



*Swan and Canning Rivers Management Act 2006*

**PART 5**

**DETERMINATION OF DEVELOPMENT APPLICATION**

FILE NUMBER : 2016/3748  
APPLICANT : Barge Co Pty Ltd  
APPLICANT'S ADDRESS : Attn: Guy Mouritz  
  
LANDOWNER : Swan River Trust, Reserve 48325  
LAND DESCRIPTION : Lot 301 on Plan 47 451, Perth  
DEVELOPMENT : Installation of Moorings and Development of Barge Event  
Venue in Perth Water, Swan River  
VALID FORM 1 RECEIVED : 29 September 2016  
DETERMINATION : **REFUSAL**

The Barge Co proposal for the installation of moorings and development of a barge event venue in Perth Water, Swan River on Lot 301 on Plan 47451 (Reserve 48325, Swan River), Perth received on 29 September 2016 is REFUSED for the following reasons:

1. The proposed design is excessive in terms of scale and bulk and would have a negative impact on the visual amenity of Perth Water from key vantage points.
2. The proposed barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark on the river.
3. The proposed mooring of the barge requires a sizable development footprint which will be a significant area of public exclusion in Perth Water, the loss of at least two courtesy moorings, and is located partially within the navigational channel.
4. The proposed patron transport vessel is to utilise services at Elizabeth Quay, however this location is not appropriate for the management of patrons, waste and goods, and will cause the loss of a public berth within the Quay.
5. Proposed movement of the barge through the Fremantle traffic and rail bridge pose a significant unmitigable risk to public safety and to Government infrastructure.
6. The proposal would adversely impact the amenity and enjoyment of the area by the community, due to noise from events, and waste, services and patron management at Elizabeth Quay.

Hon Stephen Dawson MLC  
**MINISTER FOR ENVIRONMENT**

Date: 3/1/18

## DEPARTMENT OF PARKS AND WILDLIFE REPORT

PROPOSAL	: Installation of Moorings and Development of Barge Event Venue in Perth Water, Swan River
LOCATION	: Lot 301 on Plan 47451 (Reserve 48325, Swan River), Perth
APPLICANT	: Barge Co Pty Ltd
LANDOWNER	: Swan River Trust
LOCAL GOVERNMENT	: City of Perth
MRS CLASSIFICATION	: Waterways
DECISION TYPE	: Part 5, <i>Swan and Canning Rivers Management Act 2006</i> – Ministerial Determination
ATTACHMENTS	: <ol style="list-style-type: none"><li>1. Location Map</li><li>2. Design Concept</li><li>3. Mooring Design</li><li>4. Mooring Location Map</li><li>5. Transfer Vessel</li><li>6. Barge Co Comments on Draft Report</li><li>7. Qualitative Risk Assessment</li></ol>
RECOMMENDATION	: <b>REFUSAL</b>

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## REPORT

### 1.0 INTRODUCTION

- 1.1 The Department of Parks and Wildlife (Parks and Wildlife) has received an application from Barge Co Pty Ltd (Barge Co) to install moorings and develop a barge event venue for up to 600 patrons approximately 80m from the foreshore of Riverside Drive, adjacent to David Carr Memorial Park, in the Swan River (Perth Water) within the designated courtesy mooring area north of the Rottne Island – Perth ferry navigation route (**Attachment 1**).
- 1.2 The moorings and barge are proposed to be located on Lot 301 on Plan 47451 (Reserve 48325) within the Swan River vested in the Swan River Trust (the Trust).
- 1.3 The subject lot is located wholly within the Swan Canning Development Control Area (DCA). The application is therefore being processed pursuant to Part 5 of the *Swan and Canning Rivers Management Act 2006* (SCRM Act). The Director General of Parks and Wildlife will provide a recommendation on the proposal to the Minister for Environment.
- 1.4 If approved, works cannot commence on the installation of the moorings and barge until a River Reserve Lease has been granted. Barge Co will also require



a permit and licence from Parks and Wildlife for the use of the barge on a commercial basis in accordance with the SCRM Act and the Swan and Canning Rivers Management Regulations 2007.

### **Barge**

- 1.5 The barge is a custom built double-tier facility, with dimensions of 50m x 14.3m (a total footprint of 715m<sup>2</sup>), with a moulded depth of 2.44m. Internal hull compartments comprise of storage areas, potable water tanks, ballast tanks, a black water tank, wastewater treatment system, and a waste storage room. The structure will comprise of approximately 35 sea containers of varying size and modified per the purpose, such as use for the bar, toilets, eating areas and planters (**Attachment 2**).
- 1.6 Barge Co proposes the barge will be moored in Perth Water for approximately 196 days per year, and transported in and out of the Riverpark depending on bookings.

### **Moorings**

- 1.7 The barge will be secured in place by a new, exclusively used two-point mooring system. Each mooring will be held in place by two anchors. The moorings will be located approximately 64m from each end of the barge, and will allow for lateral movement over a total distance of 74m. The footprint of the development including the mooring footprint is 88.3m x 160m (14,128m<sup>2</sup>) (**Attachment 3**).
- 1.8 As the moorings are proposed to be located within the courtesy mooring area of Perth Water, the development will require the relocation/loss of at least two courtesy moorings (**Attachment 4**).

