison Dieu) Rural Valley

LCZ1 Energy and mining

LCZ2 Jerrys Plains rural village

LCZ5 Bushland and open forest

LCZ1 Energy and mining

LCZ3 Hunter River (Maison Dieu) Rural Valley

Antiene
Hebden Road
Upper Hebden
Quarry Creek
Edderton
Whites Creek
Ramrod Creek
New England Highway
Saltwater Creek
Eddarton Road
Saddlers Creek
Liddell
Howick
Hebden
Ravensworth State Forest
Greenlands
Falbrook Road
Mount Pleasant
Carrowbrook Road
Falbrook
Bridgman
Newdell Junction
Ravensworth
Bayswater Creek
Berrys Creek
Middle Falbrook
Glennies Creek
Oak Park
Camberwell
Caswell
Hunter River
Bridgman Road
First Creek
Rixs Creek
Obanvale
Wattle Ponds
Singleton Heights
Hunterview
Medougalls Hill
Fern Gully
Combo
Dunolly
Darlington
Redbournberry
Gowrie
Long Point
Maison Dieu Road
Maison Dieu
Comleroi
Wollombi Brook
Cheshunt
Lemington
Lennington Road
Jerrys Plains
Jerrys Plains Road
Appletree Creek
Jones Reserve Road
Lucernia
Appletree Flat
Bureen Road
Doyles Creek
Doylies Creek
Chalkers
Ararat
The Horse Run
North Wambo Creek
Wollemi National Park

File: HTP-Fig1-LandscapeCharacter-100K-251208

Hunter Transmission Project

Landscape and visual impact assessment

Appendix D: Landscape character

iris

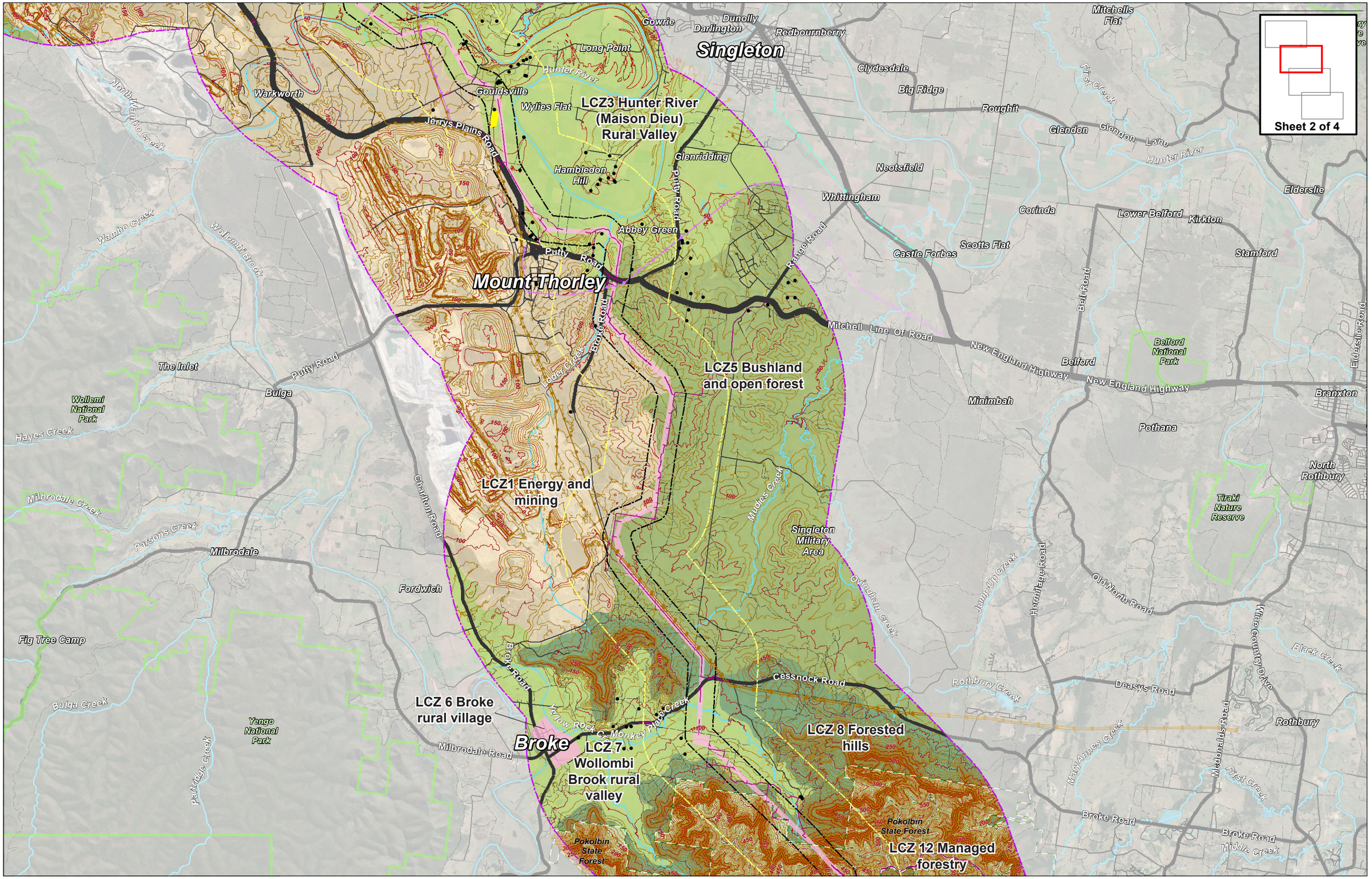
HTP corridor
Access track
Construction support site
Laydown area
Rural setback
Visual study area
5Km corridor
Contour (50m)
Contour (10m)
Sensitive receiver
NPWS Estate
State Forest

Existing transmission lines
33kV
66kV
132kV
330kV
500kV

Landscape Character Zone
Energy and mining
Rural villages
Rural valleys
Bushland and open forest

0 0.5 1 1.5 2km
north

Date: December 2025 D-1



File: HTP-Fig1-LandscapeCharacter-100K-251208

Hunter Transmission Project

Landscape and visual impact assessment

Appendix D: Landscape character

HTP corridor
Access track
Construction support site
Laydown area
Rural setback
Visual study area
5Km corridor
Contour (50m)
Contour (10m)
Sensitive receiver
NPWS Estate
State Forest

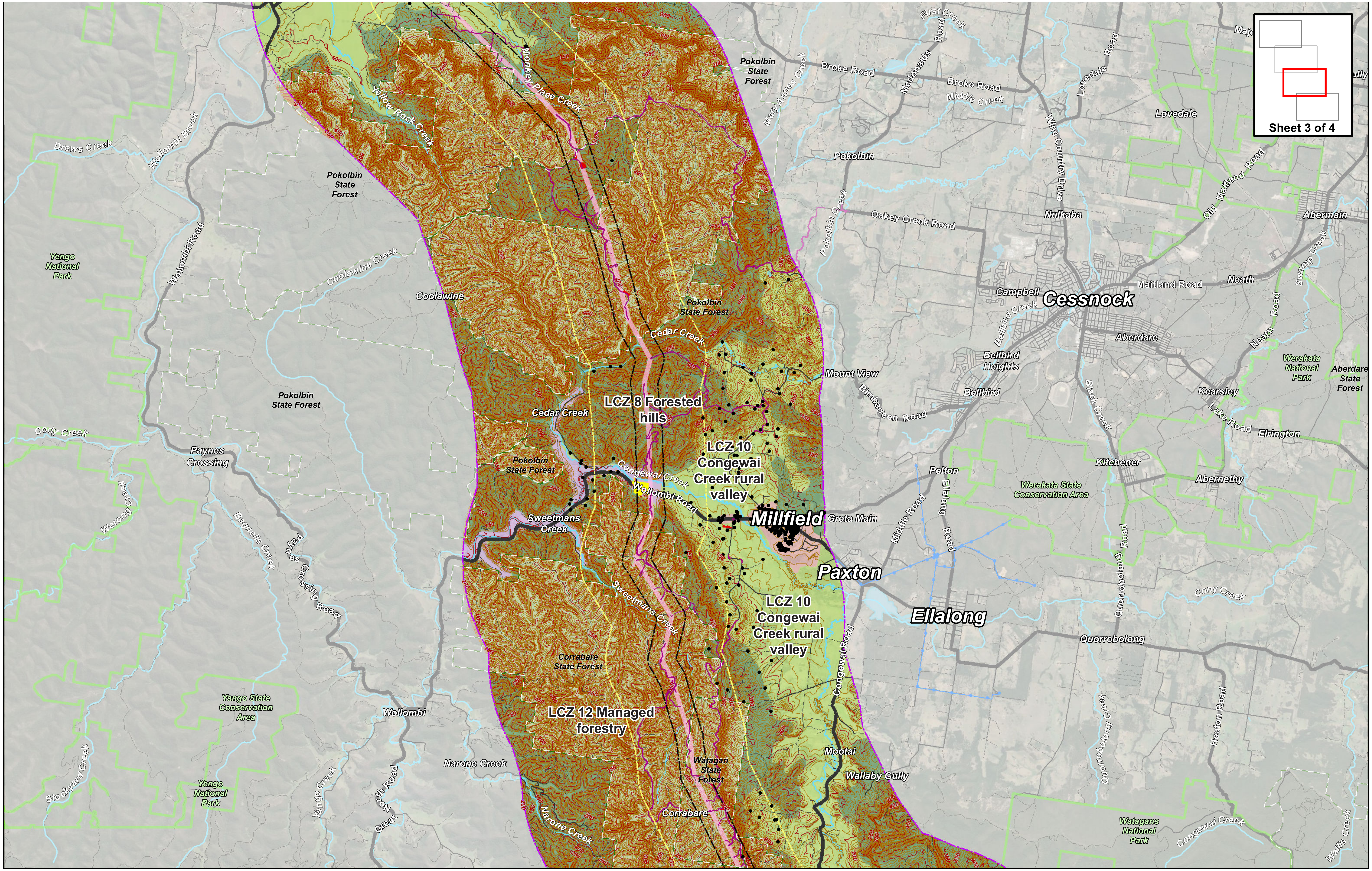
Existing transmission lines
33kV
66kV
132kV
330kV
500kV

Landscape Character Zone
Energy and mining
Rural villages
Rural valleys
Managed Forestry
Bushland and open forest
Forested hills

0 0.5 1 1.5 2km

north

Date: December 2025 D-2


Sheet 3 of 4
LCZ 8 Forested hills
LCZ 10 Congewai Creek rural valley
LCZ 10 Congewai Creek rural valley
LCZ 12 Managed forestry
Millfield
Paxton
Ellalong
Cessnock
Pokolbin State Forest
Pokolbin State Forest
Pokolbin State Forest
Pokolbin State Forest
Pokolbin State Forest
Corrabare State Forest
Watagan State Forest
Yengo National Park
Yengo National Park
Yango State Conservation Area
Werakata National Park
Werakata State Conservation Area
Aberdare State Forest
Watagans National Park
Monkey Place Creek
Yellow Rock Creek
Cedar Creek
Cedar Creek
Congewai Creek
Wollombi Road
Sweetmans Creek
Sweetmans Creek
Narone Creek
Narone Creek
Coolawine
Coolawine Creek
Wollombi Road
Wollombi Brook
Drews Creek
Cody Creek
Paynes Crossing
Paynes Crossing Road
Bagnalls Creek
Werong Creek
Wollombi
Stockyard Creek
Yango Creek
Great North Road
Corrabare
Mootai
Wallaby Gully
Congewai Road
Greta Main
Mount View
Bimbadeen Road
Bellbird
Bellbird Heights
Bellbird Creek
Campbell
Pokolbin
Pokolbin Creek
Oakey Creek Road
Broke Road
Broke Road
Middle Creek
First Creek
Mcdonalds Road
Mary Ann Creek
Wine Country Drive
Lovedale Road
Lovedale
Nulkaba
Old Maitland Road
Abermain
Maitland Road
Neath
Neath Road
Swamp Creek
Aberdare
Kearsley
Lake Road
Elrington
Black Creek
Kitchener
Abernethy
Pelton
Ellalong Road
Middle Road
Quorrobolong Road
Quorrobolong
Quorrobolong Creek
Cony Creek
Heaton Road
Congewai Creek
Wallis Creek
File: HTP-Fig1-LandscapeCharacter-100K-251208

Hunter Transmission Project

Landscape and visual impact assessment

Appendix D: Landscape character

iris

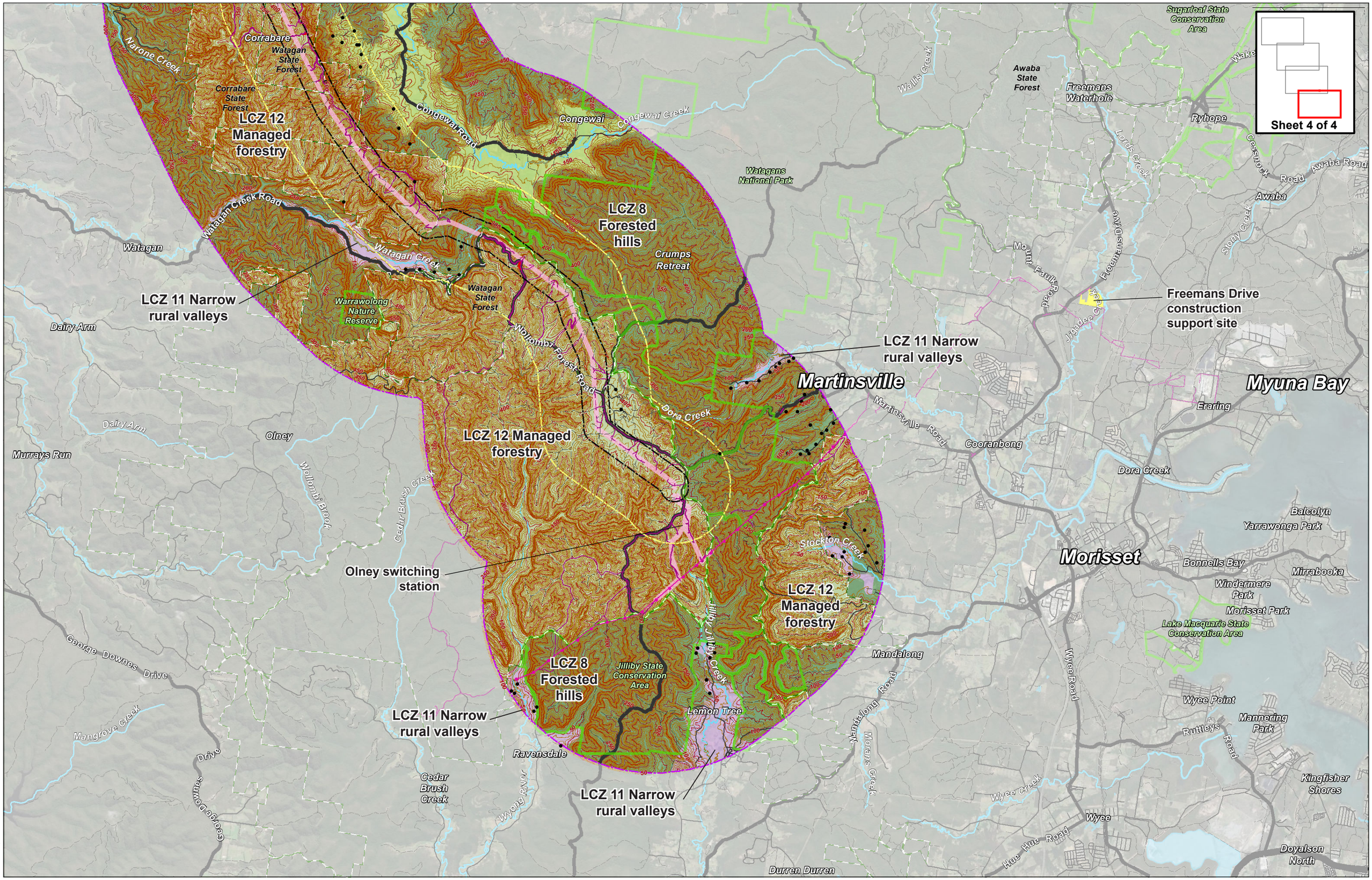
Legend			
HTP corridor	Visual study area	Contour (50m)	Rural villages
Access track	5Km corridor	Contour (10m)	Rural valleys
Construction support site	Sensitive receiver		Narrow Rural Valley
Laydown area	NPWS Estate		Managed Forestry
Rural setback	State Forest		Forested hills
			Millfield suburban area

