

Water and Wastewater Servicing in the West Dapto Urban Release Area and Adjacent Growth Areas – Non-Indigenous heritage Assessment and Impact Management.
Summary table of sites and management recommendations – Updated by Sydney Water at the request of the Department of Planning and Infrastructure (11 March 2013)

Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
1 Fig 3 ●	"Glengarry" Homestead and Garden	107 Reddalls Road, Kembla Grange <i>Project Area</i>	Single storey late Victorian/Georgian style building with garden, small detached kitchen, well, and stables.	Situated on one of the original 100 acre veteran's grants allocated to John Burnett in 1830. Repeatedly sold. Operated as dairy farm 1903-1940.	Wollongong LEP 1990	Local NO	HLA 2006; AMBS 2010	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
2 Fig 3 ◆ ▲	Settler's Cemetery (Kembla Grange Cemetery)	Reddalls Road, Dapto <i>Project Area</i>	Graves in two groups and several isolated marked graves. Graves from early to mid-1900s.	Unspecified	Wollongong LEP 1990	Local YES (p52)	HLA 2006; AMBS 2010	Within 25 m Road Easement		Potential Impacts Sydney Water upgraded the impact assessment category due to the high risk of finding unmarked graves	Ground penetrating radar, monitoring. Refer to page 156 of EA for specific mitigation measures
3 Fig 3 ●	Nissan Huts (x2)	Reddalls Road, Dapto <i>Project Area</i>	Located on private property and purchased by current owner as additional storage units. Huts have been relocated and placed side by side in a vacant grazing paddock. Constructed from heavy gauge steel with timber weatherboard at each end.	Huts probably relocated from Fairy Meadow Migrant Centre.	None	NO	HLA 2006	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
4 Fig 3 ●	Slab Hut	Reddalls Road, Kembla Grange <i>Project Area</i>	Single storey timber slab hut with restored hipped corrugated iron roof. Verandah on three elevations. Two main rooms. Early timber and iron shaft cutter on eastern verandah	Early surviving hut from the original "Fig Tree Farm".	Wollongong LEP 1990	Local NO	HLA 2006	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
5 Fig 3 ●	Nissan Hut	Reddalls Road, Dapto <i>Project Area</i>	On private property. Next to a modern c.1970s residence. Heavy gauge steel and mounted on timber foundations. Relatively intact. Some minor additions including corrugated awning over eastern entrance.	One of many constructed for use during WW2 as sleeping quarters for army personnel.	None	Local NO	HLA 2006	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
6 Fig 2 ●	Bunya Pines and Fig - Paynes Road	Paynes Road, Dapto <i>Project Area</i>	A group of mature Hoop Pines and a Fig (<i>Araucaria bidwillii</i> , <i>Ficus macrophylla</i> var <i>hillii</i> and <i>Erithina</i> sp.)	Typical of many early plantings throughout the West Dapto region used for ornamental purposes and as windbreaks to protect nearby homesteads and associated buildings.	Wollongong LEP 1990	Local NO	HLA 2006	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
7 Fig 2 ●	Hoop Pines - Paynes Road	Paynes Road, Dapto <i>Project Area</i>	Two Hoop Pines (<i>Araucaria Cunninghamii</i>) situated in a cleared paddock adjacent the site of a former homestead (now demolished). Evidence of homestead survives in sandstone paving.	Typical of many early plantings throughout the West Dapto region used for ornamental purposes and as windbreaks to protect nearby homesteads and associated buildings.	Wollongong LEP 1990	Local NO	HLA 2006; AMBS 2010	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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8 Fig 2 ●	Cottage	Paynes Road, Dapto Project Area	Site comprises a c.1930s weatherboard cottage, small shed and brick house foundations, and a large farm dam.	No available historical information.	None	Local NO	HLA 2006	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
9 Fig 2 ●	Stockyard - Paynes Road	Paynes Road, Dapto Project Area	Intact example of a timber stockyard, including holding yards and loading ramp. Constructed from bush timber posts, dressed timber rails, and modern steel fencing.	No specific historical information available on this site. Construction materials reflect an original 1940s-1950s stockyard with modern additions.	None	Local NO	HLA 2006; AMBS 2010	No Impact	No further action required	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
10 Fig 2 ■ No change	West Dapto Public School and Residence	Sheaffes Road, Dapto Project Area	Schoolhouse on west half of property, schoolmasters residence on the east. Both constructed from sandstone with timber skillion roofs of corrugated iron.	Located on the original 1832 grant allocated to William Keevers. Sold to George McPhail who donated one acre for construction of existing schoolhouse. Schoolhouse structure built in 1882 from local stone quarried for McPhail's property and opened in 1883.	Wollongong LEP 1990	Local YES (p56)	HLA 2006	Item within 50 m corridor		A water pipeline is proposed to be constructed along the eastern boundary of the West Dapto Public School. The heritage items may be subject indirect impacts from construction.	Vibration impacts to the West Dapto Public School are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction.
11 Fig 2, 4 ■ No change	"Glen Ayr" Homestead	Sheaffes Road, Dapto Project Area	Simple inter-war period bungalow, uncommon in this period in the region. Clad in weatherboard, corrugated metal roof, distinctive corner bay window. Sheds and outbuildings to the north and west. Surrounded by simple, rectangular garden.	Located within Portion 43 of the original grant of James Fraser, who was given 100 acres in c.1832. This homestead constructed c.1922 by Smith family member, who also owned property next door. Developed as dairy farm. Run as stables and saddlery until 198	Wollongong LEP 1990	Local YES (p57)	HLA 2006; AMBS 2010	Corridor passes through boundary	75m from house	The heritage item may be subject indirect impacts from construction.	Vibration impacts to Glen Ayr are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction.
12 Fig 2 ●	"Stan Dyke" Homestead and Outbuildings	Sheaffes Road, Dapto Project Area	Original homestead and outbuildings. Constructed 1890 from sandstone quarried on the farm. Single storey structure, hipped corrugated metal roof and verandah on south side. Formerly located further up the hill. Relocated to existing location 1930. Outbuil	Property originally belonged to Sgt. William Keevers. Grant of 100 acres in 1834. Property originally called "Hussar Farm". George McPhail acquired it in and later donated part to the West Dapto Public School.	Wollongong LEP 1990	Local NO	HLA 2006; AMBS 2010	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
13 Fig 2 ●	"Stan Dyke" Archaeological Site	Sheaffes Road, Dapto Project Area	Former location of "Stan Dyke" homestead.	Located on original grant (Portion 223) allocated to veteran James Mitchell.	None	None NO	HLA 2006; AMBS 2010	No Impact	No impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
14 Fig 2 ●	"Stream Hill" Homestead and Outbuildings	Sheaffes Road, Dapto Project Area	Main homestead vernacular timber framed homestead (c.1840) with east and west verandahs. Garden contains remnant plantings of mature fig trees, coral trees, and plum pines, and 2 Norfolk Island Pines. Some remnant fruit trees from the former orchard to th	Situated on original veteran's grant registered to John Harris in 1839. Harris conveyed grant to William Sheaffe who built Stream Hill Cottage c. 1840. Harris' descendants operated the farm during the 20th century until purchased by council.	Wollongong LEP 1990	Local NO	HLA 2006	Corridor passes through boundary	t	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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15 Fig 2 ●	Shed/Hall	Sheaffes Road, Dapto Project Area	Rectangular single storey corrugated iron clad shed elevated on timber and brick foundations.	Constructed c.1950s and was most likely established as a social meeting place or hall for the local community members.	None	Local NO	HLA 2006; AMBS 2010	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
16 Fig 3 ●	Kembla Grange Racecourse Railway Station	West Dapto Road, Dapto Project Area	Federation style station. U-shaped painted brick building with a corrugated iron roof with two gables. Fronting the railway line, the station has a verandah supported by brick columns and seating facilities. Modern concrete walls have been installed. Stat	A survey for the construction of a rail line from Sydney to Illawara began in 1873 and construction of a single line was completed by 1888. The Kembla Grange station platform is first mentioned in train timetables on 1st January 1890. In March 1912, a pri	None	Local NO	HLA 2006; AMBS 2010	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
17a Fig 3 ◆ ■ ●	Moreton Bay Figs - West Dapto Road	West Dapto Road, Dapto Project Area	Two adjacent Moreton Bay Figs (<i>Ficus macrophylla</i> var <i>hilli</i>) situated in a cleared paddock. The specimens are parallel to a significant section of early timber and wire fencing.	The Moreton Bay Fig is typical of many early plantings introduced throughout the West Dapto region used for ornamental purposes and as windbreaks to protect nearby homesteads and associated buildings.	None	Local YES (p59)	HLA 2006	Item within 25 m corridor	Site 17a is incorrectly noted as being listed on the Wollongong LEP	Potential construction of water pipeline Nearest tree is about 20 metres from property boundary. Pipelines should have no impact on trees.	The trees themselves are not of heritage value, however, they do mark the potential site of New Archaeological Site 3 – Potential Remains of J Barretts Farm (184). It is therefore recommended that the area be avoided and the pipelines located within the road reserve. If this is not practicable the following management is recommended: Align pipes 15 m from the fig tree trunks. If this is not possible it is recommended an arborist is consulted regarding the health of the trees and the best way to proceed; Develop a clearer understanding of the archaeological potential of the site by undertaking the following: Vegetation removal to allow for a more detailed visual inspection A remote sensing survey along the route to identify the possibility of sub-surface remains of the buildings being located during construction Development of appropriate management options (likely to be either test excavation prior to construction, archaeological monitoring during construction or no further archaeological work) The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures.

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17b Fig 3 ◆ ■ ●	Moreton Bay Fig - West Dapto Road	West Dapto Road, Dapto Project Area	One enormous Moreton Bay Fig (<i>Ficus macrophylla var hillii</i>) situated on a bend in West Dapto Road, opposite House 21 and adjacent to Concrete Bridge 22a. Associated with Potential New Archaeological Site 4 - Cottage (185)	The Moreton Bay Fig is typical of many early plantings introduced throughout the West Dapto region used for ornamental purposes and as windbreaks to protect nearby homesteads and associated buildings.	Wollongong LEP 2010	Local YES (p61)	HLA 2006	Item within 25 m corridor		Potential construction of water pipeline	The tree is of local significance and listed on the 2010Wollongong LEP. It is therefore recommended that impact be avoided. The tree also marks the potential site of New Archaeological Site 4 – Cottage (185). It is therefore, on this second count, recommended that the area be avoided and the pipelines located within the road reserve. If this is not practicable the following management is recommended: Align pipes 10 m from the fig tree canopy. If this is not possible it is recommended an arborist is consulted regarding the health of the trees and the best way to proceed; Develop a clearer understanding of the archaeological potential of the site by undertaking the following: Vegetation removal to allow for a more detailed visual inspection A remote sensing survey along the route to identify the possibility of sub-surface remains of the buildings being located during construction Development of appropriate management options (likely to be either test excavation prior to construction, archaeological monitoring during construction or no further archaeological work). The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction. The pipelines will be constructed in the road reserve. No mitigation measures for the tree are required as the canopy does not overhang the road reserve and there should be no impact on the trees. Recommendations for the New Archaeological Site 4 are considered for item 185.
18 Fig 4 ▲ No change	"Brisbane Grove" Homestead, Garden and Dairy	West Dapto Road, Dapto Project Area	Site comprises the original homestead, garden, modern house and dairy outbuildings. Homestead is a single storey building with hipped roof and verandah at the front and rear elevations. Small lean to added as a laundry. Front of homestead faces away from	There are few historical records available. The design of the building indicates that it was constructed in the late 1800s. Early photographs show the homestead with a simple picket fence. Formerly owned by five generations of the Smith family.	Wollongong LEP 1990	Local YES (p63)	HLA 2006	Corridor passes through boundary	Water pipeline and Wastewater pipe along West Dapto road however the older and heritage listed buildings are over 70m from the boundary so the construction of these items will have no impact on heritage	A Wastewater pipeline is proposed to be located on the western side of the buildings. Construction of this will result in the demolition of some farm buildings including the old dairy buildings. The original homestead will be just within 25m of the wastewater pipeline route.	The first and preferred option is to move the wastewater pipeline 25m to the north west (parallel to its current proposed route) to avoid impacts on the farm outbuildings. If the outbuildings are to be demolished archival recording is recommended Vibration impacts to Brisbane Grove are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. Refer to page 156 of the EA for specific mitigation measures.
19 Fig 3 ● No change	Derelict House	5 West Dapto Road, Dapto Project Area	Derelict homestead consists of an L shaped weatherboard house with corrugated iron hipped roof and front verandah. Five main rooms and, although deteriorating, has original features including timber architrave, decorative pressed ceilings, timber panelled	Homestead dates to c.1920s.	None	Local YES (p65)	HLA 2006	Within 25 m Road Easement	The ornamental plantings are the nearest significant feature to the road and they are 50 m away.	No impact	No mitigation measures are required for this item.

