

Figure 23. Threatened species records in proximity to the Subject Land (Royal Shores Ermington).

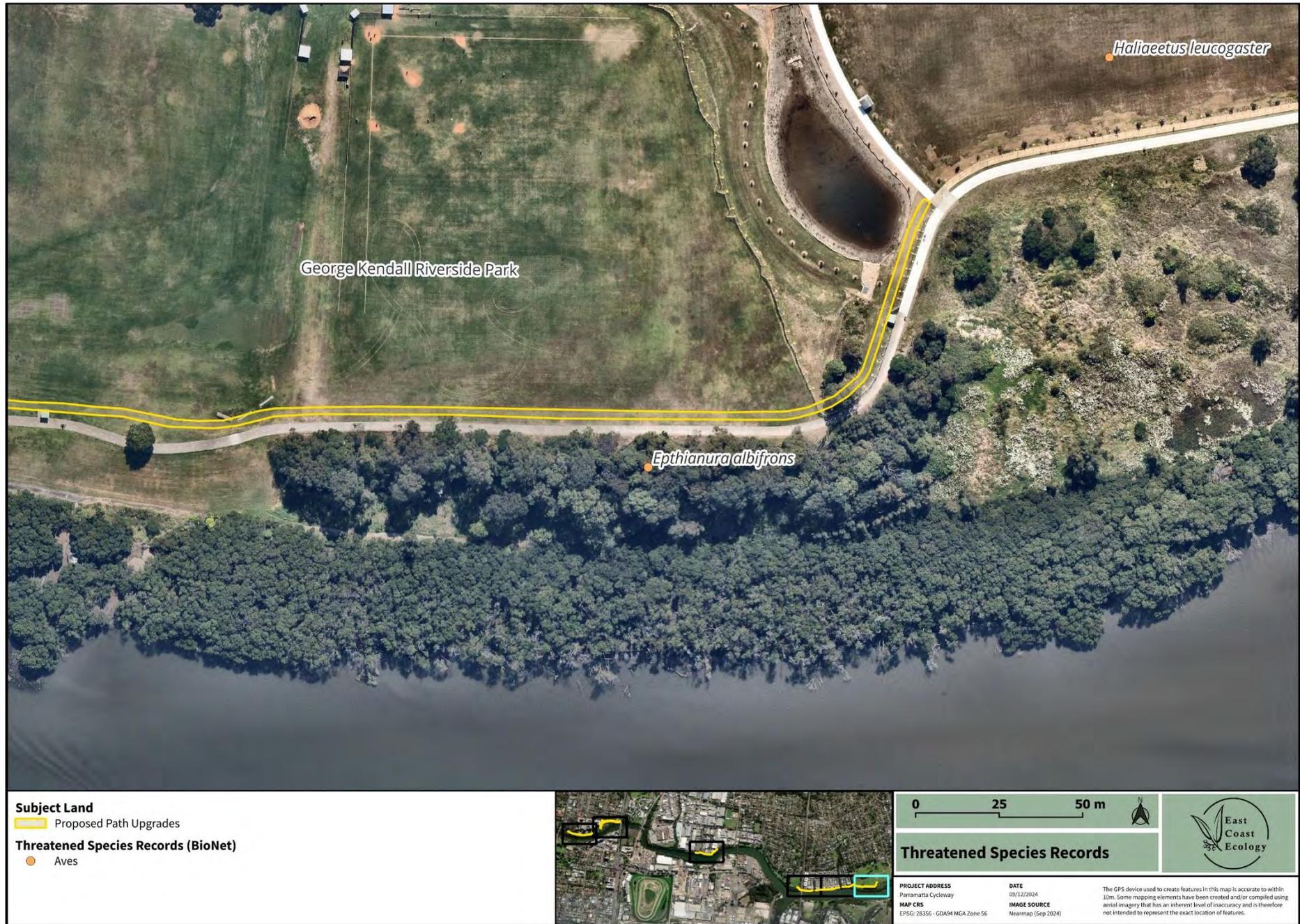


Figure 24. Threatened species records in proximity to the Subject Land (George Kendall Riverside Park).

6. IMPACT SUMMARY

6.1 Direct Impacts

6.1.1 Impacts to Plant Community Types

The primary direct ecological impact of the proposed activity is clearing of 31 native trees. The following trees, characteristic of PCT 4006, are proposed for removal:

- 2 x *Corymbia citriodora* (T12, T253)
- 1 x *Allocasuarina torulosa* (T13)
- 3 x *Corymbia maculata* (T17, T24, T231)
- 4 x *Angophora costata* (T39, T110, T150 – T151)
- 9 x *Casuarina glauca* (T40, T232, T276 – T282)
- 1 x *Livistona australis* (T155)
- 5 x *Casuarina cunninghamiana* (T164, T166, T252, T256 – T257)
- 1 x *Glochidion ferdinandi* (T236)
- 2 x *Melaleuca quinquenervia* (T239, T248)
- 2 x *Melaleuca styphelioides* (T179, T273)
- 1 x *Eucalyptus spp.* (T180), and
- Occasional native shrubs and groundcovers.

Based on the location (i.e. in garden beds), all trees have likely been planted but still provide a modified form representative of PCT 4006 within the Subject Land.

Additionally, the following three exotic species also require removal from within the Subject Land to facilitate the proposal:

- 1 x *Pistacia chinensis* (T38)
- 1 x *Phoenix canariensis* (T226), and
- 1 x *Olea europaea subsp. cuspidata* (T181).

6.1.2 Impacts to Protected Fauna

All vegetation proposed for removal and/or pruning provides minor foraging habitat for a suite of protected fauna species. Sensitive and/ or specialist fauna habitats (e.g. nectar/lerp-bearing trees and sap and gum sources) were present within the Subject Land. No hollow-bearing trees were present within the Subject Land at the time of the assessment.

In addition, a compliance permit has been acquired by City of Parramatta that allows for all proposed lighting and handrail construction within the Baludarri Wetlands areas of the project. It is predicted that adjacent habitat outside the Subject Land is likely to experience a negligible increase to indirect impacts created by noise, dust and light spill, during construction and operation of the future development of the Subject Land.

Site lighting will be designed to minimise glare and light spillage into adjoining properties and vegetation and be consistent with the requirements of Australian Standards and Guidelines 4282-2019 Control of the

obtrusive effects of outdoor lighting. Additional control measures are to be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species and lighting is to be installed in a direction oriented away from the vegetation within the Baludarri Wetlands. These indirect impacts will be managed via best practices outlined in an approved Construction Environmental Management Plan. The Subject Land already occurs within a disturbed landscape where light and noise pollution is already moderate. These impacts are not likely to substantially increase due to the proposed activity.

6.1.3 Impacts to Threatened Species and Communities

The proposed activity will result in the removal of 31 native trees characteristic the following BC & EPBC Act Listed TEC;

- Swamp Sclerophyll Forest of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (endangered).

Each of these trees belong to a now highly modified landscape. The result of a Test of Significance (5-Part Test) under the BC Act was that the proposed activity will not result in a 'significant impact' on any threatened entities and therefore the Biodiversity Offset Scheme is not triggered (**Appendix C & Appendix D**).

Although all areas of native vegetation within the Subject Land may be considered minor, potential habitat for threatened fauna; based on the minor nature of the impacts, no threatened fauna species were considered likely to be significantly impacted by the proposed activity. No threatened flora were identified within the Subject Land. A likelihood of occurrence table for threatened flora and fauna species within the Subject Land is presented in **Appendix B**.

Based on a lack of suitable habitat constraints, or the minor nature of the impact (i.e. select tree removal) no significant impact is likely and no further assessment was required. As such, an SIS or a BDAR is not required. The proposed activity will not result in a 'significant impact' on any MNES and a referral to the Australian Government Minister for the Environment is not required.

7. AVOIDANCE, MINIMISATION & MITIGATION

7.1 Avoidance and Minimisation

When assessing the biodiversity impacts of a proposed activity there are three key considerations. These three approaches are listed in a descending order of best biodiversity outcomes:

- **Avoid:** measures taken by a proponent such as careful site selection, or actions taken through the design, planning, construction and operational phases of the development to completely prevent impacts on biodiversity values, or certain areas of biodiversity
- **Minimise:** a process applied throughout the development planning and design life cycle that seeks to reduce the residual impacts of development on biodiversity values
- **Compensate:** measures in a proposed activity to compensate for the biodiversity values lost. This can be achieved through offsets (financial or not).

Given the nature of the proposed activity (widening of an existing pathway), opportunities to change the project design in favour of vegetation retention are fairly limited and defined by engineering requirements. The proposed activity has been designed with consideration of impact avoidance to nearby Coastal Wetlands. Furthermore, laydown and storage areas will be positioned outside of native vegetation to avoid any additional impacts to native vegetation beyond the unavoidable impacts associated with the proposed activity.

7.2 Impact Mitigation and Minimisation Recommendations

This section of the report details recommended efforts to avoid and minimise impacts on biodiversity values associated with the proposed activity. Measures to be implemented before, during, and post construction are detailed in **Table 9**.

Table 9. Measures to be implemented before, during, and after construction to avoid and minimise the impacts of the proposed activity.

Action	Outcome	Timing	Responsibility
<p>Assigning a Project Ecologist for Vegetation Clearing</p>	<p>Prior to works, the applicant should commission the services of a qualified and experienced Ecologist (minimum 3 years’ experience). The Ecologist must be licensed with a current Department of Primary Industries Animal Research Authority permit and New South Wales Scientific License issued under the BC Act. The Ecologist will be commissioned to implement the following measures in accordance with best-practice, publicly available guidelines:</p> <ul style="list-style-type: none"> • Pre-clearing surveys will be undertaken in accordance with Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) • Vegetation and Habitat removal should be undertaken in accordance with Guide 4: Clearing of vegetation and removal of bushrock of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) • Fauna will be managed in accordance with Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) • Habitat will be replaced or re-instated in accordance with Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) <p>The unexpected species find procedure is to be followed under Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) if threatened flora and fauna, not assessed in the biodiversity assessment, are identified in the Subject Land.</p>	<p>Prior to Construction</p>	<p>City of Parramatta Council Ecologist</p>

Action	Outcome	Timing	Responsibility
Edge Effects on Adjacent Native Vegetation and Habitat	Exclusion zones will be set up at the limit of clearing in accordance with Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024)	During Construction	City of Parramatta Council
Erosion and Sedimentation	Appropriate erosion and sediment control should be erected and maintained at all times during construction in order to avoid the potential of incurring indirect impacts on biodiversity values. Erosion and sediment controls would be established in accordance with an erosion and sedimentation plan to be produced for the proposed works. As a minimum, such measures should comply with the relevant industry guidelines such as ‘the Blue Book’ (Landcom, 2004).	During Construction	City of Parramatta Council
Storage and Stockpiling (Soil and Materials)	Allocate all storage, stockpile, and laydown sites away from any vegetation that is planned to be retained. Avoid importing any soil from outside the site in order to avoid the potential of incurring indirect impacts on biodiversity values as this can introduce weeds and pathogens to the site. If materials are required to be imported for landscaping works, they are to be sterilised according to industry standards prior to importation to site.	During Construction	City of Parramatta Council
No Weeds imported on to the Subject Land	No priority or environmental weeds, pathogens or other biosecurity issues (e.g. fireants) are to be imported on to the site prior to or during construction works.	During Construction	City of Parramatta Council
Minimisation of Light Spill	Control measures (e.g. the directional lighting and task lighting) are to be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species.	During Construction and Operation	City of Parramatta Council

8. CONCLUSION

The proposed activity will result in the clearing of the following 31 native trees characteristic of PCT 4006:

- 2 x *Corymbia citriodora* (T12, T253)
- 1 x *Allocasuarina torulosa* (T13)
- 3 x *Corymbia maculata* (T17, T24, T231)
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- Occasional native shrubs and groundcovers.

The proposed activity will result in the removal of 31 native trees characteristic the following BC Act Listed TEC;

- Swamp Sclerophyll Forest of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (endangered).

Additionally, the following three commonly planted exotic species also require removal from within the Subject Land to facilitate the proposal:

- 1 x *Pistacia chinensis* (T38)
- 1 x *Phoenix canariensis* (T226), and
- 1 x *Olea europaea subsp. Cuspidata* (T181).

Each of these trees belong to a now highly modified landscape. The result of a Test of Significance (5-Part Test) under the BC Act was that the proposed activity will not result in a ‘significant impact’ on any threatened entities and therefore the Biodiversity Offset Scheme is not triggered (**Appendix C & Appendix D**).

Although all areas of native vegetation within the Subject Land may be considered minor, potential habitat for threatened fauna; based on the minor nature of the impacts, no threatened fauna species were considered likely to be significantly impacted by the proposed activity. No threatened flora were identified within the Subject Land. A likelihood of occurrence table for threatened flora and fauna species within the Subject Land is presented in **Appendix B**.

Based on a lack of suitable habitat constraints, or the minor nature of the impact (i.e. select tree removal) no significant impact is likely and no further assessment was required. As such, an SIS or a BDAR is not required. The proposed activity will not result in a ‘significant impact’ on any MNES and a referral to the Australian Government Minister for the Environment is not required.

9. REFERENCES

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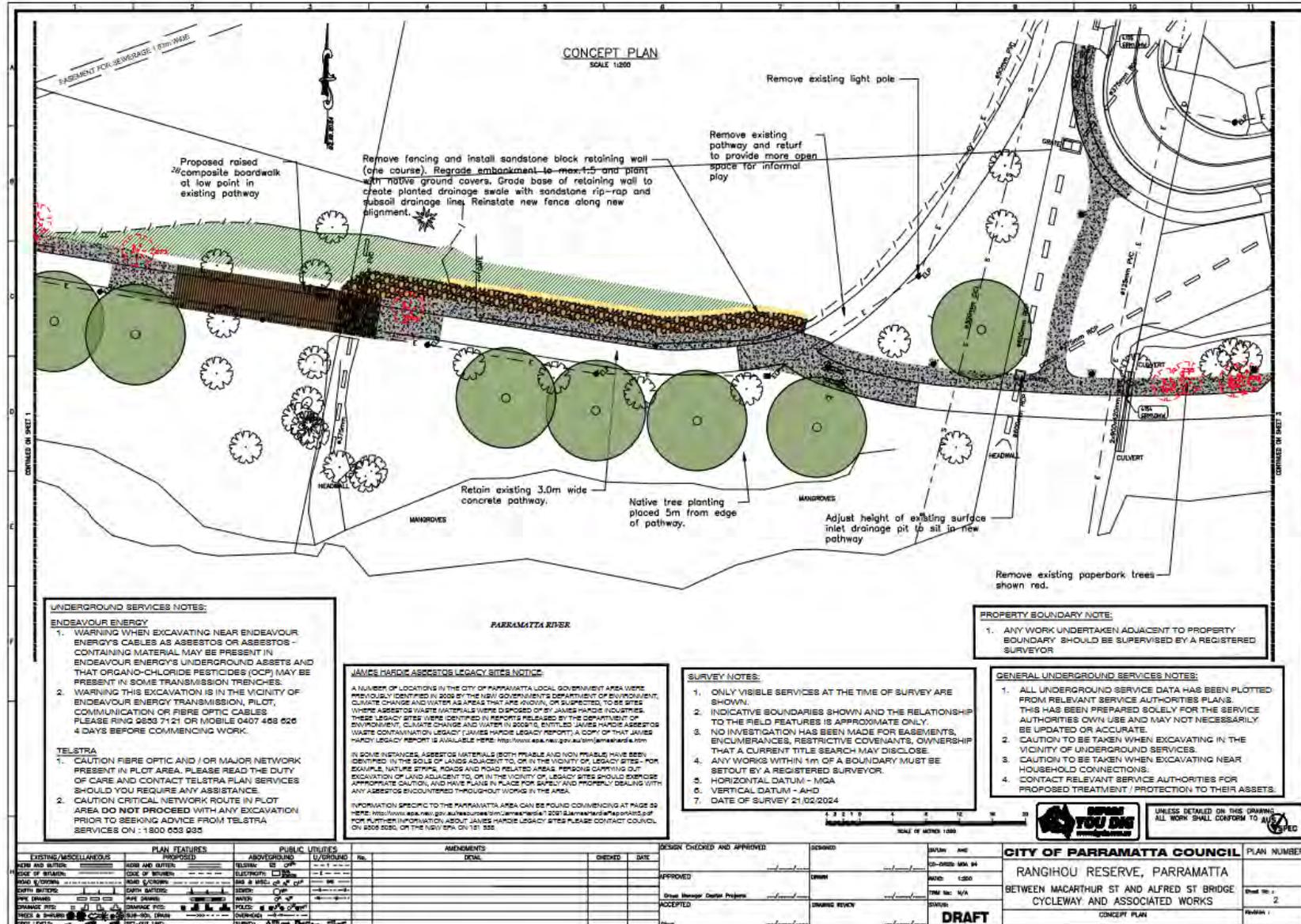
10. APPENDICES

Appendix A. Concept Design Plans (City of Parramatta Council, 2024).

Appendix B. Assessment of likely occurrence of threatened species within the Subject Land.

Appendix C. 5-Part Tests (Tests of Significance) (BC Act).

Appendix D. Assessment of Significant Impact Criteria under the EPBC Act.



UNDERGROUND SERVICES NOTES:
ENDEAVOUR ENERGY
 1. WARNING WHEN EXCAVATING NEAR ENDEAVOUR ENERGY'S CABLES AS ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT IN ENDEAVOUR ENERGY'S UNDERGROUND ASSETS AND THAT ORGANO-CHLORIDE PESTICIDES (OCP) MAY BE PRESENT IN SOME TRANSMISSION TRENCHES.
 2. WARNING THIS EXCAVATION IS IN THE VICINITY OF ENDEAVOUR ENERGY TRANSMISSION, FIBRE OPTIC, COMMUNICATION OR FIBRE OPTIC CABLES. PLEASE RING 9533 7121 OR MOBILE 0407 408 626 4 DAYS BEFORE COMMENCING WORK.

TELSTRA
 1. CAUTION FIBRE OPTIC AND / OR MAJOR NETWORK PRESENT IN PLOT AREA. PLEASE READ THE DUTY OF CARE AND CONTACT TELSTRA PLAN SERVICES SHOULD YOU REQUIRE ANY ASSISTANCE.
 2. CAUTION CRITICAL NETWORK ROUTE IN PLOT AREA. DO NOT PROCEED WITH ANY EXCAVATION PRIOR TO SEEKING ADVICE FROM TELSTRA SERVICES ON 1 800 633 935

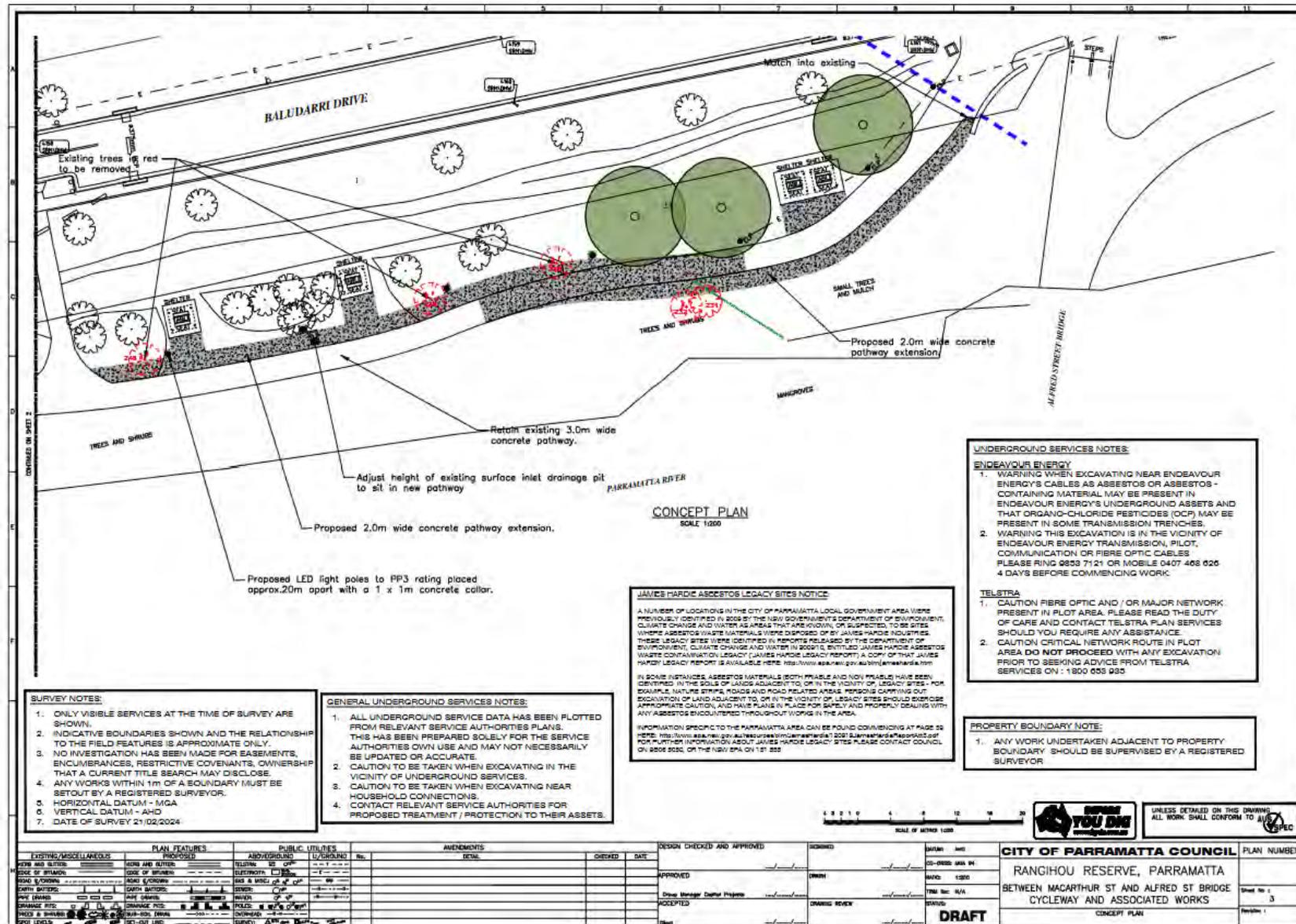
JAMES HARCIS ASBESTOS LEGACY SITES NOTICE
 A NUMBER OF LOCATIONS IN THE CITY OF PARRAMATTA LOCAL GOVERNMENT AREA WERE PREVIOUSLY IDENTIFIED IN 2005 BY THE NSW GOVERNMENT'S DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER AS PLACES THAT ARE SUSPECTED TO BE SITES WHERE ASBESTOS WASTE MATERIALS WERE DISPOSED OF BY JAMES HARCIS INDUSTRIES. THESE LEGACY SITES WERE IDENTIFIED IN REPORTS RELEASED BY THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER IN 2005. ENTITLED JAMES HARCIS ASBESTOS WASTE CONTAMINATION LEGACY (JAMES HARCIS LEGACY REPORT). A COPY OF THAT JAMES HARCIS LEGACY REPORT IS AVAILABLE HERE: <http://www.epa.nsw.gov.au/legacysites.htm>
 IN SOME INSTANCES, ASBESTOS MATERIALS (BOTH FRIBLE AND NON FRIBLE) HAVE BEEN IDENTIFIED IN THE SOILS OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES - FOR EXAMPLE, NATURE STRIPS, ROADS AND ROAD RELATED AREAS. PERSONS CARRYING OUT EXCAVATION OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES SHOULD EXERCISE APPROPRIATE CAUTION, AND HAVE PLANS IN PLACE FOR SAFELY AND PROPERLY DEALING WITH ANY ASBESTOS ENCOUNTERED THROUGHOUT WORKS IN THE AREA.
 INFORMATION SPECIFIC TO THE PARRAMATTA AREA CAN BE FOUND COMMENCING AT PAGE 59 HERE: <http://www.epa.nsw.gov.au/resources/online/legacysites/2012/lanarrange/legacysites.pdf> FOR FURTHER INFORMATION ABOUT JAMES HARCIS LEGACY SITES PLEASE CONTACT COUNCIL ON 9500 9200 OR THE NSW EPA ON 131 322

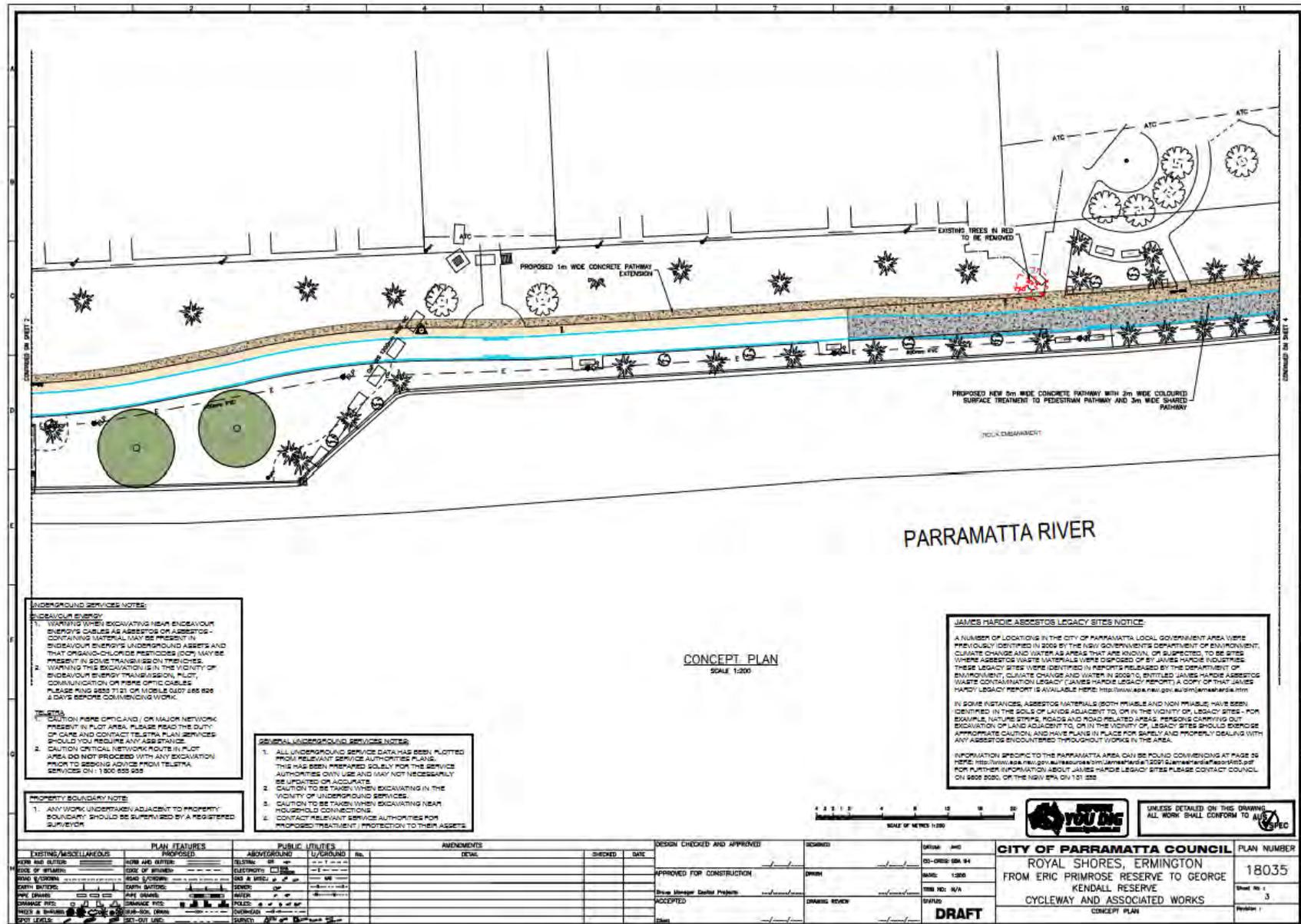
SURVEY NOTES:
 1. ONLY VISIBLE SERVICES AT THE TIME OF SURVEY ARE SHOWN.
 2. INDICATIVE BOUNDARIES SHOWN AND THE RELATIONSHIP TO THE FIELD FEATURES IS APPROXIMATE ONLY.
 3. NO INVESTIGATION HAS BEEN MADE FOR EASEMENTS, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP THAT A CURRENT TITLE SEARCH MAY DISCLOSE.
 4. ANY WORKS WITHIN 1m OF A BOUNDARY MUST BE SETOUT BY A REGISTERED SURVEYOR.
 5. HORIZONTAL DATUM - MGA
 6. VERTICAL DATUM - AHD
 7. DATE OF SURVEY 21/02/2024

PROPERTY BOUNDARY NOTE:
 1. ANY WORK UNDERTAKEN ADJACENT TO PROPERTY BOUNDARY SHOULD BE SUPERVISED BY A REGISTERED SURVEYOR

GENERAL UNDERGROUND SERVICES NOTES:
 1. ALL UNDERGROUND SERVICE DATA HAS BEEN PLOTTED FROM RELEVANT SERVICE AUTHORITIES PLANS. THIS HAS BEEN PREPARED SOLELY FOR THE SERVICE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
 2. CAUTION TO BE TAKEN WHEN EXCAVATING IN THE VICINITY OF UNDERGROUND SERVICES.
 3. CAUTION TO BE TAKEN WHEN EXCAVATING NEAR HOUSEHOLD CONNECTIONS.
 4. CONTACT RELEVANT SERVICE AUTHORITIES FOR PROPOSED TREATMENT / PROTECTION TO THEIR ASSETS.

EXISTING / MISCILLANEOUS		PLAN FEATURES		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		CITY OF PARRAMATTA COUNCIL	
ITEM AND DETAIL	NO. AND DATE	PROPOSED	NO. AND DATE	ABOVEGROUND	U/DEGROUND	No.	DETAIL	DESIGNED	CHECKED	DATE	PLAN NUMBER
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			RANGHOU RESERVE, PARRAMATTA BETWEEN MACARTHUR ST AND ALFRED ST BRIDGE CYCLEWAY AND ASSOCIATED WORKS CONCEPT PLAN
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ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 144
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 145
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 146
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 147
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 148
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 149
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 150
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 151
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 152
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 153
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 154
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 155
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 156
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 157
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 158
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 159
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 160
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 161
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 162
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 163
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 164
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 165
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 166
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 167
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 168
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 169
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 170
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 171
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 172
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 173
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 174
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 175
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 176
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 177
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 178
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 179
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 180
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 181
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 182
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 183
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 184
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 185
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 186
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 187
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 188
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 189
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 190
ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	ROAD & DRIVEWAY	TELSTRA	TELSTRA			APPROVED			PLAN 191
ROAD & DRIVEWAY											





UNDERGROUND SERVICES NOTES:

ENDOUR ENERGY

1. WARNING WHEN EXCAVATING NEAR ENDOUR ENERGY CABLES AS ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT IN ENDOUR ENERGY'S UNDERGROUND ASSETS AND THAT ORGANIC-ORIGIN PESTICIDES (OOP) MAY BE PRESENT IN SOLVENTS/RESINS ON TRENCHES.
2. WARNING THIS EXCAVATION IS IN THE VICINITY OF ENDOUR ENERGY TRANSMISSION, PILOT, COMMUNICATION OR FIBRE OPTIC CABLES. PLEASE READ 808 1121 OR MOBILE 0821 855 858 6 DAYS BEFORE COMMENCING WORK.

TELSTRA

CAUTION FIBRE OPTIC/LAND / OR MAJOR NETWORK PRESENT IN PLOT AREA. PLEASE READ THE DUTY OF CARE AND CONTACT TELSTRA PLAN SERVICES SHOULD YOU REQUIRE ANY ASSISTANCE.

2. CAUTION CRITICAL NETWORK ROUTES IN PLOT AREA DO NOT PROCEED WITH ANY EXCAVATION PRIOR TO RECEIVING ADVICE FROM TELSTRA SERVICES ON 1 800 855 955

PROPERTY BOUNDARY NOTE:

1. ANY WORK UNDERTAKEN ADJACENT TO PROPERTY BOUNDARY SHOULD BE SUPERVISED BY A REGISTERED SURVEYOR.

GENERAL UNDERGROUND SERVICES NOTES:

1. ALL UNDERGROUND SERVICE DATA HAS BEEN PLOTTED FROM RELEVANT SERVICE AUTHORITIES PLANS. THIS HAS BEEN PREPARED SOLELY FOR THE SERVICE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
2. CAUTION TO BE TAKEN WHEN EXCAVATING IN THE VICINITY OF UNDERGROUND SERVICES.
3. CAUTION TO BE TAKEN WHEN EXCAVATING NEAR HOUSEHOLD CONNECTIONS.
4. CONTACT RELEVANT SERVICE AUTHORITIES FOR PROPOSED TREATMENT / PROTECTION TO THEIR ASSETS.

JAMES HARCIE ASBESTOS LEGACY SITES NOTICE:

A NUMBER OF LOCATIONS IN THE CITY OF PARRAMATTA LOCAL GOVERNMENT AREA WERE PREVIOUSLY IDENTIFIED IN 2008 BY THE NSW GOVERNMENT'S DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER AS AREAS THAT ARE KNOWN, OR SUSPECTED, TO BE SITES WHERE ASBESTOS WASTE MATERIALS WERE DISPOSED OF BY JAMES HARCIE INDUSTRIES. THESE LEGACY SITES WERE IDENTIFIED IN REPORTS RELEASED BY THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER IN 2008/9, ENTITLED JAMES HARCIE ASBESTOS WASTE CONTAMINATION LEGACY (JAMES HARCIE LEGACY SITES PLEASE CONTACT COUNCIL ON 8555 2020, OR THE NSW EPA ON 131 322.

IN SOME INSTANCES, ASBESTOS MATERIALS (BOTH FRASBLE AND NON FRASBLE) HAVE BEEN IDENTIFIED IN THE SOILS OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES - FOR EXAMPLE, NATURE STRIPS, ROADS AND ROAD RELATED AREAS. PERSONS CARRYING OUT EXCAVATION OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES SHOULD EXERCISE APPROPRIATE CAUTION AND HAVE PLANS IN PLACE FOR SAFELY AND PROPERLY DEALING WITH ANY ASBESTOS ENCOUNTERED THROUGHOUT WORKS IN THE AREA.

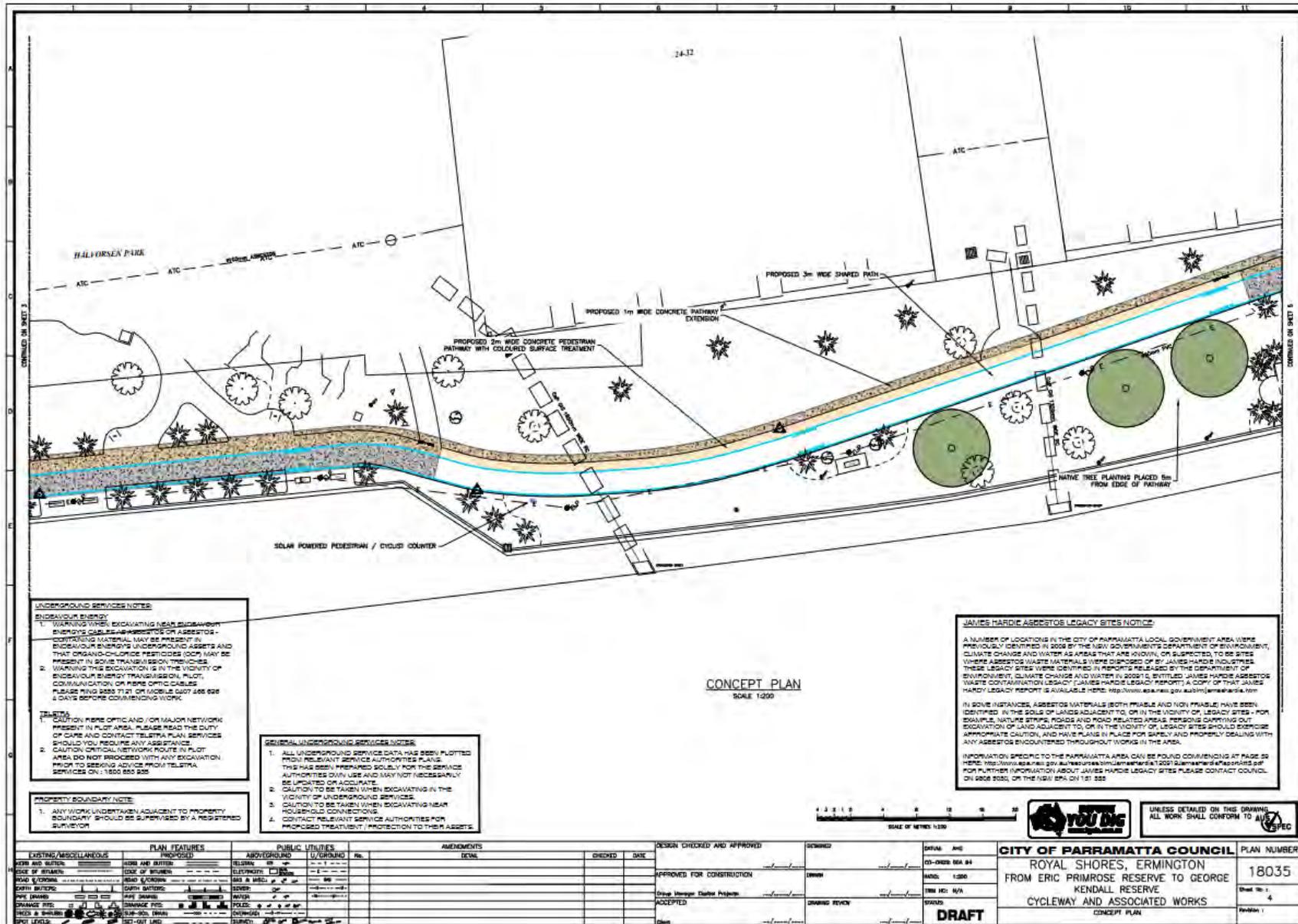
INFORMATION SPECIFIC TO THE PARRAMATTA AREA CAN BE FOUND COMMENCING AT PAGE 35 HERE: <https://www.epa.nsw.gov.au/industrial-and-waste/2022-landfills-and-reserves.pdf> FOR FURTHER INFORMATION ABOUT JAMES HARCIE LEGACY SITES PLEASE CONTACT COUNCIL ON 8555 2020, OR THE NSW EPA ON 131 322.

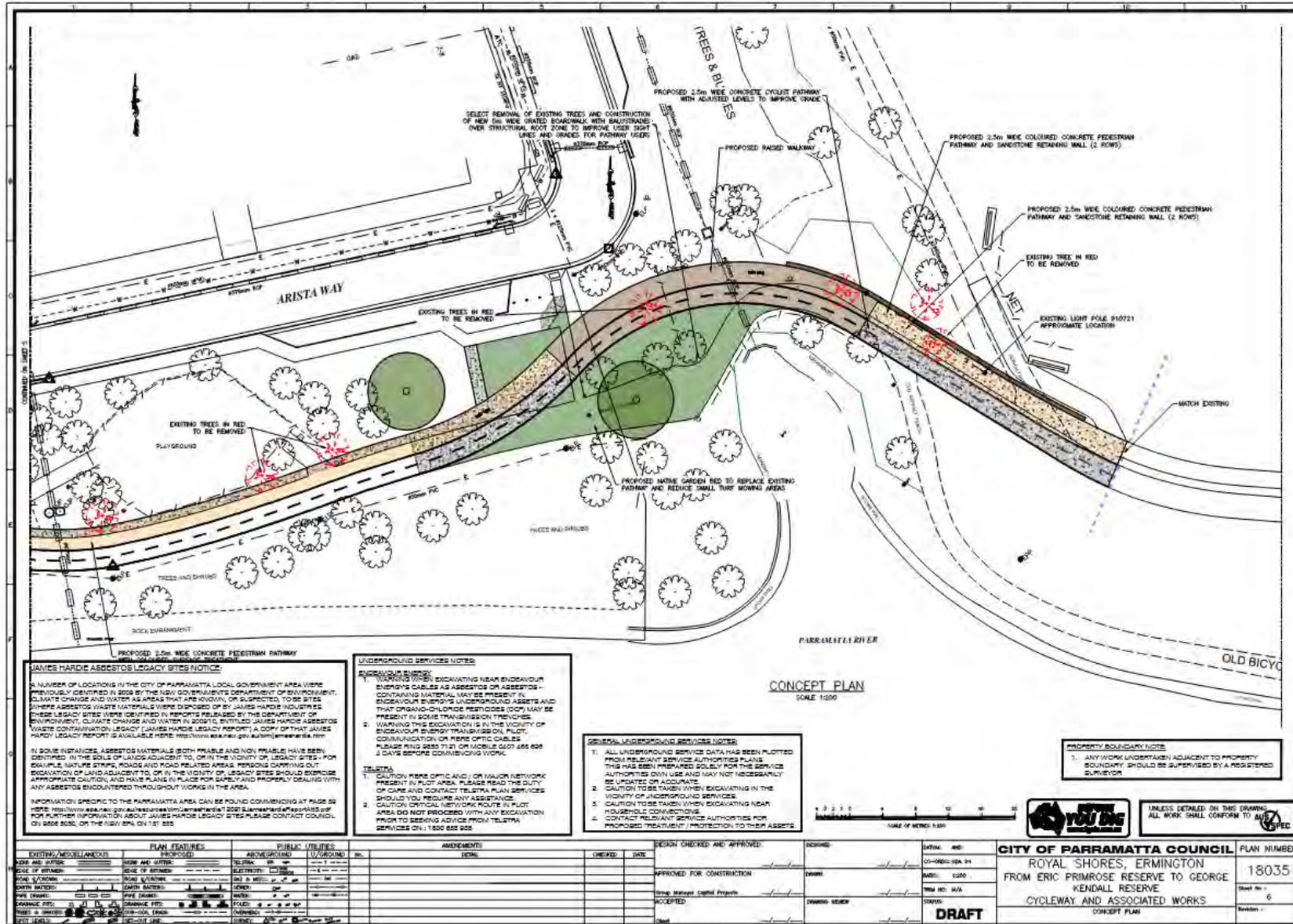
CONCEPT PLAN
SCALE 1:200



UNLESS DETAILED ON THE DRAWING ALL WORK SHALL CONFORM TO AUSTRALIAN STANDARDS

EXISTING/ASCILLANEOUS		PLAN FEATURES		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		CITY OF PARRAMATTA COUNCIL	
NO	DATE	NO	DATE	NO	DATE	NO	DATE	NO	DATE	PLAN NUMBER	PLAN NAME
1	15/05/2025	1	15/05/2025	1	15/05/2025	1	15/05/2025	1	15/05/2025	18035	ROYAL SHORES, ERMINGTON FROM ERIC PRIMROSE RESERVE TO GEORGE KENDRICK RESERVE CYCLEWAY AND ASSOCIATED WORKS
<p>APPROVED FOR CONSTRUCTION</p> <p>Drawn: [Name]</p> <p>Checked: [Name]</p> <p>Approved: [Name]</p> <p>Scale: 1:200</p> <p>Date: 15/05/2025</p> <p>Project: [Name]</p> <p>Sheet: 3 of 3</p> <p>DRAFT</p>										<p>18035</p> <p>3</p> <p>1</p>	





JAMES HARDIE ASBESTOS LEGACY SITES NOTICE

A NUMBER OF LOCATIONS IN THE CITY OF PARRAMATTA LOCAL GOVERNMENT AREA WERE PREVIOUSLY IDENTIFIED IN 2008 BY THE NSW GOVERNMENT'S DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER AS AREAS THAT ARE SUSPECTED TO BE SITES WHERE ASBESTOS WASTE MATERIALS WERE DISPOSED OF BY JAMES HARDIE INDUSTRIES. THESE LEGACY SITES WERE IDENTIFIED IN REPORTS RELEASED BY THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER IN 2008.15. EXISTING JAMES HARDIE ASBESTOS WASTE CONTAMINATION LEGACY (JAMES HARDIE LEGACY) REPORT A COPY OF THAT JAMES HARDIE LEGACY REPORT IS AVAILABLE HERE: <http://www.environment.nsw.gov.au/whm/whm.htm>

IN SOME INSTANCES, ASBESTOS MATERIALS BOTH FRAGILE AND NON-FRAGILE HAVE BEEN IDENTIFIED IN THE SOILS OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES - FOR EXAMPLE, NATURE STRIPS, ROADS AND ROAD RELATED AREAS. PERSONS CARRYING OUT EXCAVATION OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES SHOULD EXERCISE APPROPRIATE CAUTION, AND HAVE PLANS IN PLACE FOR SAFELY AND PROPERLY DEALING WITH ANY ASBESTOS ENCOUNTERED THROUGHOUT WORKS IN THE AREA.

INFORMATION SPECIFIC TO THE PARRAMATTA AREA CAN BE FOUND COMMENCING AT PAGE 59 HERE: <http://www.environment.nsw.gov.au/whm/whm.htm> FOR FURTHER INFORMATION ABOUT JAMES HARDIE LEGACY SITES PLEASE CONTACT COUNCIL ON 0000 800, OR THE NSW EPA ON 131 522.

UNDERGROUND SERVICES NOTES

- UNDERGROUND ENERGY**
- WARNING: WHEN EXCAVATING NEAR ENDEAVOUR ENERGY CABLES AS ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT IN ENDEAVOUR ENERGY'S UNDERGROUND ASSETS AND THAT ORGANIC/CHLORIDE RESIDUES COULD MAY BE PRESENT IN SOLID TRANSMISSION TRENCHES.
 - WARNING: THE EXCAVATION IS IN THE VICINITY OF ENDEAVOUR ENERGY TRANSMISSION Pylon, COMMUNICATION OR FIBRE OPTIC CABLES. PLEASE RING 9253 7121 OR MOBILE 0401 455 005 2 DAYS BEFORE COMMENCING WORK.
- TELESTRA**
- CAUTION: FIBRE OPTIC CABLE / OR FIBRE NETWORK PRESENT IN PLOT AREA. PLEASE READ THE DUTY OF CARE AND CONTACT TELESTRA PLAN SERVICES SHOULD YOU REQUIRE ANY ASSISTANCE.
 - CAUTION: CRITICAL NETWORK ROUTE IN PLOT AREA. DO NOT PROCEED WITH ANY EXCAVATION PRIOR TO SEEKING ADVICE FROM TELESTRA SERVICES ON: 1 800 858 908

GENERAL UNDERGROUND SERVICES NOTES:

- ALL UNDERGROUND SERVICE DATA HAS BEEN PLOTTED FROM RELEVANT SERVICE AUTHORITIES PLUS THIS HAS BEEN PREPARED SOLELY FOR THE SERVICE AUTHORITY'S OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
- CAUTION TO BE TAKEN WHEN EXCAVATING IN THE VICINITY OF UNDERGROUND SERVICES.
- CAUTION TO BE TAKEN WHEN EXCAVATING NEAR HOUSEHOLD CONNECTIONS.
- CONTACT RELEVANT SERVICE AUTHORITIES FOR PROPOSED TREATMENT / PROTECTION TO THEIR ASSETS.