### **Patron Transportation**

- 1.9 Barge Co proposes to transfer patrons to and from the barge using two dedicated transfer vessels which can seat up to 50 patrons each (**Attachment 5**).
- 1.10 The transfer vessels require separate approval to operate in accordance with the Regulations.

### **Elizabeth Quay**

- 1.11 Barge Co proposes to utilise a public short-stay berth within Elizabeth Quay, and extensively modify this structure so that it can accommodate the Barge Co patron transfer vessel (the berth currently accommodates vessels up to 12m, and the Barge Co transfer vessel is proposed to be approximately 16m), in addition to shade and ticketing infrastructure and sullage connections. The proposed use of Elizabeth Quay includes passenger boarding and disembarking, and solid and liquid waste transfers between 12midnight and 6am and goods deliveries.
- 1.12 Additional information supplied by Barge Co in its submission of 19 June 2017 indicates that modifications were requested by the Metropolitan Redevelopment Authority (MRA) (shade structure to pontoon), however are not required by Barge Co. Further, Barge Co notes that waste disposal can be accommodated at Barrack Street for sewage and solid waste removal. Parks and Wildlife considers this to be new information, as it is not consistent with the information provided by Barge Co as part of the application for development approval.

### **Translocation of Barge by Tug Boat**

- 1.13 Barge Co proposes to transport the barge via tug boat (at least two), and using the transfer vessels as spotters, to Fremantle for servicing and outside Fremantle Port for events at locations such as Port Beach. This movement will require the barge to pass under the Fremantle Traffic Bridge (Main Roads WA) and the Fremantle Rail Bridge (Public Transport Authority). The Department of Transport has indicated all marine traffic would need to be prevented from passing through the bridges while the barge passes through.

- 1.14 A risk assessment has been undertaken by Main Roads WA (MRWA), Public Transport Authority (PTA), Fremantle Port Authority, Parks and Wildlife and Department of Transport (DoT), facilitated by Arup. This risk assessment objectively assessed the risks to Government assets and public safety, and the likely consequences should any aspect of the barge movement through the bridge lead to impact between the barge, tugs, transfer vessels and the bridges.
- 1.15 Barge Co's submission of 19 June 2017 discusses the proposed Vessel Movement Plan and proposes it is possible to demonstrate a safe transit of the barge through both bridges, and Barge Co should be given the opportunity to address this through a quantitative risk assessment, as a condition of approval.
- 1.16 Barge Co's submission of 19 June 2017 proposes the risk assessment is subjective and not objective. Barge Co states the risk assessment process did not consider quantitative data or statistical analysis, and the assumptions used to guide the workshop are incorrect. Barge Co contends there is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard. Barge Co states that the assumed displacement weight in the risk assessment is incorrect and that the actual displacement weight is 357.5 tonnes. Barge Co requests the opportunity to address these issues as a condition of approval.

## 2.0 CONSULTATION

- 2.1 Upon receipt of a valid application for development approval in October 2016 Parks and Wildlife formally referred the Barge Co application to the City of Perth, the City of South Perth, MRA, DoT, Main Roads WA (MRWA), Department of Water (DoW), Department of Aboriginal Affairs (DAA), PTA and Botanic Gardens and Parks Authority (BGPA). The applicant was subsequently requested to provide additional information to support the application, which was provided throughout January and February 2017. This information was referred to authorities for their comment and recommendations as it was received.

### City of Perth

- 2.2 The City of Perth provided comments on the proposal on 1 and 24 November 2016, and 9 and 24 February 2017.
- 2.3 The City of Perth does not support the proposal.
- 2.4 The City of Perth notes that Barge Co's Noise Management Plan includes modelling, which assumes wind is blowing from all directions, contending this would indicate the worst-case noise levels at all locations within a single calculation. The City's experience however is that the worst-case scenario can be where there is no wind, which has not been modelled in this assessment. While not required under the Environmental Protection (Noise) Regulations 1997, the report has not calculated the C-weighted noise generated from the barge. In the City's experience, this noise travels the furthest, has the most impact and receives the most complaints from noise sensitive receivers.
- 2.5 The report stated that in the assumption that the in-house PA system being used, compliance is achievable at sound levels of up to 85 dB(A) up until 10pm. After this time, compliance may be achieved if the wind is blowing from the south or if the external speakers are turned off and the music is played inside of the seated area with the windows and doors shut. Given operating hours are proposed until 12midnight and it is unlikely that external speaker will be turned off after 10pm it is considered that the barge will have a negative acoustic impact on noise sensitive premises within the area. In addition, if the Barge was to hold an event where a band is playing at 100 dB(A) the barge is not able to achieve compliance and a Regulation 18 approval would be required for each event.



