

4 CONSULTATION

The involvement and input of the Aboriginal community is an essential component of any Aboriginal cultural heritage assessment. Consultation with the local Aboriginal community was ongoing throughout this project as required in the DECC publication entitled “*Interim Community Consultation Requirements for Applicants*” (2004).

Due to the significant size and complexity of this project, the Aboriginal heritage assessment was undertaken in a staged process. The three stages undertaken were:

- Stage 1: Initial start-up meeting;
- Stage 2: Survey; and
- Stage 3: Post survey discussion meeting.

4.1 STAGE 1: START UP MEETING (WEDNESDAY 14TH MAY 2008)

An initial meeting was set up for all interested parties to attend. The initial start up meeting outlined the Project, including discussion on the impacts of the various different aspects of the Project (such as pole installation, substation construction and conductor replacement). The stakeholder representatives were asked to give information on areas of concern within the Project Area so that these areas were added to the survey areas already identified. This meeting informed the methodology of the surveys to be undertaken. For the results of the start up meeting refer to correspondence in *Annex B*.

4.2 STAGE 2: SURVEY DAYS

Pedestrian surveys were undertaken for areas identified as archaeologically sensitive by local community members and areas where the Project will include significant earthworks or areas of ground disturbance.

4.3 STAGE 3: POST SURVEY MEETING (FRIDAY 22 AUGUST 2008)

A draft copy of this report was made available to all the interested parties at the post survey meeting. The results and management recommendations were discussed with the community members. Those unable to attend were sent a copy of the report. This meeting was designed to ensure that all interested parties were made aware of the results of the surveys and the management recommendations and had the opportunity to comment on the findings. For a full log of the consultation details see *Annex A*.

5

IMPACTS

This Project involves several different upgrade activities and the potential impacts of these activities on Aboriginal archaeology are different.

Some elements of the Project will require excavation and trenching. These types of works will occur in the following locations:

- where the new substations are built;
- where substations may be upgraded, this is only for upgrades that will involve expansion into previously undeveloped areas;
- where the underground powerlines will be placed; and
- where new overhead power lines are installed.

Other elements of the Project, such as the relocation of transmission poles, will involve minimal ground disturbance.

The above mentioned components of the Project can have significant impacts to any Aboriginal cultural heritage. These components of the works require sub-surface disturbance which can have an effect on registered and unregistered Aboriginal archaeological sites.

Some components of the Project will have little to no impact on the heritage. For example, the upgrading of the transmission line where only the conductor is upgraded and replaced will not impact result in the disturbance of the ground surface. Replacement of poles in the same location will not involve any excavation of new areas and thus is unlikely to impact on Aboriginal heritage.

5.1

DETERMINATION OF ARCHAEOLOGICAL ZONES

The following three zones of archaeological potential and/or sensitivity have been identified within the Project Area:

- areas of high sensitivity identified in consultation with community members;
- areas of moderate archaeological sensitivity. These are areas known from predictive modelling and from the registered site patterning in areas likely to contain archaeological sites; and
- areas that are of low archaeological sensitivity where sites are less likely to occur.

5.2

IMPACT MANAGEMENT OF THE ARCHAEOLOGICAL ZONES

To ensure that no Aboriginal heritage is impacted by the Project the following measures were taken to identify what level of assessment is required:

- where there will be subsurface excavation of new areas, these areas should surveyed before approval is sought. Recommendations for impact management of

each individual survey lot will then be developed by ERM in consultation with the Aboriginal Community;

- where there will be minimal ground disturbance i.e. deviation from an existing power line route, the management will depend on which area of sensitivity. In all cases, the LALC should be contacted and consulted, where the works are in an area of sensitivity. Monitoring by LALC should also occur at these locations during construction. In areas of moderate archaeological potential the workers on-site should be educated about what Aboriginal sites and artefacts are (e.g. by cultural heritage induction training) and a stop work procedure put in place if a site is uncovered; and
- no further management is required where there will be no ground disturbance or simple pole replacement at existing locations.

Below is a table of the archaeological zones and the impacts and the required steps to be taken to ensure the protection of any Aboriginal heritage.

	Excavation/ Sub-Surface Disturbance	Minimal Ground Disturbance	No Ground Disturbance
High archaeological Sensitivity zone	Survey to be conducted and implement subsequent requirements	Consultation with LALC and monitoring during works	None
Moderate archaeological sensitivity zone	Survey to be conducted and implement subsequent requirements	Inform workers of what heritage may be in area at an Induction and consultation with LALC/ stop work procedures in place if site found	None
Low archaeological sensitivity zone	Survey to be conducted and implement subsequent requirements	Consultation with LALC/ stop work procedures in place if site found.	None

6

SURVEY METHODOLOGY

The survey methodology was designed to incorporate both Country Energy's design plans and timing and local Aboriginal knowledge and concern about the Project. The survey methodology has also taken into account the fact that some elements of the Project have not yet been finalised.

6.1

DETERMINATION OF SURVEY AREAS

The outcomes of the community meeting were considered before details of the surveys were finalised. At the start up meeting stakeholders were asked to indicate which areas held traditional and archaeological value for the community and which areas are important to survey. This method allowed areas of concern to be identified, in particular areas that hold the potential for Aboriginal burials and an area where a sacred womens' site is situated. The potential impacts resulting from the various elements of the Project were also considered when determining the areas that would require surveying at this stage. In particular, activities that require ground disturbance in undisturbed areas for trenching, substation construction or the installation of new poles were included.

The letter of methodology explaining the areas identified from the start-up meeting for survey and how the survey areas were determined is provided as *Annex B*.

6.1.1

Areas to be Surveyed in this Assessment

The following areas were identified for survey in this assessment:

- between Lismore South substation and Lismore BSP substation;
- between Lismore BSP and the existing power line (0897) that is located south of Lismore BSP;
- the potential Suffolk Park substation sites;
- in Ewingsdale where underground cabling is proposed; and
- the proposed Brunswick Heads substation site.

The above locations are indicated on *Figures 6.1 to 6.3*.

Areas where new transmission lines are proposed or excavation will occur were traversed on foot to look for any unrecorded Aboriginal sites or land forms that may contain sub-surface archaeology (PADs). A hand held GPS was used to record the survey transects.

6.1.2

Areas Requiring Survey if Ground Disturbance is Proposed

Other areas within the Project Area were also identified as being sensitive in terms of potential Aboriginal heritage items or places but were not surveyed as there is no ground surface disturbance proposed at this stage. If ground surface disturbance is proposed in the future surveys of these areas should be undertaken prior to any work commencing. These locations are:

- between Lismore South substation and Gonellabah;
- at Ballina between Teven Road and North Creek canal;

- at Cumbulum, Tintenbar and Newbury; and
- the area near the Suffolk Park Substation sites (outside the areas surveyed in this assessment).

These areas are identified in *Figures 6.1 to 6.3*.

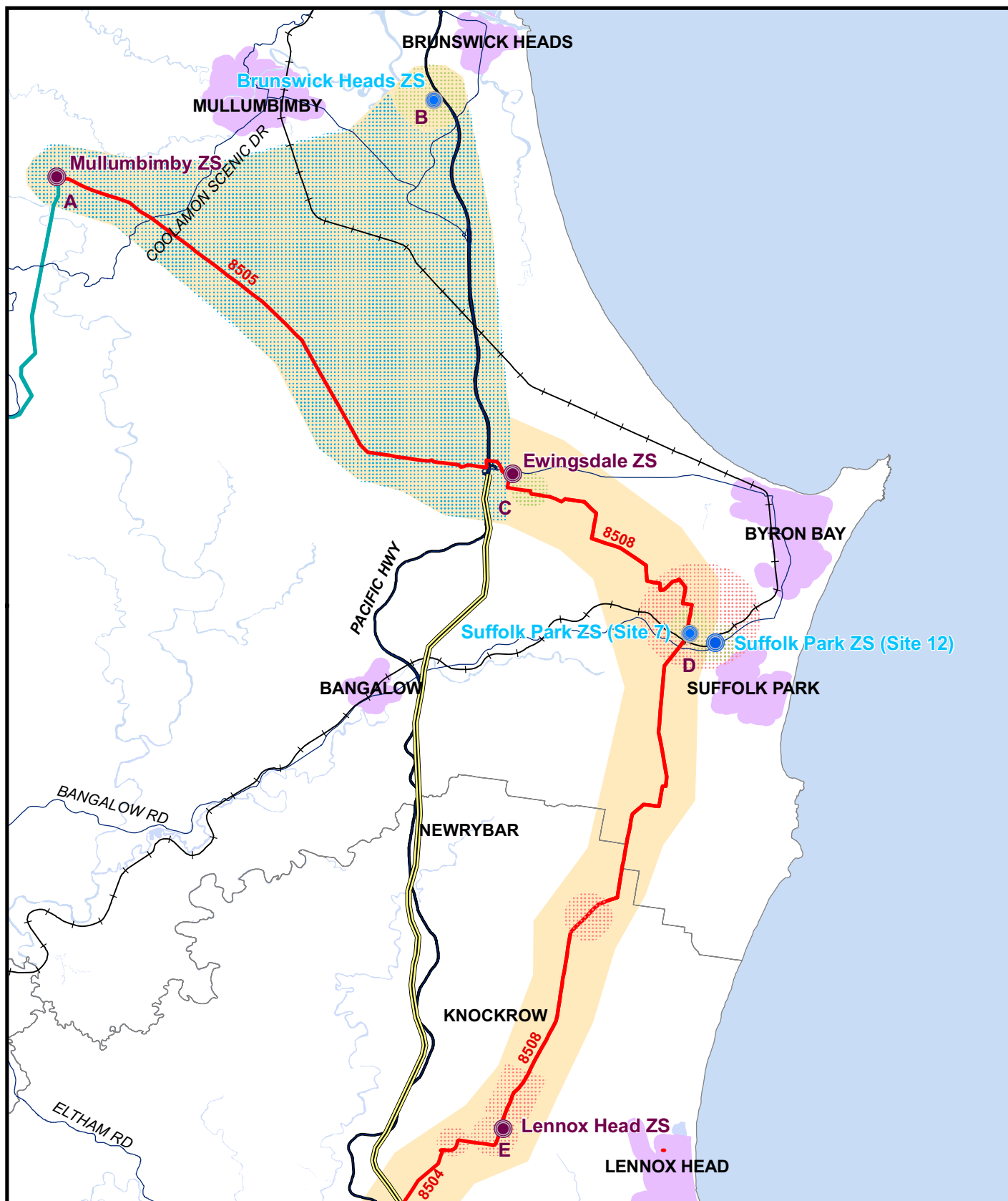
6.1.3

Areas Requiring Survey When the Preferred Route Options are Known

The following areas were identified for survey and further community consultation once preferred route options are known by Country Energy:

- between Lismore South substation and Lismore switching Station where proposed underground cabling is likely to be installed; and
- within the Brunswick Heads Feeder Loop corridor.

