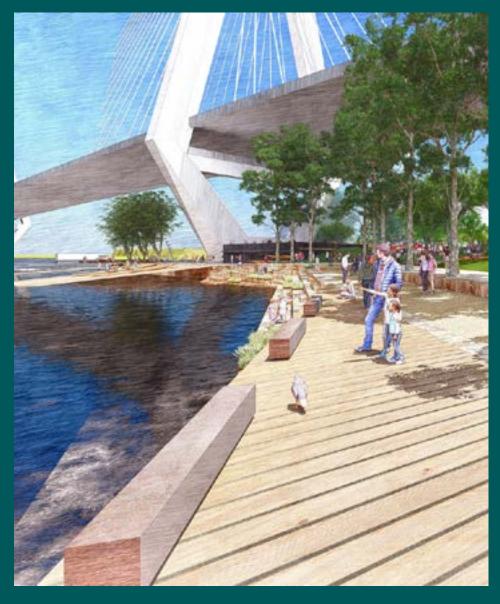
Bank Street Park
Blackwattle Bay / Tjerruing

SSD-53386706

Appendix AH

Navigation Impact Assessment (Royal Haskoning DHV)





HASKONING AUSTRALIA PTY LTD.

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Date: 27 November 2023 Contact name: Matt Potter
Your reference: Telephone: 0406 931 783

Our reference: PA3595-RHD-XX-XX-CO-X-0004Email: matt.potter@rhdhv.com

Classification: Project related

Enclosures

Bank Street Park Redevelopment - On-water Structures Navigation Impact Advice

1 Introduction

The purpose of this report is to document the navigation impact assessment of proposed on-water structures, to support a State Significant Development Application (SSDA) for a new waterfront public park within Blackwattle Bay, to be known as Bank Street Park (SSD-53386706). Bank Street Park is located at 1A-19 Bank Street, Pyrmont on the shoreline of Tjerruing Blackwattle Bay and adjacent areas of Blackwattle Bay.

2 Blackwattle Bay Precinct

Bank Street Park forms part of the Blackwattle Bay Precinct, which is an area of predominantly government owned land located on the western edge of the Pyrmont Peninsula and adjoining the waters of Blackwattle Bay (**Figure 2-1**).







Figure 2-1: Blackwattle Bay Precinct

Source: INSW

The precinct was rezoned in December 2022 to facilitate a new mixed-use community, providing for around 2,000 new residents and 5,600 new jobs and creating a vibrant 24/7 economy. Updated planning and land use controls were incorporated into the Sydney Local Environmental Plan 2012, along with site specific design guidance in the *Blackwattle Bay Design Guidelines*.

A critical part of the Blackwattle Bay Precinct is the high quality public domain which includes a series of parks and open spaces connected by a foreshore promenade. Bank Street Park will bring new active and passive recreation uses into a unique park environment, catering for both existing and future communities in the vicinity.

3 Site description

Bank Street Park is located at 1A-19 Bank Street, Pyrmont NSW within the City of Sydney local government area (LGA) and includes harbour development in Blackwattle Bay. The site area is 1.1 hectares. The relevant lot and deposited plans and the respective ownership for the site are detailed in **Table 3-1** and **Figure 3-1**.

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 2/17



Table 3-1: Summary of land title details of the site

Street Address	Lot and Deposited Plan details	Ownership
1A Bank Street, Pyrmont NSW 2009	Lot 1 DP 85206	Transport for NSW
	Lot 1 DP 188671	Transport for INSVV
1-3 Bank Street, Pyrmont NSW 2009	Lots 1-2 DP 1089643	Transport for NSW
1-3 Balik Street, Fyffiolit NSW 2009	Lot 1 DP 439245	Transport for INSVV
5 Bank Street, Pyrmont NSW 2009	Lot 20 DP 803159	Transport for NSW
7 Bank Street, Pyrmont NSW 2009	Lot 19 DP 803159	Transport for NSW
9 Bank Street, Pyrmont NSW 2009	Lot 21 DP 803159	Transport for NSW
11 Bank Street, Pyrmont NSW 2009	Lot 22 DP 803159	Transport for NSW
17-19 Bank Street, Pyrmont NSW 2009	Lots 5-6 DP 803160	Transport for NSW
Sydney Harbour	Lot 5 DP 1209992	Roads and Maritime Services
		(Transport for NSW)
Sydney Harbour	Lot 107 in DP 1076596	Transport for NSW
Part Bank Street road reserve	N/A	City of Sydney Council

Bank Street Park is located on Gadigal Land, one of the twenty-nine clans of the great Eora Nation. It adjoins the foreshores of Glebe to the west and Pyrmont Bridge Road and Wentworth Park to the south.



