Figure 6.5 IMTC stone core showing old flaking scars (above), and recent damage (below).

Figure 6.6 IMTC stone artefacts on disused access track.

6.2 Test Excavation

In accordance with the methodology, 45 50cm x 50cm test pits were manually excavated along two excavation transects (see Table 5.1, and Figure 5.1-Figure 5.4). Three Aboriginal stone artefacts were recovered during the test excavations, from two adjacent test pits (test pits HRR29 and HRR30). No other Aboriginal heritage artefacts or objects were recovered. Full excavation data transcribed from all unit recording sheets used during the excavation (an example of which is provided in Appendix B) is presented in Appendix C.

6.2.1 Access Road

The excavation transect along the access road sampled the low-lying alluvial plain (Figure 5.3-Figure 5.4). The 34 test pits were spaced 20m apart, apart from areas where test pits would have been placed within the creek inundation area. Test pit HRR34 was offset 5m to the south, to avoid a telecommunications cable easement, and allow investigation of areas north of HRR29 and HRR30, in which artefacts had been recovered.

The first test pit (HRR01) was excavated in 5cm units. The soil was found to be homogenous down to clay at 20cm, and as such, the remainder of the test pits were excavated in 10cm units. The soil within these pits generally consisted of dark brown to black clayey/silty topsoil, overlying brown/grey clay at approximately 20-30cm depth. Given the relatively shallow depth of this topsoil, it was decided that test pits would be taken down to 1m or the water table (whichever came first) at every c.100m. This was in order to confirm that the underlying soil formation was uniform across the landform, and culturally sterile. Soils underlying the clay horizon generally consisted of brown/grey clay with orange/brown mottling (sometimes associated with baked clay inclusions), which decreased in plasticity and increased in sand content with depth. The sand content in lower levels was generally higher in pits to the south/east of Purgatory Creek, with lower soils retaining more clay plasticity in the pits to the north/west of the creek. This may be the result of slight variations in the flow area of Purgatory Creek. The most northern/western deep test pits, HRR29 and HRR32, showed white sand/quartz inclusions in the lowest levels. The water table was generally reached at c.80-92cm. The texture and colour of each of the units in each trench are similar enough to be considered homogenous across the landform.

One artefact was recovered from Unit 2 of HHR29, and two artefacts were recovered from Unit 2 of HRR30. A small number of shell fragments were present in Unit 1 of HRR30; however, these shell fragments are of non-edible size. Further, the species *Notospisula trigonella* (Trigonal Mactra), although endemic to muddy sands in bays and estuaries around Australia, is not commonly identified in Aboriginal shell midden species as it only grows to c.20mm. One fragment of light blue glass was identified in Unit 3 of HRR30, and two fragments of clear glass were identified in Unit 2 of HRR33. The presence of these glass fragments suggests disturbance and reworking of the soil, possibly from cattle trampling when the ground is boggy.

The soils below the clay horizon appear to be the result of alluvial wash/inundation, and were found to be culturally sterile. No Aboriginal artefacts were present in these soils, although a patch of small shells and shell fragments was present from 40-90cm deep in test pit HRR24. The shells are predominantly *Notospisula trigonella* (discussed above), with one small fragment each of *Anadara trapezia* (mud ark) and *Velacumantus australis* (Southern mud creeper), the latter of which retains some of its colour. These shells are all common to sand and muddy areas of bays and estuaries. Given its presence below the clay horizon, the size and species of the shell material, and the lack of any charcoal or stone artefacts, it is highly unlikely that these shells represent a subsurface cultural deposit. Rather, it is likely that the shell material has been washed in during a flood/inundation event.

Artefact Analysis

A total of three artefacts were recovered during the test excavation: one from HRR29 and two from HRR30. Artefact data is presented in Table 6.1 and Figure 6.7-Figure 6.8.

Table 6.1 Artefact data.

Square	Unit	Landform	Raw Material	Type	Tool Type	Length (mm)	Width (mm)	Thickness (mm)	% Surface cortex	Weight (g)	Image
HRR29	2	Alluvial plain	IMTC	Backed artefact	Backed blade/ Bondi point	21	5	4	0%	0.34	Figure 6.7
HRR30	2	Alluvial plain	Chert	Retouched flake (broken)		23	17	7	0%	2.14	Figure 6.8 (left)
HRR30	2	Alluvial plain	Fine-grained siliceous	Proximal flake		26	20	7	0%	1.91	Figure 6.8 (right)

Figure 6.7 Backed artefact recovered in archaeological test pit HRR29.

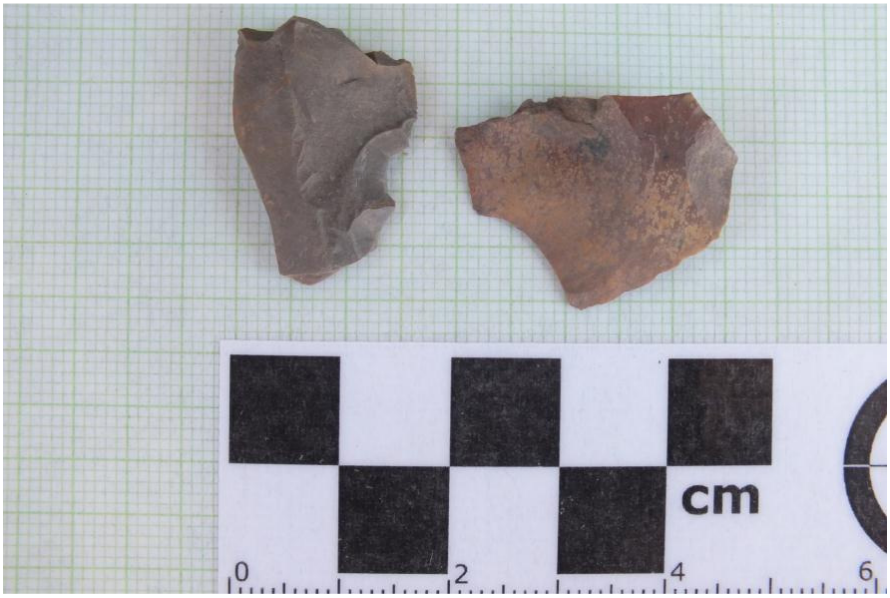

Figure 6.8 Retouched flake and proximal flake recovered in archaeological test pit HRR30.

6.2.2 Site Compound

The excavation transect within the site compound sampled the low-lying alluvial plain (Figure 5.4). The 11 test pits were spaced 20m apart. In accordance with the process of excavation along the access road, HRR40 was taken down to 1m or the water table (whichever came first), in order to confirm that the underlying soil formation was uniform across the landform, and culturally sterile.