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20 Fig 3 ◆ ■	West Dapto Catholic Cemetery	West Dapto Road, Dapto Project Area	Cemetery is divided into two main sections by a grass path. The 'right' section is more sparsely populated and features earlier dated headstones. The site is bounded by a wire and timber fence and mature eucalypts. Entrance is via a decorative (c.1940s) m		Wollongong LEP 1990	Local YES (p67)	HLA 2006	Within 25 m Road Easement	While there is a fence on the road boundary the actual interments are bounded by a fence that is 77m at its closest to the road boundary. Parish map indicates there was a Chapel located near the road.	Potential Impact	Avoid impacting property boundary. If not possible undertake a remote sensing survey along the route to identify the possibility of sub-surface remains of the buildings being located during construction Development of appropriate management options (likely to be either test excavation prior to construction, archaeological monitoring during construction or no further archaeological work) The pipeline is aligned to avoid the property boundary. The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction.
21 Fig 3 ◆ ■	House	5 West Dapto Road, Dapto Project Area	The house (c. 1940s) is situated 12 m from West Dapto Road, just to the south of a 90° bend and faces south east. The house is of timber weatherboard with leadlight windows in the front room. These appear to be original. The front facade is L shaped and in-filled with a verandah supported by brick posts.	c.1940s	None	Local YES (p69)	HLA 2006; AMBS 2010	Item within 50 m corridor	Water pipeline along West Dapto Road. Depending on which side it is constructed the house maybe impacted.	Potential Impact	First management option is to minimise the impact by ensuring that the water pipeline is located on the south eastern side of the road or is located within the current road reserve. If the house is to be demolished then it is of sufficient heritage significance to justify an archival recording be made of the building using the guidelines How to prepare Archival Recording of Heritage Items issued by the New South Wales Heritage Office in 1998. The requirements for items of Local Significance should be followed. The tin shed can be removed without any further recording. If the House is to remain, vibration impacts are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. Pipeline will be located within the road reserve. The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction.
22a Fig 3 ◆ ■ ●	Concrete Bridge	West Dapto Road, Dapto Project Area	A small reinforced concrete bridge (c.1920) is located on West Dapto Road crossing a tributary of Robins Creek. The bridge is constructed from concrete supports and base with steel railings supported by four concrete pillars.	The bridge is an example of the use of reinforced concrete and steel which rapidly superceded the use of timber at the end of World War 1. The bridge most likely replaced an earlier less stable timber bridge.	None	Local YES (p71)	HLA 2006	Water pipeline to be constructed along West Dapto Road	Significantly altered since HLA recording.	A water pipeline is proposed to be constructed along West Dapto Road. Impacts will depend on how the pipeline is to cross the creek. If it crosses on a separate structure there will be no impact as the visual curtilage is not of significance. If it crosses on by bolting it to the bridge then the impact on this item will be minimal and no further work will be required	It is not listed and not a relic so no further heritage consideration is required Pipeline crossing to be constructed separately from bridge. The need to implement mitigation measures for vibration (see p159 of EA) will be considered during construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures

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22b Fig 5 ◆ ■ ●	Concrete Bridge	West Dapto Road, Dapto Project Area	A small reinforced concrete bridge (c.1920) is located on West Dapto Road crossing a tributary of Robins Creek. The bridge is constructed from concrete supports and base with steel railings supported by four concrete pillars.	The bridge is an example of the use of reinforced concrete and steel which rapidly superseded the use of timber at the end of World War 1. The bridge most likely replaced an earlier less stable timber bridge.	None	Local YES (p72)	AMBS 2010	Water pipeline to be constructed along West Dapto Road	AMBS misidentification of 22a.	A water pipeline is proposed to be constructed along West Dapto Road. Impacts will depend on how the pipeline is to cross the creek. If it crosses on a separate structure there will be no impact as the visual curtilage is not of significance. If it crosses on by bolting it to the bridge then the impact on this item will be minimal and no further work will be required	It is not listed and not a relic so no further heritage consideration is required Pipeline crossing to be constructed separately from bridge. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures
23 Fig 3 ◆ ■ ●	Fence - West Dapto Road	West Dapto Road, Dapto Project Area	An extensive section of early remnant post and rail fencing located along West Dapto Road, running parallel to two significant mature fig trees. Features small section of early post and rail fencing remaining from a previous extensive property boundary. I	Typically the post and rail fence is recorded as the oldest style of fencing in common use in Australia until being replaced by the more cost effective wire fence from the 1850s and 1860s (Pickard 1998). It is however likely that the use of post and rail	None	Local YES (p74)	HLA 2006	No Impact	The remains of the fences are of local significance only.	It is possible that construction work may impact on Site 23 - the remnant fence by disturbance during construction or by requiring the removal of the fence.	The significance of this site is such that impact on or removal of this area would not cause a great loss to the heritage of the Local area or the State of NSW. No management required. There is sufficient room to construct the pipelines without removing the fence. The EA indicated that mitigation measures for vibration (as per p159) would be considered during construction. Sydney Water's Program Leader (Heritage) advised that the nature of this particular item would not require mitigation measures.
24a Fig 4 ● No change	Modern House and Farm Buildings	West Dapto Road, Dapto Project Area	Site comprises a modern c.1990s weatherboard house, stockyard, silo, and sheds. A c.1940s silo with cylindrical roof is situated on the eastern side of the access track to the property. A large corrugated iron shed supported by bush timber posts houses heavy farm mach	There are no known historical details about this site.	None	Local YES (p76)	HLA 2006; AMBS 2010	Item within 50 m corridor	HLA recorded site. Silo has been removed.	There will be no impact on items of heritage significance	No mitigation measures are required for this item.
24b Fig 4 ▲ No change	Modern House and Farm Buildings	West Dapto Road, Dapto Project Area	Modern c.1990s brick house set 300-400m from the Road. Assortment of brick and corrugated iron farm buildings, possibly a piggery, located approx. 50 m from the road.	There are no known historical details about this site.	None	Local YES (p77)	HLA 2006; AMBS 2010	Item within 50 m corridor	AMBS recorded this site instead of the above 24a	While there is likely to be a direct impact to the farm buildings, they are not of heritage significance	No recommendations No mitigation measures are required for this item. Refer to page 156 of the EA
25 Fig 4 ■	Wongawilli Community Hall	Wongawilli Road, Wongawilli Project Area	L shaped single storey cement and brick structure with a corrugated iron roof. Was constructed as a purpose built community hall in 1950-1952, replacing the church at Wongawilli as the social centre of the village. Land was donated by mine owners and part	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local NO	HLA 2006	No Impact		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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26 Fig 4 No change	Wongawilli Tennis Court	Wongawilli Road, Wongawilli Project Area	One standard playing court installed as part of the Wongawilli Village complex. The original court surface has been covered in bitumen and is enclosed by a painted timber and wire fence. Built in 1925.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	No Impact		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	Wongawilli Mine Manager's Cottage	Wongawilli Road, Wongawilli Project Area	Single storey weatherboard cottage.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	Former Schoolhouse, Wongawilli Village	Wongawilli Road, Wongawilli Project Area	Constructed in 1927; opened in 1928. Operated until 1976 when it was sold and converted to a private residence. During c.1993 to 1998 it was run as a pre-school. The land was subdivided in 1985 and the newest house in Wongawilli built on the eastern port	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	Culverts, Wongawilli Village	Wongawilli Road, Wongawilli Project Area	Steel pipe culverts encased in reinforced concrete.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 1, Wongawilli Road, Wongawilli Project Area	Single storey weatherboard cottage built c.1930 on the corner of Jersey Farm Road, company land. Later moved and purchased by T. & P. Jones in 1950.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 2, Wongawilli Road, Wongawilli Project Area	Single storey weatherboard cottage with a flat roof, constructed by its present owner and former employee at Wongawilli Mine from 1956 - 1961. The land was purchased by T. & H. Clark in 1949.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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26, 27 Fig 4  No change	House, Wongawilli Village	Lot 4, Wongawilli Road, Wongawilli Project Area	c.1960s - c.1970s. Lot 4 purchased by J. Redpath, A. Bain, and J. Mack in 1944.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	House, Wongawilli Village	Lot 5, Wongawilli Road, Wongawilli Project Area	c.1960s - c.1970s. Land purchased by T. Gallagher in 1953.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	House, Wongawilli Village	Lot 6, Wongawilli Road, Wongawilli Project Area	c.1960s - c.1970s. Purchased by V. Willis in 1958.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	House, Wongawilli Village	Lot 7, Wongawilli Road, Wongawilli Project Area	c.1980s single storey Colorbond house. Stone garden edging at front.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	House, Wongawilli Village	Lot 8, Wongawilli Road, Wongawilli Project Area	c.1930s to 1940s. The school air raid shelter built behind house c.1942, sold in 1954 to G. Cole. Coke oven bricks used in walls of house and garage.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	Former Anglican Church, Wongawilli Village	Lot 3, Wongawilli Road, Wongawilli Project Area	Timber and fibro panel construction with a corrugated iron roof. Projecting porch over entrance. Rear lean-to addition. Built c.1911-1920, the church was originally located on Jersey Farm Road. Relocated to its current location in April 1933. It was moved	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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26, 27 Fig 4 No change	House, Wongawilli Village	Lot 10, Wongawilli Road, Wongawilli Project Area	c.1950s. Lot 10 was purchased by L. and K. James in 1957.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	Former Post Office and General Store, Wongawilli Village	Lot 11, Wongawilli Road, Wongawilli Project Area	Purchased by H. Beaumont in 1949. House built mid 1950s and the front rooms operated as a post office and general store.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	Former Mine Hostler's House, Wongawilli Village	Lot 12, Wongawilli Road, Wongawilli Project Area	Built prior to 1926 for the Wongawilli Mine Hostler. It was relocated from Jersey Farm Road to Lot 12 c1935. Sold to T. Beckett in 1962.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 13, Wongawilli Road, Wongawilli Project Area	Lot 13 was sold to J. Redpath in 1937.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 14, Wongawilli Road, Wongawilli Project Area	Lot 14 was purchased by J. Darbyshire in 1952. The existing house was built in 1956.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 15, Wongawilli Road, Wongawilli Project Area	Lot 15 was purchased by B. Towers in 1957. The house was built in 1961 and is a single storey fibro construction with a flat and skillion roof. A small verandah features at the front of the house. Windows are aluminium framed.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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26, 27 Fig 4  No change	Former Miner's Cottage, Wongawilli Village	Lot 16, Wongawilli Road, Wongawilli Project Area	The cottage is pre-1926 and was relocated from Jersey Farm Road to Lot 16 c.1935.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	Former Miner's Cottage, Wongawilli Village	Lot 17, Wongawilli Road, Wongawilli Project Area	The cottage was built prior to 1926 and relocated from Jersey Farm Road to Lot 17 c.1935. It was formerly occupied by a mine engineer.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	House, Wongawilli Village	Lot 18, Wongawilli Road, Wongawilli Project Area	Lot 18 was purchased by J. Evans in 1947. The house is a single storey construction with a skillion roof. It is brick veneer with coloured windows constructed c.1970s-1980s.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	House, Wongawilli Village	Lot 19, Wongawilli Road, Wongawilli Project Area	Lot 19 was purchased by R. and M. Vickery in 1945. The house was sold in 1953.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	Former Mine Surveyor's Cottage, Wongawilli Village	Lot 20, Wongawilli Road, Wongawilli Project Area	Possibly the oldest cottage on Wongawilli Road, the residence was occupied by a mine surveyor and originally consisted of two rooms. It was sold to J. and N. Bain in 1939.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4  No change	Cottage, Wongawilli Village	Lot 21, Wongawilli Road, Wongawilli Project Area	Constructed pre-1936. Was sold to W. Noble in 1945.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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26, 27 Fig 4 No change	Former Mine Engineer's Cottage, Wongawilli Village	Lot 22, Wongawilli Road, Wongawilli Project Area	Constructed c.1935 for a mine engineer.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 23, Wongawilli Road, Wongawilli Project Area	Lot 23 was purchased by A. Bain in 1942. The house was constructed in 1943. Extensions were made to the house after 1945 using the ex coke oven bricks from the mine.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 24, Wongawilli Road, Wongawilli Project Area	The cottage was constructed c.1930 and was sold by BHP to H. Chennell.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Lot 25, Wongawilli Road, Wongawilli Project Area	Lot 25 was purchased by T. Winn in 1956. The house was constructed c.1960s.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
26, 27 Fig 4 No change	House, Wongawilli Village	Wongawilli Road, Wongawilli Project Area	Built c.1985 on the land adjacent the schoolhouse.	Survey for the subdivision of a village on the plain of the escarpment on the southern side of Wongawilli Road was undertaken in 1934 and the allotments created in 1936. The lots were based on a standard 19.1m frontage and depth of 70m and 13, 200 feet, o	None	Local YES (p78)	HLA 2006	Within 25 m Road Easement		A water pipeline is to be constructed along Wongawilli Road (a continuation of West Dapto Road) to its junction with Jersey Farm road. A branch runs along Shone Avenue and another branch runs along Jersey Farm Road.	Vibration impacts to Wongawilli Village are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction
28 Fig 5 	Bridge - Darkes Road	Darkes Road, Dapto Project Area	Located before the Darkes Road and Princes Highway intersection. Constructed from timber struts and concrete supports. The support railings have been painted white at an earlier stage and have two rails. Original timber horizontal boards remain.	c.1920s	None	Local NO	HLA 2006	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
29 Fig 5 ● No change	"Barlyn" Homestead	Darkes Road, Dapto Project Area	Homestead is a single storey weatherboard structure elevated on brick and timber foundations. Wrap-around bullnose corrugated iron verandah features on the front elevation and part of the eastern elevation. Timber railings feature on the verandah. The wes	Parish plans from the late 19th and early 20th century reveal that the site was originally located on a 100 acre property belonging to John Robins, from whom Robins Creek takes its name.	None	Local YES (p80)	HLA 2006	Item within 50 m corridor	A wastewater pipeline will run along the south west side of Darkes road and onto the property.	The house and garden is over 60m from the route of this pipeline.	The house and garden do not require any mitigation work as no impact is predicted
30 Fig 5 ◆ ●	"Barlyn" Garden and Dairy	Darkes Road, Dapto Project Area	Garden is overgrown but has original ornamental plantings including palm trees, conifers on either side of the front entrance, mature figs, pepper trees, and citrus plantings. An original section of sandstone garden edging features at the front elevation	Parish plans from the late 19th and early 20th century reveal that the site was originally located on a 100 acre property belonging to John Robins, from whom Robins Creek takes its name.	Wollongong LEP 1990 (garden only)	Local YES (p78)	HLA 2006	Item within 50 m corridor	The pipeline will run between a large galvanised iron shed and a timber building judging by the buildings on the site in 1949 these buildings were not on the site at that time. It is presumed that some of these buildings may have to be removed for construction purposes.	The outbuildings relating to the dairying use of the property will be impacted.	If practical the pipeline should be rerouted to the west to avoid these buildings but it is recognised that this may not be practical. If the outbuildings are to be demolished then it is of sufficient heritage significance to justify an archival recording The pipeline route was amended and no longer impacts the property.
31 Fig 4 ●	"Coral Vale" Homestead	Smith's Lane, Wongawilli Project Area	A simple c.1890s cedar splayed weatherboard cottage in Victorian style with a hipped corrugated iron roof. A wrap-around verandah features and has been enclosed (c.1950s) with fibro at the rear and has unsympathetic aluminium windows. Fibro lean-to added	Situated on the original grant of William Fry c. 1832. The property developed as a dairy farm and by the late 19th century had been expanded to include several lots totalling 200 acres. The Smith family acquired the property, their son William occupying L	Wollongong LEP 1990	Local NO	HLA 2006; AMBS 2010	No Impact	No impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
32 Fig 4 ■ ●	"Coral Vale" Kitchen (former) and Outbuildings	Smith's Lane, Wongawilli Project Area	The original attached kitchen of "Coral Vale" homestead (Site #31) was relocated directly across the road in 1930 and is currently used as a residence. It has a corrugated iron roof, a skillion added to the west elevation, and a verandah on the east. An i	Situated on the original grant of William Fry c. 1832. The property developed as a dairy farm and by the late 19th century had been expanded to include several lots totalling 200 acres. The Smith family acquired the property, their son William occupying L	Wollongong LEP 1990	Local YES (p82)	HLA 2006; AMBS 2010	No Impact	A wastewater pipeline is proposed to run down the creek valley immediately south of the buildings. The pipeline is proposed to commence about 15m to the south west of the building.	A wastewater pipeline is proposed to run down the creek valley immediately south of the buildings. The pipeline is proposed to commence about 15m to the south west of the building.	As it seems unlikely the wastewater pipeline will impact on the site no management actions are proposed. The pipeline route has been amended and no longer impacts the property.
33 Fig 5 ●	Dapto Railway Station - Station Master's Residence	Station Street, Dapto Project Area	1887 station masters residence. Part of Dapto Railway Station general site.	A survey for the construction of a rail line from Sydney to Illawara began in 1873 and construction of a single line was completed by 1888. The Kembla Grange station platform is first mentioned in train timetables on 1st January 1890. In March 1912, a pri	Register of the National Estate (Indicative Place); State Heritage Register; Wollongong LEP 1990	State NO	HLA 2006; AMBS 2010	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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34 Fig 5 ●	Dapto Railway Station	Station Street, Dapto Project Area	Station building (type 4), standard roadside timber, 1887 residence, (type 6) 1887 platform face - brick on platform dock, entrance drive and park area. The station platform has been modernised and resurfaced with concrete. Fixtures, including fluorescent	A survey for the construction of a rail line from Sydney to Illawara began in 1873 and construction of a single line was completed by 1888. The Kembla Grange station platform is first mentioned in train timetables on 1st January 1890. In March 1912, a pri	Register of the National Estate (Indicative Place); State Heritage Register; Wollongong LEP 1990	State NO	HLA 2006; AMBS 2010	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
35 Fig 4 ●	"Horsley" Homestead, Garden and Dairy	Horsley Drive, Horsley Project Area	Site comprises main homestead, garden, and complex of outbuildings associated with the former dairy. Homestead is Georgian style, built from lime washed brick in two main stages. Initially (c.1842) there was a central hall with two rooms either side.	"Horsley" is regarded as the first farm in the Illawara settled by free settlers and is associated with the Western family, who settled the property in 1818. The property was one of the largest land grants in the Dapto region. Utilised the clearing lease	Register of the National Estate; National Trust Register; State Heritage Register; Wollongong LEP 1990	NO	HLA 2006; AMBS 2010	No Impact		No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
36a Fig 4 ◆ ■ ●	Stockyard - Bong Bong Road	Bong Bong Road, Dapto Project Area	An intact example of a timber stockyard, including holding yards and a loading ramp. The stockyard is located in an empty paddock close to the road alignment. The stockyard has been constructed from bush timber and more recent dressed timber.	Not available.	None	Local YES (p84)	HLA 2006	Within 25 m Road Easement	No heritage values	Water pipeline is proposed to be constructed along Bong Bong Road; the stockyard is located on the property boundary.	AECOM ascribes no heritage significance to this stockyard, the fabric or the form of the stockyard meet does not the criteria for local significance. The item can be removed without impacting the historical record of the West Dapto region. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Work on the pipeline in the vicinity of this item has been completed. Refer to EA for Early Release Lead-in Works for West Horsley (MP 10_197).
36b Fig 4 ◆ ■ ●	Stockyard - Bong Bong Road	Bong Bong Road, Dapto Project Area	small timber stockyard	Not available.	None	Local YES (p85)	AMBS 2010	Within 25 m Road Easement	No heritage values. Misidentification of HLA item 36a	Water pipeline is proposed to be constructed along Bong Bong Road, the stockyard is about 10m north of the road.	AECOM ascribes no heritage significance to this stockyard, the fabric or the form of the stockyard meet does not the criteria for local significance. The item can be removed without impacting the historical record of the West Dapto region. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Work on the pipeline in the vicinity of this item has been completed. Refer to EA for Early Release Lead-in Works for West Horsley (MP 10_197).
37 Fig 4 ● No change	House and Dairy	Bong Bong Road, Dapto Project Area	Accessed via Bong Bong Road; neighbours the Illawara Gun Club. Comprises two houses, a windmill, mounted water tank, stockyard and remnant outbuildings associated with the operation of a former dairy. Main house is a c.1940s-1950s single storey brick and	There is little historical detail known about this site.	None	Local YES (p87)	HLA 2006	No Impact		A Water pipeline is proposed to be constructed along Bong Bong Road. The house and dairy are over 30m from the boundary and will not be impacted.	No Recommendations Work on the pipeline in the vicinity of this item has been completed. Refer to EA for Early Release Lead-in Works for West Horsley (MP 10_197).

