

Appendix C Director General requirements

Environmental Assessment Requirements

Section 115Y of the *Environmental Planning and Assessment Act 1979*

Application number	SSI - 4963
Infrastructure (project)	<p>Pacific Highway Upgrade – Woolgoolga to Ballina - the construction and operation of approximately 155 kilometres of four-lane divided carriageway, from approximately 5 kilometres north of Woolgoolga to approximately 6 kilometres south of Ballina.</p> <p>The project does not include the upgrades at Glenugie and Devils Pulpit, located between Woolgoolga and Ballina.</p>
Location	<p>Land generally located:</p> <ul style="list-style-type: none"> (i) from Arrawarra Beach Road approximately 5 kilometres north of Woolgoolga to approximately 21 kilometres south of Grafton (the Franklins Road intersection with the Pacific Highway), and (ii) from approximately 13 kilometres south of Grafton (the Eight Mile Lane intersection with the Pacific Highway) to approximately 66 kilometres north of Grafton, and (iii) from approximately 72 kilometres north of Grafton to the Ballina Bypass approximately 6 kilometres south of Ballina, <p>in the Ballina, Clarence Valley, Coffs Harbour and Richmond Valley local government areas.</p>
Proponent	Roads and Maritime Services
Date issued	23 November 2011
General requirements	<p>The Environmental Impact Statement (EIS) must be prepared in accordance with and meet the minimum requirements of Part 3 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (the Regulation) and include the following:</p> <ol style="list-style-type: none"> 1. the information required under clause 6 of Schedule 2 of the Regulation; and 2. the content listed in clause 7 of Schedule 2 of the Regulation, including but not limited to: <ul style="list-style-type: none"> o a summary of the environmental impact statement, o a statement of the objectives of the project, including a description of the strategic need, justification, objectives and outcomes for the Pacific Highway Upgrade Program, the aims and objectives of relevant strategic planning and transport policies, including <i>NSW 2021</i>, the <i>Far North Coast Regional Strategy</i> and the <i>Mid North Coast Regional Strategy</i>, and the cumulative and synergistic impacts associated with the Pacific Highway Upgrade Program as a whole, and o an analysis of feasible alternatives to the carrying out of the project and project justification, including: <ul style="list-style-type: none"> ➤ an analysis of alternatives/ options considered, having regard to the project objectives (including an assessment of the environmental costs and benefits of the project relative to alternatives and the consequences of not carrying out the project), and the provision of a clear discussion of the route development and selection process, the suitability of the chosen alignment and whether or not the project is in the public interest, and ➤ justification for the preferred project taking into consideration the objects of the <i>Environmental Planning and Assessment Act 1979</i>.

sulfate soils, and details of erosion and sedimentation control measures.

Heritage – including but not limited to:

- impacts to *Aboriginal heritage* (including cultural and archaeological significance), in particular impacts to Aboriginal heritage sites identified within or near the project should be assessed. Where impacts are identified, the assessment shall:
 - outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures) generally consistent with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation, 2005),
 - be undertaken by a suitably qualified heritage consultant(s),
 - demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures), and
 - develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations of the areas of PAD identified in a manner that establishes the full spatial extent and significance of any archaeological evidence across each area of PAD, and include the results of these excavations; and
- impacts to *State and local historic heritage* (including archaeology, heritage items conservation areas and natural areas), in particular impacts to the New Italy Settlement and High Conservation Value Old Growth Forest should be assessed. Where impacts to State or locally significant historic heritage items are identified, the assessment shall:
 - outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the guidelines in the NSW Heritage Manual (1996),
 - be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria),
 - include a statement of heritage impact for all heritage items (including significance assessment),
 - consider impacts from vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment, and
 - develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations and include the results of these excavations.

Visual Amenity, Urban Design and Landscaping – including but not limited to:

- a description of the visual significance of the affected landscape, particularly where the corridor traverses greenfield areas;
- an assessment of the visual impact of the project on the landscape character of the area, including built form (materials and finishes) and the urban design (height, bulk and scale) of key components including bridge crossings, floodplain embankments, interchanges, and views to and from the project; and
- details of landscaping treatment and design (including noise barriers, retaining walls and landscaping) consistent with the overall design of the Pacific Highway Upgrade Program and integration with the existing (and desired) character of affected localities;

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Appendix D Previous Aboriginal community consultation

D.1 Previous summary

The following summarises compliance with the Interim Community Consultation Requirements for Applicants 2005 and a summary of the consultation process both of which are taken directly from Kuskie (2008:71-73; Appendix E).

A comprehensive database summarising all Aboriginal community consultation undertaken for the WWC project is attached in Appendix E, along with copies of key correspondence received from the Aboriginal stakeholders. The consultation process is documented below, firstly in relation to the steps outlined in the DECC policy, and secondly to incorporate the extensive additional consultation that was undertaken outside of the formal DECC process.

Compliance with Procedure number 1 was achieved through correspondence forwarded by GHD to the relevant organisations on 4 August 2006. DECC responded on 11 August 2006 to advise that 22 Aboriginal groups and/or individuals in addition to the relevant LALCs should be contacted. The Registrar of Aboriginal Owners responded on 8 August 2006 to advise that there are no Registered Aboriginal Owners for this area.

Compliance with Procedure number 2 was achieved by GHD writing to the 22 relevant groups on 24 October 2007 with an invitation to register their interest as per the DECC policy. In response to this letter, Tim Cowan registered a formal interest on behalf of the Yarrowarra Aboriginal Corporation (incorporating the Garby Elders and Jalumbo Cultural Heritage Research Unit).

Compliance with Procedure number 3 was achieved by GHD placing advertisements in the Coffs Harbour Advocate and The Daily Examiner on 27 May and 10 June 2006, The National Indigenous Times on 1 June and 15 June 2006, The Koori Mail on 7 June and 21 June 2006, and the Deadly Vibe and In Vibe magazines for the month of July 2006. The advertisements requested that any Aboriginal persons/organisations who may be interested in participating in the project register their interest in writing. No formal responses to those noted above were received. However, as documented with respect to the broader consultation process below, the Yarrowarra Aboriginal Corporation, Coffs Harbour and District LALC and Grafton-Ngerrie LALC had already been consulted and deemed to be registered stakeholders by GHD and the RTA.

Hence, at the conclusion of the formal DECC consultation process and the broader consultation process applied for this project (refer below), there are three stakeholders that can be considered registered under the DECC Interim Community Consultation Requirements for Applicants policy:

- Coffs Harbour and District LALC.
- Grafton-Ngerrie LALC.
- Yarrowarra Aboriginal Corporation (incorporating the Garby Elders and Jalumbo Cultural Heritage Research Unit) (YAC).

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Compliance with Procedures number 4 and 5 was achieved by providing the registered stakeholders with the proposed methodology for the assessment for their consideration in February 2007. Meetings were also held with the stakeholders to discuss the proposed methodology. The stakeholders agreed fully with the methodology, with the exception that Mr Chris Spencer of the Coffs Harbour LALC suggested that due to mobility/health issues, it would be best to take the Elders over the route by vehicle at the completion of the survey and prior to the draft report being prepared. The RTA and South East Archaeology agreed and revised the project methodology accordingly.

Compliance with Procedure number 6 was achieved by undertaking a comprehensive field survey of the preferred route in consultation with the registered Aboriginal stakeholders.

Fieldwork was undertaken by Peter Kuskie and Vanessa Flynn, of South East Archaeology, over seven days between 12 and 20 April 2007, assisted:

Within the Coffs Harbour LALC boundaries by two representatives of the Coffs Harbour and District LALC for each of two days (Mark Flanders, Gerrie Flanders and Kenny Nayda).

Within the Grafton-Ngerrie LALC boundaries by two representatives of the Grafton-Ngerrie LALC for each of five days (Rod Duroux, Brett Duroux and Janice Daley).

For the entire survey by at least two representatives of the Yarrawarra Aboriginal Corporation on each day (including Ricky Cain, Tim Cowan, Milton Duroux, Noeline Dootson and Cecil "Bing" Laurie).

The representatives expressed satisfaction with the level of survey coverage and the consultation process, as well as a strong interest in the findings.

Compliance with Procedure number 7 can be achieved by providing copies of the draft heritage assessment report to the three registered Aboriginal stakeholders, with a request for their comment.

Compliance with Procedure number 8 can be achieved through preparation of a final Aboriginal heritage impact assessment report that addresses and incorporates any input received from the registered Aboriginal stakeholders.

It is noted that this report has been prepared as part of the concept design stage of the project, not the environmental assessment stage. As such, the report will require review and revision at the environmental assessment stage, including with respect to any specific environmental assessment requirements issued by DoP and/or DECC for the project, relevant applicable legislation and policy at such time, the final concept design and additional Aboriginal community consultation (including as a minimum implementation of procedures number 7 and number 8, and inspection by vehicle of the route and Aboriginal sites by any interested Elders).

In addition to the implementation of Procedures numbers 1-6 of the DECC policy discussed above, extensive additional consultation has been undertaken with the registered stakeholders by GHD, the RTA and South East Archaeology, outside of the formal DECC process. This consultation is summarised below and in Appendix E.

Initial consultation with the Aboriginal stakeholders was established by GHD, the RTA and South East Archaeology by telephone, correspondence and meetings, as a precursor to the formal program of consultation associated with the project. Peter Kuskie, of South East Archaeology, met with Mr Chris Spencer of the Coffs Harbour LALC, Mr Maurie Maher of the Grafton-Ngerrie LALC and Mr Tony Perkins of YAC, on separate occasions on 16 February 2005. The nature of the proposal and potential heritage evidence was discussed. Mapping of the initial two-kilometre wide study area and registered Aboriginal sites were presented to each of the organisations and evaluation and preliminary comments on the proposal requested.

Further meetings were held between Peter Kuskie, of South East Archaeology, and Tony Perkins and Ricky Cain of the Yarrawarra Aboriginal Corporation, with Dee Murphy, on 15 July 2005, and with Maurie Maher and Janice Daley of the Grafton-Ngerrie LALC on 28 July 2007, to discuss areas of potential cultural significance within the initial study corridor. A number of areas of cultural significance were identified and documented (Kuskie 2005b).

One key area of cultural significance is a bora ground in the vicinity of Halfway Creek. Prior to the detailed field survey, inspections of the Halfway Creek locality were made by Peter Kuskie, of South East Archaeology, accompanied by Elders from the Yarrawarra Aboriginal Corporation and representatives of the Grafton-Ngerrie LALC, in order to re-establish the location of this known site of cultural significance. These inspections occurred on 21 September 2005, 24 March 2006 and 12 September 2006 and assisted in defining the area of sensitivity. Yarrawarra representatives who participated in the inspections included Tony Perkins, Ricky Cain, Cecil "Bing" Laurie, Milton Duroux and Tim Cowan. Grafton-Ngerrie LALC representatives who participated in the inspections included David "Bunny" Daley, Travis Daley and Rod Duroux.

Several Aboriginal Focus Group meetings have been held with the registered stakeholders, including at the Yarrawarra Centre on 27 February 2006 and 7 February 2007.

D.2 Previous documentation

Table 1 Aboriginal stakeholder consultation - Woodburn to Ballina

Date/title	Attendees and content
Initial Consultation (no date)	Initial consultation conducted with the key Aboriginal organisations and RTA's Aboriginal Program Consultant established by GHD, RTA and South East Archaeology.
16 February 2005 General	<p>Attendees:</p> <ul style="list-style-type: none"> ■ Coffs Harbour LALC. ■ Yarrawarra Aboriginal Corporation.

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Date/title	Attendees and content
Consultation	<p>Items Discussed:</p> <ul style="list-style-type: none"> ■ Nature of project. ■ Potential heritage evidence. ■ Inspection of project corridor.
<p>21 September 2005 Inspection</p>	<p>Attendees:</p> <ul style="list-style-type: none"> ■ Elders from Yarrawarra Aboriginal Corporation ■ Representatives of Grafton-Ngerrie LALC <p>Items Discussed:</p> <ul style="list-style-type: none"> ■ Inspection near Halfway Creek to re-establish location of known site of cultural significance. <p>Outcomes:</p> <ul style="list-style-type: none"> ■ Avoidance of site
<p>27 February 2006 AFG 1</p>	<p>Attendees:</p> <ul style="list-style-type: none"> ■ Ricky Cain and Milton Duroux (Yarrawarra Aboriginal Corporation (Garby Elders)) ■ P. Kuskie (South East Archaeology) ■ S. Pearce (GHD) ■ Mary-Lou Buck (RTA) ■ S. Williamson (RTA) ■ C. Steinbeck (RTA) <p>Items Discussed:</p> <ul style="list-style-type: none"> ■ Discussed project ■ Sought additional Aboriginal input into route options, heritage reports completed to date and cultural values of the study area. ■ Ricky advised Halfway Creek bora may be more to the north of where previously thought and reinspection needed. <p>Outcomes:</p> <ul style="list-style-type: none"> ■ Re-inspection of area of suspected Halfway Creek bora scheduled.
<p>24 March 2006</p>	<p>Attendees:</p> <ul style="list-style-type: none"> ■ Elders from Yarrawarra Aboriginal Corporation ■ Representatives of Grafton-Ngerrie LALC <p>Items Discussed:</p> <ul style="list-style-type: none"> ■ Inspection near Halfway Creek to re-establish location of bora site. <p>Outcomes:</p> <ul style="list-style-type: none"> ■ Avoidance of site
<p>27 May, 10 June 2006</p>	<p>Advertisement for Aboriginal stakeholders in the <i>Coffs Harbour Advocate</i> and <i>The Daily Examiner</i>.</p> <p>Outcomes: No response</p>
<p>1 June, 25 June 2006</p>	<p>Advertisement for Aboriginal stakeholders in <i>The National Aboriginal Times</i>.</p> <p>Outcomes: No response</p>
<p>7 June, 21 June 2006</p>	<p>Advertisement for Aboriginal stakeholders in <i>The Koori Mail</i>.</p> <p>Outcomes: No response</p>
<p>July 2006</p>	<p>Advertisement for Aboriginal stakeholders in <i>Deadly Vibe</i> and <i>in Vibe</i>.</p>

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Date/title	Attendees and content
12 September 2006	<p>Outcomes: No response</p> <p>Attendees:</p> <ul style="list-style-type: none">■ Elders from Yarrawarra Aboriginal Corporation■ Representatives of Grafton-Ngerrie LALC <p>Items Discussed:</p> <ul style="list-style-type: none">■ Inspection near Halfway Creek to re-establish location of known site of cultural significance. <p>Outcomes: Avoidance of site</p>
7 February 2007 AFG 2	<p>Attendees:</p> <ul style="list-style-type: none">■ Tim Cowan & Milton Duroux (Yarrawarra Aboriginal Corporation (Garby Elders)).■ Chris Spencer (Coffs Harbour LALC). <p>Items Discussed:</p> <ul style="list-style-type: none">■ Peter Kuskie (South East Archaeology) provided summary of project and changes to relevant legislation.■ Discussion of fieldwork methodology. <p>Outcomes:</p> <ul style="list-style-type: none">■ Chris Spencer (Coffs Harbour LALC) suggested that Elders should be invited on a brief inspection of the route after survey, following which fieldwork methodology was amended.■ Feedback to be included in the draft report.

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Table 2 Details of the consultation process undertaken for Woolgoolga to Wells Crossing; current to the 27 November 2007 from Kuskie (2008: Appendix E)

Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
18/11/04	David Gordon	DECC AHIMS	Telephone	P. Kuskie	SEA	Left message asking to discuss large AHIMS searches
18/11/04	David Gordon	DECC AHIMS	Fax	P. Kuskie	SEA	Asked for AHIMS searches and arrangements to access register
25/11/04	David Gordon	DECC AHIMS	Telephone	P. Kuskie	SEA	Discussed AHIMS searches, arranged for staff to access register on next earliest opportunity (2 Dec.), David had not seen our fax yet, but promised to look for it and address it on Fri. 26th Nov.
30/11/04	Peter Kuskie	South East Archaeology (SEA)	Fax	Kellyanne Sheargold	DECC AHIMS	Faxed AHIMS search results
30/11/04	Kellyanne Sheargold	DECC AHIMS	Telephone	P. Kuskie	SEA	Message left to thank for AHIMS search and request refaxing of several missing pages
2/12/04	Kellyanne Sheargold	DECC AHIMS	Meeting	H. Selimiotis	SEA	Research at DECC Head Office
7/12/04	Kellyanne Sheargold	DECC AHIMS	Meeting	H. Selimiotis	SEA	Research at DECC Head Office
8/12/04	Kellyanne Sheargold	DECC AHIMS	Meeting	H. Selimiotis	SEA	Research at DECC Head Office
10/12/04	Kellyanne Sheargold	DECC AHIMS	Meeting	H. Selimiotis	SEA	Research at DECC Head Office
8/2/05	Chris Spencer	Coffs Harbour & District LALC	Telephone	P. Kuskie	SEA	Discussed project, arranged meeting for 16/2/05 at LALC office
9/2/05	Cheryl-Anne?	Yarrawarra Aboriginal Corporation	Telephone	P. Kuskie	SEA	Discussed project, arranged tentative meeting for 16/2/05 at Yarrawarra office
9/2/05	unidentified man	Grafton-Ngerrie LALC	Telephone	P. Kuskie	SEA	Discussed project, arranged tentative meeting for 16/2/05 at Grafton office for 3pm
10/2/05	Peter Kuskie	SEA	Telephone	Tony Perkins	Yarrawarra Aboriginal Corporation	Discussed project, confirmed meeting for late morning 16/2/05

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
16/2/05	Chris Spencer	Coffs Harbour & District LALC	Meeting	P. Kuskie	SEA	Discussed project. Chris stated: <ul style="list-style-type: none"> • Himself and Mark Flannery are sites officers; • Entire coastal strip is sensitive - many sites; • Hinted at survey of whole corridor, as Robyn Mills has apparently done on the Urunga-Macksville section?.
16/2/05	Tony Perkins	Yarrawarra Aboriginal Corporation	Meeting	P. Kuskie	SEA	Discussed project. Tony stated: <ul style="list-style-type: none"> • Anxious about which Sapphire-Woolgoolga option is selected as where it connects at Arrawarra Creek is a very significant area; • 'Values' session conducted for Sapphire-Woolgoolga extremely culturally insensitive, asking Aboriginal people to reveal their secret/sacred knowledge of Marys Waterhole; • Represent Garby Elders and work closely with Coffs LALC.
16/2/05	Maurie Maher	Grafton-Ngerrrie LALC	Meeting	P. Kuskie	SEA	Discussed project. Maurie stated: <ul style="list-style-type: none"> • RTA good to work with; • Several sites officers available to assist with fieldwork; • Study area map will be passed on to sites officers.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
29/6/05	Janice Daley	Grafton-Ngerrie LALC	Telephone	P. Kuskie	SEA	Peter advised of desire to discuss with elders/traditional knowledge holders any knowledge of culturally significant sites/places in the route corridor, in a culturally sensitive and respectful manner, maintaining confidentiality where necessary, in order to advise GHD/RTA of general location details to assist in the selection of route options. Arranged meeting at 9.30am on 14th July. Racing carnival in afternoon.
14/7/05	Wesley Fernando	Grafton-Ngerrie LALC	Meeting	P. Kuskie	SEA	Peter attended pre-arranged meeting with LALC but Janice Daley and Maurie Maher were away and could not meet. The project was discussed with Wesley and a copy of mapping left. Wesley undertook to discuss the project with Janice and Maurie and Peter would call again.
15/7/05	Janice Daley	Grafton-Ngerrie LALC	Telephone	P. Kuskie	SEA	Peter discussed failure of LALC representatives to show for arranged meeting. Janice agreed to examine maps left by Peter at LALC office. Peter organised to telephone the following week to arrange another meeting, as Janice was reluctant to meet later that day.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
20/9/05	Unidentified staff member	DECC Coffs Harbour	Meeting	P. Kuskie	SEA	Peter enquired if Rebecca Edwards-Booth (DECC Archaeologist) or Kim Forsyth (RTA representative) available, but Rebecca on leave until end of month and Kim out of office. DECC confirmed that archaeologist Liam Dagg has left and presently there are no archaeologists on-duty at the regional office.
21/9/05	Tony Perkins, Ricky Cain and Cecil 'Bing' Laurie	Yarrawarra Aboriginal Corporation	Meeting	P. Kuskie	SEA	Met as agreed at Yarrawarra office prior to field inspection for Halfway Creek bora site.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
21/9/05	Tim	Coffs Harbour & District LALC	Telephone	P. Kuskie	SEA	Peter enquired if Chris or Mark were available, neither were. Peter undertook to call back.
29/9/05	Kym	Coffs Harbour & District LALC	Telephone	P. Kuskie	SEA	Peter enquired if Chris or Mark were available, neither were. Kym informed that Chris on leave until 10th October.
12/10/05	Chris Spencer	Coffs Harbour & District LALC	Telephone	P. Kuskie	SEA	Discussed properties owned by Coffs Harbour & District LALC in WWC study area. Peter undertook to fax plan to Chris for further discussion.
12/10/05	Chris Spencer	Coffs Harbour & District LALC	Fax	P. Kuskie	SEA	Peter faxed property location plan to Chris.
17/10/05 - 11/11/05	General Public	-	Media ad, Public display	GHD, RTA staff	GHD, RTA	Public notification and display of WWC route options at various locations including RTA office, Local Councils, local libraries and Yarrawarra Aboriginal Conference Centre
18/11/05	Peter Kuskie	SEA	Telephone	C. Spencer	Coffs Harbour & District LALC	Chris advised that several parcels of land have dwellings, Lot 174 near Red Rock was claimed under the Act, as was Lot 358 or 359 at Arrawarra Creek (with the other lot vested). Lots 358 and 359 have cultural values/significance.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
13/4/06	Secretary	Yarrawarra Aboriginal Corporation	Telephone	P. Kuskie	SEA	Informed that Milton is out of the office most of the day. Peter undertook to call back after Easter.
18/4/06	Secretary	Yarrawarra Aboriginal Corporation	Telephone	P. Kuskie	SEA	Informed that Milton is out of the office but will call back.
18/4/06	Peter Kuskie	SEA	Telephone	Milton Duroux	Yarrawarra Aboriginal Corporation	Milton advised that he thinks they have identified the bora location from the 1996 aerial photo but wants to confirm it with several other elders before calling Peter tomorrow with the information.
10/5/06	Peter Kuskie	SEA	Telephone	Tony Perkins	Yarrawarra Aboriginal Corporation	Tony will track down fax with Milton and ensure sent as soon as possible.
19/5/06	Secretary	Yarrawarra Aboriginal Corporation	Telephone	P. Kuskie	SEA	Informed that Milton and Tony are out of the office but will leave message with them regarding the fax.
23/5/06	Secretary	Yarrawarra Aboriginal Corporation	Telephone	P. Kuskie	SEA	Informed that Milton and Tony are out of the office but Peter left message advising that Simon or Shaun from GHD would call and visit on Thursday.
25/5/06	Milton Duroux	Yarrawarra Aboriginal Corporation	Meeting	Simon Pearce	GHD	Discussed bora location. Milton marked location of 1996 aerial photo.
27/5/06, 10/6/06	General Public	-	Media Ad	Mirella DiGenua	GHD	Advertisement placed in Coffs Harbour Advocate calling for interested Aboriginal persons/groups to register an interest in the WWC project.
27/5/06, 10/6/06	General Public	-	Media Ad	Mirella DiGenua	GHD	Advertisement placed in The Daily Examiner calling for interested Aboriginal persons/groups to register an interest in the WWC project.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
4/8/06	Manager	NSW Native Title Services	Letter	John Postle	GHD	Official request to notify of Aboriginal stakeholders/register interest in WWC project as per DECC policy
4/8/06	Manager	Coffs Harbour City Council	Letter	John Postle	GHD	Official request to notify of Aboriginal stakeholders/register interest in WWC project as per DECC policy
4/8/06	Manager	Clarence Valley Council	Letter	John Postle	GHD	Official request to notify of Aboriginal stakeholders/register interest in WWC project as per DECC policy
8/8/06	John Postle	GHD	Letter	Megan Mebberson	Office of the Registrar, Aboriginal Land Rights Act	Responded to GHD request by advising that there are no Registered Aboriginal Owners for the WWC project area.
11/8/06	John Postle	GHD	Letter	Brendan Diacono	DECC	Responded to GHD request by advising that 22 Aboriginal groups and/or individuals in addition to the relevant LALC's should be contacted in relation to the WWC project.
29/8/06	Tony Perkins	Yarrawarra Aboriginal Corporation	Fax	P. Kuskie	SEA	Advised of need to conduct another field inspection to define the location of the Halfway Creek bora and requested participation on 6/9/06.
31/8/06	Colin Skinner	Yarrawarra Aboriginal Corporation	Telephone	P. Kuskie	SEA	Discussed need to conduct another field inspection to define the location of the Halfway Creek bora and requested participation on 6/9/06. Colin was trying to contact all key people to confirm their availability.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
12/9/06	Cecil 'Bing' Laurie, Milton Duroux, Tim Cowan and Matt; Rod Duroux, Bunny Daley;	Yarrawarra Aboriginal Corporation; Grafton-Ngerrie LALC;	Meeting and Fieldwork	P. Kuskie Chris Gilmore Scott Lawrence	SEA, GHD, RTA	Inspected properties on east side of Highway for Halfway Creek bora site. Again there was difficulty in relocating the site, however the Elders were confident they had narrowed the location down and marked this on an aerial photo, and defined a broader area of general cultural sensitivity around that.
15/9/06	Tim Cowan	Yarrawarra Aboriginal Corporation	Email	P. Kuskie	SEA	Sent marked up location of bora on aerial photo with request for Yarrawarra to confirm details.
18/9/06	P. Kuskie	SEA	Email	Tim Cowan	Yarrawarra Aboriginal Corporation	Tim confirmed marked up location of bora on aerial photo is accurate.

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
7/2/07	Milton Duroux, Tim Cowan, Ricky Cain; Chris Spencer	Yarrawarra Aboriginal Corporation; Coffs Harbour LALC	Meeting	P. Kuskie Chris Gilmore Peter Steele Steve Williamson	SEA, GHD, GHD, RTA	<p>Aboriginal Focus Group Meeting. RTA apologised for Mary-Lou Buck's absence due to family circumstances. Peter Kuskie explained proposed methodology in detail and provided copies to groups for their review and comment.</p> <p>Chris Spencer expressed concern with Part 3A process and lack of protection for Aboriginal heritage. Peter and Steve assured Chris that all work would be undertaken to 'best practice' standards and DEC guidelines.</p> <p>Groups agreed with two representatives each to participate in survey, likely to occur end March/early April. Chris proposed that it would be best for the Elders to take them over the route by vehicle at the end of the survey, and before the draft report is prepared, due to mobility/health issues. Peter and Steve agreed and revised project methodology. Otherwise, groups all agreed in full with the proposed methodology.</p> <p>Chris advised that the 2 LALC's will overlap in the Dirty Creek Range area. Peter and Steve agreed this was not a problem.</p>

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Date	Person contacted	Organisation	How contacted	Contacted by	Organisation	Description
4/4/07	Tim Cowan	Yarrawarra Aboriginal Corporation	Email	P. Kuskie	SEA	Arranged meeting place for first day of fieldwork.
12/4/07	Tim Cowan, Ricky Cain, Mark Flanders, Gerrie Flanders	Yarrawarra, Coffs Harbour LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route. Commenced at southern end.
13/4/07	Tim Cowan, Ricky Cain, Cecil 'Bing' Laurie, Kenny Nayda, Gerrie Flanders	Yarrawarra, Coffs Harbour LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route.
16/4/07	Tim Cowan, Noeline Dootson, Brett Duroux, Rod Duroux	Yarrawarra, Grafton-Ngerrie LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route.
17/4/07	Tim Cowan, Milton Duroux, Brett Duroux, Rod Duroux	Yarrawarra, Grafton-Ngerrie LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route.
18/4/07	Tim Cowan, Milton Duroux, Brett Duroux, Rod Duroux	Yarrawarra, Grafton-Ngerrie LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route.
19/4/07	Tim Cowan, Ricky Cain, Brett Duroux, Janice Daley	Yarrawarra, Grafton-Ngerrie LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route.
20/4/07	Tim Cowan, Ricky Cain, Brett Duroux, Janice Daley	Yarrawarra, Grafton-Ngerrie LALC	Field Survey	P. Kuskie, V. Flynn	SEA	Field survey of WWC preferred route. Finished at northern end.
23/4/07	Tim Cowan	Yarrawarra Aboriginal Corporation	Email	P. Kuskie	SEA	Thanked for participation in fieldwork.
23/4/07	Chris Spencer	Coffs Harbour LALC	Email	P. Kuskie	SEA	Thanked for participation of LALC in fieldwork.

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Our reference : HOF70779 Your Ref: 21/13306/121534
Contact: Maxine Naden
Date: 11 August 2006

JOB No.			
ENTERED TO DATABASE			
INITIAL		DATE	
15 AUG 2006		REF. NO.	
		G55879	
NAME	INIT	DATE	ACTION

Mr John Postle
GHD Project Manager
10 Bond Street
SYDNEY NSW 2000

Dear Sir

ISSUE: WRITTEN NOTIFICATION OF PROPOSAL AS REQUIRED UNDER DEC INTERIM COMMUNITY CONSULTATION REQUIREMENTS FOR APPLICANTS - Pacific Highway Upgrade - Woolgoolga to Wells Crossing

I refer to your letter dated 4 August 2006 to the Department of Environment and Conservation (DEC) regarding the above matter.

Attached is the list of known Aboriginal parties that DEC feels is likely to have an interest in your development. Please note this list is not necessarily an exhaustive list of all interested Aboriginal parties and receipt of this list does not remove the requirement of a proponent/consultant to advertise in local print media and contact other bodies seeking interested Aboriginal parties, in accordance with the Interim Requirements.

If you wish to discuss any of the above matters further please contact Mrs Maxine Naden, Senior Aboriginal Heritage Planning Officer, on (02) 6659 8272.

Yours sincerely

BRENDAN DIACONO
Manager, Planning and Aboriginal Heritage
North East
Environment Protection & Regulation Division

Locked Bag 914, Coffs Harbour NSW 2450
Federation House Level 7, 24 Moonee Street,
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Department of Environment and Conservation NSW

ATTACHMENT 1

ABORIGINAL STAKEHOLDER GROUPS (OTHER THAN LOCAL ABORIGINAL LAND COUNCILS) ON CENTRAL MID NORTH COAST AREA THAT THE DEC HAS WRITTEN TO IN REGARD TO THE 'INTERIM COMMUNITY CONSULTATION REQUIREMENTS FOR APPLICANTS'.

Baryulgil Square Co-operative Society Ltd The Square BARYULGIL VIA GRAFTON NSW 2460	Benelongs Haven Limited Kinchela Creek via KEMPSEY NSW 2440
Burabi Aboriginal Corporation PO Box 123 WARDELL NSW 2477	Burra:Waj:Ad 48 Spring St GRAFTON NSW 2460
Collum Collum Aboriginal Corporation Collum Collum Station via BARYULGIL NSW 2460	Cultural Respect and Communication Consultants 62 Belmore Street SMITHTOWN NSW 2440
Dunghutti Aboriginal Elders Tribal Council 110 Old Burn Bridge Road KEMPSEY NSW 2440	Garby Elders PO Box 102 CORINDI BEACH NSW 2456
Gunbular Julipi Elders Council Aboriginal Corporation 2 Wonga Close SAWTELL NSW 2452	Gumbayngirr Nation 465 Bellwood Rd NAMBUCCA HEADS NSW 2448
Gumbila Julipi Elders 1 Shae Street COFFS HARBOUR NSW 2450	Gumbayngirr Warrior Elders of the Nambucca River C/- Muurbay Aboriginal Language and Cultural Co-operative Ltd Lot 465 Bellwood Road via NAMBUCCA HEADS NSW 2448
Guri Wa-Ngundagar Aboriginal Corporation PO Box 115 KEMPSEY NSW 2440	Milimi Mother Aboriginal Corporation 65 High Street BOWRAVILLE NSW 2449
Mudjay Elders 11 Anderton Street COFFS HARBOUR NSW 2450	Mulla Ngullingah Aboriginal Corporation 8 Lionel Rose Street c/- West Kempsey Post Office KEMPSEY NSW 2440
Ngurrala Aboriginal Corporation PO Box 62 MACKSVILLE NSW 2447	Nulla Nulla Boongutti Aboriginal Corporation C/- Willa Warren Post Office ARMIDALE ROAD via KEMPSEY NSW 2440
Stuarts Island Local Aboriginal Land Council Stuarts Island Tribal Elders Descendants 3 Ken Place SAWTELL NSW 2452	Wutuma Keeping Place Aboriginal Corporation PO Box 113 KEMPSEY NSW 2440
Yarrahappinni Aboriginal Corporation 39A Ocean Avenue STUARTS POINT NSW 2441	Yarrawarra Aboriginal Corporation PO Box 102 CORINDI BEACH NSW 2456

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D.3 Previous Aboriginal focus group minutes

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Item No.	Minutes	Action
	Tentative date for WWC fieldwork commencement is end of March 2007	PK to confirm start date and inform AFG
7.	Other Business	
	MD asked about the geotech works and whether or not they had proceeded. When told that the geotech works were completed he asked about the Kangaroo Trail site and why he was not invited to attend the works at this site. He stated that the area was noted as being sensitive and stated in his report that he wanted to attend.	CG to follow up with GHD geotech and provide feedback to MD.

