Hills of Gold Wind Farm

Independent Planning Commission Briefing

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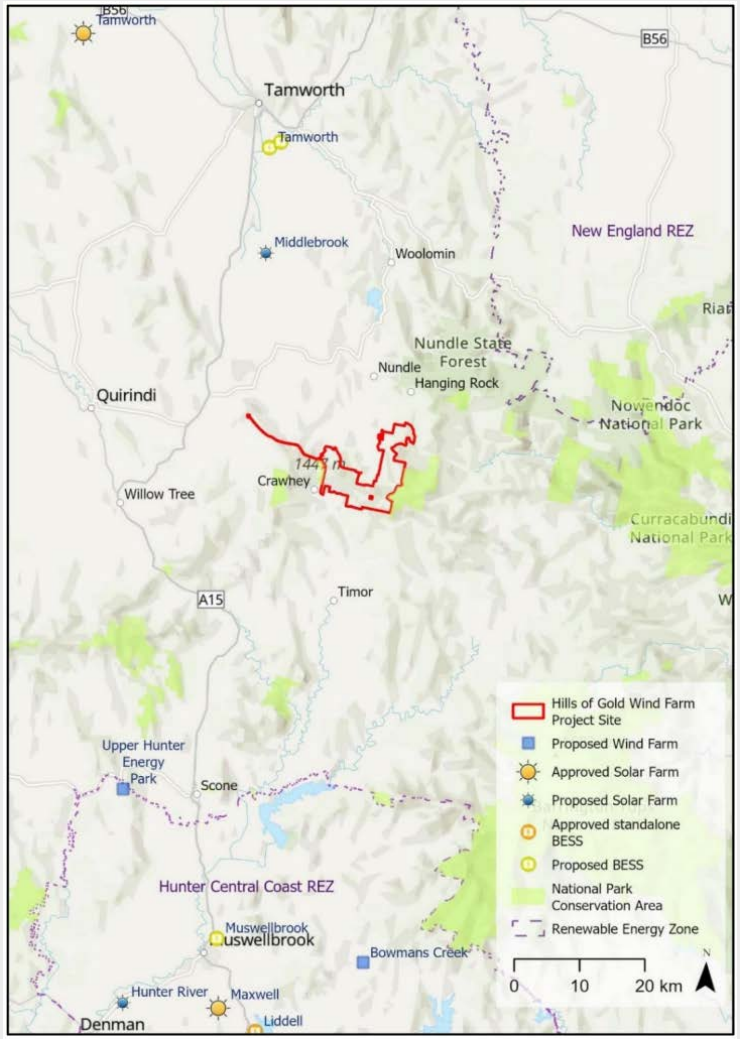
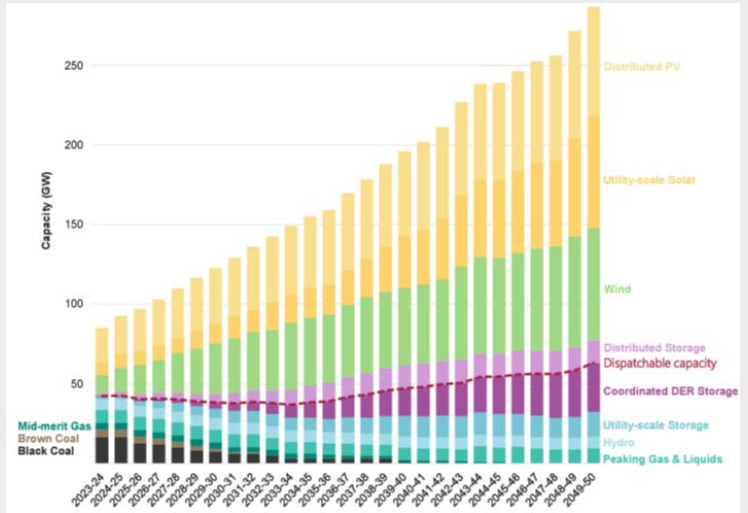
NSW GOVERNMENT

Contents

Strategic and Regional Context

- Proposed 64 turbine layout with a generating capacity of about 384 MW
- 8 km south east of Nundle and 60 km south of Tamworth
- Connection to existing 330 kV Transgrid transmission network