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38 Fig 4 No change	Former Poultry Farm - Outbuildings	Hayes Lane, Dapto Project Area	Remnant outbuildings associated with a former poultry farm operation. Several buildings survive. A section of laying sheds remain. These are a line of staggered sheds constructed c.1920s-1930s from corrugated iron. Two corrugated iron breeding sheds also	The property was established as a commercial poultry farm during the 1920s. It was purchased by the Hayes family in 1927 who continue to reside on the property. The main access road, Hayes Lane, was named after the well-known local family and formalised a	None	Local YES (p88)	HLA 2006; AMBS 2010	No Impact	The heritage items are the remnant poultry sheds are located 49m from the boundary fence along Hayes Lane behind a modern house.	A Water pipeline is proposed to be constructed along Hayes Lane. The remains of the poultry sheds will not be impacted.	No Recommendations No mitigation measures are required for this item.
39 Fig 4 No change	Former Poultry Farm - Homestead	Hayes Lane, Dapto Project Area	Original c.1920s cottage with four main rooms, constructed in three parts. Original house is unpainted timber weatherboard elevated on brick stumps, which was relocated from a neighbouring property and previously served as the local schoolmistresses house	The property was established as a commercial poultry farm during the 1920s. It was purchased by the Hayes family in 1927 who continue to reside on the property. The main access road, Hayes Lane, was named after the well-known local family and formalised a	None	Local YES (p88)	HLA 2006; AMBS 2010	No Impact	The aerial images show that the poultry farm buildings extend to the east of line of the main house. The main house and hedge are 23.2m from the boundary of Hayes Lane.	A Water pipeline is proposed to be constructed along Hayes Lane. The house and large shed are 23.2 m from the boundary on Hayes Lane the main area of remnant poultry buildings will not be impacted.	First management option is to avoid the impact by constructing pipe closer to Hayes Lane, If not possible, undertake archival recording of house and monitor area for archaeological relics. The water pipeline will be constructed in the road corridor. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
40 Fig 4 No change	House and Dairy	Hayes Lane, Dapto Project Area	Accessed via the end of Hayes Lane and neighbours "Westerlies". Comprises an original cottage, stable foundations, silo, and remnant outbuildings associated with the operation of a former dairy. Several buildings survive from their former use as a functio	There is little historical detail known about this site.	None	Local YES (p90)	HLA 2006; AMBS 2010	Item within 50 m corridor	This site would appear to be the site of "Dorough" shown as two buildings on the 1889 Parish Plan. There was a Dorough family living near Dapto so this may be their residence.	A Water pipeline is proposed to be constructed along Hayes Lane and then runs north-east across the property to link with the water pipeline running down Jersey Farm Road. The pipeline route may be within 25m of the farm outbuildings.	Because of the heritage significance of the site, first management option is to avoid the impact by varying the route of the water pipeline to avoid impact. If this is not possible recommend archival recording and archaeological monitoring during construction. Vibration impacts to the House are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
41 Fig 6 	Former site of "Benares"	Cleveland Road, Dapto Project Area	"Benares" was a single storey brick Georgian style residence featuring an ashlar finish and corrugated metal roof. The main building was constructed in typical Victorian Georgian style with a 1930s Californian bungalow style portico addition at the front.	Not available.	Wollongong LEP 1990	Local NO	HLA 2006	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
42 Fig 6 	Bridge - Cleveland Road	Cleveland Road, Dapto Project Area	The bridge is located on Cleveland Road crossing the railway line and is constructed from timber struts and supports. The support railings have been painted white at an earlier stage and have two rails. Original timber horizontal boards remain.	The bridge was built c.1887 when the railway line from Sydney was established. The bridge was later modified in the 1950s.	None	Local NO	HLA 2006	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
43 Fig 6 	House	Cleveland Road, Dapto Project Area	The site is located next to Cleveland Bridge and is a single storey fibro building constructed c.1940s in simple vernacular design.	There is no historical information available for this site.	None	Local NO	HLA 2006	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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44 Fig 6 ●	Young Farmers Meeting Hall	Cleveland Road, Dapto Project Area	A rectangular single storey corrugated iron clad shed elevated on timber and brick foundations. The roof is a gable constructed from a timber frame and corrugated iron sheeting. The front elevation features four small eight-pane windows framed in timber b	The building was constructed in c.1942 for use as a meeting hall for the small community of farmers and their families residing on the properties at Cleveland. It also served the neighbouring Avondale Public School for P & C meetings and school social fun	None	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
45 Fig 6 ●	Avondale Public School	Cleveland Road, Dapto Project Area	Former schoolhouse designed by Government architect W. Kemp, and is a single storey building featuring a gabled corrugated metal roof and a fibro and timber panelled skillion added to the western elevation. A brick chimney is present on the north wall.	The site was originally established as a private school for the children of Henry Osborne's Avondale Estate in the 1850s. In 1860 the National School Board was given land by Major Hopkins, who owned the nearby estate "Benares". A slab hut was built in 186	Wollongong LEP 1990	Local NO	HLA 2006	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
46 Fig 6 ●	"Glen Avon" House and Dairy	Cleveland Road, Dapto Project Area	The building is a weatherboard structure featuring a U shaped floor plan and bullnose verandah on three elevations. Ornamental plantings have been retained and include figs. The garden is enclosed by sections of timber picket, timber and wire, and a decor	Not available.	Wollongong LEP 1990	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
47 Fig 6 ■ No change ●	"Cleveland" Homestead and Outbuildings	Cleveland Road, Dapto Project Area	Site comprises the original homestead, two modern residences, and outbuildings associated with the former dairy. The early homestead was constructed in early Victorian Georgian style in the 1840s and is a rendered brick house with corrugated metal roof. The homestead building is in poor almost ruinous condition.	"Cleveland" stands on the original 600 acre grant (Portion 59, Parish of Kembla) made in 1833 to George William Paul, a Sydney merchant who had disposed of his land even before the grant was issued. A series of subdivisions and conveyances followed in rap	Register of the National Estate; National Trust Register; Wollongong LEP 1990	YES (p91)	HLA 2006; AMBS 2010	No Impact	It should be noted that the entrance to Cleveland House off Cleveland Road is about 450m from the main curtilage of Cleveland House. The drive seems to have been at one stage tree lined but few of the trees are evident in the 1949 aerial image. Cleveland is located immediately south of a small creek overlooking Mullet Creek.	A Water pipeline is proposed to run along Cleveland Road potentially impacting on the entrance drive to Cleveland. This area however has no heritage significance. A Wastewater pipeline is proposed to run on the northern side of the small creek and will cut through the entrance driveway to Cleveland. There are the remanet trees from the tree-lined driveway in this location and there is the potential for the construction work to impact on them.	It should be easy to select a route through trees that avoids impact on them as they are widely spaced. Typically a tree protection zone of 10 metres around specific trees should be established to avoid compaction and mechanical injury during construction. If this is not possible it is recommended a photographic archival recording is undertaken prior to the tree removal. Pipelines to be located to avoid trees
48 Fig 6 ■ No change	Cottage	South Avondale Road, Dapto Project Area	A single storey weatherboard building constructed c. 1930s in simple vernacular design. The L shaped house is elevated on brick stumps and features a hipped corrugated iron roof and simple brick chimney. The front elevation features a small enclosed porch	There are no specific historical details available for this site.	None	Local YES (p93)	HLA 2006	Within 25 m Road Easement		It is proposed that a water pipeline will be constructed along South Avondale Road. It is proposed to construct a wastewater pipeline east of South Avondale Road, running roughly north east along an ephemeral creek valley. Depending on the exact alignment of the pipelines, the structures may require demolition or may be indirectly impacted by vibration during construction.	The first management option is to avoid the impact by rerouting the water pipeline to the western side of South Avondale Road although it is recognised that this may not be possible. Vibration impacts to the Cottage and Hayshed are anticipated, dependant on the final alignment. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. Should construction require demolition of any of the structures, it is recommended the structures be archivally recorded and archaeological monitoring undertaken during construction. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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49 Fig 6 No change	Dam and Hayshed	South Avondale Road, Dapto Project Area	A small dam adjacent to a Moreton Bay Fig on the property of the cottage (Site #48). A large hayshed (c.1940s) is constructed from corrugated iron and has a gabled roof supported by bush timber stumps. An adjacent timber stockyard (c.1960s) appears to be	There are no specific historical details available for this site.	None	Local YES (p93)	HLA 2006	Within 25 m Road Easement		It is proposed that a water pipeline will be constructed along South Avondale Road. It is proposed to construct a wastewater pipeline east of South Avondale Road, running roughly north east along an ephemeral creek valley. Depending on the exact alignment of the pipelines, the structures may require demolition or may be indirectly impacted by vibration during construction.	The first management option is to avoid the impact by rerouting the water pipeline to the western side of South Avondale Road although it is recognised that this may not be possible. Vibration impacts to the Cottage and Hayshed are anticipated, dependant on the final alignment. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. Should construction require demolition of any of the structures, it is recommended the structures be archivally recorded and archaeological monitoring undertaken during construction. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
50 Fig 6 	"Avondale" Homestead and Garden	Avondale Road, Dapto Concept Area	Site comprises main homestead, garden, and outbuildings. House constructed in 1854. Single storey brick design with stucco and ashlar finish. Foundations and window sills are stone. Hipped roof with slate tiles. Two simple rendered chimneys. Several farm	"Avondale" lies within part of the original Portion 14 granted to Alfred Elyard in 1834, based on a promised grant by Governor Brisbane in 1825. George Brown acquired the land before selling it to Henry Hill Osborne in 1839. The existing homestead was bui	Register of the National Estate; National Trust Register; Wollongong LEP 1990	National YES (p95)	HLA 2006	Item within 50 m corridor	The Water pipeline runs through the site	It is proposed to construct a Water pipeline running on an east west axis through the main building (probably just south of the main building) which will cause a major impact on the building and surrounding gardens) which is unacceptable given the heritage significance of Avondale	Given the heritage significance of the buildings and gardens at Avondale, it is strongly recommended the water pipeline be rerouted to the north (100m should clear relevant items) or to the south (130m should clear relevant items). Vibration impacts to Avondale are anticipated, dependant on the final alignment. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The latest road alignments provided by Wollongong Council indicate that the proposed water pipeline in vicinity of this item is to be relocated so that it will not impact the property.
51 Fig 6 	"Linbrook" Homestead and Outbuildings	Avondale Road, Dapto Project Area	Original homestead is a rare Victorian slab hut with corrugated metal roof. It has been added to since its original construction, but retains a high degree of original fabric. Extensive section of post and rail fencing probably dating to the construction	The property is one of the farms derived from the break-up of the original 'Avondale' estate in 1893. The hut was constructed in 1886 approximately 50 years after slab huts were commonly constructed and is located within the original Lot 9 of John Armstro	Wollongong LEP 1990	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
52 Fig 6 	Bridge - Linbrook	Avondale Road, Dapto Project Area	The bridge is located on the private access road leading to "Linbrook Homestead". It is constructed from undressed timber beams and supports. Original timber horizontal boards remain.	Associated with 'Linbrook' Homestead and dairy.	None	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
53 Fig 6 	Culvert	Avondale Road, Dapto Project Area	Culvert is situated near the entrance gate of a private property. It is constructed from concrete and stone pieces and features a State Survey Marker (91744 NSW) set on a metal plate adjacent.	Unknown	None	Local NO	HLA 2006; AMBS 2010	Potential Impact		Potential Impact	Archival recording prior to removal if to be impacted. Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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54 Fig 6 ◆	Dairy Buildings	Avondale Road, Dapto Project Area	Site comprises outbuildings associated with a former dairy, including milking sheds, holding yards, a concrete drainage area, and various structures.	Associations with the adjacent 'Moorland' Homestead.	None - recommended for inclusion on Wollongong LEP (1990) as part of the "Moorland" Homestead Curtilage.	Local NO	HLA 2006	No Impact		It is proposed that a Water pipeline will be constructed along Avondale road and north along the eastern boundary of the property. There are a series of outbuildings at the north-east corner of the site that may be impacted by construction. The construction along Avondale road will have no impact as the buildings are more than 25m from the boundary.	Inspection of the site is recommended in order to assess impacts. Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
55 Fig 6 ◆ ■	"Moorland" Homestead and Garden	Avondale Road, Dapto Project Area	The homestead is a late Victorian vernacular timber building, with a grey iron roof and bull nose verandahs on three sides, one side enclosed. Wrought iron lattice inserts feature on each verandah cornice. Gravel driveway is accessed from Avondale Road an	The site is originally part of Alfred Elyard's 600 acre estate "Avondale", granted in 1834. In 1893 Henry Osborne purchased the property and the Avondale estate was subdivided into lots the same year. The land sale map from 1893 indicates that a building	Wollongong LEP 1990	Local YES (97)	HLA 2006; AMBS 2010	Item within 50 m corridor	The site is shown on the 1929 Kiama sheet and is on the 1949 aerial image.	It is proposed that a Water pipeline will be constructed along Avondale road and north along the eastern boundary of the property. There are a series of outbuildings at the north-east corner of the site that may be impacted by construction. The construction along Avondale road will have no impact as the buildings are more than 25m from the boundary.	Inspection of the site is recommended in order to assess impacts. There is sufficient space to construct pipeline within road reserve without encroaching onto the property. Buildings are located approximately 80 metres from the pipeline. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
56 Fig 6 ◆ ■ ●	Fence - Corner	Corner Avondale and Cleveland Road, Dapto Project Area	A small section of early post and rail fencing remaining from a previous extensive property boundary.	Not available.	None	Local YES (p99)	HLA 2006	Within 25 m Road Easement		It is proposed that a Water pipeline will be constructed along South Avondale Road, which may require removal of the Fence Corner.	The site is not of historical significance and does not require heritage management There is sufficient space in the road reserve to construct the pipeline without removing this item. The need to implement mitigation measures against vibration impacts will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures
57 Fig 6 ●	Fencing - South Avondale Road	South Avondale Road, Dapto Project Area	An extensive section of early post and wire fencing located along South Avondale Road. The fencing is limited to the western side of the road. Each standing timber post (85cm high) has four intact drill holes. Original barbed wire and more recent wire str	Typically the post and rail fence is recorded as the oldest style of fencing in common use in Australia until being replaced by the more cost effective wire fence from the 1850s and 1860s (Pickard 1998).	None	Local NO	HLA 2006	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
58 Fig 6 ●	House	South Avondale Road, Dapto Project Area	Site consists of a c.1930s house, paddock, and modern sheds. The house is a c.1930s Californian Bungalow constructed in weatherboard and brick. A modern fibro lean-to has been added to the western elevation of the house.	There are no historical details available for this site.	None	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
59 Fig 6 ◆ ■ ●	Stockyard - Huntley Road	Huntley Road, Dapto Concept Area	An example of a timber stockyard, including remnant fencing and a loading ramp located amongst a regenerated area of Eucalypts. The post and rail fencing has been constructed from bush timber.	The stockyard is representative of sites of this type associated with dairying throughout West Dapto.	None	Local YES (p100)	HLA 2006	Within 25 m Road Easement	Not of heritage significance.	Potential Impact	Not of heritage significance and no further heritage consideration required if to be impacted. There is sufficient space in the road reserve to construct the pipeline without removing this item. The need to implement mitigation measures against vibration impacts (see p159 of EA) will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures
60 Fig 9 ●	Fencing - Marshall Mount Road	Marshall Mount Road, Marshall Mount Project Area	An extensive section of early remnant post and rail fencing located along the private entrance drive of a modern residence (c.1980s) fronting Marshall Mount Road. The fencing is limited to the eastern side of the drive and extends for approximately 15m.	Typically the post and rail fence is recorded as the oldest style of fencing in common use in Australia until being replaced by the more cost-effective wire fence from the 1850s and 1860s (Pickard 1998). The fence predates the modern residence.	None	Local NO	HLA 2006; AMBS 2010	No Impact	HLA co-ordinates appear to be incorrect.	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
61a Fig 9 ◆ ■ ●	One Lane Bridge' - Marshall Mount Road	Marshall Mount Road, Marshall Mount Concept Area	A small concrete bridge (c.1920-30s) is located on Marshall Mount Road crossing Duck Creek. The bridge is constructed from concrete supports and base with steel railings supported by four concrete pillars. The original bridge surface was concrete and is n	The bridge is an example of the use of reinforced concrete and steel which rapidly superseded the use of timber at the end of World War 1. The bridge most likely replaced an earlier less stable timber bridge.	None	Local YES (p123)	HLA 2006	Item within 50 m corridor	The bridge is noted as being on the 1929 Kiama inch to a mile map. It crosses a tributary of Duck Creek	A water pipeline is to be constructed along Marshall Mount Road. The impact depends on how the pipeline is to cross the Creek if it crosses on a separate structure no impact (visual curtilage is not of significance). If it crosses on by bolting it to the bridge then the impact on this item will be minimal and not further work will be required	No mitigation required. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures
61b Fig 9 ◆ ■ ●	One Lane Bridge' - Marshall Mount Road	Marshall Mount Road, Marshall Mount Concept Area	Two modern concrete bridges.		None	Local YES (p123)	AMBS 2010	Item within 50 m corridor	Misidentification of HLA item 61a	A water pipeline is to be constructed along Marshall Mount Road. The impact depends on how the pipeline is to cross the Creek if it crosses on a separate structure no impact (visual curtilage is not of significance). If it crosses on by bolting it to the bridge then the impact on this item will be minimal and not further work will be required	Not of heritage significance and no further heritage consideration required if to be impacted. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures
62 Fig 9 ■ No change	Marshall Mount Public School and Residence	Marshall Mount Road, Dapto Concept Area	The schoolhouse is a single storey weatherboard building with a corrugated iron gable roof. A small lean-to with a skillion roof is situated on the western elevation. The building is accessed by two entrances, from the front and western elevation. Windows	The schoolhouse and residence were constructed in 1897 on the site of the first Methodist church in the region.	Wollongong LEP 1990	Local YES (p124)	HLA 2006; AMBS 2010	Within 25 m Road Easement		Water pipeline is planned to be constructed along Marshall Mount Road. Construction work may impact on both heritage items as they are within 10m of the property boundary on Marshall Mount Road	Avoid impacting or archaeological monitoring. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.