Chris Gilmore
GHD Environmental Manager - Pacific Hwy

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Appendix E Current Aboriginal community consultation

E.1 Current summary

Table 3 Consultation log

Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
16 August 2010	NA	Josie Basilio	Email/mail	Registered Aboriginal stakeholders		Meeting invites: <ul style="list-style-type: none"> 19–20 August 2010 AFG Meeting 	
19 August 2010	2.00 pm-4.00 pm	Kate Wiggins Vanessa Edmonds	AFG 1 – Woolgoolga to Wells Crossing	Milton Duroux Tim Cowan Christopher Kirkbright Chris Spencer Leon Avuri-Williams Mary-Lou Buck Adam Cameron	Yarrowarra Cultural Centre incorporating Garby Elders Yarrowarra Cultural Centre Coffs LALC NSW Aboriginal Land Council RTA	From agenda: <ul style="list-style-type: none"> Update on Woolgoolga to Ballina Planning Alliance project. Update on Woolgoolga to Wells Crossing project. Draft methodology for Aboriginal heritage assessment. Nomination of people for specific Aboriginal cultural heritage services. Nomination of Aboriginal field assistants. Ongoing consultation – next steps. Other matters. 	<ul style="list-style-type: none"> Agenda items discussed. Outcomes: <ul style="list-style-type: none"> Aboriginal sites officers nominated and meeting date, time and place arranged. Identify the LALC and Traditional Nation boundaries. Chris Spencer stated he was happy to take advice from Garby Elders for cultural heritage within the Coffs Harbour LALC area. Boundary between two groups confirmed to be about Grays Road and McPhilips Road. See minutes for more detail
25 August 2010	All day	Vanessa Edmonds	Fieldwork – Woolgoolga to Wells Crossing	Ian Brown Mark Ferguson Milton Duroux Anthony Dootson Tim Cowan	Coffs Harbour LALC YAC & Garby Elders YAC Coffs Harbour LALC	Aboriginal site survey.	Outcomes: <ul style="list-style-type: none"> Surveyed on foot all accessible properties. Identified one new PAD to be surveyed (no property access), identified further potential PAD to be identified through desktop assessment of contours.
31 August 2010		Josie Basilio	Email/mail	Registered Aboriginal stakeholders		Minutes of 19/20 August 2010 AFG meeting	
9 September 2010	N/A	Josie Basilio	Email/mail	Registered Aboriginal stakeholders & Aboriginal stakeholders	All sections	AFG 2 invite sent out.	
10 September 2010	N/A	Josie Basilio	Email/mail	Registered Aboriginal stakeholders & Aboriginal stakeholders	All sections	Statement of findings for each section sent out to relevant stakeholders.	<ul style="list-style-type: none"> Response on 14 September 2010 from Wes Fernando (Grafton-Ngerrie LALC) see below. Response on 15 September 2010 from Tracey King (Ngulingah LALC) see below.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
14 September 2010	10.35 am	Josie Basilio	Email	Wes Fernando (CEO)	Grafton-Ngerrie LALC	<p>From Wes Fernando:</p> <p><i>"I must say I am disheartened by the amount of notice given, 5 days notice is absolutely not sufficient, I am not available to attend this meeting because of the lack of notice given, these meetings are highly important to the Aboriginal community.</i></p> <p><i>I also received a document entitled 'Agreement to provide services'</i></p> <p><i>As you were informed at the first AFG meeting we will not be dictated to, this agreement is dictation at the highest level.</i></p> <p><i>I am letting you know we will not sign anything until you provide sufficient timeframes to review these documents and negotiate terms.</i></p> <p><i>You need to understand that we are not at your 'beck and call' we expect meaningful consultation with suitable timeframes which will produce the expected outcomes for all parties through negotiation.</i></p> <p><i>Please contact me ASAP to negotiate terms."</i></p>	<ul style="list-style-type: none"> ■
15 September 2010	2.00 am-4.00 pm	Kate Wiggins/Vanessa Edmonds	AFG 2-Woolgoolga to Wells Crossing	Anthony Dooston Craig Craigie Graham Purcell Scott Smith	Yarrawarra Cultural Centre NSW Aboriginal Land Council RTA	No formal agenda.	<p>Items discussed / Outcomes:</p> <ul style="list-style-type: none"> ■ Discussed results of field survey as per fieldwork summary. ■ Discussed that potential PAD to be identified through desktop assessment of contours showed that it was on low land and therefore not a PAD but Tony requested this be marked as a PAD for survey. ■ Discussed new impact on previously registered isolated artefact (AHIMS ID: 22-1-0545). Anthony Dootson stated it must be collected. <p>See minutes for more detail.</p>

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
16 September 2010	9.00 am	Kate Wiggins Vanessa Edmonds	Meeting	Sarah Paddington Rosalie Neve	DECCW-Coffs Harbour	Meeting to discuss project.	<ul style="list-style-type: none"> ■ Use DOP guidelines ICCR 2004. ■ Re consultation – will for documentation above and beyond. Include any letters, emails in Appendices. ■ EA-proposed locations must be identified for compounds, storage, haulage areas etc. Many community members disappointed that ALL associated activities NOT identified at assessment stage. These locations, like proposed quarries must be introduced into talks at an early stage of the process so there are no surprises. ■ Geotech, from the 1 October 2010 not legal under due diligence. Need AHIP but need to liaise with DOP. ■ No DGRs yet so still needs to be assessed under DECCW guidelines. ■ Discussed new Code of Practice and Due Diligence and how these will need to be followed to comply with Part 6 of the NPW Act of DGRs not received. ■ It was mentioned that Ballina people were happy that the alignment had been moved during the options assessment. ■ Landform testing – elevated areas around swamps. ■ Discussed definition of PAD – scientific vs cultural (must have good information/oral history or sites present). ■ Where PAD identified for cultural reasons can use machinery for testing but not on scientific PADs. ■ Recommended liaison with Ashley Moran (DECCW Aboriginal Sites Officer for Ballina area).
21 September 2010	4.17 pm	SKM	Email	Tim Cowan Chris Spencer	Coffs LALC & Yarrawarra Aboriginal Centre	Re potential PAD to be surveyed in the W2WC section in response to Tony Dootson requesting that potential PAD be surveyed (AFG 2). Stated that the project corridor in that area had changed and now was no longer included therefore no reason to survey.	
7 October 2010		Josie Basilio	Email	Registered Aboriginal stakeholders		Site Officers' contracts.	Chased-up signed contracts.
8 October 2010	Various	Vanessa Edmonds	Email	Registered Aboriginal stakeholders	Yaegl LALC Yarrawarra Aboriginal Corporation Grafton-Ngerrie LALC	Sent fieldwork summaries including proposed methodology; template letter for methodology approval and RTA nomination form for Aboriginal Sites Officers	No response as yet.
11 October 2010	1.10 pm	Vanessa Edmonds	Phone	Ashley Moran (Aboriginal Heritage Conservation Officer)	DECCW	Vanessa Edmonds called to discuss Woollogoolga to Ballina Pac Highway Upgrade and Concept Corridor. Asked Ashley Moran what his interest would be in attending meetings or having project info updates.	Stated his main interest area was Broadwater to Ballina. Mentioned Indigenous protected land occurring along project corridor (this is actually only a very small amount of Jali LALC land) near Lumley's Lane. He has had quite a bit to do with Ballina Shire Council and Jali LALC.
11 October 2010	1.13 pm	Vanessa Edmonds	Email	Ashley Moran	DECCW	Emailed contact details to Ashley Moran.	No response.
11 October 2010	1.46 pm	Vanessa Edmonds	Phone	Wes Fernandez	Grafton-Ngerrie LALC	Discuss email sent regarding fieldwork summary, letter of agreement for fieldwork methodology (Shark Creek alignment) and nomination form for Aboriginal Sites Officers.	Wes away till next week.

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
19 October 2010			Letter	Agencies seeking nomination of stakeholders.		Letters to agencies seeking nomination of stakeholders were sent on 19 October 2010 with a closing date of 3 November 2010.	
20 October 2010	1.48 pm	Vanessa Edmonds	Email		Ulgandahi	Sent Agenda for AFG 2.	No response.
20 October 2010	1.38 pm	Vanessa Edmonds	Email		Mullum	Sent Agenda for AFG 2.	No response.
25 October 2010	4.44 pm	Vanessa Edmonds	Email	Tim Cowan	Yarrawarra Aboriginal Corporation	Acknowledgement of nomination forms and agreed methodology received from Yarrawarra.	
26 October 2010		Josie Basilio	Email/Mail	Registered Aboriginal stakeholders		Minutes of 15 September 2010 meeting sent out.	
3 and 17 November 2010			Advertisement	Any stakeholder with interest		Advertisement in the <i>The Koori Mail</i> regarding the AFG on the 8 December 2010.	
11 November 2010	2.15 pm	Vanessa Edmonds	Email	Tim Cowan	Yarrawarra Aboriginal Corporation	<p>Pointed out no sites/PADs in early works in that section Woolgoolga to Wells Crossing therefore unlikely there will be any action till next but I will keep them informed.</p> <p>Talk about process from here and potential for work at later stage of project.</p> <p>Asked if Yarrawarra close down over Christmas and if so what are the dates.</p>	No response.
11 November 2010			Letter		DECCW nominated stakeholders	DECCW nominated 11 potential stakeholders. Letters were sent on the 11 November 2010 to those nominated stakeholders seeking registration of interest. The closing date for registration was 2 December 2010.	
11 and 25 November 2010			Advertisement	Any stakeholder with interest		Advertisement in the <i>Ballina Shire Advocate</i> regarding the AFG on the 8 December 2010.	
11 and 25 November 2010			Advertisement	Any stakeholder with interest		Advertisement in the <i>National Indigenous Times</i> regarding the AFG on the 8 December 2010.	
November 2010			Advertisement	Any stakeholder with interest		Advertisement in <i>The Northern Star</i> regarding the AFG on the 8 December 2010.	
November 2010			Advertisement	Any stakeholder with interest		Advertisement in <i>Deadly Vibe Magazine</i> regarding the AFG on the 8 December 2010.	
November 2010			Advertisement	Any stakeholder with interest		Advertisement in <i>In Vibe Magazine</i> regarding the AFG on the 8 December 2010.	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
2 February 2011		Vanessa Edmonds	Mail			Attached sub-surface testing methodology for review and comments/approval to conduct sub-surface testing at an early works site for the Woolgoolga to Ballina Pacific Highway Upgrade. Also attached : <ul style="list-style-type: none"> ■ Letter of agreement with the methodology Sites Officer nomination form. ■ Included self-addressed envelope postage paid. 	
5 October 2011	1.30-3.35 pm	Vanessa Edmonds Joseph Brooke Chris Gorman	AFG 3 – Woolgoolga to Wells Crossing	Mark Ferguson Chris Spencer Milton Duroux	Garlimbirla Guyuu Girrwa Coffs Harbour & District Local Aboriginal Land Council Garby Elders and Yarrawarra Aboriginal Corporation	<ul style="list-style-type: none"> ■ Discussion of the project being considered as one upgrade (Woolgoolga to Ballina). ■ Explanation of sub-surface testing methodologies. ■ Timing of excavations introduced. 	<ul style="list-style-type: none"> ■ Discussion and questions concerning testing methodology. ■ Information about the concept design is to be sent to Aboriginal stakeholders. ■ Group maps with the locations of LALC boundaries and sites to be sent out.
15 November 2011		Robyn Jenkins	Fieldwork – Woolgoolga to Wells Crossing	Brett Duroux Milton Duroux Rod Duroux Tony Dootson	Grafton-Ngerrie LALC Garby Elders and Yarrawarra Aboriginal Corporation	Discussion with Grafton-Ngerrie and Garby representatives regarding methodology, further testing and reporting.	Brett Duroux is writing a report for Grafton-Ngerrie LALC – can provide photos and co-ordinates. Email Brett Duroux a map of the sites. Rod Duroux happy with level of work.
16 November 2011		Robyn Jenkins	Fieldwork – Woolgoolga to Wells Crossing	Brett Duroux Milton Duroux Rod Duroux Tony Dootson	Grafton-Ngerrie LALC Garby Elders and Yarrawarra Aboriginal Corporation	Discussion regarding need for further excavation at WWC135.	Rod Duroux was expecting more artefacts. Milton Duroux commented on no need to further west, north-west due to erosion, but suggested six more STPs south of the creek.
18 November 2011		Josie Basilio	Email	Chris	Coffs Harbour LALC	Chris has been sent an email to invite his group to the AFG.	
18 November 2011		Garry McPherson	Letter – AFG invitation	All registered and other Aboriginal stakeholders			
29 November 2011		Mike Jones	Fieldwork – Woolgoolga to Wells Crossing	Mark Flanders Jake Kennedy Rick Cain Milton Duroux	Coffs Harbour LALC Garby Elders and Yarrawarra Aboriginal Corporation	Discussion with TOs about excavating another transect at WWC39.	Agreed to add in another transect.
5 December 2011		Robyn Jenkins	Fieldwork – Woolgoolga to Wells Crossing	Mark Flanders Rick Cain Milton Duroux	Coffs Harbour LALC Garby Elders and Yarrawarra Aboriginal Corporation	Discussion with Mark Flanders and Rick Cain regarding the blueberry patch at WWC46. Robyn suggested they think about controlled mechanical excavation and potential hand excavation (1 x 1 m) – Robyn had yet to see the site – as this would enable controlled recovery and a possibility to date site.	After discussion Mark Flanders and Rick Cain said they would speak with their AFG reps. Mark said the blueberry property was very important.

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5 December 2011		Robyn Jenkins	Fieldwork – Woolgoolga to Wells Crossing	Mark Flanders Rick Cain Milton Duroux	Coffs Harbour LALC Garby Elders and Yarrowarra Aboriginal Corporation	Discussed excavating STPs at Kangaroo Trail Road to Sherwood Creek PAD with Mark Flanders, Rick Cain and Milton Duroux.	Mark Flanders, Rick Cain and Milton Duroux insisted excavating at Kangaroo Trail Road to Sherwood Creek PAD would be a waste of time. Robyn stated that whole PAD could not be ruled out and that she needed to see the other end (council land).
6 December 2011		Robyn Jenkins	Fieldwork – Woolgoolga to Wells Crossing	Mark Flanders Mark Ferguson Jake Kennedy Rick Cain Milton Duroux	Coffs Harbour LALC Garby Elders and Yarrowarra Aboriginal Corporation	Further discussion of Kangaroo Trail Road to Sherwood Creek PAD. Location (of a swamp and roadway) was considered.	Rick Cain pointed out a road where artefacts had been found prior (with a sub-division). Decided no requirement for excavation. Mark Flanders suggested that adjacent (sub-divided) properties have a few STPs as they've found artefacts on track within sub-division.
8 December 2011	3 pm	Josie Basilio	Phone and email	All registered Aboriginal parties	Coffs Harbour LALC Garby Elders and Yarrowarra Aboriginal Corporation Grafton-Ngerrie LALC Garlimbirla Guyuu Girrwa	The RAPs for the AFGs confirmed for the 13 and the 14 of December 2011.	
13 December 2011	2:40 pm	Josie Basilio	Email	Wesley Fernando	Grafton-Ngerrie LALC	An invite has been sent to Wesley Fernando and the Grafton-Ngerrie.	
13 December 2011	9:30 -11:30am	Vanessa Edmonds Joseph Brooke Garry McPherson Ken Robinson	AFG 4 – Woolgoolga to Wells Crossing	Milton Duroux Deborah Dootson Anthony Dootson Noeline Dootson Simon Wilson Roy Marsh Ben Churton Graham Purcell Rowena Mitchell	Garby Elders and Yarrowarra Aboriginal Corporation Garby Elders RMS	<ul style="list-style-type: none"> ■ Discussion of the sub-surface testing results at each site. ■ Re-stated the methodology used for sub-surface testing. ■ Stated the sub-surface testing still needed to be done at Dirty Creek PAD as there had been access issues. ■ Discussion of mitigation measures: reburial of artefacts to sites that would be impacted and avoidance of sites. ■ Discussion of design changes (such as those made for fauna connectivity). ■ Discussion of ancillary sites and whether or not there was a need to survey these new locations if they existed outside the current design boundary. ■ Geotechnical works were discussed. 	<ul style="list-style-type: none"> ■ Joseph to investigate whether care and control permit process has changed and update group if necessary. ■ Milton to advise whether any further survey required for widened median. ■ Joseph and Vanessa to organise further survey of ancillary sites where required. ■ Vanessa said we should work out a strategy for how we deal with the geotechnical work, rather than agreeing on each geotech site. ■ Next AFG is tentatively scheduled for early February 2012.
10 January 2012	1:50 pm	Vanessa Edmonds	Email	Chris Gorman		Information for SKM about DGRs. The current DGRs refer to the DEC 2005 guidelines. The 2004 interim consultation document has been replaced by OEH consultation requirements. The Aboriginal groups are being consulted about transitioning to the new requirements.	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
20 June 2012		Vanessa Edmonds	Letter	Lance Manton Norma Collins Tori Edwards Bill Drew EJ Williams Wes Fernando Ms Rowe Chris Spencer Carla Di Giusto Mr Gardiner Ms. Kapeen Lois Cook Mr Hinton Veronica Williams	Bogal LALC Birrigan Gargle LALC Banjalang Native Title Claimants Bandjalang LALC Yarrowarra Aboriginal Corporation Grafton-Ngerrie LALC Garlambirla Guuyu-girrwa Corporation Coffs Harbour and District LALC Yaegl Native Title Claimants Burra:way Wa:jad Traditional Owners Group Yaegl LALC Burabi Aboriginal Corporation Ngulingah LALC Jali LALC	CHARs sent out for review, Woolgoolga to Wells Crossing, Wells Crossing to Iluka Road and Iluka Road to Woodburn.	
22 June 2012		Vanessa Edmonds	Letter		Garlambirla Guuyu-girrwa Corporation Burra:way Wa:jad Traditional	CHARS returned: address incorrect.	
26 June 2012		Joseph Brooke	Phone call	Mark Flanders	Garlambirla Guuyu-girrwa Corporation	JB called Mark to explain that Vanessa Edmonds had spoken to Mark Fergusson; to determine if he knew whether Sandra Rowe was attending the AFG held today.	Mark said that Sandra was no longer associated with the group. During the conversation, JB explained to Mark that Sandra had accepted, but was in not attendance at the AFG. Mark said that he was the Chair of the group and confirmed that Sandra no longer had anything to do with the group, and explained that she should have said so, and said who to contact. Mark confirmed that Richard Widders (secretary) was the appropriate contact and should be sent a copy of the CHAR for the group. Mark didn't have Richard's contact details, but we said we did, and Mark also said to call Richard after working hours, as he works at a hospital during the day.
26 June 2012	9: 15 am	Vanessa Edmonds	Phone Call	Mark Fergusson	Garlambirla Guuyu-girrwa Corporation	Called Mark Fergusson to ask whether Sandra Rowe was going to the AFG. Mark said Sandra doesn't have anything to do with Elders anymore and that we should be talking to Richard Widders (Secretary) or Mark Flanders (Chairperson). I thanked him and apologised for mix up as Sandra had indicated that she was still involved by saying she would attend the AFG.	

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26 June 2012	10:00 am	Vanessa Edmonds	Phone Call	Mark Fergusson	Garlambirla Guuyu-girrwa Corporation	Vanessa rang Mark to notify him that SKM had sent the CHAR to an address in Grafton. Mark said that was wrong, but didn't know the correct address. He said he would be talking to Mark Flanders later in the day and would ask him. He also said there was a meeting of the Elders on Thursday night they could discuss it at.	
26 June 2012	9:00 am	Vanessa Edmonds Joseph Brooke David Collard Simon Wilson	AFG 5 – Woolgoolga to Wells Crossing	None		<ul style="list-style-type: none"> ■ AFG was cancelled due to a lack of attendance from relevant stakeholder groups. ■ Site recommendations for the Grafton-Ngerrie LALC sites in the Woolgoolga to Wells Crossing section were presented in the Wells Crossing to Iluka Road AFG. 	
26 June 2012	2:15 pm	Vanessa Edmonds	Phone Call	Richard Widders	Garlambirla Guuyu-girrwa Corporation	Richard called Vanessa to explain the situation (of Sandra leaving and a change of address) and apologised. He said that it was really Sandra's fault and that we should email the CHAR to him.	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
26 June 2012	2:42 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p><i>Hi Richard,</i></p> <p><i>As requested, please find attached the Aboriginal cultural heritage assessment report for the Woolgoolga to Wells Crossing Pacific Highway Upgrade. The report is divided into the Aboriginal cultural heritage assessment report (Volume 1), the archaeological assessment (Appendix A, Volume 2), and other supporting information (remainder of appendices in Volume 2).</i></p> <p><i>In accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, a 28-day period for reviewing and providing comment on this report commences on receipt of the report (accompanying this letter).</i></p> <p><i>In providing your comment, please provide any general or specific comments on the report, and also please include your support, conditional support (support with conditions you propose), or otherwise for the management recommendations included in the report for each site or place. Please ensure you provide your comments within the 28-day period to ensure that they are able to be considered in the project and final report.</i></p> <p><i>If you have any questions, please don't hesitate to contact me (contact details in my signature below), or Vanessa Edmonds (vedmonds@globalskm.com or 0429 114 188).</i></p> <p><i>Kind regards,</i> <i>Joseph</i></p>	
26 June 2012	3:39 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p><i>Hi Richard,</i></p> <p><i>Here's Volume 2 of the assessment. If you could let me know you've got both volumes, that'd be great.</i></p> <p><i>Many thanks,</i> <i>Jo</i></p>	

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27 June 2012	10:33 am	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p><i>Hi Richard,</i></p> <p><i>This bounced for me, I guess you have a 10MB email limit.</i></p> <p><i>I've split this second volume into two parts, with the first part attached.</i></p> <p><i>So now you should have Volume 1, and Volume 2 in 2 parts (first in this email, and other part in next email).</i></p> <p><i>Would you mind please sending me a quick email to let me know that you have got all the files?</i></p> <p><i>Many thanks,</i> <i>Joseph</i></p>	
5 July 2012		Joseph Brooke	Phone	Chris Spencer	Coffs Harbour LALC	Got onto Chris Spencer regarding W2WC CHAR and he said that he will also try start looking at it on Monday and try sit down with Mark Flanders and give us feedback.	
6 July 2012		Joseph Brooke	Phone	EJ Williams	Yarrawarra Aboriginal Corporation	Called EJ this morning regarding W2WC and WC2IR CHARs and he said he and Milton will try sit down on Monday arvo to review the CHARs; we should call him after that to get feedback.	
6 July 2012		Joseph Brooke	Phone	Richard Widders	Garlambirla Guuyu-girrwa Corporation	Called Richard Widders and left a message asking him to call back to update us on when he is hoping to give us feedback on the CHARs.	
6 July 2012		Joseph Brooke	Phone	Wes Fernando	Grafton-Ngerrie LALC	Rang to discuss CHARs, no answer	
11 July 2012	12:13 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p><i>Sorry joseph</i></p> <p><i>Yes I have received and passed onto our chair Mark Flanders, who will review in conjunction with Mark Ferguson, field officer</i></p> <p><i>cheers</i></p> <p><i>Yours</i> <i>Richard Widders</i></p>	
19 July 2012		Joseph Brooke	Phone	Chris Spencer	Coffs Harbour LALC	Progress of CHAR (W2WC) review.	Called Chris Spencer regarding the CHAR and he hasn't yet had a chance to look at it. Gave him a reminder that the review period ends next Wednesday, and that it would be difficult to incorporate any comments received after this date due to the tight timeframes involved with the project. He said that he is very busy at the moment, and I said I appreciate that, and that a lot of people are very busy at the moment.

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19 July 2012	2.30 pm	Dave Collard	Phone	EJ Williams	Yarrowarra Aboriginal Corp	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August)	EJ stated he hasn't yet had a chance to look at it. Needs to get the Garby Elders together to also look at it. Gave him a reminder that the review period ends next Wednesday, and that it would be difficult to incorporate any comments received after this date due to the tight timeframes involved with the project. EJ said he is meeting with Garby elders on Monday (23 July) and should be able to submit comments that afternoon.
19 July 2012	2.40 pm	Dave Collard	Phone	Wes Fernando	Grafton-Ngerrie	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August)	No answer. Left voicemail message.
19 July 2012	2.45 pm	Dave Collard	Phone	Richard Widders	Garlambirla Guuyu-girrwa Corporation	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August)	No answer. Left voicemail message.
19 July 2012	2.50 pm	Dave Collard	Phone	Noeline Kapeen	Yaegl LALC	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August)	No answer. Left voicemail message.
19 July 2012	3.30 pm	Dave Collard	Phone	Ken Laurie	Birrigan Gargle LALC	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August)	Gave Ken a reminder that the review period ends next Wednesday, and that it would be difficult to incorporate any comments received after this date due to the tight timeframes involved with the project. Ken Stated that he had no concerns with the current recommendations, but was concerned that the corridor might impact upon swampy areas between Tyndale and Tucabia. I confirmed with Ken that the corridor is located to the east of this area, along higher ground.
19 July 2012	2.50 pm	Dave Collard	Phone	Lionel Gardner	Burra:way Wa:jad Traditional Owners Group	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August)	Number not connected.
20 July 2012	1.30 pm	Dave Collard	Phone	Wes Fernando	Grafton-Ngerrie	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August) Was not able to talk. Said he would call me back on Monday.	
23 July 2012	19.45 am	Dave Collard	Phone	Mark Flanders	GGGEC	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August) Mentioned to mark that I had not been able to get in touch with Richard Widders (GGGEC secretary). Mark suggested that he might be able to go through the CHAR with Jo and Ian brown whilst doing fieldwork for WC-U this week.	
23 July 2012	9.45 am	Dave Collard	Email	Richard Widders	GGGEC	Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August) Dear Richard, I hope you are well. I would just like to follow up on the CHAR/Arch Assessment for the Woolgoolga to Ballina Pacific Highway Upgrade (Woolgoolga to Wells Crossing section) that was sent in June:	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
						<ul style="list-style-type: none"> ■ How is the review going? ■ Have the Garlambirla Guuyu-girrwa Elders Corporation come across any issues, or have any questions, they would like to discuss about any of the recommendations (or general issues)? ■ The period where the Garlambirla Guuyu-girrwa Elders Corporation can provide comment on the CHAR/Arch Assessment ends this week (Wednesday 25 July). Please make sure any comments are sent by this date, so they can be incorporated into the report. ■ When providing feedback, is it possible to do so in written form, on letter head? (We are happy to receive it scanned and emailed, by fax or post). ■ Please ensure that any response is done is as much detail as possible, and that the comments are broken down (for example, "We agree with this part, but not this part"). ■ Also, if the Garlambirla Guuyu-girrwa Elders Corporation would like information on certain features of the CHAR/Arch Assessment (such as sites) to be restricted from public view, could you please provide information on which aspects. <p>While not in relation to the CHAR review, I'd also like to inform you that SKM is planning to undertake the ancillary areas survey/sub-surface testing work in mid-late August. We will be in touch with more information closer to the date.</p> <p>Kind regards, David Collard</p>	
23 July 2012	10:07 am	Dave Collard	Email	Richard Widders	GGGEC	<p>Progress of CHAR (W2WC) review. Possible timing of ancillary survey/SST (mid-late August) Hello David Thank you very much for this opportunity The documentation was forwarded to our Chair Mr Mark Flanders, to-date I have received no comments on this. I will attempt contact him today. Yours Richard Widders</p>	
23 July 2012	10:18 am	Vanessa Edmonds	Email	Richard Widders	GGGEC	<p>Hello Vanessa I'm hoping you can assist me please Could you confirm with me re this report, if You may have initially contacted Ms Sandra Rowe (previous secretary for the Garlambirla Guuyu-girrwa) re attendance at a meeting re this report I feel I can recall you speaking with me</p>	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
						<p>about this and our Chair Mr Mark Flanders requires confirmation that Ms Rowe did or did not attend</p> <p>did attend as a community person</p> <p>did attend as a Elders rep</p> <p>Happy to discuss further</p> <p>Richard Widders</p> <p>0402 998 790</p>	
23 July 2012	11:46 am	Vanessa Edmonds	Email	Richard Widders	GGGEC	<p>Hi Richard,</p> <p>Please find below Sandra's attendance at AFGs</p> <ul style="list-style-type: none"> ■ 19 August 2010 No ■ 15 September 2010 ? ■ 5 October 2011 Sandra sent apologies ■ 13 December 2011 No – Mark sent apologies ■ 26 June 2012 No <p>At all the ones she has attended it has been as a rep for the Garlambirla Guuyu-girrwa. She did not attend last AFG (26 June 2012) but did accept the invitation without stating that circumstances had changed and that she no longer represented the Garlambirla Guuyu-girrwa.</p> <p>Sorry we had no idea. We didn't even know that Mark Flanders was chairperson even though we've worked so much with him and Mark Ferguson.</p> <p>Do you require me to send you copies of all previous minutes from AFGs since we commenced with the project in 2010? I can email them to you.</p> <p>Regards Vanessa</p>	
23 July 2012	12:14 pm	Vanessa Edmonds	Email	Richard Widders	GGGEC	<p>Hi Vanessa</p> <p>Thank you for your information.</p> <p>Ms Rowe resigned in late 2011 and I have been attempting to "sort" out the old/new and non-essential stuff since E-mailed copies would be great for our "new" records</p> <p>The "old" filing system was (still is with some old info) a paper based system with many flaws</p> <p>I have now introduced Electronic minute taking, invoices, power point and lap top with projector meetings</p> <p>As you would no doubt know; being able to "bring" info up in a second has been invaluable for the group</p> <p>Thank you for your continued assistance</p> <p>Yours</p> <p>Richard Widders</p>	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
23 July 2012	12:31 pm	Amanda Goldfarb	Email	Richard Widders	GGGEC	Dear Richard, Please find attached the AFG minutes for the AFGs held from 2010-2012. If you have any questions, please don't hesitate to contact Vanessa or myself. Kind regards, Amanda	
24 July 2012	9:20 am	Vanessa Edmonds	Email	Mark Flanders	GGGEC	Giinagay (Hello) As the Senior sites and Heritage Officer with CHDLALC and chair of the Garlambirla Guuyu Girrwa (Coffs Harbour Elders Group) I am in agreement with comments that were made by Chris Spencer. Grinding grooves have been proven to exist in other areas and were often submerged by water or land sediments. There may also be ceremonial sites that could have physical or non physical evidence, this is known by talking with Elders in the past that have since passed away. I do have a concern with future works in the areas, as I have seen by working on previous major road upgrades. In a lot of cases the plans that we view and the works areas are different, we need to be informed of any changes to works. There should be Aboriginal Cultural Heritage training to all people working on our country, and this should be delivered by the traditional owners of country. All recommendations by site officers should be taken into account as our cultural knowledge may not be able to be interpreted by mainstream archaeologists. A position for site officers should be made so that they can oversee all works that occur during ground disturbance (not as monitors) during the duration of the upgrades.	
24 July 2012	9:22 am	Vanessa Edmonds	Email	Mark Flanders	GGGEC	Thank you for your comments Mark we will ensure these are incorporated into the CHAR before finalisation. Thank you for your time and consideration of the report. Regards Vanessa	
27 July 2012	2.36 pm	Dave Collard	Phone	EJ Williams	Yarrawarra AC	Chasing up submissions from (W2WC) review. Went through report with Garby Elders on Monday 24th and left paperwork with Uncle Milton. Hasn't received anything in return. Will chase up on Monday 31st. I explained that if there are any concerns with the recommendations in the report, it is up to them to let us know.	
27 July 2012	2.45 pm	Dave Collard	Phone	Wes Fernando	Grafton-Ngerrie	Chasing up submissions from (W2WC)	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
						review No Answer. Left Message.	
30 July 2012	10:35am	Vanessa Edmonds	Email	Wes Fernando	Grafton-Ngerrie LALC	The review period for the CHARs ended last Wednesday, just needed to confirm that there were no comments.	
30 July 2012	11:03am	Vanessa Edmonds	Email	Wes Fernando	Grafton-Ngerrie LALC	It is incorrect to assume that there are no comments. Wes is the only person in the office and he is currently on sick leave. He will look at the CHAR when he has time to, hopefully in the next week.	
30 July 2012	11:05am	Vanessa Edmonds	Email	Wes Fernando	Grafton-Ngerrie LALC	Thank you for the clarification. Please advise if help is needed.	
1 August 2012	12:24pm	Vanessa Edmonds	Email	Wes Fernando	Grafton Ngerrie LALC	Attached the comments for the CHAR and cc in all the other LALCs in the area.	
1 August 2012	12:56pm	Vanessa Edmonds	Email	Wes Fernando Veronica Williams	Grafton Ngerrie LALC Jali LALC	Forwarded Wes's Comments to Veronica	
1 August 2012	2:35 pm	Vanessa Edmonds	Email	Wes Fernando	Grafton Ngerrie LALC	<p>Some queries about the comments:</p> <p>The Aboriginal legends and stories have been brought up at AFGs to see if they were considered to be confidential. No stakeholders have expressed an issue with them</p> <p>The statement that the stakeholders were not happy with the recommendations. Does this include the ones previously discussed at AFG's when everyone seemed to be in agreement?</p> <p>Are the main issues – financial, lack of possibilities for monitoring and lack of notice for the AFGs?</p> <p>Requests to identify other knowledge holders have been made previously at AFGs and whilst on fieldwork</p> <p>The legislation that was mentioned will be inserted</p> <p>The minutes from the AFGs have been attached in case they had not been previously sent.</p>	
3 August 2012	9:55 am	Vanessa Edmonds	Email	Chris Spencer	Coffs Harbour LALC	<p>In response to Wes Fernando's Letter: It's about time these rogues were held to account.</p> <p>I did notice you omitted the lack of employment opportunities for our mobs and the AFG's should be taken seriously when we push for meaningful employment. But yet again we're fobbed off as being Aboriginal so they don't need to do anything more. We have C&H employment which is sufficient.</p> <p>We the coastal LALC's where the majority of this work is happening need to stand together and possibly show (media maybe) what is really going on to get these highways completed. Regardless of whether the State and Federal Governments are incompetent and are bowing to public pressure to get them finished.</p> <p>Anyway I would be happy to meet further</p>	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
						to discuss. Could we pressure our Councillors to hold a workshop on this issue with LALC's that are affected and maybe affected into the future.	
9 August 2012	10:56 am	Rebecca Andrews	Phone	EJ Williams	Yarrawarra Aboriginal Corporation	Did not pick up	
9 August 2012	11:25 am	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	<p>I was wondering if Yarrawarra or the Garby Elders had any comments on the Woolgoolga to Wells Crossing and/or Wells Crossing to Iluka Road Aboriginal cultural heritage reports we provided you about 5 or 6 weeks ago?</p> <p>The official comment period has closed and we're now in the process of finalising the reports and was hoping to get any comments you, or Milton, or anyone else from Yarra or Garby this week, so that we can include them in the final reports, as we'd love to be able to consider any suggestions or comments you have in amending the report.</p> <p>If we don't get the comments this week, it'll be pretty difficult to include them in the report, as this report needs to be attached to the overall Environmental Impact Statement for the project, which will be finalised soon and submitted for assessment, after which changes become more difficult.</p> <p>If you'd rather give the comments over the phone, or another way, give me a buzz to talk about.</p>	
9 August 2012	6:23 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	Comments on the CHAR will be sent asap. Need to confirm them with Milton	
10 August 2012	9:12 am	Joseph Brook	Email	EJ Williams	Yarrawarra Aboriginal Corporation	If the comments could be sent through today it would be great.	
13 August 2012	5:22 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	Giina Jo, I have received no comments from Uncle Milton for either report.	
15 August 2012	9:52 am	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	<p>Thanks for the update EJ,</p> <p>I know you're not a mind-reader (well it'd be news to me anyway!), but do you think he wants to make any comments, or is he happy with the report, or isn't interested in giving comments do you think?</p> <p>I could give you both a call sometime if you'd like?</p> <p>Cheers,</p> <p>Jo</p>	
20 August 2012	12:25 pm	Joseph Brooke	Phone	Milton Duroux EJ Williams	Yarrawarra Aboriginal Corporation (incorporating the Garby Elders Group)	Jo spoke to Milton regarding the Woolgoolga to Wells Crossing, and Wells Crossing to Iluka Roads CHARs and he said that he had looked over some parts of them, and that the reports were good, and he was happy with the recommendations.	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
24 August 2012	1:05 pm	Vanessa Edmonds	Email	Wes Fernando	Grafton-Ngerrie LALC	Sent a reply to Wes Fernando's letter, received on the 1 August 2012.	Letter included in this Appendix (E.4)
4 September 2012	4:33 pm	Joseph Brooke	Email	EJ Williams Wes Fernando Chris Spencer Mark Flanders Richard Widders	Yarrawarra Aboriginal Corporation Grafton Ngerrie LALC Coffs Harbour LALC Coffs Harbour LALC Garlambirla Guuyu-girrwa Corporation	Further to the invite you should have received for an AFG meeting on Wednesday 19th September to discuss proposed geotechnical investigations at Corindi Creek and proposed archaeological methodologies in those locations, please find attached the proposed methodology for the archaeological investigations. Please take receipt of this email as beginning of a 28-day period within which to provide comment on this methodology. If you have any comments on the methodology, to ensure they're able to be incorporated, please send them through before 3 October 2012, but preferably earlier than this – if possible by or at the AFG on 19 September.	
11 September 2012		Joseph Brook	Phone	Brett Tibbet	Grafton Ngerrie LALC	Called Grafton-Ngerrie LALC to organise site officers for the ancillary investigations. Wes Fernando is no longer working there, Brett Tibbet will be acting in his position until a replacement is found. He has all the same contact details.	
11 September 2012	3:04 pm	Joseph Brooke	Email	Chris Spencer	Coffs Harbour LALC	We're planning those ancillary area investigations Woolgoolga to Wells Crossing that were spoken about at the last AFG meeting. Exact dates are still coming together, as we progressively receive property access permissions. I was wondering if you would have a site officer or 2 available next Friday 21 Sept for the day, and a few days the following week for Weds 26, Thurs 27, Fri 28 Sept, and the following week Tuesday 2 October – Friday 5 October? There's probably some flexibility in these dates if needed, as I understand Mark Flanders is getting married sometime in this period. Also, do you have Ian Brown's current contact details, last time I tried to call him, his mobile number was disconnected? Also, are you coming to the AFG meeting next Weds morning at Yarrawarra?	
11 September 2012	3:11 pm	Joseph Brooke	Email	Chris Spencer	Coffs Harbour LALC	Chris will be attending the AFG and will discuss all the issues raised there.	
12 September 2012		Josephine Basilio	Phone	Brett Tibbet	Grafton Ngerrie LALC	Josie spoke to Brett – Their new CEO, Ken McIntosh will take on the role from Wednesday 19 September and Ken will attend the meeting at 10:00 am at Yarrawarra.	
12 September 2012	1:59 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	We're planning those ancillary area investigations for Woolgoolga to Wells Crossing Pac Highway upgrade that were spoken about at the last AFG meeting.	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
						<p>Exact dates are still coming together, as we progressively receive property access permissions.</p> <p>I was wondering if you would have a couple of site officers (Milton and Tony or Rick) available next Friday 21 Sept for the day, a few days the following week for Weds 26, Thurs 27, Fri 28 Sept, and the following week Tuesday 2 October – Friday 5 October?</p> <p>Also, are you or Milton coming to the AFG meeting next Weds morning at Yarrawarra?</p>	
12 September 2012	2:05 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p>We're planning ancillary area investigations for the Woolgoolga to Wells Crossing Pacific Highway upgrade that were spoken about at the last AFG meeting. Exact dates are still coming together, as we progressively receive property access permissions.</p> <p>I've organised with Mark Fergusson to come out, but thought I'd keep you in the loop too – we're currently planning on working Friday 21 Sept for the day, and a few days the following week for Weds 26, Thurs 27, Fri 28 Sept (subject to confirmation), and the following week Tuesday 2 October – Friday 5 October?</p> <p>Also, did you receive the invite for the AFG meeting next Weds morning (10am) at Yarrawarra, do you think you'll be sending anyone along – Mark Fergusson perhaps?</p>	
13 September 2012		Joseph Brooke	Phone	Chris Spencer	Coffs Harbour LALC	Coffs Harbour will not have any field representatives available until the beginning of October.	
13 September 2012	3:30 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p>Thanks for the update.</p> <p>I did get your invite, however I do not know if we will have a Elders Rep at that meeting, usually this would be Mark Flanders, he will be away that week</p> <p>Please keep us in the loop on any outcomes please</p>	
13 September 2012	3:35 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p>Okay, no worries. I hear Mark Flanders is getting married - great news!</p> <p>Should I check to see if Mark Fergusson is available to attend the meeting in Mark's place?</p>	
13 September 2012	4:18 pm	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal Corporation	Giinagay Jo, it will be Tony and myself doing the field work, the dates you have are fine with me at present though it is getting pretty tight at the end of Sep. Hope to get to the meeting but may send Tony.	
13 September 2012	5:32 pm	Joseph Brooke	Email	Richard Widders	Garlambirla Guuyu-girrwa Corporation	<p>If you can speak with Mark Ferguson that it would be great</p> <p>I'll also mention to him when I get the chance</p>	
14 September 2012	9:12 am	Joseph Brooke	Email	EJ Williams	Yarrawarra Aboriginal	Great thanks EJ,	

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Date	Time	Alliance contact	Method	Contact person	Organisation	Subject	Comment
					Corporation	I look forward to it.	
26 September 2012	3:31 pm	Joseph Brooke	Phone	Chris Spencer	Coffs Harbour LALC	Joseph rang Chris to discuss the upcoming fieldwork for the ancillary sites and TO availability.	
19 September 2012	10.00 am	Vanessa Edmonds Joseph Brooke	AFG – Woolgoolga to Wells Crossing	EJ Williams Ken McIntosh Chris Spencer Anthony Dootson Roy Marsh Sarah Wain Garry McPherson Leshia Timmins Rowena Mitchell	Yarrawarra Aboriginal Corporation Grafton Local Aboriginal Land Council Coffs Harbour & District Local Aboriginal Land Council Garby Elders RMS	<ul style="list-style-type: none"> It was explained that the detailed design is looking in more detail at this section than the EIS was required to. No further archaeological assessments will be included in the CHAR as it is under review with OEH. Any further investigations will be covered in the submissions report or project report. The methodology for upcoming ancillary works and geotechnical excavations were discussed. Some concern regarding potential damage to artefacts was raised. Discussed the design change at Range Road and the methodology for investigating the new area. Discussed the potential reburial of artefacts inside the corridor. Care and Control forms were mentioned. Discussed that employment is important to the stakeholders. Expressed an interest in completing a cultural heritage awareness program for the project. 	

