Integrated Management System

Planning Approval Consistency Assessment Form

SM ES-FT-414

Sydney Metro Integrated Management System (IMS)

Assessment Name:	Cooks River Embankment Stabilisation
Prepared by:	Simon Fisher
Prepared for:	Sydney Metro
Assessment number:	SWM-01
Status:	Final
Version:	2.0
Planning approval:	SSI 8256 (SWM)
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The Planning Approval Consistency Assessment Form should be completed in accordance with the Sydney Metro Planning Approval Consistency Assessment Procedure (SM ES-PW-314) and Sydney Metro Environmental Planning and Approval Manual (SM ES-ST-216)

1.0 Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):

Sydney Metro City & Southwest - Sydenham to Bankstown (SSI 8256)

Date of determination:

Instrument of Approval Date – 12/12/2018

Type of planning approval:

Part 5.1 - Critical State Significant Infrastructure

Description of existing approved project you are assessing for consistency:

The Submissions and Preferred Infrastructure Report (SPIR) included the following description of the approved project works:

The proposed works include upgrade works to convert stations and the rail line to Sydney Metro operations and other works.

Upgrading the track and rail systems would include:

- Track works where required along the rail corridor
- New or replacement turn back facilities and track crossovers
- Installing Sydney Metro rail systems and adjusting existing Sydney Trains rail systems
- Overhead wiring adjustments.

Other works proposed to support Sydney Metro operations would include:

- Upgrading existing bridges and underpasses across the rail corridor
- Installation of security measures, including fencing, where required
- Installation of noise barriers where required
- Augmenting the existing power supply, including new traction substations and provision of new feeder cables
- Utility and rail system protection and relocation works.

It should also be noted that the SPIR also identified key changes to the construction methodology for the preferred project (compared to the exhibited project in the EIS) to reduce community impacts. One of these changes identified that no new embankments, cuttings and retaining walls are required for the purpose of widening the track form or for facilitating bridge works, reducing noise, vibration and dust impacts. It is understood that the intent of this statement was to differentiate the limited impacts of the preferred project (upgrade of existing tracks, signals and associated infrastructure) from the more substantial impacts of the exhibited project (upgrade of drainage infrastructure, realignment of existing tracks or construction of new tracks, construction of retaining walls and new embankments and installation of new support infrastructure).

Relevant background information (including EA, REF, Submissions Report, Director General's Report, MCoA):

Sydney Metro City and Southwest Sydenham to Bankstown upgrade Environmental Impact Statement (September 2017)

Sydney Metro City and Southwest Sydenham to Bankstown Submissions and Preferred Infrastructure Report (June 2018)

Sydney Metro City and Southwest Sydenham to Bankstown Submissions Report (September 2018)

Conditions of Approval SSI 8256 (signed 12 December 2018)

All proposed works identified in this assessment would be undertaken in accordance with the mitigation measures identified in the EIS/SPIR/submissions report and the Conditions of Approval

2.0 Description of proposed development/activity/works

Describe ancillary activities, duration of work, working hours, machinery, staffing levels, impacts on utilities/authorities, wastes generated or hazardous substances/dangerous goods used.

The proposed activity would involve works to stabilise existing embankments within the rail corridor immediately adjacent to the Cook's River. These works would involve the modification of the existing embankment between chainages 10.920km and 11.565 to enable slope stabilisation of the existing embankments. The works to the existing embankments are required to rectify the structural instability of the existing embankments.

The Cooks River Embankment Stabilisation scope consists of three major sections of new retaining wall between chainages 10.920km and 11.565km

- Retaining Wall RW01 – Down side Ch 10.950km to the Cooks River Bridge abutment
- Retaining Wall RW02 – Down side Ch Cooks River Bridge abutment to the Wairoa Street Bridge abutment
- Retaining wall RW03 – Down side Wairoa Street Bridge abutment to Ch 11.565km.

Replacement of existing abutment retaining walls at Charles Street, Cooks River and Wairoa Street will also be undertaken in addition to the relocation of potentially impacted utility services. Some existing drainage channels would also be upgraded as part of the works. Plant and machinery used for this activity would be generally consistent with the plant outlined in the EIS/SPIR.

Works covered by this consistency assessment are programmed to commence in August 2019 and would be completed by April 2020. Works are expected to be undertaken during standard working hours with no change to the approved hours.

There would be no change to existing project staffing levels.

See Appendix B.

3.0 Timeframe

When will the proposed change take place? For how long?

Embankment stabilisation works are proposed to commence August 2019 and continue until the finalisation of these works (estimated to be April 2020).

4.0 Site description

Provide a description of the site on which the proposed works are to be carried out, including, Lot and Deposited Plan details, where available. Map to be included here or as an appendix. Detail of land owner.

Works would be carried out within the current preferred project SPIR boundary as shown in Appendix A.

5.0 Site Environmental Characteristics

Describe the environment (i.e., vegetation, nearby waterways, land use, surrounding land use), identify likely presence of protected flora/fauna and sensitive area.

The embankment works would take place within the existing rail corridor between Ch10.950km and 11.545km. This area currently consists of a large embankment that rises above the surrounding ground level to the west of Canterbury Station. The embankment is heavily vegetated, though no protected flora/fauna was identified during the investigations undertaken as part of the EIS. The EIS Biodiversity Assessment Report has mapped the vegetation on the embankment as Planted Native and Exotic Grassland communities. The embankment abuts to the railway bridge which crosses Broughton Street prior to the Cooks River. The land use in this area is predominantly mixed use comprised of commercial and residential land uses.

On the western side of Cooks River the existing large embankment extends west from the bridge abutment and is again heavily vegetated, though no protected flora/fauna was identified during the investigations undertaken as part of the EIS. The EIS Biodiversity Assessment Report has mapped the vegetation on this embankment as Planted Native community. The rail corridor in this area is bordered by Tasker Park and South Parade to the south with the predominant land use comprising residential and recreational land uses. During site inspections at the proposed area of works a sign indicating the presence of Belle Ombre and a dairy farm were identified on the rail corridor fence. As this was not identified during the EIS or SPIR a Historical Archaeological Assessment was completed by Artefect. This assessment identified that "*the proposed works are unlikely to impact significant archaeological remains due to the highly disturbed nature of the area and the low potential for archaeological remains.*

It is therefore recommended that the Sydney Metro Unexpected Heritage Finds Procedure be implemented during the proposed development to manage and mitigate potential archaeological impacts". This assessment has been included as Appendix C.

6.0 Justification for the proposed works

Address the need for the proposed works, whether there are alternatives to the proposed works (and why these are not appropriate), and the consequences with not proceeding with the proposed work.