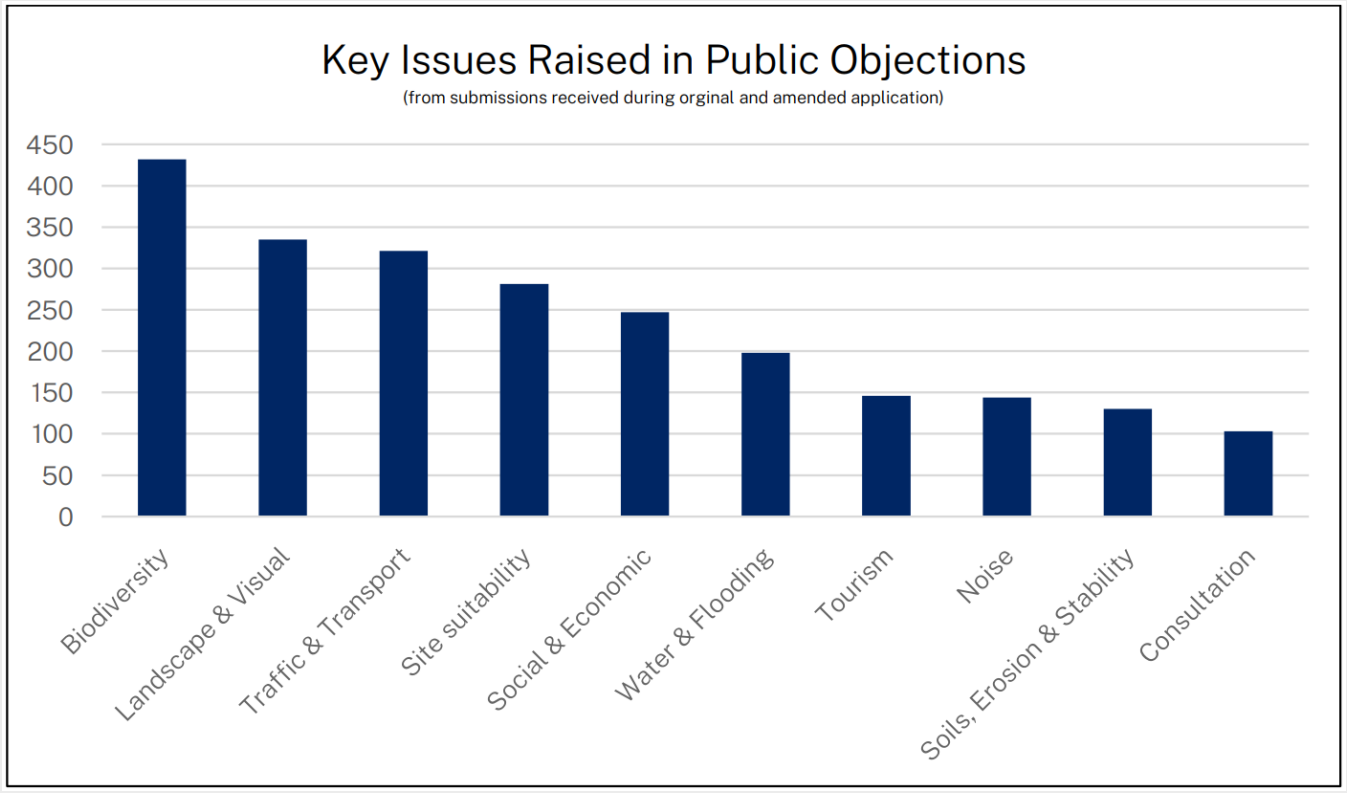


Department's engagement

- Public Exhibition of EIS – 2 December 2020 to 29 January 2021
  - 592 public submissions:
    - 382 objections from individuals
    - 201 supporting submissions
  - Advice from 19 government agencies
  - City of Newcastle, Muswellbrook Shire, Singleton, Upper Hunter Shire Council and Tamworth Regional Council – consultation
- Public Exhibition of Second Amendment Report – 16 November to 13 December 2022
  - 425 public submissions:
    - 280 objections from individuals
    - 144 supporting submissions
- Five site visits, including consultation with landowners

Public Submissions

- Public objections cited:
  - Biodiversity;
  - Landscape and visual
  - Transport;
  - Site suitability;
  - Social and Economic;
- Supporting submissions cited benefits to the local economy, road upgrades and improvements to road safety conditions and the benefits of renewable energy.



Key Issues

- Energy security
- Visual amenity
- Traffic and Transport
- Biodiversity

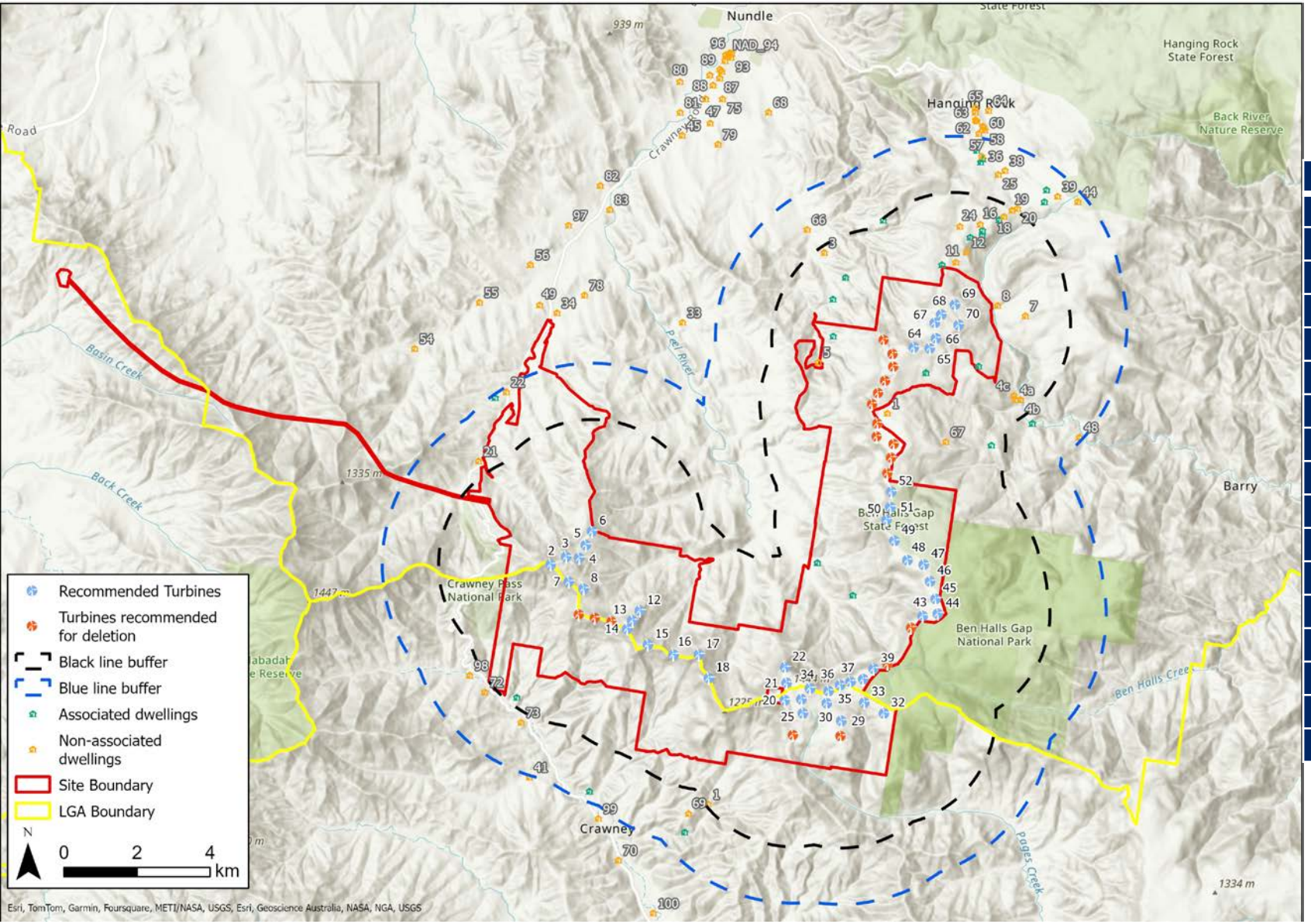
Energy Security

- Project (as recommended) would have a 282 MW generating capacity that would power about 150,000 homes and a 100 MW / 400 MWh Battery Energy Storage System (BESS).
- Consistent with the NSW Climate Change Bill of net zero emissions by 2050.
- Has direct access to the transmission network with available capacity and wind resources.
- Project would play an important role in :
  - Increasing renewable energy generation and capacity; and
  - Contributing to the transition to a cleaner energy system as coal fired generators retire.
- Opportunity to contribute to replacing the loss of energy generation earlier than other projects that rely on new transmission infrastructure to be built.