E.2 Current documentation

Table 4 Consultation log for the invitation process of Aboriginal stakeholders to AFG1

Registered stakeholder group	Name	Position	Address	Phone	Email	Notes 10 August 2010	Notes 12-13 August 2010	Invite notes AFG 1	Attendance AFG 1
Coffs Harbour City Council	Rob Waters	Aboriginal Liaison Officer		6648 4000	-		No answer 13 August 2010		
Coffs Harbour Local Aboriginal Land Council	Chris Spencer		PO Box 6150 Coffs Harbour Plaza NSW 2450	6652 8740	chris@coffsharbourlalc.com.au	09/08 LJ called. No ans 10/08 Chris very interested in being in group.		Send letter by email	19 August 2010 pm
Garby Elders Group	Tim Cowan			66407100	timmycowan@live.com.au	10/08 Chris from CHLALC said best contact was Tim Cowan Yarrawarra 6640 7100 10/08 LJ left msg.	No answer 12 August 2010	Send letter by email	19 August pm
Garby Elders Group	Uncle Milton Duroux			66407100	-				19 August pm

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Registered stakeholder group	Name	Position	Address	Phone	Email	Notes 10 August 2010	Notes 12-13 August 2010	Invite notes AFG 1	Attendance AFG 1
Grafton Ngerrie Local Aboriginal Land Council	Wesley Fernando		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com		Andrew Riley of NSW ALC advised that Wes is key contact for this group - send email	Send letter by email to Wesley Fernando	19 August morning
Grafton Ngerrie Local Aboriginal Land Council	Rod Duroux		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com				19 August morning
Grafton Ngerrie Local Aboriginal Land Council	Brett Tibett		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com				19 August morning
Grafton Ngerrie Local Aboriginal Land Council	Brett Duroux		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com				19 August morning
NSW Aboriginal Land Council	Andrew Riley		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	andrew.riley@alc.org.au	09/08 Sam advised of new contacts - Andrew Riley Zone Director and Trent Linwood (Operations Manager)	Spoke to Andrew who asked that we provide details of which land Councils have been invited.	Send letter by email	
NSW Aboriginal Land Council	Diane Randall		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	-				19 August am/pm
NSW Aboriginal Land Council	Patricia Laurie		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	-				20 August am/pm
NSW Aboriginal Land Council	Leon Avuri-Williams		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	-				19 August am/pm
NSW Aboriginal Land Council	Craig Craigie		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	craig.craigie@alc.org.au	09/08 Sam advised of new contacts - Andrew Riley Zone Director and Trent Linwood (Operations Manager)	Spoke to Leon who provided updated contact details - suggested I send emails and note which land councils I have been in touch with	Send letter by email	
NSW Aboriginal Land Council	Tina Williams		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	tina.williams@alc.org.au	09/08 Sam advised of new contacts - Andrew Riley Zone Director and Trent Linwood (Operations Manager)	Spoke to Leon who provided updated contact details - suggested I send emails and note which land councils I have been in touch with	Send letter by email	
Yarrawarra Aboriginal Corporation	Christopher Kirkbright	Yarrawarra Aboriginal Cultural Centre	PO Box 102 Corindi Beach 2456 NSW	6640 7100 or 6640 7199	lyn@yarrawarra.org.au	10/08 Angela advised that Christopher Kirkbright was best contact	Contact Lyn - send 2 emails	Send letter to both email	19 August pm

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Table 5 Consultation log for the invitation process of Aboriginal stakeholders to AFG2

Registered Stake Holder Group	First name	Position	Address Line 1	Phone	Email	NOTES 10 AUGUST	NOTES 12-13 AUG	Invite Meeting 1	Attendance AFG 1	Invite Meeting 2
Coffs Harbour City Council	Rob Waters	Aboriginal Liaison Officer		6648 4000	robert.waters@chcc.nsw.gov.au		No answer 13 August 2010			Email sent
Coffs Harbour Local Aboriginal Land Council	Chris Spencer		PO Box 6150 Coffs Harbour Plaza NSW 2450	6652 8740	chris@coffsharbouralc.com.au	09/08 LJ called. No ans 10/08 Chris very interested in being in group.		Send letter by email	19 Aug pm	Email sent
Garby Elders Group (Yarrawarra Aboriginal Corporation)	Tim Cowan			66407100	timmycowan@live.com.au	10/08 Chris from CHLALC said best contact was Tim Cowan Yarrawarra 6640 7100 10/08 LJ left msg.	No answer 12 August 2010	Send letter by email	19 Aug pm	Email sent
Garby Elders Group (Yarrawarra Aboriginal Corporation)	Uncle Milton Duroux			66407100	-				19 Aug pm	Email sent through Tim Cowan
Grafton Ngerrie Local Aboriginal Land Council	Wesley Fernando		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com		Andrew Riley of NSW ALC advised that Wes is key contact for this group - send email	SEND LETTER BY EMAIL TO WESLEY FERNANDO	19 Aug morning	Email sent
Grafton Ngerrie Local Aboriginal Land Council	Rod Duroux		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com				19 Aug morning	Email sent
Grafton Ngerrie Local Aboriginal Land Council	Brett Tibett		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com				19 Aug morning	Email sent
Grafton Ngerrie Local Aboriginal Land Council	Brett Duroux		PO Box 314 South Grafton 2460	6642 6020	gnlalc@bigpond.com				19 Aug morning	Email sent
NSW Aboriginal Land Council	Andrew Riley		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	andrew.riley@alc.org.au	09/08 Sam advised of new contacts - Andrew Riley Zone Director and Trent Linwood (Operations Manager)	Spoke to Andrew who asked that we provide details of which land Councils have been invited.	Send letter by email		Email sent
NSW Aboriginal Land Council	Diane Randall		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	diane.randall@alc.org.au				19 Aug am/pm	Email sent
NSW Aboriginal Land Council	Patricia Laurie		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	patricia.laurie@alc.org.au				20 Aug am/pm	No longer connected to NSW ALC
NSW Aboriginal Land Council	Leon Avuri-Williams		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	andrew.riley@alc.org.au				19 Aug am/pm	Email sent
NSW Aboriginal Land Council	Craig		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	craig.craigie@alc.org.au	09/08 Sam advised of new contacts - Andrew Riley Zone Director and Trent Linwood (Operations Manager)	Spoke to Leon who provided updated contact details - suggested I send emails and note which land councils I have been in touch with	Send letter by email		Email sent

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Registered Stake Holder Group	First name	Position	Address Line 1	Phone	Email	NOTES 10 AUGUST	NOTES 12-13 AUG	Invite Meeting 1	Attendance AFG 1	Invite Meeting 2
NSW Aboriginal Land Council	Tina Williams		PO Box 1912 Coffs Harbour NSW 2450	6659 1200	tina.williams@alc.org.au	09/08 Sam advised of new contacts - Andrew Riley Zone Director and Trent Linwood (Operations Manager)	Spoke to Leon who provided updated contact details - suggested I send emails and note which land councils I have been in touch with	Send letter by email		Email sent
Yarrawarra Aboriginal Corporation	Christopher Kirkbright	CEO	Yarrawarra Aboriginal Cultural Centre PO Box 102 Corindi Beach 2456 NSW	6640 7100 or 6640 7199	lyn@yarrawarra.org.au	10/08 Angela advised that Christopher Kirkbright was best contact	Contact Lyn - send 2 emails	Send letter to both emails	19 Aug pm	Email sent

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Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

E.3 Current Aboriginal focus group minutes

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Woolgoolga to Wells Crossing - Fieldwork Summary
31 August 2010

■ **Table 2: List of Aboriginal stakeholder representatives participating in the field survey.**

Organisation	Name	Role	Dates of Participation	Approximate Section
Yarrawarra Cultural Centre (Garby Elders)	Milton Duroux	Senior Aboriginal Sites Officer	25 August	Woolgoolga to Wells Crossing but stated to go as far north as Wooli Creek
Yarrawarra Cultural Centre (Garby Elders)	Tim Cowan	Senior Aboriginal Sites Officer (volunteer)	25 August	Woolgoolga to Wells Crossing but stated to go as far north as Wooli Creek
Yarrawarra Cultural Centre (Garby Elders)	Anthony Dootson	Trainee Aboriginal Sites Officer	25 August	Woolgoolga to Wells Crossing but stated to go as far north as Wooli Creek
Coffs Harbour LALC	Ian Brown	Senior Aboriginal Sites Officer	25 August	Woolgoolga to Wells Crossing to Halfway Creek
Coffs Harbour LALC	Mark Ferguson	Senior Aboriginal Sites Officer	25 August	Woolgoolga to Wells Crossing to Halfway Creek

Methodology

Survey areas were defined on the basis of landholder information. The field survey was undertaken on foot. Where there was no property access permission, and it was possible, an assessment of the project corridor was made from the adjacent property. Where access was not possible, these were marked in from maps based on field observations, in field consultation and topographic data.

Where property access was possible, the locations of all Aboriginal sites and areas of potential archaeological deposit (PAD) were recorded using a differential GPS.

Survey Coverage

Previous survey by Peter Kuskie covered the majority of the project corridor. The current round of survey aimed to survey several portions of the project corridor not previously surveyed, predominantly tie-ins with the current Pacific Highway or other local roads, but also one property not previously accessible. Property access was not possible for two of these tie-ins; these were assessed from nearby and it was agreed that they would be classed as PADs if they were located close to ridges off the swamp floor. Using electronic 1 m contour survey data, the proximity of these areas to ridges was checked; these areas were determined to be located on the swamp floor, so were not registered as PADs. Additionally, one large property between the current Pacific Highway and the Blueberry Farm at Dirty Creek could not be surveyed, as no access permission had been granted. This property has been registered as a PAD based on it including an elevated spur nearby Dirty Creek and swamp.

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Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Woolgoolga to Wells Crossing - Fieldwork Summary
31 August 2010

■ **Table 3: Summary of PADs identified during current survey within the project corridor.**

AHIMS Site Number	PAD Name	Associated with Site?	Potential Archaeological Sensitivity	Aboriginal Significance	Investigation	Impacted by Proposal	Further Investigation Required during future project stage?
NA	Dirty Creek PAD	NA	Moderate	Moderate	No survey - inspected from boundary	Direct impact	Survey

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Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

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MEETING MINUTES



Transport
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Name of meeting:	Aboriginal Focus Group Woolgoolga to Wells Crossing		
Location of meeting:	Yarrowarra Aboriginal Cultural Centre		
Meeting facilitator:	Woolgoolga to Ballina Planning Alliance		
Date:	5 October 2011	Time:	1.30pm
Attendees:	Mark Ferguson, Garlimbirla Guyuu Girwaa (Coffs Harbour Elders) (MF) Chris Spencer, Coffs Harbour & District Local Aboriginal Land Council (CS) Milton Duroux, Garby Elders and Yarrowarra Aboriginal Corporation (MD) Vanessa Edmonds, Alliance archaeologist (VE) Joseph Brooke, Alliance archaeologist (JB) Chris Gorman, Alliance project manager (CG) Graham Purcell, RTA Aboriginal Programs Coordinator (GP) Rowena Mitchell, RTA Environmental Advisor (RM)		
Apologies:	Sandra Rowe, Garlimbirla Guyuu Girwaa (Coffs Harbour Elders) Garry McPherson, RTA Project Development Manager		

Item	Action
<p>Welcome</p> <p>VE welcomed everyone to the meeting and acknowledged the traditional owners. Introductions were made. VE noted that RTA Project Manager Garry McPherson and Sandra Rowe were unable to attend and that Sandra had sent MF in her place.</p>	
<p>Project update</p> <p>CG started to provide an update on the project by going over the area it covers.</p> <p>CS said there was a slight overlap of LALC boundaries in the Dirty Creek Range area.</p> <p>CG said the project is now called the Woolgoolga to Ballina Upgrade, which is an amalgamation of the four previous projects (Woolgoolga to Wells Crossing, Wells Crossing to Iluka Road, Iluka Road to Woodburn and Woodburn to Ballina).</p> <p>VE said that route selection was done, then a corridor was selected, but there were some gaps in the corridor which SKM surveyed last year.</p>	

CS said he was concerned with the report, that Dirty Creek Range was extremely significant given that sandstone country around there and he was surprised that there weren't any grinding grooves found. He thinks grinding grooves could have been covered by sediment, down near creeks.

MD agreed that he thought the site had deteriorated over the years with sediment build-up.

CS said the Dirty Creek Range would have been used to come back down from the hills (where people went in summer to get out of the heat). CS said he accepts that survey has been completed, but he is doubtful that it's found everything. He said if we stick to the existing footprint then we probably wouldn't have any problems.

CG said that section is being widened away from the existing highway.

CS said he doesn't want the RTA to get in a position where we're clearing and find a piece of sandstone grooving stone. He said that we won't let that happen – that we'll make you move the road.

JB asked how we could identify the grinding grooves if they're there?

VE said that in Bairnsdale in Victoria grinding grooves were found under a lot of sediment (2 feet). They were not far from water, but not right next to it. Also in Hunter, they were near a river bed. It would be difficult to investigate. We would have to know about the underlying geology.

CS asked if geotech samples have been done there?

CG said some have been done.

CS wondered what are the depths of the sandstone? He said normally on top of ridges, topsoil runs down to the creek.

MD said he walked the ridge crest, but didn't go down to the bottom because he knew the road was not going near it.

CG asked whether it could be discounted because of the vegetation there?

CS said the vegetation was different back in the day, it was more grassy, with no weeds.

JB said if it was sandstone cropping there we would have seen it during survey. He said it is correct that we haven't surveyed near the river. It has been difficult to get access from the property owner.

CS said the geotech reports will tell us if it is sandstone.

CG agreed that we could look at that.

CG continued on with his project update. He said that funding has been provided by the Commonwealth and State Governments to start acquiring land and do more work for project approval by April 2013. He said an application was with the Department of Planning and Infrastructure and we are expecting the Director General's Requirements at the start of November.

He said there is a new Part 5.1 approval process instead of part 3a and that this is a State Significant Infrastructure project. The Environmental Impact Statement will be on exhibition by August 2013.

CS said this is a good time to ensure that an Aboriginal Participation Plan is in place for this section. He said he was disappointed in the plan for the Sapphire to Woolgoolga upgrade. Only 2-3 Aboriginal people were employed. He said it was disgraceful considering we've given them permission to destroy our homeland. He said there was no response from the Joint Venture. He said plenty of young people are looking for opportunities.

<p>GP said that the project manager needs to drive Aboriginal participation through the pre-tender documents. He said the RTA doesn't have specific targets. Some projects do well, for example there are 12 trainees at Banora Point, 10 at Kempsey. On some projects they transfer Aboriginal people who have worked with the same contractor on other jobs, but we try to encourage them to get locals from the area. There is no onus on the RTA to employ local people – they just have to be Aboriginal. But we encourage it through the AFGs.</p> <p>CS said he is fully aware that we can't fill all positions with Aboriginal people, but at least we should be able to fill trainee and entry level positions.</p> <p>GP said the benefit of the Woolgoolga to Ballina upgrade is that you have Garry McPherson overriding the whole project. GP said that Gary was involved in the Banora Point upgrade and they did a great job there. GP said you should get a good response from him, but at the end of the day it'll be the Alliance/contractor that recruits.</p> <p>CG mentioned that we have talked about Aboriginal offsets before.</p> <p>CS said we're asked to do things by the RTA and get little in return. He said it might be worthwhile him having a conversation with Garry.</p> <p>CG finished his project update by saying that the community display of the concept design would commence 17 October.</p> <p>CS asked if we will get copies of the documents?</p> <p>CG said the community update is on RTA website and they send this to affected property owners, plus the concept design map. At community displays you can review the project.</p> <p>GP said there should be separate consultation sessions with Aboriginal stakeholders.</p> <p>CG said he could send a package to Aboriginal stakeholders (he would check with Garry McPherson). He said it may be better to send more detailed information to Aboriginal stakeholders.</p> <p>JB asked the group if they would like a map with the sites marked on it?</p> <p>CS said it would be useful to have it.</p> <p>MD agreed.</p> <p>JB said that we can send some maps showing the LALC boundary and blow it up for the relevant area.</p> <p>CS said when he did optic cable surveys it was strange country – he would have expected to find something.</p> <p>JB asked CS if he was saying that potentially people are taking away the cultural material?</p> <p>CS said yes, potentially.</p> <p>VE mentioned that we should get a contract for Garby Elders and Yarrawarra.</p> <p>GP agreed that we should.</p>	<p>CG to send information about the concept design to Aboriginal Stakeholders</p> <p>JB to send group maps with locations of LALC boundaries and sites.</p>
<p>Sub-surface testing methodology</p> <p>JB said that 13 archaeological sites have been identified to date. Eight of these are PADs. Two are PADs, but not with archaeological material (DC pad and Kangaroo Trail potential for burials). He said we will do sub surface testing at PAD sites, as well as control sites to test the model.</p> <p>JB described each site and pointed to it on a map on the table.</p>	

These included:

WWC 5, farm trail, shallow deposit, potential for more artefacts.

WWC 18, flat area on crest of spur. Partially within and partially without project corridor.

WWC 26 – isolated artefact without any PAD. Sherwood Creek Rd to Kangaroo Trail Road – need to talk about what methodology to employ there.

WWC 37, artefact scatter and PAD.

WWC 39, artefact scatter and PAD

WWC 46, on a vehicle track, potential for burials.

CS confirmed that there was potential there.

JB continued to describe the sites:

WWC53, isolated artefact.

Dirty Creek PAD, haven't been able to survey yet.

WWC78, isolated artefact.

WWC 115, PAD, east of existing highway at Halfway Creek.

IA2, isolated artefact, destroyed by halfway creek duplication. AHIMS hasn't been updated yet.

WWC 135 and 139, isolated artefacts and PADs.

Parkers Rd Scarred Tree – 100 m north of Parkers Rd intersection on the east side of the road. JB said the tree is just on the side of the road - it looks like a car ran into it.

MD suggested they could go look at it on Friday.

VE said that's a good idea.

CS suggested they check to see whether there's any etching.

JB said we want to start sub-surface testing and he will go through the methodology now.

VE explained that this methodology is constrained by the new Office of Environment and Heritage Code of Practice.

JB said we are only going to excavate within the project corridor.

CS asked if the project boundary is identified?

VE confirmed that it was and that they have it on their GPS.

JB said it won't be flagged, but we'll have it on our GPS. JB explained that excavation will be done in 50 metre x 50 metre test pits using hand tools at 10 metre intervals.

VE said the amount we excavate depends on how big the PAD is – we can only excavate 0.5%.

CS said they would need an AHIP (Aboriginal Heritage Impact Permit).

VE said not according to the Code of Practice.

JB said that they would dig until they hit sterile rock and sieve everything. He said they might do wet sieving where they can get a water truck in, which means using hoses. He said standard drawing and records will be done.

CS said he doesn't have a trailer for the mechanical sieve.

JB said that he doesn't need it for another 2 weeks.

CS said you'll need a trailer. The sieve sits on a 4 metre by 6 metre box. He said you'll need a generator.

JB said we will try to pick it up on 24 October.

CS said he needs to let a contractor know that we need it.

JB said we will backfill all completed test pits and finish excavations when they get the required information or when they hit the 0.5% mark. He explained that the Code of Practice doesn't allow excavations in or within 50 metres of a burial place, a declared

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Aboriginal place, shell midden or earth mound, or in areas known as Aboriginal missions or conflict/contact sites. He said he has flagged Sherwood Creek Rd to Kangaroo Trail and WWC46. He asked the group if there were any others?

MD said no, that he'd be well away.

CS said he prefer if GPR (Ground Penetration Radar) was used in the Kangaroo Trail area instead of test pitting.

VE said GPR is only useful when you definitely know there's human remains there. Otherwise it's really hard to find something.

CS and MD talked about burial sites.

CS said in the old days it was difficult to transport bodies, so a lot of Aboriginal remains ended up on the property they worked on. He said there are up to 50 unmarked graves in the Coffs area that can contain up to 12 bodies each.

CG asked if the 50 metre restriction would apply to this site?

JB said yes and it would be more than that.

JB asked the group what kind of methodology they would like to see used in these areas to test?

CS asked the group what they think of mechanical sieve. MD and MF said they are OK with the mechanical sieve and test pitting – it's what's worked previously.

CS said he was a little bit concerned about the 50 metre by 50 metre dimensions of the pits.

VE confirmed that we can do some scraping once we get the Director General's Requirements.

JB said this would be done with a 3 or 5 tonne rubber tracked excavator, with a 1 metre blade.

CS said if they're able to use a machine it's OK.

VE said it's a big area, so doing it by hand would take a long time.

CS said he has another sieve he can rent out, but it's not working properly at the moment.

CS said he is concerned about the overlapping of boundaries. So he is inclined to include the Grafton mob from the southern point at Barcoongere Way, Coffs finishing up around McPhillips Road.

JB confirmed that that was fine. He said there's only two PADs there.

CS said we should check with the Grafton mob that they'd be ok to use the machine sieve.

JB said we're using the same methodology in the Grafton area. He said he spoke about mechanical sieving at the previous meeting and RD and WF were OK with it.

CS said you also need a ute to get the sieve in.

JB mentioned that they would also limit their environmental impact by sticking to existing tracks, not wet sieving adjacent to the creek. He said they would put sandbags and silt fence down where needed and that they won't be damaging trees, or shrubs. He said we will reinstate ground cover where possible and try not to leave trenches open overnight.

JB said they are planning to start survey for Woolgoolga to Ballina from 24 October until mid-Dec. He said he is waiting to hear back about property access for all the PADs. Where the testing starts will depend on where they get the most access. He said he would let the group know Wednesday or Thursday next week.

GP asked how many days notice he would give the LALCs?

JB said he would give 2 weeks notice, 1.5 weeks in the worst case. He

JB to advise group of testing schedule.

<p>said it will probably take 2 weeks for survey in the Woolgoolga to Wells Crossing section.</p>	
<p>Next meeting</p> <p>VE said she needs contracts back and site officer nomination forms. CS said he was unsure about site officer nomination forms and what to put on them. GP said he will send a contract to MF's organisation, Coffs Harbour Elders, and also to MD's organisation Yarrowarra (Garby Elders). JB said ideally we will finish survey in December and will have an AFG in December, just to go over the results. The report won't come until later. CS said he's here until 16 December and back around 4 January 2012. JB said worst case scenario, even if there's still some excavation to go, he would still have an AFG in December to go over what's been found so far. CS asked if there were any bridges in this section? CG said there may be a bridge through the Corindi floodplain. CS said we don't want to get into a position where the maps are wrong, eg like what happened at the Bonville Deviation. He explained that as the maps showed, it was impacting on a site. CS was concerned it was going to be destroyed. He said he spoke to the RTA about it and they were worried. He said it was also on a landing platform for a bridge over the creek. He said he preferred an incrementally launched bridge, which would've cost \$25 million, but it turned out that the maps were wrong and so there was no impact. It delayed the project by 3-6 months. He said he was disappointed with the RTA's approach. He said Gary Davey and Bob Higgins came up, plus Abigroup. CS said he was outnumbered and in the firing line, but it was the RTA's mistake in the first place. CG said the designs you'll have will be straight from the designers. Sometimes property boundaries we have don't reconcile with council boundaries. So there was a bit of a job trying to get that right. He said part of the reason we go out to concept design display is to identify properties to acquire. CS asked if there are many private landholders affected? CG said he can't give an exact figure, but approximately 576 properties for the whole project, with 250 landholders affected. CS said from past experience there are quite a lot of sites are within State Forest, but we don't really get the opportunity to go in there. JB confirmed there's a bit of State Forest that we haven't been into. JB suggested that the group meet at 11.00am at Yarrowarra Cultural Centre for survey on Friday. This was OK with MF and CS. GP reiterated that now's the time to let the project manager know that we want an Aboriginal participation in construction plan as part of the tender. CG said we can also build it into project approval, via the EIS.</p>	
<p>Meeting closed 3.35pm.</p>	

MEETING MINUTES



Name of meeting:	Woolgoolga to Wells Crossing Aboriginal Focus Group
Location of meeting:	Yarrowarra Aboriginal Cultural Centre – Corindi Beach
Meeting facilitator:	Woolgoolga to Ballina Planning Alliance
Date:	26 June 2012
Time:	9.00am
Attendees:	Vanessa Edmonds, Alliance Archaeologist (VE) Joseph Brooke, Alliance Archaeologist (JB) David Collard, Alliance Archaeologist (DC) Simon Wilson, RMS (SW)
Apologies:	EJ Williams, Yarrowarra Aboriginal Corporation Mark Flanders (Garlambirla Guuyu Girwaa Elders Corporation) Chris Spencer, Coffs Harbour LALC Rod Duroux, Grafton–Ngerrie LALC (RD) Brett Duroux, Grafton–Ngerrie LALC (BD) Wes Fernando, Grafton–Ngerrie LALC (WF) Graham Purcell, RMS (GP) Chris Clarke, RMS (CC)

Item	Action
<p>The AFG was cancelled as there were no representatives of the relevant stakeholder groups who were able to attend.</p> <p>Site recommendations from the Woolgoolga to Wells Crossing section were, however, presented by JB to representatives of Grafton–Ngerrie LALC at the AFG for the Wells Crossing to Iluka Road section.</p> <p>The remainder of these minutes details the relevant discussion from the AFG for the Wells Crossing to Iluka Road section:</p> <p>RD expressed a preference for monitoring along the entire project corridor once vegetation was removed rather than sub-surface testing (SST). He cited an example of a site at Glenugie where SST had not detected the site, but monitoring had not been allowed despite artefacts being revealed during construction.</p> <p>JB and VE explained the benefits of SST in identifying sites during the planning phase of a project, rather than in the construction phase.</p>	

WF asked how the recommendations for each site were formulated.

VE stated that they were formulated through consultation with site officers in the field.

GP elaborated upon events at Glenugie, where Grafton-Ngerrie LALC had been told by the cultural heritage adviser (Lindsey Smith) that they could monitor during the construction phase, but RMS subsequently refused to approve this activity.

WF expressed dissatisfaction with the RMS Procedure for Aboriginal cultural heritage consultation and investigation (PACHCI), particularly with regard to not allowing monitoring. He also stated that two week's notice for AFGs was insufficient and that one month's notice would be preferable.

VE explained that SST can be conducted at any site that a community considers to be sensitive.

CC explained the process of developing the current project alignment. Avoiding burials and a bora ring had been an important design consideration. The final choice of alignment would always entail compromise as some amount of impact was unavoidable.

GP explained that the RMS PACHCI had been developed in accordance with the Office of Environment and Heritage (OEH) guidelines.

VE stated that 99% of the project corridor had been surveyed.

WF requested a copy of the survey report

VE explained the Cultural Heritage Assessment (CHA) process and explained that the OEH Code of Practice guidelines state that shovel probes must be used.

RD stated that the communities concerns were not being acknowledged.

WF reiterated dissatisfaction with the short time-frames given to communities.

CC answered that these timeframes are dictated at a high level and are impossible to alter.

WF also raised concerns that the issues raised during consultation were often not acted upon.

VE raised the possibility of inspection of sites early in the construction phase after the removal of vegetation. This was discussed by all.

RD stated that the sieving of deposits would not be required during such inspections.

GP stated that this activity might be feasible, but only within the boundaries of the three sites identified in the CHAR within the boundaries of Grafton–Ngerrie LALC.

WF and RD stated that this was a good start to meeting their concerns.

JB explained that reviews of the CHAR needed to be done with 28 days of receiving it and that any concerns with the recommendation made within should be raised during this time.

JB explained that there were no sites identified within the Grafton–Ngerrie LALC boundaries in the Wells Crossing to Iluka Road section. The intangible Aboriginal Cultural Place termed the Pillar Valley Corridors of Movement would, however, be impacted upon.

JB thanked Grafton–Ngerrie LALC for their input and for their outcome-focused approach to consultation.

MEETING MINUTES



Transport
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Name of meeting:	Aboriginal Focus Group Woolgoolga to Wells Crossing		
Location of meeting:	Yarrawarra Aboriginal Cultural Centre		
Meeting facilitator:	Woolgoolga to Ballina Planning Alliance		
Date:	19 September 2012	Time:	10.00am
Attendees:	<p>EJ Williams, CEO Yarrawarra Aboriginal Corporation (EW) Ken McIntosh, Acting CEO Grafton Local Aboriginal Land Council (KM) Chris Spencer, CEO Coffs Harbour & District Local Aboriginal Land Council (CS) Anthony Dootson, Garby Elders (AD) Roy Marsh, RMS Project Manager (RM) Sarah Wain, RMS Environment Officer (SW) Vanessa Edmonds, Alliance archaeologist (VE) Joseph Brooke, Alliance archaeologist (JB) Garry McPherson, RMS Interface Manager (GM) Ilesha Timmins, RMS Aboriginal Cultural Heritage Advisor (IT) Rowena Mitchell, RMS Environmental Advisor (RMi)</p>		
Apologies:	Richard Widders, Garlambirla Guuyu-girwaa Elders Aboriginal Corporation		

Item	Action
<p>Welcome</p> <p>Introductions were made and JB acknowledged the traditional owners of the land.</p> <p>GM and RM explained how there are two projects going on at the moment – the development of the Environmental Impact Statement (EIS) for the Woolgoolga to Ballina upgrade, as well detailed design of the Woolgoolga to Glenugie section of that upgrade. They explained how the detailed design is looking in more detail at this section than the EIS was required to.</p> <p>VE explained that the Planning Alliance is doing final reviews of the cultural heritage assessment reports (CHAR) and waiting for comments from the Office of Environment and Heritage. So any further Aboriginal heritage investigations from now on will not be included in the CHAR with the EIS, for example investigations of potential ancillary areas and for geotechnical work.</p> <p>GM explained that any further investigations would be covered in the submissions report and preferred project report, which is submitted after the public display period of the EIS.</p>	

<p>VE explained that at a previous AFG we discussed the methodology for ancillary facilities investigations. The Alliance has started that process this week and it will continue for about four weeks.</p>	
<p>Corindi Creek geotechnical investigations</p> <p>VE said that because detailed design requires more information about the bridge location at Corindi Creek, the need to do geotechnical investigations within a site has come up. She said the geotechnical investigations will involve test pits and bore holes. They need to go within site WWC39. She showed the site on a map. VE explained that site WWC39 was initially identified in previous Aboriginal heritage investigations for the preferred route. She said the Alliance undertook subsurface testing late last year.</p> <p>JB said they recorded approximately 230 artefacts. Many had been ploughed up to put in the blueberries. He explained that the site may extend further but we only investigated within the project corridor.</p> <p>CS asked if we could check the contour map to see the lay of the land around site WWC7 (north of Corindi Creek). He asked if all the testing (for geotech and salvage) will be done at the same time?</p> <p>JB said it would probably take a couple of days.</p> <p>CS asked if we would have time to take more samples from WWC7?</p> <p>JB confirmed that there would be some impact on WWC7 as detailed in the CHAR. It has approximately 30 artefacts.</p> <p>JB explained the methodology is to go out at the same time as the geotech team to excavate the soil in a way that suits Aboriginal cultural heritage needs and geotech needs. The testing will be directed by the archaeologists. All soil will be sieved and then when everyone is happy that they've reached a sterile depth, the geotech team will excavate deeper.</p> <p>CS said he doesn't have a problem with the methodology, as long as sites officers are there to help direct the testing. He said they're really busy at the moment and the availability of sites officers isn't good.</p> <p>RM said geotech will need a couple of weeks to prepare anyway.</p> <p>CS said one thing missing from the methodology was the type of machine to be used.</p> <p>RM said it would be a rubber-tracked excavator. They might have to get a 20 tonner.</p> <p>CS said he would be concerned if it was bigger than a 20 tonner.</p> <p>RM said it wouldn't be bigger.</p> <p>CS said he would be concerned if artefacts were damaged by machinery.</p> <p>RM said they have planned to use existing access tracks where possible.</p> <p>JB said measures would be implemented to minimise ground disturbance.</p>	

<p>CS said he would expect to encounter more material near the road and driveway. He asked what the yellow dot on the map represents.</p> <p>RM said the yellow dot is no longer being done and the dark green dots are not being done. He said he'll talk to the geotech team to see how deep they think they'll need to dig.</p> <p>CS said site officers should do a walk through of the area before the machines come in.</p> <p>RM said we should mark out a route into the bore holes for the machines to use.</p> <p>CS said there is no availability of site officers until around 4-6 October.</p> <p>RM said the work will probably take 2 days. We'll need to mark out tracks into the areas.</p> <p>CS said officers would probably be available 10-12 October.</p> <p>VE said we don't have our sieve operator then.</p> <p>JB explained the type of sieve they use. It's like a trailer you drive on to the site.</p>	<p>CS to confirm dates by 28 September.</p>
<p>Range Road interchange</p> <p>RM explained the proposed change of design at Range Road. He explained that everything within the current project boundary has been surveyed, but this change means there's a little bit outside the corridor that we need to survey.</p> <p>JB said the proposed methodology is the same as it has been for the rest of the project corridor. They will start with survey and if PADs are identified then we will follow up with sub surface testing. If we need to do geotech in sites then we may be able to do it at the same time as excavation.</p> <p>KM asked if the Grafton site officer had been in contact.</p> <p>JB said yes, we are doing some work on Friday.</p> <p>JB said we would include both Coffs Harbour and Grafton sites officers at the Range Road site.</p> <p>CS suggested doing Range Road and Corindi at the same time.</p> <p>JB said the current desktop study will have already covered the Range Road area.</p> <p>CS said it would be good to look at the desktop study prior to going out.</p> <p>AD said it's like an old walking path there. He said rocks, artefacts etc are washing down the river. He said they've found a couple of axes there.</p> <p>CS said they identified some sites through that area when they went out for</p>	<p>JB to send desktop information on Range Road area to sites officers.</p>

Telstra.

CS asked how the community will keep the re-buried artefacts out of harms way in the future when construction starts?

VE said care and control will have to be sorted out with all stakeholders. She said normally they'd be put somewhere within the corridor where they're not going to be impacted.

CS said sometimes things happen outside the corridor and they aren't consulted. He said there's always works outside and there's modifications. He also stated that employment is important to the community.

VE explained the employee mentor system that is working in Queensland.

KM said there was opportunity for Aboriginal green teams to work on Kempsey Bypass, but they were outcompeted during the tender process.

SW explained they had a mentor system at Kempsey Bypass which worked well even though it was late to start.

VE said we are proposing to put 3-monthly updates to the Aboriginal community as a measure in the CHAR.

GM said we want to try to maintain momentum up to when a contractor comes on board.

CS says you could tie it in with the NCEP program.

GM said you need to give people notice so they have time to get their certificates etc.

JB said the updates also need to include the status of employment.

KM said we need to be engaged during the procurement stage.

CS said we give archaeologists our cultural information so roadways can go through our country, but we are missing out on employment opportunities.

IT said she'd take back his concerns to the Aboriginal Programs Manager.

CS highlighted the fact that they have green teams who can help with revegetation. They have training programs for their community to get them skilled-up. There's one running out of CHDLALC and Yarrowarra.

KM said using Aboriginal green teams also allows them to come back and re-bury artefacts, to do a ceremony.

CS said it helps pass down traditions.

IT asked if sites officers are involved in re-burial?

AD said we'd like to be there.

JB said that's recommended in the CHAR. It's also important that where it's reburied is culturally appropriate.

