



**METROPOLITAN COAL
CONSTRUCTION MANAGEMENT PLAN**

SURFACE WORKS ASSESSMENT FORM

GNSS BASE STATION - FIRE ROAD 9

SEPTEMBER 2012

(Revision A)

Metropolitan Coal

Proposed Installation of GNSS Base Station, Fire Road 9.

Background

The subject Surface Works Assessment (SWA) Form is submitted to Department of Planning & Infrastructure (DP&I) and Sydney Catchment Authority (SCA) for the proposed installation of a Global Navigation Satellite System (GNSS) base station to be located in the Sydney Catchment Area. The base station will be used for a number of monitoring operations in accordance with the Metropolitan Coal Project Approval and associated Environmental Management Plans and Monitoring Programs.

The GNSS Reference Base station will form a part of the SmartNet GNSS Network. The following website link (www.smartnetaus.com/) provides information about the GNSS Network and how it operates and what services they provide.

The base station will be used for monitoring various studies that require a spatial element to be measured within the Metropolitan subsidence and study regions including:

- Subsidence movements;
- Water levels in the catchment; and
- Infrastructure (Roads, Bridges, and Transmission Towers etc), collecting survey information

The SWA Form provides details of construction and environmental management measures for the proposed base station to append the measures outlined in the Metropolitan Coal Construction Management Plan (ConMP) as approved by DP&I on 14 November 2011.

Construction and environmental safeguards detailed in the SWA Form will be communicated to on-site workers by providing copies of the documentation and holding discussions with all relevant staff/contractors prior to works commencing to ensure adherence to such safeguards. The site environmental supervisor will inspect the operations for compliance during works and following works completion. Performance will be documented in accordance with the process set out by the ConMP, which requires details to be completed in the Surface Works Register and Surface Works Performance Indicator Form, Appendices 1 and 2 of the Con MP respectively.

Site Location

The site is within the Woronora Special Area in the local government area (LGA) of Wollongong City Council. The Woronora Special Area covers a region of approximately 75 square kilometres (km²) and includes the catchment of Woronora Dam. SCA manages the Woronora Special Area and public access is restricted.

The township of Waterfall is located approximately 5 km to the east.

The location for the base station is adjacent to the northern end of fire trail 9 (see Figure 1). The township of Waterfall is located approximately 5 km to the east.

The positioning of the base station was influenced by a number of factors including close proximity to the Metropolitan Colliery subsidence areas with sufficient distance so as not to be influenced by subsidence movements.

Construction Management Plan
Surface Works Assessment Form

**Note, this form must be completed in full
prior to the commencement of surface disturbance works**

Date: *September 2012 (Revision A)*

Name and position: *Ryan Pascoe, Manager – Environment & Community*

Register number (i.e. Number 1, 2, etc.): *5*

RMP register number: *5*

Site name:

GNSS Base Station – Woronora Special Area, Helensburgh.

Site type:

Environmental Monitoring Site – Global Navigation Satellite System base station.

Expected duration of works: *Approximately 7 days (weather dependant).*

Works schedule:

- Describe the activities (including timing) to be conducted during construction works.

The works will occupy an overall layout area of approximately 30 m² on and around a rocky knoll. This area will be cleared to allow for the installation of:

- GNNS antenna and support pole (maximum 1.8 m height)*
- Solar Power Panels and support pole*
- Weather Proof Electrical box to store communications, backup power supply and computer hardware required for the GNNS base station*
- Security fencing to be erected around the perimeter.*

The site requires 1.5 m width buffer of vegetation cleared around the perimeter fence for bushfire protection.

1. Access to Monitoring Sites and Site Preparation:

Access to the site will be by 4WD vehicle on established catchment access roads. Additionally, a track of approximately 30 m length and no greater than 1m width will be slashed to provide access from Fire Road 9 (see Figure 1).

Of the 30 m² site layout area, approximately 4 m² will be covered by the GNNS station itself, with the remainder serving as room for supporting infrastructure, the perimeter fence and a bushfire protection buffer around the site. The works including access tracks will avoid threatened and rare plant species (further details provided below in relation to the flora survey).

The disturbance of soils at the base station site will be limited to the minimum required for equipment installation and for maintaining access.

Vegetation disturbance/clearing will be kept to a minimum and will be limited where possible to the removal of saplings or slashing of vegetation. Where slashing of vegetation is required,

soil disturbance will be minimized by cutting the vegetation near ground level and leaving the lower stem and roots in-situ to maximize the potential for natural regrowth. The removal of saplings, slashing of vegetation or lopping of branches will be conducted only where necessary for access and bushfire protection. Vegetation cuttings will be placed in a random pattern to brush matt areas of disturbance.

It should also be noted that due to the rocky nature of the proposed area, vegetation density is sparse in places, which reduces the amount of slashing which will be required.

2. Equipment Installation (Approximately 7 days):

Due to the many components of the GNNS base station, the installation is expected to take approximately 7 days. This will allow installation of:

- *GNNS antenna and support pole*
- *Solar panels and support pole*
- *Weather proof electrical box, communications, backup power supply and computer hardware*
- *Security fencing around perimeter*

Materials and finishes will be sympathetic to the surrounding natural landscape, including the use of grey and dark green colours to minimise visual impacts of the equipment.

