

15. Heritage

Existing Indigenous and non-Indigenous heritage values within the vicinity of the SWRL corridor are described in Section 5.1.4. Technical Paper 6 provides a preliminary assessment of Indigenous (Aboriginal) archaeological and cultural heritage values, while Technical Paper 7 provides an assessment of the impact of the SWRL on non-Indigenous historic heritage. This Chapter summarises the key findings in regard to Indigenous and non-Indigenous heritage and identifies management commitments and recommendations.

15.1 Indigenous heritage

15.1.1 Assessment approach

As part of the broader planning strategies for the North and South West Growth Centres, the NSW Growth Centres Commission, in collaboration with the DEC and local Aboriginal stakeholder communities, has produced documents outlining the process for involvement of Aboriginal stakeholder communities in planning for projects in these Growth Centres. These consultation documents include the following 2006 guidelines:

- *Protocol for Aboriginal Stakeholder involvement in the assessment of Aboriginal Cultural Heritage in the Sydney Growth Centres* (Context Pty Ltd. 2006a)(the Protocol)
- *Precinct Assessment Method for Aboriginal Cultural Heritage in the Sydney Growth Centres* (Context Pty Ltd. 2006b) (the Precinct Assessment Method).

The steps identified in the Precinct Assessment Method are:

- Step 1 – Gather and analyse existing information
- Step 2 – Identify and assess Aboriginal cultural heritage and values
 - Step 2a – Undertake investigations
 - Step 2b – Assess significance
- Step 3 – Develop land use and management options
- Step 4 – Input into precinct planning (Context Pty Ltd. 2006b).

The Environmental Assessment requirements for the SWRL project require TIDC to apply some components of the draft Protocol and Precinct Assessment Method to the project. Specifically, the requirements require TIDC to apply Step 1 of the Precinct Assessment Method at this stage, to reflect that the project is only at the concept stage. Step 1 of the draft Precinct Assessment Method is detailed in Appendix A, as an attachment to the Environmental Assessment requirements. Step 1 requires that stakeholders are ‘invited to identify known sources of information and information gaps’ (Context 2006b:8).

The method applied to the assessment in Technical Paper 6 was based on the requirements for Step 1 in the protocol, and is described in Section 15.1.2.

15.1.2 Aboriginal stakeholder involvement

Consultation process

In line with the Growth Centres Commission Protocols and Precinct Assessment Method outlined in Section 15.1.1, consultation was carried out with the following Aboriginal stakeholder groups:

- Cubbitch Barta Native Title Claimants Aboriginal Corporation
- Darug Aboriginal Cultural Heritage Assessments
- Darug Custodian Aboriginal Corporation
- Darug Tribal Aboriginal Corporation
- Tharawal Local Aboriginal Land Council.

The Northern Illawarra Aboriginal Collective (NIAC) was identified as an additional stakeholder to be consulted by LandCom in their studies being undertaken at Edmondson Park. NIAC responded to an advertisement issued by Landcom and Manidis Roberts as part of the consultations for the Edmondson Park LB Release Area. Although the Edmondson Park LB Release Area is not part of the SWRL project, the proposed SWRL corridor transects approximately 3 kilometres of the area. Therefore, NIAC was invited to attend the introductory meeting described below, and was subsequently provided with copies of the plans and invited to provide input into the SWRL assessment.

An introductory meeting with Aboriginal stakeholders was held on 17 August 2006 at Liverpool City Council. The meeting was a combined meeting, covering both the SWRL project and the Edmondson Park LB Release Area. All Aboriginal stakeholders were invited to attend, along with representatives from Liverpool and Campbelltown Councils, the DEC, TIDC, Heritage Concepts (consultant responsible for preparing Technical Paper 6), Landcom (facilitator of land owners in the LB Release Area) and Landcom's consultants. At the meeting, the objectives of the Growth Centres Commission protocols were outlined, as were the proposed SWRL and the Edmondson Park LB Release Area projects. The meeting also emphasised that the two projects are separate, with distinct proponents, despite their spatial overlap.