Visual Amenity

- Assessment against performance objectives of the Visual Bulletin and engaged independent visual advice
  - 17 non-associated receivers within 3.1 km of turbines
  - performance objectives not met at 3 receivers (DAD1, NADs 5 & 67) within 3.1 km;
  - 4 additional non-associated receivers beyond 3.1 km where performance objectives are not met (NADs 33, 69, 72 & 98).
- As a result of assessment, the Department recommended deletion of a total of 17 turbines, 11 of these were recommended for deletion for multiple reasons.

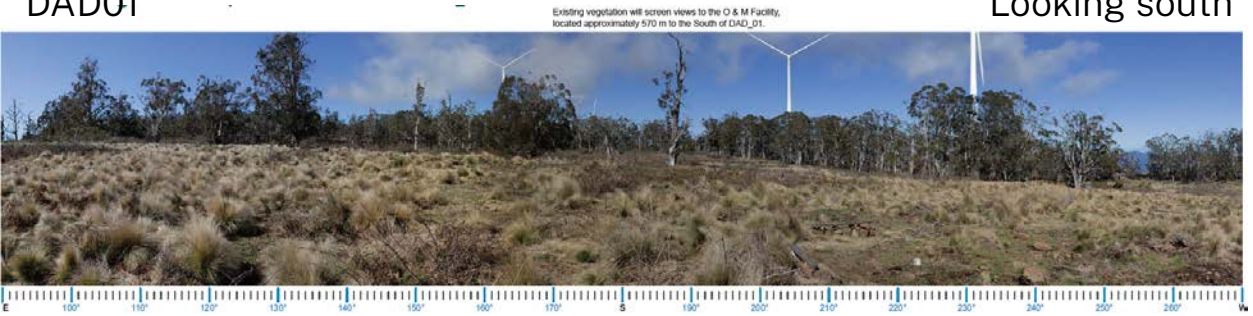
Receiver	Visual Bulletin performance objectives met?			Recommended mitigation
	Visual magnitude	Multiple wind turbine	Landscape **scenic** integrity	
DAD 1	No	No	No, turbines dominate the landscape.	Delete turbines 53 to 63
NAD 5	No	Yes	No, T59 to T63 would be major elements	Delete turbines 59 to 63
NAD 67	Yes	Yes	No, T53 – T63 dominate the landscape	Delete turbines 61 and 62
NAD 33	Yes	No	No, turbines dominate the landscape	Deletions that also address DAD1, NADs 5, 67, 72 & 98
NAD 69	Yes	Yes	No, turbines dominate the landscape	Delete turbine 24
NAD 72	Yes	Yes	No, turbines dominate the landscape	Delete turbines 9 to 11
NAD 98	Yes	Yes	No, turbines dominate the landscape	Delete turbine 9



Turbine	Comment
T9	Visual - NAD 72, NAD 98, NAD 33
T10	Visual - NAD 72, NAD 98, NAD 33
T11	Visual - NAD 72, NAD 98, NAD 33
T24	Visual - NAD69 and biodiversity
T28	Biodiversity
T42	Biodiversity
T53	Visual - DAD 01, NAD 33 and noise
T54	Visual - DAD 01, NAD 33 and noise
T55	Visual - DAD 01, NAD 33 and noise
T56	Visual - DAD 01, NAD 33 and noise
T57	Visual - DAD 01, NAD 33 and noise and ice throw
T58	Visual - DAD 01, NAD 33 and noise
T59	Visual - DAD 01, NAD 05 and noise
T60	Visual - DAD 01, NAD 05 and noise
T61	Visual -NAD 67, NAD 33, NAD 05, DAD 01 and noise
T62	Visual -NAD 67, NAD 33, NAD 05, DAD 01
T63	Visual -NAD 33, NAD 05, DAD 01

DAD01

Looking south



Looking north

NAD 05

Looking north

NAD 72

Looking north-east (60 deg)