These areas are illustrated in *Figures 6.1 to 6.3*.



Legend

- | | | | |
|--|-----------------------------|--|--|
| | Existing Substation | | Existing 66kV |
| | Proposed substation | | To be surveyed if subsurface disturbance |
| | Pacific Highway Upgrade | | Surveyed |
| | Casino-Murwillumbah Railway | | To be surveyed upon preferred line selection |
| | Main Roads | | Project Area |
| | Highway | | Built up areas |
| | Existing 132kV | | |

Client:	Country Energy
Project:	Lismore to Mullumbimby Upgrade
Drawing No:	0051706_01
Date:	15/09/2008
Drawn by:	TH
Source:	Department of Lands 2008
Scale:	Refer Scale Bar
Suffix No:	A0
Drawing size:	A4
Reviewed by:	MC



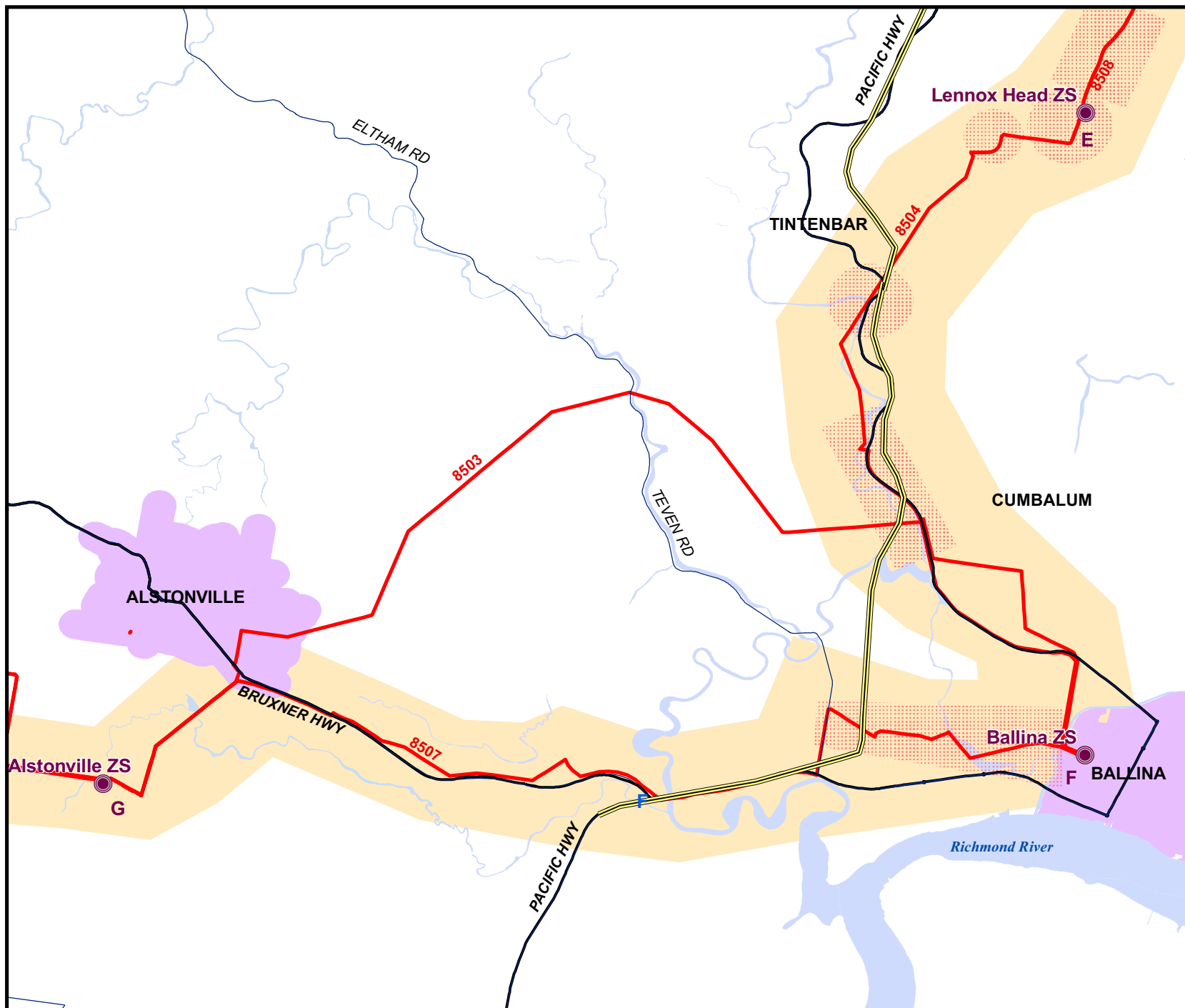
0 0.5 1 2 3 4
km

Figure 6.1

Aboriginal Archaeology Survey Areas: Mullumbimby to Lennox Head

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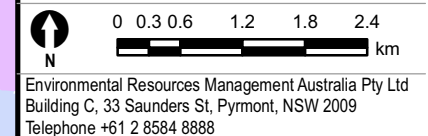


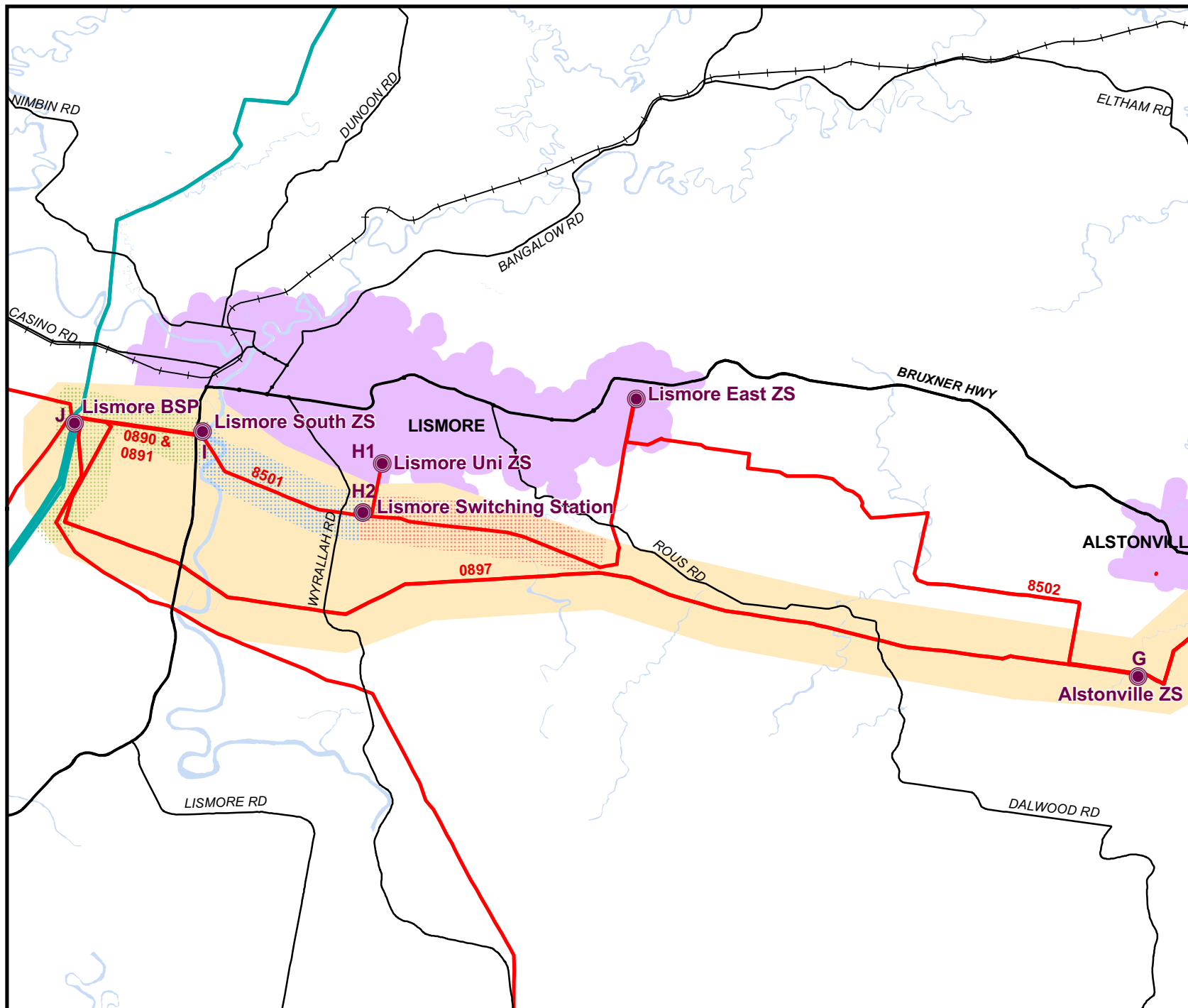


- Legend**
- Existing Substation
 - Pacific Highway Upgrade
 - Main Roads
 - Highway
 - Existing 132kV
 - Existing 66kV
 - Survey Required if subsurface disturbance
 - Built-up Areas
 - Project Area