PROPERTY BOUNDARY NOTE

- ANY WORK UNDERTAKEN ADJACENT TO PROPERTY BOUNDARY SHOULD BE SUPERVISED BY A REGISTERED SURVEYOR.

CONCEPT PLAN
SCALE 1:500

PLAN FEATURES		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED:		CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
EXISTING/REVISIONS	PROPOSED	UNDERGROUND	ON-GROUND	NO.	DETAIL	CHECKED	DATE	DESIGNED	DATE	18035
NAME AND ADDRESS DATE OF WORKS ROAD / TOWN SOUTH EASTING DATE OF WORKS ROAD / TOWN SOUTH EASTING DATE OF WORKS ROAD / TOWN SOUTH EASTING	NAME AND ADDRESS DATE OF WORKS ROAD / TOWN SOUTH EASTING DATE OF WORKS ROAD / TOWN SOUTH EASTING DATE OF WORKS ROAD / TOWN SOUTH EASTING	TELEPHONE NO. METER NO. METER TYPE METER DATE METER LOCATION	METER NO. METER TYPE METER DATE METER LOCATION							
APPROVED FOR CONSTRUCTION Using Request Control Process ACCEPTED										DRAFT CITY OF PARRAMATTA COUNCIL ROYAL SHORES, ERMINGTON FROM ERIC PRIMROSE RESERVE TO GEORGE KENDALL RESERVE CYCLEWAY AND ASSOCIATED WORKS CONCEPT PLAN

Appendix B. Assessment of likely occurrence of threatened species within the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Acacia pubescens</i>	V	V	Concentrated around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravelly soils, often with ironstone. Grows in open woodland and forest, in a variety of plant communities, including Cooks River-Castlereagh Ironbark forest, Shale-Gravel Transition forest and Cumberland Plain woodland.	56	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Callistemon linearifolius</i>	V	-	Recorded from the Georges River to Hawkesbury River in the Sydney area, and north to the Nelson Bay area of NSW. Recorded in 2000 at Coalcliff in the northern Illawarra. For the Sydney area, recent records are limited to the Hornsby Plateau area near the Hawkesbury River. Grows in dry sclerophyll forest on the coast and adjacent ranges.	6	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Dillwynia tenuifolia</i>	V	-	The core distribution is the Cumberland Plain from Windsor to Penrith east to Deans Park. Other populations in western Sydney are	2	Low. A targeted survey during the site assessment did not identify this species. If present, this species would

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			recorded from Voyager Point and Kemps Creek in the Liverpool LGA, Luddenham in the Penrith LGA and South Maroota in the Baulkham Hills Shire. Disjunct localities include: the Bulga Mountains at Yengo in the north, Kurrajong Heights and Woodford in the Lower Blue Mountains. In western Sydney, may be locally abundant particularly within scrubby-dry heath areas within Castlereagh Ironbark forest and Shale Gravel Transition forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these communities adjoin Castlereagh Scribbly Gum woodland. At Yengo, is reported to occur in disturbed escarpment woodland on Narrabeen sandstone.		have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	V	-	Recorded from Gosford in the north, to Narrabeen in the east, Silverdale in the west and Avon Dam vicinity in the South. Found in a range of habitat types, most of which have a strong shale soil influence.	52	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Grammitis stenophylla</i>	E	-	Moist places, usually near streams, on rocks or in trees, in rainforest and moist eucalypt forest.	1	Unlikely. Appropriate habitat for this species was absent from within the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Isotoma fluviatilis subsp. fluviatilis</i>	-	X	Known from only two adjacent sites on a single private property at Erskine Park in the Penrith LGA. Previous sightings are all from western Sydney, at Homebush and at Agnes Banks. Grows in damp places, on the Cumberland Plain, including freshwater wetland, grassland/alluvial woodland and an alluvial woodland/shale plains woodland (Cumberland Plain Woodland) and related vegetation types/. May be an early successional species that benefits from some disturbance. Possibly out competed when overgrown by some species such as <i>Cyndon dactylon</i> .	2	Unlikely. This species is assumed extinct. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Macadamia integrifolia</i>	-	V	Macadamia Nut occurs from Mt Bauple, near Gympie, to Currumbin Valley in the Gold Coast hinterland, south-east Queensland. The species was known to occur in north-east New South Wales; was described from 1850-60 specimens collected from Camden Haven, and there are specimens also from Lismore. This species grows in remnant rainforest, including complex mixed notophyll forest,	2	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			and prefers partially open areas such as rainforest edges.		
<i>Persicaria elatior</i>	V	V	This species normally grows in damp places, especially beside streams and lakes. Occasionally in swamp forest or associated with disturbance.	1	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Pimelea curviflora</i> var. <i>curviflora</i>	V	V	Confined to the coastal area of Sydney between northern Sydney in the south and Maroota in the north-west. Former range extended south to the Parramatta River and Port Jackson region including Five Dock, Bellevue Hill and Manly. Occurs on shaley-lateritic soils over sandstone and shale-sandstone transition soils on ridgetops and upper slopes amongst woodlands.	9	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Pimelea spicata</i>	E	E	Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas; the Cumberland Plain (Narellan, Marayong, Prospect Reservoir areas) and the Illawarra (Landsdowne to Shellharbour to northern Kiama). In both the Cumberland Plain and Illawarra environments this species is found on well-structured clay soils. On the inland Cumberland Plain sites it is associated	2	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			with grey box and Ironbark. In the coastal Illawarra it occurs commonly in Coast Banksia open woodland with a better developed shrub and grass understorey.		
<i>Pomaderris prunifolia</i> (Endangered population)	E	-	Known from only three sites within the listed local government areas, at Rydalmere, within Rookwood Cemetery and at The Crest of Bankstown. At Rydalmere it occurs along a road reserve near a creek, among grass species on sandstone. At Rookwood Cemetery it occurs in a small gully of degraded Cooks River - Castlereagh Ironbark forest on shale soils.	8	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Rhodamnia rubescens</i>	CE	CE	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. This species is characterised as highly to extremely susceptible to infection by Myrtle Rust. Myrtle Rust affects all plant parts.	4	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Syzygium paniculatum</i>	E	V	Found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State forest. On the south coast the species occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral rainforest. On the central coast it occurs on gravels, sands, silts	6	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level).

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			and clays in riverside gallery rainforests and remnant littoral rainforest communities		No further assessment is required.
<i>Tetratheca glandulosa</i>	V	-	Associated with shale-sandstone transition habitat where shale-cappings occur over sandstone, with associated soil landscapes such as Lucas Heights, Gynea, Lambert and Faulconbridge. Topographically, the plant occupies ridgetops, upper-slopes and to a lesser extent mid-slope sandstone benches. Soils are generally shallow, consisting of a yellow, clayey-sandy loam. Stony lateritic fragments are also common in the soil profile on many of these ridgetops. Vegetation structure varies from heaths and scrub to woodlands-open woodlands, and open forest.	1	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Triplarina imbricata</i>	E	E	Found only in a few locations in the ranges south-west of Glenreagh and near Tabulam in north-east NSW. Along watercourses in low open forest with water gum.	4	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required
<i>Wahlenbergia multicaulis</i>	E	-	Found in disturbed sites and grows in a variety of habitats including forest, woodland, scrub, grassland and the edges of watercourses and wetlands. Typically occurs	8	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
(Endangered population)			in damp, disturbed sites (with natural or human disturbance of various forms), typically amongst other herbs rather than in the open.		No further assessment is required
<i>Wilsonia backhousei</i>	V	-	In NSW Narrow-leaf <i>Wilsonia</i> is found on the coast between Mimosa Rocks National Park and Wamberal north of Sydney. This is a species of the margins of salt marshes and lakes.	100	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required
<i>Zannichellia palustris</i>	E	-	Grows in fresh or slightly saline stationary or slowly flowing water. NSW populations behave as annuals, dying back completely every summer.	6	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required
<i>Anthochaera phrygia</i>	CE	CE	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and	7	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.		
<i>Artamus cyanopterus cyanopterus</i>	V	-	The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. The Dusky Woodswallow is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests. At sites where Dusky Woodswallows are recorded the understorey is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open	35	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			ground, often with coarse woody debris (Higgins and Peter 2002). Birds are also often observed in farm land, usually at the edges of forest or woodland or in roadside remnants or wind breaks with dead timber.		
<i>Botaurus poiciloptilus</i>	E	E	The Australasian Bitterns is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	13	<p>Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land.</p> <p>This species has not been recorded within the locality in the last 10-years.</p> <p>No further assessment is required.</p>
<i>Calidris canutus</i>	E	CE	The Red Knot is common in all the main suitable habitats around the coast of Australia. Very large numbers are regularly recorded in north-west Australia, with 80 Mile Beach and Roebuck Bay being particular strongholds. The only places it is not found in significant numbers are the northern part of the Great Australian Bight in South Australia and Western Australia, and along much of the NSW coast, where wader habitat is rather scarce (excluding the Hunter Estuary). It is widespread along the coast south of	14	<p>Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land.</p> <p>No further assessment is required.</p>

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			Townsville and along the coasts of NSW and Victoria.		
<i>Calidris ferruginea</i>	E	CE	The Curlew Sandpiper is distributed around most of the coastline of Australia. It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland	438	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Calidris tenuirostris</i>	V	V	In NSW, the species has been recorded at scattered sites along the coast to about Narooma. It has also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons. Often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Calyptorhynchus lathami lathami</i>	V	V	Inhabits forest with low nutrients, characteristically with key Allocasuarina spp. Tends to prefer drier forest types with a middle stratum of Allocasuarina below Eucalyptus or Angophora. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	3	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Chalinolobus dwyeri</i>	E	E	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests	3	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Circus assimilis</i>	V	-	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over	12	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			open habitats including edges of inland wetlands.		
<i>Daphoenositta chrysoptera</i>	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby under storey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or ironbarks, but also in paperbarks or mature Eucalypts with hollows.	4	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Dasyurus maculatus</i>	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	3	Low. Suitable breeding habitat is absent from the Subject Land. This species may occasionally forage within the Subject Land, however, are unlikely to rely upon these areas given the more appropriate foraging habitat available within the broader locality. No further assessment is required.
<i>Epthianura albifrons</i> (Endangered population)	E	-	Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.	437	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Epthianura albifrons</i>	V	-	Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.	437	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Falco subniger</i>	V	-	The Black Falcon is found along tree-lined watercourses and in isolated woodlands, mainly in arid and semi-arid areas. It roosts in trees at night and often on power poles by day.	1	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. This species has not been recorded within the locality in the last 10-years. No further assessment is required.
<i>Falsistrellus tasmaniensis</i>	V	-	Inhabit sclerophyll forests, preferring wet habitats where trees are more than 20 m high. Two observations have been made of roosts in stem holes of living eucalypts. There is debate about whether or not this species moves to lower altitudes during winter, or	11	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			whether they remain sedentary but enter torpor. This species also appears to be highly mobile and records showing movements of up to 12 km between roosting and foraging sites.		periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Gallinago hardwickii</i>	V	V	Latham's Snipe is a non-breeding migrant to the south east of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland. seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration.	1965	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Glossopsitta pusilla</i>	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked	21	Moderate. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			eucalypts. Most breeding records come from the western slopes.		
<i>Haematopus longirostris</i>	E	-	The Pied Oystercatcher inhabits marine littoral habitats, including islands. It occupies muddy, sandy, stony or rocky estuaries, inlets and beaches, particularly intertidal mudflats and sandbanks in large marine bays.	1	Unlikely. Suitable habitat for the species is absent from the Subject Land. No further assessment is required.
<i>Haliaeetus leucogaster</i>	V	-	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	743	Moderate. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Hieraaetus morphnoides</i>	V	-	Most abundant in lightly timbered areas with open areas nearby. Often recorded foraging in grasslands, crops, treeless dune fields, and recently logged areas. May nest in farmland, woodland and forest in tall trees.	18	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Hirundapus caudacutus</i>	V	-	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	51	Moderate. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Ixobrychus flavicollis</i>	V	-	Usually found on coastal plains below 200 m. Often found along timbered watercourses, in wetlands with fringing trees and shrub vegetation. The sites where they occur are characterized by dense waterside vegetation.	6	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Lathamus discolor</i>	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW. This species is migratory, breeding in Tasmania and also nomadic,	7	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

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	BC Act	EPBC Act			
			moving about in response to changing food availability.		
<i>Limicola falcinellus</i>	V	-	Broad-billed Sandpipers favour sheltered parts of the coast such as estuarine sandflats and mudflats, harbours, embayments, lagoons, saltmarshes and reefs as feeding and roosting habitat. Occasionally, individuals may be recorded in sewage farms or within shallow freshwater lagoons. Broad-billed Sandpipers roost on banks on sheltered sand, shell or shingle beaches.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Limosa limosa</i>	V	E	Primarily a coastal species. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and-or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps.	17	Unlikely. Suitable habitat for the species is absent from the Subject Land. No further assessment is required.
<i>Litoria aurea</i>	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spikerushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes water-bodies that are un-shaded, free of	17069	Unlikely. Suitable habitat for the species is absent from the Subject Land. Extensive aquatic habitat more appropriate for this species will continue to be available within the Parramatta River. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.		
<i>Meridolum corneovirens</i>	E	-	Primarily inhabits Cumberland Plain woodland (an EEC). This community is a grassy, open woodland with occasional dense patches of shrubs. Lives under litter of bark, leaves and logs, or shelters in loose soil around grass clumps. Occasionally shelters under rubbish.	3	Low. Suitable habitat for this species is available within the Subject Land however extensive more appropriate leaf litter will continue to be available in the broader locality. No further assessment is required.
<i>Micronomus norfolkensis</i>	V	-	Most records are from dry eucalypt forests and woodlands to the east of the Great Dividing Range. Appears to roost in trees, but little is known of this species' habits.	11	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Miniopterus australis</i>	V	-	Coastal north-eastern NSW and eastern Queensland. Little Bent-wing Bat is an insectivorous bat that roost in caves, in old mines, in tunnels, under bridges, or in similar structures. They breed in large aggregations in a small number of known caves and may travel 100s km from feeding home ranges to breeding sites. Little Bent-wing Bat has a preference for moist eucalypt forest,	11	Low. This highly mobile species may be an occasional visitor. Suitable aerial foraging habitat for this species is found both within and immediately adjacent to the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			rainforest or dense coastal banksia scrub where it forages below the canopy for insects.		
<i>Miniopterus orianae oceanensis</i>	V	-	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young.	96	Low. This highly mobile species may be an occasional visitor. Suitable aerial foraging habitat for this species is found both within and immediately adjacent to the Subject Land. No further assessment is required.
<i>Myotis macropus</i>	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally roost in groups of 10 – 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	53	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Neophema pulchella</i>	V	-	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Nests in tree hollows, logs	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
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			or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.		No further assessment is required.
<i>Ninox connivens</i>	V	-	Generally found in open forests, woodlands, swamp woodlands and dense scrub. Can also be found in the foothills and timber along watercourses in otherwise open country.	6	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land. No further assessment is required.
<i>Ninox strenua</i>	V	-	Occupies wet and dry eucalypt forests and rainforests. Can occupy both un-logged and lightly logged forests as well as undisturbed forests where it usually roosts on the limbs of dense trees in gully areas. It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.5 m deep are required for nesting. Tree hollows are particularly important for the Powerful Owl because a large proportion of the diet is made up of hollow-dependent arboreal marsupials. Nest trees for this	306	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			species are usually emergent with a diameter at breast height of at least 100 cm.		
<i>Numenius madagascariensis</i>	E	CE	The Eastern curlew spends its breeding season in northeastern Asia, including Siberia to Kamchatka, and Mongolia. Its breeding habitat is composed of marshy and swampy wetlands and lakeshores. Most individuals winter in coastal Australia, with a few heading to South Korea, Thailand, Philippines and New Zealand, where they stay at estuaries, beaches, and salt marshes. It uses its long, decurved bill to probe for invertebrates in the mud. It may feed in solitary but it generally congregates in large flocks to migrate or roost. Its call is a sharp, clear whistle, cuuue-reee, often repeated.	40	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Oxyura australis</i>	V	-	Widespread in NSW, but most common in the southern Murray-Darling Basin area. Birds disperse during the breeding season to deep swamps up to 300 km away. It is generally only during summer or in drier years that they are seen in coastal areas. The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. This species has not been recorded within the locality in the last 10-years.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Pandion cristatus</i>	V	-	Ospreys are found right around the Australian coast line, except for Victoria and Tasmania. They are common around the northern coast, especially on rocky shorelines, islands and reefs. The species is uncommon to rare or absent from closely settled parts of south-eastern Australia. Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water.	13	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Petauroides volans</i>	E	E	The Greater Glider occurs in eucalypt forests and woodlands. Utilise tree hollows	1	Unlikely. Suitable habitat for the species is absent from the Subject Land. This species has not been recorded within the locality in the last 10-years. No further assessment is required.
<i>Petroica boodang</i>	V	-	The Scarlet Robin is found from SE Queensland to SE South Australia and also in Tasmania and SW Western Australia. In NSW, it occurs from the coast to the inland slopes. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs.	5	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Petroica phoenicea</i>	V	-	Flame Robins are found in a broad coastal band from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. The preferred habitat in summer includes eucalyptus forests and woodland, whilst in winter prefers open woodlands and farmlands. It is considered migratory. The Flame Robin breeds from about August to January.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Phascolarctos cinereus</i>	E	E	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall .	1	Unlikely. Suitable habitat for the species is absent from the Subject Land due to the urban nature of the area and relatively fragmented nature of the habitat. No further assessment is required.
<i>Pommerhelix duralensis</i>	E	E	Endemic to NSW and confined to northwest fringes of the Cumberland Plain. Distribution extends as far north as St. Albans; southwest to Mulgoa, and southeast to Parramatta. Occurs in low densities in Hawkesbury Sandstone Vegetation and Shale/Sandstone Transition Forest. Found under rocks, logs, bark and in leaf litter. Has a strong preference for shale-influenced transitional landscapes	39	Low. Suitable habitat for this species is available within the Subject Land however extensive more appropriate leaf litter will continue to be available in the broader locality. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
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			and has not been confirmed outside such habitats.		
<i>Pseudophryne australis</i>	V	-	Occurs on wetter ridge tops and upper slopes of sandstone formations on which the predominant vegetation is dry open forests and heaths. This species typically breeds within small ephemeral creeks that feed into larger semi-perennial streams. After rain these creeks are characterised by a series of shallow pools lined by dense grasses, ferns and low shrubs and usually contain leaf litter for shelter. Eggs are terrestrial and laid under litter, vegetation or rocks where the tadpoles inside will reach a relatively late stage of development before waiting for flooding waters before hatching will occur.	2	Unlikely. Suitable habitat for the species is absent from the Subject Land. Extensive aquatic habitat more appropriate for this species will continue to be available within the Parramatta River. No further assessment is required.
<i>Pteropus poliocephalus</i>	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.	902	High. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

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	BC Act	EPBC Act			
<i>Rostratula australis</i>	E	E	In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.	10	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Saccolaimus flaviventris</i>	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	14	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Scoteanax rueppellii</i>	V	-	Prefer moist gullies in mature coastal forests and rainforests, between the Great Dividing Range and the coast. They are only found at low altitudes below 500 m. In dense environments they utilise natural and human-made opening in the forest for flight paths. Creeks and small rivers are favoured foraging	7	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			habitat. This species roosts in hollow tree trunks and branches.		
<i>Sternula albifrons</i>	E	-	Almost exclusively coastal, preferring sheltered environments; however may occur several hundred kilometres from the sea in harbours, inlets and rivers.	7	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Stictonetta naevosa</i>	V	-	The freckled duck breeds in permanent fresh swamps that are heavily vegetated. Found in fresh or salty permanent open lakes, especially during drought. Often seen in groups on fallen trees and sand spits.	3	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Tringa nebularia</i>	E	E	Habitat is diverse, both inland and coastal. Found inland on both permanent and temporary wetland- billabongs, swamps, lakes, floodplains, sewage, farms and saltwater ponds. On the coast, it uses sheltered estuaries and bays with extensive mudflats, mangrove swamps, muddy	334	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			shallows of harbours and lagoons and occasionally rocky tidal edges.		This species has not been recorded within the locality in the last 10-years. No further assessment is required.
<i>Tyto longimembris</i>	V	-	Found in areas of tall grass, including grass tussocks, in swampy areas, grassy plains, swampy heath, and in cane grass or sedges on flood plains.	2	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Tyto novaehollandiae</i>	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.	3	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land. No further assessment is required.
<i>Tyto tenebricosa</i>	V	-	Often found in tall old-growth forests, including temperate and subtropical rainforests. In NSW mostly found on escarpments with a mean altitude less than	1	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			500 metres. Nests and roosts in hollows of tall emergent trees, mainly eucalypts often located in gullies. Nests have been located in trees 125 to 161 centimetres in diameter.		<p>Subject Land. No hollows suitable for breeding were identified within the Subject Land.</p> <p>This species has not been recorded within the locality in the last 10-years.</p> <p>No further assessment is required.</p>
<i>Xenus cinereus</i>	V	V	The Terek Sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayment's, harbours or lagoons.	1	<p>Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.</p> <p>This species has not been recorded within the locality in the last 10-years.</p> <p>No further assessment is required.</p>

Appendix C. 5-Part Tests (Tests of Significance) (BC Act).

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

<p>Species Ecology (Scientific Committee, 2011)</p>	<p>Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions is the name given to the ecological community associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains. Swamp Sclerophyll Forest on Coastal Floodplains generally occurs below 20 m (though sometimes up to 50 m) elevation, often on small floodplains or where the larger floodplains adjoin lithic substrates or coastal sand plains in the NSW North Coast, Sydney Basin and Southeast Corner bioregions. The structure of the community is typically open forest, although partial clearing may have reduced the canopy to scattered trees. In some areas the tree stratum is low and dense, so that the community takes on the structure of scrub. The community also includes some areas of fern land and tall reed land or sedgeland, where trees are very sparse or absent. Typically, these forests, scrubs, fenlands, Redlands and sedgelands form mosaics with other floodplain forest communities and treeless wetlands, and often they fringe treeless floodplain lagoons or wetlands with semi-permanent standing water.</p>
<p>(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,</p>	<p>Not applicable.</p>

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

<p>(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:</p>	<p>(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or</p>	<p>No. The proposed activity is unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction. Only 31 trees, representative of the EEC, will be impacted to facilitate the proposal.</p> <p>This TEC is represented within the vegetation to be retained surrounding the Subject Land will continue to adjoin to areas of high-quality habitat within the broader locality based on information provided within the current State Vegetation Type Map (NSW DCCEEW, 2024d).</p>
	<p>(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,</p>	<p>The proposed activity is not likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.</p> <p>The proposed activity will impact 31 trees which constitute a part of the EEC. Of these, all species are well represented elsewhere within the Subject Land and in other adjoining parks and properties, which are not impacted. It is not expected that the proposed activity will cause the permanent loss of any complexity or unique floristic</p>

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

		components of the ecological community, such that it is likely to be placed at risk of extinction.
(c) in relation to the habitat of a threatened species or ecological community:	(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and	The proposed activity will require the removal of 31 trees serving as habitat. This ‘habitat’ constitutes a negligible portion of the TEC within the local occurrence.
	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and	Minor increased fragmentation will occur as a result of the proposed activity, however within the existing landscape context, the select removal of planted trees that reflect this TEC is not likely to constitute a significant impact to the TEC.
	(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	All areas which support viable patches are important. Given the patches of habitat available in the vicinity, it is not expected that the development will impact the long-term survival of the EEC.
(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The activity proposed is not likely to have an adverse effect on any declared area of critical habitat, directly or indirectly.	
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The following Key Threatening Processes (KTPs) are documented to impact upon the survival of the ecological community: <ul style="list-style-type: none"> • Clearing of native vegetation 	

*Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities*

**Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney
Basin and Southeast Corner Bioregions (Endangered)**

Conclusion

There will be no significant impact on these species therefore the proposed action should not warrant the preparation of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).

Appendix D. Assessment of Significant Impact Criteria under the EPBC Act.

<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999– Assessment of Significant Impact Criteria</i>	
for Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland	
EPBC Act Status: Endangered	
Significant Impact Criteria	
An action is likely to have a significant impact on a critically endangered or endangered ecological community if there is a real chance or possibility that it will:	
<ul style="list-style-type: none"> • Reduce the extent of an ecological community; 	<p>The proposed activity will not result in very low impacts to the Coastal Swamp Sclerophyll Forest mapped within the Subject Land. Vegetation to be impacted characteristic of the EEC is planted and of low value within the area. Subject to mitigation measures, no other areas of vegetation will be impacted by the proposal. It is therefore not considered likely that the extent of the ecological community will be reduced.</p>
<ul style="list-style-type: none"> • Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines; 	<p>Coastal Swamp Sclerophyll Forest within the area is already fragmented due to the urban nature of the landscape. No increased fragmentation will occur, and connectivity is expected to remain the same extent within the Subject Land.</p>
<ul style="list-style-type: none"> • Adversely affect habitat critical to the survival of an ecological community; 	<p>Minimal Coastal Swamp Sclerophyll Forest requires removal to facilitate the works (31 trees 0.09ha). Subject to mitigation measures, it is considered unlikely that the proposed activity would adversely affect habitat critical to the survival of this community.</p>
<ul style="list-style-type: none"> • Modify or destroy abiotic (non-living) factors (such as water, nutrients or soil) necessary for an ecological community’s survival including reduction of groundwater levels or substantial alteration of surface water drainage patterns; 	<p>It is not expected that the proposed activity will modify or destroy abiotic factors (such as water, nutrients, or soil) that is necessary for the survival of this ecological community. No reduction in groundwater levels, or substantial alterations of surface water drainage patterns are anticipated as a result of the proposed activity.</p>

Commonwealth Environment Protection and Biodiversity Conservation Act 1999 – Assessment of Significant Impact Criteria for Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland

EPBC Act Status: Endangered

- **Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting;**

The proposed activity will require clearing of 0.09ha of Coastal Swamp Sclerophyll Forest. The 0.09ha of vegetation to be removed are all exceedingly common native canopy species; (*Angophora costata*, *Melaleuca quinquenervia*, *Eucalyptus spp.*, *Melaleuca styphelioides*, *Casuarina glauca*, *Corymbia maculata*). These species do not contribute to unique species compositions of this EEC. It is considered unlikely that the proposal will cause a substantial change in the species composition of the occurrence of the ecological community.

- **Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:**
 - i. **assisting invasive species, that are harmful to the listed ecological community, to become established**
 - ii. **causing regular mobilisation of fertilisers, herbicides, or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community;**

The proposed activity will not cause a substantial reduction in the quality or integrity of the occurrence of this EEC.

- i. The proposed activity will not assist invasive species to become established as the Coastal Swamp Sclerophyll Forest, subject to appropriate management. No harmful, invasive species were identified within the Subject Land; and
- ii. The proposed activity is not expected to cause the regular mobilisation of fertilisers, herbicides, or other chemicals or pollutants.

- **Interfere with the recovery of an ecological community.**

It is not anticipated that the proposed activity will interfere with the recovery of the EEC. The anticipated impacts are both minimal and highly insignificant in the context of the surrounding landscape. Appropriate habitat for the EEC will remain available in the broader locality. As such, it is not expected that the proposed activity will interfere with the recovery of this ecological community.

Commonwealth Environment Protection and Biodiversity Conservation Act 1999 – Assessment of
Significant Impact Criteria
for

Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland

EPBC Act Status: Endangered

Conclusion

There will be no significant impact on the ecological community therefore the proposed action should not warrant the producing of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).



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PARRAMATTA CITY COUNCIL
BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES

GENERAL LEGEND	
SYMBOL	DESCRIPTION
	NEW UNDERGROUND PATHWAY LIGHTING SUPPLY CONDUIT ROUTE - 50mm DIA. ORANGE HD PVC. CONDUIT ROUTES ARE SHOWN INDICATIVE ONLY.
	LIGHTING CIRCUIT.
	EXISTING ELECTRICAL CONDUIT.
	LIGHTING CIRCUIT IDENTIFICATION NUMBER.
	NEW DISTRIBUTION BOARD.
	NEW J600P ACO PITLOK SCEC (SL1) CONCRETE PIT WITH STEEL LID SYSTEM (CLASS D).

DRAWING SCHEDULE	
DWG No	DESCRIPTION
ES-201	COVER SHEET, LEGEND AND DRAWING SCHEDULE
ES-202	ELECTRICAL NOTES
ES-203	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 1 OF 4
ES-204	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 2 OF 4
ES-205	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 3 OF 4
ES-206	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 4 OF 4
ES-207	DETAILS SHEET
ES-208	SCHEMATICS AND SINGLE LINE DIAGRAMS

LUMINAIRE LEGEND											
SYMBOL	DESCRIPTION	MODEL	MANUFACTURER	SUPPLIER	LAMP	COLOUR TEMP	BODY COLOUR	BALLAST	LUMINAIRE CLASSIFICATION	MOUNTING HEIGHT (m)	TILT (°)
P1 	POLE TOP PEDESTRIAN LIGHT ON 6m CIRCULAR TAPERED STEEL POLE	99 499 K3	BEGA	LIGHT CULTURE	26.1W LED	3000K	BLACK	DALI CONTROLLABLE INTEGRAL ELECTRONIC	CLASS II	6.0	0
P2 	POLE TOP PEDESTRIAN LIGHT ON 6m CIRCULAR TAPERED STEEL POLE	99 499 K22	BEGA	LIGHT CULTURE	26.1W LED	2200K	BLACK	DALI CONTROLLABLE INTEGRAL ELECTRONIC	CLASS II	6.0	0
H1 	HANDRAIL LED PUCK LIGHT RECESSED INTO RAISED BOARDWALK HANDRAIL	SNAP24-CF-UNI-22 + 151409-500FP	PLANET LIGHTING	EUROLUCE	1.4W	2200K	STAINLESS STEEL	REMOTE DALI DRIVER	N/A	N/A	N/A
U1 	LED IP67 WALLWASHER INGROUND LUMINAIRE COMPLETE WITH INSTALLATION BLOCKOUT AND SEALABLE JUNCTION BOX	ETC320-FS LED 185-7117 + 185-7029	WEEF	BUCKFORD	14.5W	3000K	STAINLESS STEEL	NON-DIM INTEGRAL ELECTRONIC	CLASS II	N/A	N/A
 MS	IP66 RATED WEATHERPROOF D4i DALI-2 MICROWAVE SENSOR WITH INSTALLED, DOWNWARD DIRECTED ZHAGA BOOK 18 STANDARD INTERFACE AND ZHAGA CONTROLLER MOUNTED AT 4m ABOVE GROUND LEVEL ON POLE WITH BESPOKE MOUNTING BRACKET	ZHAGA ZC-ZD-MW	ZENCONTROL	N/A	N/A	N/A	N/A	D4i DALI-2 REMOTE DRIVER	N/A	4.0	N/A

ISSUE	REVISION	DATE	CHK	APR
B	TENDER ISSUE	07.02.25	K.D.	I.N.F.
A	PRE-TENDER ISSUE	18.12.24	K.D.	I.N.F.

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CLIENT
PARRAMATTA CITY COUNCIL

PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
COVER SHEET, LEGEND AND DRAWING SCHEDULE

DATE	SCALE	DRN	DES	APR
OCT '24	N.T.S.@A1	P.T.	K.D.	I.N.F.

PROJECT	DWG No	REVISION
S404A	ES-201	B

STATUS
TENDER ISSUE

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SCOPE OF WORKS

THE WORKS INCLUDE THE LIGHTING TO THE EXISTING COMBINED PATHWAY/CYCLEWAY AND RAISED BOARDWALK.

WORKS INCLUDE:

- SUPPLY AND INSTALLATION OF LED LIGHT FITTINGS AS INDICATED.
- PROVISION OF ALL LIGHTING CONTROL EQUIPMENT REQUIRED.
- TRENCHING AND CONDUITING INCLUDING PITS, BACKFILLING AND REINSTATEMENT.
- TESTING, COMMISSIONING AND USER TRAINING.
- O&M MANUALS AND AS-CONSTRUCTED DRAWINGS.
- 12 MONTHS MAINTANENCE AND DEFECTS LIABILITY PERIOD.

GENERAL CONDITIONS

CO-ORDINATE THE LOCATION AND INSTALLATION OF THE CONTRACTORS SERVICES WITH OTHER TRADES. ALL WORK IS TO COMPLY WITH ALL RELEVANT BRIEFS AND REQUIREMENTS. THE ELECTRICAL SERVICES DOCUMENTATION SHALL BE READ IN CONJUNCTION WITH ALL OTHER PROJECT AND CONTRACT DOCUMENTATION.

INSPECTION

THE CONTRACTOR IS TO FULLY INFORM THEMSELF OF ALL ASPECTS OF THIS EXISTING INSTALLATION PRIOR TO TENDER AND COMMENCEMENT OF CONSTRUCTION. SITE INSPECTIONS SHALL BE ARRANGED BY THE PRINCIPAL.

CODES, RULES, PERMITS, FEES

ALL MATERIALS, SUPPLIES, AND ALL WORK INSTALLED UNDER THE CONTRACT SHALL COMPLY WITH LATEST APPROVED VERSIONS (INCLUDING REFERENCED STANDARDS) OF THE CODES, STANDARDS, RULES AND REGULATIONS OF RELEVANT STATUTORY AUTHORITIES INCLUDING, BUT NOT LIMITED TO:

- BUILDING CODE OF AUSTRALIA (NCC)
- SUPPLY AUTHORITY REGULATIONS
- AS/NZS 3000 ELECTRICAL INSTALLATIONS (WIRING RULES)
- AS/NZS 3008 ELECTRICAL INSTALLATIONS (SELECTION OF CABLES)
- AS/CA S009 INSTALLATION REQUIREMENTS FOR CUSTOMER CABLING (WIRING RULES)
- AS/NZS3017 ELECTRICAL INSTALLATIONS (VERIFICATION GUIDELINES)

MAKE ALL APPLICATIONS AND PAY ALL FEES REQUIRED TO COMPLY WITH RELEVANT AUTHORITY REQUIREMENTS, INCLUDING SELF-CERTIFICATION COSTS FOR ELECTRICAL INSPECTION, EMERGENCY LIGHTING AND COMMUNICATIONS CABLING.

LICENSED ELECTRICAL CONTRACTOR

ALL WORKS SHALL BE UNDERTAKEN BY LICENSED ELECTRICAL CONTRACTOR/S, QUALIFIED AND EXPERIENCED IN THE TYPE OF WORK REQUIRED FOR THIS PROJECT. LICENSING AND QUALIFICATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE RELEVANT JURISDICTION WITHIN WHICH THE WORKS ARE BEING UNDERTAKEN.

WORKMANSHIP

ALL WORKMANSHIP AND MATERIALS SHALL BE PROVIDED TO THE SATISFACTION OF THE SUPERINTENDENT. ALL MATERIAL WILL BE NEW UNLESS OTHERWISE NOTED. ANY MATERIALS OR WORKMANSHIP WHICH ARE CONSIDERED INFERIOR OR NON-CONFORMING BY THE SUPERINTENDENT SHALL BE REPLACED AT THE CONTRACTOR'S COST.

DEFECTS LIABILITY

PROVIDE GUARANTEE/S FOR QUALITY AND WORKMANSHIP OF ALL WORK AND MATERIALS AGAINST DEFECTS, FOR A PERIOD OF TWELVE MONTHS FROM THE DATE OF ISSUE OF THE 'CERTIFICATE OF PRACTICAL COMPLETION'. DURING THIS PERIOD, PROMPTLY REPLACE ALL DEFECTIVE EQUIPMENT, FIXTURES AND MATERIALS AT NO ADDITIONAL COST. REFER CONTRACT CONDITIONS FOR FURTHER DETAIL REGARDING DEFECTS LIABILITY AND COMPLETION REQUIREMENTS.

LOCATION OF SERVICES

THE LOCATION AND MOUNTING HEIGHTS OF THE SERVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. FINAL LOCATIONS, MOUNTING HEIGHTS SHALL BE COORDINATED ON-SITE.

SUBMISSIONS

PRIOR TO ORDERING OF MATERIALS AND COMMENCEMENT OF INSTALLATION WORKS, SUBMIT DETAILED SHOP DRAWINGS TO THE SUPERINTENDENT FOR REVIEW. ALLOW A MINIMUM OF 10 WORKING DAYS FOR RECEIPT OF COMMENTS. WORKSHOP DRAWINGS ARE REQUIRED FOR LIGHTING CONTROL SCHEMATICS. SUBMIT PRODUCT SAMPLES TO THE SUPERINTENDENT FOR REVIEW. ALLOW A MINIMUM OF 10 WORKING DAYS FOR RECEIPT OF COMMENTS. SAMPLES ARE REQUIRED FOR LUMINAIRES.

UNDERGROUND CONDUIT AND TRENCHING

- PROVIDE CONDUITS OF THE TYPE, SIZE AND NUMBER SHOWN ON THE DRAWINGS.
- UNDERTAKE ALL REQUIRED EXCAVATION WORKS AS FOLLOWS:
 - EXCAVATE TRENCHES SO THAT CONDUITS ARE NOT LESS THAN 500mm BELOW GROUND LEVEL
 - DURING EXCAVATION, EVERY CARE SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING UNDERGROUND INSTALLATIONS. ANY DAMAGE CAUSED SHALL BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
 - CLEAR THE BOTTOM OF ALL ROCKS, STONES AND OTHER HARD/SHARP MATERIALS AND FILL TO A DEPTH OF 500mm WITH A LAYER OF SELECTED FILLING IN THE BOTTOM OF THE TRENCH.
 - WHERE TRENCHES ARE LEFT OPEN ENSURE THAT THEY ARE PROTECTED BY BARRICADES OR IN SUCH A MANNER AS TO PREVENT THEM CREATING A HAZARD.
 - EXCAVATIONS SHALL BE PROPERLY FILLED, COVERED TO SUIT SITE CONDITIONS AND ANY DAMAGE TO KERBING AND/OR PAVEMENT REPAIRED TO THE SATISFACTION OF THE SUPERINTENDENT.
 - ANY EXTRA COST FOR ROCK EXCAVATION AND ANY COSTS INCURRED BY THE CONTRACTOR IN SUCH EXCAVATION SHALL BE INCLUDED IN THE TENDERED BULK SUM PRICE AS A PROVISIONAL SUM.
- AFTER LAYING THE CONDUITS THE TRENCH SHALL BE BACKFILLED, AS DESCRIBED BELOW ONLY AFTER THE CONDUITS HAVE BEEN APPROVED BY THE SUPERINTENDENT.
- BACKFILLING AND MAKE GOOD SHALL CONFORM TO THE FOLLOWING:
 - WHERE PAVEMENTS ARE TO BE BUILT OVER THE TRENCHES, THE BACKFILLING MATERIAL IS TO BE SAND, GRAVEL, CEMENT STABILISED SAND OR SIMILAR APPROVED MATERIAL AND BROUGHT TO THE LEVEL OF THE BOTTOM OF THE PAVEMENT BASE COURSE. IT MUST BE THOROUGHLY RAMMED BY HAND TAMPERS OR MECHANICAL TAMPERS TILL A MODIFIED DENSITY OF AT LEAST 95% OF THE MAXIMUM DRY DENSITY IS OBTAINED.
 - IN OTHER CASES THE TRENCH MUST BE BACKFILLED WITH APPROVED MATERIAL LAID IN 150mm LOOSE LAYERS AND COMPACTED TO THE DENSITY OF THE ADJACENT SOIL. STONES THAT HAVE A DIMENSION OVER 50mm ARE NOT TO BE USED. THE TOP OF THE BACKFILLING SHALL BE FINISHED FLUSH WITH THE SURFACE IN LAWN, GARDEN AND OTHER PREPARED AREAS OR NEATLY MOUNDED ABOVE THE GROUND SURFACE IN AREAS WHERE NO SURFACE TREATMENT IS SPECIFIED.
- ALL EXCESS EXCAVATED SPOIL SHALL BE REMOVED.
- MAKE GOOD EXISTING PAVING AND LANDSCAPING DISTURBED DURING TRENCHING.
- AN APPROVED TYPE 150mm WIDE PVC MARKER TAPE WITH METAL STRIPE FOR LOCATION, AND BEARING THE WORDS "CAUTION - BURIED ELECTRIC CABLES BELOW" SHALL BE LAID IN THE TRENCH DIRECTLY ABOVE ALL UNDERGROUND ELECTRICAL CABLE DUCTS APPROXIMATELY 200mm BELOW THE SURFACE OF THE GROUND FOR THE ENTIRE LENGTH OF THE UNDERGROUND CABLE DUCTS IN ACCORDANCE WITH AS/NZS 3000.
- ALL CONDUITS INSTALLED SHALL BE PROVIDED WITH THE FOLLOWING:
 - NYLOW DRAW WIRES.
 - BELL MOUTH TO FACILITATE SEALING OF CONDUIT ENTRY INTO PIT.
 - CONDUIT CAPS TO PREVENT INGRESS OF SILT/WATER.

CABLE PITS

- PROVIDE NEW CABLE PITS OF THE TYPE, SIZE AND RATING AS INDICATED ON THE DRAWINGS.
 - ALL PITS INSTALLED SHALL BE PROVIDED WITH THE FOLLOWING:
 - SUITABLE BASE MATERIAL TO ENSURE PIT STABILISATION.
 - SUITABLE DRAINAGE, INCLUDING GEOTEXTILE MESH FABRIC TO PREVENT THE INGRESS OF SILT MATERIAL INTO THE PIT.
 - SUITABLE CAULKING AROUND ALL CONDUIT ENTRY POINTS TO PREVENT THE INGRESS OF SILT AND WATER.
- ALL PITS SHALL BE INSTALLED TO MANUFACTURERS RECOMMENDATIONS.

WORKMANSHIP DRAWINGS

SUBMIT DETAILED SHOP DRAWINGS FOR REVIEW TO THE SUPERINTENDENT, PRIOR TO COMMENCING INSTALLATION WORKS. ALLOW A MINIMUM OF 10 WORKING DAYS FOR RECEIPT OF COMMENTS. WORKSHOP DRAWINGS ARE REQUIRED FOR:

- SWITCHBOARDS
- LIGHTING CONTROL SCHEMATICS

LIGHTING

ALL LED LUMINAIRES SUPPLIED SHALL HAVE UNDERGONE NATA ACCREDITED TESTING AND SHALL HAVE LM-79, LM-80 AND TM-21 TEST REPORTS AVAILABLE. ALL LUMINAIRES (AND ASSOCIATED CONTROL GEAR) SUPPLIED SHALL BE REGISTERED WITH ELECTRICAL REGULATORY AUTHORITIES COUNCIL (ERAC) AND SHALL BE PROVIDED WITH REGULATORY COMPLIANCE MARK (RCM). ALL IP RATED LUMINAIRES SHALL BE WIRED TO MATCH THE IP RATING INDICATED. ALL REQUIRED ACCESSORIES SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL LUMINAIRES SHALL BE INSTALLED TO MANUFACTURERS REQUIREMENTS, AND IN ACCORDANCE WITH RELEVANT STANDARDS/REQUIREMENTS. ALTERNATE LIGHT FITTINGS WILL NOT BE ACCEPTED WITHOUT WRITTEN APPROVAL FROM SUPERINTENDENT OR THEIR REPRESENTATIVE. LIGHTING CONTROLS SHALL BE AS DETAILED ON THE DRAWINGS, WHERE A PROPRIETARY CONTROL SYSTEM IS DOCUMENTED, THE CONTRACTOR SHALL LIAISE WITH RELEVANT REPRESENTATIVE/S OF THE SYSTEM PROVIDER TO REFINE AND FINALISE PRODUCT/ACCESSORY DETAILS. COORDINATE WITH COUNCIL FOR FINAL PROGRAMMING CONFIGURATION.

EARTHING

THE INSTALLATION BY THE CONTRACTOR SHALL BE EARTHED. EARTHING SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT SUPPLY AUTHORITY REQUIREMENTS AND AS/NZS 3000.

TESTING AND COMMISSIONING

CARRY OUT TESTING, OPERATING AND ADJUSTING THE SYSTEM AND EQUIPMENT, AND FOR FULLY INSTRUCTING THE SUPERINTENDENT OR THEIR REPRESENTATIVE IN THE OPERATION OF THE SYSTEM AND EQUIPMENT. PROVIDE FULL OPERATOR'S MANUAL. TEST EMERGENCY LIGHTING IN ACCORDANCE WITH AS/NZS 2293 AND PROVIDE CERTIFICATION. SUBMIT TEST REPORTS. PROVIDE THE SUPERINTENDENT WITH ALL TEST RESULTS, BOUND, FOR REVIEW. THE CERTIFICATE OF PRACTICAL COMPLETION WILL ONLY BE SIGNED AFTER THE COMPLETE TEST REPORTS HAVE BEEN REVIEWED. CARRY OUT TESTING IN ACCORDANCE WITH AS 3000 CLAUSE 8.3 & 8.33 MANDATORY TESTS 8.3.10 OPERATION OF RCD'S.

AS-BUILT HARD COPY DRAWINGS AND MAINTANENCE MANUALS

PROVIDE A FULL SET AND A 'DWG' (AUTOCAD LATEST VERSION) SET ON DISK OF AS-BUILT DRAWINGS, TO THE SATISFACTION OF THE CONSULTING ENGINEER, WITHIN 7 DAYS OF PRACTICAL COMPLETION. THE AS-BUILT DRAWINGS SHALL COMPREHENSIVELY REFLECT DETAILS OF ALL INSTALLED SYSTEMS AND COMPONENTS, AS DETAILED IN THE SCOPE OF WORK.