The soil within these pits generally consisted of dark brown to black clayey/silty topsoil, overlying brown/grey clay at approximately 20-30cm depth. Soils underlying the clay horizon generally consisted of brown/grey clay with orange/brown mottling (sometimes associated with baked clay inclusions), which decreased in plasticity and increased in sand content with depth. The water table was generally reached at c.90cm. The texture and colour of each of the units in each trench are similar enough to be considered homogenous across the landform. There was no appreciable difference between the soils in the site compound area compared with the soils along the access road. No Aboriginal stone artefacts or other heritage material was recovered from these test pits.

6.3 Discussion of Results

Aboriginal site HS1 (AHIMS site #38-4-1478) was found to extend along a constructed track within the disused Hunter Water easement transected by the proposed Hexham Relief Roads corridor (Figure 6.9). Based on this evidence, it appears that this site comprises artefactual stone material that has been brought to the area during the construction of the track, and is not indicative of the local Aboriginal archaeology. The artefactual stone material identified in November 2011 as HS1 appears to have been spread across the low-lying alluvial plain, perhaps by vehicles crossing the disused track.

The shell material observed in November 2011 may be assessed as unlikely to be associated with the artefactual stone material of HS1. During the preparation of the 2012 Hexham Relief Roads Project AHIA, consultation with Hunter Water confirmed that some shells in the southern part of the Hexham Relief Roads Project area (similar in size and species to the shells seen in the northern part of HS1) were brought in with bedding sand dredged from the Swansea Channel, as fill material. As the shells were located at the northern end of HS1 near an area of introduced fill associated with the Hunter Water pipeline, they are considered likely to have been introduced into the area in the same way, rather than being associated with the artefactual stone material of HS1. They are therefore not considered to be indicative of the local Aboriginal archaeology.

Subsurface Aboriginal archaeological deposits identified during the test excavations comprised three Aboriginal stone artefacts, located in two adjacent test pits along the access road, approximately 160-180m from Purgatory Creek (Figure 6.9). These artefacts were recovered from disturbed contexts, and are likely to represent the background archaeology of the local area, rather than long-term cultural activities that would result in extensive *in situ* archaeological sites. As this Aboriginal heritage material is not considered to be associated with the material comprising Aboriginal site HS1, it has been designated as Aboriginal site HS2.

These results conform to the established local archaeological predictive model, which generally considers that the low-lying land of Hexham Swamp would have been unfavourable for camping because of water saturation. Although a background scatter of stone artefacts may occur across this landscape (as in the case of HS2), long-term cultural activities that would result in extensive *in situ* archaeological sites are considered unlikely to occur in this landscape.

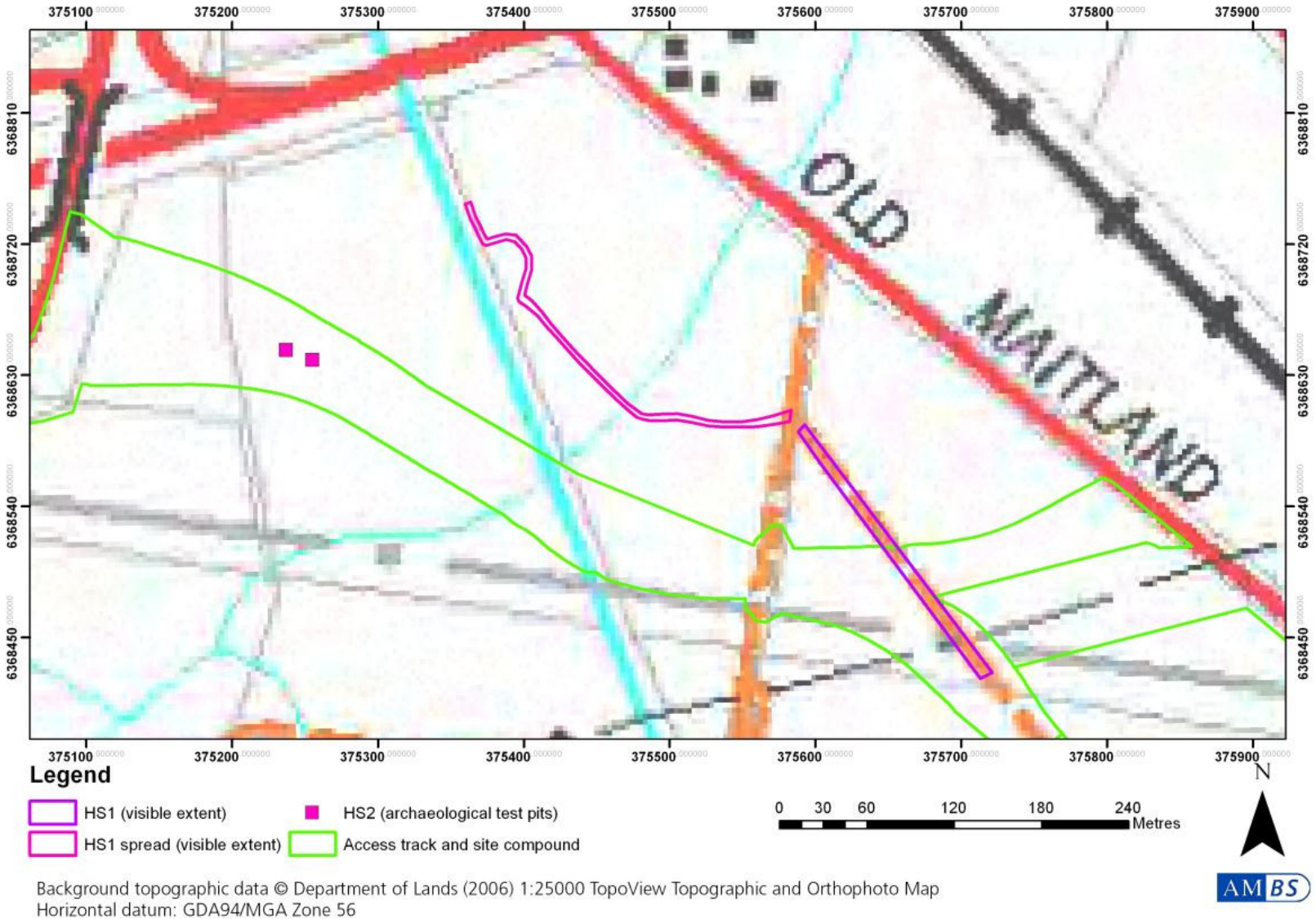

Figure 6.9 Location of artefacts identified at HS1 and HS2.

