

THOMPSON CLARKE

Sydney Harbour
Foreshore Authority

Report –
Cockle Bay Marine
Structures & Marina
Upgrade:
Key Issue No. 4 –
Navigation & Safety

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CLARKE**

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Aim

To respond to the following questions pertaining to Key Issue 4:

1. A review of existing boating activities in the area and an assessment of the impacts of the development on water based traffic, waterway access (including equity), waterway sharing and existing users of Cockle Bay and Darling Harbour in the vicinity of the marina.
2. Consideration of the potential impact of increased vessel movements likely to be generated by the proposal (if any) on the existing users of Cockle Bay and Darling Harbour and ferry operations at the King Street, Sydney Aquarium and Pyrmont Bay wharves; and
3. Considerations of measures to ensure the safety of any recreational users of Cockle Bay and Darling Harbour.

The maritime opinions are based on what is considered to be the common average capabilities of vessel operators, the need to balance maritime activities with the public space, views and utility, and to provide a cost effective wharf infrastructure based on vessel traffic volumes and size.

1 A Review of Existing Boating Activities in the Area & an Assessment of the Impacts of the Development on Water Based Traffic, Waterway Access (including equity), Waterway Sharing & Existing Users of Cockle Bay & Darling Harbour in the Vicinity of the Marina

The current users of the existing marine structures include a mix of commercial and private uses ranging from the berthing of power assisted vessels to the marina, drop off and pick up by marine leisure vessels such as cruises, jet boats and private boats, and water taxi services.

Historically commercial vessel calls to Cockle Bay reached 348 vessel calls over a 12 month period (October 2012 to September 2013), prior to the closure of the exhibition centre. The maximum number of vessel calls on any given day was 8 which occurred twice within the year.

There are no records of annual marina utilisation and water taxis and private drop off boats are not required to make a booking to berth so the figures of calls for this category of use are also unavailable. The marina offers temporary moorings for 50 berths and based on anecdotal reports is only ever full on the occasion of a major event.

Construction during the replacement program has been designed to create as little impact on marine traffic as possible.

The re-construction of the marina which is expected to take 2 to 3 months to complete can only be undertaken in either, the period between August to November (16 weeks) or March to May (10 weeks) when no major events are scheduled to take place. Whilst the marina will not operate during the construction period, either of the proposed re-construction periods are times when marina occupancy is at its lowest, as no Events take place during these months.

At present two public wharves are utilised on the north western side of the bay—the Harbourside Steps wharf and the Convention wharf. Construction on the new public wharf will begin by demolishing and then building a new wharf at the Harbourside Steps wharf location. During this period vessels will continue to operate in the area by berthing at the Convention wharf. Once the new wharf is operational, the Convention wharf will be demolished.

The impact on vessel traffic on this side of the bay will be minimal as daily vessel use is not great (the maximum recorded is 8 calls per day) and average berthing time per visit is short at about 15 minutes.

With regard to waterway access and equity, it is important to note that existing facilities, some of which appear to be unsafe and in poor condition, are being replaced by newer, safer structures and no additional marine structures are being introduced within the bay.

These replacement facilities will offer boat/vessel users a safer and more functional outcome because:

- The marina will be constructed based on guidance provided by AS 3962-2001. Therefore boat size, berth dimensions and fairways within the marina will, unlike the present situation, conform to this standard. The design recreational vessel for the marina is to be a power driven mono-hull boat of 15m length and a 5m beam.
- Marine berth alignments are an improvement as they are orientated in line with the main prevailing winds and tidal current (Windtech: "Wind environment statement, Darling Harbour", April 2008).
- The width of the designed commercial vessel is based on the methodology shown in PIANC (Permanent International Association of Navigation Congresses) which is subject to channel width and other environmental and operational criteria, for a one way channel. Based on the PIANC guidelines it was determined that a mono-hull or twin hull, twin screw vessel of 35m in length and a 10m beam would be an appropriate design vessel size.
- Water taxis and other small private boats will have a safer and dedicated location for embarking/disembarking passengers.

In terms of waterway sharing, it is understood that vessels proceeding to the marina will be power-driven mono-hulls, and the operators of these recreational vessels will mostly, not possess the boat skills of commercial operators who will have some form of State/Commonwealth certification and who will be experienced in manoeuvring their vessels many times throughout the year. The aim of recreational users berthing at the north-east side of the bay and commercial operators berthing at the north-west side of the bay is to separate these two classes of operators and so reduce any potential conflict.

2 Consideration of the Potential Impact of Increased Vessel Movements likely to be Generated by the Proposal (if any) on the Existing Users of Cockle Bay & Darling Harbour & Ferry Operations at the King Street, Sydney Aquarium and Pyrmont Bay Wharves

The new proposal will unlikely result in an increase in vessel movements. In fact, vessel traffic based on current information will decrease once the Exhibition Centre shuttle service ceases to operate (estimated to be by the end of 2016) and vessel numbers are expected to revert back to levels from before the Convention and Exhibition Centre closure. No increase in traffic due to the construction of the new structures is anticipated primarily because:

- There will be less available berths at the new marina;
- Vessels will be restricted in size and so new berths to cater for this design size will not provide a mooring opportunity to larger vessels;
- There is no through traffic due to the geographical location of Cockle Bay;
- It is highly unlikely that the new facilities will result in any commuter ferry traffic to and/or from the bay, however private hop-on hop-off service providers might offer services to and from Cockle Bay.

The existing users of Cockle Bay will have much safer and more functional facilities, with their operations carried out with much the same traffic numbers that they are used to now. Therefore the effect on areas adjacent to Cockle Bay, such as Darling Harbour, is anticipated to remain largely unchanged as a result of the development. That is, through traffic will be much the same.

Transport for New South Wales (TfNSW) has already indicated that commuter ferry operations within Cockle Bay are not worthwhile and operationally feasible, because of the 4 knot speed restriction within Darling Harbour south of Barangaroo. Calling at Cockle Bay would add approximately 20 minutes to their timetable.

As vessel movements are anticipated not to increase within Cockle Bay, as outlined, the development is likely to have no impact on ferry operations at the other ferry locations mentioned.

3 Considerations of Measures to ensure the Safety of any Recreational Users of Cockle Bay & Darling Harbour

The following measures will be taken which will improve safety and reduce potential conflict for recreational boat owners:

- The bay has been divided into two specific and dedicated areas:
 - An Events zone in the southern half; and
 - A Maritime zone in the northern half.Therefore, permanent navigational routes have been provided around and outside the Event space.
- The northern Maritime area has been further divided into two zones to separate users with:
 - The eastern side dedicated to the sole use of recreational boats to the Marina; and
 - The western side dedicated predominately to commercial operators.
- The vessel size for recreational boats has been reduced and this together with more manoeuvring room and fewer berths within the marina will result in safer boating operations.
- The location of berthing operations on both the east and west side is close to the channel entrance which minimises vessel movements in the bay.
- Vessel speed within the bay has been mandated at 4 knots.

Referenced Documents

- AS 3962 – 2001: "Guidelines for Design Of Marinas";
- PIANC: "Approach Channels A Guide for Design", June 1997;
- PIANC: "Harbour Approach Channels Design Guidelines" Report no. 121 – 2014;
- Windtech: "Wind Environment Statement, Darling Harbour", April 2008.

The first document was used solely for guidance on Marina Operations (recreational) whilst the PIANC documents were used for guidance on Commercial Operations.