

5.7. Heritage constraints

This section assesses the archaeological potential of the study area based on the results of the historical research, searches for listed heritage items and the results of the site inspection. Based on this information, heritage constraints maps were produced (see figures 5-3, 5-4 and 5-5), which identify heritage zones according to the identified archaeological potential and the constraints that these archaeological values present. Table 5-3 describes the heritage constraint zones and outlines the guiding management principles as they relate to this study.

Table 5.4 Heritage constraint zones and management principles

Heritage constraint zone	Level of archaeological potential	Guiding management principles
Nil	Zones representing 'nil' heritage constraint would not require further archaeological assessment.	Zones designated as 'Nil' do not present Aboriginal heritage constraints.
Low	<p>Zones of low heritage constraint comprise areas where:</p> <ul style="list-style-type: none"> Background research did not identify any places, sites or structures of Aboriginal archaeological value. Past land use activities are likely to have affected any surface and subsurface archaeological remains. Site Inspection did not identify archaeological remains. 	<p>These zones represent:</p> <ul style="list-style-type: none"> Low risk of encountering intact subsurface archaeological deposits. Low risk of encountering disturbed or partially disturbed archaeological deposits. Zones of low potential present heritage constraints that can be easily mitigated. Mitigation measures may include cultural monitoring, consent to destroy or artefact collection.
Moderate	<p>Zones of moderate heritage constraint represent areas where:</p> <ul style="list-style-type: none"> Background research identified a moderate potential of encountering Aboriginal archaeological deposits. Past land use activities have been of such a nature that there is a moderate potential for the preservation of surface and/or subsurface archaeological remains. Inspection identified archaeological remains, surface relics, and/or possible landscape modification. 	<p>These zones represent:</p> <ul style="list-style-type: none"> Moderate level risk of encountering intact stratified subsurface archaeological deposits. Moderate risk of encountering disturbed or partially disturbed archaeological deposits. Zones of moderate potential present a greater level of heritage constraint than the previous level. Heritage constraints could be mitigated via various methods, and may include targeted archaeological test excavations.
High	<p>Zones of high heritage constraint represent areas that:</p> <ol style="list-style-type: none"> Historic research identified a high potential of encountering Aboriginal archaeological deposits; Past land use activities have had little impact and there is high potential for the preservation of surface and/or subsurface archaeological remains; Historic research identified places, sites or structures of Aboriginal archaeological value; Site survey identified intact and/or partially intact archaeological remains, surface relics, and/or possible anthropogenic modifications to the landscape. 	<p>These zones represent:</p> <ul style="list-style-type: none"> High level risk of encountering intact stratified subsurface archaeological remains; and/or a high risk of encountering partially disturbed archaeological remains. Zones of high potential present a greater level of heritage constraint than the moderate level. Zones of high potential should be avoided where feasible, and consideration given to redesigning or amending the development proposal to reduce the level of impact to the heritage resource. Where development impacts can not be avoided, heritage constraints could be mitigated through further assessment. This should include an impact assessment, which should occur prior to the commencement of development works. Further mitigation measures may include targeted archaeological test excavations, carried out under the relevant permits.

5.7.5. Heritage constraint zones within the study area

Original vegetation clearing and the installation & on-going maintenance of the rail corridor mean that any surface and/or sub-surface Aboriginal archaeological material is likely to have been highly compromised. As such, the rail corridor was identified as an area of nil heritage constraint (Figures 5-8 to 5-23).

Five areas of low heritage constraint were identified throughout the course of the site survey. In survey unit 1, the proposed upgrades along both the western and eastern boundary of the rail corridor between Quakers Hill station and the Parkway Overpass, are contextualised within a heavily modified urban environment. No archaeological sites were identified within this section of the proposed development and the potential for sub surface archaeological material is low (Figures 5-8). The eastern boundary of the rail corridor between the Quakers Hill Parkway Overpass and PAD Q3 contain archaeological sites QV3 and QV4. These sites are associated with the testing program undertaken with the Deerubbin LALC (see section 5.6; Q3). Owing to the fact that artefactual material has been sampled and collected from this site, the area is designated as a low heritage constraint (Figure 5-8).

Survey zone 2 in its entirety has been designated with low heritage constraint owing to the lack of surface finds and the fact that the majority of the survey unit is comprised of artificial earthen embankments associated with road works and the rail corridor (Figures 5-9 to 5-11). The southern most section of survey unit 3, along the western boundary of the rail corridor, between Riverstone station and PAD V3 is also identified with low heritage constraint. Infrastructure development associated with both the Meatworks and the rail corridor, have resulted in a heavily modified environment, which means that the potential for archaeological material is low (Figure 5-11).

The area of land situated between V3 and V2 along the western boundary of the rail corridor has also been identified with low heritage constraint (Figure 5-12). The landscape has been significantly modified, through rubbish dumping, creek line modifications, the establishment of an ash road, and erosion control measures. Archaeological site QV5 comprises an isolated find and is not thought to be associated with any sub surface deposits, owing to land use disturbances.

Nine areas of moderate heritage constraint were identified throughout the course of the site survey.

As discussed in Section 4.8, the state of the soil environment informs the context in which archaeological materials were deposited. The South Creek and Berkshire Park soil landscapes, have archaeological potential as they are characterised by frequent occurrences of buried soil landscapes (relict stable land surfaces) (see Section 3.2), while the Blacktown soil landscape also has the potential to contain sub-surface archaeological remains. The Blacktown soil landscape is a residual landscape, which has essentially remained stable over a long period of time, allowing for the accumulation of artefactual material before burial. As such land surfaces within the study area which have been subjected to limited land use and urban development impacts have been identified as PAD (see section 5.5). PAD's Q1, Q2, Q3, Q4, S1, S2, V1, V2 and V3 are identified as areas of moderate heritage constraint (see figures 5-8 and 5-9 and 5-11 and 5-12). PAD V2 contains archaeological sites QV 6 and QV 7, while the remainder of identified PADs are associated with previously recorded sites.

One area of high heritage constraint was identified in survey zone 1 (Figure 5-9), within the area of PAD identified as QVP. This area is comprised of archaeological sites QV1, QV2 and previously recorded AHIMS sites 45-5-0503. These sites are located along an upper slope in the study area and in some instances comprise extensive artefact scatters. It is likely that these sites are associated with sub surface deposits owing to their geomorphological context and their location in the landscape. High places situated above the floodplain were often selected as camp sites and are likely to contain evidence of repeated use. This translates in to larger more complex archaeological sites as opposed to small scale episodic sites. The association of sites QV1 and QV2 and PAD QVP with previously recorded artefact scatters indicate that this landscape once represented an extensive occupation area. Discussions with stakeholder groups on site indicated that cultural heritage conservation is a priority as too many sites are disappearing. Historically all Aboriginal sites were 'joined' together and may be viewed as a once inter-connected cultural landscape. The QV-complex may be seen to represent this interconnectedness, as it is a clear extension of previously recorded sites 45-5-0503, 45-5-0471 and 45-5-0497, which together form a large occupation area.