Existing transmission lines: 33kV, 66kV, 132kV, 330kV, 500kV

0 0.5 1 1.5 2km

north

Date: December 2025 D-3



File: HTP-Fig1-LandscapeCharacter-100K-251208

Hunter Transmission Project

Landscape and visual impact assessment

Appendix D: Landscape character

HTP corridor
Access track
Construction support site
Laydown area
Rural setback
Visual study area
5Km corridor
Contour (50m)
Contour (10m)
Sensitive receiver
NPWS Estate
State Forest

Existing transmission lines
33kV
66kV
132kV
330kV
500kV

Landscape Character Zone
Rural valleys
Narrow Rural Valley
Managed Forestry
Forested hills

0 0.5 1 1.5 2km

north

Date: December 2025 D-4

Key:

Viewpoint type	Refer Table 3
Viewpoint sensitivity	Refer Table 3
Overall potential sensitivity	Refer Table 7
Occupied cells	Refer Table 2
Magnitude rating	Refer Table 2
Impact rating	Refer Table 8

Table 2. Visual magnitude thresholds

Number of occupied cells	Scenic quality
1 to 7	Very low
8 to 14	Low
15 to 25	Moderate
26 to 36	High
More than 37	Very high

Table 3. Viewpoint sensitivity levels and examples

VIewpoint type	Very low viewpoint sensitivity	Low viewpoint sensitivity	Moderate viewpoint sensitivity	High viewpoint sensitivity
Private receiver	n/a	Secondary view from dwelling rural area (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Primary views from dwellings in residential and rural villages (land zoned R1, R2, R3, R4 and RU5)	Primary view from dwellings in rural areas (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Tourist and visitor accommodation (bed-and-breakfasts, motels and hotels) and places of worship	Historic rural homesteads or residences on the national, state or local heritage list
Public viewpoint	State highways, freeways and classified main roads	Tourist roads and scenic drives4 Significant entry ways to regional towns and cities Cemeteries and memorial parks Publicly accessible green and open spaces, including picnic areas, parks, public recreation areas and lookouts Town centres and central business districts	Tourist uses in tourist areas (zoned SP3)	n/a

Table 7. Visual sensitivity matrix

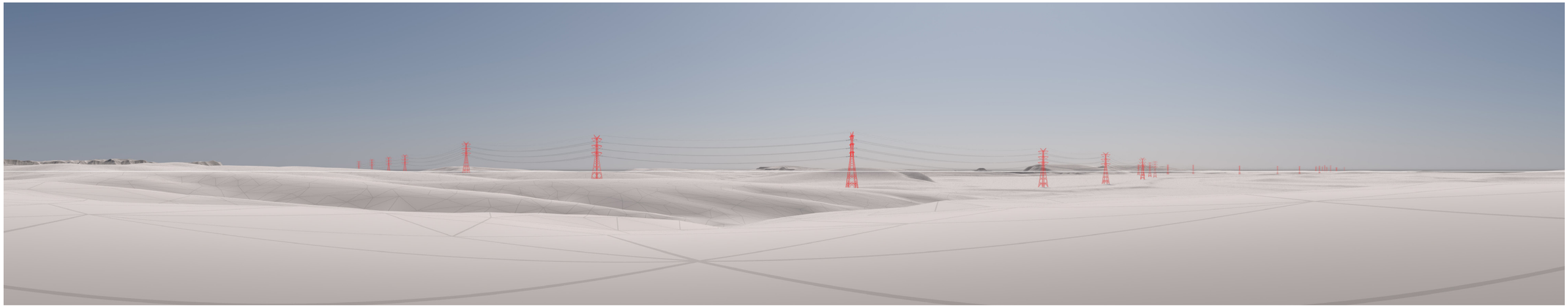
	High scenic quality	Moderate scenic quality	Low scenic quality	Very low scenic quality
High viewpoint sensitivity	High	High	Moderate	Low
Moderate viewpoint sensitivity	High	Moderate	Moderate	Low
Low viewpoint sensitivity	Moderate	Low	Low	Very low
Very low viewpoint sensitivity	Very low	Very low	Very low	Very low

Table 8. Visual impact matrix

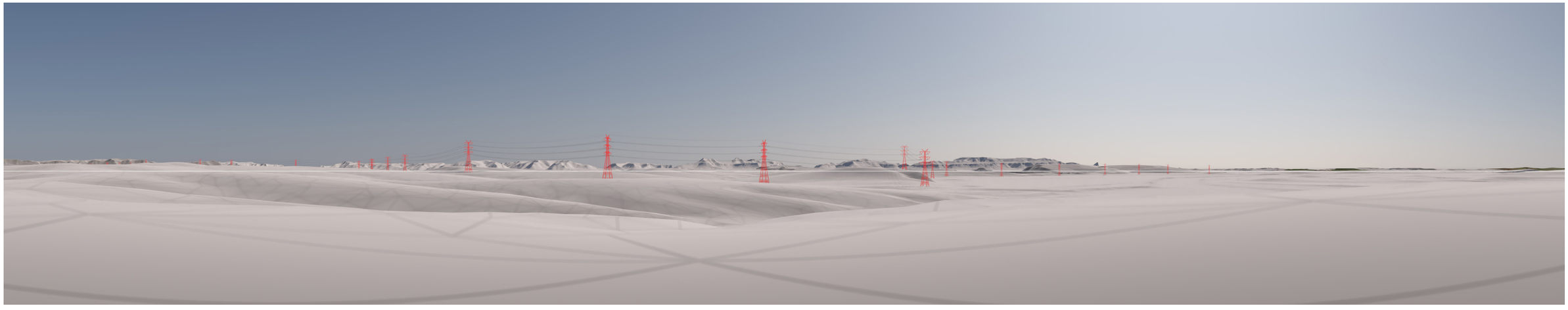
	High visual sensitivity	Moderate visual sensitivity	Low visual sensitivity	Very low visual sensitivity
Very high magnitude	High	High	Moderate	Moderate
High magnitude	High	Moderate	Moderate	Low
Moderate magnitude	Moderate	Moderate	Low	Low
Low magnitude	Moderate	Low	Low	Very low
Very low magnitude	Low	Low	Very low	Very low

HTP ID251: 478 Putty Road, Mt Thorley

Bare earth render - Exhibited project



Bare earth render - Amended project



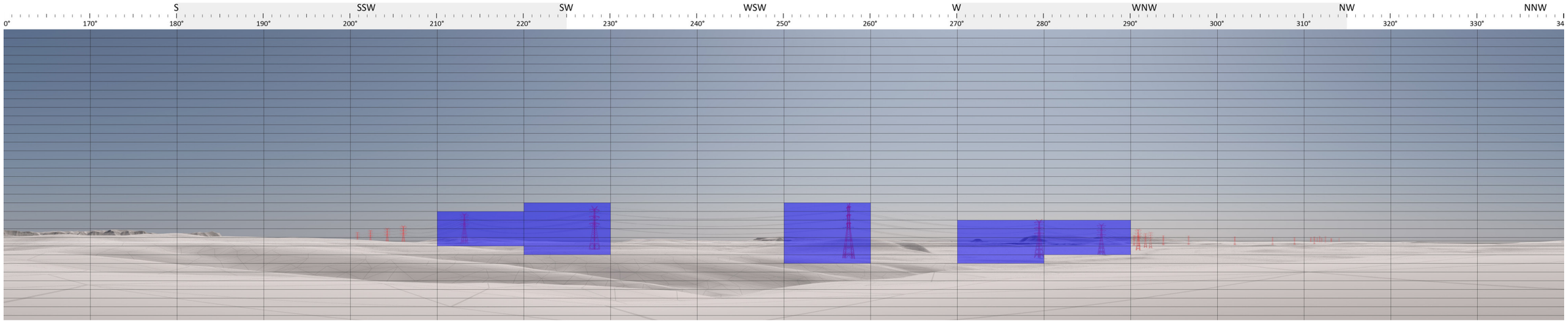
Visual sensitivity

Viewpoint type	Historic rural homestead
Viewpoint sensitivity	High
Scenic quality	Moderate
Visual sensitivity	High

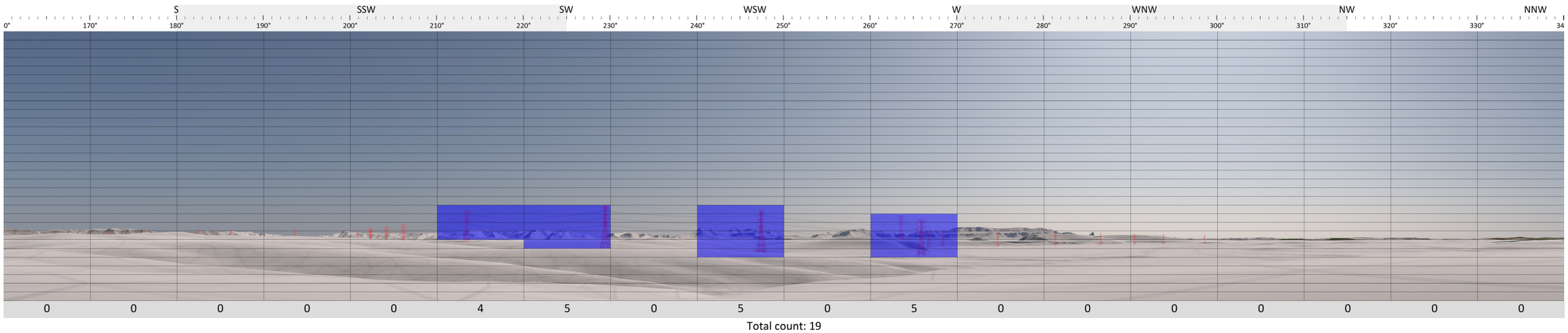
Viewpoint location

HTP ID251: 478 Putty Road, Mt Thorley

Magnitude analysis - Exhibited project



Magnitude analysis - Amended project



Visual sensitivity

Visual sensitivity	High

Magnitude

	Exhibited project	Amended project
Maximum tower height	85 metres	85 metres
Occupied cells	26 cells	19 cells
Potential magnitude	High	Moderate

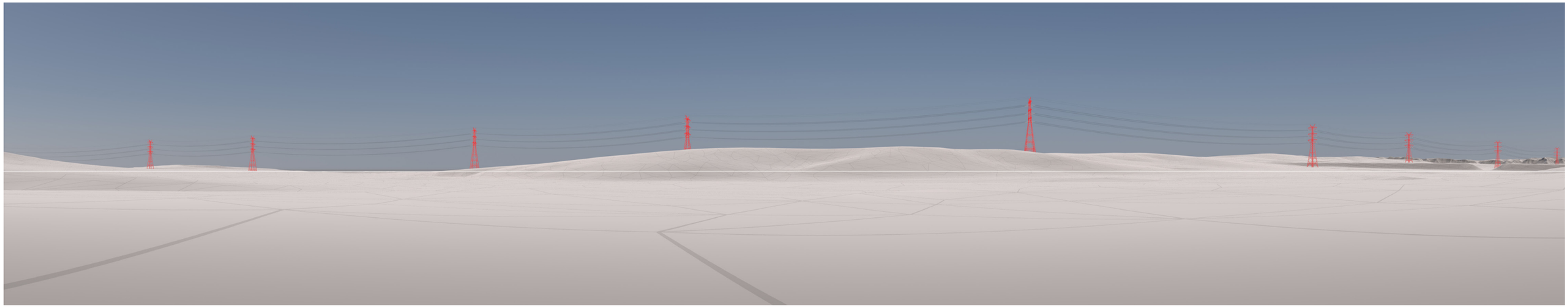
Intermediate visual impact rating

	Exhibited project	Amended project
Viewpoint in setback?	No	No
Impact rating	High	Moderate

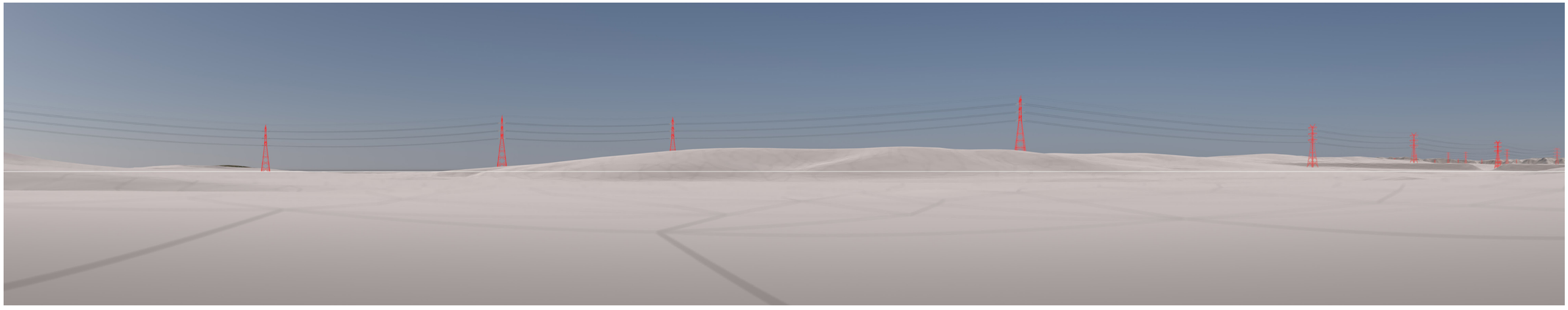
Viewpoint location

HTP ID277: 896 Putty Road, Mt Thorley

Bare earth render - Exhibited project



Bare earth render - Amended project



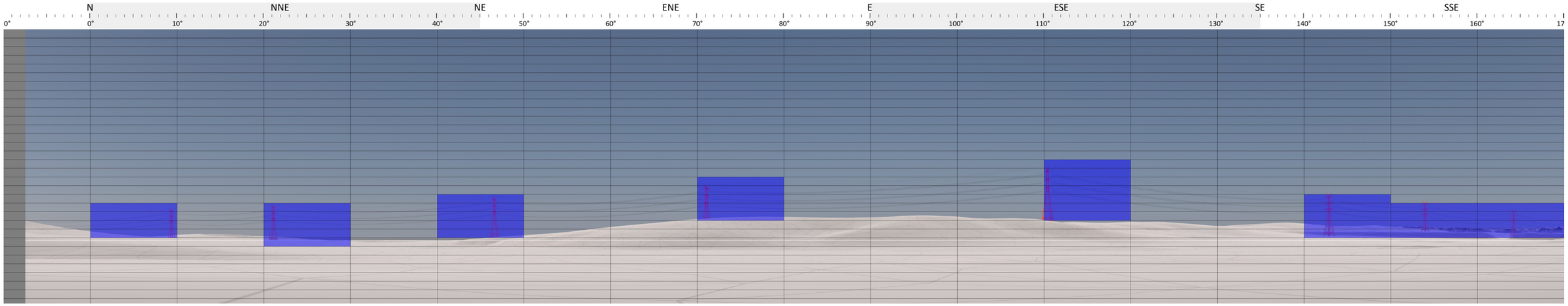
Visual sensitivity

Viewpoint type	Rural dwelling
Viewpoint sensitivity	Moderate
Scenic quality	Moderate
Visual sensitivity	Moderate