- 2.6 The Noise Management Plan does not consider the cumulative effects of multiple uses of Perth Water and surrounds in addition to the noise generated from the barge will have on the noise sensitive premises (existing and proposed) nearby.
- 2.7 The City notes the barge is proposed to be constructed using sea containers by only retaining the corner posts, roof and floor and replacing walls with anodised aluminium framed windows, providing cover and protection to patrons from weather.
- 2.8 Whilst it is understood that the vessel may meet the commercial vessel requirements it is considered that a vessel permanently moored, or moored on a regular basis, in Perth Water should also meet the same design standards applied to any structures that surround it. The Barge is not considered to meet these standards with the materials used and the design is not considered to be of high quality contemporary design. The detailing of the design is also considered lacking and the scale of the structure unsympathetic.
- 2.9 The City notes there are a number of unscreened services to the rear of the vessel, which have a detrimental impact on the view within the area and would be required to be screened for any other building within the City.
- 2.10 The City is concerned the impact the barge will have on the most important view in the State from Kings Park. The design is considered to be "inelegant and clumsy" (referring to the recycled containers, servicing plant, shading cover and general material quality) with a lack of design quality comparing it to the high standards required for the design of all building on the foreshore.
- 2.11 The Elizabeth Quay pedestrian bridge was re-designed as a light and visually permeable structure to ensure views from and around the Quay to the South Perth foreshore and the Narrows Bridge were retained. By placing the large vessel in the view-line of both the Quay and Kings Park, a negative visual impact will result and will destroy some sensitive and very successful urban design objectives.
- 2.12 The City notes the photo mock-ups provided as part of the 'design brief' showing the location of the barge when viewed from Kings Park and Elizabeth Quay is not considered to accurately depict the barge size. The mock-ups are therefore not considered to acceptably reflect the impact the barge may have on views within the area.
- 2.13 The proposed ancillary structures required at Elizabeth Quay should also be designed to the same quality as other shade structures recently constructed in the Quay.
- 2.14 Currently MRA can only provide a temporary solution for waste bins (a 'bin room') within the vacant lots within the Quay. Concern regarding the permanent solution for waste management after these lots are developed is raised. An 'in principle' development application for a new 25-storey hotel/serviced apartment building and a 50-storey residential building for 'Site 2' and 'Site 3' of the Elizabeth Quay Project Area has recently been approved by the MRA. As part of this development, it is proposed to remove the laneway between the two lots where the bin store is located and a new pedestrian link and covered plaza area to be provided. At this stage, it is anticipated that the proposal will proceed and as such the bin room is not a long-term solution and it would not be considered acceptable for a bin room to be located within the future plaza space in the future.
- 2.15 The City notes a permanent waste storage area would ensure the long-term waste management needs of the barge are met in an efficient and sustainable manner. It would also minimise the impact of waste services and facilities on the streetscape and surrounds, in relation to both the footpath/public realm at Elizabeth Quay. Without this permanent solution, significant health issues could develop.



- 2.16 The City has seen evidence of these issues in other areas, such as Barrack Square. Issues already identified at Barrack Square include:
- bins stored on the jetty are posing a risk of windblown litter straight into the river;
  - numerous complaints being received by the City relating to bins being left in sight of the public as the amount of waste generated is in excess of that accommodated within the existing bin rooms; and
  - bin rooms located in inappropriate locations making them difficult to service and sometimes resulting in the bins having to be placed on the kerb for collection.
- 2.17 The applicant has advised that the barge venue will generate two 3m<sup>3</sup> bins of waste each week with the barge having approximately 80m<sup>3</sup> of storage space for waste tubs. All solid waste from kitchens and bars will be separated into recyclable and general waste that will be placed into sealed plastic tubs that will be stacked into the hull during operation by electric material hoist then removed daily by transfer vessel or weekly at Northport Elizabeth Quay into bins while servicing occurs.
- 2.18 The City notes that the applicant has not provided any plans to support the waste storage capabilities of the barge nor have there been any details provided on the waste calculations of the biggest event that the barge can hold. The applicant has also not detailed how the waste will be segregated by the staff which would potentially affect the types of waste generated. Given this, there is concern regarding the accuracy of the storage capabilities on the barge and the amount of waste that may have to be stored on a dedicated facility within the Quay.
- 2.19 Prior to supporting the proposal, an appropriately sized permanent solution for waste storage and collection is required to be identified on land. The bin area will be required to meet the City's Waste Guidelines regarding construction standards and be sufficient in terms of size, number of bins required (this number would need to equal the same volume as the waste calculation above), and type of waste. The City would require the bin store to be appropriately located (screened from pedestrian view) that is easily serviced without vehicles having to enter the public domain within the Quay. Detail of where the vehicles servicing the bin room will stop and the frequency of servicing will be required.
- 2.20 The City notes the barge will dispose of all the treated liquid waste retained in hull tanks via a transfer vessel, which will transfer the waste to Elizabeth Quay between the hours of 12midnight to 6am after the barge has closed. Concern is raised relating to any noise or smell that may occur during these hours which could affect occupants of the buildings within the Quay.
- 2.21 It is also noted that there is no detail of how deliveries will be managed to the transfer vessels (how will vehicles access, movement of goods etc.). This should also be addressed prior to the application being supported.