In addition to the introductory meeting, follow up meetings specific to the SWRL project were organised with senior representatives of each of the stakeholder groups. The purpose of these meetings was to reiterate to the Aboriginal stakeholders the objective of the SWRL project and to discuss the Aboriginal social and cultural values of the landscape that would be affected.

Stakeholders were supplied with maps of the proposed SWRL corridor and were asked to distribute these to their communities for further input regarding the location of important sites and places in the landscape that would be of Aboriginal archaeological, cultural and/or social significance.

A site visit was undertaken with the identified stakeholder groups to the SWRL locality, including some of the properties directly affected by the proposed SWRL on 14 and 15 September 2006. Following this, Aboriginal stakeholder communities were asked to mark up any of the further information that they had gathered during internal discussions and the site visit on the maps provided. This information was then included in Technical Paper 6 and translated into heritage values and constraint maps.

Consultation outcomes

As a result of the consultation process, a number of issues were identified, including, but not limited to:

- the presence of areas of archaeological, cultural and social potential across the SWRL corridor
- areas where there are gaps in the present knowledge.

Areas of potential

The consultations undertaken revealed that there are areas across and in the vicinity of the SWRL corridor that have potential archaeological, cultural and social significance to the Aboriginal community. The areas of potential are mapped in Figure 15-1.

Despite the varying levels of disturbance that the SWRL corridor landscape has been subject to since European settlement, it is considered likely that the landscape retains Aboriginal cultural remains that could provide further knowledge of Aboriginal settlement of the Cumberland Plain. In particular, relatively undisturbed creek lines, low slopes and ridges may be areas of moderate or high archaeological potential.

During the course of the consultations, the Aboriginal communities identified that the whole of the southern Cumberland Plain landscape has some level of cultural significance due to past occupation of the land by Aboriginal people. This is largely due to the Aboriginal perception of the landscape as a 'cultural landscape', whereby the landscape as a whole may hold a cultural significance. The main areas of moderate to high archaeological potential (potential to contain archaeological objects and/or sites) identified, in part, through consultation are as follows:

- *All areas where the SWRL would cross creeks, creek lines and ridges:* Of particular significance to the present local Aboriginal community are the Cabramatta and Maxwells Creeks and their tributaries, in the east of the study area, as these areas are either known to contain major concentrations of recorded sites and/or are known to be relatively undisturbed.
- *Areas with historical associations:* Various areas in the landscape may have been used by Aboriginal people for coroborees (ceremonial or social gatherings), including the area around Denham Court, which is reputed to have hosted such gatherings until the mid 19th Century (C Liston 1988). In addition, the Throsby land grant at Glenfield is known to have been used to provide sanctuary for Aboriginal people from persecution and retaliatory conflicts prevalent in the early 19th Century (C Liston 1988). However, it is unknown exactly where in the area these camps may have been located, so there may be potential for evidence of past Aboriginal land use across both the Glenfield and Macquarie Fields Estates.
- *Areas of sensitivity requiring further investigation:* Various areas that have not yet been fully identified or defined in significance terms (Context 2006b) were of interest to the Aboriginal stakeholders for further investigation. These mainly related to areas where the potential impacts of the SWRL would be greater, with particular interest in the properties that would constitute the proposed Leppington Station and stabling facility. During the preliminary site visit, less than 10% ground surface visibility was available in these areas, yet a possible scarred tree and an isolated find were recorded. The Aboriginal stakeholders noted their desire to investigate these areas further to better establish their integrity and heritage significance.