Figure 6.2
Aboriginal Archaeology Survey
Areas: Lennox Head to Alstonville via Ballina

Client:	Country Energy		
Project:	Lismore to Mullumbimby		
Drawing No:	0051706_01	Suffix No:	A0
Date:	15/09/2008	Drawing size:	A4
Drawn by:	TH	Reviewed by:	MC
Source:	Department of Lands 2008		
Scale:	Refer Scale Bar		





- Legend**
- Existing Substation
 - +— Casino-Murwillumbah Railway
 - Main Roads
 - Highway
 - Existing 132kV
 - Existing 66kV
 - Project Area
 - Built-up Areas
 - Surveyed
 - To be surveyed if subsurface disturbance
 - To be surveyed upon preferred line selection

Figure 6.3
Aboriginal Archaeology Survey
Areas: Lismore to Alstonville

Client:	Country Energy		
Project:	Lismore to Mullumbimby Upgrade		
Drawing No:	0051706_01	Suffix No:	A0
Date:	28/08/08	Drawing size:	A4
Drawn by:	TH	Reviewed by:	MC
Source:	Department of Lands		
Scale:	Refer Scale Bar		



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7

SURVEY RESULTS

The results of the four pedestrian surveys undertaken are listed below, along with a discussion of all the results.

7.1

LISMORE SOUTH SUBSTATION TO LISMORE BSP SUBSTATION AND LISMORE BSP SUBSTATION TO THE EXISTING ALSTONVILLE POWER LINE

A vehicular survey was undertaken for the proposed new transmission line between Lismore South substation and Lismore BSP substation, and a pedestrian survey from Lismore BSP substation south to the Alstonville line. The survey was undertaken on the 27 June 2008. Present at the survey were Dr Diana Neuweger (ERM Heritage Consultant), Malcolm Hutchinson (ERM Archaeologist) and Gilbert King (Ngulingah LALC).

The Lismore South substation to Lismore BSP substation is proposed to be underground cable installation predominately located in the road easement which is likely to be already disturbed (refer to *Figure 7.1*). The landform in this area is floodplains and it is noted that there is the possibility of burials located on the floodplain area along Three Chains Road. This area has been heavily impacted by the installation of other services and construction of the road. There was minimal visibility in this section of line due to groundcover vegetation when the survey was undertaken.

The route of the new transmission line from Lismore BSP substation south to the existing Alstonville power line was traversed on foot as closely as possible to what is proposed (see *Figure 7.1*). No Aboriginal sites were identified during the survey. The three main forms of landscape present within the survey area were ridge, slope and flat. There was limited visibility and limited exposure of the soil surface in most places as the area is predominantly farming and agricultural land. Rocky outcrops are present along most of this route which indicates that heavy ploughing has not been undertaken and therefore disturbance to any subsurface archaeology would be limited. The effective coverage was 2%. The average visibility was 8% and the average exposure was 13%. *Figure 7.1* illustrates the area surveyed. The location is marked with ridges and spurs and forms part of the rim of the ancient caldera in the region.

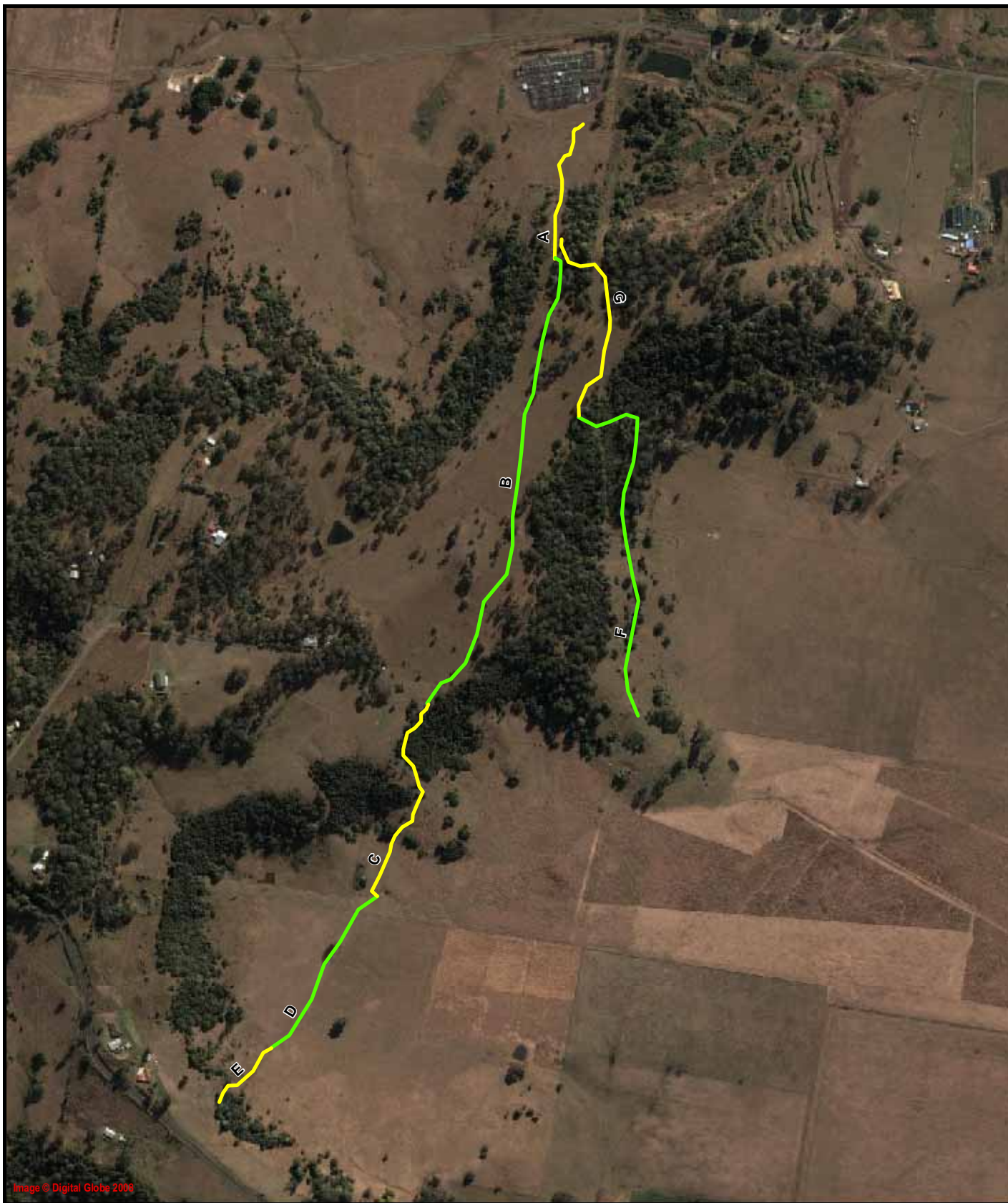


Image © Digital Globe 2008

Legend

- Transects
- -

Figure 7.1

Lismore Survey





Client:	Country Energy		
Project:	Lismore to Mullumbimby		
Drawing No: 0051706s_GIS08		Suffix No:	R0
Date:	22/07/2008	Drawing size:	A4
Drawn by:	JS	Reviewed by:	DN
Source:	Google Earth 2008		
Scale:	Refer to Scale Bar		



R0	Preliminary Issue	22-07-08	JS
Suffix	Revision	Date	Init

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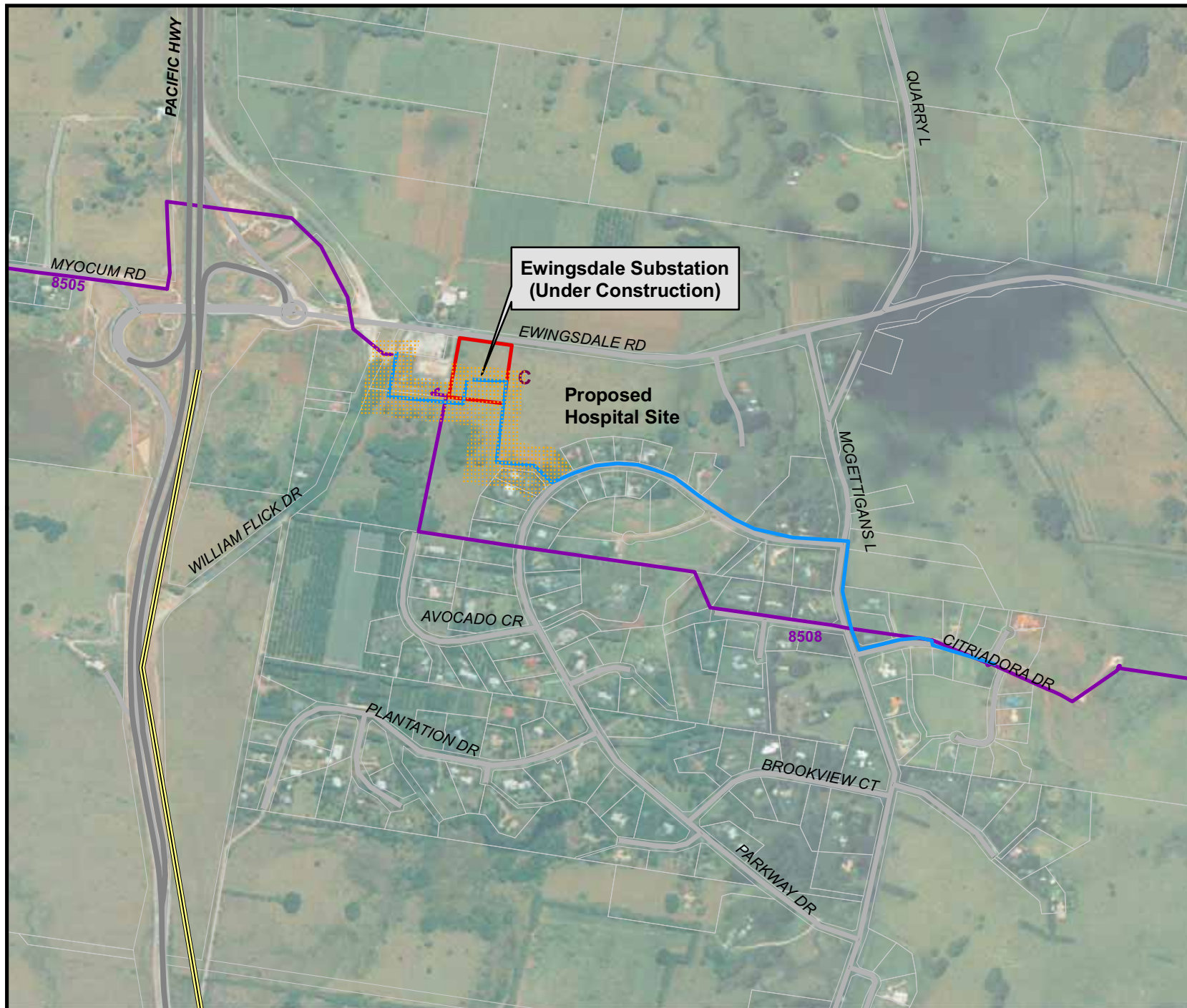
	