CS said they prefer not to keep the artefacts locked up. It's better to return them to country.

JB said that will get worked out in the pre-construction phase.

VE said that could be years away from now, depending on when construction starts.

AD said he doesn't want to be carrying around a lot of artefacts, especially if it's a whole lot of flakes, rather than the more rare material.

CS said the artefacts can also tell a story. They need to be able to make a call on the day when they're on site.

CS asked what happens when there's no AHIPs?

JB said it all comes under the Care and Control agreement. A lot of detail is required.

CS asked about whether artefacts will be analysed, especially more significant ones?

VE said that would happen at the salvage stage. At the moment we're just making a detailed recording. The CHAR includes detailed analysis as a measure.

CS said to date things you need to get some carbon, so you could only really do residues etc.

VE said its relative dating. You have to be careful with carbon as it can be scattered throughout.

CS said in middens you'll be finding carbon for dating.

CS it's good to be able to make the most of the opportunity of having all this archaeological work being done for the road.

VE said community will get the chance to provide input on detailed analysis at future AFG meetings.

CS reiterated the need for RMS to build up a partnership with the Aboriginal community. He said he'd be happy for quarterly updates, via email.

JB asked the group if we have general agreement on what we've discussed today. Everyone agreed.

SW said she is working on an addendum Environmental Assessment to the original EA (under part 5.1 EIS). It will need to be signed off before geotech can proceed.

CS said he'd be happy for his sites officer to make a call while on site whether something required sub-surface testing. He said he's happy to be flexible.

EJ asked what the process is during construction if a heritage item is found?

SW said it's to stop work. There are procedures to follow for unexpected finds.

CS said ours is a bit different because our area is landscape and landform.

PUBLIC

<p>He asked if they would have an opportunity to provide a cultural heritage awareness induction.</p> <p>JB said it's a recommendation in the CHAR as well as RMS policy.</p>	
<p>Meeting closed 12pm</p>	

PUBLIC

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

E.4 Comments and responses

PUBLIC

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

From: Mark Flanders [<mailto:Mark.Flanders@environment.nsw.gov.au>]
Sent: Tuesday, 24 July 2012 9:20 AM
To: Goldfarb, Amanda (SKM); Widders, Richard; Edmonds, Vanessa (SKM)
Cc: Chris Spencer
Subject: RE: Woolgoolga to Wells Crossing

Giinagay (Hello)

As the Senior sites and Heritage Officer with CHDLALC and chair of the Garlambirla Guuyu Girwaa (Coffs Harbour Elders Group) I am in agreement with comments that were made by Chris Spencer.
Grinding grooves have been proven to exist in other areas and were often submerged by water or land sediments.
There may also be ceremonial sites that could have physical or non physical evidence, this is known by talking with Elders in the past that have since passed away.
I do have a concern with future works in the areas, as I have seen by working on previous major road upgrades.
In a lot of cases the plans that we view and the works areas are different, we need to be informed of any changes to works.
There should be Aboriginal Cultural Heritage training to all people working on our country, and this should be delivered by the traditional owners of country.
All recommendations by site officers should be taken into account as our cultural knowledge may not be able to be interpreted by mainstream archaeologists.
A position for site officers should be made so that they can oversee all works that occur during ground disturbance (not as monitors) during the duration of the upgrades.

GRAFTON NGERRIE LOCAL



ABORIGINAL LAND COUNCIL

ABN : 65 563 910 928

PHONE: 02 6642 6020

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EMAIL: gnlalc@bigpond.com

50 WHARF ST
SOUTH GRAFTON
PO BOX 314
SOUTH GRAFTON,
NSW 2460

Vanessa Edmonds
SKM

Tuesday, 31 July 2012

RE: Upgrading the Pacific Highway – Woolgoolga to Ballina Upgrade- Culture and Heritage Assessment Report (CHAR) Version 7

To Vanessa,

I am writing in regard to the Aboriginal Cultural Heritage Assessment Report (CHAR) version 7 06/06/2012.

I have major concerns with the validity of statements made throughout the report, the following are my findings;

The Executive summary states the CHAR is to describe and assess the potential Aboriginal Culture and Heritage (C&H) Impacts.

Consultation: Community commenting on draft policies – there is no scope for Aboriginal people to have their comments and questions actioned and to be a-part of the negotiation and basis of these reports.

Throughout the CHAR the information/comments from key stakeholders at the consultations have been stated, although they have not been regarded in the same significance as an archaeological opinion, Aboriginal Site officers are experts in their field, they are the only people who can perform these duties, no university degree can teach what has been passed down for thousands of years, I am disheartened by SKM and RMS using policy to avoid their moral and ethical obligation to Aboriginal people.

I might also bring to your attention to the fact that Australia is a signatory to the United Nations Charter of Indigenous Rights in particular;

(Article 11)

1. Indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artifacts, designs, ceremonies, technologies and visual and performing arts and literature.

2. States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.

The CHAR has not achieved outcomes for the Aboriginal Community, consultation should be meaningful with desired outcomes for all parties, and it has simply achieved its purpose to liaise with the Aboriginal community or consult, with no outcomes, the end result being biased toward the proponent. This is a flawed consultation process.

PUBLIC

Assessment findings:

Four cultural places were identified and are "likely" to be impacted upon, this word is highly ambiguous, this report must reflect the communities comments, these culturally significant places "will" be impacted upon. It also must be noted that you have stated that " no indirect impacts to sites outside the project corridor are "likely", this is concluding that no sites will be impacted upon outside the project corridor, I find this statement hard to process as you cannot make an assumption that other sites outside the corridor will not be affected as these sites have not been identified or assessed.

SKM – have not given appropriate information regarding the options for C&H management, SKM have promoted removing the artefacts, rather than any other strategy available to the Aboriginal community.

1.2.2- Scope of assessment;

"Develop management recommendations in consultation with Aboriginal parties"

We have consulted and have been dictated to the terms of the RMS - Procedure for Aboriginal cultural heritage consultation and investigation - (PACHCI), we have provided comment with no outcome and no inclusion in the management recommendations.

1.2.3 – Study requirements;

Appropriate legislation listed does not contain the NSW Aboriginal Land Rights Act 1983 (ALRA 1983) nor do I see any reference to the United Nations Charter of Indigenous Rights (From which Australia is a signatory) as stated before RMS and SKM have a moral and ethical obligation to Aboriginal people when conducting consultation.

Table 1.1- it must be noted no cultural assessments have been undertaken outside the corridor, if any works outside the corridor are impacted Ngerrrie LALC will take appropriate measures for action.

1.3.3 – Previous cultural heritage assessment;

This assessment was completed with Lindsay Smith - Navin Officer, I recognise the letter provided although it was a verbal agreement with Lindsay Smith that a second assessment is to be completed due to the high vegetation in the area of Glenugie, it must be noted that it states 90% was assessed, this is misleading and an incorrect statement as it was not properly assessed, C&H at Glenugie was destroyed due to a verbal agreement not being kept.

Page 95-96 – This related to cultural heritage assessment – It is noted a letter of clearance from one of our Site Officers is in the report, this letter was requested from Lindsay Smith with a verbal agreement that we could assess the area a second time as the first assessment was not deemed to be sufficient due to the vegetation. This work was also over a 1 day period on 27.11.07, I do agree the letter is very broad but it is not reflective of the verbal agreement with Lindsay Smith, it would also be considered reckless on the RTA's (RMS) side to assume this is an approval for the entire project. (This has been used to destroy C&H values in the Glenugie area).

2 - Legislative context;

No mention of the ALRA 1983 However the Native Title Act 1994 is quoted. This is also evident throughout the document, 3.1 NSWALC is a stakeholder although their legislation does not warrant them to be in the legislative context.

3.2 RMS Consultation procedures;

"Aboriginal community had an opportunity to contribute to the assessment and have been empowered by this", this may be a feel good statement for RMS and SKM, but it is far from the truth of the outcomes of the consultation.

PUBLIC

If SKM and RMS conducted a meaningful consultation process then yes we may have been empowered, instead we are disgusted by the amount of respect given to valuing Aboriginal people's comments and suggestions, as none of these comments have formed the basis for these reports.

We are disappointed in the lack of outcomes for the Aboriginal community as it is a merely tokenistic gesture for us to be invited to the AFG meetings as there have been no outcomes from a meaningful consultation.

Table 3.2 AFG;

It was promoted by SKM to remove objects rather than other mitigation strategies that were available.

3.3 -3.4 – AFG meetings;

Continually we have informed RMS & SKM of the severe lack of adequate time to call and organise a meeting, this has shown great disrespect and devaluing of the vital input needed from key stakeholders. A-lot of Stakeholders were unable to attend to ensure the consultation process was adequate. The consultation has not been adequate.

3.4.3 – Again letters sent to the Registrar of the ALRA 1983 but no inclusion in the legislative context.

3.4.3.1 – The Major concern was the issue that the RTA (RMS) had not consulted re: the PACHCI policy, and the issues of Aboriginal Staff developing these policies for all Aboriginal people in NSW is a culturally inappropriate practise, the PACHCI also provides no scope for a second assessment even when the first assessment could not be completed due to the overgrown vegetation.

It is enough for me to determine the consultation was a tokenistic gesture and the outcomes of the consultation has provided the RMS with exactly what is required of their own policy and that is to tick the box to say they have consulted with Aboriginal communities, whether it was meaningful or not means nothing in the PACHCI, as it has no scope for outcomes.

4.2 – Generalised comments about Aboriginal people in the area;

Has the RMS & SKM, obtained advice from local Aboriginal people to what you have described in your statements of Aboriginal occupation, Boundaries, social organisation, settlement patterns, material culture, resources, spiritual locations and culture, and a perspective on European and Aboriginal interaction. If you are to write about a Local Aboriginal people it would be advisable to seek their views in regards to information portrayed about their people, we are not all one group of people we have different customs and lore, to portray anything less than this would be disrespectful and an inaccurate account of the Local Aboriginal peoples within this area.

5.2 Methodology;

“Consider information from Elders and knowledge holders”

Consider is also an ambiguous statement, as to consider advice is not the same as actually acting upon advice. Comments and advice must be acted upon to ensure the process of this CHAR is a reflecting of a proper consultation process. (From which this CHAR clearly is not)

5.3 Aboriginal Cultural Knowledge;

To define this statement you must consider the Aboriginal perspective, that means consulting and obtaining advice and adding it in this section of the CHAR, it is something that could be contrast to your referencing of a book.

PUBLIC

Yes a-lot of knowledge has been lost due to the colonisation of Australia, what you have failed to note is a-lot of knowledge has been retained for thousands of years and is still thriving in our communities today.

Table 5.2 Aboriginal stories;

I would hope these stories have been approved for release, if not you must not include them.

6.3

It is stated that 94% of the project was surveyed, although the other 6% is not considered to be of risk of cultural heritage sites and or places.

I am interested as to how that conclusion was made, if the 6% was existing roads it would need to be stated here, as it is unclear of what exactly the 6% relates to.

6.1 Site identification;

The updated sites were updated to not being a site, I am interested as to how this process happened as in the report it does not state how this decision was made to remove them as sites. (Who determined this?)

7.1.2 Aboriginal peoples views on significance;

These are also spiritual, the statement made " although most Aboriginal people also value scientific information a site may be able to provide" A statement like this cannot be made as you would need to speak with all Aboriginal people of NSW anything less is culturally inappropriate. This comment is a generalised comment about all Aboriginal people that might not be accurate.

8.3.2- Assessment;

Aboriginal spiritual sites do not dissipate, whether a building or prior developments including roads and logging, have occurred, this does not mean spiritual sites are not still present.

The statement "approximately 15% of the project corridor has been extensively impacted by previous earthmoving works and construction" cannot be made due to spiritual sites not yet assessed or identified, as I have stated these sites do not dissipate therefore these areas are subject to cultural assessment by Aboriginal site officers.

I do not recall any of the GNLALC Site officers that were "comfortable" with the mitigation strategies, as stated before it was promoted to our site officers to simply remove the object but no other options were explored thoroughly as it was in the best interest of SKM and RMS to have the sites removed. It must be noted this is a generalised statement and not a true indication of the consultation or lack of.

The report describes that Aboriginal people with the guidance of RMS – have sacrificed what is deemed to be less culturally significant to save what is deemed by RMS to be more significant. It is disheartening that from the first AFG all staff of various departments such as SKM, RMS have been told from the outset that all of Australia is significant to Aboriginal people whether it has been developed or not, it is noted in minutes but again obviously not acted upon, this is why the RMS, SKM and this CHAR has failed to deliver a true and accurate indication of Aboriginal peoples views and concerns relating to C&H within the Woolgoolga to Ballina upgrade.

9.1 Culture and Heritage induction;

This must be completed by Aboriginal people that are not working in RMS, SKM, OEH or any other Government organisation, this is simply good governance in any organisation.

9.4

An Aboriginal Site Officer must be contacted immediately, then present to detail any findings of unexpected artefacts or skeletal remains.

PUBLIC

The issue will be how does the proponent ensure Employees know what they are looking at, it also raises the question as to their conflict of interest in obviously not wanting the project to stop, this raises huge issues as sites have been destroyed and overlooked in the name of State significant infrastructure.

As described 9.4, "Inductions must be completed by Aboriginal people that are not working in RMS, SKM, OEH or any other Government organisation, this is simply good governance in any organisation".

The PACHCI is devaluing Aboriginal people by not involving them in the processes, we have a lifetime obligation to protect our C&H and we are disappointed by RMS and SKM's sheer disregard for their moral and ethical obligations to the Aboriginal communities throughout this project.

I will also again quote the UN Charter of indigenous rights from which Australia is a signatory, I would expect you to have a read of this and become aware of what it entails especially if you are going to write a report that is in direct contravention of it.

This document needs a full overhaul "rewritten" before I can be confident in agreeing that it is a true reflection of the consultation process or lack of consultation as it were.

This letter must be attached to this report to ensure anyone reading it understands the flaws in the Cultural Heritage Assessment report (CHAR) undertaken by SKM and RMS.

If you require any more information I would be more than happy to discuss further.

Yours sincerely,



Wesley Fernando
Chief Executive Officer

Grafton **Ngerrie Local Aboriginal Land Council**
Office Address : 50 Wharf Street
South Grafton NSW 2460
Postal Address: Po Box 314
South Grafton NSW 2460
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E-mail: gnlalc@bigpond.com



PUBLIC

From: Edmonds, Vanessa (SKM)
Sent: Friday, 24 August 2012 1:05 PM
To: Wesley Fernando
Cc: Brooke, Joseph (SKM); Goldfarb, Amanda (SKM)
Subject: Response to cemmments on CHAR W2B

Hi Wes,

The Planning Alliance would like to thank Grafton-Ngerrie LALC for their comments and feedback regarding the Cultural Heritage Assessment Report (CHAR) that was prepared for the Woolgoolga to Wells Crossing and Wells Crossing to Iluka Road sections of the Pacific Highway Upgrade.

The Alliance would like to address some of the comments received from Grafton-Ngerrie LALC on 1 August 2012 with changes we have made to the CHARs and in a few cases a request for clarification or further information. Your comments are in italics and the Alliance's response is below that.

- 1. 'Throughout the CHAR the information/comments from key stakeholders at the consultations have been stated, although they have not been regarded in the same significance as an archaeological opinion, Aboriginal Site officers are experts in their field, they are the only people who can perform these duties, no university degree can teach what has been passed down for thousands of years'*

The Alliance acknowledges and respects that Grafton-Ngerrie LALC site officers are experts in their field and agree that no degree could teach this. Archaeological significance and Aboriginal cultural significance have been given equal weighting in the significance assessment within the CHAR, is there any specific comments or part of the CHAR that you are referring to where you feel site officer's knowledge has been disregarded?
- 2. 'SKM and RMS have used policy to avoid their moral and ethical obligation to Aboriginal people'*

The Alliance (including SKM and RMS) is working within a regulatory framework that limits what we can do, or recommend in our assessment, and feel we have acted in a moral manner, and in accordance with the ethical codes of our practice.
- 3. 'Four cultural places were identified and are "likely" to be impacted upon, this word is highly ambiguous, this report must reflect the communities comments, these culturally significant places "will" be impacted upon'*

This has been amended in the CHAR from 'likely' to 'will'.
- 4. 'It also must be noted that you have stated that " no indirect impacts to sites outside the project corridor are "likely", this is concluding that no sites will be impacted upon outside the project corridor, I find this statement hard to process as you cannot make an assumption that other sites outside the corridor will not be affected as these sites have not been identified or assessed'*

This has been amended in the CHAR to "no indirect impacts will occur to known sites/places".
- 5. 'SKM have not given appropriate information regarding the options for C&H management, SKM have promoted removing the artefacts, rather than any other strategy available to the Aboriginal community. "Develop management recommendations in consultation with Aboriginal parties" We have consulted and have been dictated to the terms of the RMS - Procedure for Aboriginal cultural heritage consultation and investigation - (PACHCI), we have provided comment with no outcome and no inclusion in the management recommendations'*

The recommendations in the CHAR have been amended to include inspections of identified sites following clearing (as per discussions at the last AFG). An additional mitigation that is posed in the CHAR is 'In acknowledgement of local Aboriginal people's connection to and millennia of continued use of the land and its natural resources, registered Aboriginal stakeholders should be provided with the reasonable opportunity to have access to some of

the natural resources within the boundary of the project to maintain and develop their cultural traditions. This could include a selection of trees, or other plants. These trees or other resources should be identified in pre-construction prior to vegetation clearance.' If there are any additional mitigation strategies that you would like considered, please let us know ASAP, as the CHARs are in the process of being finalised in the next few days.

6. *'1.3.3 – Previous cultural heritage assessment; This assessment was completed with Lindsay Smith - Navin Officer, I recognise the letter provided although it was a verbal agreement with Lindsay Smith that a second assessment is to be completed due to the high vegetation in the area of Glenugie, it must be noted that it states 90% was assessed, this is misleading and an incorrect statement as it was not properly assessed, C&H at Glenugie was destroyed due to a verbal agreement not being kept. Page 95-96 – This related to cultural heritage assessment – it is noted a letter of clearance from one of our Site Officers is in the report, this letter was requested from Lindsay Smith with a verbal agreement that we could assess the area a second time as the first assessment was not deemed to be sufficient due to the vegetation. This work was also over a 1 day period on 27.11.07, I do agree the letter is very broad but it is not reflective of the verbal agreement with Lindsay Smith, it would also be considered reckless on the RTA's (RMS) side to assume this is an approval for the entire project. (This has been used to destroy C&H values in the Glenugie area).'*

The current project team are not responsible for the Glenugie project, nor any power in the mitigation implemented there. RMS have previously noted your complaints in regards to the Glenugie project.

7. *'Appropriate legislation listed does not contain the NSW Aboriginal Land Rights Act 1983 (ALRA 1983) nor do I see any reference to the United Nations Charter of Indigenous Rights (From which Australia is a signatory)'*

These have been added to the legislative context (Section 2).

8. *'Table 1.1- it must be noted no cultural assessments have been undertaken outside the corridor, if any works outside the corridor are impacted Ngerrie LALC will take appropriate measures for action.'*
The CHAR has been amended to include 'Any impact proposed beyond the boundary of the project as assessed in this report must be subject to assessment and consultation consistent with the process in this report.' to Section 9.2.
9. *'"Aboriginal community had an opportunity to contribute to the assessment and have been empowered by this", this may be a feel good statement for RMS and SKM, but it is far from the truth of the outcomes of the consultation. None of Aboriginal comments and suggestions have been included or form the basis of this report'*

See response to comment 5, additionally, this statement has been amended in the CHAR to remove 'and have been empowered by this'

10. *'Continually we have informed RMS & SKM of the severe lack of adequate time to call and organise a meeting, this has shown great disrespect and devaluing of the vital input needed from key stakeholders. A lot of Stakeholders were unable to attend to ensure the consultation process was adequate. The consultation has not been adequate'*

As discussed at the last AFG meeting, the Alliance apologises for the lack of notice, as much notice as possible has been given, but project timelines have meant that the requested 4 weeks notice has not been possible. Are there any specific stakeholders who you believe should have been involved that weren't?

11. *'4.2 – Generalised comments about Aboriginal people in the area'*

The CHAR has been amended in several parts to reduce generalisations, as well as the following statement, 'It should be noted that Indigenous communities across Australia are extremely diverse, and generally defy generalisation. The above descriptions are common

conceptions of Aboriginal cultural landscapes and values, however, a large range of beliefs and practices are evident across Australia and uniformity should not be assumed.'

12. *'Has the RMS & SKM, obtained advice from local Aboriginal people to what you have described in your statements of Aboriginal occupation, Boundaries, social organisation, settlement patterns, material culture, resources, spiritual locations and culture, and a perspective on European and Aboriginal interaction. If you are to write about a Local Aboriginal people it would be advisable to seek their views in regards to information portrayed about their people, we are not all one group of people we have different customs and lore, to portray anything less than this would be disrespectful and an inaccurate account of the Local Aboriginal peoples within this area.'*

The Alliance has developed on the previous consultation undertaken by South East Archaeology and Navin Officer in regards to local Aboriginal culture in the region, the statements have been developed partially from reference books and previous discussions with local Aboriginal people, but also include information from local Aboriginal people through the consultation for the project. The Alliance recognises that this is not always evident in the CHAR and further references to those who offered the information have been included.

13. *'5.2 Methodology; "Consider information from Elders and knowledge holders" Consider is also an ambiguous statement, as to consider advice is not the same as actually acting upon advice. Comments and advice must be acted upon to ensure the process of this CHAR is a reflecting of a proper consultation process. (From which this CHAR clearly is not)'*

See response to comment 5. Additionally, comments and advice from Elders and knowledge holders have been acted upon where possible, however, unfortunately comments cannot always be acted upon, due to other conflicting restrictions (be they regulatory, or other constraints such as environmental, economic or social issues). Are there any specific comments or advice you feel have been overlooked in the CHAR?

14. *'5.3 Aboriginal Cultural Knowledge; To define this statement you must consider the Aboriginal perspective, that means consulting and obtaining advice and adding it in this section of the CHAR, it is something that could be contrast to your referencing of a book. Yes a-lot of knowledge has been lost due to the colonisation of Australia, what you have failed to note is a-lot of knowledge has been retained for thousands of years and is still thriving in our communities today.'*

See response to comment 11.

15. *'Table 5.2 Aboriginal stories; I would hope these stories have been approved for release, if not you must not include them.'*

Only approved stories have been included in the CHAR, and only stories approved for public circulation have been included in the public version – the version you received was the confidential version which will only be circulated within RMS, reviewed by OEH and assessed by the Department of Planning and Infrastructure.

16. *'6.3 It is stated that 94% of the project was surveyed, although the other 6% is not considered to be of risk of cultural heritage sites and or places. I am interested as to how that conclusion was made, if the 6% was existing roads it would need to be stated here, as it is unclear of what exactly the 6% relates to.'*

The CHAR has been amended to include that this 6% is, as you say, predominantly existing roads and primarily the current Pacific Highway. Additionally, the following statement has been added: 'It should be noted however, that Aboriginal stakeholders consulted felt that despite previous impacts, these areas still retained cultural and potentially unidentified spiritual significance' to section 6.3.

17. *'6.1 Site identification; The updated sites were updated to not being a site, I am interested as to how this process happened as in the report it does not state how this decision was made to remove them as sites. (Who determined this?)'*

PUBLIC

This was determined due to no presence of Aboriginal heritage material identified during sub-surface testing. This was agreed by the relevant site officers in the field.

18. *'7.1.2 Aboriginal peoples views on significance; These are also spiritual, the statement made " although most Aboriginal people also value scientific information a site may be able to provide" A statement like this cannot be made as you would need to speak with all Aboriginal people of NSW anything less is culturally inappropriate. This comment is a generalised comment about all Aboriginal people that might not be accurate.'*

The CHAR has been amended to say 'some Aboriginal people' not 'most' in section 7.1.2.

19. *'The statement "approximately 15% of the project corridor has been extensively impacted by previous earthmoving works and construction" cannot be made due to spiritual sites not yet assessed or identified, as these sites do not dissipate therefore these areas are subject to cultural assessment by Aboriginal site officers.'*

The CHAR has been amended to say 'It should be noted however, that Aboriginal stakeholders consulted felt that despite previous impacts, these areas still retained cultural and potentially unidentified spiritual significance' in section 8.3.2

20. *'I do not recall any of the GNLALC Site officers that were "comfortable" with the mitigation strategies'*
Any mention of GNLALC agreeing or being comfortable with recommendations have been removed.

21. *'9.1 Culture and Heritage induction; This must be completed by Aboriginal people that are not working in RMS, SKM, OEH or any other Government organisation, this is simply good governance in any organisation.'*

Regrettably, the Alliance is constrained in this instance by the RMS PACHCI, and cannot require that this be undertaken externally nor require that local Aboriginal people undertake this. However, the CHAR has been amended to put in the recommendation in regard to cultural heritage awareness training saying: "Where possible, this should be undertaken externally, and the possibility of the registered a local Aboriginal stakeholders organisation providing this service should be explored."

22. *'9.4 An Aboriginal Site Officer must be contacted immediately, then present to detail any findings of unexpected artefacts or skeletal remains.'*

The CHAR has been amended to include recommendation: 'any non-complying impact to Aboriginal heritage sites should be reported to the registered Aboriginal stakeholders, and resolved jointly between RMS and the registered Aboriginal stakeholders'.

I hope my comments above have gone at least some way to addressing your comments on these CHARs. If you would like further information or would like to discuss these CHARs further, please feel free to contact me. If you would like any further inclusions to the CHARs, please let us know ASAP, as the CHARs are in the process of being finalised in the next few days.

Kind regards,

Vanessa Edmonds
Lead Archaeologist-W2B Alliance

Practice Leader
Cultural Heritage Assessments
Full Member Australian Association of Consulting Archaeologists Inc
BA (Australian Prehistory), M. Litt (Archaeology and Palaeoanthropology)

PUBLIC

Table 6 Comments and responses table

Date	Time	Alliance contact	Method	Contact person	Organisation	Subject
20 August 2012	12:25 pm	Joseph Brooke	Phone	Milton Duroux EJ Williams	Yarrawarra Aboriginal Corporation (incorporating the Garby Elders Group)	Jo spoke to Milton regarding the Woolgoolga to Wells Crossing, and Wells Crossing to Iluka Roads CHARs and he said that he had looked over some parts of them, and that the reports were good, and he was happy with the recommendations.

PUBLIC

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

E.5 Statement of findings

Woolgoolga to Ballina Planning Alliance
 A team consisting of RTA, SKM and Aurecon



Memo

To	Chris Gorman	Project No	EN02829.721
From	Joseph Brooke	Date	14 October 2011
Copy	Vanessa Edmonds Graham Purcell Rowena Mitchell		
Subject	October 2011 Aboriginal heritage survey results		

1. Introduction

This memo summarises the results of the field survey undertaken on 4 – 7 October 2011.

2. Aims

The survey was undertaken to fill gaps in previous survey coverage within the project corridor where there was potential for Aboriginal objects to occur. These gaps were due to previous access issues or project corridor modifications, and occurred on the boundary of the Iluka Road to Woodburn and Woodburn to Ballina sections, the Wells Crossing to Iluka Road section and the Woolgoolga to Wells Crossing section.

3. Personnel

Survey was undertaken by Andrew Costello (Alliance Senior Archaeologist), Erica Weston (Alliance Graduate Archaeologist), Joseph Brooke (Alliance Archaeologist), and Site Officers representing the relevant Aboriginal stakeholder groups. Site Officers who took part in survey are included in Table 1.

- Table 1: Survey dates and Aboriginal site officers present.

Date	Aboriginal Site Officers
4/10/2011	Marcus Fergusson (Jali LALC) Dean Bolt (Jali LALC) Daryl Knight (Bogal LALC) Shane McLeay (Yaegl LALC) Dale Mercy (Yaegl LALC) Lee Laurie (Yaegl LALC) Malcolm Brown (Birrigan-Gargle LALC) Kurtis Laurie (Birrigan-Gargle LALC) Fox Laurie (Birrigan-Gargle LALC)

30 July 2010

Date	Aboriginal Site Officers
5/10/2011	Shane McLeay (Yaegl LALC) Dale Mercy (Yaegl LALC) Lee Laurie (Yaegl LALC) Malcolm Brown (Birrigan-Gargle LALC) Kurtis Laurie (Birrigan-Gargle LALC)
6/10/2011	Shane McLeay (Yaegl LALC) Dale Mercy (Yaegl LALC) Lee Laurie (Yaegl LALC) Malcolm Brown (Birrigan-Gargle LALC) Kurtis Laurie (Birrigan-Gargle LALC)
7/10/2011	Milton Duroux (Yarrawarra Aboriginal Corporation) Anthony Dootson (Yarrawarra Aboriginal Corporation) Wes Fernando (Grafton-Ngerrie LALC) Rodney Duroux (Grafton-Ngerrie LALC) Mark Fergusson (Garlambirla Guuyu-girrwaa Corporation) Mark Flanders (Coffs Harbour LALC)

4. Methodology

The methodology for the survey followed a standard approach:

- Survey areas were defined on the basis of landholder information; a survey area was constituted by a block of land with unique property information in a previously unsurveyed area within the project corridor.
- Survey teams walked over survey areas spaced approximately 5 m – 10 m apart.
- Particular attention was given to areas where ground surface visibility was possible or where the sub-surface was exposed.
- PADs were identified through a combination of desktop landform analysis and onsite landform and geomorphological analysis, in conjunction with Aboriginal sites officers.
- Where a block of land was not physically traversable, specifically un-harvested cane paddocks, an assessment of the survey area was made for Aboriginal heritage potential. All such areas were determined to have no Aboriginal heritage potential.
- Ground surface visibility and any sub-surface exposures were noted for each survey area, along with other observations of the area, such as vegetation type, previous modification/disturbance, landform and land-use.
- The locations of all Aboriginal sites and areas of PAD were recorded using a differential Global Positioning System (GPS) unit.

5. Results

One Aboriginal heritage site was identified, Sherwood North, which comprises an isolated artefact found mid-lower slope on a track, and a PAD component further up-slope on the upper slopes and crest of a spur (Figures 1 and 2). The artefact is thought to have been washed or graded from further up-slope. Recommendations for this PAD were to manually test off the track, and mechanically scrape back overburden on sides of the track to see if additional material exists there. The location of the site is shown in Figure 3.

30 July 2010



■ Figure 1: Location of Sherwood North (artefact); PAD is in rear of shot. Scale interval is 20cm.



■ Figure 2: Artefact at Sherwood North; scale bar is 20 cm.

Additionally, PAD 14 and Tuckombil Canal PAD, which were previously identified from property boundaries, were decided by Aboriginal Site Officers and Archaeologists that they were no longer PADs.

Also, Parkers Road Scarred Tree was inspected with representatives of the relevant registered Aboriginal stakeholders. It was the opinion of these representatives, who are traditional

30 July 2010

owners of the area, and Joseph Brooke and Andrew Costello (Alliance Archaeologists) that this was not an Aboriginal scarred tree. The site record for this site should be updated and submitted to AHIMS and it is recommended that this site no longer provides a constraint to the project.

Yours sincerely

Joseph Brooke
Alliance Archaeologist
Phone: 03 8668 3348
E-mail: 03 8668 3001

Woolgoolga to Ballina Planning Alliance

A team consisting of RMS, Aurecon and SKM



Transport
Roads & Maritime
Services



Memo

To	Yarrawarra Local Aboriginal Land Council Garby Elders Garlambirla Guuyu-girrwa Corporation Grafton-Ngerrie LALC Coffs Harbour LALC	Project No	EN02829
From	Vanessa Edmonds	Date	29/02/2012
Copy	W2B Project Team		
Subject	Woolgoolga to Ballina Planning Alliance – Cultural heritage sub-surface testing, statement of findings – Woolgoolga to Wells Crossing		

1. Introduction

This memo reports on the findings of the cultural heritage sub-surface test excavations between Woolgoolga to Wells Crossing, undertaken as part of the Woolgoolga to Ballina Pacific Highway Upgrade. The work has been undertaken by the Woolgoolga to Ballina Alliance on behalf of Roads and Maritime Services NSW.

2. Sub-surface Testing

2.1. Aim

The aim of the investigation was to undertake archaeological sub-surface testing in areas of potential archaeological deposits (PAD) within the project corridor between Woolgoolga and Wells Crossing.

The sub-surface testing aimed:

- To undertake sub-surface testing in/around sites with PAD, to determine the depth, extent and significance of the site.
- To undertake sub-surface testing in areas of PAD to determine the presence of Aboriginal objects, and if present the depth, extent and significance of any those objects.
- To undertake sub-surface testing in a small sample of areas predicted not to contain archaeological deposits (also called control areas) to ensure that we are targeting the right areas.
- To consult with Aboriginal stakeholders in regards to this work and the sites being tested.

29 February 2012

2.2. Timing and personnel

Sub-surface testing within the Woolgoolga to Wells Crossing section was undertaken between 14 November and 18 December 2011 (Week 4 to Week 8).

■ **Table 1 Timing and Personnel involved in sub-surface testing.**

Week Number	SKM Supervisors	SKM Personnel	Sub-consultants	Aboriginal Stakeholders
Week 4 (14 November – 20 November 2011)	Robyn Jenkins	Erica Weston	Clair Davey Christian Thumer Tristan Minter Tom Hoyle	Yarrawarra Aboriginal Corporation Anthony Dootson Garby Elders Milton Duroux Grafton-Ngerrie LALC Rod Duroux Brett Duroux
Week 5 (21 November – 27 November 2011)	Joseph Brooke Michael Jones	Erica Weston Vanessa Edmonds Amanda Goldfarb	Morgan Wilcox Tristan Minter Tom Hoyle Christian Thumer	Yarrawarra Aboriginal Corporation Rick Cain Garby Elders Milton Duroux Coffs Harbour LALC Mark Flanders Jake Kennedy Garlambirla Guuyu-girrwa Corporation Mark Ferguson
Week 6 (28 November – 4 December 2011)	Michael Jones	Erica Weston Amanda Goldfarb	Christian Thumer Tom Hoyle Tristan Minter Morgan Wilcox Jay Yost	Yarrawarra Aboriginal Corporation Milton Duroux Rick Cain Coffs Harbour LALC Mark Flanders Jake Kennedy Garlambirla Guuyu-girrwa Corporation Mark Ferguson
Week 7 (5 December – 11 December 2011)	Robyn Jenkins	Erica Weston	Jay Yost Tom Hoyle Morgan Wilcox	Yarrawarra Aboriginal Corporation Milton Duroux Rick Cain Coffs Harbour LALC Mark Flanders Jake Kennedy

29 February 2012

Week 8 (12 December – 18 December 2011)	Vanessa Edmonds	Erica Weston	Simon Cox Laura Bates	Yarrawarra Aboriginal Corporation Milton Duroux Noeline Kennedy Coffs Harbour LALC Mark Flanders Jake Kennedy Garlambirla Guuyu- girrwa Corporation Mark Ferguson
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2.3. Methodology

Sub-surface test excavations took place at all sites and PADs identified across the projected corridor between Woolgoolga and Wells Crossing (excluding Dirty Creek PAD).

Excavation occurred subject to the conditions outlined in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010*. This included:

- Excavating only within the project corridor
- Excavating a series of 0.5 m x 0.5 m test-pits by hand tools (eg trowel and shovel)
- Spacing test-pits 10 m - 20 m apart in transects or parallel transects to create a grid
- Excavating in a controlled manner, with the first test-pit for each test-area being dug in 50 mm spits (depth units). Subsequent test-pits in that test-area were then excavated in 50 mm - 100 mm spits (depending on soil layers identified)
- Sieving excavated sediment using ~5 mm aperture wire-mesh sieves
- Excavating below archaeological deposits and into sterile soils
- Excavating no more than 0.5 per cent of the test-area (site with PAD, PAD, or control area), unless the site is less than 50 m²
- Drawing stratigraphic profiles on site, and taking scaled photos of every test-pit
- Finishing test-excavation in a test-area when enough information has been recovered to adequately characterise the objects present with regard to their nature and significance
- Backfilling all completed test-pits

Any Aboriginal objects that were uncovered during test excavation were analysed in the field.

Until Director-General Requirements were issued on 23 November 2011 (midway through this sub-surface testing), in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010*, sub-surface investigation was not undertaken in the following areas:

- In or within 50 m of an area where burial sites are known, or are likely to exist

29 February 2012

- In or within 50 m of a declared Aboriginal place
- In or within 50 m of a rock shelter, shell midden or earth mound
- In areas known or suspected to be Aboriginal missions or previous Aboriginal reserves or institutes
- In areas known or suspected to be conflict or contact sites

Areas in the Woolgoolga to Wells Crossing activity area that fall into any one of these categories are:

- Sherwood Creek Road to Kangaroo Trail Road – broad low-lying portion of coastal plain from north of Sherwood Creek Road to near Kangaroo Trail Road. There are known Aboriginal burials in a similar context within the vicinity
- WWC 46/A – located on vehicle track in forest on flat north of Corindi Creek. Deep alluvial soils expected. There are known Aboriginal burials in a similar context within the vicinity

Excavations in these areas were to started until after the Director-General Requirements were received.