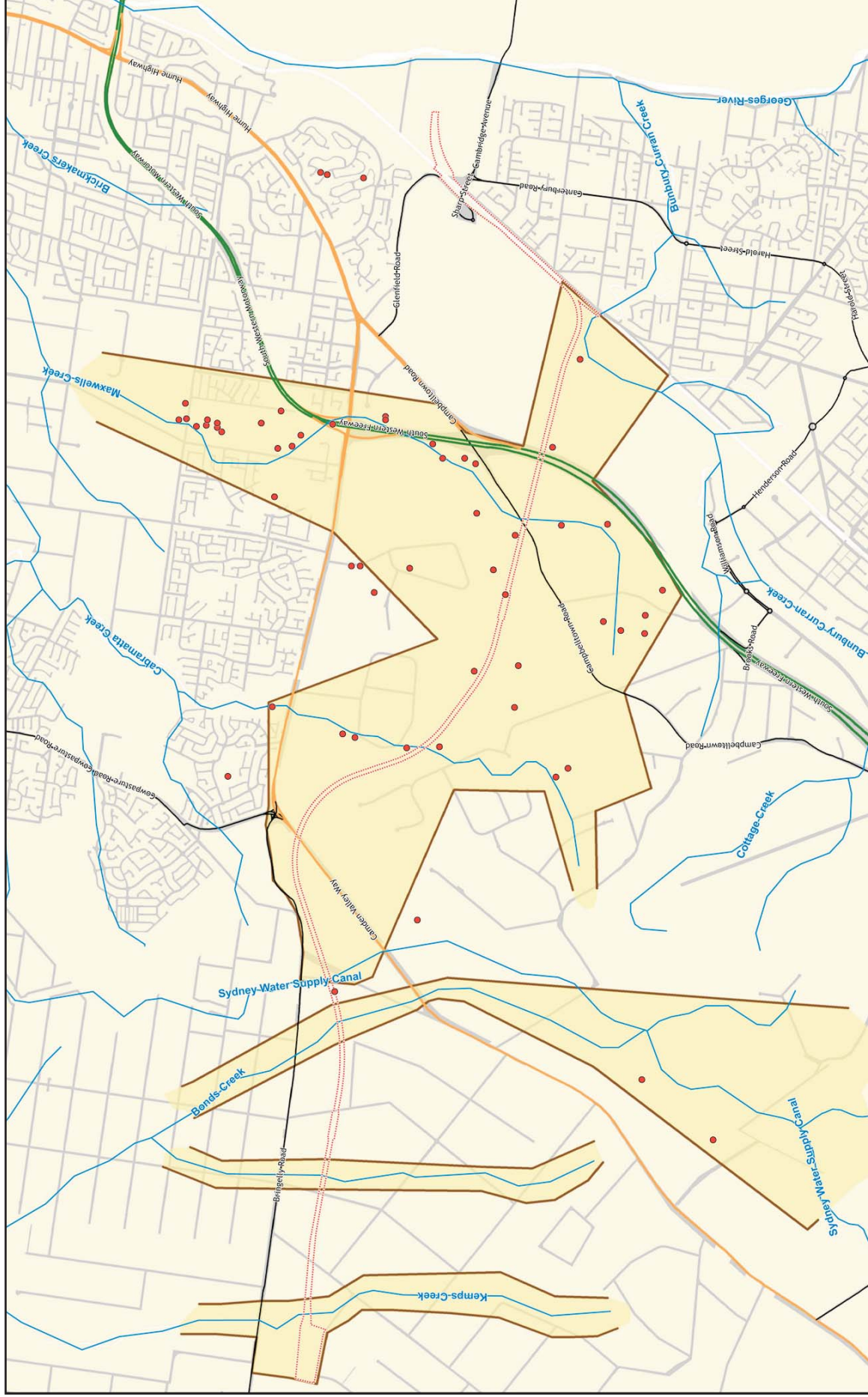
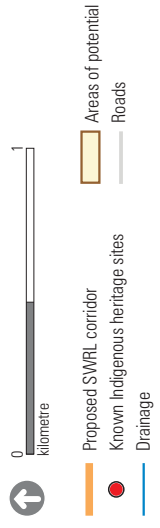


Figure 15-1 Areas of Aboriginal, archaeological, cultural, and social potential



Gaps in current knowledge

Whilst various studies have been undertaken in the vicinity of the proposed SWRL, the consultations and review identified areas where gaps in the knowledge occur across different data sets, including the following:

- *Gaps in heritage assessments:* The western portion of the SWRL study area has been identified as having been the subject of relatively few heritage assessments, with the area west of Camden Valley Way almost devoid of concentrated archaeological and heritage assessment.
- *Social and cultural data sets:* Despite extensive heritage assessment, very little is known about the Aboriginal social importance of the Ingleburn Military Camp areas. During the consultations undertaken, various familial and social connections to the military at Ingleburn were revealed (D Dyer, G Morton 2006 pers comm.), yet there is little knowledge about Aboriginal servicemen, their families and their social connection to the military camp. The former Department of Defence land may also hold evidence of an Aboriginal burial site (D Dyer 2006). However, the site is not recorded and no information about it is known. This issue requires further assessment as the SWRL design progresses to confirm whether the site could be affected by the SWRL (see below).
- *Area of special interest:* In the course of the preliminary site visit, it became clear that the area bordered in the north and west by Campbelltown Road, in the east by the Hume Highway, and the south by the Ingleburn Army Camp, is of special interest to the Aboriginal community. This area has never been accessed by the Aboriginal stakeholder communities (G Chalker 2006 pers comm.). The area is adjacent to Maxwells Creek and is in proximity to various recorded Aboriginal sites/places and identified areas of high significance to be protected and conserved.

Preliminary assessment of cultural heritage values

The Australian ICOMOS *Charter for the conservation of places of cultural significance* (the Burra Charter) identifies criteria for the assessment of Aboriginal archaeological and cultural heritage values. The determination of Aboriginal cultural heritage values and the cultural significance of places, sites and items in the SWRL study area requires further Aboriginal heritage consultation and assessment (see Section 15.1.3).

The Aboriginal heritage assessment for the SWRL is currently up to Step 1 in the Growth Centres Commission Precinct Assessment Method. However, based on the assessment undertaken so far, the Aboriginal cultural heritage items identified in the study area appear to possess some 'scientific value' (as defined in the Burra Charter) in their ability to provide information regarding the lithic technologies and raw material sources. The location of the sites would also add to the growing knowledge of land use and occupation strategies in the Camden, Campbelltown and Liverpool LGAs, as well as the broader Cumberland Plain region. However, subsequent, more detailed assessment and consultation is required to confirm this.

In regard to 'Aboriginal social value' (as defined in the Burra Charter), the Aboriginal stakeholders have identified various areas across the proposed SWRL corridor that would have been significant to past Aboriginal people and that have the potential to yield items of Aboriginal cultural heritage. Discussions held with, and information provided by, the Aboriginal stakeholders emphasised that the landscape as a whole is culturally important to the Aboriginal community due to its past associations and continued familial and social

connections. In particular, all relatively undisturbed creeks crossed by the proposed SWRL were identified as having potential Aboriginal/social heritage value.

Impacts of the SWRL

Further Aboriginal consultation and assessment is required to confirm the likely impact of the proposed SWRL on the identified cultural heritage items and places. Based on the preliminary assessment, however, Table 5-5 summarises the archaeological sites that have the potential to be directly affected by the proposed SWRL corridor. This is based on the relative proximity of these items to the proposed corridor. The various sites are marked on Figure 5-3 and Figure 8.1 in Technical Paper 6.

Table 15-1 Aboriginal sites/places potentially affected by the proposed SWRL corridor

Site name	Site type	Where recorded
MFH 2	Open camp site	AHIMS
MLE1	No details	AHIMS
DD1	Open camp site	AHIMS
TLC1	Isolated find/scarred tree	AHIMS
EPCS 4	Open Camp Site	AMBS 2003
EPCS 5	Open Camp Site	AMBS 2003
EPCS 6	Isolated Find	AMBS 2003
EPCS 7	Isolated Find	AMBS 2003
EPCS 8	Open Camp Site	AMBS 2003
EPCS 9	Isolated Find	AMBS 2003
EPCS 10	Isolated Find	AMBS 2003
EPCS 11	Open Camp Site	AMBS 2003
SW1	Isolated find	Technical Paper 6
SW2	Open Camp Site	Technical Paper 6
SW3	Isolated find	Technical Paper 6
SW4	Isolated find	Technical Paper 6
SWST1	Possible scarred tree	Technical Paper 6

Source: Technical Paper 6

There is also potential for impacts of the SWRL on unrecorded/registered sites and places of archaeological and Aboriginal cultural significance; and the areas of Aboriginal archaeological, cultural and social potential marked on Figure 15-1. This needs to be considered in the context of impacts of the wider Growth Centre developments.