Geotechnical investigations undertaken following the development of the EIS/SPIR have identified that the existing embankments and retaining wall structures adjacent the Cooks River do not meet the minimum safety factor requirements for the project. This is due to the existing embankments having low stability and underlying geotechnical issues that require rectification to ensure that the minimum safety requirements are met.

The consequences of not proceeding with the proposed works is a risk that the geotechnical issues at existing embankments would continue to persist, presenting an ongoing safety issue and preventing the delivery of the CSSI.

7.0 Environmental Benefit

Identify whether there are environmental benefits associated with the proposed works. If so, provide details:

The works impacting the existing embankments will be subject to future revegetation in accordance with the Tree Management Strategy. Improvement of the existing drainage structures will improve drainage during significant rainfall events.

8.0 Control Measures

Will a project and site specific EMP be prepared? Are appropriate control measures already identified in an existing EMP?

Works will be completed under the Southwest Metro Early Works CEMP (Construction Environmental Management Plan) and sub plans prepared by John Holland and Laing O'Rourke Joint Venture in accordance with the project conditions of approval.

9.0 Climate Change Impacts

Is the site likely to be adversely affected by the impacts of climate change? If yes, what adaptation/mitigation measures will be incorporated into the design?

No. The works will be undertaken entirely within the project boundary which has already assessed for climate change impacts in the SPIR.

10.0 Impact Assessment – Construction

Attach supporting evidence in the Appendices if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the EIS/SPIR	Implementation of mitigation measures as per the CEMP and Flora Fauna ERAP. Replacement of vegetation removed within the rail corridor would be undertaken in accordance with the tree management strategy.	Y		
Water	The works will involve minor improvement works to the existing drainage infrastructure within the works. These works will improve drainage within the area.	Implementation of mitigation measures as per the Construction Soil and Water Management Plan Preparation of ESCP	Y		
Air quality	No change from the EIS/SPIR	Implementation of mitigation measures as per the Air Quality Management Plan	Y		
Noise vibration	Minimal impacts. Works will be undertaken along the same alignment as the SPIR, some additional items of plant, including but not limited to piling rigs, rollers and excavators, will be required however the impacts are not expected to be significant as works will be undertaken during standard construction hours and are consistent with the noise impacts identified in the EIS/SPIR.	Implementation of mitigation measures as per the Construction Noise and Vibration Management Plan and Construction Noise and Vibration Management Plan Should works be required outside of standard construction hours, these works would be subject toan out of	Y		

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
		hours work approval.			
Indigenous heritage	No change from the EIS/SPIR	Implementation of mitigation measures as per the Construction Heritage Management Plan Unexpected Finds would be managed as per the Sydney Metro Unexpected Heritage Finds Procedure	Y		
Non-indigenous heritage	During site inspections at the proposed area of works a sign indicating the presence of Belle Ombre and a dairy farm were identified on the rail corridor fence. As this was not identified during the EIS or SPIR a Historical Archaeological Assessment was completed by Artefect. This assessment identified that "*the proposed works are unlikely to impact significant archaeological remains due to the highly disturbed nature of the area and the low potential for archaeological remains.* *It is therefore recommended that the Sydney Metro Unexpected Heritage Finds Procedure be implemented during the proposed development to manage and mitigate potential archaeological impacts*".	Implementation of mitigation measures as per the Construction Heritage Management Plan Unexpected Finds would be managed as per the Sydney Metro Unexpected Heritage Finds Procedure	Y		
Community and stakeholder	No change from the EIS/SPIR	Ongoing consultation and notification as per the Community Communications Strategy	Y		
Traffic	Minimal impacts. The works will require the delivery of plant and import of materials. Plant movements to and from site will be minimised throughout the duration of works. Access gates and haul routes would be the same as those	Implementation of mitigation measures as per the Construction Traffic Management Plan	Y		

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	identified in the EIS/SPIR.				
Waste	No change from the EIS/SPIR	All waste generated will be classified and disposed of in accordance with the NSW EPA Waste Guidelines Implementation of mitigation measures as per the Waste and Spoil ERAP.	Y		
Social	No change from the EIS/SPIR	No change from the SPIR	Y		
Economic	No change from the EIS/SPIR	No change from the EIS and Modification	Y		
Visual	No change from the EIS/SPIR	Implementation of mitigation measures as per the Visual Amenity Plan	Y		
Urban design		No change from the SPIR.	Y		
Geotechnical	No change from the EIS/SPIR	Implementation of mitigation measures as per the Soil and Water Management Plan	Y		
Land use	No change from the EIS/SPIR	No change from the SPIR	Y		
Climate Change	No change from the EIS/SPIR	No change from the SPIR	Y		
Risk	No change from the EIS/SPIR	No change from the SPIR	Y		
Other	No change from the EIS/SPIR	No change from the SPIR	Y		
Management and mitigation measures	No change from the EIS/SPIR	No change from the SPIR	Y		

11.0 Impact Assessment – Operation

Attach supporting evidence in the Appendix if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the EIS/SPIR	N/A	Y		
Water	The works will involve minor improvement works to the existing drainage infrastructure within the works. These works will improve drainage within the area.	N/A	Y		
Air quality	No change from the EIS/SPIR	N/A	Y		
Noise vibration	No change from the EIS/SPIR.	N/A	Y		
Indigenous heritage	No change from the EIS/SPIR.	N/A	Y		
Non-indigenous heritage	No change from the EIS/SPIR.	N/A	Y		
Community and stakeholder	No change from the EIS/SPIR.	N/A	Y		
Traffic	No change from the EIS/SPIR.	N/A	Y		
Waste	No change from the EIS/SPIR.	N/A	Y		
Social	No change from the EIS/SPIR.	N/A	Y		
Economic	No change from the EIS/SPIR.	N/A	Y		
Visual	No change from the EIS/SPIR.	N/A	Y		

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Urban design	The area will be subject to future landscaping and subject to the Tree Management Strategy.	N/A	Y		
Geotechnical	Proposed works will address existing geotechnical issues.	N/A	Y		
Land use	N/A	N/A	Y		
Climate Change	No change from the EIS/SPIR.	N/A	Y		
Risk	N/A	N/A	Y		
Other	N/A	N/A	Y		
Management and mitigation measures	N/A	N/A	Y		

12.0 Consistency with the Approved Project

Based on a review and understanding of the existing Approved Project and the proposed modifications, is there is a transformation of the Project?	No. The proposed works would not transform the project. The project would continue to provide a new metro rail line between Sydenham and Bankstown.
Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?	Yes. The proposed works would be consistent with the objectives and functions of the approved project.
Is the project as modified consistent with the objectives and functions of elements of the Approved Project?	Yes. It is still consistent with the objectives and functions of the Approved Project.
Are there any new environmental impacts as a result of the proposed works/modifications?	There are no new environmental impacts as a result of the proposed works. All risks would be adequately addressed through the application of the mitigation measures in the above tables, REMM's and the conditions of approval.
Is the project as modified consistent with the conditions of approval?	Yes. The proposed works would be consistent with the conditions of approval
Are the impacts of the proposed activity/works known and understood?	Yes. The impacts of the proposed works are understood.
Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?	Yes. The impacts of the proposed works can be managed so as to avoid an adverse impact.