Figure 3-1: Site context map

The indicative site location is outlined in red. Source: SixMaps with Architectus edits (2023)

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 3/17





Figure 3-2: Bank Street Park site location within Blackwattle Bay State Significant Precinct The indicative site location is outlined in red.

Source: Blackwattle Bay Design Guidelines with Architectus edits (2023)

4 Proposed development

4.1 Overview

Development consent is being sought for a *recreation area* for the primary purpose of a *public park*, comprising:

- Site preparation works, including tree removal, earthworks and remediation to facilitate the proposed use;
- Demolition of three existing buildings at 1-3 Bank Street;
- New and adapted facilities for community use, including:
 - New single storey building to accommodate flexible community space, café, and marina office/store facilities, with green roof and photovoltaics;
 - Adaptive reuse of Building D for public amenities, bin and other storage;
 - Boat launching ramp and pontoon for passive watercraft, including dragon boats and kayaks;
 - Boat storage building with change facilities for dragon boat users with publicly accessible rooftop deck;
- Public domain works, including:
 - 'Interpretation Garden' in existing building 'ruins' at 1-3 Bank Street;
 - Split level foreshore promenade;
 - Multi-purpose court with edge seating and partial fence;
 - Nature-based inclusive playspace for ages 2-12;
 - Fitness equipment;
 - Public plaza and grassed open space areas;
 - New tree plantings and planter beds;
 - o Public art, wayfinding and interpretative signage, lighting, bike parking and seating;
- Harbour works including:
 - Overwater boardwalk;
 - Land/water interface works, including sandstone terracing into water and support structure, to improve marine habitat;

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 4/17



- o Demolition and construction of a new timber launching ramp for dragon boats;
- Kayak/passive craft pontoon; and
- Restoration, repair and alterations to the existing seawall for new stormwater outlets.
- Works to Bank Street road reserve, including:
 - Road space reallocation to provide separated cycleway;
 - Cycleway transition to Bank Street to continue south as part of future works;
 - Reinstatement of existing on-street parallel parking;
 - o Tree planting;
 - Accessible parking space; and
 - o Loading zone adjacent 1-3 Bank Street.

4.2 Hours of operation

Bank Street Park will be accessible to the public 24 hours a day, however some of the facilities will only be available during daylight hours (e.g., amenities). Other proposed hours of operation include:

Table 4-1: Hours of operation

Item	Hours of Operation	Days
Dragon boat storage and amenities	Daylight hours (approx. 6am – 7pm)	7 days
Community space	7am – 6pm	7 days
Café/kiosk	7am – 6pm	7 days
Marina office	7am – 1am	7 days

Access to marina office and storage areas may be required outside regular business hours for post charter activities. These hours align with the existing approved hours for the marina office on 5-19 Bank Street. All activities would be undertaken in accordance with a future Plan of Management endorsed by Placemaking NSW and/or Transport for NSW.

5 Planning Secretary's Environmental Assessments Requirements

This report has been prepared in response to the relevant requirements outlined within the Planning Secretary's Environmental Assessments Requirements (SEARs) issued on 11 May 2023 for application SSD-53386706. **Table 5-1** addresses the relevant SEARs requirements and provides a project response.

Table 5-1: Secretary's Environmental Assessments Requirements

Item	SEARs	Relevant report section(s)
	Have regard to the Blackwattle Bay	
	Navigation Impact Assessment and	
11. Traffic, Transport and Accessibility	provide an assessment of the navigation	Section 6
	of maritime vessels for any existing and	
	proposed on-water structures.	

This navigation impact assessment forms an Addendum to the Blackwattle Bay Navigation Study (RHDHV, 2021) for the purpose of assessing the proposed on-water structures within the Bank Street Park redevelopment. The Blackwattle Bay Navigation Study recommended that a detailed navigation impact analysis would be completed at the development application stage of any proposed new maritime structures within the precinct.