- **Table 2: PADs and sites located within Woolgoolga to Wells Crossing section of project corridor following completion of survey**

Project section	Name / AHIMS ID	Type (s)	Description
1	WWC 5/A	Site - Artefact scatter and PAD	Located on spur crest at Farm Trail on west side of existing highway. Potentially many more artefacts; shallow skeletal soil.
1	WWC 18	Site - Artefact scatter and PAD	Broad area on spur crest at Sherwood Creek Road, west of existing highway. Partially within, partially adjacent to project corridor. Potentially many more artefacts; shallow skeletal soil.
1	WWC 28/A	Site - Isolated artefact	Located on east side of existing highway and west of Eggins Drive.
1	Sherwood Creek Road to Kangaroo Trail Road	PAD	Broad low-lying portion of coastal plain from north of Sherwood Creek Road to near Kangaroo Trail Road. Known Aboriginal burials in similar context nearby.
1	WWC 37/A	Site - Artefact scatter and PAD	South of Corindi River; shallow skeletal soil.

29 February 2012

Project section	Name / AHIMS ID	Type (s)	Description
1	WWC 39	Site - Artefact scatter and PAD	Prominent very gentle ridge crest south of the Corindi River and adjacent gentle simple slope leading north to creek and creek flats. Several less common artefact types. Deposits potentially relatively deep and intact in places, although levels of disturbance also possibly high in portions of this area. High potential for sub-surface deposit.
1	WWC 46/A	Site - Isolated artefact and PAD	Located on vehicle track in forest on flat north of Corindi Creek. Deep alluvial soils inferred. Known Aboriginal burials in similar contexts nearby.
1	WWC 53/A	Site - Isolated artefact	Located on margin of vehicle track north of Redbank Creek.
1	Dirty Creek PAD	PAD	Slopes and top of rise nearby Dirty Creek.
1	WWC 78/A	Site - Isolated artefact	Located east of existing highway and Range Road.
1	WWC 115/A	Site - Artefact scatter and PAD	East of existing highway at Halfway Creek duplication near 'Milleara'. Moderate potential for sub-surface deposit
	IA2	Site - Isolated Artefact	Already impacted by Halfway Creek Duplication
2	WWC 135/A	Site - Artefact scatter and PAD	East of existing highway immediately north of Wells Crossing. Moderate to high potential for sub-surface deposit.
2	WWC 139/A	Site - Isolated artefact and PAD	On vehicle track north of Wells Crossing and east of existing highway and Parker Road. Moderate potential for sub-surface deposit.

The location of the sub-surface excavation test pits were recorded using a mobile Geographic Information System (GIS) Unit (Trimble® GeoXH™ GeoExplorer®). The Trimble is a powerful field Differential Global Positioning System (DGPS) device used for data collection, allowing for the spatial datasets collected in the field to be post-processed to sub-metre level accuracy once the Global Positioning System coordinates have been differentially corrected. This information was then transferred to the spatial mapping team and disseminated to the various design and construction crews during the planning stages of the project.

The methodology used to test the project corridor for sub-surface Aboriginal cultural material involved the hand excavation of 0.5 m x 0.5 m test pits, removing soils with horizontal control in excavation units (spits) of either 50 mm or 100 mm (or following the natural stratigraphy where possible). The following hand tools were used: trowel, spade, shovel and mattock. In test pits where potential *in situ* Aboriginal cultural heritage material was encountered (eg in well-cemented alluvial deposits), hand tools such as trowels and straight-edged spades were

29 February 2012

used. These 0.5 m x 0.5 m test pits were employed to investigate the sub-surface character of soil deposits and to define the extent of sites. Shovel probes have the advantage of testing a larger area (relatively quickly) in order to gain an overview of the sub-surface characteristics and the extent of subsurface artefacts within a site (Burke and Smith 2004: 125), particularly where there has already been previous sub-surface investigation of the area using trowels. Test pits were aligned in either transects or placed on a grid pattern, to systematically sample the PADs. Test pits were spaced at 5 m, 10 m and 20 m intervals, depending on the observed disturbance of the area, and the predicted sensitivity of the landforms on which the PAD was located.

Soil deposits were sieved using 3 mm and 5 mm sieves. Mechanical sieving was also used, where appropriate. All cultural material, features and other non-cultural inclusions were recorded according to their spit. Records were kept of the provenance and cultural material of excavated soil in relation to the estimated volume of soil removed. Changes in the deposit, stratigraphy and any unusual features were recorded by the use of context sheets related to photographic records. Descriptions of sediment colours were achieved through reference to a Munsell Soil Colour Chart and pH values were determined through a colorimetric test. All test pits were back-filled following completion of excavation and recording.

The methodology used to test the PADs for sub-surface Aboriginal objects involved the hand excavation of 0.5 m x 0.5 m test pits, removing soils with horizontal control in excavation units of 50 mm. The following hand tools were used: trowel, spade, shovel and mattock. In test pits where potential *in situ* Aboriginal cultural heritage material was encountered (eg in well-cemented alluvial deposits), hand tools such as trowels and straight-edged spades were used. These 0.5 m x 0.5 m test pits were employed to investigate the sub-surface character of soil deposits and to define the extent of sites. Test pits were aligned in either transects or placed on a grid pattern, to systematically sample the PADs. Test pits were spaced at 10 m and 20 m intervals, depending on the observed disturbance of the area, and the predicted sensitivity of the landforms on which the PAD was located.

Soil deposits were sieved using 3 mm and 5 mm hand sieves. Dependent on property access a mechanical sieve (5 mm mesh) was also used in conjunction with hand sieves. The location of the excavation sub-surface test pits were recorded using a mobile Geographic Information System (GIS) Unit (Trimble® GeoXH™ GeoExplorer® or the Trimble® Nomad). This allowed for the spatial datasets collected in the field to be post-processed to sub-metre level accuracy once the Global Positioning System coordinates have been differentially corrected.

All Aboriginal objects, features and other non-cultural inclusions were recorded according to their excavation unit. Records were kept of the objects provenance and cultural material of excavated soil in relation to the estimated volume of soil removed. Changes in the deposit, stratigraphy and any unusual features were recorded by the use of context sheets related to photographic records. Stratigraphic profiles of representative test pits were drawn for all PADs/sites. Descriptions of sediment colours were achieved through reference to a Munsell

29 February 2012

Soil Colour Chart and pH values were determined through a colorimetric test. All test pits were back-filled following completion of excavation and recording. Sub-surface testing only ceased when enough information had been recovered to adequately characterise the objects present with regard to their nature and significance.

The analysis of all Aboriginal objects was undertaken in the field. All artefacts retrieved during sub-surface testing were bagged and labelled with appropriate contextual information. Analysis was then undertaken which included all measurements, identification of material, depth and test pit locations and photos. Following detailed analysis in the field, all artefacts were left *in situ* or in reburied in the one location on the site.

All excavations were backfilled with the original soil, where possible ground cover was retained for reinstatement of the test pits following backfilling. Any residual soil was scattered within the vicinity of the site at a low density.

2.4. Constraints

Physical constraints to the sub-surface testing program included; weather, property access and sub-surface obstacles. Wet weather during week 6 caused delays to the fieldwork. Property access issues have thus far prevented sub-surface testing at Dirty Creek PAD.

2.5. Results

The sub-surface testing undertaken during the field investigation resulted in the definition of 14 cultural heritage sites, including artefact scatters (5 sites), isolated artefacts (1) and areas of PAD (6 sites) (Table 3 below). Two scarred trees had previously been identified.

3. Mitigation of impacts

Impacts to the sites in Table 3 are not likely to be avoided by the Pacific Highway Upgrade. One of the purposes of this statement of findings is to seek input from registered Aboriginal stakeholders in regards to impact mitigation measures. This will help RMS to develop recommendations on the management of these Aboriginal cultural heritage sites within the project corridor.

To facilitate your input, basic draft recommendations are included in Table 3 for your comment. These recommendations have been developed based on the following general approach:

- For sites where there are 5 or less stone artefacts recorded, collection of the recorded artefacts is recommended to be undertaken prior to construction of the upgrade.
- For sites where there are more than 5 artefacts recorded, machine salvage excavation is recommended.

Deviations from this approach may be the inclusion of hand excavation salvage where high numbers/ and/or high concentrations of artefacts have been recorded, particularly if they occur in less disturbed contexts.

29 February 2012

Yours sincerely,

Vanessa Edmonds

Principal Archaeologist (Alliance)

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Woolgoolga to Ballina Pacific Highway Upgrade
 Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
 Volume 2: Appendices

29 February 2012

Table 3 Summary of cultural heritage sites (Woolgoolga to Wells Crossing) following sub-surface testing

Project section	Name / AHIMS ID	Type(s)	Description	New Name	New Site Type(s)	Results of sub-surface testing	Total number of artefacts	Recommendations
1	WWC 5/A 22-1-0348	Site - Artefact scatter and PAD	Located on spur crest at Farm Trail on west side of existing highway. Potentially many more artefacts; shallow skeletal soil	WWC 5	Site – Artefact scatter	No test pit excavations undertaken, already impacted by Sapphire to Woolgoolga Pacific Highway Upgrade	10	No further action recommended.
1	WWC 18 22-1-0346	Site - Artefact scatter and PAD	Broad area on spur crest at Sherwood Creek Road, west of existing highway. Partially within, partially adjacent to project corridor. Potentially many more artefacts; shallow skeletal soil	WWC 18	Site – Artefact scatter	8 test pit excavations (.5 m x .5 m) 1 stone artefact (silcrete)	22	Update AHIMS record. Recommended to salvage prior to construction Further consultation with LALC to develop management recommendations for this site.
1	WWC 26/A 22-1-0345	Site - Isolated artefact	Located on east side of existing highway and west of Eggins Drive	WWC 26	Site – Isolated artefact	8 test pit excavations (.5 m x .5 m) No cultural material found	1	Update AHIMS record. Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.

PUBLIC

29 February 2012

Project section	Name / AHIMS ID	Type(s)	Description	New Name	New Site Type(s)	Results of sub-surface testing	Total number of artefacts	Recommendations
1	Sherwood North 22-1-0402	PAD	Located on a spur in a closed woodland, with a cleared section for single-carriage gravel roadways	Sherwood North	Not a site inside project corridor PAD outside project corridor	11 test pit excavations (.5 m x .5 m) No cultural material found	N/A	Update AHIMS record. No further investigation recommended. No cultural heritage site within project corridor.
1	Sherwood Creek Road to Kangaroo Trail Road 22-1-0401	PAD	Broad low-lying portion of coastal plain from north of Sherwood Creek Road to near Kangaroo Trail Road. Known Aboriginal burials in similar context nearby	Sherwood Creek Road to Kangaroo Trail Road	Not a site inside project corridor PAD outside project corridor	No test pit excavations undertaken	N/A	The PAD was all swamp and road cut/fill. In consultation with LALC it was decided to not excavate. The PAD area outside the road alignment was potentially more promising at the south end.
1	WWC 37/A 22-1-0344	Site - Artefact scatter and PAD	South of Corindi River; shallow skeletal soil	WWC 37	Site – Isolated artefact	33 test pit excavations (.5 m x .5 m) 1 stone artefact (chert)	5	Update AHIMS record. Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.

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29 February 2012

Project section	Name / AHIMS ID	Type(s)	Description	New Name	New Site Type(s)	Results of sub-surface testing	Total number of artefacts	Recommendations
1	WWC 39 22-1-0343	Site - Artefact scatter and PAD	Prominent very gentle ridge crest south of the Corindi River and adjacent gentle simple slope leading north to creek and creek flats. Several less common artefact types. Deposits potentially relatively deep and intact in places, although levels of disturbance also possibly high in portions of this area. High potential for sub-surface deposit	WWC 39	Site – Artefact scatter	99 test pit excavations (.5 m x .5 m) 98 artefacts at depth (agate, chalcedony, chert, silcrete, mudstone, quartz, quartzite) 134 surface artefacts (bone, chalcedony, chert, glass, quartz, quartzite, silcrete)	235	Update AHIMS record. Recommended to salvage prior to construction Further consultation with LALC to develop management recommendations for this site.
1	WWC 46/A 22-1-0342	Site - Isolated artefact and PAD	Located on vehicle track in forest on flat north of Corindi Creek. Deep alluvial soils inferred. Known Aboriginal burials in similar contexts nearby	WWC 46	Site – Artefact scatter	30 test pit excavations (.5 m x .5 m) 3 artefacts (chert, silcrete)	4	Update AHIMS record. Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.
1	WWC 53/A	Site - Isolated artefact	Located on margin of vehicle track north of Redbank Creek.	WWC 53	Site - Isolated artefact	No test pit excavations undertaken	1	Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.

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29 February 2012

Project section	Name / AHIMS ID	Type(s)	Description	New Name	New Site Type(s)	Results of sub-surface testing	Total number of artefacts	Recommendations
1	Dirty Creek PAD 13-4-0162	PAD	Slopes and top of rise nearby Dirty Creek	Dirty Creek PAD	PAD	No test pit excavations undertaken	0	Site could not be accessed to undertake surface testing at this site. Further consultation with LALC to develop management recommendations for this site.
1	WWC 78/A	Site - Isolated artefact	Located east of existing highway and Range Road.	WWC 78	Site - Isolated artefact	No test pit excavations undertaken	1	Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.
1	WWC 115/A 13-4-0160	Site - Artefact scatter and PAD	East of existing highway at Halfway Creek duplication near "Milleara". Moderate potential for sub-surface deposit	WWC 115	Site - Artefact Scatter	4 test pit excavations (.5 m x .5 m) No cultural material found	5	Update AHIMS record. Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.
1	IA2	Site - Isolated Artefact	Already impacted by Halfway Creek Duplication	IA2	Site - Isolated Artefact	No test pit excavations	N/A	No further action required, site has previously been destroyed

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29 February 2012

Project section	Name / AHIMS ID	Type(s)	Description	New Name	New Site Type(s)	Results of sub-surface testing	Total number of artefacts	Recommendations
2	WWC 135/A 13-4-0159	Site - Artefact scatter and PAD	East of existing highway immediately north of Wells Crossing. Moderate to high potential for sub-surface deposit.	WWC 135	Site – Artefact scatter	5 artefacts (silcrete, quartz, glass)	7	Prepare AHIMS site card to include artefacts. Recommended to salvage prior to construction Further consultation with LALC to determine management recommendations for this site
2	WWC 139/A 13-4-0157	Site - Isolated artefact and PAD	On vehicle track north of Wells Crossing and east of existing highway and Parker Road. Moderate potential for sub-surface deposit	WWC 139	Site - Isolated artefact	3 test pit excavations (.5 m x .5 m) No cultural material found	1	Update AHIMS record. Recommended to collect prior to construction. Further consultation with LALC to develop management recommendations for this site.

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29 February 2012

Project section	Name / AHIMS ID	Type(s)	Description	New Name	New Site Type(s)	Results of sub-surface testing	Total number of artefacts	Recommendations
2	Pacific Hwy Scarred Tree 1 13-4-0174	Site – Scarred Tree	Scarred Tree	Pacific Highway Scarred Tree 1	Site – Scarred tree	No test pit excavations	N/A	A site inspection was undertaken with relevant stakeholder site officers (Milton Duroux, Rod Duroux and Anthony Dootson) and it has been determined that this is not an Aboriginal object, that is it has not been scarred from traditional Aboriginal activities The AHIMS record should be updated to reflect this. No further action is recommended.

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix F Ancillary works assessment matrix

Table 7 Ancillary works desktop assesment

Section No	STN	Site No.	Proposed use (eg: site compound, batch plant)	Approx. Site Area (Ha)	Approx area outside road corridor (Ha)	Approx area inside road corridor (Ha)	Site within ancillary area?	Cultural place within ancillary area?	Site within 25 m?	Cultural place within 25 m?	Landsystem	Landform (from Predictive model)	PAS (L, L-M, M, M-H, H)	Investigation recommended? (Nothing, Survey, Survey and Sub-surface?)
1	2500 - 3400 LHS	1a	Main site compound (1ha), batch plant(0.5ha), workshop (0.5ha).	12.87	12.77	0.10	WWC37, WWC39	Historic burials	AHIMS Site WWC37, AHIMS Site WWC39	-	Coastal Range (and very slightly Coastal Plain)	Foot slopes and spurs of range adjacent valley flats	M-H	Survey and sub-surface testing
1	3300 - 3400 RHS	1b	Stockpile site	1.41	1.41	0.00	WWC39	Historic burials	-	-	Coastal Plain	Relatively flat plain behind dune barrier on coast	M	Survey and sub-surface testing
1	5250 to 5400 RHS	2	Materials processing and stockpile site.	2.39	2.39	0.00	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
1	7400 to 7650 RHS	3	Materials processing and stockpiling.	1.02	0.77	0.25	-	-	-	-	Coastal Range	Foot slopes and spurs of range adjacent valley flats	H	Survey
1	9550 to 9650 LHS	4a	Stockpile site.	0.45	0.45	0.00	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
1	9450 to 9650 LHS	4b	Satellite site compound and Stockpile site.	0.74	0.20	0.54	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	16700 - 17550 LHS	1a	Main site compound (1ha), batch plant(0.5ha), workshop (0.5ha).	6.25	3.25	3.00	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	17200 - 17500 RHS	1b	Site compound (1ha), batch plant(0.5ha), workshop (0.5ha).	4.42	4.42	0.00	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	17550 - 18150 LHS	1c	Stockpile site	2.84	0.00	2.84	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Nothing
2	19100 - 19850 RHS	2	Satellite site compound and stockpile site	1.91	0.60	1.31	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	20400 - 20610 LHS	3		0.86	0.80	0.06	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	21750 to 22250	4	Satelite compound and stockpile site.	2.67	1.34	1.33	-	Corindi Beach Corridors of Movement	-	-	Coastal Range	Broad alluvial valley flats.	M	Survey
2	23600 - 23800 LHS	5a		3.04	3.04	0.00	AHIMS Site WWC139	-	WWC139/A	-	Coastal Range	Broad alluvial valley flats.	M	Survey and sub-surface testing

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Section No	STN	Site No.	Proposed use (eg: site compound, batch plant)	Approx. Site Area (Ha)	Approx area outside road corridor (Ha)	Approx area inside road corridor (Ha)	Site within ancillary area?	Cultural place within ancillary area?	Site within 25 m?	Cultural place within 25 m?	Landsystem	Landform (from Predictive model)	PAS (L, L-M, M, M-H, H)	Investigation recommended? (Nothing, Survey, Survey and Sub-surface?)
2	23600 - 24050 LHS	5b (3 areas)	Stockpile site.	1.60	0.00	1.60	-	WWC139/A	Pacific Highway Scarred Tree	-	Coastal Range	Broad alluvial valley flats.	M	Nothing
2	25750 to 25950	6	Stockpile site.	0.46	0.00	0.46	-	-	-	-	Coastal Range	Broad alluvial valley flats.	M	Nothing