13.0 Other Environmental Approvals

Identify all other approvals required for the project:	NA

Author certification

To be completed by person preparing checklist.

I certify that to the best of my knowledge this Consistency Checklist: • Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the Proposed Revision; and • Examines the consistency of the Proposed Revision with the Approved Project; is accurate in all material respects and does not omit any material information.			
Name:	Simon Fisher	Signature:	
Title:	Environment Manager		
Company:	Sydney Metro	Date:	05/06/2019

This section is for Sydney Metro only.

Application supported and submitted by			
Name:	Yvette Buchli	Date:	18/06/2019
Title:	Planning Approvals Manager	Comments:	
Signature:			

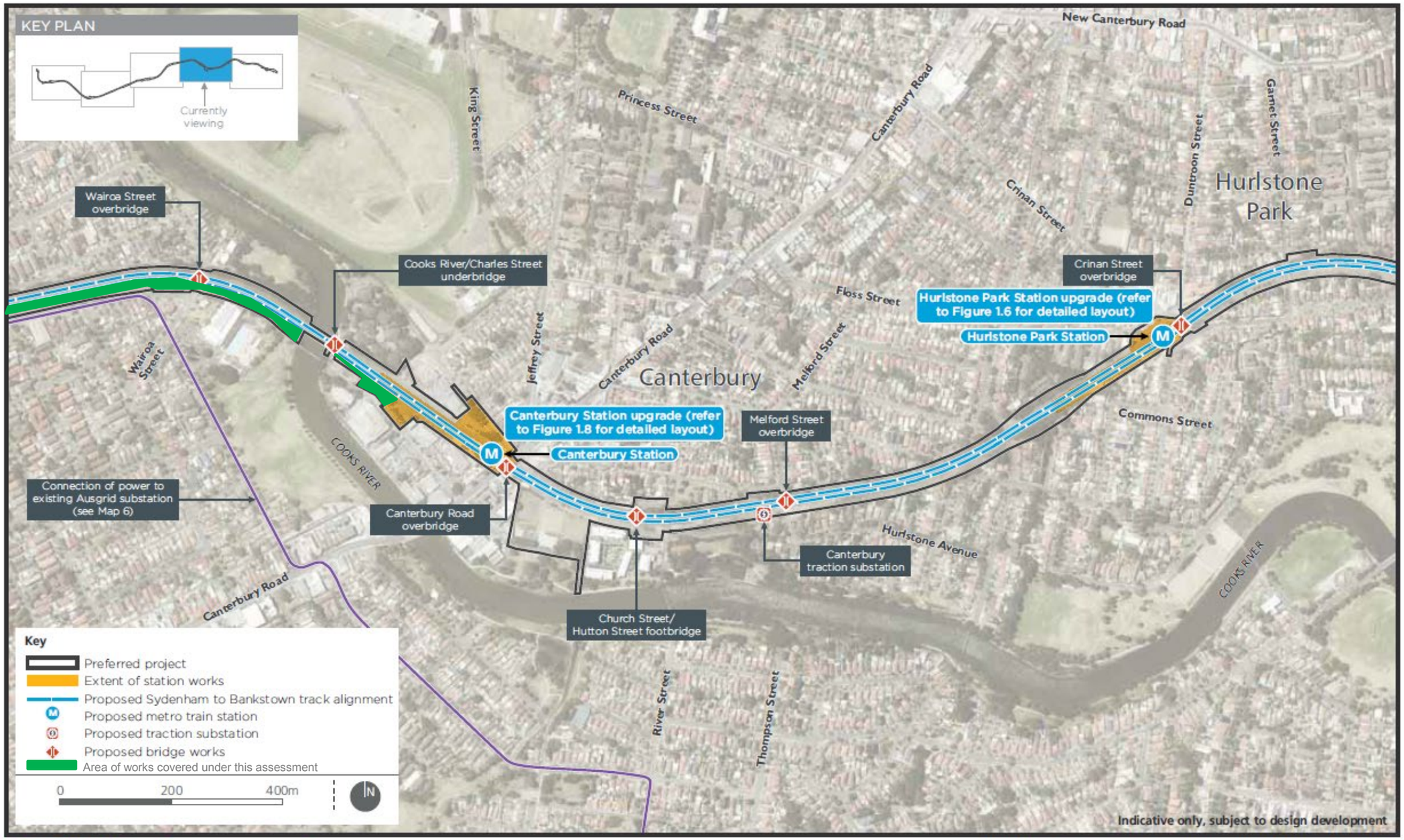
Based on the above assessment, are the impacts and scope of the proposed activity/modification consistent with the existing Approved Project?

Yes [X] The proposed activity/works are consistent and no further assessment is required.

No [ ] The proposed works/activity is not consistent with the Approved Project. A modification or a new activity approval/ consent is required. Advise Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Endorsed by			
Name:	FIL CERONE	Date:	8/7/19
Title:	Director, Sustainability Environment and Planning, City & Southwest	Comments:	
Signature:			