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 5/17



6 Navigation impact assessment

6.1 Proposed on-water structures

A recent aerial photograph of the existing site is provided on **Figure 6-1**. The on-water structures that are proposed as part of the Bank Street Park redevelopment are shown on **Figure 6-2** and the associated landscape drawings provided in **Attachment A**, comprise:

- dragon boat launching ramp; and,
- kayak/passive craft pontoon; and,
- overwater boardwalks.

It is proposed that the existing dragon boat launching ramp would be demolished and a new dragon boat launching ramp would be constructed at a location that is around 13m further to the west along the shoreline relative to the existing ramp position. The new ramp would be a fixed structure comprising a 14m wide ramped deck supported on piles, and would extend 38m out from the shoreline at a grade of 1V:10H (vertical to horizontal) to facilitate launching of dragon boats. The new ramp would service the existing level of usage at the site by dragon boat clubs.

The proposed kayak/passive craft pontoon would comprise a floating pontoon structure restrained by piles and accessed from the foreshore by a ramped gangway structure. The proposed floating pontoon would be located between the proposed dragon launching boat ramp and the south-eastern berths of the existing Blackwattle Bay Marina (BBM), and would extend 40.46m out from the shoreline. The new pontoon would provide public access to the area for launching of passive craft. It is not anticipated that there will be a significant increase in passive craft accessing the site as a result of the development due to the likely constraints imposed by available parking and the use of the multiple facilities at Bank Street Park by several other user groups.

Overwater boardwalk structures are proposed along the shoreline adjacent to the proposed community café and marina office, and to the west of the proposed kayak/passive craft pontoon.

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 6/17





Figure 6-1: Aerial photograph of existing site (source: Nearmap dated 3 October 2023)

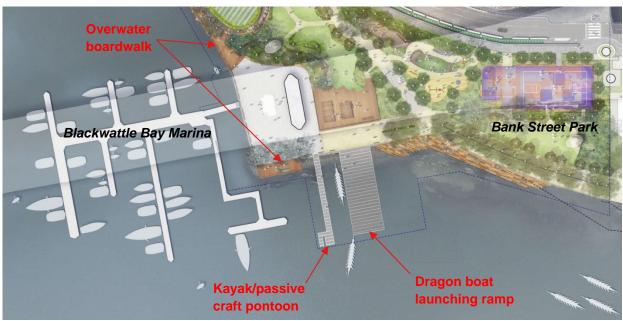


Figure 6-2: Illustrative plan showing proposed on-water structures

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 7/17



6.2 Blackwattle Bay Navigation Study

The Blackwattle Bay Navigation Study (RHDHV, 2021) and Addendum (RHDHV, 2022) was prepared by Royal HaskoningDHV as part of the Blackwattle Bay State Significant Precinct Study (SSP Study)¹. This report considered the Blackwattle Bay Precinct Plan and established existing waterway navigation and usage, identified key considerations for precinct planning of Blackwattle Bay, and made recommendations to be carried forward for precinct planning of marine infrastructure within Blackwattle Bay. Recommendations that are relevant to the on-water structures that are proposed as part of the Bank Street Park Redevelopment include:

- The existing 4 knot speed limit and no wash zone within Blackwattle Bay should be maintained.
- Structures and berths are to be sited more than 25m from the existing rowing route (refer
 Attachment B) to prevent narrowing of the available waterway area for vessel navigation.
- Installation of prominent signage to promote safe navigation at marina and wharf facilities, including clear notification of:
 - 4 knot speed limit and no wash zone;
 - no anchoring at the head of Blackwattle Bay;
 - keeping a proper lookout for non-powered craft at all times;
 - o notification of peak times for passive recreation (e.g. dawn and dusk); and,
 - giving way to passive recreational craft including rowing boats, dragon boats and outrigger canoes.
- Incorporation of safe navigation requirements into the 'berthing rules' and/or a Plan of
 Management and included as part of the berthing agreement and planning documentation for
 use for existing and proposed marina and wharf facilities.
- Similar to the above 'berthing rules', it is suggested that a 'Blackwattle Bay Waterway User Group Agreement' is drafted by Transport for NSW Maritime in consultation with key stakeholders to document the rules and requirements that passive recreation groups (e.g. rowers, dragon boaters, kayak tour operators) are expected to abide by. This document could include the agreed rowing route map, required safety equipment, requirements for spotters in tinnies, the level of experience of vessel captains, waterway areas to avoid, and identification of risks and hazards within the Bay. The agreement document could be used as means to register vessel captains with Transport for NSW Maritime, with signing of the agreement being a prerequisite for waterway usage.
- Installation of appropriate navigation aids to provide night time visibility for the extent of marina and wharf structures in consultation with Transport for NSW Maritime.
- Installation of prominent signage at the Glebe Island Bridge entrance advising that "non-powered vessels are using this area frequently" or words to this effect.