7 Assessment of Significance

7.1 Preamble

A primary step in the process of Aboriginal cultural heritage management is the assessment of significance. Heritage significance relating to Aboriginal sites, objects and places in NSW is assessed in accordance with the criteria defined in the OEH guidelines, and cultural significance is identified by Aboriginal communities. The 2010 OEH *Code of Practice for Aboriginal Investigation of Aboriginal Objects in New South Wales*, states that archaeological values should be identified and their significance assessed using criteria reflecting best practice assessment processes as set out in the Burra Charter.

The criteria for assessing Aboriginal heritage significance are derived from the Burra Charter criteria of aesthetic, historic, scientific, social or spiritual value, for assessing cultural significance for past, present and future generations (Article 1.2). OEH guidelines for assessing significance as defined in the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011:10) reflect the Burra Charter criteria, and require consideration of the following aspects of heritage sites:

- *Research Potential: does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?*
- *Representativeness: how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?*
- *Rarity: is the subject area important in demonstrating a distinctive way of life, custom process, land-use, function or design no longer practiced? Is it in danger of being lost or of exceptional interest?*
- *Education potential: does the subject area contain teaching sites or sites that might have teaching potential?*

Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a site is not fixed for all time; what is considered as significant at the time of assessment may change as similar items are located, more research is undertaken and community values change. This does not lessen the value of the heritage approach, but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why also changes over time (Pearson and Sullivan 1995:7).

AMBS' 2012 AHIA of the study area identified the Aboriginal heritage significance of HS1 (AHIMS Site AHIMS site #38-4-1478) from its visible surface extent as follows:

> *Evidence of substantial Aboriginal heritage material below the surface of land on the margins of Hexham Swamp was identified at site HS1. Although the site (and its potential extent) has been disturbed in certain areas by vehicle use, installation of pipelines and electricity lines, and pastoral activities, there are areas that are relatively undisturbed. There is therefore potential for relatively intact and substantial archaeological deposit, particularly in relatively undisturbed areas. The artefacts at the site are representative of other sites in the local landscape, and given the substantial number of artefacts and different types of raw materials, the site is considered to have high significance in terms of representativeness, rarity and complexity for the local context, and moderate significance for the regional context. The site is not particularly connected to another site, such as a quarry and therefore has low ranking in terms of connectedness. It is also notable that the low-lying swamp margin/creekline landform of this area was not expected to contain such an extensive site, given the predictive model of the area, which has generally considered that the low-lying land of Hexham Swamp would have been unfavourable for camping because of water saturation. The site therefore has rarity value and the potential to contribute valuable knowledge of the Aboriginal occupation of the area. The site is therefore assessed to have high significance with regards to*

archaeological research potential for the local context, and moderate significance for the regional context. Overall site HS1 is assessed to be of high archaeological significance.

The "cultural PAD" area was identified in AMBS' 2012 AHIA as follows:

The cultural PAD was identified by MCH on the basis of the relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders, who considered that the area was likely to contain evidence of Aboriginal occupation. The area was considered to be of low research potential and scientific significance, given the predictive model of the area, which considered that the low-lying land of Hexham Swamp would have been unfavourable for camping because of water saturation. However, the results of the survey for the Hexham Relief Roads project have provided supporting evidence for the Aboriginal occupation of this low-lying area of cultural PAD. There is some potential for relatively intact archaeological deposit of some rarity and complexity throughout the cultural PAD area, as the landform is the same as that in which site HS1 was identified. Based on the artefacts located at nearby HS1, any artefacts that may be present below the surface in this area are likely to be representative of other sites in the local landscape and not particularly connected to another site, such as a quarry. The site was originally assessed to have low significance with regards to archaeological research potential for the local and regional contexts; however, in light of the results of the Hexham Relief Roads project and the identification of site HS1 in the same landform, overall this area has now been assessed to be of moderate archaeological significance.

7.2 Assessment & Re-evaluation of Aboriginal Heritage Significance

This assessment of heritage values against the OEH heritage assessment criteria is based on the results of the test excavation of the Hexham Relief Roads Project area detailed in this report. Aboriginal heritage sites are considered to be of heritage significance if they meet one or more of the following criteria:

Does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons? – social value

- ***HS1 (AHIMS site #38-4-1478)***

The Aboriginal heritage material at HS1 has been brought into the area and is therefore not representative of past activity in this area by local Aboriginal people. As the origin of this material is unknown, any cultural significance cannot be assessed here.

- ***HS2***

The Aboriginal stone artefacts recovered from the test excavations are representative of past activity by Aboriginal people. Although such archaeological sites/deposits retain cultural significance, a sense of place, and heritage value for local Aboriginal people, individually they are not rare at a local or regional level. Consultation undertaken to date with the stakeholder Aboriginal communities has indicated that, while all Aboriginal sites contain intrinsic cultural value, the artefacts recovered during the Hexham Relief Roads test excavations do not have any specific cultural significance to the local Aboriginal community, although they do indicate the importance of this cultural landscape. This draft report was provided to the registered Aboriginal stakeholders so that any further cultural significance could be identified, and no such responses were received.

- ***Cultural PAD***

The Cultural PAD was identified by MCH as being of significance to the registered Aboriginal stakeholders, based on its location near Hexham Swamp and the Hunter River. This draft report was provided to the registered Aboriginal stakeholders so that any further significance could be identified, and no such responses were received.

Is the subject area important to the cultural or natural history of the local area and/or region and/or state? – historic value

- ***HS1 (AHIMS site #38-4-1478)***

The Aboriginal heritage material at HS1 has been brought into the area and is therefore not representative of past activity in this area by local Aboriginal people. As the original of this material is unknown, any historic significance cannot be assessed here.

- ***HS2***

The Aboriginal stone artefacts recovered from the test excavations provide evidence of stone tool manufacturing processes, and use of the landscape by Aboriginal people. Such site types represent a continuity of Aboriginal occupation throughout the landscape, and provide evidence of the way that Aboriginal people used various places within the landscape. However, the information that can be obtained is limited by the small number of artefacts recovered. As such, site HS2 is considered to have low historic value.

- ***Cultural PAD***

The Cultural PAD was identified by MCH on the basis of a relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders, who considered that the area was likely to contain evidence of Aboriginal occupation. The identification of HS1 in November 2011 seemed to provide supporting evidence for the Aboriginal occupation of this low-lying area of Cultural PAD. However, it has now been confirmed that the Aboriginal heritage material at HS1 has been brought into the area from elsewhere and is therefore not representative of past activity in this area by local Aboriginal people. The Cultural PAD is therefore considered not to have any historic significance beyond HS2, which is within its boundary as identified by MCH.

Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state? – scientific (archaeological) value

- ***HS1 (AHIMS site #38-4-1478)***

The Aboriginal heritage material at HS1 has been brought into the area and is therefore not representative of past activity in this area by local Aboriginal people. There is, therefore, no potential for stratified *in situ* subsurface archaeological deposit associated with this site, and it cannot be assessed for rarity or representative value in this context.

