COMMENT	RESPONSE
ENVIRONMENT PROTECTION AUTHORITY	
Noise	
Predicted Impacts at Surrounding Receptors The New South Wales (NSW) Environment Protection Authority (EPA) submission included the following recommendations relating to the Noise and Blasting Assessment: • That the proponent is required to utilise the Private Negotiated Agreement provisions of the NSW *Industrial Noise Policy* to address the predicted noise impacts at receptors 89b and 127b. • That the proponent is required to complete the commitment made in the *Vickery Coal Project Environmental Impact Statement* (the EIS) (page 4-59) that ...*Whitehaven is intending to enter into noise or purchase agreements with the owners of receivers 89b (and 89a), 127a, 127b and 127c*... to address the predicted noise impacts at receptors 89a, 127a and 127c.	Whitehaven Coal Limited (Whitehaven) notes the EPA's endorsement of efforts to seek noise or purchase agreements with the owners of properties 89 and 127. Since the EIS was exhibited in March-April 2013, Whitehaven has agreed to terms with the owner of property 89 and a legal agreement is being finalised. Whitehaven has also commenced negotiations with the owner of property 127 and would like to reach an agreement on suitable terms. Both properties 89 and 127 contain receivers identified to be in the affection zone for the Vickery Coal Project (the Project) (i.e. 89b and 127b, respectively). As such, the EIS contains a commitment that these properties would be offered the right to acquisition upon request as part of any noise agreement (refer to Section 4.6.3 of the EIS). In addition, it is expected that the owners of properties 89 and 127 would be afforded the right to acquisition or mitigation upon request in the Project Development Consent. However, Whitehaven notes that it cannot be guaranteed that the owners of property 127 will be willing to enter into noise agreement. If this is the case, it should noted that: • Whitehaven has developed noise management commitments and a pro-active noise management system for the Project (summarised in Table 4-15 and Figure 4-15 of the EIS) to minimise the number of privately-owned receivers predicted to exceed the project-specific noise level of 35 A-weighted decibels (dBA) continuous noise level ($L_{Aeq(15\ minute)}$) under adverse meteorological conditions. • By incorporating the noise management commitments and pro-active noise management system, only five privately-owned receivers (89a, 89b, 127a, 127b and 127c) located on two individual properties (89 [Bungalow] and 127 [Mirrabinda]) are predicted to exceed noise criteria during the night under adverse weather conditions. • Four of these receivers (89b, 127a, 127b and 127c) were predicted to exceed noise criteria during the daytime under relevant meteorological conditions. • The relatively limited number of exceedances on the two properties indicates that with the implementation of Project noise mitigation measures, noise from the Project would be managed to the maximum extent possible. Limiting operations to daytime only would be impracticable and in any case, four exceedances would remain. Given the above, Whitehaven considers that it is not feasible or reasonable for the Project to operate in compliance with project-specific noise levels at receivers located on property127 should the owners of this property not wish to enter into a noise agreement, or elect to act upon any acquisition rights afforded to them in the Project Development Consent.
• That the proposed noise, blasting and meteorological conditions specified in Attachment 2 (of the EPA's submission) are applied as consent conditions in any Project approval.	Whitehaven notes and accepts the noise, blasting and meteorological conditions recommended by the EPA, with the exception of the noise limits of 35 dBA $L_{Aeq(15\ minute)}$ for day, evening and night at *any other sensitive receiver not subject to a private negotiated agreement* (which is interpreted to include receivers 89a, 89b, 127a, 127b and 127c). As described above, Whitehaven considers that it is not feasible or reasonable for the Project to operate in compliance with project-specific noise levels at receivers located on property 127 should the owner of this property not wish to enter into a noise agreement, or elect to act upon any acquisition rights afforded to them in the Project Development Consent, given: • Whitehaven has developed noise management commitments and a pro-active noise management system for the Project to minimise noise impacts; • the EIS states that Whitehaven intends to enter into noise agreements with the owners of property 127; and • it is expected that property 127 would be afforded the right to acquisition or mitigation upon request in any development consent for the Project.

COMMENT	RESPONSE
Construction Noise Impacts The EPA submission recommended that the Proponent be required to prepare and implement a detailed Construction Noise Management Plan (CNMP) prior to the commencement of construction activities.	Comment noted. Whitehaven would prepare a CNMP in accordance with any requirement of the Project Development Consent.
Air Quality	
Control Efficiency of Dust Emissions from Haul Roads The EPA submission recommended that air quality conditions provided in Attachment 3 (of its submission) be incorporated into the Project Development Consent. The conditions included the Coal Mine Particulate Matter Control Best Practice Implementation Pollution Studies and Reduction Programs.	Comment noted. Whitehaven would operate the Project in accordance with the conditions attached to the Project Development Consent.
Predicted Air Quality Impacts The EPA submission recommended that air quality conditions provided in Attachment 3 (of its submission) be incorporated into the Project Development Consent.	Comment noted. Whitehaven would operate the Project in accordance with the conditions attached to the Project Development Consent.
Air Quality Management Plan The EPA submission recommended that air quality conditions provided in Attachment 3 (of its submission) be incorporated into the Project Development Consent.	Comment noted. Whitehaven would operate the Project in accordance with the conditions attached to the Project Development Consent.
Surface and Groundwater	
Use of Existing Mine Void for Mine Water Surge Storage The EPA submission raised some concerns with regard to potential salt leakage to the Namoi River and suggested that Mine Water Surge Storage (MWSS-1) either be lined or that pollution offset works be undertaken.	The potential for salt migration from MWSS-1 towards the Namoi River was identified and has been assessed as part of the Groundwater Assessment conducted by Heritage Computing (refer to Section A6.2.1 of Appendix A of the EIS). The assessment concludes that the long-term increase in the salinity of the Namoi River nearest to MWSS-1 would be less than 0.1% and as a result no significant impacts on the Namoi River are likely. The *NSW Aquifer Interference Policy* (NSW Government, 2012) requires: *No increase of more than 1% per activity in long-term average salinity in a highly connected surface water source at the nearest point to the activity.* Given the predicted increase in salinity within the Namoi River (a highly connected surface water source) would be in accordance with the *NSW Aquifer Interference Policy*, Whitehaven does not consider that lining MWSS-1 or pollution offset works are necessary.
Sediment Dam Sizing The EPA submission identified an inconsistency in the sensitivity criteria that were used for the receiving environment around the site (i.e. 'standard' verses 'sensitive'). The EPA submission recommended that a detailed Surface Water Management Plan (SWMP) be prepared prior to earthworks commencing at the Project site. The EPA also noted that the SWMP should clarify whether the receiving environment around the site is considered to be 'sensitive', or whether it falls into the 'standard' category.	The sensitivity category of the receiving environment surrounding the Project is considered to be 'standard'. This is the rating that was used to size the sediment basins in the Surface Water Assessment (Appendix B of the EIS). However, as identified by the EPA, in the Surface Water Assessment (Appendix B of the EIS), the water conveyance structures were sized for 'sensitive' criteria. These structures should have been designed in accordance with the 'standard' criteria in the EIS. The identified inconsistency does not affect the findings of the Surface Water Assessment (Appendix B of the EIS), and simply means that the conveyance structures were somewhat conservatively sized (or 'over-engineered'). As per the EPA's recommendation, a SWMP for the Project would be prepared and would describe the detailed design of the water management system (including the receiving environment sensitivity criteria).

COMMENT	RESPONSE
Final Void The EPA submission noted its preference that final voids be avoided completely, reduced to the absolute minimum, or be free draining.	Whitehaven has identified and assessed final landform and rehabilitation options for the Project and these are described in the EIS. The size and location of the proposed final voids has been reduced to the practicable minimum through progressive placement of overburden as in-fill during the mine life, and the rehandling and reshaping of overburden in the final years of the mine life. Whitehaven evaluated the costs associated with backfilling the final voids so that they would be free draining. However, the investigation concluded that the cost associated with rehandling waste rock from the waste rock emplacements to fill the two final voids to existing ground level would cost in the order of $1.5 billion, rendering the Project uneconomical. In addition, Whitehaven investigated the potential to rehandle waste rock within the Eastern Emplacement to the southern final void. It was found that rehandling this material would cost in the order of $176 million, would fill in less than 25% of the void, and would not result in a backfilled level above the pre-mining groundwater table. On this basis, rehandling the material contained within the Eastern Emplacement is not proposed. The Groundwater Assessment (Appendix A of the EIS) predicts that the final equilibrium water levels within the final voids would be in the order of 100 metres (m) below the current groundwater level. This would create a localised groundwater sink which would prevent salts or poorer quality groundwater from migrating out from the Project area and adversely impacting the beneficial use of local groundwater aquifers. There would therefore be no benefit in incorporating design features (such as seals and/or drainage mechanisms, as suggested by the EPA) to prevent potential interaction of the water within the final void with the surrounding aquifers. Notwithstanding, and as described in Section 5.4 of the EIS, further final void design and mine planning would be undertaken by Whitehaven during the mine life in consultation with relevant government agencies as a component of the Rehabilitation Management Plan, the Mining Operations Plan (MOP) and the final Closure Plan for the site. This would include detailed design of the final voids to achieve long-term geotechnical stability and model verification and re-simulation of the behaviour of the final void water bodies using the results of the groundwater and surface water monitoring programs. Additionally, and as stated in the Section 6.6.2 of the EIS, there are substantial coal resources potentially available in the immediate vicinity of the final voids. Hence the final voids would provide access to these additional coal resources as either an extension of the open cut or as a start point for underground extraction (subject to separate assessment and approval).
OFFICE OF ENVIRONMENT AND HERITAGE	
Biodiversity Offsets	
Consideration of the Office of Environment and Heritage Interim Offset Policy and Biobanking Guidelines The NSW Office of Environment and Heritage (OEH) submission stated that the proposed offset package completely disregards the OEH (2011a) *interim policy on assessing and offsetting biodiversity impacts of Part 3A, State Significant Development (SSD) and State Significant Infrastructure (SSI) projects*. The OEH submission also stated that the biodiversity offset evaluation contained in the EIS does not consider the NSW Department of Environment and Climate Change (DECC) (2009) *Biobanking Assessment Methodology and Credit Calculator Manual*.	As described in Section 4.9.4 of the EIS, the biodiversity offset strategy for the Project was developed in consideration of: • the Director-General's Requirements (DGRs); • OEH's *Principles for the Use of Biodiversity Offsets in NSW* (OEH, 2012); • the *Namoi Catchment Action Plan 2010-2020* (Namoi Catchment Management Authority [CMA], 2011a) and Namoi CMA (2011b) *Biodiversity Offsets Policy*; and • ecological principles commonly used in the design of reserves for wildlife conservation. The evaluation of the Project biodiversity offset strategy did not consider the OEH (2011a) *interim policy on assessing and offsetting biodiversity impacts of Part 3A, State Significant Development (SSD) and State Significant Infrastructure (SSI) projects*. Reference to the policy was not included in the DGRs, nor was it included in the OEH's contribution to the DGRs (refer to Attachment 1 of the EIS). The OEH (2011a) interim policy is not available on the OEH website, and a copy was only obtained through a direct request to the OEH in May 2013 following the receipt of the OEH submission on the EIS. The OEH (2011a) interim policy is also clearly an internal document for the OEH (i.e. rather than a document to provide guidance to Proponents) and was operating on a trial basis until 30 June 2012 after which it was to be reviewed (i.e. its status was unclear at the time the EIS was being finalised and during the EIS exhibition period, and its status is still yet to be resolved).

COMMENT	RESPONSE
	In contrast, the OEH's *Principles for the Use of Biodiversity Offsets in NSW* (OEH, 2012) is current and available on the OEH website. The EIS comprehensively considers the proposed biodiversity offset against these principles (refer to Table 4-28 of the EIS and Section 6.2.3 of Appendix E of the EIS). The use of Biobanking to assess mining developments is optional and not compulsory. The EIS does not include a Biobanking assessment of the Project area or proposed biodiversity offset area, but rather, provides an assessment of the threatened species impacts against Section 5A of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act) and an evaluation of the biodiversity offset according to the above listed points. As a result, Whitehaven is not required to assess the Project against the DECC (2009) *Biobanking Assessment Methodology and Credit Calculator Manual*.
Mechanism for Securing the Biodiversity Offset The OEH submission stated that it supports the proposal to secure the Willeroi East biodiversity offset area in perpetuity through an addition to the national parks estate. However, the OEH submission also requested that the alternatives to this arrangement be provided, with reference to the preferred conservation mechanisms that are outlined in OEH (2011a).	Section 4.9.4 of the EIS describes the proposed approach to securing the proposed biodiversity offset area at Willeroi East in a manner that would satisfy the relevant OEH (2012) offsetting principle (i.e. Principle #7). Whitehaven expects that the NSW Minister for Planning would impose a similar condition to the one that was recently included in the Tarrawonga Project Approval (i.e. Condition 46 of Project Approval 11_0047) regarding the long-term security of the other portion of the Willeroi property (i.e. Willeroi West). The condition specifies the potential methods and required timing for securing the offset area. Whitehaven expects that both portions of the Willeroi property would be secured in perpetuity using the same method.
Proposed Offset for the Weeping Myall Woodland Endangered Ecological Community The OEH submission noted that the version of the EIS reviewed by OEH for adequacy in December 2012 stated that only 22 hectares (ha) of the Weeping Myall Woodland Endangered Ecological Community (Weeping Myall Woodland EEC) remained within the locality and therefore the Project would be removing 4.8% of the community. The submission noted that in the version of the EIS prepared for public exhibition in March-April 2013 it states that *at least 140 ha of this EEC occurs* (refer to page 151 of the EIS) within 20 km of the Project and therefore 0.7% of the EEC would be removed. The OEH submission noted that no justification was provided in the EIS to indicate why these figures were altered. The OEH submission stated that it supports the Proponents proposal to fence and manage an existing remnant of the Weeping Myall Woodland EEC along Stratford Creek. However, it also noted that the Weeping Myall Woodland EEC is not offset within the Project biodiversity offset area at Willeroi East.	In the adequacy version of the EIS, the area of Weeping Myall Woodland EEC in the region was calculated from regional mapping within a 20 km radius from the mid-point between the Project mining area and the Private Haul Road and Highway Overpass (i.e. the centre of the two parts of the Project). For the exhibition version, the area of Weeping Myall Woodland EEC mapped in the region was calculated from regional mapping plus Project-specific mapping within a 20 km radius from the centre point of the Project mining area. This change was made to better focus on the region surrounding the mining area as it is where the Weeping Myall Woodland EEC was mapped by the Project surveys, as opposed to the private haul road and Kamilaroi Highway overpass where no Weeping Myall Woodland EEC would be disturbed. Regardless of the approach adopted, the area of Weeping Myall Woodland ECC that could be disturbed by the Project is very small (i.e. less than 1 ha). The proposed mitigation and management measures for the Weeping Myall Woodland EEC are described in Section 4.9.3 of the EIS and are as follows: • Development and implementation of a program as part of the Biodiversity Management Plan to retain and manage the remaining vegetation along a portion of Stratford Creek, including the Weeping Myall Woodland EEC (refer to Figure 4-19 of the EIS). • Fencing of the perimeter of the area to be managed with a stock proof fence to facilitate regeneration of the native vegetation. • Management of weeds within the fenced area of Weeping Myall Woodland EEC. The OEH submission indicated its support for the proposal to fence and manage these existing remnants. The OEH submission also noted that the proposed biodiversity offset area at Willeroi does not include the Weeping Myall Woodland EEC. Whitehaven acknowledges that this is the case, but believes that the proposed avoidance, management and regeneration strategies for this community are sufficient and appropriate to maintain biodiversity values in the region given the very small area of the Weeping Myall Woodland EEC that could be impacted by the Project. Further explanation and justification is provided below.

COMMENT	RESPONSE
	Avoidance of Weeping Myall Woodland EEC During the Detailed Design Phase The mapping of the Weeping Myall Woodland EEC presented in the EIS was conservative (i.e. areas of cleared farmland dispersed with isolated or small groups of Weeping Myall trees were included within the mapped extent of the EEC). As a result, the estimated 1 ha disturbance to the Weeping Myall Woodland EEC is considered to be a conservative maximum. In order to qualitatively illustrate this point, a series of photographs and figures are provided in Attachment A of this document (i.e. Plates 1a to 1i and Figures 1-1 to 1-3). The figures show the approximate route of the centre line of the proposed Blue Vale Road re-alignment in relation to individuals and clumps of Weeping Myall trees near the route. As illustrated by the photographs and figures, the centre line of the conceptual Blue Vale Road re-alignment is located within cleared paddocks with very limited tree cover and avoids individual trees and clumps of Weeping Myall. The final alignment of the Blue Vale Road re-alignment would be determined in consultation with the Gunnedah Shire Council (GSC) and the road would be designed in accordance with the Austroads design standards and relevant conditions of approval. Geotechnical and local flooding information would be considered in the design phase. Whitehaven would also conduct detailed mapping of the Weeping Myall in the vicinity of the route and would adjust the design to avoid disturbance to individual trees where possible. It is expected that by adopting this approach the actual quantity of Weeping Myall Woodland EEC that would be disturbed would be reduced further. ***Management and Regeneration of Weeping Myall Woodland EEC during Operations*** The areas of the Weeping Myall Woodland EEC located in the vicinity of the proposed Blue Vale Road re-alignment are currently unfenced. They have no mid-storey and a very sparse and degraded ground layer as a result of stock grazing (refer to Plates 1a to 1i in Attachment A). There is currently no or very little regeneration of Weeping Myall trees due to grazing, and in the long-term (i.e. if current agriculture were to continue) these trees are likely to degrade further and could ultimately be lost. As described in Section 4.9.3 of the EIS, Whitehaven would fence and manage remaining Weeping Myall vegetation along a portion of Stratford Creek. This would remove the current threats imposed by livestock grazing and weeds and would increase the probability of natural regeneration within the fenced area. The size and location of the fenced area would be determined in consultation with OEH and would be documented in the Biodiversity Management Plan.
Proposed Offset for the White Box-Yellow Box- Blakely's Red Gum Woodland Endangered Ecological Community The OEH submission noted its support for the redesign of the Eastern Emplacement and Mine Infrastructure Area (MIA) to avoid a patch of White Box-Yellow Box- Blakely's Red Gum Woodland Endangered Ecological Community (Box-Gum Woodland EEC) along South Creek. However, the submission also noted that despite this, 6 ha of Box-Gum Woodland EEC would be removed by the Project. The OEH submission also expressed concern that the Willeroi East biodiversity offset area does not offset the Box-Gum Woodland EEC with an existing woodland community, but rather proposes to revegetate derived native grassland through regeneration and revegetation.	Whitehaven notes the OEH comment about the redesign of the Eastern Emplacement and MIA to avoid a patch of Box-Gum Woodland EEC along South Creek. Whitehaven believes this is a good example of the Project satisfying OEH (2012) offsetting principle #1. The OEH submission expressed concern that the Box-Gum Woodland EEC within the Project area is not being offset with an existing woodland community (i.e. 6 ha of woodland is being replaced with 156 ha of grassland with scattered old growth trees/regenerating areas). Whitehaven does not believe that the concern is warranted, and believes that the offset proposal for the Box-Gum Woodland EEC is sound and would result in a net improvement in biodiversity over time as required by the OEH (2012) offsetting principles. Further explanation and justification is provided below. The Project would disturb a small amount of Box-Gum Woodland EEC, which consists of a 3 ha area within the proposed open cut and a 3 ha area along the private haul road and Kamilaroi Highway overpass corridor (refer to Figures 4-20 and 4-21 of the EIS). The area of Box-Gum Woodland EEC within the proposed open cut is not fenced, has no to very little understorey and mid story, and has a relatively high proportion of weeds. The area of Box-Gum Woodland EEC along the private haul road and Kamilaroi Highway overpass corridor is located within a Travelling Stock Route and is used as a recreational area by trail bikes.

COMMENT	RESPONSE
	A series of photographs and figures are provided in Attachment A in order to qualitatively illustrate the current condition and nature of the Box-Gum Woodland EEC within the Project area (i.e. Plates 2a to 2e and Figure 2-1). As shown in the photographs, the areas that would be disturbed by the Project are currently exposed to degradation through livestock grazing, weeds and human activities. These threats would be likely to continue if the Project does not proceed, resulting in further degradation over time. The proposed biodiversity offset area at Willeroi includes approximately 156 ha of Box-Gum Woodland EEC (refer to Figure 4-25 of the EIS), which has been mapped as a derived native grassland but still meets the criteria of the listed Box-Gum Woodland EEC. It is important to note that within the 156 ha there are numerous old growth trees and patches with mature and regenerating trees that could otherwise be mapped as the woodland form of the Box-Gum Woodland EEC if the mapping was undertaken at a finer scale. Many of these woodland patches are larger and in significantly better condition than the two 3 ha areas of Box-Gum Woodland EEC that would be disturbed by the Project. Figure 3-1 in Attachment A shows the approximate locations of five of these woodland patches. In order to illustrate this point, a series of photographs and figures are provided in Attachment A of this document (i.e. Plates 3a to 3m and Figure 3-1). The photographs qualitatively illustrate the various individual and stands of mature and regenerating trees within these woodland patches, as well as the relatively high quality of the grass layer and low weed cover of these patches within the biodiversity offset area. Whitehaven believes that these woodland patches alone would provide a suitable offset for the 6 ha of Box-Gum Woodland EEC that would be disturbed by the Project. However, by adding the remainder of the mapped derived grassland Box-Gum Woodland EEC (i.e. areas where there are few or no remaining trees) there is an opportunity to significantly restore habitat complexity to the Box-Gum Woodland EEC and result in a substantial net improvement in biodiversity over time. This would achieve the requirements of OEH (2012) offsetting principle #6 with regard to the Box-Gum Woodland EEC area. Whitehaven acknowledges that regeneration of the areas of derived grassland Box-Gum Woodland EEC with no or little tree cover would present some challenges. However, the objective would be to successfully regenerate the entire 156 ha area, and therefore an adaptive management and monitoring approach would be adopted to maximise the likelihood of success. Whitehaven expects that the NSW Minister for Planning would impose a similar condition to the one that was recently included in the Tarrawonga Project Approval (i.e. Condition 47 of Project Approval 11_0047) which requires the preparation of a Biodiversity Management Plan that describes the management measures and detailed performance and completion criteria that would be adopted at the biodiversity offset area,. Because the Tarrawonga Coal Mine biodiversity offset area is the other half of the Willeroi property, Whitehaven expects that the management of the two areas (i.e. Willeroi West and Willeroi East) would be undertaken as an integrated operation (preferably under one, rather than two, biodiversity management plans). The OEH submission also raised concern about the existing erosion areas within the biodiversity offset area and suggested that it could inhibit the ability to regenerate the grassland community to an acceptable standard. It should be noted that the erosion areas at Willeroi East were deliberately excluded from all calculations of native vegetation areas associated within the biodiversity offset area. Whitehaven does not consider that control and rehabilitation of these areas is insurmountable and does not believe that it significantly detracts from the overall value of the biodiversity offset area. The biodiversity offset provides a means to address the erosion issue adding to the beneficial outcomes of the offset. It is expected that suitable control measures and rehabilitation strategies for these areas would need to be documented and implemented in accordance with the Biodiversity Management Plan.

COMMENT	RESPONSE
Native Grassland Offset The OEH submission stated that little detail had been provided in the EIS on the composition and success of the rehabilitation that has been undertaken to date within the Project area and questioned the ability of the Proponent to rehabilitate the Project area to native woodland and forest communities. The OEH submission noted that the EIS states that the 1,284 ha of derived grasslands impacted by the Project would be compensated for via rehabilitation of approximately 1,360 ha of the Project final landform to woodland forest areas. The OEH submission stated that it does not accept areas subject to mine rehabilitation as biodiversity offset unless there are no other options and comprehensive justification has been provided.	The EIS does not propose the mine rehabilitation as a 'biodiversity offset'. The Project biodiversity offset area is as shown on Figure 4-24 of the EIS and is located at the Willeroi East property. The EIS describes how revegetation of the Project final landform would mitigate (compensate/reduce) the impact on derived grasslands. Noting that the rehabilitation strategy is not limited to woodland/forest areas (1,360 ha) but also includes 780 ha of grassland areas suitable for grazing. There is a high level of certainty that native grassland can be regrown on the mine site. The previous mining operations within the Project area (i.e. previous Vickery Coal Mine) ceased in 1998 when approval was granted to suspend operations and complete rehabilitation works on-site. These operations and rehabilitation were not undertaken by Whitehaven and the rehabilitation objective was not to create native grassland. This explains why the grasses on the previous rehabilitation are exotic and not conducive to natural fauna habitats. The rehabilitation across these areas is therefore not a reflection of Whitehaven's ability to successfully rehabilitate areas disturbed by its mining operations to native woodland/forest communities. As described in Section 5.2 of the EIS, Whitehaven's rehabilitation program at the nearby Tarrawonga Coal Mine shows good progression towards open native woodland with flora species characteristic of the local area. Condition mapping of derived native grasslands is an assessment methodology used in Biobanking. As described above, The use of Biobanking to assess mining developments is optional not compulsory. The EIS does not include a Biobanking assessment of the Project area or proposed biodiversity offset area, hence condition mapping of derived native grasslands is not included. Whitehaven believes that its biodiversity offset proposal and on-site rehabilitation and closure strategy is appropriate to the scale and nature of biodiversity impacts. It also provides a balanced environmental outcome that considers biodiversity conservation and ongoing agricultural land uses. The proposal has carefully considered the native grassland areas. The EIS provides justification as to why they are not proposed to be offset in a separate biodiversity offset area. Explanation of the key points is provided below. ***Degree of Historic Disturbance*** The pre-European vegetation communities in the locality were woodland/forest structure not native grasslands, hence the native grasslands that occur are derived (not natural). The local area in which the Project occurs has been subject to extensive clearing and sustained agriculture since the 1830s and 1840s. As described in Section 4.3.1 and Appendix I of the EIS, farming practices conducted in the Project area included grazing and dry-land cropping in small land parcels until approximately the 1930s followed by a general move to grazing (both sheep and cattle). As illustrated in the historical photographs presented in Figures 4-2a and 4-2b of the EIS, the Project area has been predominately cleared for at least 55 years, and in all likelihood for significantly longer. ***Loss of Agricultural Land*** Offsetting the 1,284 ha of grassland areas in the Project area with other grassland areas within the local area would require Whitehaven to set aside an existing property(s) that has similar cleared grazing land. Whitehaven presumes that under this scenario it would be required to cease agricultural production on the property, which would introduce a new economic and employment cost (i.e. lost agricultural production and employment). Depending on the amount of land required, the effect of locking up more local farming land for offsets could be significant and could be seen as being counter to the intent of the *New England North West Strategic Regional Land Use Plan* (NSW Department of Planning and Infrastructure [DP&I], 2012). At the same time that OEH is suggesting that the existing grassland areas be offset, the NSW Department of Primary Industries (DPI) Agriculture has raised in its submission (and during consultation while the EIS was being prepared) its desire to see that the Project minimises impacts to existing farming land and that the same amount of class II and III land that would be disturbed by the Project be re-instated. Whitehaven does not believe it is reasonable to be required to treat grassland that is currently farmed as an area that requires a biodiversity offset, at the same time it is being asked to ensure that the same farmland is reinstated in its original condition so that farming can continue.

COMMENT	RESPONSE
	Proposed Rehabilitation and Mine Closure Strategy Whitehaven has given due consideration to these apparently contradictory requests, and has formulated a biodiversity offset proposal and on-site rehabilitation and closure strategy that it believe strikes a balance between biodiversity and conservation values, and ongoing agricultural production.
Offsetting of non-EEC Native Vegetation Communities The OEH submission raised concern that four woodland/forest communities and one marshland community to be impacted by the Project are not represented in the biodiversity offset area, and one additional community has a very low offset ratio.	It is not correct that five vegetation types to be impacted by the Project are not represented in the biodiversity offset area: 1. White Box - White Cypress Pine Shrubby Woodland **Mature Cypress Forest** is the same vegetation type as the White Box - White Cypress Pine Shrubby Woodland which is present in the biodiversity offset area. Mature Cypress Forest is a variant resulting from past clearance and regrowth. 2. Silver-leaved Ironbark - White Box - White Cypress Pine Woodland **Semi-cleared** and Silver-leaved Ironbark - White Box - White Cypress Pine **Mature Cypress Woodland** are the same vegetation types with different conditions. These vegetation types (totalling 105 ha) are the same vegetation class as the Narrow-leaved Ironbark - White Cypress Pine Shrubby Open Forest which is present in the biodiversity offset area (418 ha). The Mixed Marsh Sedgeland (2 ha) is not included in the biodiversity offset area but instead Maules Creek runs along the western boundary of the area, and is fed by a number of drainage lines that occur within the biodiversity offset area and surrounds. These have been mapped according to the riparian vegetation (Bracteate Honeymyrtle Low Riparian Forest [60 ha] and River Oak – River Red Gum Riparian Forest [19 ha]). The Poplar Box Grassy Woodland - Derived Woodland is not present in the offset area, but Poplar Box Grassy Woodland - Derived Woodland occurs around the Project area in various scattered patches. As described in Section 4.10.3, Whitehaven would prepare a Farm Management Plan which would include selected areas of natural regeneration, including the Poplar Box Grassy Woodland. In summary, the proposed biodiversity offset area is larger and more diverse than the native vegetation woodland areas that would be cleared by the Project. Table 4-25 of the EIS presents the vegetation communities that occur within the Project area as well as those that occur within the biodiversity offset area. The fauna habitat present within the biodiversity offset areas is generally considered by Niche Environment and Heritage (Appendix E of the EIS) to be of much better quality than that present at the Project area. Niche Environment and Heritage (Appendix E of the EIS) and Whitehaven believe that the proposed biodiversity offset area provides a suitable offset against the residual flora and fauna impacts associated with the Project and that it would contribute to the Project providing a net improvement in biodiversity over time.
Formerly Rehabilitated Land has not been Considered The OEH submission requested that the further information about the current composition of the former Vickery rehabilitation areas be provided so that it can consider whether it should be offset or not.	The 405 ha area of previously disturbed land at Vickery was rehabilitated with the intention of re-creating grazing land. The areas consist of a sparse cover of a non-local Acacia species and a high cover (i.e. greater than 70%) of exotic perennial grasses African Lovegrass (*Eragrostis curvula*) and Rhodes Grass (*Chloris gayana*). As a result, these areas do not constitute a native vegetation type and therefore Whitehaven does not believe they need to be offset.
The Offset Ratios Stated in the EIS are Misleading The OEH submission stated that numerous references to biodiversity offset ratios in the EIS are incorrect and are misleading.	Section 4.9.4 and Appendix E of the EIS present offset ratios for the various communities that occur in the Project area and the biodiversity offset area. Whitehaven has not been deliberately misleading in presenting these ratios, and in fact has tried to clearly note where areas and ratios do and do not include derived grassland (refer to the two footnotes in Table 4-25 of the EIS). The derived grasslands are included in the offset as it is proposed that they would be restored to woodland/open woodland as shown in Table 4-27 of the EIS.
Presence of Coolatai Grass in the Biodiversity Offset Area The OEH submission raised concern about the presence of Coolatai grass in the biodiversity offset area.	Whitehaven has committed to the management of weeds within the biodiversity offset area (Sections 4.9.4 and 6.1 of Appendix E of the EIS). Specific details of the control measures to be used would be detailed in the Biodiversity Management Plan, which would be prepared in consultation with OEH.