6.3 Blackwattle Bay Marina

Blackwattle Bay Marina (BBM) was constructed in 2019 to accommodate charter vessels relocated from the former marina at the head of Blackwattle Bay, which is now the site of the new Sydney Fish Market. BBM is positioned to the west of the proposed on-water structures at Bank Street Park (refer **Figure 6-2**), with the closest berths located at the south-eastern corner of the marina layout. An as-built drawing showing the berthing layout for BBM is provided in **Attachment C**.

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 8/17

¹ RHDHV also prepared a Navigation Impact Assessment in 2019 for Stage 1 and Stage 2 of the new Sydney Fish Market development.



A navigation impact assessment report (RHDHV, 2018) was prepared for the marina development (Project Approval MP 11_001 MOD 3), which considered (among other matters) vessel interaction between marina vessels and non-powered craft. The marina development was subsequently approved and has been operating in conjunction with dragon boat launching at the current ramp facility over the last 4 years. A number of recommendations from the navigation impact assessment, in regard to vessel berthing arrangements and marina vessel crew behaviour, were incorporated into the Operational Management Plan for the marina (All Occasion Cruises, 2020) including:

Berthing Arrangements:

- o Berth Vessels of 25 metres or longer at the Western T Head Arm of the Marina.
- Ensure Larger Vessels at the Facility will be berthed on the Western and Southern pontoons to make them apparent to passing Vessels and Passive Craft.
- Ensure 3 berths in the south-east corner of the marina are aligned in an approximately SSW-NNE direction (parallel to the boat launching ramp) such that movement of marina vessels into and out of these berths would not involve manoeuvring in close proximity to the launching ramp.
- Ensure larger sized vessels with higher powered engines, are in berths that are
 positioned away from the south-east corner of the marina and hence away from the boat
 launching ramp.

Boat Crew Vessel Code of Conduct:

- Vessel speed restriction of 4 knots applies in the Marina and surrounding waters no wash.
- Ensure the vessel does not create a wash that could cause a marine incident.
- Communicate with other commercial vessels and river users in a courteous and professional manner.
- Ensure you are aware of the rules and restrictions regarding shipping vessels to prevent interaction issues and incidents occurring.
- A proper look-out and give way is maintained for Passive Craft in particular for the dates and times Passive Craft are likely to be in the vicinity of the Marina.
- Boat Crew will be aware of the navigable passages used by Passive Craft in order to minimise the possibility of collisions or close quarters with Passive Craft by their Vessels.

6.4 Impact Assessment

The proposed on-water structures are located within a relatively sheltered area of Blackwattle Bay positioned to the east of the existing marina (BBM). The extent of the structures within the waterway is limited and does not extend beyond the encroachment of other existing structures or berths on the northern shoreline of Blackwattle Bay, including BBM and Giddens Jetty (Blackwattle Bay Marine Operatives). As a result, the proposed on-water structures would not reduce the available waterway area for navigation, or encroach on the existing rowing route around the perimeter of Blackwattle Bay.

The proposed overwater boardwalk structures generally run close to the alignment of the existing foreshore and do not present any obstruction to vessel navigation. The water depths that the proposed boardwalks would cover are shallow and are either already covered by an existing boardwalk structure

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 9/17



(as is the case with the boardwalk to the west of the proposed kayak/passive craft pontoon) and/or are shallow nearshore areas that are not used for navigation by powered craft. The proposed boardwalks do not interfere with the courses utilised by non-powered craft to access and navigate within the waterway.