**Department of Transport**

- 2.22 DoT provided comments on the proposal on 27 October 2016, 16 and 18 November 2016, 23 January 2017, 1 and 8 February 2017, and 5 and 11 April 2017.
- 2.23 DoT does not support the proposal due to the significant unmitigated risk to the Fremantle Traffic Bridge and Fremantle Rail Bridge, and the proposed mooring of the barge partly within the Perth-Rottnest navigational channel.
- 2.24 DoT has significant concerns with the potential adverse impact the Barge Co vessel movements may have on the safe navigation of recreational and commercial vessel traffic through the Fremantle rail and traffic bridges. Specifically, the potential to require frequent, full closure of the bridges'

navigational spans to undertake the passage in a safe manner. Any movement that requires closure will need to ensure that it does not adversely impact on the ability for existing commercial operations that operate on a timetable.

- 2.25 DoT would require the applicant to notify DoT of the movement through the bridges, and seek approval pursuant to the *Western Australian Marine Act 1982* to close the waters, a minimum of 10 days prior to any vessel movement occurring. It will be a requirement at the time of the applicant requesting the closure of waters that they also supply written confirmation from Captain Cook Cruises, Rottneet Express and the Port of Fremantle supporting the closure.
- 2.26 DoT request a risk assessment is undertaken to address the risk to the bridges in Fremantle.
- 2.27 DoT notes the proponent is intending to use the DoT managed East Street Jetty as a temporary berthing point if the barge reaches the Fremantle Traffic Bridge and conditions are not suitable to transit through.
- 2.28 While DoT has no objection to the temporary berthing of the barge at the East St Jetty, there are restrictions and permitting requirements the proponent must abide by.

#### **Main Roads WA**

- 2.29 MRWA provided comments on the proposal on 21 October 2016, 23 November 2016 and 4 April 2017.
- 2.30 MRWA does not support the proposal due to the significant unmitigated risk to the Fremantle Traffic Bridge and requested a risk assessment is undertaken to address the risk to the bridge.
- 2.31 Subsequent to the risk assessment being undertaken, MRWA requires the high risks to be mitigated by the proponent.

#### **Department of Water**

- 2.32 DoW provided comments on the proposal on 20 October 2016, and expressed concern that flooding of the river has not been considered.

#### **Department of Aboriginal Affairs**

- 2.33 DAA provided comments on the proposal on 14 November 2016 and 13 February 2017.
- 2.34 DAA advised that the proposed works are within the boundary of Aboriginal site DAA 3536 (Swan River), which is on the Register of Places and Objects. DAA recommends Barge Co provide information relating to the proposal to the South West Aboriginal Land and Sea Council for comment. This will assist Barge Co to determine whether an approval under the *Aboriginal Heritage Act 1972* will be required.

#### **Metropolitan Redevelopment Authority**

- 2.35 MRA provided comments on the proposal on 5 December 2016 and 27 February 2017.
- 2.36 MRA does not support the use of courtesy moorings for commercial enterprise, the use of Elizabeth Quay to transfer passengers to and from the barge, and there is insufficient planning for waste management, and noise impacts.
- 2.37 MRA noted that Barge Co seeks to utilise a portion of the courtesy mooring area located to the southwest of Elizabeth Quay, currently managed by the MRA. The courtesy mooring area is restricted to a four hour limit between 7am and 7pm, and makes allowance for a maximum vessel size of 25m.
- 2.38 Barge Co proposes to make unavailable at least two courtesy moorings due to the size of the barge and total footprint (taking into account barge movement on



the mooring). MRA noted that the use of the courtesy moorings by commercial enterprise is not considered to be of public benefit and may diminish the amenity for other recreational users of the moorings, and recommends Barge Co consider an alternative mooring location.

- 2.39 MRA expressed concern that the jetty berth within the Elizabeth Quay inlet is proposed to be utilised by Barge Co for the loading and unloading of up to 600 patrons, however the inlet design caters for Public Transport Authority ferry passengers and small pleasure craft, and is not adequately equipped to accommodate the Barge Co proposal. Further, MRA considers there is insufficient information to support the loading and unloading of passengers in a safe and secure manner that will minimise disruption to pedestrian movement and the amenity of the adjacent water park. MRA recommends Barge Co consider an alternative location for the loading and unloading of passengers.
- 2.40 MRA noted that Barge Co seeks to utilise existing temporary waste management facilities on Lots 2 and 3 in Elizabeth Quay, however these lots will soon be developed and the facilities will no longer be available to lease for commercial use and an alternative location for waste disposal is to be sought.
- 2.41 MRA recommends waste management is to be planned and coordinated as an integral component of the design and development process and the depositing of waste from Barge Co operations within Elizabeth Quay is not considered appropriate. As part of the Barrack Street Jetty upgrade, the State of Western Australia, through the MRA, spent \$7.5 million on finger wharf improvements, as well as the installation of communal waste and fuel sullage facilities which are appropriate for commercial operators such as Barge Co.
- 2.42 MRA does not consider Barge Co has provided sufficient information within the Noise Management Plan to demonstrate that the proposal can achieve compliance with the Environmental Protection (Noise) Regulations 1997. It is anticipated Elizabeth Quay will accommodate over 1400 residents and the base level and special event noise emissions from the barge have not been considered adequately, and will have significant impact on the ambient noise levels at Elizabeth Quay. Additionally, Barge Co has not provided measures to control music, entertainment and other noise emissions, ongoing procedures to ensure amplified music on the barge will not exceed noise levels at nearby future residents, and complaint response procedures specifying how complaints will be received, recorded and investigated.
- 2.43 Barge Co will be required to seek development approval from the MRA for additional structures or signage for Elizabeth Quay in accordance with the Metropolitan Redevelopment Authority Regulations 2011.