Appendix A – Plan from the SPIR

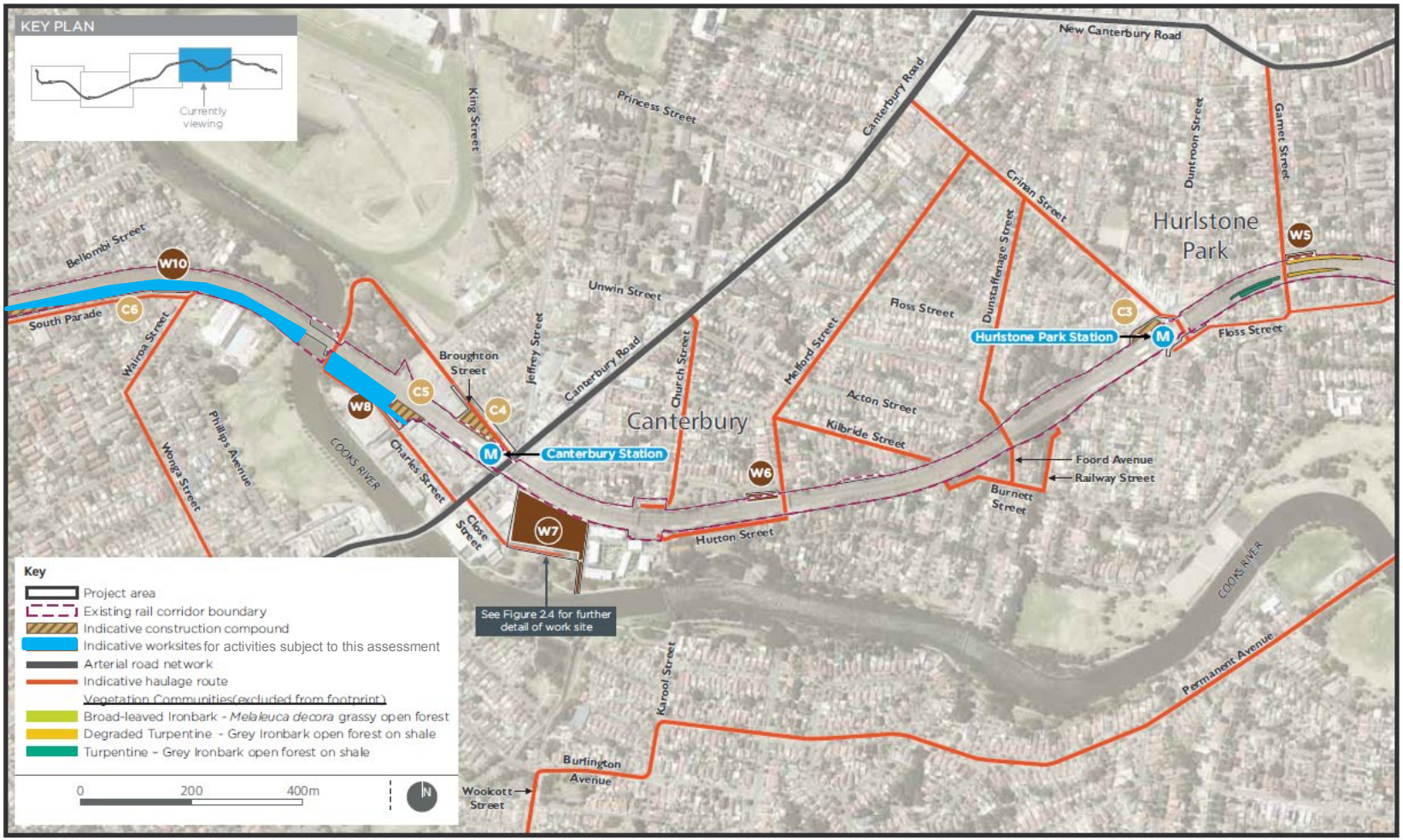


sydney METRO | city & southwest

Preferred project infrastructure and features - map 2

FIGURE 11

Appendix B – Work Area



sydney METRO | city & southwest

Preferred project area - construction activities - map 2

Appendix C – Heritage Assessment

Belle Ombre Historical Archaeological Assessment

Sydney Metro City & Southwest - Southwest Metro

Report to JHLOR

May 2019

artefact

Artefact Heritage
ABN 73 144 973 526
Level 4, Building B
35 Saunders Street
Pyrmont NSW 2009
Australia

+61 2 9518 8411
office@artefact.net.au

EXECUTIVE SUMMARY

The Southwest Metro (the project) involves upgrading the 10 existing stations west of Sydenham (Marrickville to Bankstown inclusive), and a 13 kilometre long section of the Sydney Trains T3 Bankstown Line, between west of Sydenham Station and west of Bankstown Station. The project would improve accessibility for customers and meet the standards required for metro operations. The project would enable Sydney Metro to operate beyond Sydenham, to Bankstown.

Artefact Heritage has been engaged by JHLOR (on behalf of Sydney Metro) to prepare a Historical Archaeological Assessment (AA) for the location of the historical house known as Belle Ombre. Belle Ombre was known to be located within the current railway corridor between Canterbury Station and Campsie Station before it was demolished for the railway line. The proposed development in the area consists of ground disturbing works for retaining wall works and will include the re-profiling of the embankment and the construction of piles up to 7m deep.

The aim of this AA is to assess the potential for historical archaeology associated with Belle Ombre to be present within the study area, assess the historical archaeological significance and research potential of any archaeological remains, and determine whether the proposed works are likely to impact on historical archaeological resources within the study area.

Overview of findings

There is nil to low potential for archaeological remains associated with the early land grants relating to Phase 1, and archaeological remains of Phase 2 relating to Belle Ombre and the dairy farm. Any remains are unlikely to have research value due to the highly disturbed nature of the area. Although potential archaeological remains relating to Phase 2 would be associated with Cornelius Prout, it is unlikely that they would be present within the study area.

There is low potential for archaeological ‘works’ to be located within the railway corridor. The potential Phase 3 rail infrastructure archaeological remains are associated with the historical development of the Bankstown rail line therefore may contribute further information regarding this development and may reach the threshold for local heritage significance.

The proposed works are unlikely to impact significant archaeological remains due to the highly disturbed nature of the area and the low potential for archaeological remains.

It is therefore recommended that the Sydney Metro Unexpected Heritage Finds Procedure be implemented during the proposed development to manage and mitigate potential archaeological impacts.

Recommendations

Heritage Induction

Archaeological heritage would be included in the general project induction for all personnel. At a minimum this would include an overview of the project obligations and archaeological management zones, the role of the archaeological team, and the project unexpected finds procedure including typical potential archaeological remains encountered in railway contexts.

Unexpected Finds Procedure

The proposed works may proceed under the Sydney Metro Unexpected Heritage Finds Procedure.

CONTENTS

FIGURES

1.0 INTRODUCTION

1.1 Background

The Southwest Metro (the project) involves upgrading the 10 existing stations west of Sydenham (Marrickville to Bankstown inclusive), and a 13 kilometre long section of the Sydney Trains T3 Bankstown Line, between west of Sydenham Station and west of Bankstown Station. The project would improve accessibility for customers and meet the standards required for metro operations. The project would enable Sydney Metro to operate beyond Sydenham, to Bankstown.