- ***HS2***

Archaeological deposit at HS2 was shallow and quite disturbed, and only three artefacts were recovered. This site has been assessed to have low subsurface archaeological sensitivity according to the following criteria:

Representativeness

Although one Aboriginal stone tool type was identified at this site, only very low numbers of artefacts were identified. As such, the assemblage recovered from this site is not considered representative of the local landscape. On these grounds, the representativeness of the subsurface archaeological sensitivity is assessed to be low.

Rarity

One Aboriginal stone tool type was identified, which has moderate rarity in the local area. Although there was some diversity of raw materials, artefact numbers recovered from the two excavation squares were small. Thus in terms of rarity, this area is assessed to have low-moderate significance.

Archaeological Research Potential

On the basis of the relatively shallow and disturbed soil profiles, low frequency of artefacts, and low-moderate diversity of raw materials and artefact types, the research potential of HS2 is considered to be low. Although there is some potential for further artefacts to be present, none were identified in the adjacent test pits. Rather, the artefacts at HS2 are considered to represent background scatter, indicating that the frequency of any further artefacts would be too low to contribute to our understanding of the local area. On these grounds, HS2 is assessed to have low significance in terms of archaeological research potential.

- ***Cultural PAD***

The Cultural PAD was identified by MCH on the basis of a relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders, who considered that the area was likely to contain evidence of Aboriginal occupation. The low-lying swamp area has been assessed as representing an unlikely occupation area, and the local predictive model suggests that the area has low research potential.

The identification of HS1 in November 2011 seemed to provide supporting evidence for the Aboriginal occupation of this low-lying area of Cultural PAD. However, as it has now been confirmed that the Aboriginal heritage material at HS1 was brought into the area it is therefore not representative of past activity in this area by local Aboriginal people. The Cultural PAD is therefore considered not to have any archaeological/scientific significance beyond those identified for HS2 (above), which is within its boundary as identified by MCH.

- ***Remainder of Access Road and Site Compound***

Apart from the extents of HS1 and HS2, the remainder of the access road and site compound is considered to have no subsurface archaeological sensitivity, as no artefacts were recovered from the test pits in these areas.

Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state? – aesthetic value

- ***HS1 (AHIMS site #38-4-1478)***

The Aboriginal heritage material at HS1 has been brought into the area and is therefore not representative of past activity in this area by local Aboriginal people. As the origin of this material is unknown, the site is considered to have no educational/interpretive or aesthetic value.

- ***HS2***

The Aboriginal stone artefacts recovered from the test excavations provide evidence of stone tool manufacturing processes, and use of the landscape by Aboriginal people. Such site types represent a continuity of Aboriginal occupation throughout the landscape, and provide evidence of the way that Aboriginal people used various places within the landscape. However, the test pits have subsurface deposit, and no surface exposure. Further, the information that can be obtained is limited by the small number of artefacts recovered. As such, site HS2 is considered to have low-nil educational/interpretive or aesthetic value.

- ***Cultural PAD***

The Cultural PAD was identified by MCH on the basis of a perceived relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders, who considered that the area was likely to contain evidence of Aboriginal occupation. The identification of HS1 in November 2011 seemed to provide supporting evidence for the Aboriginal occupation of this low-lying area of Cultural PAD. However, as further archaeological investigations have now established that the area has experienced significant levels of disturbance, and that HS1 represents imported, non-local archaeological material, the Cultural PAD is therefore considered not to have any

educational/interpretive or aesthetic significance beyond HS2, which is within its boundary as identified by MCH.

7.2.1 Summary Statement of Significance

The Aboriginal heritage material at HS1 was brought into the area from elsewhere and is therefore considered not to have archaeological sensitivity. Stone artefacts recovered from HS2 represent a continuity of Aboriginal occupation throughout the landscape, and provide limited evidence of the way that Aboriginal people used various places within the landscape. HS2 therefore has low archaeological sensitivity. Although all Aboriginal heritage sites contain intrinsic cultural significance, the stakeholder Aboriginal communities did not identify any further specific cultural significance attached to these sites. The Cultural PAD is considered not to have any archaeological sensitivity beyond HS2, although it was identified by MCH as having cultural significance to the registered Aboriginal stakeholders. Apart from the extents of HS1 and HS2, the remainder of the access road and site compound is considered to have no subsurface archaeological sensitivity, as no artefacts were recovered from the test pits in these areas. Overall, stone artefacts recovered during the Hexham Relief Roads Project test excavations are considered to have low significance.

8 Recommendations & Conclusions

The following recommendations are based on the background review, archaeological site inspection, archaeological test excavation and revised significance assessment as described in this document and AMBS and MCH's previous assessments of the area. The recommendations have been developed with input provided by Aboriginal community representatives during the consultation process, and during archaeological test excavations.

Previous archaeological survey of the study area identified Aboriginal site HS1 (AHIMS site #38-4-1478) on the alluvial plain. The extent of artefactual material in this location was not consistent with the predictive model for the local area, and test excavations were recommended to clarify the nature and extent of this site. An area of PAD was inferred around Purgatory Creek, based on the visible extent of HS1. A Cultural PAD had been identified by MCH, based on an apparent relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders. The identification of HS1 in this area suggested that this Cultural PAD may have had some archaeological potential, and test excavations were also recommended for proposed impact areas within the Cultural PAD, to clarify any such archaeological potential.

8.1 HS1 (AHIMS site #38-4-1478)

Aboriginal site HS1 (AHIMS site #38-4-1478) extends along a constructed track within the disused Hunter Water easement transected by the proposed Hexham Relief Roads corridor. Archaeological test excavation adjacent to the constructed track comprising HS1 has confirmed that artefactual material observed on the track is not present within the local soils. Soil material comprising the track does not represent local soils observed in test excavations, suggesting that the track has been wholly constructed using been imported into the study area during construction. Artefacts observed at HS1 do not represent local Aboriginal heritage material, and have been imported into the area within construction material during original construction of the track within the Hunter Water easement.

Although AMBS was not able to conduct survey within adjacent properties, it is possible that the imported Aboriginal cultural material may also be found north of the study area boundary, further along the disused track (Figure 8.1). The artefactual stone material identified in November 2011 as HS1 appears to have been spread across the low-lying alluvial plain by vehicles crossing the disused track.