#### **Public Transport Authority**

- 2.44 PTA participated in the Risk Assessment Workshop on 16 March 2017.
- 2.45 PTA does not support the proposal due to the significant unmitigated risk to the Fremantle Rail Bridge.

#### **Botanic Gardens and Parks Authority**

- 2.46 BGPA provided comments on the proposal on 24 February 2017.
- 2.47 BGPA advises that the Barge Co vessel will be clearly within the view lines from Kings Park, and particular care should be taken in the choice of materials and colours used on the vessel so as not to negatively impact on the views from Kings Park. The BGPA preference would be for non-reflective materials to be used on all surfaces and that muted or natural colours are used to ensure the vessel blends with its surrounding environment and to avoid glare or distraction of the eye towards the vessel in the outlook from viewing points in the park.



- 2.48 BGPA has some concern about the proposed use of Date Palms on the barge will look completely foreign within the river environment and have the effect of making the barge more prominent in the view lines from Kings Park. The BGPA would prefer the use of Australian plants in this setting to reinforce a sense of place.
- 2.49 BGPA expressed concern the noise from proposed music concerts and other events will impact on the Kings Park visitor experience. Visitors to Kings Park enjoy a relatively quiet, park atmosphere for relaxation and passive recreation. The BGPA is concerned that loud music on the vessel for private events will extend into the popular visitor areas along the ridge of the Mt Eliza Escarpment, interrupting the ambience of the park environment for visitors.

#### **City of South Perth**

- 2.50 The City of South Perth provided comments on the proposal on 14 February 2017 and requested information on proposed noise management due to possible impact from larger events on South Perth residents.
- 2.51 At the time of preparing this Final Report, no further comment from the City of South Perth has been received.

#### **Tourism WA**

- 2.52 Tourism WA corresponded with Parks and Wildlife on 31 March 2017, recommending consideration of the Barge Co proposal in terms of the long-term vision for Perth Water, and the significant investment of both Government and private investors for the development of Elizabeth Quay.
- 2.53 Tourism WA notes the future development of the National Indigenous Cultural Centre (NICC) may be adversely impacted by any permanent/semi-permanently moored barge vessels in Perth Water.

#### **Swan River Trust**

- 2.54 In accordance with section 75(3A) of the SCRM Act 2006, the Trust considered the draft report at its meeting on 9 May 2017.
- 2.55 The Trust discussed the following issues:
- the general question of whether event barges in Perth Water are acceptable;
  - the visual amenity of large, industrial-looking barges permanently placed in the landscape;
  - the appearance of the barge, especially over time;
  - the interference with view-scapes from key locations such as Elizabeth Quay, Kings Park and South Perth;
  - that the proposal will detract from the key aspects of what makes the river important to the community;
  - there being a significant difference between development at the river's edge and permanent structures mid-river;
  - the planning around future commercial and residential development in surrounding areas, especially Elizabeth Quay;
  - noise and other impacts associated with moving patrons, supplies and waste materials from the operation;
  - the impact on other river users, including the need to remove or relocate existing courtesy moorings;
  - the relationship of the proposals to the policy objectives of State Planning Policy 2.10;
  - that if approved, the proposal would need to be time-limited and be subject to strict conditions.
- 2.56 The Trust noted that the proposal had not been supported by referral agencies.

The Trust resolved:

*“to support the draft report and recommendation as outlined as it does not consider the application by Barge Co Pty Ltd to be acceptable and should be refused.*

*The Trust fundamentally opposes the development of floating barge event venues on the river system due to the adverse impact on visual amenity, the permanent alienation of the waterway from community use, the interference with key view-scapes, the incompatibility of the use with the community’s use and enjoyment of the river system, the noise impacts on surrounding current and future residents and the issues relating to servicing such venues.*

*Furthermore, the Barge Co Pty Ltd proposal clearly presents an unmitigable risk to the Fremantle traffic and rail bridges.*

*In reaching this decision, the advice and recommendations of the City of Perth, the City of South Perth, the Metropolitan Redevelopment Authority, the Department of Transport, the Department of Water, the Department of Aboriginal Affairs, the Public Transport Authority and the Botanic Gardens and Parks Authority were considered and supported.”*