Photograph 7.1 <i>Transect A</i>	Photograph 7.2 <i>View over transects E, F and G.</i>
	
Photograph 7.3 <i>Groundcover over much of the survey area</i>	Photograph 7.4 <i>Ground coverage where visibility at best.</i>

7.2

UNDERGROUND TRANSMISSION LINES LINKING EWINGSDALE SUBSTATION

This was a survey of the area where underground cables will be placed to link the Ewingsdale substation with the existing corridor in the William Flick Drive reserve in the west and a proposed new underground cable installation in Parkway Drive in the south east. The survey was undertaken on the 25 June 2008. Present were Des Williams from Tweed Byron LALC, Malcolm Hutchinson (ERM Archaeologist) and Dr Diana Neuweget (ERM Heritage Consultant). The area surveyed is illustrated on *Figure 7.2*.

The area has currently 0% visibility of the soil surface as it is pasture land. The location was surveyed from the fence lines as there was no ground surface visibility or exposure. The area is moderately disturbed as the field is flat and is likely to have been ploughed in the past. No new sites were identified. The land form type is flat. There is a limited possibility of artefacts being present on the site.

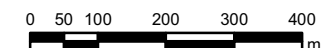


Legend

- Existing 66kV
- Proposed Upgrade
- Pacific Highway Upgrade
- Highway
- Roadway
- Substation Site
- Surveyed Area

Figure 7.2
Ewingsdale Survey

Client:	Country Energy		
Project:	Lismore to Mullumbimby Upgrade		
Drawing No:	0051706_01	Suffix No:	A0
Date:	30/09/2008	Drawing size:	A4
Drawn by:	TH	Reviewed by:	MC
Source:	Department of Lands 2008		
Scale:	Refer Scale Bar		



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7.3 SUFFOLK PARK SUBSTATION RESULTS

Two proposed substation locations (options referred to as 'Site 7' and 'Site 12') and the proposed power line routes to join these new substations to the existing transmission line network were surveyed. The survey was undertaken on the 25th of June 2008, present were Des Williams from Tweed Byron LALC, Malcolm Hutchinson (ERM Archaeologist) and Dr Diana Neuweget (ERM Heritage Consultant).

There was limited visibility over the whole survey area with as little as 0% visibility of the soil surface and a maximum of 1% visibility in some of the areas of the railway cutting. The exposed ground surface shows that there is sand present in the area.

7.3.1 Site 12

Site 12 shows white sand on the surface and is currently covered in grass. The land form is a slope. The landform has the potential to contain burials as areas of sandy deposit were often used to bury the dead in Aboriginal culture and are known to occur throughout Suffolk Park (Starling, 1974). The LALC representative Des Williams also believes that this landform has the potential to hold burials. However, no artefacts were seen in the small amount of exposures present in the area at the time of the survey.

7.3.2 Site 7

Site 7 had no ground visibility as it is currently pasture land used for cattle grazing. The land has been modified to create a dam for the stock and the land form shows an area of low sand dune formation and has a high possibility of contain black sand beds. From local Aboriginal knowledge it was common to bury the dead in deposits of black sand. No new sites were identified in this area but there is a high potential for burials to be present in the black sands.

7.3.3 Proposed Line Routes Connecting the New Substations to the Existing Network

The proposed transmission line routes connecting the potential substation sites to the existing line were also surveyed. No new sites were identified. Remanent bush still remains along parts of the proposed routes. This area should also be monitored where any vegetation removal resulting in subsurface disturbance is likely or where excavation or trenching is proposed.

	
Photograph 7.5 Site 12	Photograph 7.6 Site 12, area to be potentially impacted
	
Photograph 7.7 Exposure at Site 12	Photograph 7.8 View of Site 7
	
Photograph 7.9 Exposure along new line route	Photograph 7.10 View of part of line corridor

7.4

BRUNSWICK HEADS SUBSTATION RESULTS

A survey of the area currently under consideration for the development of a substation at Brunswick Heads was surveyed on the 26th of June 2008. Present were Des Williams (Tweed Byron LALC), Gilbert King (Ngulingah LALC), Malcolm Hutchinson (ERM Archaeologist) and Dr Diana Neuweget (ERM Heritage Consultant).

The land form where the substation is proposed is a small area of flat below a slope. The area is currently used as agricultural land and there is one area of remnant trees and an area of revegetation. Within both these areas of vegetation rocks have been gathered and placed showing grinding bowls and grinding grooves. It is not known when the rocks were placed there but it is likely to have occurred when farmers were clearing land to be used for growing crops some time on the past. This previously unrecorded site has been called BH Grinding Site 1.



Photograph 7.11 Area of survey for Brunswick Heads Substation



Photograph 7.12 Grass over the survey area showing very limited visibility

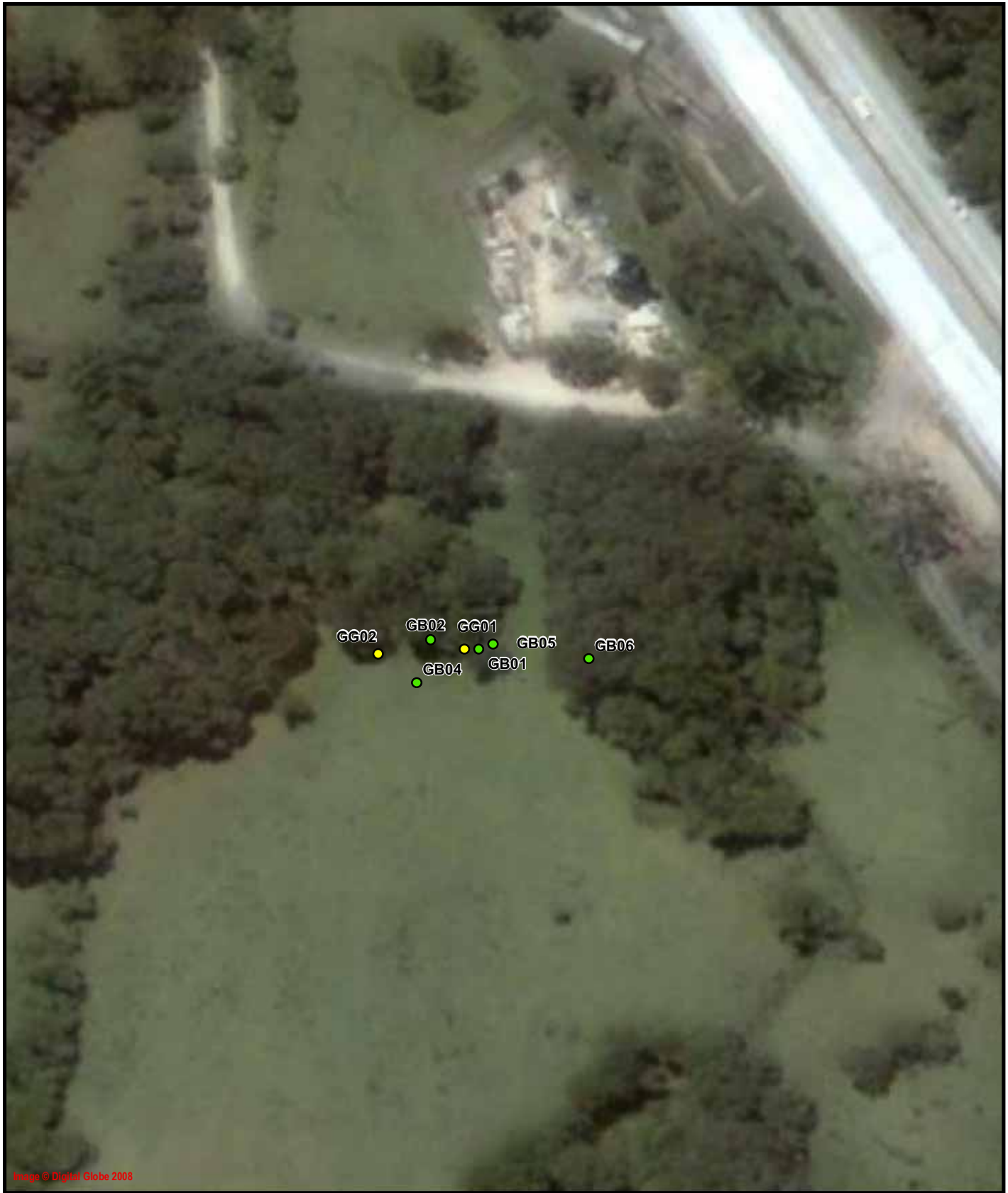


Image © Digital Globe 2008

Legend

- Grinding Bowl
- Grinding Grooves

Figure 7.3

Brunswick Head Survey Results

Client:	Country Energy
Project:	Lismore to Mullumbimby
Drawing No:	0051706s_GIS09
Suffix No:	R0
Date:	22/07/2008
Drawing size:	A4
Drawn by:	JS
Reviewed by:	DN
Source:	(c) Google Earth 2008
Scale:	Refer to Scale Bar



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R0	Preliminary Issue	22-07-08	JS
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7.4.1 BH Grinding Site 1 56J E 552435 N68 41165

A series of grinding bowls and grinding grooves in medium to large volcanic rocks. The bowls and grooves range in size and number on the various rocks, and the rock sizes vary.