Visual Amenity

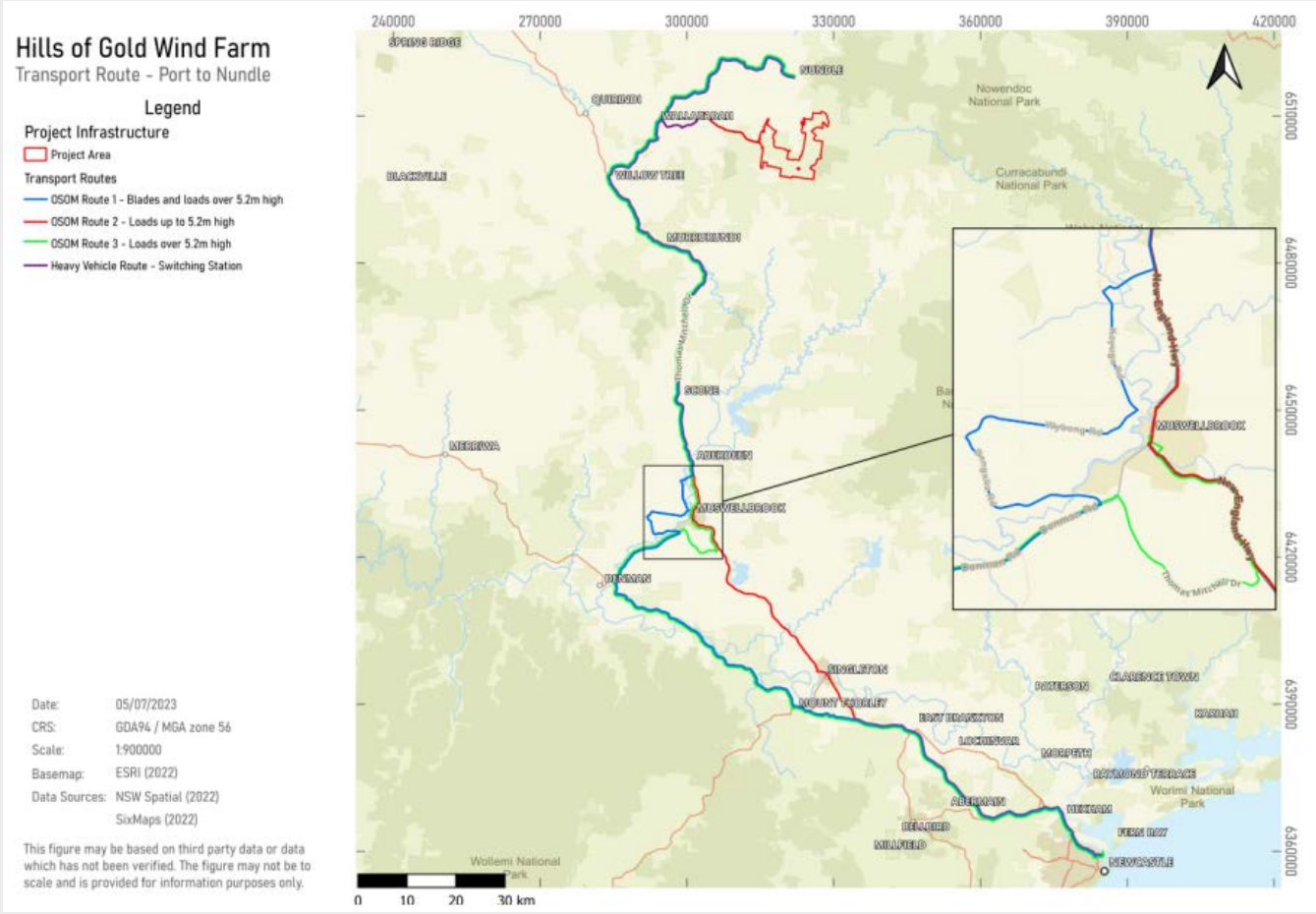
- **Public viewpoints:** Applicant considered 45 public viewpoints (walking trails, roads and lookouts), with the nearest public viewpoints located in Crawney National Park surrounded by dense mature vegetation. The project would not significantly disrupt the central line of sight and/or central focal viewing fields surrounding it, when seen from viewpoints looking toward key features of the landscape.
- **Aviation hazard lighting:** CASA recommended obstacle lighting – the Department has recommended conditions requiring Engie to consult with CASA regarding installation of aviation hazard lighting.
- **Ancillary infrastructure:** Unlikely to have significant visual impacts with the proposed mitigation measures.

Conclusion

- While a 47 turbine layout would be visually apparent and could become a major element in the landscape for multiple receivers, it would meet the Bulletin's visual performance objectives.
- Recommended conditions requiring Engie to offer landscape screening to all non-associated dwellings within 5 km.

Traffic and Transport

- State road network to Denman Rd, Bengalla Rd, Wybong Rd, Kayuga Rd, Invermein St, Stair St, New England Hwy, Lindsays Gap Rd and Nundle Rd.
- Turbine blades access the site via Crosby St, Oakenville St, Innes St bypass, Jenkins St and Crawney Rd.
- Heavy vehicles would access the site via either:
  - Old Hanging Rock Rd, Barry Rd and Morrisons Gap Rd; or
  - Herring St, Innes St, Jenkins St and Crawney Rd.
- Peak of 78 light vehicles and 63 heavy vehicles per day over the 24-month construction period.
- Maximum of 6 heavy vehicles requiring escort per day delivering turbine components over 9 months.
- Operational traffic is expected to be minimal.



Biodiversity

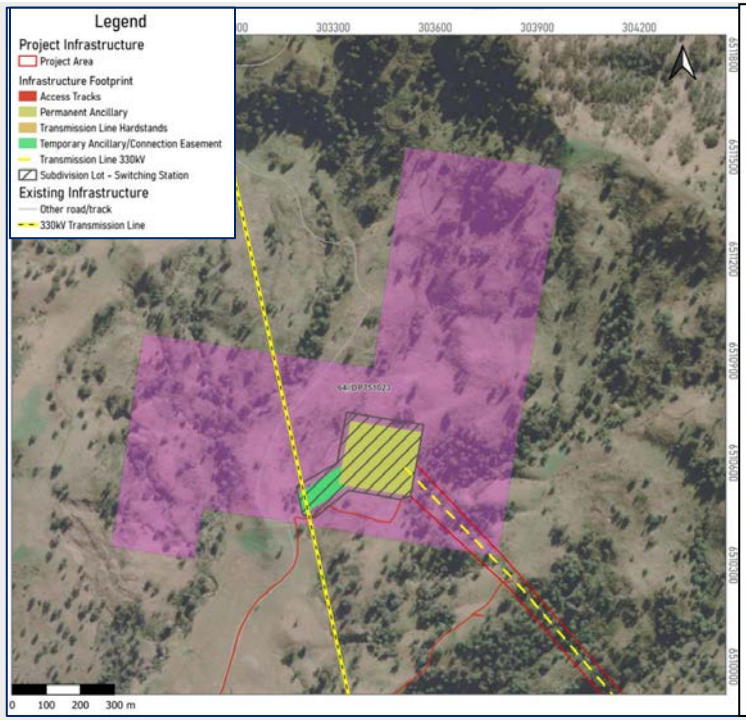
- Project was designed to avoid impacts on threatened species and communities within the site.
- 191 ha of native vegetation clearance, including:
  - 118 ha of native vegetation in moderate to high condition
  - 40 ha of DNG
- BC Act: 22 ha of threatened ecological communities impacted, including 8.15 ha of Box Gum Woodland and DNG.
- While Box Gum Woodland is a Serious and Irreversible Impact (SAII) candidate species, the project would not significantly contribute to the risk of it become extinct, as 8.15 ha equates to very small portion (0.5%) of the 10,800 ha of this community known to partially or entirely represent Box Gum Woodland mapped within a 5 km buffer of the project area
- No candidate threatened flora species would be impacted.
- 14 threatened fauna species listed under the BC Act may be impacted.
- Recommended conditions require the Applicant to carry out detailed monitoring of the bird and bat strike impacts of the project, and carry out adaptive management if the impacts are higher than predicted
- Impacts would generate offset requirements of 5,770 ecosystem credits and 9,362 species credits.