COMMENT	RESPONSE
	Whitehaven acknowledges that Coolatai Grass is present within the biodiversity offset area in isolated patches. However, the occurrence of this species and level of infestation is similar to the adjacent Willeroi West area, which has been approved as a suitable biodiversity offset for the Tarrawonga Coal Project (Project Approval 11_0047). Whitehaven expects that the management of the two areas (i.e. Willeroi West and Willeroi East) would be undertaken as an integrated operation (preferably under one, rather than two, biodiversity management plans). This would increase the efficiency and effectiveness of weed management measures.
Differences Between the Threatened Species Considered to Occur at Each Site The OEH submission raised concern about the differences between the threatened flora and fauna species known or considered likely to occur at the Project area and the biodiversity offset area.	***Flora*** The EIS included a comprehensive process of identifying, surveying and assessing flora species that could potentially occur within the Project area. Of the 56 species considered to be potential occurrences only one species was recorded (i.e. the Winged Peppercress [*Lepidium monoplocoides*]). The impact assessment and proposed management of this species is presented in Sections 3.9.2 and 3.9.3 of the EIS, respectively. At the biodiversity offset area, one threatened flora species was recorded (i.e. Silky Swainson-pea [*Swainsonia sericea*]) out of the 20 species that were considered in the assessment (refer to Appendix K of Appendix E of the EIS). In summary, both sites have one recorded threatened flora species. The species are different, however Whitehaven believes that impacts on the Winged Peppercress at the Project area can be appropriately managed (as supported by the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* [EPBC Act] 'not a controlled action' decision), and that securing the biodiversity offset area in perpetuity would assist with the conservation of the Silky Swainson-pea. ***Fauna*** The OEH submission focuses on the differences between the Project site and the biodiversity offset area and ignores the substantial similarities and benefits that the biodiversity offset provides. Whitehaven considers that the similarities between the Project area and the biodiversity offset area outweigh the differences. The biodiversity offset provides for the threatened fauna species likely to be impacted by the Project. The threatened species assessment was conservative and included threatened fauna species not known to occur in the Project area. According to the OEH threatened species database, all threatened fauna species which use terrestrial habitat and were recorded during the Project surveys (Cenwest Environmental Services and Niche Environmental and Heritage [Appendix E of the EIS]) have known or potential habitat in the biodiversity offset area. Niche Environmental and Heritage (Appendix E of the EIS) describe that the Blue-billed Duck (which was recorded as a vagrant using a two old mine dams in the Project area) is not likely to occur in the biodiversity offset area. In fact, there are no known records of this species in natural habitat in the Liverpool Plains (Part B) CMA Subregion. A total of 26 threatened fauna species were conservatively considered in the impact assessment. Seven of these species were included in the impact assessment but were not recorded in the Project area, are unlikely to be significantly impacted and are not predicted to have potential habitat in the biodiversity offset area as listed below: • the Gilbert's Whistler and Beccari's Freetail-bat were included due to previous records at the Rocglen Coal Mine from RPS (2010), however, according to the OEH threatened species database, these species are not predicted or known to use the vegetation classes within the Project area; • records of the Powerful Owl were returned in the database search undertaken for the Project area (albeit some 100 km south of the Project area), however, according to the OEH threatened species database, this species is not predicted or known to use the vegetation classes within the Project area; • the Superb Parrot do not have records within 50 km of the Project area according to the OEH threatened species database;

COMMENT	RESPONSE
	• the only record of the Grey Falcon within 100 km of either site is a record east of Vickery State Forest; • there is a database record of the Eastern Freetail Bat near the Project area but this species is not known or predicted to occur within the CMA Region according to the OEH threatened species database; and • the Little Pied Bat only has a database record within Vickery State Forest and was not recorded in the Project area. The inclusion of these species in the Project area list was due to the consideration of results from previous nearby surveys and from a conservatively large database search. The OEH Atlas of Wildlife search for the Project area included the entire Liverpool Plains Interim Biogeographic Regionalisation for Australia (IBRA) sub-region (i.e. covered 941,752 ha), whereas the search area for the biodiversity offset was a 50 km radius search (i.e. approximately 785,000 ha) centred on the biodiversity offset area. The results of these search areas influenced the lists of potentially occurring threatened species. Taking into account the Blue-billed Duck and seven species listed above, the remaining 18 threatened fauna species which were assessed are either known to occur or are considered to potentially occur within the biodiversity offset area (and this assessment is supported by the OEH threatened species database). In addition to the above, the biodiversity offset area provides known habitat for a greater number of threatened fauna species than the Project area (a further four threatened fauna species and potential habitat for another six threatened fauna species). As discussed in the ecological impact assessment (Appendix E of the EIS), the Project is unlikely to result in a significant impact to any threatened fauna species, regardless of the proposed biodiversity offset. Further, the post-mining rehabilitation and biodiversity offset area enhancements would provide improved habitat opportunities for threatened fauna species. This outcome is considered to be consistent with the OEH (2012) offsetting principles.
Different landscape Context and Features Between the Sites, and Consideration of Maintain and Improve Offsetting Requirements The OEH submission raised concern about the location of the biodiversity offset being 35 km to the north of the Project area. The OEH submission suggested that the proposed biodiversity offset area has not been targeted to the biodiversity values being lost. The OEH submission also questioned the conclusion that the proposed biodiversity offset area meets a maintain or improve outcome for biodiversity.	The OEH submission notes that the biodiversity offset area is in the same CMA region, but also highlights that it is in a different sub-region (i.e. 'Bluevale' at the Project and 'Maules' at the biodiversity offset area) and different IBRA sub-regions ('Liverpool Plains' at the Project and 'Peel' at the biodiversity offset area). Whitehaven does not believe that either of these differences represent significant constraints. Figure 4-1 in Attachment A of this document shows the relevant CMA and IBRA sub-region boundaries. As shown on the figure, the Namoi CMA is divided into a multitude of sub-regions. The Bluevale and Maules sub-regions of the Namoi CMA region are located immediately adjacent to each other and the boundary between the two passes in an east-west direction between the Vickery and Tarrawonga mine sites. The Liverpool Plains and Peel IBRA sub-regions are also located adjacent to each other, with the boundary running in a north-south direction approximately 7 km to the west of the Willeroi West boundary (refer to Figure 4-1 in Attachment A of this document). As indicated on the figure, the same difference in IBRA sub-regions also applies to the Tarrawonga Coal Mine and its approved biodiversity offset at Willeroi West. Whitehaven acknowledges that the biodiversity offset area sits slightly higher in the landscape and has a greater range in topography than the Project area. However, despite these differences there are large areas of the biodiversity offset area that have the same or similar vegetation communities. Whitehaven also believes that the vegetation communities in the biodiversity area have equal or greater conservation status to the types of vegetation communities that would be lost. In addition, and as discussed in the above response, the biodiversity offset area provides good to very good habitat for a wide variety of fauna species, many of which occur (or potentially occur) within the Project area. Whitehaven believes that the location of the biodiversity offset area relative to the Project is reasonable. As described above in previous responses, the proposed Willeroi East biodiversity offset area is located immediately adjacent to the Willeroi West biodiversity offset area, which was recently approved as part of the Tarrawonga Coal Mine. As illustrated in Figure 4-22 of the EIS, the Tarrawonga and Vickery coal mines are located in close proximity to each other. As also shown on the figure, the proposed biodiversity offset area is well situated with regard to other offset areas and the Mount Kaputar National Park.

COMMENT	RESPONSE
	Whitehaven strongly disagrees with the OEH suggestion that the proposed biodiversity offset area was not targeted to the biodiversity values being lost. During the environmental impact assessment, Whitehaven conducted a detailed analysis of potential areas within the region that could potentially be used as biodiversity offset areas based on the OEH (2012) offsetting principles (in particular principles #6,#9, #10 and #11). This evaluation considered the biodiversity values of each potential area based on available information and site inspections where possible; and in the case of Willeroi East included detailed flora and fauna surveys. Table 4-28 of the EIS and Section 6.2.3 of Appendix E of the EIS provide a reconciliation of the proposed offset strategy against the OEH (2012) offsetting principles, and demonstrates that it satisfactorily addresses each. Whitehaven also considered other relevant factors when evaluating potential biodiversity offsets, including: • Known or potential coal resources beneath or in the vicinity of the potential offset area. • Ownership of the potential offset area (i.e. already owned by Whitehaven or could be acquired under reasonable terms). • Location of the potential offset area in relation to other areas of native vegetation, conservation reserves, offset areas and existing or future habitat corridors? • Loss of agricultural productivity, effect on agricultural industries and impact on BSAL if the potential offset area is locked up in perpetuity for conservation purposes. When these aspects are factored in, it is clear that some degree of compromise between the various aspects is likely to be required. By way of example, selecting an offset that exactly matched the range in topography at the Project area and only occurred in the CMA sub-region would mean that the only available options would be likely to occur above potential coal resources and/or high quality agricultural land. On balance, Whitehaven believes that the proposed biodiversity offset area provides a suitable offset against the residual flora and fauna impacts associated with the Project, and that it has demonstrated that the proposal satisfies the OEH (2012) offsetting principles.
Consideration of Impacts on Threatened Species	
Flora The OEH submission raised concern about the extrapolation of estimated population densities of Winged Peppercress (*Lepidium monoplocoides*) in the region. The OEH submission also recommended that a species management plan for *Lepidium monoplocoides* be required to be implemented as part of the Development Consent for the Project.	The Winged Peppercress population estimates contained in Section 4.9.2 of the EIS and Section 3.2.2 of Appendix E of the EIS were only provided to give an indication of the potential background population of the species in the locality. Whitehaven accepts that they are only rough estimates and that the actual size of the regional population could be larger or smaller. However, regardless of the actual regional population numbers, the direct counts of individuals recorded during the Project flora survey were: 420 individuals within the Canyon Rehabilitation Area; 283 individuals within the northern Pilliga State Forest; and 46 individuals within the Project area, which would be removed by the Project. Potential impacts on the Winged Peppercress were comprehensively assessed under the *Threatened species assessment guidelines – The assessment of significance* (DECC, 2007). The assessment is provided in Appendix E of the EIS and concludes that the Project is unlikely to significantly impact this species in the locality, provided that Whitehaven implements the management measures specified in the EPBC Act Notification of Referral Decision (EPBC 2012/6263) (refer to Sections 3.1.4 and 4.9.3 of the EIS). Whitehaven supports the OEH suggestion that management and monitoring requirements for the Winged Peppercress be formalised through a condition(s) in the Project Development Consent. Whitehaven suggests that the condition refers to and/or incorporates the requirements of the EPBC Act Notification of Referral Decision (EPBC 2012/6263). Whitehaven also suggests that the requirements be included in the Biodiversity Management Plan for the Project, rather than a separate management plan, as this would be more efficient from an operational perspective.

COMMENT	RESPONSE
Fauna The OEH submission raised concern about the assessment of potential impacts on koalas. The OEH submission states that it considers that the conclusion that the proposed development will not significantly impact the long-term viability of local populations of the Brown Treecreeper (eastern subspecies), Grey-crowned Babbler (eastern subspecies), Speckled Warbler and Hooded Robin (south-east form) within the study area to be invalid.	***Koala*** A database search of the Atlas of NSW Wildlife for the Koala was conducted in May 2012 for the area within a 50 km radius of the Project mining area. The results are shown on Figure 15b of Appendix E of the EIS. Although it is clear that the Gunnedah Local Government Area (LGA), and more broadly the Liverpool Plains (Part B) IBRA sub-bioregion, supports a healthy and viable population of Koala, the three most recent fauna surveys of the Project area and immediate surrounds have not detected this species. As a result, Whitehaven does not believe there is a resident population of Koalas in the Project area or immediate surrounds. As required by the DGRs, an assessment was undertaken in accordance with *State Environmental Planning Policy No. 44 - Koala Habitat Protection* (SEPP 44) (refer to Section 5.4 of Appendix E of the EIS). The assessment concluded that it is unlikely that the land represents core Koala habitat as defined in SEPP 44. Based on the findings of the Project area surveys, database searches, and SEPP 44 assessment results (Appendix E of the EIS), Whitehaven believes that the Project would not have a significant impact on the Koala. ***Woodland Bird Species*** Assessments of significance (i.e. Seven Part Tests) were conducted for the four species of woodland birds mentioned in the OEH submission (i.e. Brown Treecreeper [eastern subspecies], Grey-crowned Babbler [eastern subspecies], Speckled Warbler and Hooded Robin [south-east form]) and the findings are documented in Appendix E of Appendix E of the EIS. The assessments concluded that the Project is unlikely to significantly impact the local populations of any of these bird species. In the assessments it was noted that the connectivity between the Namoi River, Vickery State Forest and the Project area is currently poor and would be decreased by the Project (temporarily and before rehabilitation). However, the assessment also concluded that potential movement pathways for woodland birds to and from Vickery State Forest from the north and south-east would be unaffected. As identified in Section 4.10.2 of the EIS, it is also important to consider that the Project clearing would occur progressively over the 30 year mine life (i.e. not all at once) and the progressive rehabilitation of the mine landforms would result in the re-establishment of woodland/forest. For example, Figure 2-5 of the EIS shows the Project general arrangement in Year 7 and clearly illustrates the areas of progressive rehabilitation on the Eastern Emplacement and south-west batters of the Western Emplacement. When the figure is compared to the aerial photograph of the Project area (e.g. Figure 2-3a of the EIS) it is clear that there are large areas of native vegetation within the Project disturbance footprint that would be undisturbed (i.e. most of the area between Hoad Lane and the eastern edge of the open pit, and most of the areas within Mining Lease Application (MLA) area 1). Whitehaven believes that the proposed biodiversity offset area would provide a suitable offset against the residual impacts on these woodland bird species. The biodiversity offset area is not considered by Niche Environment and Heritage (Appendix E of the EIS) to be marginal habitat for these four species since: • the Brown Treecreeper (eastern subspecies) has been recorded in both the Willeroi East and the Willeroi West areas, and nine records exist within a 10 km radius (BirdLife Australia Atlas); • the Hooded Robin (south-east form) has been recorded at Willeroi East and Willeroi West; • the Speckled Warbler was recorded at Willeroi East, and one previous record exists within a 10 km radius (BirdLife Australia Atlas); and • the Grey-crowned Babbler (eastern subspecies) was recorded at Willeroi West, and one previous record exists within a 10 km radius (BirdLife Australia Atlas).

COMMENT	RESPONSE
Accuracy of Regionally Significant Vegetation Mapping	
The OEH submission requested that the Proponent provide it with digital shapefiles showing the location of plots, as well as floristic plot and rapid plot data.	Whitehaven provided the DP&I and OEH with the requested data on 25 June 2013. A detailed description of the methodology used during the Project vegetation surveys is provided in Section 2.1 of Appendix E of the EIS.
Groundwater Dependent Ecosystems	
The OEH submission questioned the conclusion that groundwater dependent ecosystems (GDEs) would not be significantly impacted by the Project.	The Project open cut is located within the Maules Creek Formation. The location of this Formation is shown on Figures 4-8a, 4-8b and 4-8c of the EIS, and its hydrogeological characteristics are described in Section 4.4.1 and Appendix A of the EIS. The available monitoring data shows that groundwater aquifer typically occurs 20 to 50 m below the surface within the Maules Creek Formation at the Project area. This aquifer is regarded as being low yielding and generally having poorer quality water. The adjoining Upper Namoi Groundwater System is also shown on Figures 4-8a, 4-8b and 4-8c and is described in the EIS. This system typically has shallower groundwater (i.e. 10 to 14 m below the surface) and is extensively used for irrigation and other beneficial uses, particularly in areas close to the Namoi River. It is likely that the River Red Gum Riverine Woodland community that fringes the Namoi River is at least partially dependant on groundwater in the Upper Namoi Groundwater System. The mapped location of the River Red Gum Riverine Woodland community adjacent to the Project mining area is shown on Figure 4-19 and in Appendix E of the EIS. The comprehensive modelling conducted as part of the Groundwater Assessment (Appendix A of the EIS) has concluded that the predicted groundwater drawdown effect associated with the Project would be contained within the Maules Creek Formation 'island' in which the Project is located (refer to Section 4.4.2 and Appendix A of the EIS). No significant impacts on the Upper Namoi Groundwater System aquifer are predicted to occur. As a result, the Project is not predicted to significantly impact any groundwater dependent vegetation communities as none occur in the Maules Creek Formation 'island' and the adjoining Upper Namoi Groundwater System would not be significantly impacted.
Flooding Impacts	
Adequacy of the Assessment of Flooding Impacts	The flood modelling conducted as part of the EIS used the Namoi River MIKE-11 flood model developed by the NSW Office of Water (NOW), with additional cross-sections added to represent the topography of the streams and floodplain in the vicinity of the proposed overpass (refer to Section 7.3.2 of Appendix B of the EIS). As described in the EIS, the model was used to predict flood levels with and without the proposed overpass during a simulated flood event equivalent to the 1955 flood. The results of the modelling are presented in Appendix D of Appendix B of the EIS and summarised in Section 4.5.2 of the EIS. Whitehaven considers that the flood assessment conducted as part of the EIS is adequate to predict potential flooding impacts in the vicinity of the overpass. However, Whitehaven also acknowledges that further detailed design is required, and several other approvals and licences need to be obtained before construction can commence. As described in Section 4.5.3 of the EIS, the detailed design of the private haul road and Kamilaroi Highway overpass would be conducted in consultation with NSW Roads and Maritime Services (RMS), GSC, NOW and the OEH Inland Flood Unit. The detailed design would include consideration of design details that would assist with minimising flood impacts (e.g. culvert sizing and placement within the road infrastructure, potential provision of a causeway, height of the road above the surrounding topography and width of the gap where the overpass crosses the Kamilaroi Highway). Whitehaven acknowledges the requirement noted by the OEH Inland Flood Unit at a meeting held on 13 June 2013 (and in the NOW submission) that the overpass design be consistent with the aims and principles of the *Carroll to Boggabri Floodplain Management Plan* so that the works can be licensed under Part 8 of the NSW *Water Act, 1912*. Whitehaven suggests that this requirement could be included as a condition of Project Development Consent, and that it would specify that Whitehaven must demonstrate through appropriate modelling that the design addresses the relevant criteria.

COMMENT	RESPONSE
	Further discussion of the relevant criteria is provided in this document in response to comments raised by NOW and provides an analysis based on the modelling reported in the EIS which demonstrates that, with minor exceptions, the Project meets the criteria for issue of a complying works approval. With the proposed modification of the haul road during detailed design, and subsequent further hydraulic modelling, it is anticipated that the haul road will achieve full compliance.
Aboriginal Cultural Heritage	
1. Survey Coverage and Methodology The OEH submission commented that the survey method had adequately examined the mine easement for Aboriginal surface sites using a stratified sampling approach supported by field inspection. OEH also commented that all surface areas of proposed impact had been adequately observed and recorded and an understanding of Aboriginal surface sites is clear relative to the mine proposal and its proposed infrastructure.	Comment noted.
2. Subsurface Potential for Aboriginal Sites The OEH submission commented that the survey coverage results showed that the ground surface conditions have played a role in obscuring survey results with surface exposure ranging low from 5 to 20% and that this has been mostly as a result of thick paddock grasses. The OEH submission also commented that the Aboriginal Cultural Heritage Assessment (ACHA) report does not include an effective coverage analysis so effectiveness of the survey overall to determine Aboriginal site boundaries is based on sighting objects on the surface as opposed to the method proscribed in the Code of Archaeological Practice (NSW Department of Environment, Climate Change and Water [DECCW], 2010a). However, OEH submission noted that the report's results have however successfully shown that Aboriginal sites are widely distributed across the easement and that a pattern of site density occurs among select landforms.	Comments noted.
3. Proposed Impacts to ACH The OEH submission commented that the total number of Aboriginal sites that were discovered and those to be impacted was unclear: *Page forty, Section 8.3 states that 34 sites were recorded whereas page fifty section 11.3 states 40. The report states that a total of 24 sites will be impacted and a further six are closely located to a proposed waste emplacement, although page 56 states that 32 sites will be salvaged. Site impacts seem high overall.* The OEH submission stated that subsurface artefacts are likely to occur in the vicinity of the Namoi River where the private haul road and Kamilaroi Overpass is proposed. The OEH submission also stated that it accepted the evaluation of the potential for vibration impacts from blasting on the grinding groove site (Aboriginal Heritage Information Management System [AHIMS] 20-4-0009) and the proposed monitoring method.	In Section 8.3 of the ACHA (Appendix I of the EIS), the report states that a *...total of 34 Aboriginal cultural heritage sites... were identified during the field surveys of the Project mining area. Six sites were identified in the proposed haul road and overpass Project area*. This brings the total number of Aboriginal sites to 40, as stated in Section 11.3 of the ACHA (Appendix I of the EIS). Section 11.3 of the ACHA (Appendix I of the EIS) describes that the Project would result in a total loss of value for 24 known sites, and a partial loss of value for eight sites, resulting in the 32 sites recommended for salvage. Whitehaven met with the OEH on 4 June 2013 to discuss its submission, including the comments pertaining to the likelihood of subsurface artefacts and future research activities to further improve the knowledge of the spatial distribution of artefacts across the landscape, and their cultural context and significance within the Project area and surrounds. Whitehaven would conduct subsurface investigations within the Project area (including the private haul road and Kamilaroi Overpass) as part of the Heritage Management Plan. The Heritage Management Plan would describe the subsurface investigations, and would be prepared in consultation with the Aboriginal community and OEH. The OEH's comment regarding the grinding groove site is noted.

COMMENT	RESPONSE
4. Subsurface Investigation The OEH submission stated that a subsurface test program should be considered as part of the Aboriginal Heritage Management Plan.	Whitehaven supports OEH's initiative to use the information gained from subsurface investigations to increase the knowledge of Aboriginal land use across the region. Whitehaven would consult with OEH and the Aboriginal community during the preparation of the Heritage Management Plan. One of the objectives of this consultation would be to define the scope and methodology of the subsurface investigations, and in particular, how the investigations could be used to improve the knowledge Aboriginal land use, cultural context and significance in the Project area and surrounds.
5. Assessment of Site Significance The OEH submission stated that there has been no documented analysis of site content or indication if this has been undertaken during the development of the heritage management plan.	A discussion of the content of each recorded site is provided in Sections 6, 8 and 9 of the ACHA (Appendix I of the EIS). Detailed analysis of each of the sites that would be impacted by the Project would be contained in the Heritage Management Plan. Whitehaven expects that a requirement to prepare and implement a Heritage Management Plan would be included as a condition of the Project Development Consent, and that it would need to be developed in consultation with the Aboriginal community and OEH. Aboriginal heritage significance values would be reviewed as part of the development of the Heritage Management Plan should any additional information be obtained through that process.
6. Consultation with the Registered Aboriginal Parties The OEH submission stated that the 2010 consultation guidelines have not been fully complied with.	As described above, Whitehaven met with the OEH on 4 June 2013 to discuss its submission, including its comments regarding the consultation guidelines. At the meeting Whitehaven explained that the ACHA (Appendix I of the EIS) was prepared in accordance with the following guidelines: • *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). • *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974*) (DECCW, 2010b). • *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b). • *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (NSW Department of Environment and Conservation [DEC], 2005). • The Australia International Council on Monuments and Sites (ICOMOS) Burra Charter (Australia ICOMOS, 1999). • *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NSW National Parks and Wildlife Service [NPWS], 1997). • *Ask First; A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission, 2002). • *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council, 2010). In addition, the consultation undertaken for the Project was consistent with the requirements set out in the NSW *National Parks and Wildlife Regulation, 2009*. Whitehaven explained that meetings were held during the Proposed Methodology review period and the draft ACHA review period, and that all registered Aboriginal parties were invited to attend. Whitehaven explained to the OEH that consultation with registered Aboriginal parties regarding the Project continued during and beyond the period that the ACHA was being finalised in October 2012. This consultation included a site inspection with Senior Elders in November 2012, during which the Elders requested that no specific information provided by them during the inspection be used or replicated during the EIS. Accordingly, the ACHA (Appendix I of the EIS) did not include any specifics of this meeting (although it is noted as having occurred in Table 4-37 of Section 4.13.1 of the EIS). In addition to the face-to-face meetings, all registered stakeholders were invited and encouraged to provide feedback and/or comment on any component of the Project, cultural significance and the proposed management measures at any time throughout the consultation process in any form that they were able (e.g. verbally or in writing).

COMMENT	RESPONSE
	Whitehaven explained to the OEH that a summary of the relevant comments received and how they were addressed was presented in Sections 4.2.2 and 4.4 of the ACHA (Appendix I of the EIS). Whitehaven explained to the OEH that many of the submissions contained comments that related to the same or similar aspects, and that as a result the responses were able to be consolidated into 21 'issues' (i.e. Table 5 in the ACHA [Appendix I of the EIS]). Whitehaven also explained to the OEH at the 4 June 2013 meeting that although all aspects were considered, there were some aspects raised in the comments that were not directly relevant to the ACHA and were therefore not specifically responded to in the ACHA (Appendix I of the EIS). The OEH suggested that for completeness these could be described in this Response to Submissions document. To this end they have been included below under the heading "Additional Supporting Information".
ISSUES 1 to 5 In addition to the above comments, the OEH submission included five issues with corresponding recommendations. Responses to each are provided below.	
OEH Issue 1 **-** The OEH submission expressed concern about limited information of site analysis and subsurface investigation. ***OEH Recommendation 1*** **–** Further investigation of ACH values be conducted during the Aboriginal Heritage Management Plan process post approval.	A discussion of the sites identified during the field surveys is provided in Section 8 of the ACHA (Appendix I of the EIS), along with the relevant Site Cards presented in Appendix 8 of the ACHA (Appendix I of the EIS). A Heritage Management Plan would be developed for the Project in consultation with the Aboriginal community and the OEH to define, develop and formalise the management and mitigation measures described in Section 12 of the ACHA (Appendix I of the EIS), including a subsurface investigation program. As per the previous response, Whitehaven supports OEH's initiative to use the information gained from subsurface investigations to increase the knowledge of Aboriginal land use across the region.
OEH Issue 2 **–** The OEH submission expressed concern that the total number of sites to be destroyed by the Project in addition to those impacted by the earlier Vickery Coal Mine is significant. The OEH was also concerned that expansion could occur in the future south into Exploration Licence (EL) 7407 and further eastward into the Vickery State Forest. ***OEH Recommendation 2*** **-** OEH strongly advocated that the parcel of land outside of the western tenement boundary east of the Namoi River (refer to Figure 4 of the ACHA [Appendix I of the EIS]) be protected; particularly the surface scatter associated with axe grinding groove site in AHIMS site number 20-4-0009.	As described in Attachment 4 of the EIS, Whitehaven acquired the Vickery South EL 7407, located immediately to the south of the Project, in July 2012. Whitehaven is currently reviewing the exploration data and conducting feasibility studies to determine the development potential of the Vickery South deposit. As only exploration activities are currently proposed to be conducted within EL 7407, any future proposal to develop the Vickery South coal resource (or to expand the Project to the east into the Vickery State Forest) would be subject to separate assessment and approval processes, including cultural heritage assessments and consultation. Whitehaven notes the OEH's comments regarding the protection of the axe grinding groove site and associated surface scatter. The management measures to be adopted at this site would be documented in the Heritage Management Plan, which would be prepared in consultation with OEH and the Aboriginal community.
OEH Recommendation 2a **-** The OEH submission noted that the proposal indicated exploration would be ongoing. The OEH strongly requested that the Proponent ensure that adequate assessment for Aboriginal objects be undertaken prior to exploration. The OEH noted that in areas outside of the Project area exploration drilling must adhere to the Code of Practice for Protection Aboriginal Objects in NSW. The OEH noted in its submission that it is of the view that the pastoral land use history along the Namoi River has not negated ACH site values and their potential for site interpretation.	Whitehaven notes the OEH's comments with regard to the need for adequate cultural heritage assessment in exploration areas. The Heritage Management Plan would detail the procedure for managing potential impacts to Aboriginal heritage associated with ongoing exploration within the Project area. Any exploration undertaken by Whitehaven outside of the Project area would be undertaken consistent with the appropriate legislation and guidelines.

COMMENT	RESPONSE
OEH Issue 3 – The OEH submission noted that the ACHA recommendation about encountering skeletal remains was not satisfactory (i.e. the ACHA recommendation stated that *if remains are thought to be less than 100 years old the Police or State Coroner's Office be contacted*). ***OEH Recommendation 3 –*** The OEH submission noted that it is standard practice for Police to be contacted immediately irrespective of subjective views about age estimates of the remains. The OEH submission referred to the procedures set out in the DECCW Aboriginal skeletal manual, which was developed in partnership with NSW Police.	Whitehaven notes the OEH's comment with regard to notifying police if skeletal remains are encountered. Whitehaven would adopt management measures at the Project that are consistent with the OEH and NSW Police requirements and the DECCW Aboriginal skeletal manual. Whitehaven specifically discussed this matter with the OEH at the meeting held on 4 June 2013. At the meeting it was agreed that the Heritage Management Plan would be the appropriate place for Whitehaven to document the skeletal notification protocol and management practices that would be adopted.
OEH Issue 4a – The OEH submission noted that the ACHA had not included all comments received from registered Aboriginal parties relating to the proposed methodology. ***OEH Recommendation 4a -*** The OEH submission stated that the Proponent needs to demonstrate how these comments were considered.	As described above, at the meeting held on 4 June 2013 Whitehaven explained to the OEH that although all comments on the draft ACHA were considered, there were some aspects raised that were not directly relevant to the ACHA and were therefore not specifically responded to in the ACHA (Appendix I of the EIS). It was agreed with the OEH at the meeting for completeness these could be described in this Response to Submissions document. To this end they have been included below under the heading "Additional Supporting Information".
OEH Issue 4b – The OEH submission raised concern that not all of the comments on the draft ACHA from the registered Aboriginal parties had been considered. ***OEH Recommendation 4b -*** The OEH stated that Whitehaven would need to ensure that it has responded to all issues and concerns raised by the registered Aboriginal parties.	As described above, at the meeting held on 4 June 2013 Whitehaven explained to the OEH that although all comments on the draft ACHA were considered, there were some aspects raised that were not directly relevant to the ACHA and were therefore not specifically responded to in the ACHA (Appendix I of the EIS). It was agreed with the OEH at the meeting for completeness these could be described in this Response to Submissions document. To this end they have been included below under the heading "Additional Supporting Information".
OEH Issue 4c - The OEH submission noted that there is no mention of how the final ACHA was made available to the registered Aboriginal parties in the consultation log. ***OEH Recommendation 4c -*** The OEH requested that Whitehaven demonstrate how this has occurred.	The final ACHA report (Appendix I of the EIS) was provided to all registered Aboriginal groups as part of the distribution of the EIS during the public exhibition period in March-April 2013. As this distribution occurred after the finalisation of the ACHA in October 2012, it was not able to be included in the ACHA consultation logs. Whitehaven explained the above chronology to the OEH at the meeting held on 4 June 2013 and the OEH agreed that it had satisfied the relevant consultation requirement and a retrospective edit to the consultation log provided in the ACHA would therefore not be necessary.
OEH Issue 4d – It its submission the OEH noted that it had been informed of other meetings and site visits that had been undertaken in relation to the Project but did not appear to be in the consultation log contained in the ACHA. ***OEH Recommendation 4d -*** The OEH requested that Whitehaven check the consultation log to ensure all meeting and site visit are recorded.	As described above, at the meeting held on 4 June 2013 Whitehaven explained to the OEH that meetings were held during the Proposed Methodology review period and the draft ACHA review period, and that all registered Aboriginal parties were invited to attend. Whitehaven explained to the OEH that consultation with Aboriginal stakeholders regarding the Project continued during and beyond the period that the ACHA was being finalised in October 2012. This consultation included a site inspection with Senior Elders in November 2012, during which the Elders requested that no information provided by them during the inspection be used or replicated during the EIS. Accordingly, the ACHA (Appendix I of the EIS) did not include any specifics of this meeting (although it is noted as having occurred in Table 4-37 of Section 4.13.1 of the EIS). Whitehaven explained the above chronology and the OEH agreed at the 4 June 2013 meeting that it had satisfied the relevant consultation requirement and therefore a retrospective edit to the consultation log provided in the ACHA would not be necessary.
OEH Issue 5 - The OEH submission noted that the heading of Table 15 of the ACHA should be changed as the table only relates to Archaeological significance. ***OEH Recommendation 5 –*** The OEH requested that the table heading be changed.	Whitehaven discussed this matter with the OEH at the meeting held on 4 June 2013. At the meeting it was agreed with OEH that although the wording of the table's title could have been more specific, it did not materially alter the findings of the assessment. The OEH agreed that an edit to the ACHA to change the table's title was not required, and Whitehaven undertook to ensure that the title of the corresponding table in the Heritage Management Plan used the wording *Archaeological Significance Rating for Recorded Sites*.

COMMENT	RESPONSE
Additional Supporting Information ***(Following meeting between Whitehaven and OEH held on 4 June 2013)***	As described above, Whitehaven and OEH met on 4 June 2013 to discuss the OEH submission regarding the ACHA. At that meeting OEH requested that Whitehaven include in its Response to Submissions document the additional questions from the registered Aboriginal parties that were not relevant to the scope of the ACHA. The text below summarises the additional questions and provides additional clarifying information. Complete copies of the comments from registered Aboriginal parties received on the draft ACHA are provided in Appendix D of the ACHA (Appendix I of the EIS). *Additional Issue 1*: The letter from Cacatua General Services dated 26 September 2012 included a list of 10 management strategies and indicated that they require discussion with "Aboriginal registrants for inclusion in the revised ACHA". *Response*: This issue was grouped with other issues raised that relate to detailed management over the life of the Project (i.e. Issue 7 in Table 5 of the ACHA [Appendix I of the EIS]). As described in Section 12 of the ACHA (Appendix I of the EIS) (and in Table 5 of the ACHA – how issues were considered), management measures were included in the draft ACHA for review and comment by the registered Aboriginal parties. These were subsequently reviewed following receipt of comment, updated and included in the finalised ACHA. The finalised ACHA was then again provided to each of the registered Aboriginal parties as part of the EIS public exhibition process in March-April 2013. As stated in the ACHA (Appendix I of the EIS), a Heritage Management Plan would be required should the Project be approved and the proposed management measures would be developed in detail as part of its development, in consultation with OEH and Aboriginal stakeholders. *Additional Issue 2*: The letter from Cacatua General Services dated 26 September 2012 stated that the ACHA should include a copy of the DGRs for the Project. *Response*: The DGRs are a guiding document for the whole EIS and do not provide detailed assessment requirements for the ACHA. A copy of the DGRs was included as Attachment 1 of the EIS (which was provided to each of the registered Aboriginal parties) and was available on the DP&I website throughout the EIS (including the ACHA) development. This was explained to the registered Aboriginal parties at the meeting held in September 2012 to discuss the draft ACHA. *Additional Issue 3*: The letter from Cacatua General Services dated 26 September 2012 stated that the draft ACHA did not provide an adequate discussion of what the archaeological findings indicate in regard to how Aboriginal people used the landscape. *Response*: This issue was grouped with other issues raised that relate to archaeological potential (i.e. Issue 9 in Table 5 of the ACHA [Appendix I of the EIS]). Section 9.2.3 of the ACHA (Appendix I of the EIS) also provides specific discussion regarding possible use of the landscape by Aboriginal people and relates it back to the archaeological findings of the ACHA, as quoted below: *It is probable that the Aborigines who occupied the Project area were hunter-fisher-gatherers employing both foraging and collecting subsistence strategies. These people would have primarily occupied the riparian zone of the Namoi River, for example manufacturing stone axes at the axe-grinding groove site (AHIMS site number 20-4-0009), dispersing from the riverine corridor to exploit ephemeral resources of the drier hinterland during favourable climatic conditions, as invoked in the subsistence model of O'Rourke (1997).* *Only small areas were investigated in a heterogeneous landscape, but it is probable that the archaeological record reflects the occupation of the Namoi River corridor and its drier, immediate hinterland by both larger, family groups and smaller, mobile bands.* *The archaeology of the Project area probably mainly derives from temporary sites used by small groups or individuals. The small number and density of stone artefacts, paucity of formal implement types, suggests that Aboriginal people only visited or occupied most of the cultural heritage places for brief periods on an intermittent basis.* *Additional Issue 4:* The letter from Cacatua General Services dated 26 September 2012 noted that the draft ACHA states there would be ongoing consultation with the Aboriginal stakeholders over the life of the Project and requested that the ACHA therefore includes a detailed framework for this involvement, including specific protocols for ongoing consultation/communication. In addition, the letter acknowledged that the ACHA recommended Aboriginal cultural awareness training be undertaken as part of the induction process for site employees and provided examples of appropriate approaches to achieve this.