PROVIDE TWO SETS OF OPERATION AND MAINTANENCE MANUALS, THE AIM OF THESE BEING TO PROVIDE A DETAILED UNDERSTANDING OF THE ITEMS OF EQUIPMENT AND ITS OPERATION, AN AID FOR TRAINING OF OPERATORS, A REFERENCE FOR FAULT DIAGNOSIS AND A FRAMEWORK FOR PREVENTITIVE AND BREAKDOWN MAINTANENCE. THE MANUALS SHALL INCLUDE, AS A MINIMUM:

- NAME, ADDRESS TELEPHONE AND FACSIMILE NUMBERS OF THE MANUFACTURERS AND SUPPLIER OF ITEMS OF EQUIPMENT INSTALLED, TOGETHER WITH CATALOGUE LIST NUMBERS. ALSO INCLUDE SUCH DETAILS FOR ALL CONSULTANTS AND CONTRACTORS INVOLVED IN THE DESIGN AND CONSTRUCTION PHASES.
- TECHNICAL DESCRIPTION AND MODES OF OPERATION OF THE SYSTEMS INSTALLED.
- PRODUCT LITERATURE FOR THE SYSTEMS INSTALLED AND CONTACT DETAILS FOR SUPPLIERS AND MANUFACTURERS' OF THESE SYSTEMS.
- CONTROL AND SWITCHING SEQUENCES AND FLOW DIAGRAMS FOR SYSTEMS INSTALLED, INCLUDING SAFETY FEATURES. ALSO PROCEDURES FOR OPERATING AND ADJUSTING CONTROL SYSTEMS.
- MANUFACTURERS' OPERATIONAL AND SAFETY LITERATURE, AS APPROPRIATE.
- EMERGENCY MAINTANENCE PROCEDURES, INCLUDING TELEPHONE NUMBERS FOR EMERGENCY SERVICES, AND AFTER HOURS CONTACTS FOR SUPPLIERS AND CONTRACTORS AND PROCEDURES FOR FAULT FINDING.
- STAUTORY CERTIFICATES OF COMPLIANCE FOR ALL ELECTRICAL AND COMMUNICATIONS WORK, COPIES OF MANUFACTURERS' WARRANTIES, CERTIFICATES FROM AUTHORITIES AND UTILITIES, PRODUCT CERTIFICATION, COPIES OF TEST CERTIFICATES, ETC.
- AS-BUILT DRAWINGS, SYSTEM SCHEMATICS ETC.
- COMMISSIONING RECORDS.
- NOTE ALL DRAWINGS SHALL BE AUTOCAD 2014.
- PROVIDE ELECTRICAL COPIES OF THESE MANUALS.

THE CONTRACTOR SHALL USE A LICENSED SURVEYOR TO SURVEY ALL NEW CONDUITS AND PITS.

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PARRAMATTA CITY COUNCIL

PROJECT

**BALUDARRI WETLAND SHARED PATHWAY
SPECIALIST LIGHTING SERVICES**

DRAWING

ELECTRICAL NOTES

DATE	SCALE	DRN	DES	APR
OCT '24	N.T.S.@A1	P.T.	K.D.	I.N.F.

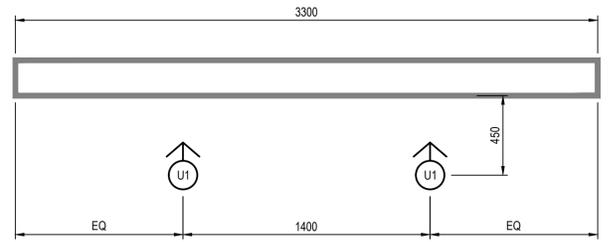
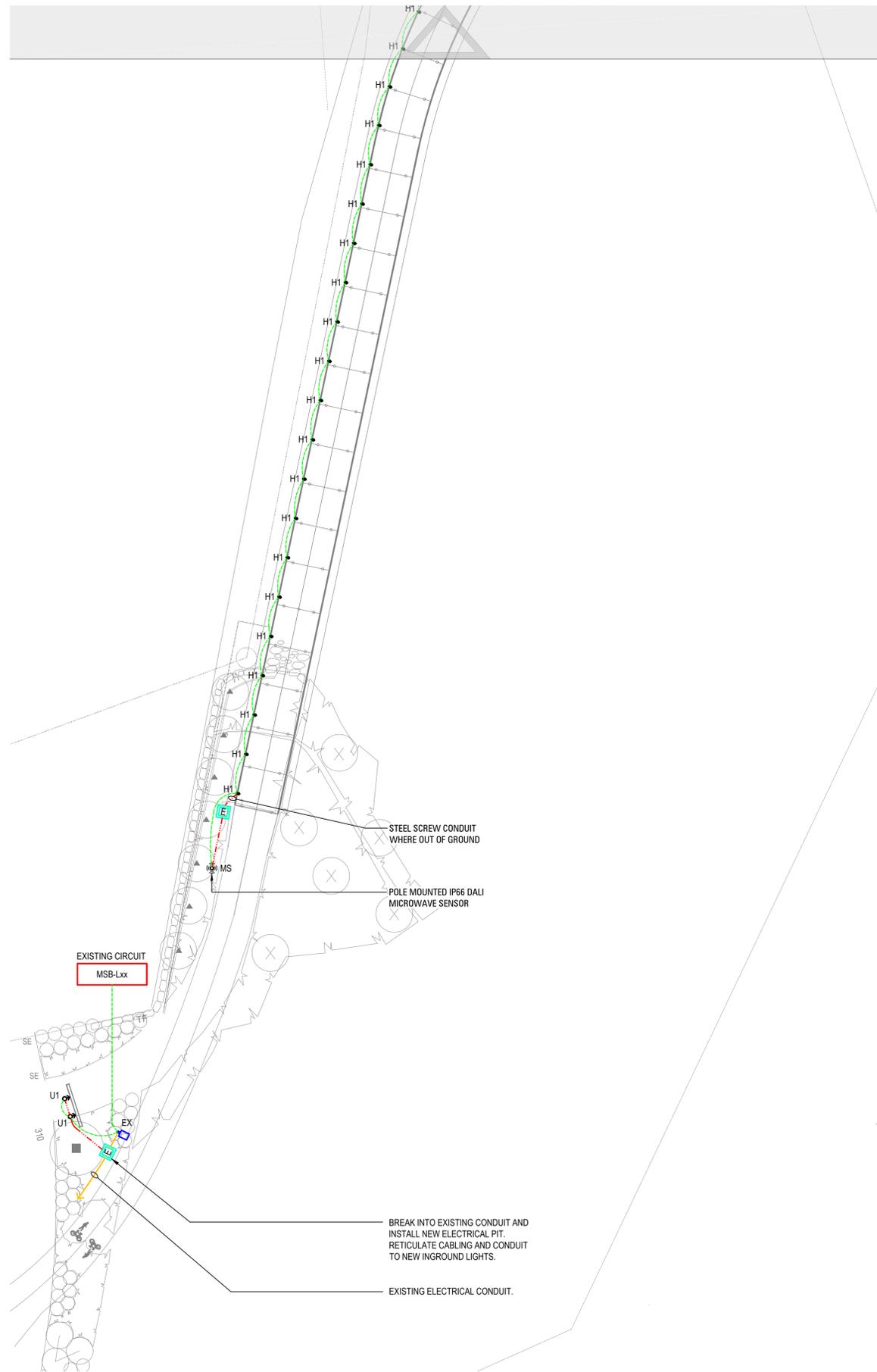
PROJECT	DWG No	REVISION
S404A	ES-202	B

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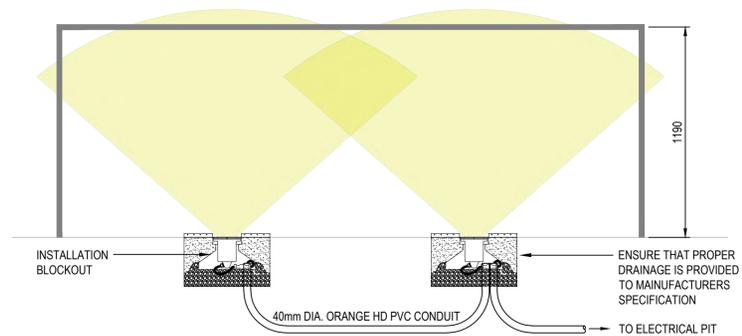
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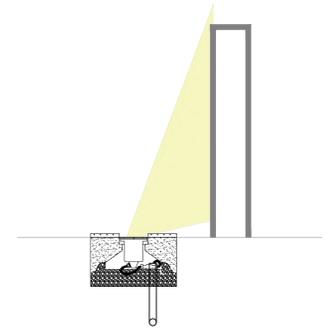
FOR CONTINUATION REFER TO DRAWING ES-204



PLAN VIEW
SCALE 1:20



FRONT ELEVATION VIEW
SCALE 1:20



SIDE ELEVATION VIEW
SCALE 1:20

ENTRY WALL UPLIGHTING DETAIL

ISSUE	REVISION	DATE	CHK	APR
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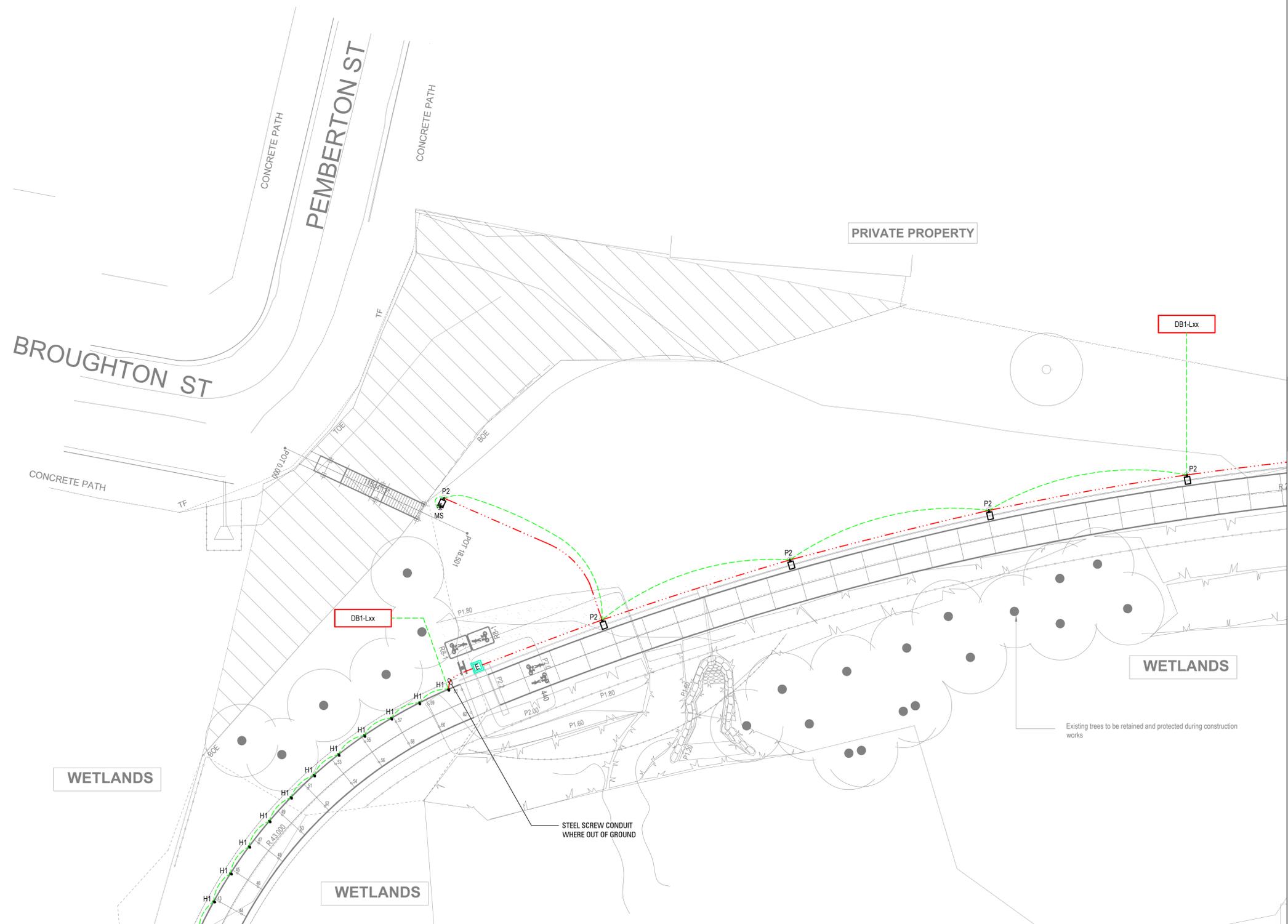
PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
**BALUDARRI WETLAND SHARED PATHWAY
 LIGHTING LAYOUT
 SHEET 1 OF 4**

DATE	SCALE	DRN	DES	APR
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IAL AREA

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PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
**BALUDARRI WETLAND SHARED PATHWAY
 LIGHTING LAYOUT
 SHEET 2 OF 4**

DATE	SCALE	DRN	DES	APR
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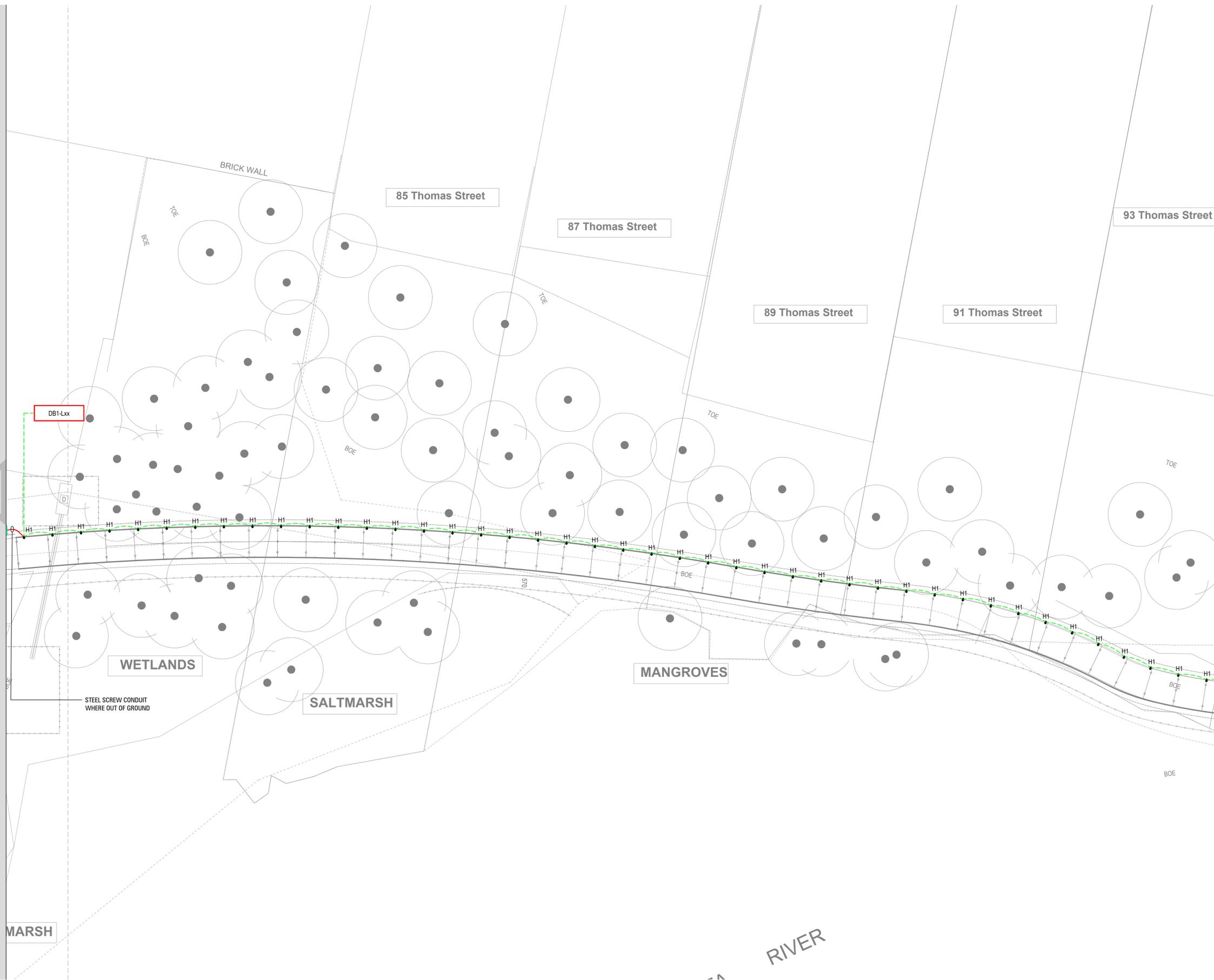
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FOR CONTINUATION REFER TO DRAWING ES-203



FOR CONTINUATION REFER TO DRAWING ES-204

FOR CONTINUATION REFER TO DRAWING ES-206



ISSUE	REVISION	DATE	CHK	APR
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PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
**BALUDARRI WETLAND SHARED PATHWAY
 LIGHTING LAYOUT
 SHEET 3 OF 4**

DATE	SCALE	DRN	DES	APR
OCT '24	1:200@A1	P.T.	K.D.	I.N.F.

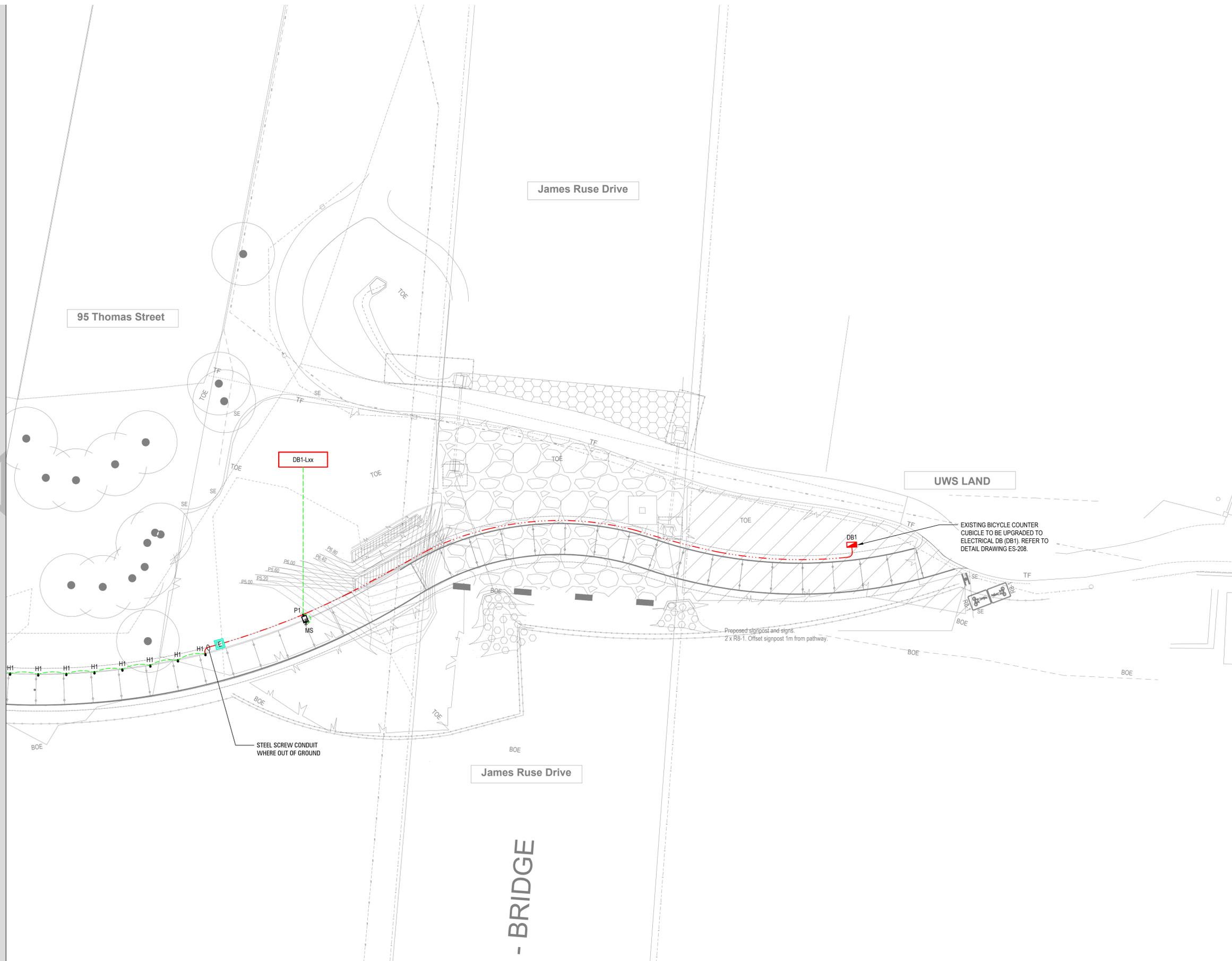
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FOR CONTINUATION REFER TO DRAWING ES-205



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PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

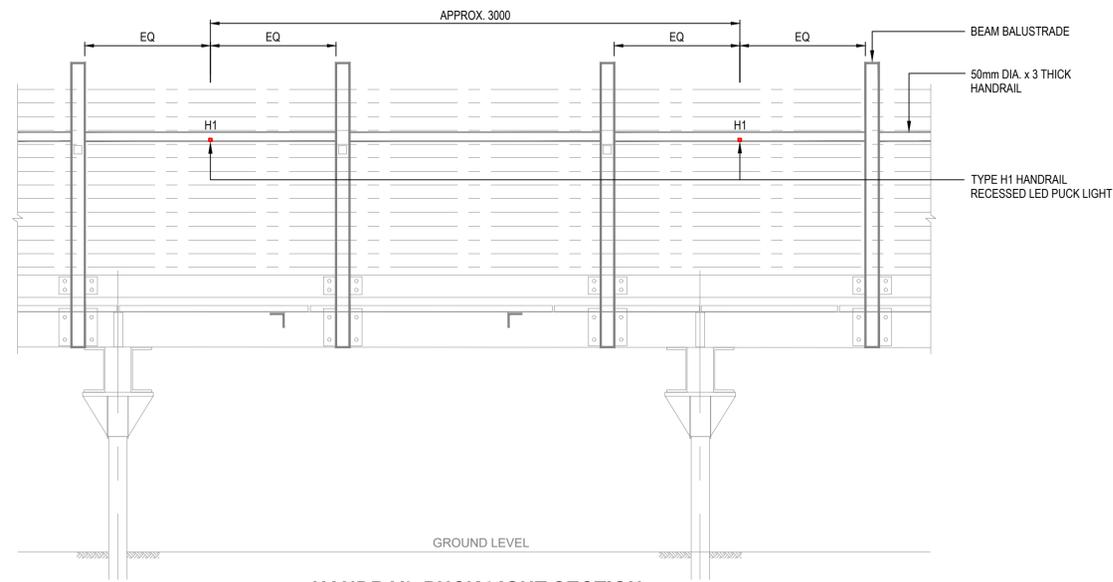
DRAWING
**BALUDARRI WETLAND SHARED PATHWAY
 LIGHTING LAYOUT
 SHEET 4 OF 4**

DATE	SCALE	DRN	DES	APR
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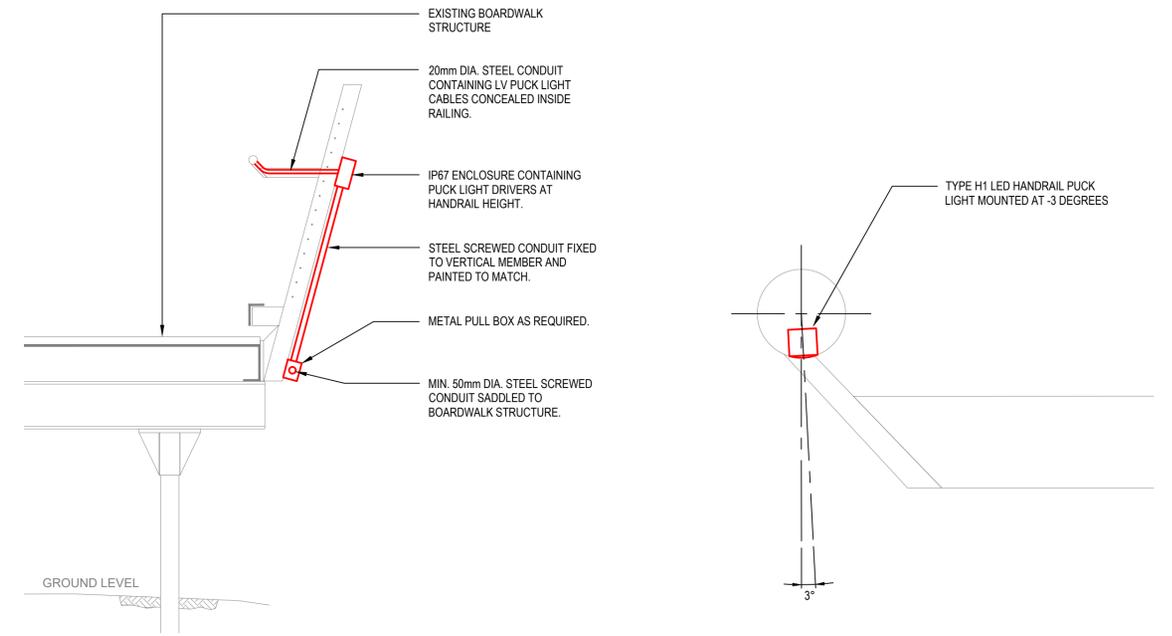
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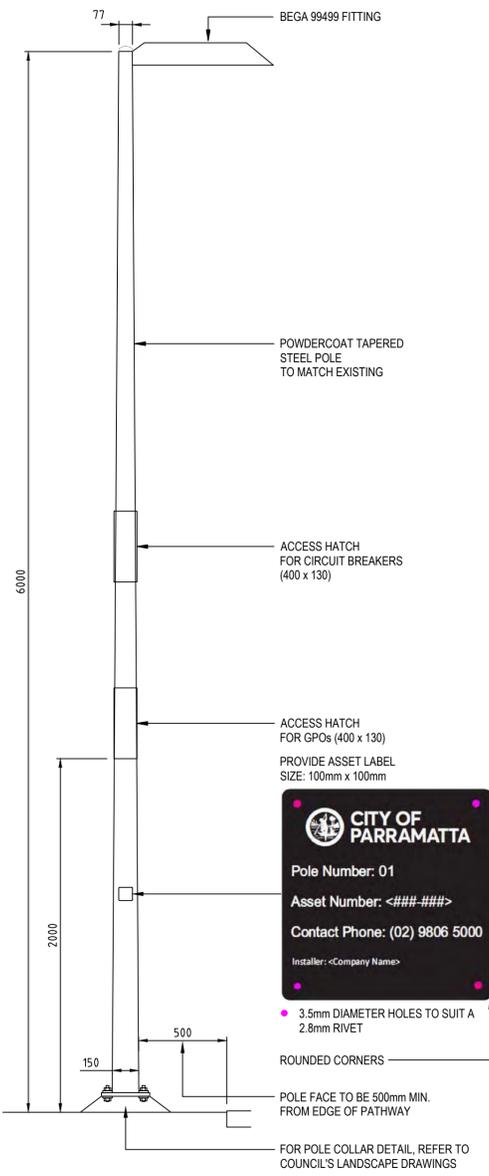


HANDRAIL PUCK LIGHT SECTION
N.T.S.

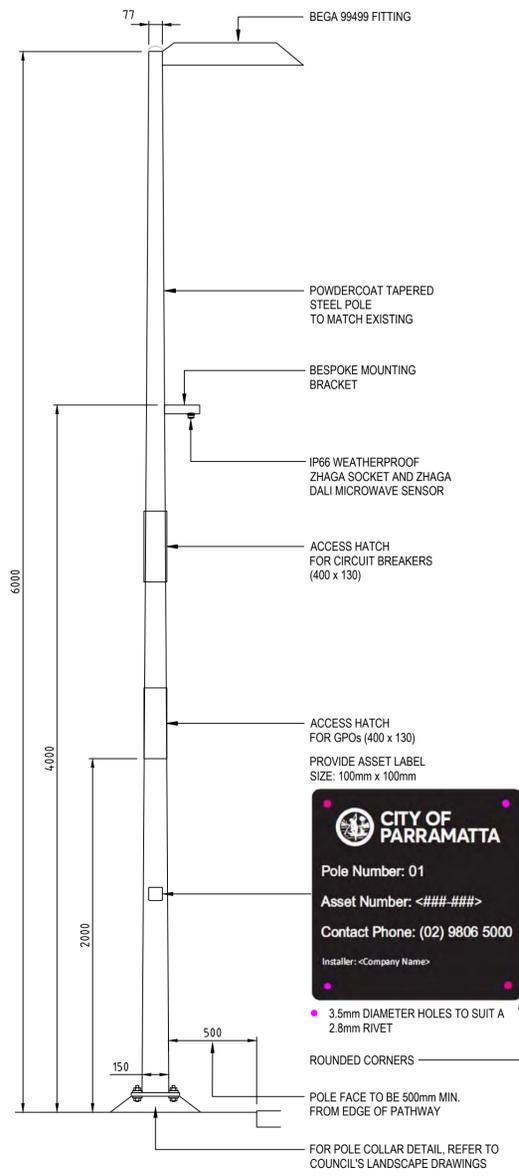


HANDRAIL PUCK LIGHT ELECTRICAL DETAIL
N.T.S.

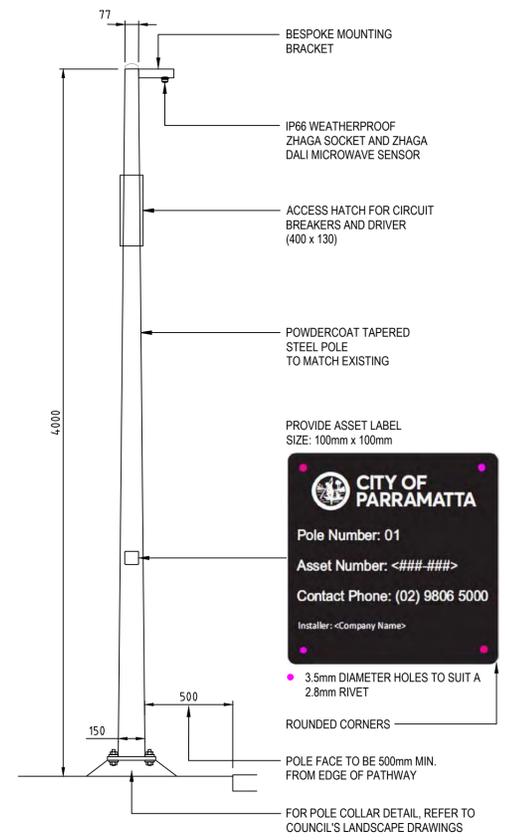
HANDRAIL PUCK LIGHT DETAIL
N.T.S.



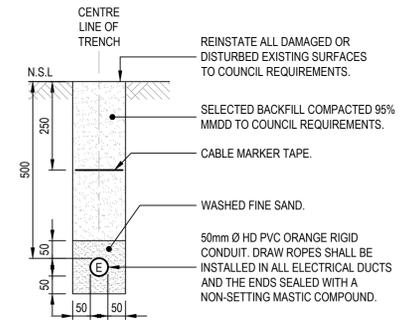
TYPICAL TYPE P2 POLE DETAIL
1:20 @ A1



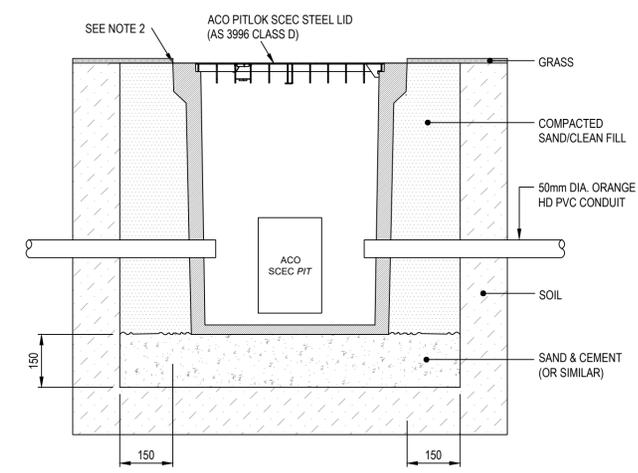
TYPICAL TYPE P1 & P2 POLE DETAIL WITH IP66 MICROWAVE SENSOR
1:20 @ A1



TYPICAL POLE DETAIL WITH IP66 MICROWAVE SENSOR
1:20 @ A1



TYPICAL CABLE TRENCH SECTION
N.T.S.



- NOTES:**
- SPECIFIC SITE CONDITIONS MAY REQUIRE AN INCREASE IN THESE DIMENSIONS OR REINFORCEMENT. IT IS THE CUSTOMER'S RESPONSIBILITY TO ENSURE THE INSTALLATION DRAWING IS DETAILED FOR THE APPLICATION AND PIT STRUCTURE IS PROTECTED FROM UNDUE STRESS. **ENGINEERING ADVICE MAY BE REQUIRED.**
 - THE FINISHED LEVEL OF THE COMPACTED SAND/CLEAN FILL MUST BE FLUSH WITH THE TOP OF THE PIT.
 - REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.

TYPICAL ELECTRICAL PIT DETAIL
N.T.S.

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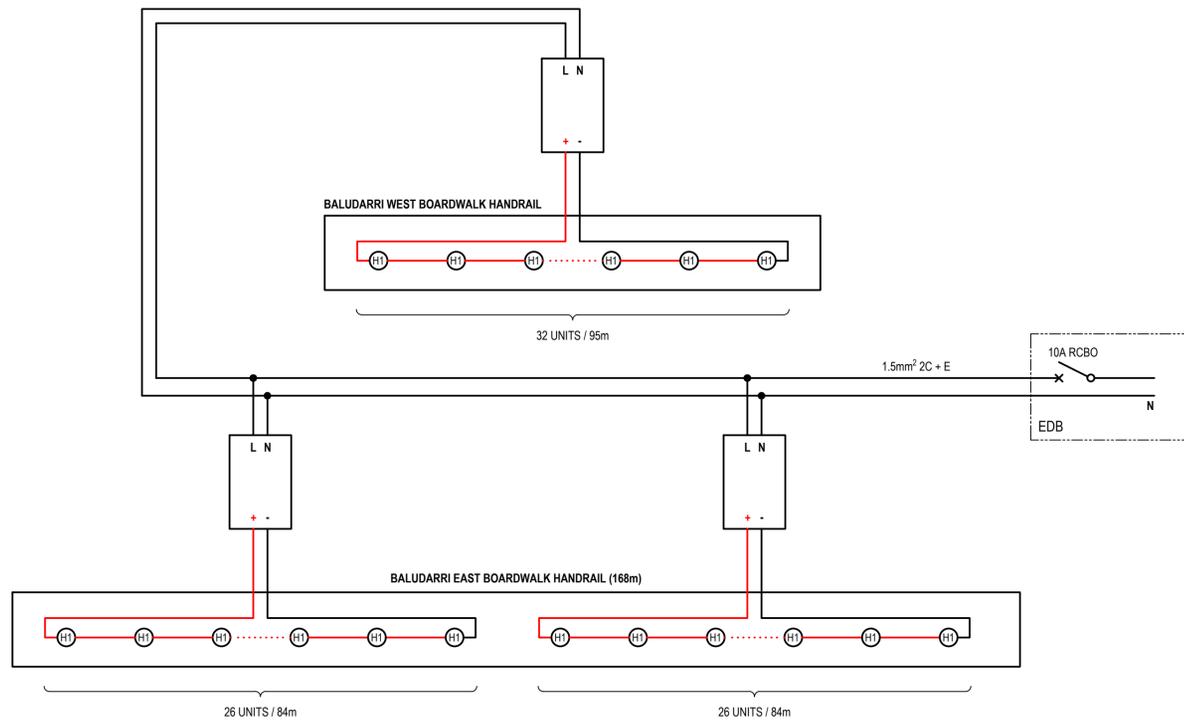
CLIENT
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PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
**ELECTRICAL SERVICES
 DETAILS SHEET**

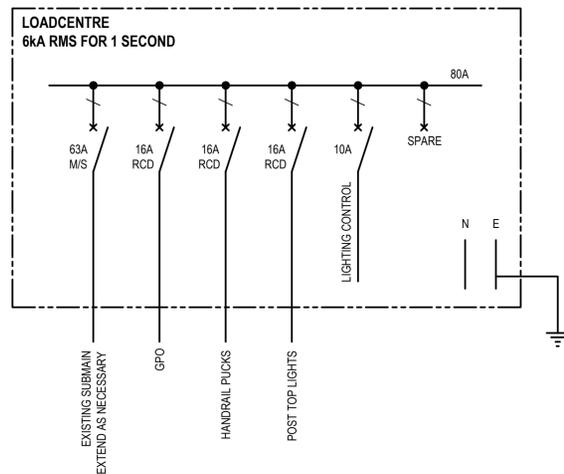
DATE	SCALE	DRN	DES	APR
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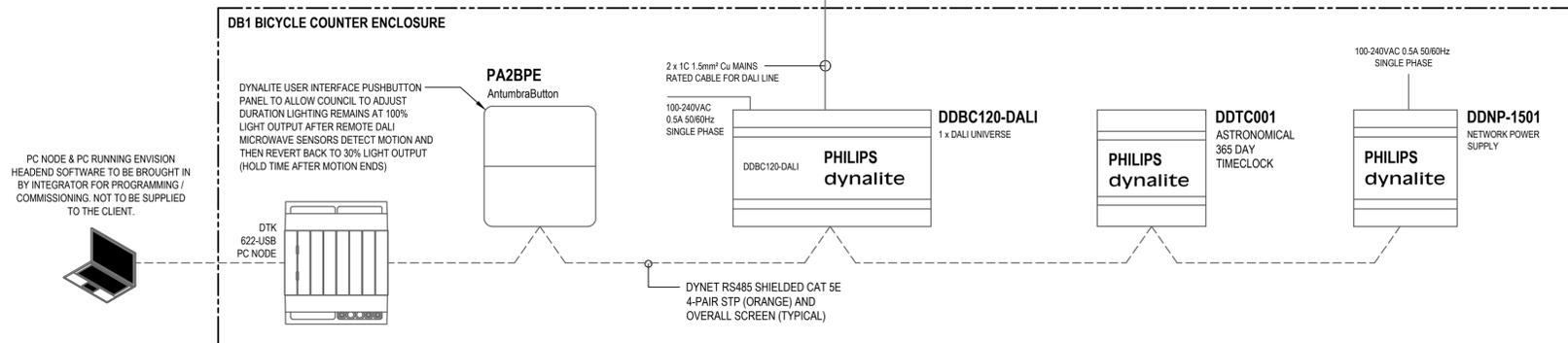
PUCK LIGHTS WIRING DIAGM

N.T.S.



DB1 SINGLE LINE DIAGRAM

N.T.S.



LIGHTING CONTROL SCHEMATIC

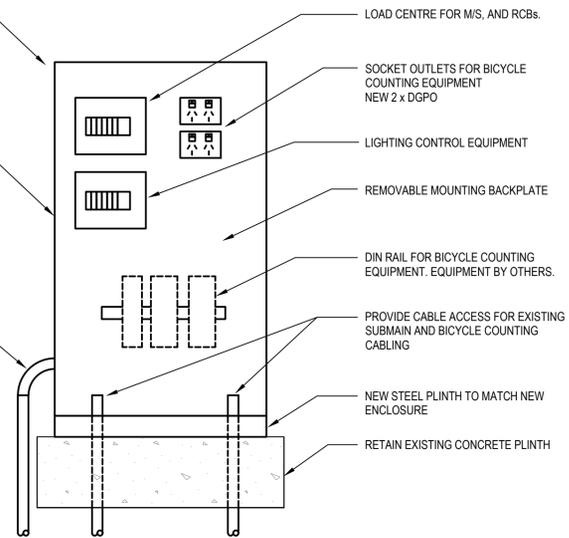
N.T.S.

REPLACE EXISTING BICYCLE COUNTER ENCLOSURE REUSING EXISTING CONCRETE PLINTH AND INCORPORATING NEW LIGHTING CONTROL EQUIPMENT. COORDINATE WITH COUNCIL TO MAKE SAFE, DISCONNECT AND REMOVE EXISTING EQUIPMENT WITHIN ENCLOSURE. PROVIDE LABELLING EQUIVALENT TO EXISTING PLUS STATUTORY LABELLING AS REQUIRED.

NEW ENCLOSURE: 1.5mm 316 STAINLESS STEEL IP66 IK10 PADLOCKABLE DOOR LATCH MIN 1000H x 600W x 300D IPENCLOSURES OR APPROVED EQUIVALENT

ALLOW FOR GALVANISED STEEL CONDUIT INTO GROUND FOR NEW LIGHTING CABLING IF EXISTING CABLE PATHWAYS THROUGH PLINTH CANNOT BE USED.

NOTE:
THE CONTRACTOR IS TO LIAISE WITH METROCOUNT AS REQUIRED TO ADJUST THEIR INFRASTRUCTURE AND TO ENSURE THEIR INFRASTRUCTURE IS FULLY OPERATIONAL AT COMPLETION OF CABINET REPLACEMENT.



DB1 BICYCLE COUNTER ENCLOSURE

N.T.S.

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PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
SPECIALIST LIGHTING SERVICES**

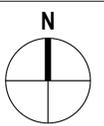
DRAWING
**ELECTRICAL SERVICES
SCHEMATICS AND SINGLE LINE DIAGRAMS**

DATE	SCALE	DRN	DES	APR
OCT '24	N.T.S.	P.T.	K.D.	I.N.F.

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AS/NZS 1158.3.1:2020
 LIGHTING FOR ROADS AND PUBLIC SPACES
 PART 3.1: PEDESTRIAN AREA (CATEGORY P) LIGHTING - PERFORMANCE AND DESIGN REQUIREMENTS

TABLE 2.2
 LIGHTING SUBCATEGORIES FOR PEDESTRIAN AND CYCLIST PATHS

1	2	3	4	5
Type of pathway	Selection criteria ^{a,b,c}			
General description	Basic operating characteristics	Pedestrian/cycle activity	Fear of crime	Applicable lighting subcategory
Pedestrian or cycle orientated pathway, e.g. footpaths, including those along local roads ^a and arterial roads ^a , walkways, lanes, park paths, cyclist paths	Pedestrian or cycle traffic only	N/A	High	PP1 ^c
		High	Medium	PP2 ^c
		Medium	Medium	PP3
		Medium	Low	PP4
		Low	Low	PP5

TABLE 3.4
 VALUES OF LIGHT TECHNICAL PARAMETERS FOR PATHWAYS AND CYCLIST PATHS

1	2	3	4	5
Lighting subcategory	Light technical parameters (LTP)			
	Average horizontal illuminance ^{a,b} (\bar{E}_h)	Point horizontal illuminance ^{a,b,d} (E_{hv})	Illuminance (horizontal) uniformity ^c Cat. P (U_{ez})	Point vertical illuminance ^{a,h} (E_{pv})
	lx	lx		lx
PP1	10	2	5	1
PP2	7	1	5	0.3
PP3	3	0.5	5	0.1
PP4	1.5	0.25	5	0.05 ^e
PP5	0.85	0.14	5	0.02 ^e

Obtrusive Light - Compliance Report
 AS/NZS 4282:2023, A2 - Low District Brightness, Curfew
 Filename: Raised Shared Pathway - Handrail Puck Lighting
 12/05/2025 12:20:42 PM

Maximum Allowable Value: 1 Lux

Calculations Tested (10):

Calculation Label	Test Results	Max. Illum.
ObtrusiveLight_1_Ill_Seg1	PASS	0.01
ObtrusiveLight_1_Ill_Seg2	PASS	0.00
ObtrusiveLight_1_Ill_Seg3	PASS	0.01
ObtrusiveLight_1_Ill_Seg4	PASS	0.02
ObtrusiveLight_1_Ill_Seg5	PASS	0.03
ObtrusiveLight_1_Ill_Seg6	PASS	0.01
ObtrusiveLight_1_Ill_Seg7	PASS	0.04
ObtrusiveLight_1_Ill_Seg8	PASS	0.01
ObtrusiveLight_1_Ill_Seg9	PASS	0.02
ObtrusiveLight_1_Ill_Seg10	PASS	0.01

Luminous Intensity (Cd) At Vertical Planes
 Maximum Allowable Value: 1000 Cd

Calculations Tested (10):

Calculation Label	Test Results
ObtrusiveLight_1_Cd_Seg1	PASS
ObtrusiveLight_1_Cd_Seg2	PASS
ObtrusiveLight_1_Cd_Seg3	PASS
ObtrusiveLight_1_Cd_Seg4	PASS
ObtrusiveLight_1_Cd_Seg5	PASS
ObtrusiveLight_1_Cd_Seg6	PASS
ObtrusiveLight_1_Cd_Seg7	PASS
ObtrusiveLight_1_Cd_Seg8	PASS
ObtrusiveLight_1_Cd_Seg9	PASS
ObtrusiveLight_1_Cd_Seg10	PASS

Upward Waste Light Ratio (UWLR)
 Maximum Allowable Value: 1.0 %

Calculated UWLR: 0.0 %
 Test Results: PASS

Luminaire Schedule

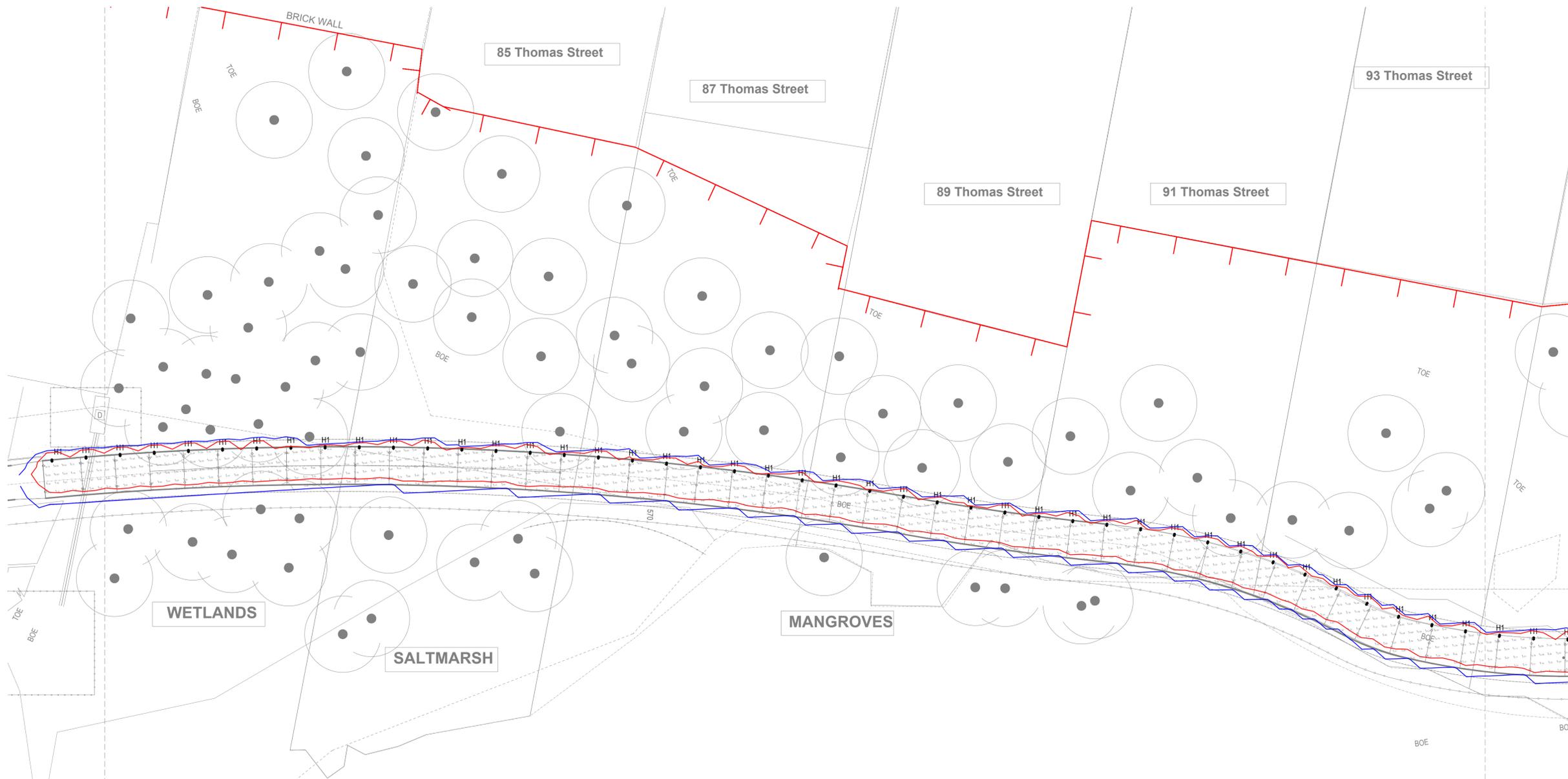
Symbol	Qty	Tag	Label	Arrangement	LLF	Description
→	52	H1	SNAP24-CF-UNI-22	Single	1.000	SNAP24-CF-UNI-22 [Calculated]

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Max/Avg
Raised Shared Pathway - Horizontal (Eh)	Illuminance	Lux	10.25	34.11	1.64	3.33
Raised Shared Pathway - Vertical (Ev)	Illuminance	Lux	N.A.	0.32	0.27	N.A.