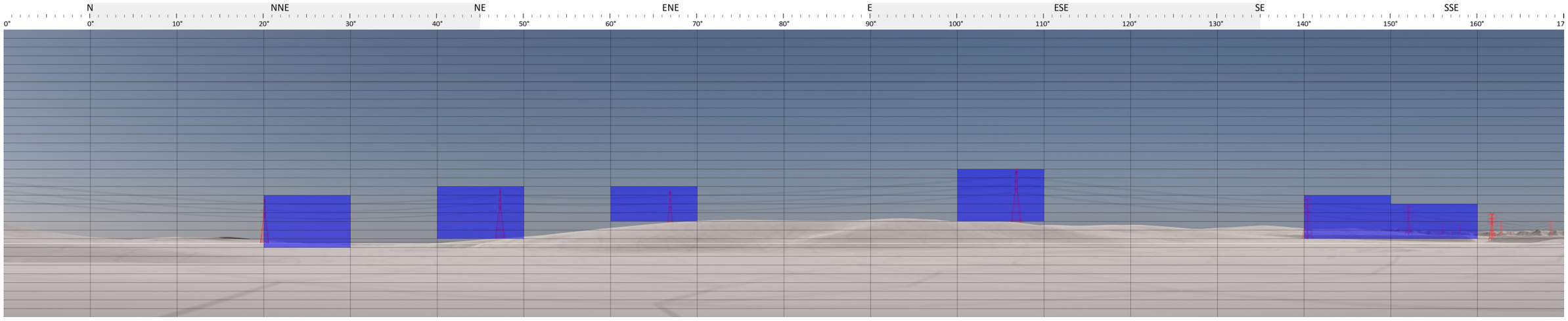
Viewpoint location

HTP ID277: 896 Putty Road, Mt Thorley

Magnitude analysis - Exhibited project



Magnitude analysis - Amended project



Visual sensitivity

Visual sensitivity	Moderate

Magnitude

	Exhibited project	Amended project
Maximum tower height	85 metres	85 metres
Occupied cells	39 cells	31 cells
Potential magnitude	Very high	High

Intermediate visual impact rating

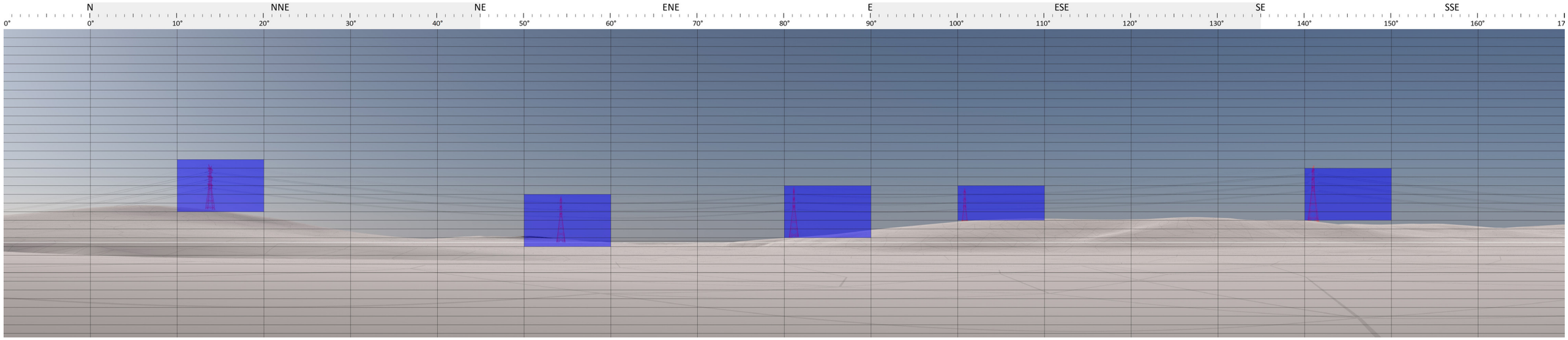
	Exhibited project	Amended project
Viewpoint in setback?	No	No
Impact rating	High	Moderate

Viewpoint location

HTP ID3525: 896 Putty Road, Mt Thorley (secondary dwelling)

Bare earth render - Amended project

Magnitude analysis - Amended project



Visual sensitivity

Visual sensitivity	Moderate

Magnitude

	Exhibited project	Amended project
Maximum tower height	85 metres	85 metres
Occupied cells	-	28 cells
Potential magnitude	-	High

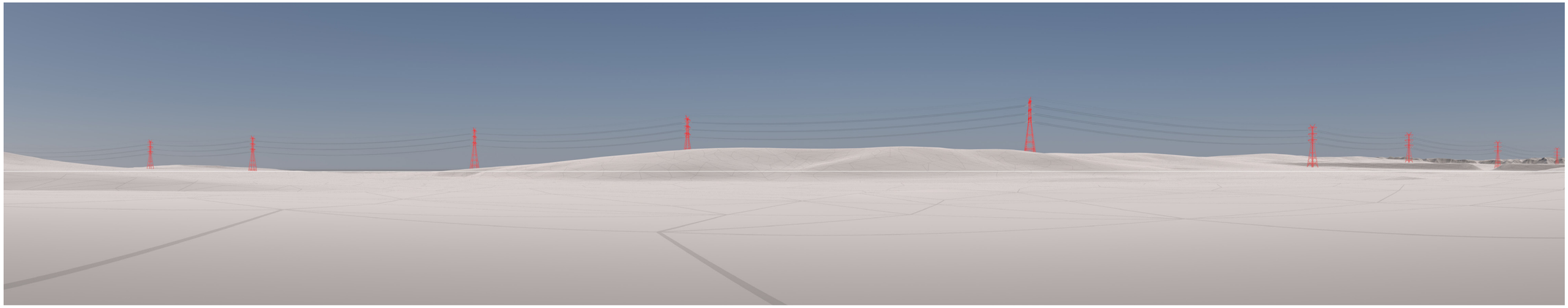
Intermediate visual impact rating

	Exhibited project	Amended project
Viewpoint in setback?	-	No
Impact rating	Not assessed	Moderate

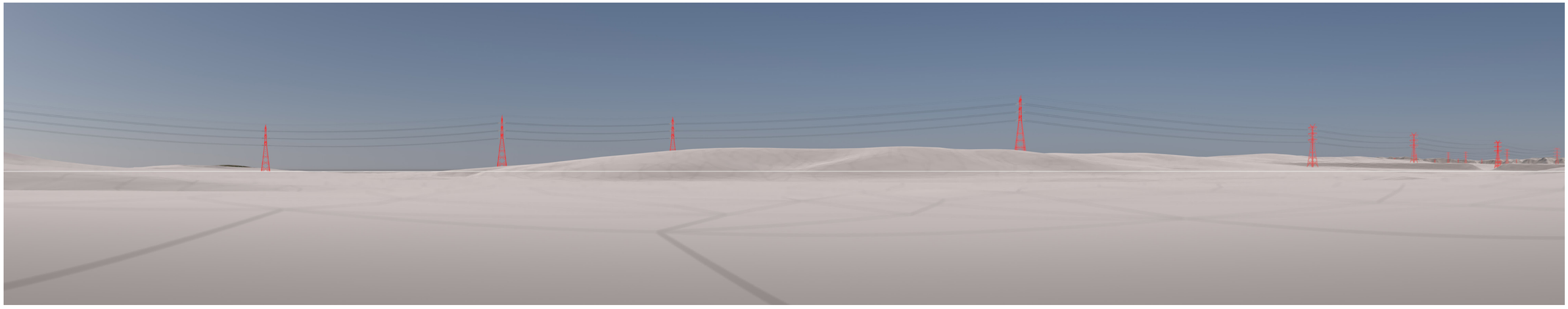
Viewpoint location

HTP ID2920: 887 Putty Road, Mount Thorley

Bare earth render - Exhibited project



Bare earth render - Amended project



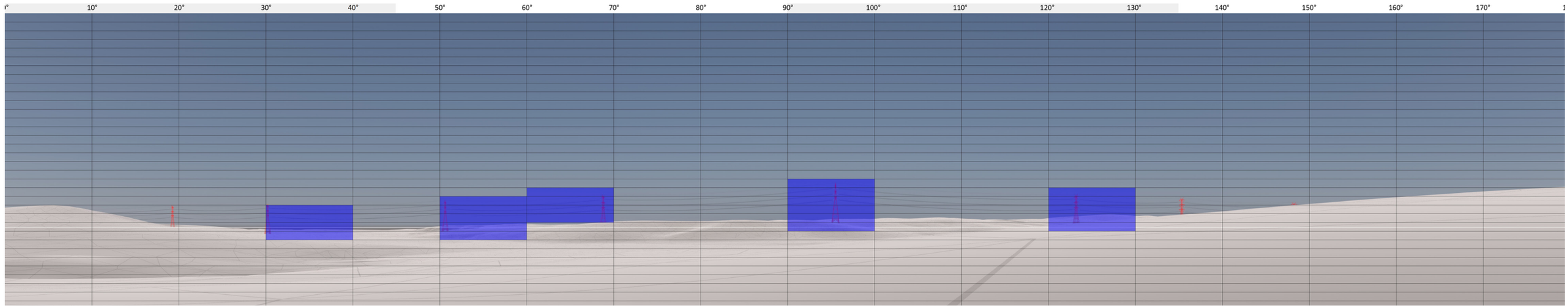
Visual sensitivity

Viewpoint type	Rural dwelling (tourist rental)
Viewpoint sensitivity	Moderate
Scenic quality	Moderate
Visual sensitivity	Moderate

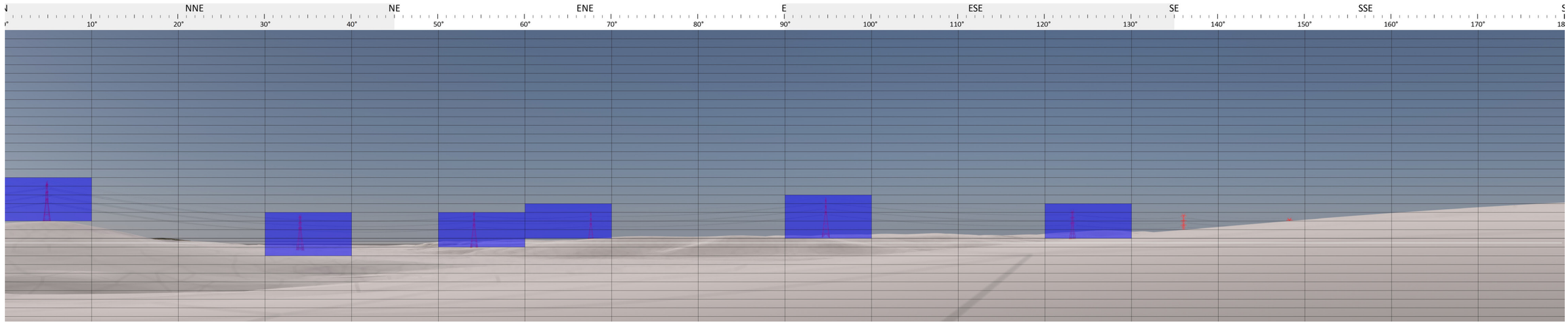
Viewpoint location

HTP ID2920: 887 Putty Road, Mount Thorley

Magnitude analysis - Exhibited project



Magnitude analysis - Amended project



Visual sensitivity

Visual sensitivity	Moderate

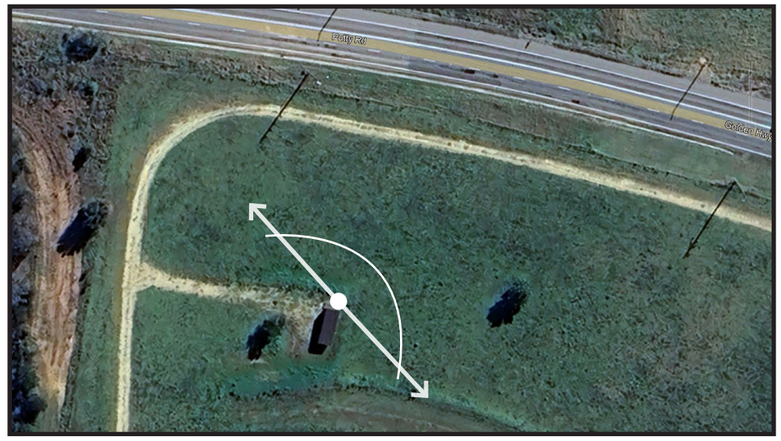
Magnitude

	Exhibited project	Amended project
Maximum tower height	85 metres	85 metres
Occupied cells	23 cells	27 cells
Potential magnitude	Moderate	High

Intermediate visual impact rating

	Exhibited project	Amended project
Viewpoint in setback?	No	No
Impact rating	Moderate	Moderate

Viewpoint location



Key:

Viewpoint type	Refer Table 3
Viewpoint sensitivity	Refer Table 3
Scenic quality	Refer Table 5
Overall potential sensitivity	Refer Table 7
Occupied cells	Refer Table 2
Magnitude rating	Refer Table 2
Impact rating	Refer Table 8

Table 2. Visual magnitude thresholds

Number of occupied cells	Scenic quality
1 to 7	Very low
8 to 14	Low
15 to 25	Moderate
26 to 36	High
More than 37	Very high

Table 3. Viewpoint sensitivity levels and examples

VIewpoint type	Very low viewpoint sensitivity	Low viewpoint sensitivity	Moderate viewpoint sensitivity	High viewpoint sensitivity
Private receiver	n/a	Secondary view from dwelling rural area (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Primary views from dwellings in residential and rural villages (land zoned R1, R2, R3, R4 and RU5)	Primary view from dwellings in rural areas (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Tourist and visitor accommodation (bed-and-breakfasts, motels and hotels) and places of worship	Historic rural homesteads or residences on the national, state or local heritage list
Public viewpoint	State highways, freeways and classified main roads	Tourist roads and scenic drives4 Significant entry ways to regional towns and cities Cemeteries and memorial parks Publicly accessible green and open spaces, including picnic areas, parks, public recreation areas and lookouts Town centres and central business districts	Tourist uses in tourist areas (zoned SP3)	n/a

Table 4. Primary and secondary viewpoints from a dwelling

Primary viewpoint	Secondary viewpoint
Principal / frequented living spaces (for example living rooms, kitchens and dining areas)	Less frequented living and service areas (for example, bedrooms, laundries, bathrooms, garages and studies)
Front or rear views from a dwelling, particularly from any porch, balcony, verandah, entertainment area, adjacent garden, deck or patio	Side views from a dwelling