COMMENT	RESPONSE
	Response: This issue was grouped with other issues raised that relate to detailed management over the life of the Project (i.e. Issue 7 in Table 5 of the ACHA [Appendix I of the EIS]). As described in Section 12 of the ACHA (Appendix I of the EIS), a Heritage Management Plan would be developed for the Project. The Heritage Management Plan would contain further detail on the proposed management measures and involvement of the Aboriginal community. The Heritage Management Plan would be developed in consultation with the OEH and registered Aboriginal parties. *Additional Issue 5:* The letter from Cacatua General Services dated 26 September 2012 commented on the blast impact assessment for the grinding groove site (20-4-0009) and requested that monitoring of blast vibration be discussed with Aboriginal stakeholders. *Response:* Similar to the above issues, this comment was grouped with other issues raised that relate to detailed management of Aboriginal heritage over the life of the Project (i.e. Issue 7 in Table 5 of the ACHA [Appendix I of the EIS]). A comprehensive blasting impact assessment (including impacts on the grinding grove site) was conducted as part of the EIS, with the results summarised in Section 4.6 and presented in detail in Appendix C of the EIS. The registered Aboriginal parties were provided with a copy of the full EIS during the exhibition period in March-April 2013. As described in the EIS, a Blast Monitoring Program would be implemented at the Project. Details of the Program would be provided in the Blast Management Plan, which would be prepared in consultation with relevant stakeholders. *Additional Issue 6:* The letter from Cacatua General Services dated 26 September 2012 stated under the heading 'Development Proposal and Future Detailed Design' that the ACHA should clearly identify that any infrastructure placed beyond the Project disturbance area of the assessment would require approval of the DP&I through a Project modification application. The letter also stated that the ACHA should identify that additional or relocated infrastructure will be assessed and managed, including inspections by a field team of Aboriginal registrants and archaeologists. *Response:* Whitehaven is only seeking approval for the Project described and assessed in the EIS. The comment in the Cacatua General Services letter was not specifically responded to in the ACHA because it relates to a hypothetical scenario (i.e. what process will be followed if the Project is modified in the future). Whitehaven acknowledges that modifications to the Project could potentially be required in the future, however the environmental and cultural heritage impact assessment, consultation, and approval requirements would depend on the nature of the proposed modification and the timing of the modification. It should be noted that the remainder of the EIS also does not contemplate or describe potential modifications to the Project for the same reason. *Additional Issue 7:* The letter from Cacatua General Services dated 26 September 2012 stated that even if the information required in a technical archaeological appendix had been integrated into the main text of the ACHA the requirements of the relevant guidelines were still relevant and should be demonstrated in the report. *Response:* The ACHA was prepared in accordance with the relevant guidelines (refer to the list provided above). Inclusion of a technical archaeological appendix is not specifically required under these guidelines. *Additional Issue 8:* The letter from Cacatua General Services dated 26 September 2012 stated that the predictive model was limited as it *does not characterise the likely patterning of archaeological sites based on known social behaviour of past Aboriginal use of the area, or make inferences about past Aboriginal occupation of the landscape; both of which are specifically required by DECCW (2012) Code of Practice*. *Response:* This issue was grouped with other similar issues raised in the letter and considered in Table 5 of the ACHA (Appendix I of the EIS). An assessment of the ethno-historical context and prehistoric context of the Project area is presented in Sections 6.1 and 6.2 of the ACHA (Appendix I of the EIS), including a discussion of the history of the area where details are provided on historical events that took place in the region, previous indigenous use of the landscape, the use of Aboriginal objects and the reasons for their observed and likely distribution.

COMMENT	RESPONSE
	These assessments and the information obtained from the registered Aboriginal parties during the consultation process, were used to inform the development of the predictive model which is presented in Section 7.1 of the ACHA (Appendix I of the EIS). The predictive model was prepared in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). An assessment of the potential for previously unidentified Aboriginal cultural heritage to occur in the Project area is provided in Section 11.4 of the ACHA (Appendix I of the EIS). The assessment discusses the likelihood of surface sites and their distribution within the Project area as well as the likelihood of subsurface cultural deposits. An assessment of this nature extending beyond the boundaries of the Project area was not considered to be warranted for the purposes of the ACHA. As stated in Sections 9.1 and 11.4 of the ACHA (Appendix I of the EIS), the *...Project area does not contain culturally sensitive landforms such as lunettes or source-boarding sand dunes...* Notwithstanding, an assessment of the archaeological potential of landforms within the Project area was provided in Sections 9 and 11 of the ACHA (Appendix I of the EIS). An impact assessment of the Project on landforms within the Project area was conducted and is provided in Section 11 of the ACHA (Appendix I of the EIS). *Additional Issue 9:* The letter from Cacatua General Services dated 26 September 2012 stated that the ACHA included limited ethno-historic research, provides no detail on archaeological survey coverage and effectiveness, does not provide detail on known archaeological sites and does not assess the archaeological potential of specific landforms within the Project area. *Response:* These issues were each considered and addressed in Table 5 of the ACHA (Appendix I of the EIS) with additional information included in some cases in the ACHA as a result of the comments. In Table 5 of the ACHA (Appendix I of the EIS): • Ethno-historic research is addressed as Issue 3. • Detail on the archaeological survey coverage and effectiveness is addressed as Issue 5. • Detail on the known archaeological sites is addressed as Issue 6. • Archaeological potential of landforms with the Project area is addressed as Issues 9 and 12. *Additional Issue 10:* The letter from Cacatua General Services dated 26 September 2012 stated that the ACHA does not provide an assessment of the historic significance and the specific places/objects contained in it. *Response:* This issue was considered and addressed in Table 5 of the ACHA (Appendix I of the EIS) (as Issue 21) with additional information included in the ACHA in response. Historic significance for each site was provided in Table 15 of the ACHA (Appendix I of the EIS). *Additional Issue 11:* The letter from Cacatua General Services dated 26 September 2012 stated that the ACHA should be clear that social significance is determined by Aboriginal people and is not for the archaeologist to substantiate or interpret it. Also that the ACHA should be clear that consultation was undertaken with representatives of the "registered Aboriginal parties" and not the "Aboriginal community" as their views may differ and not necessarily represent the whole community. *Response:* These issues were grouped with other similar issues relating to cultural and social significance. Table 3 of the ACHA (Appendix I of the EIS) (Issues 1 and 19) acknowledge and respond to these issue. It is clear in Section 10.2 of the ACHA (Appendix I of the EIS) that cultural significance is sometimes not in accord with archaeological significance and also that the cultural values documented in the ACHA are as provided by the registered Aboriginal parties. Section 4.2 of the ACHA (Appendix I of the EIS) states that consultation was undertaken via the registered Aboriginal parties.

COMMENT	RESPONSE
	Additional Issue 12: The letter from Cacatua General Services dated 26 September 2012 stated that the ACHA should be amended to describe what process was undertaken to provide opportunity for social significance to be discussed and documented. *Response:* This issue was grouped with other similar issues relating to cultural and social significance. Table 3 of the ACHA (Appendix I of the EIS) (Issues 1, 2, 3) respond to this issue. The ACHA provides a clear description of the consultation undertaken throughout the development of the ACHA, up to the point that the ACHA was finalised. Additional consultation with the registered Aboriginal parties, including consultation with senior Aboriginal Elders, occurred after finalisation of the ACHA and was therefore described in Section 4.13.1 of the EIS (as described in greater detail in the above responses). *Additional Issue 13:* The letter from Cacatua General Services dated 26 September 2012 stated that the ACHA should consider the principles of ecologically sustainable development, in particular the principle of inter-generational equity. *Response:* Section 11 of the ACHA (Appendix I of the EIS) states *In accordance with the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011), the principles of ecologically sustainable development (ESD) were considered in assessing the likely harm of the Project to Aboriginal objects*. *Additional Issue 14:* The email from Deslee Talbott Consultant dated 12 November 2011 included comments about surface collection and excavation methodology. *Response:* The comments regarding surface collection contained in the email were considered by the Archaeologist. Sections 7.2 and 7.3 of the ACHA (Appendix I of the EIS) describe the field methodology and recording methods that were used. The details of artefacts found during the surveys were recorded, and included photographs of each site. The comments regarding subsurface excavations were considered, however because no subsurface excavations were undertaken as part of the ACHA they were not regarded as being directly relevant and were therefore not discussed further. Notwithstanding, and as described above, Whitehaven would conduct subsurface investigations within the Project area (including the private haul road and Kamilaroi Overpass) as part of the Heritage Management Plan. The Heritage Management Plan would describe the subsurface investigations (including the methodology), and would be prepared in consultation with the Aboriginal community and OEH. The excavation methodology comments contained in the email from Deslee Talbott Consultant dated 12 November would be incorporated as part of this consultation.
DEPARTMENT OF TRADE AND INVESTMENT, REGIONAL INFRASTRUCTURE AND SERVICES – DIVISION OF RESOURCES AND ENERGY	
Mining Titles The NSW Department of Trade and Investment, Regional Infrastructure and Services – Division of Resources and Energy (DRE) submission stated that since coal is a prescribed mineral under the NSW *Mining Act, 1992*, the Proponent is required to hold appropriate mining titles. The submission also noted that the Proponent will be required to prepare MOPs and Annual Environmental Management Reports.	Whitehaven has lodged a mining lease application for all parts of the Project (with the exception of the private haul road and Kamilaroi Highway overpass areas, and the areas covered by existing tenement Coal Lease [CL] 316). The application has been given number MLA 447 by the Titles Branch of the DRE. Finalisation of the titles would only occur after the Project Development Consent is issued.
Final Voids The DRE submission recommended that all spoil material not required to fill the last active pit be diverted to the void of the non-active pit following completion of excavation and not be used to develop an emplacement above the pre-mining condition.	Both open cut pits would be active until the end of the Project life. Notwithstanding, Whitehaven notes the DREs comment with regard to infilling the available open cut voids areas and minimising placement of overburden above the pre-mining topography. To this end, Whitehaven would refine the mine plan for the Project over the life of the mine (via the MOP, the Rehabilitation Management Plan, and the Final Void and Mine Closure Plan) so that the final landform and backfill configuration meets the relevant closure objectives.

COMMENT	RESPONSE
Rehabilitation The DRE submission raised concern with regard to the Proponents commitments regarding dust suppression and rehabilitation in years with below average rainfall.	The DRE submission states that the surface water balance modelling was based on above average rainfall being indicative of rainfall over the 30 year life of the mine. It implies that because of this the modelling was deficient and Whitehaven would therefore not have the capability to undertake rehabilitation and dust suppression of active areas. Whitehaven does not agree with this interpretation. The Project water balance modelling was not based on above average rainfall conditions. In fact, the assessment of the performance of the Project Water Management System (i.e. including supply and containment) was comprehensive and was based on average, minimum, 10th, 50th, 90th and maximum percentile (%ile) rainfall statistics over 110, 30-year model simulated 'realisations'. Realisation 1 used climatic data from 1899 to 1928; realisation 2 used data from 1900 to 1929; and so on. The model recorded results on each day of each realisation and then ranked these to calculate the 10%ile and 90%ile as well as average, minimum and maximum (refer to Section 2.9.3 of the EIS). Figure 2-17 of the EIS shows the anticipated median water requirement and 90%ile water requirement from external water sources over the life of the mine (i.e. during very dry scenarios). It is anticipated that the external surface water demand would peak in Year 7 of the Project, and thereafter the demand is anticipated to reduce progressively as the disturbed area catchments increase and more runoff would be captured within the Water Management System. Evens and Peck (2013) conducted a review of Available Water Determinations (AWD) for the Lower Namoi Regulated River Water Source of the Namoi Unregulated Rivers Extractive Management Unit. The AWD for this water source has ranged from full allocation (i.e. 1 megalitre [ML] per unit share) to less than 0.1 ML per unit share since 1977. The median allocation has been 0.68 ML per unit share. If median AWD are assumed, Whitehaven would be able to extract up to 732 ML of water from the Namoi River (i.e. the Lower Namoi Regulated River Water Source) using existing general security water access licenses (WALs) currently held for the Project (Appendix B of the EIS). As shown on Figure 2-17 of the EIS, this volume of water would be sufficient to meet the median external water demand for the Project for the majority of the mine life. Should this volume not be sufficient to satisfy the external water demand at a particular stage of the Project (e.g. during peak demand during Year 7 of the Project, or during dry periods when AWD are lower), shortfalls in external water availability would be mitigated by: • transferring any available allocation from WALs held for Whitehaven's other mining operations (in accordance with the relevant trading rules); • purchasing additional WALs from the market if necessary to maintain operations; • using the continuous water accounting 'carry over' provisions of the *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2003* to retain water in Keepit Dam for subsequent years; • using available storage capacity in the Water Management System to store water when it is available (particularly during the initial 15 years of the Project) such that the maximum water storage requirement would not be exceeded; • using available allocation from groundwater WALs held for the Project; and • adjusting operations to reduce water demand.
Recommended Conditions of Approval The DRE submission recommended that the Project Development Consent included conditions relating to further assessment of water availability for dust suppression and rehabilitation, and conditions requiring the development and implementation of a Rehabilitation Plan.	• As discussed in the previous response, comprehensive modelling and assessment of the Project water balance has been conducted and is summarised in detail in Section 2.9.3 of the EIS and provided in full in Appendix B of the EIS. • Whitehaven supports the inclusion of a condition in the Project Development Consent requiring the preparation and implementation of a Rehabilitation Management Plan.

COMMENT	RESPONSE
DEPARTMENT OF PRIMARY INDUSTRIES - Office of Agricultural Sustainability and Food Security	
Agriculture	
The DPI Agriculture submission recommended that a requirement to progressively rehabilitate be included as a condition of the Project Development Consent.	Whitehaven anticipates a condition requiring progressive rehabilitation would be included in the Project Development Consent.
The DPI Agriculture submission recommended that a condition of consent be imposed that required a minimum of 718 ha be returned to Agricultural Suitability classes II or III.	The DPI Agriculture recommendation for a minimum of 718 ha of land to be returned to Agricultural Suitability Classes II and III is considered to be impracticable and would significantly reduce the amount of native woodland and effectiveness of connective biodiversity corridors. As described in the Executive Summary and Section 5.3 of the EIS, the overall rehabilitation goal for the Project is to enhance the cover and connectivity of native woodland in the area, while retaining areas of agricultural land capable of supporting cattle grazing and cropping in rotation with sown pastures. The proposed Project final landform and revegetation program would provide for a combination of approximately 1,360 ha of native woodland/forest and some 780 ha of agricultural land that would include class II, III and IV areas (Figure 5-2 of the EIS). The quantity of each Agricultural Suitability class before and after mining is documented in Table 4-3 of the EIS. The class II areas that would be re-instated are located in areas where class II land has been mapped and where the land surface would not be significantly altered by the Project (i.e. at the northern end of the Project mining area where topsoil stockpiles are proposed – refer to Figure 5-5 of the EIS). Whitehaven does not consider that conditioning the re-establishment of 718 ha of class II and III land is practicable since the shape of the final landform would largely not be amenable to land uses that would typically be conducted on class II and III land. In particular, it is not reasonable to assume that the batters of the waste emplacements could support land uses typically conducted on class II and III land such as cropping or high intensity grazing. By the same token, while it may be theoretically possible to re-instate Class II land on the flatter top surface of the emplacements, it would almost certainly be impracticable for these areas to be viably farmed as Class II land (e.g. sowing, harvesting and irrigation equipment could not be economically moved up and down from the adjoining plains [260 m Australian Height Datum (AHD)] to the top of the emplacements [375 m AHD]). It is not considered practicable to establish viable class II or class III land on the top surface of the Eastern Emplacement due to its small size (i.e. 15 ha), and the vertical distance from the surrounding natural topography (i.e. approximately 100 m). The final landform and land use conceptual design for the Project includes approximately 200 ha of class III land on the southern portion of the top of the Western Emplacement, with the northern part of the top surface (i.e. approximately 201 ha) to be rehabilitated to native woodland/forest and to form a key part of the east-west corridor from the Vickery State Forest to the Namoi River. Although it would be possible to consign the entire top surface of the Western Emplacement to class III land, this would reduce the overall amount of native woodland/forest by 201 ha and diminish the effectiveness of the east-west biodiversity corridor. Whitehaven believe that this would be a less balanced final closure concept.
The DPI Agriculture submission requested acknowledgement that there are difficulties in residing and farming next to a mining operation.	Whitehaven acknowledges that residing and farming next to a mining operation of the proposed scale of the Project can present some challenges. However, Whitehaven believes that through the implementation of comprehensive environmental management and monitoring programs it can avoid, mitigate and minimise adverse impacts on local landholders. Whitehaven believes that the legitimate interests of local landowners would be protected by conditions of the Project Development Consent which would: • impose threshold criteria for amenity protection (e.g. noise, air quality and blasting thresholds); • require Whitehaven to purchase a property in the event of threshold criteria for amenity protection being breached; and

COMMENT	RESPONSE
	• require Whitehaven to offer to provide compensatory water to any owner of privately-owned land whose water supply is adversely and directly impacted as a result of the Project.
Soils	
The DPI Agriculture submission stated that more soil pits are required to inform the soil survey and identify Biophysical Strategic Agricultural Land (BSAL).	The soil investigation was conducted at a 'medium (semi-detailed) intensity level' during November and December 2011 (refer to Section 4.2 of Attachment A of Appendix G of the EIS). The mapping was done prior to the finalisation of the *Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land* (NSW Government, 2013), prior to the release of the *Agricultural Impact Statement (AIS) Technical Notes* (DPI, 2013) and prior to the release of the classification guidelines in October 2012 referred to in the *New England North West Strategic Regional Land Use Plan* (DP&I, 2012). Accordingly, the requirement to identify BSAL through more detailed (1:25,000 scale) mapping was not established at the time the soil investigation was conducted. Whitehaven does not believe it should be retrospectively applied to the Project. Notwithstanding, Whitehaven did attempt to identify which soil test pits would meet the BSAL criteria that were proposed at the time of the assessment, with the results being presented in Appendix 11 of the Agricultural Resource Assessment (i.e. Attachment A of Appendix G of the EIS). As described in Section 2.2.7 of Appendix G of the EIS, the evaluation identified that seven of the 75 test pits could potentially meet the BSAL criteria. This level of analysis was considered to be the best possible at the time given that prescriptive sampling and BSAL classification guidelines were not available at the time of sampling and assessment. Whitehaven does not believe it should be required to retrospectively conduct more sampling and assessment of BSAL based on the recently released guidelines. Importantly, the historical research of previous farming activities in the Project mining area indicated that the area is not regarded as good quality agricultural land (refer to Section 2.1 of Appendix G of the EIS), especially when compared with the adjoining alluvial flood plains. Whitehaven believes that the assessment that has been conducted was comprehensive and has effectively identified the areas of higher quality soil and Agricultural Suitability within the Project area (i.e. Figures 9 and 11 in Appendix G of the EIS). Using this information, Whitehaven has developed a mine plan that avoids these areas as much as possible and has a final landform and land use conceptual design that provides a balance between re-instating the pre-mining Agricultural Suitability classes and improving the native vegetation cover and biodiversity corridors in the region.
The DPI Agriculture submission requested that the area of each soil type within each Soil Landscape Unit be provided.	The Soil Landscape Units mapped during the soil investigations are shown on Figure 9 of Appendix G of the EIS. The regional (1:100,000) soil landscape unit mapping is shown in Appendix 1 of the Agricultural Resource Assessment (Attachment A of Appendix G of the EIS). The dominant soil type (Australian Soil Classification) at each test pit location was recorded during the field surveys conducted in late 2011 (refer to Map 2 of Attachment A of Appendix G of the EIS). This map broadly illustrates the distribution of soil types across the Project mining area, however it does not plot the boundaries between each soil type as this was not a requirement of the soil survey guidelines that were current at the time the assessment was undertaken. Whitehaven does not consider that it is reasonable for it to be required to re-map the soil types of the Project area based on the *Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land,* which was released in April 2013 after the EIS had been placed on exhibition.
The DPI Agriculture submission requested that an estimate of the area of BSAL within the Project area be provided.	As described above, the Agricultural Resource Assessment (Attachment A of Appendix G of the EIS) was conducted prior to the finalisation of the BSAL identification protocol. As such, the methodology adopted for the assessment does not allow for quantification of the area of BSAL consistent with the finalised protocol. Whitehaven does not consider that this materially affects the Project, as the design of the mine during operations and post-closure has been developed to minimise impacts to better quality agricultural land and to provide a balanced closure concept.

COMMENT	RESPONSE
The DPI Agriculture submission queried some of the calculations used in the topsoil inventory.	• DPI Agriculture has incorrectly added the topsoil areas that can be stripped 'without treatment' to the areas that can be stripped 'with gypsum treatment' and thereby determined that the total area that soil can be extracted is 2,392 ha, which is 150 ha more than the total Project disturbance area. The two 'treatment' areas should not be added together since they occur on top of each other in the soil profile (i.e. treatable subsoil can be stripped from below topsoil resources). • DPI Agriculture correctly identifies that the upper limit of the stripping depth was used to estimate the available soil resource. This was done for two reasons. Firstly, the stripping depths on the maps are conservative (i.e. there is generally more strippable soil than shown, but stripping depths on the maps were rounded down to minimise the potential for over-stripping during operations). Secondly, the maximum stripping depth was used to ensure that adequate space was allowed for topsoil storage areas. • DPI Agriculture identified an apparent shortfall in the required verses available soil resource (i.e. 11,100,000 cubic metres [m^3] and 8,985,430 m^3, respectively). The DPI has assumed that all 2,140 ha (i.e. 780 ha of pasture and 1,360 ha of woodland/forest) would need to have topsoil reapplied, whereas it is primarily the new mine landform areas that would need soil application at these nominated depths (i.e. the slopes and batters of the emplacements). The area of the emplacements that would be rehabilitated to agricultural land is approximately 524 ha (i.e. approximately 4,719,268 m^3 of soil required at 0.9 m depth), and the area of the emplacements rehabilitated to woodland/forest is approximately 1,297 ha (i.e. 3,891,538 m^3 of soil required at 0.3 m). The Project disturbance areas associated with the topsoil stockpiles, water surge storages and MIA are likely to need zero or very little topsoil reapplication as soils would not be stripped from these areas unless unavoidable. Whitehaven is therefore confident that there is sufficient topsoil resource available to rehabilitate the Project to achieve the overall rehabilitation goal.
The DPI Agriculture submission recommended that a condition of consent be included that describes that successful rehabilitation is deemed only when the soil suitability criteria in Table 4 of the Agricultural Resources Assessment have been met.	The rehabilitation and mine closure goals for the Project are documented in Table 5-1 of the EIS. Whitehaven acknowledges that these goals do not include prescriptive performance and completion criteria, however as stated in Section 5.8 of the EIS, Whitehaven expects that the Project-specific rehabilitation criteria (including soil suitability) would be documented in the Rehabilitation Management Plan. This approach is consistent with the conditions applied to contemporary mining projects in NSW, including the recently approved Tarrawonga Coal Mine. It would also allow key Government stakeholders the opportunity to have input into the completion criteria.
Socio-economic	
Farm Productivity The DPI Agriculture submission recommended that monitoring and adaptive management strategies for rehabilitated land be developed and adequately budgeted for.	Whitehaven agrees with the DPI Agriculture comment. A Rehabilitation Management Plan would be developed for the Project which would describe the monitoring program to evaluate the performance of rehabilitation against the completion criteria, as described in Section 5.8 of the EIS. In addition, a Farm Management Plan would be developed to facilitate the management of agricultural land in the Project area and surrounding Whitehaven-owned land. The Farm Management Plan would include property, grazing and cropping management measures, as well as erosion, weed and pest controls to be applied. The development of the Farm Management Plan is described in Section 4.3 of Appendix G of the EIS.
Land Values The DPI Agriculture submission requested that additional information be provided regarding impacts on land values as a result of the Project.	Whitehaven considers that property sales data in the vicinity of the Project would be skewed due to the relatively large number of properties that have been sold to mining companies compared to the limited number of properties sold to non-mining entities. Properties sold to mining companies generally command a higher value than market value, and as such, the average land sale value in the vicinity of the Project is actually likely to be relatively elevated. Whitehaven considers that there is insufficient property sales data (property sales to non-mining entities) in the vicinity of the Project to allow meaningful statistical analysis of land values, or any conclusive evaluation of the effects of nearby mining (or the Project) on property values. Whitehaven believes that it is inappropriate for the DPI Agriculture to refer in its submission to anecdotal evidence of an alleged drop in land value in the vicinity of the Rocglen Coal Mine. Whitehaven has not discussed purchase of the property with the owner, and the drop in value referred to is based on the property owner's subjective view.

COMMENT	RESPONSE
Flow on Impacts to Regional Communities The DPI Agriculture submission requested additional information regarding employment and accommodation. The DPI Agriculture submission also recommended that a socio-economic monitoring program be developed to manage potential flow-on impacts to the regional community.	As described in Section 4.16.3 of the EIS, Whitehaven has recently purchased six houses in Narrabri and has entered into an agreement with a Gunnedah developer to lease newly constructed dwellings for employees. These dwellings would be made available to existing Whitehaven employees, and when required/available, to employees working on the Project. Whitehaven would continue to look for opportunities to develop and/or lease appropriate housing for its employees and contractors and would work closely with the GSC and Narrabri Shire Council (NSC) to this end. Whitehaven supports measures to monitor impacts to the regional community. Community Consultative Committees (CCC) have been established at all of Whitehaven's existing operations, and a CCC would be developed for the Project. The CCCs provide a platform to monitor impacts to the community and present information regarding mining operations. It is anticipated that members of the GSC and the NSC would be on the Project CCC. Whitehaven would work closely with the Councils to align its activities with the regional long-term plans (e.g. housing and community infrastructure development). In addition to CCCs, the public is able to contact Whitehaven through a dedicated phone number, via email, and via the Whitehaven website to raise concerns, complaints or enquiries.
Availability of Transferred Water for Agriculture The DPI Agriculture submission commented on the availability of water during prolonged drought conditions.	The Surface Water Assessment (Appendix B of the EIS) presents an assessment of AWD in the Namoi Valley since 1977. Evans & Peck used this information to predict the external 'top-up' water demand over the life of the Project if median and 90%ile (dry) AWD are issued. It was concluded that if median AWD were issued, the general security WALs currently held by Whitehaven for the Project would be expected to meet the external water demand for the majority of the Project life. Should this volume not be sufficient to meet external water demand at a particular stage of the Project, shortfalls in external water availability would be mitigated by: • transferring any available allocation from WALs held for its other mining operations (in accordance with the relevant trading rules); • purchasing additional WALs from the market if necessary to maintain operations; • using the continuous water accounting 'carry over' provisions of the *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2003* to retain water in Keepit Dam for subsequent years; • using available storage capacity in the water management system to store water when it is available (particularly during the initial 15 years of the Project) such that the maximum water storage requirement would not be exceeded; • using available allocation from groundwater WALs held for the Project; and • adjusting operations to reduce water demand.
Impacts on Agricultural Support Services, Processing and Value Adding Industries, and Regional Employment The DPI Agriculture submission requested that additional information be provided regarding impacts to agricultural support services and employment.	As identified by DPI Agriculture, the increase in job opportunities associated with the development of mining in the region may result in skills shortages in agricultural industries. Whitehaven would support local agricultural enterprises during the life of the Project by using the services of local business (e.g. suppliers of agricultural machinery and services) where they can provide a commercially competitive product, and would encourage licensees who run cattle or grow crops on Whitehaven-owned land to also support local business. Whitehaven would also participate in and support agricultural initiatives in the region (e.g. Landcare) where appropriate.
Impacts on Visual Amenity, Landscape Values, and Tourism Infrastructure Relied Upon by Local and Regional Agricultural Enterprises The DPI Agriculture submission recommended that visual impact mitigation measures be proactively implemented. The DPI submission also commented on the potential changes to the perception of the area.	Whitehaven would construct visual screens to reduce potential visual impacts from sensitive viewpoints. Whitehaven would also endeavour to minimise any time lag between commencement of visual impacts at a dwelling and the implementation of management measures.

COMMENT	RESPONSE
	Whitehaven would work closely with the local Councils and community to minimise the potential for its mining activities to adversely change perceptions of the region. Project-specific issues would be identified and resolved through forums such as the CCC. Whitehaven currently works with the community and its organisations to identify methods by which it can positively contribute to the community (e.g. sponsorships, donations, tourism initiatives etc), with a commitment that this will continue.
The DPI Agriculture submission stated that the success of rehabilitation would only be measurable after mine closure, and that the success of previous rehabilitation of the Vickery mine site should be audited to guide planned rehabilitation activities.	A Rehabilitation Management Plan would be developed for the Project which would describe the monitoring program to evaluate the performance of rehabilitation against the completion criteria, as described in Section 5.8 of the EIS. Rehabilitation associated with previous mining activities at the Project is considered to be successful for the final land use intended (i.e. cattle grazing). Whitehaven would consider the success of this rehabilitation (and rehabilitation at other sites) during development of the Rehabilitation Management Plan.
The DPI Agriculture submission stated that limited information is provided on the proposed mitigation measures relating to issues raised during consultation with adjoining land-users and Government Departments.	Whitehaven does not agree with the DPI Agriculture's assertion that *limited information is provided on the proposed mitigation measures relating to issues raised during consultation with adjoining land-users and Government Departments*. The EIS contains a comprehensive description of the consultation undertaken (refer to Section 3.1), and the Agricultural Impact Statement (Appendix G of the EIS) provides a summary of the consultation specifically relating to agricultural and soil aspects. The consultation was conducted over an extended period in multiple iterations. Comments received were factored into the design of the Project and the mitigation measures, which are described comprehensively in Section 4 of the EIS.
EPARTMENT OF PRIMARY INDUSTRIES – CROWN LANDS	
The Crown Lands submission requested that any approval of the Project include conditions that capture the following requirements: 1. The Proponent must obtain a licence or lease over all Crown Land to be used for the purposes of the Project in accordance with the *Crowns Land Act, 1989*. 2. Where the purpose of an existing Crown land licence or lease is not compatible with the proposed activities, the Proponent must obtain a new licence or lease that reflects the proposed use.	Comment noted. Whitehaven would obtain the necessary licences or leases for Crown Land affected by the Project.
The Crown Lands submission requested that any approval of the Project include conditions that capture the following relating to Crown roads: i. For Crown roads affected by the Project, the Proponent must obtain a licence or lease within 12 months of approval. ii. The Proponent may apply to close and purchase Crown roads.	Comment noted. Whitehaven would obtain the necessary licences or leases for Crown Roads affected by the Project.
The Crown Lands submission stated that Lot 7300, DP 1136461 was within in the Project area, but had not been identified as being Crown Land and comprising R52886 – Travelling Stock Route.	Lot 7300, DP 1136461 does not appear on the Crown Lands database on which the Real Property Descriptions (Attachment 2 of the EIS) and land Ownership figures (Figures 1-2 and 1-3 of the EIS) were based. Since receiving the Crown Lands submission, Whitehaven has contacted the Tamworth Crown Land office directly and has obtained details and mapping of Lot 7300, DP 1136461. The location of the Lot relative to the Project mining area is provided in Figure 5-1 of Attachment A of this document.

COMMENT	RESPONSE
DEPARTMENT OF PRIMARY INDUSTRIES – FISHERIES NSW	
The Fisheries NSW submission requested that the Project Approval include conditions that capture the following: 1. Fisheries NSW are included as a consultation agency in the management plan for the Willeroi East biodiversity offset area (regarding management and potential rehabilitation of riparian zones within key fish habitats in the offset area). 2. Detailed construction and environmental management plans be provided to Fisheries NSW for review prior to the construction of the water supply intake structure on the Namoi River (to ensure appropriate management of potential impacts on native fish).	Comment noted. Whitehaven would operate in accordance with the conditions attached to the Project Development Consent.
DEPARTMENT OF PRIMARY INDUSTRIES - NSW OFFICE OF WATER	
Groundwater Assessment The NOW submission included seven points pertaining to the groundwater assessment. Five of the dot points included requests for clarification, and two simply restated groundwater-related information contained in the EIS. The five requests are summarised below: • The NOW submission stated that the EIS did not include a commitment to update the groundwater model during operations to assess the veracity of current predictions. The submission requested that such a condition be included in the Project Approval.	The EIS states in Section 4.4.3 that the regional numerical groundwater model developed by Heritage Computing (2013) and used for the Project Groundwater Assessment (Appendix A of the EIS) would be used as a management tool for validating the predicted groundwater impacts throughout the Project life. It also states that the results of the groundwater monitoring program would be used to inform progressive development, verification and refinement of the model.
• The NOW submission stated that the predicted groundwater accessions from the alluvium contained in the Groundwater Assessment (i.e. Table A-25 in Appendix A of the EIS) were different to those given in the main body of the report.	The predicted annual inflow volumes presented in Table A-25 in Appendix A of the EIS are identical to those provided in Table 4-6 of the EIS.
• The NOW submission requested that the apparent discrepancy between the total site water consumption of 1,179 ML/year (Section 2.9.2 of the EIS) be reconciled with the 2,035 ML/year reported in the Agricultural Impact Statement (Appendix G of the EIS).	The predicted annual average total water demand for the Project is 1,179 ML, as described in Section 2.9.2 of the EIS and Section 9.4.3 of the Surface Water Assessment (Appendix B of the EIS). This is the volume that is predicted to be required to meet the demand for dust supression on internal haul roads and for the coal crushing and screening facility, for washdown of mobile equipment and other minor non-potable uses. The Agricultural Impact Statement and the Socio-economic Assessment (i.e. Apendicies G and K of the EIS, respectively) used a more conservative calculation of the amount of water that would be 'held' for the Project that would therefore not be available for agricultural use. The 2,035 ML used in these assessments can be broken down as follows: • 1,155 units of river general security and supplementary WALs currently held for the Project. • 180 units of WALs currently held for the Project from the Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gin's Leap) Groundwater Source.