Interaction between BBM vessels and non-powered craft using the proposed on-water structures at Bank Street Park is a relevant consideration. Previous review of the rowing / dragon boating / outrigger canoeing training schedules and the operating schedule of All Occasion Cruises vessels at BBM (documented within the BBM navigation impact assessment, RHDHV (2018)), indicated that the most likely times for vessel interaction were over several hours in the early evening (5pm-8.30pm) on weekdays, and over a short time on Saturday and Sunday mornings (10am-11.30am) during peak periods only (November-December).

The kayak/passive craft pontoon is positioned approximately 13m to the east of the closest south-eastern marina berths, whilst the dragon boat launching ramp is positioned further away at approximately 29m to the east. Both launching structures are orientated to facilitate launching and retrieval to the south-southwest (SSW), which is the same orientation of the marina berths (refer Attachment C). As such, it is considered that the manoeuvring of vessels 'stern-to' (i.e. stern at the rear of the berth, at the marina pontoon) into these 3 marina berths, comprising turning of vessels to reverse into the berths, would be completed in the open water adjacent to the berths and not in close proximity to the proposed on-water structures. This would also assist in directing any localised propeller wash away from the proposed launching facilities. The potential exposure to localised propeller wash would also be minimised by the berthing of larger sized vessels with higher powered engines in berths that are positioned away from the south-eastern corner of the marina (in accordance with the Operational Management Plan, refer Section 6.3). In addition, the marina vessels are berthed inside intermediate mooring piles, which would limit their ability to move laterally (e.g. across the path of the kayak/passive craft pontoon) when entering/departing the berths. Due to the position of the kayak/passive craft pontoon launching area relative to the south-eastern marina berths, departing vessels would also have good visibility of kayak launching activities in order to maintain a proper look-out and give way to passive craft in accordance with the code of conduct within the Operational Management Plan (refer Section 6.3).

Notwithstanding the above, it is recommended that the behavioural expectations and safe navigation practices for users of the proposed dragon boat and kayak/passive craft launching facilities are documented within a future Plan of Management for Bank Street Park that is endorsed by Placemaking NSW and/or Transport for NSW.

Given there is only a relatively narrow 12m navigation width between the eastern limit of the marina pontoon and the proposed kayak/passive craft pontoon, it is important that only the approved marina berths are utilised by the marina operator (refer **Figure 6-3** and **Attachment C**). This will ensure that interactions between passive craft and marina vessels are minimised.

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 10/17



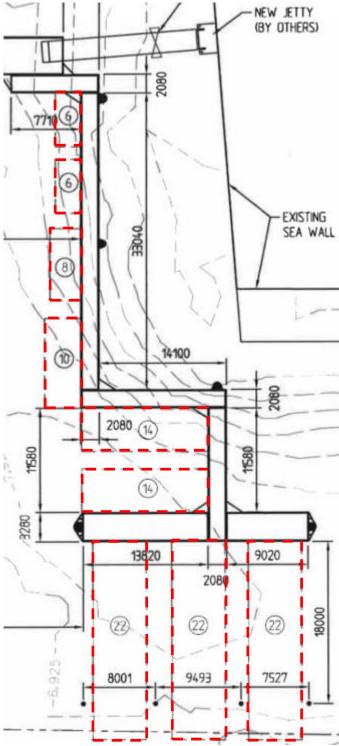


Figure 6-3: BBM approved berthing arrangement at south-eastern marina pontoon (berths indicated in red dashed linework)

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 11/17



7 Conclusion

RHDHV have completed a navigation impact assessment of the on-water structures proposed as part of the Bank Street Park Redevelopment, comprising a dragon boat launching ramp, kayak/passive craft pontoon, and overwater boardwalks. The proposed on-water structures would not have any significant impact on the navigation of vessels within the waterway area of Blackwattle Bay or on vessel access to the adjacent BBM. The new dragon boat launching ramp would service the existing level of usage at the site by dragon boat clubs, whilst the kayak/passive craft pontoon would provide public access to the area for launching of passive craft. It is not anticipated that there will be a significant increase in passive craft accessing the site as a result of the development due to the likely constraints imposed by available parking and the use of the multiple facilities at Bank Street Park by several other user groups. Although the periods for concurrent use of the passive craft launching structures and BBM vessel movements are limited, ongoing monitoring and management of vessel interaction between marina vessels and non-powered craft is recommended as has been the case for the existing use of the site.