A series of grinding bowls and grinding grooves were found on the basalt rocks in the vegetated area of the site. The rocks are not all in their original context and have been piled into the areas of vegetation, likely moved from the flat area of the site and the adjacent slope. The orientation of some of the bowls and grooves are downwards or at odd angles indicating movement since they were used. The site is extensive with a minimum of six grinding bowls located and five sets of grinding grooves noted. No rocks were disturbed or moved during the survey, so the full extent of the site is currently unknown.

Grinding bowls are associated with the production of food and there is the possibility that this site contains further subsurface features related to food processing activities. Sites of this type, being food production areas, are rare. The potential for more of the site to be contained subsurface holds high scientific value also due to the rarity of these types of sites. This site is therefore considered to be of high significance.

	
<p>Photograph 7.13: Location of some of the grinding bowls and grinding grooves.</p>	<p>Photograph 7.14: Example of a grinding bowl</p>
	
<p>Photograph 7.13 Example of a grinding bowl</p>	<p>Photograph 7.14 Example of grinding grooves</p>
	
<p>Photograph 7.15 Example of a grinding bowl</p>	

7.5

DISCUSSION OF RESULTS

The Aboriginal Heritage Assessment undertaken for the Project resulted in the discovery of one new site (BH Grinding Site 1). The results of this assessment are discussed further in the following sections.

7.5.1

New Transmission Line Corridors

Lismore South Substation to Lismore BSP Substation and Lismore BSP Substation to the Existing Alstonville Power Line

There are no known heritage constraints in these corridors. However, given the relatively undisturbed nature of the ground surface and known Aboriginal Heritage sites in the vicinity (along Three Chain Road) any works that result in the disturbance of the ground surface (excluding within the Three Chain Road reserve), such as excavation for new transmission line poles, removal of vegetation or trenching, should be monitored by LALC representatives and other interested parties.

Underground Transmission Lines linking Ewingsdale Substation

There are no known heritage constraints in this corridor. The field survey indicated that due to the disturbed nature of the site there is limited possibility of artefacts being discovered. As the proposed work involves ground disturbance (trenching) all construction personnel should be made aware of their responsibilities if any Aboriginal artefacts are uncovered through the recommended Cultural Heritage Induction (refer to Section 9).

7.5.2

New Substations

Suffolk Park Substation Locations

Both of the proposed Suffolk Park substation locations are potentially sensitive as burials may have occurred there due to the sandy deposits present. Site 7 has increased likelihood as a burial site due to black sand deposit there. It is therefore recommended that Site 12 be further considered as this location is the less sensitive of the two options. A Burial Management Plan should be in-place prior to the commencement of works on either site. The Burial Management Plan simply puts into place several protocols to be undertaken in the event of skeletal material being uncovered including:

- all works in the immediate vicinity of the burial should be halted;
- the police contacted;
- a Local Aboriginal Representative contacted if not already present on site;
- if required a suitably qualified archaeologist or physical anthropologist contacted;
- and

- once ascertained that the burial is in fact Aboriginal, the local Aboriginal community should be consulted on how best to proceed. The options available at this point are dependant on the development type. If it is possible, the burial should not be disturbed further, however if plans for the development do not allow for this, then often the remains can be reburied as closely as possible to there original location.

Brunswick Heads Substation Site

The site identified at Brunswick Heads for the substation holds significance both to the Aboriginal community and to the scientific community as grinding bowls and tools were identified at this site during the survey.

Food processing sites are rare within the local area and within the region, and therefore further archaeological investigation of this site is important to both the scientific and Aboriginal communities. This investigation should be undertaken in the following manner:

- the area to be impacted by the new substation construction and all associated excavation areas should be marked out by Country Energy as well as identifying where heavy machinery will be used;
- archaeologists and the LALC members should undertake any vegetation clearing to ensure that any features still in their original context are not further disturbed;
- a mixture of hand excavation and grader scrapers should be used to search for any signs of hearths or associated features relating to food or tool production, and potentially even evidence of built structures. This is likely to take at least one week, longer if a number of artefacts are found;
- any features found should be hand excavated and fully recorded;
- the standing features of the site (the grinding bowls and grinding grooves) should be fully recorded at this time;
- any material found during the excavation should be recorded and if more grinding bowls and grinding grooves are found these should be placed with the other translocated features under the stand of trees at the site. Any small finds, including lithics and shell, should be analysed by an archaeologist and then also returned to the site;
- once the site excavation is finished, the archaeologists are to indicate the areas where fences should be erected to ensure the grinding bowls and grooves (and any other items found) are protected during construction works; and
- a report should be completed for the works and interpretative signage should be created to indicate the Aboriginal site and any additional information the excavation revealed about the use of the site.

Additional Work

As discussed in *Chapter 6*, additional survey work is still required in some areas that are sensitive in terms of Aboriginal cultural heritage where transmission line corridors have not yet been finalised. . These areas are:

- in Lismore between the Lismore South substation and Lismore switching station where underground cabling is proposed; and
- in Brunswick Heads where a transmission line linking the new substation to the existing line is proposed.

8

ABORIGINAL HERITAGE LEGISLATION

This project is to be assessed and approved under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP &A Act). In summary, Part 3A can provide developers with 'comprehensive' approval for development, without the need for obtaining further approvals under different State Acts. The Part 3A approval process involves strict requirements established by the Director General of NSW Department of Planning to ensure all environmental factors are adequately considered and addressed.

Until the development is granted Part 3A approval, the Project Area and its heritage values remain protected and under the statutory control of the relevant State Acts.

Aboriginal cultural heritage in NSW is protected by the *National Parks and Wildlife Act 1974*. Historical heritage in NSW is protected under the *Heritage Act 1977*. These acts and their obligations are provided below. The obligations under these various acts have been used to devise relevant mitigation measures for the study area which are presented in *Chapter 9*.

8.1

NSW LEGISLATION

8.1.1

Environmental Planning and Assessment Act 1979 (NSW)

The EP&A Act requires that environmental impacts are considered in land use planning, including impacts on Aboriginal and historical heritage. Various planning instruments prepared under the Act identify permissible land use and development constraints.

The DECC provides guidelines for Aboriginal heritage assessment, including those conducted under the EP&A Act 1979. Where Aboriginal heritage assessment is conducted under the Integrated Development Approval process, a more detailed set of NPWS guidelines applies.

Where a project is approved under Part 3A of the Act, section 75U(d) of the EP&A Act provides that a permit under section 87 or a consent under section 90 under the National Parks & Wildlife Act 1974 in respect of any action that may disturb and/or destroy Aboriginal objects or Aboriginal places is not required. In those instances management of heritage sites must follow the statement of commitments included in the Part 3A development approval.

The statement of commitments defines the environmental management and mitigation measures the proponent is prepared to make for on the site. The statement of commitments is made in accordance with *EP&A Act 1979* (Part 3A Division 2 Section 75F[6]).

A Draft Statement of Commitments has been prepared as part of the Environmental Assessment. The draft Statement of Commitments defines the environmental management and mitigation measures the proponent is prepared to make for on the site.

8.1.2 *National Parks and Wildlife Act 1974 (NSW)*

All Aboriginal objects within the state of NSW are protected under section 90 of the *National Parks and Wildlife Act 1974* (NPW Act).

Under section 5 of the Act, "Aboriginal Object" means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Sites of traditional significance that do not necessarily contain archaeological materials may be gazetted as "Aboriginal places" and are protected under Section 84 of the Act. This protection applies to all sites, regardless of their significance or land tenure. Under section 90, a person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence.

Amendments introduced by the *National Parks & Wildlife Amendment Act 2001* which strengthen the provisions of section 90 have yet to commence.

The DECC is the statutory authority for the protection of Aboriginal objects and places within NSW, with the Director-General of that department the consent authority. Approvals under the NPW Act are not required where a development is approved under Part 3A of the EP&A Act.

8.1.3 *Heritage Act 1977 (NSW)*

The *Heritage Act 1977* protects the natural and cultural history of NSW with emphasis on non-Aboriginal cultural heritage. It provides automatic statutory protection to 'relics'. The Act defines a 'relic' as:

Any deposit or material evidence relating to the settlement of the area that comprises NSW, not being an Aboriginal settlement, which is 50 or more years old.

Sections 139-145 of the Act prevent the excavation or disturbance of land known or likely to contain 'relics', except in accordance with an excavation permit issued by the Heritage Council of NSW (or in accordance with a gazetted exception under Section 139(4) of the Act).

While Aboriginal heritage sites and objects (“relics”) are protected principally by the NPW Act, if an Aboriginal site, object or place is of great significance it can be protected by a heritage order issued by the Minister on the advice of the Heritage Council.

Approvals under Part 4 and an excavation permit under section 139 of the Heritage Act are not required in respect of a project approved under Part 3A of the EP&A Act.