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix G Predictive model maps

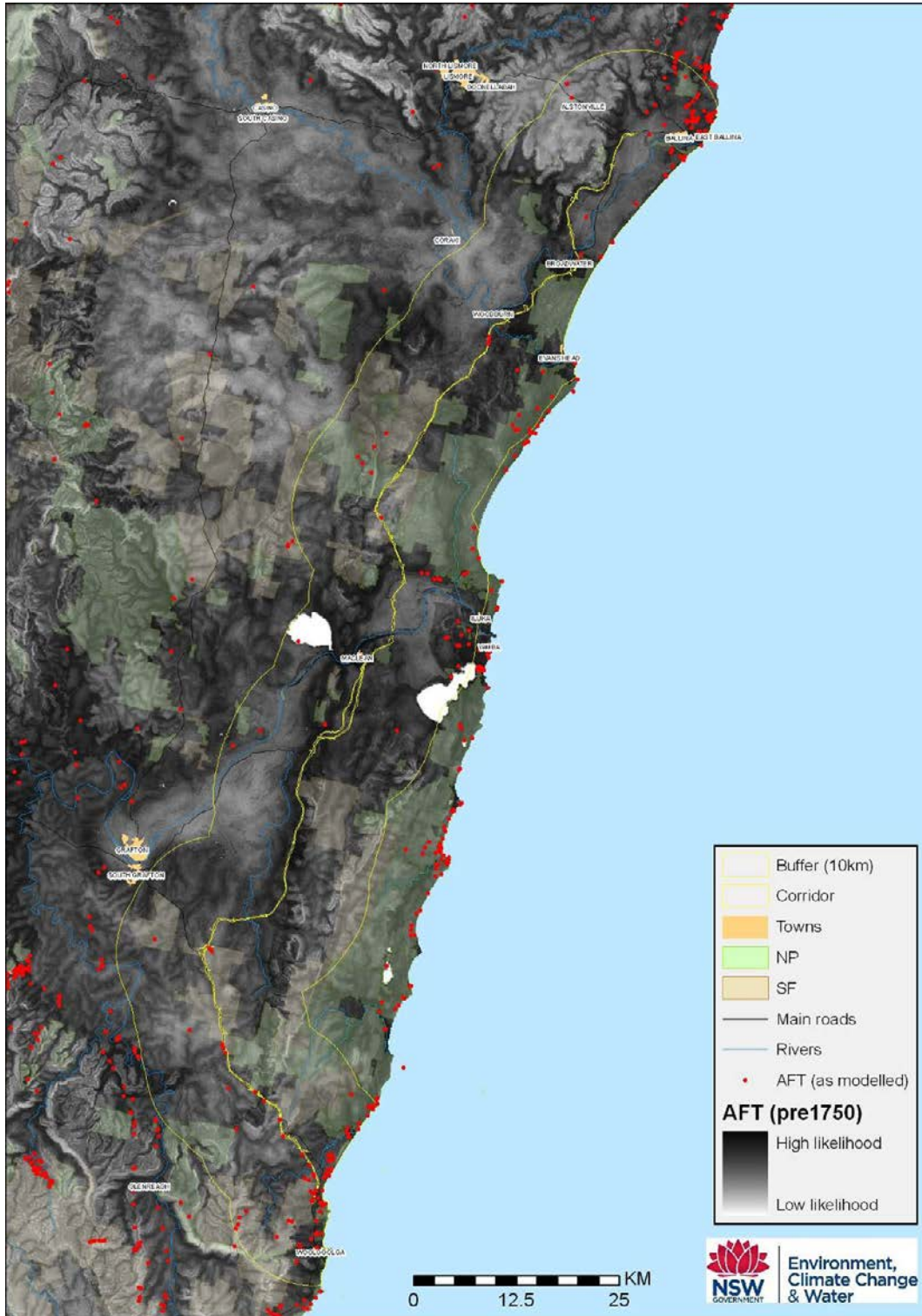


Figure 1 Pre-1750 predicted likelihood of artefact scatters

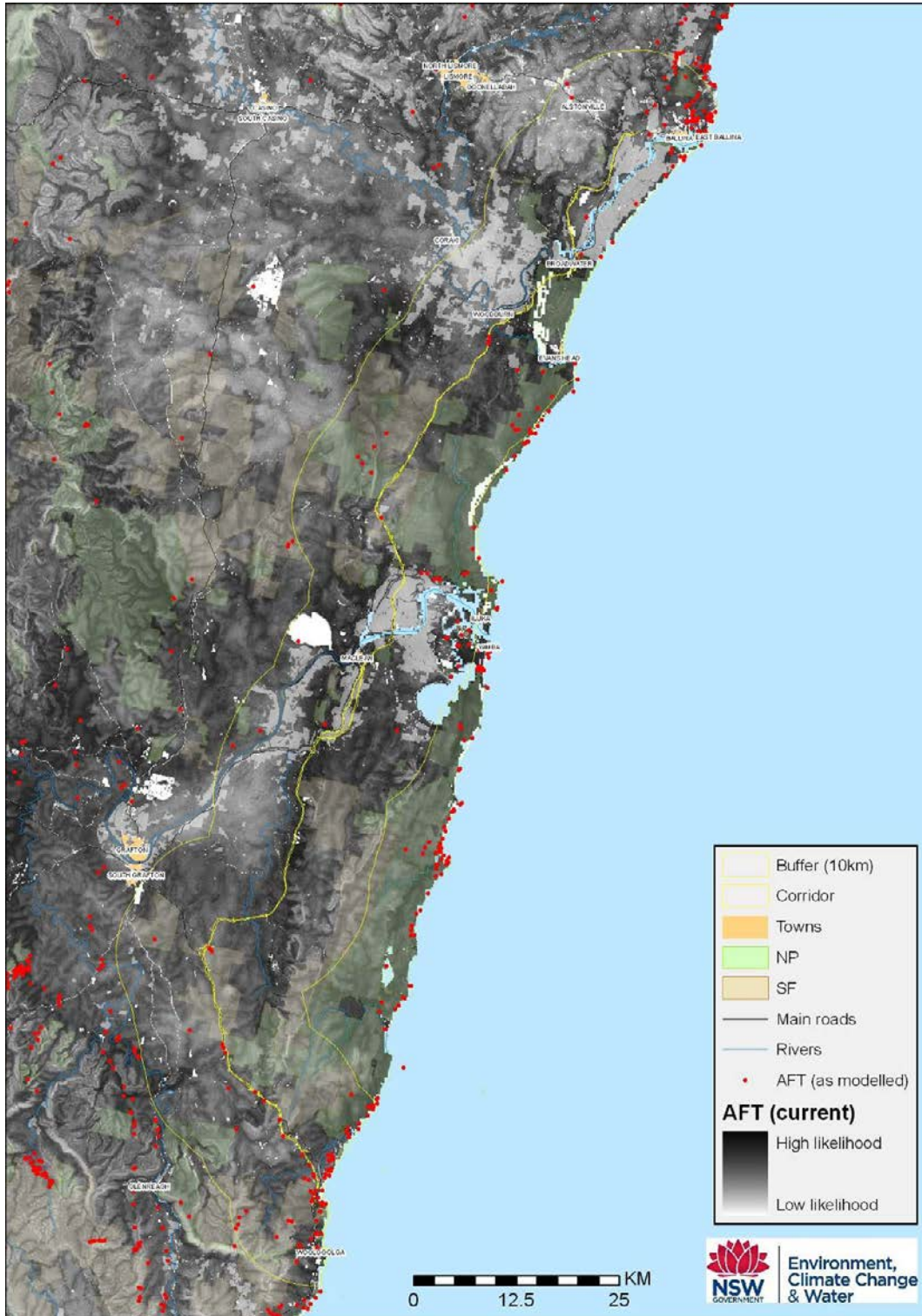


Figure 2 Current predicted likelihood of artefact scatters

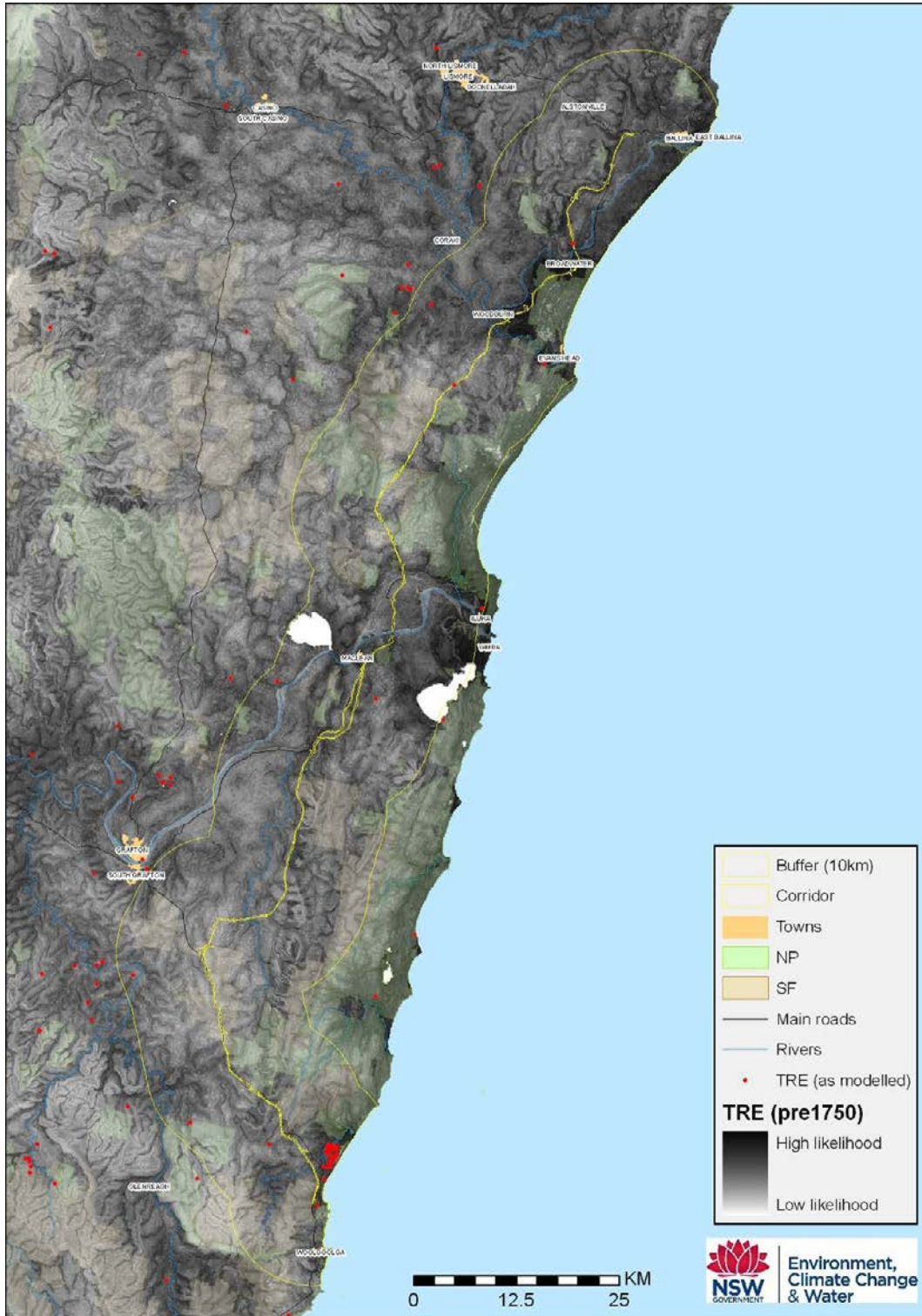


Figure 3 Pre-1750 predicted likelihood of scarred trees

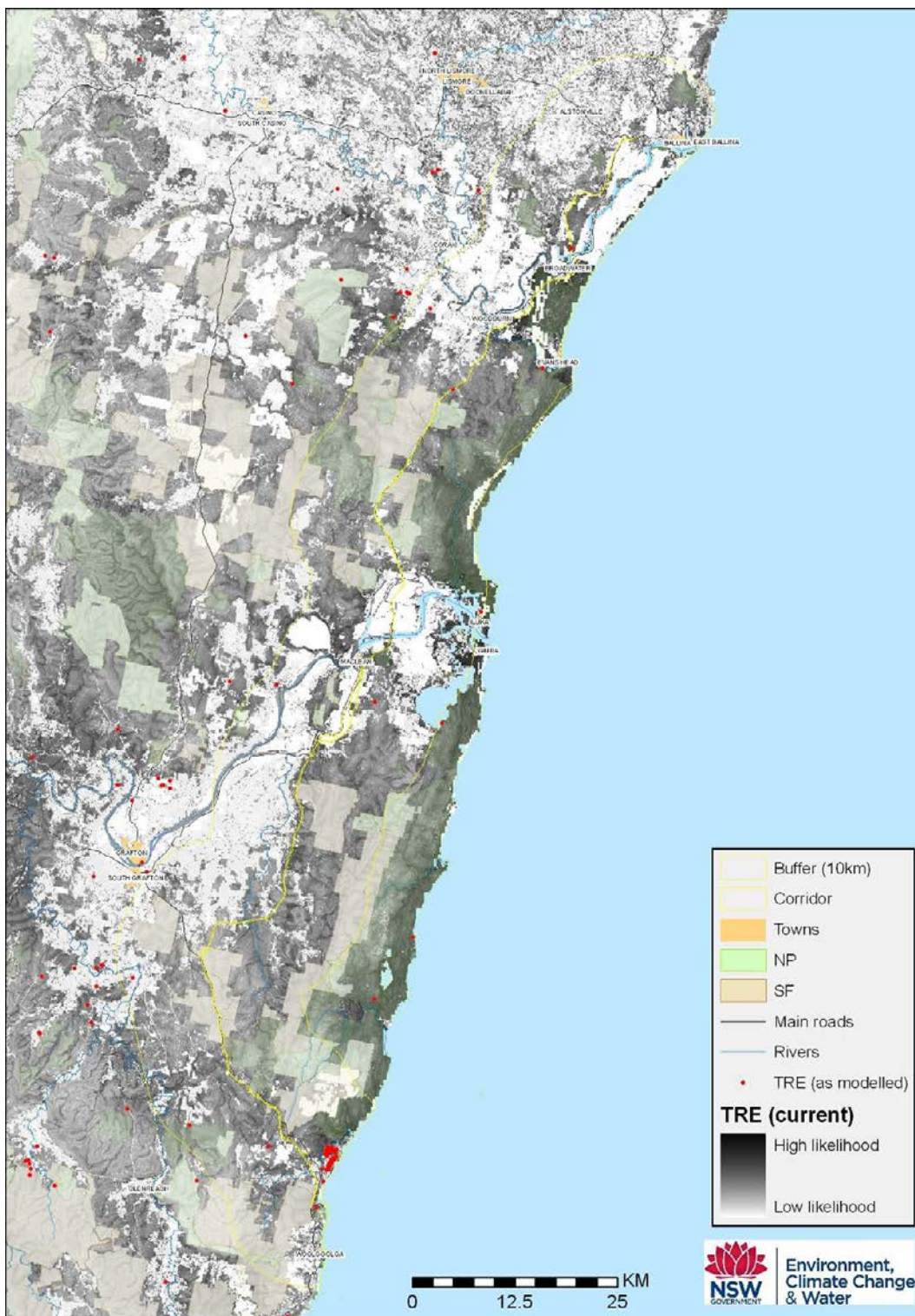


Figure 4 Current predicted likelihood of scarred trees

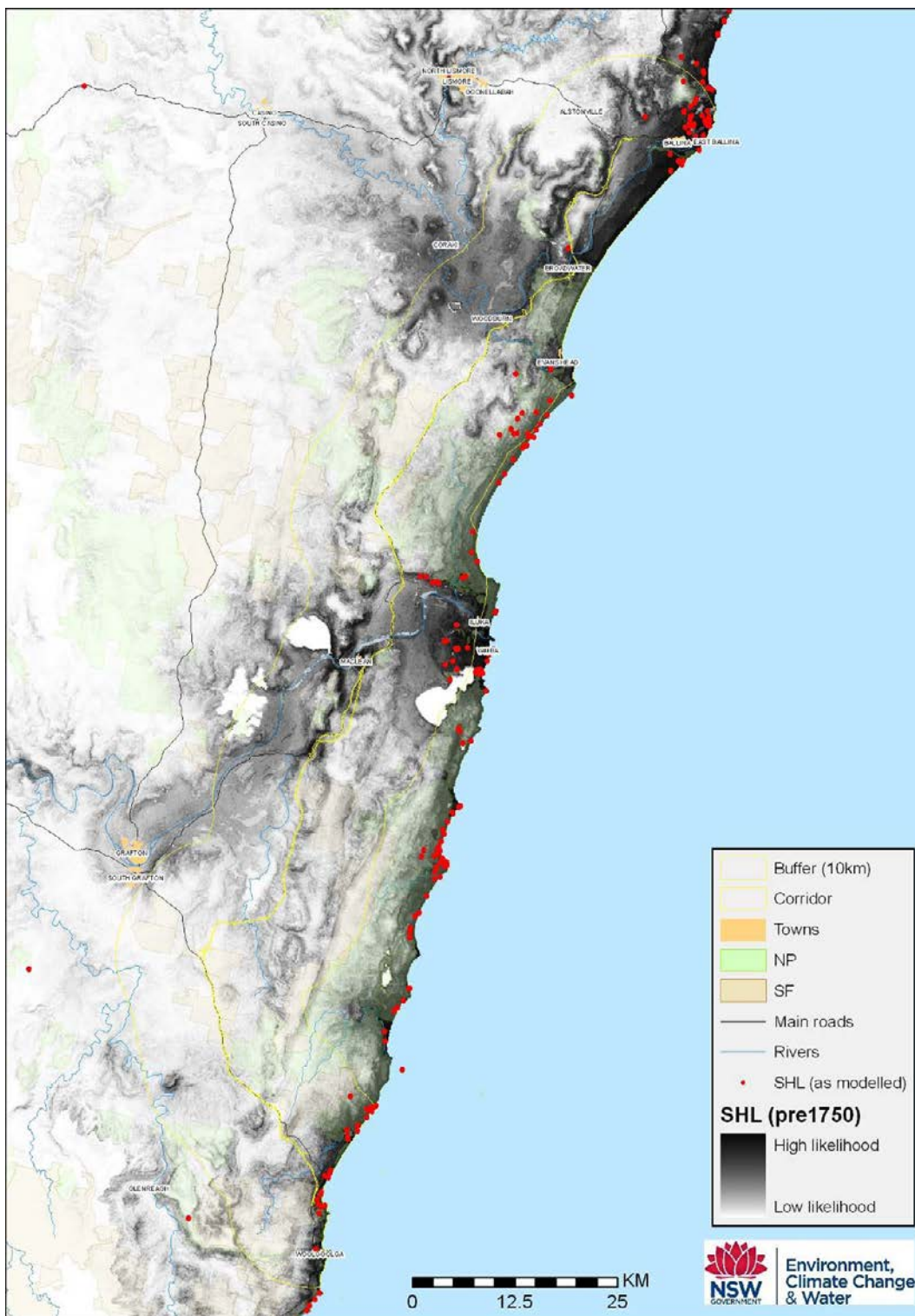


Figure 5 Pre-1750 predicted likelihood of shell middens

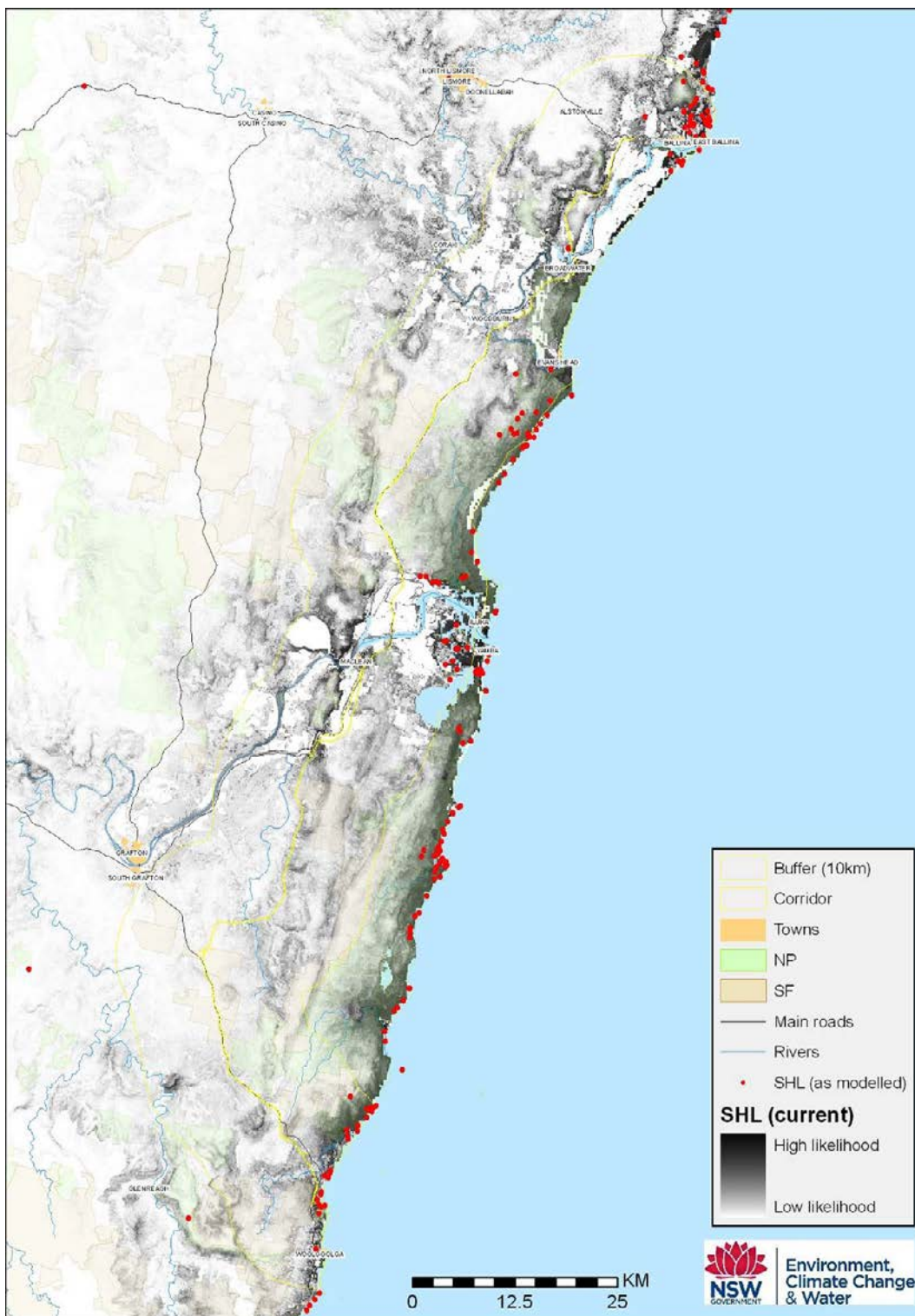


Figure 6 Current predicted likelihood of shell middens

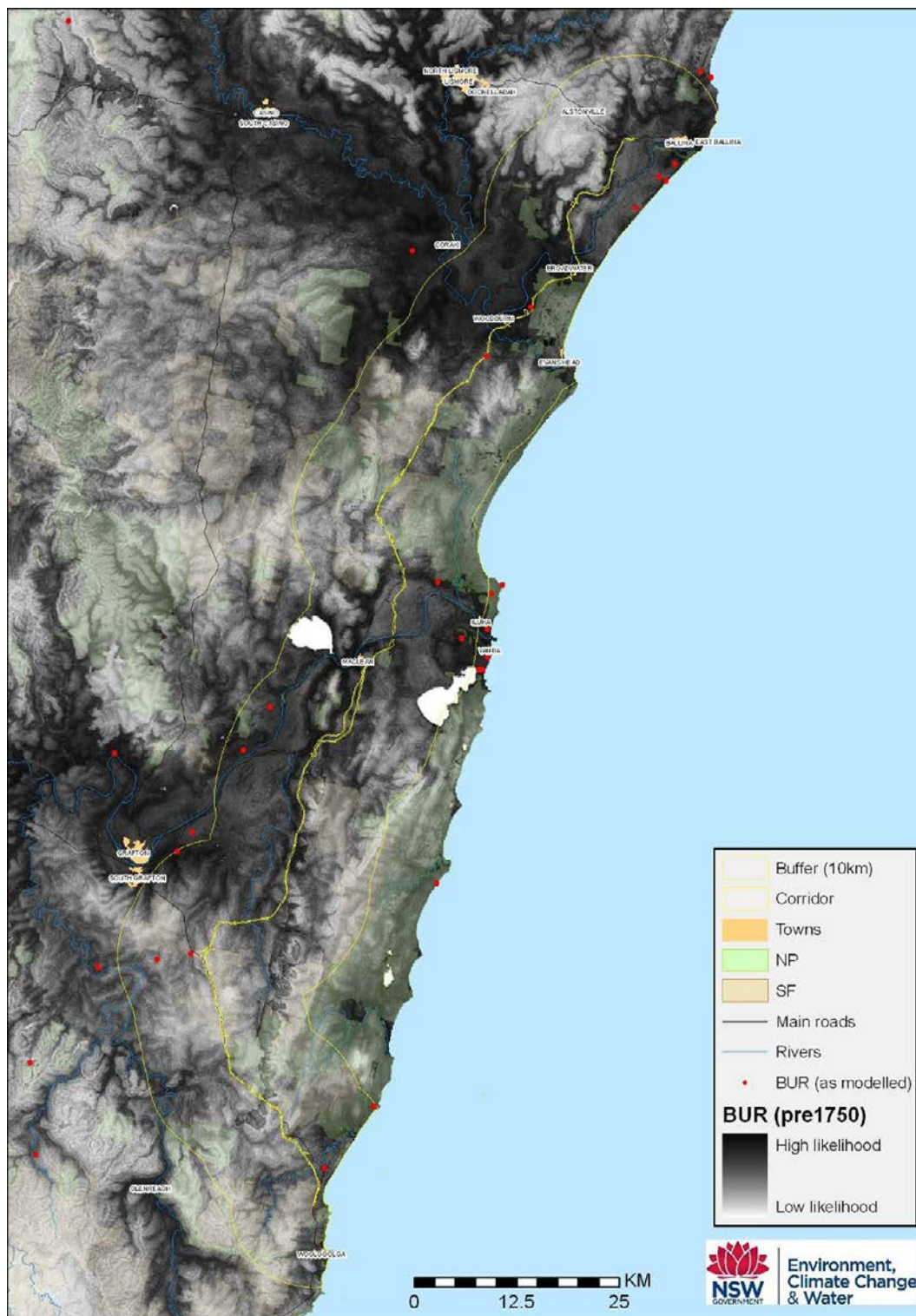


Figure 7 Pre-1750 predicted likelihood of burials

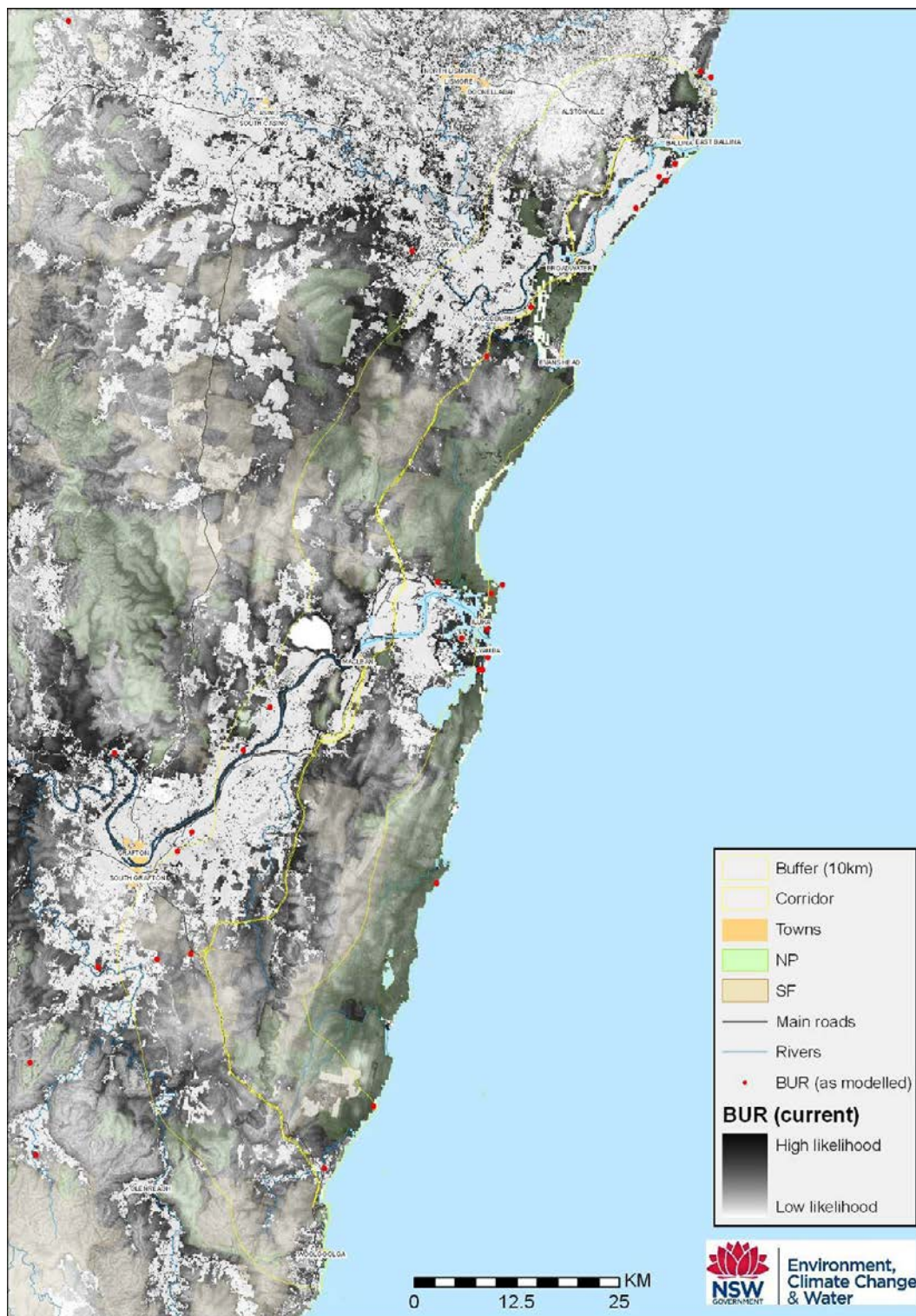


Figure 8 Current predicted likelihood of burials

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix H Survey coverage and priority

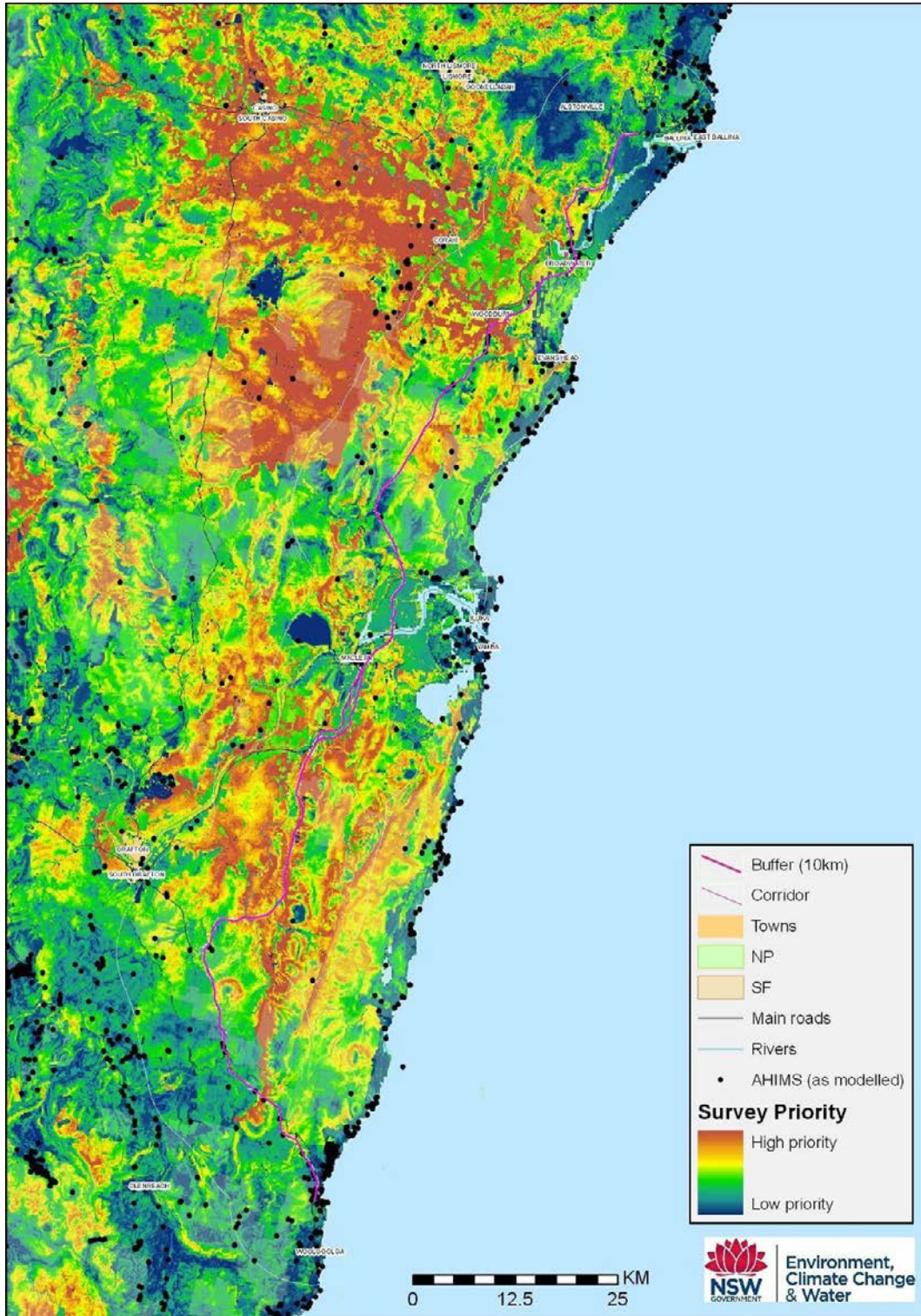



Figure 9 Survey coverage and priority

Appendix I Survey coverage



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Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices


Table 8 Survey summary

Property	Project section	PAD name / AHIMS Site ID	Landform	Ground surface visibility	Subsurface exposure	Disturbance	Image
Lot 100 DP752853	1	Sherwood North (AHIMS Site ID: 22-1-0402)	Upper slopes and crest of a spur	High along track, lower into the forest	Low	Cleared, with transport corridor	 <p>Location of Sherwood North (artefact); PAD is in rear of shot (Photo by Erica Weston, October 2011).</p>

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Property	Project section	PAD name / AHIMS Site ID	Landform	Ground surface visibility	Subsurface exposure	Disturbance	Image
Lot 100 DP752853 and Lot 83 DP752820	1	Sherwood Creek Road to Kangaroo Trail (AHIMS Site ID: 22-1-0401)	Coastal plain			Cleared, swap and road easement, road cutting and service corridor. Northern end was a banana plantation prior to survey	 <p>View north of site (Photo by Morgan Wilcox, 5 December 2011).</p>
Lot 4 DP815051	1	WWC 46 (AHIMS Site ID: 22-1-0342)	Floodplain	10	5	Cleared	 <p>View across property (Photo by Rani Attwood, 25 August 2010).</p>

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Property	Project section	PAD name / AHIMS Site ID	Landform	Ground surface visibility	Subsurface exposure	Disturbance	Image
Range Road Lot 2 DP710318	1	Dirty Creek PAD (AHIMS Site ID: 13-4-0178)	Swamp, lower and mid-slopes, ridge	0-20	0-20	Unable to complete inspection due to lack of property access	Photo unavailable
RMS E505725 N6693634	2	Pacific Highway Scarred Tree 1 (AHIMS Site ID: 13-4-0174)	N/A	N/A	N/A	Cleared	 <p>Pacific Highway Scarred Tree (Photo by Joseph Brooke, 4 October 2011).</p>


Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix J Summary of sub- surface testing results


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Woolgoolga to Ballina Pacific Highway Upgrade
 Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
 Volume 2: Appendices


Table 9 Summary of sub-surface testing results

Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
WWC18 (AHIMS Site ID: 22-1-0346)	517855E 6675639N	16 (0.5 m x 0.5 m)	Yes	1 Artefact (silcrete)	<p>Located on a spur, with a modern road intersecting the site. There is overgrowth and it is currently used as a service corridor with electricity poles and fences installed. Disturbance found in STPs (blue metal).</p> <p>The artefact was found in STP 12, at 150 mm. It was a complete silcrete flake.</p>	 <p>View north, to the south of Sherwood Creek Road (Photo by Mike Jones, 25 November 2011).</p>


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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
Sherwood North (AHIMS Site ID: 22-1-0402)	517907E 6676141N	11 (0.5 m x 0.5 m)	No		The site is located on a spur, and is a closed woodland, with a cleared section for single-carriage gravel roadways	 <p>View north over woodland (Photo by Morgan Wilcox, 21 November 2011).</p>



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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
Sherwood Creek Rd to Kangaroo Trail (AHIMS Site ID: 22-1-0401)	518212E 6677041N	0 (0.5 m x 0.5 m)	No		Broad low-lying portion of coastal plain from north of Sherwood Creek Road to near Kangaroo Trail Road. Known Aboriginal burials in similar context nearby.	 <p>View north of general area (Photo by Morgan Wilcox, 5 December 2011).</p>


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Site name (AHIMS Site ID)	Easting/Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
WWC37 (AHIMS Site ID: 22-1-0344)	517842E 6677927N	33 (0.5 m x 0.5 m)	Yes	1 Artefact (chert)	<p>The site is located on the mid-slope of a spur, and has been cleared. The area is currently used for grazing and as an apiary.</p> <p>The artefact found was a surface find.</p>	 <p>View north of the general site (Photo by Erica Weston, 22 November 2011).</p>

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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
<p>WWC39</p> <p>(AHIMS Site ID: 22-1-0343)</p>	<p>517764E 6678255N</p>	<p>99 (0.5 m x 0.5 m)</p>	<p>Yes</p>	<p>98 Artefacts (agate, chalcedony, chert, silcrete, mudstone, quartz, quartzite)</p> <p>134 Surface Artefacts (bone, chalcedony, chert, glass, quartz, quartzite, silcrete)</p>	<p>The site is located on a rise and spur adjacent to a historically drained swamp. Only the southern slope of the PAD was tested. The area was possibly used as an orchard previously, and is currently use for grazing.</p> <p>The artefacts were recovered in two clusters (in the south-eastern and eastern sides of the grid). The artefacts consisted of flakes (complete and broken), cores, a crescent backed tool and flaked pieces.</p> <p>The surface artefacts were located on the property's 'Blueberry Patch', which has been heavily disturbed. Cores, angular fragments, flakes (both broken and complete) and flaked pieces were recorded.</p>	 <p>View north of general area over paddock (Photo by Erica Weston, 23 November 2011).</p>  <p>View north of WWC39 near shed (Photo by Amanda Goldfarb, 30 November 2011).</p>


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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
WWC46 (AHIMS Site ID: 22-1-0342)	517641E 6678631N	30 (0.5 m x 0.5 m)	Yes	3 Artefacts (chert, silcrete)	<p>The site is located on a floodplain, on a slight rise. The area is currently used for grazing, and is fenced.</p> <p>Artefacts were recovered from three STPs, from 0-400 mm in depth. A possible blade, a flaked cobble and a proximal flake were found.</p>	 <p>View north over STPs 1A-4A (Photo by Morgan Wilcox, 5 December 2011).</p>

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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
WWC115 (AHIMS Site ID: 13-4-0160)	511203E 6686801N	4 (0.5 m x 0.5 m)	No	Outside corridor	The site is located in a large drain, resulting in a creek. The rise could be fill.	 <p>View north of STP 2 (Photo by: Christian Thurner, 17 November 2011).</p>

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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
WWC135 (AHIMS Site ID: 13-4-0159)	506254E 6692260N	132 (0.5 m x 0.5 m)	Yes	5 Artefacts (silcrete, quartz, glass)	<p>The site is located on the mid-slope of a rise. The lower slope is located near a creek bank.</p> <p>The artefacts were found in five different STPs, and were flakes (glass, silcrete and quartz) and a core (quartz). The glass flake may not be Indigenous in origin.</p>	

View north over site (Photo by Erica Weston, 14 November 2011).

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Site name (AHIMS Site ID)	Easting/ Northing (MGA Zone 56)	Number of Excavations	Cultural material identified (Y/N)	Site type	Site description	Images
WWC139/A (AHIMS Site ID: 13-4-0157)	505775E 6693388N	3 (0.5 m x 0.5 m)	No		The site is located on a track, on the flat of a rise (the general landscape is undulating). The area is very disturbed, the track is graded and the land is known to have been historically cleared.	 <p>View north over landscape (Photo by Christian Thurner, 16 November 2011).</p>

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix K Summary of all excavations

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Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Table 10 Summary of all excavations

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
21/11/2011	517867.5	6675713.9	WWC 18	STP 1	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517866.9	6675709.9	WWC 18	STP 2	Shovel Probe	0.5 x 0.5	150	Spur	0	-	-	-
21/11/2011	517867.9	6675723.0	WWC 18	STP 3	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517866.6	6675705.3	WWC 18	STP 4	Shovel Probe	0.5 x 0.5	150	Spur	0	-	-	-
21/11/2011	517877.8	6675696.9	WWC 18	STP 5	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517879.3	6675704.0	WWC 18	STP 6	Shovel Probe	0.5 x 0.5	50	Spur	0	-	-	-
21/11/2011	517881.8	6675711.6	WWC 18	STP 7	Shovel Probe	0.5 x 0.5	260	Spur	0	-	-	-
21/11/2011	517887.4	6675716.6	WWC 18	STP 8	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517854.1	6675642.1	WWC 18	STP 9	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517855.7	6675650.9	WWC 18	STP 10	Shovel Probe	0.5 x 0.5	150	Spur	0	-	-	-
21/11/2011	517858.5	6675663.0	WWC 18	STP 11	Shovel Probe	0.5 x 0.5	50	Spur	0	-	-	-
21/11/2011	517874.4	6675656.1	WWC 18	STP 12	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-
21/11/2011	517873.1	6675637.0	WWC 18	STP 13	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517881.4	6675635.4	WWC 18	STP 14	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
21/11/2011	517884.1	6675642.3	WWC 18	STP 15	Shovel Probe	0.5 x 0.5	50	Spur	0	-	-	-
21/11/2011	517885.3	6675650.3	WWC 18	STP 16	Shovel Probe	0.5 x 0.5	50	Spur	0	-	-	-
21/11/2011	517905.9	6676142.5	Sherwood North	STP 1	Shovel Probe	0.5 x 0.5	350	Spur	0	-	-	-
21/11/2011	517905.3	6676134.1	Sherwood North	STP 2	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517915.1	6676125.9	Sherwood North	STP 3	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-
21/11/2011	517924.6	6676129.1	Sherwood North	STP 4	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-
21/11/2011	517927.8	6676136.5	Sherwood North	STP 5	Shovel Probe	0.5 x 0.5	250	Spur	0	-	-	-
21/11/2011	517916.2	6676145.5	Sherwood North	STP 6	Shovel Probe	0.5 x 0.5	250	Spur	0	-	-	-
21/11/2011	517914.6	6676134.3	Sherwood North	STP 7	Shovel Probe	0.5 x 0.5	100	Spur	0	-	-	-
21/11/2011	517928.3	6676145.2	Sherwood North	STP 8	Shovel Probe	0.5 x 0.5	250	Spur	0	-	-	-
21/11/2011	517939.1	6676146.3	Sherwood North	STP 9	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-
21/11/2011	517937.1	6676132.4	Sherwood North	STP 10	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-
21/11/2011	517935.4	6676125.2	Sherwood North	STP 11	Shovel Probe	0.5 x 0.5	200	Spur	0	-	-	-
22/11/2011	517841.8	6677925.6	WWC 37	STP 1	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
22/11/2011	517850.2	6677929.9	WWC 37	STP 2	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517837.4	6677934.6	WWC 37	STP 3	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517832.4	6677946.6	WWC 37	STP 4	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517828.4	6677957.0	WWC 37	STP 5	Shovel Probe	0.5 x 0.5	400	Mid-slope	0	-	-	-
22/11/2011	517861.1	6677934.9	WWC 37	STP 6	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517859.5	6677961.7	WWC 37	STP 7	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517843.0	6677992.4	WWC 37	STP 8	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517876.6	6677938.7	WWC 37	STP 9	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
22/11/2011	517854.2	6677980.5	WWC 37	STP 10	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
22/11/2011	517839.1	6678002.1	WWC 37	STP 11	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
22/11/2011	517869.0	6677950.4	WWC 37	STP 12	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517869.3	6677965.6	WWC 37	STP 13	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
22/11/2011	517862.1	6677986.4	WWC 37	STP 14	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517846.9	6678008.7	WWC 37	STP 15	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
22/11/2011	517834.4	6678011.7	WWC 37	STP 16	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517869.4	6677992.6	WWC 37	STP 17	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517875.0	6677982.2	WWC 37	STP 18	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517829.6	6678024.5	WWC 37	STP 19	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
22/11/2011	517824.5	6678036.3	WWC 37	STP 20	Shovel Probe	0.5 x 0.5	250	Mid-slope	0	-	-	-
22/11/2011	517819.5	6678050.5	WWC 37	STP 21	Shovel Probe	0.5 x 0.5	400	Mid-slope	0	-	-	-
22/11/2011	517830.3	6678056.2	WWC 37	STP 22	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517837.8	6678060.3	WWC 37	STP 23	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
22/11/2011	517846.8	6678048.0	WWC 37	STP 24	Shovel Probe	0.5 x 0.5	150	Lower to mid-slope	0	-	-	-
22/11/2011	517837.4	6678042.7	WWC 37	STP 25	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517881.0	6677969.6	WWC 37	STP 26	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517884.3	6677957.4	WWC 37	STP 27	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
22/11/2011	517903.3	6677968.8	WWC 37	STP 28	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
22/11/2011	517902.3	6677981.1	WWC 37	STP 29	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
22/11/2011	517900.1	6677990.4	WWC 37	STP 30	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
22/11/2011	517894.3	6678016.2	WWC 37	STP 31	Shovel Probe	0.5 x 0.5	250	Mid-slope	0	-	-	-
22/11/2011	517888.7	6678010.6	WWC 37	STP 32	Transect Point	Surface artefact	0	Mid-slope	1	Chert	Poor	-
22/11/2011	517852.3	6678089.3	WWC 37	STP 33	Shovel Probe	0.5 x 0.5	300	Lower to mid-slope	0	-	-	-
23/11/2011	517764.8	6678257.3	WWC 39	STP 1	Shovel Probe	0.5 x 0.5	450	Lower slope	0	-	-	-
23/11/2011	517768.7	6678247.4	WWC 39	STP 2	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-
23/11/2011	517774.3	6678238.1	WWC 39	STP 3	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517779.7	6678229.7	WWC 39	STP 4	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517785.1	6678221.0	WWC 39	STP 5	Shovel Probe	0.5 x 0.5	100	Lower slope	0	-	-	-
23/11/2011	517790.4	6678212.3	WWC 39	STP 6	Shovel Probe	0.5 x 0.5	200	Lower slope	2	Mudstone	Poor	-
23/11/2011	517795.0	6678203.9	WWC 39	STP 7	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517786.6	6678198.5	WWC 39	STP 8	Shovel Probe	0.5 x 0.5	50	Lower slope	0	-	-	-
23/11/2011	517781.7	6678207.2	WWC 39	STP 9	Shovel Probe	0.5 x 0.5	100	Lower slope	0	-	-	-
23/11/2011	517776.3	6678215.9	WWC 39	STP 10	Shovel Probe	0.5 x 0.5	100	Lower slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
23/11/2011	517755.8	6678250.9	WWC 39	STP 11	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517760.7	6678242.7	WWC 39	STP 12	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-
23/11/2011	517766.4	6678233.7	WWC 39	STP 13	Shovel Probe	0.5 x 0.5	250	Lower slope	0	-	-	-
23/11/2011	517771.7	6678225.4	WWC 39	STP 14	Shovel Probe	0.5 x 0.5	300	Lower slope	0	-	-	-
23/11/2011	517784.8	6678242.9	WWC 39	STP 15	Shovel Probe	0.5 x 0.5	150	Lower slope	1	Chert	Fair to poor	-
23/11/2011	517746.7	6678246.9	WWC 39	STP 16	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-
23/11/2011	517771.5	6678203.0	WWC 39	STP 17	Shovel Probe	0.5 x 0.5	250	Lower slope	0	-	-	-
23/11/2011	517778.2	6678194.1	WWC 39	STP 18	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517767.6	6678211.3	WWC 39	STP 19	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517762.4	6678219.9	WWC 39	STP 20	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517757.8	6678228.5	WWC 39	STP 21	Shovel Probe	0.5 x 0.5	150	Lower slope	0	-	-	-
23/11/2011	517752.4	6678237.0	WWC 39	STP 22	Shovel Probe	0.5 x 0.5	400	Lower slope	0	-	-	-
23/11/2011	517775.0	6678259.4	WWC 39	STP 23	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-
23/11/2011	517780.2	6678250.9	WWC 39	STP 24	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
23/11/2011	517790.1	6678233.0	WWC 39	STP 25	Shovel Probe	0.5 x 0.5	100	Lower slope	0	-	-	-
23/11/2011	517794.7	6678225.0	WWC 39	STP 26	Shovel Probe	0.5 x 0.5	100	Lower slope	0	-	-	-
23/11/2011	517799.9	6678215.6	WWC 39	STP 27	Shovel Probe	0.5 x 0.5	500	Lower slope	0	-	-	-
23/11/2011	517782.8	6678247.3	WWC 39	STP 28R	Shovel Probe	0.5 x 0.5	150	Lower slope	2	Silcrete	Fair to poor	Surface finds; medium grained, poorly sorted material
23/11/2011	517788.9	6678244.6	WWC 39	STP 29R	Shovel Probe	0.5 x 0.5	200	Lower slope	1	Chert	Fair to poor	-
23/11/2011	517780.4	6678240.6	WWC 39	STP 30R	Shovel Probe	0.5 x 0.5	250	Lower slope	0	-	-	-
23/11/2011	517792.5	6678207.5	WWC 39	STP 31R	Shovel Probe	0.5 x 0.5	250	Lower slope	0	-	-	-
23/11/2011	517785.6	6678209.7	WWC 39	STP 32R	Shovel Probe	0.5 x 0.5	300	Lower slope	0	-	-	-
23/11/2011	517794.1	6678214.7	WWC 39	STP 33R	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-
23/11/2011	517804.7	6678207.7	WWC 39	STP 34	Shovel Probe	0.5 x 0.5	300	Lower slope	0	-	-	-
23/11/2011	517787.8	6678216.1	WWC 39	STP 35	Shovel Probe	0.5 x 0.5	250	Lower slope	1	Silcrete	Fair to poor	-
23/11/2011	517786.4	6678237.9	WWC 39	STP 36R	Shovel Probe	0.5 x 0.5	300	Lower slope	0	-	-	-
23/11/2011	517794.1	6678247.0	WWC 39	STP 37R	Shovel Probe	0.5 x 0.5	100	Lower slope	0	-	-	-
23/11/2011	517792.2	6678218.4	WWC 39	STP 38R	Shovel Probe	0.5 x 0.5	300	Lower slope	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
23/11/2011	517783.8	6678214.4	WWC 39	STP 39R	Shovel Probe	0.5 x 0.5	250	Lower slope	0	-	-	-
23/11/2011	517786.6	6678249.0	WWC 39	STP 40R	Shovel Probe	0.5 x 0.5	200	Lower slope	0	-	-	-
28/11/2011	517819.8	6678202.7	WWC 39	STP 41	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517814.2	6678210.1	WWC 39	STP 42	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	0	-	-	-
28/11/2011	517808.8	6678219.9	WWC 39	STP 43	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517798.5	6678238.1	WWC 39	STP 44	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-
28/11/2011	517789.3	6678254.9	WWC 39	STP 45	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517803.9	6678228.5	WWC 39	STP 46	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517783.0	6678185.9	WWC 39	STP 47	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517791.9	6678190.9	WWC 39	STP 48	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517799.8	6678194.4	WWC 39	STP 49	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517808.7	6678197.7	WWC 39	STP 50	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517784.5	6678262.4	WWC 39	STP 51	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-
28/11/2011	517763.7	6678294.5	WWC 39	STP 52	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
28/11/2011	517758.9	6678304.3	WWC 39	STP 53	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	Quartz	Fair to poor	100 mm depth
28/11/2011	517748.0	6678321.2	WWC 39	STP 54	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
28/11/2011	517742.6	6678328.3	WWC 39	STP 55	Shovel Probe	0.5 x 0.5	200	Lower slope of spur	0	-	-	-
28/11/2011	517752.9	6678312.1	WWC 39	STP 56	Shovel Probe	0.5 x 0.5	500	Lower slope of spur	0	-	-	-
28/11/2011	517737.4	6678337.5	WWC 39	STP 57	Shovel Probe	0.5 x 0.5	200	Lower slope of spur	0	-	-	-
28/11/2011	517732.9	6678346.3	WWC 39	STP 58	Shovel Probe	0.5 x 0.5	150	Lower slope of spur	0	-	-	-
28/11/2011	517747.9	6678342.2	WWC 39	STP 59	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	0	-	-	-
28/11/2011	517747.3	6678292.0	WWC 39	STP 60	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	Random sample in cattle yard
28/11/2011	517741.3	6678282.0	WWC 39	STP 61	Shovel Probe	0.5 x 0.5	200	Lower slope of spur	0	-	-	Random sample in cattle yard
28/11/2011	517741.8	6678351.0	WWC 39	STP 62	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	1	Silcrete	Fair to poor	-
28/11/2011	517739.7	6678354.8	WWC 39	STP 63R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	3	Silcrete and chert	Fair to poor	-
28/11/2011	517747.5	6678353.7	WWC 39	STP 64R	Shovel Probe	0.5 x 0.5	400	Lower slope of spur	0	Chert	Fair to poor	-
28/11/2011	517745.5	6678347.0	WWC 39	STP 65R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	1	Silcrete	-	-
28/11/2011	517752.4	6678333.4	WWC 39	STP 67	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	1	Chert	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
28/11/2011	517737.1	6678348.8	WWC 39	STP 66R	Shovel Probe	0.5 x 0.5	260	Lower slope of spur	0	-	-	-
28/11/2011	517756.3	6678324.6	WWC 39	STP 68	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	0	-	-	-
29/11/2011	517736.8	6678359.8	WWC 39	STP 69R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	1	Silcrete and chalcedony	-	-
29/11/2011	517736.3	6678353.4	WWC 39	STP 70R	Shovel Probe	0.5 x 0.5	100	Lower slope of spur	5	Chert, agate	Fair to poor	-
29/11/2011	517744.1	6678357.4	WWC 39	STP 71R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	2	Silcrete	Fair to poor	-
29/11/2011	517750.5	6678355.5	WWC 39	STP 72R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	2	Agate and silcrete	-	-
29/11/2011	517749.9	6678350.1	WWC 39	STP 73R	Shovel Probe	0.5 x 0.5	200	Lower slope of spur	6	Chert	Fair to poor	-
29/11/2011	517749.0	6678337.9	WWC 39	STP 74R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	2	Chert	Fair to poor	-
29/11/2011	517755.3	6678336.3	WWC 39	STP 75R	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	7	Quartz, silcrete, chert	Fair to poor	-
29/11/2011	517747.6	6678330.3	WWC 39	STP 76R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	1	Silcrete	Fair to poor	-
29/11/2011	517753.0	6678329.1	WWC 39	STP 77R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
29/11/2011	517754.0	6678340.2	WWC 39	STP 78R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
29/11/2011	517768.5	6678352.8	WWC 39	STP 79	Shovel Probe	0.5 x 0.5	200	Lower slope of spur	0	-	-	-
29/11/2011	517770.6	6678343.2	WWC 39	STP 80	Shovel Probe	0.5 x 0.5	200	Lower slope of spur	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
29/11/2011	517772.4	6678338.4	WWC 39	STP 81R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-
29/11/2011	517774.2	6678334.1	WWC 39	STP 82	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	1	Silcrete	Fair to poor	-
29/11/2011	517775.1	6678339.8	WWC 38	STP 83R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-
29/11/2011	517776.8	6678335.7	WWC 39	STP 84R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	2	Chert	Fair to poor	-
29/11/2011	517770.0	6678332.1	WWC 39	STP 85R	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-
29/11/2011	517776.4	6678329.7	WWC 39	STP 86	Shovel Probe	0.5 x 0.5	400	Lower slope of spur	1	Silcrete	Fair to poor	-
29/11/2011	517779.6	6678330.5	WWC 39	STP 87R	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	1	Fine grained silcrete	Fair to poor	-
29/11/2011	517778.0	6678324.8	WWC 39	STP 88R	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	0	-	-	-
29/11/2011	517698.7	6678338.1	WWC 39	STP 90	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	21	-	-	-
29/11/2011	517693.8	6678335.9	WWC 39	STP 91R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
29/11/2011	517702.8	6678328.3	WWC 39	STP 92	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	0	-	-	-
29/11/2011	517710.9	6678310.0	WWC 39	STP 93	Shovel Probe	0.5 x 0.5	250	Lower slope of spur	0	-	-	-
30/11/2011	517716.1	6678312.7	WWC 39	STP 94R	Shovel Probe	0.5 x 0.5	320	Lower slope of spur	1	-	-	-
30/11/2011	517698.1	6678326.1	WWC 39	STP 95R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	3	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
30/11/2011	517705.7	6678325.1	WWC 39	STP 96R	Shovel Probe	0.5 x 0.5	400	Lower slope of spur	3	-	-	-
30/11/2011	517706.4	6678309.2	WWC 39	STP 97R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	1	-	-	-
30/11/2011	517713.3	6678306.1	WWC 39	STP 98R	Shovel Probe	0.5 x 0.5	350	Lower slope of spur	7	-	-	-
30/11/2011	517708.9	6678315.6	WWC 39	STP 99R	Shovel Probe	0.5 x 0.5	300	Lower slope of spur	1	-	-	-
16/12/2011	517642.9	6678430.2	WWC 39	STP 1A	Shovel Probe	0.5 x 0.5	350	Creek terrace	0	-	-	-
16/12/2011	517637.0	6678448.4	WWC 39	STP 3A	Shovel Probe	0.5 x 0.5	280	Creek terrace	1	Fine grained siliceous [mudstone/ siltstone]	Poor	-
16/12/2011	517631.5	6678458.4	WWC 39	STP 4A	Shovel Probe	0.5 x 0.5	300	Creek terrace	0	-	-	-
16/12/2011	517626.9	6678468.9	WWC 39	STP 5A	Shovel Probe	0.5 x 0.5	250	Creek terrace	0	-	-	-
16/12/2011	517641.0	6678438.4	WWC 39	STP 2A	Shovel Probe	0.5 x 0.5	250	Creek terrace	2	Silcrete	Poor	-
16/12/2011	517636.3	6678472.5	WWC 39	STP 6A	Shovel Probe	0.5 x 0.5	200	Creek terrace	1	Silcrete	Poor	-
16/12/2011	517638.9	6678461.8	WWC 39	STP 7A	Shovel Probe	0.5 x 0.5	300	Creek terrace	0	-	-	-
16/12/2011	517645.6	6678451.2	WWC 39	STP 8A	Shovel Probe	0.5 x 0.5	300	Creek terrace	1	River cobble	Poor	-
16/12/2011	517624.4	6678476.5	WWC 39	STP 9A	Shovel Probe	0.5 x 0.5	220	Creek terrace	0	-	-	-
16/12/2011	517632.6	6678481.0	WWC 39	STP 10A	Shovel Probe	0.5 x 0.5	250	Creek terrace	0	-	-	-