Other matters

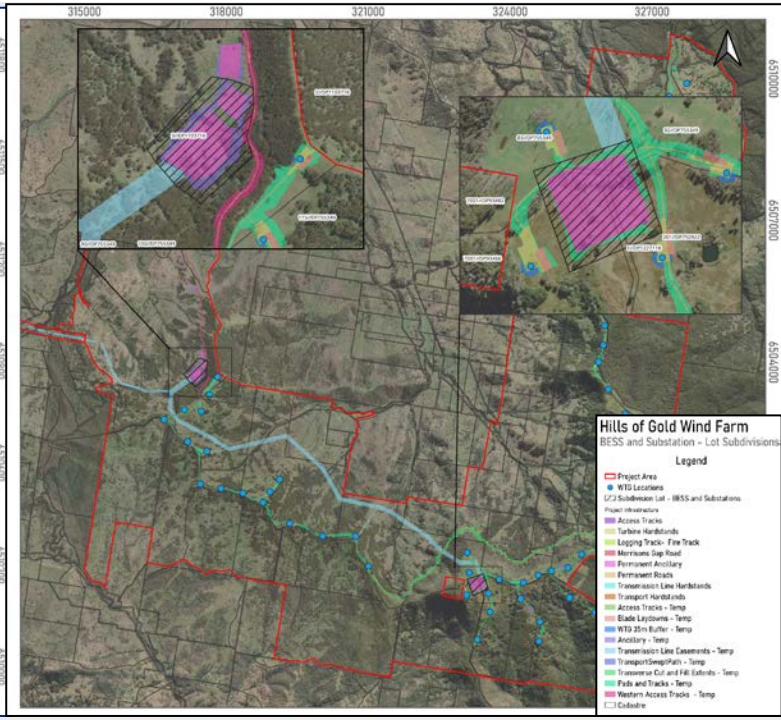
- Subdivision
- Constructability
- Noise
- Aboriginal Cultural Heritage
- Decommissioning and rehabilitation
- Economic impacts
- Department’s site inspection
- Summary of adjustments to Project
- Department’s recommended conditions of consent / Evaluation

Subdivision

- Subdivisions will be required for two parcels of land, for the switching yard located on Lot 64 DP751023 and the substation and BESS located on Lot 3 DP1103716.
- The new lots created by the subdivision would be transferred to Transgrid (or another network operator) at their request.
- The subdivision will create new lots that would not meet the minimum lot size for land use zoned RU1 Primary Production and are therefore prohibited under a strict reading of the Liverpool Plains LEP (200 ha).
- Section 4.38(3) of the EP&A Act allows the development consent for the project as a whole to be granted despite the subdivision of the application being prohibited by the LEP.