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AECOM Report	●	No impact	○	Not within Study Area	■	Potential indirect impacts	▲	Direct impact	◆	Potential impact
EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				




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63 Fig 9  No change	Marshall Mount Community Hall	Marshall Mount Road, Dapto Concept Area	Located adjacent to Marshall Mount Public School and Schoolmaster's Residence. A rectangular, single storey, corrugated iron clad shed elevated on timber and brick foundations. The roof is a gable constructed from a timber frame and corrugated iron sheet	Constructed in 1953 for use as a community hall for the small community of farmers and their families residing on the properties at Marshall Mount. It continues to serve as a function centre and holds regular dance nights.	None	Local YES (p125)	HLA 2006	Within 25 m Road Easement		Water pipeline is planned to be constructed along Marshall Mount Road. Construction work may impact on both heritage items as they are within 10m of the property boundary on Marshall Mount Road	Unlikely to be archaeological relics. No recommendations required. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
64 Fig 9  No change	"Marshall Mount" Homestead, Garden and Outbuildings	Marshall Mount Road, Dapto Concept Area	Colonial style homestead constructed in two parts of rendered brickwork and weatherboard. The single storey was built c.1838; the two-storey adjoining wing was erected during the 1840s and features a hall and cedar staircase. Other internal features of no	In 1829 Irish immigrants Sarah and Henry Osborne were granted 2560 acres named "Marshall Mount" after Sarah's maiden name. The Osbornes first resided in a modest house called "Pumpkin Cottage" but later recruited labour to establish "Marshall Mount House"	Register of the National Estate; National Trust Register; Wollongong LEP 1990	National YES (p101)	HLA 2006; AMBS 2010	Within 25 m Road Easement		Water pipeline is planned to be constructed along Marshall Mount Road. If constructed along the south-east side of Marshall Mount Road there is the possibility of direct construction impacts on the gardens and one outbuilding.	Given the heritage significance of the buildings and gardens at "Marshall Mount" Homestead, Garden and Outbuildings, it is strongly recommended that the water pipeline be rerouted to avoid impact on these items. No direct impacts to the Homestead or Outbuildings are acceptable. It is recommended that impacts to the Garden be avoided, however, this may be difficult to achieve given the terrain at this location. It is also difficult to see how constructing a pipeline through the garden could be achieved without significant damage to the gardens. If it is necessary to put the pipeline through the garden it is recommended an aborist be consulted regarding the best way to proceed. There is sufficient space in the road reserve to construct the pipeline without directly impacting this item. Vibration impacts to Marshall Mount House and Outbuildings is anticipated, dependant on the final alignment. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
65 Fig 9  No change	Homestead and Former Dairy (Willow Dean)	Marshall Mount Road, Dapto Concept Area	Site comprises a homestead, modern horse stables, track and outbuildings associated with a former dairy. The homestead is an extensive single storey L shaped building constructed c.1930s-1940s of weatherboard. A concrete verandah features on the front and eastern sides. The exterior has had extensive renovations – the current cladding, roof and window shutters are modern. Elements of the dairy have been extensively modified for use in horse training.	Unknown	None	Local YES (p126)	HLA 2006; AMBS 2010	No Impact	No impact	Water pipeline and Wastewater pipeline are planned to be constructed along Marshall Mount Road. A second Wastewater pipeline is to be constructed on the southern side of Duck Creek. There will be no impact on the homestead and dairy from either of these constructions as the buildings are approximately 379m away.	No Impact No mitigation measures are required for this item.