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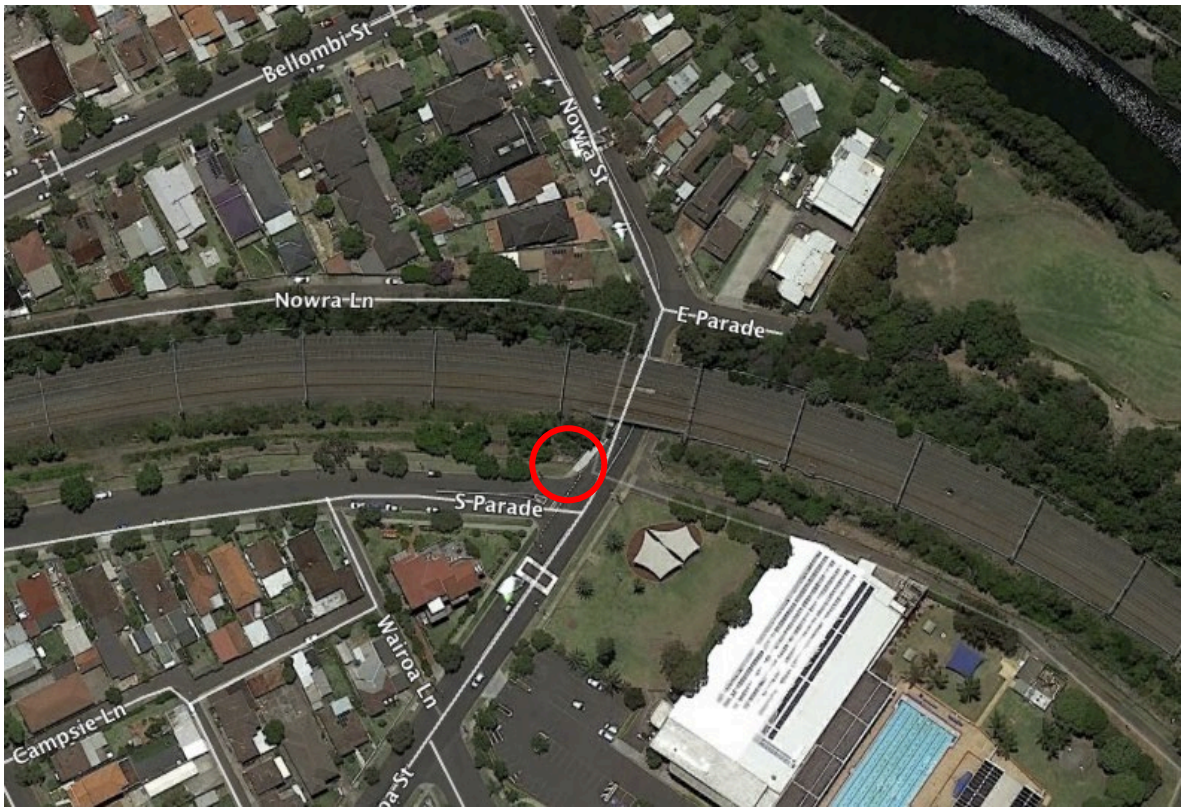
The aim of this AA is to assess the potential for historical archaeology associated with Belle Ombre to be present within the study area, assess the historical archaeological significance and research potential of any archaeological remains, and determine whether the proposed works are likely to impact on historical archaeological resources within the study area.

1.2 Study area

The study area is identified as the railway corridor located at the corner of South Parade and Wairoa Street, Canterbury (the study area), where an existing heritage interpretation sign marks the historic location of Belle Ombre. The study area is located within the Parish of St George, County of Cumberland, and within the City of Canterbury Bankstown LGA (Figure 1).

Figure 1: Study area marked in red



1.3 Limitations

This report is based on a desktop assessment only. No physical archaeological investigation was undertaken during the preparation of this report.

Aboriginal cultural heritage assessment is beyond the scope of this report.

1.4 Authorship

This report was prepared by Shona Lindsay (Senior Heritage Consultant), with review by Dr Sandra Wallace (Managing Director).

2.0 HISTORICAL BACKGROUND

2.1 Early land grants

The first European exploration of the Cook's River region was led by Captain John Hunter in 1789. Hunter travelled a distance of five miles up the river, and later commented that it was "all shoal water". Later that year Lieutenant Bradley was sent to examine the north-west branch of Botany Bay. He described the eight-mile-long creek he encountered as a "winding shoal channel ending in a drain to a swamp, all shoal water".[1] The river appears to have been named prior to 1798, when Governor Hunter sent a map to England naming the Cook's River.

Some of the earliest land grants made within the region were given in the 1790s and included a mix of large estates and small farms. The grants were intended to link Parramatta to the city through a 'chain of farms'.[2]

The study area was originally part of a 35 acre land grant to John Burke in 1823, later acquired by Abraham Polack (Figure 2). The under-sheriff of Sydney, Cornelius Prout, rented the farm for a short period before he purchased the property in July 1834. In the same year Prout also purchased the adjoining McCabe farm of 50 acres from James Morisset, and in 1837 purchased the 80 acre Bentley grant from the Stephen estate. He later acquired Polack's 100 acre land grant near Canterbury Road and Cup and Saucer Creek, making him a substantial land owner in the Canterbury area.[3]

2.2 Belle Ombre

Prout constructed a brick house on his farm in 1833 (the land originally granted to John Burke), which he named Belle Ombre (Figure 3). The house fronted the south bank of Cook's River opposite the road from Petersham.[4] Prout and his wife had a son born at Belle Ombre in 1853.[5] The farm was used as a dairy by Prout's daughter Catherine and her husband. Prout passed away in 1855. The farm was sold in 1866 to Joseph Gould and was later taken over by Gould's son-in-law Robert Ward.[6]

Prout constructed Prout's Bridge over the Cook's River in 1841 using convict labour (Figure 4 and Figure 5). Prior to this he had operated a punt between Canterbury village and his farm in the south side of the river. The track on either side of the punt became Canterbury Road.

The railway station at Canterbury would later be constructed partially within Prout's property and resulted in the demolition of the house in the 1890s (Figure 6).

[1] Jervis 1951: 14.
[2] Thorp, W. 1995. Marrickville Conservation Areas Study, p. 3.
[3] City of Canterbury Library 2013. *Change and challenge: a history of the municipality of Canterbury.*
[4] City of Canterbury Library 2013. *Change and challenge: a history of the municipality of Canterbury.*
[5] *Freemans Journal,* Saturday 16 April 1853, p. 11, family notices.
[6] Site of 'Belle Ombre' 1833-1890s Heritage Panel

Figure 2: Undated early parish map of Parish of St George showing land grant to John Burke (Source: HLRV)

Figure 3: 1847 painting of Belle Ombre. Source: SLNSW call no. [SSV1A / St Pe / 1, 1].

Figure 4: c.1859 Canterbury & Prout's Bridge on Cooks River by Henry Grant Lloyd. Source: SLNSW [a5894078 / DL PX 42] (Dixson Library).

Figure 5: Painting by Samuel Elyard of Prout's Bridge from the west in 1864, showing farm land to the right in the painting. Source: SLNSW call no. [DGD 15, vol 4, 23]

Figure 6: 1889 parish map showing railway line route and location of Prout's Bridge, with approximate location of study area marked in red (Source: HLRV)

2.3 Railway development

To accommodate a rail line through Canterbury, land was resumed and the original street layout slightly altered. This included the demolition of Belle Ombre, as the railway line ran through Prout's estate. Extensive cuttings within the existing bedrock took place at this time in order to accommodate the rail line. The opening of Canterbury Station on February 1, 1895, encouraged land sales throughout the area. The subdivision catering to the new station was called the Silver Park Estate (Figure 7). The resumed land in the former location of Belle Ombre is evident in the subdivision plan for the new estate (Figure 8). The 1943 aerial photograph of the area indicates the land was cleared and levelled for the railway line, with no structures located in the study area (Figure 9).