Table 5. Frame of reference for scenic quality values

Viewpoint type	Very low scenic quality	Low scenic quality	Moderate scenic quality	High scenic quality
Landform	Large expanses of flat or gently undulating terrain Indistinct, dissected or broken landforms that provide little illusion of spatial definition or landmarks with which to orient	Mostly flat or gently undulating terrain with isolated areas of undulating topography	Steep, hilly and undulating ranges that are not visually dominant Broad, shallow valleys Moderately deep gorges or moderately steep valley walls Minor rock outcrops	Isolated peaks, steep rocky ridges, cones or escarpments with distinctive form and colour contrast that become focal points Large areas of distinctive rock outcrops or boulders Well-defined, steep valley gorges
Vegetation	Extensively cleared and cropped areas with very limited variation in colour and texture Pastoral areas, human-created paddocks, pastures or grasslands and associated buildings typical of grazing lands	Predominantly cleared and cropped areas with small areas of variation in colour and texture Most pastures or grasslands with small bloks of distinct native vegetation	Predominantly open forest or woodland combined with some natural openings in patterns that offer some visual relief Vegetative stands ranging in size, form, colour, texture and spacing, including human-inflenced vegetation (for example, vineyards, plantation forests and orchards)	Strongly defined natural patterns with combinations of native forest, naturally appearing openings, streamside vegetation and scattered exotics Distinctive stands of vegetation that may create unusual forms, colours or textures compared with surrounding vegetation
Waterbodies	Absense of natural waterbody Farm dams, irrigation canals or stormwater infrastructure	Minor water forms, such as creeks and streams	Intermittent streams, lakes, rivers, swamps and reservoirs	Visually prominent lakes, reservoirs, rivers, streams, wetlands and swamps Presence of harbour inlet, bay or open ocean
Social and cultural	Places of worship, cemeteries, memorial parks, private open spaces	Places of worship, cemeteries, memorial parks, private open spaces Local heritage	Local or state heritage sites Distinguishable entry ways to a regional city identified in the State Environmental Planning Policy (Transport and Infrastructure) 2021	Culturally important sites, wilderness, world heritage areas and protected areas World, national and state heritage sites
Human presence	Dominating presence of infrastructure, human settlements, highly modified landscapes and higher density populations, such as regional cities, industrial areas, agricultural transport or electricity infrastructure	Highly modified landscapes with visible infrastructure, such as transmission lines and railway corridors	Dispersed yet evident presence of human settlement, such as villages, small towns, isolated pockets of production and industry, lower scale and trafficked transport infrastructure	Natural, undisturbed landscape Minimal evidence of human presence and production

Table 7. Visual sensitivity matrix

	High scenic quality	Moderate scenic quality	Low scenic quality	Very low scenic quality
High viewpoint sensitivity	High	High	Moderate	Low
Moderate viewpoint sensitivity	High	Moderate	Moderate	Low
Low viewpoint sensitivity	Moderate	Low	Low	Very low
Very low viewpoint sensitivity	Very low	Very low	Very low	Very low

Table 8. Visual impact matrix

	High visual sensitivity	Moderate visual sensitivity	Low visual sensitivity	Very low visual sensitivity
Very high magnitude	High	High	Moderate	Moderate
High magnitude	High	Moderate	Moderate	Low
Moderate magnitude	Moderate	Moderate	Low	Low
Low magnitude	Moderate	Low	Low	Very low
Very low magnitude	Low	Low	Very low	Very low

HTP ID238: 609c Hambledon Hill Road, Hambledon Hill

Photomontage - including indicative transmission structure locations

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count

Total count: 8

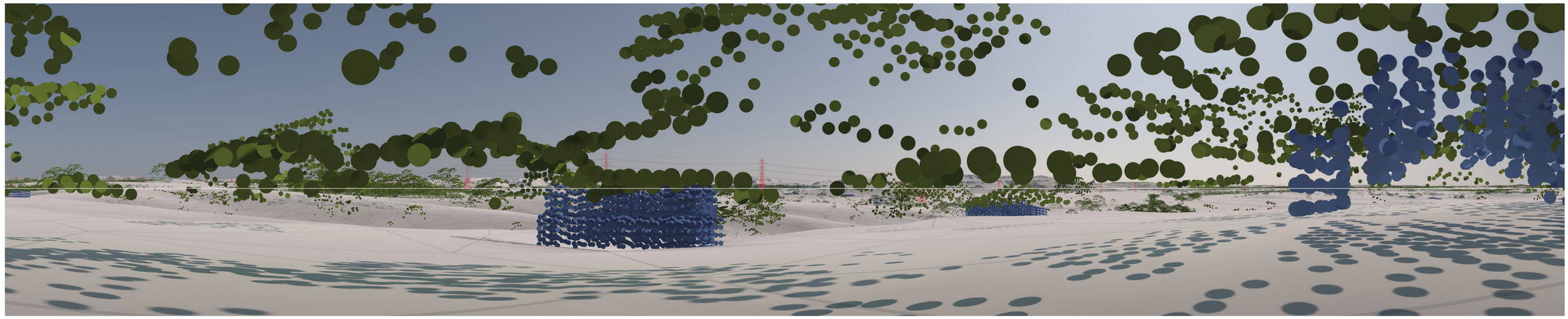
Detailed viewpoint assessment:

Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
706 metres	Primary view from rural dwelling	Moderate	Low	Moderate	8	Low	Low

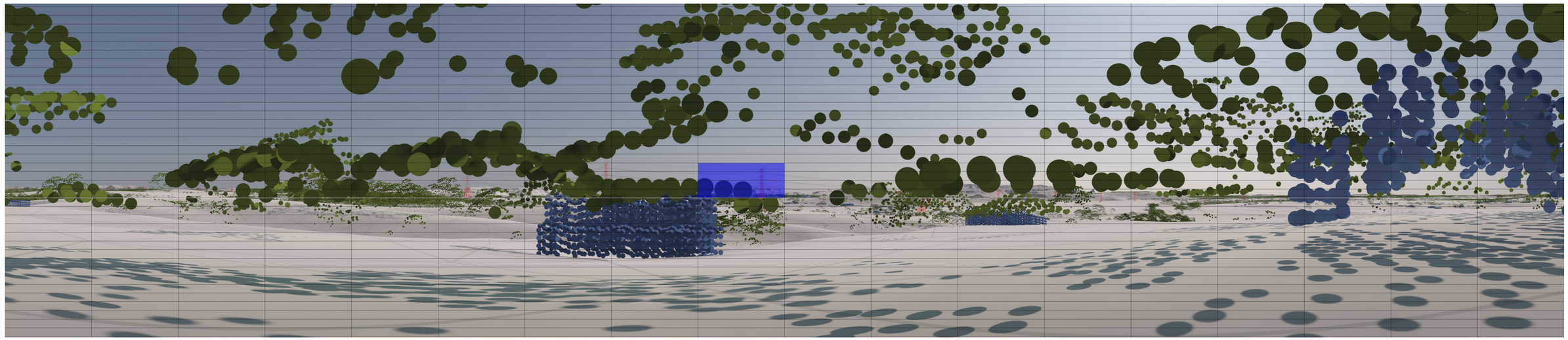
north

HTP ID251: 'Abbey House', 478 Putty Road, Mount Thorley

Point cloud generated image including indicative transmission structure locations (landform - grey, trees - green, dark blue - buildings, transmission structures - red)



Point cloud generated image including indicative transmission structure locations (red in view, green out of view), magnitude tool overlay and occupied cell count



Detailed viewpoint assessment:

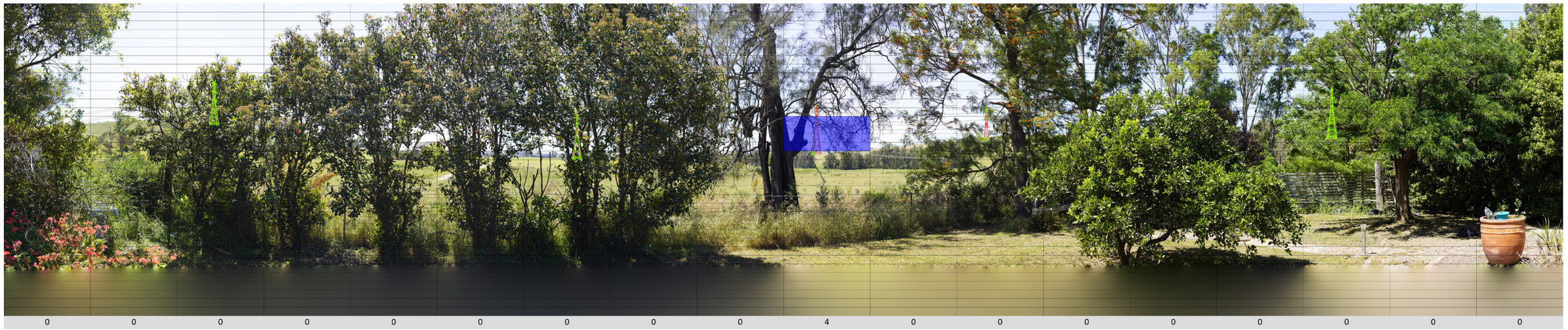
Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
742 metres	Historic rural homestead	High	Moderate	High	4	Very low	Low

Viewpoint location plan:

HTP ID277: 896 Putty Road, Mount Thorley

Photomontage - including indicative transmission structure locations

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count



Detailed viewpoint assessment:

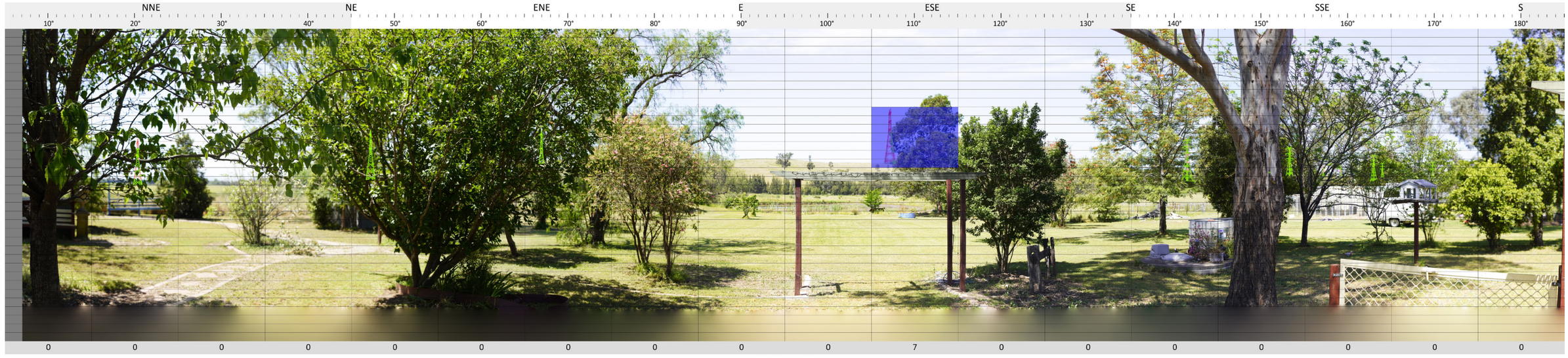
Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
720m	Secondary view from rural dwelling	Low	Moderate	Low	4	Very low	Low

north

HTP ID3525: 896 Putty Road, Mount Thorley (secondary dwelling)

Photomontage - including indicative transmission structure locations

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count



Detailed viewpoint assessment:

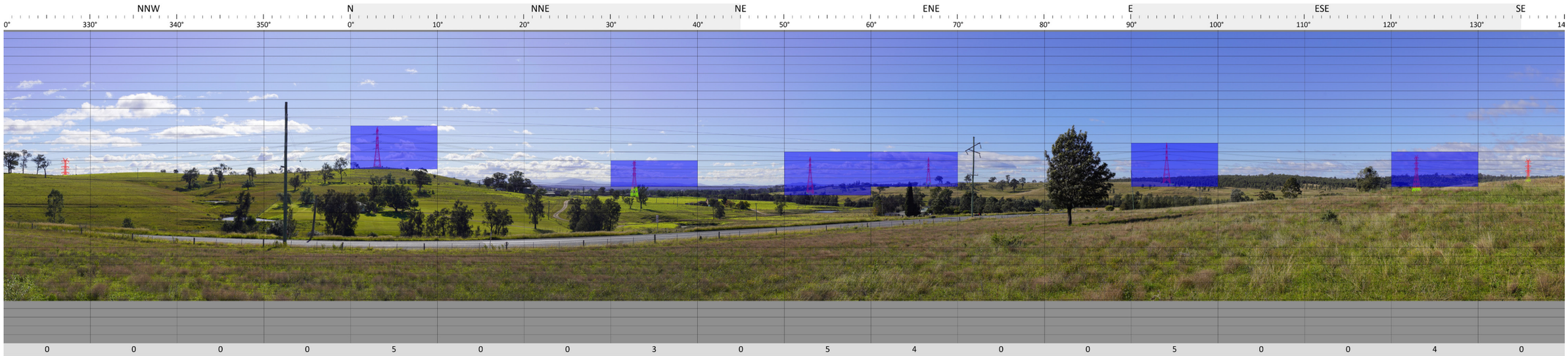
Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
830m	Primary view from rural dwelling	Moderate	Moderate	Moderate	7	Very low	Low

north

HTP ID2920: 887 Putty Road, Mount Thorley

Photomontage - including indicative transmission structure locations

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count

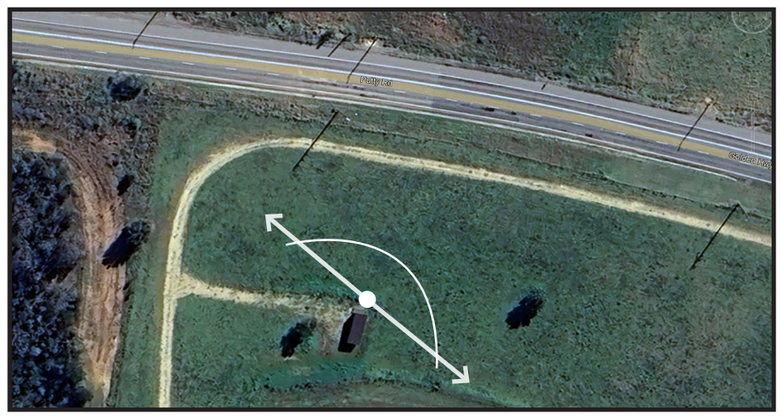


Total count: 26

Detailed viewpoint assessment - without mitigation

Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
820 metres	Visitor accommodation	Moderate	Low	Moderate	26	High	Moderate

Viewpoint location



HTP ID2928: 16 Long Point Road East, Gouldsville

Amended project photomontage - including indicative transmission structure locations

Amended project photomontage - with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count

Total count: 17

Detailed viewpoint assessment:

Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
350 metres	Primary view from rural dwelling	Moderate	Low	Moderate	17	Moderate	Moderate

north

HTP ID2929: 16 Long Point Road East, Gouldsville

Photomontage - including indicative transmission structure locations shown in silhouette (red in view, green out of view)

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count

Total count: 7

Detailed viewpoint assessment:

Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Occupied cells	Magnitude rating	Impact rating
320 metres	Primary view from rural dwelling	Moderate	Low	Moderate	7	Very low	Low

north

File: HTP-Fig3b-AirPhotoBase-25K-260216

Hunter Transmission Project

Landscape and visual impact assessment

Appendix J: Viewpoint assessment results summary plan

iris

north

Proposed transmission centreline
HTP corridor
Access track
Construction support site
Substation
Rural setback

Existing transmission lines
33kV
132kV
330kV
500kV

Receiver outside study area
No visual impact
Low visual impact
Moderate visual impact
Non-residential receiver
Easement affected dwelling