COMMENT	RESPONSE
	• 700 ML of WALs to be acquired for the Project to account for the predicted maximum groundwater inflow volume from the Gunnedah-Oxley Basin – Namoi Management Zone. It was conservatively assumed that one unit of WAL corresponded to 1 ML. It is noted that the assumed volume of water that would be unavailable for agricultural use (i.e. 2,035 ML) is less than the predicted 90%ile external water demand at any stage during the Project (approximately 1,450 ML per annum) (Figure 2-17 of the EIS, and Section 9.4.5 of the Surface Water Assessment [Appendix B of the EIS]).
• The NOW submission requested that the layer thickness in the groundwater model be clarified, and suggested that the range in thickness used be included in Figure A-30 of Appendix A of the EIS.	The thickness of the layers used in the groundwater model does vary across the model domain. This is illustrated in Figure A-32 of Appendix A of the EIS, where it is clear that some layers (rock units) pinch out or are truncated by erosion. However, as described in Section A4-5 of Appendix A of the EIS, where layers are pinched out, the layers must continue laterally in a MODFLOW model. As a result, they have a notional thickness but are given properties associated with the underlying lithology. For this reason an average thickness would be skewed and is therefore not calculated and included. Instead, the 'indicative' thickness of each model layer is presented in Figure A-30 of Appendix A of the EIS. These represent the typical thickness of each layer, and are generally representative of the thickness of the model layers within the Project area.
• The NOW submission requested that the pumping rates for the irrigation bores used in the predictive model be explained.	As described in Section A4.6 of the Groundwater Assessment, historical pumping from the Upper Namoi Alluvium groundwater system has been included in agreement with the stresses imposed in the NOW regional model for the Upper Namoi Groundwater Source for the calibration period. During the prediction phase, the pumping that occurred in 2010 has been assumed to continue at a constant rate. In order to check whether the assumed irrigation pumping rates from the Upper Namoi Alluvium groundwater had any effect on predicted mining-induced drawdowns, simulations for the prediction phase were also conducted for continuous pumping at the average rate that occurred at each production bore from 2006 to 2010 (1.9 times higher) (as described in Section A5.6 of Appendix A of the EIS). Figure A-50 of Appendix A of the EIS shows that mining-induced drawdown is insensitive to the assumption on irrigation pumping rates.
Aquifer Interference Policy The NOW submission included a tabulated assessment of the Project against the NSW Aquifer Interference Policy, which concluded that the impacts were acceptable. It also included the following two recommendations:	
i. The Proponent clarify the impacts on water quality to the Upper Namoi Zone 4 water source.	As described in Section A6.1.5 of the Groundwater Assessment, the reduced upflow (from rock to alluvium) in the northern area and the increased downflow (from alluvium/colluvium to rock) in the southern area would have beneficial effects on the water quality of the Upper Namoi Zone 4 water source in both areas. In the northern area, the salinity is about 2,400 milligrams per litre (mg/L) in rock and less than 1,000 mg/L in alluvium. Due to the reduced upwards flux of 0.11 ML/day, there would be a reduction in mass of about 100 tonnes per year (t/year) transferred to the alluvium. In the southern area, the salinity is about 2,400 mg/L in rock and about 9,000 mg/L in alluvium/colluvium bordering the Project site. Due to the increased downwards flux of 0.15 ML/day, there will be a transfer of about 500 t/year from the alluvium to the underlying conglomerate. As the saline alluvium/colluvium is a natural source of salt that would eventually migrate to the Namoi River, this amount of mass would be removed from the source and held in a material with much slower groundwater velocity. The effect of waste embankments on alluvium salinity are shown to be minimal compared with other beneficial reductions due to vertical mass transfers.

COMMENT	RESPONSE
ii. Should the Project be approved, a condition of approval should require make good provisions with respect to Level 2 impacts on two private bores in the Murray Darling basin Gunnedah Oxley Basin groundwater source.	Whitehaven expects that the NSW Minister for Planning would include specific conditions in the Project Development Consent regarding the content of the Groundwater Management Plan, as well as conditions pertaining to Compensatory Water Supply (i.e. make good provisions). Contemporary conditions of this nature were recently imposed on the Tarrawonga Coal Mine, which was approved in January 2013.
Groundwater Model The NOW submission included an evaluation of the adequacy of the various components of the groundwater model. Several clarification requests or comments were included and are summarised below:	
• The NOW submission stated that the assumption of constant river stage does not allow the model to simulate stream/aquifer interaction correctly.	It is considered that river dynamics are unnecessary and irrelevant for the purposes of the groundwater model developed for the Project. The adoption of a constant stage during prediction simulations is mandatory to isolate the effects of mining.
• The NOW submission stated that the assumed evapotranspiration (ET) extinction depth of 2 m appeared to be too shallow.	It is considered by Heritage Computing that an ET depth of 2 m is standard practice for cropping and pasture areas for groundwater modelling purposes. Notwithstanding, Figure A-21 of Appendix A of the EIS (i.e. depth to water) indicates that ET is not an active process in the vicinity of the Project, and therefore, ET is irrelevant to the impacts of mining.
• The NOW submission requested that the model assumptions for the Mooki Thrust on the eastern boundary of the model be clarified.	The conceptual model assumed that the Mooki Thrust was a no-flow boundary, and the predictive modelling was initially run based on this assumption; however, a general head boundary was required to be applied to improve the calibration of the model. Section A4.6 of Appendix A of the EIS is incorrect in stating that a no-flow boundary was applied to the Mooki Thrust. The reason why an active boundary is appropriate is that the Maules Creek Formation continues to the east beneath the surface trace of the Mooki Thrust, as illustrated in the geological cross-section of Figure A-7b of Appendix A of the EIS.
• The NOW submission questioned the calibration statistics reported for the transient calibration, in that the R^2 measure was not reported for Figure A-39 and RMS was used instead of SRMS.	The term R^2 is not in the list of Calibration Performance Measures (Table 3.3.1) of the Murray Darling Basin Commission (2001) guideline, and has not been linked with Figure A-39 of Appendix A of the EIS as stated in the submission. The reported Root Mean Square (RMS) statistic is %RMS which is identical to Scaled RMS (SRMS), as the "%" term denotes relativity.
Water Licensing The NOW submission stated that the Proponent must hold sufficient entitlement in all water sources where there is proposed water take prior to the commencement of mining.	Whitehaven would secure adequate allocations of relevant WALs to meet the requirements for the Project, as described in Sections 4.4.3 and 4.5.3 of the EIS. Whitehaven expects that the NSW Minister for Planning would include a specific condition in the Project Development Consent requiring it to ensure that it has sufficient water for all stages of the Project.
The NOW submission noted that surface water licence allocations are not guaranteed, and requested further explanation of the site water balance.	Whitehaven understands that the WALs currently held for the Project are subject to AWDs, and are dependent on the volume of water held in the Keepit Dam. An assessment of AWDs that have been made for the Namoi Valley since 1977 was conducted as part of the Surface Water Assessment (refer to Section 9.4.5 of Appendix B of the EIS). The assessment considered the impact of varying water determinations on the security of the WALs held for the Project, and identified that if median AWDs are assumed, the general security WALs currently held for the Project would be sufficient to meet the external water demand for the majority of the mine life. As described in Section 2.9.2 of the EIS, should this volume not be sufficient to satisfy the external water demand at a particular stage of the Project (e.g. during peak demand during Year 7 of the Project, or during dry periods when AWD are lower), shortfalls in external water availability would be mitigated by: • transferring any available allocation from WALs held for its other mining operations (in accordance with the relevant trading rules); • purchasing additional WALs from the market if necessary to maintain operations; • using the continuous water accounting 'carry over' provisions of the Water Sharing Plan for the *Upper Namoi and Lower Namoi Regulated River Water Sources 2003* to retain water in Keepit Dam for subsequent years;

COMMENT	RESPONSE
	• using available storage capacity in the water management system to store water when it is available (particularly during the initial 15 years of the Project) such that the maximum water storage requirement would not be exceeded; • using available allocation from groundwater WALs held for the Project; and • adjusting operations to reduce water demand.
Floodplain Management The NOW submission expressed concerns about the proposed private haul road and Kamilaroi Highway overpass on the Namoi River floodplain, and requested that a 2 dimensional (2D) model or more detailed extraction of the MIKE-11 model be undertaken. The submission also described the need for the proposed works to be consistent with the aims and principles of the *Carroll to Boggabri Floodplain Management Plan* so that the works could be licensed under Part 8 of the *Water Act, 1912*.	The flood modelling conducted as part of the EIS used the Namoi River MIKE-11 flood model developed by NOW, with additional cross-sections added to represent the topography of the streams and floodplain in the vicinity of the proposed overpass (refer to Section 7.3.2 of Appendix B of the EIS). As described in the EIS, the model was used to predict flood levels with and without the proposed overpass during a simulated flood event equivalent to the 1955 flood. The results of the modelling are presented in Appendix D of Appendix B of the EIS and summarised in Section 4.5.2 of the EIS. Whitehaven considers that the flood assessment conducted as part of the EIS is adequate to predict potential flooding impacts in the vicinity of the overpass. However, Whitehaven also acknowledges that further detailed design is required, and several other approvals and licences need to be obtained before construction can commence. As described in Section 4.5.3 of the EIS, the detailed design of the private haul road and Kamilaroi Highway overpass would be conducted in consultation with RMS, GSC, NOW and the OEH Inland Flood Unit. The detailed design would include consideration of design details that would assist with minimising flood impacts (e.g. culvert sizing and placement within the road infrastructure, potential provision of a causeway, height of the road above the surrounding topography, width of the gap where the overpass crosses the Kamilaroi Highway. Whitehaven acknowledges the requirement noted in the NOW submission (and by the OEH Flood Unit at a meeting held on 13 June 2013) that the overpass design be consistent with the aims and principles of the *Carroll to Boggabri Floodplain Management Plan* so that the works can be licensed under Part 8 of the *Water Act, 1912*. Whitehaven suggests that this requirement could be included as a condition of Project Development Consent, and that it would specify that Whitehaven must demonstrate through appropriate modelling that the design addresses the relevant criteria. The text below sets out the relevant criteria and provides an analysis based on the modelling reported in the EIS which demonstrates that, with minor exceptions, the Project meets the criteria for issue of a complying works approval. With the proposed modification of the haul road during detailed design, and subsequent further hydraulic modelling, it is anticipated that the haul road will achieve full compliance. ***Floodway Blockage*** At the location of the proposed overpass, Deadmans Gully comprises a shallow, barely noticeable depression that does not appear to provide hydraulic connection to the main flow-path further downstream. Nevertheless, Whitehaven acknowledges that flood photography subsequently provided by OEH shows floodwater flowing along the ill-defined depression that forms the start of Deadmans Gully. As noted above, Whitehaven proposes to prepare a detailed design of the private haul road and Kamilaroi Highway overpass in consultation with the relevant Government agencies and include consideration of design details that would assist with minimising flood impacts post Project approval and prior to the commencement of construction works. Further flood modelling will be undertaken at the time of the detailed design in order to specifically address the relevant criteria for works approval under Part 8 of the *Water Act, 1912*.

COMMENT	RESPONSE
	Flood Velocities Figures 6-1a and 6-1b in Attachment A of this document provide plans of the MIKE-11 model structure (from the existing flood analysis) around the proposed works. Tables 6-1a and 6-1-b in Attachment A provide the associated tabulated flow velocity results. These results demonstrate that the modelled flood velocity increases are compliant with this criterion: namely that increases in flood velocities are less than 50% and no greater than 0.5 metres per second. The detailed design of the overpass is expected to increase the conveyance capacity along Deadmans Gully and minimise any resulting change in velocity. The flow velocities will be verified once further flood modelling is undertaken at the time of detailed design. ***Distribution of Flows*** The results of the MIKE-11 model (from the interim flood analysis) show that the effect of the existing design would be to divert some flow from Deadmans Gully into the main Namoi River flow. The majority of modelled flow increases in the vicinity of the proposed works are between 2 and 7%. These results demonstrate that the modelled change in flow distribution is generally compliant with the criterion to limit cumulative redistribution of flows to be less than 10%. The detailed design of the overpass is expected to increase the conveyance capacity along Deadmans Gully and minimise any resulting change in flow redistribution. Further analysis will be undertaken at the time of detailed design in order to verify the impact of the design on flow redistribution. ***Flood Levels at Property Boundaries*** Figure 6-2 in Attachment A of this document is a figure showing property boundaries in the vicinity of the proposed private haul road and Kamilaroi Highway overpass with changes in flood levels at the most affected point of each property boundary based on the result of the existing MIKE-11 model. All increases to flood levels at these points comply with the criterion to limit flood level increases to less than 100 millimetres (mm). The detailed design of the overpass is expected to increase the conveyance capacity along Deadmans Gully and minimise any resulting change in flood levels at property boundaries. The flood level increases will be verified once further flood analyses are conducted at the time of detailed design. ***Flood Levels at Dwellings*** Table 17 in Appendix B of the EIS provided details of modelled flood level increases at various dwelling in the vicinity of the proposed overpass, which are reproduced in Table 6-2 in Attachment A of this document. The dwelling numbers in the first column identify each dwelling on the plan in Figure 6-2 in Attachment A of this document. The maximum flood level increases (80 to 90 mm) occur at dwellings owned by Whitehaven. As part of the detailed design process for the overpass, the modelled flood level at each dwelling will be re-assessed together with an assessment of the significance of any flood level increase on the available freeboard between the design flood level and the floor level of each potentially affected dwelling, or lowest level on a levee surrounding the property.
Sediment Dams The NOW submission questioned whether sediment dams had been considered in the Harvestable Rights calculation for the Project.	As described in Section A5.1.7 of Attachment 5 of the EIS, and Section 3.1.1.1 of Appendix B of the EIS, it is considered that no access licences would be required for Project surface water containments (e.g. sediment dams). This conclusion was made on the basis that Project water storages would be relevant excluded works under Schedule 1 (clause 4) of the *Water Management (General) Regulation, 2011* on the assumption the Ministers delegate ultimately approves them on that provision. Such approval should be granted on the grounds that: • the sediment basins will prevent the contamination of downstream water sources; and • provide water for dust suppression and irrigation for the rehabilitation of disturbed mining areas.

COMMENT	RESPONSE
	It is noted that the Maximum Harvestable Right Dam Capacity (MHRDC) attributed to the Project is 392 ML. Notwithstanding the above, at any one time during the Project the maximum capacity of the sediment basins would be approximately 385 ML, which is less than the MHRDC. As such, if the sediment basins were not considered to be excluded works under Schedule 1 of the *Water Management (General) Regulation, 2011*, there would be no requirement to licence the take of water captured by the sediment basins.
Riparian Management The NOW submission identified that since the Project is being assessed under Part 4, Division 4.1 of the EP&A Act, there is no requirement to obtain approval for Controlled Activities under the *Water Management Act, 2000*, however NOW recommended that works within or adjacent to riparian areas be consistent with State policy.	As described in Section 10.2 of Appendix B of the EIS, the Project was designed to stand off South Creek to protect the riparian zone associated with the ephemeral watercourse. The design was in accordance with the *Controlled Activities: Guidelines for Riparian Corridors* (NOW, 2010), which was the relevant guideline at the time of preparation of the assessment (although now superseded). Accordingly, a 100 m corridor along South Creek was established to protect the riparian zone. This is consistent with the recommended riparian corridor width for fourth order watercourses as described in the current NOW *Guideline for Riparian Corridors on Waterfront Land* (NOW, 2012).
Recommended Conditions The NOW submission included a list of conditions of approval relating to water supply, groundwater management, surface water management and the final landform.	Whitehaven expects that the NSW Minister for Planning would include specific water management conditions in the Project Development Consent and that these would cover water supply, groundwater management, surface water management and the final landform aspects.
GUNNEDAH SHIRE COUNCIL	
Project Description The GSC submission noted that the stated quantity of the Vickery coal resource reported in the September 2012 Quarterly Report (i.e. 164 million tonnes [Mt]) is different to the quantity reported in the EIS (i.e. 135 Mt).	As described in Section 6.6.2 of the EIS, the scale and production rate of a mining operation is determined by the optimum recovery of the resource and the optimum production rate that maximises value to the proponent and ongoing viability in consideration of mine planning constraints. In the case of the Project, the amount of run-of-mine (ROM) coal that would be extracted is approximately 135 Mt (i.e. 4.5 million tonnes per annum [Mtpa] for 30 years). This is the Project for which Whitehaven is seeking approval for, and it is the Project that has been assessed. Although there are known additional coal resources in the vicinity of the Project, Whitehaven's is not currently seeking approval to mine these areas. However, as described in Section 2.2 of the EIS, during the life of the Project, mine exploration activities would continue to be undertaken in the area. These activities would occur within, and external to, the open cut footprint and would be used to investigate aspects such as coal reserves, geological features, seam structure and coal/overburden characteristics as input to detailed mine planning and feasibility studies. Should economic circumstance indicate an ongoing viable operation of additional coal reserves beyond 30 years, a separate approval would be sought under relevant legislation at the time.
Shannon Harbour Road, Rocglen Coal Mine Private Haul Road and Riordan Road The GSC submission commented on the labelling/identification of local roads in the vicinity of the Project, and included the following recommendations: 1. That Shannon Harbour Road shall be closed over its entire length, as a public road, at the commencement of the Project. 2. That the Rocglen Coal Mine Private Haul Road from the realigned Blue Vale Road to Riordan Road be dedicated as a public road. 3. That Riordan Road be constructed and bitumen sealed to Austroad design standards and be subject to Council approval	Whitehaven agrees that Shannon Harbour Road is mislabelled in the EIS, however the error was unintentional and was not intended to be misleading. The correct labelling of Shannon Harbour Road, the Rocglen Coal Mine Private Haul Road, and Riordan Road is shown on Figure 7-1 in Attachment A of this document. As noted in the GSC submission, and shown on the figure, the eastern section of Shannon Harbour Road is unformed. Photographs of this unformed section are contained in Attachment A (refer to plates 7a and 7b). The GSC states that Shannon Harbour Road provides a public road linkage from Wean Road to Blue Vale Road. Whitehaven disputes this statement. As it stands, the constructed section of Shannon Harbour Road currently only provides access to the Rocglen Coal Mine Private Haul Road given that the eastern section is unformed and is not passable for cars (refer to Figure 7-1 in Attachment A of this document). As a result, Whitehaven does not believe that closure of this road would affect east-west public access between Blue Vale Road and Wean Road, since no official public access is currently available.

COMMENT	RESPONSE
	Notwithstanding, Whitehaven supports GSC's desire to close Shannon Harbour Road over its entire length and to dedicate the Rocglen Coal Mine Private Haul Road as a public road. As discussed in Section 2.4.1 of the EIS, Whitehaven would determine the preferred access arrangement for vehicles travelling from Wean Road to the Rocglen Coal Mine Access Road during the first year of the Project (with access via Riordan Road or through the Rocglen Coal Mine infrastructure area). The number of movements between these roads during the first year of the Project is anticipated to be only 23 movements per day. If Riordan Road is determined to be the preferred route to the Project mining area from the east, Whitehaven commits to upgrading the road to a suitable Austroad standard in consultation with the GSC.
Blue Vale Road Realignment The GSC submission stated that the general realignment of Blue Vale Road is considered to be acceptable to the Council subject to specific treatments on intersection and road design associated with the realignment. The GSC submission also included the following recommendations: 1. That the intersection of Old Blue Vale Road and realigned Blue Vale Road shall be designed to Austroad design standards subject to Council approval. 2. That all bends on the realigned Blue Vale Road shall be constructed to a 100 kilometres per hour (km/hr) design and be subject to Council approval.	The GSC is referring to the point where the Blue Vale Road realignment would connect to the existing Blue Vale Road. An intersection would be constructed to the Austroad standard applicable to the category and predicted usage of the road in consultation with GSC, and approval would be sought in accordance with Section 138 of the NSW *Roads Act, 1993*. It is understood that authorisation for construction of the works in accordance with Section 138 of the *Roads Act, 1993* are to be substantially consistent with the Part 4.1 Development Consent. The Blue Vale Road realignment would be designed to allow for a speed limit of 100 km/hr, consistent with the existing speed limit of Blue Vale Road. It is noted, however, that the recommended speed limits for corners may be less than 100 km/hr to ensure safety and in consideration of heavy vehicle traffic movements.
Braymont Road The GSC submission included the following requirements with regard to the proposed realignment of Braymont Road: 1. That the road realignment of Braymont Road shall be to Austroad design standards and be subject to Council approval. 2. That the design and construction of the water pipeline in the Braymont Road reserve shall be subject to Council approval. 3. That the Proponent enter into an agreement with Council prior to commencement of construction accepting responsibility for all the costs associated with any damage that may be caused to Council infrastructure that result from the installation and operation of the water pipeline.	The Braymont Road realignment would be designed to appropriate Austroad standards in consultation with the GSC. It is understood that authorisation for construction of the works in accordance with Section 138 of the *Roads Act, 1993* are to be substantially consistent with the Part 4.1 Development Consent. Whitehaven would seek approval for the construction of the raw water pipeline within the road reserve in accordance with Section 138 of the *Roads Act, 1993*, as described in Section 6.3.1 of the EIS. Whitehaven would consult with and endeavour to form an agreement with the GSC regarding the responsibilities associated with the construction and operation of the water supply pipeline. This would include, but not necessarily be limited to, pre-construction survey/s and post construction survey/s so that there is a clear understanding between both parties as to the condition of GSC infrastructure prior to and after construction activities taking place.
Intersections The GSC submission stated that the road intersections should be constructed or upgraded to meet Austroad design standards and be subject to Council approval.	Whitehaven would construct or upgrade Project road intersections to meet Austroad design standards and subject to GSC approval.

COMMENT	RESPONSE
Kamilaroi Highway Overpass The GSC submission included a statement that the Council considers the current intersection to the Whitehaven Coal Handling and Preparation Plant (CHPP) to be unsatisfactory. The submission also included the following requirements: 1. That the Kamilaroi Highway Overpass be built during the construction phase of the Project. 2. That a detailed flood study occur in respect of the proposed highway overpass to ensure that the extent of flood impact on the surrounding area is identified and appropriate mitigation measures are implemented in the design of the structure. 3. That the intersection of the Blue Vale Road and the private access road be constructed to meet Austroad design standards and be subject to Council approval.	Whitehaven upgraded both intersections between the Kamilaroi Highway and the CHPP access road and Blue Vale Road during 2011. The design of these intersections is adequate for the number and type of vehicle movements currently approved to access the CHPP and is in accordance with the relevant operating approvals. As such, Whitehaven believes that the intersections are satisfactory, and considers that GSC's proposed requirement to construct the private haul road and Kamilaroi Highway Overpass prior to the cumulative haulage of ROM coal along the Whitehaven ROM coal road transport route (from all Whitehaven mines) exceeding the currently approved rate of 3.5 Mtpa is unwarranted. Whitehaven considers that the flood assessment conducted as part of the EIS is adequate to predict potential flooding impacts in the vicinity of the overpass. Notwithstanding, and as described in Section 4.5.3 of the EIS, the detailed design of the private haul road and Kamilaroi Highway overpass would include further flood modelling and incorporation of design components that would assist with minimising flood impacts (e.g. culverts). In addition, the Water Management Plan to be developed for the Project would include a process to review the predicted flood levels at private receivers once the detailed design of the private haul road and Kamilaroi Highway overpass is complete, as described in Section 4.5.3 of the EIS. Detailed survey of dwellings and existing flood mitigation structures has been conducted at the majority of properties in the vicinity of the private haul road and Kamilaroi Highway overpass (those that allowed Whitehaven access to conduct the surveys). The intersection between Blue Vale Road and the private haul road would be designed to appropriate Austroad standards and approval would be sought from the GSC in accordance with Section 138 of the *Roads Act, 1993*. It is understood that authorisation for construction of the works in accordance with Section 138 of the *Roads Act, 1993* are to be substantially consistent with the Part 4.1 Development Consent.
Rejects Management The GSC submission included a request for more detailed information regarding the fine rejects generated by the coal washery, particularly relating to amounts to be disposed in the former Brickworks Pit and also returned to the mine site, together with the haulage plans.	Whitehaven currently has approval to transport fine rejects from the Whitehaven CHPP and dispose them within the Brickworks Pit. It is estimated that there is capacity within the Brickworks Pit to receive fine rejects until 2021. Once approved, fine rejects generated by the processing of Project ROM coal would also be transported to and emplaced within the Brickworks Pit in accordance with current approvals. Once capacity within the Brickworks Pit is reached, fine rejects would be transported by truck back to in-pit emplacement areas at the Project, or an alternative location(s) if approved over the intervening period. Trucking of fine rejects to the Project mining area would be conducted by loading empty ROM coal haulage trucks which would be making a return trip, and therefore, would not result in additional truck movements to that assessed in the EIS. Trucking of fine rejects to the Project mining area would be conducted during ROM coal transport hours along the ROM coal transport route.
Heavy Vehicles Mixing with a School Bus The GSC submission requested that Whitehaven provide Council with the following information regarding the interaction between Project-related traffic and school buses: a. documented haulage truck safety procedures regarding the school bus; b. documentary evidence every three months of haulage truck driver training regarding the school bus; and c. the results of three monthly independent compliance reports to verify that the heavy vehicle transport procedures regarding the school bus are adequate and are being complied with.	Whitehaven has developed and implemented a protocol that drivers for the haulage contractor are required to comply with. This protocol would be revised where necessary to incorporate the Project and would be provided to the GSC. Whitehaven expects that management, monitoring and reporting requirements for coal haulage activities would be included in the Project Development Consent and that they would include conditions requiring the preparation and implementation of a Traffic Management Plan, Annual Reviews and Independent Audits. In addition, Whitehaven would report on transport procedures and driver training at the Project CCC meetings. Whitehaven does not believe that the three monthly training and independent compliance audit requirements requested by the GSC are warranted.

COMMENT	RESPONSE
Road Maintenance Agreement The GSC submission requested that the current road maintenance agreement with Whitehaven be renegotiated prior to the determination of the Project application.	Whitehaven commits to a review of the existing Road Maintenance Agreement with GSC. In light of the current agreement requiring Whitehaven to pay 95% of the current maintenance costs of the Blue Vale Road, Whitehaven would consider a review and renewal of this agreement to be appropriate rather than a new agreement. Timing of the completion of the review of this agreement would be prior to the combined haulage from all Whitehaven operations along Blue Vale Road exceeding 3.5 Mtpa, as this is the current approved haulage limit applied to this road.
Waste Management The GSC submission requested that more detailed information be provided on the predicted annual volumes of waste destined for landfill and resource recovery facilities within the Gunnedah LGA.	Based on its experience at its operations, Whitehaven anticipate that approximately 1,500 m^3 per year of waste would be generated by the Project at maximum production. Since the Project is located partly within the Gunnedah LGA and the Narrabri LGA, Whitehaven may transport waste to waste facilities within either LGA.
Accommodation Impacts The GSC submission included the following requirements with regard to Project-related accommodation demands: 1. That the Proponent provide more definitive information to explain how the proportions of 75% of operations employees being locals, and 25% 'non-locals', was determined. 2. That the Proponent provide more detailed information as to how many houses are predicted to be required in the Gunnedah LGA during the 30 year operational phase, per annum. 3. That the Proponent enter into a housing development program with Council prior to the commencement of construction works for the Project, to ensure adequate housing provision for its operational workforce is provided and any adverse impacts on residential land development and/or available housing and accommodation as a consequence of the Project are addressed.	As described in Section 4.16 and Appendix K of the EIS, it is assumed that 75% of the workforce would live in the Narrabri and Gunnedah LGAs while they are working at the Project (i.e. 145 of the average 193 operation workforce). The remaining 25% of the workforce (i.e. 48 people) is assumed to live outside the Narrabri and Gunnedah LGAs while they work at the Project (e.g. some employees would commute from Tamworth). This distribution is based on the breakdown at Whitehaven's existing operations and is considered to be a realistic estimate for the Project. Table 4.14 of Appendix K of the EIS indicates that demand is likely to be generated for up to 163 residences in the Narrabri LGA and 260 residences in the Gunnedah LGA. These numbers were based on the maximum direct and indirect operational workforce projections (refer to Table 4.11 of Appendix K of the EIS). Initially short-term accommodation may house these new families, however in the longer term the demand is expected to be for longer-term rental accommodation or housing purchases. Whitehaven would work closely with both Councils to identify and implement housing development programs that would provide suitable accommodation for its workforce, and would be compatible with the Councils long-term strategic development plans. CCCs have been established for all of Whitehaven's existing operations, and a CCC would be developed for the Project prior to commencement of construction. It is anticipated that members of the GSC and the NSC would be on the CCC. The CCC would provide a platform for discussions regarding development of the accommodation strategy for the Project and monitor impacts to the community. As described above, Whitehaven would work closely with the GSC to align its activities with the regional long-term plans.
Training Programs The GSC submission included the following requirements with regard to a Project workforce training and development program: 1. That an apprenticeship and traineeship employment program be established by the Proponent with a commitment that a minimum of five apprenticeships or traineeships for local personnel will be provided annually over the life of the Project. 2. In addition, that a specific Indigenous employment program be established by the Proponent with a commitment that a minimum of three new Indigenous staff members will be provided annually over the life of the Project.	Whitehaven appreciates the GSC's desire to include a specific number of apprenticeships/traineeships and Indigenous staff members that would be provided each year of the Project, however it is not possible for Whitehaven to guarantee a minimum of five apprenticeships and three new Indigenous staff positions per year for the life of the Project. With an average Project operational workforce of 193, these numbers would be unsustainable over the 30 year life of the Project. However, during the life of the Project Whitehaven would work with both Councils to promote and fill available apprenticeship and traineeship opportunities at the Project with local community members. This would be done through mechanisms such as local advertising, Whitehaven's website, open days and information sessions, as well as through the various Council vocational guidance and local industry employment initiatives. Whitehaven is an Equal Opportunity Employer, and as such members of the Indigenous community have every opportunity to participate in the employment opportunities offered by Whitehaven at the Project and its other operations.

COMMENT	RESPONSE
Workforce Supply The GSC submission requested that a more detailed analysis of workforce supply be conducted.	In Section 4.3.3 of Appendix K of the EIS it is acknowledged that there are a number of major mining projects in the Narrabri and Gunnedah LGAs that are more advanced than the Project and which have first claim on any available workforce in the region. Consequently, it is likely that the Project would be associated with a greater proportion of in-migrating workforce than other projects. As a result of the above, and for the purpose of assessing the maximum impacts on housing/accommodation, it has been assumed in Appendix K of the EIS that all of the workforce would be sourced from areas outside the Narrabri and Gunnedah LGAs (i.e. they would come from the broader employment pool). It should be noted that this is a conservative assumption (i.e. local workers may make up a much higher proportion of the workforce if the development of the Project and/or other major mining projects in the Narrabri and Gunnedah LGAs does not coincide).
Environmental Impacts on Family Farms and Homes in the Vicinity of the Mine The GSC submission included the following requirements with regard to potential impacts on local landholdings: 1. That the safeguards to be included in any development consent are sufficiently comprehensive and robust to protect the adjoining residents from adverse environmental, social and economic impacts including noise, vibration, dust, surface and groundwater impacts and visual impacts. 2. That a Tree Screening Program shall be developed and implemented as part of the construction phase to ensure adequate visual barriers are established in the later years of the Project to mitigate visual amenity impacts. 3. That the NSW Government through the EPA establish a regional air quality monitoring program across the Namoi Valley to ensure that the health of residents is not compromised by this development or other resource development activities.	Whitehaven expects the NSW Minister for Planning to impose prescriptive Development Consent conditions relating to the management, mitigation, monitoring and reporting of amenity impacts on noise, air quality, vibration, visual surface water, and groundwater resources. Visual screening such as the use of vegetation screens consisting of native plants that are compatible with the existing surrounding vegetation would be used to reduce potential visual impacts from local sensitive viewpoints (refer to Section 4.12.3 of the EIS). The proposed real-time air quality monitoring network for the Project would complement the existing and proposed monitoring systems for other mining operations in the area (e.g. the Tarrawonga, Rocglen, Boggabri and Maules Creek coal mines), and the data from it could potentially form part of a regional air quality network for the Namoi Valley.
Surface and Groundwater Impact Assessment The GSC submission requested that a more detailed explanation be provided on the risks associated with groundwater losses adversely impacting on farming activities and discharge to the Namoi River. It also requested that the likely impacts of the Vickery South Project on groundwater be canvassed as part of the cumulative impact of the current and future Project.	The EIS contains a comprehensive groundwater impact assessment prepared by Heritage Computing (Appendix A of the EIS), which was peer-reviewed by Kalf and Associates (Attachment 7 of the EIS). An environmental risk assessment for the Project has also been conducted, and identified several groundwater and surface water related risks (refer to Appendix M of the EIS). The GSC submission raises concern about a sentence in the Groundwater Assessment which states *Groundwater would not be lost directly from the alluvium, but there could be incidental loss through enhanced leakage from the boardering alluvium to the underlying Maules Creek Formation* (refer to Section A6.1.5 on Page 59 of Appendix A of the EIS). The statement means that the Project would not cause direct loss of water from the Upper Namoi Alluvium aquifer because the open cut does not directly intersect it. However, because the open cut is located within the Maules Creek Formation, which extends laterally from the Project area and occurs beneath the Upper Namoi Alluvium, there is potential for an incidental (i.e. indirect) impact on the alluvial aquifer. This would occur as a result of the drawdown in the Maules Creek Formation causing an increase in the leakage of groundwater from the alluvium to the underlying sediments of the Maules Creek Formation in some areas adjacent to the Project. The Groundwater Assessment includes a comprehensive assessment of where this effect would occur and its significance (refer to Section A6.1.5 of Appendix A of the EIS).