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AECOM Report		No impact		Not within Study Area		Potential indirect impacts		Direct impact		Potential impact
EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
66, 67 Fig 9 	Homestead and Dairy (Willow Vale)	Marshall Mount Road, Dapto Concept Area	Site comprises modern homestead, original homestead, and outbuildings associated with a former dairy. The original homestead is not in use and is deteriorating. It was constructed in three phases; the timber rear section comprised a one-room cottage const	Unknown	None	Local YES (p127)	HLA 2006; AMBS 2010	Within 25 m Road Easement	A building is visible in this location on the 1929 Kiama map. The 1949 aerial image shows a cluster of farm buildings on Duck Creek and away from the road so the two new houses built nearer the road must be more recent.	Water pipeline is planned to be constructed along Marshal Mount Road. A second Wastewater pipeline is planned on the southern side of Duck Creek and runs about 10m north of Marshall Mount Road but with two feeders running into it. The works near Marshall Mount road will have no heritage impact. The most northern feeder will be about 20m from the site of the oldest buildings and construction will probably not impact on them. The southern feeder runs between the newest house and the house in the middle and construction will have a minor impact on areas that are likely to have contributory heritage significance only	A review of the design in detail would help in siting the feeder Wastewater pipeline so as to minimise construction impacts in this area. Avoid original homestead site or archaeological excavation. The wastewater pipelines have been altered and no longer pass through the building complex. The pipeline terminates about 70 metres from the buildings. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
68 Fig 9 	Homestead and Dairy (Fairview)	Marshall Mount Road, Dapto Concept Area	The homestead is a square shaped, single storey weatherboard building with a corrugated iron hipped roof and wrap-around verandah. The eastern elevation of the verandah was enclosed with fibro as a 'sleep out' during the 1940s. Externally, the house retains many original features.	The homestead dates to c.1910 with the addition of a 'sleep cut' during the 1940s. Formerly used as a poultry farm (pre-1940), the various sheds and outbuildings date to the establishment of the homestead, however, have been modified throughout the 20th c	None	Local YES (p128)	HLA 2006	Item within 50 m corridor		A water pipeline is planned to be constructed along Marshal Mount Road. It is 85 m from the boundary on Marshal Mount Road to the nearest item of heritage significance (the Homestead and Garden) so these works will not be impacted by the water pipeline. Wastewater pipelines are proposed to be constructed in front of the house and between the dairy and the feed shed. It is likely that there will be direct and vibration impacts from the construction of these two pipelines.	Given the heritage significance of the buildings and dairy buildings, it is recommended that the wastewater pipelines be carefully routed to avoid impact on these items. If this is not possible it is recommended that the items, within the broader context of the complex, be archivally recorded prior to demolition, that archaeological monitoring be undertaken during construction. The impact of vibration to the structures will also require management if they are still extant during construction. The pipeline alignments have been amended to remove the wastewater pipeline from in front of the house. This has eliminated the potential for any direct impacts. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
69 Fig 9  No change	Moreton Bay Fig and Coral Tree	Marshall Mount Road, Dapto Concept Area	One Moreton Bay Fig (<i>Ficus macrophylla</i> var <i>hillii</i>) and Coral Tree situated in a cleared paddock. The specimens are parallel to modern fencing.	The Moreton Bay Fig is typical of many early plantings introduced throughout the West Dapto region used for ornamental purposes and as windbreaks to protect nearby homesteads and associated buildings.	None	Local YES (p129)	HLA 2006	Within 25 m Road Easement	No Impact	Water pipeline and Wastewater pipeline are planned to be constructed along Marshal Mount Road. The will be no impact on these trees as they are 50m from the boundary of Marshal Mount Road.	No mitigation measures are required for this item.

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70 Fig 9 ●	House	Marshall Mount Road, Dapto Concept Area	Single storey homestead with wrap-around verandahs.	Unspecified	None	Local NO	HLA 2006	Potential Impact	No Impact	Water pipeline and Wastewater pipeline are planned to be constructed along Marshal Mount Road. A second Wastewater pipeline is to be constructed on the southern side of Duck Creek. The will be no impact on the homestead and dairy from either of these constructions as the buildings are approximately 379m away.	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
71 Fig 9 ●	Dairy	Marshall Mount Road, Dapto Concept Area	Small dairy complex including sheds and silo.	Unspecified	None	Local NO	HLA 2006	Potential Impact	Potential Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
72 Fig 9 ◆ ■ ●	Culvert	Marshall Mount Road, Dapto Concept Area	The culvert is situated on the driveway of a c.1960s residence. It is constructed from concrete and features stones set into the cement.	Unknown	None	Local YES (p130)	HLA 2006; AMBS 2010	Within 25 m Road Easement	It is not clear why this is considered to be of heritage significance.	Water pipeline is planned to be constructed along Marshal Mount Road and if constructed on the northern side of Marshall Mount Road the culvert will be destroyed	The best option for construction is for the route to be located along the southern side of Marshall Mount Road. It would be possible to construct the pipelines along the northern side of Marshall Mount Road. In this case mitigation measures for vibration (as per p 159 of the EA) would most likely be required. Sydney Water's Program Leader (Heritage) has since advised that the nature of this particular item is minor enough that mitigation measures would not be required.
73, 74 Fig 6 ◆ ●	"Penrose" Homestead, garden and dairy	Princes Highway, Yallah Concept Area	Original Colonial Georgian style homestead. It is a symmetrical, single storey building with hipped roof and verandah on three elevations. Two room attic, including projecting attic windows. Roof is tiled in slate and the original brickwork is face sandstone	The homestead lies within the original grant of Evan Robert Evans, who purchased the land in 1847. Evans was a prominent landowner within the existing area of Yallah and traded cattle in conjunction with Henry Osborne. The homestead was constructed by a stonemason named William James in 1852 from sandstone bricks made on the property. Evans' descendents resided on the property until 1973.	Register of the National Estate; National Trust Register; Wollongong LEP 1990	National YES (p131)	HLA 2006; AMBS 2010	Item within 50 m corridor	Penrose consists of a main house with external kitchen and related buildings. To the west of the core group of buildings is a large modern brick shed. To the south are some horse pens?. To the north along the drive in from the Princess Highway are a series of dairy and feed buildings.	A Wastewater pipeline is planned to run on a east-west axis immediately south of the main house (it actually looks like it may go through it but this may be a drafting matter). There are potentially construction impacts from the Wastewater pipeline	Route pipeline 50 m from house or undertake archaeological monitoring during construction. The wastewater pipeline has been altered so that it no longer impacts this item.
75 Fig 9 ●	House	Yallah Road, Yallah Concept Area	Site comprises a small, single storey fibro clad cottage (c.1940s) on brick foundations. The roof is hipped, constructed from corrugated iron, with a verandah projecting on the front elevation. The cottage has a small garden of shrubs, coral trees, and eucalyptus	There are no known historical details about this site.	None	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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76 Fig 3 ◆ ■	Kembla Grange War Cemetery	Reddalls Road, Dapto Project Area	War cemetery located on a small, square corner block on a curve of Reddalls Road. Two rows of engraved white marble headstones are positioned at the rear of the block. There are eight headstones in the back row, and four at the front. A concrete path extends to the boundary fence.	The graves mark the resting place of eleven members of the Royal Australian Army, and one Royal Australian Navy personnel from the local community. The site includes four members of the Royal Australian Army who were killed in battle in 1943.	Wollongong LEP 1990	Local YES (p103)	HLA 2006; AMBS 2010	Within 25 m Road Easement		The major concern is whether construction on either side of the road will impact on known or unknown burials. In the case of the Kembla Grange War Cemetery it seems unlikely that there are any other graves apart from the 12 clearly marked. This is because the cemetery is a specific purpose cemetery which has been well maintained	Because of the heritage significance of the site, first management option is to avoid the impact by ensuring the pipeline does not impact on the fenced property boundary, although it is recognised that this may not be possible. It is recommended graves themselves, which are located 14 m in from the boundary fence, be avoided. If rerouting is not an option then it is recommended that Sydney Water undertake a program of specific community consultation with the RSL and descendants of those buried in the Cemetery in order that the community has the opportunity to understand the proposed works and comment on them to ensure that the War Cemetery is treated with appropriate respect. There is sufficient space to locate the pipeline outside the cemetery fence. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
77 Fig 6 ●	Scarred Tree	Tag #72132, Marshall Mount Road Concept Area	Mature White Box Eucalypt positioned in the northern section of the property, one of the northernmost trees in the vegetated area to the west of the transmission line corridor. A marking of 'P.M' is heavily etched into the timber, located on the northern	The tree is noted by a botanist as being dated at approximately 180 years old.	None	Local NO	HLA 2006	No Impact	No impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
78 Fig 4 ●	Hayshed, Loading Ramp and Fencing	Bong Bong Road Concept Area	Site comprises an early twentieth century hayshed, loading ramp, and timber fencing. The hayshed is a single storey, two-room structure comprising a pitched roof with lean-to addition. Brickwork is constructed in a combination of English and Colonial bond	There is no historical information available for this site.	None	Local NO	HLA 2006	No Impact	No impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
79 Fig 4 ●	Cottage, Coral Vale Group	Smith's Lane Project Area	An intact 1923 weatherboard cottage located to the west of the homestead fronting Smith's Lane, constructed by the Smith family. Vegetation surrounding the cottage includes a mature conifer and overgrown lantanas screening the site from Smith's Lane.	"Coral Vale" is situated on the original grant of William Fry c.1832. The property developed as a dairy farm and by the late nineteenth century had been expanded to include several lots totalling 200 acres. The Smith family of 'Spring Hill' acquired the p	None	Local NO	HLA 2006	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
80 Fig 9 ●	Cottage and Dairy Buildings	Tag #79704 / #79705, North Marshall Mount Road Concept Area	The site comprises a c.1920s timber weatherboard cottage, garage, silo, and associated dairy outbuildings. The cottage features a hipped roof with projecting gable and bull-nose verandah. Two concrete silos are joined by corrugated iron sheeting.	Unknown	None	Local NO	HLA 2006	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
81 Fig 4 ●	Former Entrance Gates to Reed Park	Bong Bong Road Project Area	Four stone pillars constructed on concrete bases align the former formal entrance to Reed Park. Inner pillars are approximately 18 stone bricks high and have decorative cappings. The eastern pillar has however been damaged and is missing its upper portion	Reed Park lies on land originally part of the "Horsley Estate". During the 1890s, the Illawara Harbour and Land Corporation was responsible for establishing a railway to the coal mine in the escarpment which ran through the Reed Park property.	None	Local NO	HLA 2006; AMBS 2010	No Impact		No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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82 Fig 4 ◆ ■	House and Dairy Buildings	Private Road, Jersey Farm Road Project Area	The site comprises a c.1930s fibro clad cottage, silo, holding pens, and associated outbuildings. The cottage features a gable roof with projecting verandah. Three mature palm trees are located on the property.	Unknown	None	Local YES (p106)	HLA 2006	Item within 50 m corridor	This is really two sites- a house on the eastern side of Jersey Farm Road and an extensive dairy complex about 200m further south on Jersey Farm Road overlooking Robbins Creek	A wastewater pipeline is proposed to be constructed along the north bank of Robbins Creek and it is likely that the construction of this pipeline will impact on the southern end of the dairy complex. The removal of elements of the complex will impact on the overall significance of the site through the removal of physical evidence of the development of the complex as a whole.	Archival recording prior to removal if to be impacted. The wastewater pipeline has been altered and no longer impacts the buildings. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
83 Fig 12 ●	Albion Park Anglican and Roman Catholic Cemeteries	Part of Lot 2, DP 227785, Part of Lot 301, DP 1041577 AND Part Lot 37, DP 111172; 253 Tongarra Road, Albion Park Concept Area	Not provided	Not provided	Wollongong LEP 2009; National Trust	Local NO	AMBS 2010	No Impact	No impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
84 Fig 12 ■ No change	Albion Park Council Chambers	Pt 27, DP 111172; 127 Tongarra Road, Albion Park Concept Area	The original Council Chambers is a weatherboard building in Neo-Gothic style. The roof line has a steeply pitched intersecting gabled roof of corrugated iron, which is still visible behind the post-WWII 'Moderne' style brick addition to the facade. The addition has a central door, flanked by windows on either side. The facade also includes a clock and the Council crest.	The opening of the Albion Park Railway station in 1891 saw a shift in the business focus of the area and as a result the Shellharbour Municipal Council moved to the Tongarra Road site in 1896. The Council met for the first time in the building on 23 December 1897. The 'Moderne' style brick office was added to the front of the building in 1952. Council no longer occupies the building.	None	Local YES (p132)	Hynd 2005; AMBS 2010	Within 25m road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
85 Fig 12 ■ No change	Albion Park Courthouse	Lot 64, DP 781264; 94-96 Tongarra Road, Albion Park Concept Area	The Albion Park Courthouse has an 'L' shaped footprint and is constructed of red brick in the Federation style. Hynd (2004:15) describes it as having a terracotta tiled transverse 'Dutch' gable roof. Detailing includes exposed rafter in eaves overhang, roughcast stucco on chimneys and under eaves to contrast face red brick walls, a centred arched doorway, and gable end roof ventilators." A separate "pavilion" stands to the side and is connected to the original structure via an entrance and walkway.	The first Court of Petty Sessions was held on 21 December 1894 in the house of John Russell at 100 Tongarra Road. The Court House was opened in 1908, having been designed by Walter Liberty Vernon and built by Dulwich Hill builder Frederick Lemm. The first magistrate was S. Alexander and Gabriel Timbs as Baliff.	LEP	Local YES (p133)	AMBS 2010	Within 25m road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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86 Fig 12 No change	Albion Park Post Office	133 Tongarra Road, Albion Park Concept Area	The Post Office is a corrugated iron building with a high pitched roof and an unsymmetrical gabled entrance. The building is set on a foundation of red bricks.	The first Post Office operated from Robert Popple's store and commenced in 1861. James Grey took over the Post Office functions in 1863, but it remained within the store. In 1874 Albion Park Public School teacher John Wilson became the post master. Wilson partitioned a small area off one of the class rooms for the operation of the Post Office. The current Post Office opened on 10 July 1895, the Government having purchased the land five years previously. The first Postmistress was Mrs Rosie Long. In 1913 William Harris became the Postmaster and remained as such until his death in 1926. The Harris family continued their association with the Post Office by working in it or as contractors to carry the mail between the Post Office and the Railway Station (Hynd 2004:16).	None	Local YES (p134)	Hynd 2005; AMBS 2010	Within 25m road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
87 Not on map 	Albion Park Railway precinct, including the station, forecourts, residence and surroundings	Part of Lot 2, DP 1055593, Station Residence, Lot 1, DP 1055593 and State Rail Authority property fronting Station Road, 205 Princes Highway, Albion Park Rail Concept Area	Not provided	Not provided	SHR, LEP, RNE, Railcorp s170	Local NO	AMBS 2010	No Impact	No impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
88 Fig 12 No change	Albion Park School and former school residence	Lot 1, DP 782244, Tongarra Road, Albion Park Concept Area	Not provided	Not provided	LEP	Local YES (p135)	AMBS 2010	Within 25 m Road Easement		It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
89 Fig 12 	Albion Park Showground	Lot 1000, DP 813443; Tongarra Road, Albion Park Concept Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
90 Fig 12 	All Saints Anglican Church	Part of Lot 2, DP 227785, 253 Tongarra Road, Albion Park Concept Area	Not provided	Not provided	LEP; National Trust	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