Whilst some of these sites are potentially within the proposed construction corridor of the SWRL, it is beyond the scope of the current assessment to make any definitive statements regarding the significance of any of these sites and/or objects. It can, however, be noted that all the sites (except for scarred trees) are well represented in the archaeological record of the Cumberland Plain.

In regard to the potential burial site within the Ingleburn Military Area described above, there is no way of knowing at this stage whether the potential site (if it exists) is located within the SWRL corridor. However, the linear nature of the proposed SWRL corridor reduces the probability that its construction would impact any potential burial sites in the wider context of the former Department of Defence land. Procedures can put in place during Step

2 of the Precinct Assessment Method to ensure that potential burials are identified and managed appropriately, if they remain (see Section 15.1.3).

15.1.3 Recommendations for further assessment and mitigation

Mitigation measures applied should take into account consideration of the context of broader land use change and development proposed in the area. For example, it should be recognised that parts of the Ingleburn Military Area have been rezoned for development that will be undertaken regardless of the SWRL being approved. As such, future development of the area will be managed through the Growth Centres Commission Precinct Assessment Method and Protocols. A number of the sites identified in this report, therefore, will be conserved/protected as part of the future development strategies for the broader region.

The following management recommendations for further assessment and cultural heritage management are based on background research and the results of previous studies, the preliminary site visit and consultation with Aboriginal stakeholders. The recommendations reflect the fact that the SWRL design is at concept level only at this stage and that the assessment of Aboriginal heritage is only up to Step one of the Precinct Assessment Method.

In line with the Precinct Assessment Method and Protocols, it is recommended that these measures include, but are not necessarily limited to, the following:

- As the design development for the proposed SWRL progresses the Proponent should follow the Precinct Assessment Method and Protocols. This should identify management and mitigation strategies to be employed during construction and operation.
- A referral should be submitted to the Commonwealth Department of Environment and Heritage, if required, in regard to impacts on the former Commonwealth-listed Ingleburn Military Camp.
- It is recommended that Step 2 of the Precinct Assessment Method includes procedures to ensure potential burials are identified (if they remain) with relevant archaeological methods (i.e. geophysical techniques). Any consideration of burials and their management should be undertaken with full consultation with Aboriginal stakeholders, including implementation of cultural protocols (as identified by Aboriginal stakeholders) and input from DEC.
- It is recommended that, prior to any works commencing, any area identified as having archaeological potential will require further investigation. These investigations should be undertaken in the general spirit of the current State legislation (i.e. the first stage being the equivalent of a Section 87 preliminary research permit). This would require a research design methodology which should be supported and endorsed by the local Aboriginal Stakeholders.
- It is recommended that, should any skeletal material, or suspected skeletal material, be identified during the course of any future works, all work is to cease in the immediate vicinity of the find and the NSW Police, NSW Coroners Office, DEC and relevant Aboriginal stakeholder(s) are to be notified prior to any continuation of works. This is standard DEC policy.
- Off-sets should be developed in consultation with Aboriginal community in regard to any unavoidable disturbance to Aboriginal heritage sites and places.

15.2 Non-Indigenous heritage impacts

15.2.1 Assessment approach

The key objective of the non-Indigenous heritage assessment was the identification of historic/European (non-Indigenous) archaeological and cultural heritage values within the vicinity of the proposed SWRL corridor. In order to identify these values, a review of the relevant State and Federal heritage registers and listings and other relevant background reports was undertaken.

