

Transgrid Easement Assessment

Northern Riparian Corridor – Central Precinct

1.0 Introduction

The former Australian Defence Industries (ADI) site at St Marys (the St Marys site) was endorsed by the NSW Government for inclusion on the Urban Development Program (UDP) in 1993. It is located approximately 45km west of the Sydney CBD, 5km north-east of Penrith City Centre and 12km west of the Blacktown City. The St Marys site, which has been rezoned for a variety of uses, comprises six development “precincts” known as the Western Precinct, Central Precinct, North and South Dunheved Precincts, Ropes Creek Precinct and Eastern Precinct.

The subject Development Application involving landscaping works is to be located within the Central Precinct, also known as ‘Jordan Springs East’, which is currently under active construction. Major bulk earthworks and development works to redevelop this land for residential dwelling and open space was approved under the bulk earthwork DA (DA14/1228). Subsequently, residential subdivision has occurred, with the construction of residential dwellings currently ongoing.

A 70m wide 500kV Transgrid transmission easement (the easement) passes through the centre of the Precinct (**Figure 1**). The proposed works are for landscaping elements associated with the ‘Northern Riparian Corridor Parkland & Transgrid Easement Parkland’, which forms a part of this easement corridor. The location of the proposed works within the Central Precinct area is shown in **Figure 2**.



Figure 1 Location of the Transgrid easement within the Central Precinct

Source: Central Precinct Plan



Figure 2 Location of the proposed works within the Central Precinct

Source: Nearnmap / Ethos Urban

2.0 Required assessment and approvals

Clause 45 of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) requires that before determining an application for development carried out within or immediately adjacent to an easement for electricity purposes, the consent authority (i.e. Council) must:

- (a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks; and
- (b) take into consideration any response to the notice that is received within 21 days after the notice is given.

Accordingly, this DA will be referred for comment to Transgrid who have a number of requirements to be taken into consideration and addressed during the planning and design stage of proposed subdivision. This assessment is based on the Civil Plans prepared by Cardno and provided at **Attachment A** of the SEE.

To assess the application, TransGrid require the following information:

- Detailed specifications and plans drawn to scale and fully dimensioned, showing property boundaries and other relevant information. Survey plans must clearly identify TransGrid’s easements; any high voltage transmission infrastructure located therein (including stanchions); and horizontal clearances
 - These are detailed in the Civil and Services Plans prepared by Cardno and provided at **Appendix A** of the SEE.
- Three-dimensional CAD file of the development, preferably in 3D-DXF format;

- This is considered to be unnecessary as only low-lying landscaping and community facility works are proposed within the easement, with no significant structural or building works.
- An Impact Assessment of the development on TransGrid's infrastructure and associated interests (including easements). Details of how any adverse impacts will be managed, mitigated or resolved must also be provided.
 - This is provided below at **Section 3.0**.

3.0 Impact assessment

This section assesses the proposed development in relation to its impact on TransGrid infrastructure, easements, and means of access. It is important to note that the proposed works do not contain any significant structural elements and are mostly limited to landscaping (including planting of vegetation) and the installation of community facilities (such as park benches, barbeque facilities, and children's play areas). These works may require machinery and personnel to temporarily enter the easement. Works will be largely limited to the ground plane. Existing easement management measures operational across the remainder of the site (under DA15/0299 and DA14/1228) will continue to apply.

Table 1 provides an assessment of the proposed development against the Development Proposal Impact Assessment Template at Appendix A of the Easement Guideline.

Table 1 Impact Assessment Checklist

Consideration	Comment/Response
Safety	
Are ground levels being changed within or in the vicinity of the easement? If so, by how much?	No significant changes in ground levels is envisioned to occur as part of the proposed works. Major ground level changes were proposed and approved under the Bulk Earthworks DA (DA14/1228), and as such only minor regrading is proposed under the landscaping works.
Is any part of the development proposed within 30m of a transmission line structure or guy? If so, how close to the structure/guy?	The proposal will involve works in close proximity to and immediately below existing transmission lines. This will be largely limited to vegetation planting and installation of pedestrian/cyclist pathways. Works in the vicinity of transmission structures/guys will be limited to vegetation planting.
Will the development increase earth potential rise risk?	No.
Will the development contain metallic structures or services in the easement?	The proposed pedestrian bridge will contain metallic components for structural support, however indicative design indicates it will be a low lying structure.
Will the development result in voltages being transferred off the easement or bring remote earths onto the easement?	No.
Are public spaces or recreational areas proposed within or adjacent to the easement?	Yes – however, within the easement, these are to be limited to pedestrian and cyclist pathways which encourage transient use. All uses expected to cause congregation (e.g. the pocket parks and their associated facilities) are to be located outside the easement itself.
Will the development encourage people to congregate and/or spend time within the easement or immediately adjacent thereto?	As above, the proposed works will not encourage people to congregate within the easement itself. The provision of pocket parks with facilities including barbeque and seating areas may result in some congregation adjacent to the easement.
Are structures with a height greater than 2.5m proposed on the easement?	No permanent structures greater than 2.5m are proposed on the easement. During construction, vehicles taller than 2.5m may enter the easement area.
Will an Elevated Work Platform (EWP) be required to maintain any structures within the easement?	The propose works will not impact upon EWP usage.