Key for Impact Assessment (Column 1):

AECOM Report		No impact		Not within Study Area		Potential indirect impacts		Direct impact		Potential impact
EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
91 Not mapped 	Berkeley Pioneer Cemetery	Lot 1, DP 195869; Investigator Drive, Unanderra Concept Area	Not provided	Not provided	LEP; National Trust	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
92 Not mapped 	Berkeley Reservoir	End of Jarvie Road, Berkeley Outside Proposal Area	Not provided	Not provided	Sydney Water s170	Local NO	AMBS 2010	Requires further investigation.	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
93 Not mapped 	Boles Meadows	Lot 1001, DP 813443, 2105 Illawara Highway, Albion Park Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
94 Not mapped 	Bong Bong Pass	End of Bong Bong Road, Huntley Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
95 Not mapped 	Brick Building	Behind Swanvale, Yellow Rock Road, Tullimbar Outside Proposal Area	Not provided	Not provided		Local NO	Navin Officer 2004; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
96 Not mapped 	Brownsville Cemetery, large fig trees and Bunya Pine	Lot 18, DP 1023004, and Lot 1, DP 414418; 33-37 Prince Edward Drive, Brownsville Outside Proposal Area	Not provided	Not provided	LEP; National Trust	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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AECOM Report	●	No impact	○	Not within Study Area	■	Potential indirect impacts	▲	Direct impact	◆	Potential impact
EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				

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97 Not mapped 	Brownsville HCA	Hore Street, Prince Edward Drive and Brownsville Avenue Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
98 Fig 12 	Brushgrove	Lot 6, DP 259137, 248 North Macquarie Road, North Macquarie Concept Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	Requires further investigation.	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
99 Fig 5 	Bunya Pine	93-97 Princes Highway, Dapto Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
100 Fig 5 	Bunya Pine	Uniting Church, 126-128 Princes Highway, Dapto Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
101 Not mapped 	Cabbage Tree Palms Farmhouse	Avondale Road Outside Proposal Area	Not provided	Not provided		NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
102 Not mapped 	Church Hall former Episcopal Church of St Luke	Lot 18, DP 1023004; 35-37 Prince Edward Drive, Brownsville Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
103 Location Unknown 	Convict Iron Ring	Property on Marshall Mount Road, Mt Throsby Outside Proposal Area	Not provided	Not provided		Local NO	HLA 2004; AMBS 2010	Requires further investigation.	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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104 Fig 12 ●	Crestview	Part Lot 11, Part Lot 12, 87 Terry Street, Albion Park Concept Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
105 Fig 5 ●	Crystal Clothing Factory	14-16 Marshall Street, Dapto Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
106 Fig 5 ●	Dapto Hotel	102-110 Princes Highway, Dapto Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
107 Fig 5 ●	Dapto House 'Daisy Bank'	262-268 Princes Highway, Dapto Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
108 Fig 10 ●	Duck Creek Bridge	Princes Highway, Mt Brown Project Area	Not provided	Not provided	RTA s170	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
109 Fig 5 ●	Fairley's Building	1-11 Bong Bong Road, Dapto Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
110 Not Mapped ●	Fitzgerald's House	Marshall Mount	Not provided	Not provided		Local NO	HLA 2004; AMBS 2010	Requires further investigation.	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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111 Not Mapped ●	Ford (prior to bridge construction)	Mullet Creek, Brownsville Project Area	Not provided	Not provided		Local NO	HLA 2004; AMBS 2010	Requires further investigation.	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
112 Not Mapped ○	Former Albion Park Dairy Co-op building	Part of Lot 2, DP 1055593 and State Rail Authority land fronting Creamery Road, Albion Park Road Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	Off maps	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
113 Fig 6 ●	Former Avondale Public School	Cleveland Road, Cleveland Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
114 Not Mapped ○	Former 'Berkeley House' site	Lot 401, DP 845805, and Lot 210, DP 811435; 23 Glastonbury Avenue and 191-195 Five Islands Road, Berkeley Outside Proposal Area	Not provided	Not provided		Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
115 Not mapped ○	Former Dapto Smelter	Lot 415, DP 1060164, Kanahooka Road, Kanahooka Outside Proposal Area	Not provided	Not provided	LEP; RNE; National Trust	Local NO	AMBS 2010	No Impact	No impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
116 Fig 12 ■ No change	Former ES & A Bank Building	Lot 4, DP 703238, 148 Tongarra Road, Albion Park Concept Area	Hynd (2004:13) describes the Bank as being "largely intact and is a precious and rare example of 19th century commercial architecture in the area." The building is of rendered local blocks and has a transverse gabled roof of corrugated steel. The gable is decorated with a finial and the roof line is punctuated by multiple moulded chimneys.	With the construction of the railway line to Albion Park and the subsequent decline in shipping caused the English, Scottish and Australian Bank to relocate from Shellharbour to Albion Park. The Bank operated from leased premises from its relocation in 1884, originally as an agency and then as a branch from 1890. The building was extended in 1896 to provide a residence for a married manager.	LEP	Local YES (p136)	AMBS 2010	No Impact	This building is virtually on the boundary of Tongarra Road.	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
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117 Not mapped 	Former Illawara Lake Hotel	Lot B, DP 349026; 11 Prince Edward Drive, Brownsville Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
118 Not mapped 	Former Post Office	Part Lot 160, DP 751278; Harry Graham Drive, Kembla Heights Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact		Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
119 Fig 12 	Former Presbyterian manse	Lot 1, DP 574775, 42 Macquarie Street, Albion Park Concept Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
120 Fig 3 	Former Unanderra Council Chambers	Lot 1, DP 860110; corner of Princes Highway and Factory Street Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
121 Not mapped 	General Cemetery	Lot 7007, DP 1029735; 61 Croome Road, Albion Park Rail Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
122 Not mapped 	Goldena Cottage	Unknown Location Outside Proposal Area	Not provided	Not provided		Local NO	HLA 2004; AMBS 2010	Requires further investigation.	Location unknown	This item could not be identified.	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
123 Fig 11 	Green Valleys	Lot 1, DP 194661, 2744 Illawara Highway, Tongarra Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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EA Report		No impact		Indirect impacts		Direct impact				
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124 Fig 12 No change	Harris' Garage	114 Tongarra Road, Albion Park Concept Area	Harris' Garage is a bessa block style building with flat roof and a tiered facade. The left side of the facade is dominated by large horizontal roller doors to allow car access, with the right side has a door flanked by windows.	William G Harris, son of the Post Master, ran a motor for hire business from the Post Office after he purchased a 'Hupmobile' in around 1918. Following on from the success of his business, he purchased two blocks of land across the road from the Post Office and built a garage for the car. He subsequently expanded and began doing repair work on other people's cars and selling petrol. The Garage became a family business, with William's two sons apprenticed to the Garage between 1945 and 1950. A further expansion of the business was a bus service to the Tongarra Coal Mine. In 2003, WG Harris and Sons Pty Ltd celebrated 80 years of continual service to the town of Albion Park, at the original site and still from the original building (Hynd 2004:35).		Local YES (p137)	Hynd 2005; AMBS 2010	Within 25 m Road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
125 Fig 4 	Heriot Hill	Shone Ave Wongawilli Project Area	Not provided	Not provided	City of Wollongong Heritage Study	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
126 Fig 5 	House, 10 Marshall Street	10 Marshall Street, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
127 Fig 5 	House, 13 Marshall Street	13 Marshall Street, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
128 Not Mapped 	House, 206 Princes Highway	206 Princes Highway, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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129 Not Mapped 	House, 214 Princes Highway	214 Princes Highway, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
130 Not Mapped 	House, 222 Princes Highway	222 Princes Highway, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
131 Fig 12 No change	House, 100 Tongarra Road	100 Tongarra Road, Albion Park Concept Area	A weatherboard cottage with a steep pitched roof and a broken back wrap around verandah. The two side verandah have been unsympathetically enclosed. The windows have been replaced with aluminium and there has been the introduction of some unsympathetic materials.	This house held the first Court of Petty Sessions to be run in Albion Park in 1894. The house was then owned by John Russell. From around 1911 until 1916, when the Russell estate was subdivided following his death, the house and Blacksmith shop were leased by Oliver Wilson. Wilson continued to lease the property from Mrs. Sarah McGill. Hynd (2004:9) reported in 2004 that members of the Wilson family still occupied the home.	None	Local YES (p138)	Hynd 2005; AMBS 2010	Within 25 m Road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
132 Fig 12 No change	House, 102 Tongarra Road	102 Tongarra Road, Albion Park Concept Area	The House is of weatherboard construction in a transitional Federation bungalow style. It has an asymmetrical L shaped facade and a corrugated iron gabled roof.	The land was part of the Russell Estate subdivision and was purchased by the Hazelton family, who were well-known within the local community as store operators. The Hazelton store was originally located in the driveway of the property, but was later moved to Horsley and a new store was constructed across the road from the House.	None	Local YES (p139)	Hynd 2005; AMBS 2010	Within 25 m Road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
133 Fig 12 No change	House, 111 Tongarra Road	111 Tongarra Road, Albion Park Concept Area	The house is of dressed stone blocks and is now painted. It is symmetrical and in a Georgian style, a central door flanked by a window on each side and with a hipped roof. The front verandah is detached and also hipped.	The House was built in 1880 by pioneer Gabriel Timbs. It passed onto the Sawtell, Crow and King families (Hynd 2004:11).	None	Local YES (p140)	Hynd 2005; AMBS 2010	Within 25 m Road Easement	Potential Impact	It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
134 Fig 9 	House, Yallah	Lot 1, DP 156657; next to "The Woolshed", Princes Highway, Yallah Concept Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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135 Not mapped 	Huntley Colliery	Lot 26 and 27, DP 3083; Off Avondale Colliery Road, Huntley Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
136 Not mapped 	Illawara Escarpment	NA Outside Proposal Area	Not provided	Not provided	LEP; RNE; National Trust	Local NO	AMBS 2010	No Impact	No impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
137 Fig 9 	Landscape Items	Lot 3, 4, and 61, Marshall Mount Road Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	Requires further investigation.	No impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
138 Fig 9 No change	Logbridge Farm' House	Marshall Mount Road, Marshall Mount Concept Area	Logbridge Farm could not be located during Field Survey. There is no physical evidence of the former farm and its exact location is unclear.	Logbridge Farm was the name given to a farm run by the YMCA for the purpose of conducting child development camps. It used buildings, described as cottage, barn, hall and workshop on what is now the Yallah TAFE site. When TAFE proposed to occupy the area and demolish the buildings due to their unsafe condition there was considerable protest resulting in a statement to Parliament on 24th September 1996. It seems that the buildings were demolished shortly after. There is a building shown in this location in the 1929 Kiama map and is shown on the 1949 aerial image. 'Logbridge Farm' is located on the current Albion Park 1:25,000 map which dates from 1986 and presumably is the source of the AMBS listing.	LEP 1990 Wollongong	Local YES (p140)	AMBS 2010	Within 25 m Road Easement		There is however no physical evidence on the site and there is low archaeological potential as the site of the buildings has been converted into a field for training in green keeping and turf culture which would have required site levelling and construction of the turf areas.	Cease works and consult an archaeologist if relics are uncovered. No mitigation measures are required for this item.
139 Fig 12 	L.R. Mood Park	Lot A and B, DP 156241; corner of Tongarra Road and Illawara Highway, Albion Park Concept Area	L.R Mood Park comprises a playground, maintained gardens, and it contains one of a series of heritage plaques that comprise the Albion Park Heritage Walk, and which were researched and designed by the Tongarra Heritage Society as part of the Albion Park Federation Walk, which was funded by the Centenary of Federation 1901-2001 Project. There is also a war memorial present to honour those from the district who served in WW2.	L.R Mood Park was originally the site of 'The Commercial Hotel', which was built by James Condon in 1885. William Rafferty bought the hotel and approximately 10 years later it was taken over by his son John. The Commercial Hotel hosted several official functions, including a banquet for the opening of Macquarie Pass in 1898. L.R. Mood Park was purchased by Shellharbour Council in 1969.		Local YES (p142)	Hynd 2005; AMBS 2010	Within 25 m Road Easement		It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item. If the pipeline is constructed within the bounds of the Park there is the potential to impact on archaeological remains of the Commercial Hotel.	Archaeological monitoring for relics associated with the Commercial Hotel if the curtilage is to be impacted. This recommendation is not required if the services are placed in the footpath. The pipeline is to be constructed in the road reserve and won't encroach on the L.R.Mood Park or impact the heritage commemorative plaque. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.