0 0.25 0.5 0.75 1km

1:25,000 @ A3

Aerial Photo: Nearmap 2025 where available & Maxar 2023 elsewhere
Proposed Transmission line © Energy Corporation of NSW (EnergyCo) 2024
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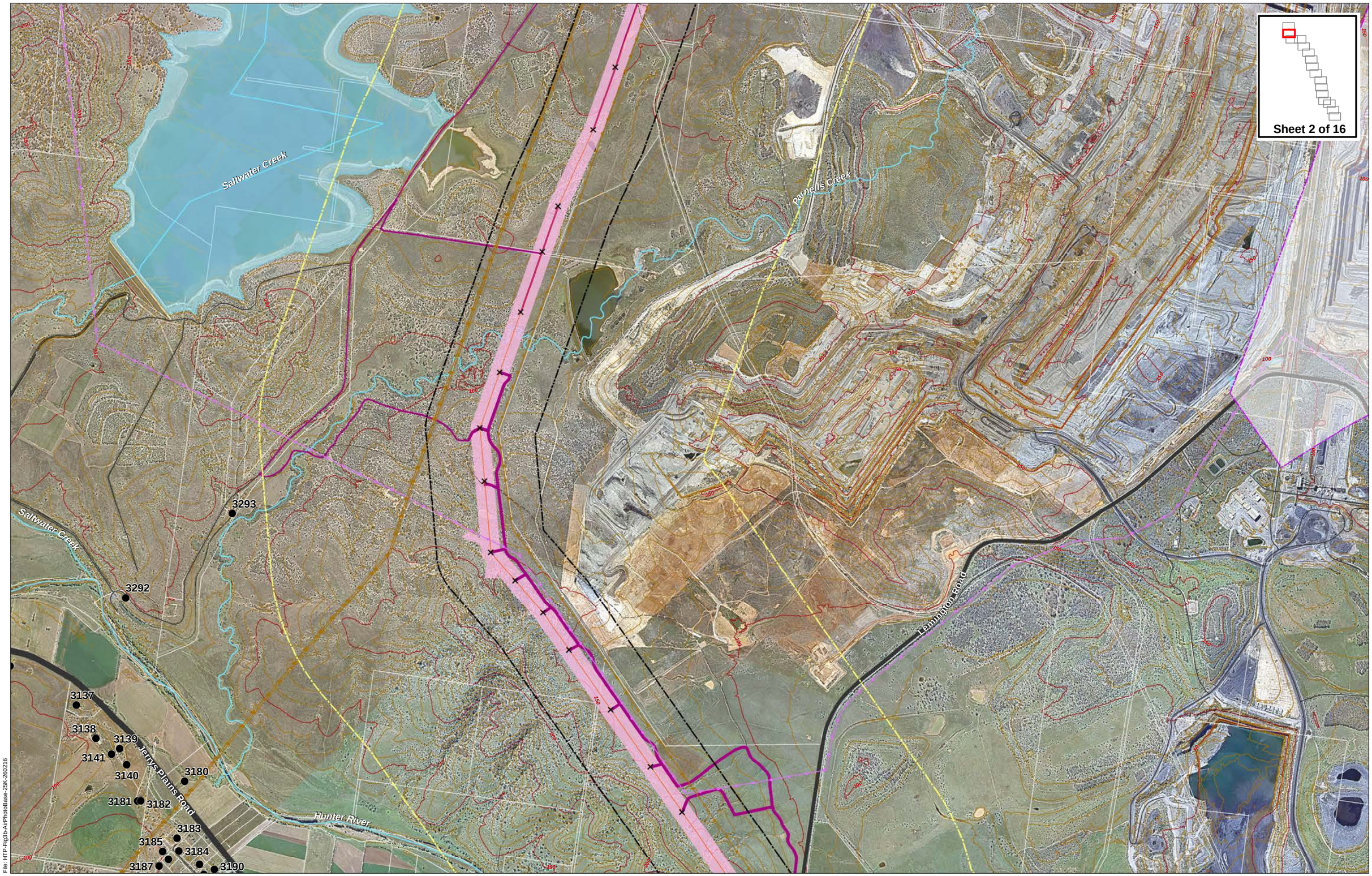
Surface analysis: Derived from Forster 1 & 2m resolution LiDAR (Cessnock 2011/2014, Camberwell 2017/2018, Gosford 2014, HowesValley 2017/2018, Muswellbrook 2017 © Department Finance, Services and Innovation

Date: February 2026 J-1



File: HTP-Fig3b-AirPhotoBase-25K-260216

Hunter Transmission Project

Landscape and visual impact assessment

Appendix J: Viewpoint assessment results summary plan

iris

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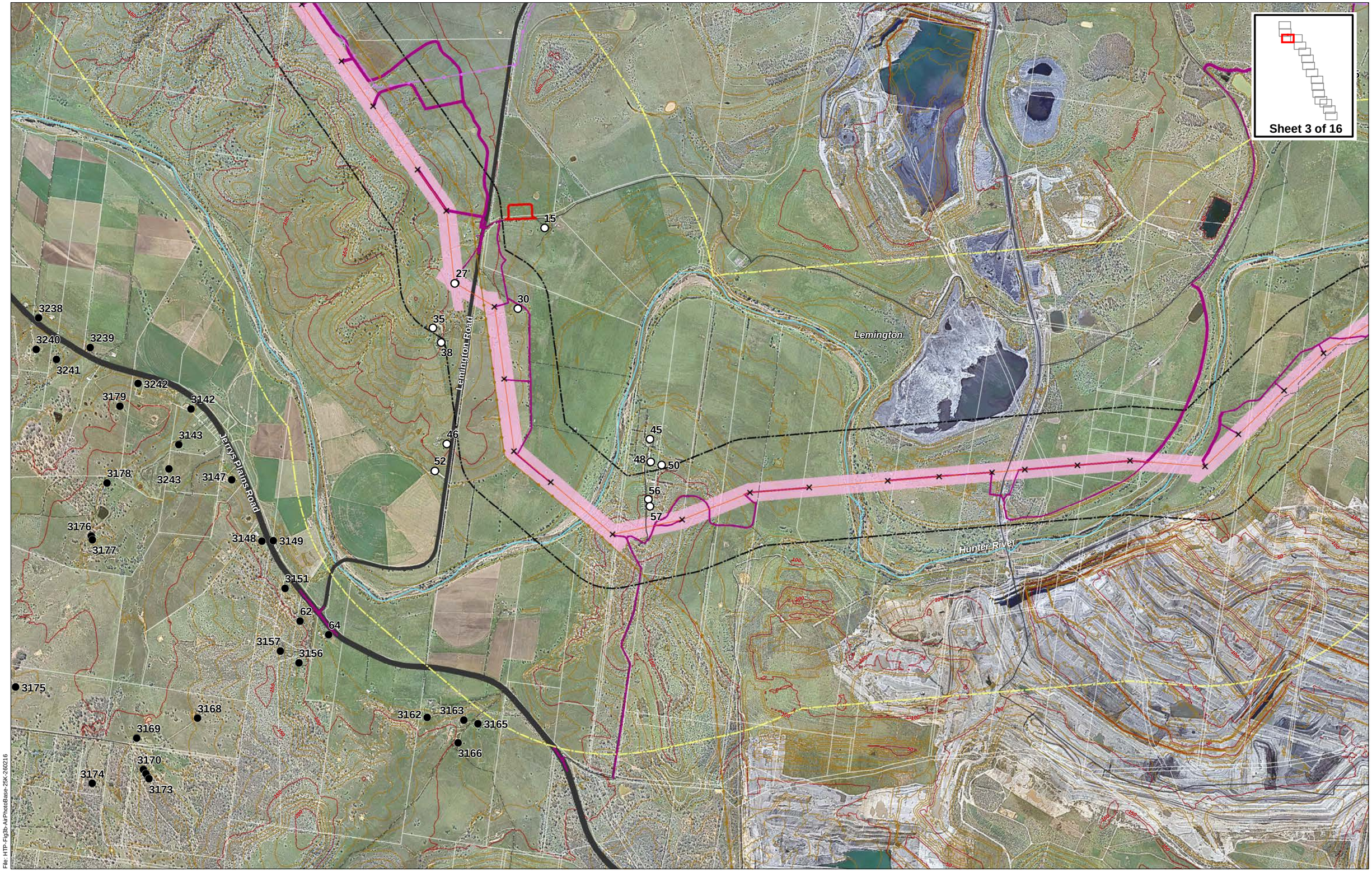
- Easement affected dwelling

1:25,000 @ A3

0 0.25 0.5 0.75 1km



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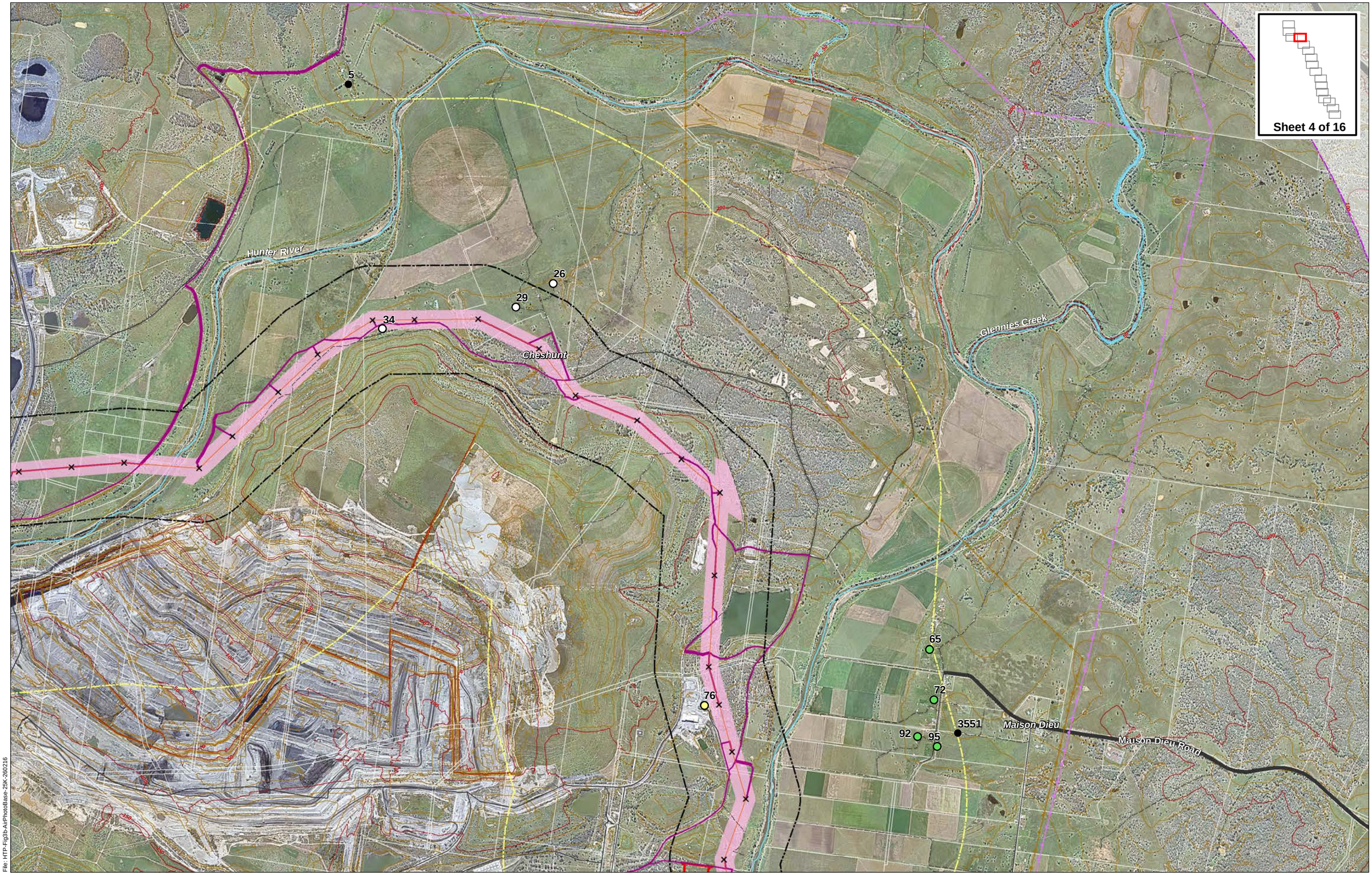

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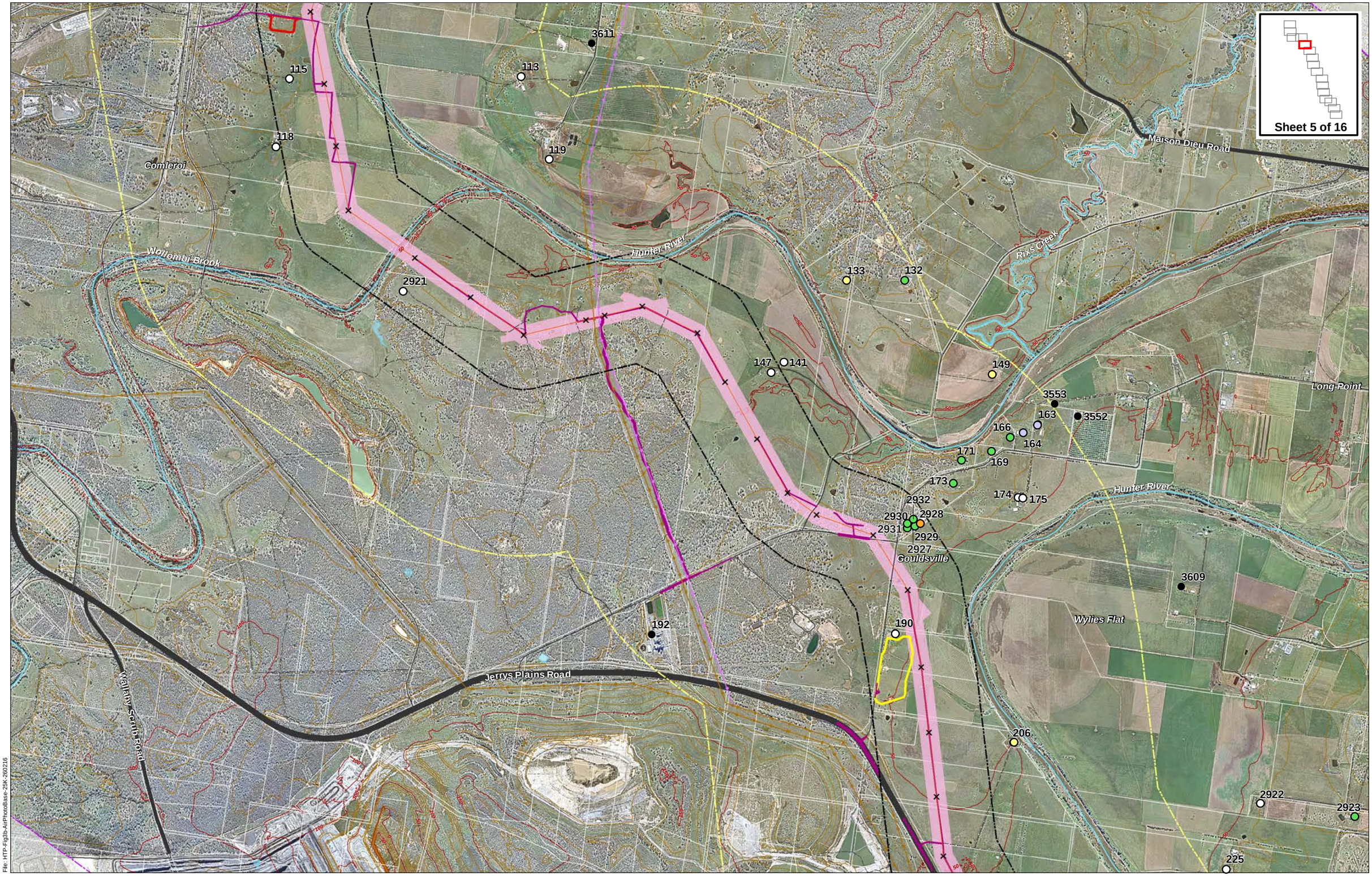