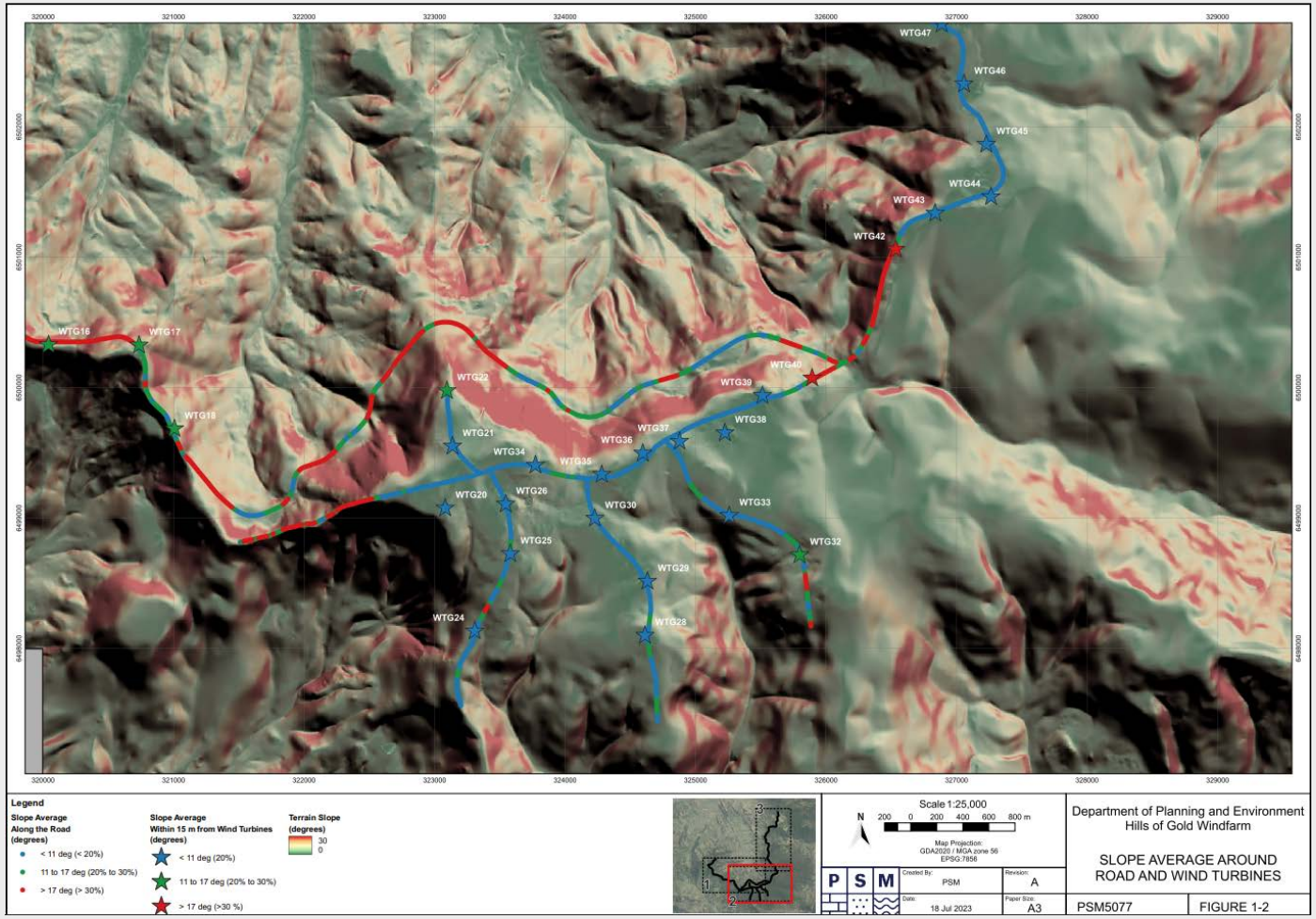
Subdivision for the switching yard



Subdivision for the substation and BESS

Constructability

- Community concerns with high erosion and landslip potential of the site. HOGPI interest group commissioning three peer review reports on these matters.
- The Department engaged Pells Sullivan Meynink to review the assessment undertaken by the Applicant and matters raised by HOGPI.
- Applicant has sufficiently demonstrated in its concept design that appropriate mitigation measures and strategies can be developed and implemented during the detailed design stage.



Noise

- Noise levels would exceed the recommended ‘noise affected’ criterion (45 dB(A)) as per the EPA’s *Interim Construction Noise Guideline* at 7 non-associated receivers for construction of the turbines. Noise levels would be well below the highly noise affected criteria of 75 dB(A).
- Recommended conditions:
  - restrict works to standard construction hours;
  - require the Applicant to minimise noise during construction by implementing mitigation measures as per ICNG;
  - require the Applicant to monitor and minimise construction vibration and apply strict limits for blasting.
- Construction traffic noise would comply with the NSW Road Noise Policy at all receivers.
- The Applicant has committed to a curtailment regime to operate select turbines in a noise reduced mode at wind speeds above 8m/s to comply with relevant environmental noise criteria at four non-associated receivers. To meet noise criteria at DAD1, the Applicant identifies nine turbines (T53-T61) require deletion.
- The HOGPI special interest group commissioned a peer review of the Applicants Noise Impact Assessment. The Department acknowledges the concerns raised in the review, however the Department considers the information provided by the Applicant to be appropriate.

Heritage

Item	Significance	Mitigation
Three isolated finds	Low	Collection of surface artefacts
One potential archaeological deposit (PAD)	Moderate	Partially impacted. Salvage excavation in consultation with RAPs
Two artefact scatters	Low	Salvage and relocate to suitable alternative location in consultation with RAPs
One artefact scatter (AFT3)	Moderate	Salvage and relocate to suitable alternative location in consultation with RAPs
One artefact scatter (AFT4)	Moderate	Avoidance

- The Department has recommended a condition requiring the Applicant to implement all reasonable and feasible measures to avoid and minimise harm to heritage sites and provide a detailed justification where impacts cannot be avoided.

Decommissioning and Rehabilitation

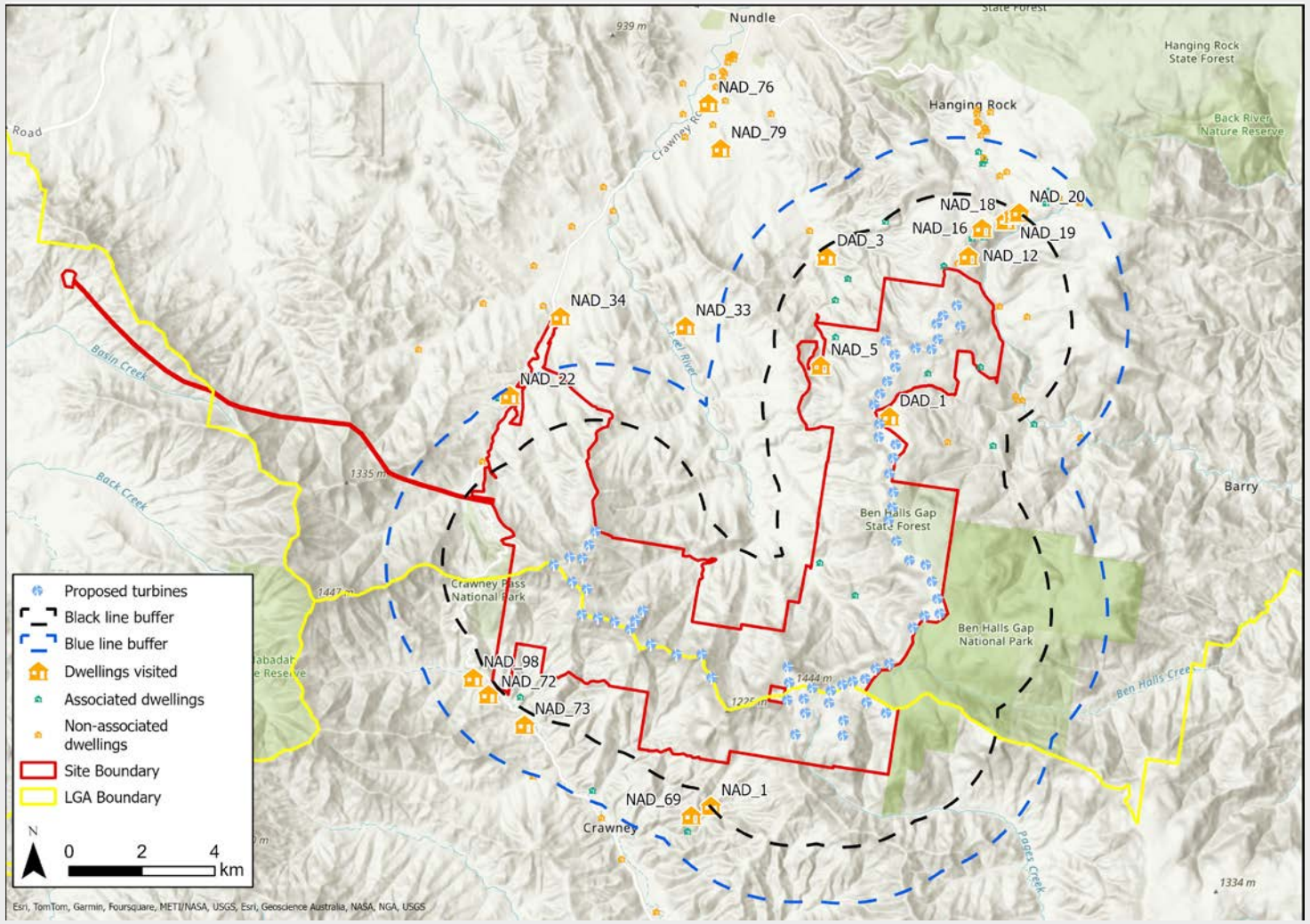
- Operational life is likely to be approximately 25 – 30 years (unless turbines are upgraded)
- Recommended conditions require the applicant to rehabilitate the site in accordance with a number of objectives, which are that:
    1. The site must be safe, stable and non-polluting;
    2. Native vegetation must be restored;
    3. Above ground infrastructure, access roads and underground cabling must be removed, unless the landowner and Planning Secretary agrees otherwise - visual impacts for retained infrastructure must be minimised;
    4. Wind turbine pads must be covered and revegetated;
    5. The land must be rehabilitated and restored to pre-existing use; and
    6. Public safety must be ensured at all times.
- Project would be suitably decommissioned at the end of the project life and the site will be appropriately rehabilitated.