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140 Fig 12 ▲ No change	Marks Villa	Pt 1, DP 70380; 58 Tongarra Road, Albion Park Concept Area	The homesteads of Wanalama 1 (also known as Marks Villa) and Wanalama 2 were relocated to their current sites during the construction of the Albion Park airfield during World War II. There is a third homestead of more recent date and a number of rural buildings. The most significant element of the group is Wanalama 1 (Marks Villa), located to the rear of neighbouring Ravensthorpe. It is the oldest building on the site; the internal joinery is consistent with a construction date of c1880 or earlier. However, the house has been much changed, with chimneys and footings dating from the 1940s, reconfigured verandah roofing, enclosed verandahs and many recent additions.	Not provided	Shellharbour LEP	Local YES (p143)	Hynd 2005; AMBS 2010		The site also includes a large dairy and cooler and a large feedlot complex with a fodder silo	It is proposed to construct a Water pipeline running roughly north from Tongarra Road. The pipeline is planned to run through Wanalama 2, the dairy complex and the separate feedlot complex destroying all these items.	Given the heritage significance of this property in particular its remaining evidence for dairying it is recommended that the water pipeline be relocated to avoid these features by at least 15m. If the outbuildings are to be demolished then they are of sufficient heritage significance to justify an archival recording Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. Refer to p158 of EA for specific mitigation measures for this item.
141 Fig 12 ● No change	Marshall Mount Methodist Cemetery	Lot 1, DP 195342, 283 Calderwood Road, Calderwood Concept Area	The Marshall Mount Methodist Cemetery is fenced with treated pine and is set back 6.3m from the property boundary fences on either side. Graves with headstones are set a further 70m back again within the property, behind a row of Hoop Pines. This cemetery is still in use and is well maintained. Entrance to the cemetery is via a red brick entrance arch.	The land for the cemetery was donated by Thomas Armstrong in the 1870s.	LEP; National Trust	Local YES (p145)	AMBS 2010	Within 25 m Road Easement	The cemetery is set back from the boundary on Calderwood Road. The boundary fence is 6.5m from the property boundary on Calderwood Road and the interments are located 58m from the property boundary	It is proposed to construct a Water pipeline along Calderwood Road no heritage impacts are envisaged.	Despite no heritage impacts being identified it is recommended that Sydney Water undertake specific consultation with the Methodist community to explain the project and to assure the community that there will be no heritage impacts on the Cemetery. No mitigation measures are required for this item.
142 Not mapped ○	Methodist Cemetery	Lots 55 and 56, Bangaroo Avenue, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
143 Not mapped ○	Military Bunker	Part Lot 4, DP 223746; Bright Parade, Mt Brown Reserve Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
144 Fig 12 ● No change	Moculbo (demolished)	Lot 144, DP 786419; 184-186 Tongarra Road, Albion Park Concept Area	Site now modern townhouses	Moculbo demolished in 2004		Local YES (p146)	Hynd 2005; AMBS 2010	Within 25 m Road Easement	No impact	Site has been removed by construction of townhouses	No archaeological potential Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

Key for Impact Assessment (Column 1):

AECOM Report	●	No impact	○	Not within Study Area	■	Potential indirect impacts	▲	Direct impact	◆	Potential impact
EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				

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145 Fig 7 ●	Mount Brown Reserve	Lot 4, DP 223746; Lot 12, DP 233464; Lot 109, DP 1050302 and Lot 22, DP 774118; Mount Brown Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
146 Not mapped ●	Newtown Park homestead and gardens	Lot 12, DP 829115, next to Kembla Grange Race Course, Kembla Grange Project Area	Not provided	Not provided	LEP; National Trust	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
147 Not mapped ○	Nudjia' House	83 Cumming Street, Unanderra Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
148 Fig 12 ◆ ●	Oak Farm	Lot 5, DP 259137; 337 North Macquarie Road, Calderwood Concept Area	Oak Farm is a brick house constructed on brick and rubble foundations, set into the hill slope. It has a hipped roof and a symmetrical facade, although the left side of the wrap around verandah has been enclosed. The windows have stone sills and there is a transom light above the front door.	Free settler Thomas Armstrong took up the land on which Oak Farm is built around 1870. His He remained there until his death in 1921. Armstrong was a Methodist lay preacher and from his grant of 209 acres he donated land for the Marshall Mount Methodist Church and Cemetery. Armstrong kept an open home for visiting Methodist ministers. There were also strong connections with the Thomas' of Oak Vale.		Local YES (p147)	Hynd 2005; AMBS 2010	Corridor passes through boundary		It is proposed to construct a Water pipeline along North Macquarie Road. The house at Oak Farm is located 22m from the property boundary so there is the possibility of construction impacts if the pipeline is located on the north western side of North Macquarie road. A Wastewater pipeline is proposed to run north east from the rear of the property near the remains of an old dairy and yards. It is possible that construction work may impact on the remains of the yards.	Impacts on the demolished yards (although not a given) is acceptable considering their low level of heritage significance. Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The pipeline route has been amended and no longer impacts the buildings.
149 Fig 12 ● No change	Oakvale	Lot 2, DP 608238; 317 Calderwood Road, Calderwood Concept Area	Oak Vale is a symmetrical Victorian weatherboard cottage. It has a hipped roof and bull-nose verandah. The house has been renovated and an extension added, although this is largely sympathetic.	Oak Vale was constructed for William and Jane Thomas in 1875, after they purchased 190 acres. Together with the Armstrong's of Oak Farm, the Thomas' had an open home for visiting Methodist ministers. William died in 1912 and his wife in 1924. Both are buried in the Marshal Mount Methodist Cemetery. Hynd (2004:49) reports that the Thomas' had a paddock of Lucerne that was harvested for 30 years without having to be re-sown. The property was primarily a dairy farm.		Local YES (p148)	Hynd 2005; AMBS 2010	Corridor passes through boundary	The relatively new looking buildings are 78m from Calderwood Road.	It is proposed to construct a Water pipeline along Calderwood Road no heritage impacts are envisaged.	No recommendations No mitigation measures are required for this item.

Key for Impact Assessment (Column 1):

AECOM Report	●	No impact	○	Not within Study Area	■	Potential indirect impacts	▲	Direct impact	◆	Potential impact
EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				

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150 Not Mapped 	Old Mullet Creek Bridge, Fencing and Ford	Mullet Creek, Brownsville Outside Proposal Area	Not provided	Not provided		Local NO	HLA 2004; AMBS 2010			Item could not be located.	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
151 Not Mapped 	Osborne Memorial Church of St Luke	Part Lot 18, DP 751263 and Lot 18, DP 1023004; 35-37 Prince Edward Drive, Brownsville Outside Proposal Area	Not provided	Not provided	LEP; RNE; National Trust	Local NO	AMBS 2010	No Impact		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
152 Fig 12 	Parkview	Lot 1, DP 194903; 340 North Macquarie Road, Calderwood Concept Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
153 Fig 12 	Pioneer Cemetery	Part Lot 32, DP 111172, Russell Street, Albion Park Concept Area	Not provided	Not provided	LEP; National Trust	Local NO	AMBS 2010	No Impact		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
154 Fig 12 No change	Ravensthorpe, including grounds and adjoining workers' cottages	Lots 91-93, DP 1069273; 52-56 Tongarra Road, Albion Park Concept Area	Located on the rise at the eastern entrance to Albion Park township is a property containing a substantial residence and two associated workers cottages. The single story residence is of substantial size and is an excellent example of late Victorian architecture (of which there are few examples in the Municipality). To the east of the main residence are two small timber cottages.	The land was originally part of the 'Waterloo' grant given to Andrew Allan. Ravensthorpe was built for local physician, Dr Bateman in 1893. Bateman had a surgery constructed to the east of the house. The Bateman family, including 11 children, lived in the house until his death in 1899. One of the Bateman's children, Mary, married John Raftery, owner of the Commercial Hotel. The couple purchased Ravensthorpe from the family in around 1921 (Hynd 2004:30).	LEP	Local YES (p148)	AMBS 2010	Within 25 m Road Easement		It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of vibration impacts occurring to this heritage item.	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
155 Not mapped 	Riversford	Lot 7, DP 259137; 2514 Illawarra Highway, Tullimbar Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	Off maps	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

Key for Impact Assessment (Column 1):

AECOM Report		No impact		Not within Study Area		Potential indirect impacts		Direct impact		Potential impact
EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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156 Not mapped 	Rondanella House	Lot 202, DP 1034062; 23 Rondanella Drive, Kanahooka, adjacent to Mullet Creek Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
157 Not Mapped 	Rosemont	Lot 71, DP 837462; 2725 Princes Highway, Dunmore Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
158 Not mapped 	Rosetta Hill	Lot 1, DP 883020; 55 Fields Drive, Albion Park Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
159 Not mapped 	Ruins of former Tullimbar School and Headmaster's Residence	Lot 1, DP 905581, 38 Tullimbar Lane, Tullimbar Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
160 Not mapped 	Sawmill	Princes Highway, opposite Fowlers Road, Dapto Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
161 Not mapped 	Slater Family House and Slater's Bridge	Lot 3, DP 786602; 118-120 Koona Street, Albion Park Rail Concept Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

Key for Impact Assessment (Column 1):

AECOM Report		No impact		Not within Study Area		Potential indirect impacts		Direct impact		Potential impact
EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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162 Figure 4 & 5 ●	Smelter Rail Route	Lots 1 and 3, DP 546902; former alignment behind properties fronting Thirroul Road, Edgeworth Street, and William Beach Road, extending between Kanahooka Road, Field Street, and Webb Park, Kanahooka Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No impact	No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
163 Fig 12 ●	St Andrew's Presbyterian Church	Part Lot 36, DP 111172, 250 Tongarra Road, Albion Park Concept Area	Not provided	Not provided	LEP; National Trust	Local NO	AMBS 2010	Within 25 m Road Easement		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
164 Not mapped ●	St Josephs Convent	8-12 Jerramatta Street, Dapto	Not provided	Not provided	RNE	Local NO	AMBS 2010	No Impact		No impact	No impact Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
165 Fig 12 ◆ ■ ●	Stapleton's Bridge over Frazer Creek	Tongarra Road, Albion Park Concept Area	Crossing a stream bed at the edge of a floodplain area, this widened bridge has one main span and cantilever endspans. Originally having three rows of continuous piers and beams, it has now been widened by one extra row on the southern side and two rows on the northern side, providing extra roadway and a northern footway. The beams haunch down to the piers and then up to the terminal cross girders. The new columns are slightly wider than the original columns, but otherwise the widening is very sympathetic. With shale outcropping, it is presumed that the bridge is founded on spread footings. The fill is stabilised by loose rock. At deck level, the widened bridge has New Jersey kerbs with aluminium rails, and an aluminium railing for the footway.	The present Stapleton's Bridge was built in 1929. It was one of more than 1,000 bridges constructed across the State by the Main Roads Board, later the DMR, during the period 1925-1940. The years following the end of World War Two brought massive industrial expansion to the Greater Wollongong area, and its population almost trebled between 1947 and 1971. As a result there was a huge increase in the volume and nature of vehicular traffic, making the development and improvement of roads and bridges a vital part of this process. Guardrails were installed on Stapleton's Bridge in 1986 and in 1989 maintenance was needed to repair end posts and badly spalled concrete in the cantilever section. The bridge was widened in 1991.	RTA s170	Local YES (p150)	AMBS 2010	Within 25 m Road Easement		It is proposed to construct a Water pipeline along Tongarra Road in this location. There is the possibility of construction impacts occurring to this heritage item.	Management action depends on how the pipeline is to cross Frazers Creek if it crosses on a separate structure there is no physical impact (visual curtilage is not of significance). If it crosses on by bolting it to the bridge especially if it is bolted to the 1991 section then the impact on this item will be minimal and no further work will be required. Pipeline crossing Frazers Creek to be built on a separate structure. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has since advised that the nature of this particular item is minor enough that mitigation measures would not be required.
166 Fig 12 ●	Swanvale	Yellow Rock Road, Tullimbar Concept Area	Not provided	Not provided		Local NO	Navin Officer 2004; AMBS 2010	No Impact	No Impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

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AECOM Report	●	No impact	○	Not within Study Area	■	Potential indirect impacts	▲	Direct impact	◆	Potential impact
EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				

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167 Not mapped 	Tara' Fig Tree	Pt 102, DP 857876; Ashburton Drive, Albion Park Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
168 Not mapped 	The Hill' (site of colliery's first squatters' huts)	Western end of Wongawilli Road, Wongawilli Outside Proposal Area	Not provided	Not provided	Dapto and District Heritage Trail (northern section)	Local NO	AMBS 2010	No Impact	No Impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
169 Not mapped 	Tongarra Creamery Ruins	Exact location unknown, Illawarra Highway, Tongarra Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
170 Not mapped 	Toongla	Lot 82, DP 634605; Tullimbar Road, Albion Park Outside Proposal Area	Not provided	Not provided	SHR; LEP; National Trust	Local NO	AMBS 2010	Within 25 m Road Easement	No Impact	No impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
171 Fig 4 & 5 Refer to EA for Early Release Lead-in Works for West Horsley (MP 10_197).	Tramway/Illawarra Harbour and Land Corporation Railway, Built 1895	From immediately west of the end of Sheaffes Road running south to Bong Bong road where it curves to the west and runs along the southern boundary of Portion 56 till it reaches Dapto, Horsley Project Area	Remains of a railway line, consisting of track formation and cutting.	Constructed by the Illawarra Harbour and Land Corporation Railway from the South Kembla Colliery to their loading facility at Lake Illawarra with a branch to the Dapto Smelter. Construction began in September 1895 but it is not clear whether the line was us	1990 Wollongong LEP	Local YES (p107)	HLA 2006	Impact	The recorded extent is a cutting and embankment running south-east from Bong Bong Road. There are more remains along the route than is indicated in the HLA report.	Proposed wastewater pipelines cut through the embankment in two places and will follow the tramway along an 800 m section of the alignment. A proposed water pipeline also cuts through the alignment. The pipelines cutting the tramway are unlikely to have a significant impact on the item as large portions will remain intact. If the 800 m is to be on top of the tramway route, which is still evident in the landscape at this point, the construction of the pipeline will remove a significant portion of the tramway, impact on the visibility of the route in the landscape and remove the physical evidence of construction techniques.	It is recommended that the following work be undertaken- A research design be developed to determine if information that cannot be gleaned from other sources could be gained through an archaeological examination of the embankment. Refer to EA for Early Release Lead-in Works for West Horsley (MP 10_197). Work has been completed on the pipeline in the vicinity of this item.

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AECOM Report		No impact		Not within Study Area		Potential indirect impacts		Direct impact		Potential impact
EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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172 Fig 12 No Change	Tulkeroo	Lot 1, DP 910045; 23 Calderwood Road, Albion Park Concept Area	Not provided	Tulkeroo was the manager's residence for the former Albion Park Butter Factory. This Victorian Georgian weatherboard home was built c1885. The Albion Park Butter Factory was built in 1884 in a co-operative effort from local farmers. The butter factory was situated next to the homestead. Tulkeroo is now a private residence.	Shellharbour LEP	Local YES (p152)	AMBS 2010	Within 25 m Road Easement	associated dairy factory demolished	It is proposed to construct a Water pipeline along Calderwood Drive in this location. There is the possibility of vibration impacts occurring to this heritage item	Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
173 Not mapped 	Tullimbar Inn	Illawarra Highway, Tullimbar Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
174 Not mapped 	Unanderra Footbridge	Illawarra Railway, Unanderra Outside Proposal Area	Not provided	Not provided	Railcorp s170	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
175 Fig 3 	Unanderra Public School, formerly Charcoal Public School	Part Lot 2, DP 795162; corner of Princes Highway and Victoria Street, Unanderra Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
176 Not mapped 	Unanderra Station	Illawarra Railway, Unanderra Outside Proposal Area	Not provided	Not provided	Railcorp s170	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
177 Not mapped 	Unanderra Station Master's Residence	Unanderra Railway Line, Berkeley Road, Unanderra Outside Proposal Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.