COMMENT	RESPONSE
	Table 4-5 of the EIS shows that only one privately owned bore (WL1) is predicted to experience drawdown of more than 1 m. Since the EIS was publicly exhibited the property on which this bore is located has been purchased by Whitehaven. As a result, no privately owned groundwater bores are predicted to experience a groundwater drawdown of more than 1 m as a result of the Project. The groundwater modelling that was used to draw this conclusion included the predicted incidental loss through enhanced leakage from alluvium bordering the Maules Creek Formation. Whitehaven has not undertaken the necessary exploration, feasibility and other studies required to enable it to prepare a mine plan for the Vickery South coal resource. It is therefore not possible to assess the cumulative groundwater impacts associated with its potential future development. As described in Section A4.2.3 of Attachment 4 of the EIS, any proposal to develop the Vickery South coal resource would be subject to separate assessment and approval processes.
Expert Review The GSC submission requested that independent experts be engaged by NOW and the OEH to peer review the Groundwater Assessment and Surface Water Assessment reports to ensure they are thorough, robust, adopt the precautionary principle and provide protection of the ground and surface water resources within the vicinity of the Project and the Namoi Valley generally.	A peer review of the Groundwater Assessment was undertaken by Dr Frans Kalf of Kalf and Associates Pty Ltd and is included in Attachment 7 of the EIS.
Rail Infrastructure The GSC submission draws the issue of increased haulage on the rail network to the DP&I's attention.	Whitehaven notes that GSC is concerned about increases in rail movements, however, GSC submission also notes that this is not an issue associated with the Project (as the Project would not result in an increase in the number of rail movements currently approved to transport coal from the Whitehaven CHPP).
Cumulative Impacts The GSC submission requested that further analysis of cumulative impacts be undertaken with specific attention to future development of the Vickery South Project and implications of adjoining mining projects owned or operated by the Proponent. The submission also requested that groundwater, workforce and housing supply impacts be quantified now.	As described above, Whitehaven has not undertaken the necessary studies required to enable it to prepare a mine plan for the Vickery South coal resource. As a result it is not possible to assess any cumulative impacts associated with its potential future development. The EIS does however include a comprehensive assessment of the nearby existing mines (e.g. Rocglen, Tarrawonga and Boggabri).
Financial Contributions to the Gunnedah Shire Council The GSC submission included the following requirements with regard to financial contributions to the GSC: 1. That the capital expenditure figure for the Project of $573 million be the basis of voluntary planning agreement (VPA) negotiations and the VPA outcome to be included as a specific condition within the Project determination. *2.* That a VPA shall be negotiated and agreed prior to the granting of any development consent and that the VPA shall be referenced as a specific consent condition.	The Capital Investment Value (CIV) for the Project has been determined by the DP&I and is $461,352,562. It has been used by the DP&I to determine the Project development application fee in accordance with Division 1AA of the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation). Whitehaven believes that it is appropriate that all levels of Government use a common basis on which to level charges against projects, and as a result believes that the CIV used by DP&I is the appropriate capital expenditure number to be used in any ongoing negotiations with the GSC and NSC (i.e. not $573,000,000 as stated in the GSC submission). Whitehaven agrees to enter into meaningful discussions with GSC in relation to the development of a VPA and would work with Council to finalise such an agreement at the earliest opportunity. However, Whitehaven does not agree that the finalisation of such an agreement should be a condition precedent on any construction works starting. Whitehaven would support a condition in consent that describes a mechanism which would dictate a process to be followed by both parties should negotiations be unable to resolve the Planning Agreement outcomes. It should be noted that Whitehaven provided the GSC with a first pass Planning Agreement proposal in October 2012 and is yet to receive a response.

COMMENT	RESPONSE
NSW HEALTH – HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT	
Air Quality The NSW Health submission queried whether diesel emissions have been included in the modelling. The NSW Health submission also requested clarification as to what proportion of the modelled time scale was assumed to have 99% control verses a lower level of control pending rehabilitation.	***Diesel Emissions*** Tables 7.1 to 7.4 in Appendix D of the EIS present particulate matter with an equivalent aerodynamic diameter of 2.5 micrometres (µm) or less and 10 µm or less ($PM_{2.5}$ and PM_{10}) and total suspended particulate matter (TSP) estimated emission inventories for Project Years 2, 7, 17 and 26. The inventories include contributions from sources associated with mining equipment (e.g. excavators, dozers, haul trucks and scrapers). Emission estimates for these sources (refer to Appendix B of Appendix D of the EIS) include $PM_{2.5}$, PM_{10} and TSP emissions generated by diesel combustion in the mining equipment, as well $PM_{2.5}$, PM_{10} and TSP emissions associated with handling of waste rock/coal/topsoil and/or wheel generated dust. ***Level of Control Values Used in the Air Quality Assessment*** The EPA submission on the EIS (dated 12 April 2013) states that it has reviewed the exhibition version of the Air Quality and Greenhouse Gas Assessment (i.e. Appendix D of the EIS)] and that it considers that it has been adequately conducted in accordance with the requirements of the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW. In response NSW Health's queries about the level of control used in the air quality assessment, the following summary is provided: • Partially rehabilitated areas included in the emissions inventory (with 99% control) for Project Years 2, 7, 17 and 26 are consistent with the areas of *Stage 1 Rehabilitation – Stabilised Landform with Seed/Cover Crop Application* identified on Figures 2-2 to 2-5 of Appendix D of the EIS. • Fully rehabilitated areas (assumed to have 100% control) are consistent with the areas of *Stage 2 Rehabilitation – Established Vegetation* shown on Figures 2-2 to 2-5 of Appendix D of the EIS. • The areas shown as Stage 1 and Stage 2 Rehabilitation on Figures 2-2 to 2-5 of Appendix D of the EIS represent what is estimated to be partially/fully rehabilitated at the commencement of Project Years 2, 7, 17 and 26, respectively, and as such, the associated wind erosion control efficiencies were applied for the entire modelling period for each modelled year. It should be noted that areas identified as *Active Mining/Waste Rock Emplacement Area* on Figures 2-2 to 2-5 of Appendix D of the EIS are consistent with areas where no control of wind erosion emissions was assumed.
Consultation and Community Initiatives The NSW Health submission queried whether the community had been effectively engaged and satisfied with the process of consultation.	As required by the DGRs, Whitehaven has conducted a comprehensive consultation program (refer to Section 3 of the EIS). Whitehaven believes that it has effectively engaged with all stakeholders and other interested parties during the preparation of the EIS.
Socio-economic Assessment The NSW Health submission commented on the costing and internalisation of impacts on noise amenity, air quality amenity and agricultural production.	The socio-economic assessment includes evaluation of the potential economic benefits of the Project as well as potential costs associated with impacts to aspects such as noise amenity, air quality amenity and agricultural production (refer to Sections 4.15 and 4.16 and Appendix K of the EIS).

COMMENT	RESPONSE
NAMOI CATCHMENT MANAGEMENT AUTHORITY	
The Namoi CMA submission requested that it be consulted with during development of management plans for the Project.	Whitehaven would consult with Namoi CMA during the development of relevant management plans for the Project.
The Namoi CMA submission recommended that the Namoi Catchment Water Study be considered and included in any future groundwater management planning for the Project.	Whitehaven would consider the *Namoi Catchment Water Study* (Schlumberger Water Services Pty Ltd, 2012) during development of a Water Management Plan for the Project.
The Namoi CMA submission raised concerns regarding the final void water quality.	As described in Section 5.4.3 of the EIS, final void salinity is expected to increase over time (e.g. after approximately 100 years it would be about 5,000 mg/L and 7,000 mg/L in the northern and southern final voids, respectively, and it would continue to increase beyond that). However, since the final voids would remain groundwater sinks (i.e. the final void water level would remain below the surrounding groundwater level), there would be no deleterious effect on the beneficial uses of any adjoining groundwater sources due to the increased salinity. Alternative options to the chosen final void design were considered as part of the Project design (e.g. partially and fully backfilling the void) and these are described in the EIS. The size and location of the proposed final voids would be reduced to the practicable minimum through progressive placement of overburden as in-fill during the mine life, and the rehandling and reshaping of overburden in the final years of the mine life. Whitehaven evaluated the costs associated with backfilling the final voids so that they would be free draining. However, the investigation concluded that the cost associated with rehandling waste rock from the waste rock emplacements to fill the two final voids to existing ground level would cost in the order of $1.5 billion, rendering the Project uneconomical. In addition, backfilling the open cut to the existing ground level would mean that a long-term groundwater sink would not be created. As described above, the groundwater sink would have the benefit of preventing any poorer quality groundwater from migrating out from the Project area.
The Namoi CMA submission raised concerns regarding reduction in surface water flow to the Bluevale sub-catchment.	The operational water management system and the final landform design have been developed to maximise the runoff of clean surface water to surrounding catchments, and minimise the catchment areas reporting to the mine water management system/final voids. The final landform has been designed such that the catchment areas of the final voids are limited to areas that lie below the ground level of the surrounding landscape. As described above, Whitehaven considered backfilling of the final voids, however the cost associated with this would render the Project uneconomical, and would not prevent poorer quality groundwater from migrating out from the Project area. Notwithstanding the above, a Water Management Plan would be developed for the Project which would consider options to maximise the runoff of clean water to the surrounding catchments during operations and following mine closure.
The Namoi CMA submission raised concern that the Namoi CMA (2011a) *Catchment Action Plan 2010-2020* was not considered as part of the ecological assessment of the Project.	As described in Section 1.1 of Appendix E of the EIS, the *Namoi Catchment Action Plan 2010 – 2020* (Namoi CMA, 2011a) was considered during development of the Ecological Assessment. For example, Section 6.2.2 of Appendix E of the EIS states: ***Regional Conservation Priorities*** *There are a number of regional priorities for biodiversity conservation in the Namoi CMA Region (Namoi CMA, 2011). One conservation priority is the buffering of habitat from the potential impacts of climate change (Namoi CMA, 2011). The proposed offset area is located within an OEH recognised 'high priority area', 'regional key fauna habitat' and climate change linkage, as described and mapped in the Wildlife Corridors for Climate Change – New England Tablelands and Nandewar bioregions - Landscape Selection Process, Connectivity for response to Climate Change (DECC, 2007b).* *...*

COMMENT	RESPONSE
	Ecosystem Resilience *Resilience is the ability of an ecosystem to return to its former state after it has been disturbed (McIntyre et al. 2002). As previously stated, although the offset land was previously part of a cattle station, the livestock have been removed since the property was purchased in 2010 and natural regeneration processes have commenced. This is evidenced by regrowth of trees and thick (grassy) understorey. The existing ecosystem is considered to have a moderate to high resilience despite the past and current disturbances.* *This description of ecosystem resilience is consistent with the 'Resilience Thinking' approach outlined in the Namoi Catchment Action Plan 2010-2020 (Namoi CMA, 2011).* With regard to vegetation mapping, the Project vegetation surveys were conducted in consideration of: • *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft* (DEC, 2004); and • *Namoi Catchment Action Plan 2010 - 2020* (Namoi CMA, 2011a). Vegetation communities were then aligned to Revised Biometric Vegetation Types, Keith Formation, Keith Class and EEC type. Section 5.1 of Appendix E of the EIS then provides a comparison of the vegetation proposed to be disturbed by the Project against that currently available in the region, as mapped by Namoi CMA (2013). This comparison uses the Namoi CMA (2013) Regional Vegetation Community classification. With regard to the *Namoi Catchment Action Plan 2010-2020* (Namoi CMA, 2011a) Biodiversity Targets, Figures 2-4 to 2-7 of Section 2 of the EIS show the Project general arrangement from Year 2 to Year 26 of the mine life. Year 7 represents the Project general arrangement that would occur closest to the year 2020. Based on Year 7 of the Project general arrangement, at 2020 approximately 1,200 ha would have been disturbed by the Project (including active mining, stockpiles, road realignments, water management structures and power supply corridors). Of this, approximately 240 ha would be subject to rehabilitation. In addition, the proposed biodiversity offset area would have been subject to six years of enhancement/rehabilitation. As described in the EIS, a Biodiversity Management Plan and Biodiversity Offset Strategy would be developed for the Project. Similar to the Project Approval conditions for the recently approved Tarrawonga Coal Project, Whitehaven expects that these documents would be developed in consultation with the Namoi CMA.
The Namoi CMA submission raised concerns regarding the depth of topsoil proposed for rehabilitation.	The proposed soil depth of 30 centimetres (cm) for areas to be rehabilitated to woodland/forest is considered by McKenzie Soil Management (Attachment A of Appendix G of the EIS) to be adequate. The Agricultural Resources Assessment (Attachment A of Appendix G of the EIS) describes management measures to promote the water holding capacity of the waste rock emplacements. As described in the Agricultural Impact Statement (Appendix G of the EIS), the rehabilitation and mine closure strategy includes restoration of approximately 780 ha of agricultural land capable of supporting cattle grazing and cropping in rotation with sown pastures. It is not proposed that high intensity cropping be conducted on rehabilitated areas, which is consistent with current practice in the area. As described in Section 8.5 of the Agricultural Resources Assessment (Attachment A of Appendix G of the EIS), with appropriate management the soil profile would *provide root zone chemical and physical conditions that are at least as favourable for pasture and crop production as the existing agricultural areas.* As described in Section 5.5.4 of the EIS, suitable native plant species would be selected for rehabilitation of the final landforms. The selection process would include consideration of the moisture availability and composition of the final landform. A Rehabilitation Management Plan would be developed for the Project, as described in Section 5.8 of the EIS, which would describe the rehabilitation objectives for the Project. Section 5.6 of the EIS describes the rehabilitation and revegetation monitoring that would be conducted for the Project.

COMMENT	RESPONSE
The Namoi CMA submission raised concerns regarding the stability and design of the final voids.	Section 5.4.3 of the EIS describes the design of the final voids: *The highwalls for the final voids would be designed to be geotechnically stable in the long-term, and would be at a nominal angle of approximately 60°.* *If required, additional works (e.g. placement of additional waste rock at the base of the highwall) would be undertaken following the completion of mining to improve their long-term geotechnical stability.* The depths of the northern and southern final voids would be approximately 120 m AHD and 70 m AHD, respectively. As described in Section 5.4 of the EIS, further final void design and mine planning would be undertaken by Whitehaven during the mine life in consultation with relevant government agencies as a component of the Rehabilitation Management Plan, the MOP and the final Closure Plan for the site. This would include detailed design of the final voids to achieve long-term geotechnical stability and model verification and re-simulation of the behaviour of the final void water bodies using the results of the groundwater and surface water monitoring programs.
HERITAGE COUNCIL OF NEW SOUTH WALES	
The Heritage Council of NSW submission recommended measures if unexpected heritage items are discovered. The submission also recommended that heritage items be recorded in accordance with relevant guidelines before being moved off-site.	Whitehaven would implement best practice management measures relating to the management of unrecorded non-Aboriginal heritage items identified during operations. Whitehaven would record non-Aboriginal heritage items in an archive in accordance with relevant Heritage Council of NSW guidelines prior to gifting any items to heritage/historical societies.
NTSCORP LIMITED	
Adequacy of the Consultation Processes The NTSCORP submission raised several concerns with regard to the adequacy of the consultation process and the incorporation of feedback from the registered Aboriginal parties.	The ACHA (Appendix I of the EIS) was prepared in accordance with the following guidelines: • *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). • *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974*) (DECCW, 2010b). • *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b). • *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (DEC, 2005). • The Burra Charter (Australia ICOMOS, 1999). • *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NPWS, 1997). • *Ask First; A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission, 2002). • *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council, 2010). In addition, the consultation undertaken for the Project was consistent with the requirements set out in the NSW *National Parks and Wildlife Regulation, 2009*.

COMMENT	RESPONSE
	Whitehaven is required to identify and consult with registered Aboriginal stakeholders in accordance with the OEH Guideline *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974*) (DECCW, 2010b), which prescribe a process whereby all interested parties can register and be consulted. Each of the Aboriginal stakeholders who registered an interest in the Project was included in the consultation process. Whitehaven actively sought feedback from all registered Aboriginal stakeholders during all stages of the consultation process including during the Proposed Methodology review period, field surveys, meetings and the review of the draft ACHA. Comments received from the stakeholders regarding the Proposed Methodology and how these comments have been addressed are described in Section 4.2.2 of the ACHA (Appendix I of the EIS). Similarly, the draft ACHA was provided to all stakeholders for their review and comment. A summary of the comments received and how they have been addressed is presented in Section 4.4 of the ACHA (Appendix I of the EIS). Meetings were held during the Proposed Methodology review period and the draft ACHA review period with all registered Aboriginal parties invited. Additional meetings were held with subsets of the Aboriginal stakeholders in response to specific requests for such meetings. In addition to the face to face meetings, all registered Aboriginal parties were invited and encouraged to provide feedback and/or comment on any component of the Project, cultural significance and the proposed management measures at any time throughout the consultation process in any form that they were able (e.g. verbally or in writing).
Inconsistent and Exclusory Consultation The NTSCORP submission raised concerns about the consultation conducted with the group of senior Elders being used as a means to exclude the majority of the registered Aboriginal parties from the consultation process.	A meeting was held at the Gunnedah Police Citizens Youth Club on 12 September 2012 to discuss the draft ACHA. All registered Aboriginal parties were invited to attend this meeting and it was timed to be held during the draft ACHA review period. This was done so that the meeting could also be used by the registered Aboriginal parties to provide their verbal comments on the draft ACHA should they not wish to provide written comments. At the 12 September 2012 meeting, several individuals raised concerns that local Elders had not sufficiently been included in the consultation process, and that Whitehaven should engage directly with them in order to discuss cultural heritage aspects in particular. Several Elders were present at the 12 September 2012 meeting, and as a result an initial meeting was held with them immediately following the group meeting. At the initial meeting with the Elders, Whitehaven was informed that the local Elders were in the process of establishing a Senior Elders Council and that would be the appropriate group for consultation with Elders in regards to the Project. Subsequent to the initial meeting with Senior Elders on 12 September 2012, an additional meeting was held with Senior Elders on 19 September 2012. At that meeting, the Senior Elders requested that Whitehaven organise a meeting and site inspection of the Project for the Senior Elders to inspect the study area. On 1 November 2012 the site inspection was undertaken with 11 Senior Elders in attendance. Sites and locations within the Project area were inspected based on direction by the Senior Elders. Discussions undertaken in the field related to potential water impacts, potential vibration impacts, maintaining access to public land and the Namoi River, and employment opportunities. Elders in attendance requested at the start of the inspection that no specific information provided by them during the inspection be used or replicated in the EIS. The consultation that was undertaken with the Senior Elders was conducted at the request of several Aboriginal stakeholders and was in addition to (not a substitute for) the consultation with the wider group of registered Aboriginal parties.
Identification of Appropriate Persons to Speak for Country The NTSCORP submission raised concerns about the identification of appropriate people to speak for country, and the failure to consult with the Gomeroi People Native Title Claim Group.	Whitehaven is required to identify and consult with registered Aboriginal parties in accordance with the OEH Guidelines (DECCW, 2010b), which prescribe a process whereby all interested parties can register and be consulted. Each of the Aboriginal stakeholders who registered an interest in the Project was included in the consultation process. All registered Aboriginal parties were invited to express an interest in participating in the field surveys. Due to the large number of groups/individuals that expressed an interest in being involved in the field surveys and length of the survey period, a roster system was devised to ensure equal involvement.

COMMENT	RESPONSE
	According to OEH Guideline (DECCW, 2010b): *...only Aboriginal people... can determine who is accepted by their community as being authorised to speak for Country and its associated cultural heritage.* Whitehaven cannot identify which representatives are able to 'speak for the country', rather this is up to Aboriginal community to decide and ensure that representatives provided for involvement in the field surveys were capable of doing so. The Gomeroi People Native Title Claim Group did not register an interest in being involved in the ACHA at any stage during the consultation process.
Deficiencies in the Assessment The NTSCORP submission raised several concerns about deficiencies in the assessment including: the qualifications of the experts involved; the assessment of the social and spiritual value of the objects and places identified; a cumulative impact analysis; and the assessment of the cultural significance of particular areas within the Project boundary.	As discussed in Section 2 of the ACHA (Appendix I of the EIS), Dr Matt Cupper was Landskape's project archaeologist. Dr Cupper is a qualified archaeologist and geoscientist with 13 years experience as a cultural heritage advisor. He has a wide range of experience in cultural and natural heritage management and an academic background in archaeology, geology and botany, including a PhD in the palaeoecology and early Aboriginal occupation of the Darling River. His qualifications include the following: • PhD, University of Melbourne 2003. • BSc(Hons), University of Melbourne 1998. • BA, University of Melbourne 1997. The significance ratings for the recorded Aboriginal heritage sites presented in Section 10.6 of the ACHA (Appendix I of the EIS) are based on archaeological significance. The registered Aboriginal stakeholders were asked to provide input regarding the cultural significance of the recorded Aboriginal heritage sites throughout the consultation process. Section 10.2 of the ACHA (Appendix I of the EIS) documents the comments received from the registered Aboriginal stakeholders regarding the cultural significance of the area and recorded Aboriginal heritage sites. As stated in Section 10.3.1 of the ACHA (Appendix I of the EIS), the connectedness of individual sites and landscapes has been considered as part of the site integrity assessment as a component of the assessment of scientific significance. This scientific assessment was used to inform the impact assessment presented in Section 11, including the assessment of the potential cumulative impacts of the Project presented in Section 11.5 of the ACHA (Appendix I of the EIS). Section 6.3 of the ACHA (Appendix I of the EIS) provides a summary of the types of Aboriginal cultural heritage sites present within the wider region of the Gunnedah Basin. This assessment includes detail on stone artefact scatters, hearths, middens, earth mounds, rock shelters, rock art, quarry sites, grinding grooves, modified trees, ceremonial rings and dreaming sites and burials. In addition, Section 6.4 of the ACHA (Appendix I of the EIS) provides detail regarding previous Aboriginal cultural heritage studies undertaken within the Gunnedah and Narrabri area.
Detail and Consultation Regarding Management Proposals The NTSCORP submission expressed concern about the level of detail provided in regard to management proposals.	Whitehaven actively sought feedback from all registered Aboriginal stakeholders during all stages of the consultation process including during the Proposed Methodology review period, field surveys, meetings and the review of the draft ACHA. Comments received from the stakeholders regarding the Proposed Methodology and how these comments have been addressed are described in Section 4.2.2 of the ACHA (Appendix I of the EIS). Similarly, the draft ACHA was provided to all stakeholders for their review and comment. A summary of the comments received and how they have been addressed is presented in Section 4.4 of the ACHA (Appendix I of the EIS). Section 12 of the ACHA (Appendix I of the EIS) presents the proposed management strategies for cultural heritage. This section was available for review and comment during the draft ACHA review period, and again during the public exhibition of the EIS in March-April 2013.

COMMENT	RESPONSE
	The management measures presented in Section 12 of the ACHA (Appendix I of the EIS) are considered to best practice in the industry. Further mitigation and management measures for the Project are presented in Section 7 of the EIS which was provided to all registered Aboriginal stakeholders for review during the public exhibition period. As detailed in Section 12 of the ACHA (Appendix I of the EIS), a Heritage Management Plan is proposed to be developed for the Project and is expected as a condition of any Project Development Consent. The Heritage Management Plan would contain further detail on the proposed management measures (e.g. salvage works), and would be developed in consultation with the Aboriginal community prior to disturbance to Aboriginal sites.
Coverage of Survey Undertaken The NTSCORP submission stated that there is not enough detail of the coverage of the cultural heritage surveys undertaken to provide assurance that they were sufficient for the purposes of the ACHA.	As discussed in Section 7.2 of the ACHA (Appendix I of the EIS), the archaeological field survey was conducted using a sampling strategy developed in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b) and Requirement 5a of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). The methodology focused on the areas that had a high probability of locating traditional Aboriginal artefacts, but still ensured that all landscape units across the study area were sampled, including those with a low probability of containing Aboriginal artefacts. It is noted in the OEH submission that: *...surface areas of proposed impact have been adequately observed and recorded and an understanding of Aboriginal surface sites is clear relative to the mine proposal and its proposed infrastructure.* Tables 9 and 10 in the ACHA (Appendix I of the EIS) provide details of the survey units and the coverage of the survey area. The total area of the survey units equates to approximately 2,755 ha (Table 10 of the ACHA [Appendix I of the EIS]). As described in Section 7.4.1 of the ACHA (Appendix I of the EIS), conditions of ground surface visibility were typically less than 30%. Survey units and descriptions of visibility for each survey unit are provided in Section 7.4.1, and a coverage analysis is presented in Section 7.4.2 of the ACHA (Appendix I of the EIS). Surveys were undertaken in each of the landforms identified within the Project area. It is noted in the OEH submission that: *The ACH assessment report does not include an effective coverage analysis so effectiveness of the survey overall to determine Aboriginal site boundaries is based on sighting objects on the surface as opposed to the method prescribed in the Code of Archaeological Practice...The report's results have however successfully shown that Aboriginal sites are widely distributed across the easement and that a pattern of site density occurs among select landforms.* Sections 9.1 and 11.4 of the ACHA (Appendix I of the EIS) state that the: *...Project area does not contain culturally sensitive landforms such as lunettes or source-boarding sand dunes...* Notwithstanding, an assessment of the archaeological potential of landforms within the Project area was provided in Sections 9 and 11 of the ACHA (Appendix I of the EIS). The proposed disturbance areas were surveyed on foot by the Project archaeologists and the Aboriginal representatives. As detailed in Section 7.2 of the ACHA (Appendix I of the EIS), team members walked abreast in a series of closely spaced transects which were evenly distributed across the areas of proposed disturbance and appropriately 10 to 20 m apart. Appendix 7 of the ACHA (Appendix I of the EIS) provides further detail regarding the field surveys including visibility, coverage descriptions, specific detail on the individual transects, photographs of each area and figures outlining the distribution of the finds.

COMMENT	RESPONSE
Adoption of Best Practice Management Measures The NTSCORP submission expressed concerns about the definition of, and ability to adhere to, best practice management measures.	As described above, Section 12 of the ACHA (Appendix I of the EIS) presents and proposed management strategies for cultural heritage. Further mitigation and management measures for the Project are presented in Section 7 of the EIS which was provided to all registered Aboriginal parties for review during the public exhibition period. The management measures presented are considered to best practice in the industry. As described in Section 12 of the ACHA (Appendix I of the EIS), a Heritage Management Plan is proposed to be developed for the Project and is expected as a condition of the Project Development Consent. The Heritage Management Plan would contain further detail on the proposed management measures (e.g. salvage works), and would be developed in consultation with the registered Aboriginal parties prior to disturbance to Aboriginal sites.
Independence and Impartiality of the Assessment The NTSCORP submission raised concerns with regard to independence and impartiality of the ACHA. In particular, the submission raised concern that the ACHA may have been conducted with a pre-ordained intention to place minimum value on the cultural heritage in the Project area.	The ACHA (Appendix I of the EIS) was undertaken by Dr Matt Cupper of Landskape, which is a specialist natural and cultural heritage consulting firm. As described above, Dr Cupper is a qualified archaeologist and geoscientist with 13 years experience as a cultural heritage advisor. He has a wide range of experience in cultural and natural heritage management and an academic background in archaeology, geology and botany, including a PhD in the palaeoecology and early Aboriginal occupation of the Darling River. His qualifications include a PhD from the University of Melbourne in 2003, a BSc (Hons) from the University of Melbourne in 1998, and a BA from the University of Melbourne in 1997. Landskape is an independent and impartial consulting firm. As described in Section 6 of the EIS, Whitehaven has considered economic, technical and environmental factors (including the location and significance of Aboriginal cultural heritage sites and other features) in determining the location and layout of Project components. However, due to the multiple factors involved, a balanced design solution was required (i.e. one that satisfied the minimum design requirements, minimised the net environmental impact but acknowledged that some environmental impact would be unavoidable). As described above in a previous response, the ACHA (Appendix I of the EIS) was conducted in accordance with the relevant guidelines. The classification of Aboriginal heritage sites that were identified during the surveys, as well as the subsequent assessment of the significance of proposed Project-related impacts, was conducted as per the requirements of these guidelines. The results were not pre-ordained and the avoidance and minimisation of impacts on Aboriginal heritage was a key component of the Project design. By way of example, and as described in Section 6.6.2 of the EIS, the location of the private haul road and Kamilaroi Highway overpass considered a wide range of aspects, including the avoidance of identified Aboriginal artefact scatters (refer to Figure 4-37 of the EIS).
LIVERPOOL PLAINS SHIRE COUNCIL	
The Liverpool Plains Shire Council submission raised concerns regarding rail transport and impacts to road transport in the vicinity of Werris Creek and Quirindi, and referred to the recommendations in the *Werris Creek Bypass Project Report*.	Whitehaven supports the recommendations presented in the *Werris Creek Bypass Project Report* prepared by Australian Rail Track Corporation Limited (ARTC) regarding the development of road and rail infrastructure to facilitate the increase in coal carrying capacity and increase operational efficiency at Werris Creek. It is noted that the Project would not increase the currently approved capacity of the Whitehaven CHPP (where coal from the Project would be processed and handled), and as a result would not increase the number of rail movements currently approved to depart the Whitehaven CHPP.
The Liverpool Plains Shire Council submission raised concerns regarding coal dust impacts associated with rail transport.	As described above, the Project would not increase the currently approved capacity of the Whitehaven CHPP, and therefore would not increase the number of rail movements currently approved to depart the Whitehaven CHPP. The potential for exceedances of the OEH air quality criteria caused by rail transport of Project coal would be low beyond distances of approximately 15 m from the railway (refer to Section 4.7.2 of the EIS).

COMMENT	RESPONSE
	The ARTC is the relevant entity responsible for off-site rail emissions. The ARTC's Environment Protection License (3142) contains a Pollution Reduction Program (PRP) entitled *PRP 4 Particulate Emissions from Coal Trains*. This PRP includes a requirement for a pilot monitoring program to determine PM_{10} and $PM_{2.5}$ concentrations in the vicinity of the Main Northern Railway (in the lower Hunter Valley). The objective of the PRP is to determine whether loaded coal trains are a source of Particulate Matter emissions in close proximity to the rail line. It is anticipated that this PRP would become the relevant avenue to address emissions from rail operations, including project-related rail operations. Whitehaven also undertakes dust measurements alongside the rail line in the township of Quirindi on Council land under agreement with the Liverpool Plains Shire Council. Whitehaven share the results of this monitoring with the Council on a monthly basis. To date the monitoring has recorded dust levels well below the criteria applicable to mining operations as stipulated by the EPA in the relevant EPL conditions.
AUSTRALIAN ASTRONOMICAL OBSERVATORY	
Air Quality and Light Impacts The Australian Astronomical Observatory (AAO) submission raised concerns regarding potential impacts to the Siding Spring Observatory as a result of dust and light emissions generated by the Project.	Section 4.12.3 of the EIS describes the proposed mitigation measures to control night-lighting impacts as follows: *Measures that would be employed to mitigate potential impacts from night-lighting would include one or more of the following, where practicable:* • *All external lighting associated with the Project would comply with AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting.* • *Night-lighting would be restricted to the minimum required for operations and safety requirements.* • *Directional lighting techniques would be used.* • *Light shrouds and reflectors would be used to limit the spill of lighting.* • *In consultation with the landholder, trees would be planted at nearby private dwellings to help screen any potential visual impacts*. The above mitigation measures would be implemented to mitigate light impacts on the local community and are anticipated to also minimise the potential impacts of night-lighting at the Siding Springs Observatory. In addition, Whitehaven would comply with contemporary approval conditions issued by the DP&I to control night-lighting impacts. Given the distance between the Project and the Siding Springs Observatory (approximately 115 km), dust emissions generated by the Project are not anticipated to present any significant impact to the AAO's equipment. Dust monitoring at the Siding Springs Observatory would not allow for quantification of project-specific dust impacts, and as such, Whitehaven does not propose to contribute to purchase of dust monitoring equipment for the Siding Springs Observatory. The proposed air quality monitoring network (refer to Section 4.7.3 of the EIS) is considered adequate to monitor air quality impacts associated with the Project. Additionally, the implementation of best practice dust control measures as described in the EIS to mitigate the impact of dust on the local community are also considered to mitigate the impacts of dust at the Sidings Springs Observatory.
CFMEU	
The CFMEU noted in its submission that *after reviewing all the material and taking advice, the Union supports the Vickery Coal Project.*	Whitehaven notes the CFMEU's comprehensive review of the EIS and support for the Project.