Consideration	Comment/Response
Is infrastructure proposed that is a fire hazard, or that would encourage the storage or use of flammable material on the easement?	No; no fire hazards or storage of flammable material is proposed.
Is infrastructure proposed that would require emergency workers (such as fire fighters) to come near, or their equipment to come on or near high voltage conductors?	No.
Will the easement or the nature of the land in the vicinity of the easement, be altered in any way that would encourage prohibited encroachments to occur within the easement?	No.
Will access around any TransGrid structure be altered preventing EWPs, crane or other plant access? (Required for TransGrid maintenance purposes.)	No.
Will the development introduce other risks to maintenance staff when working within the easement?	No.
Will access to the easement be altered that would introduce risks to personnel, including, although not limited to, asset inspectors or patrol staff?	No – access has been altered through developing the surrounding land, however no increased risks to Transgrid personnel will be caused by the proposed landscaping works.
Operations	
Have any ground level developments been proposed (including roads, driveways, parking lots and turning bays etc.) that would expose TransGrid transmission structures and lines to impact risk?	No – only pedestrian and cycle paths, not vehicular access roads, are proposed as part of the proposed works.
Will the development result in a change in water flows or drainage that could impact on the foundations or structural integrity of any TransGrid structure or guy-wire?	Water flows will change in the area, however appropriate engineering has been employed to ensure the foundations of the structures in the easement are not impacted and appropriate clearances are met between the water channel and Transgrid structure.
Are excavations or surface activities proposed that would impact a TransGrid structure's foundations, stability or subterranean earthing systems?	No.
Maintenance	
Have roads, driveways or landscaping been proposed that would prevent or hinder TransGrid maintenance, or increase maintenance costs, for the above or below ground components of the transmission line structure?	The proposed pathways and low-rise vegetation planting are not expected to prevent, hinder, or increase the costs of Transgrid maintenance.
Will access to the easement or within the easement, be obstructed, restricted or altered?	The proposed works will not obstruct, alter or restrict access to the easement by Transgrid personnel.
Have access roads, bridges, crossings and the like been designed to cater for the weight and size of TransGrid maintenance plant (EWPs and Cranes)?	No access roads are proposed. The only bridge proposed as part of the approval sought is intended for pedestrians only and forms part of the landscaping and pedestrian connectivity works.
Does the development encourage the placement of obstructions that would prevent access for routine or emergency works?	No.
Development Design & Construction	
Has the development been designed so that during the construction phase TransGrid is not restricted from undertaking normal maintenance and inspection activities?	Yes. Transgrid will not be restricted from undertaking normal maintenance and inspection activities.
Has the development been designed so that during the construction phase prohibited activities or encroachments are not required in the easement area?	Yes. No prohibited activities or encroachments are required during construction.

Consideration	Comment/Response
Has the design health and safety risk assessment complied with the following WorkCover NSW instruments: 'Work Near Overhead Power Lines' Code of Practice 2006; and/or 'Work Near Underground Assets' Guide 2007?	Yes.
TransGrid's Rights	
Are TransGrid's existing access rights preserved, pursuant to the terms of the easement?	Yes, Transgrid access rights are to be preserved.
Will TransGrid be exposed to new or higher maintenance costs (e.g. landscaping or other development changes impacting easement access, use and maintenance)?	No, the landscaping proposed will not impact easement access, use and maintenance by Transgrid personnel.
Does a new deed of easement need to be negotiated by the development proponent?	No.
Preservation of Easement for Access	
Will TransGrid's <i>Easement for Access</i> be affected?	No, access will continue to be provided through the existing agreed access arrangement.
Does a new <i>Easement for Access</i> need to be arranged by the development proponent, including to supersede an existing registered right of carriageway?	No.

Risk impact assessment

As there are no outstanding items identified as having the potential to cause adverse impacts to the easement, a risk impact assessment is not considered necessary for this proposal.

4.0 Activities within the easement

Table 2 provides an assessment of the proposed development's compliance with the general requirements as outlined in the easement guideline.

Table 2 Assessment against the General Requirements for Developments and Subdivisions

Requirement	Compliance	Response
Completed Works		
The completed works shall provide for the following considerations:		
A safe unobstructed working platform shall be preserved around the transmission line structures for access by EWP, cranes as well as other large plant and equipment. No obstructions of any type shall be placed within 30 metres of any part of a transmission line structure.	✓	The working platform will be preserved and no obstructions will occur within 30 metres of any transmission line structure.
Roads, streets etc (including kerb to property boundaries) and intersections shall not be located within 30 metres of any TL structure	✓	No roads, streets and intersections for vehicular traffic will be located within 30 metres of a TL structure.
Developments must meet the clearances requirements set out in AS7000 between their finished level and the conductor at its maximum operating temperature.	✓	The only works proposed as part of this DA are low-lying in nature and involve predominantly landscaping. No structures or buildings are proposed in this application.
Proposed roadway locations shall also take into consideration any street lighting requirements to ensure that statutory clearance requirements are followed. The design clearances should include future maintenance safety issues. TL outages will not be provided for street light maintenance	✓	No street lighting is proposed.
Where fences are required for security purposes access gates will be installed in an agreed location and a TransGrid lock will be fitted.	✓	No fencing is to be provided.