Figure 7: 1889 subdivision plan for Silver Park Estate. Approximate location of study area marked in red. Source: SLNSW call no. Z/SP/C8/115

Figure 8: Railway acquisition in the vicinity of Bellombi Street and South Parade, between Canterbury and Campsie stations. The new subdivision either side of the line would be called the Silver Park Estate. Approximate location of study area marked in red. Source: SLNSW call no. Z/ SP/ C8.

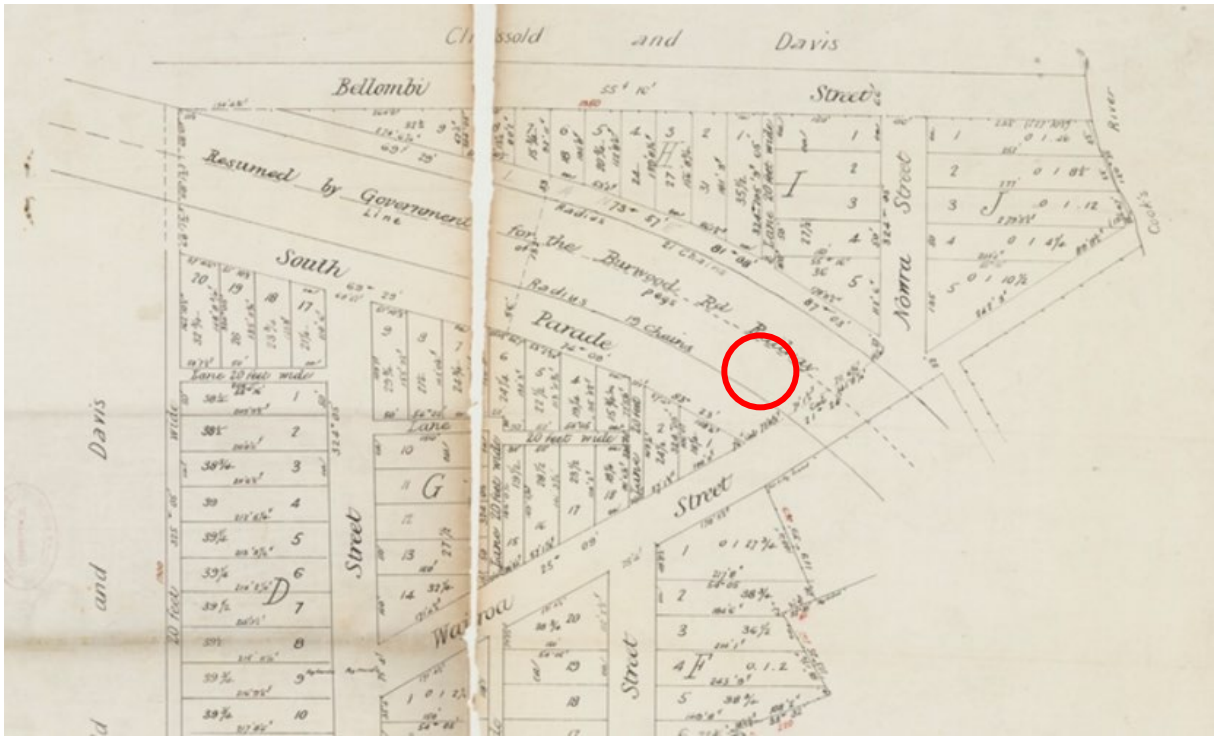


Figure 9: 1943 aerial photograph with approximate location of study area marked in red (Source: SIXMaps)

3.0 ARCHAEOLOGICAL ASSESSMENT

3.1 Methodology

Historical archaeological potential is assessed by identifying former land uses and associated features through historical research, and evaluating whether subsequent actions (either natural or human) may have impacted on evidence for these former land uses.

1.4.2 Grades of Archaeological Potential

The archaeological potential is presented in terms of the likelihood of the presence of archaeological remains considering the land use history and previous impacts at the site. This is presented using the following grades of archaeological potential:

- **Nil:** No evidence of historical development or use, or where previous impacts would have removed all archaeological potential
- **Nil-Low:** Low intensity historical activity, such as grazing, with little to no archaeological 'signature' expected, or where previous impacts were extensive, such as considerable bulk excavation and other earthwork activities such as grading
- **Low:** Research indicates little historical development, or where there have been substantial previous impacts, disturbance and truncation in locations where some archaeological remains such as deep subsurface features may survive
- **Moderate:** Analysis demonstrates known historical development and some previous impacts, but it is likely that archaeological remains survive with some localised truncation and disturbance
- **High:** Evidence of multiple phases of historical development and structures with minimal or localised twentieth century development impacts, and it is likely the archaeological resource would be largely intact.

1.4.3 Archaeological Significance

The assessment of archaeological significance has been undertaken in accordance with the Heritage Division guideline *Assessing Significance for Historical Archaeological Sites and Relics 2009*. The significance assessment considers research potential, historical association, aesthetic and technical significance, rarity, representativeness and intactness or integrity of the potential remains. Where intact remains are expected, social significance is also considered. The archaeological remains are assessed as either being of local or state significance.

3.2 Previous archaeological studies

Artefact Heritage 2017. *Sydney Metro City & Southwest: Sydenham to Bankstown, Non-Aboriginal Heritage Impact Assessment*. Prepared for Transport for NSW.

The technical paper considered the construction and operational impacts on listed heritage items and potential archaeological resources within the study area. It included identification of items and areas of heritage significance that would be materially affected by the project, with consideration of the potential impacts on the values, settings and integrity of heritage items and archaeological resources located within the project area. The paper outlined proposed mitigation and management measures in accordance with relevant best practice guidelines.

Artefact Heritage 2018. *Sydney Metro City & Southwest: Sydenham to Bankstown, Historical Archaeological Assessment & Research Design.* Prepared for Transport for NSW.

This report provided a detailed archaeological assessment of potential archaeological resources within the Marrickville to Bankstown study area, potential impacts from the proposed works, and mitigation measures. Detailed archaeological management units were discussed and mapped for future management of archaeology in the study area. Research questions were provided to form the basis of managing the potential archaeology.

GML 2002. *153-159 Canterbury Road, Canterbury archaeological assessment and research design*. Prepared for ALDI Stores.