Shell material observed in November 2011 on access tracks within the study area is unlikely to be associated with the artefactual stone material of HS1. During the preparation of the 2012 Hexham Relief Roads Project AHIA, consultation with Hunter Water confirmed that some shells in the southern part of the Hexham Relief Roads Project area (similar in size and species to the shells seen in the northern part of HS1) were brought in with bedding sand dredged from the Swansea Channel, as fill material. As the shells were located at the northern end of HS1 near an area of introduced fill associated with the Hunter Water pipeline, they are considered likely to have been introduced into the area in the same way, rather than being associated with the artefactual stone material of HS1. They are therefore not considered to represent culturally deposited material, and are not indicative of the local Aboriginal archaeology.

In conclusion, the Aboriginal heritage material at HS1 has been brought into the area and is therefore considered not to have archaeological sensitivity. A revised site card, and an Aboriginal Site Impact Recording Form (ASIRF), should be submitted to the OEH AHIMS database detailing the revised site extent, briefly detailing the findings of the test excavations, and identifying that the material has been brought into the area and does not have archaeological sensitivity/PAD.

Recommendation 1

A revised site card and an ASIRF for AHIMS site #38-4-1478 (HS1) indicating the revised site extent, and identifying that the material has been brought into the area from elsewhere and as such does not have archaeological sensitivity/PAD, should be submitted to the OEH AHIMS.

Although the Aboriginal heritage material at HS1 has been brought into the area and is therefore considered not to have archaeological sensitivity, under the NPW Act all Aboriginal artefacts within NSW are protected, and may not be disturbed without an Aboriginal Heritage Impact Permit (AHIP), or under the approvals of a major project under Part 5.1 of the EP&A Act. A map showing the visible and presumed extents of HS1, with buffer areas, advised to prevent any accidental incursion or disturbance to the site, is provided in Figure 8.1. If impacts to the site cannot be avoided by the proposed development (for example, by bridging the access road over the track), an AHIP application should be prepared (or approval sought under Part 5.1 of the EP&A Act) for the areas to be impacted. Collection and recording of surface artefacts in the impact areas should be undertaken by an archaeologist and representatives of the registered Aboriginal stakeholder organisations, as part of the AHIP/approvals, and be lodged in the keeping place to be determined for the Project during the preparation of an AHMP (see AMBS 2012:Recommendation 1). An ASIRF should also be submitted to the OEH AHIMS for any impacts to the site. The site extents (including buffers), as shown in Figure 8.1, should be designated as no-go zones, until the necessary approvals/AHIPs are obtained.

Recommendation 2

Should any impacts be proposed to AHIMS site #38-4-1478 (HS1), an AHIP application should be prepared (or approval sought under Part 5.1 of the EP&A Act). Collection and recording of surface artefacts in the impact areas should be undertaken as part of the AHIP/approvals, and be lodged in the keeping place to be determined for the Project in the AHMP. An ASIRF should be submitted to the OEH AHIMS for any impacts to the site. The site extents (including buffers), as shown in Figure 8.1, should be designated as no-go zones, until the necessary approvals/AHIPs are obtained.

8.2 HS2

Subsurface Aboriginal archaeological deposits identified during the test excavations comprised three Aboriginal stone artefacts, located in two adjacent test pits along the access road. As this Aboriginal heritage material is not considered to be associated with the material comprising Aboriginal site HS1, it has been designated as Aboriginal site HS2. The artefacts at HS2 were recovered from disturbed contexts, and are likely to represent the background archaeology of the local area, rather than long-term cultural activities that would result in extensive *in situ* archaeological sites. HS2 has therefore been assessed as being of low archaeological sensitivity. A new site card should be submitted to the OEH AHIMS database briefly detailing the findings of the test excavations, and identifying that the site has low archaeological sensitivity.

Recommendation 3

A new site card for HS2 should be submitted to the OEH AHIMS.

Although the Aboriginal heritage material at HS2 is considered to have low archaeological sensitivity, under the NPW Act all Aboriginal artefacts within NSW are protected, and may not be disturbed without an AHIP, or under the approvals of a major project under Part 5.1 of the EP&A Act. A map showing the test pits containing the stone artefacts (HS2), with buffer areas advised to prevent any accidental incursion/disturbance to the site, is provided in Figure 8.1. As this site is within the alignment of the access road, it is unlikely that impacts to the site can be avoided by the proposed development. As such, an AHIP application should be prepared (or approval sought under Part 5.1 of

the EP&A Act) for the areas to be impacted. The three artefacts recovered during the test excavations should be lodged in the keeping place to be determined for the Project during the preparation of an AHMP (see AMBS 2012:Recommendation 1). An ASIRF should also be submitted to the OEH AHIMS for any impacts to the site. The site extent (including buffer), as shown in Figure 8.1, should be designated as a no-go zone, until the necessary approvals/AHIPs are obtained.

Recommendation 4

An AHIP application should be prepared (or approval sought under Part 5.1 of the EP&A Act) for any impacts to HS2. The three artefacts recovered during the test excavations should be lodged in the keeping place to be determined for the Project in the AHMP. An ASIRF should be submitted to the OEH AHIMS for any impacts to the site. The site extent (including buffer), as shown in Figure 8.1, should be designated as a no-go zone, until the necessary approvals/AHIPs are obtained.

8.3 Cultural PAD

The Cultural PAD was identified by MCH on the basis of an apparent relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders, who considered that the area was likely to contain evidence of Aboriginal occupation. The area was considered to have low research potential and scientific significance, given the predictive model of the area assumed that the low-lying Hexham Swamplands represented an unlikely occupation area. The identification of HS1 in November 2011 seemed to provide supporting evidence for the Aboriginal occupation of this low-lying area of Cultural PAD. However, as it has now been confirmed that the Aboriginal heritage material at HS1 was brought into the area, it is not representative of past activity in this area by local Aboriginal people. The Cultural PAD is therefore considered not to have any archaeological/scientific significance beyond those identified for HS2, which is within its boundary as identified by MCH.

Notwithstanding the results of the test excavations undertaken to date, the test excavation methodology included six 50cm x 50cm test pits to be excavated in an area of the Cultural PAD within the present study area/project signalling area (Figure 1.2; Appendix A). As access to this southern area of Cultural PAD could not be obtained prior to these test excavations, the test excavation of this area should be undertaken as soon as practicable, to complete the excavations outlined in the approved methodology. The results of these excavations should be prepared as a supplementary report, to be appended to this report.

Recommendation 5

The six 50cm x 50cm test pits in the area of Cultural PAD within the present study area/project signalling area (as shown in Figure 1.2 and Figure 5 of Appendix A) should be excavated as soon as practicable, to complete the excavations outlined in the approved test excavation methodology. The results of these excavations should be prepared as a supplementary report, to be appended to this report.