Isoline Legend

Color	Value
Blue	0.5
Red	3



P1	FOR INFORMATION	12.05.25	K.D.	I.N.F.
ISSUE	REVISION	DATE	CHK	APR

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ELECTRICAL LIGHTING MECHANICAL SECURITY COMMUNICATIONS AUDIO VISUAL PV SOLAR ASP1
 BRISBANE | CANBERRA | Doha | GOLD COAST | MELBOURNE | NEWCASTLE | SUNSHINE COAST | SYDNEY

CLIENT
PARRAMATTA CITY COUNCIL

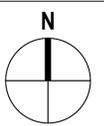
PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
**BALUDARRI WETLAND RAISED SHARED PATHWAY
 LIGHTING CALCULATIONS**

DATE	SCALE	DRN	DES	APR
OCT '24	1:200@A1	P.T.	K.D.	I.N.F.
PROJECT	DWG No	REVISION		
S404A	ESK-006	P1		

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Luminaire Schedule					
Symbol	Tag	Qty	Label	Arrangement	Description
□	P2	5	BE_99499K22	Single	26W LED 2200K TYPE II DISTRIBUTION POST TOP

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Max/Avg
Shared Pathway - Horizontal (Eh)	Illuminance	Lux	13.55	20.67	2.00	1.53
Shared Pathway - Vertical West (Ev)	Illuminance	Lux	9.56	22.56	1.13	N.A.
Shared Pathway - Vertical East (Ev)	Illuminance	Lux	9.91	23.11	1.27	N.A.
Stairs - Horizontal (Eh)	Illuminance	Lux	14.93	27.21	0.93	1.82
Stairs - Vertical East (Ev)	Illuminance	Lux	17.88	35.25	0.83	N.A.

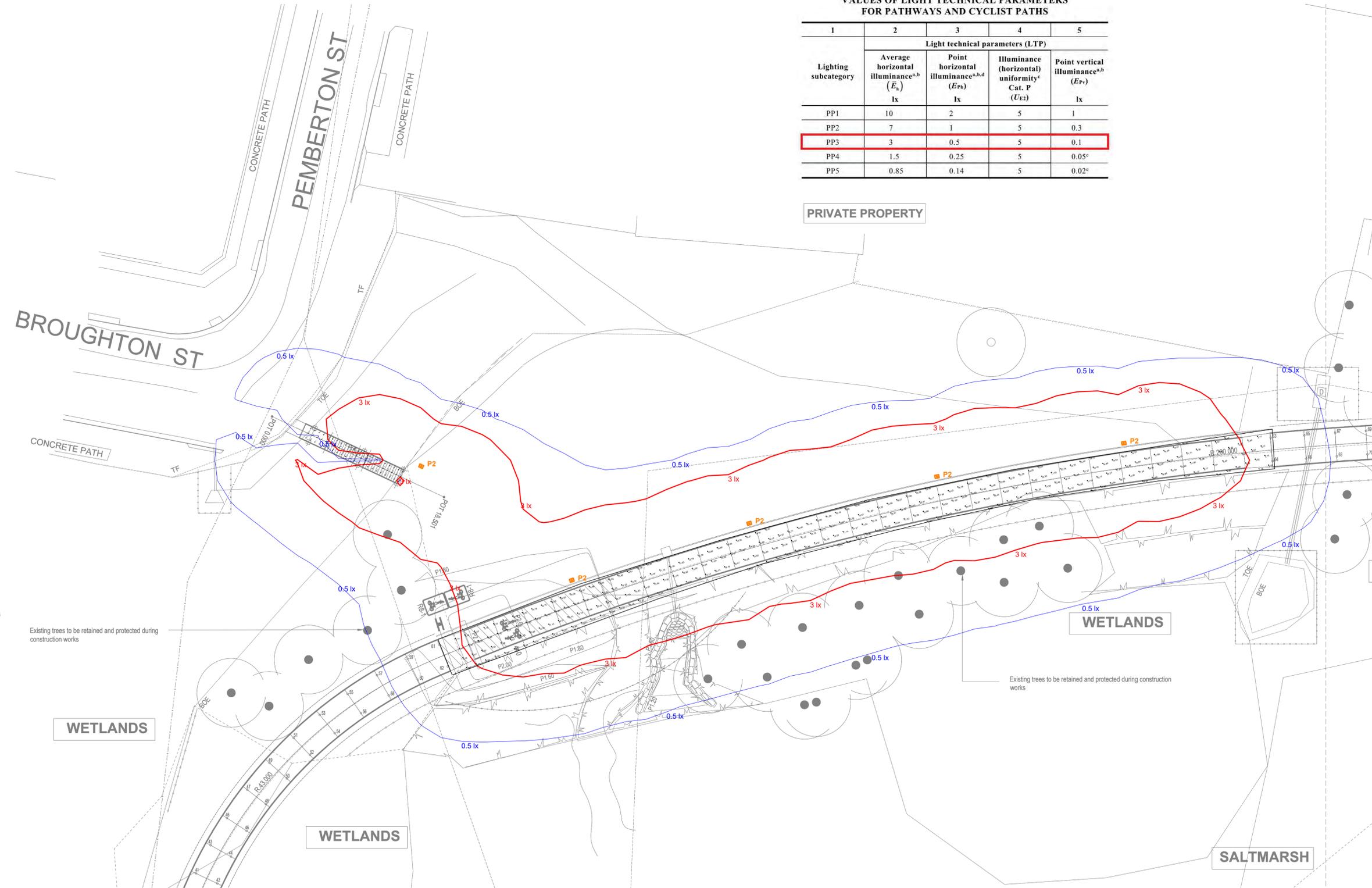
AS/NZS 1158.3.1:2020
 LIGHTING FOR ROADS AND PUBLIC SPACES
 PART 3.1: PEDESTRIAN AREA (CATEGORY P) LIGHTING - PERFORMANCE AND DESIGN REQUIREMENTS

TABLE 2.2
 LIGHTING SUBCATEGORIES FOR PEDESTRIAN AND CYCLIST PATHS

1	2	3	4	5	
Type of pathway		Selection criteria ^{a,b,c}			Applicable lighting subcategory
General description	Basic operating characteristics	Pedestrian/cycle activity	Fear of crime		
Pedestrian or cycle orientated pathway, e.g. footpaths, including those along local roads ^d and arterial roads ^e , walkways, lanes, park paths, cyclist paths	Pedestrian and or cycle traffic only	N/A	High	PP1 ^c	
		High	Medium	PP2 ^c	
		Medium	Medium	PP3	
		Medium	Low	PP4	
		Low	Low	PP5	

TABLE 3.4
 VALUES OF LIGHT TECHNICAL PARAMETERS FOR PATHWAYS AND CYCLIST PATHS

1	2	3	4	5
Lighting subcategory	Light technical parameters (LTP)			
	Average horizontal illuminance ^{a,b} (\bar{E}_h) lx	Point horizontal illuminance ^{a,b,d} (E_{rh}) lx	Illuminance (horizontal) uniformity ^c Cat. P (U_{Ez})	Point vertical illuminance ^{a,b} (E_{rv}) lx
PP1	10	2	5	1
PP2	7	1	5	0.3
PP3	3	0.5	5	0.1
PP4	1.5	0.25	5	0.05 ^e
PP5	0.85	0.14	5	0.02 ^e



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PROJECT
**BALUDARRI WETLAND SHARED PATHWAY
 SPECIALIST LIGHTING SERVICES**

DRAWING
**BALUDARRI WETLAND SHARED PATHWAY
 LIGHTING CALCULATIONS
 SHEET 1 OF 1**

DATE	SCALE	DRN	DES	APR
OCT '24	1:200@A1	P.T.	K.D.	I.N.F.
PROJECT	DWG No	REVISION		
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CERTIFICATE OF DESIGN ELECTRICAL & LIGHTING SERVICES

Issued Under the Building Code of Australia – Evidence of Suitability A2.2 (a) (iii)

This certificate is issued to:	Parramatta City Council
Email:	SLauger@cityofparramatta.nsw.gov.au
This certificate is issued in relation to:	Rangihou Reserve Site Shared Pathway; Baludarrri Wetland Shared Pathway; Royal Shores Shared Pathway

The electrical services covered by this Certificate has been designed in accordance with the requirements of the relevant National Construction Code (NCC) and relevant Australian Standards including the following:

- AS/NZS 3000: 2018 (Wiring Rules)
- AS/NZS 3008: 2017 (Selection of Cables)
- Service and Installation Rules of NSW (2018)
- AS/NZS 1158.3.1: 2020; Lighting for roads and public spaces Part 3.1 Pedestrian area (Category P) lighting - Performance and design requirements
- AS/NZS 4282: 2023; Control of the obtrusive effects of outdoor lighting
- National Light Pollution Guidelines for Wildlife (May 2023)

Documents setting out the design that is certified by this certificate:

Document No	Revision	Document Details
ES-101	A	ELECTRICAL SERVICES - COVER SHEET, SHEET KEY PLAN, LEGEND, DRAWING SCHEDULE & LEGEND
ES-102	A	ELECTRICAL SERVICES - ELECTRICAL NOTES
ES-103	A	EXISTING MAIN SWITCHBOARD AND ELECTRICAL RETICULATION SITE PLAN
ES-104	A	RANGIHOUS RESERVE SITE LIGHTING LAYOUT - SHEET 1 OF 1
ES-105	A	DETAILS SHEET
ES-106	A	SCHEMATICS AND SINGLE LINE DIAGRAMS
ES-201	A	ELECTRICAL SERVICES - COVER SHEET, LEGEND AND DRAWING
ES-202	A	ELECTRICAL SERVICES - ELECTRICAL NOTES
ES-203	A	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 1 OF 4
ES-204	A	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 2 OF 4
ES-205	A	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 3 OF 4
ES-206	A	BALUDARRI WETLAND SHARED PATHWAY LIGHTING LAYOUT - SHEET 4 OF 4
ES-207	A	DETAILS SHEET
ES-208	A	SCHEMATICS AND SINGLE LINE DIAGRAMS
ESK-003	P1	ROYAL SHORES PATHWAY - PROPOSED RELOCATION OF ENDEAVOUR ENERGY STREETLIGHTS AND COMPLIANCE LIGHTING CALCULATIONS

I certify that I am an appropriately qualified and competent person practicing in the relevant area of work and have recognised relevant experience in the area of work being certified.

I confirm that Webb Australia Group holds appropriate Professional Indemnity insurance to the satisfaction of the building owner or principal requesting the certification.

Name:	Ken Douglas
Company:	Webb Australia Group (NSW) Pty Ltd
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Qualifications.:	Electrical Engineering Certificate Lighting Principles LAN Technologies Telecommunications Engineering Certificate InfoComm Certified Technology Specialist (CTS) Department of Defence Security Clearance –Negative Vetting Level 1
Date of issue of certificate:	06/03/2025
Signature:	

Report on Geotechnical Investigation

Proposed Pathway Upgrades

Baludarri Wetland, Parramatta NSW

Prepared for City of Parramatta Council

Douglas Project 231248.00

23 January 2025

Document History

Details

Douglas Project No.	231248.00
Document Title	Report on Geotechnical Investigation
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Filename	231248.00.R.002.Rev0_Baludarri

Status and Review

Status	Prepared by	Reviewed by	Date issued
Revision 0	Joshua Valencic / Matthew Bobby	Stephen Jackson	23 January 2025

Distribution of Copies

Status	Issued to
Revision 0	Shane Lauger

The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

Signature

Date

Author		23 January 2025
Reviewer		23 January 2025

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Appendix A: Notes About This Report

Appendix B: Drawings

Appendix C: Fieldwork Results

Appendix D: Laboratory Test Certificates

Appendix E: Broms Design Method

Report on Geotechnical Investigation Proposed Pathway Upgrades Baludarri Wetland, Parramatta NSW

1. Introduction

This report prepared by Douglas Partners Pty Ltd (Douglas) presents the results of a geotechnical investigation undertaken for proposed pathway upgrades at Baludarri Wetland, Parramatta NSW (the site). The investigation was commissioned by City of Parramatta Council (CoPC or Council) and was undertaken in accordance with Douglas' proposal 231248.00.P.001.Rev0 dated 22 August 2024.

The broader project is set to deliver 2.8 km of upgraded multi-use shared pathways along the Parramatta River at five locations across the suburbs of Parramatta, Rydalmere and Ermington. This current report specifically addresses the pathway section in Baludarri Wetland, Parramatta. Reports are provided separately for the other pathway sections.

It is understood that the proposed development within Baludarri Wetlands includes five new 6 m high lighting poles. Refer to Section 6 of this report for further details on the scope of the proposed upgrades.

The aim of the investigation was to assess the subsurface soil and groundwater conditions at selected locations of the site to provide comments and recommendations on the following:

- appropriate footing types for the new light poles, including relevant design geotechnical parameters for foundation design (by others);
- acid sulfate soil risk; and
- soil aggressivity.

The investigation included the drilling of five boreholes and laboratory testing of selected samples. The details of the field work are presented in this report, together with comments and recommendations on the items listed above. This report must be read in conjunction with all appendices including the notes provided in Appendix B.

2. Site description

The site is located about 1.5 km east of the Parramatta CBD on the northern terraced bank of the Parramatta River. Topography within the Baludarri Wetland is generally flat to mildly undulating, forming part of the lateral floodplain zone of the river. The site is located at a bend in the existing pathway and runs parallel to the river roughly northeast to southwest.

At the north western end of the site, stairs lead up to the street level at the intersection of Pemberton Street and Broughton Street.

The existing shared pathway is 3 m wide, of concrete construction and typically set back more than 50 m from the crest of the river bank. The concrete pavement segments appeared to be in reasonable and sound condition with no clear cracking or major defects observed. The verges are vegetated with well-established trees and grass landscaping on both sides of the path.

The location of the site and nearby features are also shown on Drawing 001B in Appendix B. Figure 1 shows a typical view of the existing pathway at the time of the investigation.



Figure 1: View of existing pathway, view looking east

3. Published data

3.1 Geology

Reference to the NSW seamless geology mapping (Colquhoun, et al., 2021) indicates the site is generally underlain by Alluvial Floodplain Deposits (QH_af, shown as the light brown zone in Figure 2) comprising silt, fine to medium grained sand and clay soils. Inland areas to the northwest of the site are mapped as Ashfield Shale (Twia, shown in green) and comprise black to dark grey shale and laminite. This shale unit is likely to coincide with high plasticity residual soil, and is also expected to underlie the estuarine and alluvial units.



Figure 2: Geological mapping at the proposed development site. Sourced from NSW seamless geology mapping (Colquhoun, et al., 2021).

3.2 Acid sulfate soils

Acid Sulfate Soil (ASS) Risk Mapping published by NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW, 1998) indicate a high risk of ASS typically being present to the east of the site at depths less than 1 m. At the location of the proposed light poles, the site is mapped as disturbed terrain which indicates extensive prior earthworks development and therefore an unknown risk of ASS being present. An extract of the risk mapping is shown in Figure 3, with high risk zones shown in red and disturbed terrain areas in grey.



Figure 3: Acid Sulfate Soil Mapping of site area, source from NSW DCCEEW (1998).

3.3 Salinity Potential

Reference to the Salinity Potential in Western Sydney mapping published by NSW DCCEE (2002), the site is located within a zone of moderate salinity potential. Further assessment would be required to quantify the site risks, as this was outside the scope of the current geotechnical investigation.

4. Field work

4.1 Field work methods

The field work was carried out on 26 November 2024 and included:

- scanning for buried services at proposed borehole locations using both an electromagnetic scanner and ground penetrating radar (GPR);
- five boreholes (identified as BH201 to BH205) drilled using a 2.5 tonne excavator using solid flight augers to 2 m depth;
- disturbed and bulk sampling of soil from the boreholes for logging (to AS1726:2017) and laboratory testing; and
- dynamic cone penetrometer (DCP) testing in accordance with the test method AS 1289.6.3.2 (1997) at each borehole location to estimate soil density or consistency.

All boreholes were backfilled with spoil and reinstated to match adjacent conditions. Coordinates and surface levels for all test locations were determined using a differential Global Positioning System (dGPS) receiver, which has an approximate accuracy of 0.1 m (subject to satellite coverage of the area). Coordinates have been measured in GDA20/MGA Zone 56 format (Geocentric Datum of Australia 2020 base with Map Grid of Australia projection) and levels are relative to AHD, as shown on the logs in Appendix C.

4.2 Field work results

The detailed borehole logs are included in Appendix C, together with notes defining classification methods and terms used to describe the soils. Based on the results of the site investigation, the general subsurface profile encountered in the borehole are summarised as follows:

- **Topsoil (Fill)** – Silty CLAY containing roots, layers were generally equal to or less than 50 mm thick.
- **Fill** – Fill was encountered in all boreholes and consisted of variable soil types including clay, sandy clay, sand, gravelly sand, clayey sand and silty sand. Fill extended to depths ranging from 0.3 m to 1.0 m. Other than fine to medium sandstone gravel (inferred to be from previous fill placement), anthropogenic inclusions were not encountered within the fill. The DCP results indicate the fill was generally moderately to well compacted, however, the fill is assessed to be uncontrolled in nature due to the absence of documentation indicating otherwise.
- **Alluvial Sediments** – Below the fill, grey to orange-brown sand was encountered in all boreholes to the limits of the investigation (i.e. 2 m). The soil was generally of a loose to medium dense density, with the exception of some very loose to loose zones (e.g. BH203

below 1.2 m). A 0.6 m thick layer of low plasticity, stiff sandy clay alluvial soil was encountered in BH205 below the fill.

Free groundwater was not observed in the boreholes during auger drilling. It should be noted that the apparent groundwater depths are likely influenced by tidal variation and other seasonal/climatic factors.

5. Laboratory testing

5.1 Geotechnical Laboratory Testing

Geotechnical testing was undertaken in accordance with relevant Australian Standard test methods at a NATA accredited laboratory on selected soil samples as follows:

- Atterberg limits and Linear shrinkage testing on two disturbed samples to assess the plasticity classification of cohesive materials.
- Aggressivity testing (pH, chloride, sulfate, electrical resistivity) on six disturbed samples to determine the exposure classification for concrete and steel, in accordance with the Australian standard for piling (AS 2159, 2009).

Detailed results are attached in Appendix D and are summarised in Tables 1 and 2

Table 1: Summary of plasticity classification test results

Sample ID	Sample Type	LL (%)	PL (%)	PI (%)	LS (%)	Plasticity Classification
BH202 / 0.4-0.5	FILL/Silty CLAY	34	22	12	7.5	low
BH205 / 0.4-0.5	Sandy CLAY	22	14	8	5.0	low

Notes: PL – Plasticity limit, LL – Liquid limit, PI – Plasticity index (difference between Plastic and Liquid Limits)
LS – Linear shrinkage

Table 2: Summary of aggressivity test results

Sample ID	Sample Type	Soil Type	Exposure Classification				
			Concrete		Steel		
			pH	SO ₄ (ppm)	pH	Cl (ppm)	Resistivity (Ωcm)
BH202 / 1.7-1.8	SAND	A	6.6	41	6.6	<10	21,739
BH203 / 0.7-0.8	FILL/SAND	B	8.3	20	8.3	<10	14,705
BH204 / 0.4-0.5	FILL/Clayey SAND	B	4.7	80	4.7	<10	10,000

Notes: Soil Type based on guideline presented in AS 2159-2009 and summarise below:
Soil Type A – High permeability soils (eg sands and gravels) which are in groundwater.
Soil Type B – Low permeability soils (eg silts and clays) or all soils above groundwater.
Scale of aggressivity based on threshold values given in AS 2159-2019

Non-aggressive	Mild	Moderate	Severe	Very Severe
----------------	------	----------	--------	-------------

5.2 Acid Sulfate Soil Testing

To assess for the presence of acid sulfate soil, 12 soil samples were screen tested at an external NATA registered laboratory using a calibrated pH meter for measurement of the field pH in water (pH_F) and pH following oxidation in hydrogen peroxide (pH_{FOX}). This testing was undertaken to screen samples and provide indicative results of the potential or actual presence of ASS to inform further selection of samples for verification testing. Based on the results of the screening tests, Chromium Reducible Sulfur (Scr) testing was then carried out on three soil samples which showed positive indicators for ASS. Results of the ASS screening testing are provided in the laboratory report included in Appendix D and are summarised in Table 3. Table 4 presents the results of the Scr testing. Further discussion on the interpretation of these results and sample selection is provided in Section 7.1.

Table 3: Summary of ASS Screening Results

Borehole	Depth (m)	Material Description	Screening Tests			
			Natural pH _F	Oxidised pH _{FOX}	Change in pH	Reaction
BH201	0.4-0.5	FILL/Gravelly SAND	7.5	4.2	3.3	Low reaction
BH201	0.9-1.0	FILL/Gravelly SAND	7.4	5	2.4	Low reaction
BH201	1.4-1.5	SAND	7	5.1	1.9	Low reaction
BH201	1.9-2.0	SAND	7.1	4	3.1	Low reaction
BH203	0.4-0.5	FILL/SAND	8.6	6.4	2.2	Low reaction
BH203	0.9-1.0	SAND	6.1	4.7	1.4	Low reaction
BH203	1.4-1.5	SAND	5.4	4.6	0.8	Low reaction
BH203	1.9-2.0	SAND	6.5	5.5	1	Low reaction
BH205	0.4-0.5	Sandy CLAY	6.6	5.2	1.4	Low reaction
BH205	0.9-1.0	SAND	6.5	5.4	1.1	Low reaction
BH205	1.4-1.5	SAND	7	5.5	1.5	Low reaction
BH205	1.9-2	SAND	7	4.6	2.4	Low reaction

Notes: Results interpreted against National guidelines (Sullivan, et al., 2018) with indicators highlighted accordingly.

Low likelihood of PASS or AASS	Positive indicator for Potential Acid Sulfate Soil (PASS)	Positive indicator for Actual Acid Sulfate Soil (AASS)
--------------------------------	---	--

Table 4: Laboratory Acid Sulphate Soil Test Results (Chromium Reducible Sulphur)

Borehole	Depth (m)	Material Description	pH _{KCl}	TAA (%w/w)	Scr (%w/w)	ANC (%w/w)	Net Acidity (%w/w)
BH201	0.4-0.5	FILL/Gravelly SAND	8	<0.01	0.008	0.35	0.008
BH203	0.9-1.0	SAND	6.1	<0.01	<0.005	NT	<0.005
BH205	1.9-2.0	SAND	5	0.01	<0.005	NT	0.01

Notes: NT – Not Tested
 pH_{KCl} = pH in a potassium chloride suspension.
 TAA – Titratable Actual Acidity, measure of the readily available and dischargeable acidity.
 ANC – Acid Neutralising Capacity, soils ability to buffer / resist reduction in pH.
 Net Acidity – the net results of the TAA and Scr measurements, without ANC reduction.
 Results about action criteria are in **BOLD**

6. Proposed development

Based on the client supplied Concept Design Drawings (Rev E, dated October 2024), it is understood the proposed development (relevant to geotechnical assessment) at Baludurri Wetland is limited to the construction of new 6 m high lighting poles, spaced at about 20 m centres along a section of the existing pathway. Widening of the shared pathway is not planned for this section of the project.

7. Comments

7.1 Acid Sulfate Soil (ASS) Assessment

The ASS assessment has been prepared in general accordance with the National guidelines.

The results of the screening tests showed field pH (pH_F) were in the range of 5.4 to 8.6 pH units and peroxide pH test (pH_{FOX}) were in the range of 4.0 to 6.4 pH units. The reduction in pH following addition of hydrogen peroxide (i.e. pH_F - pH_{FOX}) were typically between 1.0 and 5.1 pH units, with a single change being less than 1 pH.

The National guidelines (Sullivan, et al., 2018) suggest that actual acid sulfate soil (AASS) may be present where pH_F values are less than ≤ 4 pH units. This did not occur in any of the samples tested. The peroxide test was undertaken to assess the presence of potential acid sulfate soil (PASS). The National guidelines (Sullivan, et al., 2018) suggest a positive PASS test result may include one or more of the following indicators:

- pH_{FOX} values of ≤ 3.0.
- Reduction in pH between the field and peroxide test of at least 1 pH unit.
- Effervescence (i.e. medium or stronger reaction rate)

The screening results indicated that 12 samples showed positive indicators for PASS however, no strong indicators were observed.

To assess the presence of PASS, additional Chromium Reducible Sulfur (Scr) testing was carried out on three soil samples. The action criteria to determine the presence or absence of PASS at the site is based on the textural classification of the soil material, net acidity and the volume of material expected to be disturbed. The adopted action criteria for interpreting the Scr testing is provided in Table 5.

Table 5: Adopted action criteria for assessing Scr testing results.

Soil Material	Texture	Volume Disturbed	Action criteria
Fill	Medium	< 1000 t	≥ 0.06
Sand	Coarse	< 1000 t	≥ 0.03

The results of the testing indicate ASS is not present within either the fill or alluvial soil material and therefore, no ASS management plan is required for disturbance of such soils. These results, however, are based on limited testing from discrete locations so there may be localised pockets where soils do contain some form of ASS. Further testing may be prudent during construction to further confirm the findings of this assessment.

7.2 Piled Footings

Footings for the lighting poles are anticipated to be constructed as small diameter cased-bored piles (0.4 m diameter for example). These structures are expected to be light-weight and therefore would have low founding loads.

Cased-bored piles using either a temporary or permanent casing are the conventional pile type adopted for such lightweight structures. Due to the presence of uncontrolled fill, it is recommended that all pile footings be constructed to at least 1.5 m depth and be founded within loose (or better) alluvial sand. Such piles could be designed for an allowable end bearing of 100 kPa, based on a factor of safety of 3.

Lateral and moment loading are also expected for the lighting poles and would be resisted by the uncontrolled fill. A design check on the ultimate lateral capacity of short piles using the Broms method (1964, refer Appendix E for details) with an assigned undrained shear strength of 40 kPa for the fill materials is recommended during the detailed design phase of the project.

It should be noted that excavations for bored piles at the site may be difficult should anthropogenic inclusions (bricks, tiles and concrete) or boulders (if present) be encountered. Allowance for potential obstructions should be considered by the contractor.

The construction of all piled footings should be inspected by a suitably qualified geotechnical engineer to ensure suitable founding conditions are achieved for the design loads (to be provided at time of construction) prior to placement of reinforcement and concrete.

7.3 Soil Aggressivity

The laboratory test results indicate that the soil samples are generally 'non-aggressive' to 'mildly' aggressive to buried concrete, and non-aggressive to buried steel elements in accordance with the provisions of AS2159-2009 "Piling – Design and Installation". The Standard also provides classifications where buried structures may be exposed to waste (either domestic or industrial)

and / or groundwater (fresh or sea water). It is anticipated that the proposed footings would be founded within fill, and potentially with some exposure to a fluctuating groundwater table which conservatively could be considered as 'sea water'. As such, it may be prudent for the pile designer to adopt a 'severe' classification to account for potentially worse conditions.

The pile designer will need to allow for sufficient coverage for embedded concrete elements and corrosion allowance for steel elements. Additional testing of ground water samples may be beneficial to provide further data to inform the durability pile design however, this would be determined by the designing engineer. The pile designer should also consider, and allow for, the presence for ASS, and the potential generation of sulfuric acids should an oxidation event occur

7.4 Limitations

Douglas Partners Pty Ltd (Douglas) has prepared this report for this project at Baludarri Wetland, Parramatta NSW in line with Douglas' proposal dated 22 August 2024 and acceptance received from Shane Lauger of City of Parramatta Council. The work was carried out under Short Form Contract for Services (1.13). This report is provided for the exclusive use of City of Parramatta Council for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of Douglas, does so entirely at its own risk and without recourse to Douglas for any loss or damage. In preparing this report Douglas has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after Douglas' field testing has been completed.

Douglas' advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by Douglas in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the geotechnical components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. Douglas cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by Douglas. This is because this report has been written as advice and opinion rather than instructions for construction.

The scope of work for this investigation/report did not include the assessment of surface or sub-surface materials or groundwater for contaminants, within or adjacent to the site. Should evidence of fill of unknown origin be noted in the report, and in particular the presence of building demolition materials, it should be recognised that there may be some risk that such fill may contain contaminants and hazardous building materials.

Appendix A

Notes About this Report

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at

the time of construction as are indicated in the report; and

- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

continued next page

About this Report

Site Anomalies

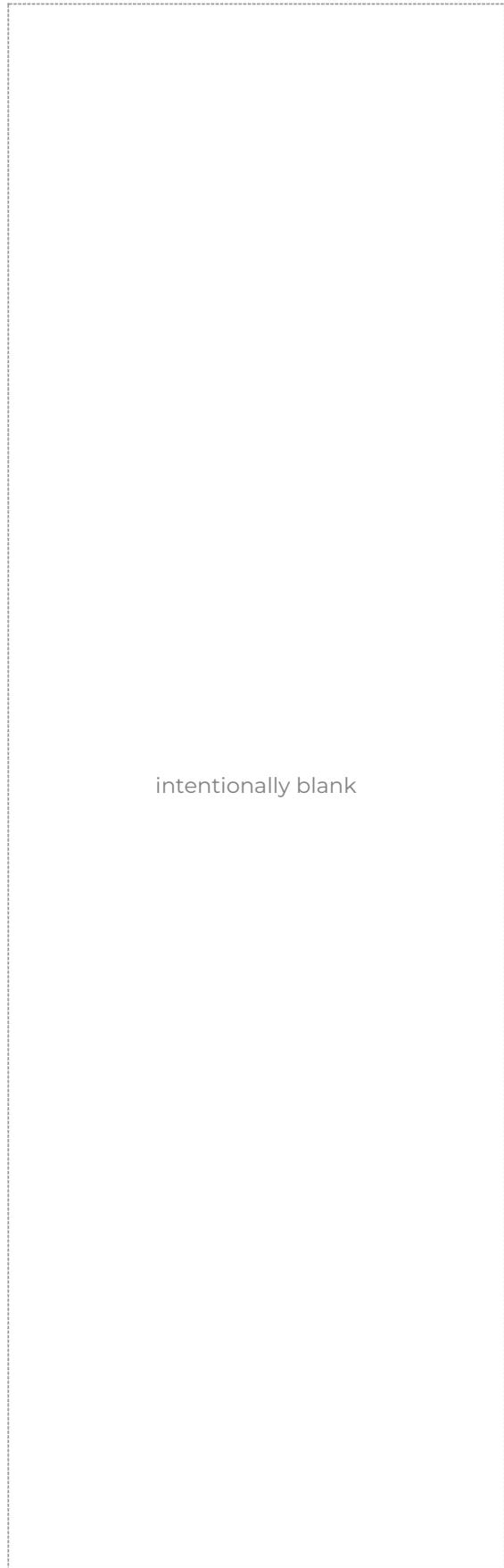
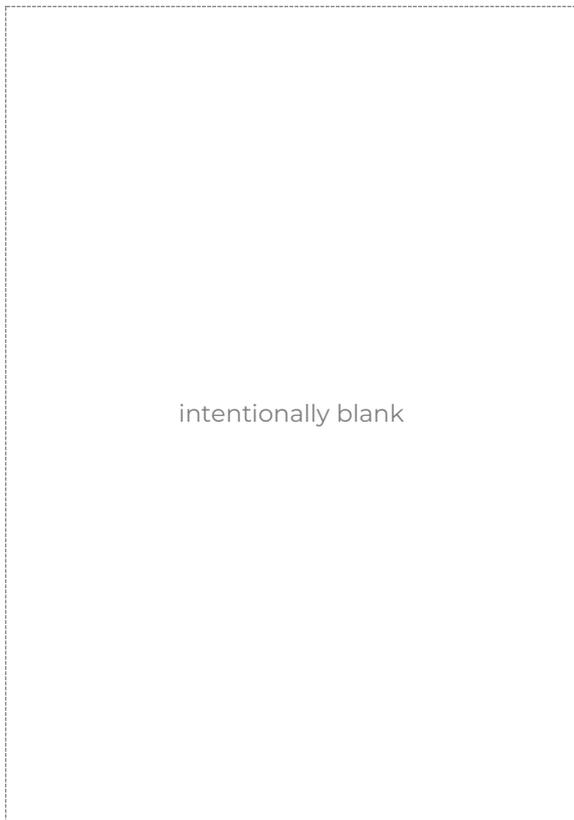
In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.





Introduction to Terminology, Symbols and Abbreviations

Douglas Partners' reports, investigation logs, and other correspondence may use terminology which has quantitative or qualitative connotations. To remove ambiguity or uncertainty surrounding the use of such terms, the following sets of notes pages may be attached Douglas Partners' reports, depending on the work performed and conditions encountered:

- Soil Descriptions;
- Rock Descriptions; and
- Sampling, insitu testing, and drilling methodologies

In addition to these pages, the following notes generally apply to most documents.

Abbreviation Codes

Site conditions may also be presented in a number of different formats, such as investigation logs, field mapping, or as a written summary. In some of these formats textual or symbolic terminology may be presented using textual abbreviation codes or graphic symbols, and, where commonly used, these are listed alongside the terminology definition. For ease of identification in these note pages, textual codes are presented in these notes in the following style **XW**. Code usage conforms with the following guidelines:

- Textual codes are case insensitive, although herein they are generally presented in upper case; and
- Textual codes are contextual (i.e. the same or similar combinations of characters may be used in different contexts with different meanings (for example `PL` is used for plastic limit in the context of soil moisture condition, as well as in `PL(A)` for point load test result in the testing results column)).

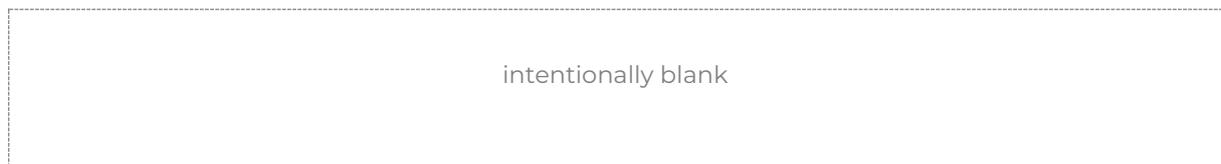
Data Integrity Codes

Subsurface investigation data recorded by Douglas Partners is generally managed in a highly structured database environment, where records "span" between a top and bottom depth interval. Depth interval "gaps" between records are considered to introduce ambiguity, and, where appropriate, our practice guidelines may require contiguous data sets. Recording meaningful data is not always appropriate (for example assigning a "strength" to a concrete pavement) and the following codes may be used to maintain contiguity in such circumstances.

Term	Description	Abbreviation Code
Core loss	No core recovery	KL
Unknown	Information was not available to allow classification of the property. For example, when auguring in loose, saturated sand auger cuttings may not be returned.	UK
No data	Information required to allow classification of the property was not available. For example if drilling is commenced from the base of a hole predrilled by others	ND
Not Applicable	Derivation of the properties not appropriate or beyond the scope of the investigation. For example providing a description of the strength of a concrete pavement	NA

Graphic Symbols

Douglas Partners' logs contain a "graphic" column which provides a pictorial representation of the basic composition of the material. The symbols used are directly representing the material name stated in the adjacent "Description of Strata" column, and as such no specific graphic symbology legend has been provided in these notes.





Introduction

All materials which are not considered to be “in-situ rock” are described in general accordance with the soil description model of AS 1726-2017 Part 6.1.3, and can be broken down into the following description structure:



The “classification” comprises a two character “group symbol” providing a general summary of dominant soil characteristics. The “name” summarises the particle sizes within the soil which most influence its behaviour. The detailed description presents more information about composition, condition, structure, and origin of the soil.

Classification, naming and description of soils require the relative proportion of particles of different sizes within the whole soil mixture to be considered.

Particle size designation and Behaviour Model

Solid particles within a soil are differentiated on the basis of size.

The engineering behaviour properties of a soil can subsequently be modelled to be either “fine grained” (also known as “cohesive” behaviour) or “coarse grained” (“non cohesive” behaviour), depending on the relative proportion of fine or coarse fractions in the soil mixture.

Particle Size Designation	Particle Size (mm)	Behaviour Model	
		Behaviour	Approximate Dry Mass
Boulder	>200	Excluded from particle behaviour model as “oversize”	
Cobble	63 - 200		
Gravel ¹	2.36 - 63	Coarse	>65%
Sand ¹	0.075 - 2.36		
Silt	0.002 - 0.075	Fine	>35%
Clay	<0.002		

¹ – refer grain size subdivision descriptions below

The behaviour model boundaries defined above are not precise, and the material behaviour should be assumed from the name given to the material (which considers the particle fraction which dominates the behaviour, refer “component proportions” below), rather than strict observance of the proportions of particle sizes. For example, if a material is named a “Sandy CLAY”, this is indicative that the material exhibits fine grained behaviour, even if the dry mass of coarse grained material may exceed 65%.

Component proportions

The relative proportion of the dry mass of each particle size fraction is assessed to be a “primary”, “secondary”, or “minor” component of the soil mixture, depending on its influence over the soil behaviour.

Component Proportion Designation	Definition ¹	Relative Proportion	
		In Fine Grained Soil	In Coarse Grained Soil
Primary	The component (particle size designation, refer above) which dominates the engineering behaviour of the soil	The clay/silt component with the greater proportion	The sand/gravel component with the greater proportion
Secondary	Any component which is not the primary, but is significant to the engineering properties of the soil	Any component with greater than 30% proportion	Any granular component with greater than 30%; or Any fine component with greater than 12%
Minor ²	Present in the soil, but not significant to its engineering properties	All other components	All other components

¹ As defined in AS1726-2017 6.1.4.4

² In the detailed material description, minor components are split into two further sub-categories. Refer “identification of minor components” below.

Composite Materials

In certain situations, a lithology description may describe more than one material, for example, collectively describing a layer of interbedded sand and clay. In such a scenario, the two materials would be described independently, with the names preceded or followed by a statement describing the arrangement by which the materials co-exist. For example, “INTERBEDDED Silty CLAY AND SAND”.

Classification

The soil classification comprises a two character group symbol. The first character identifies the primary component. The second character identifies either the grading or presence of fines in a coarse grained soil, or the plasticity in a fine grained soil. Refer AS1726-2017 6.1.6 for further clarification.

Soil Name

For most soils, the name is derived with the primary component included as the noun (in upper case), preceded by any secondary components stated in an adjective form. In this way, the soil name also describes the general composition and indicates the dominant behaviour of the material.

Component ¹	Prominence in Soil Name
Primary	Noun (eg "CLAY")
Secondary	Adjective modifier (eg "Sandy")
Minor	No influence

¹ – for determination of component proportions, refer component proportions on previous page

For materials which cannot be disaggregated, or which are not comprised of rock or mineral fragments, the names "ORGANIC MATTER" or "ARTIFICIAL MATERIAL" may be used, in accordance with AS1726-2017 Table 14.

Commercial or colloquial names are not used for the soil name where a component derived name is possible (for example "Gravelly SAND" rather than "CRACKER DUST").

Materials of "fill" or "topsoil" origin are generally assigned a name derived from the primary/secondary component (where appropriate). In log descriptions this is preceded by uppercase "FILL" or "TOPSOIL". Origin uncertainty is indicated in the description by the characters (?), with the degree of uncertainty described (using the terms "probably" or "possibly" in the origin column, or at the end of the description).

Identification of minor components

Minor components are identified in the soil description immediately following the soil name. The minor component fraction is usually preceded with a term indicating the relative proportion of the component.

Minor Component Proportion Term	Relative Proportion	
	In Fine Grained Soil	In Coarse Grained Soil
With	All fractions: 15-30%	Clay/silt: 5-12% sand/gravel: 15-30%
Trace	All fractions: 0-15%	Clay/silt: 0-5% sand/gravel: 0-15%

The terms "with" and "trace" generally apply only to gravel or fine particle fractions. Where cobbles/boulders are encountered in minor proportions (generally less than about 12%) the term "occasional" may be used. This term describes the sporadic distribution of the material within the confines of the investigation excavation only, and there may be considerable variation in proportion over a wider area which is difficult to factually characterise due to the relative size of the particles and the investigation methods.

Soil Composition

Plasticity

Descriptive Term	Laboratory liquid limit range	
	Silt	Clay
Non-plastic materials	Not applicable	Not applicable
Low plasticity	≤50	≤35
Medium plasticity	Not applicable	>35 and ≤50
High plasticity	>50	>50

Note, Plasticity descriptions generally describe the plasticity behaviour of the whole of the fine grained soil, not individual fine grained fractions.

Grain Size

Type	Particle size (mm)	
	Gravel	Coarse
	Medium	6.7 - 19
	Fine	2.36 - 6.7
Sand	Coarse	0.6 - 2.36
	Medium	0.21 - 0.6
	Fine	0.075 - 0.21

Grading

Grading Term	Particle size (mm)
Well	A good representation of all particle sizes
Poorly	An excess or deficiency of particular sizes within the specified range
Uniformly	Essentially of one size
Gap	A deficiency of a particular size or size range within the total range

Note, AS1726-2017 provides terminology for additional attributes not listed here.

Soil Condition

Moisture

The moisture condition of soils is assessed relative to the plastic limit for fine grained soils, while for coarse grained soils it is assessed based on the appearance and feel of the material. The moisture condition of a material is considered to be independent of stratigraphy (although commonly these are related), and this data is presented in its own column on logs.

Applicability	Term	Tactile Assessment	Abbreviation code
Fine	Dry of plastic limit	Hard and friable or powdery	w<PL
	Near plastic limit	Can be moulded	w=PL
	Wet of plastic limit	Water residue remains on hands when handling	w>PL
	Near liquid limit	"oozes" when agitated	w=LL
	Wet of liquid limit	"oozes"	w>LL
Coarse	Dry	Non-cohesive and free running	D
	Moist	Feels cool, darkened in colour, particles may stick together	M
	Wet	Feels cool, darkened in colour, particles may stick together, free water forms when handling	W

The abbreviation code **NDF**, meaning "not-assessable due to drilling fluid use" may also be used.

Note, observations relating to free ground water or drilling fluids are provided independent of soil moisture condition.

Consistency/Density/Compaction/Cementation/Extremely Weathered Material

These concepts give an indication of how the material may respond to applied forces (when considered in conjunction with other attributes of the soil). This behaviour can vary independent of the composition of the material, and on logs these are described in an independent column and are generally mutually exclusive (i.e it is inappropriate to describe both consistency and compaction at the same time). The method by which the behaviour is described depends on the behaviour model and other characteristics of the soil as follows:

- In fine grained soils, the "consistency" describes the ease with which the soil can be remoulded, and is generally correlated against the materials undrained shear strength;
- In granular materials, the relative density describes how tightly packed the particles are, and is generally correlated against the density index;
- In anthropogenically modified materials, the compaction of the material is described qualitatively;
- In cemented soils (both natural and anthropogenic), the cemented "strength" is described qualitatively, relative to the difficulty with which the material is disaggregated; and
- In soils of extremely weathered material origin, the engineering behaviour may be governed by relic rock features, and expected behaviour needs to be assessed based the overall material description.

Quantitative engineering performance of these materials may be determined by laboratory testing or estimated by correlated field tests (for example penetration or shear vane testing). In some cases, performance may be assessed by tactile or other subjective methods, in which case investigation logs will show the estimated value enclosed in round brackets, for example **(VS)**.