Godden Mackay Logan prepared an Archaeological Assessment and Research Design for 153-159 Canterbury Road, Canterbury in October 2002. 153-159 Canterbury Road, Canterbury is located approximately 55 metres northeast of the study area. It was originally part of the Canterbury Farm Estate, granted to Reverend Richard Johnson between 1793 and 1799. The land was used for farming and sheep grazing until it was sold to Robert Campbell in 1803. It was then occupied by the Rising Sun Inn from c1848 to 1922.

The archaeological assessment concluded that the entire site of the Rising Sun Inn had potential to contain archaeological deposits associated with its occupation including wells and cisterns that were once located at the rear of the building. Archaeological remains associated with the inn were assessed as having high local significance. The report recommended test trenching with potential further investigations if substantial deposits or intact features were identified.

3.3 Archaeological potential

3.3.1 Land Use Summary

The historical development of the study area can be divided into the following phases of activity:

- Phase 1 (1788-1830s) early exploration of the region: early land grants, timber getting, grazing, farm land. Land clearing, cultivation, and pastoralism.
- Phase 2 (1830s-1890s) Belle Ombre – construction of brick house on property and dairy farming.
- Phase 3 (1890s-present) development of the Bankstown Line: demolition of Belle Ombre and the subdivision of land for Silver Park Estate, construction of the Bankstown Line between 1892 and 1939, increased residential and industrial development, damming and formalization of the Cooks River and landscape modification, railway infrastructure, line was electrified in 1926, continual upgrading of the line.

3.3.2 Previous Impacts

Construction of the rail line in the late nineteenth century would have included a considerable amount of ground disturbance and excavation, especially within the rail corridor. Track realignment, railway upgrades and road construction throughout the twentieth century would have resulted in high levels of ground impacts throughout the study area.

These impacts include, but are not limited to, the following:

- Subsurface excavations to varying depths to grade and level land within the rail corridor
- Trenching within and adjacent to the rail corridor to accommodate services and utilities
- Vegetation clearance

- Subsurface excavations associated with subsequent upgrades to the rail corridor

3.3.3 Potential Archaeological Remains

The study area was originally part of a land grant to John Bourke, which was granted in 1823. This land was undeveloped farm land. Archaeological features associated with land clearance could include tree boles, and farming activities such as fence line postholes, former shed postholes, field drains, and isolated artefact scatters.

In 1833 Prout constructed Belle Ombre and used the land as a dairy farm. The house was brick built and the 1847 painting depicts the building having a simple rural vernacular style, indicating a timber-post front porch, two brick chimneys, and pitched roof. The painting illustrates some vegetation and a timber fence in the background. Archaeological features associated with Belle Ombre and the dairy farm could include brick footings, post holes, chimney breasts, demolition rubble, artefact deposits, fence line postholes, former shed postholes, field drains, and isolated artefact scatters.

Belle Ombre was demolished for the subdivision of Silver Park Estate in 1889 and later resumed for the construction of the Bankstown Line from Sydenham to Belmore in 1895. Earthworks would have included areas of cut and fill with ballast to lay the track. Culverts and drainage channels were built where the rail line crossed over creeks. The line was electrified in 1926. Archaeological remains associated with the early railway infrastructure could include culverts and drains (brick, stone or concrete), ceramic or wood service pipes, brick drainage pits, electrical conduits and pits, sleepers, ballast, signalling equipment, rail point technology, and rail track. There is potential for artefact remains to be located within drains and culverts.

Based on the history of the site and disturbance that has occurred in the area, the majority of archaeological remains are likely to consist of post-railway structures and services.

3.3.4 Summary of Archaeological Potential

Based on historical information, land use data and evidence of sub-surface impacts, a summary of the potential archaeological remains for the study area is provided in Table 3-1 below.

Table 3-1: Summary of potential archaeological remains

Phase	Likely archaeological remains	Potential
1 (1788-1830s)	• Archaeological features associated with land clearance such as tree boles, and farming activities such as fence line postholes, former shed postholes, field drains, isolated artefact scatters.	Nil to low
2 (1830s-1890s)	• Archaeological features associated with Belle Ombre and the dairy farm could include brick footings, post holes, chimney breasts, demolition rubble, artefact deposits, fence line postholes, former shed postholes, field drains, and isolated artefact scatters.	Nil to low
3 (1890s – present)	• Archaeological remains associated with the early infrastructure such as culverts and drains (brick, stone or concrete), ceramic or wooden service pipes, brick drainage pits, electrical conduits and pits, sleepers, ballast, signalling equipment, rail point technology, and rail track. There is potential for artefact remains to be located within drains and culverts.	Low

3.4 Archaeological significance

The following assessment of significance is based on Heritage Division guideline *Assessing Significance for Historical Archaeological Sites and Relics 2009,*

Table 3-2: Assessment of archaeological significance

Criteria	Discussion
Research potential	• Archaeological remains associated with Phase 1 and 2 are unlikely to be present within the rail corridor considering the level of land modification to construct the track. Any remains of Phase 2 would be highly disturbed and not intact, and therefore would unlikely contribute additional information not available from other historical resources. • Potential archaeological remains associated with Phase 3 rail infrastructure would unlikely contribute additional information not available from other historical resources.
Association with individuals, events or groups of historical importance	• The potential archaeological remains of Phase 2 are associated with Cornelius Prout, the under-sheriff of Sydney at the time who was a prominent land owner in Canterbury from 1830s-1850s and ran a punt over Cook's River that would later be replaced by a bridge named after him that was constructed in 1841 using convict labour, although it is unlikely that archaeological remains of Phase 2 would be present in the study area due to the construction of the railway line. • The development of the rail network facilitated economic development and suburban growth in Sydney in the latter half of the nineteenth and twentieth centuries. The potential Phase 3 archaeological remains are associated with the historical development of Bankstown rail line.
Aesthetic or technical significance	• Former rail infrastructure may demonstrate changes in technology and rail engineering over time. However, they are not expected to demonstrate technical significance. • Other potential archaeological remains are not likely to have aesthetic value.
Ability to demonstrate the past through archaeological remains	• Archaeological remains associated with Phase 1 and 2 are unlikely to be present within the rail corridor considering the level of land modification to construct the track, and therefore would be unable to demonstrate the past development of the study area. • Potential archaeology of Phase 3 may have the ability to illustrate the historical development of the rail line.

3.4.1 Statement of Archaeological Significance

There is nil to low potential for archaeological remains associated with the early land grants relating to Phase 1, and archaeological remains of Phase 2 relating to Belle Ombre and the dairy farm. Any remains are unlikely to have research value due to the highly disturbed nature of the area. Although potential archaeological remains relating to Phase 2 would be associated with Cornelius Prout, it is unlikely that they would be present within the study area.

There is low potential for archaeological 'works' to be located within the railway corridor. The potential Phase 3 rail infrastructure archaeological remains are associated with the historical development of the Bankstown rail line therefore may contribute further information regarding this development and may reach the threshold for local heritage significance.