8.4 General Recommendations

The results of the archaeological test excavation, and the identification of a further extent to HS1, have clarified the archaeological sensitivity of the study area. These results are consistent with the local archaeological predictive model, which generally considers that the low-lying alluvial plains around Hexham Swamp would have been unfavourable for camping because of water saturation. Although a background scatter of stone artefacts may occur across this landscape (as in the case of HS2), long-term cultural activities that would result in extensive *in situ* archaeological sites are considered unlikely to occur in this landscape. No further archaeological works are required for the Hexham Relief Roads Project area, apart from those described in Recommendations 1-5 above, and in Recommendations 1,

3, 5 and 6 of the AMBS 2012 report (Recommendations 2 and 4 are implemented by the test excavations described in this report).

Recommendation 6

Given the level of archaeological assessment undertaken, and the results of the background analysis, it is unlikely that further archaeological assessment of the study area will increase the current scientific understanding of the region. No further Aboriginal heritage assessment is required for the Hexham Relief Road Project area, apart from those described in Recommendations 1-5 above, and in Recommendations 1, 3, 5 and 6 of the AMBS 2012 report.

Aboriginal community consultation should continue for the Hexham Relief Roads Project, in accordance with OEH guidelines. As noted in Chapter 3 above, Wonnarua Culture Heritage (WCH) registered to be involved in the consultation process during the test excavation period, and should be included in the consultation process from this point forward. The registered Aboriginal community stakeholder organisations identified for the Project now are:

- Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC);
- Awabakal Traditional Owners Aboriginal Corporation (ATOAC);
- Awabakal Local Aboriginal Land Council (ALALC);
- Awabakal Newcastle Aboriginal Co-op (ANAC);
- Arwarbukarl Cultural Resource Association (ACRA);
- Cacatua Cultural Consultants (CCC);
- Lower Hunter Wonnarua Council (LHWC);
- Mindaribba Local Aboriginal Land Council (MLALC);
- Wonnarua Culture Heritage (WCH); and
- Worimi Local Aboriginal Land Council (WLALC).

In accordance with the OEH consultation guidelines, this draft test excavation report should be provided to each registered Aboriginal stakeholder organisation (as listed above) for review and comment, prior to finalisation.

Recommendation 7

WCH should be included in the consultation process from this point forward. In accordance with the OEH consultation guidelines, this draft test excavation report should be provided to each registered Aboriginal stakeholder organisation (as listed above) for review and comment, prior to finalisation.

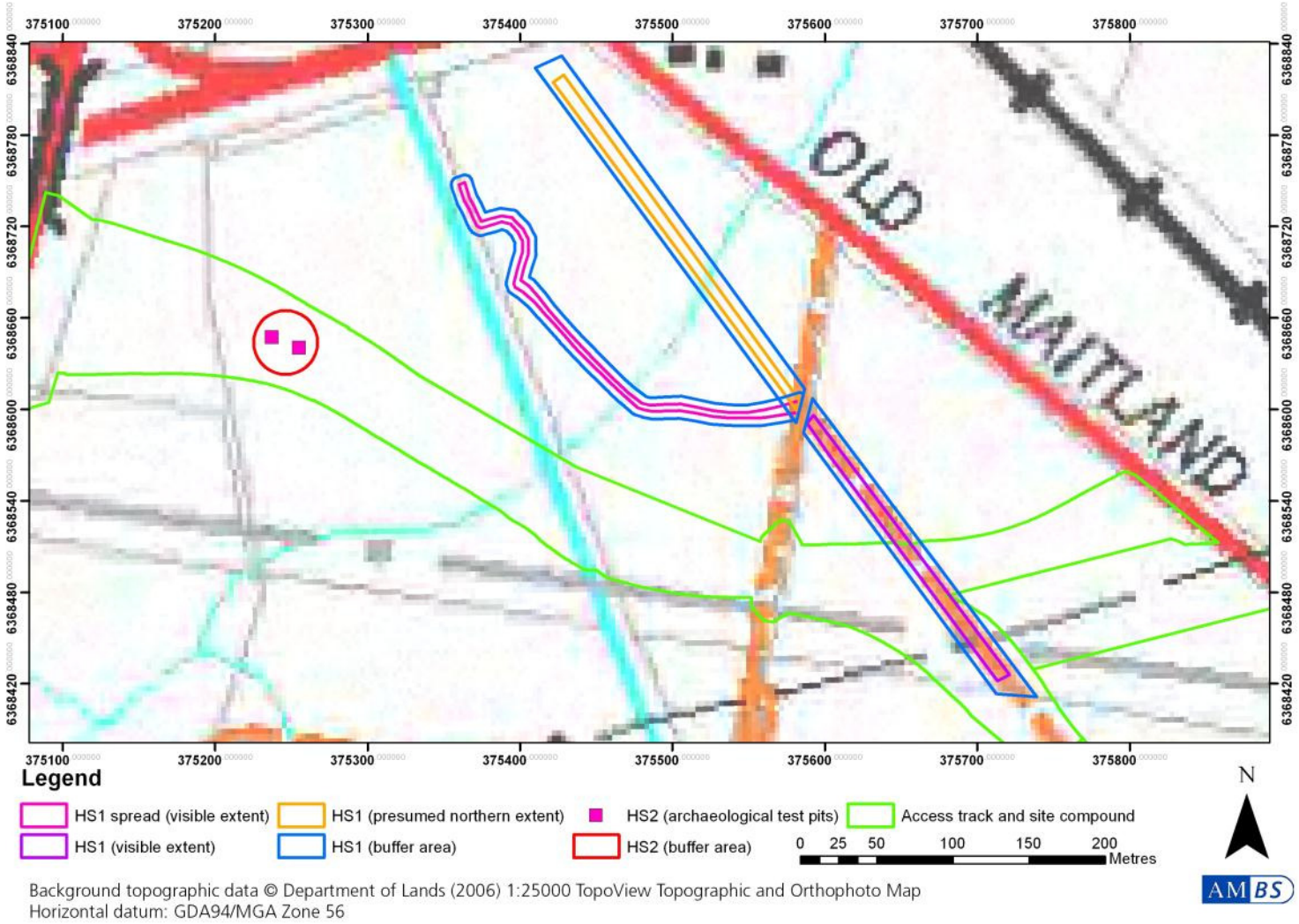

Figure 8.1 Indicative and visible site extents, and buffer areas for management.

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Appendix A

Test Excavation Methodology

Hexham Relief Roads Test Excavation Sampling Strategy

Proposed Development & Excavation Goal

Australian Rail Track Corporation (ARTC) is proposing to develop five new train lines (approximately 2km in length) with associated works at Hexham, adjacent to the Pacific Highway and Hexham Railway Station (see Figure 1).