Socio-economic

- Benefit to the community through 200 construction jobs, expenditure on accommodation and businesses in the local economy by workers.
- Applicant would enter into a voluntary planning agreement or similar with Tamworth Regional Council and Upper Hunter Shire Council for up to $11.6 million.
- Broader benefits to the State through an injection of $826 million in capital investment.
- Impact on property values is not a relevant consideration under the EP&A Act as the project would not have significant and widespread economic impacts on the locality.

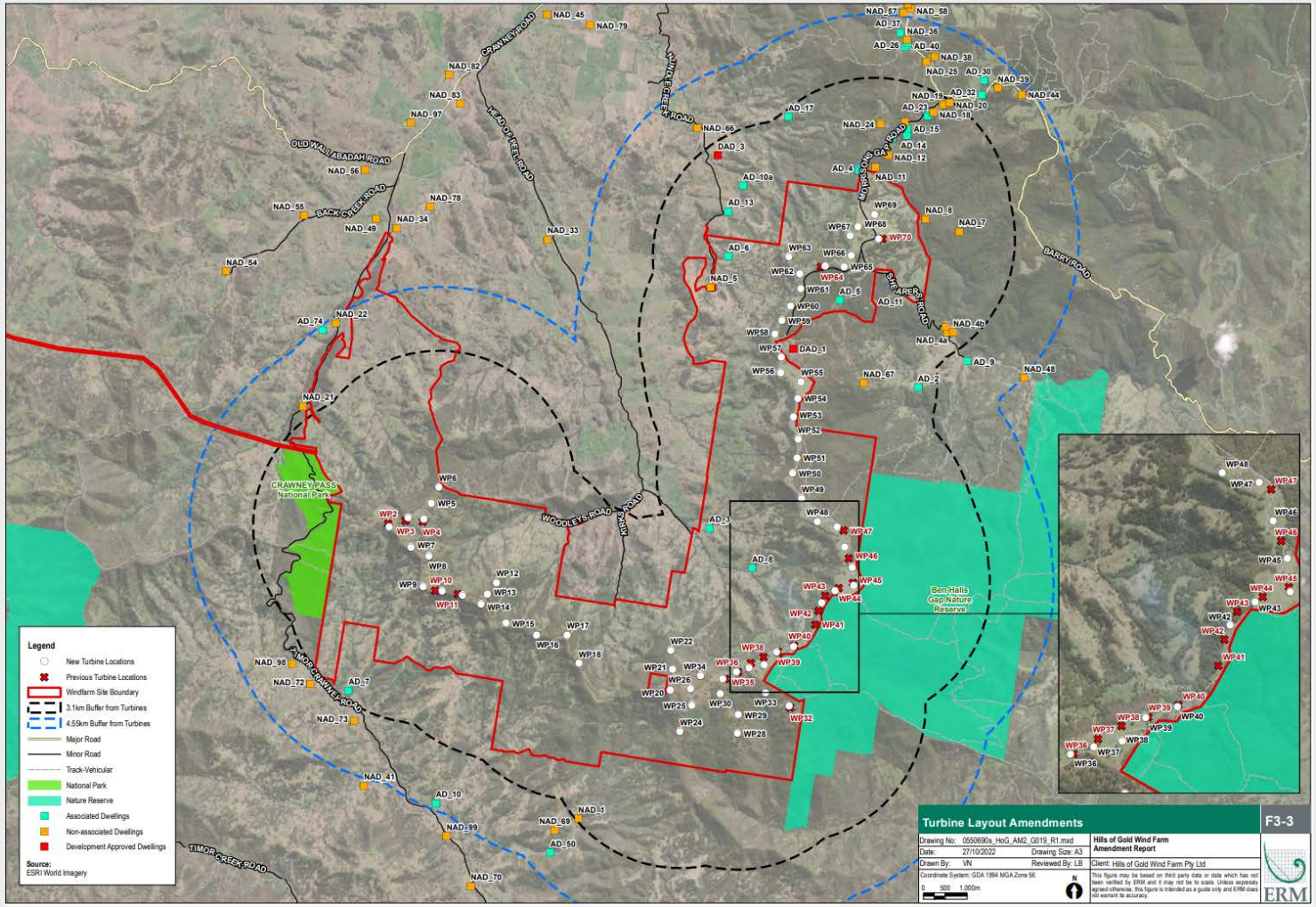
Department's site inspection

- Five site inspections covering:
  - Community information session
  - Visiting approximately 18 non-associated landowner properties
  - A site visit with officers from BCD & the EPA
  - A site visit with our independent visual expert
  - Meeting with HOGPI in Nundle;
  - Meeting with officers from Tamworth Regional Council
  - Inspection of site access route options at Morrisons Gap Rd, Barry Rd and Crawney Rd



Summary of Adjustments to Project (Applicant)

- Key amendments include:
  - deleting six turbines (1, 19, 23, 27, 31 and 41);
  - re-siting 20 turbines up to 150 m from the location shown in the exhibited EIS
  - relocating the main access point to Crawney Rd
  - removing the Devils Elbow bypass and reducing traffic along Morrisons Gap Rd;
  - substation and BESS options;
  - minor realignment of transmission line.
- Project amendments reduce native vegetation clearing by approximately 17 ha.