8.2 COMMONWEALTH LEGISLATION

8.2.1 *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)*

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* protects areas and/or objects which are of significance to Aboriginal people and which are under threat of destruction. The Act can, in certain circumstances override State and Territory provisions, or it can be implemented in circumstances where State or Territory provisions are lacking or are not enforced. A significant area or object is defined as one that is of particular importance to Aboriginal people according to Aboriginal tradition. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

8.2.2 *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the protection of matters of National Environmental Significance and the environment generally on Commonwealth land. Impacts on the Aboriginal heritage must be considered as part of environmental impact assessment. A referral must be made to the Department of Environment and Water Resources (formerly the Department of Environment and Heritage) where a significant impact is anticipated on matters of National Environmental Significance or Commonwealth land.

9

FURTHER HERITAGE REQUIREMENTS, MANAGEMENT AND MITIGATION MEASURES

The following recommendations are made in light of the findings of the surveys undertaken, the background research, the predictive modelling and relevant NSW legislation protecting historic and Aboriginal heritage.

- Surveys should be undertaken and Aboriginal community consultation completed for the following areas once preferred line route options have been identified by Country Energy:
 - between Lismore South Substation and Lismore switching station; and
 - within the Brunswick Heads Feeder Loop corridor.

Further, the following management and mitigation measures are recommended:

- A Cultural Heritage Induction of the construction crew supervisors should take place prior to construction. This is to explain the nature of the monitoring and the requirements for when an archaeologist is to be notified. Handouts showing Aboriginal sites will be circulated and the procedure to follow in the case of Aboriginal burials being uncovered explained. The induction can be carried out by an archaeologist. In addition, a Site Contractors Heritage Handbook can be provided if required. This summarises all the key heritage issues and recommendations, provides contact details of archaeologists and LALCs, provides maps indicating areas that require monitoring and has information sheets showing archaeological sites and areas to be fenced off and avoided.
- If ground disturbance or vegetation removal is proposed outside existing power line corridors in any sensitive areas identified in *Section 6.1.2* and illustrated in on *Figures 6.1 to 6.3*, archaeological surveys and further assessment should be completed.
- Any works that result in the disturbance of the ground surface, such as excavation for new transmission line poles, removal of vegetation or trenching, should be monitored by LALC representatives and other interested parties between the Lismore BSP substation south to the existing Alstonville power Line.
- Site 12 is preferred as the location for the proposed Suffolk Park Substation as it is likely to result in lesser impacts in terms of Aboriginal Heritage. A Burial Management Plan and monitoring of all clearance and earth works is to occur regardless of the preferred substation site chosen (Site 7 or Site 12) due to the sensitive nature of the area. Monitoring by LALC representatives and other interested parties should also be carried out when clearing or excavation works are being undertaken for transmission line connection of the new substation to the existing network.
- Further archaeological investigation is recommended at the Brunswick Heads Substation site prior to the construction commencing. As this is a Part 3A Project a S87 permit will not be required, but the investigation should be undertaken to the usual standards for a S87 permit. The investigation should be conducted in the manner discussed in *Section 7.5.2*.

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- Rich, E. 1994 **Archaeological Salvage of Angels Beach Estate, North Ballina, NSW**. Report for Ballina-North Creek Aboriginal Sites Management Committee and Ballina Shire.

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Annex A

Aboriginal Consultation Log

Table A.1 **Aboriginal Consultation Log**

Stage 1 - Advisory Requests Sent			
Date Sent	Organisation	Contact	Comment
21 Mar-07	DECC	Brendan Diacono	Response received 2 April 2007 16 Groups indicated
19 Mar-07	Register of Aboriginal Owners		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
19 Mar-07	Ngulingah LALC		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
19 Mar-07	Ballina Shire Council		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
19 Mar-07	Byron Bay Shire Council		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
19 Mar-07	Jali LALC		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
19 Mar-07	Lismore City Council		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
19 Mar-07	Tweed Byron LALC		Fax sent requesting advise of interest in participation of fieldwork and knowledge of any other groups to be contacted
14-Jan-08	Arakwal Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Bunjalong Tribal Society		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Bundjalung Elders Council Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Bunjum Co-operative Society Ltd		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Cubawee Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.

Stage 1 - Advisory Requests Sent			
14-Jan-08	Gidabel Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Jarjum Centre Incorporated		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Jarjum Gangalehla Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Kurrachee Co-operative Society Ltd		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Nunbahging		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Nungera Co-Operative Society Limited		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Nunger Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Shared Vision Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Tweed Aboriginal Co-operative Society Ltd		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Wai:Bal Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
14-Jan-08	Yamboora Aboriginal Corporation		Letter sent requesting to advise of interest in participation of fieldwork.
Aboriginal Group Registrations Received			
Date	Organisation	Contact person	Comments
09-Jan-08	John Cook Foundation	Susan & Douglas Anderson	letter registering interest in being consulted
09-Jan-08	Numbahjing Native Title Claimants	Alan Oshlack (Advocate)	letter registering interest in being consulted
21-Jan-08	Wai:Bal Aboringal Corporation		Letter returned Left address

Stage 1 - Advisory Requests Sent			
25-Jan-08	Jarjum Gangalehla Aboriginal Corporation		letter Returned not at PO Box address
	Gilbert King		Personal Visit Interested in participating in fieldwork
Stage 2 – Letter to invite to Start up Meeting			
Date Sent	Organisation	Contact	Comment
30-Apr-08	Arakwal Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Bunjalong Tribal Society		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Bundjalung Elders Council Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Bunjum Co-operative Society Ltd		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Cubawee Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Gidabel Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Jarjum Centre Incorporated		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Jarjum Gangalehla Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Kurrachee Co-operative Society Ltd		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Nunbahging		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Nungera Co-Operative Society Limited		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Nunger Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.
30-Apr-08	Shared Vision Aboriginal Corporation		Letter sent informing of the date of the Startup meeting.

Stage 1 - Advisory Requests Sent

30-Apr-08	Tweed Aboriginal Co-operative Society Ltd	Letter sent informing of the date of the Startup meeting.
30-Apr-08	Wai:Bal Aboriginal Corporation	Letter sent informing of the date of the Startup meeting.
30-Apr-08	Yamboora Aboriginal Corporation	Letter sent informing of the date of the Startup meeting.
30-Apr-08	Gilbert King	Letter sent informing of the date of the Startup meeting.
30-Apr-08	Jali LALC	Email sent informing of the date of the Startup meeting.
30-Apr-08	Tweed Byron LALC	Letter sent informing of the date of the Startup meeting.
30-Apr-08	Ngulingah LALC	Letter sent informing of the date of the Startup meeting.

Aboriginal Group Participation in Start up meeting

Date	Organisation	Contact person	Comments
14-May-08	Gilbert King	Gilbert King	Attended Start up meeting
14-May-08	Jali LALC	Veronica Williams	Attended Start up meeting
14-May-08	Jali LALC	Joanne Bolt	Attended Start up meeting
14-May-08	Jali LALC	Athol Compton	Attended Start up meeting
14-May-08	Jali LALC	Harry Kelly	Attended Start up meeting
14-May-08	Jali LALC	Sean Bolt	Attended Start up meeting
14-May-08	Numbahjing Native Title Group	Troy Anderson	Attended Start up meeting
14-May-08	Numbahjing Native Title Group	Douglas Anderson	Attended Start up meeting
14-May-08	Widjabul Tribe	John Roberts	Attended Start up meeting

Stage 2 – Methodology

Date Sent	Organisation	Contact	Comment
30-May-08	Arakwal Aboriginal Corporation		Methodology sent inviting comment

Stage 1 - Advisory Requests Sent			
30-May-08	Bunjalong Tribal Society		Methodology sent inviting comment
30-May-08	Bundjalung Elders Council Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Bunjum Co-operative Society Ltd		Methodology sent inviting comment
30-May-08	Cubawee Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Gidabel Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Jarjum Centre Incorporated		Methodology sent inviting comment
30-May-08	Jarjum Gangalehla Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Kurrachee Co-operative Society Ltd		Methodology sent inviting comment
30-May-08	Nunbahging		Methodology sent inviting comment
30-May-08	Nungera Co-Operative Society Limited		Methodology sent inviting comment
30-May-08	Nunger Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Shared Vision Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Tweed Aboriginal Co-operative Society Ltd		Methodology sent inviting comment
30-May-08	Wai:Bal Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Yamboora Aboriginal Corporation		Methodology sent inviting comment
30-May-08	Gilbert King		Methodology sent inviting comment
30-May-08	Jali LALC		Methodology sent inviting comment
30-May-08	Tweed Byron LALC		Methodology sent inviting comment
30-May-08	Ngulingah LALC		Methodology sent inviting comment
30-May-08	Numbahjing Native Title Group		Methodology sent inviting comment
30-May-08	Widjabul Tribe		Methodology sent inviting comment
Stage 4 – Participation in Fieldwork			
Date Sent	Organisation	Contact	Comment

Stage 1 - Advisory Requests Sent			
26-Jun-08	Ngulingah LALC	Gilbert King	
25 & 26-May-08	Tweed Byron LALC	Des Williams	
Stage 5 – Letter sent for Invitation to Post Survey Meeting			
Date Sent	Organisation	Contact	Comment
	Gilbert King		
	Jali LALC		
	Tweed Byron LALC		
	Ngulingah LALC		
	Numbahjing Native Title Group		
	Widjabul Tribe		
Stage 6 – Participation in Post Survey Meeting/ Draft Report Sent			
Date Sent	Organisation	Contact	Comment
20-Aug-2008	Jali LALC	Veronica Williams	Copy of Draft Report sent as Jali would be unable to attend meeting on the 22nd
22-Aug-2008	Gilbert King		Attended meeting and provided a written comment
22-Aug-2008	John Cook Foundation Aboriginal Corporation	Susan Anderson	Attended meeting and provided a verbal comment
22-Aug-2008	John Cook Foundation Aboriginal Corporation	Douglas Anderson	Attended meeting and provided a verbal comment
26-Aug-2008	Tweed Byron LALC		Sent copy of report and asked for comment by the 5 th of September
26-Aug-2008	Ngulingah LALC		Sent copy of report and asked for comment by the 5 th of September
Stage 7 – Comments to Draft Report			
Date Sent	Organisation	Contact	Comment
22-Aug-2008	Gilbert King		"I agree that the Brunswick Head site be closely monitored and that Suffolk Park also be monitored for burials and more survey in the Lismore area is needed"
22-Aug-2008	John Cook Foundation Aboriginal Corporation	Susan Anderson	Agree with outcomes and wish to be consulted when works in the Ballina to Byron area.
22-Aug-2008	John Cook Foundation Aboriginal Corporation	Douglas Anderson	Agree with outcomes and wish to be consulted when works in the Ballina to Byron area.