Site inspections were carried out over two days in July 2006 with aim of:

- identifying and recording archaeological and/or cultural heritage values, site and places within the study area
- identifying areas of archaeological or cultural heritage value or sensitivity
- assessing the heritage significance of the heritage items identified, including potential archaeological values.

Listed and other known sites in the study area, including those identified during the site visit are detailed in Section 5.1.4 and Technical Paper 7. This Chapter focuses on the results of the significance assessments undertaken as part of the study and the identified potential non-Indigenous heritage impacts.

15.2.2 Significance assessments

Statements of heritage significance were prepared for items identified during background research and the preliminary site visit. Where items have been previously recorded and heritage analysis studies have been completed, the statements of significance were based on these past works and added to, where relevant. Assessment of significance was against the criteria for listing on the NSW State Heritage Register (as discussed in Section 5.2 of Technical Paper 7).

Table 15-2 Significance assessments for sites visited during the present study

Item/area	Location	Statement of significance
Hurlstone Agricultural High School (Campbelltown LEP, SHI, NT)	Roy Watts Road, Glenfield	The School was the first agricultural high school established in Australia and the first in NSW to accommodate boarders. The current site for the school was established in the 1926 and has been responsible for fostering and developing a unique and scientific approach to managing Australia's rural enterprises. Hurlstone Agricultural High School has been assessed as being of high local significance.
Macquarie Field House (SHR, RNE, NT)	Quarter Sessions Road, Glenfield	Macquarie Field House is of State heritage significance as one of the finest examples of early Australian residential architecture and a landmark, carefully sited in an intact 19 th Century rural cultural landscape. The property has considerable historical, architectural and archaeological significance as the site of the estate of three well known colonial figures James Meehan, ex-convict who became Deputy Surveyor General and surveyed much of the land south of Sydney between 1810-1820, Samuel Terry, ex-convict, 'Botany Bay millionaire' for his daughter and her husband John Hosking, the first elected Mayor of Sydney and for its associations with an early period of colonial history.

Item/area	Location	Statement of significance
Former Ingleburn Military Area (Listed as Ingleburn Military Camp – Liverpool LEP, SHI, RNE)	Campbelltown Road, Ingleburn	<p>The property has considerable value in the local area as a major visual and historical reference point. A contributing factor to this prominence is the juxtaposition of the homestead and landmark vegetation to the open rural landscape surrounding them.</p> <p>Macquarie Field House (including its curtilage and rural view shed) is assessed as being of high State significance.</p> <p>The Ingleburn Military Area was from 1939 to the 1970s one of Australia’s major army camps. It was the assembly and embarkation camp for Australia’s first military contingent to serve overseas in World War II. The Ingleburn Military Area is associated with the generations of soldiers who were trained there and served Australia during World War II, the Korean War and the Vietnam War and participate in the National Service Scheme. The area also contains remnant bushland of the rare surviving Cumberland Grey Box Woodland.</p> <p>The Ingleburn Military Area is assessed as being of high State significance.</p>
Sydney Water Supply Upper Canal and associated Row of Bunya Pines (listed under Campbelltown LEP, Liverpool LEP, SHI, SCA S170 Register, NT)	Between Denham Court and Cecil Hills	<p>The Upper Canal is significant as a major component of the Upper Nepean Scheme. As an element of this Scheme, the Canal has functioned as part of Sydney’s main water supply system for over 120 years. Apart from maintenance and other improvements, the Upper Canal has changed little.</p> <p>As part of this System, the Canal is associated with Edward Moriarty, Head of the Harbours and Rivers Branch of the NSW Public Works Department.</p> <p>The Canal is aesthetically significant, running in a serpentine route through a rural bushland setting as an impressive landscape element with sandstone and concrete-lined edges.</p> <p>The Canal is significant as it demonstrates the techniques of canal building, and evidence of engineering practice. The Canal as a whole is an excellent example of 19th century hydraulic engineering, including the use of gravity to feed water along the canal. The Upper Canal has been assessed to be of State significance.</p> <p>The associated row of Bunya Pines located at the junction of Bringelly and Old Cowpasture Road is assessed to be of exceptional local significance.</p>
Denham Court, Cowpasture Road and Camden Valley Way viewsheds (not listed)	Denham Court, Cowpasture Road and Camden Valley Way	<p>The Denham Court viewshed is significant because it allows contemporary visitors to generate some understanding of how the Cumberland Plains were during the 19th Century. Housing development has had a drastic impact upon the number of historic viewsheds that remain on the Cumberland Plain.</p> <p>For this reason alone the Denham Court viewshed is assessed to be of moderate State significance.</p> <p>The Cowpasture Road and Camden Valley Way viewsheds are also important as they show a view of what the early subdivision of agricultural parcels in this region of the Cumberland Plain was like.</p>
Cowpasture Road and Camden Valley Way (not listed)	Cowpasture Road and Camden Valley Way	<p>Cowpasture Road and Camden Valley Way are significant as early examples of communication and transportation routes for goods, produce and services from Parramatta and Sydney Cove to the Cumberland Plains. These roads are also significant for their aesthetic qualities in a landscape that is rapidly changing from rural to urban. Although these roads are not the oldest in the Colony, they are relatively early roads for this region. They also represent historic road alignments that have been subject to subsequently less modifications than many of the older existing roads in NSW.</p> <p>Cowpasture Road and Camden Valley Way are assessed to be of moderate State significance.</p>