PUBLIC

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	Easting	Northing										
16/12/2011	517639.8	6678485.9	WWC 39	STP 11A	Shovel Probe	0.5 x 0.5	350	Creek terrace	2	Red ochre and silcrete	Poor	-
30/11/2011	517641.2	6678630.7	WWC 46	STP 1	Shovel Probe	0.5 x 0.5	300	Floodplain	0	-	-	-
30/11/2011	517637.5	6678640.3	WWC 46	STP 2	Shovel Probe	0.5 x 0.5	470	Floodplain	0	-	-	-
30/11/2011	517626.9	6678657.0	WWC 46	STP 3	Shovel Probe	0.5 x 0.5	350	Rise of flood plain	0	-	-	-
30/11/2011	517625.0	6678666.4	WWC 46	STP 4	Shovel Probe	0.5 x 0.5	400	Slight rise of floodplain	1	-	-	-
30/11/2011	517617.7	6678674.7	WWC 46	STP 5	Shovel Probe	0.5 x 0.5	350	Slight rise of floodplain	0	-	-	-
30/11/2011	517612.9	6678684.1	WWC 46	STP 6	Shovel Probe	0.5 x 0.5	300	Slight rise of floodplain	0	-	-	-
30/11/2011	517631.8	6678648.6	WWC 46	STP 7	Shovel Probe	0.5 x 0.5	800	Slight rise of floodplain	1	-	-	-
1/12/2011	517626.1	6678662.3	WWC 46	STP 8	Shovel Probe	0.5 x 0.5	750	Floodplain rise	0	-	-	-
1/12/2011	517619.4	6678664.3	WWC 46	STP 9	Shovel Probe	0.5 x 0.5	770	Floodplain rise	0	-	-	-
1/12/2011	517629.3	6678668.5	WWC 46	STP 10	Shovel Probe	0.5 x 0.5	800	Floodplain rise	1	-	-	-
1/12/2011	517621.5	6678670.2	WWC 46	STP 11	Shovel Probe	0.5 x 0.5	750	Floodplain rise	0	-	-	-
1/12/2011	517634.8	6678644.5	WWC 46	STP 12	Shovel Probe	0.5 x 0.5	700	Floodplain rise	0	-	-	-
1/12/2011	517629.5	6678653.4	WWC 46	STP 13	Shovel Probe	0.5 x 0.5	800	Slight rise of floodplain	0	-	-	-

PUBLIC

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	Easting	Northing										
1/12/2011	517627.8	6678646.5	WWC 46	STP 14	Shovel Probe	0.5 x 0.5	750	Floodplain rise	0	-	-	-
1/12/2011	517635.0	6678650.0	WWC 46	STP 15	Shovel Probe	0.5 x 0.5	800	Floodplain rise	0	-	-	-
1/12/2011	517629.3	6678662.5	WWC 46	STP 16	Shovel Probe	0.5 x 0.5	800	Floodplain rise	0	-	-	-
1/12/2011	517634.8	6678669.2	WWC 46	STP 17	Shovel Probe	0.5 x 0.5	0	Floodplain rise	0	-	-	-
1/12/2011	517629.7	6678675.1	WWC 46	STP 18	Shovel Probe	0.5 x 0.5	0	Floodplain rise	0	-	-	-
5/12/2011	517575.7	6678609.1	WWC 46	STP 1A	Shovel Probe	0.5 x 0.5	500	Floodplain	0	-	-	-
5/12/2011	517568.9	6678615.6	WWC 46	STP 2A	Shovel Probe	0.5 x 0.5	450	Floodplain	0	-	-	-
5/12/2011	517561.9	6678622.2	WWC 46	STP 3A	Shovel Probe	0.5 x 0.5	450	Floodplain	0	-	-	-
5/12/2011	517555.8	6678630.3	WWC 46	STP 4A	Shovel Probe	0.5 x 0.5	550	Floodplain	0	-	-	-
5/12/2011	517599.1	6678614.2	WWC 46	STP 5A	Shovel Probe	0.5 x 0.5	0	Floodplain	0	-	-	-
5/12/2011	517608.6	6678618.5	WWC 46	STP 6A	Shovel Probe	0.5 x 0.5	500	Floodplain	0	-	-	-
5/12/2011	517617.2	6678626.2	WWC 46	STP 7A	Shovel Probe	0.5 x 0.5	550	Floodplain	0	-	-	-
5/12/2011	517625.3	6678630.9	WWC 46	STP 8A	Shovel Probe	0.5 x 0.5	550	Floodplain	0	-	-	-
5/12/2011	517556.1	6678757.1	WWC 46	STP 9A	Shovel Probe	0.5 x 0.5	550	Slight rise of floodplain	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
5/12/2011	517548.8	6678751.9	WWC 46	STP 10A	Shovel Probe	0.5 x 0.5	550	Slight rise of floodplain	0	-	-	-
5/12/2011	517541.6	6678745.1	WWC 46	STP 11A	Shovel Probe	0.5 x 0.5	550	Slight rise of floodplain	0	-	-	-
5/12/2011	517537.0	6678738.3	WWC 46	STP 12A	Shovel Probe	0.5 x 0.5	550	Slight rise of floodplain	0	-	-	-
17/11/2011	511202.2	6686800.1	WWC 115	STP 1	Shovel Probe	0.5 x 0.5	350	Cut and fill	0	-	-	-
17/11/2011	511196.8	6686804.6	WWC 115	STP 2	Shovel Probe	0.5 x 0.5	100	Cut and fill	0	-	-	-
17/11/2011	511209.4	6686794.4	WWC 115	STP 3	Shovel Probe	0.5 x 0.5	800	Cut and fill	0	-	-	-
17/11/2011	511219.4	6686791.8	WWC 115	STP 4	Shovel Probe	0.5 x 0.5	250	Cut and fill	0	-	-	-
14/11/2011	506255.7	6692261.7	WWC 135	STP 1	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506259.9	6692272.2	WWC 135	STP 2	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506267.1	6692279.4	WWC 135	STP 3	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506270.1	6692285.3	WWC 135	STP 4	Shovel Probe	0.5 x 0.5	150	Sandy rise	0	-	-	-
14/11/2011	506274.3	6692288.7	WWC 135	STP 5	Shovel Probe	0.5 x 0.5	200	Sandy rise	0	-	-	-
14/11/2011	506274.7	6692294.1	WWC 135	STP 6	Shovel Probe	0.3 x 0.3	200	Sandy rise	0	-	-	-
14/11/2011	506283.5	6692302.1	WWC 135	STP 7	Shovel Probe	0.3 x 0.3	100	Sandy rise	0	-	-	-

PUBLIC

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	Easting	Northing										
14/11/2011	506287.3	6692308.9	WWC 135	STP 8	Shovel Probe	0.3 x 0.3	50	Sandy rise	0	-	-	-
14/11/2011	506296.0	6692314.4	WWC 135	STP 9	Shovel Probe	0.3 x 0.3	100	Sandy rise	0	-	-	-
14/11/2011	506311.7	6692328.4	WWC 135	STP 10	Shovel Probe	0.4 x 0.4	150	Sandy rise	0	-	-	-
14/11/2011	506274.5	6692322.9	WWC 135	STP 11	Shovel Probe	0.5 x 0.5	200	Sandy rise	0	-	-	-
14/11/2011	506268.3	6692312.6	WWC 135	STP 12	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506262.6	6692306.3	WWC 135	STP 13	Shovel Probe	0.5 x 0.5	150	Sandy rise	0	-	-	-
14/11/2011	506254.1	6692299.9	WWC 135	STP 14	Shovel Probe	0.5 x 0.5	150	Sandy rise	0	-	-	-
14/11/2011	506247.3	6692295.0	WWC 135	STP 15	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506252.7	6692324.9	WWC 135	STP 16	Shovel Probe	0.5 x 0.5	50	Sandy rise	0	-	-	-
14/11/2011	506257.9	6692332.5	WWC 135	STP 17	Shovel Probe	0.5 x 0.5	150	Sandy rise	0	-	-	-
14/11/2011	506259.7	6692342.4	WWC 135	STP 18	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506249.7	6692342.3	WWC 135	STP 19	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506246.5	6692332.8	WWC 135	STP 20	Shovel Probe	0.5 x 0.5	20	Sandy rise	0	-	-	-
14/11/2011	506236.8	6692328.2	WWC 135	STP 21	Shovel Probe	0.5 x 0.5	50	Sandy rise	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
14/11/2011	506242.6	6692318.9	WWC 135	STP 22	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506239.0	6692315.5	WWC 135	STP 23	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506244.2	6692312.9	WWC 135	STP 24	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
14/11/2011	506247.8	6692321.2	WWC 135	STP 25	Shovel Probe	0.5 x 0.5	200	Sandy rise	0	-	-	-
14/11/2011	506241.8	6692321.5	WWC 135	STP 26	Shovel Probe	0.5 x 0.5	200	Sandy rise	0	-	-	-
14/11/2011	506237.8	6692311.5	WWC 135	STP 27	Shovel Probe	0.5 x 0.5	100	Sandy rise	0	-	-	-
15/11/2011	506227.0	6692319.2	WWC 135	STP 28	Shovel Probe	0.5 x 0.5	80	Mid-slope	0	-	-	-
15/11/2011	506228.1	6692333.7	WWC 135	STP 29	Shovel Probe	0.5 x 0.5	70	Mid-slope	0	-	-	-
15/11/2011	506235.3	6692340.6	WWC 135	STP 30	Shovel Probe	0.5 x 0.5	70	Mid-slope	0	-	-	-
15/11/2011	506247.6	6692350.9	WWC 135	STP 31	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506233.3	6692348.0	WWC 135	STP 32	Shovel Probe	0.5 x 0.5	120	Mid-slope	0	-	-	-
15/11/2011	506221.2	6692340.8	WWC 135	STP 33	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506212.7	6692334.9	WWC 135	STP 34	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506212.9	6692353.9	WWC 135	STP 35	Shovel Probe	0.5 x 0.5	20	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
15/11/2011	506218.7	6692360.2	WWC 135	STP 36	Shovel Probe	0.5 x 0.5	20	Mid-slope	0	-	-	-
15/11/2011	506228.1	6692351.8	WWC 135	STP 37	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506231.8	6692361.4	WWC 135	STP 38	Shovel Probe	0.5 x 0.5	100	Mid-slope	1	Quartz	Fair	-
15/11/2011	506203.3	6692366.5	WWC 135	STP 39	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506211.0	6692373.3	WWC 135	STP 40	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506217.8	6692376.9	WWC 135	STP 41	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506231.6	6692378.9	WWC 135	STP 42	Shovel Probe	0.5 x 0.5	250	Mid-slope	0	-	-	-
15/11/2011	506239.1	6692385.5	WWC 135	STP 43	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506233.6	6692392.7	WWC 135	STP 44	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506226.1	6692386.2	WWC 135	STP 45	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506205.4	6692379.7	WWC 135	STP 46	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506211.6	6692385.6	WWC 135	STP 47	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506219.0	6692393.4	WWC 135	STP 48	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506218.9	6692403.6	WWC 135	STP 49	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
15/11/2011	506227.0	6692398.8	WWC 135	STP 50	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506238.5	6692402.8	WWC 135	STP 51	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506233.2	6692407.9	WWC 135	STP 52	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506225.4	6692411.3	WWC 135	STP 53	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506217.0	6692413.5	WWC 135	STP 54	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506216.0	6692424.4	WWC 135	STP 55	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506222.9	6692421.4	WWC 135	STP 56	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506239.1	6692416.7	WWC 135	STP 57	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506214.3	6692436.7	WWC 135	STP 58	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506220.9	6692435.0	WWC 135	STP 59	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506229.4	6692430.6	WWC 135	STP 60	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506238.2	6692424.1	WWC 135	STP 61	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506239.0	6692436.5	WWC 135	STP 62	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506228.0	6692441.1	WWC 135	STP 63	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
15/11/2011	506213.7	6692446.4	WWC 135	STP 64	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506221.4	6692447.9	WWC 135	STP 65	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506233.3	6692446.8	WWC 135	STP 66	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506242.3	6692456.4	WWC 135	STP 67	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506248.9	6692466.9	WWC 135	STP 68	Shovel Probe	0.5 x 0.5	350	Mid-slope	0	-	-	-
15/11/2011	506239.7	6692471.0	WWC 135	STP 69	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506229.9	6692463.6	WWC 135	STP 70	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506225.7	6692456.7	WWC 135	STP 71	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506263.4	6692261.9	WWC 135	STP 72	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506267.7	6692269.4	WWC 135	STP 73	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506275.2	6692277.4	WWC 135	STP 74	Shovel Probe	0.5 x 0.5	20	Mid-slope	0	-	-	-
15/11/2011	506280.2	6692285.4	WWC 135	STP 75	Shovel Probe	0.5 x 0.5	0	Mid-slope	0	-	-	-
15/11/2011	506286.6	6692295.6	WWC 135	STP 76	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506296.7	6692301.6	WWC 135	STP 77	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
15/11/2011	506304.5	6692310.0	WWC 135	STP 78	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506312.1	6692321.6	WWC 135	STP 79	Shovel Probe	0.5 x 0.5	150	Mid-slope	1	Silcrete	-	-
15/11/2011	506318.2	6692323.5	WWC 135	STP 80	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	Radial 1
15/11/2011	506308.7	6692322.3	WWC 135	STP 81	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	Radial 2
15/11/2011	506311.6	6692316.8	WWC 135	STP 82	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	Radial 3
15/11/2011	506322.8	6692309.6	WWC 135	STP 83	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506329.0	6692297.8	WWC 135	STP 105	Shovel Probe	0.5 x 0.5	200	Mid-slope	1	Quartz	Fair	-
15/11/2011	506322.6	6692291.9	WWC 135	STP 25	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506314.6	6692299.1	WWC 135	STP 86	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506306.6	6692295.1	WWC 135	STP 87	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
15/11/2011	506311.3	6692286.3	WWC 135	STP 88	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506301.3	6692276.0	WWC 135	STP 89	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506296.3	6692289.5	WWC 135	STP 90	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
15/11/2011	506287.4	6692278.3	WWC 135	STP 91	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
15/11/2011	506294.8	6692266.5	WWC 135	STP 92	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506284.6	6692259.4	WWC 135	STP 93	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506279.1	6692266.3	WWC 135	STP 94	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506272.3	6692260.0	WWC 135	STP 95	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506267.1	6692254.8	WWC 135	STP 96	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
15/11/2011	506290.5	6692250.9	WWC 135	STP 97	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
15/11/2011	506296.2	6692244.5	WWC 135	STP 98	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
16/11/2011	506300.7	6692260.8	WWC 135	STP 99	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
16/11/2011	506309.2	6692266.8	WWC 135	STP 100	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
16/11/2011	506317.6	6692274.8	WWC 135	STP 101	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
16/11/2011	506327.3	6692281.5	WWC 135	STP 102	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
16/11/2011	506338.7	6692292.5	WWC 135	STP 103	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
16/11/2011	506339.8	6692308.6	WWC 135	STP 104	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-
16/11/2011	506334.6	6692300.8	WWC 135	STP 105	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	Radial

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Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
16/11/2011	506328.8	6692300.1	WWC 135	STP 106	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	Radial
16/11/2011	506326.1	6692294.2	WWC 135	STP 107	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	Radial
16/11/2011	506330.8	6692293.2	WWC 135	STP 108	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	Radial
16/11/2011	506347.9	6692292.1	WWC 135	STP 109	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
16/11/2011	506342.8	6692284.7	WWC 135	STP 110	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
16/11/2011	506349.8	6692297.4	WWC 135	STP 111	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
16/11/2011	506335.8	6692277.8	WWC 135	STP 112	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
16/11/2011	506328.4	6692264.8	WWC 135	STP 113	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
16/11/2011	506318.6	6692256.6	WWC 135	STP 114	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
16/11/2011	506310.8	6692249.2	WWC 135	STP 115	Shovel Probe	0.5 x 0.5	50	Mid-slope	0	-	-	-
16/11/2011	506311.5	6692238.4	WWC 135	STP 116	Shovel Probe	0.5 x 0.5	300	Mid-slope	0	-	-	-
16/11/2011	506315.3	6692238.2	WWC 135	STP 117	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
16/11/2011	506327.5	6692249.6	WWC 135	STP 118	Shovel Probe	0.5 x 0.5	0	Mid-slope	0	-	-	-
16/11/2011	506333.7	6692255.8	WWC 135	STP 119	Shovel Probe	0.5 x 0.5	150	Mid-slope	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
16/11/2011	506343.1	6692259.6	WWC 135	STP 120	Shovel Probe	0.5 x 0.5	150	Mid-slope	1	Glass	Fair	Clear
16/11/2011	506339.8	6692263.1	WWC 135	STP 121	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	Radial
16/11/2011	506347.7	6692263.5	WWC 135	STP 122	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	Radial
16/11/2011	506339.1	6692257.1	WWC 135	STP 123	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
16/11/2011	506345.9	6692254.8	WWC 135	STP 124	Shovel Probe	0.5 x 0.5	300	Mid-slope	0	-	-	-
16/11/2011	506329.7	6692243.2	WWC 135	STP 125	Shovel Probe	0.5 x 0.5	200	Mid-slope	0	-	-	-
17/11/2011	506417.7	6692038.6	WWC 135	STP 126	Shovel Probe	0.5 x 0.5	0	-	0	-	-	-
17/11/2011	506406.3	6692037.9	WWC 135	STP 127	Shovel Probe	0.5 x 0.5	250	Mid-slope	0	-	-	-
17/11/2011	506394.8	6692041.1	WWC 135	STP 128	Shovel Probe	0.5 x 0.5	450	Mid-slope	0	-	-	-
17/11/2011	506428.0	6692036.8	WWC 135	STP 129	Shovel Probe	0.5 x 0.5	350	Mid-slope	0	-	-	-
17/11/2011	506419.4	6692028.2	WWC 135	STP 130	Shovel Probe	0.5 x 0.5	100	Mid-slope	0	-	-	-
17/11/2011	506411.1	6692028.2	WWC 135	STP 131	Shovel Probe	0.5 x 0.5	450	Mid-slope	0	-	-	-
17/11/2011	506395.3	6692026.2	WWC 135	STP 132	Shovel Probe	0.5 x 0.5	350	Mid-slope	0	-	-	-
16/11/2011	505774.5	6693387.8	WWC 139	STP 1	Shovel Probe	0.5 x 0.5	0	Rise	0	-	-	-

PUBLIC

Date	MGA Zone 56		Site / PAD name	Excavation number	Excavation type	Dimension of excavation (m)	End depth (mm)	Landscape unit (landform)	Number of artefacts	Artefact materials	Site condition	Comments
	Easting	Northing										
16/11/2011	505776.8	6693381.1	WWC 139	STP 2	Shovel Probe	0.5 x 0.5	0	Rise	0	-	-	-
16/11/2011	505781.5	6693375.0	WWC 139	STP 3	Shovel Probe	0.5 x 0.5	100	Rise	0	-	-	-

Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix L Stratigraphy drawings

Woolgoolga to Ballina Pacific Highway Upgrade
 Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
 Volume 2: Appendices

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0345

Site Name: WWC26

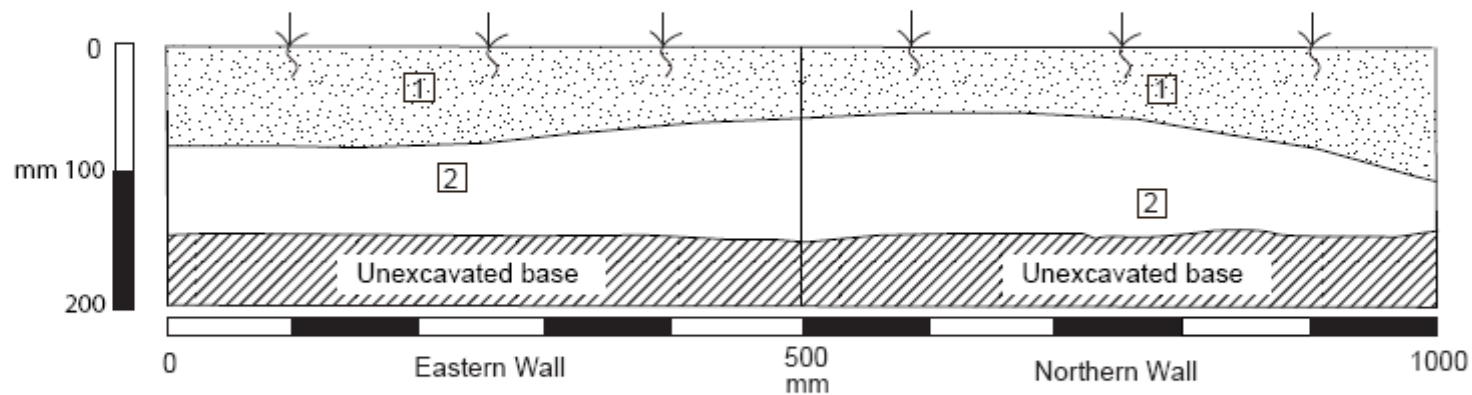
Shovel Test Pit 2 (0.5 metre x 0.5 metre)

517867E / 6675708N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Eastern and Northern Walls

Drawn by: Amanda Goldfarb

Excavation Date: 21 November 2011



Stratigraphic Components

1	10YR 4/3 (colour from Munsell), pH 6. Dark-brown clayey silt, loosely compacted. Inclusions of rootlets, charcoal and iron oxide flakes were present.
2	7.5YR 4/6 (colour from Munsell), pH 6. Orange-brown clay base, medium compaction. Iron oxide inclusions greater than 10 mm, and charcoal present.

Figure 10 Stratigraphy drawing: WWC18, shovel test pit 12

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0402

Site Name: Sherwood North

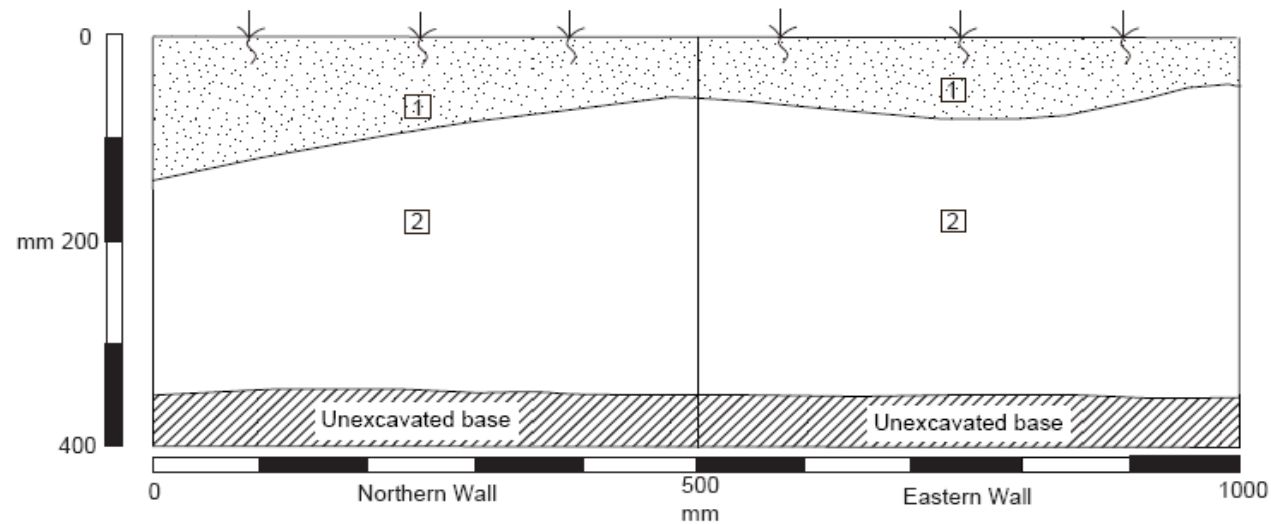
Shovel Test Pit 1 (0.5 metre x 0.5 metre)

517907E / 6676141N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Northern and Eastern Walls

Drawn by: Christian Thurmer

Excavation Date: 21 November 2011



Stratigraphic Components

1	10YR 7/2 (colour from Munsell), pH 6. Light-grey silty sandy soil, loosely compacted with rootlet and leaf litter inclusions.
2	10YR 5/6 (colour from Munsell), pH 5.5. Orange-brown mottled silty clay, moderately compacted. Roots, iron oxide flecks and charcoal inclusions present.

Figure 11 Stratigraphy drawing: Sherwood North, shovel test pit 1

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0344

Site Name: WWC37

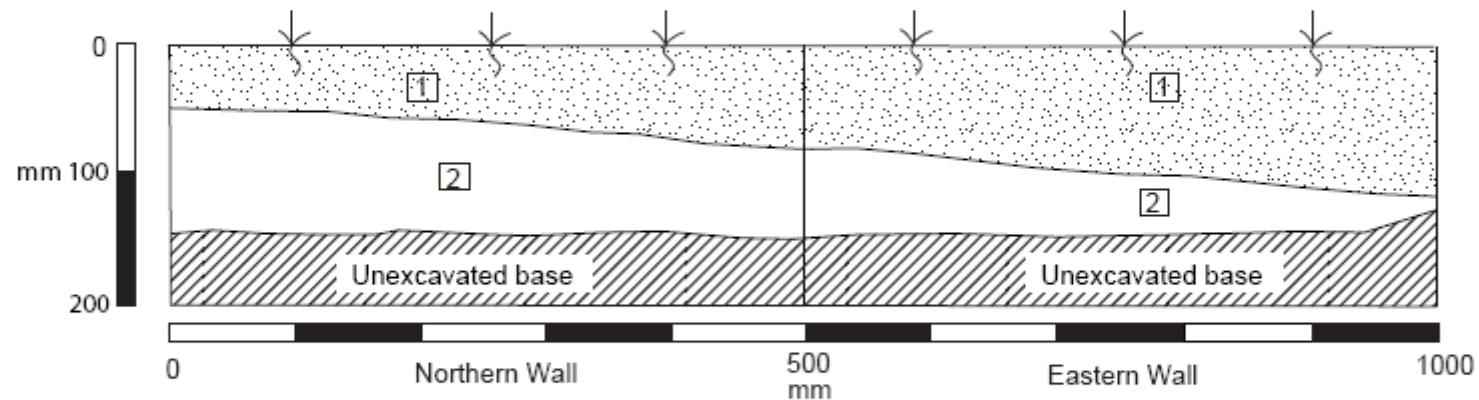
Shovel Test Pit 1 (0.5 metre x 0.5 metre)

517842E / 6677927N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Northern and Eastern Walls

Drawn by: Amanda Goldfarb

Excavation Date: 22 November 2011



Stratigraphic Components

1	10YR 4/3 (colour from Munsell), pH 6. Grey-brown clayey silt, highly compacted. Bioturbation inclusions and charcoal flecks present.
2	7.5YR 4/4 (colour from Munsell), pH 7. Orange-brown silty clay, medium compaction. Bioturbation and iron oxide inclusions present.

Figure 12 Stratigraphy drawing: WWC37, shovel test pit 1

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0344

Site Name: WWC37

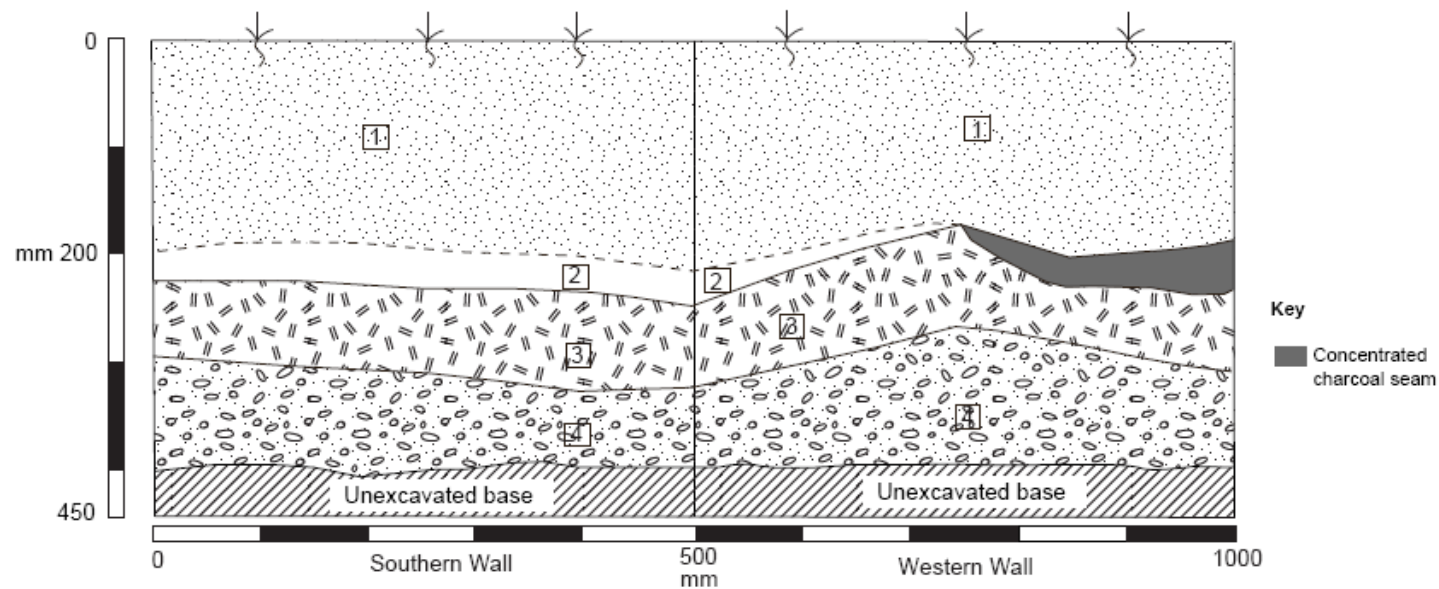
Shovel Test Pit 5 (0.5 metre x 0.5 metre)

517828E / 6677956N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Southern and Western Walls

Drawn by: Amanda Goldfarb

Excavation Date: 22 November 2011



Stratigraphic Components

1	Medium-brown silty clay, moderately compacted. Inclusions of rootlets, iron oxide flecks and charcoal pieces were present.	3	Charcoal lens, clayey and moist.
2	Medium light-brown silty clay, moderately compacted. Inclusions of rootlets, iron oxide flecks and charcoal pieces were present.	4	Orange-brown clay to base. Charcoal and iron oxide inclusions present.

Figure 13 Stratigraphy drawing: WWC37, shovel test pit 5

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0343

Site Name: WWC39

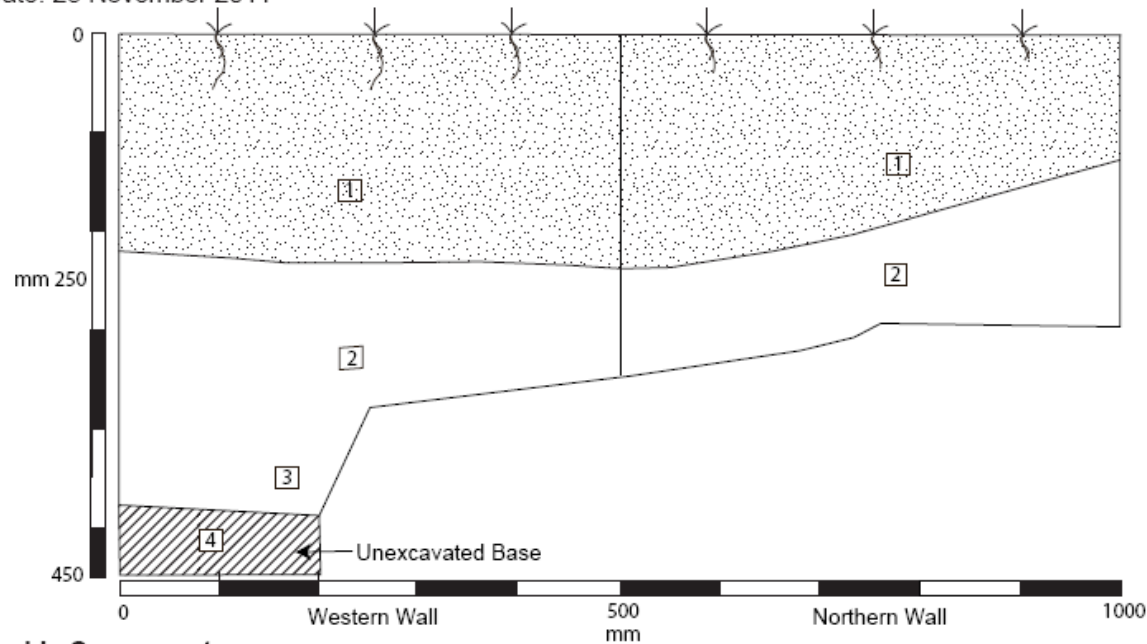
Shovel Test Pit 1 (0.5 metre x 0.5 metre)

517764E / 6678255N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Western and Northern Walls

Drawn by: Morgan Wilcox

Excavation Date: 23 November 2011



Stratigraphic Components

1	10YR 3/2 (colour from Munsell), pH 8. Medium-brown silty soil, humic with a slight clay content. Top 20 mm baked (so highly compact), but became moderately compacted. Rootlets, ironstone and charcoal inclusions and macadamia shells present.	3	10YR 2/2 (colour from Munsell), pH 5. Post-hole feature, dark-brown with wood remnants in south-western corner.
2	10YR 4/4 (colour from Munsell), pH 6. Orangey-brown clayey silt, moderately compacted. Rootlets and ironstone and charcoal inclusions present.	4	10YR 4/4 (colour from Munsell). Orangey-brown mottled clay base. Moderately compacted. Unexcavated.