Requirement	Compliance	Response
Application of “prudent avoidance” in relation to electric and magnetic fields should always be observed.	✓	The principle of ‘prudent avoidance’ is followed, with the only uses proposed within the easement being those which encourage transient use only, namely footpaths, with all community uses and parks located outside the easement itself. No residential uses are proposed.
No increase in earth potential rise risks.	✓	There will be no increase in earth potential rise risks as a result of the proposed works.
All underground services installed more than 20 metres but within 30 metres of a TL structure shall be non-metallic. Utility services (including street lighting), whether above or below ground, shall not be installed without prior written approval of TransGrid.	✓	This DA does not propose any services.
Excavation work or other alterations to existing ground levels shall not be carried out within the easement area without the prior approval of TransGrid. Approval will not normally be granted for such work within 20 metres of any supporting structure.	✓	Only very minor earthworks to achieve finished levels, for vegetation management and for installation of footpaths is to be required.
Boundaries for new subdivided properties should not be located within the easement.	✓	No subdivision is proposed.
Fenced boundaries for all new properties in the subdivision shall not be within 30 metres of any TL structure	✓	No new properties are proposed.
A “Restriction-as-User” (88B Instrument) shall be placed on the titles of the lots affected by the TL easement. Any proposed activity within an easement area will require the prior written approval of TransGrid (appropriate wording will be advised when required).	✓	Noted.
Any proposed development does not impact on TransGrid’s costs of inspecting, maintaining or reconstruction the transmission lines	✓	The proposed development is not foreseen to impact on TransGrid conducting its role in managing the transmission easement and lines.
Vegetation Control		
In order to comply with its statutory responsibilities to maintain adequate clearance between the conductors and any forms of vegetation. TransGrid maintains its easements as follows:		
Tall growing species likely to infringe safe clearances are to be removed regardless of existing height at time of construction.	✓	The Bulk Earthworks DA (DA14/1228) enables the clearance of all vegetation on site. No tall growing species are proposed within the proposed works.
Trees likely to fall onto conductors or towers are also to be removed whether on the easement or off the easement (ref. Sec 48 of the Electricity Supply Act 1995).	✓	The Bulk Earthworks DA (DA14/1228) approved the clearance of all vegetation on site.
Shrubs and other vegetation of lower mature height within the easement will be reduced and managed, generally by slashing with ground level retained.	✓	Noted. Only shrubs are proposed within the easement and will be managed appropriately.
Vegetation management will aim to reduce available fuel and subsequent bushfire risks in accordance with NSW Rural Fire Service Bush Fire Environmental Assessment Code, which sets out requirements for hazard reduction strategies such as Asset Protection Zones and Strategic Fire Advantage Zones	✓	Noted. Vegetation management will be consistent with the Rural Fire Service Bush Fire Environmental Assessment Code.
Removed vegetation will be mulched or chipped and removed from site or retained on site in accordance with owner/stakeholder requirements	✓	This has been undertaken as part of the approved Bulk Earthworks DA (DA14/1228).
Other works considered necessary in order to provide a safe working environment for maintenance staff, contractors and for the property owner/manager will be undertaken.	✓	Noted. Works will be carried out in accordance with NSW WorkCover Code of Practice for Working Near Overhead Power Lines 2006.

Requirement	Compliance	Response
Proposed vegetation plantings, such as Riparian corridors, within the transmission line easements shall be compatible with the above maintenance requirements and must consider on-going vegetation control.	✓	The proposed vegetation plantings within the riparian corridor are consistent with the above maintenance requirements.
Construction		
During construction, the development plans shall also provide for the following considerations:		
Vehicles, plant or equipment having a height exceeding 4.3 metres when fully extended shall not be brought onto or used within the easement area without prior TransGrid approval.	✓	This will be included in the Construction Management Plan requirements prior to commencement of works.
Where temporary vehicular access or parking (during the construction period) is within 16 metres of a transmission line structure, adequate precautions shall be taken to protect the structure from accidental damage. Plans need to be submitted to TransGrid for prior approval.	✓	This will occur as necessary and included in the Construction Management Plan requirements prior to commencement of works.
The easement area shall not be used for temporary storage of construction spoil, topsoil, gravel or any other construction materials.	✓	This will occur as necessary and included in the Construction Management Plan requirements prior to commencement of works.
Costs		
The Developer shall bear all costs of any specialist design studies, TransGrid supervision, reconstruction or modification of the transmission line and its components, including consultation and design required to maintain clearances due to proposed ground level changes; road crossings within the easement; or due to any damage to the TL arising from the development.	✓	Noted.

5.0 Conclusion

Based on the above assessment, it is considered that the proposed development is appropriately designed in accordance with Transgrid's development guidelines, and as such we have no hesitation in recommending Transgrid provide written approval to Council for the proposed activities and works within and adjoining the easement area in accordance with Section 45 of the ISEPP.