Item/area	Location	Statement of significance
Historic fence line remnants (not listed)	Tenanted parcel, Leppington	The historic fence line remnants are significant for their ability to contribute to our understanding of changing landscape practices and usage. The remains reflect the shift over time from large, single ownership estates, to smaller tenanted holdings. These remnant fence lines are assessed to be of moderate to low local significance.

15.2.3 Impacts on non-Indigenous heritage

As described in Section 5.1.4, a number of listed and unlisted heritage items and areas exist along and in the vicinity of the SWRL corridor. The proposed SWRL corridor traverses areas that have been previously identified as historically significant and that are listed on various heritage registers (see Table 15.1).

As Stage B of the SWRL project is only at concept stage, any statement of heritage impact can only give a general description of the potential impacts envisaged with the concept's footprint.

Direct impacts

The proposed SWRL corridor would affect approximately 2.9 hectares of the former Ingleburn Military Camp, which is owned by the Commonwealth and listed under the Register of the National Estate, the State Heritage Inventory and the Liverpool Local Environmental Plan 1997. The potential direct impacts would include:

- the potential loss of examples of military landscaping and planning relating to the domestic/residential life of army dependants
- the potential loss of examples of building types associated with military married quarters
- potential impact on the Cumberland Plain Woodland identified across the site.

Major potential indirect impacts would also occur to the aesthetic qualities of the area. Further assessment and mitigation is required to minimise these impacts (see Section 15.3). Despite these potential direct impacts, this area is already proposed for redevelopment as part of the wider Edmondson Park release area development.

The Sydney Water Supply Upper Canal and the associated Bunya Pines would be crossed by the proposed SWRL at the intersection of Bringelly Road and Cowpasture Road. The possible impacts of the proposed SWRL on the Sydney Water Upper Canal include:

- potential vibration damage to the Canal's structural integrity during construction and ongoing through the life of the SWRL (see Chapter 12 for more discussion)
- potential loss of the integrity of the landscape and setting of the Upper Canal
- potential damage or loss of the row of Bunya Pines.

Further assessment and mitigation is required to minimise these impacts (see Section 15.3).

The historic road alignments of Old Cowpasture Road, Cowpasture Road and Camden Valley Way are good examples of early rural communication links. The potential impact of the proposed SWRL on these items is both physical and visual. However, both the Camden Valley Way and Cowpasture Roads are proposed to be widened as part of the wider Growth Centre developments. It is important that the heritage impact of the SWRL is considered within this context of broader development. Further assessment and mitigation is required to minimise these impacts (see Section 15.3).