A summary of the significance of potential archaeological resources is provided in Table 3-3 below.

Table 3-3: Archaeological potential

Phase	Archaeological resource	Potential	Significance
1 (1788-1830s)	• Archaeological features associated with land clearance such as tree boles, and farming activities such as fence line postholes, former shed postholes, field drains, isolated artefact scatters.	Nil to low	Unlikely to reach the threshold for local significance
2 (1830s-1890s)	• Archaeological features associated with Belle Ombre and the dairy farm could include brick footings, post holes, chimney breasts, demolition rubble, artefact deposits, fence line postholes, former shed postholes, field drains, and isolated artefact scatters.	Nil to low	Unlikely to reach the threshold for local significance due to disturbance
3 (1890s – present)	• Archaeological remains associated with the early infrastructure such as culverts and drains (brick, stone or concrete), ceramic service pipes, brick drainage pits, electrical conduits and pits, sleepers, ballast, signalling equipment, rail point technology, and rail track. There is potential for artefact remains to be located within drains and culverts.	Low	May reach the threshold for local significance

4.0 ARCHAEOLOGICAL IMPACT ASSESSMENT

4.1 Proposed works

The proposed development in the study area consists of ground disturbing works for retaining wall works and will include the re-profiling of the embankment and the construction of piles up to 7m deep within the railway corridor. The proposed alignment of the embankment works is indicative in green in Figure 10, with the study area highlighted in red. The proposed works are illustrated in Figure 11.

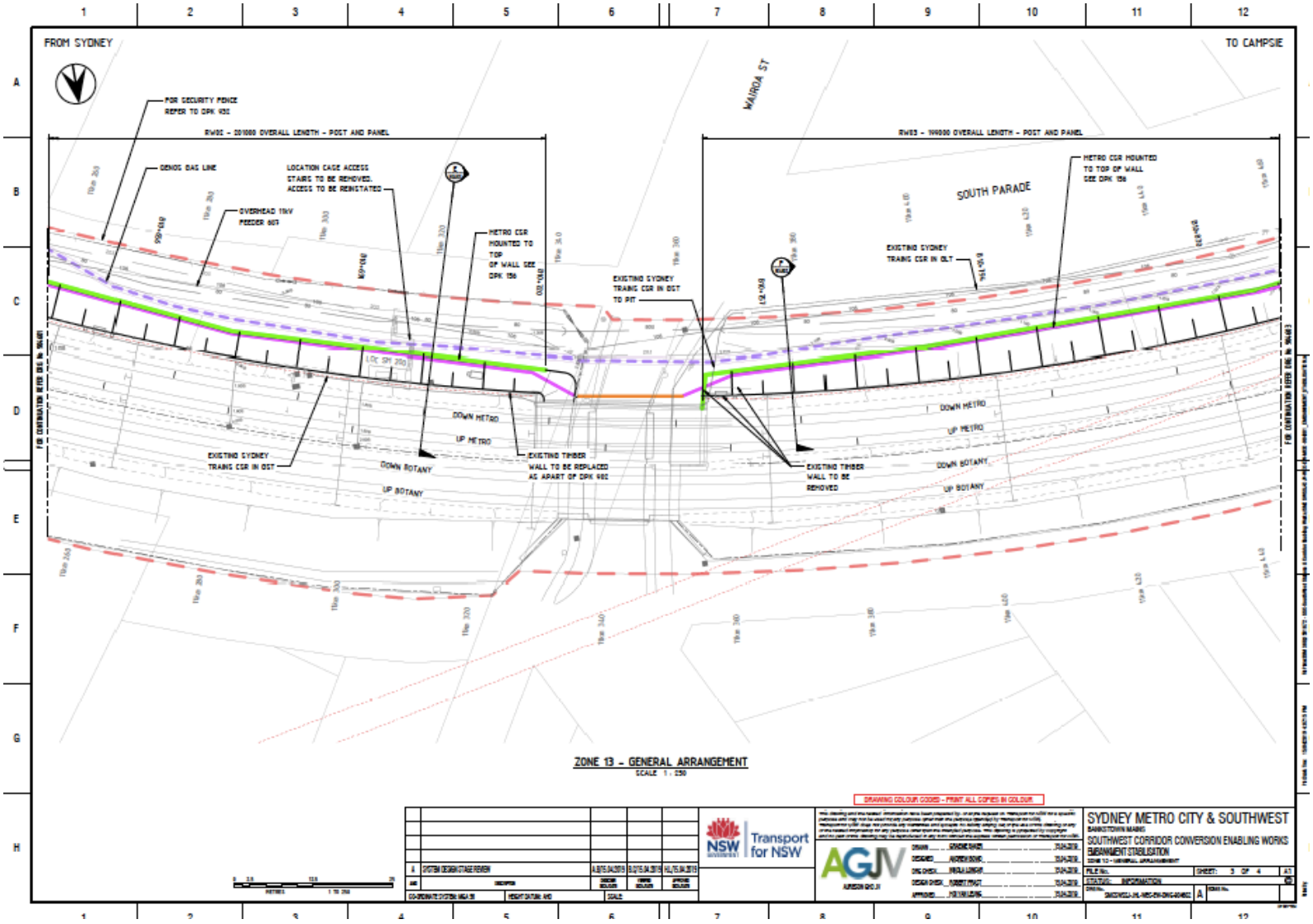
Figure 10: Proposed alignment of embankment and study area

4.2 Archaeological impacts

The proposed works would be within the railway corridor near South Parade and Waiora Street, Canterbury. The proposed works would re-profile the existing embankment and construct 7m piles, which would impact any archaeological remains in these areas. This area was known to be the site of Cornelius Prout's house and farm called Belle Ombre. The study area has been assessed as having nil to low potential to contain archaeological remains associated with Phase 1 (early land grants) and Phase 2 (Belle Ombre). There is low potential for archaeological remains associated with Phase 3, which relate to the construction and upgrade of the railway line, to be present in the study area.

The proposed works are unlikely to impact significant archaeological remains due to the highly disturbed nature of the area and the low potential for archaeological remains.

Figure 11: Proposed works



5.0 RECOMMENDATIONS

5.1 Recommendations

5.1.1 Heritage Induction

Archaeological heritage would be included in the general project induction for all personnel. At a minimum this would include an overview of the project obligations and archaeological management zones, the role of the archaeological team, and the project unexpected finds procedure including typical potential archaeological remains encountered in railway contexts.

5.1.2 Unexpected Finds Procedure

The proposed works may proceed under the Sydney Metro Unexpected Heritage Finds Procedure

artefact

Artefact Heritage

ABN 73 144 973 526
Level 4, Building B
35 Saunders Street
Pyrmont NSW 2009
Australia

+61 2 9518 8411
office@artefact.net.au
www.artefact.net.au