COMMENT	RESPONSE
PUBLIC 1 – Name withheld	
Cumulative Dust Impacts The submission raised concerns regarding possible cumulative dust impacts from the Project and other mining operations in the area, including the Tarrawonga, Boggabri and Maules Creek coal mines.	The Air Quality Assessment conducted as part of the EIS included an evaluation of potential cumulative impacts (refer to Section 4.7.2 of the EIS, and Section 8 of Appendix D of the EIS). In summary, the assessment concluded that: • No exceedance of the OEH annual average PM_{10} criterion is predicted at any privately-owned receiver due to the cumulative contributions of the Project, plus the Tarrawonga, Boggabri and Rocglen mines. • No exceedance of the OEH annual average TSP criterion is predicted at any privately-owned receiver due to the cumulative contributions of the Project, plus the Tarrawonga, Boggabri and Rocglen mines. • When background sources are considered cumulatively with the Project, there may be some additional exceedances of the 24 hour PM_{10} criterion on up to: - six days per year at the closest privately-owned receiver to the north of the Project (89b [approved dwelling location]); - one day per year at a privately-owned receiver (88) to the north of the Project; and - four days per year at the closest privately-owned receiver (127b) to the south west of the Project. It should be noted that since the EIS was exhibited in March-April 2013 Whitehaven has agreed to terms with the owner of property 89 and a legal agreement is being finalised. Whitehaven has also commenced negotiations with the owner of property 127 and would like to reach an agreement on suitable terms. Based on recent conditions of consent for other nearby projects, it is expected that privately-owned receiver 88 (to the north of the Project) would be given property acquisition rights under the Project Development Consent as more than 25% of the property is predicted to exceed the air quality impact assessment criteria. In addition to the above agreements and acquisition rights on the Project Development Consent, Whitehaven would prepare and implement a comprehensive air quality monitoring and management plan. It would describe the control measures that would be used to reduce air quality emissions to the practicable minimum and to meet the relevant air quality standards.
Traffic on Braymont Road The submission raised concerns regarding Project-related traffic on Braymont Road.	The road transport assessment conducted as part of the EIS included an evaluation of potential impacts on Braymont Road (refer to Section 4.11.2 of the EIS and Section 4 of Appendix F of the EIS). In summary: • The section of Braymont Road that runs in a north-south direction along the west boundary of MLA 2 is not proposed to be used by Project-related traffic. • When travelling to/from the Project, employees that reside in Boggabri and other areas to the north would be required to use the east-west section of Braymont Road from Boggabri, then Hoad Lane and the Whitehaven ROM coal road transport route, then the Blue Vale Road Diversion and the MIA Access Road. • The predicted average weekday traffic generated by the Project in Years 1, 7 and 17 are tabulated in Attachment B of Appendix F of the EIS. Average daily background traffic growth estimates and the predicted Maules Creek, Tarrawonga and Boggabri coal mine-related traffic are provided in Attachment A of Appendix F of the EIS. Whitehaven would instruct employees and contractors that travel to and from the Project as to which local roads are authorised to be used, and any relevant traffic safety rules and protocols (e.g. speed limits, safety measures when approaching school buses etc).

COMMENT	RESPONSE
Social Aspect of Mining The submission raised concerns regarding the social aspect of mining, including the amount of land surrounding the Project that has been purchased by Whitehaven and the proposed road diversion around the Project making the trip to Gunnedah longer.	It is acknowledged that Whitehaven has purchased various properties within and surrounding the Project area. In some cases these properties have been purchased because the land is required for the proposed mining operations, and in other cases it is because the predicted environmental impacts exceed the relevant criteria at these properties. However, where possible Whitehaven-owned land continues to be used for cropping and grazing purposes (e.g. via agistment of stock, leasing or agreements with previous landholders). Whitehaven would welcome discussions with local landholders who may have an interest in leasing its lands for agricultural purposes (once existing licences expire, as it is Whitehaven's current practice to lease its owned properties until required for mining operations). Whitehaven also anticipates that it would sell the majority of land it has acquired surrounding the Project once it is no longer required. It is acknowledged that the Blue Vale Road re-alignment would increase the distance travelled from the north of the Project site to Gunnedah by approximately 5 km. However, this extra distance would affect relatively few people and would only add approximately 3 to 4 minutes to typical travel times. It is therefore not likely to cause significant impacts on existing road users.
PUBLIC 2 – W. Campbell	
The submission raised concerns regarding the proposed 24 hour, 7 day per week transport of coal to the Gunnedah CHPP via Blue Vale Road.	Whitehaven currently holds approvals to transport ROM coal along the Whitehaven haul route at a rate of up to 3.5 Mtpa from the Tarrawonga and Rocglen coal mines. This ROM coal haulage can take place between the hours of 7.00 am to 10.00 pm Monday to Friday and 7.00 am to 6.00 pm on Saturdays. If the 3.5 Mtpa is averaged over these approved operating hours it equates to approximately 782 tonnes (t) of ROM coal being transported per haulage hour, or 19 truck deliveries per hour, from the Tarrawonga and Rocglen coal mines to the Whitehaven CHPP. ROM coal transport from the Project to the Whitehaven CHPP via the Whitehaven haul route and the private haul road and Kamilaroi Highway overpass is proposed to be undertaken up to 24 hours per day, seven days per week. If the maximum Project ROM coal production rate of 4.5 Mtpa is averaged over the 24 hour trucking period it would equate to 13 truck deliveries per hour. Noise modelling of Project ROM coal road transport was conducted by Wilkinson Murray (Appendix C of the EIS). No exceedances of the relevant night-time or day NSW *Road Noise Policy* road noise assessment criteria were predicted at receivers for all assessed traffic scenarios, inclusive of Project and non-Project related traffic. Whitehaven currently has road maintenance agreements with the NSC and the GSC. It is anticipated that similar agreements would continue to be maintained over the life of the Project, based on the levels of traffic generated. Whitehaven would use its contractual arrangements and induction and training processes to make haulage truck drivers and other employees aware of their obligations with regard to speed limits, safety protocols and operating conditions.
PUBLIC 3 – J. Barker	
24 hour Operating Hours The submission raised concerns with the proposed operating hours for the mine being 24 hours per day 7 days per week.	The selection of the hours of operation for open cut mining has implications for return on capital investment (e.g. return on investment on new mining equipment), staffing and environmental consequences with respect to amenity at nearby receivers (e.g. operational noise and dust generation). As part of the Project feasibility and environmental studies, Whitehaven considered the operational hours for the mining operations. The evaluation concluded that Project economic viability constraints require 24 hour open cut mining operations, albeit with some adjustments to the areas in which night-time operations would occur in order to achieve environmental benefits (e.g. implementation of the 'Integrated Pro-active Noise Management Strategy' that is described in Section 2.8.1 of the EIS).

COMMENT	RESPONSE
	Restriction of the open cut mining hours to between 6.30 am and 12.00 am Monday to Saturday (as proposed in the submission), would mean that a significantly larger fleet and workforce would be required in order to achieve the required production rate of 4.5 Mtpa. This would have the adverse consequence of increasing noise emissions at nearby receivers due to the additional equipment.
Visual Impact of the Eastern Emplacement The submission raised concerns with the visual impact of the Eastern Emplacement.	The Eastern Emplacement is an out-of-pit overburden dump that is required early in the mine life while there is insufficient area behind the active open cut to enable backfilling of all the overburden. As described in Section 2.8.1 of the EIS, the Eastern Emplacement is expected to be fully developed by Year 7. It is proposed to be constructed to a maximum height of 375 m AHD. The existing topography at the site of the Eastern Emplacement ranges from approximately 265 to 345 m AHD. The location of the Eastern Emplacement was selected because it is within a suitable haulage distance from the open cut, is in an area that has been previously disturbed by agricultural activities, and it avoids the alluvial floodplain, South Creek and the Vickery State Forest. It is also located on an area where coal stripping ratios are significantly higher (i.e. up to 20:1), which make open cut mining in this area economically unviable. However, potential underground mining of coal beneath the emplacement in the future would not be precluded. Reducing the height of the Eastern Emplacement would mean that it would need to occupy a greater area in order to accommodate the same amount of material (i.e. direct impacts to South Creek, the alluvial floodplain and/or Vickery State Forest could not be avoided). The visual impacts associated with the Eastern Emplacement have been assessed in Appendix H of the EIS, including dwellings to the south and south-east. The assessment concluded that the moderate visual sensitivity coupled with the low to moderate visual modification level would mean that a low to moderate level of impact would be expected at the nearest residences. With progressive and final rehabilitation the level of visual impact would reduce further. Private residences located further away to the south and south-east would experience progressively smaller impacts with distance from the Project.
PUBLIC 4 – J. Wilkinson	
Noise Impacts Associated with the Kamilaroi Highway Overpass The submission raised concerns with regard to noise impacts due to the proposed construction and use of the Kamilaroi Highway Overpass (i.e. due to the increased proximity to their residence and the planned 24 hour haulage).	Since the EIS was exhibited in march-April 2013 Whitehaven has agreed to terms with J. Wilkinson for the purchase property 225 on Figure 1.3 of the EIS, and a legal agreement is being finalised. The noise assessment undertaken by Wilkinson Murray (Appendix C of the EIS) included a comparative assessment of the private haul road and Kamilaroi Highway overpass noise levels against the existing noise levels associated with the Kamilaroi Highway. Noise levels due to traffic on the private haul road and Kamilaroi Highway overpass would be generally similar to or less than those from equivalent traffic on the existing highway. At property 225, a marginal increase from 34 to 35 dBA is predicted in comparison with the existing Whitehaven haul route (refer to Table 4-16 of the EIS). When noise associated with non-Project traffic on the Kamilaroi Highway is considered cumulatively with Project haul trucks, the private haul road and Kamilaroi Highway overpass would result in noise levels that are the same at property 225 as noise levels associated with the existing Whitehaven haul route at all private receivers (refer to Table 4-16 of the EIS).
Extension of the CHPP Development Consent beyond October 2022 The submission raised concerns with the operating approval for the CHPP being extended beyond its current expiry date of October 2022.	The Project life is 30 years, which based on a commencement date of 1 January 2014, would equate to mining operations concluding 2044. The current CHPP Development Consent (DA 0079.2002) expires in October 2022, which is prior to the end of the Project life. This date is still many years away, and as described in Section A4.1.1 of Attachment A of the EIS, separate approvals to extend the existing consent period for the CHPP would be sought closer to the current expiration date if required. Whether or not Whitehaven seek an extension to the CHPP Development Consent timeframe would depend on factors such as market conditions, the status of Whitehaven's other mining operations, and Whitehaven's coal processing and transport infrastructure growth strategy.

COMMENT	RESPONSE
	If a decision is made to seek an extension to the CHPP Development Consent timeframe beyond 2022, Whitehaven would conduct the necessary environmental assessments and lodge the appropriate approval applications.
PUBLIC 5 – A.C. Wannan & P.M. Winter	
Stratford Creek Flood Management The submission raised concerns associated with flooding due to the proposed location of the MIA adjacent to Stratford Creek and the proposed realignment of Blue Vale Road on the flood plain.	The surface water assessment undertaken by Evans & Peck (Appendix B of the EIS) included an assessment of potential flooding impacts in the vicinity of Stratford Creek. The modelled extent of a 1:100 flood event on Stratford Creek is shown on Figure 8 of Appendix B of the EIS. As illustrated, the MIA has been designed to be largely beyond the extent of the predicted flood event, and as a result would cause negligible flooding-related impacts. The proposed realignment of Blue Vale Road would cross Stratford Creek and the predicted area that would be affected by a 1:100 flood event (i.e. Figure 8 of Appendix B of the EIS). It should be noted that the existing Blue Vale Road is perpendicular to the Stratford Creek alignment and that the creek does not have a defined channel where it crosses the road. The existing road alignment is constructed on gradient on the flood plain and is periodically cut by flows down Stratford Creek and elsewhere on the floodplain. As described in Section 7.3.1 of Appendix B of the EIS, the realigned section of Blue Vale Road would be constructed on-grade and minimal filling or earthworks would be required. As a result, local catchment flows would discharge across the road with minimal obstruction and therefore additional inundation of neighbouring properties is not predicted.
Air Quality Assessment The submission raised concerns with the use of the 40% conversion factor for TSP based on data from the Hunter Valley; the calculation of air quality averages based on 5 years of data; and the incorporation of the MIA and Eastern Emplacement in the air quality assessment.	No TSP concentration data are available in the vicinity of the Project. However, as described in Section 4.3 of Appendix D of the EIS, average annual TSP concentrations for the Project have been estimated from PM_{10} measurements by assuming 40% of the TSP is PM_{10}. This relationship between TSP and PM_{10} was established through a comprehensive study of coal mines in the Hunter Valley (NSW Minerals Council, 2000) and is widely adopted in air quality assessments in NSW. The use of this TSP conversion factor is considered to be an appropriate method for evaluating TSP at the Project where site specific monitoring data is not available. It should be noted that the maximum predicted cumulative annual average TSP concentrations at potentially sensitive residences in the vicinity of the Project are significantly lower than the applicable criteria (i.e. 90 micrograms per cubic metre) (refer to Section 8.14 of Appendix D of the EIS). The air quality assessment undertaken by PAEHolmes (Appendix D of the EIS) included a compilation of available monitoring data from nearby monitoring stations extending back to 2005. These data included sites set up as part of the monitoring network for nearby mines as well as the Project-specific site that was installed in early 2012. Data from the EPA Tamworth air quality monitoring site was also used. The air quality assessment analysed the available data in order to determine average background air quality conditions. PAEHolmes believe that the use of only EPA Tamworth monitoring data would not provide for a better pre-mining baseline data set. The air quality assessment did not exclude the MIA and Eastern Emplacement from the dust distribution models. Proposed dust generating activities at these areas were identified and included in the modelling (refer to Tables 7.1 to 7.4 in Appendix D of the EIS).
Noise and Blasting Assessment The submission raised concerns with the predicted noise and blasting effects at the 'Colstoun' residence.	The noise assessment undertaken by Wilkinson Murray (Appendix C of the EIS) predicts that blasting effects, operational noise, and road transport noise levels at the 'Colstoun' residence would be below the relevant criteria. Notwithstanding the above, Whitehaven would prepare and implement a Noise Management Plan and a Blast Management Plan for the Project. It is expected that the Project Development Consent would contain specific conditions that would prescribe the content of these plans and the noise and blasting limits for the Project. Whitehaven would also implement a comprehensive noise and blast monitoring program, which would include real-time noise and meteorological monitoring.
Groundwater Assessment The submission raised concerns about potential consequences if the groundwater supply on the 'Colstoun' property is impacted.	The groundwater modelling and impact assessment conducted for the EIS (Appendix A of the EIS) concludes that the zone of groundwater drawdown surrounding the Project open cut during operations and post closure would be largely restricted to the Maules Creek Formation.

COMMENT	RESPONSE
	The PINNEENA registered bores located on the southern half of the Colstoun are shown on Figure 4-6 of the EIS. All of these bores are located within the Upper Namoi Alluvium Groundwater System and are not predicted to be materially impacted during mining operations or post closure. Notwithstanding the above, Whitehaven has committed in the EIS (refer to Sections 4.4.3 and 7.2.2 of the EIS) to prepare a Groundwater Management Plan, which would include details of the contingent mitigation/compensation/offset options that would be enacted in the unlikely event that other groundwater users are adversely affected by the Project. Whitehaven expects that the NSW Minister for Planning would include specific conditions in the Project Development Consent regarding the content of the Groundwater Management Plan, as well as conditions pertaining to Compensatory Water Supply. Contemporary conditions of this nature were recently imposed on the Tarrawonga Coal Mine, which was approved in January 2013.
PUBLIC 6 – P. Rankin	
The submission raised concerns regarding potential flooding impacts on their residence due to the proposed construction of the Kamilaroi Highway overpass.	The location of the relevant dwelling is shown on Figure 4-13 of the EIS (i.e. Private Dwelling #21). It is situated approximately 1.4 km upstream of the proposed Kamilaroi Highway overpass and is adjacent to the Kamilaroi Highway. A survey of the floor level at the front door of the residence was conducted in March 2013 and recorded a level of 261.90 m AHD. The residence is not surrounded by a flood bund. The predicted 1:100 flood level at this residence (without the proposed Kamilaroi Highway Overpass) is 262.25 m AHD. The flooding assessment conducted by Worley Parsons (Appendix B of the EIS) for the Project predicted that flood levels would increase by up to 3 cm at this location during a 1:100 flood event. The increase would be proportionally less during smaller flood events. In order to manage and minimise flooding impacts associated with the proposed Kamilaroi Highway Overpass, the detailed design would be prepared in consultation with RMS, GSC, NOW and the OEH Inland Flood Unit. The detailed design would include consideration of design details that would assist with further minimising flood impacts (e.g. culvert sizing and placement within the road infrastructure, height of the road above the surrounding topography, width of the gap where the overpass crosses the Kamilaroi Highway). Whitehaven would also include in the Project Water Management Plan a process for reviewing the predicted flood levels at private receivers once the detailed design of the private haul road and Kamilaroi Highway overpass is complete. Detailed survey of dwellings and any existing flood mitigation structures would be considered as part of this process to refine the predicted potential flooding impacts as a result of the construction of the private haul road and Kamilaroi Highway overpass. Should adverse changes in flooding impacts to privately-owned dwellings as a result of the construction of the private haul road and Kamilaroi Highway overpass be identified as part of this process, Whitehaven would develop and implement management measures in consultation with landholders to minimise potential flood impacts at the dwellings.
PUBLIC 7 – G. McIlveen	
Restrictions to Work Hours and Activities The submission included various proposed restrictions to work hours and activities associated with the Western Dump and other areas/times.	• Whitehaven has committed to not undertaking works on the outer batters of the Western Emplacement during the hours of 6.00 pm to 7.00 am (refer to Table 4-15 of the EIS), however it is not possible for Whitehaven to commit to no work on any part of the Western Emplacement during these hours. • It is not possible for Whitehaven to commit to conducting no work on the Western Emplacement on weekends. The Western Emplacement is the main operation area of the mine for most of the mine life, and this sort of restriction would seriously affect the economic viability of the Project. • It is not practicable for Whitehaven to commit to conducting no work on public holidays. Whitehaven usually conduct normal operations (i.e. full capacity) on public holidays. But in some cases it would reduce its activities based on the mine plan at the time, production requirements, and the availability of employees/contractors.

COMMENT	RESPONSE
	• Whitehaven would seek to minimise light emissions from the Project by carefully selecting the sites where lights would be placed, and by use of physical barriers and/or operational measures to reduce light spill without compromising operational safety (refer to Section 4.12.3 of the EIS). As described above, no mining activities would be conducted on the western face or on top of the Western Emplacement between 6.00 pm and 7.00 am. As such, it is anticipated that night-lighting impacts to areas west of the Project would be minimal. • Whitehaven would prepare and implement a comprehensive Noise Management Plan, which would include real-time monitoring and meteorological forecasting (refer to Section 4.6.3 of the EIS). A key monitoring objective would be to confirm that the mining operations are being conducted in a manner such that they do not exceed the relevant noise criteria at nearby receptors (i.e. they are not 'too loud'). If the monitoring or meteorological forecasting indicates that noise levels are, or are likely to exceed nominated trigger levels, then Whitehaven would implement mitigation measures, which may include: - refinement of on-site noise mitigation measures and mine operating procedures; - implementation of feasible and reasonable acoustical mitigation at receivers; and - entering into negotiated agreements with landowners (including acquisition for receivers identified to be in the noise affectation zone).
Restrictions Associated with Air Quality, Blasting Activities / Times The submission included various proposed restrictions associated with dust management, blasting times and conditions.	• Whitehaven would conduct Project operations and activities in a manner that would minimise the emission of dust from the premises, however it is not possible for Whitehaven to commit to stopping operations if <u>any</u> dust leaves the Vickery lease. A comprehensive Air Quality assessment has been undertaken (Appendix D of the EIS) and indicates that no exceedance of the relevant criteria is predicted at any privately-owned existing residence for the Project-only particulate matter concentrations or dust deposition levels. Notwithstanding, an Air Quality and Greenhouse Gas Management Plan would be prepared and implemented during construction and operation of the Project. The plan would include details of the air quality monitoring system as well as dust mitigation measures to be used at the Project (e.g. water application on haul roads and other best practice management strategies to reduce amenity impacts on privately-owned properties). • Whitehaven notes the request for a blast monitor to be placed at the submitter's place of residence. As described in Section 4.6.3 of the EIS, it is anticipated that blast monitoring would be conducted at private receivers surrounding the Project mining area (e.g. to the south-west and north). The exact locations for blast monitoring would be determined in consultation with Government agencies and would be documented in the Blast Management Plan. • As per its other mining operations, Whitehaven would operate a system to enable the public to get up-to-date information on the proposed blasting schedule for the Project. At the nearby Tarrawonga Coal Mine this system involves an email and/or phone call on the day before the blast, and again on the day of the blast to those residents that have requested that they be notified. • It is anticipated that the Project Development Consent and Environmental Protection Licence (EPL) would nominate the time period during which blasts could occur. For example, at the nearby Tarrawonga Coal Mine blasting is restricted to between the hours of 9.00 am and 5.00 pm Monday to Saturday. • Whitehaven would evaluate the forecast weather conditions prior to each blast and would reschedule blasts if conditions are not suitable (i.e. where there is an unacceptable risk of the relevant safety and environmental criteria being achieved). Unsuitable weather conditions may include heavy cloud cover, fog or rain, or certain wind directions. • It is not practicable for Whitehaven to commit to conducting no blasting at all on weekends. As described above, it is anticipated that the Project Development Consent and EPL would nominate the time period during which blasts could occur, and that this would include Saturday.

COMMENT	RESPONSE
Other Proposed Restrictions The submission included various proposed restrictions relating to the height of the waste emplacements, access through Property 127, and ongoing consultation.	• It is not practicable for Whitehaven to commit to spreading the waste emplacements out so that they do not exceed 350 m AHD. Section 6.6.2 of the EIS provides a justification for the location and design of the waste emplacements. In summary, the location of the Western Emplacement was selected because it is a suitable haulage distance from the open cut, avoids economically viable coal resources, is located on an area that has been previously disturbed by agricultural and previous mining activities, and largely avoids disturbance to the alluvial floodplain and better quality agricultural land. Lowering the height of the emplacement by 25 m would mean that it would need to occupy a significantly larger surface area, which would result in higher impacts on the adjoining flood plains, additional land clearance etc. Lowering the Eastern Emplacement would cause similar additional impacts. • The Project does not involve any proposed access to the Project mining area via property 127 and/or the 'Vickery Bridge'. The bridge in question is not maintained or on a gazetted Council road, and is therefore not considered to be suitable for any form of vehicle access.
Public 8 – W.F. & S.E. Nicholls	
Blasting The submission raised concerns with regard to blasting-related damage at their residence.	It is anticipated that the Project Development Consent would include conditions that specify the blasting criteria, blasting hours and frequency, and other operating conditions that must be adhered to. It is expected that conditions would also be imposed that require property inspections and investigations to be undertaken if requested by property owners within a specified distance from the Project mining area. Similar conditions have been imposed at Whitehaven's other operations and include a requirement to commission suitably qualified, experienced and independent specialists to undertake the investigations, and a requirement for Whitehaven to repair the damage where necessary. Whitehaven would prepare and implement a Blast Management Plan for the Project (refer to Section 4.6.3 of the EIS). It is expected that the Project Development Consent would contain specific conditions that prescribe the content of this Plan. Whitehaven would implement a comprehensive noise and blast monitoring program, which would include real-time noise and meteorological monitoring.
Noise and Dust The submission raised concerns about the prevailing wind direction used in the EIS and its affect on the noise and air quality assessments.	The prevailing wind direction at the Project mining area is identified in the EIS as being from the south-east. The wind data that was used was based on a detailed analysis of the available data from the local area and wider region (refer to Section 4.1.1 of Appendix D of the EIS). Notwithstanding, the noise and air quality assessments considered all wind directions when assessing potential impacts, including the west to east wind that is described in the submission.
Visual Aspects The submission raised concerns about the visual simulations contained in the EIS and the visual impact assessment conducted at the property.	The Brolga residence is located approximately 4.5 km from the closest edge of the Eastern Emplacement and 5.2 km from the closest part of the open cut. The residence is surrounded by a well established garden plus several sheds, which screen much of the view to the surrounding plains and hills. Because of this, the visual simulation presented in Figure 4-31 of the EIS was taken from the edge of the 'home yard' and looks out across the predominately cleared farmland in the direction of the Project and the Vickery State Forest (i.e. to the north and north-west). A three dimensional digital terrain model (3D model) was used to generate the visual simulations in the EIS. In summary, the 3D model inserts the Project mine plan into the existing topography (i.e. above and below ground activities are added in three dimensions). The 3D model is then used to provide a wireframe outline of the proposed Project landform (at Years 7 and 26) from locations surrounding the mine where a simulation is required. The wireframe is then scaled, orientated and added to the pre-mining photograph taken from the simulation point, which produces the Project visual simulation. The simulations presented in the EIS are considered to be an accurate representation of the view that would be recorded if a photograph was taken in Year 7 and Year 26 from the locations selected.

COMMENT	RESPONSE
	In order to minimise visual impacts Whitehaven would adopt the mitigation measures described in Section 4.12.3 of the EIS. Visual screening such as the use of vegetation screens consisting of native plants that are compatible with the existing surrounding vegetation would be used to reduce potential visual impacts from local sensitive viewpoints. In addition, upon receiving a request from an owner of any privately-owned dwelling which has significant direct views of the Project, Whitehaven would implement reasonable and feasible visual mitigation measures (e.g. vegetation screening) in consultation with the owner to minimise the visibility of the Project from the dwelling. Whitehaven would also seek to minimise light emissions from the Project by carefully selecting the sites where lights would be placed, and by use of physical barriers and/or operational measures to reduce light spill without compromising operational safety. No mining activities would be conducted on the western face or on top of the Western Emplacement between 6.00 pm and 7.00 am.
Land Value The submission raised concerns about the potential reduction of land value due to the Project.	Whitehaven is committed to: • maintaining an open-door policy on consultation with local landowners on a case by case basis; • proactively establishing agreements, offering put/call options or offering to purchase properties which are predicted to be impacted above the environmental criteria contained in the Project Development Consent and/or EPL; and • being actively involved in the local area and to making contributions in kind and financial for the benefit of the local community. The owner has not approached Whitehaven to buy the property, although the owner has stated previously that he believes that his property value is being adversely affected. The owner has not provided Whitehaven with any evidence supporting the claim that a direct financial loss of 'at least $500,000 and possibly as much as $750,000' has been incurred. Whitehaven believes that the legitimate interests of local landowners would be protected by conditions of the Project Development Consent which would: • impose threshold criteria for amenity protection (e.g. noise, air quality and blasting thresholds); • require Whitehaven to purchase a property in the event of threshold criteria for amenity protection being breached; and • require Whitehaven to offer to provide compensatory water to any owner of privately-owned land whose water supply is adversely and directly impacted as a result of the Project.
Health Issues The submission raised concerns about the potential for the Project to cause health problems.	Whitehaven will continue to implement a policy of continuous improvement with regard to environmental and safety management and monitoring at its operations. This will include adoption of new technologies, procedures and plans to improve performance and minimise adverse environmental and health effects on the local community and environment. Whitehaven would implement a comprehensive environmental monitoring program in accordance with the requirements of the Project Development Consent. A CCC would also be formed as the main forum for consultation with community representatives and local Councils. A complaints hotline for the Project would be established, and Whitehaven would upload copies of Project environmental management plans, monitoring reports and approval documentation on its website.
Water The submission raised concerns about the potential for the Project to adversely impact the water supply for the 'Brolga' property.	Whitehaven has committed in the EIS (i.e. Sections 4.4.3 and 7.2.2) to prepare a Groundwater Management Plan, which would include details of the contingent mitigation/compensation/offset options that would be enacted in the unlikely event that groundwater users are adversely affected by the Project. Whitehaven expects that the NSW Minister for Planning would include specific conditions in the Project Development Consent regarding the content of the Groundwater Management Plan, as well as conditions pertaining to Compensatory Water Supply. Contemporary conditions of this nature were recently imposed on the Tarrawonga Coal Mine, which was approved in January 2013.

COMMENT	RESPONSE
Omissions, Real and Social Costs The submission commented on the social impacts caused by the inequitable distribution of benefits and costs associated with the Project.	Whitehaven expects that the Project would be evaluated and determined by the NSW Minister for Planning (or delegate) on its merits and in accordance with the objects of the EP&A Act and EP&A Regulation and with consideration of the principles of Ecologically Sustainable Development. A summary description of the environmental assessment and planning requirements of this legislation, as well as a justification for the Project is provided in Section 6 of the EIS.
PUBLIC 9 - Troy Silver	
Survey Coverage The submission commented that the site area has not been surveyed properly and estimated that about 40% of the land is still unsurveyed.	The OEH submission notes that: *The ACH report shows that the survey method has adequately examined the mine easement for Aboriginal surface sites using a stratified sampling approach supported by a field inspection. All surface areas of proposed impact have been adequately observed and recorded and an understanding of Aboriginal surface sites is clear relative to the mine proposal and its proposed infrastructure.* As discussed in Section 7.2 of the ACHA (Appendix I of the EIS), the archaeological field survey was conducted based on a sampling strategy developed in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b) and Requirement 5a of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). The methodology for the field survey involved a focus on the areas that had a high probability of locating traditional Aboriginal artefacts, as well as ensuring sampling of all landscape units across the study area (including those with a low probability of containing Aboriginal artefacts). Tables 9 and 10 in the ACHA (Appendix I of the EIS) provide details regarding the survey units and the coverage of the survey area. The total area of the survey units equates to approximately 2,755 ha (Table 10 of the ACHA [Appendix I of the EIS]). It is noted in Section 7.4.1 of the ACHA (Appendix I of the EIS) that conditions of ground surface visibility were typically less than 30%. Survey units and descriptions of visibility for each survey unit are provided in Section 7.4.1, and a coverage analysis is presented in Section 7.4.2 of the ACHA (Appendix I of the EIS). Surveys were undertaken in each of the landforms identified within the Project area. It is noted in the OEH submission that: *The ACH assessment report does not include an effective coverage analysis so effectiveness of the survey overall to determine Aboriginal site boundaries is based on sighting objects on the surface as opposed to the method prescribed in the Code of Archaeological Practice...The report's results have however successfully shown that Aboriginal sites are widely distributed across the easement and that a pattern of site density occurs among select landforms.* Sections 9.1 and 11.4 of the ACHA (Appendix I of the EIS) state that the: *...Project area does not contain culturally sensitive landforms such as lunettes or source-boarding sand dunes...* Notwithstanding, an assessment of the archaeological potential of landforms within the Project area was provided in Sections 9 and 11 of the ACHA (Appendix I of the EIS). The proposed disturbance areas were surveyed on foot by the Project archaeologists and the Aboriginal community representatives. As detailed in Section 7.2 of the ACHA (Appendix I of the EIS), team members walked abreast in a series of closely spaced transects which were evenly distributed across the areas of proposed disturbance and appropriately 10 to 20 m apart. Appendix 7 of the ACHA (Appendix I of the EIS) provides further detail regarding the field surveys including visibility, coverage descriptions, specific detail on the individual transects, photographs of each area and figures outlining the distribution of the finds.

COMMENT	RESPONSE
Survey Results The submission raised concerns regarding the assessment process for the area reported to contain stones in a cultural arrangement.	Following the ACHA field surveys conducted in November and December 2011, Whitehaven held a meeting at the Project site with Mr Phill Purcell of the OEH to provide an update on the Project and the status of the ACHA (including status of the consultation process and survey findings to date). Mr Lance Syme of Kayandel Archaeological Services (the Project archaeologist at the time) also attended the meeting. As part of the meeting, Mr Purcell was taken to several locations across the area the subject of the Project, including the area with a reported arrangement of stones. Mr Purcell indicated that he could not identify any material representing an Aboriginal cultural stone arrangement. In addition and as part of his investigations, Dr Matt Cupper of Landskape Natural and Cultural Heritage Management also inspected the area with a reported arrangement of stones in June 2012. As detailed in Section 7.3.1 of the ACHA (Appendix I of the EIS), characteristics of stone arrangements as detailed in several expert sources including Dow (1938) (circular stone features, pathways), Towle (1939) (circular stone features, cairns) and Hamacher *et al*. (2012) (linear stone features) were used to distinguish between culturally modified assemblages of stones and naturally distributed cobbles or boulders. Based on this analysis, the feature within the area with a reported arrangement of stones was determined not to be of Aboriginal origin and was therefore not included in the draft ACHA, nor the final ACHA as a site. The analysis described above was not included in the draft ACHA, however following consideration of comments received from the registered Aboriginal parties with respect to the draft ACHA, additional detail and the analysis described above was included in the final ACHA report (Section 7 of the ACHA [Appendix I of the EIS]). A copy of the final ACHA (including this analysis) was provided to all registered Aboriginal parties during the public exhibition period of the EIS in March-April 2013.
Inclusiveness of Consultation Process The submission raised concerns regarding the exclusion of registered Aboriginal stakeholders from a meeting held on 19 September 2012 and a site inspection held on 1 November 2012.	A meeting was held at the Gunnedah Police Citizens Youth Club on 12 September 2012 to discuss the draft ACHA. All registered Aboriginal parties were invited to attend this meeting and it was timed to be held during the draft ACHA review period. This was done so that the meeting could also be used by the registered Aboriginal parties to provide their verbal comments on the draft ACHA should they not wish to provide written comments. At the 12 September 2012 meeting, several individuals raised concerns that local Elders had not sufficiently been included in the consultation process, and that Whitehaven should engage directly with them in order to discuss cultural heritage aspects in particular. Several Elders were present at the 12 September 2012 meeting and subsequently a meeting was held with them immediately following the larger group meeting. At the meeting with the Elders, Whitehaven was informed that the local Elders were in the process of establishing a Senior Elders Council and that that group was the appropriate group for consultation with Elders in regards to the Project. Subsequent to the meeting with Senior Elders on 12 September 2012, an additional meeting was held with Senior Elders on 19 September 2012. At that meeting, the Senior Elders requested that Whitehaven organise a meeting and site inspection of the Project for the Senior Elders to inspect the study area. On 1 November 2012 the site inspection was undertaken with 11 Senior Elders in attendance. Sites and locations within the Project area were inspected based on direction by the Senior Elders. Discussions undertaken in the field related to potential water impacts, potential vibration impacts, maintaining access to public land and the Namoi River, and employment opportunities. Elders in attendance requested at the start of the inspection that no specific information provided by them during the inspection be used or replicated in the EIS. The consultation that was undertaken with the Senior Elders was conducted at the request of several Aboriginal stakeholders and was in addition to (not a substitute for) the consultation with the wider group of registered Aboriginal parties.