Annex B

Methodology Letter

20 October, 2008

Address Block to add

Our Reference: DOCUMENT2

Dear Person,

**RE: LISMORE TO MULLUMBIMBY ELECTRICITY NETWORK
UPGRADE**

WHAT IS THIS LETTER?

This letter refers to the outcomes of the Aboriginal community start-up meeting held at Ballina Island Motor Inn on the 14 May 2008 for the Country Energy Lismore to Mullumbimby Electricity Network Upgrade. This letter reports what was discussed at this meeting and outlines the methodology for the future Aboriginal heritage works.

Your feedback and agreement to the methodology is required. Also a schedule of survey dates is suggested and those that wish to attend surveys relevant to your Land Council area are also requested to confirm their availability.

WHO ATTENDED

At the start up meeting were the following community representatives:

- Gilbert King
- Veronica Williams (Jali Local Aboriginal Land Council [LALC])
- Joanne Bolt (Jali LALC)
- Athol Compton (Jali LALC)
- Harry Kelly (Jali LALC)
- Sean Bolt (Jali LALC)

- Troy Anderson (Numbahging Native Title Group)
- Douglas Anderson (Numbahging Native Title Group)
- John Roberts (Widjabul Tribe)

Also in attendance were;

- Christine Allen (Principal Planner ERM)
- Diana Neuweger (Heritage Consultant ERM).

WHAT IS THE PROJECT?

As discussed at the meeting the project involves the upgrading of the current Lismore to Mullumbimby ring power line. This upgrade includes several different project aspects, substation construction, substation upgrades, new transmission lines and upgrading of transmission lines.

The new substations will be located at Brunswick Heads and Suffolk Park.

The substation upgrades will be at Lismore, Lismore South, Ballina, Mullumbimby, Ewingsdale and Lennox Head.

The new underground transmission lines will be linking Lismore South substation to Lismore substation.

The new overhead transmission lines will be a link from the Mullumbimby to Ewingsdale line to the proposed Brunswick Heads substation and from Lismore South substation to Lismore University switching station. New segments of lines maybe required around the residential areas of Ewingsdale and Skinners Shoot.

The upgrading of transmission lines will be at Mullumbimby substation to Ballina via Ewingsdale substation and from Lismore substation to Ballina, via Alstonville substation.

1.1 WHAT WERE THE OUTCOMES OF THE MEETING?

Those in attendance at the meeting were asked to share any knowledge they had on areas of Aboriginal sensitivity along the power line routes. Areas of sensitivity were determined in the following locations:

- In the Lismore area between Lismore South zone and Lismore zone substations and the line between Lismore South substation and Goonellaba: known burials in the area;

- Brunswick Heads from the Pacific Highway to the Mullumbimby Road and Pacific Highway to Tandys Lane: burials in these locations;
- Ballina between Teven Road and North Creek canal: known burial in the area;
- At Cumbulum, Tintenbar and Newbury at four locations: known burials in these locations; and
- Suffolk Park near location of the proposed substation is a Women's ceremonial area and known burials.

WHERE DO WE GO FROM HERE?

There are now several identified areas of sensitivity along the route of the electricity upgrade project. The potential impacts of the proposed works are varied and as such different measures will be required in different locations so that the heritage management fits the impact and the type of archaeology expected.

To manage any heritage issues that may arise from this project, archaeological zones have been designated and impact factors have been taken into account so that the various archaeological areas and the various impacts can be managed in the best possible way.

WHAT ARE THE IMPACTS OF THE PROJECT?

This project involves several different upgrade works and the impacts of these works will affect the archaeology differently.

Parts of the project will require excavation and trenching, these types of works will occur in the following locations:

- where the new substations are built;
- where substations may be upgraded, this is only for upgrades that will involve expansion into previously undeveloped areas;
- where the underground powerlines will be placed; and
- where new over head power lines are installed.

Part of the project will involve minimal ground disturbance, this type of work will be part of the following component of the upgrade:

- where poles need to be relocated.

The above mentioned components of the electricity network upgrade can have significant impact to any Aboriginal cultural heritage. These components of the works require sub-surface disturbance which can have an effect on register and unregistered Aboriginal archaeological sites.

Some components of the electricity network upgrade will have little to no impact on the heritage. For example the upgrading of the power line, where only the wiring is upgraded, will not impact on the ground in any way. Replacement of poles in the same location will not involve any excavation of new areas and thus is unlikely to impact on Aboriginal heritage.

WHAT ARE THE ARCHAEOLOGICAL ZONES IN THE PROJECT?

Three zones of archaeological potential and or sensitivity within the project area have been identified.

- areas identified in consultation with community members have lead to zones of sensitivity being identified (these are listed above);
- areas of moderate archaeological sensitivity. These are areas known from predictive modelling and from the registered site patterning sites areas that are likely to contain archaeological sites; and
- and areas that are of low archaeological sensitivity where sites are less likely to occur.

HOW DO WE MANAGE THE IMPACTS OF THE PROJECT?

To ensure that no Aboriginal Heritage is impacted by the proposed upgrade the following measures are being recommended to Country Energy:

- where there will be subsurface excavation of new areas, these areas should surveyed before approval is sought. Recommendations for impact management of each individual survey lot will then be developed by ERM in consultation with the Aboriginal Community;
- where there will be minimal ground disturbance i.e. deviation from an existing power line route, the management will depend on which area of

sensitivity. In all cases the LALC should be contacted and consulted, where the works fall in an area of sensitivity then monitoring by LALC should also occur during construction. In areas of moderate archaeological potential the workers on site should be educated about what Aboriginal sites and artefacts are and a stop work procedure put in place if a site is uncovered; and

- no further management is required where there will be no ground disturbance or simple pole replacement at existing locations.

Below is a table of the archaeological zones and the impacts and the required steps to be taken to ensure the protection of any Aboriginal heritage.

	Major Excavation/ Sub-Surface Disturbance	Minimal Ground Disturbance	No Ground Disturbance
Sensitive Zone	Survey before approval and implement any subsequent requirements	Consultation with LALC and monitoring during works	None
Moderate Zone	Survey before approval and implement any subsequent requirements	Inform workers of what heritage may be in area and Consultation with LALC/ stop work procedures in place if site found	None
Low Zone	Survey before approval and implement any subsequent requirements	Consultation with LALC/ stop work procedures in place if site found.	None

DO YOU AGREE WITH THIS ARRANGEMENT?

This letter will be sent not only to those who attended the meeting on the 14 May but also the other Local Aboriginal Land Councils involved in this project. I would like to know if everyone involved in this project agrees with these strategies to mitigate the impacts of the proposed upgrade. I would also like to know if there are any other areas of sensitivity that are not indicated in the attached figure showing the archaeological zoning.

To keep this work progressing steadily I require any comments or feedback by the **13th of June 2008**.

WHO ARE THE AREA REPRESENTATIVES?

Attached to this letter is a visual representation of the area of the works and the current Local Aboriginal Land Council Boundaries. So that Country Energy know clearly who to contact as they work on various parts of this project please add your group boundaries to the plan and send back to ERM so we can update and incorporate you into the post approval consultation plan.

SO WHAT IS NEXT?

The next step in this process is to collate the information you give me. Then the areas that will have ground disturbance will need to be surveyed, the aim is to have all the surveys wrapped up by the end of June.

Once the surveys are conducted, a draft report of the finds and recommendations will be sent around to all the groups for their comment. This report will then form the heritage component of the Development Approval for Country Energys' proposed upgrade and will contain within it the recommendations for the Statement of Commitments.

WHERE ARE THE SURVEYS AND DO YOU WANT TO PARTICIPATE?

There are currently four areas identified for survey or site inspection these areas are:

- survey of the area between Lismore South Zone substation and Lismore Zone substation,
- survey of the area of the new overhead line between Lismore south and Lismore University switching station
- survey of the site of the proposed Suffolk Park substation;
- survey of the site of the proposed Brunswick Heads substation, and
- site inspection of the proposed corridor for the overhead transmission lines between the current transmission lines and the proposed Brunswick Heads Substation.

So to get the ball rolling I have attached a form to this letter with the proposed survey and site inspection areas with the currently proposed dates of the field

work and a column in which you may indicate your interest in participation and availability for the fieldwork. Please fill out the form, stating if you agree to the methodology proposed and indicating your interest and availability in the various fieldwork for this project and return to me by the **13th of June 2008**.