### **Public Notice**

- 2.57 The proposal was formally advertised in accordance with Section 74(2) of the SCRM Act. The advertisements were run for two consecutive weeks in The West Australian newspaper (4 and 11 February 2017) and the Western Suburbs Weekly (Perth CBD) and Southern Gazette (South Perth) (7 and 14 February 2017). The public submissions period was open for a period of four weeks concluding on 4 March 2017.
- 2.58 Two submissions were received during the public notice period, and two submissions were received late.
- 2.59 The first submission was received on 8 February 2017, and was supportive of the development.
- 2.60 The second submission was received on 2 March 2017, and amounted to an objection to the proposal due to the vulnerability of the river and the “lack of need” for more eateries in the area. The submission noted that Government should have more respect for the rivers and wetlands.
- 2.61 The third and fourth submissions were received on 11 April 2017, and amounted to objections to the proposal due to possible noise impacts on the residents of South Perth Peninsula.

### **3.0 PUBLIC COMMENT – SUBMISSIONS ON DRAFT REPORT UNDER SECTION 75 OF THE SCRM ACT**

- 3.1 In accordance with the requirements of Part 5 of the SCRM Act a copy of the draft report and proposed recommendation was provided to the applicant, referral agencies and members of the public who provided a submission. A copy was also published on the Parks and Wildlife website for a period of 17 days between 2 and 19 June 2016 with an invitation for public submissions.
- 3.2 At the close of the public comment period, no public submissions had been received.
- 3.3 The applicant responded to the report on 19 June 2017. Its submission is included as **Attachment 6**. The issues raised are discussed in Section 6.0 and changes to the report have been made where considered necessary.
- 3.4 MRA provided comment on 9 June 2017. MRA objects to the use of three courtesy moorings for commercial enterprise. As part of the Barrack Street Jetty upgrade, the State of Western Australia, through MRA, spent \$7.5 million on



finger wharf improvements, as well as the installation of communal waste and fuel sillage facilities which are appropriate for commercial operators such as Barge Co.

- 3.5 MRA notes the retrofitting of facilities to accommodate Barge Co in Elizabeth Quay would be an expensive and disruptive exercise, as the Elizabeth Quay inlet is designed to accommodate ferry passengers and small pleasure craft.

#### **4.0 RELEVANT POLICIES AND PLANS**

- ◆ State Planning Policy 2.9 – *Water Resources* (SPP2.9)
- ◆ State Planning Policy 2.10 – *Swan-Canning River System* (SPP2.10)
- ◆ Corporate Policy Statement No. 42 - *Planning for Land Use, Development and Permitting Affecting the Swan Canning Development Control Area* (Policy 42)
- ◆ Corporate Policy Statement No. 44 - *Planning for Jetties in the Swan Canning Development Control Area* (Policy 44)
- ◆ Corporate Policy Statement No. 46 - *Planning for Commercial Operations in the Swan Canning Development Control Area* (Policy 46)
- ◆ Corporate Policy Statement No. 48 - *Planning for Development Setback Requirements Affecting the Swan Canning Development Control Area* (Policy 48)
- ◆ Corporate Policy Statement No. 49 - *Planning for Stormwater Management Affecting the Swan Canning Development Control Area* (Policy 49)
- ◆ Corporate Policy Statement No. 51 - *Planning for Wastewater Affecting the Swan Canning Development Control Area* (Policy 51)

#### **5.0 ENVIRONMENTAL AND PLANNING CONSIDERATIONS**

- ◆ Landscape character
- ◆ Public access and community benefit
- ◆ Amenity
- ◆ Recreation and tourism
- ◆ Transport
- ◆ River flood
- ◆ Cultural and natural heritage
- ◆ Pedestrian and vehicular traffic
- ◆ Water quality protection
- ◆ Ecological health
- ◆ Development of food and beverage facilities on or over waters
- ◆ Lighting and signage
- ◆ Infrastructure and services
- ◆ Maintenance of facilities
- ◆ Stormwater quality