Consistency (fine grained soils)

Consistency Term	Tactile Assessment	Undrained Shear Strength (kPa)	Abbreviation Code
Very soft	Extrudes between fingers when squeezed	<12	VS
Soft	Mouldable with light finger pressure	>12 - ≤25	S
Firm	Mouldable with strong finger pressure	>25 - ≤50	F
Stiff	Cannot be moulded by fingers	>50 - ≤100	St
Very stiff	Indented by thumbnail	>100 - ≤200	VSt
Hard	Indented by thumbnail with difficulty	>200	H
Friable	Easily crumbled or broken into small pieces by hand	-	Fr

Relative Density (coarse grained soils)

Relative Density Term	Density Index	Abbreviation Code
Very loose	<15	VL
Loose	>15 - ≤35	L
Medium dense	>35 - ≤65	MD
Dense	>65 - ≤85	D
Very dense	>85	VD

Note, tactile assessment of relative density is difficult, and generally requires penetration testing, hence a tactile assessment guide is not provided.

Compaction (anthropogenically modified soil)

Compaction Term	Abbreviation Code
Well compacted	WC
Poorly compacted	PC
Moderately compacted	MC
Variably compacted	VC

Cementation (natural and anthropogenic)

Cementation Term	Abbreviation Code
Moderately cemented	MOD
Weakly cemented	WEK

Extremely Weathered Material

AS1726-2017 considers weathered material to be soil if the unconfined compressive strength is less than 0.6 MPa (i.e. less than very low strength rock). These materials may be identified as “extremely weathered material” in reports and by the abbreviation code **XWM** on log sheets. This identification is not correlated to any specific qualitative or quantitative behaviour, and the engineering properties of this material must therefore be assessed according to engineering principles with reference to any relic rock structure, fabric, or texture described in the description.

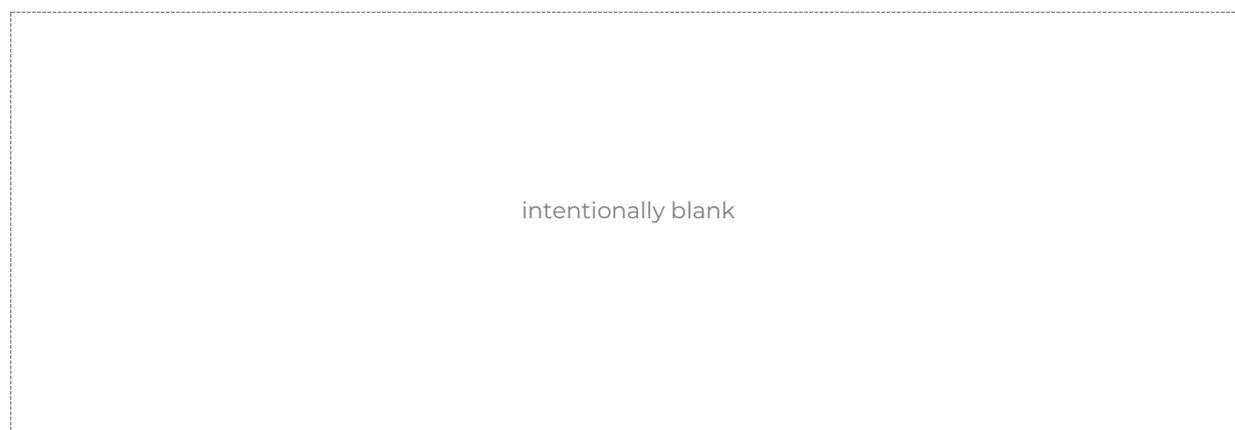
Soil Origin

Term	Description	Abbreviation Code
Residual	Derived from in-situ weathering of the underlying rock	RS
Extremely weathered material	Formed from in-situ weathering of geological formations. Has strength of less than ‘very low’ as per as1726 but retains the structure or fabric of the parent rock.	XWM
Alluvial	Deposited by streams and rivers	ALV
Fluvial	Deposited by channel fill and overbank (natural levee, crevasse splay or flood basin)	FLV
Estuarine	Deposited in coastal estuaries	EST
Marine	Deposited in a marine environment	MAR
Lacustrine	Deposited in freshwater lakes	LAC
Aeolian	Carried and deposited by wind	AEO
Colluvial	Soil and rock debris transported down slopes by gravity	COL
Slopewash	Thin layers of soil and rock debris gradually and slowly deposited by gravity and possibly water	SW
Topsoil	Mantle of surface soil, often with high levels of organic material	TOP
Fill	Any material which has been moved by man	FILL
Littoral	Deposited on the lake or seashore	LIT
Unidentifiable	Not able to be identified	UID

Cobbles and Boulders

The presence of particles considered to be “oversize” may be described using one of the following strategies:

- Oversize encountered in a minor proportion (when considered relative to the wider area) are noted in the soil description; or
- Where a significant proportion of oversize is encountered, the cobbles/boulders are described independent of the soil description, in a similar manner to composite soils (described above) but qualified with “MIXTURE OF”.





Sampling and Testing

A record of samples retained, and field testing performed is usually shown on a Douglas Partners' log with samples appearing to the left of a depth scale, and selected field and laboratory testing (including results, where relevant) appearing to the right of the scale, as illustrated below:

SAMPLE			DEPTH (m)	TESTING	
SAMPLE REMARKS	TYPE	INTERVAL		TEST TYPE	RESULTS AND REMARKS
	SPT		1.0 1.45	SPT	4,9,11 N=20

Sampling

The type or intended purpose for which a sample was taken is indicated by the following abbreviation codes.

Sample Type	Code
Auger sample	A
Acid Sulfate sample	ASS
Bulk sample	B
Core sample	C
Disturbed sample	D
Environmental sample	ES
Gas sample	G
Piston sample	P
Sample from SPT test	SPT
Undisturbed tube sample	U ¹
Water sample	W
Material Sample	MT
Core sample for unconfined compressive strength testing	UCS

¹ – numeric suffixes indicate tube diameter/width in mm

The above codes only indicate that a sample was retained, and not that testing was scheduled or performed.

Field and Laboratory Testing

A record that field and laboratory testing was performed is indicated by the following abbreviation codes.

Test Type	Code
Pocket penetrometer (kPa)	PP
Photo ionisation detector (ppm)	PID
Standard Penetration Test x/y = x blows for y mm penetration HB = hammer bouncing HW = fell under weight of hammer	SPT
Shear vane (kPa)	V
Unconfined compressive strength, (MPa)	UCS

Field and laboratory testing (continued)

Test Type	Code
Point load test, (MPa), axial (A), diametric (D), irregular (I)	PLT(L)
Dynamic cone penetrometer, followed by blow count penetration increment in mm (cone tip, generally in accordance with AS1289.6.3.2)	DCP/150
Perth sand penetrometer, followed by blow count penetration increment in mm (flat tip, generally in accordance with AS1289.6.3.3)	PSP/150

Groundwater Observations

▷	seepage/inflow
▽	standing or observed water level
NFGWO	no free groundwater observed
OBS	observations obscured by drilling fluids

Drilling or Excavation Methods/Tools

The drilling/excavation methods used to perform the investigation may be shown either in a dedicated column down the left-hand edge of the log, or stated in the log footer. In some circumstances abbreviation codes may be used.

Method	Abbreviation Code
Direct Push	DP
Solid flight auger. Suffixes: /T = tungsten carbide tip, /V = v-shaped tip	AD ¹
Air Track	AT
Diatube	DT ¹
Hand auger	HA ¹
Hand tools (unspecified)	HAND
Existing exposure	X
Hollow flight auger	HSA ¹
HQ coring	HQ3
HMLC series coring	HMLC
NMLC series coring	NMLC
NQ coring	NQ3
PQ coring	PQ3
Predrilled	PD
Push tube	PT ¹
Ripping tyne/ripper	R
Rock roller	RR ¹
Rock breaker/hydraulic hammer	EH
Sonic drilling	SON ¹
Mud/blade bucket	MB ¹
Toothed bucket	TB ¹
Vibrocure	VC ¹
Vacuum excavation	VE
Wash bore (unspecified bit type)	WB ¹

¹ – numeric suffixes indicate tool diameter/width in mm

Appendix B

Drawings



SITE LOCATION

Light poles placed in concrete encased collar with environmentally sensitive hard wired LED lights. Light poles to be placed 500mm from edge of shared pathway and at approximately 20m centres to meet PP3 rating (minimal light spillage into wetlands and bushland).

Environmentally sensitive hardwired LED handrail lights providing light spillage onto existing steps (minimal light spillage into bushland).

LEGEND
 Borehole Location

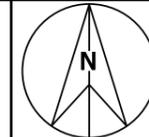


NOTE:
 1. Drawing projection in GDA2020 / MGA zone 56
 2. Basemap from Metromap (dated 02.09.2024), and base plan from client supplied drawing.
 3. Test locations were located using differential GPS typically accurate to ± 0.1 m depending on satellite coverage



CLIENT: Parramatta Council	
OFFICE: Sydney	DRAWN BY: JV
SCALE: 1:750 @A3	DATE: 20.12.2024

TITLE: **Site Location and Test Plan**
Eastern Parramatta River & CBD Precinct Cycleway
Baludarrri Wetland, Parramatta, NSW



PROJECT:	231248.00
DRAWING No:	1B
REVISION:	0

Appendix C

Fieldwork Results

BOREHOLE LOG

CLIENT: City of Parramatta Council
PROJECT: Proposed Pedestrian and Cycleway
LOCATION: Baludarri Wetland, Parramatta, NSW

SURFACE LEVEL: 2.1 AHD
COORDINATE: E:316736.9, N:6256726.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH203
PROJECT No: 231248.00
DATE: 26/11/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
GROUNDWATER RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%) DENSITY, (g)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	RESULTS AND REMARKS	
											TEST TYPE	
	0.05	FILL / TOPSOIL / SILTY CLAY: dark brown; with rootlets.		FILL	NA	w=PL						
	0.10	FILL / SAND, with clay, trace gravel: brown; fine to coarse gravel.						A/D	0.10 - 0.20			
	0.40			FILL	MC to WC	D		ASS A/D	0.40 - 0.50			
	0.70	From 0.70m: trace clay, no gravel						D	0.70 - 0.80			
	0.90	SAND (SC), with clay: orange-brown; medium; low plasticity clay.						ASS A/D	0.90 - 1.00			
	1.20	From 1.20m: becoming grey, mottled orange-brown; trace clay			MD	M						
	1.40			ALV				ASS A/D	1.40 - 1.50			
	1.60				VL to L			D	1.60 - 1.70			
	1.90					W		ASS A/D	1.90 - 2.00			
	2.00	Borehole discontinued at 2.00m depth. Target depth reached.										

NOTES: #Soil origin is "probable" unless otherwise stated. %Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 2.5t Excavator
METHOD: AD (150mmØ) to 2.0m
REMARKS:

OPERATOR: Cirillo (LD)

LOGGED: I.Howsam/D.Pham
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: City of Parramatta Council
PROJECT: Proposed Pedestrian and Cycleway
LOCATION: Baludarri Wetland, Parramatta, NSW

SURFACE LEVEL: 2.1 AHD
COORDINATE: E:316756.6, N:6256731.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 231248.00
DATE: 26/11/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS						
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%) DENSITY, (°)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS			
	2.05	FILL / TOPSOIL / SILTY CLAY: dark brown; with rootlets.	[Pattern]	FILL	NA	w=PL				0.10	DCP9/150	5	10	15	22
		FILL / Clayey SAND, trace gravel: brown; fine to medium; low plasticity clay; fine to medium gravel.	[Pattern]	FILL	(WC)	D		A/D		0.20		25/80mm			
	0.70	SAND (SC), with clay: orange-brown; medium; low plasticity clay.	[Pattern]							0.40	A/D				
										0.50					
	1.00									0.70	A/D				
										1.00					
	1.40	1.40m: grey, mottled orange-brown	[Pattern]	ALV		L					DCP9/150				
						M									
	1.90									1.90	A/ES				
						MD				2.00					
	2.00	Borehole discontinued at 2.00m depth. Target depth reached.													

NOTES: #Soil origin is "probable" unless otherwise stated. #Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 2.5t Excavator
METHOD: AD (150mmØ) to 2.0m
REMARKS:

OPERATOR: Cirillo (LD)

LOGGED: I.Howsam/D.Pham
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: City of Parramatta Council
PROJECT: Proposed Pedestrian and Cycleway
LOCATION: Baludarri Wetland, Parramatta, NSW

SURFACE LEVEL: 2.0 AHD
COORDINATE: E:316771.4, N:6256732.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 231248.00
DATE: 26/11/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%) DENSITY (%)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
	0.10	FILL / Silty SAND, trace gravel: brown; fine to medium; low plasticity silt; fine gravel.		FILL	VC	D		A/D	0.10 - 0.20			
	0.30	Sandy CLAY (CL): orange-brown; low plasticity; medium sand.		ALV	St	w>PL		ASS A/D	0.40 - 0.50			
	0.90	SAND (SC), with clay: orange-brown; medium; low plasticity clay.			MD			ASS A/D	0.90 - 1.00			
	1.20	1.20m: pale grey, yellow; trace clay						D	1.20 - 1.30			
	1.40			ALV				ASS A/D	1.40 - 1.50			
	1.50				L							
	1.90							ASS A/D	1.90 - 2.00			
	2.00	Borehole discontinued at 2.00m depth. Target depth reached.										

NOTES: #Soil origin is "probable" unless otherwise stated. %Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 2.5t Excavator

OPERATOR: Cirillo (LD)

LOGGED: I.Howsam/D.Pham

METHOD: AD (150mmØ) to 2.0m

CASING: Uncased

REMARKS:

Refer to explanatory notes for symbol and abbreviation definitions



Appendix D

Laboratory Results

Material Test Report

Report Number: 231248.00-1
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Reissued with amended material description
Date Issued: 20/12/2024
Client: City of Parramatta Council
 CITY OF PARRAMATTA COUNCIL, Parramatta NSW
Contact: Shane Lauger
Project Number: 231248.00
Project Name: Proposed Pedestrian and Cycleway
Project Location: Multiple Locations, Parramatta NSW
Work Request: 12005
Sample Number: SY-12005I
Date Sampled: 25/11/2024
Dates Tested: 29/11/2024 - 10/12/2024
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH202 (0.4 - 0.5m)
Material: FILL / Sandy CLAY, trace gravel: brown



Douglas Partners Pty Ltd
 Sydney Laboratory
 96 Hermitage Road West Ryde NSW 2114
 Phone: (02) 9809 0666
 Email: lujia.wu@douglaspartners.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Lujia Wu
 Soil Technician
 Laboratory Accreditation Number: 828

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	34		
Plastic Limit (%)	22		
Plasticity Index (%)	12		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	7.5		
Cracking Crumbling Curling	None		

Material Test Report

Report Number: 231248.00-1
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Reissued with amended material description
Date Issued: 20/12/2024
Client: City of Parramatta Council
 CITY OF PARRAMATTA COUNCIL, Parramatta NSW
Contact: Shane Lauger
Project Number: 231248.00
Project Name: Proposed Pedestrian and Cycleway
Project Location: Multiple Locations, Parramatta NSW
Work Request: 12005
Sample Number: SY-12005J
Date Sampled: 25/11/2024
Dates Tested: 29/11/2024 - 09/12/2024
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH205 (0.4 - 0.5m)
Material: Sandy CLAY: orange-brown



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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Lujia Wu
 Soil Technician
 Laboratory Accreditation Number: 828

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	22		
Plastic Limit (%)	14		
Plasticity Index (%)	8		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.2		
Linear Shrinkage (%)	5.0		
Cracking Crumbling Curling	None		

CERTIFICATE OF ANALYSIS 367911

Client Details

Client	Douglas Partners Pty Ltd
Attention	Peter Valenti
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	231248.00 Various
Number of Samples	43 Soil
Date samples received	02/12/2024
Date completed instructions received	02/12/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	09/12/2024
Date of Issue	09/12/2024
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Nick Sarlamis, Assistant Operation Manager
 Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

Client Reference: 231248.00 Various

Misc Inorg - Soil						
Our Reference		367911-1	367911-2	367911-3	367911-4	367911-5
Your Reference	UNITS	BH204	BH202	BH203	BH101	BH102
Depth		0.4-0.5	1.7-1.8	0.7-0.8	0.4-0.5	0.9-1.0
Date Sampled		26/11/2024	26/11/2024	26/11/2024	21/11/2024	21/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024	04/12/2024
Date analysed	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024	04/12/2024
pH 1:5 soil:water	pH Units	4.7	6.6	8.3	7.2	5.0
Electrical Conductivity 1:5 soil:water	µS/cm	68	46	100	680	97
Chloride, Cl 1:5 soil:water	mg/kg	<10	<10	<10	680	26
Sulphate, SO4 1:5 soil:water	mg/kg	80	41	20	340	110

Misc Inorg - Soil						
Our Reference		367911-6	367911-7	367911-8	367911-9	367911-10
Your Reference	UNITS	BH106	BH106	BH306	BH306	BH303
Depth		0.7-0.8	1.7-1.8	0.4-0.5	0.9-1.0	0.4-0.5
Date Sampled		21/11/2024	21/11/2024	25/11/2024	25/11/2024	25/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024	04/12/2024
Date analysed	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024	04/12/2024
pH 1:5 soil:water	pH Units	6.0	6.4	8.9	7.8	8.6
Electrical Conductivity 1:5 soil:water	µS/cm	100	46	1,400	310	130
Chloride, Cl 1:5 soil:water	mg/kg	48	<10	20	77	<10
Sulphate, SO4 1:5 soil:water	mg/kg	82	22	4,200	370	37

Misc Inorg - Soil						
Our Reference		367911-11	367911-12	367911-13	367911-14	367911-15
Your Reference	UNITS	BH310	BH406	BH406	BH410	BH410
Depth		0.4-0.5	0.4-0.5	1.9-2.0	0.4-0.5	1.9-2.0
Date Sampled		25/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024	04/12/2024
Date analysed	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024	04/12/2024
pH 1:5 soil:water	pH Units	7.9	7.9	8.4	8.3	9.2
Electrical Conductivity 1:5 soil:water	µS/cm	2,200	1,300	420	92	340
Chloride, Cl 1:5 soil:water	mg/kg	<10	<10	99	<10	330
Sulphate, SO4 1:5 soil:water	mg/kg	7,500	3,600	330	10	120

Client Reference: 231248.00 Various

Misc Inorg - Soil					
Our Reference		367911-16	367911-17	367911-18	367911-19
Your Reference	UNITS	BH503	BH508	BH506	BH507
Depth		0.4-0.5	0.9-1.0	0.3-1.0	0.9-1.0
Date Sampled		20/10/2024	27/10/2024	20/10/2024	20/10/2024
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024
Date analysed	-	04/12/2024	04/12/2024	04/12/2024	04/12/2024
pH 1:5 soil:water	pH Units	7.8	5.4	7.5	8.4
Electrical Conductivity 1:5 soil:water	µS/cm	65	96	170	510
Chloride, Cl 1:5 soil:water	mg/kg	<10	22	<10	40
Sulphate, SO4 1:5 soil:water	mg/kg	10	110	56	1,000

Client Reference: 231248.00 Various

sPOCAS field test						
Our Reference		367911-20	367911-21	367911-22	367911-23	367911-24
Your Reference	UNITS	BH401	BH401	BH403	BH403	BH403
Depth		0.1-0.2	0.4-0.5	0.1-0.2	0.4-0.5	0.9-1.0
Date Sampled		28/11/2024	28/11/2024	28/11/2024	28/11/2024	28/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024	06/12/2024
Date analysed	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024	06/12/2024
pH _F (field pH test)	pH Units	8.3	9.0	8.5	9.0	9.8
pH _{FOX} (field peroxide test)	pH Units	6.0	6.0	6.5	6.8	7.1
Reaction Rate*	-	High reaction	High reaction	Medium reaction	Low reaction	Low reaction

sPOCAS field test						
Our Reference		367911-25	367911-26	367911-27	367911-28	367911-29
Your Reference	UNITS	BH403	BH403	BH413	BH413	BH415
Depth		1.4-1.5	1.9-2.0	0.1-0.2	0.4-0.5	0.1-0.2
Date Sampled		28/11/2024	28/11/2024	27/11/2024	27/11/2024	27/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024	06/12/2024
Date analysed	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024	06/12/2024
pH _F (field pH test)	pH Units	9.6	9.1	8.9	9.4	8.6
pH _{FOX} (field peroxide test)	pH Units	7.2	2.8	5.7	7.1	5.3
Reaction Rate*	-	Low reaction	Extreme reaction	Medium reaction	Low reaction	Medium reaction

sPOCAS field test						
Our Reference		367911-30	367911-31	367911-32	367911-33	367911-34
Your Reference	UNITS	BH415	BH415	BH415	BH415	BH417
Depth		0.4-0.5	0.9-1.0	1.4-1.5	1.9-2.0	0.1-0.2
Date Sampled		27/11/2024	27/11/2024	27/11/2024	27/11/2024	27/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024	06/12/2024
Date analysed	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024	06/12/2024
pH _F (field pH test)	pH Units	9.4	9.4	9.5	8.3	6.8
pH _{FOX} (field peroxide test)	pH Units	7.2	6.9	7.3	2.4	3.2
Reaction Rate*	-	High reaction	Medium reaction	High reaction	Extreme reaction	Medium reaction

sPOCAS field test					
Our Reference		367911-35	367911-36	367911-37	367911-38
Your Reference	UNITS	BH417	BH417	BH417	BH417
Depth		0.4-0.5	0.9-1.0	1.4-1.5	1.9-2.0
Date Sampled		27/11/2024	27/11/2024	27/11/2024	27/11/2024
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024
Date analysed	-	06/12/2024	06/12/2024	06/12/2024	06/12/2024
pH _F (field pH test)	pH Units	7.1	7.7	7.6	7.9
pH _{Fox} (field peroxide test)	pH Units	3.7	5.0	4.6	4.7
Reaction Rate*	-	High reaction	High reaction	Medium reaction	Low reaction

Client Reference: 231248.00 Various

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell.
Inorg-063	pH- measured using pH meter and electrode. Soil is oxidised with Hydrogen Peroxide or extracted with water. To ensure accurate results these tests are recommended to be done in the field as pH may change with time thus these results may not be representative of true field conditions.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.

Client Reference: 231248.00 Various

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	367911-2
Date prepared	-			04/12/2024	1	04/12/2024	04/12/2024		04/12/2024	04/12/2024
Date analysed	-			04/12/2024	1	04/12/2024	04/12/2024		04/12/2024	04/12/2024
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	1	4.7	4.7	0	100	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	1	68	62	9	94	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	<10	<10	0	105	99
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	80	77	4	118	112

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	04/12/2024	04/12/2024		[NT]	[NT]
Date analysed	-			[NT]	11	04/12/2024	04/12/2024		[NT]	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	11	7.9	8.0	1	[NT]	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	[NT]	11	2200	2200	0	[NT]	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	[NT]	11	<10	<10	0	[NT]	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	[NT]	11	7500	7500	0	[NT]	[NT]

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	18	04/12/2024	04/12/2024		[NT]	[NT]
Date analysed	-			[NT]	18	04/12/2024	04/12/2024		[NT]	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	18	7.5	7.7	3	[NT]	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	[NT]	18	170	170	0	[NT]	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	[NT]	18	<10	[NT]		[NT]	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	[NT]	18	56	[NT]		[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG_DRY: pH/EC

Samples were out of the recommended holding time for this analysis.

CERTIFICATE OF ANALYSIS 367417-C

Client Details

Client	Douglas Partners Pty Ltd
Attention	Peter Valenti
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	231248.00 Various
Number of Samples	71 Soil
Date samples received	26/11/2024
Date completed instructions received	27/11/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	04/12/2024
Date of Issue	04/12/2024
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Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Inorganics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

Client Reference: 231248.00 Various

sPOCAS field test						
Our Reference		367417-C-41	367417-C-42	367417-C-43	367417-C-44	367417-C-45
Your Reference	UNITS	BH201	BH201	BH201	BH201	BH203
Depth		0.4-0.5	0.9-1.0	1.4-1.5	1.9-2.0	0.4-0.5
Date Sampled		26/11/2024	26/11/2024	26/11/2024	26/11/2024	26/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/11/2024	26/11/2024	26/11/2024	26/11/2024	26/11/2024
Date analysed	-	29/11/2024	29/11/2024	29/11/2024	29/11/2024	29/11/2024
pH _F (field pH test)	pH Units	7.5	7.4	7.0	7.1	8.6
pH _{FOX} (field peroxide test)	pH Units	4.2	5.0	5.1	4.0	6.4
Reaction Rate*	-	Low reaction				

sPOCAS field test						
Our Reference		367417-C-46	367417-C-47	367417-C-48	367417-C-49	367417-C-50
Your Reference	UNITS	BH203	BH203	BH203	BH205	BH205
Depth		0.9-1.0	1.4-1.5	1.9-2.0	0.4-0.5	0.9-1.0
Date Sampled		26/11/2024	26/11/2024	26/11/2024	26/11/2024	26/11/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/11/2024	26/11/2024	26/11/2024	26/11/2024	26/11/2024
Date analysed	-	29/11/2024	29/11/2024	29/11/2024	29/11/2024	29/11/2024
pH _F (field pH test)	pH Units	6.1	5.4	6.5	6.6	6.5
pH _{FOX} (field peroxide test)	pH Units	4.7	4.6	5.5	5.2	5.4
Reaction Rate*	-	Low reaction				

sPOCAS field test			
Our Reference		367417-C-51	367417-C-52
Your Reference	UNITS	BH205	BH205
Depth		1.4-1.5	1.9-2
Date Sampled		26/11/2024	26/11/2024
Type of sample		Soil	Soil
Date prepared	-	26/11/2024	26/11/2024
Date analysed	-	29/11/2024	29/11/2024
pH _F (field pH test)	pH Units	7.0	7.0
pH _{FOX} (field peroxide test)	pH Units	5.5	4.6
Reaction Rate*	-	Low reaction	Low reaction

Method ID	Methodology Summary
Inorg-063	pH- measured using pH meter and electrode. Soil is oxidised with Hydrogen Peroxide or extracted with water. To ensure accurate results these tests are recommended to be done in the field as pH may change with time thus these results may not be representative of true field conditions.

Client Reference: 231248.00 Various

QUALITY CONTROL: sPOCAS field test					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			26/11/2024	[NT]	[NT]	[NT]	[NT]	26/11/2024	[NT]
Date analysed	-			29/11/2024	[NT]	[NT]	[NT]	[NT]	29/11/2024	[NT]
pH _F (field pH test)	pH Units		Inorg-063	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]
pH _{Fox} (field peroxide test)	pH Units		Inorg-063	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

CERTIFICATE OF ANALYSIS 367417-H

Client Details

Client	Douglas Partners Pty Ltd
Attention	Peter Valenti
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	231248.00 Various
Number of Samples	Additional analysis 3 samples
Date samples received	26/11/2024
Date completed instructions received	13/01/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	20/01/2025
Date of Issue	20/01/2025
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Results Approved By

Nick Sarlamis, Assistant Operation Manager

Authorised By

Nancy Zhang, Laboratory Manager

Chromium Suite				
Our Reference		367417-H-41	367417-H-46	367417-H-52
Your Reference	UNITS	BH201	BH203	BH205
Depth		0.4-0.5	0.9-1.0	1.9-2
Date Sampled		26/11/2024	26/11/2024	26/11/2024
Type of sample		Soil	Soil	Soil
Date prepared	-	13/01/2025	13/01/2025	13/01/2025
Date analysed	-	14/01/2025	14/01/2025	14/01/2025
pH _{kcl}	pH units	8.0	6.1	5.0
s-TAA pH 6.5	%w/w S	<0.01	<0.01	0.01
TAA pH 6.5	moles H ⁺ /t	<5	<5	6
Chromium Reducible Sulfur	%w/w	0.008	<0.005	<0.005
a-Chromium Reducible Sulfur	moles H ⁺ /t	5	<3	<3
S _{HCl}	%w/w S	[NT]	[NT]	[NT]
S _{KCl}	%w/w S	[NT]	[NT]	[NT]
S _{NAS}	%w/w S	[NT]	[NT]	[NT]
ANC _{BT}	% CaCO ₃	0.35	[NT]	[NT]
s-ANC _{BT}	%w/w S	0.11	[NT]	[NT]
s-Net Acidity	%w/w S	<0.005	<0.005	0.010
a-Net Acidity	moles H ⁺ /t	<5	<5	6.0
Liming rate	kg CaCO ₃ /t	<0.75	<0.75	<0.75
a-Net Acidity without ANCE	moles H ⁺ /t	5.0	<5	6.0
Liming rate without ANCE	kg CaCO ₃ /t	<0.75	<0.75	<0.75
s-Net Acidity without ANCE	%w/w S	0.0080	<0.005	0.010

Method ID	Methodology Summary
Inorg-068	<p>Chromium Reducible Sulfur - Hydrogen Sulfide is quantified by iodometric titration after distillation to determine potential acidity.</p> <p>Net acidity including ANC has a safety factor of 1.5 applied.</p> <p>Neutralising value (NV) of 100% is assumed for liming rate.</p> <p>The recommendation that the SHCL concentration be multiplied by a factor of 2 to ensure retained acidity is not underestimated, has not been applied in the SHCL result. However, it has been applied in the SNAS calculation: SNAS % = (SHCL-SKCL)x2</p>

Client Reference: 231248.00 Various

QUALITY CONTROL: Chromium Suite					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			13/01/2025	52	13/01/2025	13/01/2025		13/01/2025	[NT]
Date analysed	-			14/01/2025	52	14/01/2025	14/01/2025		14/01/2025	[NT]
pH _{KCl}	pH units		Inorg-068	[NT]	52	5.0	4.9	2	98	[NT]
s-TAA pH 6.5	%w/w S	0.01	Inorg-068	<0.01	52	0.01	<0.01	0	[NT]	[NT]
TAA pH 6.5	moles H ⁺ /t	5	Inorg-068	<5	52	6	6	0	82	[NT]
Chromium Reducible Sulfur	%w/w	0.005	Inorg-068	<0.005	52	<0.005	<0.005	0	99	[NT]
a-Chromium Reducible Sulfur	moles H ⁺ /t	3	Inorg-068	<3	52	<3	<3	0	[NT]	[NT]
S _{HCl}	%w/w S	0.005	Inorg-068	<0.005	52	[NT]	[NT]		[NT]	[NT]
S _{KCl}	%w/w S	0.005	Inorg-068	<0.005	52	[NT]	[NT]		[NT]	[NT]
S _{NAS}	%w/w S	0.005	Inorg-068	<0.005	52	[NT]	[NT]		[NT]	[NT]
ANC _{BT}	% CaCO ₃	0.05	Inorg-068	<0.05	52	[NT]	[NT]		96	[NT]
s-ANC _{BT}	%w/w S	0.05	Inorg-068	<0.05	52	[NT]	[NT]		[NT]	[NT]
s-Net Acidity	%w/w S	0.005	Inorg-068	<0.005	52	0.010	0.013	26	[NT]	[NT]
a-Net Acidity	moles H ⁺ /t	5	Inorg-068	<5	52	6.0	8.2	31	[NT]	[NT]
Liming rate	kg CaCO ₃ /t	0.75	Inorg-068	<0.75	52	<0.75	<0.75	0	[NT]	[NT]
a-Net Acidity without ANCE	moles H ⁺ /t	5	Inorg-068	<5	52	6.0	8.2	31	[NT]	[NT]
Liming rate without ANCE	kg CaCO ₃ /t	0.75	Inorg-068	<0.75	52	<0.75	<0.75	0	[NT]	[NT]
s-Net Acidity without ANCE	%w/w S	0.005	Inorg-068	<0.005	52	0.010	0.013	26	[NT]	[NT]

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Appendix E

Broms Pile Load Assessment

Lateral Capacity and Deflection of Piles Using Broms

A. Background

The methods of Broms (Ref 1 and 2) can be used to calculate the resistance of soil to lateral loads on piles. Solutions are provided for both 'short' and 'long' piles, for 'free head' and 'fixed head' restraint, and for both cohesive soils (Ref 1) and cohesionless soils (Ref 2). If it is not clear whether a pile is 'short' or 'long', then the pile should be checked for both, and the lesser value adopted.

The Broms methods are relatively simplistic, compared to more complex finite element solutions, but can be applied without using complex software packages.

The methods are limited to homogeneous soils, adopting either undrained shear strength (c_u) for short term loading in cohesive soils (eg silts and clays), or friction angle (ϕ) for either short term or long term loading in cohesionless soils (eg sands and gravels). For long term sustained loading in cohesive soils, the cohesionless approach can be adopted using effective stress parameters (c' , ϕ'), but with c' equal to zero.

For the cohesive soils model, ultimate lateral resistance is assumed as zero down to a depth of $1.5B$ (where B is the pile diameter) and $9c_uB$ below this depth. For the cohesionless soils model, the ultimate lateral resistance is estimated as three times the passive Rankine earth pressure, ie $3K_p\gamma BL$ (where K_p is the coefficient of passive earth pressure, γ is soil density, and L is pile depth below ground level).

Calculation of deflection is usually considered as indicative only (it may not be as accurate as other methods), and corresponds to application of working stress (ie where the ultimate lateral load is factored down by 2 or 3).

B. Calculation of Ultimate Lateral Load

To calculate the ultimate lateral load, P_u , for a 'short' pile, use Figure 1 for the cohesive soil model and Figure 2 for the cohesionless soil model. Enter the x-axis by calculating the length to diameter, L/B , ratio. Select the appropriate line to use, based on ground restraint conditions, and, where 'free head', the load eccentricity to pile diameter, e/B , ratio. After obtaining the appropriate values on the y-axis, multiply this by c_uB^2 for cohesive soil or $K_pB^3\gamma$ for cohesionless soil to obtain the ultimate lateral load, P_u .

To calculate the ultimate lateral load, P_u , for a 'long' pile, corresponding to the yield moment, M_{yield} , use Figure 3 for the cohesive soil model and Figure 4 for the cohesionless soil model. Enter the x-axis by calculating M_{yield}/c_uB^3 . Select the appropriate line to use, based on ground restraint conditions, and, where 'free head', the load eccentricity to pile diameter, e/B , ratio. After obtaining the appropriate

values on the y-axis, multiply this by $c_u B^2$ for cohesive soil or $K_p B^3 \gamma$ for cohesionless soil to obtain the ultimate lateral load, P_u .

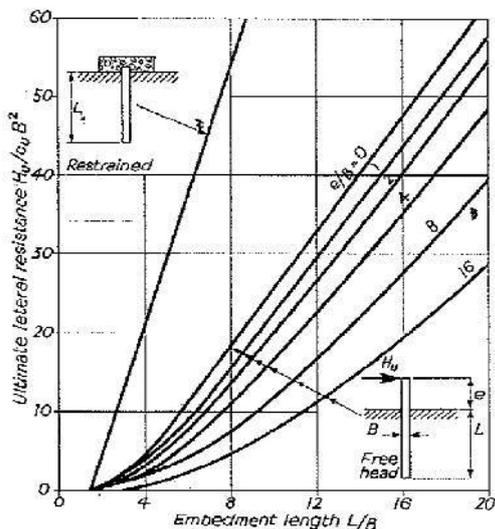


Fig 1: Ultimate lateral resistance for cohesive soil, short pile (Ref 1)

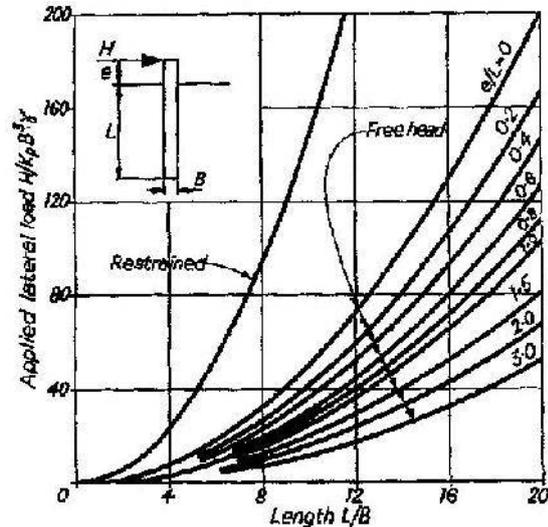


Fig 2: Ultimate lateral resistance for cohesionless soil, short pile (Ref 2)

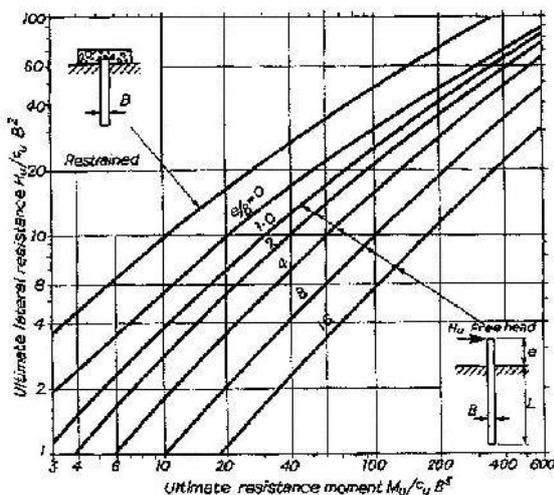


Fig 3: Ultimate lateral resistance for cohesive soil, long pile (Ref 1)

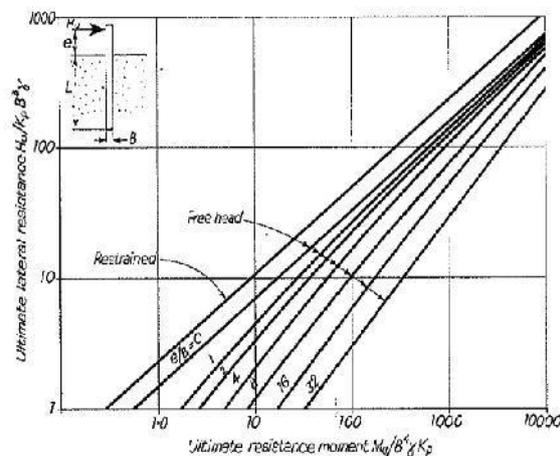


Fig 4: Ultimate lateral resistance for cohesionless soil, long pile (Ref 2)

C. Estimating Lateral Deflection

At working lateral load H (ie P_u divided by 2 to 3) the lateral deflection can be estimated by assuming that, at any particular pile depth, the unit soil reaction, p , increases linearly with increasing lateral deflection, as follows:

$$p = k_h y$$

where k_h = the modulus of horizontal subgrade reaction (kN/m^3);
 p = unit soil reaction (kN/m^2);
 y = lateral deflection (m)

Cohesive Soil ('stiff' or better): For 'stiff' and overconsolidated clay soils, k_h is assumed to be constant with depth, resulting in the dimensionless lateral deflections being plotted in Figure 5 as a function of dimensionless length βL in which:

$$\beta = (k_h B / 4EI)^{1/4}$$

where E = the elastic modulus of the pile material;
 I = the moment of inertia of the pile;
 B = pile diameter

After entering the x-axis on Figure 5 with the βL value, select the line appropriate to the restraint condition, and, in the case of a 'free-head' pile, the load eccentricity to pile depth, e/D , ratio. The lateral deflection at ground surface due to the applied working load, H , is then calculated by dividing the y-axis value by $k_h B L / H$.

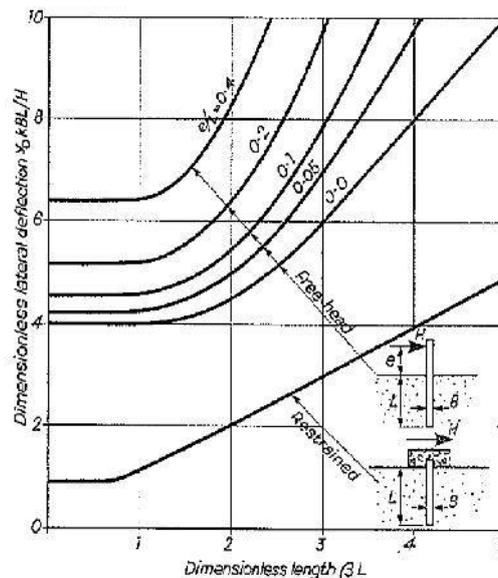


Fig 5: Lateral deflection at ground surface for cohesive soil

Cohesionless Soil (and 'soft' clays): For sands and gravels and 'soft' clays, k_h is assumed to increase linearly with depth as follows:

$$k_h = \eta_h z / B$$

where k_h = the modulus of horizontal subgrade reaction (kN/m^3);
 z = depth below ground level (m);
 η_h = coefficient of modulus variation with depth;
 B = pile diameter

This results in the dimensionless lateral deflections being plotted in Figure 6 as a function of dimensionless length ηL in which:

$$\eta = (\eta_h/EI)^{1/5}$$

After entering the x-axis on Figure 6 with the ηL value, select the line appropriate to the restraint condition, and, in the case of a 'free-head' pile, the load eccentricity to pile depth, e/D , ratio. The lateral deflection at ground surface due to the applied working load, H , is then calculated by dividing the y-axis value by $(EI)^{3/5} \cdot (\eta_h)^{2/5} / (HL)$.

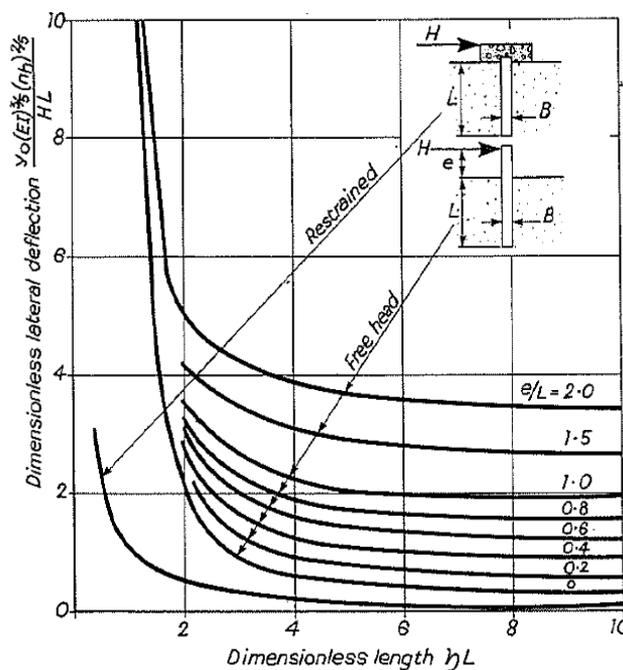


Fig 6: Lateral deflection at ground surface for cohesionless soil

D. References

1. Broms, Bengt B, "Lateral Resistance of Piles in Cohesive Soils", Proceedings of the American Society of Civil Engineers, Journal of the Soil Mechanics and Foundations Division, Vol 90, SM2, 1964.
2. Broms, Bengt B, "Lateral Resistance of Piles in Cohesionless Soils", Proceedings of the American Society of Civil Engineers, Journal of the Soil Mechanics and Foundations Division, Vol 90, SM3, 1964.

<p>The following have been identified as significant environmental aspects for the site: These aspects shall be managed with the environmental protection measures outlined on this plan.</p>		<p>Major Construction Management Plan (1) – Site Setout and Construction Protection Measures Project Name: Construction Management Plan - WICR322-Eastern Parramatta River & CBD Precinct Cycleway Date and Revision:</p>	
<p>Management</p>		<p>Approved Drainage Plan Here</p>	
<p>1. Responsibilities: Emergency Contact 1: Name – Mobile – Email Emergency Contact 2: Name – Mobile – Email</p>	<p>5. Staging of Works: Approximate Months of Construction</p>	<p>Legend: Ex Fence — Temp Fence — Gate Waste ■ Toilet ●</p>	
<p>2. Communication of CMP Requirements: A Copy of the CMP to be kept onsite at all times & made available to all contractors. Site inspections will be undertaken weekly & after rain event/s to ensure adherence to all items in the CMP.</p>	<p>6. Informing Residents and Businesses: Nearby residents shall be informed at least two days prior to any construction works via letter drop and door knock.</p>	<p>Site Shed ■ Sediment Trap □ TPZ Area ☁ Contractor Parking</p>	
<p>3. Inspections and Maintenance:</p>	<p>7. Associated Documents:</p>		
<p>4. Traffic Management The Principal Contractor is to define control measures in a Construction Traffic Management Plan prepared in accordance with Councils and TfNSW requirements. This shall appropriately manage internal site traffic, including pedestrian and cycle movements to ensure the safety of workers and public as well as outline required signage and fencing to assist with ensuring safety for all. Signs advising of the proposed works and changes to traffic conditions, as well as areas under construction, should be visibly placed around the area of works. The Construction Traffic Management Plan is to be approved by the CoP before works commence.</p>			
<p>Noise Risk: Significant / Med / Low</p>			
<p>Requirement: EPA NSW and Council requirements must be adhered to in relation to the level of noise and working hours, to ensure that residents and other applicable neighbours to the site are not disturbed unreasonably. The generation of noise must be minimized.</p>			
<p>7. Working Hours: 7 am to 6pm Monday - Friday 8 am to 5pm Saturday 24-hour contact details of site manager: Council's superintendent: Peter Kazanzidis (0477 760 228) Community consultation and complaints handling; Council's project managers Hans Smit (8839 4014) Arusha Bhowmik (8839 3379)</p>	<p>8. Noise Minimization Methods:</p>	<p>9. Other:</p>	
<p>Dust Risk: Significant / Med / Low</p>			
<p>Requirement: Dust generation must be minimized to ensure there is no health risk or loss of amenity and prevented on dry, windy days.</p>			
<p>10. Minimizing Dust Generation: Works on hot, dry, windy days to be minimized to prevent dust. Restrict vehicle movements onsite.</p>	<p>12. Contingencies:</p>		
<p>11. Dust Suppression: Dust suppression will be controlled by means of water, using sprinkler/s or handheld hose/s with a trigger nozzle.</p>	<p>13. Other: Any debris deposited by vehicles on roads is to be minimized when vehicles are leaving the site and council roads/footpaths are to be kept clean and maintained to the satisfaction of council officers.</p>		
<p>Erosion and Sediment Risk: Significant / Med / Low</p>			
<p>Requirement: Erosion and sediment control plans are to be established by the Principal Contractor and approved by the CoP prior to commencement of works. The controls must be maintained in place until the works are complete and all exposed erodible materials are stabilised. All sediment control measures must be checked regularly and repaired or re-installed (if required) if heavy rainfall is forecast. Erosion and sediment must be managed in accordance with current best practice environmental management practices, to prevent sediment-laden water from entering any drainage system or natural waterway. Mud must not be transported on to nearby roads.</p>			
<p>14. Drainage Management: Debris deposited by vehicles on the road is to be minimized when vehicles are leaving the site and kept clean and maintained to the satisfaction of Council Officers.</p>		<p>17. Sediment Traps: Sediment traps to be placed on All Internal Drainage Pit/s & Council Pit/s</p>	
		<p>18. Dewatering:</p>	

15. Soil Stabilization: During Construction:				
Post Works:	19. Vehicle and Road Management.			
16. Stockpile Protection:	<p>Roads - must be kept clean, to satisfaction of Council, at all times. Use only nominated access points.</p> <p>Site Access - Vehicle movements to & from the site & deliveries will only occur during the approved working hours.</p> <p>Cleaning - Vehicles are to be inspected & cleaned of debris by scraping with a shovel & broom before leaving the site.</p> <p>Cleaning - Streets any material deposited on roadway to be swept up by means of shovel & broom or use of a street sweeper. Or as directed by an Authorized Council Officer. Using Street Sweeper as required and as directed by Authorized officer, any urgent cleaning may be undertaken by Council's contractor and the cost of this will be subtracted from the bond.</p>			
	20. Other:			
Waste		Risk: Significant / Med / Low		
<p>21.Detail Construction Waste Management Plan (CWMP) - A detailed Construction Waste Management Plan (CWMP) is to be prepared by the Principal Contractor specifying the likely waste generation and how the waste generated will be disposed of. Waste material taken off site will be appropriately classified and managed in accordance with the Waste Classification Guidelines (EPA November 2014). The CWMP is to be approved by the CoP before works commence. Demolition work plans - to be provided along with final landscape drawings</p> <p>Requirement: Litter and waste must be contained on site, before disposal in a responsible manner. Skip bins must have hinged lids and be kept closed each night and on wind affected days.</p>				
21. Movement of Soil: Of- site / On Site / N/A Contaminant Status:	Waste Storage and Disposal: All rubbish bin/s and skip bin/s will have lids or be covered to contain airborne material/s.			
22. Waste Minimization Methods:	All timber and metalworks to be recycled where possible.			
	24. Other:			
Chemicals		Risk: Significant / Med / Low		
<p>Requirement: Storage and spill management practices must be implemented to ensure that no environmental damage can result from the escape or spillage of chemicals or fuels.</p>				
		Other Site-Specific Issues		
25. Storage:	27. Refueling Procedure:	Flora and Fauna Risk: Significant / Med / Low Requirement: All significant flora and fauna on and adjacent to the site must be protected in accordance with AS4970-2009	Archaeological/Heritage Risk: Significant / Med / Low Requirement: Places, sites and objects of archaeological or heritage significance must be protected.	Blank 1 Risk: Significant / Med / Low 31.
26. Spill Management:	28. Other:	29. Yes / No. Details: Prior to the commencement of any building works appropriate tree protection fencing must be erected in accordance with Australian Standard AS47902009 & remain in place until completion of works.	30. Yes / No. Details:	

RISK ASSESSMENT CHECKLIST		Major Construction Management Plan (2) - Risk Assessment and Designs of Environmental Protection Measures
☑ Noise		Project Name: Construction Management Plan - WICR322-Eastern Parramatta River & CBD Precinct Cycleway Date and Revision:
Issues: <ul style="list-style-type: none"> Nature of Noise Generating Works: Potential Noise Receptors: Proximity of Works to Noise Receptors: 	<u>Likelihood</u>	
	<u>Consequence</u>	
	<u>Overall Risk</u>	
☑ Dust		Environmental protection measures shall be constructed in accordance with the following designs.
Issues: <ul style="list-style-type: none"> Dust Sources: Potential Dust Receptors: Proximity of Works to Dust Receptors: Extent of Exposed Earth and Duration of Time Exposed: Wind Conditions: 	<u>Likelihood</u>	
	<u>Consequence</u>	
	<u>Overall Risk</u>	
☑ Erosion and Sediment		
Issues: <ul style="list-style-type: none"> Erosion and Sediment Sources: Potential Erosion and Sediment Receptors: Proximity of Works to Erosion and Sediment Receptors: Extent of Exposed Earth and Duration of Time Exposed: Soil Type and Erosivity: Slope: Site Drainage Regime: Rainfall: Vehicle Movements on and Off Site: 	<u>Likelihood</u>	
	<u>Consequence</u>	
	<u>Overall Risk</u>	
☑ Waste		
Issues: <ul style="list-style-type: none"> Nature of Waste to be Generated: Presence of Waste on Site Prior to Work Commencement: Quantity of Waste Anticipated: Potential Waste Receptors: Proximity to Potential Waste Receptors: 	<u>Likelihood</u>	
	<u>Consequence</u>	
	<u>Overall Risk</u>	
☑ Chemicals		
Issues: <ul style="list-style-type: none"> Types of Chemicals and Fuels Used and/or Stored on Site: Quantities of Chemicals and Fuels Used and/or Stored on Site: Potential Chemical Receptors: Proximity to Potential Chemical Receptors: 	<u>Likelihood</u>	
	<u>Consequence</u>	
	<u>Overall Risk</u>	
☑ Significant Flora/ Fauna		
Issues: <ul style="list-style-type: none"> Types of Flora/ Fauna: Vulnerability of Flora / Fauna: Proximity of Flora/Fauna to Works: Work Activities Which May Threaten Flora / Fauna: Potential Impacts on Flora / Fauna: 	<u>Likelihood</u>	
	<u>Consequence</u>	
	<u>Overall Risk</u>	

△ Archaeological/ Heritage					
Issues: <ul style="list-style-type: none"> Traditional Land Owners Consulted? Yes/ No Survey or Assessment Conducted? Yes/ No / Not Required Probability of Encountering Archaeological/ Heritage Items During Works: Types of Archaeological/ Heritage Items on Site: Proximity of Archaeological/ Heritage Items to Works on Site: Work Activities Which May Threaten Archaeological/ Heritage Items: Potential Impacts on Archaeological/ Heritage Items: 	<u>Likelihood</u>	†Blank 1		†Blank 2	
	<u>Consequence</u>	Issues: <ul style="list-style-type: none"> 	<u>Likelihood</u>	Issues: <ul style="list-style-type: none"> 	<u>Likelihood</u>
			<u>Consequence</u>		<u>Consequence</u>
	<u>Overall Risk</u>		<u>Overall Risk</u>		<u>Overall Risk</u>

I have read this Construction Management Plan and agree to undertake works and ensure sub-contractors undertake works in accordance with this plan.

Developer: _____ Date: _____

Consultant: _____ Date: _____

Contractor: _____ Date: _____



planning consultants

Statement of Heritage Impact

Installation of Ecologically Sensitive Lighting

Baludarri Wetlands, Parramatta



Prepared for: City of Parramatta
January 2025

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1 Introduction

1.1 Commission

DFP has been commissioned by the City of Parramatta (Council) to prepare a Statement of Heritage Impact (SoHI) for the proposed works to provide lighting for the riverside pathway adjacent to Baludarri Wetlands, Parramatta, located on the northern side of the Parramatta foreshore.

This SoHI report assesses the potential environmental impacts which could arise from the 'Proposal' which include:

- Installation of four (4) light poles; and
- New ecologically sensitive lighting to the existing shared concrete pathway and fibre-reinforced polymer (FRP) boardwalk with consideration to adjacent Baludarri Wetlands habitat.

1.2 Methodology and Structure

The methodology used in the preparation of this SoHI is in accordance with the principles and definitions as set out in the guidelines to *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance October 2013*) and the latest version of the Statement of Heritage Impact Guidelines (2002), produced by the Heritage NSW, Department of Premier and Cabinet (DPC), accessed October 2015.

This SoHI reviews the relevant statutory heritage controls, assesses the impact of the proposal on the subject property and makes recommendations as to the level of impact. The proposed works have been assessed in relation to the relevant controls and provisions contained within the *Parramatta Local Environmental Plan 2023* (LEP) and the Parramatta Development Control Plan 2023 (DCP).

1.3 Site Identification

1.3.1 Location and Legal Description

The site is located approximately 1km to the east of the Parramatta CBD and is within the City of Parramatta Local Government Area (LGA).

The site subject to the proposed works is Reid Park, Rydalmere and is located within the following property addresses:

- Lot 5 in DP 20765;
- Lot 1 in DP 566807;
- Lot 13, 15, 16 & 19 in DP 1239;
- Lot 141 in DP 537053; and
- Lot 101 in DP 1189711.

The site of the proposed works is irregularly shaped. The site adjoins residential developments to the north, including a mixture of low and medium-density residential properties. To the south of the site is Parramatta River, including the Alfred Street Pedestrian and Cyclist Bridge to the south west and James Ruse Drive to the east

Figure 1 below is a locality plan showing the site outlined in red line.

1 Introduction

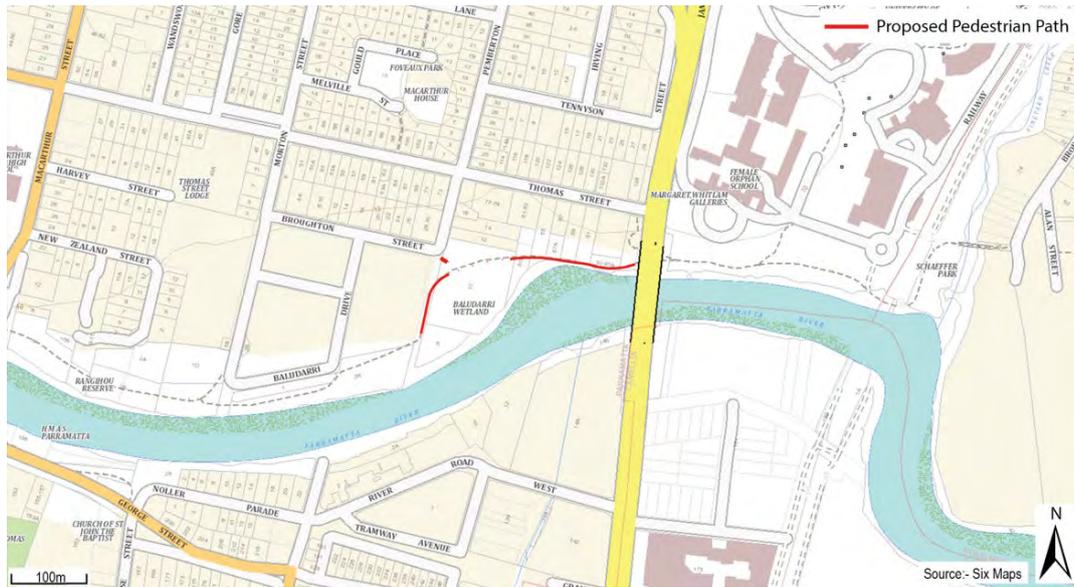


Figure 1 Site Location

Figure 2 is an aerial photograph of the site and its surrounds.



Figure 2 Aerial Photograph

1.4 Report Limitations

The proposed works are in the vicinity of heritage Item I11, Parramatta River Wetlands in *Parramatta Local Environmental Plan 2023*. This report is limited to assessment of the potential physical and visual impacts on the significance of the item. Due to the natural characteristics of the heritage item documentary and historical research is not warranted.

Archaeological assessment of the subject site is outside the scope of this report. The report does include recommendations in the event of archaeological evidence being encountered.

This report only addresses the relevant heritage planning provisions and does not address general planning or environmental management considerations.

1.5 Abbreviations and Definitions

SoHI

Statement of Heritage Impact

1 Introduction

ICOMOS	International Council on Monuments and Sites
Burra Charter	refers to 'The Burra Charter' prepared by Australia ICOMOS October 2013

The conservation terms used throughout this report are based on the terms and definitions adopted by *The Burra Charter*, *The Australia ICOMOS Charter for places of cultural significance* (Australia ICOMOS October 2013). *The Burra Charter* forms the basis for cultural conservation within Australia and is acknowledged by government heritage agencies around Australia. Terms used in this plan are defined below:

Place, means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Cultural Significance, means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Fabric means all the physical material of the place including fixtures, contents and objects.

Conservation means all the processes of looking after a place so as to retain its cultural significance, as listed in the History Section of this report.

Maintenance means the continuous protective care of the fabric, and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction.

Integrity (not a Burra Charter definition) means the degree to which a place or component of a place retains the form and completeness of its physical fabric, historical associations, use or social attachments that give the place its cultural significance.

Preservation means maintaining the fabric of a place in its existing state and retarding deterioration.

Restoration means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

Reconstruction means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric.

Adaptation means modifying a place to suit the existing use or a proposed use. [Article 7.2 states regarding use that: *a place will have a compatible use*]

Compatible use means a use, which respects the cultural significance of a place. Such a use involves no, or minimal impact on cultural significance.

Interpretation means all the ways of presenting the cultural significance of a place.

2 Physical Description

2.1.1 Physical Description

The site that is the subject of the proposed works is known as Baludarri Wetlands. Having regard to the Flora and Fauna Assessment prepared by East Coast Ecology, most of the area is made up of Grey Mangrove-River Mangrove Forest, with pockets of Sydney Coastal Sandstone Gully Forest and Samphire Saltmarsh also present within the site.

The area has been subject to recent development for the purpose of constructing a boardwalk that provides a link from Parramatta to the west, through to the remainder of the eastern Parramatta River foreshore.

Figures 3 to Figure 8 are photographs of the site.



Figure 3 Photograph of the existing shared path towards the east



Figure 4 Photograph of the existing boardwalk looking west

2 Physical Description



Figure 5 Photograph of the existing boardwalk looking west



Figure 6 Photograph of existing shared path looking west

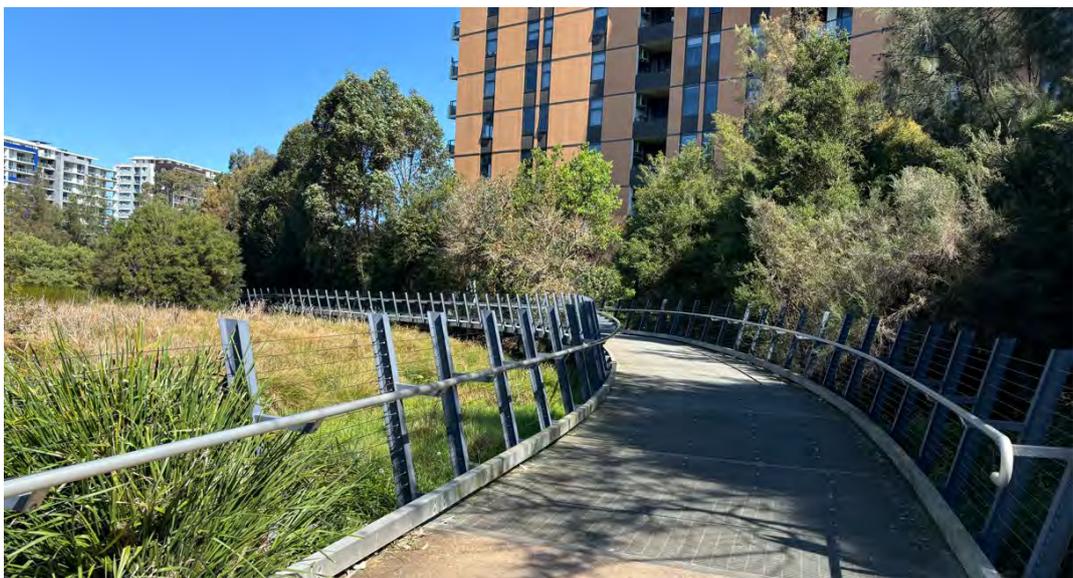


Figure 7 Photograph of existing boardwalk looking west

2 Physical Description

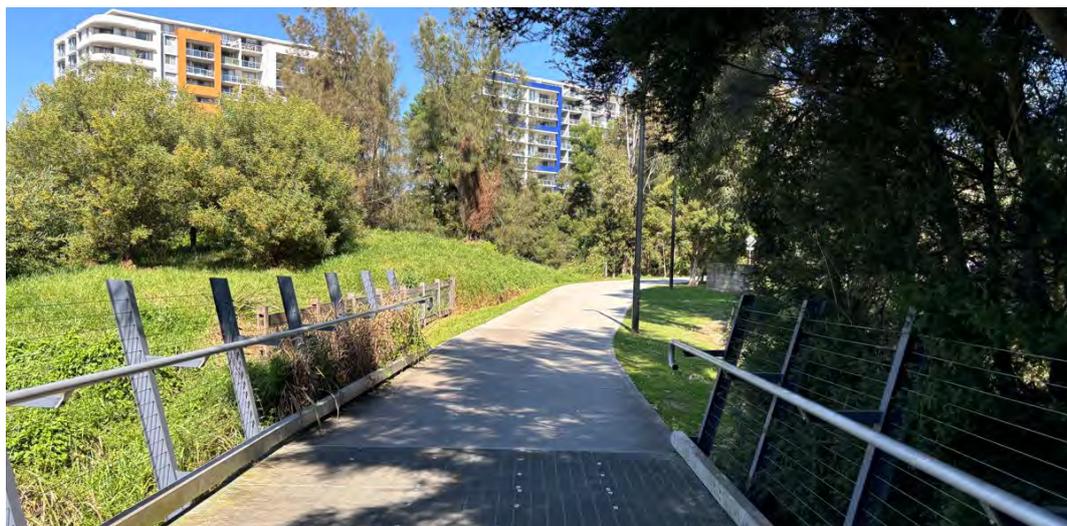


Figure 8 Photograph of existing boardwalk looking west

2.1.2 Vegetation

The location of the proposed works is on an existing boardwalk that is partly located over wetlands.

The site is located within a proximity area to coastal wetlands that are along the foreshore of Parramatta River (to the south of the park). The area consists of remnant wetland vegetation characterised by mangroves and saltmarsh.

Much of the land south of the proposed works is mapped as comprising biodiversity values.

2.2 Surrounding Development

To the north of the site are low and medium density residential properties.

To the east of the site is James Ruse Drive. Also located to the east of the site is Western Sydney University (Parramatta campus).

To the south of the site is Parramatta River.

To the west of the site are high density residential properties. Also located to the west of the site is the Alfred Street Bridge.

3 Heritage Significance

3.1 Significance Assessment

The following statement of heritage significance is extracted from the NSW Heritage Inventory Sheet for the Parramatta River Wetlands.

The wetlands along Parramatta River are of significance for Parramatta area as remnant representative areas of mangroves and salt marshes which once extensively lined the foreshores and tidal water flats of the region.

Heritage item I011 is depicted in the extract from *Parramatta Local Environmental Plan 2023* Heritage Map in **Section 5.2** of this report.

Figure 9 below is a photograph of the existing wetlands in the vicinity of the proposed activity, that form part of the mapped heritage item.



Figure 9 Photograph of wetlands within the vicinity of the proposed activity

4 Proposed Development

4.1 Summary of Proposed Development

In summary the proposed development comprises:

- Installation of four (4) light poles; and
- New ecologically sensitive lighting to the existing shared concrete pathway and fibre-reinforced polymer (FRP) boardwalk with consideration to adjacent Baludarri Wetlands habitat.

The following subsections provide a more detailed description of the proposed works and should be read in conjunction with the accompanying consultant plans and reports.

4.2 Ecologically Sensitive Lighting

Environmentally sensitive hardwired LED handrail lighting is proposed along the northern side of the existing shared boardwalk over the Baludarri Wetlands.

Currently there is no lighting along the Baludarri Wetland section of the Parramatta River Foreshore shared path. The intention is to improve the useability of this boardwalk for pedestrians and cyclists who utilise it in the evenings.

As part of the works, a new power connection point will be created from an existing Council owned and operated light pole along the south eastern corner of the site.

The location of the environmentally sensitive lighting is shown highlighted in yellow in the plan below (**Figure 9**).

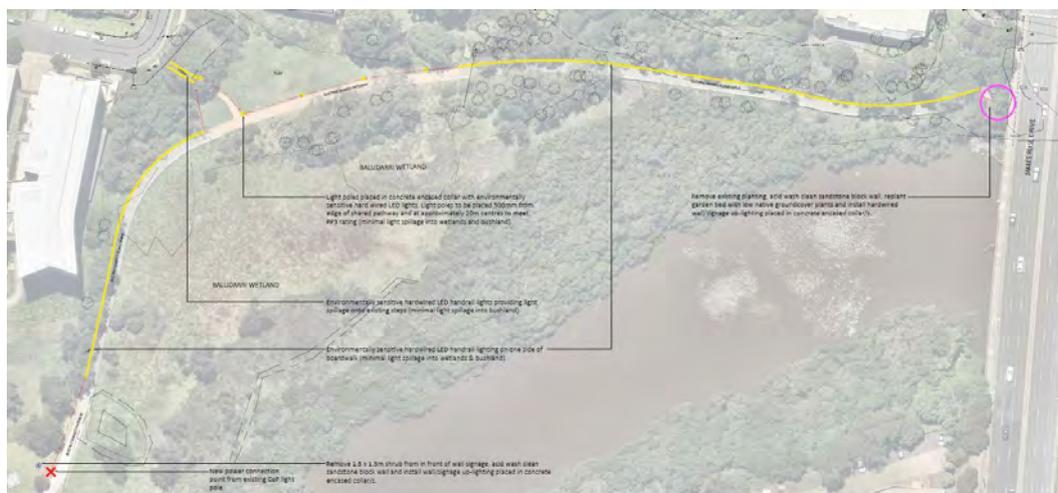


Figure 10 Proposed Site Plan. Source: City of Parramatta

4.3 Proposed Light Poles

The proposal also includes the installation of four (4) light poles between two (2) existing boardwalks. These light poles will be concrete encased and fitted within environmentally sensitive hard wired LED lights.

The poles will be placed 500mm from the edge of the shared path and separated by approximately 20m.

4.4 Landscaping

Minor associated landscaping works are proposed, including the removal of existing shrubs around an existing sandstone block wall towards the eastern side of the site.

A new garden bed comprising low native groundcover plants is proposed.

5 Assessment of Heritage Impact

5.1 Introduction

The subject site is part of a heritage item I011 Parramatta River Wetlands under the LEP, which extends along the northern shoreline of the Parramatta River.

An extract of the heritage map for the site is provided at **Figure 11** below.

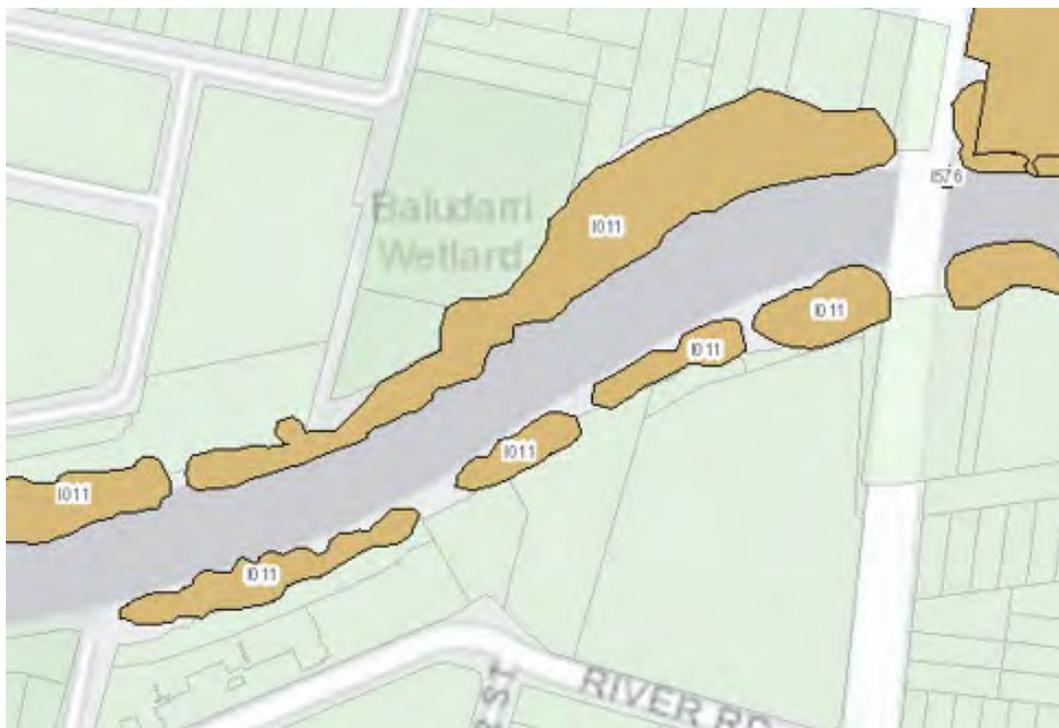


Figure 11 Heritage Map extract PLEP 2023

The proposed scope of works has been assessed against the following impact assessment criteria:

- The New South Wales Heritage Council Guidelines and Statements of Heritage Impact

The accepted practice in assessing the levels of impact on items, places or fabric of heritage significance is to adopt the following grading¹:

Impact Grading	Built Heritage or Historic Landscape Attributes
No Change	No change to Fabric or setting.
Negligible	Slight changes to historic building elements or setting that hardly affect it and have no impact upon significance.
Minor	Change to key historic building elements, such that the asset is slightly altered.
Moderate	Changes to many key historic building elements, such that the resource is moderately altered.
Major	Change to key historic building elements that contribute to the listing such that the resource is totally altered. Comprehensive changes to setting.

5.2 Statutory Controls

The provisions of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP TI) allow the proposed works to be carried out as development without consent under Part 5 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). The works are subject to a Review of Environmental Factors under section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation). This assessment considers

¹ ICOMOS – Guidance on Heritage Impact Assessment for Cultural World Heritage Properties, A publication of the International Council on Monuments and Sites, January 2011, downloaded 23/2/2015.

5 Assessment of Heritage Impact

the relevant provisions of Section 171(2) of the EP&A Regulation, specifically the following environmental factor as it relates to heritage.

- (e) *the effects on any locality, place or building that has-*
- (i) *aesthetic, anthropological, archaeological, cultural, historical, scientific or social significance, or*
 - (ii) *other special value for present and future generations.*

Section 2.11 of SEPP TI addresses consultation with councils – development with impacts on local heritage. The relevant provisions of subclause (1) state:

- (1) *This section applies to development carried out by or on behalf of a public authority if the development—*
 - (a) *is likely to affect the heritage significance of a local heritage item, or of a heritage conservation area, that is not also a State heritage item, in a way that is more than minor or inconsequential, and*
 - (b) *is development that this Chapter provides may be carried out without consent.*
- (2) *A public authority, or a person acting on behalf of a public authority, must not carry out development to which this section applies unless the authority or the person has—*
 - (a) *had an assessment of the impact prepared.*

This SoHI satisfies the requirements of Section 171(2) of the EP&A Regulation as set out in this SoHI.

Notwithstanding the above, Section 2.17 of SEPP TI sets out exceptions whereby Sections 2.10 – 2.15 do not apply. Subclause (c) provides that consultation in accordance with Section 2.10 – 2.15 is not required to be given to Council or a public authority that is carrying out the development. In this instance, Council is carrying out the proposed development.

Additionally, the proposed development is not likely to affect the heritage items in the vicinity. Being adjacent to and not within the items and augmenting works already in existence, physical impacts will be avoided, and visual impacts will be negligible and, in these circumstances, consultation is not required.

This assessment also takes into account the relevant environmental criteria at subsection 171(2)(e) of the EP&A Regulation:

- (e) *the effects on any locality, place or building that has—*
- (i) *aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or*
 - (ii) *other special value for present or future generations,*

These criteria are very broad and are captured suitably by the provisions of Clause 5.10 of LEP.

Table 1 Review against relevant clauses of Parramatta LEP 2023

LEP Clause	Discussion
<p>5.10 Heritage conservation</p> <p>(1) Objectives The objectives of this clause are as follows:</p> <ul style="list-style-type: none"> (a) to conserve the environmental heritage of the City of Parramatta; (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views, (c) to conserve archaeological sites, 	<p>The proposed lighting works for the existing pathway in Baludarri Wetlands are minor in scale, will provide for safety of the public and will cause no adverse physical impact and negligible visual impact. The proposed works are consistent with the objectives of the Clause 5.10 LEP</p> <p>The works do not comprise any removal or alteration of any significant built fabric or vegetation.</p>

5 Assessment of Heritage Impact

Table 1 Review against relevant clauses of Parramatta LEP 2023

<p>(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.</p>	
<p>(2) Requirement for consent Development consent is required for any of the following: (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance): (i) a heritage item, (ii) an Aboriginal object, (iii) a building, work, relic or tree within a heritage conservation area, (e) erecting a building on land: (i) on which a heritage item is located or that is within a heritage conservation area, or (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance</p>	<p>Consent is not strictly required under sub clause (2) as the proposed activity is not located on or within a heritage item. The proposed activity will also not demolish, or alter the exterior of any of the detail, fabric, finish or appearance of any of the heritage items within the vicinity.</p> <p>The works do not comprise any removal or alteration of any significant built fabric or vegetation.</p> <p>An AHIMS Search (Appendix 13) was undertaken on 3 October 2024 which identified one (1) known Aboriginal Sites or Places within a 200m radius of the site.</p> <p>Consequently, there are no known indigenous or cultural heritage items, objects or relics within the site and the proposed works are within the footprint of existing disturbed parts of the site.</p> <p>Notwithstanding, if during the construction works, Aboriginal objects are relics are uncovered, a Mitigation Measure has been included in the Review of Environmental Factors to cease works immediately and contact the relevant authority.</p>
<p>(4) Effect of proposed development on heritage significance The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).</p>	<p>This Statement of Heritage Impact provides the necessary information to make an assessment under sub clause (4).</p> <p>This Statement of Heritage Impact is a heritage management document.</p>
<p>(5) Heritage assessment The consent authority may, before granting consent to any development: (a) on land on which a heritage item is located, or (b) on land that is within a heritage conservation area, or (c) on land that is within the vicinity of land referred to in paragraph (a) or (b), require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.</p>	<p>This Statement of Heritage Impact is a heritage management document</p>
<p>(6) Heritage conservation management plans The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a heritage conservation management plan before granting consent under this clause.</p>	<p>A Heritage Conservation Management plan is not warranted in these circumstances.</p>

5 Assessment of Heritage Impact

The assessment of heritage impacts is summarised below:

ITEM	IMPACT
LED handrail lights along pathway	Visual: Negligible Physical: None
Light poles (4)	Visual: Minor Physical: None
Associated wiring.	Visual: None Physical: None
Removal of planting at eastern end of pathway.	Visual: Negligible Physical: Minor

5.2.1 Parramatta Development Control Plan 2023

Table 2 provides an assessment against the DCP. Part 7 of the DCP entitled 'Heritage and Archaeology' provides general objectives for development on and in the vicinity of heritage and archaeology. The proposed works are consistent with the general objectives of Part 7 insofar as potential impacts on the setting of the heritage items in the vicinity of the proposed activity:

- O.01 Ensure the appropriate management of heritage in the City.*
- O.02 Retention and reinforcement of the attributes that contribute to the heritage significance of items, areas and their settings.*
- O.03 Ensure development is compatible with the significance and character of the area so that the new work does not detract from the historic buildings and their amenity to/or from the streetscape.*

Part 5.3.2 of Parramatta Development Control Plan 2023 addresses development associated with Waterways and The Riparian Zone. For an assessment of the impact on the values of the heritage item objective O.01 is relevant.

- O.01 Ensure development contributes to the protection and rehabilitation of waterways in order to:*
 - *improve waterway health, and*
 - *develop and maintain ecologically sustainable waterways.*

In this regard the proposed provision of lighting, being contained to the northern side of the route of the existing pathway, use of the existing shared path as a cycleway, minor works and landscaping works are consistent with the controls of Part 5.2.3 and will have no impact on the heritage items that are located within the vicinity of the site.

6 Conclusion

6.1 Conclusions

This Statement of Heritage Impacts has been prepared by DFP for the City of Parramatta Council, the proponent and determining authority for the proposed minor upgrade works to Baludarri Wetlands, Parramatta.

This Statement of Heritage Impact describes the existing site context and provides details of the proposed works which should be read in conjunction with the Review of Environmental Factors prepared by DFP Planning for the proposed upgrade works to Baludarri Wetlands.

The proposed works are confined to an existing boardwalk over part of the Baludarri Wetlands and will have a negligible visual impact and no physical impact on the natural significance of the remnant mangroves and saltmarsh.



Brian McDonald
Principal Urban Designer and Heritage Consultant
DFP Planning

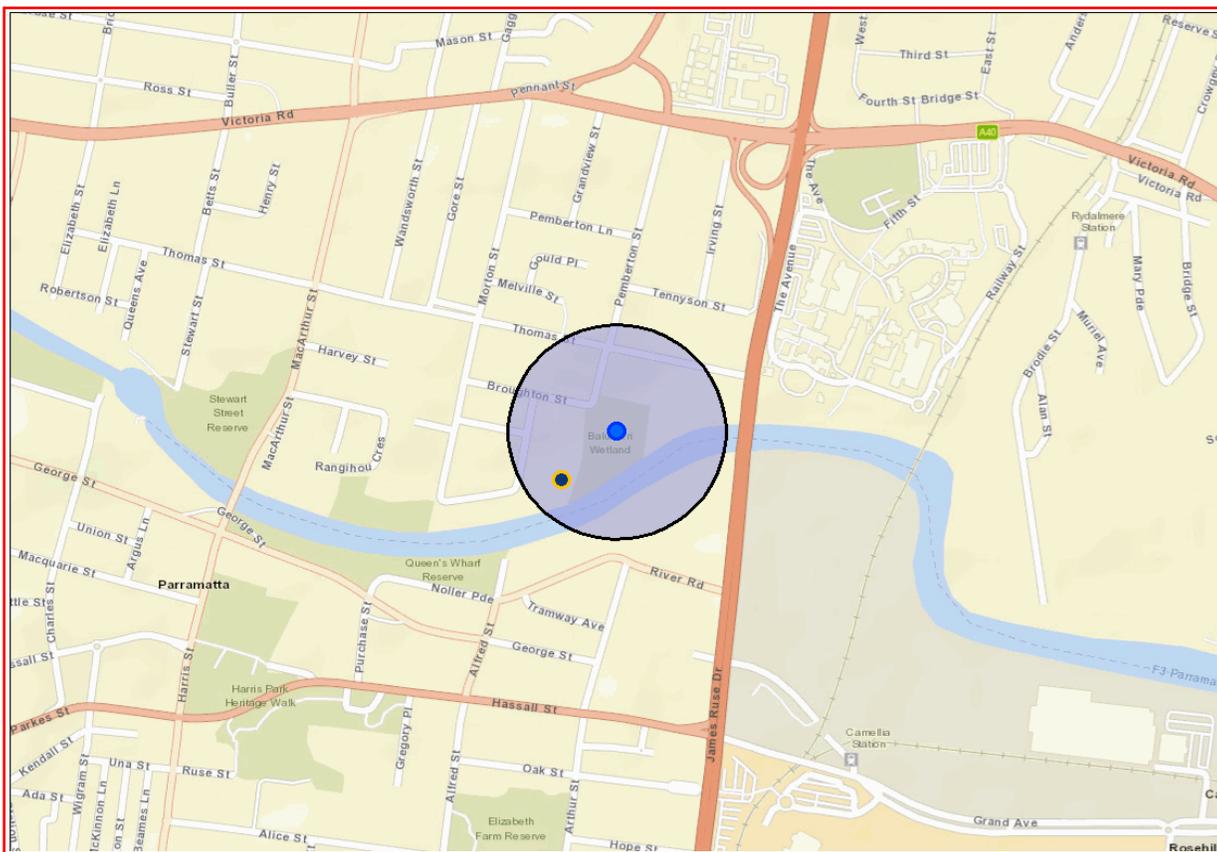
Thomas West
 11 Dartford Road
 Thornleigh New South Wales 2120
 Attention: Thomas West
 Email: twest@dfppanning.com.au

Date: 03 October 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 10 PEMBERTON STREET PARRAMATTA 2150 with a Buffer of 200 meters, conducted by Thomas West on 03 October 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

FINAL



Eastern Parramatta River

Communications & Engagement Evaluation

February 2025

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1. Background and summary

NSW Government funding flows to five foreshore park upgrades – *Eastern Parramatta River*

In 2022, City of Parramatta began to work on concept designs that looked to enhance amenity and active transport links across five (5) foreshore parks east of the Parramatta CBD. The project was designed to capitalise on the popularity of the *Parramatta Valley Cycleway*, along the Parramatta River foreshore.

Supported by the *NSW Government's Western Sydney Infrastructure Grants Program* (WSIG), the \$9M *Eastern Parramatta River* project proposed a program of pedestrian and cyclist amenity and safety improvements along Parramatta River foreshore paths in five (5) key locations:

1. Rangihou Reserve, Parramatta.
2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

The *Eastern Parramatta River* project provides a total of 2.8km of improved paths and more opportunities for the community to access and enjoy the natural beauty of the Parramatta River. In some locations, the project delivers separated pedestrian and cycling paths, native planting, additional lighting, and other upgrades requested by the community.

The *Eastern Parramatta River* project featured on the City's community engagement platform *Participate Parramatta* and was on public exhibition from **Monday 21 October to Thursday 21 November 2024**.

The community was asked to provide feedback on the concept designs via an interactive map and short survey.

In addition to engaging with *Participate Parramatta*, residents could submit their feedback via social media posts, email, in writing, providing a verbal submission or contacting the project team.

A marketing campaign including advertising, park signage, web and social media content, along with eNewsletters and letterboxing, encouraged the community to have their say on the project.

2. Executive summary

Community engagement activities and evaluation

This report focuses on the reach and effectiveness of the communications and engagement strategy and channels used to promote the *Eastern Parramatta River* project. It considers the success of the level of engagement achieved through the *Participate Parramatta* portal, interactions with communication channels such as social media, audience reach, and the number of submissions received.

A high-level summary of community feedback and concerns is included in the Methodology and Response section page 5, along with recommendations on page 19.

Detailed reporting on community submissions is provided as attachments to the Council report.

Communications and engagement activities:

The *Eastern Parramatta River* campaign was live from **Monday 21 October** to **Thursday 21 November** with the community directed to find out more by visiting the City's *Participate Parramatta* engagement portal.

Numerous channels were activated to reach as many in the community within the footprint surrounding the five (5) parks associated with the project. The key objective was to notify residents of the scope and benefits of the proposed *Eastern Parramatta River* project (delivered in stages over three years) and the opportunity to have a say on the concept design for the five (5) parks:

1. Rangihou Reserve, Parramatta.
2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

Residents could complete a short survey by following a weblink or the QR code provided on various pieces of collateral. Residents could also drop a pin and post a comment on the concept design, highlighting any items they did/did not support and adding additional comments.

Engagement reach

A community engagement campaign was designed to facilitate community feedback on the *Eastern Parramatta River* project over the four-week live period from 21 October to 21 November 2024.

Council's engagement portal *Participate Parramatta* was the call to action for the campaign and showcased a range of educational materials as well as the concept designs for each of the five (5) parks.

Overall, information on the opportunity to provide feedback on the Eastern Parramatta River project was presented to around **156,370 people** (based on targeted letter box distributions, website traffic, social media reach, email database contacts, eNewsletters etc, where figures are available).

Participate Parramatta response

- The *Eastern Parramatta River* page on Participate Parramatta attracted **4,278 page views** and **2,443 unique visitors**
- **482 documents** were downloaded including **concept plans**
- The **image gallery** was viewed **189 times**
- **67 surveys** were completed
- Of residents who completed the survey:
 - **53 (79%)** were supportive of the overall project, and the improvements as presented, to the five (5) parks
 - **Twelve (12) people (18%)** supported the project to an extent
 - **One (1)** was unsure, and **one (1)** did not support.

During the exhibition period there were **1,083 views** of the **interactive map**:

- **80 pin and posts**
- **22 posts** were in support of the project and/or elements of the project design
- **six (6) posts** did not support particular features on the concept designs and provided comments
- **49 additional comments** were provided.

Note: 22 individuals provided multiple submissions along with 19 anonymous respondents.

For details on responses via the interactive map, please refer to Methodology and Response on page 5.

It should be noted that this public exhibition was held close to the cut-off date for community engagement (acknowledgement of the approaching festive season and its recognised impact on the community's willingness to participate in Council's community engagement programs).

There were also many significant events which affected community attention, media coverage and social media engagement during this time including: the visit of the King and Queen to Parramatta; the US elections and Donald Trump as a candidate; Local Government elections; a new Parramatta Council; and Diwali.

Major Council programs also competed for the community's attention, including: the Lanes festival; the roll out of FOGO; the opening of Lake Parramatta and public art at Charles Street Square; the closure and clean of the Parramatta River (more than 60,000 views on social media); Foundation Day; Remembrance Day; and large Citizenship events (the first for the Lord Mayor and a number of Councillors).

Due to these events, the volume of projects etc. Council channels are congested, and despite segmenting where possible, various campaigns compete for residents' attention and limit the serve rate on social media. The frequency of Council messaging (across numerous projects) also causes a proportion of the community to switch off.

The monitoring of when campaigns are sent live, and the number of campaigns in market at one time, is continually highlighted as a consideration for community engagement.

3. Methodology and response

The *Eastern Parramatta River* project was hosted on the City of Parramatta's engagement portal, *Participate Parramatta*, from Monday 21 October to Thursday 21 November 2024.

There were two main paths to provide feedback on the project online - dropping a pin and posting comments on the concept design via the interactive map, or participating in the short survey which detailed the proposed concept designs for each of the five (5) parks.

Emails, submissions via post and verbal submissions (primarily for people with disabilities) and comments via social media were also accepted.

Direct mail provided to residents within the catchment of the project, CBD and east, (approximately 6,000 businesses and homes) offered a direct link/QR code to the *Participate Parramatta* project page.

Other marketing materials, including social media, Council's website and eNewsletters, and signs at each of the parks, also used *Participate Parramatta* as the call to action, promoted by web links and a QR code.

Social media materials were presented in community languages (Arabic, English, Hindi, Korean, Simplified Chinese). Translation and TTY services were promoted to for assistance if required in the direct mail piece.

Participate Parramatta

The *Eastern Parramatta River* project page on *Participate Parramatta* contained information about the planned pedestrian and cycling path upgrades to be delivered as part of the project, with information on the native planting, lighting and other improvements planned for each of the five (5) parks. It offered resources including interactive maps, concept designs, delivery timeline, and answers to frequently asked questions etc.

Community Response

- The *Eastern Parramatta River* page on *Participate Parramatta* attracted 4,278 page views and 2,443 unique visitors.

- Of the **2,443 unique visitors** to Participate Parramatta, **2,255 were aware** (those who viewed the page, but didn't take action), **251 were informed** (those who viewed and took action), **65 were engaged** (those who completed the survey). See below for more information on definitions.



- **Aware:** Number of unique visitors who have viewed the project page, minus any visitors who have undertaken any activity e.g.: downloaded a document, viewed a video, completed a survey etc.
- **Informed:** Any unique visitor who has viewed a latest news item, viewed a document, viewed a video, viewed a FAQ minus any user that has engaged e.g.: completed a poll or survey, engaged with an interactive document.
- **Engaged:** Any unique visitor who has completed a poll, survey, ideas wall or engaged with interactive mapping.

Demographic data

It should be noted the section of community engagement surveys which seeks information on sex, age, and other demographic markers - including speaking another language, identifying as being Aboriginal or Torres Strait Islander, or living with a disability - is commonly the section where a high percentage of respondents exit the survey.

Overall, of **67 respondents**, **Parramatta residents** led the way (**27 submissions**). **Ermington residents** were the second largest cohort (**14**) followed by **North Parramatta (7)** and **Rydalmere (4)**.

Out of **67 respondents**, **32 answered** specific demographic questions, except for 'what is your relationship to City of Parramatta' and 'Live Work Play' question, where all **67 responded**.

Social and cultural associations only attracted one (1) respondent for each question.

What is your relationship to the City of Parramatta?

Those who submitted a formal response via Participate Parramatta (67) identified as:

- City of Parramatta residents – 58
- Rate payers - 20
- Those who work or study in the area - 15
- Business owners - 2.

*More than one option could be selected.

Live - geographical location

All 67 respondents answered this question. However, 47 elected to choose 'prefer not to say' or 'none of the above' – options for with-holding details about where they lived.

- Parramatta led the way with 14 responses, followed by Wentworth Point five (5) and North Parramatta four (4).
- Almost every suburb in the LGA was represented, with the survey attracting one (1) or two (2) respondents from each suburb. Six (6) acknowledged they lived outside the Parramatta LGA but indicated they visited/worked or studied in Parramatta.
- One respondent shared that they recently purchased a new home to be closer to these parks and the more pleasant commute along with recreational opportunities offered by pedestrian/cycle paths and the Parramatta River.

Sex

Only 32 from 67 respondents answered this question.

- Seventeen (17) respondents identified as male, 13 as female. Others responded as 'other' or 'prefer not to say'.
- For some respondents, first names indicated gender and where possible this was used to add context to some of the responses.

Age

Overall, out of 67 submissions, 32 respondents provided information on age.

- Ten (10) respondents, seven (7) males and two (2) females, indicated they were in the 35 - 44 age group. This age group was the highest overall who provided their age.

- The second highest number of respondents who identified their age group were from the 55-64 age group, seven (7) participants, five (5) female and one (1) male.
- In the 65 - 70 age group there were five (5) respondents overall, three (3) male and one (1) female.
- The 18 - 25 age group had three (3) respondents overall, all male.
- In the 26 - 29 age group there was one (1) respondent overall, unidentified sex.
- The 71- 75 age group had one (1) respondent overall, male.

Social and cultural markers

- Seventeen (17) people shared that they speak a language other than English.
- One (1) person identified as Aboriginal or Torres Strait Islander.
- One (1) person shared they lived with a disability. They made special note that while some pedestrian paths were becoming more accessible, they would like to see more areas within the Parramatta LGA become more accessible.

Participate Parramatta interactions

- More than 250 visitors took an action including downloading information
- 482 documents were downloaded including concept plans
- The image gallery was viewed 189 times
- The interactive map attracted 1,083 views with 80 pin and post submissions.

Concept designs views and downloads

- The foreshore elevations diagrams were downloaded 37 times
- Rangihou Reserve, Parramatta concept plan was downloaded 110 times
- Baludarri Wetlands, Parramatta concept plan was downloaded 82 times
- Reid Park, Rydalmere, concept plan was downloaded 60 times
- Royal Shores, Ermington, concept plan was downloaded 75 times
- George Kendall Riverside Park, Ermington, concept plan was downloaded 102 times.

Once on the Participate Parramatta project page (**4,278 views**), only a small percentage will engage further with the project.

It is more usual for residents who do not support the project to provide feedback, along with those who would like to raise some concerns or provide a suggestion for improvement.

A smaller percentage of highly-engaged people will provide detailed responses and express excitement/strong support/welcome the project.

Social media is a quick response tool and is also used to ask questions about the project and to raise other issues. Though always encouraged, a number of residents who respond on social media platforms will not make the required link click to the engagement portal.

Social media feedback generally comes from a younger demographic (Instagram) and those already engaged with Council.

Community feedback via Participate Parramatta – survey results

From **4,278 page views** and **2,443 unique visitors**, **67 surveys** were submitted.

Respondents were identified by captured IP addresses, though more than one visit from each household is likely. All but six (6) respondents were City of Parramatta residents.

Eastern Parramatta River - overall response

- Of **67 residents** who completed the survey, **53 respondents (79%)** were **supportive** of the overall Eastern Parramatta River project, and the improvements as presented, to five (5) parks.
- Twelve (12) people (18%) supported the project to an extent.
- One (1) was unsure, and one (1) did not support.
- Fifty-three (53) respondents chose to make additional comments as part of their survey submissions, either as comments detailing why they supported particular elements to an extent, taking the last question opportunity to provide any further comments and via email.
- Three (3) emails were received including one (1) attachment, a lengthier response, was also provided.

Individual parks

When asked about the concept designs and proposed upgrades for each of the five (5) parks, all 67 respondents continued to provide feedback on the concept design for each park:

Rangihou Reserve Parramatta

- More than 73% (49 respondents) supported the concept design
- More than 16% (11 respondents) supported to an extent
- Four (6%) were unsure and three (4%) did not support.

Baludarri Wetlands, Parramatta

- More than 79% (53 respondents) supported the concept design
- More than 12% (eight respondents) supported to an extent
- Five (7%) were unsure and one (1%) did not support.

Reid Park, Rydalmere

- More than 84% (56 respondents) supported the concept design and proposed improvements
- More than 12% (five (5) respondents) supported to an extent
- Six (9%) were unsure. No residents (0%) said they did not support the proposed upgrade.

Royal Shores, Ermington

- More than 75% (50 respondents) supported the concept design and proposed improvements
- More than 16% (11 respondents) supported to an extent
- Six (9%) were unsure. No residents (0%) said they did not support the proposed upgrade.

George Kendall Riverside Park, Ermington

- More than 79% (53 respondents) supported the concept design and proposed improvements
- Twelve per cent (eight respondents) supported to an extent
- Four respondents (6%) were unsure. Two (3%) said they did not support the proposed upgrade.

Other responses

Social media campaigns generated **1,380 interactions**, the relevant comments were generally positive, with others seeking clarification on shared and expanded paths. There was one negative comment and one negative sentiment (unhappy face).

The project team working closely with the social media team, **providing five (5) social media responses to residents**. Each post included the reminder to visit *Participate Parramatta* for more information and to seek further assistance from the project team.

The *Participate Parramatta* inbox received **three (3) emails**.

Community feedback – via interactive map



1,083 viewers engaged with the interactive map, providing 80 pin and posts.

The overall and five (5) park interactive maps which featured on the *Participate Parramatta* project page, were a quick way for stakeholders to pin a location and flag whether they supported the item identified on the draft concept design or did not support. Residents could also post a comment.

During the exhibition period there were **1,083 interactions** with the map:

- **80 pin and posts**
- **22 posts were in support** of the project or elements of the project
- **six posts did not support particular features on the concept designs**
- **49 comments were provided**. Note: 22 individuals provided multiple submissions along with 19 anonymous respondents.

Engagement with interactive maps

Many of the 80 pin and posts indicated support for the project overall, particularly upgrades which were seen as addressing safety concerns e.g. paths that were "steep, narrow and dark" or where there were "near misses" between pedestrians and cyclists.

Residents were also very supportive of more planting being added to the parks and a significant number of comments were requesting more trees and native shrubs in various locations. Lighting plans were also supported with requests for more lighting extending to particular locations the resident nominated – such as Western Sydney University.

Via social media there was a request to make the parks and pathways more accessible, and for more of the LGA to be accessible. There was also support for the key elements within the concept designs.

However, there remains a strong preference within the community for separate pedestrian and cycle paths (with vegetation between the two). Key comments/themes included:

Cycle and pedestrian paths

- The removal of narrow paths and identified pinch points was strongly supported. Along with the project's intent to create opportunities for residents and visitors to enjoy the five (5) parks and the foreshore area and add additional lighting and trees and plants.
- A number of concerns were raised around cyclists and pedestrians interacting and the need for more signage and/or behavioural change campaigns. Signs where cyclists had to give way to pedestrians, and signs advising pedestrians to keep to the left on shared paths were requested.
- Further investigations of the proposed paths at George Kendall were requested. Three residents highlighted the steep bend in the paths could cause unintended visibility issues and other potential safety concerns when descending from Goerge Kendall to Royal Shores. Path widening at Royal Shores was also raised.
- Replacing the existing curved shared path from Morton Street to the foreshore path, with a direct path, was questioned by one resident who felt it would cause people to start to walk across the grass - the most direct route to nearby homes.

- A concern was raised about widening some paths with a request to ensure there was no seam which could act as a hazard to cyclists.
- Treatments to flood prone areas (elevated boardwalk or similar) were requested in areas where water currently pools at George Kendall Reserve and Royal Shores.
- Bike racks were requested by a number of residents including locations such as near the café, playgrounds, at points of interest, and near shelters at George Kendall Reserve.

LED Lighting

- Lighting installation was enthusiastically endorsed by a number of respondents including one who identified some areas as “dark and spooky”.
- Many residents requested that LEDs be installed the entire path to WSU and in other locations.

Planting

- Planting was unanimously supported with requests for more planting of trees and native shrubs and grasses in particular locations at various parks (and less turf).
- While there are few tree removals within the project, concerns were raised about the impact of tree removal (heat/shade, biodiversity, pollution) along with requests for more planting where possible.
- Specific mentions were made of the saltmarsh areas needing more care, rubbish removal and setting up a bushcare group for the area.
- Maintenance requests included cutting back or removing blackberry bushes on the old foreshore path in George Kendall which are overgrown, weeding and general upkeep.
- A note was made about a particular tree near Park Road which obscures views to the rest of the cycle path.

Other comments/requests:

- A new amenities block in Rangihou Reserve was requested. Other residents commented it would be nice but isn't needed. However, a number of respondents mentioned the lack of public amenities in these parks and across the LGA.
- A footpath connection from Rangihou Crescent to Rangihou Reserve.

- A request to consider widening the paths on Silverwater Bridge was made for future upgrades.
- Bridge repairs at Royal Shores were also requested, with claims wooden sections are rotten.
- Additional bins and dog poo bins/bags
- More water/drinking fountains
- Bike repair stations
- Fixing bumps in existing cycle paths.

Participate Parramatta survey comments

Of **67 survey** submissions, some of those supported concept designs to an extent and made comments. In total, **52** respondents elected to make comments to clarify their responses or took the opportunity to make further comments on the project.

Comments in the survey followed similar themes as those made in the interactive map.

There was strong overall support for the upgrades, particularly the addition of more separated cycleways and elements of the concept designs addressing safety concerns identified in existing paths, and the lack of lighting.

There was also recognition of the City's recent work on cycleways near George Kendall, the upgrades near Rydalmere Wharf.

The Parramatta Light Rail (Stage 1) Active Transport Link from Carlingford to Parramatta also received positive comments as did Alfred Street Bridge.

Requests to minimise tree removals and for additional trees, shrubs and native grasses were strongly represented in responses and additional comments. One respondent suggested a little less turf and more plants.

There were a small number of comments questioning the timeline for completion of this project and seeking more information on when each park will be delivered (this information was included on *Participate Parramatta*). There were also concerns around potential park closures.

Cycling comments:

- Concerns about pedestrians who encroach on cycle paths and general comments about pedestrian and cyclist interactions were the most common responses within the survey.
- Dedicated/separated lanes for pedestrians and cyclists are strongly preferred by the community or otherwise planting to act as a divider on wide shared paths. Wide paths such as the Carlingford to Rydalmere share path were praised.
- Concerns about cyclist behaviour (speeding and not ringing bell, riding two across or more in a pack) and pedestrians in cycle lanes were the most frequently raised issue. Requests for more Ranger patrols and behaviour change campaigns, potentially with occasional Council pop-ups promoting cycling paths and safety. CCTV was also requested.
- Requests for more signage to assist in mitigating conflicts between pedestrians and cyclists including pedestrians keep left and cyclists slow down. Requests were also made for Council to consider speed humps in certain areas where speeding cyclists are an issue. One respondent suggested these should be at 45 degrees and offset to make them easier for people in wheelchairs and those pushing prams to navigate.
- Requests to ban e-scooters and e-bikes due to safety concerns for both pedestrians and cyclists and sign appropriately were also high. One respondent who identified as a regular commuter using these Eastern Parramatta River paths daily, commented on dangerous e-unicycle riders. Issues with e-bikes etc. was also raised via social media.
- There were also comments recommending Council should prioritise pedestrians and cyclists over motorists and a request to review existing paths and improve connections between paths across the LGA creating a complete network.
- Requests to mitigate noise on metal boardwalks – cyclists in particular, disturb some members of the community.
- Request to make bike racks and bike maintenance stands as part of the designs.
- Suggestion that Council should invest in connecting the path in Rangihou Reserve to Alfred Street Bridge.
- Request to keep the curved path in Rangihou Reserve to the to the south end of Morton Street and to add more native plants where the designs indicate paths are being removed.

- A comment requested that Council keep the path which was marked for removal in Rangihou Reserve, though the respondent was not sure if this was part of the concept design. There were also concerns about that area being dark.
- In commenting on Royal Shores, one respondent stated that it was unclear why if there is a pedestrian path, the adjacent path is a shared path. Suggesting it would be better to have a cycleway with crossings to shelters or other points of interest to minimise interaction and potential conflict of pedestrians and cyclists.

Additional features requested:

- Adding more water fountains, seats, rubbish bins, pet waste bins and biodegradable bags to the concept designs was a common theme.
- Addition of signage in multiple languages or using icons to warn people to collect their dog's poo. Also, Ranger Patrols to help control/fine failure to collect poo and control risky dog behaviour were requested. Apparently, both are issues in some parks.
- Requests for more planting particularly native trees and shrubs within the parks for shade, biodiversity, and aesthetics.
- Request for a public toilet in Rangihou Reserve and in Royal Shores and for upgrades to amenities in George Kendall Reserve – and for toilets to be open. A few people raised that the lack of amenities is inconvenient and results in people making use of trees, shrubs and bushes.
- The addition of picnic tables and BBQs. On social media, there was a request for signs near picnic tables/seats to reduce litter left behind.
- A playground in or near Rangihou Reserve particularly for all the apartment buildings in the area.
- The addition of outdoor gym equipment where possible.

Trees and environment:

- Overall, more planting, and planting to create park areas was strongly supported.
- There was some concern around the removal of eight (8) trees in Rangihou Reserve citing impact on biodiversity and wildlife etc. Also comments about the need for environmental rehabilitation of Rangihou Reserve protecting the saltmarsh areas. There was one comment about the location of newly planted trees in George Kendall Reserve – in seemingly random places.
- Maintenance was raised numerous times as an issue which disturbs the community. Cutting back plants near and overhanging paths, cleaning up rubbish on land and in the river, in the mangroves etc. Dealing with dog poo on grassed areas and overflowing or unemptied bins were also raised by a few respondents.
- There was a request for attention to areas in Royal Shores which regularly flood.
- Landscape maintenance near the sea wall at Royal Shores was mentioned as being overgrown, blocking the pedestrian path and looking shabby.
- Concerns about the lack of environmental protection provided to Baludarri Wetlands, particularly the impact of lighting and other stressors to native animals.
- Mosquitos and rats were also raised as barriers to using paths especially at night.

Lighting:

- Requests to repair a light which has failed in George Kendall Reserve. Numerous respondents requested Council consider more lighting than is indicated on the concept designs. Specific requests were made for additional lighting at George Kendall, Reid Park, Rangihou Reserve and Royal Shores.
- There was a comment that the brightness of the lights on this project should be carefully considered.

Out of scope and service requests:

- Upgrades to the soccer ovals at George Kendall Reserve were requested.
- There was a request for streetlighting to be improved on Ermington Street.

- A request to remove the bin at the top of Broughton Street. This resident detailed that the Council rubbish bin, next to the Promenade units, attracted people dumping rubbish. They also reported that the bins were not emptied. They suggested CCTV to deter illegal dumping, including abandoned shopping trolleys. They also requested better lighting for the stairs.
- A lack of public toilets in the LGA and requests for more amenities in these parks and elsewhere were significant themes. Many respondents commented about inconvenience and having to use the bushes. Specific mentions of the need for a public amenity building somewhere between Charles Street Square and the Bigee Bigee Bridge (James Ruse Drive Bridge) and between Parramatta Quay and Rydalmere Wharf were made.
- A respondent commented on poor lighting from Rydalmere Wharf to Silverwater Bridge.
- Safety concerns along the Parramatta Valley Cycleway were raised with a request for review and to consider safety points where people could call for help. This resident also urged Council to consider these in other pedestrian/cycle paths in locations which didn't offer close access to help.
- Comments that the trees near Alfred Street Bridge were in need of more watering and maintenance/replacement, and that the area needed more planting where possible.
- Another resident commented that there is a large area which was used for building the Alfred Street Bridge which is now just an abandoned waste site. They stated that this area is meant for enjoyment of the community and Council should address this as a priority or as a part of this project.
- Request for a child safe play area in the Council land in/near MacArthur Street and to create public spaces with native trees and plants.
- A comment was made about the brightness of the lights from the ferry in the CBD to Powerhouse Parramatta (with a request to investigate reducing the brightness if possible).
- There was one suggestion for Council to consider small wharfs in appropriate locations – including Royal Shores at the bottom of Spurway Street was made - though the response doesn't make clear whether this is for private craft or ferries.
- Consider small dog parks to be introduced in larger parks.
- There was one unusual request to consider pedestrian paths being made of softfall, providing benefits for walkers and as a deterrent to cyclists.

Recommendations

On reviewing residents' input from both the interactive map and the survey, it is recommended that the project team:

- Review particular locations where residents have raised there may be potential safety concerns (visibility, steepness, cyclists travelling at highspeed, problematic intersections, the angle of the path, low lighting, concerns, the proposed configuration of paths at particular points, and other related issues) and adjust the concept designs where possible. See raw data sheets for extra details on the GPS location of identified locations and extended comments for more information. Advise respondents on outcomes regarding their particular concerns.
- Review and implement requests to see more planting across the parks and minimise tree removal as much as possible. Update respondents via ***Participate Parramatta***.
- Consider whether bike racks, bike repair stands, water fountains and bins can be added to the designs to enhance the proposed upgrades and/or identify these as a priority for future works. Update respondents via ***Participate Parramatta***.
- Review the LED lighting plan and note other areas where residents have requested lighting in these concept designs, adjust plans or include in later works advising those residents who expressed concerns about the lighting as a risk to the community. Update respondents via ***Participate Parramatta***.
- Ensure LED lighting is collared, warm, at appropriate brightness and otherwise managed (e.g. timers) so it improves safety for pedestrians and cyclists with minimal light spill affecting neighbouring residents and wildlife. Include measures in ***Participate Parramatta*** updates.
- Discuss maintenance issues raised by residents with appropriate **City of Parramatta teams**, and lodge **Service Requests** for trimming/removal of blackberry, rubbish removal and maintenance of saltmarsh areas and other issues such as the repair of wooden bridges and noise mitigation around metal boardwalks, as well as fixing some concrete panel displacement in George Kendall). Review public amenity requests, potentially identifying future works. The follow-up of request/ liaison with residents and the works to be completed by relevant teams.
- Requests for signage and Ranger patrols should also be considered along with behaviour management campaigns for pedestrians and cyclists. **Liaise with Rangers/Regulatory**. Advise outcomes via ***Participate Parramatta*** and consider signage and an enforcement blitz, pop-ups, along with social media to promote the campaigns.

Closing the loop – keeping the community informed

The project team is working through submissions made during the public exhibition period and will respond to residents and stakeholders who have raised specific location-based concerns.

A project update advising the close of the consultation has been published. An update highlighting some of the feedback received and further information on the delivery program will be uploaded to the City of Parramatta website (with a link from Participate Parramatta) as soon as possible.

Further updates will report on how the concept design has been fine-tuned to accommodate feedback/suggestions where possible.

Additional and ongoing project updates will be published on the City of Parramatta website when the Eastern Parramatta River project begins early works in preparation for construction.

A button on the Participate Parramatta page will link to the project page on the Council website.

Residents who have elected to follow the project (by clicking on the follow button on the Participate Parramatta project page) will receive updates.

Social media may be used at some points to promote the work being undertaken to deliver upgrades to the five (5) parks which are part of the Eastern Parramatta River project.

Project updates will also be provided for consideration for inclusion in various eNewsletters and Council publications.

Community/media events with stakeholders, funding partners and the community will be planned for each park over the staged completion of works with associated media releases and marketing materials.

4. Engagement activities

Numerous communication channels were activated to reach as many community members within the catchment area as possible and encourage them to engage with the *Eastern Parramatta River* project. Marketing materials, including advertising and letters, offered a link directly to *Participate Parramatta* or included a QR code linking to the project page on the platform.

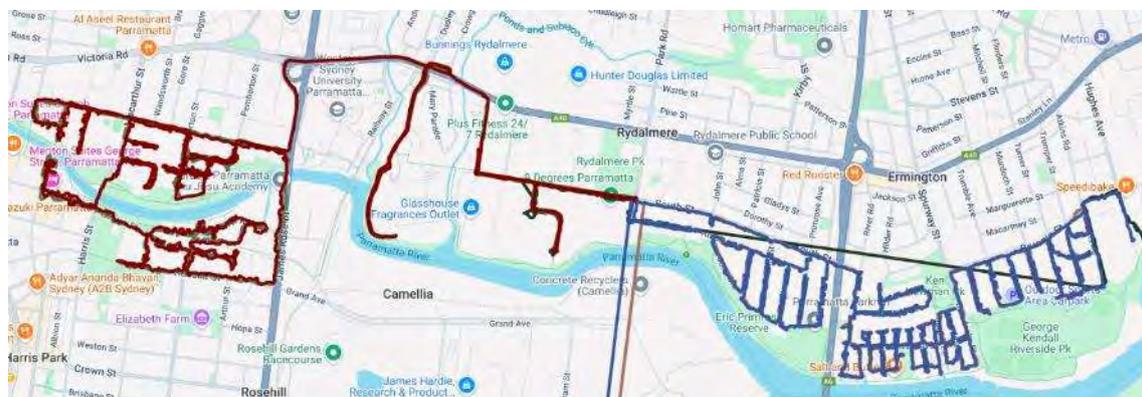
QR scans

Direct mail and signage featured a QR code – the code was scanned **397 times** during the campaign.

Direct mail

Commencing with a letter in late-October, around **6,000 households** in the project area were targeted with materials promoting the proposed upgrades, and the opportunity to have a say on the *Eastern Parramatta River* project.

Specialised print and distribution was co-ordinated with a team of walkers hand-delivering project collateral. GPS live-tracking of the distribution was conducted. Additional stakeholders were also contacted including cycling affiliations and NSW Government agencies.



GPS tracking of letterboxing to approximately 6,000 homes and businesses.

Media release

A media release outlining the benefits of the Eastern Parramatta River project and encouraging the community to have a say, was produced and distributed to local media.

The media release was also uploaded to the City's website and attracted **43 views**.

The media release resulted in **three media articles**:

- Mirage News
- The National Tribune
- Inside Local Government.

Advertising

Parramatta News is a local community newspaper (digital and print) with reach across the LGA and beyond. The 29 October 2024 edition carried both a quarter page advertisement and a feature piece within the Lord Mayor's Column.

For media release, editorial and advertising, please see Appendix A on page 42.

City of Parramatta social media - Facebook and Instagram

Individual metrics for each social media platform (Facebook and Instagram) are contained below and in detailed reporting in Appendix A on page 42.

The campaign included organic posts (unpaid) on City of Parramatta channels and a paid advertising schedule for LGA and target suburbs (\$500 budget in total).

Ads were provided in Arabic, English, Hindi, Korean and Simplified Chinese (targeting residents in the catchment area with those language settings).

While organic and paid posts were LGA-wide a portion of the budget for paid posts were geo-targeted focussed on the catchment area for the five (5) parks within the project.

City of Parramatta Facebook page (**45K+ followers**) and **Instagram (18.1K followers)** were used (along with other Council social media channels).

The figures below relate only to the City of Parramatta accounts.

- **Total impressions** for the entire campaign (including paid and organic on both channels) was **60,883**
- The campaign generated **1,380 post interactions** across organic and paid (including total interactions, link clicks, comments, likes, shares etc across all posts)

- **Eastern Parramatta River** attracted mostly positive sentiments - likes and loves, with only one sad face.
- The majority of relevant comments received were **generally positive**. Others sought clarification on shared or dedicated paths or made a suggestion for inclusion in the project scope. There was one negative comment which did not support the project, considering it a waste of resources due to the community's incorrect use of pedestrian and cycle paths.
- Five **social media responses** were provided to the community, each included the reminder to visit **Participate Parramatta** for more information and to provide formal feedback.

Demographic data

- Men aged 35-44 were the overall top performing demographic, making up 14% of total results.
- Results were evenly distributed between age groups, with 65+ the top performer at 24%, 35-44 and 45-54 both with 21% and 55-64 with 20%.
- Men accounted for 58% of link clicks vs. 40% women.

The profile of social media responses appears to align with cycling demographics.

Organic campaign (unpaid)

The organic (unpaid) Facebook and Instagram campaign – two (2) Facebook and two (2) Instagram posts - resulted in **11,393 impressions**, a **reach of 10,576**, with **315 engagements**, an **engagement rate of (2.76%)** – **above benchmark levels** - and **74 link clicks**.

- Overall, Facebook **reactions were positive** attracting **39 likes** and **four (4) loves**
- Instagram attracted **75 likes**
- Three comments were left across organic posts, two were positive, with one person leaving a 😊 emoji, and the other mentioning that this area is part of the Greater Sydney Bike Trail
- One negative comment mentioned that separated bike/pedestrian paths are not used as intended and are a waste of resources.

Social media summary

Metric	Campaign Result	Benchmark
Number of Posts	4 (2x IG, 2x FB)	n/a
Engagements	315	n/a
Reach	10576	n/a
Impressions	11393	n/a
Link Clicks	64	n/a
Engagement Rate	2.76%	2-3%
Total Instagram Reactions	75 Likes	
Total Facebook Reactions	👍: 39 🍷: 4	

Instagram story

The one organic **Instagram story** deployed within the campaign generated **1,137 impressions** and a reach of **1,137**. It achieved an engagement rate of **1.6%** with **18 engagements** and **10 link clicks**.

Metric	Campaign Result	Benchmark
Number of Posts	1x IG Story	n/a
Engagements	18	n/a
Reach	1137	n/a
Impressions	1137	n/a
Link Clicks	10	n/a
Engagement Rate	1.6%	n/a

Paid campaign – overall

The paid *Eastern Parramatta River* campaign generated **48,353 impressions** (overall), a reach of **23,950** and **1,047 post engagements, (2.2%)** – above benchmarks.

There were **908 link clicks** to the project page on *Participate Parramatta (1.88%)* - above benchmarks.

Reactions overall were **positive** with **112 likes, seven (7) loves and one (1) frown face** directed towards the project.

There were two main components to the paid campaign, LGA wide (excluding target suburbs), and target suburbs, with languages targeted within the two streams.

LGA wide (excluding target suburbs)

With an investment of approximately \$350, the various posts as part of this LGA campaign generated 38,838 impressions, a reach of 19,006, 761 post engagements and an engagement rate of 1.96% - closely approaching the 2% benchmark. The campaign delivered a 1.68% click through rate, more than the 1% benchmark.

The top performing ad from the paid LGA wide ad set was the foreshore improvements ad (275 link clicks). However, all ads delivered good click through (654 in total) and post engagements (761).

Meta Summary – LGA Wide (Excluding Relevant Suburbs) AdSet

Metric	Campaign Result	Benchmark
Spend	\$349.36	n/a
Reach	19,006	n/a
Impressions	38,838	n/a
Frequency (no. times ad seen p/p)	2.04	2-3
Link clicks	654	n/a
CPC (cost per click)	\$0.53	\$0.50-\$1
CTR (click through rate)	1.68%	More than 1%
Post engagements	761	n/a
Engagement rate (ER)	1.96%	More than 2%

Top performing ads - LGA Wide (Excluding Relevant Suburbs)

		
275 link clicks, \$0.48 CPC	199 link clicks, \$0.59 CPC	138 link clicks, \$0.52 CPC

Paid Advertising – Facebook targeted suburbs

A small percentage of the campaign spend (approximately \$150) was targeted to key suburbs with closer proximity to the five (5) project areas.

The campaign focussed on targeted suburbs generated **9,515 impressions** and a **reach of 5,479**, achieving **286 post engagements**, an engagement rate of **3.01%** (above 2% benchmark) and **254 link clicks**.

The **top performing ad** in the targeted suburb campaign attracted **226 link clicks**.

This was the strongest performing campaign. Future campaigns for **Eastern Parramatta River** will direct more budget to the targeted suburbs, with another ad set highlighting each park for the suburb in which the park is located.

Top performing targeted suburb Facebook ads

<p>City of Parramatta Sponsored · Paid for by City of Parramatta</p> <p>Have you had your say on the Eastern Parramatta River project? With 2.8km of pedestrian and cyclist path ...see more</p> <p>About this ad</p>	<p>City of Parramatta Sponsored · Paid for by City of Parramatta</p> <p>Have your say on new foreshore upgrades!</p> <p>The Eastern Parramatta River ...see more</p> <p>About this ad</p>	<p>City of Parramatta Sponsored · Paid for by City of Parramatta</p> <p>The Eastern Parramatta River Project will deliver a number of foreshore improvements that have been requested by our ...see more</p> <p>About this ad</p>
226 link clicks, \$0.56 CPC	27 link clicks, \$0.79 CPC	1 link clicks, \$0.90 CPC

Meta Summary – Relevant Suburb AdSet

Metric	Campaign Result	Benchmark
Spend	\$148.88	n/a
Reach	5,479	n/a
Impressions	9,515	n/a
Frequency (no. times ad seen p/p)	1.74	2-3
Link clicks	254	n/a
CPC (cost per click)	\$0.59	\$0.50-\$1
CTR (click through rate)	2.67%	More than 1%
Post engagements	286	n/a
Engagement rate (ER)	3.01%	More than 2%

Participate Parramatta social media - Facebook and Instagram

An organic (non-paid post) was shared on Council's *Participate Parramatta Facebook* page (6,900+ followers) and on its *Instagram page* (620 following).

The organic posts invited the community to learn about the *Eastern Parramatta River* project and have their say on the draft concept plans for the five (5) parks included in the project.

- The *Participate Parramatta Facebook* post reached 111 people (192 views) creating seven (7) engagements (likes, comments, clicks or shares) and three link clicks
- The *Participate Parramatta Instagram* reached 34 people (62 views) creating seven (7) engagements.

Active Parramatta Facebook

Active Parramatta is managed by Council's team who promote recreational activities and the Parramatta bus which travels to various locations across the LGA to conduct health classes and social inclusion activations.

- An organic (non-paid post) was shared on Council's *Active Parramatta Facebook* page (4.6K followers)
- The post reached 657 people, creating eight (8) engagements, 1 like, 1 comment, and six (6) link-clicks.



Participate Parramatta

22 October 2024 · 🌐



Have your say on five foreshore parks!

Council is excited to present the Eastern Parramatta River project and invites you to review and comment on concept designs for five foreshore parks. Many of the proposed upgrades were requested by the community. The project features 2.8km of path upgrades in some parks, LED lighting, and native landscaping. Have your say before 5pm Thursday 21 November 2024.

For more information, please visit <https://participate.cityofparramatta.nsw.gov...> See more



👍 2

👍 Like

💬 Comment

➦ Share

Participate Parramatta has 6,900 Facebook followers. The post reached 111 people (192 views) creating seven (7) engagements and three (3) link clicks.



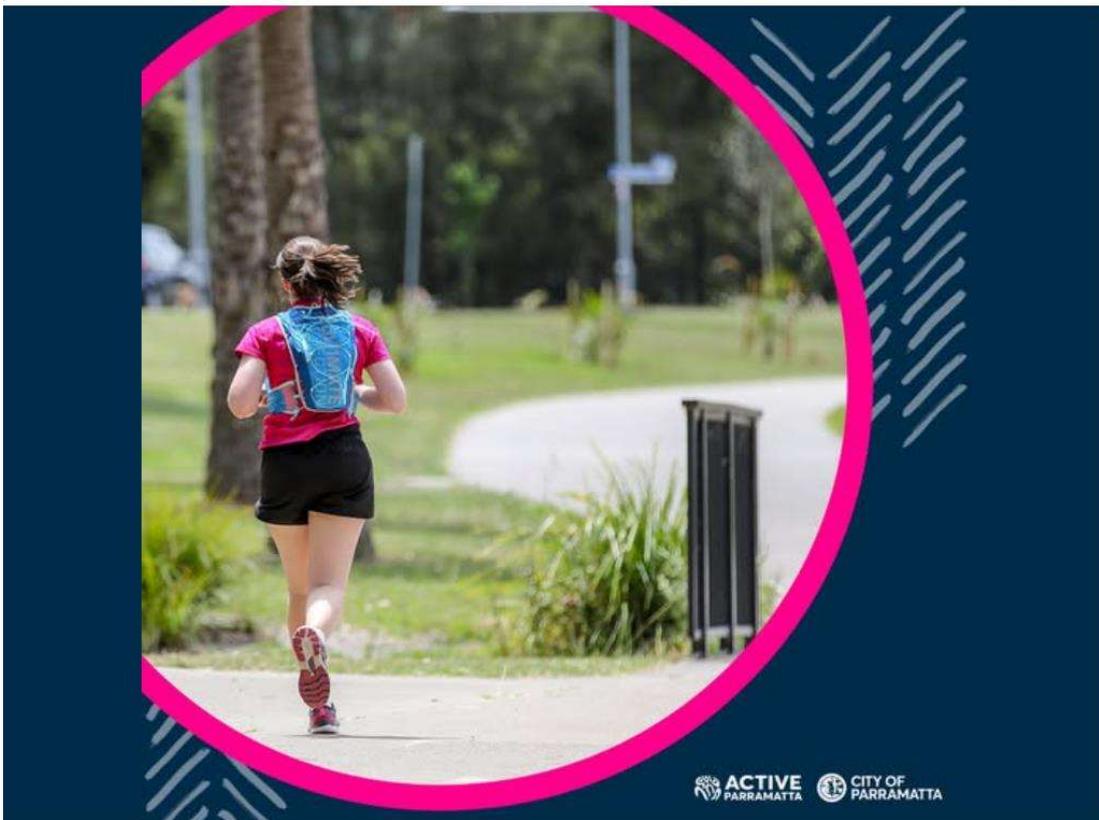
Active Parramatta

25 October 2024 · 🌐

There are planned improvements for five foreshore parks, to help provide our community with more opportunities to enjoy the natural beauty of the Parramatta River 💧🌿

- 1 Rangihou Reserve, Parramatta
- 2 Baludarri Wetlands, Parramatta
- 3 Reid Park, Rydalmere
- 4 Royal Shores, Ermington
- 5 George Kendall Riverside Park, Ermington

Learn more about this project, view the concept designs, and have your say before Thursday, 21 November at <https://bit.ly/40alxf9>



👍 1

1 comment



Craig Rodger

Needs to be a play ground in the Rangihou reserve, so many apartments in the area

2w Like Reply

Active Parramatta has 4.6K followers. The Eastern Parramatta River post reached 657 people, creating eight (8) engagements, 1 like, 1 comment, and six (6) link-clicks.

External Social Media

Parramatta News



Parramatta News Facebook page has 2.6K followers. This post on 29 October carried links to that week's digital publication which included information on the Eastern Parramatta River project. Note other data unavailable.

For detailed reporting on social media and comments, please see Appendix B on page 51.

City of Parramatta eNewsletters

Participate Parramatta eNewsletter

An email was sent to Council's database of community members who have expressed interest in hearing about engagement opportunities. This email promotes the opportunity to share feedback on a range of Council projects.

The *Eastern Parramatta River* project featured in the October and November editions distributed on 31 October, 14 November 2024.

The monthly eNews is received by **18,000+ people**.

Links within the eNews take subscribers to the relevant *Participate Parramatta* project page, with **130 people clicking through** to the project page in October and **119 people clicking** on the story in the November edition.

Local projects open for feedback



Carlingford

Closing Monday 4 November

Parklands Design

Review the draft concept plan for the parklands and give your feedback.

[Have your say →](#)



Wentworth Point

Closing Monday 18 November

Unnamed Foreshore Park

Vote for your favourite name for a new park coming to Wentworth Point.

[Have Your Say →](#)



Epping

Closing Friday 29 November

Town Centre East Upgrade

Let us know what you think of the draft concept plan for Epping town centre.

[Have your say →](#)



Parramatta River

Closing Thursday 21 November

Cyclists & Pedestrians

What upgrades would you like to see for the five reserves along the Parramatta River?

[Have your say →](#)

Participate Parramatta eNews 31 October - 18,000+ subscribers, 130 clicks.

Closing soon



Wentworth Point

Closing Thursday 21
November

Unnamed Foreshore Park

Vote for your favourite name for a new park coming to Wentworth Point.

[Have Your Say →](#)



Parramatta River

Closing Thursday 21
November

Cyclists & Pedestrians

What upgrades would you like to see for five reserves along the Parramatta River?

[Have your say →](#)



Epping

Closing Friday 29 November

Town Centre East Upgrade

Let us know what you think of the draft concept plan for Epping town centre.

[Have your say →](#)



Whole LGA

Closing Sunday 1 December

Community Satisfaction

Help Council improve our services including waste, library, and parks by giving us your rating.

[Have your say →](#)

Participate Parramatta eNews 14 November - 18,000+ subscribers, 119 clicks.

City of Parramatta Your City News

The **Your City News** is distributed each month via email to subscribers.

The **November 2024** edition was received by **31,902** people and had a **38%** open rate with **141** people, (**5%**) of all clicks, leading to the *Eastern Parramatta River* story.

Visit our other sites **At Parramatta** | **Riverside Theatres**

PARRAMATTA YOUR CITY NEWS

Welcome to Your City News

Each month we'll bring you the latest Council news, including updates on Council initiatives, developments and programs. Don't forget to [update your preferences](#) so we can deliver your favourite topics of interest straight to your inbox.



Have your say on five foreshore parks

Council is excited to present the Eastern Parramatta River project and invites residents to review and comment on concept designs for five foreshore parks. Many of the proposed upgrades were requested by the community and include 2.8 km of path upgrades, as well as LED lighting and native landscaping in some parks. Have your say before **5pm on Thursday 21st November 2024**.

[Share your feedback](#)

Your City News November – 31,902 subscribers, the Eastern Parramatta River story attracted 141 clicks – 5% of total clicks.

Council's corporate website

During the live period from 21 October to 21 November 2024, there were 56,098 visits to the City of Parramatta homepage, with a dwell time of 40seconds.

With a web slider on the home page, inclusion on the River Transformation page (Vision) as well as Eastern Parramatta River project pages, a on exhibition page, mention on the Community Engagement page, and a media release, there were a number of avenues for people to find out about the Eastern Parramatta River project.

There were more around 14,800 views/visits to various pages promoting the *Eastern Parramatta River* project (including the carousel slider).

Traffic to the pages largely came via organic searches, direct links to the pages e.g. QR code and social media.

Home page carousel slider



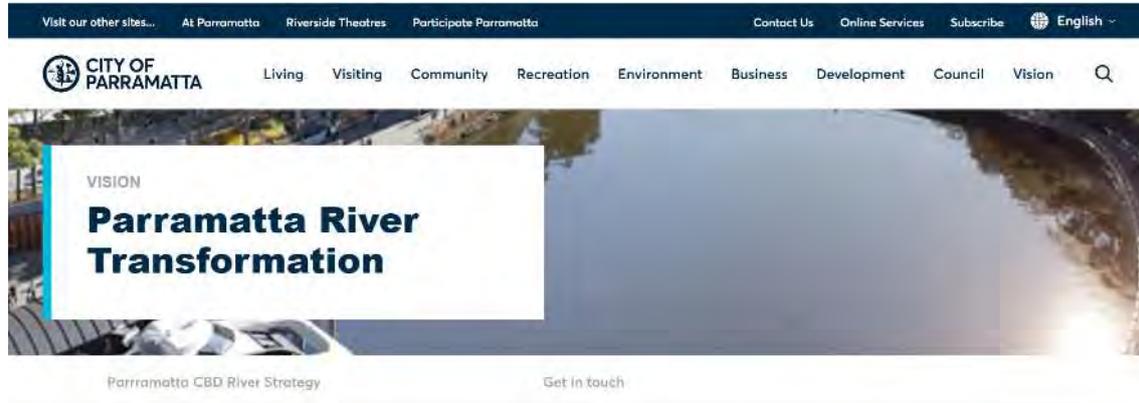
City of Parramatta homepage carousel slider attracted 14 clicks.

The homepage carousel slider is highly-visible prime real estate on the City of Parramatta website. The carousel usually cycles through four (4) high-profile initiatives/events.

The *Eastern Parramatta River* slider was live from Tuesday 22 October to Monday 11 November 2024 and attracted 14 clicks through to the project page.

City of Parramatta website - Eastern Parramatta River project pages

River Transformation page



At the heart of Parramatta is the river, an ancient waterway that has attracted and sustained communities for thousands of years.

The City of Parramatta is moving forward with plans to transform the Parramatta River and bring to life the vision for Parramatta as Sydney's Central River City. Revitalisation of the Parramatta River is being realised through several landmark projects both in the CBD and alongside the creeks and tributaries of the Parramatta River.

Related Content

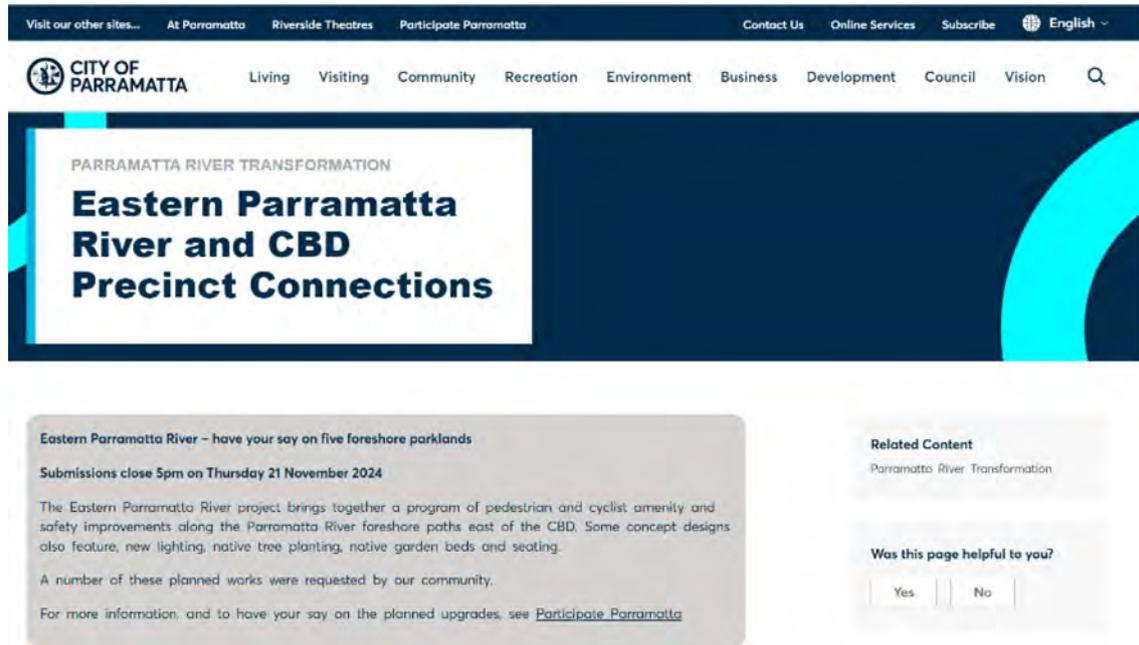
- Eastern Parramatta River
- Stewart Street Reserve Escarpment Lookout
- Western River Precinct Connections
- Central River Parklands

During the public exhibition period, the Parramatta River Transformation page attracted **240 views**.

<https://www.cityofparramatta.nsw.gov.au/vision/parramatta-river-transformation>

Users spent an average of **1m7sec** on the page finding the project they were interested in, reading a short paragraph describing the project, and clicking through to the project pages including Parramatta River CBD Connections and Eastern Parramatta River project page.

Eastern Parramatta River and CBD Connections page

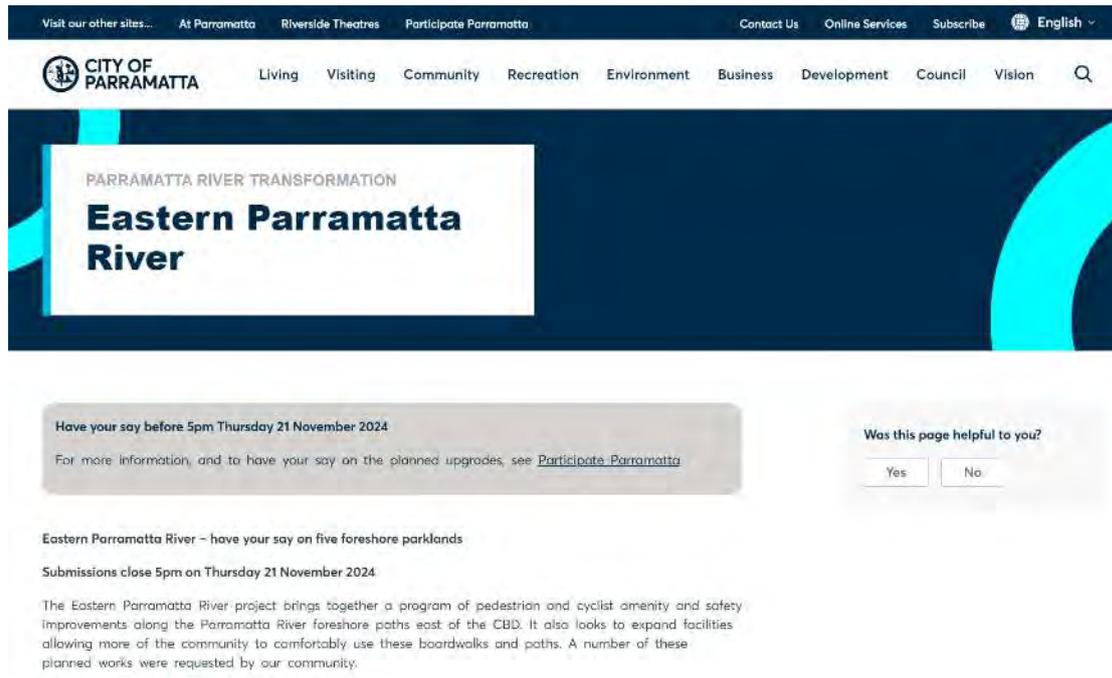


The Eastern Parramatta River and CBD Precinct Connections page attracted 116 views with a dwell time of 28 seconds.

<https://www.cityofparramatta.nsw.gov.au/vision/parramatta-river-transformation/eastern-parramatta-river-and-cbd-precinct-connections>

The page also carried a splash box highlighting the opportunity to have a say on the project. A live link took visitors to the *Participate Parramatta* project page.

The Eastern Parramatta River project page



During the live consultation period, the *Eastern Parramatta River* project page attracted **83 views**.

<https://www.cityofparramatta.nsw.gov.au/vision/parramatta-river-transformation/eastern-parramatta-river>

The dwell time on this page was **more than 30 seconds (0:32s)** with clicks to the *Participate Parramatta* project page.

The page also carried a splash box highlighting the opportunity to have a say on the project. A live link took visitors to the *Participate Parramatta* project page.

Community Engagement page



We encourage you to get involved and have your voice heard!

Current engagement opportunities

Consultation

Closure Dates

[Carlingford Parklands Design - Draft Concept Plan \(Stage Two Consultation\)](#)

5pm on Monday 4
November 2024

[Public Exhibition of the Draft Community Engagement Strategy \(2024 - 2028\)](#)

5pm on Thursday 7
November 2024

[Public Exhibition of Eastern Parramatta River Cyclist and Pedestrian Improvement Project](#)

5pm on Thursday 21
November 2024

[Community Satisfaction Survey](#)

Sunday 1 December 2024

[Renewing the Community Strategic Plan](#)

5pm on Monday 16
December 2024

The *Eastern Parramatta River* project was also included on the 'Community Engagement – Have your say' page on Council's website.

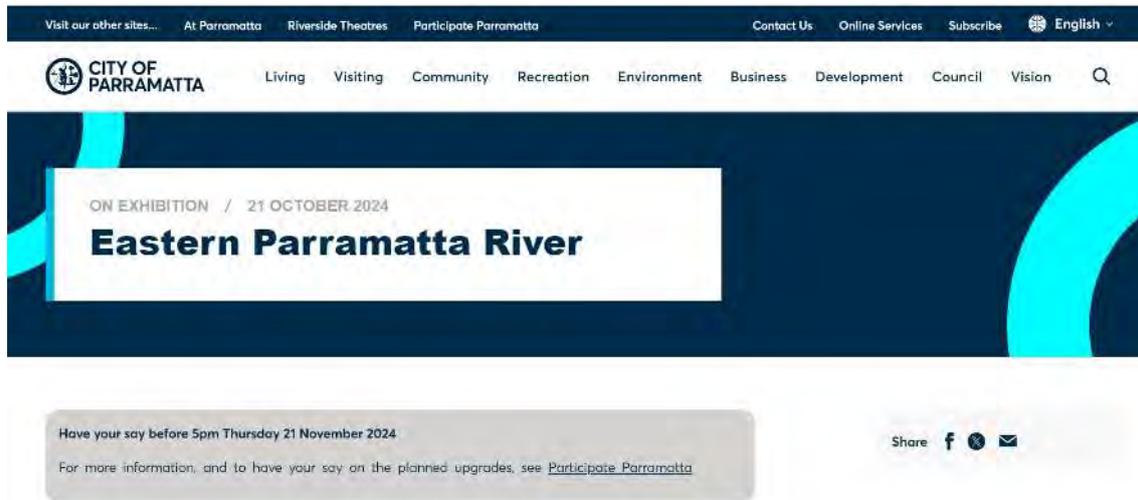
Providing a short description of each project, this page directs people to current opportunities to have a say on Participate Parramatta.

<https://www.cityofparramatta.nsw.gov.au/community/community-engagement-have-your-say>

There were 342 page views during the live period with a dwell time of 28 seconds.

Nine (9) people clicked through to the *Eastern Parramatta River* project page on *Participate Parramatta*.

On exhibition page



Eastern Parramatta River also featured on the On Exhibition page of Council's website attracted **44 views** with an average dwell time of **11 seconds**.

www.cityofparramatta.nsw.gov.au/about-parramatta/news/on-exhibition/eastern-parramatta-river

News page – media releases, media coverage and advertising

Media release and media coverage

The Eastern Parramatta River media release was loaded to Council's website and distributed to local media outlets.

www.cityofparramatta.nsw.gov.au/about-parramatta/news/media-release/help-shape-the-future-of-parramattas-river-foreshore

The release "Help shape the future of Parramatta's foreshore" attracted **43 views** on Council's News page with an average dwell time of **17s**.

As a result of the media release, editorial coverage appeared in the following publications:

- Mirage News
- Inside Local Government
- National Tribune.

Advertising

Advertising promoting the project was taken out in *Parramatta News*, with a quarter page ad and inclusion in the Lord Mayor's Column appearing in the digital and online editions for 29 October 2024.

For media release, editorial, and advertising, please see Appendix A on page 42.

Customer service and officer responses

Prior to the public exhibition period, the City's Customer Service Centre was provided with information on the *Eastern Parramatta River* project allowing them to answer questions and/or direct calls to the project team.

Customer Service report taking **zero calls** related to the project.

The *Participate Parramatta* inbox received **three emails** about the project including one submission.

Signage

A1 signs were installed in high traffic locations in each of the five (5) parks featuring within the *Eastern Parramatta River project*.

Signs were installed on Friday 18 October and remained throughout the consultation period, removed on Friday 22 November 2024.

While it is difficult to estimate foot traffic and visits to the parks, anecdotally the parks are usually very busy, particularly on weekends, attracting recreational cyclists and pedestrians.

The QR code was scanned by community members 397 times.

HAVE YOUR SAY ON PLANNED UPGRADES TO THIS PARK

Submissions close 5pm Thursday 21 November 2024

The Eastern Parramatta River project brings together a program of pedestrian and cyclist amenity and safety improvements often requested by our community.

Across five key locations, including this park, 2.8km of path upgrades will provide residents and visitors with more opportunities to enjoy the natural beauty of the Parramatta River.

Lighting and landscaping improvements also feature in some of the proposed designs.

Have your say

To find out more, scan the QR code on the right, or visit Participate Parramatta:
participate.cityofparramatta.nsw.gov.au/eastern-parramatta-river

Have your say before 5pm Thursday 21 November 2024.

CITY OF PARRAMATTA

The new eastern parramatta river project being funded by the nsw government in association with the City of Parramatta

Contact us
Email: participate@cityofparramatta.nsw.gov.au
Phone: 1300 67 07 8

A1 signage was installed in various locations in the five (5) parks and removed following the closure of the community consultation period. All corflutes are recycled.

5. Appendix A

Media release, media articles and advertising



Parramatta River's foreshore is set to become even more pedestrian and cyclist friendly with the community invited to have their say on the proposed \$9 million Eastern Parramatta River project.

The project is set to deliver 2.8 kilometres of upgraded pathways along the Parramatta River across five locations in Parramatta, Rydalmere and Ermington.

City of Parramatta Lord Mayor Cr Martin Zaier said community feedback is at the heart of this project.

"Parramatta River is one of our City's best natural assets. This project aims to make it more accessible for people to jump on a bike or go for a walk or a run along its foreshores," Cr Zaier said.

"The shared or separated paths will make it easier and safer for everyone to enjoy these scenic areas.

"Your voice matters. Many of the components in this project were requested by our community, and we want to hear how we can ensure these proposed improvements best serve your needs."

Works planned as part of the Eastern Parramatta River project include:

- **Rangihou Reserve, Parramatta:** upgraded shared path to a foreshore promenade for 450m
- **Baludarri Wetlands, Parramatta:** eco-friendly sensitive lighting on handrails and 25 light poles
- **Reid Park, Rydalmere:** separated pedestrian and cyclist paths for 300m through the park
- **Royal Shores, Ermington:** separate pedestrian path for 850m and a new lightweight bridge
- **George Kendall Riverside Park, Ermington:** separated pedestrian and cyclist paths for 275m.

The project is funded by the NSW Government through the Western Sydney Infrastructure Grants Program (WSIG) with the City of Parramatta. The Eastern Parramatta River project will begin construction in the second half of 2025, with completion expected by mid-2027.

Residents can share their feedback on concept designs via [Participate Parramatta](#) until **5pm on Thursday 21 November**.



Media articles

- Mirage
- Inside Local Government
- National Tribune

Twitter Facebook Search Menu

LATEST [Privacy Legislation Amendment Bill 2024 Inquiry](#) [New Nurses Join Hunter and New England Regions](#)

Local 22 OCT 2024 12:07 PM AEDT Share

Timeline

Darling Downs Health Museum First Phase Complete
22 OCT 2024 1:20 PM AEDT

Barge Operator Sentenced, Berthing Risks Spotlights
22 OCT 2024 1:16 PM AEDT

Privacy Legislation Amendment Bill 2024 Inquiry
22 OCT 2024 1:16 PM AEDT

New Nurses Join Hunter and New England Regions
22 OCT 2024 1:16 PM AEDT

Can Fair Jury Trials Still Exist?
22 OCT 2024 1:14 PM AEDT

WA Launches Bid to Lure Major Construction Firms
22 OCT 2024 1:08 PM AEDT

Research Unveils Perth Coastline's Complex History
22 OCT 2024 1:08 PM AEDT

Bushfires NT Alert: Alroy Downs, Tablelands

Help Shape Future Of Parramatta's River Foreshore

Parramatta River's foreshore is set to become even more pedestrian and cyclist friendly with the community invited to have their say on the proposed \$9 million Eastern Parramatta River project.

The project is set to deliver 2.8 kilometres of upgraded pathways along the Parramatta River across five locations in Parramatta, Rydalmere and Ermington.

City of Parramatta Lord Mayor Cr Martin Zaiter said community feedback is at the heart of this project.



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\$9m Parramatta River foreshore plan unveiled

22/10/2024



LATEST ARTICLES



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NEWS

The project is set to deliver 2.8 kilometres of upgraded pathways along the Parramatta River across five locations in Parramatta, Rydalmere and Ermington.

City of Parramatta Lord Mayor, Martin Zaiter said community feedback was at the heart of the project.



Parramatta River's foreshore is set to become even more pedestrian and cyclist friendly with the community invited to have their say on the proposed \$9 million Eastern Parramatta River project.

“Parramatta River is one of our City’s best natural assets. This project aims to make it more accessible for people to jump on a bike or go for a walk or a run along its foreshores,” Lord Mayor Zaiter said.

“The shared or separated paths will make it easier and safer for everyone to enjoy these scenic areas.

“Your voice matters. Many of the components in this project were requested by our community, and we want to hear how we can ensure these proposed improvements best serve your needs.”



Works planned as part of the Eastern Parramatta River project include:

- **Rangihou Reserve, Parramatta:** upgraded shared path to a foreshore promenade for 450m;
- **Baludarri Wetlands, Parramatta:** eco-friendly sensitive lighting on handrails and 25 light poles;
- **Reid Park, Rydalmere:** separated pedestrian and cyclist paths for 300m through the park;
- **Royal Shores, Ermington:** separate pedestrian path for 850m and a new lightweight bridge;
- **George Kendall Riverside Park, Ermington:** separated pedestrian and cyclist paths for 275m.

The project is funded by the NSW Government through the Western Sydney Infrastructure Grants Program (WSIG) with the City of Parramatta. The Eastern Parramatta River project will begin construction in the second half of 2025, with completion expected by mid-2027.

Residents can share their feedback on concept designs via [Participate Parramatta](#) until 5pm on Thursday 21 November.

Help Shape Future Of Parramatta's River Foreshore

NSW | 22 Oct 2024 11:06 am AEST

Share   

Parramatta River's foreshore is set to become even more pedestrian and cyclist friendly with the community invited to have their say on the proposed \$9 million Eastern Parramatta River project.

The project is set to deliver 2.8 kilometres of upgraded pathways along the Parramatta River across five locations in Parramatta, Rydalmere and Ermington.

City of Parramatta Lord Mayor Cr Martin Zaiter said community feedback is at the heart of this project.

"Parramatta River is one of our City's best natural assets. This project aims to make it more accessible for people to jump on a bike or go for a walk or a run along its foreshores," Cr Zaiter said.

"The shared or separated paths will make it easier and safer for everyone to enjoy these scenic areas.

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- Reid Park, Rydalmere: separated pedestrian and cyclist paths for 300m through the park
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Residents can share their feedback on concept designs via [Participate Parramatta](#) until 5pm on Thursday 21 November.



Advertising – Parramatta News

With distribution across the Parramatta LGA and beyond, *Parramatta News* is a community-focused print and digital publication with strong readership.

In the 29 October 2024 editions, the *Eastern Parramatta River* project featured in a quarter page advertisement and within the Lord Mayor's Column.

Parramatta News also promotes its weekly papers on its Facebook page where people can read a digital version of the print edition. Parramatta News has 6.2K Facebook followers.

HAVE YOUR SAY ON THE EASTERN PARRAMATTA RIVER PROJECT
Submissions close 5pm Thursday 21 November 2024

City of Parramatta Council is excited to announce improvement works alongside the Parramatta River foreshore.

The Eastern Parramatta River project brings together a program of pedestrian and cyclist amenity and safety improvements in five key locations:

1. Rangihou Reserve, Parramatta
2. Baludarr Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

This project sees a total of 2.8km of path upgrades, providing the community with more opportunities to enjoy the natural beauty of the Parramatta River.

Lighting and landscaping improvements also feature in some of the proposed designs with a number of these planned works requested by our community.

Have your say

To find out more, scan the QR code on the right, or visit **Participate Parramatta:** participate.cityofparramatta.nsw.gov.au/eastern-parramatta-river

Have your say before **5pm Thursday 21 November 2024.**

CITY OF PARRAMATTA

The \$9M Eastern Parramatta River project is being funded by the NSW Government in association with the City of Parramatta.

Contact us:
Email: participate@cityofparramatta.nsw.gov.au
Phone: 1300 617 053

PHOTO

Tuesday, October 29, 2024 • parra news

9

Quarter page ad, *Parramatta News* 29 October 2024.



Children enjoy their first swim at Lake Parramatta.

LAKE PARRAMATTA SWIMMING AREA OPENS

It's swim season and we've got the perfect place to cool off here in City of Parramatta. Last Friday I re-opened Lake Parramatta's swimming area, a true paradise where the bush meets the water only minutes from our CBD.

We have turned this swimming spot into a gently sloping sandy beach with more shade, a new lifeguard platform and more trees and native plants.

Safety is our priority with new signage, an onsite emergency response beacon, and lifeguards now on patrol from 10am to 7pm on weekends. From Saturday 30 November to Thursday 30 January 2025, lifeguards

will be on duty seven days a week from 10am to 7pm.

You'll find more details here: cityofparramatta.nsw.gov.au/recreation/swimming-at-lake-parramatta

I know I'll check it out with my family this summer so I hope to see you there, making a splash!



Cr Martin Zoller
Lord Mayor
City of Parramatta



DIVE INTO PARRAMATTA'S HISTORY ON FOUNDATION DAY

A free fun-filled day exploring Parramatta's fascinating past awaits on Saturday 7 November! From horse cart rides, heritage tours to live music, a petting zoo and traditional trade demos, there's something for everyone on Foundation Day from 9am to 2pm at the Parramatta North cultural precinct.

Plus Making it Australia winner, George Buchanan will be hosting a hands-on hobby horse-making competition and race for everyone to enjoy.

Scan the QR code for more information.



HAVE YOUR SAY IN PARRAMATTA'S RIVER FORESHORE MAKEOVER

We want your input Parramatta! The Eastern Parramatta River project is set to transform our river foreshore into a vibrant, pedestrian and cyclist-friendly haven.

With \$9 million in upgrades planned across Parramatta, Rydalmere and Ermington, this is your chance to share your thoughts on the designs.

Scan the QR code by 5pm on Thursday 21 November or visit [participate.cityofparramatta.nsw.gov.au/eastern-parramatta-river](https://cityofparramatta.nsw.gov.au/eastern-parramatta-river)



REDUCE TEXTILE WASTE AT OUR CLOTHES SWAP

Join us at our Clothes Swap on Saturday 9 November from 10am to 1pm to revamp your wardrobe sustainably!

Bring five pre-loved and gently used clothing and accessories of all sizes and genders and swap them for new-to-you treasures at Parramatta Library. You'll receive five tokens to trade for new finds and no cash is needed!

For T&C's and to register, scan the QR code.

City of Parramatta 126 Church Street, Parramatta NSW 2150
PO Box 32, Parramatta NSW 2124 | P 9806 5050 E council@cityofparramatta.nsw.gov.au

@cityofparramatta > @atparramatta @parracity > @atparramatta @cityofparramatta > @atparramatta



SCAN ME FOR COUNCIL MEETING DETAILS

Lord Mayor's Column, 29 October 2024.

6. Appendix B

Social media reporting, Facebook, Instagram and comments

Reporting on Eastern Parramatta River campaign – Facebook and Instagram

1 | **City of Parramatta** INSTAGRAM /cityofparramatta | Thursday Nov 14, 2024 10:40

This project will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River at five foreshore parks. Have you had your say on the Eastern Parramatta River project?



INSIGHTS

1 Replies	220 Exits	703 Taps forward	14 Taps back
17.15% Completion rate	1.1k Reach	1.1k Impressions	0.09% Reach eng. rate
0.09% Impressions eng. rate			

Eastern Parramat

2 | **City of Parramatta** FACEBOOK /cityofparramatta | Thursday Nov 14, 2024 09:00

Have you had your say on the Eastern Parramatta River project?

With 2.8km of pedestrian and cyclist path improvements, new LED lighting and landscaping projects, many requested by our community, the Eastern Parramatta River project will provide our community with more opportunities to enjoy the ... [Show more](#)



9 Interactions

8 Reactions

0 Comments

1 Shares

0.2 Int. per 1K fans

2k Impressions

INSIGHTS

1.9k Reach	0 Paid reach	1.9k Organic reach	34 Engagements
1.84% Reach eng. rate	2k Impressions	0 Paid impressions	2k Organic impressions
1.73% Impressions eng. rate	N/A Engaged users	23 Post clicks	

Eastern Parramat

3 **City of Parramatta** INSTAGRAM /cityofparramatta | Thursday Nov 14, 2024 09:00

NO SENTIMENT

Have you had your say on the Eastern Parramatta River project?

With 2.8km of pedestrian and cyclist path improvements, new LED lighting and landscaping projects, many requested by our community, the Eastern Parramatta River project will provide our community with more opportunities to enjoy the

... [Show more](#)



ORGANIC ⓘ

30 Interactions	28 Likes	2 Comments	1.72 Int. per 1K followers
---------------------------	--------------------	----------------------	--------------------------------------

INSIGHTS

0 Saves	1.8k Reach	30 Engagements	2.1k Impressions
1.66% Reach eng. rate	1.44% Impressions eng. rate		

Eastern Parramat

4 **City of Parramatta** INSTAGRAM /cityofparramatta | Wednesday Oct 30, 2024 14:01

Short on time but want to have your say on our park upgrades? Visit our Eastern Parramatta River interactive map for information on improvements to our parks.

See the proposed upgrades, drop a pin and post a comment. We'd love to hear your feedback!

... [Show more](#)



ORGANIC ⓘ

24 Interactions	24 Likes	0 Comments	1.39 Int. per 1K followers
---------------------------	--------------------	----------------------	--------------------------------------

INSIGHTS

1 Saves	N/A Video views	909 Reach	25 Engagements
1k Impressions	2.75% Reach eng. rate	2.38% Impressions eng. rate	

Eastern Parramat

5 **City of Parramatta** FACEBOOK /cityofparramatta Wednesday Oct 30, 2024 14:01

Short on time but want to have your say on our park upgrades? Visit our Eastern Parramatta River interactive map for information on improvements to our parks.

See the proposed upgrades, drop a pin and post a comment. We'd love to hear your feedback!

... [Show more](#)



12 Interactions	12 Reactions	0 Comments	0 Shares
0.26 Int. per 1K fans	1.9k Impressions		

INSIGHTS

1.8k Reach	0 Paid reach	1.8k Organic reach	43 Engagements
2.4% Reach eng. rate	1.9k Impressions	0 Paid impressions	1.9k Organic impressions
2.25% Impressions eng. rate	N/A Engaged users	31 Post clicks	

Eastern Parramat

6 **City of Parramatta** INSTAGRAM /cityofparramatta Monday Oct 21, 2024 11:00

NO SENTIMENT

The Eastern Parramatta River Project will deliver a number of foreshore improvements that have been requested by our community. Upgrading 2.8km of pedestrian and cyclist paths, installing LED lighting and new landscaping projects will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River

... [Show more](#)



24 Interactions	23 Likes	1 Comments	1.41 Int. per 1K followers
---------------------------	--------------------	----------------------	--------------------------------------

ORGANIC

INSIGHTS

0 Saves	1.2k Reach	33 Engagements	1.2k Impressions
2.84% Reach eng. rate	2.72% Impressions eng. rate		

Eastern Parramat

7  **City of Parramatta** FACEBOOK /cityofparramatta Monday Oct 21, 2024 11:00 NO SENTIMENT

The Eastern Parramatta River Project will deliver a number of foreshore improvements that have been requested by our community. Upgrading 2.8km of pedestrian and cyclist paths, installing LED lighting and new landscaping projects will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River

[... Show more](#)



26 Interactions	23 Reactions	1 Comments	2 Shares
0.57 Int. per 1K fans	3.2k Impressions		

INSIGHTS

3.1k Reach	0 Paid reach	3.1k Organic reach	150 Engagements
4.86% Reach eng. rate	3.2k Impressions	0 Paid impressions	3.2k Organic impressions
4.7% Impressions eng. rate	N/A Engaged users	109 Post clicks	

Eastern Parramat

Reporting on Facebook and Instagram paid campaigns

1 **INACTIVE** **VARIATIONS**

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_LGA_Ad2 **Link clicks**

The Eastern Parramatta River Project will deliver a number of foreshore improvements that have been requested by our community. Upgrading 2.8km of pedestrian and cyclist paths, installing LED lighting and new landscaping projects will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River. There are planned improvements for five foreshore parks:

1. Rangihou Reserve, Parramatta
2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

Learn more about this project, view the concept designs, and have your say before 5pm Thursday 21 November.



<https://participate.cityofparramatta.nsw.g...> **Learn more**

Eastern Parramatta River Project

16 286 Impressions	\$132.43 Spend	2 Post shares	47 Post reactions	5 Post comments
1 528 Clicks	54 Interaction count	N/A Video plays	N/A Video views	9.38% CTR
\$0.09 CPC	\$8.13 CPM	10 565 Reach	N/A Lead	3 Landing page views
275 Link clicks	330 Post engagement	2.03% Post engagement rate	\$0.4 Cost per post engagement	

2 **INACTIVE** **VARIATIONS**

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_LGA_Ad3 **Link clicks**

Based on a vision of providing more public access to the Parramatta foreshore and offering a picturesque riverside journey connecting many CBD visitor destinations, the Eastern Parramatta River project is set to deliver 2.8km of improved pedestrian and cyclist paths alongside new lighting and landscaping.

Upgrades to paths and amenities will be provided at five key locations:

1. Rangihou Reserve, Parramatta.
2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

The project will accommodate more visitors along the foreshore and improve safety. Learn more about the Eastern Parramatta River project, and have your say before 5pm Thursday 21 November.



<https://participate.cityofparramatta.nsw.g...> **Learn more**

Have your say on upgrades to five foreshore parks

12 780 Impressions	\$118.22 Spend	N/A Post shares	31 Post reactions	N/A Post comments
1 076 Clicks	31 Interaction count	N/A Video plays	N/A Video views	8.42% CTR
\$0.11 CPC	\$9.25 CPM	9 261 Reach	N/A Lead	3 Landing page views
199 Link clicks	231 Post engagement	1.81% Post engagement rate	\$0.51 Cost per post engagement	

3 **INACTIVE** VARIATIONS

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_SuburbSpeci Link clicks
fic_Ad4

您对 Eastern Parramatta River 河滨设施升级项目有什么看法？响应广大社区居民要求，该项目将改造2.8公里的人行道和自行车道，装设新的LED照明和美化景观，方便居民和游客尽情享受 Parramatta River 的自然美景。我们将改造五个河滨公园。

详细了解这个项目，并在11月21日星期四下午5:00前发表您的意见。



<https://participate.cityofparramatta.nsw.g...> Learn more

Submissions closing soon

8 214 Impressions	\$126.54 Spend	4 Post shares	21 Post reactions	3 Post comments
832 Clicks	28 Interaction count	N/A Video plays	N/A Video views	10.13% CTR
\$0.15 CPC	\$15.41 CPM	5 077 Reach	N/A Lead	3 Landing page views
226 Link clicks	256 Post engagement	3.12% Post engagement rate	\$0.49 Cost per post engagement	

4 **INACTIVE** VARIATIONS

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_LGA_Ad1 Link clicks

Have your say on new foreshore upgrades!

The Eastern Parramatta River project brings together a program of pedestrian and cyclist amenity and safety improvements in five key locations:

1. Rangihou Reserve, Parramatta
2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

Many of the proposed upgrades were requested by our community. View the concept designs and have your say before 5pm, Thursday 21 November.



<https://participate.cityofparramatta.nsw.g...> Learn more

Have Your Say

7 319 Impressions	\$72.02 Spend	1 Post shares	11 Post reactions	N/A Post comments
651 Clicks	12 Interaction count	N/A Video plays	N/A Video views	8.9% CTR
\$0.11 CPC	\$9.84 CPM	4 852 Reach	N/A Lead	2 Landing page views
138 Link clicks	150 Post engagement	2.05% Post engagement rate	\$0.48 Cost per post engagement	

5 ² ³ INACTIVE VARIATIONS

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_LGA_Ad4 Link clicks

您对 Eastern Parramatta River 河滨设施升级项目有什么看法？响应广大社区居民要求，该项目将改造2.8公里的人行道和自行车道，装设新的LED照明和美化景观，方便居民和游客尽情享受 Parramatta River 的自然美景。我们将改造五个河滨公园。

详细了解这个项目，并在11月21日星期四下午5:00前发表您的意见。



<https://participate.cityofparramatta.nsw.g...> Learn more

Submissions closing soon

2 453 Impressions	\$26.69 Spend	1 Post shares	7 Post reactions	N/A Post comments
190 Clicks	8 Interaction count	N/A Video plays	N/A Video views	7.75% CTR
\$0.14 CPC	\$10.88 CPM	1990 Reach	N/A Lead	N/A Landing page views
42 Link clicks	50 Post engagement	2.04% Post engagement rate	\$0.53 Cost per post engagement	

6 ² ² INACTIVE VARIATIONS

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_SuburbSpecific_Ad1 Link clicks

Have your say on new foreshore upgrades!

The Eastern Parramatta River project brings together a program of pedestrian and cyclist amenity and safety improvements in five key locations:

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2. Baludarrri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

Many of the proposed upgrades were requested by our community. View the concept designs and have your say before 5pm, Thursday 21 November.



<https://participate.cityofparramatta.nsw.g...> Learn more

Have Your Say

Have your say on new foreshore upgrades!

990 Impressions	\$21.44 Spend	N/A Post shares	N/A Post reactions	N/A Post comments
78 Clicks	0 Interaction count	N/A Video plays	N/A Video views	7.88% CTR
\$0.28 CPC	\$21.66 CPM	779 Reach	N/A Lead	N/A Landing page views
27 Link clicks	27 Post engagement	2.73% Post engagement rate	\$0.79 Cost per post engagement	

7 **INACTIVE VARIATIONS**

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_SuburbSpeci Link clicks
fic_Ad3

Based on a vision of providing more public access to the Parramatta foreshore and offering a picturesque riverside journey connecting many CBD visitor destinations, the Eastern Parramatta River project is set to deliver 2.8km of improved pedestrian and cyclist paths alongside new lighting and landscaping.

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3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

The project will accommodate more visitors along the foreshore and improve safety. Learn more about the Eastern Parramatta River project, and have your say before 5pm Thursday 21 November.



<https://participate.cityofparramatta.nsw.g...> **Have your say on upgrades to five foreshore parks** [Learn more](#)

184 Impressions	\$0 Spend	N/A Post shares	N/A Post reactions	N/A Post comments
3 Clicks	N/A Interaction count	N/A Video plays	N/A Video views	1.63% CTR
\$0 CPC	\$0 CPM	171 Reach	N/A Lead	N/A Landing page views
N/A Link clicks	N/A Post engagement	N/A Post engagement rate	\$0 Cost per post engagement	

8 **INACTIVE VARIATIONS**

CoP_100028-7950-63196_EasternParramattaRiver_AdSet_SuburbSpeci Link clicks
fic_Ad2

The Eastern Parramatta River Project will deliver a number of foreshore improvements that have been requested by our community. Upgrading 2.8km of pedestrian and cyclist paths, installing LED lighting and new landscaping projects will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River. There are planned improvements for five foreshore parks:

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2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington.

Learn more about this project, view the concept designs, and have your say before 5pm Thursday 21 November.



<https://participate.cityofparramatta.nsw.g...> **Eastern Parramatta River Project** [Learn more](#)

127 Impressions	\$0.9 Spend	N/A Post shares	1 Post reactions	1 Post comments
12 Clicks	2 Interaction count	N/A Video plays	N/A Video views	9.45% CTR
\$0.08 CPC	\$7.09 CPM	110 Reach	N/A Lead	1 Landing page views
1 Link clicks	3 Post engagement	2.36% Post engagement rate	\$0.3 Cost per post engagement	



City of Parramatta

The Eastern Parramatta River Project will deliver a number of foreshore improvements that have been requested by our community. Upgrading 2.8km of pedestrian and cyclist paths, installing LED lighting and new landscaping projects will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River. There are planned improvements for five foreshore parks: 1. Rangihou Reserve, Parramatta 2. Baludarri Wetlands, Parramatta 3. Reid Park, Rydalmere 4. Royal Shores, Ermington 5. George Kendall Riverside Park, Ermington. Learn more about this project, view the concept designs, and have your say before 5pm Thursday 21 November at <https://bit.ly/40alxf9>



CycleSydney

11:06:18 PM 21 Oct 2024 Created

These are on the Greater Sydney Bike Trail



City of Parramatta

3h

Short on time but want to have your say on our park upgrades? Visit our Eastern Parramatta River interactive map for information on improvements to our parks.

See the proposed upgrades, drop a pin and post a comment. We'd love to hear your feedback!

The Eastern Parramatta River project is proposing improvements in five key locations along the river:

1. Rangihou Reserve, Parramatta
2. Baludarri Wetlands, Parramatta
3. Reid Park, Rydalmere
4. Royal Shores, Ermington
5. George Kendall Riverside Park, Ermington

📍 Find our interactive map at <https://bit.ly/4fpqi96>

🌿 Learn more about this project at <https://bit.ly/40alxf9>



Community social media comments



PARTICIPATE.CITYOFPARRAMATTA.NSW.GOV.AU (view link)

Comments



Antony Dj-esky Zbik

3:44:06 PM 22 Oct 2024 Created

More disability accessible skate parks please, there aren't enough skate parks that I can take my mobility scooter on.



City of Parramatta

9:09:31 AM 23 Oct 2024 Created

Appreciate you taking the time to comment, Antony. Be sure to follow the links through to Participate Parramatta and submit your feedback directly



Dre Nov

9:05:32 AM 25 Oct 2024 Created

Education for dog owners. Too much dog poops everywhere along the path near the apartments. Signs in different languages.



Leonora Caguin

8:04:59 AM 31 Oct 2024 Created

Education for picnickers to take their rubbish with them and not to leave without cleaning the tables and benches they've used. No matter how beautiful the park is if people using them are not mindful then it becomes useless.



Morgan Tyler James

8:27:42 AM 04 Nov 2024 Hidden

Leonora Caguin blame the indians...they treat the place like they would back in thier country



Travis Bickle

12:25:13 AM 22 Oct 2024 Created

How about fixing the walking track around parramatta river



City of Parramatta

1:42:02 PM 29 Oct 2024 Created

Hi Travis, could you please let us know which walking track/which section of the Parramatta River you're asking about?



Travis Bickle

11:39:23 PM 30 Oct 2024 Created

City of Parramatta the lake



City of Parramatta

11:43:25 AM 31 Oct 2024 Created

Hi Travis, Thanks for your interest in Lake Parramatta. With its \$1.4 million make-over it is going to be even more appealing to locals for walking and swimming. We've been doing some maintenance work on the tracks, and in conjunction with NSW Fire and Rescue also undertook some hazard reduction works last year. The track is in good condition with improved wayfinding that was installed a few years ago. There are no additional upgrades planned except for general ongoing maintenance. Council has a Lake Parramatta Masterplan due to be renewed next year. However, this will focus on the recreational /visitor precinct and on the natural areas surrounding the lake. The community has also requested improvements to the parking area, and we'll be investigating what upgrades can be delivered given the constraints of the site. Action items from the Masterplan will also rely on securing funding from the NSW Government.



John North

8:58:46 PM 29 Oct 2024 Created

Thank you for investing in these great improvements for us!



Pat Phillips

6:04:53 PM 30 Oct 2024 Created

Please provide more car spaces for parking - never enough for picnickers and families



Sn Stefanov

6:39:50 PM 02 Nov 2024 Created

Please BAN the electric bicycles, they are so dangerous.



Mick Leahy

7:39:00 PM 02 Nov 2024 Created

Sn Stefanov alright Mr fun police ☐



City of Parramatta

Have you had your say on the Eastern Parramatta River project? With 2.8km of pedestrian and cyclist path improvements, new LED lighting and landscaping projects, many requested by our community, the Eastern Parramatta River project will provide our community with more opportunities to enjoy the natural beauty of the Parramatta River. There are planned improvements for five foreshore parks. Learn more about this project, and have your say before 5pm Thursday 21 November at the link in our bio [□](#)



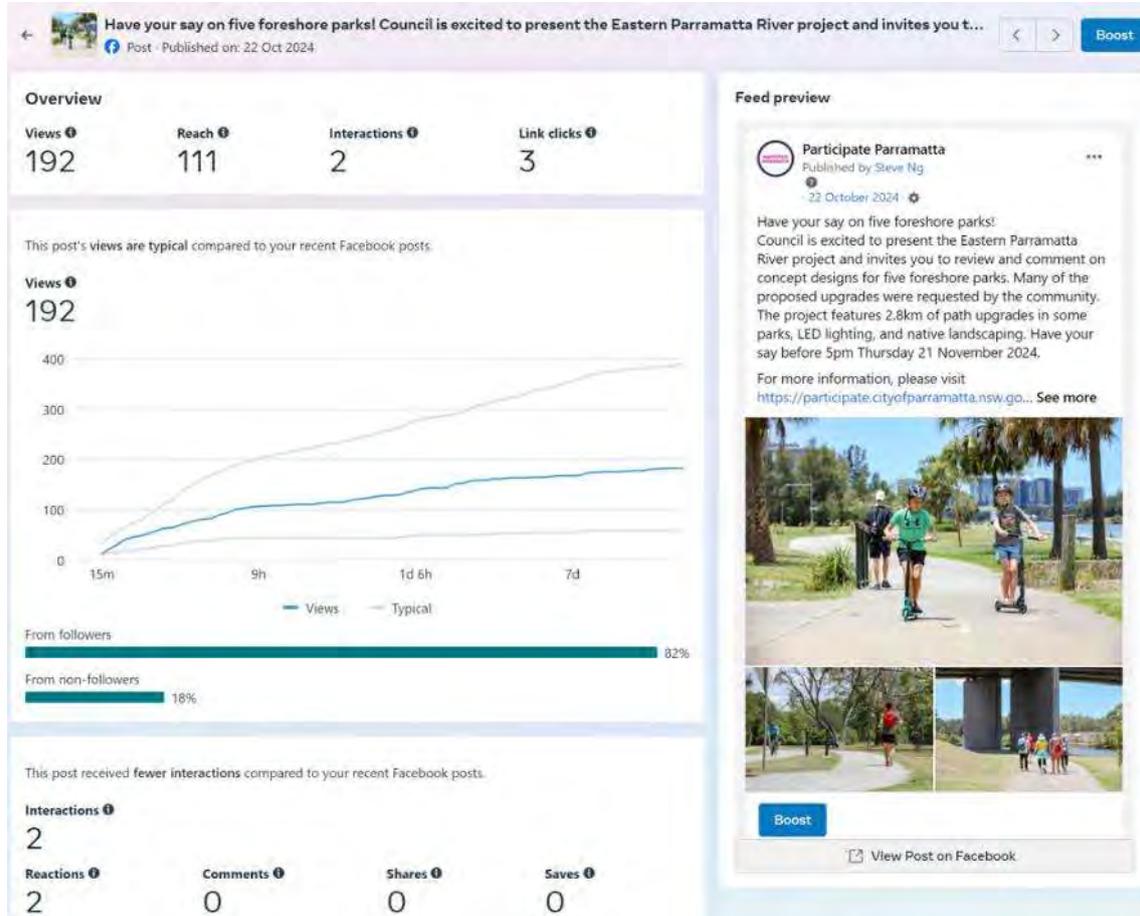
Kirrily Yates

9:06:47 AM 15 Nov 2024 Edited

Is there any way of getting someone out of the river if they fall in? I asked a few different workers during the recent cleaning near the ferry but it seemed to only concern me.

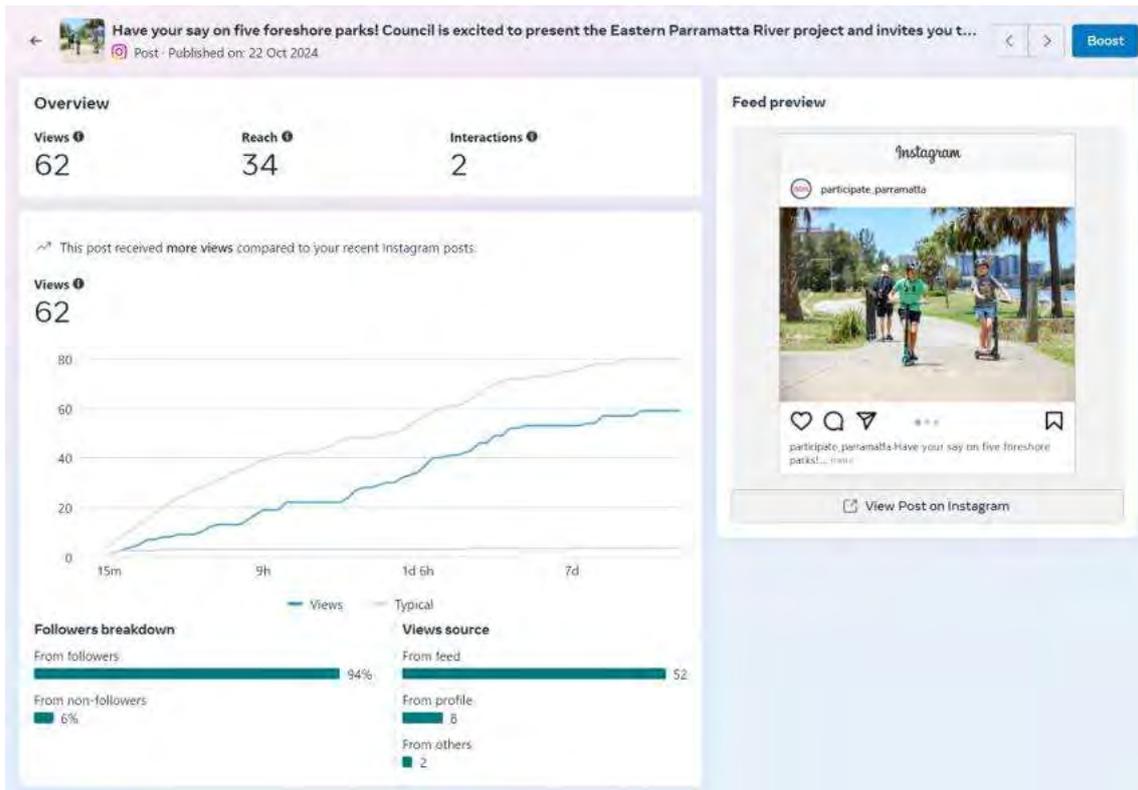
Participate Parramatta Facebook and Instagram reporting

Participate Parramatta Facebook



Participate Parramatta has 6,900 Facebook followers. The post reached 111 people (192 views) creating seven (7) engagements and three (3) link clicks.

Participate Parramatta Instagram



The Participate Parramatta Instagram has 620 following. The post reached 34 people (62 views) creating seven (7) engagements.

Active Parramatta Facebook

 **Active Parramatta**
25 October 2024 · 🌐

There are planned improvements for five foreshore parks, to help provide our community with more opportunities to enjoy the natural beauty of the Parramatta River 💧🌿

- 1 Rangihou Reserve, Parramatta
- 2 Baludarri Wetlands, Parramatta
- 3 Reid Park, Rydalmere
- 4 Royal Shores, Ermington
- 5 George Kendall Riverside Park, Ermington

Learn more about this project, view the concept designs, and have your say before Thursday, 21 November at <https://bit.ly/40alxf9>



1 1 comment

 Like  Comment  Share

 **Craig Rodger**
Needs to be a play ground in the Rangihou reserve, so many apartments in the area

An organic post (non-paid) was shared on the Council's Active Parramatta Facebook page (4.6K followers). The post reached 657 people, creating eight (8) engagements, 1 like, 1 comment, and six (6) link-clicks.

Appendix 12: Mitigation Measures

1 Introduction

Part 5 of the *Environmental Planning & Assessment Act 1979* (EP&A Act) provides for certain works to be undertaken as development without consent.

To ensure that the development activity, being the upgrade works to Baludarri Wetlands, forming part of the Parramatta Cycleway Upgrades project is carried out in accordance the provisions of Part 5 of the EP&A Act, **Section 2.1** of this document identifies the plans / documents (and any amendments approved under Part 5) which have been relied upon for the purposes of this assessment.

The remainder of this document sets out the mitigation measures that are to be implemented during the carrying out of the works to ensure impacts are avoided, mitigated or minimised to an acceptable level.

2 Mitigation Measures

2.1 Authorised Documents

The development activity must be implemented generally in accordance with the REF prepared by DFP Planning Pty Ltd dated 26 November 2024 and the documents listed in **Table 1**, which are authorised for the carrying out of works as development without consent.

Table 1 Authorised Documents			
Survey Plan prepared by City of Parramatta			
Drawing Reference	Revision	Name of Plan	Date
-	-	Survey – Baludarri Wetlands	-
Other Supporting Documents			
Document	Prepared By		Date
Landscape Plans	City of Parramatta		September 2024
Arborist Report	Hugh The Arborist		23 December 2024
Flora and Fauna Assessment Report	East Coast Ecology		26 March 2025
Geotechnical Investigation Report	Douglas Partners		23 January 2025
Heritage Impact Statement	DFP Planning		28 January 2025
AHIMS Search	Heritage NSW		4 October 2024
Lighting Plans	Webb Australia Group		7 February 2025
Community Engagement Report	City of Parramatta		February 2025

In the event of any inconsistency between the authorised documents and a mitigation measure hereunder, the mitigation measure shall prevail.

2.2 Amendment Tracking

Where there are any amendments to the authorised documents, an amendment register must be prepared which identifies the proposed amendment and demonstrates how the amendments will result in development that is substantially the same as the development to which the original REF applied.

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2.3 Measures to be Implemented Prior to Works Commencing

2.3.1 Council Notification

The City of Parramatta (Council) shall be advised in writing of the date it is intended to commence work, including demolition. A minimum period of seven (7) days notification shall be given.

2.3.2 Notification to occupiers of adjoining land

Adjoining land owners shall be advised in writing of the date it is intended to commence work, including demolition. A minimum period of seven (7) days notification shall be given.

2.3.3 Final Construction Management Plan (CMP)

A Final Construction Management Plan (CMP) shall be prepared prior to commencement of any works and approved by Council.

2.3.4 Utilities and Services

Prior to commencement of any demolition activities, any services near the works site which may be impacted by the works are to be accurately located.

Dial Before You Dig should be contacted prior to the commencement of any works.

Prior to commencement of works, and if required, an application for a compliance certificate is to be made to Sydney Water or other evidence of Sydney Water's non-objection to the commencement of work on the basis of service availability is to be provided.

2.3.5 Tree Protection Measures

Tree protection measures are to be installed in accordance with the Tree Protection Specification provided as part of the authorised Arboricultural Impact Assessment Report prepared by Hugh The Arborist, dated 23 December 2024.

A Tree Protection Plan must be prepared which illustrates TPZ sensitive construction zones and exclusion zones prior to the commencement of works.

Tree protection fencing and signage must also be implemented to minimise any potential impacts upon retained trees prior to the commencement of works

2.3.6 Compliance with the Building Code of Australia and Australian Standards

Any works that are required to be undertaken in accordance with the National Construction Code (NCC) must be designed and constructed in accordance with the relevant provisions of the BCA and any relevant Australian Standards.

2.4 Measures to be implemented During Demolition and Construction

2.4.1 Site Notice

A site notice must be prominently displayed in a prominent position at the site during construction to inform the public of project details, and must satisfy the following requirements:

1. The site notice(s) must be durable and weatherproof and must be displayed throughout the works period;
2. Include details of the approved hours of work, the name of the builder, Certifier, structural engineer, site/project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries must be displayed on the site notice(s); and
3. The site notice(s) must be mounted at eye level on the perimeter hoardings/fencing and must state that unauthorised entry to the site is not permitted.

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2.4.2 Complaints Management

A Complaints Register is to be established during construction works. Action taken or proposed to be taken must be documented on the register in response to complaints raised.

2.4.3 No Obstruction of Public Way

Building materials, machinery, vehicles, refuse, skip bins or the like must not be stored or placed in the public way (outside of any approved construction works zone). A secure site compound must be provided on site.

2.4.4 Implementation of Final CMP

All demolition and construction works are to be undertaken in accordance with the Final CMP.

The CMP must include measures for erosion and sediment control, which are to remain in place for the duration of the demolition and construction works.

Temporary site traffic management measures must also be implemented to provide for pedestrian, cyclist and vehicular safety.

2.4.5 Demolition

Demolition work must comply with the demolition work plans required by Australian Standard AS 2601-2001 The demolition of structures (Standards Australia, 2001) and endorsed by a suitably qualified person.

2.4.6 Work Hours

Unless otherwise agreed by the relevant statutory body, work hours shall be limited to:

- (a) Monday to Friday: 7.00am to 6:00pm;
- (b) Saturday: 8.00am to 1.00pm
- (c) Sunday and Public holidays: No work unless prior approval from Council is granted.

2.4.7 Unexpected Finds Protocol – Aboriginal Heritage

In the event that unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during construction, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the relevant State government agency as appropriate.

If surviving A Horizon soils are identified during the construction earthworks, it is recommended that an observer with knowledge of Aboriginal cultural objects (e.g. registered Aboriginal stakeholder) is present.

If human skeletal material less than 100 years old is discovered, the *Coroners Act 2009* requires that all works should cease, and the NSW Police and the NSW Coroner's Office should be contacted. Should the skeletal material prove to be archaeological Aboriginal remains, notification shall be given to Heritage NSW, the Local Aboriginal Land Council and the Commonwealth Minister for the Environment.

2.4.8 Unexpected Finds Protocol – Historic Heritage

If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the NSW Heritage Division contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of the NSW Heritage Division.

2.4.9 Contamination

All areas of significant excavation are to be tested, classified and disposed of offsite if necessary. A copy of relevant waste classification reporting and evidence of disposal at a licenced waste facility is to be provided to Council.

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If unexpected-contaminated material is encountered during the works, all work shall cease, the site will be secured and a safe work method statement(s) and appropriate documented practices would be implemented to ensure the site is suitable for its use.

2.4.10 Tree Removal and Protection

All works must be undertaken consistent with the tree protection requirements set out in the Arboricultural Impact Assessment Report prepared by Hugh The Arborist, dated 23 December 2024.

Any excavation works carried out with Tree Protection Zones (TPZs) are to be undertaken via sensitive construction techniques under the supervision of a Level 5 qualified Arborist.

2.4.11 Ecology

Exclusion zones will be set up at the limit of clearing in accordance with Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024)

2.4.12 Erosion and Sediment Control

Appropriate erosion and sediment control should be erected and maintained at all times during construction in order to avoid the potential of incurring indirect impacts on biodiversity values. Erosion and sediment controls would be established in accordance with an erosion and sedimentation plan to be produced for the proposed works. As a minimum, such measures should comply with the relevant industry guidelines such as 'the Blue Book' (Landcom, 2004).

2.4.13 Storage and Stockpiling

Allocate all storage, stockpile, and laydown sites away from any vegetation that is planned to be retained. Avoid importing any soil from outside the site in order to avoid the potential of incurring indirect impacts on biodiversity values as this can introduce weeds and pathogens to the site. If materials are required to be imported for landscaping works, they are to be sterilised according to industry standards prior to importation to site.

2.4.14 Minimisation of Light Spill

Control measures (e.g. the directional lighting and task lighting) are to be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species.

2.4.15 Compliance with Easements

The proposed activity must be carried out in accordance with the terms of the existing easement agreements between the City of Parramatta Council and Lot 13, Lot 15 and Lot 16 in Deposited Plan (DP) 1239.

2.5 Measures to be implemented – Prior to Occupation

2.5.1 Lighting

Lighting must be controlled in accordance with AS 4282-2019, *Control of obtrusive effects of outdoor lighting*.

Light spill and artificial sky glow is to be in accordance with the Lighting for Roads and Public Spaces Standard.

At the completion of the activity, a suitably qualified lighting engineer is required to certify that the lighting is compliant with the relevant standards.

2.5.2 Minimisation of Light Spill

Control measures (e.g. the directional lighting and task lighting) are to be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species.

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2.5.3 Landscaping Certification

At the completion of the activity, a Landscape Completion Certificate for the proposed landscaping must be issued.

2.5.4 Arborist Certification

At the completion of the activity, a Level 5 qualified Arborist is to certify that the tree protection measures were undertaken in accordance with the Tree Protection Plan and the Tree Protection Specifications