Yours sincerely,

for Environmental Resources Management Australia Pty Ltd

Dr Diana Neuweger

Heritage Consultant

Annex C

Effective Coverage Table

Table C.1 *Effective Coverage of the Lismore Survey Units*

Transect	Landform	Land Use	Vegetation	Length (m)	Width (m)	Area (m ²)	Visibility	Exposure	Visible area (m ²)	Area available for detection (m ²)	% Effective coverage
A	Slope- North Facing	Agriculture- Low	Grassed and rocky	384	4	1536	1%	10%	15.36	1.5	0%
B	Ridge	Agriculture- Low	Grassed, rocky and some remnant forest with non natives	875	4	3500	2%	10%	70	7.0	0%
C	Slope- South Facing	Agriculture- Low	Wooded, dense	550	4	2200	50%	20%	1100	220.0	10%
D	Flat	Agriculture- High	Grassed, some fields cattle and crops	642	4	2568	0%	0%	0	0.0	0%
E	Slope-East Facing	Agriculture- Low	Grassed and rocky	103	4	412	0%	0%	0	0.0	0%
F	Slope- South East Facing	Agriculture- Low	Grassed and rocky, with mixed vegetation non- native	663	4	2652	5%	50%	132.6	66.3	3%
G	Ridge	Agriculture- Low	Grassed, rocky and some remnant forest with non natives	427	4	1708	0%	0%	0	0.0	0%
2%											

Annex D

Site Types Table

Site types	Definition
Stone artefact scatters	Stone artefact scatter sites, also known as open campsites, are usually indicated by surface scatters of stone artefacts and sometimes fire blackened stones and charcoal. Where such sites are buried by sediment they may not be noticeable unless exposed by erosion or disturbed by modern activities. The term campsite is used as a convenient label which, in the case of open sites, does not necessarily imply that Aboriginal people actually camped on the sites; rather it indicates only that some type of activity was carried out there.
Isolated finds	Sites consisting of only one identified stone artefact, isolated from any other artefacts or archaeological evidence. They are generally indicative of sporadic past Aboriginal use of an area.
Shell middens	Middens consist of accumulations of shell that represent the exploitation and consumption of shellfish by Aboriginal people. Shell species may be marine, estuarine or freshwater depending on the environmental context and middens may also include other faunal remains, stone artefacts, hearths and charcoal.
Shelter sites	Sandstone shelters and overhangs were used by Aboriginal people to provide campsites sheltered from the rain and sun. The deposits in such sites are commonly very important because they often contain clearly stratified material in a good state of preservation.
Grinding grooves	Grooves resulting from the grinding of stone axes or other implements are found on flat areas of suitable sandstone. They are often located near waterholes or creek beds as water is necessary in the sharpening process. In areas where suitable outcrops of rock were not available, transportable pieces of sandstone were used.
Quarries	These are areas where stone was obtained for flaked artefacts or ground-edge artefacts, or where ochre was obtained for rock paintings, body decoration or decorating wooden artefacts.
Art sites	<p>Aboriginal paintings, drawings and stencils are commonly to be found where suitable surfaces occur in sandstone shelters and overhangs. These sites are often referred to as rock shelters with painted art.</p> <p>Rock engravings, carvings or peckings are also to be found on sandstone surfaces both in the open and in shelters. These are referred to as rock engraving sites.</p>
Scarred trees	Scarred trees bear the marks of bark and wood removal for utilisation as canoes, shields, boomerangs or containers. It is commonly very difficult to confidently distinguish between Aboriginal scars and natural scars or those made by Europeans.
Burial sites	Burials may be of isolated individuals, or they may form complex burial grounds.
Stone arrangements, carved trees and ceremonial grounds	<p>These site types are often interrelated. Stone arrangements range from simple cairns or piles of rocks to more elaborate arrangements; patterns of stone laid out to form circles and other designs, or standing slabs of rock held upright by stones around the base.</p> <p>Carved trees are trees with intricate geometric or linear patterns or representations of animals carved into their trunks. Ceremonial grounds and graves were often marked by such trees. Bora grounds are a common type of ceremonial site and they are generally associated with initiation ceremonies. They comprise two circles, generally edged with low banks of earth but sometimes of stone, a short distance apart and connected by a path.</p>

Annex E

**BH Grinding Site, National Parks and
Wildlife Service Site Card.**

New Recording ☒ Additional information ☐

SITE IDENTIFICATION					
Site name				NPWS Number	Site
Owner/manager					
Owner Address					
LOCATION					
Location					
How to get to the site					
1:250,000 map name				NPWS map code	
AMG Zone	56	AMG Easting		AMG Northing	
Method for grid reference	Hand-held GPS	Map scale (if method = map)	1:25,000	Map name	
NPWS District				NPWS Zone	Northern Zone
Portion no.				Parish	

SITE DESCRIPTION

Site type(s)		Site type code (NPWS use only)	
Description of site and contents <p>CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.</p> <p>DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.</p> <p>ART: area of decorated surface, motifs, colours, wet/dry pigment, engraving technique, no. of figures, sizes, patination.</p> <p>BURIALS: number & condition of bone, position, age, sex, associated artefacts.</p> <p>TREES: number, alive, dead. likely age, scar shape, position, size, patterns, axe marks, regrowth.</p> <p>QUARRIES: rock type, debris, recognisable artefacts, percentage quarried</p>	<p>Attach photographs and sketches, eg. plan & section of shelter.</p> <p>Do NOT dig, disturb or damage site or contents.</p>		

SITE ENVIRONMENT					
Land form			Aspect		Slope
Mark position of the site					
Local rock type			Land use/effect		
Distance from drinking water			Source		
Resource zone (eg. estuarine, river, forest)			Vegetation		
Edible plants			Faunal resources (include shellfish)		
Other exploitable resources (eg. ochre)					
Are there other sites in the locality	No	Are they in the Sites Register	No	Other site types include	
SITE MANAGEMENT					
Site condition	Good				
Management recommendations					
Have artefacts been removed from site	No		When		
By whom			Deposited at		
Consent applied for	<input type="checkbox"/>		Consent issued	<input type="checkbox"/>	
Date of issue			Consent number		

SITE INSPECTION AND RECORDING

Reason for investigation			
Were local Aborigines contacted or present for the recording	<input type="checkbox"/> Not contacted <input checked="" type="checkbox"/> Contacted and present <input type="checkbox"/> Contacted but not present	Names and addresses	
Is the site important to local Aborigines			
Verbal/written reference sources		ASR report number(s)	C- C-
Photographs taken	Yes	No of Photos attached	
Site recorded by		Date of recording	
Address/institution			

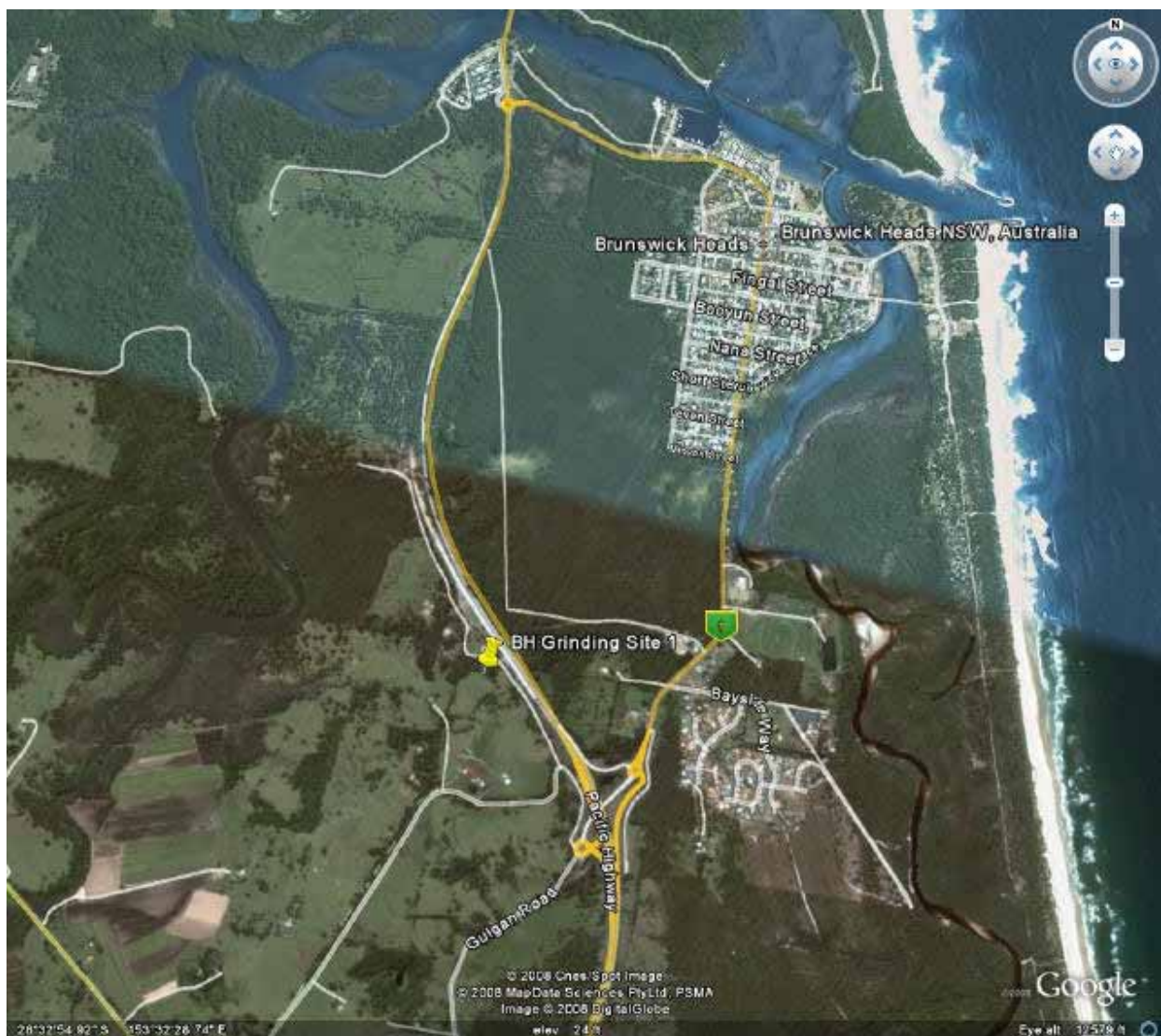


Figure E1 **Location of BH Grinding Site 1**



Figure E2: Location of some of the grinding bowls and grinding grooves.



Figure E3: Example of a grinding bowl



Figure E4: Example of a grinding bowl



Figure E5: Example of a grinding grooves



Figure E6: Example of a grinding bowl