NSW Roads and Maritime Services (RMS) has advised ARTC that a proposed access road allowing construction traffic to access the project site via the intersection of the New England Highway and Woodlands Close is too hazardous. A temporary construction access road from the Tarro Interchange to Woodlands Close has been proposed to resolve this issue, however the proposed route has potential to impact upon the location of Aboriginal heritage site HS1 and associated area of potential archaeological deposit (PAD) (AHIMS site # 38-4-1478), as well as an identified area of "Cultural PAD" (see Figure 2).

Given the high assessed significance of the site, the proposed access road will be realigned where possible to avoid the visible surface extent of HS1, which comprises a scatter of stone artefacts exposed on an informal track. Indicative locations of currently proposed impact areas are presented in Figure 3, although the final alignment of the road will be determined following the results of the archaeological test excavations. A site compound area is also proposed in this area, and to the south an area within the Cultural PAD is included within the study area/project signalling area; these areas will also be subject to test excavations (see Figure 4).

KMH Environmental have commissioned AMBS to undertake archaeological test excavations as per the OEH *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (Code of Practice) (DECCW 2010). These investigations are being undertaken to allow AMBS to determine if subsurface Aboriginal artefacts are present within the proposed impact area, and will provide guidance for appropriate management of impacts to Aboriginal heritage arising from the project.

Aboriginal Heritage Site HS1 (AHIMS site #38-4-1478) & Cultural PAD

Archaeological test excavations will be undertaken in an area of PAD associated with Aboriginal heritage site HS1 (AHIMS site #38-4-1478), and within an area of Cultural PAD identified through the Aboriginal community consultation process undertaken by McCardle Cultural Heritage for proposed development adjoining the Hexham Relief Roads.

HS1 consists of a scatter of predominantly chert (also known as Indurated Mudstone/Tuff/Chert [IMTC]), quartz and volcanic artefacts exposed along an informal vehicle track on the margin of Hexham Swamp, which crosses Purgatory Creek. The area of PAD associated with HS1 has been defined as an area within 100m of the creek, and assumes that any associated sub-surface archaeological deposit would most likely be present in highest density within that distance. Additional information regarding the site, its environment, and the assessment of significance and archaeological potential is detailed in AMBS' 2012 *Hexham Relief Roads Project: Aboriginal Heritage Impact Assessment* report.

The Cultural PAD has been identified on the basis of the relative lack of disturbance, and the importance of the area to the registered Aboriginal stakeholders, who considered that the area was likely to contain evidence of Aboriginal occupation. While the Cultural PAD is located within low-lying land adjoining Hexham Swamp, and may have been unfavourable for camping due to

water saturation, the presence of the HS1 site suggests that relatively intact archaeological deposit of some rarity and complexity has potential to survive within the wider Cultural PAD area.

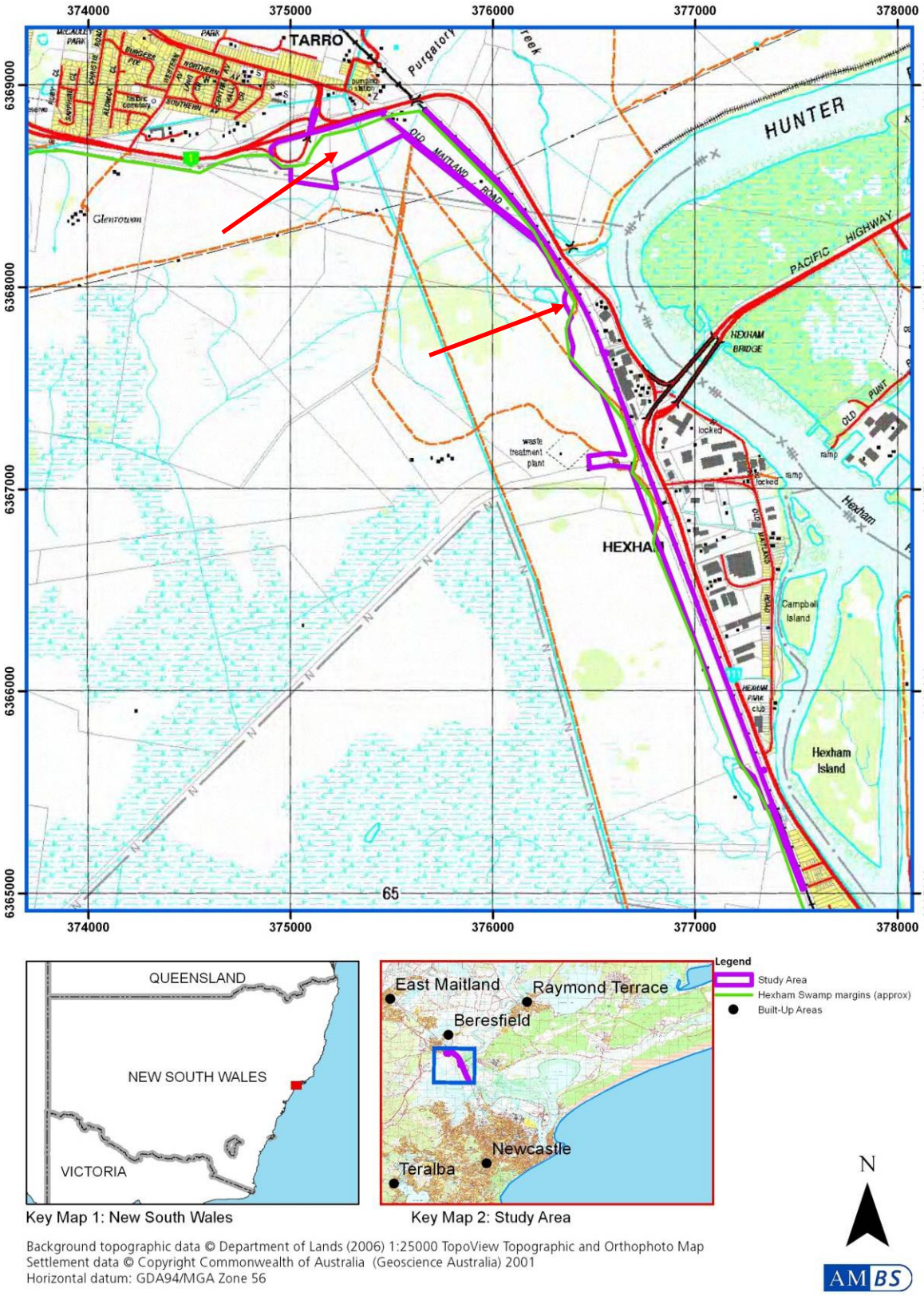

Figure 1 Location of the overall Hexham project area assessed by AMBS (2012), showing the approximate extent of the margins of Hexham Swamp. Proposed test excavation areas are arrowed in red.