Figure 14 Stratigraphy drawing: WWC39, shovel test pit 1

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0343

Site Name: WWC39

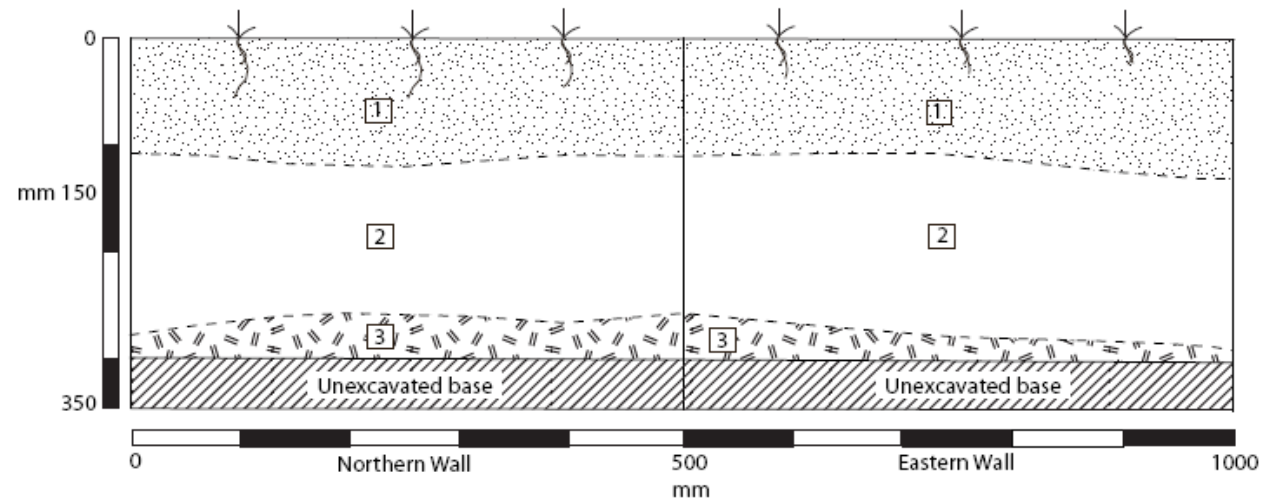
Shovel Test Pit 53 (0.5 metre x 0.5 metre)

517759E / 6678302N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Northern and Eastern Walls

Drawn by: Amanda Goldfarb

Excavation Date: 28 November 2011



Stratigraphic Components

1	10YR 2/1 (colour from Munsell), pH 6. Very dark-brown humic silt. Moist and moderately compact with rootlets, gravel, ironstone and quartz inclusions.
2	10YR 4/3 (colour from Munsell), pH 6. Medium-brown clayey silt, moist and moderately compacted. Charcoal, degrading sandstone, gravel and quartz inclusions present.
3	10YR 4/3 (colour from Munsell), pH 6. Medium yellow-brown and slightly mottled, moist clay base. Iron oxide, charcoal and gravel inclusions present.

Figure 15 Stratigraphy drawing: WWC39, shovel test pit 53

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 22-1-0342

Site Name: WWC46

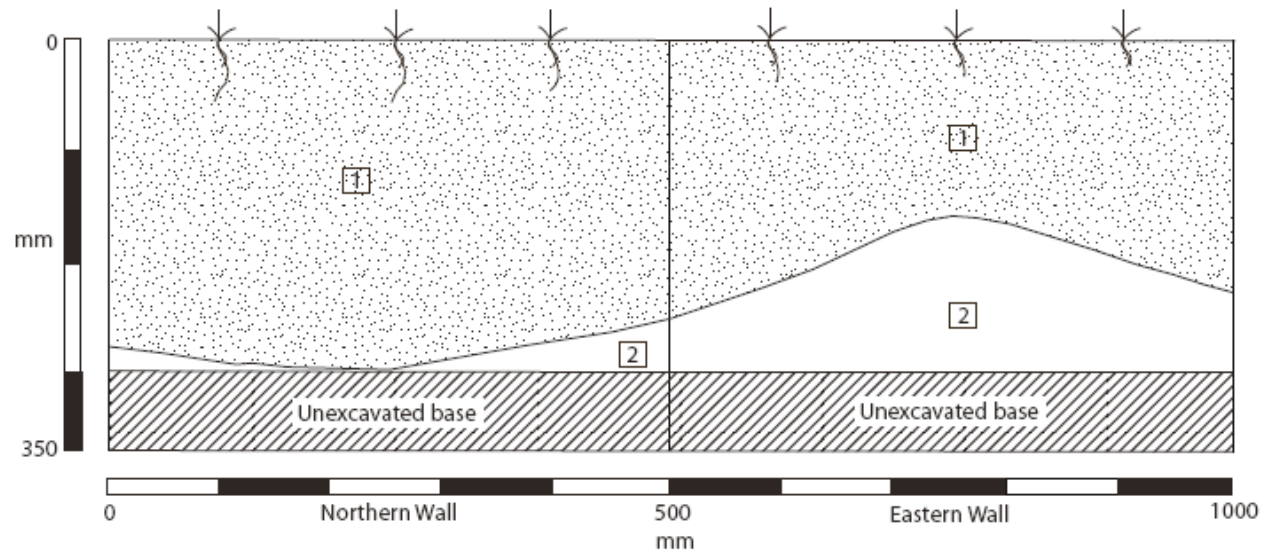
Shovel Test Pit 1 (0.5 metre x 0.5 metre)

517641E / 6678631N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Northern and Eastern Walls

Drawn by: Amanda Goldfarb

Excavation Date: 30 November 2011



Stratigraphic Components

1	10YR 2/2 (colour from Munsell), pH 6. Very dark-brown, humic, silty clayey loam. Bioturbation and charcoal inclusions present.
2	10YR 3/6 (colour from Munsell), pH 6. Medium-brown, reddish clay base with charcoal inclusions.

Figure 16 Stratigraphy drawing: WWC46, shovel test pit 1

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 13-4-0160

Site Name: WWC115

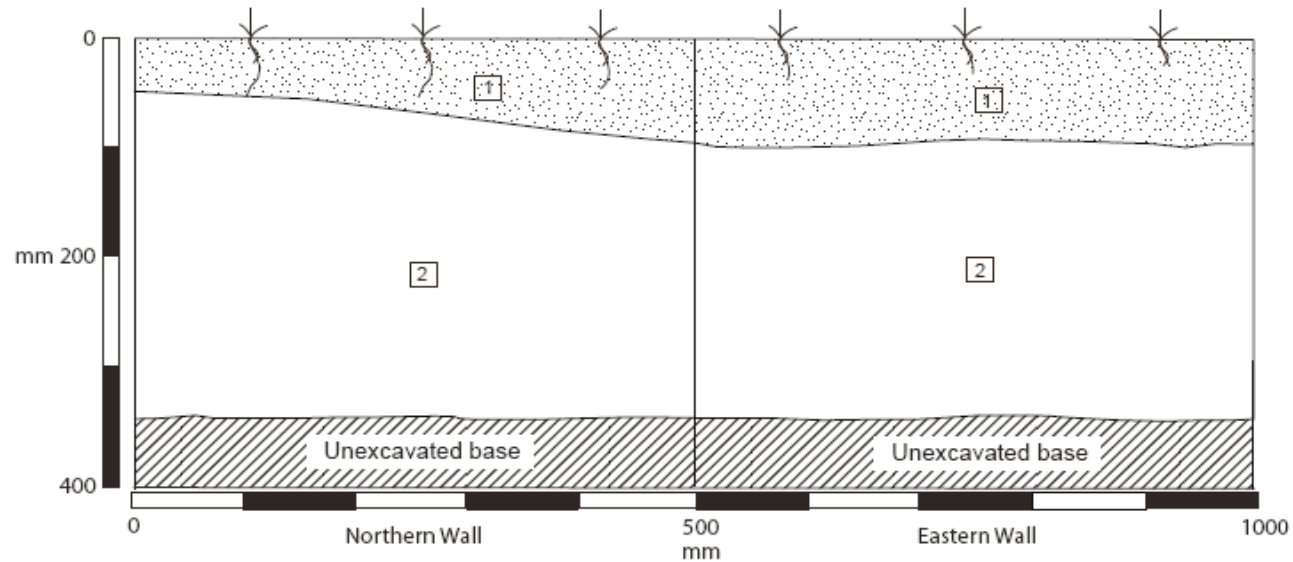
Shovel Test Pit 1 (0.5 metre x 0.5 metre)

511203E / 6686801N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Northern and Eastern Walls

Drawn by: Erica Weston

Excavation Date: 17 November 2011



Stratigraphic Components

1	10YR 3/2 (colour from Munsell), pH 6.5. Medium-brown, fine-grained, humic sandy silt. Loosely compacted and moist, with rootlet inclusions.
2	10YR 3/1 (colour from Munsell), pH 7. Dark-brown moist sandy silt. Loosely compacted with charcoal and wood chunks; appears to be fill.

Figure 17 Stratigraphy drawing: WWC115, shovel test pit 1

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 13-4-0159

Site Name: WWC135

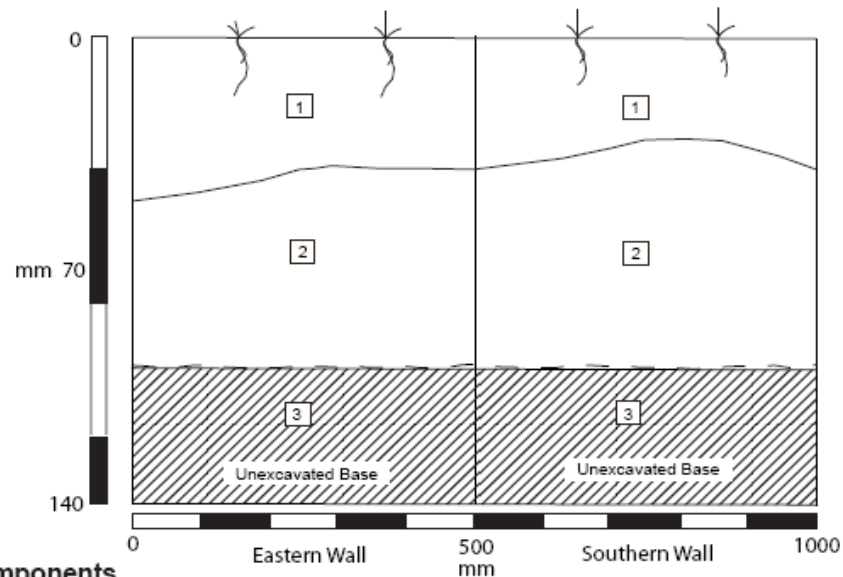
Shovel Test Pit 22 (0.5 metre x 0.5 metre)

5062443 / 6692319N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Eastern and Southern Walls

Drawn by: Erica Weston

Excavation Date: 14 November 2011



Stratigraphic Components

1	10YR 4/2 (colour from Munsell), pH 6. Light-brown/dark-brown sandy silt. Loosely compacted. Artefact found in this horizon.
2	10YR 5/3 (colour from Munsell), pH 5. Light-brown/dark-brown sandy silt. Loosely compacted.
3	10YR 4/6 (colour from Munsell), pH 6. Mottled orange/dark-brown, reddish clay with hard compaction.

Figure 18 Stratigraphy drawing: WWC135, shovel test pit 22

Pacific Highway Upgrade - Woolgoolga to Ballina: Cultural Heritage Sub-Surface Testing

AHIMS Site ID: 13-4-0157

Site Name: WWC139

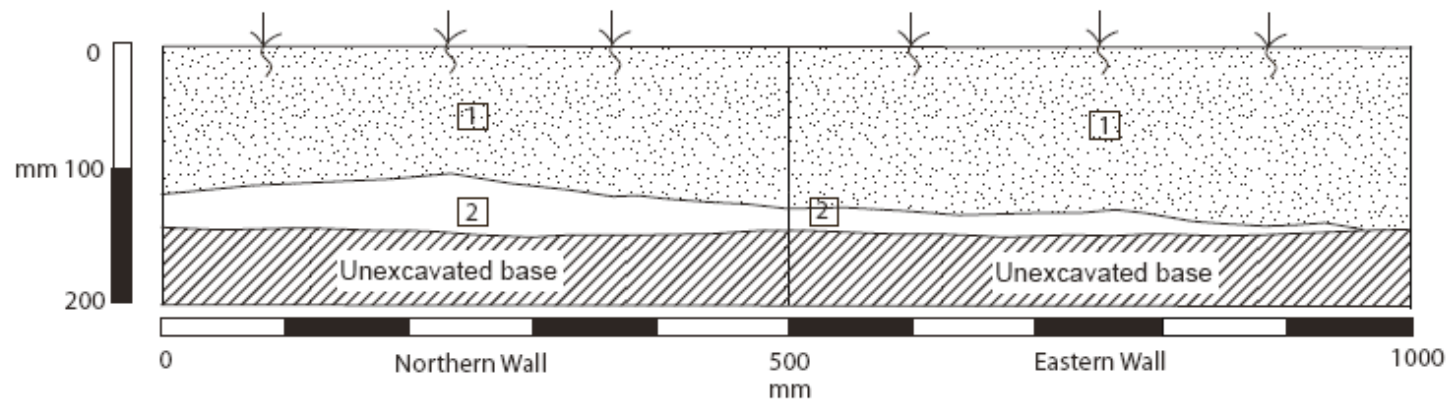
Shovel Test Pit 2 (0.5 metre x 0.5 metre)

505778E / 6693381N (GDA 94, MGA Zone 56)

Stratigraphic Profile: Northern and Eastern Walls

Drawn by: Erica Weston

Excavation Date: 16 November 2011



Stratigraphic Components

1	10YR 5/4 (colour from Munsell), pH 6.5. Light grey-brown silty sand; compacted and moist with rootlet inclusions.
2	10YR 4/4 (colour from Munsell), pH 5.5. Mottled orange-brown clay; compacted and moist, with rootlet inclusions.






Figure 19 Stratigraphy drawing: WWC139, shovel test pit 2

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Woolgoolga to Ballina Pacific Highway Upgrade
Aboriginal Heritage Assessment – Woolgoolga to Wells Crossing
Volume 2: Appendices

Appendix M Site photos

Table 11 Artefact photos Woolgoolga to Wells Crossing (from south to north)

Site Name (AHIMS Site ID)	Number of Artefacts	Photos
WWC18 (AHIMS Site ID: 22-1-034)	1 Artefact (silcrete)	 <p>Complete silcrete flake with a flaked platform and feather termination. Artefact found in STP 12 at 150 mm (Photo by Amanda Goldfarb, 21 November 2011).</p>
WWC39 (AHIMS Site ID: 22-1-0343)	98 Artefacts (agate, chalcedony, chert, silcrete, mudstone, quartz, quartzite) 134 Surface artefacts (bone, chalcedony, chert, glass, quartz, quartzite, silcrete)	 <p>Chert, multi-directional core. The longest flake scar is 37.86 mm; there are at least eight flake scars. Possibly a blade core. Artefact found in STP 67 at 100 mm (Photo by Erica Weston, 28 November 2011).</p>  <p>Ochre found in STP 11A at 50-100 mm (Photo by Laura Bates, 16 December 2011).</p>  <p>Complete silcrete flake with a flaked platform and feather termination. There is also a bone fragment, which is weathered/calcified. Artefacts found on the surface (Photo by Erica Weston, 2 December 2011).</p>
		 <p>Agate geometric microlith, found in STP 70R at a depth of 100 mm (Photo by Erica Weston, 29 November 2011).</p>

Site Name (AHIMS Site ID)	Number of Artefacts	Photos	
WWC46 (AHIMS Site ID: 22-1-0342)	3 Artefacts (chert, silcrete)	 <p>Chert complete flake with a flaked platform. Found in STP 4 at a depth of 250 mm (Photo by Amanda Goldfarb, 30 November 2011).</p>	
WWC135 (AHIMS Site ID: 13-4-0159)	5 Artefacts (silcrete, quartz, glass)	 <p>Quartz core, potentially multi-platform, with step and feather terminations present. Artefacts found in STP 84 at 150-200 mm (Photo by Erica Weston, 15 November 2011).</p>	 <p>Complete glass flake with a flaked platform and hinge termination. The material may be natural or European in origin. Artefact found in STP 120 at 0-5 mm (Photo by Christian Thurmer, 16 November 2011).</p>

Appendix N Artefact analysis

Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
21/11/2011	WWC18	12	150	Complete Flake	Silcrete	25.00	14.00	6.00	31.00	Flaked	13.00	3.00	Feather	0	
23/11/2011	WWC39	6	100	Angular Fragment	Mud stone	-	-	-	13.82	-	-	-	-	10	Red/orange
23/11/2011	WWC39	6	100	Angular Fragment	Mud stone	-	-	-	18.04	-	-	-	-	0	Grey
23/11/2011	WWC39	15	50	Complete Flake	Chert	27.73	22.53	7.77	27.73	Flaked	5.38	6.31	Step	0	Black
23/11/2011	WWC39	28	Surface	Complete Flake	Silcrete	55.69	26.97	9.56	55.86	Flaked	8.77	2.24	Feather	50	Medium grained
23/11/2011	WWC39	28	Surface	Core	Silcrete	-	-	-	80.85	-	-	-	-	40	Medium grained. Longest flake score: 5,923 mm. No. of flake scars is 6+
23/11/2011	WWC39	29R	100	Complete Flake	Chert	19.45	13.85	5.17	20.06	Flaked	9.91	4.02	Feather	0	Grey
23/11/2011	WWC39	35R	100	Longitudinally Split Flake	Silcrete	-	-	-	22.03	-	-	-	Feather	30	Grey
28/11/2011	WWC39	62	30	Complete Flake	Silcrete	24.05	15.43	3.32	25.27	Crushed	12.85	NA	Feather	50	4 dorsal scars and 25% overall cortex, possible river cobble
28/11/2011	WWC39	63R	100	Angular Fragment	Chert	-	-	-	16.13	-	-	-	-	0	Possible core fragment, shows characteristics of flaking but no definite core features
28/11/2011	WWC39	63R	100	Proximal Flake	Silcrete	-	-	2.35	14	Flaked	12.9	3.01	-	0	
28/11/2011	WWC39	63R	100	Cobble	Silcrete	-	-	-	52.21	-	-	-	-	60	Split
28/11/2011	WWC39	64R	Surface	Complete Flake	Chert	10.11	9.28	1.7	15.48	Crushed	10.9	NA	Step	0	
28/11/2011	WWC39	65R	200	Complete Flake	Silcrete	38.24	23.27	4.89	38.34	Flaked	13.68	6.27	Feather	0	
28/11/2011	WWC39	67	100	Multi-directional Core	Chert	-	-	-	41.87	-	-	-	-	0	8+ flake scars, possible blade core. Longest flake scar 3,786 mm
29/11/2011	WWC39	69R	100-200	Complete Flake	Chalcedony	11.86	10.49	3.35	12.86	Flaked	2.59	1.21	Feather	0	
29/11/2011	WWC39	69R	100-200	Longitudinally Split Flake	Silcrete	-	-	-	18.78	-	-	-	Feather	0	Platform looks like it may have been crushed
29/11/2011	WWC39	70R	100	Flaked Fragment	Chert	-	-	-	23.91	-	-	-	-	0	Refits flaked fragment below. Might be part of a core
29/11/2011	WWC39	70R	100	Flaked Fragment	Chert	-	-	-	21.55	-	-	-	-	0	Refits to flaked fragment above. Might be part of a core
29/11/2011	WWC39	70R	100	Angular Fragment	Chert	-	-	-	28.47	-	-	-	-	0	
29/11/2011	WWC39	70R	100	Complete Flake	Chert	20.23	20.45	5.67	28.08	Flaked	9.93	4.1	Feather	0	Same material as refitting flaked fragments above
29/11/2011	WWC39	70R	100	Geometric microlith	Agate	-	-	-	13.86	-	-	-	-	0	
29/11/2011	WWC39	71R	100-150	Complete Flake	Silcrete	15.58	17.12	3.38	19.16	Crushed	15.54	-	Step	0	
29/11/2011	WWC39	71R	100-150	Complete Flake	Silcrete	22.59	17.41	6.45	24.89	Damaged	-	-	Feather	0	

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
29/11/2011	WWC39	72R	100	Complete Flake	Silcrete	25.96	36.22	6.88	37.98	Flaked	14.78	2.42	Feather	0	Platform has some damage
29/11/2011	WWC39	72R	100	Angular Fragment	Agate	-	-	-	23.54	-	-	-	-	0	
29/11/2011	WWC39	73R	50-100	Flaked Fragment	Chert	-	-	-	46.07	-	-	-	-	0	
29/11/2011	WWC39	73R	50-100	Complete Flake	Chert	14.02	7.52	2.48	15.6	Flaked	9.18	2.97	Step	0	
29/11/2011	WWC39	73R	50-100	Angular Fragment	Chert	-	-	-	16.12	-	-	-	-	0	
29/11/2011	WWC39	73R	100-150	Complete Flake	Chert	21.96	16.76	3.6	22.77	Flaked	14.44	4.37	Step	0	
29/11/2011	WWC39	73R	100-150	Complete Flake	Chert	12.88	17.26	2.98	19.75	Flaked	3.13	1.3	Hinge	0	
29/11/2011	WWC39	73R	100-150	Complete Flake	Chert	27.48	15.44	6.32	27.48	Flaked	7.03	2.11	Feather	0	
29/11/2011	WWC39	74R	100	Longitudinally Split Flake	Silcrete	-	-	6.28	19.93	Flaked	-	4.96	Hinge	0	
29/11/2011	WWC39	74R	100	Complete Flake	Chalcedony	14.25	20.21	3.34	21.67	Flaked	10.66	3.23	Hinge	0	
29/11/2011	WWC39	75R	100	Longitudinally Split Flake	Chert	-	-	4.85	17.31	-	-	-	-	0	Refits with below artefact. Fresh break
29/11/2011	WWC39	75R	100	Longitudinally Split Flake	Chert	-	-	3.88	16.79	-	-	-	-	0	Refits with split flake above. Fresh break, platform missing
29/11/2011	WWC39	75R	100	Complete Flake	Chert	25.19	9.45	4.05	25.46	Flaked	5.87	2.53	Feather	0	Blade
29/11/2011	WWC39	75R	100	Longitudinally Split Flake	Silcrete	-	-	13.69	36.04	Damaged	-	-	Feather	0	
29/11/2011	WWC39	75R	100	Complete Flake	Chert	11.79	15.86	4.08	17.4	Flaked	10.09	4.55	Step	0	
29/11/2011	WWC39	75R	100	Longitudinally Split Flake	Silcrete	-	-	6.23	14.4	Missing	-	-	Hinge	0	
29/11/2011	WWC39	75R	100	Complete Flake	Quartz	22.9	12.08	6.48	23.64	Crushed	-	-	Feather	0	
29/11/2011	WWC39	76R	100-150	Complete Flake	Chert	28.36	21.29	4.23	32.34	Crushed	-	-	Step	0	Edge damage
29/11/2011	WWC39	82	150-200	Complete Flake	Silcrete	19.11	25.87	4.72	25.33	Flaked	3.94	2.74	Axial	Dorsal 50	Overall cortex 25%; possibly from river cobble
29/11/2011	WWC39	84R	100	Complete Flake	Chert	27.94	22.6	8.74	28.87	Flaked	15.87	3.47	Step	0	
29/11/2011	WWC39	84R	100	Angular Fragment	Chert	-	-	-	19.4	-	-	-	-	0	
29/11/2011	WWC39	86	100-200	Longitudinally Split Flake	Silcrete	-	-	2.67	21.93	Flaked	-	-	Feather	0	
29/11/2011	WWC39	87R	200-250	Angular Fragment	Silcrete	-	-	-	16.73	-	-	-	-	0	(Micro-Crystalline?)
29/11/2011	WWC39	90	100	Complete Flake	Chert	26.06	19.79	5.57	28.47	Flaked	10.15	4.27	Step	0	
29/11/2011	WWC39	90	100	Longitudinally Split Flake	Chert	-	-	3.16	19.41	-	-	-	Feather	0	
29/11/2011	WWC39	90	100	Longitudinally Split Flake	Chert	-	-	-	21.49	Indeterminate	-	-	Missing	0	Black chert
29/11/2011	WWC39	90	100	Longitudinally Split Flake	Silcrete	-	-	-	49.18	Flaked	-	-	Indeterminate	0	Medium grained
29/11/2011	WWC39	90	0-100	Distal Flake	Silcrete	-	-	-	31.67	-	-	-	Feather	10	Medium grained
29/11/2011	WWC39	90	100	Proximal Flake	Silcrete	-	-	-	16.17	Flaked	5.71	4.79	-	50	Medium grained
29/11/2011	WWC39	90	100	Complete Flake	Silcrete	11.47	22.62	4.07	22.01	Flaked	13.78	3.27	Step	0	Medium grained
29/11/2011	WWC39	90	100	Longitudinally Split Flake	Silcrete	-	-	4.92	21.97	Flaked	-	-	Feather/Step	0	Medium grained
29/11/2011	WWC39	90	100	Angular Fragment	Silcrete	-	-	-	35.38	-	-	-	-	0	Medium grained
29/11/2011	WWC39	90	100	Complete Flake	Silcrete	29.13	23.31	16.9	31.28	Flaked	21.8	6.74	Feather	Dorsal 100	Medium grained; overall cortex 50%

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
29/11/2011	WWC39	90	100	Angular Fragment	Silcrete	-	-	-	15.72	-	-	-	-	0	Medium grained
29/11/2011	WWC39	90	100	Longitudinally Split Flake	Silcrete	-	-	-	16.18	Flaked	-	4.22	Feather	0	Medium grained
29/11/2011	WWC39	90	100	Longitudinally Split Flake	Silcrete	-	-	3.31	19.13	Indeterminate	-	-	Feather	0	
29/11/2011	WWC39	90	100	Complete Flake	Silcrete	21.3	21.16	5.98	29.48	Damaged	-	-	Step	Dorsal 90	Medium grained; overall 45% cortex
29/11/2011	WWC39	90	100-250	Complete Flake	Quartzite	15.01	9.91	3.13	17.7	Crushed	-	-	Feather	0	
29/11/2011	WWC39	90	100-250	Complete Flake	Silcrete	30.95	30.91	5.14	31.71	Crushed	-	-	Feather	Dorsal 100	Overall cortex 50%; possibly from river cobble core
29/11/2011	WWC39	90	100-250	Complete Flake	Silcrete	24.83	12.51	5.02	26.56	Flaked	10.04	3.32	Feather	0	Medium grained
29/11/2011	WWC39	90	100-250	Complete Flake	Silcrete	20.68	19.77	3.88	27.61	Flaked	7.17	2.03	Step	0	Medium grained
29/11/2011	WWC39	90	100-250	Complete Flake	Silcrete	18.37	17.13	2.94	22.49	Flaked	11.97	3.49	Feather	0	Medium grained
29/11/2011	WWC39	90	100-250	Core	Silcrete	-	-	-	62.21	-	-	-	-	20	Longest flake scar: 6,032 mm. Medium grained
29/11/2011	WWC39	90	100-250	Longitudinally Split Flake	Chert	-	-	4.22	19.47	Flaked	-	-	Indeterminate	0	
29/11/2011	WWC39	92	100-250	Complete Flake	Chert	34.32	27.72	10.99	40	Flaked	35.81	13.86	Missing	Dorsal 100	Overall 50% cortex
29/11/2011	WWC39	92	100-250	Complete Flake	Silcrete	15.05	8.63	3.12	15.05	Flaked	5.32	3.04	Feather	0	
29/11/2011	WWC39	92	100-250	Complete Flake	Silcrete	28.26	19.48	6.16	28.58	Crushed	-	-	Feather	0	
29/11/2011	WWC39	93	100-250	Complete Flake	Chert	25.57	20.69	4.22	27.99	Flaked	9.39	3.4	Step	0	
29/11/2011	WWC39	93	0-100	Complete Flake	Silcrete	30.33	19.27	7.38	34.64	Cortical	16.45	9.29	Feather	10	
29/11/2011	WWC39	93	0-100	Longitudinally Split Flake	Silcrete	-	19.27	14.64	50.64	Flaked	-	-	Feather	0	
29/11/2011	WWC39	93	150-200	Complete Flake	Silcrete	19.83	15.79	4.54	32.45	Flaked	15.24	5.61	Hinge	0	
29/11/2011	WWC39	93	150-200	Complete Flake	Silcrete	20.45	26.61	6.81	29.23	Flaked	18.65	6.24	Hinge	0	
30/11/2011	WWC39	94R	100-200	Distal Flake	Chert	-	-	-	10.24	-	-	-	Feather	0	
30/11/2011	WWC39	95R	100-200	Angular Fragment	Chert	-	-	-	37.1	-	-	-	-	0	
30/11/2011	WWC39	95R	100-200	Longitudinally Split Flake	Silcrete	-	-	4.47	20.92	Flaked	-	6.78	Step	0	Coarse grained
30/11/2011	WWC39	95R	100-200	Complete Flake	Silcrete	11.34	10.63	2.55	12.82	Crushed	-	-	Feather	0	Fine grained
30/11/2011	WWC39	97R	300	Complete Flake	Silcrete	17.01	13.17	3.27	19.15	Flaked	10.89	2.6	Feather	0	
30/11/2011	WWC39	98R	100-200	Core	Chert	-	-	-	53.43	-	-	-	-	0	Possibly a bi-directional core. Longest flake scar: 3,231 mm
30/11/2011	WWC39	98R	100-200	Angular Fragment	Chert	-	-	-	28.07	-	-	-	-	0	
30/11/2011	WWC39	98R	100-200	Complete Flake	Chert	17.02	17.14	4.63	20.22	Flaked	19.99	6.69	Feather	0	
30/11/2011	WWC39	98R	100-200	Angular Fragment	Agate	-	-	-	19.7	-	-	-	-	0	Red
30/11/2011	WWC39	98R	100-200	Angular Fragment	Quartz	-	-	-	19.68	-	-	-	-	0	
30/11/2011	WWC39	98R	100-200	Distal Flake	Quartz	-	-	-	10.81	-	-	-	Step	0	
30/11/2011	WWC39	98R	100-200	Angular Fragment	Quartz	-	-	-	9.72	-	-	-	-	0	
30/11/2011	WWC39	99R	200	Complete Flake	Silcrete	23.22	27.7	4.92	36.1	Flaked	12.62	3.04	Axial	Dorsal 100	Overall 50% cortex

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
30/11/2011	WWC39	96R	100-200	Angular Fragment	Chert	-	-	-	26.57	-	-	-	-	0	
30/11/2011	WWC39	96R	100-200	Angular Fragment	Chert	-	-	-	14.78	-	-	-	-	0	
30/11/2011	WWC39	96R	300	Complete Flake	Silcrete	9.11	11.37	2.66	13.9	Flaked	5.07	2.36	Feather	0	
16/12/2011	WWC39	3A	250-280	Flaked Fragment	Silcrete	-	-	-	17.63	-	-	-	-	0	Possibly siltstone, (fine-grained)
16/12/2011	WWC39	2A	50-100	Flaked Fragment	Silcrete	-	-	-	21.86	-	-	-	-	10	Possible split cone fracture
16/12/2011	WWC39	2A	50-100	Longitudinally Split Flake	Silcrete	-	-	-	17.77	Flaked	-	-	Feather	80	Split cone fracture
16/12/2011	WWC39	6A	100-150	Complete Flake	Silcrete	19.06	21.17	5.5	23.2	Flaked	14.86	5.77	Feather	0	Fine grained
16/12/2011	WWC39	8A	0-100	Flaked Fragment	Silcrete	-	-	-	33.72	-	-	-	-	50	Cobble
16/12/2011	WWC39	11A	0-50	Proximal Flake	Silcrete	-	-	-	21.84	Flaked	13.15	2.39	-	0	Possible post-depositional break
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Silcrete	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chalcedony	-	-	-	-	Crushed	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Quartz	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Silcrete	-	-	-	-	-	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	Banded
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Chert	-	-	-	-	-	-	-	-	0	1 flake scar
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Longitudinally Split Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Chert	-	-	-	-	-	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Bi-directional core	Chert	-	-	-	-	-	-	-	-	0	6 scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chalcedony	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Chert	-	-	-	-	-	-	-	-	0	3+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Chert	-	-	-	-	-	-	-	-	0	7+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Quartzite	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Silcrete	-	-	-	-	-	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Silcrete	-	-	-	-	-	-	-	-	0	9+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Chert	-	-	-	-	-	-	-	-	0	1 flake scar
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Silcrete	-	-	-	-	-	-	-	-	0	4+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Chert	-	-	-	-	-	-	-	-	0	8+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	Possible retouch along one edge
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	Refitted / broken recently into 3 pieces
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Longitudinally Split Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Step	0	

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2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Faceted	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Quartzite	-	-	-	-	-	-	-	-	0	1 scar
2/12/2011	WWC39 Blueberry Patch	-	Surface	Flaked Fragment	Chert	-	-	-	-	Faceted	-	-	Feather	0	Negative flake scars present
2/12/2011	WWC39 Blueberry Patch	-	Surface	Longitudinally Split Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Quartzite	-	-	-	-	-	-	-	-	0	1 scar
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Chert	-	-	-	-	-	-	-	-	0	2+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	Rejuvenation flake/ negative flake scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Silcrete	-	-	-	-	-	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Silcrete	-	-	-	-	-	-	-	-	0	1 flake scar
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Core	Chert	-	-	-	-	-	-	-	-	0	7 flake scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Longitudinally Split Flake	Silcrete	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Silcrete	-	-	-	-	-	-	-	-	0	4+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Chert	-	-	-	-	-	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Longitudinally Split Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	

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2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Silcrete	-	-	-	-	-	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Silcrete	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Silcrete	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Silcrete	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Chert	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Distal Flake	Silcrete	-	-	-	-	-	-	-	Step	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Quartz	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Multi-directional Core	Chert	-	-	-	-	-	-	-	-	0	6+ scars
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Bone Fragment	Bone	-	-	-	-	-	-	-	-	0	Weathered / calcified
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Quartz	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Chert	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Proximal Flake	Chert	-	-	-	-	Flaked	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Chalcedony	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Quartz	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	Flaked	-	-	Feather	0	

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Date	Site Name	STP Number	Depth (mm)	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Maximum Dimension	Platform Type	Platform Width	Platform Thickness	Termination Type	Cortex (%)	Comments
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Silcrete	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Angular Fragment	Glass	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Silcrete	-	-	-	-	-	-	-	-	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Longitudinally Split Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
2/12/2011	WWC39 Blueberry Patch	-	Surface	Complete Flake	Chert	-	-	-	-	Flaked	-	-	Feather	0	
30/11/2011	WWC46	4	250	Complete Flake	Chert	19.51	6.69	1.71	21.05	Flaked	8.26	2.50	Indeterminate	0	Blade termination potentially feather, appears as a step but it could be snapped
30/11/2011	WWC46	7	350-400	Core	Silcrete	-	-	-	101.06	-	-	-	-	70	Flaked cobble, max scar length: 5,556 mm. 4+ scars
1/12/2011	WWC46	10	0-100	Proximal Flake	Silcrete	-	-	-	42.05	Indeterminate	-	-	-	0	
14/11/2011	WWC135	22	40	Complete Flake	Silcrete	79.50	86.20	17.10	89.50	Cortical	86.00	16.80	Hinge	100	Edge damage, sedimentary coarse grained silcrete?
15/11/2011	WWC135	38	Surface	Longitudinally Split Flake	Quartz	-	-	-	27.10	Flaked	-	8.3	Feather	0	
15/11/2011	WWC135	79	0-100	Complete Flake	Silcrete	29.00	23.40	17.70	29.00	Focal	6.00	3.10	Plunge	0	Redirectional flake
15/11/2011	WWC135	84	150-200	Core	Quartz	-	-	-	15.10	-	-	-	-	0	Potentially a multi-platform core, but broken step and feather terms present
16/11/2011	WWC135	120	0-50	Complete Flake	Glass	8.80	9.40	0.80	10.80	Flaked	0.20	0.10	Hinge	0	May be natural or brought in by Europeans