## 6.0 DISCUSSION

### Landscape Character

- 6.1 State Planning Policy 2.10 – *Swan-Canning River System* (SPP2.10), Corporate Policy Statement No. 42 - *Planning for Land Use, Development and Permitting Affecting the Swan Canning Development Control Area* (Policy 42), Corporate Policy Statement No. 44 - *Planning for Jetties in the Swan Canning Development Control Area* (Policy 44) and Corporate Policy Statement No. 46 - *Planning for Commercial Operations in the Swan Canning Development Control Area* (Policy 46) require development proposals do not to restrict or negatively impact on public views to or from the river, particularly from vantage points, and that proposals ensure the essential qualities of Perth Water are protected and enhanced.
- 6.2 SPP2.10 requires the protection of views across and from the water, both north and south of the river between the Narrows Bridge and the Causeway and east and west between Kings Park and Heirisson Island; the protection of views of the Kings Park escarpment from both the north and south shores and from craft on the river; the maintenance and enhancement views of the river from city streets and public places; the protection and enhancement of river views in redevelopment projects; and ensuring that development complements the natural landforms and provides opportunities for public access to and enjoyment of the river.
- 6.3 Policy 42 requires proposals have due regard for the provisions of the *Visual Landscape Planning in Western Australia: A manual for evaluation, assessment, siting and design* (Western Australian Planning Commission, 2007), and consider the proposal's impact on the landscape.
- 6.4 The proposed location of the barge is in direct line of sight between Elizabeth Quay, Perth City foreshore and the South Perth foreshore, in addition to being prominently visible from the Mend Street Jetty at South Perth, and will interrupt the views from all purpose-built vantage points within Elizabeth Quay, the Perth foreshore and Kings Park.
- 6.5 The Barge Co barge features sea containers, shade sails and palm trees, and has been designed "to be part of the landscape", however is marketed as being "exotic".
- 6.6 The MRA, City of Perth and Parks and Wildlife do not agree that the barge has been designed with the essential qualities of Perth Water in mind, and the design appears to have misinterpreted those essential qualities.
- 6.7 The use of sea containers, shade sails, palm trees, stark lines, edges, dark colours and most other design attributes are inconsistent, and in most cases contradictory to the design criteria set by the City of Perth for public buildings, and the MRA for all elements of Elizabeth Quay.
- 6.8 It is anticipated the barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark on the river.
- 6.9 Policy 48 requires that, where the height, bulk, scale or form, orientation or location of a development is likely to create significant visual impacts within the context of the surrounding landscape:
  - a) require the development minimise overshadowing and break up the hard edges, solid faces and bulk of buildings;
  - b) require the development to be designed such that the levels step back in a landward direction and step down to complement adjacent buildings and the foreshore landscape;

- c) consider requiring applicants to undertake a Visual Impact Assessment to justify that an application is in keeping with the wider landscape and the immediate foreshore
- 6.10 Barge Co has not provided information to support the development proposal consistent with the requirements of *Visual Landscape Planning in Western Australia: A manual for evaluation, assessment, siting and design*, and has not designed the barge to ensure the essential qualities of Perth Water are protected and enhanced.
- 6.11 In its submission dated 19 June 2017, Barge Co contends that the proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond that of vessels currently using the area. Additionally, the barge will be mobile and thus will not be a permanent feature in Perth Water. Barge Co contends that the barge design protects views through its location and use of materials which offer full views of the location and its surrounds. Barge Co contends that the design matches other businesses already operating within Elizabeth Quay. Barge Co requests the opportunity to address these issues as a condition of approval.

#### **Public Access and Community Benefit**

- 6.12 SPP2.10 requires public access to the river to be maintained and enhanced while protecting the river; jetties and similar structures over and abutting the river do not restrict public access along the foreshore; and development proposals recognise that the river is a public resource that should be available to the community in perpetuity. Any proposal for a use or development within the public realm that may affect the river and its settings should demonstrate a benefit to the community that offsets any detrimental impacts on the environment.
- 6.13 Policy 42 seeks to ensure proposals do not impair other forms of acceptable use or jeopardise the safety of others utilising the Swan Canning river system and its foreshores.
- 6.14 Policy 46 requires possible conflicts of use with other established tourism and recreational facilities, public uses, or river transport infrastructure to be identified, and development proposals do not cause conflicts with other appropriate forms of use or unacceptable congestion.
- 6.15 The Barge Co proposal includes the mooring of a barge in Perth Water for private commercial use, which will reduce the area of Perth Water currently accessible to the public at no cost. The total footprint of the development is over 14,000m<sup>2</sup>, and would ultimately form an exclusion zone within Perth Water.
- 6.16 The barge is proposed to be located within the existing courtesy mooring area, and will reduce the number of moorings currently accessible to the public by at least two.
- 6.17 Barge Co propose to lease one of the designated short stay boat berths within Elizabeth Quay from MRA, altering the structure to accommodate a vessel larger than the existing design capacity, and install structures for shade. This berth is currently accessible to the public for stays up to 3 hours. The lease of this berth for exclusive use by Barge Co would reduce public access to Elizabeth Quay and is unlikely to be approved by MRA.
- 6.18 Barge Co has not demonstrated that opportunities for public access to the river have been maximised. The proposal will potentially impair other forms of acceptable use, including quiet enjoyment on Perth Water and the foreshores of Perth and South Perth by the public.
- 6.19 The vistas from Kings Park, Elizabeth Quay, and the Perth and South Perth foreshores are currently uninterrupted on a permanent basis, with only transient interruptions by private and commercial vessel movements through Perth Water.



The moored barge will negatively impact on the community's enjoyment of an uninterrupted vista from various vantage points in the Perth area (due to the bulk, scale and design of the barge).