COMMENT	RESPONSE
Consultation with Elders The submission raised concerns that some of the Elders that were consulted do not have cultural ties to the Project area and do not speak on his behalf. In particular: *Some of the members of this group* [senior elders group] *do not have any cultural ties to the project area, although they are elders. The senior elders group does not speak on my behalf, nor on behalf of any other Kamilaroi people without their written consent...* *..Whitehaven has excluded the registered stakeholders from aspects of the consultation process in circumstances where there was no justification for such exclusion.*	Whitehaven is required to identify and consult with registered Aboriginal parties in accordance with the OEH Guideline *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b), which prescribe a process whereby all interested parties can register and be consulted. Each of the Aboriginal stakeholders who registered an interest in the Project was included in the consultation process. As described above, the meetings held by Whitehaven with the Senior Elders were in response to the requests made at the 12 September 2012 meeting (Table 4-37 in Section 4 of the EIS). Section 10.2 of the ACHA (Appendix I of the EIS) acknowledges that the views expressed by individuals may not necessarily reflect the views of the Aboriginal community as a whole.
PUBLIC 10 to 21 - D. Talbott; J. Suey; S. Talbott; M. Neave; D. Horton; L. Matthews; L. Conlan; N. Talbott; R. Talbott; K. Williams; K. Whitten; M. Talbott. **REPRESENTATIONS - W. Notty; P. Blundell; G. Griffiths; D. Matthews; J. Dorrington; C. Dorrington; J. Field; D. Steadman; K. Boyd; R. Miller; H. Collius; B. Horton.**	
The submissions received from these individuals are all identical and include a dot point list of key concerns relating to the ACHA process undertaken. Responses to each dot point are provided below.	
The submissions raised concerns about the level of basic Project information provided.	Information regarding the Project area was presented in Section 1.3 of the ACHA (Appendix I of the EIS). Details regarding the area of disturbance were provided in Section 3 of the ACHA (Appendix I of the EIS)v. Figures 2 and 3 of the ACHA (Appendix I of the EIS) illustrate the design of the Project components and their approximate extent. In addition, the ACHA (Appendix I of the EIS) includes a reference to Section 2 of the EIS for further detail on the Project description. All registered Aboriginal parties were provided with a copy of the ACHA plus a full copy of the EIS during the public exhibition period.
The submissions raised concerns about the level of Aboriginal involvement in all stages of the assessment and management process.	As described above, the ACHA (Appendix I of the EIS) was prepared in accordance with numerous guidelines including the following: • *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). • *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974*) (DECCW, 2010b). • *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b). • *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (DEC, 2005). • The Burra Charter (Australia ICOMOS, 1999). • *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NPWS, 1997). • *Ask First; A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission, 2002). • *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council, 2010). In addition, the consultation undertaken for the Project is consistent with the requirements set out in the *NSW National Parks and Wildlife Regulation, 2009*.

COMMENT	RESPONSE
	Whitehaven is required to identify and consult with registered Aboriginal stakeholders in accordance with the OEH Guideline *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010b), which prescribe a process whereby all interested parties can register and be consulted. Each of the Aboriginal stakeholders who registered an interest in the Project was included in the consultation process. Whitehaven actively sought feedback from all registered Aboriginal parties during all stages of the consultation process including during the Proposed Methodology review period, field surveys, meetings and the review of the draft ACHA. Comments received from the stakeholders regarding the Proposed Methodology and how these comments have been addressed are described in Section 4.2.2 of the ACHA (Appendix I of the EIS). Similarly, the draft ACHA was provided to all stakeholders for their review and comment. A summary of the comments received and how they have been addressed is presented in Section 4.4 of the ACHA (Appendix I of the EIS). Meetings were held during the Proposed Methodology review period and the draft ACHA review period with all registered Aboriginal parties invited. Additional meetings were held with subsets of the registered stakeholders in response to specific requests for such meetings. In addition to the face to face meetings, all registered stakeholders were invited and encouraged to provide feedback and/or comment on any component of the Project, cultural significance and the proposed management measures at any time throughout the consultation process in any form that they were able (e.g. verbally or in writing).
The submissions raised concerns about the level of ethno-historic research presented in the ACHA.	The ethno-historical information presented in the ACHA (Appendix I of the EIS) was prepared based on publically available information. Section 6 of the ACHA (Appendix I of the EIS) provides a detailed assessment of the Aboriginal cultural heritage context of the area including the ethno-historical context and prehistoric context. The level of detail provided in the ACHA (Appendix I of the EIS) is consistent with the requirements outlined in the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). In addition to the above, and as described in the preceding response to submissions, Whitehaven consulted with Senior Elders and inspected the Project area with them in September and November 2012 following specific requests from the registered Aboriginal parties. One of the aims of this additional consultation was to provide an opportunity for appropriate and relevant ethno-historical information to be discussed and included in the assessment, as supplied directly from the Senior Elders. On 1 November 2012 the site inspection was undertaken with 11 Senior Elders in attendance. Sites and locations within the Project area were inspected based on direction by the Senior Elders. Discussions undertaken in the field related to potential water impacts, potential vibration impacts, maintaining access to public land and the Namoi River, and employment opportunities. Elders in attendance requested at the start of the inspection that no specific information provided by them during the inspection be used or replicated in the EIS. Whitehaven has respected this request and has not included any details of the information discussed during this site visit.
The submissions raised concerns about the predictive model for the Project not integrating ethno-historic information on past Aboriginal associations.	An assessment of the ethno-historical context and prehistoric context of the Project area is presented in Sections 6.1 and 6.2 of the ACHA (Appendix I of the EIS), including a discussion of the history of area where details are provided on historical events that took place in the region, previous indigenous use of the landscape, the use of Aboriginal objects and the reasons for their observed and likely distribution. These assessments and the information obtained from the registered Aboriginal stakeholders during the consultation process, were used to inform the development of the predictive model which is presented in Section 7.1 of the ACHA (Appendix I of the EIS). The predictive model was prepared in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a).

COMMENT	RESPONSE
	An assessment of the potential for previously unidentified Aboriginal cultural heritage to occur in the Project area is provided in Section 11.4 of the ACHA (Appendix I of the EIS). The assessment discusses the likelihood of surface sites and their distribution within the Project area as well as the likelihood of subsurface cultural deposits. An assessment of this nature extending beyond the boundaries of the Project area was not considered to be warranted for the purposes of the ACHA. As stated in Sections 9.1 and 11.4 of the ACHA (Appendix I of the EIS), the *...Project area does not contain culturally sensitive landforms such as lunettes or source-boarding sand dunes...* Notwithstanding, an assessment of the archaeological potential of landforms within the Project area was provided in Sections 9 and 11 of the ACHA (Appendix I of the EIS). An impact assessment of the Project on landforms within the Project area was conducted and is provided in Section 11 of the ACHA (Appendix I of the EIS).
The submissions raised concerns about the level of information provided on the archaeological survey strategy (e.g. justification for sampling).	Section 7.2 of the ACHA (Appendix I of the EIS) explains how the archaeological field survey was conducted based on a sampling strategy developed in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b) and Requirement 5a of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). The field survey methods focused on areas that had a high probability of locating traditional Aboriginal artefacts, however they also ensured that all landscape units across the study area were sampled (including those with a low probability of containing Aboriginal artefacts). The proposed disturbance areas were surveyed on foot by the Project archaeologists and the Aboriginal community representatives. As detailed in Section 7.2 of the ACHA (Appendix I of the EIS), team members walked abreast in a series of closely spaced transects which were evenly distributed across the areas of proposed disturbance and appropriately 10 to 20 m apart. Appendix 7 of the ACHA (Appendix I of the EIS) provides further detail regarding the field surveys including visibility, coverage descriptions, specific detail on the individual transects, photographs of each area and figures outlining the distribution of the finds.
The submissions stated that no information is provided on the coverage of the archaeological survey.	Tables 9 and 10 in the ACHA (Appendix I of the EIS) provide details regarding the survey units and the coverage of the survey area (i.e. 2,755 ha in total).
The submissions stated that no information is provided on the effectiveness of the survey coverage.	Survey units and descriptions of visibility for each survey unit are provided in Section 7.4.1 of the ACHA (Appendix I of the EIS), and a coverage analysis is presented in Section 7.4.2 of the ACHA (Appendix I of the EIS).
The submissions stated that the ACHA does not provide an assessment of the archaeological potential of the landforms of the Project area.	An assessment of the archaeological potential of landforms within the Project area is provided in Sections 9 and 11 of the ACHA (Appendix I of the EIS).
The submissions stated that the ACHA fails to discuss the archaeological potential of landforms normally identified as being of high potential.	A combination of scientific information collected from the Archaeological sites identified during the Project surveys, plus social and cultural information provided from ethno-historic sources enabled interpretation of the Aboriginal cultural landscape of the Project area. Sections 9.2.2 and 9.2.3 of the ACHA (Appendix I of the EIS) describe Aboriginal settlement patterns and subsistence strategies respectively. This information was used in the ACHA (Appendix I of the EIS) to identify and assess the archaeological potential of landforms that occur within the Project area. For example, and as described in Section 10.2 of the ACHA (Appendix I of the EIS), the Project-specific consultation and research identified that the Namoi River and its adjacent plains have special cultural significance to the Aboriginal community. Local Aboriginal people previously and still visit the Namoi River for significant social events including meetings, fishing, mussel collecting and family outings. The Project layout has been designed to avoid disturbance to the Namoi River and its flood plains as much as possible.
The submissions raised concern about the limited discussion of the meaning of the archaeology of the Project area.	The assessment of the Aboriginal cultural heritage significance contained in Section 10 of the ACHA (Appendix I of the EIS) includes discussion of the overall importance and 'meaning' of Aboriginal heritage sites and other values based on the survey results, Project-specific consultation and research.

COMMENT	RESPONSE
The submissions stated that the ACHA does not provide an assessment of the historic significance and the specific places/objects contained in it.	Section 10.5 of the ACHA (Appendix I of the EIS) specifically provides an assessment of historic significance. Historical significance ratings for each of the identified sites are provided in Table 15 of the ACHA (Appendix I of the EIS).
The submissions raised concern about the ACHA not discussing the social significance of the broader area and non-archaeological places to Aboriginal registrants.	The social significance of the broader area is recognised in the ACHA through the identification of features such as the Namoi River and its flood plains. However, and as described in Section 10.2 of the ACHA (Appendix I of the EIS), it is recognised that many of the representatives involved in the assessment believe that all land has high cultural significance for Aboriginal people, and that any development on, or disturbance of land is often contrary to principal Aboriginal beliefs regarding land, its values and inherent cultural significance. The Project has been designed to minimise environmental impacts and the overall amount of disturbance. This has been done by incorporating the results of the environmental studies (including the Aboriginal cultural heritage assessment) into the feasibility and design studies. Avoidance of key features such as the Namoi River and its flood plains (for environmental, cultural heritage and feasibility reasons) and the Vickery State Forest are examples of the Project design being developed to minimise environmental and social impacts. In addition to the above, as part of the EIS, a Socio-Economic Assessment was prepared (refer to Appendix K of the EIS), which considered social and economic impacts of the Project. The Socio-Economic Assessment included consideration of the potential non-use values of the Aboriginal sites subject to direct and/or indirect disturbance. All registered Aboriginal stakeholders were provided with a copy of the full EIS (including the Socio-Economic Assessment) during the public exhibition period in March-April 2013.
The submissions raised concern about the social significance assigned to the known archaeological sites.	Table 15 of the ACHA (Appendix I of the EIS) presents the social significance assigned to each of the recorded Aboriginal heritage sites as part of the determination of archaeological (scientific) significance. This assessment was undertaken by the archaeologist, and considered comments received from the registered Aboriginal parties. In addition to archaeological significance, the ACHA also presents information on cultural significance of the Project area and surrounds (and the individual recorded sites). Specifically, Section 6.1 of the AHCA presents information on the ethno-historic context; Section 6.2 of the AHCA presents information on the prehistoric context; Section 9.2 of the AHCA presents information on the cultural landscape; and Section 10 of the AHCA presents information on the Aboriginal cultural values (Appendix I of the EIS). Section 10.2 of the ACHA (Appendix I of the EIS) provides an assessment of Aboriginal cultural heritage significance based on comments received from the registered Aboriginal parties throughout the consultation process. As well as these summaries, the ACHA (Appendix I of the EIS) also provides a full and complete copy of correspondence provided by the registered Aboriginal parties, including any comments on cultural or social significance.
The submissions stated that the assessment of aesthetic significance does not include an assessment of the importance of sites and places to Aboriginal people.	The aesthetic assessment provided in Section 10.4 of the ACHA (Appendix I of the EIS) was undertaken in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* and the Burra Charter, which state that the aesthetic value refers to the sensory, scenic, architectural and creative aspects of the place.
The submissions raised concern about the assessment not addressing the broader impact of the Project on the landforms of the Project area, including landforms of archaeological potential.	The EIS contains comprehensive assessments and descriptions of the potential visual impacts of the Project, the proposed mine landforms, and the final rehabilitation and closure concept (refer to Appendix H, Sections 2 and 5 of the EIS). Sections 9.2.2 and 9.2.3 of the ACHA (Appendix I of the EIS) describe Aboriginal settlement patterns and subsistence strategies respectively. This information was used in the ACHA (Appendix I of the EIS) to identify and assess the archaeological potential of landforms that occur within the Project area.

COMMENT	RESPONSE
The submissions raised concern about the assessment of blasting impacts on the grinding grove site.	Section 11.3 of the ACHA (Appendix I of the EIS) provides detail regarding cultural heritage potentially impacted by the Project, including a discussion regarding potential vibration impacts on the grinding groove. Wilkinson Murray (Appendix C of the EIS) has undertaken a noise and blasting assessment for the Project, including a calculation of the vibration levels at the grinding grooves. In the absence of regulatory criteria in Australia for assessing vibration impacts to archaeological features, Wilkinson Murray (Appendix C of the EIS) used the Australian Standard 2187.2-2006 criteria of 10 mm/second above which structural damage to a building may possibly occur. Based on the vibration levels predicted at the grinding groove site (i.e. less than 5 mm/second), Wilkinson Murray (Appendix C of the EIS) have concluded that no vibration-induced damage would occur at the grinding groove site. It is noted that: *OEH accept the evaluation of the potential for vibration impacts from blasting to the registered axe grinding grove site AHIMS 20-4-0009, and proposed monitoring method.*
The submissions raised concern about the management strategy for the Project.	Whitehaven actively sought feedback from all registered Aboriginal parties during all stages of the consultation process including during the Proposed Methodology review period, field surveys, meetings and the review of the draft ACHA. Comments received from the stakeholders regarding the Proposed Methodology and how these comments have been addressed are described in Section 4.2.2 of the ACHA (Appendix I of the EIS). Similarly, the draft ACHA was provided to all stakeholders for their review and comment. A summary of the comments received and how they have been addressed is presented in Section 4.4 of the ACHA (Appendix I of the EIS). Section 12 of the ACHA (Appendix I of the EIS) presents and proposed management strategies for cultural heritage. This section was available for review and comment during the draft ACHA review period, and again during public exhibition of the EIS in March-April 2013. The management measures presented in Section 12 of the ACHA (Appendix I of the EIS) are considered to best practice in the industry. Further mitigation and management measures for the Project are presented in Section 7 of the EIS which was provided to all registered Aboriginal parties for review during the public exhibition period. As detailed in Section 12 of the ACHA (Appendix I of the EIS), a Heritage Management Plan is proposed to be developed for the Project and is expected as a condition of any Project Development Consent. The Heritage Management Plan would contain further detail on the proposed management measures (e.g. salvage works), and would be developed in consultation with the registered Aboriginal stakeholders prior to disturbance to Aboriginal sites.
The submissions raised concern that the ACHA does not contain a technical archaeological appendix.	The ACHA (Appendix I of the EIS) was prepared in accordance with the following relevant guidelines: • *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010a). • *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974*) (DECCW, 2010b). • *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b). • *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (DEC, 2005). • The Burra Charter (Australia ICOMOS, 1999). • *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NPWS, 1997). • *Ask First; A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission, 2002). • *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council, 2010). Inclusion of a technical archaeological appendix is not specifically required under these guidelines.

COMMENT	RESPONSE
The submissions raised concern that the ACHA has omitted to record Aboriginal cultural features identified as important to the Registered Aboriginal parties.	As stated above in response to another submission, following the ACHA field surveys conducted in November and December 2011, Whitehaven held a meeting at the Project site with Mr Phill Purcell of the OEH to provide an update on the Project and the status of the ACHA (including status of the consultation process and survey findings to date). Mr Lance Syme of Kayandel Archaeological Services (the Project archaeologist at the time) also attended the meeting. As part of the meeting, Mr Purcell was taken to several locations across the area the subject of the Project, including the area with a reported arrangement of stones. Mr Purcell indicated that he could not identify any material representing an Aboriginal cultural stone arrangement. In addition and as part of his investigations, Dr Matt Cupper of Landskape Natural and Cultural Heritage Management also inspected the area with a reported arrangement of stones in June 2012. As detailed in Section 7.3.1 of the ACHA (Appendix I of the EIS), characteristics of stone arrangements as detailed in several expert sources including Dow (1938) (circular stone features, pathways), Towle (1939) (circular stone features, cairns) and Hamacher *et al*. (2012) (linear stone features) were used to distinguish between culturally modified assemblages of stones and naturally distributed cobbles or boulders. Based on this analysis, the feature within the area with a reported arrangement of stones was determined not to be of Aboriginal origin and was therefore not included in the draft ACHA, nor the final ACHA as a site. The analysis described above was not included in the draft ACHA, however following consideration of comments received from the registered Aboriginal stakeholders with respect to the draft ACHA, additional detail and the analysis described above was included in the final ACHA report (Section 7 of the ACHA [Appendix I of the EIS]). A copy of the final ACHA (including this analysis) was provided to all registered Aboriginal stakeholders during the public exhibition period.
ROADS AND MARITIME SERVICE	
Post-approval Arrangements RMS requested confirmation of the post approval arrangements required to facilitate the proposed road related infrastructure affecting the Kamilaroi Highway.	Whitehaven would enter into the following agreements with RMS prior to commencement of construction of the private haul road and Kamilaroi Highway overpass and associated infrastructure: • A 'Works Authorisation Deed' (WAD) for the detailed design and construction of the haul road and overbridge. The WAD agreement would describe the decommissioning process for any obsolete infrastructure upon Project closure. • An 'Asset Maintenance Agreement' for management of the overbridge structure and approaches for the operational life of the Project. This agreement would describe the methods by which Whitehaven would maintain the structure and how appropriate securities would be provided for the duration of the Project. The , required securities would be adjusted in line with the Consumer Price Index (CPI) during the life of the Project.

REFERENCES

Australia International Council on Monuments and Sites (1999) *The Burra Charter – The Australia ICOMOS Charter for Places of Cultural Significance.*

Australian Heritage Commission (2002) *Ask First: A Guide to Respecting Indigenous Heritage Places and Values.*

Department of Environment and Climate Change (2007) *Threatened Species Assessment Guidelines – The Assessment of Significance*.

Department of Environment and Climate Change (2009) *Biobanking Assessment Methodology and Credit Calculator Manual.*

Department of Environment and Conservation (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft.*

Department of Environment and Conservation (2005) *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation*

Department of Environment, Climate Change and Water (2010a) *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

Department of Environment, Climate Change and Water (2010b) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974*).

Department of Planning and Infrastructure (2012) *New England North West Strategic Regional Land Use Plan.*

Department of Primary Industries (2013) *Agricultural Impact Statement (AIS) Technical Notes*.

Dow, E.B. (1938). Aboriginal stone designs. *Mankind* 2, 126-133.

Evens & Peck (2013) *Vickery Coal Project Surface Water Assessment.*

Hamacher, D.W., Fuller, R.S. and Norris, R.P. (2012). Orientations of linear stone arrangements in New South Wales. *Australian Archaeology* 75, 1-18

Heritage Computing (2013) *Vickery Coal Project Groundwater Assessment.*

Murray Darling Basin Commission (2001) *Groundwater Flow Modelling Guideline.* Canberra, August 2001, 125p. ISBN: 1876830166.

Namoi Catchment Management Authority (2011a) *Namoi Catchment Action Plan 2010-2020*.

Namoi Catchment Management Authority (2011b) *Biodiversity Offsets Policy*.

Namoi Catchment Management Authority (2013) *Regional Vegetation Communities in the Namoi Catchment.*

National Parks and Wildlife Service (1997) *Aboriginal Cultural Heritage: Standards and Guidelines Kit.*

New South Wales Government (2012) *NSW Aquifer Interference Policy*.

New South Wales Government (2013) *Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land*.

New South Wales Minerals Council (2000) *Technical Paper – Particulate Matter and Mining Interim Report*.

New South Wales Minerals Council (2010) *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects.*

New South Wales Office of Water (2010) *Controlled Activities: Guidelines for Riparian Corridors.*

New South Wales Office of Water (2012) *Guideline for Riparian Corridors on Waterfront Land*.

Office of Environment and Heritage (2011a) *Interim Offset Policy and Biobanking Guidelines.*

Office of Environment and Heritage (2011b) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW.*

Office of Environment and Heritage (2012) *Principles for the Use of Biodiversity Offsets in NSW*.

RPS (2010) *Flora and Fauna Assessment For Proposed Rocglen Coal Mine Extension Project.*

Schlumberger Water Services Pty Ltd (2012) *Namoi Catchment Water Study*.

Towle, C.C. (1939). Stone arrangements and other relics of the Aborigines found on the Macquarie River, NSW, at and near Mount Foster and Mount Harris. *Mankind* 2, 200-209.

ATTACHMENT A

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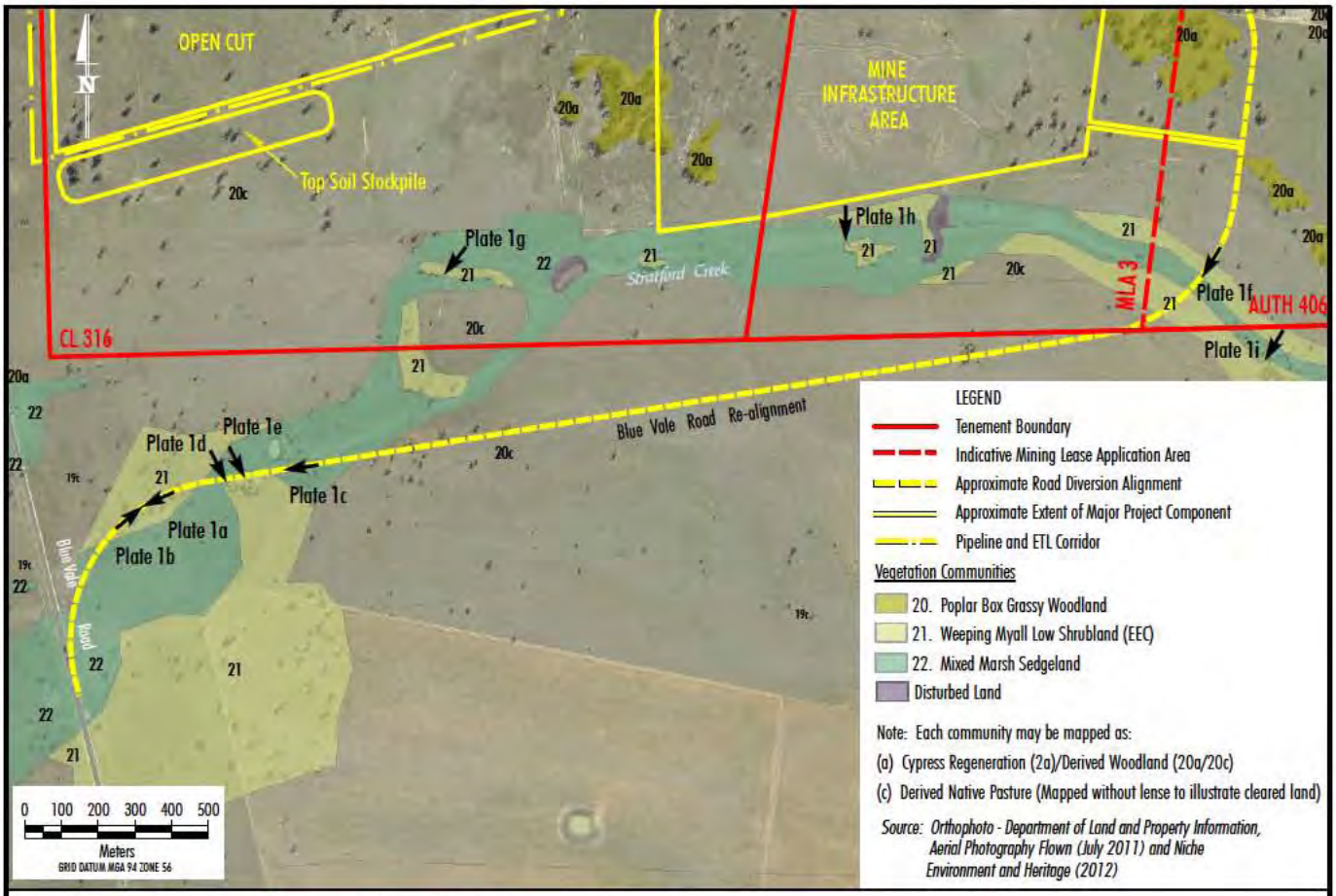


FIGURE 1-1 Vegetation Mapping and Photograph Locations

PLATE 1a Approximate road re-alignment centre line through mostly cleared paddock

VICKERY COAL PROJECT

FIGURE 1-1 and PLATE 1a

WHITEHAVEN COAL

WHC-10-03_RS_202A

PLATE 1b - Approximate road re-alignment centre line with isolated Weeping Myall trees

PLATE 1c - Approximate road re-alignment centre line with nearby Weeping Myall Woodland EEC patch

VICKERY COAL PROJECT

PLATES 1b and 1c

WHITEHAVEN COAL

PLATE 1d - Approximate road re-alignment centre line with nearby Weeping Myall Woodland EEC patch

PLATE 1e - Typical patch of Weeping Myall Woodland EEC

VICKERY COAL PROJECT

PLATES 1d and 1e

WHITEHAVEN COAL

PLATE 1f - Approximate road re-alignment centre line through cleared paddock

PLATE 1g - Typical Weeping Myall Woodland EEC patch located away from alignment

VICKERY COAL PROJECT

PLATES 1f and 1g

WHITEHAVEN COAL

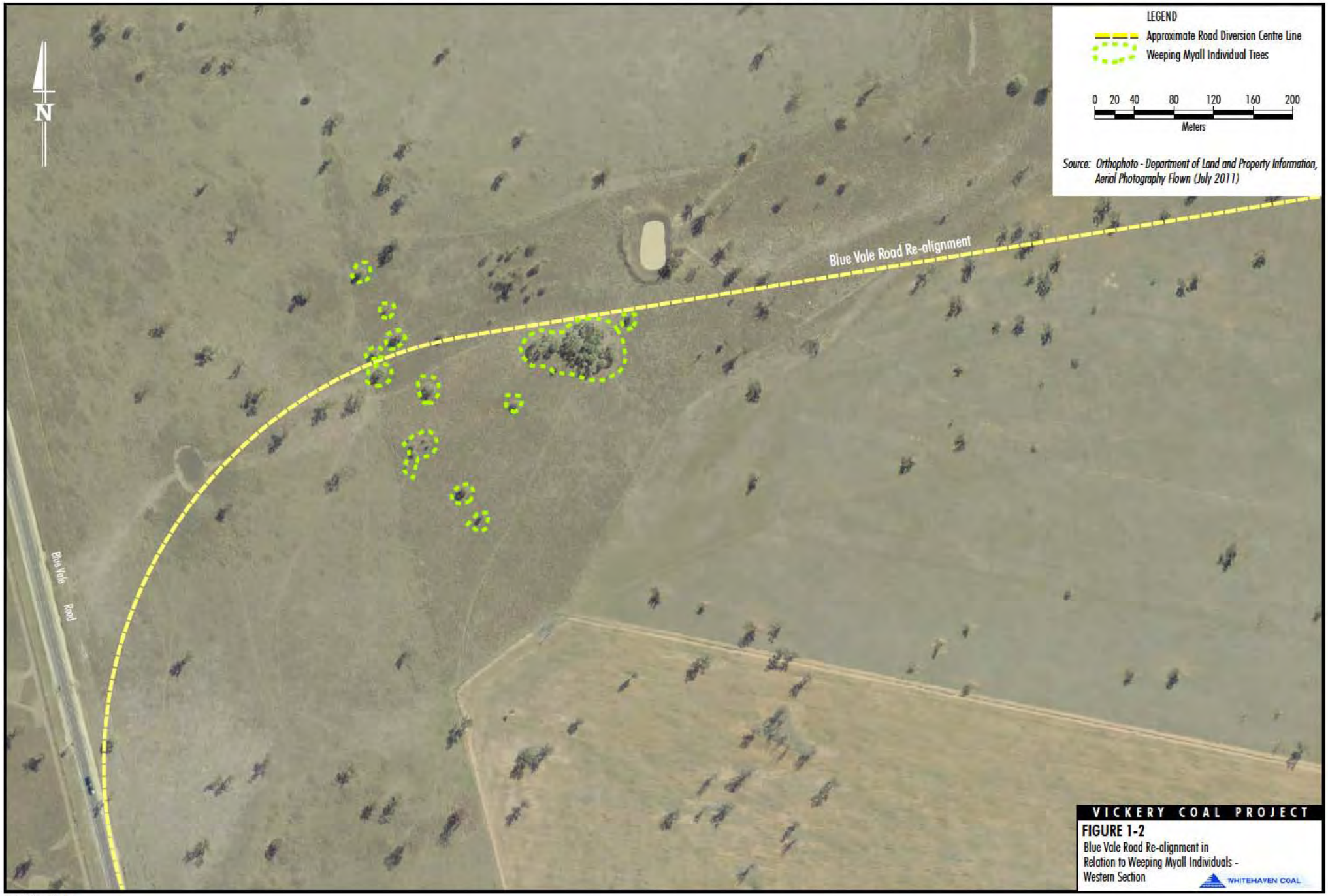
PLATE 1h - Typical Weeping Myall Woodland EEC patch located away from alignment

PLATE 1i - Typical Weeping Myall Woodland EEC patch located away from alignment

VICKERY COAL PROJECT

PLATES 1h and 1i

WHITEHAVEN COAL



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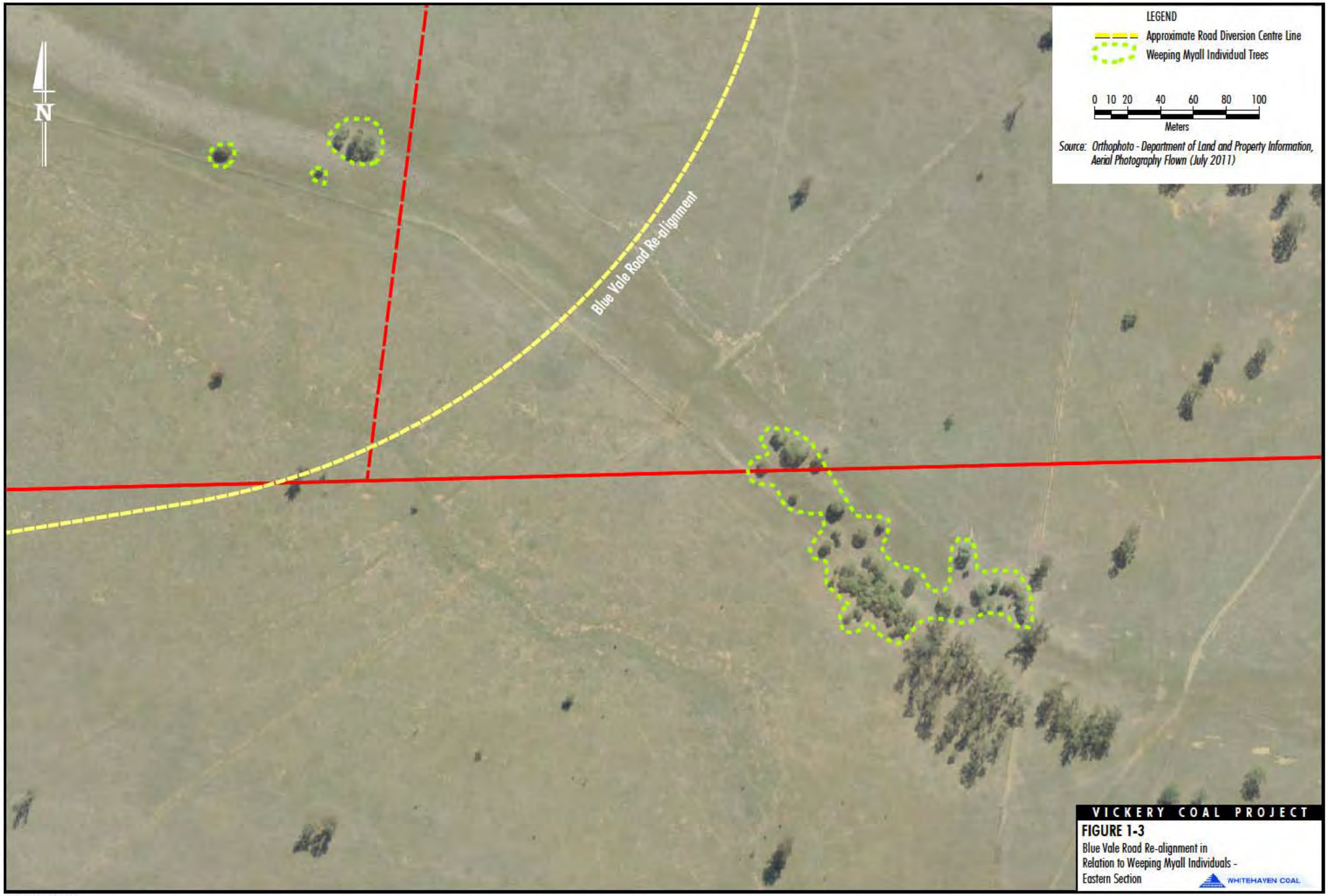