Given the recent history of concurrent operation of BBM and the existing dragon boat launching ramp (2019-2023) and the existing provisions for navigation safety within the BBM Operational Management Plan, the following additional measures are recommended to minimise and mitigate potential navigation impacts from the proposed on-water structures that are primarily associated with potential vessel interaction between marina vessels and non-powered craft:

- berthing of vessels at BBM is only undertaken in the approved berths and that the marina operator is reminded of this; and,
- behavioural expectations and safe navigation practices for users of the proposed dragon boat and kayak/passive craft launching facilities are documented within a future Plan of Management for Bank Street Park that is endorsed by Placemaking NSW and/or Transport for NSW.

In response to the SEARs, it is considered that the siting of the proposed on-water structures, existing provisions for navigation safety within the BBM Operational Management Plan, and implementation of the above additional measures, is consistent with the recommendations within the Blackwattle Bay Navigation Study and mitigates any significant impact on navigation.

8 References

All Occasion Cruises (2020), Bank Street Commercial Wharf, Blackwattle Bay – Operational Management Plan, July.

RHDHV (2018), *Bank St, Pyrmont – Navigation Impact Assessment*, prepared for Urban Growth Development Corporation, 31 January.

RHDHV (2021), *Blackwattle Bay Navigation Study – Precinct Plan Assessment Report*, prepared for Infrastructure NSW, 24 May.

RHDHV (2022), *Blackwattle Bay SSP – Addendum to Navigation Impact Assessment Report*, prepared for Infrastructure NSW, 29 April.

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 12/17



We trust the above advice meets your current needs. Please do not hesitate to contact the undersigned if you require any further advice or clarification.