5. Installation and Operation of Equipment:

Tools required for installation and operation of equipment will be limited to usual hand tools of trade, including cordless drill. The access track will be hand cleared by brush cutter. No plant equipment or heavy machinery will be required.

The equipment will be transported to site by 4WD vehicle, no trucks are required.

Following installation, the GNNS base station will operate 24 hours/day, 7 days/week. Data will be accessed remotely and as such site access will only be required for general maintenance approximately every 6-8 weeks (to clean solar panels, etc) and for any repairs and vegetation buffer maintenance as necessary.

The GNNS base station will be active for the duration of the central mining area and half of the 300 series Longwalls area, which is an expected timeframe of approximately 8-10 years.

6. Site Rehabilitation:

Vegetation removal will be minimised to that strictly necessary for site access, installation and bushfire protection. This will be composed of a 30 m length access track and a 30 m² slashed area where the GNSS base station will be located. Rather than clearing, vegetation will be cut low to the ground, allowing low lying vegetation to act as a ground cover, minimising risk of erosion or other negative environmental impacts.

Following cessation of its use, the redundant equipment will be removed and the site rehabilitated in accordance with the Metropolitan Coal Rehabilitation Management Plan and in consultation with the SCA. Such rehabilitation measures include erosion and sediment control, weed management, and active revegetation using local seeding if required. Further rehabilitation details are provided in the Metropolitan Coal Rehabilitation Management Plan

which can be provided on request, and is also available on the Peabody Energy website (www.peabodyenergy.com).

7. Fuel Management:

No fuel will be stored on site.

8. Human Waste Water:

A portable toilet will be available on fire road 9H for the duration of the installation works

9. Incidents:

In the event of a site incident the SCA will be notified immediately via the SCA Incident number: 1800 061 069. Site personnel will be issued with an Emergency Contact List, including contact numbers for Fire, Ambulance & Police, SCA Incident number, OEH Pollution Line, and Metropolitan Coal contacts (Emergency – Control Room, Environment & Community Manager and Mine Manager).

Review of baseline information - site features (refer Section 5 of the ConMP)

Are any of the following features located within the proposed disturbance area or immediate surrounds?

Are there occurrences of the Southern Sydney Sheltered Forest on Transitional Sandstone Soils EEC in the general area? **No**

Are there occurrences of the O'Hares Creek Shale Forest EEC in the general area? **No**

The site and access route (walking trail) were the subject of a flora survey (report attached) carried out by independent experts on 3 July 2012 and found to not be within the above EECs.

Are there records of known threatened flora species in the general area? **No**

*Although no threatened flora species were identified, two species of plants classed under ROTAP as rare were identified. These are *Eucalyptus luehmanniana* and *Boronia serrulata*. These have been marked with tape and mapped so that they can be avoided during clearing and installation activities.*

Are there records of known threatened fauna species in the general area? **No**

Are existing (or proposed) monitoring sites located nearby? **No**

What vegetation type is present? **Refer below table**

(As per Flora Survey, FloraSearch 2012)

| Site | Mapped Vegetation Type | Comments |
|-----------------------------|----------------------------|--|
| GNSS station - Access route | Woronora Tall Mallee Heath | The proposed access track to site traverses Woronora Tall Mallee Heath dominated by <i>Eucalyptus luehmanniana</i> with an understorey dominated by <i>Banksia</i> sp. and <i>Grevillea</i> sp. No threatened flora species, populations or ecological communities were recorded along and adjacent to the proposed access route. |
| GNSS station - | Woronora Tall Mallee | The proposed access track to site traverses Woronora Tall |

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| site | Heath | Mallee Heath dominated by <i>Eucalyptus luehmanniana</i> with an understorey dominated by <i>Banksia sp.</i> and <i>Grevillea sp.</i> No threatened flora species, populations or ecological communities were recorded along and adjacent to the proposed access route. |
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| Are known Aboriginal heritage sites present? | No |
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| Is this an area in which disturbance is to be avoided and/or limited? | No |
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| <p>Date of survey for threatened flora: 3 July 2012</p> <p>Name of suitably qualified ecologist conducting survey: Colin C Bower (Principal Consultant Botanist, FloraSearch)</p> <p>Have any threatened flora been identified within the proposed disturbance area or immediate surrounds? No</p> <p><i>Although no threatened flora species were identified, two species of plants classed under ROTAP as rare were identified. These are Eucalyptus luehmanniana and Boronia serrulata. These have been marked with tape and mapped so that they can be avoided during clearing and installation activities.</i></p> <p>Will works be relocated to avoid or minimise impacts on the threatened flora species? N/A</p> <p>If it is not feasible to relocate the works, have the impacts of the proposed works on the population of the threatened flora species been assessed by a suitably qualified and experienced ecologist? N/A</p> <p>If No, do not proceed</p> <p>Has the assessment concluded that the proposed surface activities are likely to have a significant impact on a population of the threatened flora species? No</p> <p>If Yes, the proposed works are to be modified to avoid such an outcome</p> <p>[Attach any relevant ecological reports to this assessment form] – Refer attachment.</p> |
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| <p>Vegetation clearance and site access (refer Section 6.1.6 of ConMP)</p> <p>Is vegetation clearing required for the construction works? If yes, describe extent (e.g. m²) and method of clearing (e.g. slashing/lopping branches/removal)? Yes</p> <p><i>Vegetation disturbance/clearing will be kept to a minimum and will be limited where possible to the removal of saplings or slashing of vegetation. A 30 m length access path will be cut and an area of approximately 30 m² will be cleared on the rocky outcrop for the installation activities.</i></p> <p><i>Where slashing of vegetation is required, soil disturbance will be minimized by cutting the vegetation at ground level and leaving the lower stem and roots in-situ to maximize the potential for natural regrowth. The removal of saplings, slashing of vegetation or lopping of branches will be conducted only where necessary. Vegetation cuttings will be placed in a random pattern to brush matt areas of disturbance.</i></p> |
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Describe the access requirements for the construction site (e.g. vehicle/ pedestrian/ helicopter) and where the access will be from (e.g. which fire road).

Access to the site will be from established catchment access road 9 and a narrow walking track (no greater than 1 m width) to be cut to the site with minimal environmental impact.

The disturbance of soils at the monitoring sites will be limited to the minimum required for mobilization, placement and installation of the base station and perimeter fence.

Is vegetation clearing required for site access? If yes, describe the extent and method of clearing? **Yes**

As detailed above.

Vegetation management measures to be implemented (refer Section 6.1.4 of the ConMP)

As detailed above.

Site Layout Plan (refer Section 6.1.5 of ConMP)

Has a Site Layout Plan been prepared and attached to the Works Assessment Form? **Yes**

Have the following been indicated on the Site Layout Plan? **Yes**

- Site location
- Works design
- Management measures (e.g. erosion and sediment controls, spill kits)
- Access track/s (indicate type of access, e.g. pedestrian/vehicle. Also indicate location of nearest fire trail where access will be from)
- Areas of vegetation clearance
- Location of equipment (e.g. pump, generator, fuel storage, portable toilets)
- Equipment storage areas
- Safety equipment (e.g. fire extinguisher and first aid kit)

Refer Appendix 1.

Attach photographs, where appropriate

Refer Appendix 1.

Description of Photographs:

Refer Appendix 1.

Aboriginal heritage pre-clearance survey (refer Section 6.2 of the ConMP)

Date of pre-clearance survey for Aboriginal heritage sites.

29 June 2012

Name of qualified Archaeologist conducting survey:

Natalie Stiles – Archaeologist (Kayandel Archaeological services)

Are any Aboriginal heritage sites identified within the proposed disturbance area or immediate surrounds? **No**

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| Description of recorded Aboriginal heritage sites: | N/A |
| Will works be relocated to avoid impacts on the Aboriginal heritage site? | N/A |
| If it is not feasible to relocate the works to avoid impacts to the Aboriginal heritage site, management and/or mitigation measures to be implemented in accordance with the Metropolitan Mine Heritage Management Plan. Describe measures below. <i>(Impacts will be avoided)</i> | N/A |
| Where avoidance is not practicable, has a comprehensive baseline record been obtained and salvage considered in consultation with Aboriginal stakeholders prior to disturbance. <i>(Impacts will be avoided)</i> | N/A |
| [Attach any relevant archaeological reports to this assessment form] – <i>Aboriginal site survey attached</i> | |
| Known Aboriginal heritage sites located close to surface disturbance works | |
| Details of demarcation (e.g. fencing, sign-posting or temporary flagging) implemented to avoid accidental damage to known Aboriginal heritage sites located close to surface disturbance works. | N/A |

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| Erosion or sediment control measures required? | |
| - Is any erosion or sediment control required? | No |
| - If yes, has an Erosion and Sediment Control Plan been prepared and attached to the Surface Works Assessment Form? | N/A |

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| Fuel and spill management measures required? | N/A |
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| List Hazardous Materials and Storage Requirements | N/A |
| - Are Materials Safety Data Sheets (MSDS) for hazardous materials located at the construction site? | N/A |

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| Bushfire Preparedness and Management | |
| - Have Metropolitan Coal staff and contractors been provided with fire awareness and fire safety training? <i>Metropolitan Coal Bushfire Preparedness Plan</i> | Yes |
| - Has a Hot Work Permit been obtained from the SCA if required? | N/A |

APPENDIX 1: SITE PLANS & PHOTOS



Figure 1: Location of proposed GPS facility (red square) with approximate location of access track (yellow line). The two green tree symbols denote the locations of two specimens of Yellow Top Mallee Ash (*Eucalyptus luehmanniana*) and the pink triangles show the locations of Native Rose (*Boronia serrulata*).



Figure 2: Notional Site Layout Plan



Figure 3: Photo from rock outcrop where GNSS base station will be installed, facing south towards Fire Road 9