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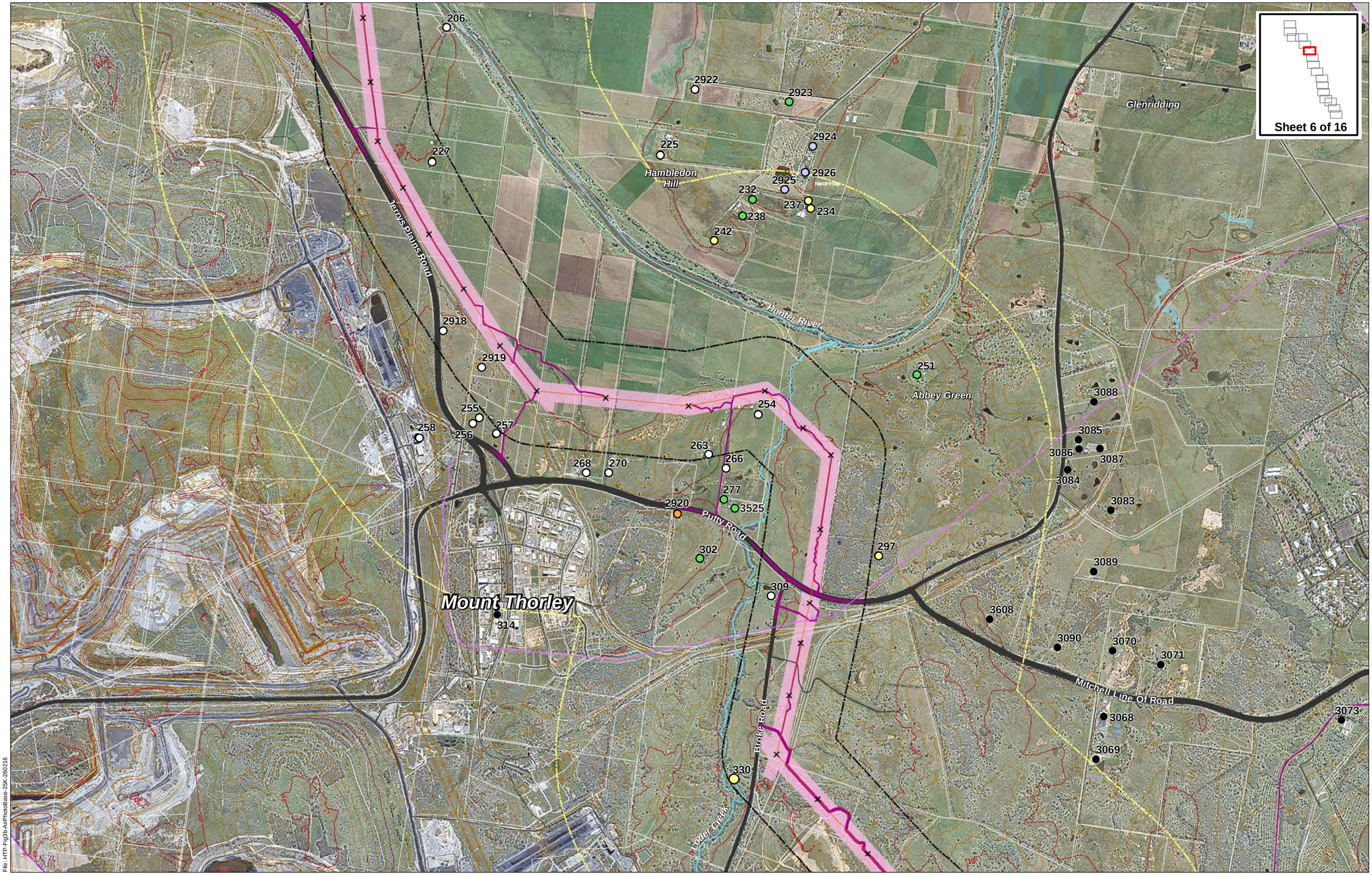

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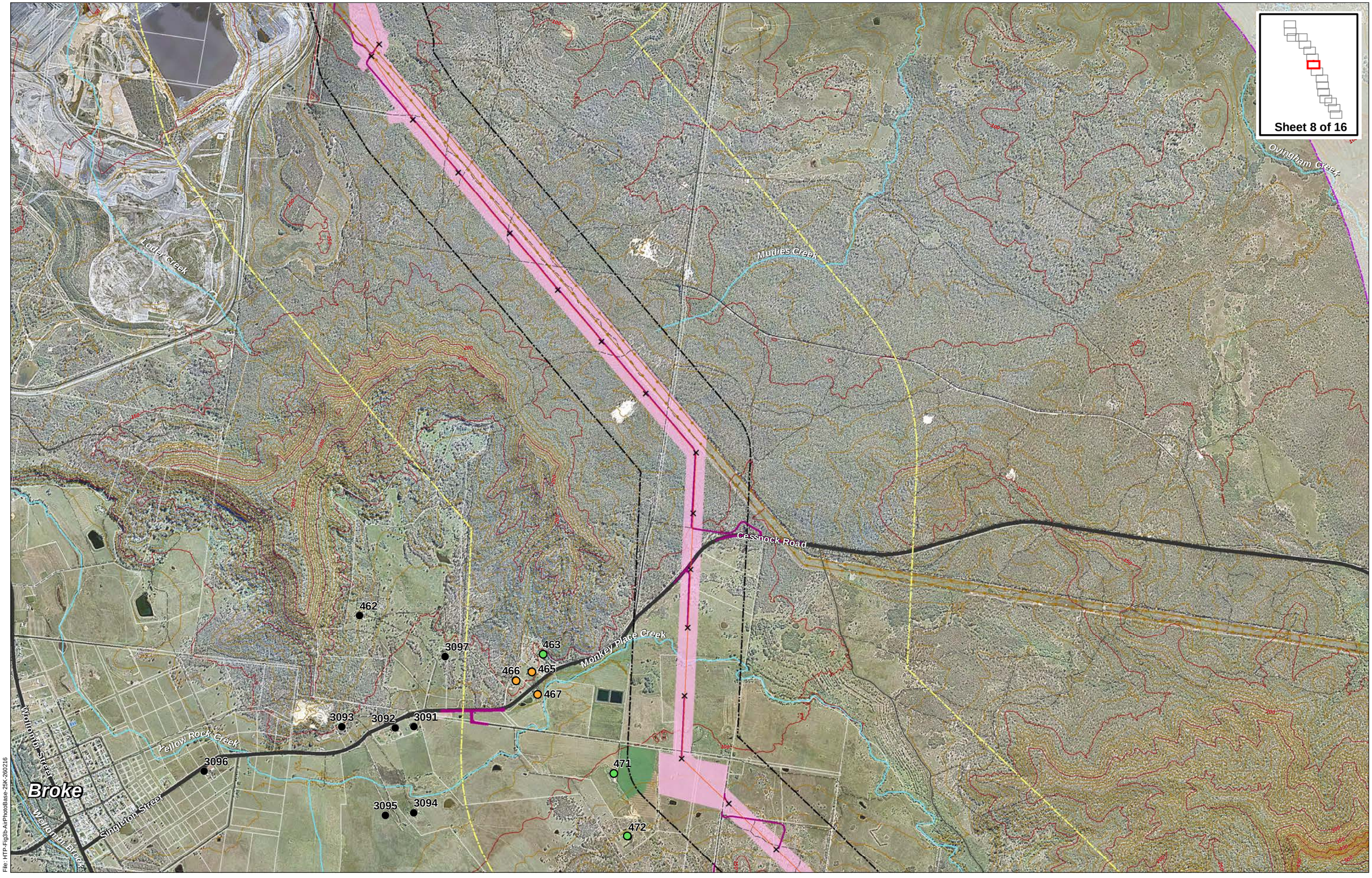

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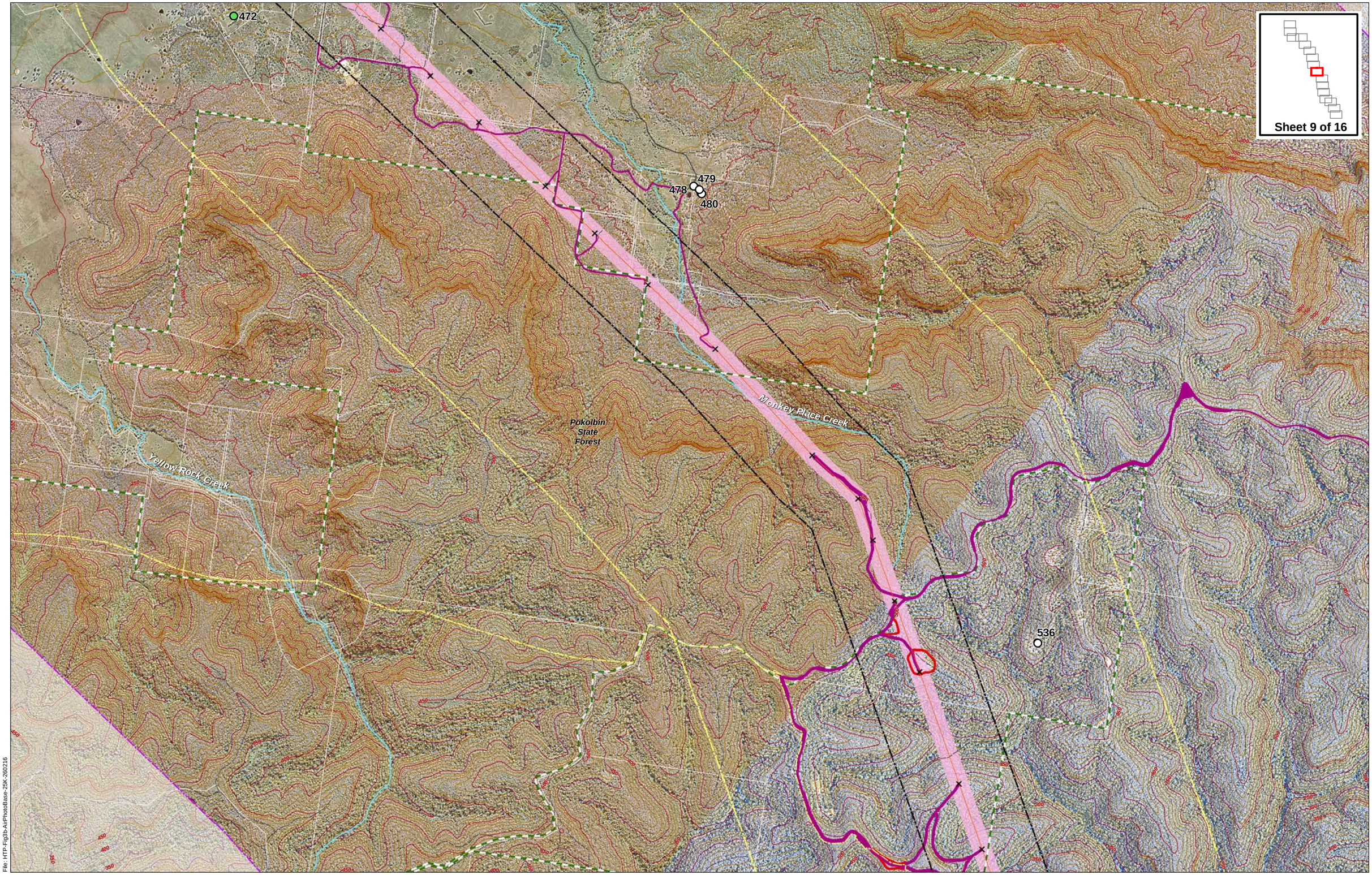

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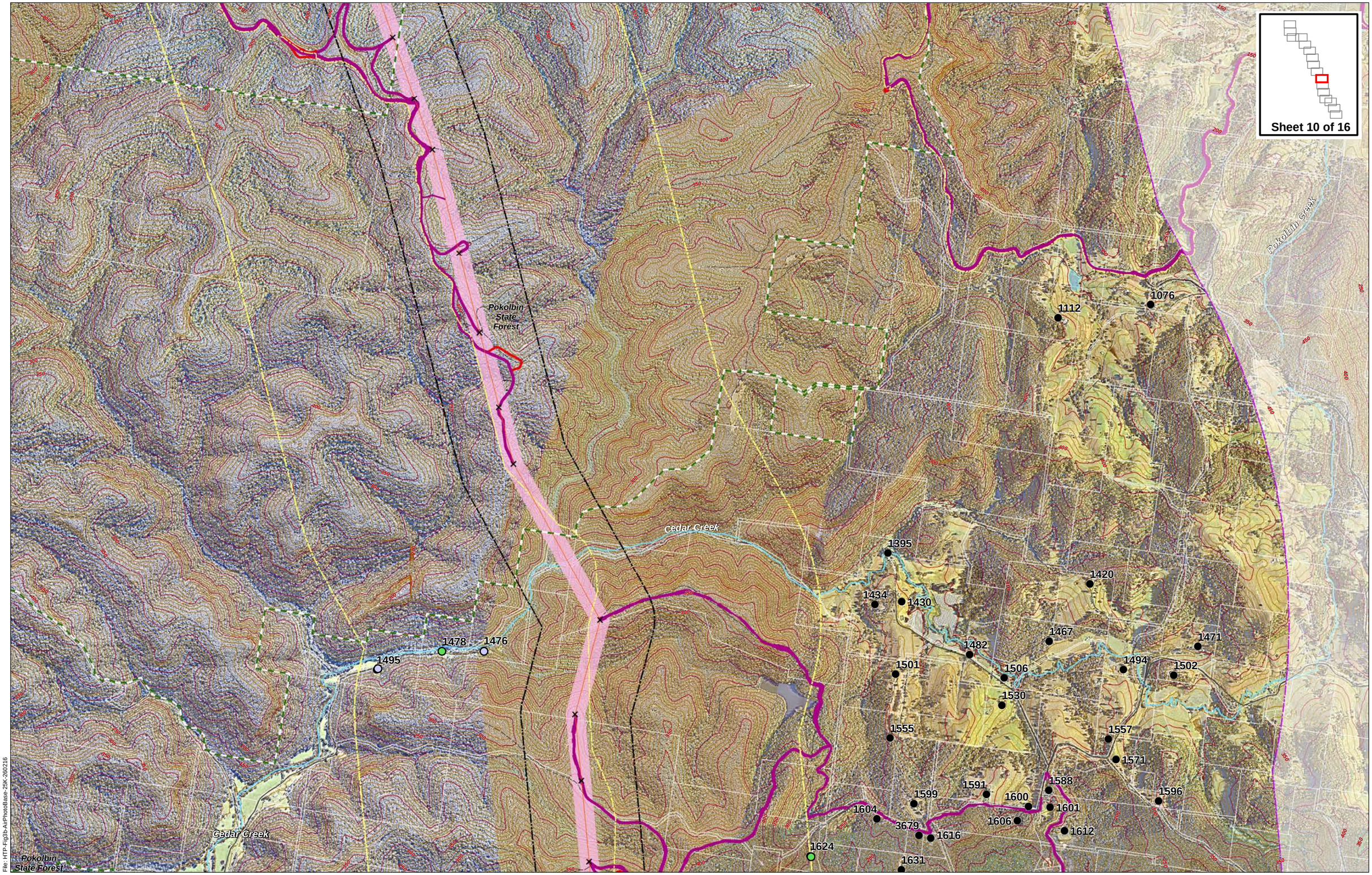