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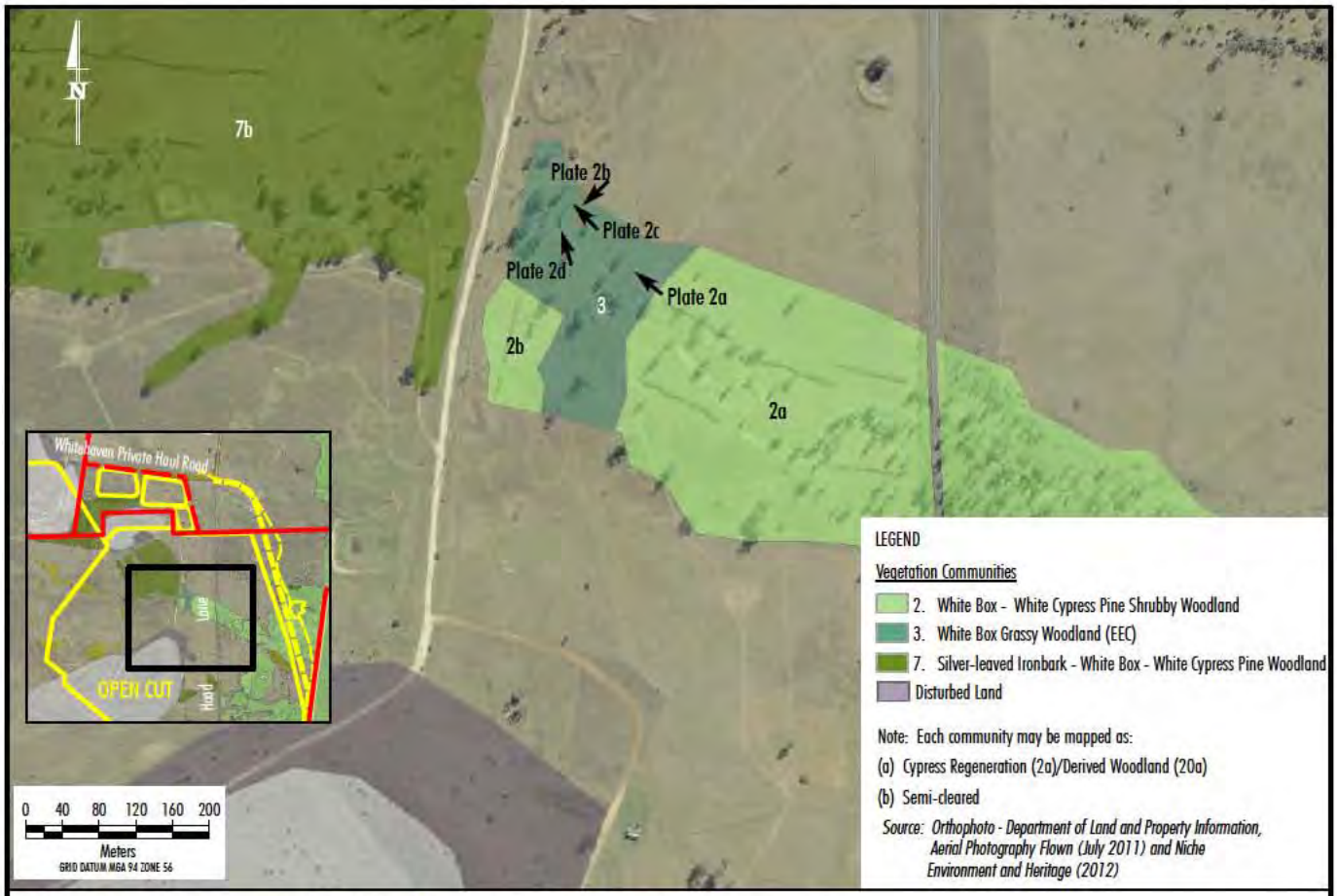

FIGURE 2-1 Mapped Box-Gum Woodland EEC and Photograph Locations within the Project Open Cut

PLATE 2a - Typical area of Box-Gum Woodland EEC within the Project open cut area

VICKERY COAL PROJECT

FIGURE 2-1 and PLATE 2a

WHITEHAVEN COAL

PLATE 2b - Typical area of Box-Gum Woodland EEC within the Project open cut area

PLATE 2c - High infestation of weeds in ground cover within Box-Gum Woodland EEC within the Project open cut area

VICKERY COAL PROJECT

PLATES 2b and 2c

WHITEHAVEN COAL

PLATE 2d - High infestation of weeds in ground cover within Box-Gum Woodland EEC within the Project open cut area

PLATE 2e - Typical area of Box-Gum EEC at the Kamilaroi Highway overpass

VICKERY COAL PROJECT

PLATES 2d and 2e

WHITEHAVEN COAL

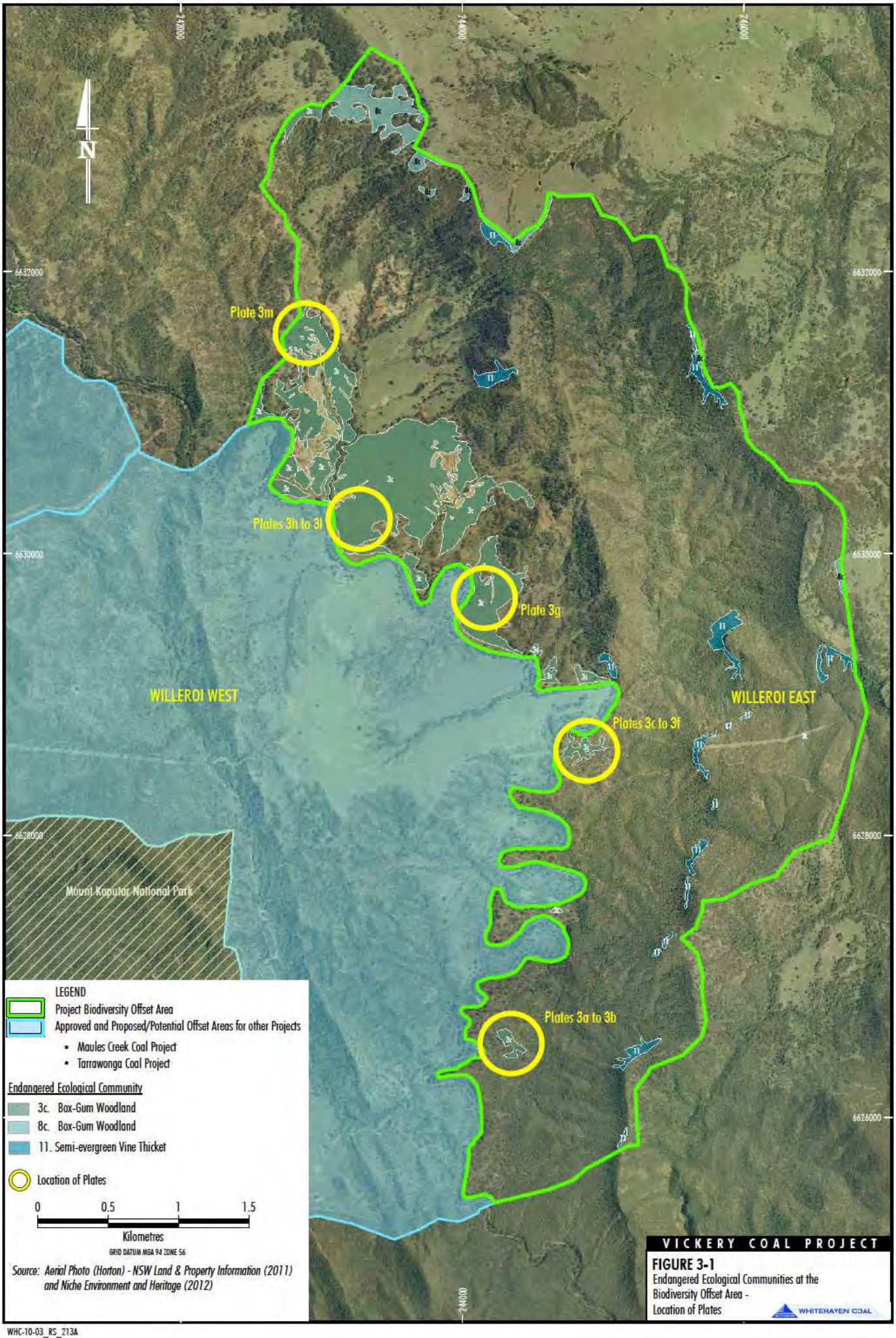

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PLATE 3a - Typical Box-Gum Woodland EEC remnant

PLATE 3b - Typical Box-Gum Woodland EEC remnant

VICKERY COAL PROJECT

PLATES 3a and 3b

WHITEHAVEN COAL

PLATE 3c - Mature Yellow Box with surrounding regeneration

PLATE 3d - Natural regeneration of Eucalyptus in grassland

VICKERY COAL PROJECT

PLATES 3c and 3d

WHITEHAVEN COAL

PLATE 3e - Natural regeneration surounding mature Yellow Box

PLATE 3f - White Box regeneration

VICKERY COAL PROJECT

PLATES 3e and 3f

WHITEHAVEN COAL

PLATE 3g - Typical Box-Gum Woodland EEC

PLATE 3h - Typical Box-Gum Woodland EEC

PLATE 3i - Natural regeneration in grassland

VICKERY COAL PROJECT

PLATES 3g to 3i

WHITEHAVEN COAL

PLATE 3j - Stand of mature White Box with regeneration

PLATE 3k - Typical Box-Gum Woodland EEC

VICKERY COAL PROJECT

PLATES 3j and 3k

WHITEHAVEN COAL

PLATE 3l - Typical Box-Gum Woodland EEC

PLATE 3m - Sustained regeneration including several episodes/stages of growth

VICKERY COAL PROJECT

PLATES 3l and 3m

WHITEHAVEN COAL

Source: Catchment Management Authority (2013) and Office of Envionment and Heritage (2013)

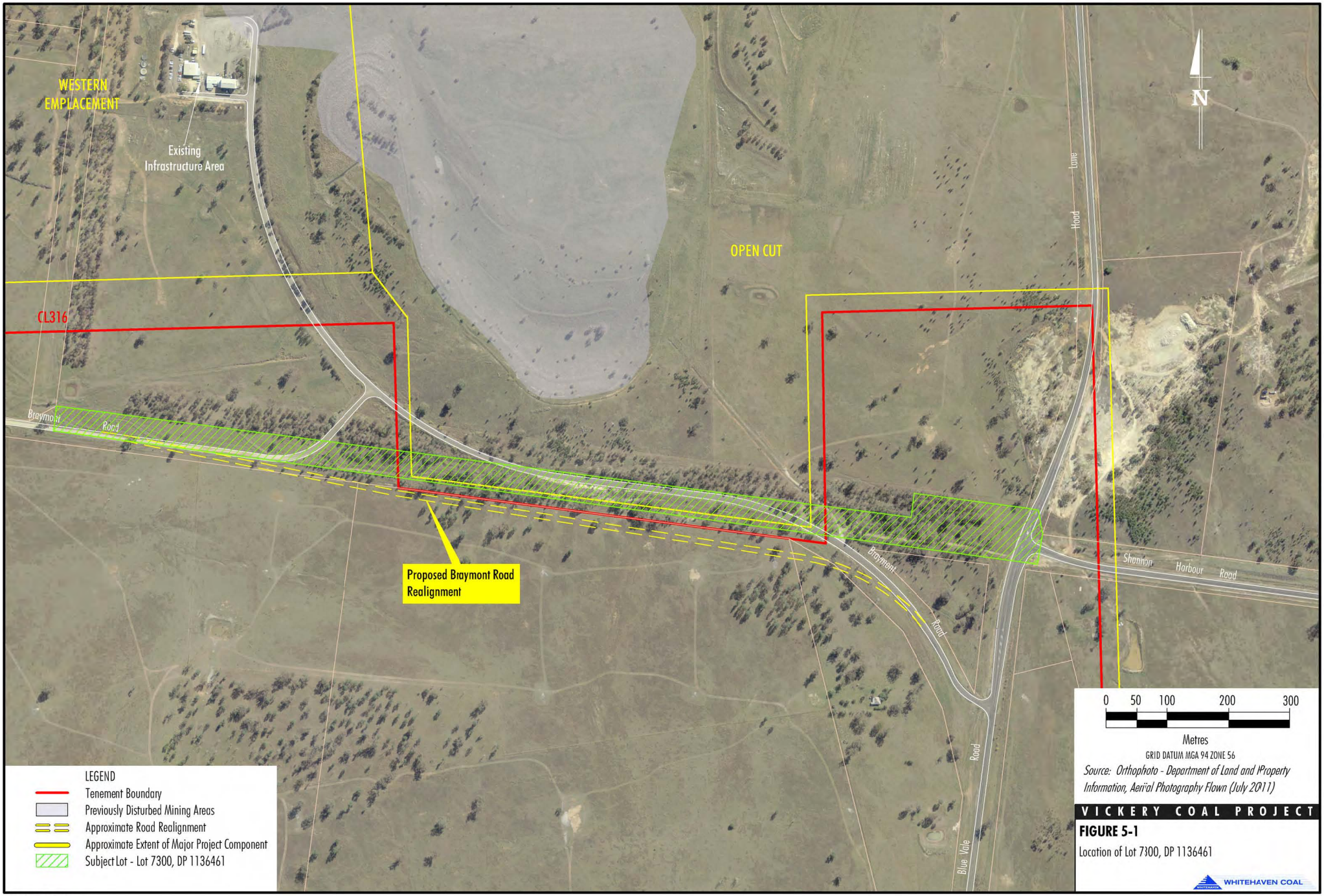
VICKERY COAL PROJECT

FIGURE 4-1

Relationship between the Namoi CMA and IBRA sub-region and the Biodiversity Offset Area

WHITEHAVEN COAL

WHC-10-03_RS_222A



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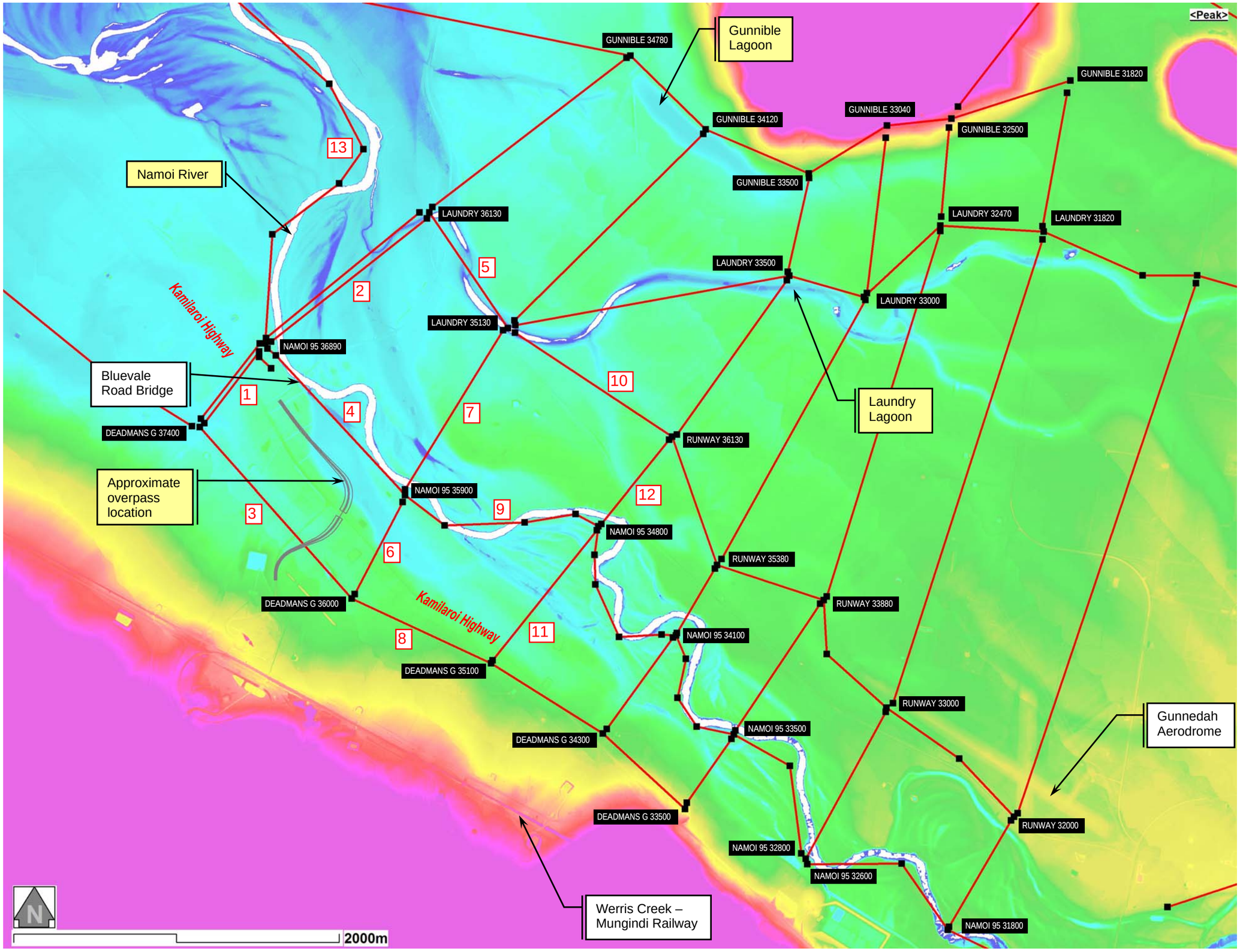

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Figure 6-1a: LAYOUT OF CROSS-SECTIONS IN MIKE-11 MODEL UPSTREAM OF PROPOSED OVERPASS OF KAMILAROI HIGHWAY

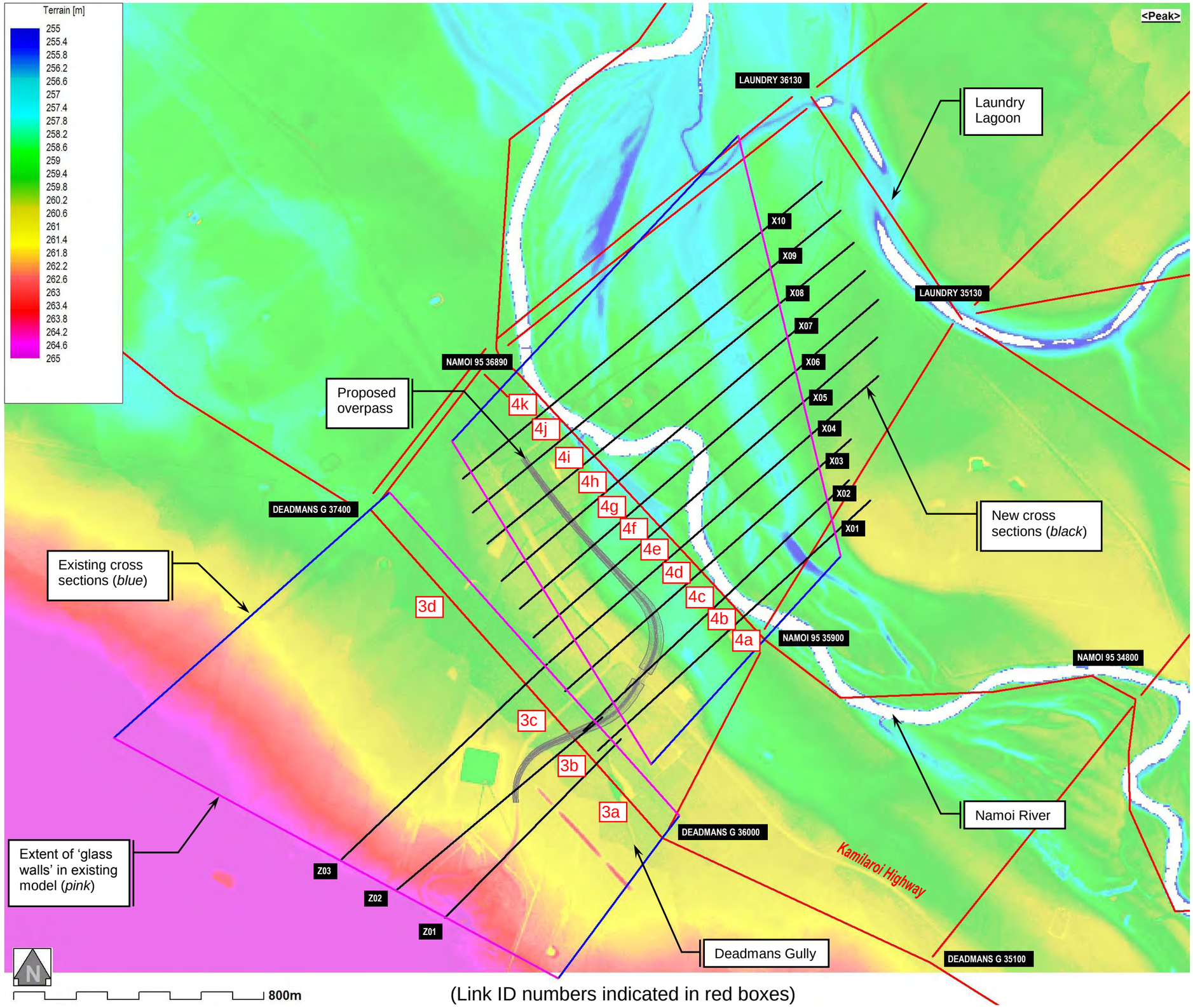

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Figure 6-1b: LAYOUT OF ADDITIONAL MIKE-11 MODEL CROSS-SECTIONS IN VICINITY OF PROPOSED OVERPASS OF KAMILAROI HIGHWAY

Table 6-1a

Kamilaroi Highway Overpass - Flows

Link	From Node	To Node	Max Discharge (m3/s)		Difference (m3/s)	Percentage Difference (%)
			Existing	With Overpass		
1	D-37400	N-36890	275.43	280.23	4.80	2%
2	N-36890	L-36130	1358.79	1600.08	241.29	18%
3a (Z01)	D-36000	D-36317	273.57	14.81	-258.76	-95%
3b (Z02)	D-36317	D-36407/36417	273.55	14.47	-259.08	-95%
3c (Z03)	D-36407/36417	D-36654	273.53	14.46	-259.07	-95%
3d	D-36654	D-37400	273.49	14.95	-258.55	-95%
4a (X01)	N-35900	N-35983	2607.73	2549.58	-58.15	-2%
4b (X02)	N-36037/36057		2607.69	2549.56	-58.13	-2%
4c (X03)	N-36057	N-36152	2607.66	2549.53	-58.12	-2%
4d (X04)	N-36152	N-36236	2607.61	2549.51	-58.11	-2%
4e (X05)	N-36236	N-36316	2607.58	2549.48	-58.10	-2%
4f (X06)	N-36316	N-36397	2607.54	2549.45	-58.08	-2%
4g (X07)	N-36397	N-36484	2607.49	2549.43	-58.06	-2%
4h (X08)	N-36580	N-36580	2607.44	2549.4	-58.04	-2%
4i (X09)	N-36580	N-36669	2607.4	2549.37	-58.03	-2%
4j (X10)	N-36669	N-36759	2607.36	2549.34	-58.02	-2%
4k	N-36759	N-36890	2607.32	2549.31	-58.01	-2%
5	L-35130	L-36130	2075.40	2273.94	198.54	10%
6	D-36000	N-35900	68.51	352.59	284.08	415%
7	N-35900	L-35130	60.73	294.65	233.92	385%
8	D-35100	D-36000	342.07	367.06	24.99	7%
9	N-34800	N-35900	2547.37	2491.77	-55.60	-2%
10	R-36130	L-35130	1389.68	1392.14	2.46	0%
11	D-35100	N-34800	358.46	334.60	-23.86	-7%
12	N-34800	R-36130	322.90	300.66	-22.24	-7%
13	N-36890	N-39000	2387.21	2549.40	162.19	7%

N = Namoi

D = Deadmans

L = Laundry

R = Runway

Table 6-1b

Kamilaroi Highway Overpass - Velocities

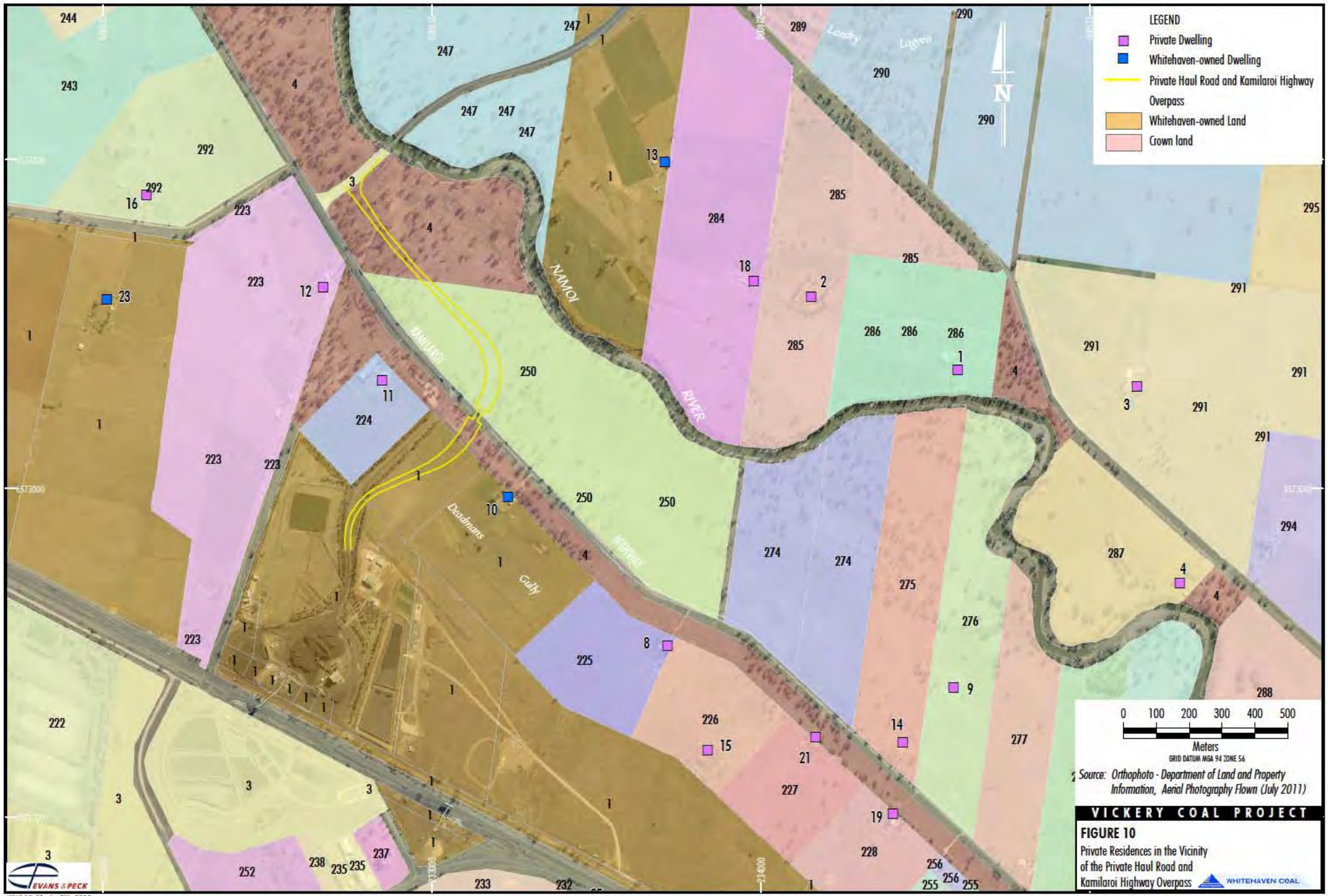
ID	Branch	Chainage (Node)	Max Velocity (m/s)		Difference (m/s)	Percentage Difference (%)
			Existing	With Overpass		
	NAMOI 95	34800	1.10	1.10	0.00	0%
	NAMOI 95	35900	1.02	1.02	0.00	0%
X01	NAMOI 95	35983	1.22	1.22	0.00	0%
X02	NAMOI 95	36037/36057	1.32	1.31	-0.01	-1%
X03	NAMOI 95	36152	1.74	1.74	0.00	0%
X04	NAMOI 95	36236	1.32	1.32	0.01	1%
X05	NAMOI 95	36316	0.97	0.97	0.00	0%
X06	NAMOI 95	36397	1.48	1.49	0.00	0%
X07	NAMOI 95	36484	0.79	0.80	0.00	0%
X08	NAMOI 95	36580	1.40	1.40	0.00	0%
X09	NAMOI 95	36669	1.74	1.74	0.00	0%
X10	NAMOI 95	36759	1.83	1.83	0.00	0%
	NAMOI 95	36890	1.46	1.47	0.01	1%
	DEADMANS G	34300	0.59	0.59	0.00	0%
	DEADMANS G	35100	0.75	0.74	-0.01	-1%
	DEADMANS G	36000	0.85	0.82	-0.03	-4%
Z01	DEADMANS G	36317	0.73	0.03	-0.70	-96%
Z02	DEADMANS G	36407/36417	0.62	0.02	-0.60	-97%
Z03	DEADMANS G	36654	0.59	0.14	-0.45	-76%
	DEADMANS G	37400	2.95	1.28	-1.67	-57%
	RUNWAY	36130	0.59	0.58	-0.01	-2%
	LAUNDRY	35130	1.17	1.23	0.06	5%
	LAUNDRY	36130	0.63	0.68	0.05	8%
	GUNNIBLE	31820	0.43	0.43	0.00	0%
	GUNNIBLE	32500	0.94	0.94	0.00	0%
	GUNNIBLE	33040	1.18	1.17	-0.01	-1%
	GUNNIBLE	33500	1.78	1.79	0.01	1%
	GUNNIBLE	34120	0.80	0.83	0.02	3%

N = Namoi

D = Deadmans

L = Laundry

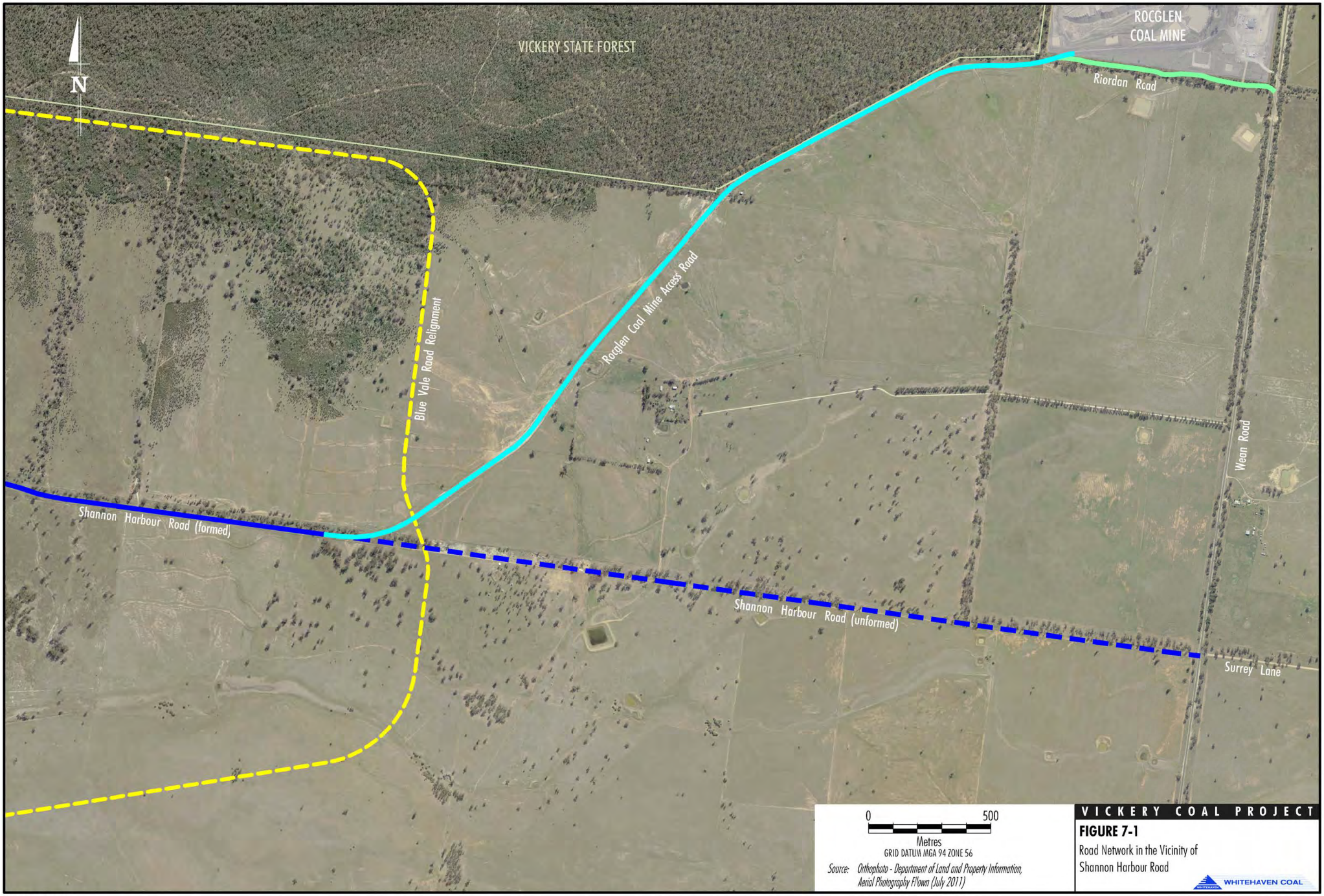
R = Runway



WHC-10-03_AppSW_203C

Table 6-2
Kamilaroi Highway Overpass - Flood Level Increases at Nearby Dwellings

Dwelling Number	Increase in Flood Level (m)
1	0.04
2	0.06
3	0.03
4	0.02
8	0.05
9	0.03
10	0.09
11	-0.34
12	-0.10
13	0.08
14	0.03
15	0.03
18	0.07
19	0.03
21	0.03



VICKERY COAL PROJECT

FIGURE 7-1

Road Network in the Vicinity of Shannon Harbour Road

WHITEHAVEN COAL

WHC-10-03_RS_101A

PLATE 7a - Intersection of Shannon Harbour Road with Wean Road

PLATE 7b - Unformed section of Shannon Harbour Road looking west fom Wean Road

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PLATES 7a and 7b

WHITEHAVEN COAL