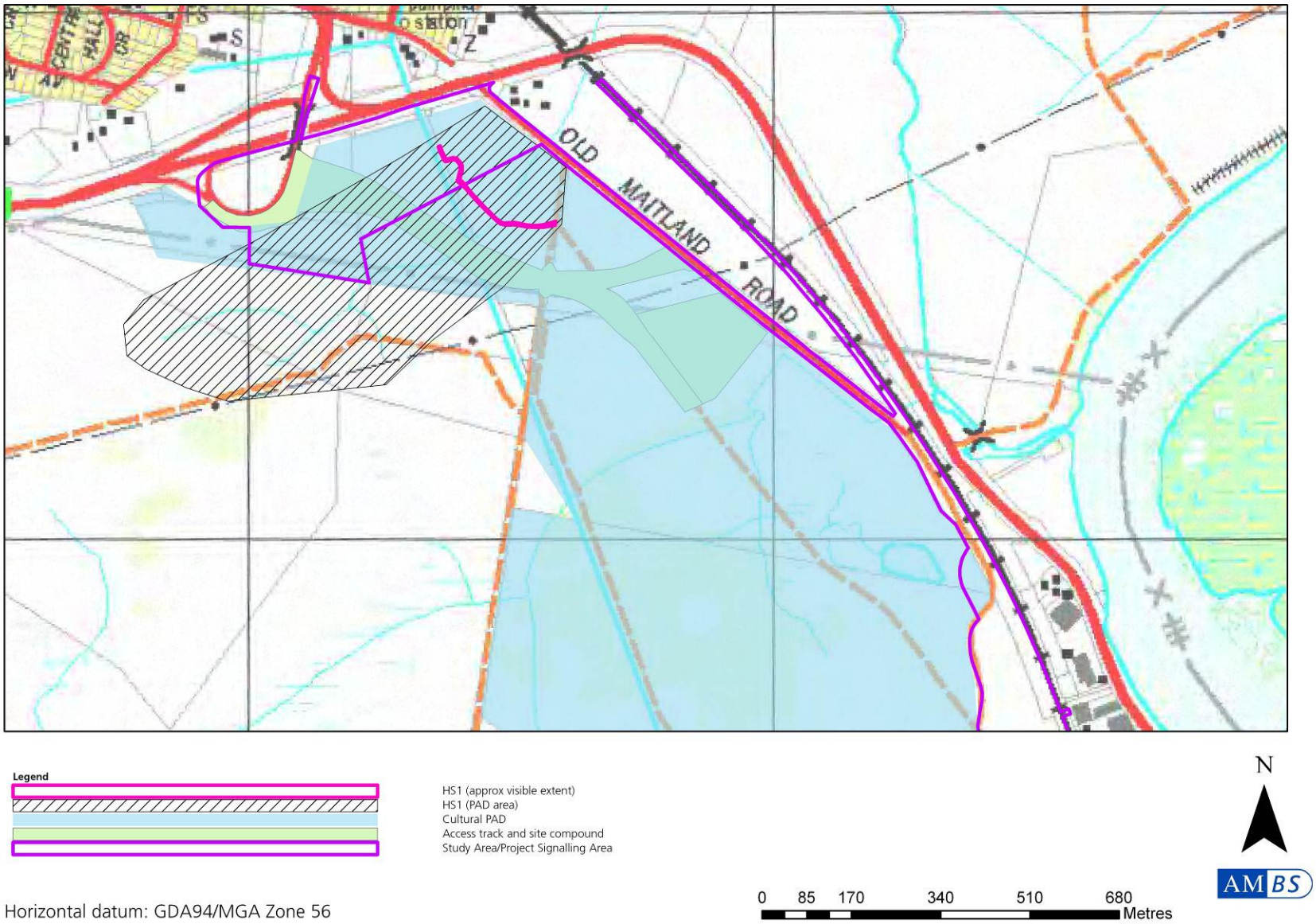

Figure 2 Hexham Aboriginal heritage site, PAD extents, and proposed access road, site compound and project signalling impacts.

Archaeological Test Excavation

AMBS has prepared the following sampling strategy, detailing the excavation methodology and aims, in compliance with OEH requirements.

Test excavation sampling strategy

AMBS will undertake archaeological test excavation along transects through the centre of the proposed access road alignment, within the proposed site compound area and within the study area/project signalling area that overlaps with the Cultural PAD to the south of the access road/site compound area (see Figure 3-Figure 4). The test excavation will allow archaeological investigation of both the Cultural PAD and the PAD associated with HS1. The areas to be tested have no archaeological exposure or visibility, however they have been determined to have archaeological potential based on their association with the visible exposure of HS1, the landforms in which they are located, their relationship to Purgatory Creek, and cultural information provided during the Aboriginal consultation process. The test excavation will determine the presence or absence of Aboriginal cultural material within the proposed impact area, and will allow development of appropriate management recommendations should archaeological material be present.

AMBS will continue the consultation process initiated during earlier stages of this project, and will invite one representative from each of the registered Aboriginal stakeholder organisations who have indicated an interest in being involved in fieldwork to participate in the test excavations, in conjunction with three AMBS archaeologists.

In line with the OEH Code of Practice, AMBS proposes to manually excavate no more than fifty 50cm^2 test pits in the northern area, and no more than six 50cm^2 test pits in the southern area. It is anticipated that the excavation will take place over 2.5 weeks, dependant on weather and site access. The excavation pits will be situated at 20m intervals along the transects to ensure that an adequate sample of the landforms is obtained. Excavation pits will not be dug in obviously waterlogged areas, or in disturbed land such as constructed tracks or areas previously excavated to aid in drainage of the study area. The study area is also intersected by water and communications services, and pits will not be dug within or close to these areas. Where disturbances are limited in size, pits will be offset along the transects by no more than 5m, where necessary. These test excavations will allow examination of the nature and depth of the soils in the study area, and test the extent, integrity and composition of any archaeological deposits present, and will not exceed 0.5% of the PAD.

Test pits will be manually excavated to a depth assessed as being culturally sterile, or to a point where it is no longer physically possible to archaeologically excavate (such as when the water table is reached or the pits are inundated). Due to health and safety considerations, pits will be dug to no more than 1m in depth. The first test pit in each transect will be excavated in 5cm spits. Dependant on the cultural material present and the nature of the deposit, excavation will proceed as bulk units, stratigraphic units or arbitrary spits (5cm or 10cm in depth). Where suspected human remains are encountered during excavations, works will immediately cease and OEH protocols will be followed as per Section 3.6 of the Code of Practice. Where significant numbers of artefacts are identified in a single test pits (approximately >150 artefacts), which are likely to comprise enough information to characterise the archaeology of the site, excavation at that pit will cease as per Requirement 17 of the Code of Practice.