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0 0.25 0.5 0.75 1km

1:25,000 @ A3

Date: February 2026 J-10

Sheet 11 of 16

Wolloombi Road temporary construction support site

Cedar Creek
Cedar Creek
Pokolbin State Forest
Congewai Creek
Wollombi Road
Sweetmans Creek
Corrabare State Forest
Sweetmans Creek
Millfield
Greta Main
Millfield Road
Paxton
Congewai Road

1604 3679 1616 1606 1612 1624 1631 1634 1643 1646 1649 1647 1651 1648 1650 1653 1657 1656 1655 1658 1662 3556 1659 1661 1663 1664 3558 1674 1675 3559 3557 1680 1686 1688 1693 1697 1699 1701 1708 1713 3524 1718 1712 1716 1717 1744 1767 1766 1792 1768 1790 1829 1789 1806 1900 1872 1935 1978 1937 1938 1955 3634 3564 2019 2042 2009 2035 3563 2015 2064 3562 2089 2109 2091 3561 2093 3560 2125 2150 3637 2173 2174 2176 2177 2178 2179 2180 2182 2183 2184 3566 3565 2188 2189 2190 3678 2191 1660 1666 1665 1671 1676 1684 1685 1692 1689 1694 1704 1710 1709 1715 1720 1734

0 0.25 0.5 0.75 1km

1:25,000 @ A3

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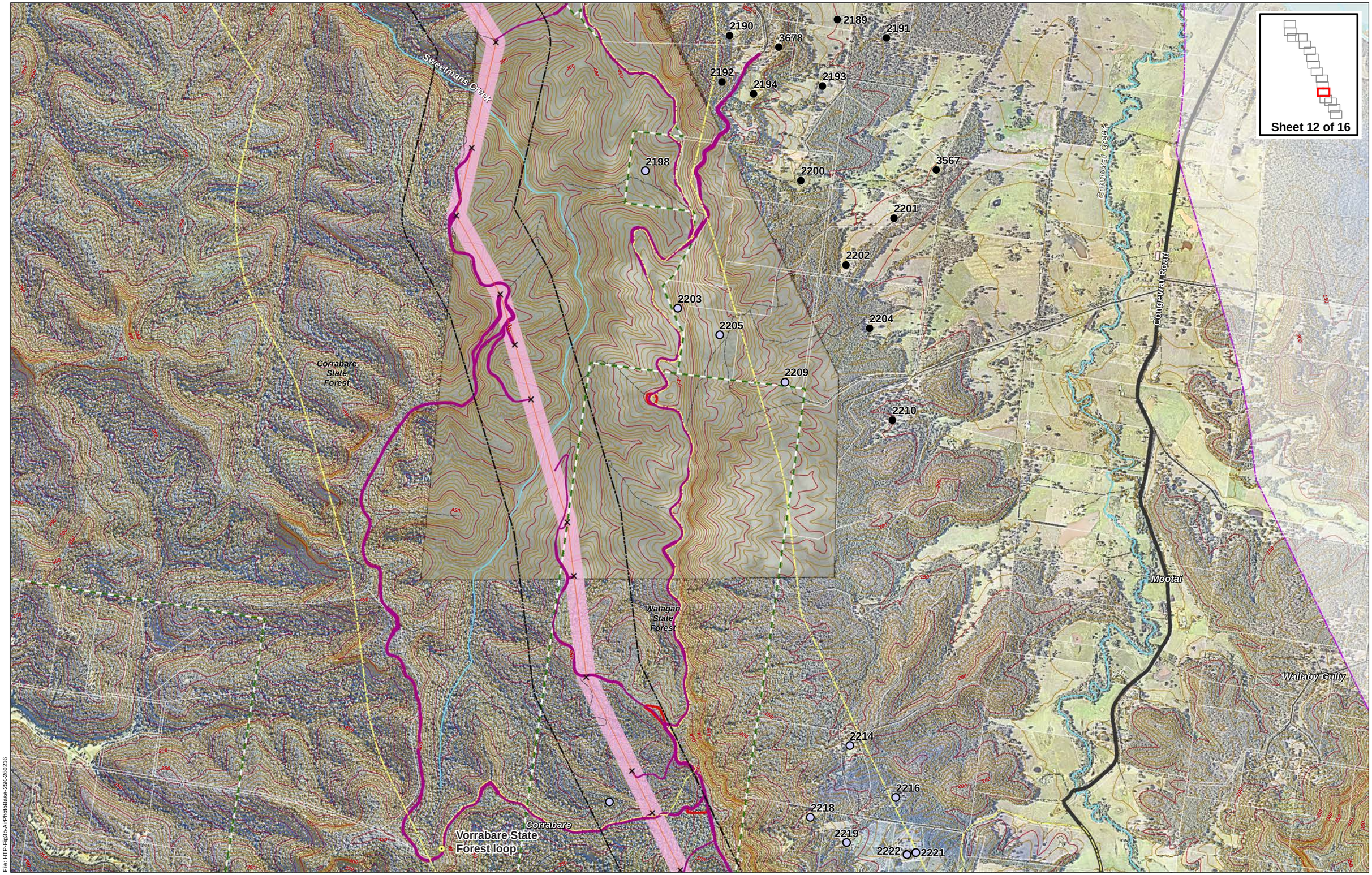

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iris

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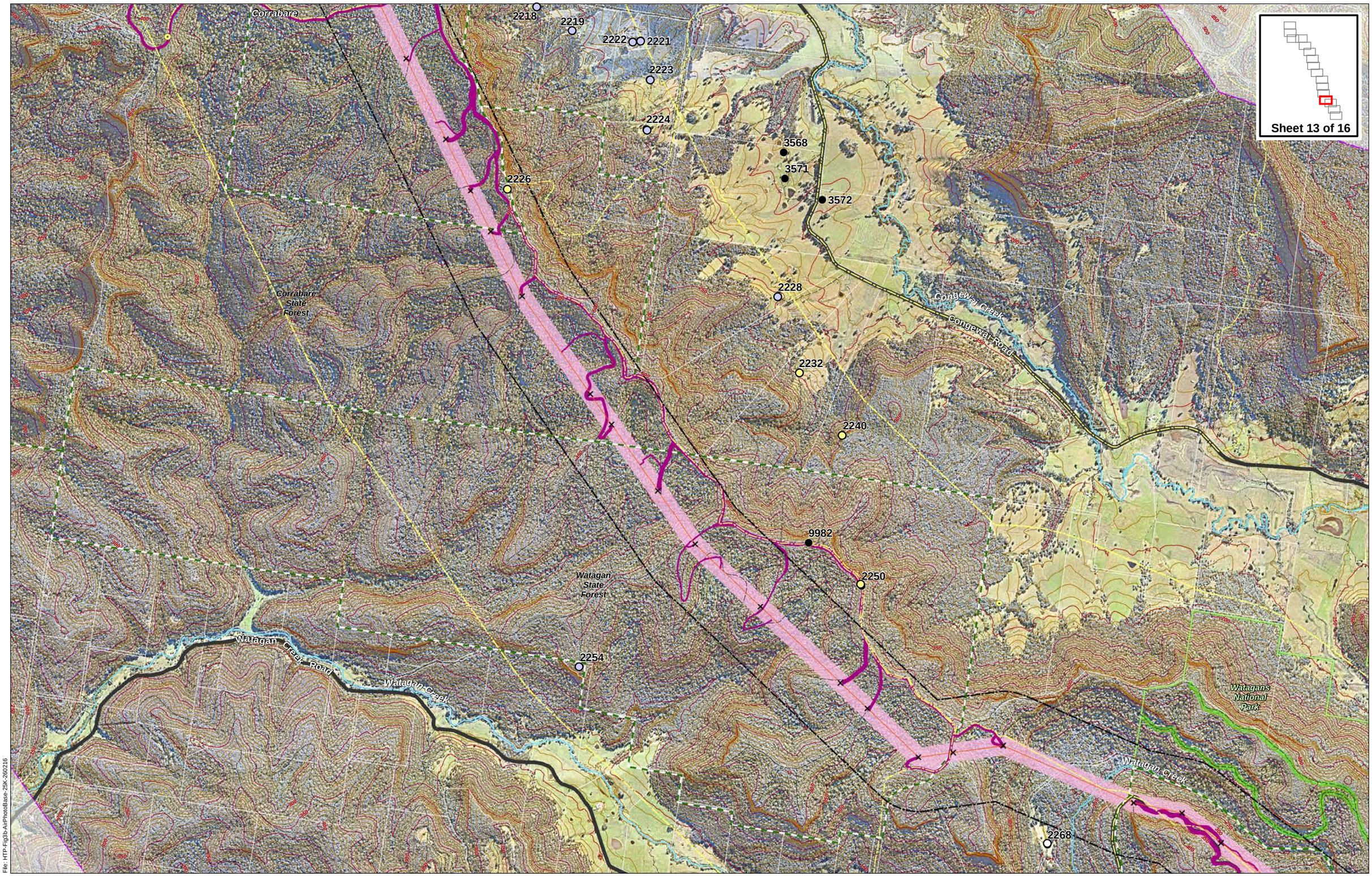
1:25,000 @ A3

Date: February 2026 J-12



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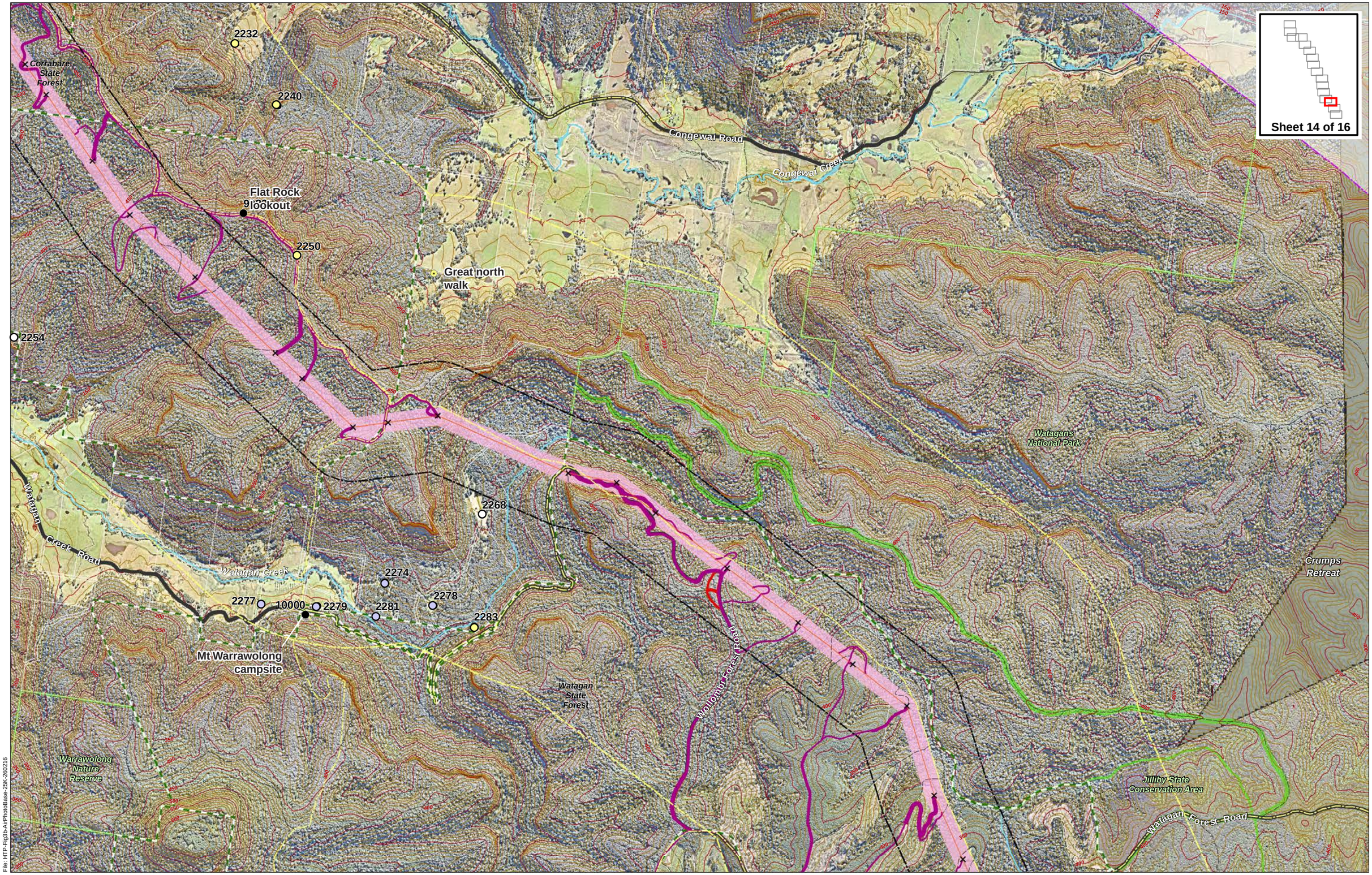
1:25,000 @ A3