Key for Impact Assessment (Column 1):

AECOM Report		No impact		Not within Study Area		Potential indirect impacts		Direct impact		Potential impact
EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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178 Not mapped 	Water Reservoir	Close to Princes Highway between Avondale Road and Mount Brown Road Outside Proposal Area	Not provided	Not provided		Local NO	HLA 2004; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
179 Fig 4 	Wongawilli Colliery	Part Lot 14, DP 255284; Lot 1, DP 321054 and Part Lot 244, Part Lot 255, and Part Lot 258, DP 751278, Wongawilli Road, Wongawilli Project Area	Not provided	Not provided	LEP	Local NO	AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
180 Fig 9 	Yallah Brush	Yallah Road, Yallah Concept Area	Yallah Brush is located on the corner of Marshall Mount and Yallah Roads. It is an area of lightly wooded grass paddocks. As far as could be ascertained during the field survey, there were no structures within the curtilage of heritage significance.	A search of Land Titles information and early maps and plans indicates that the area seems to have been left over after the sale of the surrounding land. There is no indication of development or use of the land.	Wollongong LEP 1990	Local NO	AMBS 2010	Corridor passes through boundary		There does not appear to be any archaeological or built heritage values within the area.	The area may have ecological value. Recommend assessment by an ecologist. Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
181 Not Mapped 	Yovelton	Lot 676, DP 264470; 2 Wilga Close, Albion Park Rail Outside Proposal Area	Not provided	Not provided		Local NO	Hynd 2005; AMBS 2010	No Impact	No Impact	No Impact	Mitigation measures were only considered for heritage items for which a Significance Assessment was carried out. No mitigation measures are proposed for this item.
182 Fig 3 	New Potential Archaeological Site 1 - Store	West Dapto Road, Kembla Grange - east of 90° bend Project Area	Potential archaeological site - no features were visible during field survey due to 0% ground surface visibility.	Shown as the location of an 'Old Store' on 1889 Kembla Parish Map	None	Local YES (p110)		Item identified during field survey		Pipeline along West Dapto Road. Depending on which side of the road the pipe is laid there is the potential for the site to be disturbed.	It is recommended that the following work be undertaken -Detailed historical research, a remote sensing survey along the route, development of appropriate management options Prior to construction a detailed historical research will be carried and appropriate mitigation options developed. If the excavations are likely to impact any heritage items the excavations would be monitored by a suitably qualified archaeologist. No further actions are required if potential relics have less than local heritage significance. An historic archaeological site induction would be delivered to all on-site personnel prior to excavating (as per SOC #16)

Key for Impact Assessment (Column 1):

AECOM Report No impact Not within Study Area Potential indirect impacts Direct impact Potential impact

EA Report No impact Indirect impacts Direct impact

2013 Review No impact Indirect impacts Direct impact

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Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
183 Fig 3 ◆ ■ ▲	New Potential Archaeological Site 2 - Public House	West Dapto Road, Kembla Grange - east of 90° bend Project Area	Potential archaeological site - no features were visible during field survey due to 0% ground surface visibility.	Shown as the location of a 'Public House' on 1889 Kembla Parish Map	None	Local YES (p110)		Item identified during field survey		Pipeline along West Dapto Road. Depending on which side of the road the pipe is laid there is the potential for the site to be disturbed.	It is recommended that the following work be undertaken -Detailed historical research, a remote sensing survey along the route, development of appropriate management options Prior to construction a detailed historical research will be carried and appropriate mitigation options developed. If the excavations are likely to impact any heritage items the excavations would be monitored by a suitably qualified archaeologist. No further actions are required if potential relics have less than local heritage significance. An historic archaeological site induction would be delivered to all on-site personnel prior to excavating (as per SOC #16)
184 Fig 3 ◆ ■ ▲	New Potential Archaeological Site 3 - J Barretts Farm	West Dapto Road, Kembla Grange - east of 90° bend Project Area	Potential archaeological site - no features were visible during field survey due to 0% ground surface visibility.	Shown as the location of 'J Barretts Farm' on 1889 Kembla Parish Map	None	Local YES (p110)		Item identified during field survey	Associated with Site 17a – Moreton Bay Figs	Pipeline along West Dapto Road. Depending on which side of the road the pipe is laid there is the potential for the site to be disturbed.	It is recommended that the following work be undertaken -Detailed historical research, a remote sensing survey along the route, development of appropriate management options. Prior to construction a detailed historical research will be carried and appropriate mitigation options developed. If the excavations are likely to impact any heritage items the excavations would be monitored by a suitably qualified archaeologist. No further actions are required if potential relics have less than local heritage significance. An historic archaeological site induction would be delivered to all on-site personnel prior to excavating (as per SOC #16)
185 Fig 3 ◆ ■ ▲	New Potential Archaeological Site 4 - Cottage	West Dapto Road, Kembla Grange - on of 90° bend Project Area	Potential archaeological site - no features were visible during field survey due to 0% ground surface visibility.	Shown as the location of a 'Cottage' on 1889 Kembla Parish Map	None	Local YES (p110)		Item identified during field survey	Associated with Site 17b – Moreton Bay Fig	Pipeline along West Dapto Road. Depending on which side of the road the pipe is laid there is the potential for the site to be disturbed.	It is recommended that the following work be undertaken -Detailed historical research, a remote sensing survey along the route, development of appropriate management options. Prior to construction a detailed historical research will be carried and appropriate mitigation options developed. If the excavations are likely to impact any heritage items the excavations would be monitored by a suitably qualified archaeologist. No further actions are required if potential relics have less than local heritage significance. An historic archaeological site induction would be delivered to all on-site personnel prior to excavating (as per SOC #16)
186 Fig 2 ◆ ■ ▲	New Potential Archaeological Site 5 - House	West Dapto Road, Kembla Grange - western side of road, south of 90° bend Project Area	A house and associated outbuildings is shown at this location on the 1951 aerial image. The buildings have since been demolished. However the impression of the remains of a structure is visible on the Nearmap aerial images. These are 23m from the boundary and so are marginally within the potential location for the water pipeline.	House and outbuildings shown on 1951 aerial.	None	Local YES (p110)		Item identified during field survey		Pipeline along West Dapto Road. Depending on which side of the road the pipe is laid there is the potential for the site to be disturbed.	It is recommended that the following work be undertaken -Detailed historical research, a remote sensing survey along the route, development of appropriate management options. Prior to construction a detailed historical research will be carried and appropriate mitigation options developed. If the excavations are likely to impact any heritage items the excavations would be monitored by a suitably qualified archaeologist. No further actions are required if potential relics have less than local heritage significance. An historic archaeological site induction would be delivered to all on-site personnel prior to excavating (as per SOC #16)

Key for Impact Assessment (Column 1):

AECOM Report	●	No impact	○	Not within Study Area	■	Potential indirect impacts	▲	Direct impact	◆	Potential impact
EA Report	●	No impact	■	Indirect impacts	▲	Direct impact				
2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				

Water and Wastewater Servicing in the West Dapto Urban Release Area and Adjacent Growth Areas – Non-Indigenous heritage Assessment and Impact Management.
Summary table of sites and management recommendations – Updated by Sydney Water at the request of the Department of Planning and Infrastructure (11 March 2013)

Site No. (Fig No.) Impact Assessment	Name	Location	Description	History	Heritage Listing	Listed Significance Significance Assessment?	Ref	Impact Assessed Prior to Fieldwork	Comments	Impacts Assessed Post Fieldwork	Management
187 Fig 4 ◆ ■ ▲	New Potential Archaeological Site 6	Hayes Lane, near intersection with Bong Bong Road, Horsley Project Area	The 1889 Parish Plan indicates that there was a hut and yards near the junction of Hayes Lane and Bong Bong Road. The plan attributes these to a Daly.	Hut and yards shown on 1889 Parish Plan	None	Local YES (p113)		Item identified during field survey		Pipeline along Hayes Lane. Depending on route may be impacted.	It is recommended that the following work be undertaken -Detailed historical research, a remote sensing survey along the route, development of appropriate management options. Prior to construction a detailed historical research will be carried and appropriate mitigation options developed. If the excavations are likely to impact any heritage items the excavations would be monitored by a suitably qualified archaeologist. No further actions are required if potential relics have less than local heritage significance. An historic archaeological site induction would be delivered to all on-site personnel prior to excavating (as per SOC #16)
188 Fig 4 ▲ ● ●	New site - Coral Tree Avenue	Private Road to west of northern end of Hayes Lane, Horsley Project Area	Truncated coral trees, possibly on former fence line. Identified during field survey	Identified during field survey. Not on 1949 aerial	None	None YES (p115)		Item identified during field survey		Water pipeline to follow private road and impact on southern boundary. Wastewater pipeline to cut through eastern and southern boundaries.	While the Coral Trees are not of historical significance, they do add to the scenic quality of the area. It is suggested that the trees are not removed and that root disturbance is minimised to potential of shortening the lifespan of the trees. If this is not possible, however, the Avenue is no impediment on historical grounds. The alignment of the wastewater pipeline has been amended and no longer impacts the south eastern corner of the property. Sydney Water's Program Leader (Heritage) advised that this item should not have been listed as being directly impacted as it does not meet state or local criteria.
189 Fig 4 ◆ ■ ●	Bike Ramp	Hayes Lane, Horsley Project Area	Treated timber and steel bike ramp and earth mounds. The ramp is decorated with flames cut from plastic sheeting.	Identified as a potential heritage item by AMBS	None	None YES (p116)		Potential Impact		A water pipeline is proposed along the western side of Hayes Lane. The Bike Ramp is within the 25 m pipeline corridor.	This item is not of heritage significance and requires no further heritage consideration. The need to provide mitigation measures would have been considered at the time of construction but in view of the fact that the item does not meet state or local criteria, mitigation measures are not warranted.
190 Fig 6 ● No change	Bridgewater	Cleveland Road, Cleveland Project Area	c.1950/60s clad house. Set over 25 m from road.	Identified as a potential heritage item by AMBS. Former occupant informed AECOM it was owned by the Catholic Church and was to be demolished in two weeks.	None	None YES (p118)		No Impact		No Impact	No mitigation measures are required for this item.

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2013 Review	●	No impact	■	Indirect impacts	▲	Direct impact				

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191 Fig 12 No change	255 Tongarra Road	255 Tongarra Road, Albion Park Concept Area	A weatherboard cottage with a hipped roof. A flat verandah has been added on the front and set on cream brick piers. The verandah has been partially enclosed, which somewhat obstructs the reading of the cottage. The front yard is grassed, with a concrete path leading to the front door. Identification of the boundary line was problematic, but the house appears to be between five and seven metres from the boundary.	Potential heritage item	none	None YES (p153)		Item identified during field survey		Potential impact from water pipeline running along Tongarra Road and up Church St	Archaeological monitoring if curtilage is to be impacted. Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
192 Fig 12 No change	Rose Cottage	257 Tongarra Road, Albion Park Concept Area	Rose Cottage is a weatherboard cottage set on a red brick wall. The roof, of corrugated iron, appears to be relatively recent and was extended out over the verandah on the same plane. This is unlikely to be an original feature. The front yard is well-developed, with the boundary line occupied by a hedge. The house is set back seven metres from the boundary.	Potential heritage item	none	None YES (p154)		Item identified during field survey		Potential impact from water pipeline running along Tongarra Road and up Church St	Archaeological monitoring if curtilage is to be impacted. Vibration impacts to the item are anticipated. The impacts will be managed in accordance with the German Standard DIN 4150: Part 3 - 1986. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
193 Fig 12 No change	68 Church Street, Albion Park	68 Church Street, Albion Park Concept Area	A weatherboard house set on the corner of Church Street and Severn Place. The house has a hipped roof and a separate bull-nose verandah. The house is set on stumps and is accessed by a set of concrete steps. The facade is symmetrical, a central door flanked by sash windows. There is a brick chimney stack with three pots. It appears that the rear portion of the house is a sympathetic addition. A garage has been constructed to the northwest of the house. The front yard is grassed and dotted with ornamental trees. The house is set 12 m from the boundary.	Potential heritage item	None	None YES (p155)		Item identified during field survey		Potential impact from water pipeline running along Church Street	Cease works and consult an archaeologist if relics are identified. There is sufficient room to locate the pipeline outside the property boundary. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction.
194 Fig 6 	Shed (Potential AMBS)	Cleveland Road, Cleveland Project Area	Small corrugated iron shed.	Unknown	None	None YES (p119)	AMBS 2010	Potential impact		Potential impact	This item is not of heritage significance and can be removed without further heritage consideration. The need to implement mitigation measures for vibration (see p159 of EA) will be considered at the time of construction. Sydney Water's Program Leader (Heritage) has advised that the nature of this particular item would not require mitigation measures
195 Fig 4 	Wongawilli Rail	West Dapto Road to Wongawilli Village and Mine Project Area	A section of intact rail line	A branch railway from the main South Coast Railway near Brownsville to the coal washery and coke works was also built. Coal was lowered down the escarpment by a self-acting skip incline, the junction to the main line was opened in October 1916 and by 1917	West Dapto LEP 2010	Local YES (p120)	HLA 2006	Requires further investigation.		No impact to significance of the Railway Line.	Cease works and consult an archaeologist if relics are identified. No mitigation measures are required as no impacts to the heritage listed portion of the Line are anticipated.

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EA Report		No impact		Indirect impacts		Direct impact				
2013 Review		No impact		Indirect impacts		Direct impact				

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