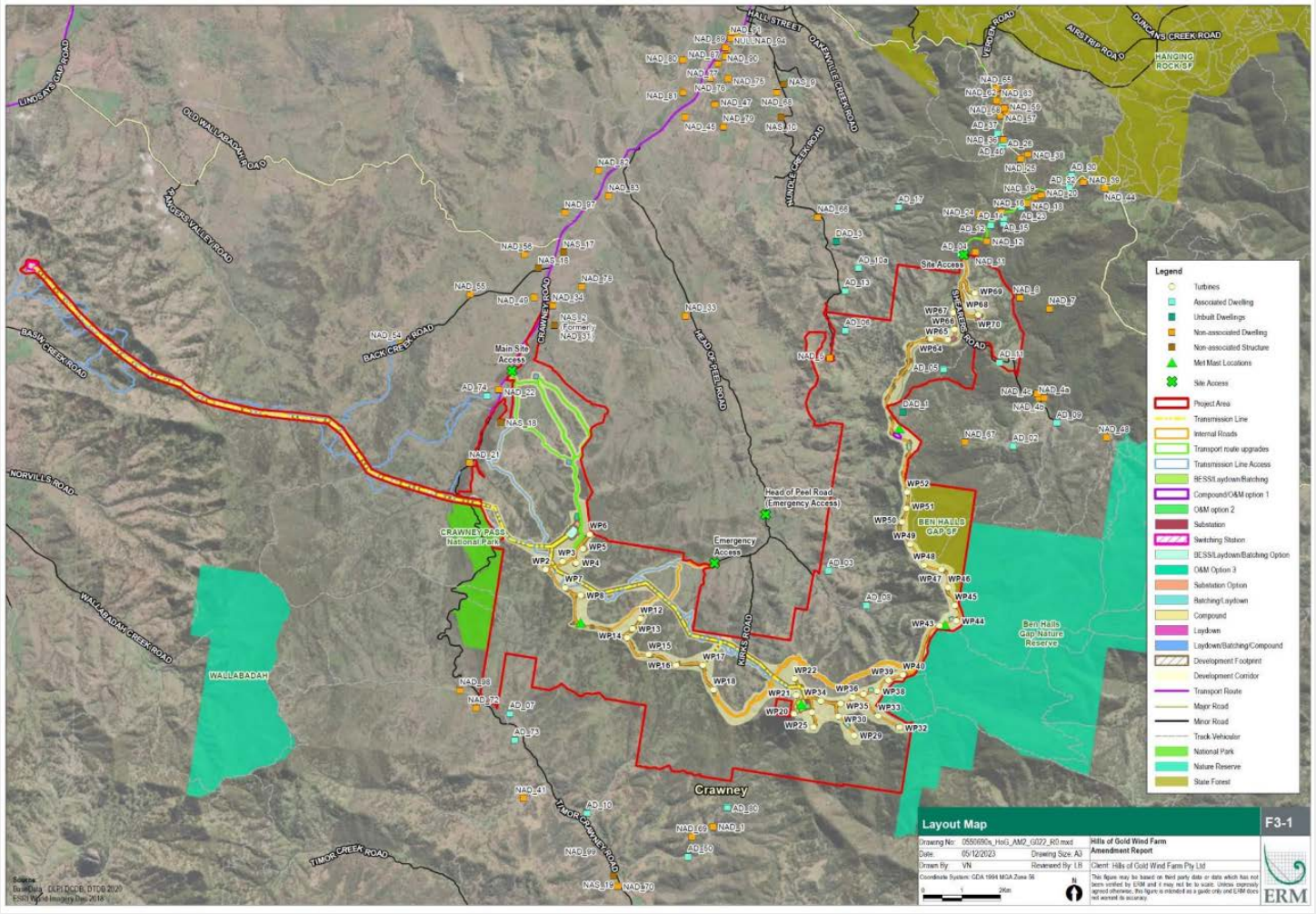
Summary of Adjustments to Project

- Key amendments include:
  - deleting 17 turbines (9-11, 24, 28, 42, 53-63);
  - restricting transport route options;
  - restricting Crawney Road site access to Option B
  - removing the Happy Valley Road route option through Nundle.

Aspect	Original project in EIS	Amended Project	Department's Recommendation	Difference
Generation Capacity	420 MW	384 MW	282 MW	-102 MW
Wind turbine Layout	70 turbines	64 turbines	47 turbines	-17 turbines
Biodiversity impacts: Native vegetation Box Gum Woodland	207.7 ha 13.33 ha	190.54 ha 8.15 ha	183.56 ha 8.15 ha	-6.98 ha
Site Access	Morrisons Gap Rd and Head of Peel Rd	Crawney Rd (A,B,C) and Morrisons Gap Rd	Crawney Rd (B) and Morrisons Gap Rd	Optionality removed
Transport Route	Port of Newcastle to Nundle via Muswellbrook, Barry Rd and Morrisons Rd (including Devils Elbow bypass) and Head of Peel Rd	Devils Elbow bypass and Head of Peel Rd removed Crawney Rd added 4 routes with suboptions for blades through Nundle (1a and 1b)	Restrict blades to Option 1a through Nundle Restrict standard loads to Route 4 Adhere to EnergyCo routes to greatest extent possible	Optionality through Muswellbrook and Nundle restricted

Department's Recommended Changes

- Key amendments include:
  - deleting 17 turbines (9-11, 24, 28, 42, 53-63);
  - restricting transport route options;
  - restricting Crawney Road site access to Option B
  - removing the Happy Valley Road route option through Nundle.



Evaluation

- Site has good wind resources, access to the existing electricity network and in relatively close proximity to the New England Hwy;
- With the deletion of 17 turbines, residual impacts can be readily managed through the recommended conditions of consent;
- Assists in transitioning the electricity sector form coal and gas-fired power to low emissions sources and is consistent with NSW policy;
- Could generate over 860,000 MWh of clean electricity annually, enough to power 150,000 homes and save more than 800,000 tonnes of greenhouse gas emissions per year;
- Achieves an appropriate balance between maximising the efficiency of the wind resource development and minimising potential impacts on surrounding land uses and the environment; and
- Stimulates economic investment in renewable energy, providing flow-on benefits to the local community through job creation and capital investment.