Date: February 2026 J-13



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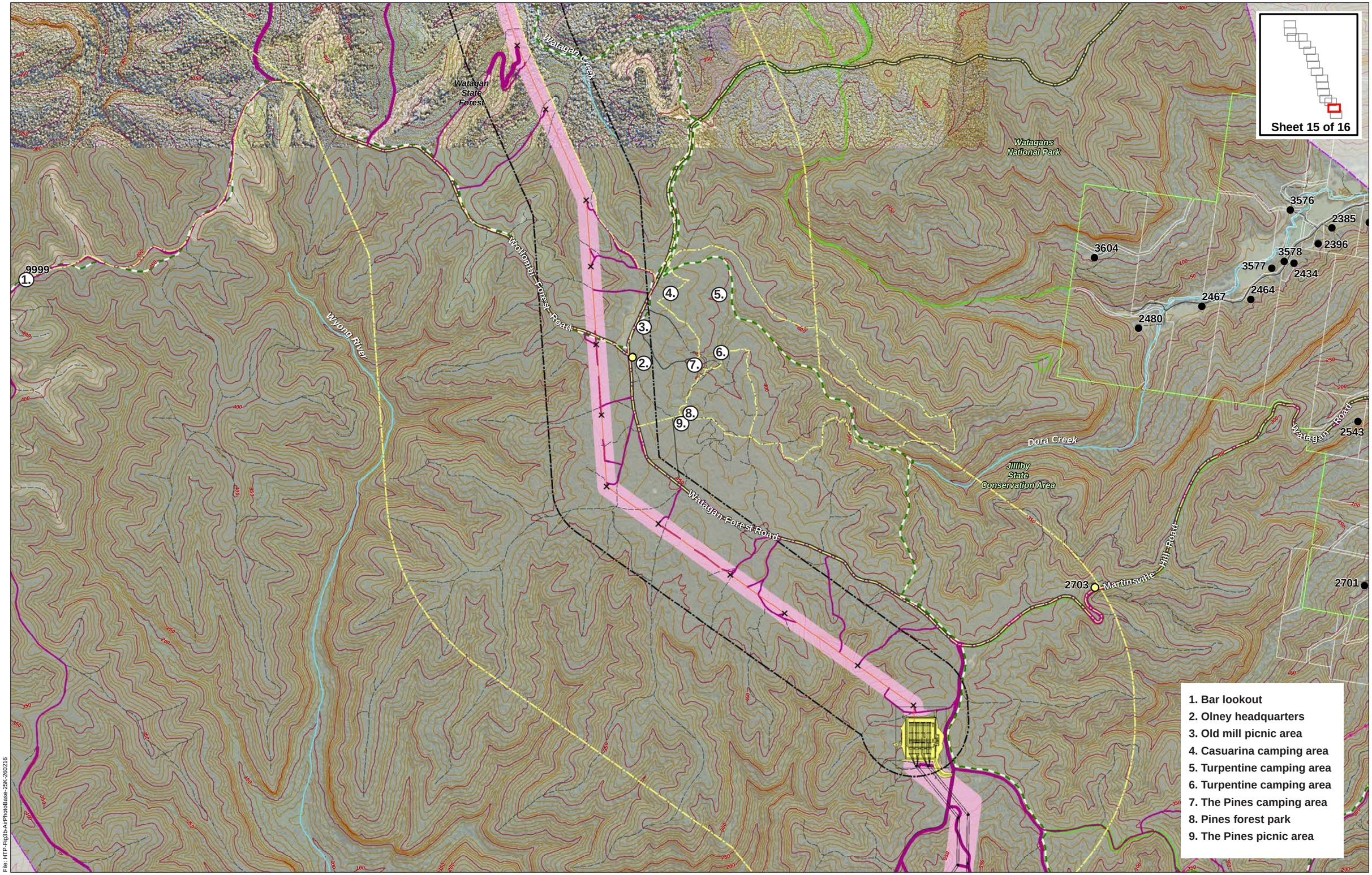

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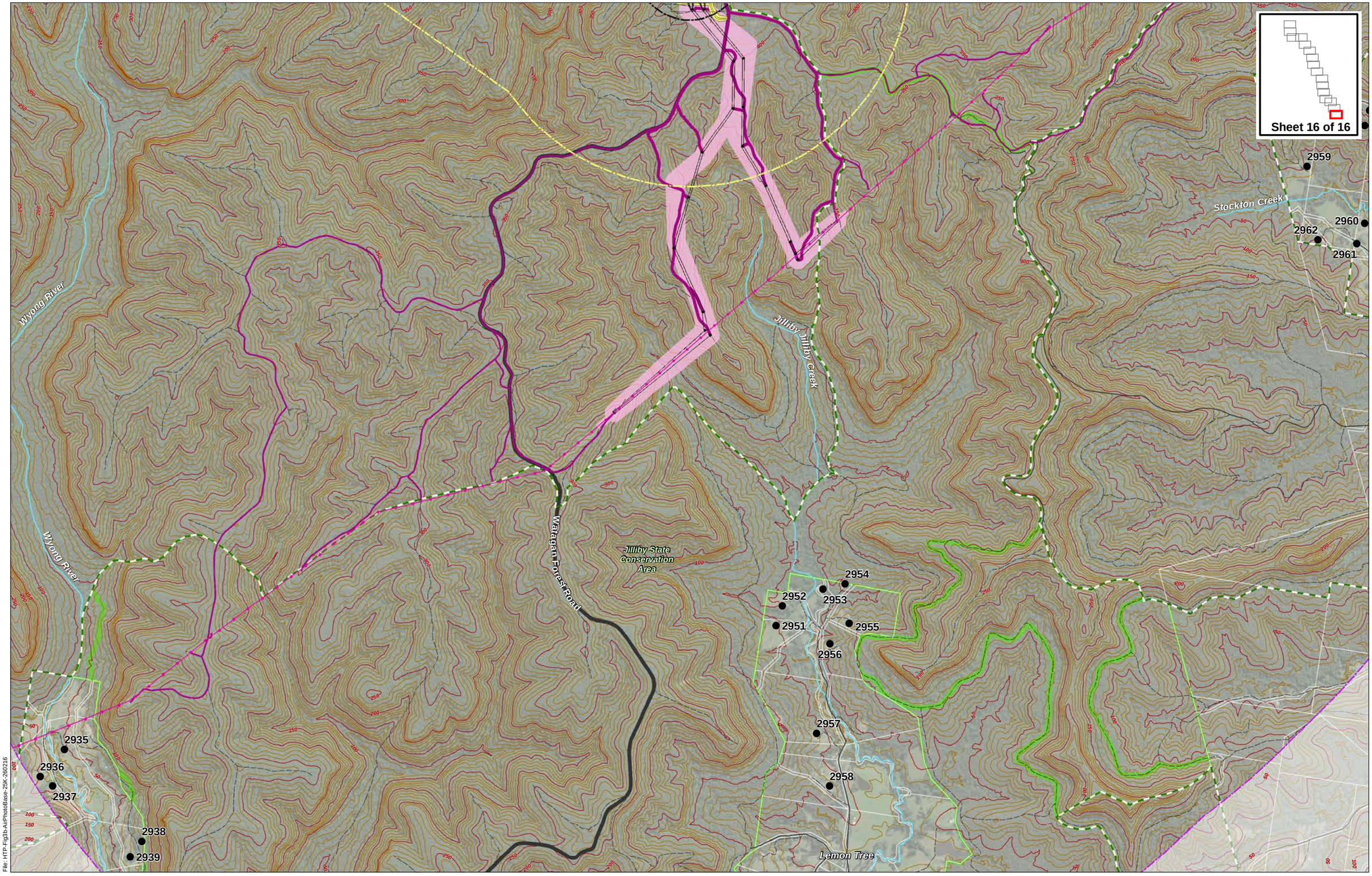
1:25,000 @ A3

Date: February 2026 J-15



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Date: February 2026 J-16

Key:

Viewpoint type	Refer Table 3
Viewpoint sensitivity	Refer Table 3
Scenic quality	Refer Table 5
Overall potential sensitivity	Refer Table 7
Occupied cells	Refer Table 2
Magnitude rating	Refer Table 2
Impact rating	Refer Table 8

Table 2. Visual magnitude thresholds

Number of occupied cells	Scenic quality
1 to 7	Very low
8 to 14	Low
15 to 25	Moderate
26 to 36	High
More than 37	Very high

Table 3. Viewpoint sensitivity levels and examples

VIewpoint type	Very low viewpoint sensitivity	Low viewpoint sensitivity	Moderate viewpoint sensitivity	High viewpoint sensitivity
Private receiver	n/a	Secondary view from dwelling rural area (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Primary views from dwellings in residential and rural villages (land zoned R1, R2, R3, R4 and RU5)	Primary view from dwellings in rural areas (zoned RU1, RU2, RU3, RU4 and RU6), large lot residential areas (zoned R5) and environmental or conservation areas (zoned C2, C3 and C4) Tourist and visitor accommodation (bed-and-breakfasts, motels and hotels) and places of worship	Historic rural homesteads or residences on the national, state or local heritage list
Public viewpoint	State highways, freeways and classified main roads	Tourist roads and scenic drives4 Significant entry ways to regional towns and cities Cemeteries and memorial parks Publicly accessible green and open spaces, including picnic areas, parks, public recreation areas and lookouts Town centres and central business districts	Tourist uses in tourist areas (zoned SP3)	n/a

Table 4. Primary and secondary viewpoints from a dwelling

Primary viewpoint	Secondary viewpoint
Principal / frequented living spaces (for example living rooms, kitchens and dining areas)	Less frequented living and service areas (for example, bedrooms, laundries, bathrooms, garages and studies)
Front or rear views from a dwelling, particularly from any porch, balcony, verandah, entertainment area, adjacent garden, deck or patio	Side views from a dwelling

Table 5. Frame of reference for scenic quality values

Viewpoint type	Very low scenic quality	Low scenic quality	Moderate scenic quality	High scenic quality
Landform	Large expanses of flat or gently undulating terrain Indistinct, dissected or broken landforms that provide little illusion of spatial definition or landmarks with which to orient	Mostly flat or gently undulating terrain with isolated areas of undulating topography	Steep, hilly and undulating ranges that are not visually dominant Broad, shallow valleys Moderately deep gorges or moderately steep valley walls Minor rock outcrops	Isolated peaks, steep rocky ridges, cones or escarpments with distinctive form and colour contrast that become focal points Large areas of distinctive rock outcrops or boulders Well-defined, steep valley gorges
Vegetation	Extensively cleared and cropped areas with very limited variation in colour and texture Pastoral areas, human-created paddocks, pastures or grasslands and associated buildings typical of grazing lands	Predominantly cleared and cropped areas with small areas of variation in colour and texture Most pastures or grasslands with small bloks of distinct native vegetation	Predominantly open forest or woodland combined with some natural openings in patterns that offer some visual relief Vegetative stands ranging in size, form, colour, texture and spacing, including human-inflenced vegetation (for example, vineyards, plantation forests and orchards)	Strongly defined natural patterns with combinations of native forest, naturally appearing openings, streamside vegetation and scattered exotics Distinctive stands of vegetation that may create unusual forms, colours or textures compared with surrounding vegetation
Waterbodies	Absense of natural waterbody Farm dams, irrigation canals or stormwater infrastructure	Minor water forms, such as creeks and streams	Intermittent streams, lakes, rivers, swamps and reservoirs	Visually prominent lakes, reservoirs, rivers, streams, wetlands and swamps Presence of harbour inlet, bay or open ocean
Social and cultural	Places of worship, cemeteries, memorial parks, private open spaces	Places of worship, cemeteries, memorial parks, private open spaces Local heritage	Local or state heritage sites Distinguishable entry ways to a regional city identified in the State Environmental Planning Policy (Transport and Infrastructure) 2021	Culturally important sites, wilderness, world heritage areas and protected areas World, national and state heritage sites
Human presence	Dominating presence of infrastructure, human settlements, highly modified landscapes and higher density populations, such as regional cities, industrial areas, agricultural transport or electricity infrastructure	Highly modified landscapes with visible infrastructure, such as transmission lines and railway corridors	Dispersed yet evident presence of human settlement, such as villages, small towns, isolated pockets of production and industry, lower scale and trafficked transport infrastructure	Natural, undisturbed landscape Minimal evidence of human presence and production

Table 7. Visual sensitivity matrix

	High scenic quality	Moderate scenic quality	Low scenic quality	Very low scenic quality
High viewpoint sensitivity	High	High	Moderate	Low
Moderate viewpoint sensitivity	High	Moderate	Moderate	Low
Low viewpoint sensitivity	Moderate	Low	Low	Very low
Very low viewpoint sensitivity	Very low	Very low	Very low	Very low

Table 8. Visual impact matrix

	High visual sensitivity	Moderate visual sensitivity	Low visual sensitivity	Very low visual sensitivity
Very high magnitude	High	High	Moderate	Moderate
High magnitude	High	Moderate	Moderate	Low
Moderate magnitude	Moderate	Moderate	Low	Low
Low magnitude	Moderate	Low	Low	Very low
Very low magnitude	Low	Low	Very low	Very low

HTP ID2928: 16 Long Point Road East, Gouldsville

Photomontage - including indicative transmission structure locations and screening vegetation option (trees shown at 4-5 metres tall)

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count

Detailed viewpoint assessment, with mitigation option:

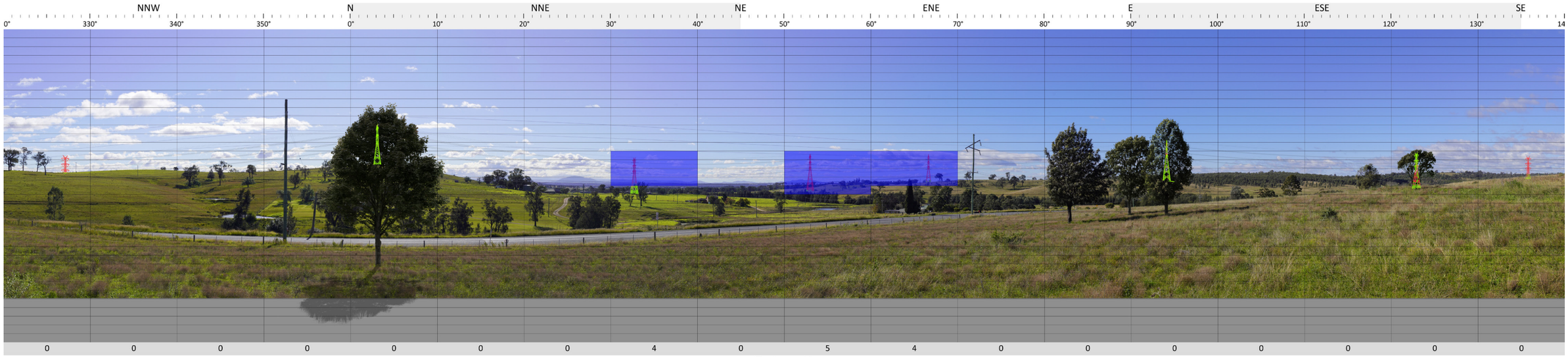
Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Mitigation opportunity	Occupied cells	Magnitude rating	Residual visual impact rating
334 metres	Primary view from rural dwelling	Moderate	Low	Moderate	A double offset row of trees along fenceline adjacent to existing block of trees. Trees shown at 4-5 metres tall to indicate the screening effect of this vegetation in the short term.	6	Very low	Low

Viewpoint location plan:

HTP ID2920: 887 Putty Road, Mount Thorley

Photomontage - including indicative transmission structure locations

Photomontage with project in silhouette (red in view, green out of view), magnitude tool overlay and occupied cell count

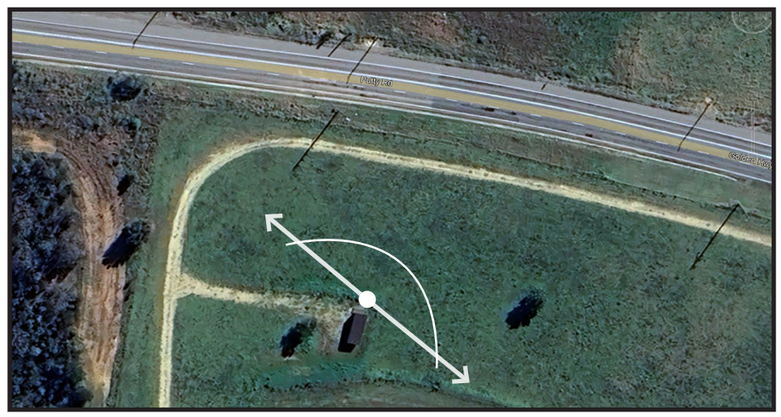


Total count: 13

Detailed viewpoint assessment - with mitigation

Distance to project	Viewpoint type	Viewpoint sensitivity	Scenic quality	Visual sensitivity	Mitigation opportunity	Occupied cells	Magnitude rating	Impact rating
820 metres	Visitor accommodation	Moderate	Low	Moderate	Screening vegetation to the east north east to the southeast of the dwelling to screen transmission line structures Trees in this location would not obstruct the distant hills that are located to the north to northeast which are the focal point of the view.	13	Low	Low

Viewpoint location



Photomontage with project in silhouette (red in view, green out of view)

Photomontage - including indicative transmission structure locations

Photograph of Stafford House

Viewpoint location plan