The historic fenceline is demonstrative of early subdivision of agricultural land in the area and represents the transposition of European agricultural land management techniques onto an Australian landscape. If the current proposed SWRL design footprint remains, the fenceline would be directly affected. Further assessment and mitigation is required to minimise these impacts (see Section 15.3).

Indirect impacts

The proposed route of the SWRL corridor would have some potential impact on the viewsheds of Old Cowpasture Road, Cowpastures Road, Camden Valley Way, Denham Court Road and Macquarie Field House. Whilst none of these viewsheds are protected by any statutory listing, they do have significance as indicators of a certain cultural heritage landscape.

The viewsheds are demonstrative of a historic rural landscape that is rapidly changing as a result of Sydney's western expansion. They give an indication of changing landscape management patterns and strategies that were important to the growth of the region's agricultural and economic development. The following items would be visually affected:

- Denham Court viewshed
- Macquarie Field House
- Hurlstone Agricultural High School.

The visual impressions for the Macquarie Field House and Denham Court viewsheds (see Chapter 16) indicate that the potential visual impact would be moderate. Measures to manage potential impacts on these viewsheds are described in Section 15.3.

15.3 Recommendations for further assessment and mitigation

The following recommended mitigation measures for further assessment and heritage management are based on the background research carried out for this project, the results of the previous studies, the results of the site inspection and the evaluation of heritage significance based on the NSW Heritage Office criteria. The recommendations reflect the fieldwork constraints identified in Section 5.1.4 and Technical Paper 7 and the fact that the SWRL design is subject to future design development.

Any mitigation measures should take into consideration the context of the broader land use change and development that is proposed for the area. For example, it should be taken into account that parts of the Ingleburn Military Area are already rezoned for development as part of the Edmondson Park land release. Therefore, future development would be managed through other planning strategies developed with a more localised, precinct focused approach.

Similarly, background planning documentation associated with the South West Growth Centres deals independently with proposed upgrades to Camden Valley Way and other roads in the locale, and their future functionality and place in the landscape.

15.3.1 Further assessment recommendations

Additional assessments/investigations are recommended during future design and assessment stages, including:

- Subject to property owner approval, areas with access constraints that were not surveyed in relation to the present study would need to be visited as the design develops.

15.3.2 Management/mitigation recommendations

As the design development for the proposed SWRL progresses, a Heritage Management Sub-plan would be prepared. The sub-plan would identify management and mitigation strategies to be employed during construction and operation. It is proposed that these measures include, but are not necessarily be limited to the following:

- Proposed work with the potential to impact on the former Ingleburn Military Camp should refer to the relevant policies and procedures outlined in the *Heritage Analysis Ingleburn Defence Site* (Godden Mackay Logan 2001).
- A referral regarding impacts on the former Ingleburn Military Camp should be submitted to the Commonwealth Department of Heritage if required.
- Where works have the potential to affect the Sydney Water Upper Canal and associated row of Bunya Pines, the design development should consider the relevant policies and procedures outlined in the *Conservation Management Plan for the Upper Canal, Pheasant's Nest to Prospect Reservoir* (Higginbotham 2002).
- Vibration testing and monitoring strategies are to be developed for use during construction and operation in the vicinity of the Sydney Water Supply Upper Canal.
- The Denham Court, Hurlstone Agricultural High School and Macquarie Field House view sheds would be visually affected by the SWRL corridor. Whilst this impact is not expected to be significant, future detailed design development should include measures to mitigate the potential impact on the landscape through appropriate sympathetic planting and landscaping.
- Design of road crossings at Old Cowpasture, Cowpastures Road and Camden Valley Way should be carried out in consultation with the Roads and Traffic Authority to deal sympathetically with and minimise potential impact to the heritage values and viewsheds.
- In the event that historic fenceline remnants are affected by the project, it is recommended that archival photographic recording be carried out in compliance with the NSW Heritage Office *Guidelines for photographic recording of heritage sites, buildings and structures*.