Yours Sincerely,

Matt Potter

Principal Coastal Engineer Water & Maritime

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 13/17



Attachment A: Bank Street Park Landscape Drawings

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 14/17

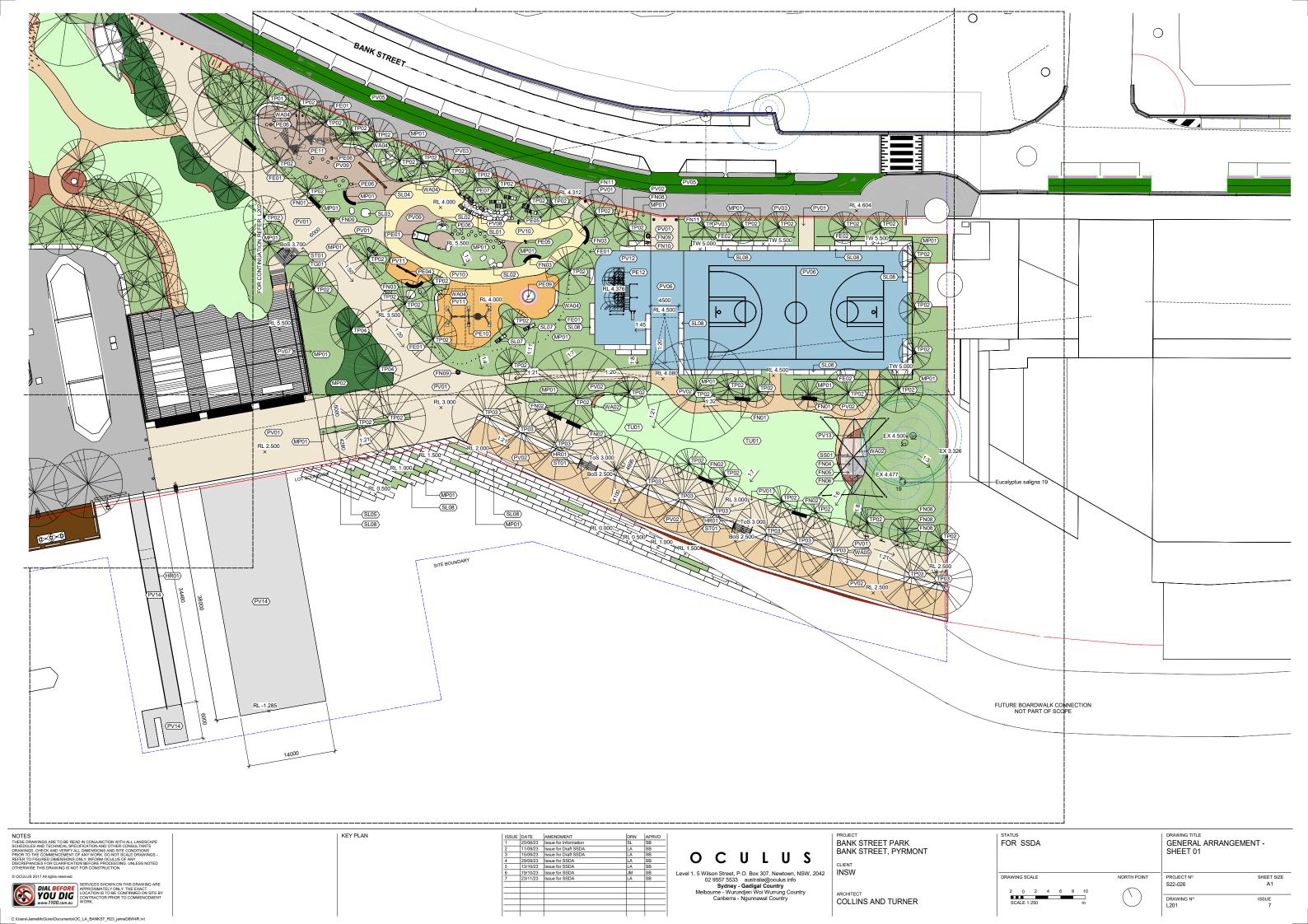




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COLLINS AND TURNER



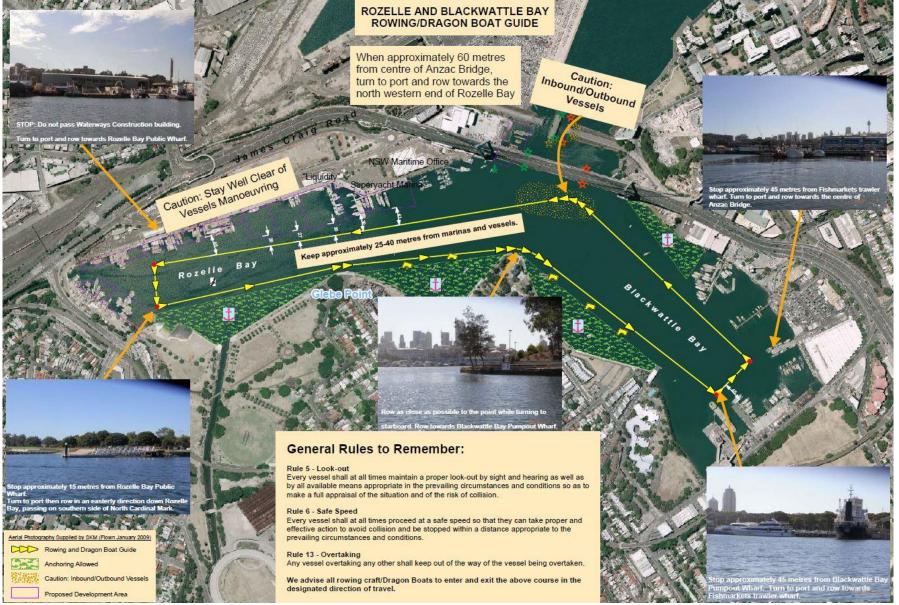




Attachment B: Rowing Course Map

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 15/17



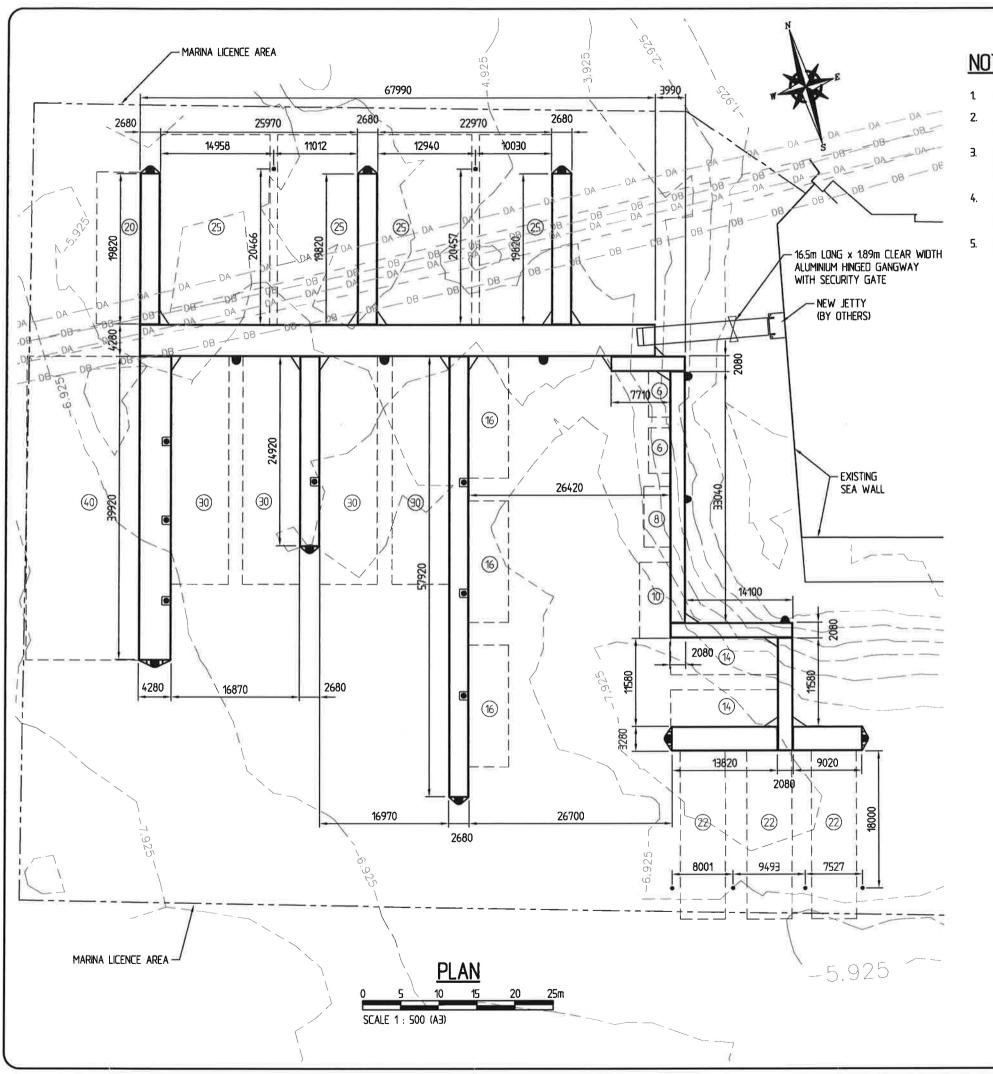


27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 16/17



Attachment C: Blackwattle Bay Marina As-built Drawing

27 November 2023 PA3595-RHD-XX-XX-CO-X-0004 17/17



NOTES:

- 1. FOR GENERAL NOTES REFER TO DRAWING No. 5434-100.
- ALL LEVELS ARE IN METRES AND REDUCED TO AUSTRALIAN HEIGHT DATUM (AHD).
- ON SHORE LAYOUT, COORDINATES SYSTEM AND CONTOURS ARE BASED ON TONKIN DRAWING No. S0100 Rev No. 7 DRAWING FILE : 17033 S0100-dwg[7].dwg
- Marina Layout is based on tonkin drawing no. \$0100 Rev No. 7 Drawing file : 17033 \$0100-dwg(7).dwg
- 5. Existing underwater ducts run location da & DB are based on craig&rhodes drawing file : 102–15G to2 [19] ro.dwg



Marine Australia Pty. Ltd.

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Precision engineered flotation systems

C 24/4/20 AS BUILT. B 3/12/19 SECURITY GATE ADDED. A 8/11/19 FOR CONSTRUCTION

Revisions

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CLIENT:

BELLINGHAM MARINE AUSTRALIA PTY. LTD

PROJECT:

BANK STREET COMMERCIAL WHARF

TITLE:

GENERAL ARRANGEMENT

Date: 1/11/2019 **Drawing No.:** 5434-101/C AS SHOWN Scale: Drawn By: J.C. Checked By: J.M.L.

AS BUILT Approved By: