

Project reference	ULL2741	Project location	Junction Road, Schofields
Client:	Blacktown City Council	Connect Project Manager	Sachin Joshi
Scope of works	Connection of Load - Installation of Substation		
Revision details	● Version: 01 ● Review date: 6/04/18 ● Reviewed by: S. Joshi ● Signature: S. Joshi		

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Process or activity	Applicable to construction	Applicable to operations	Applicable to maintenance	Applicable to decommissioning	Applicable to disposal	Risk	Risk description	Cause (including background information)	Possible preventative measures (controls)
High risk activities	Yes	No	No	No	No	Performance of high risk activities	Poor planning and management of project risks during the various lifecycles of the project leading to damage to plant, equipment, assets, the public, PCBUs or employees	<ul style="list-style-type: none"> <li>- Inadequate safety systems</li> <li>- Inadequate risk identification</li> <li>- Inadequate risk classification</li> <li>- Inadequate risk controls</li> <li>- Inadequate supervision and management</li> </ul>	<ul style="list-style-type: none"> <li>- Adherence to WHS laws and regulations</li> <li>- Adherence to electrical utility rules and requirements</li> <li>- Implementation of accredited safety systems</li> <li>- Development of SWMS</li> <li>- Use of dial before you dig plans</li> </ul>
Environment	Yes	Yes	Yes	No	No	Environmental damage	Potential damage to the environment as a result of work activities	<ul style="list-style-type: none"> <li>- Inadequate fencing</li> <li>- Inadequate run off protection</li> <li>- Inadequate identification of flora and fauna</li> <li>- Inadequate identification of cultural and heritage items</li> </ul>	<ul style="list-style-type: none"> <li>- Adherence to Environmental laws and regulations</li> <li>- Adherence to electrical utility rules and requirements</li> <li>- Implementation of accredited environmental systems</li> <li>- Review and adhere to the Environment Impact Assessment (EIA) or Review of Environmental Factors (REF)</li> </ul>
Environment	Yes	No	Yes	No	No	Assets near a water course	- Contaminating from spoil and run off	- Works undertaken near a water course has the potential for spoil and other contaminants to enter the water course thus causing environmental damage	<ul style="list-style-type: none"> <li>- Implement an environmental management plan</li> <li>- Use silt traps and other spoil retention mechanisms</li> <li>- Avoid vehicle movements near the water course where possible</li> <li>- Review and adhere to the Environment Impact Assessment (EIA) or Review of Environmental Factors (REF)</li> </ul>
Environment	Yes	No	No	Yes	Yes	Asbestos may be encountered	- Long term health issues	- Existing assets in the area (eg ducts) may contain asbestos	<ul style="list-style-type: none"> <li>- Handle asbestos by approved methods</li> <li>- Review and adhere to the Environment Impact Assessment (EIA) or Review of Environmental Factors (REF)</li> </ul>
Environment	No	No	Yes	Yes	Yes	PCBs may be encountered	- Long term health issues	- Existing assets in the area (eg transformer oil) may contain PCBs	<ul style="list-style-type: none"> <li>- Test for the presence of PCBs</li> <li>- Handle PCBs by approved methods</li> <li>- Review and adhere to the Environment Impact Assessment (EIA) or Review of Environmental Factors (REF)</li> </ul>
Environment	No	No	No	No	No	Assets near heritage area	- Damage to heritage or culturally significant area	- Assets are being installed in an area where heritage and/or cultural areas exist that need to be protected	<ul style="list-style-type: none"> <li>- Review and adhere to the Environment Impact Assessment (EIA) or Review of Environmental Factors (REF)</li> </ul>
Earthing	No	No	No	No	No	Poor earthing	- High touch and step potential leading to electric shock	<ul style="list-style-type: none"> <li>- Poor ground resistivity</li> <li>- Inadequate earth installation leading to poor resistivity readings</li> </ul>	<ul style="list-style-type: none"> <li>- Adherence to Australian Standards</li> <li>- Adherence to electrical utility rules and requirements</li> <li>- Review of earthing requirements as detailed on the design and/or separate earthing report</li> <li>- Onsite testing of as installed earth readings</li> </ul>

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Excavation	No	No	No	No	No	Assets near high pressure gas	- Damage to asset - Explosion	- Gas pipelines that are under high pressure increases the consequences if damaged	- Follow the instructions provided on the dial before your dig paperwork - Ensure a representative from the gas company is present during excavation works
Excavation	No	No	No	Yes	No	Assets near optic fibre	- Damage to asset	- Optic fibre increases the consequences if damaged	- Follow the instructions provided on the dial before your dig paperwork
Stringing / standing	Yes	No	Yes	No	No	Assets near Transgrid assets	- Working within stipulated safety clearances - Touch and step potential rise as a result of induction which could cause electric shock	- Transgrid's assets are at a very high voltage so that metallic assets under the Transgrid asset can have induced currents and voltage created	- Ensure that assets are installed strictly in accordance with design. That is, correct pole depths and conductor tensions so that correct clearances are maintained - Ensure that assets being worked upon under Transgrid's assets are bonded to earth to avoid inductive currents and voltages
Jointing	Yes	No	No	No	No	First feeder out joint	- Touch and step potential rise as a result of a fault transfer which could cause electric shock	- Cables emanating from a zone substation often have their earth screen bonded to the earth grid of the zone substation. If a fault is experienced at the zone substation, then the earth screen on the cable which is being jointed can experience a significant touch and step potential between it and the other cable or switchgear	- Use equipotential mats and earth bonding arrangements when undertaking such joints
Access	No	No	No	No	No	Assets within a confined space	- Affixation	- Assets in a confined space which can lead to the build up of hazardous gas	- Follow confined space procedures
Movement of goods	No	No	No	No	No	Difficult access to substation	- Inability to complete works - Increased risk in the movement of goods - Crane footing subsidence when lifting - Over reach and failure of crane	- Substation site is difficult to access - The ground around the substation may be unstable or not rated for the load	- Develop a lifting plan - Use a larger size crane that improves reach - Construct stairs and hand rails for later access by personnel where applicable
Movement of goods	No	No	No	No	No	Difficult access to pole	- Inability to complete works - Increased risk in the movement of goods - Crane footing subsidence when lifting - Over reach and failure of crane	- Pole site is difficult to access - The ground around the pole may be unstable or not rated for the load	- Develop a lifting plan - Use a larger size crane that improves reach - Construct stairs and hand rails for later access by personnel where applicable

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Traffic control	Yes	Yes	Yes	Yes	No	High traffic area	- Damage to property and people as a result of performing high risk activities	- The movement of goods and heavy machinery in and around heavy traffic can lead to the damage of property and people	- Prepare and implement an appropriate traffic / pedestrian management plan
Pedestrian control	Yes	Yes	Yes	Yes	No	High pedestrian area	- Damage to property and people as a result of performing high risk activities	- The movement of goods and heavy machinery in and around high pedestrian movement can lead to the damage of property and people	- Prepare and implement an appropriate traffic / pedestrian management plan
Geotech	No	No	No	No	No	Poor ground strength	- Substation footing subsidence - Pole leaning	- Poor ground strength or compaction would result in subsidence under the weight of a substation or a pole leaning as the ground gives way at its footing	- Ensure that ground is tested and the design accounts for the strength of the ground - Ensure that pole footings are concreted in and allowed to cure before tensioning
Radiation	No	No	No	No	No	Assets in vicinity of a mobile base station	- Potential damage to the body from radiation	- Mobile base stations emit radiation. Some base stations emit microwave radiation. This radiation may damage the body	- Follow the work instructions provided by the electrical utilities
Vegetation	Yes	No	Yes	No	No	Assets in vicinity of trees	- Trees interfere with powerline causing fire	- Tree growth over time can interfere with powerlines	- Ensure mandatory clearances are kept between the powerline and trees - Ensure that trees are removed or trimmed on an ongoing basis