### **Amenity**

- 6.20 Policy 46 requires proponents to demonstrate they are managing effects on amenity.
- 6.21 The MRA object to the use of Elizabeth Quay for the management of patrons via a purpose built boarding pontoon and shade structure. Elizabeth Quay has been designed to cater for ferry passengers and small pleasure craft and is not adequately designed to accommodate the transfer of 600 patrons, in addition to goods and waste to and from the barge.
- 6.22 The use of Elizabeth Quay by Barge Co will cause significant impacts on amenity for patrons using Elizabeth Quay for recreational purposes, causing congestion with pedestrian traffic and the possible overflow of patrons into the water park area.
- 6.23 The MRA's comments were further reiterated in comments received on 9 June 2017, with the MRA noting the retrofitting of facilities to accommodate Barge Co in Elizabeth Quay would be an expensive and disruptive exercise, as the Elizabeth Quay inlet is designed to accommodate ferry passengers and small pleasure craft.
- 6.24 The development of the residential towers within Elizabeth Quay and subsequent occupancy for residential purposes has not been accounted for in terms of noise assessment, and it is anticipated the area will be significantly impacted by noise of patrons at Elizabeth Quay, the operation of transfer vessels, the movement of waste across Elizabeth Quay via wheeled trolleys, and the increase in commercial deliveries to the area.
- 6.25 In its submission dated 19 June 2017, Barge Co requests that noise management is addressed through a condition of approval.

### **Recreation and Tourism**

- 6.26 SPP2.10 and Policy 42 requires development must maintain access to the river for recreation and tourism.
- 6.27 Barge Co proposes to host private and corporate events, weddings and performances of live music and cinema, increasing opportunities for tourism and recreation.
- 6.28 Barge Co has not addressed other potential/future events that may be held on the river (such as the Perth City Skyworks, sailing and rowing events), or future planned development of Elizabeth Quay and surrounds.
- 6.29 Tourism WA advises that Elizabeth Quay is a critical piece of tourism infrastructure that will, as it develops, become a key destination, place to stay, and centre of activity for visitors to Perth and Western Australia. This represents a significant level of both Government and private investment including a number of existing and proposed hotels, bars, restaurants and cafes. Importantly, the proposed future development of a National Indigenous Cultural Centre (NICC) is to be located in Perth Water adjacent to Elizabeth Quay.
- 6.30 Barge Co seeks to utilise this area of Perth Water which should be considered in the context of a long-term vision. Any use of Perth Water should not restrict the potential development of a major tourist attraction such as the NICC, or unduly impact on the day to day operation of Elizabeth Quay.
- 6.31 Parks and Wildlife considers that proposals should support the growth of Elizabeth Quay as a destination as it develops. Importantly, this ensures that the long-term intent, and future opportunities associated with the expansion of



Elizabeth Quay, the Perth Convention and Exhibition Centre and the NICC are acknowledged and planned for.

- 6.32 In its submission of 19 June 2017, Barge Co indicates that the provision of a range of facilities, services, and visitor amenities are integral to supporting the visitor economy, and providing a range of experiences to the local community and visitors alike. In 2014-15, half of tourism employees in Western Australia worked in hospitality businesses and tour operations, accounting for 23% of the tourism sector's contribution to the State's Gross Value.
- 6.33 Barge Co states that the proposal will establish a new style of floating event venue to Perth that will utilise the City's river environment. This venue will enable visitors to experience this important tourism asset. Barge Co states that research indicates that 73% of visitors to the Swan River consider that more events that take advantage of this unique setting are a significant opportunity. Additionally, research indicates that 1.1 million visitors to WA partake in a specific food and wine activity while travelling in the State. Of this number, 38% consider good food, wine and local produce as a determining factor when choosing a destination, and 64% of these visitors consider dining in a waterfront location to be highly appealing.
- 6.34 Barge Co contends that the barge venue, which includes a restaurant, bar and event venue for theatre, ballet, orchestra, art exhibitions, sunset cinemas and concerts in the middle of the Swan River, and off the Perth coastline, is an example of the type of facility that will enable visitors to participate in these experiences.

## Transport

- 6.35 SPP2.10 and Policy 42 require development not inhibit river transport, both commercial and recreational.
- 6.36 The barge is proposed to be located partially within the Perth-Rottnest navigational channel in Perth Water, and DoT advises this location is not appropriate due to potential hindrance of commercial and recreational vessels utilising the channel. An alternate location has been proposed by Barge Co fully within the courtesy mooring area, noting this would require the removal of at least three courtesy moorings.
- 6.37 Barge Co will require the movement of the barge to Fremantle for servicing, in addition to relocation to Port Beach and Coogee Beach for events. Movement of the barge is detailed in the proponent's Vessel Movement Plan, which details the movement of the barge, using tug boats for power and steering, through the Fremantle Traffic Bridge (FTB) and Fremantle Rail Bridge (FRB). The proponent contends that the barge is unlikely to make contact with either bridge, with plans showing the smallest clearance between the barge, tug boats, and bridge infrastructure at 19.9cm.
- 6.38 MRWA, PTA, DoT, Fremantle Port Authority (FPA), the Australian Maritime Safety Authority (AMSA) and Parks and Wildlife participated in a collaborative risk workshop on 16 March 2017 to assess the risks associated with the vessel transit beneath the FTB and FRB, facilitated by Arup.
- 6.39 MRWA and PTA note that the FTB and FRB are core transport routes across the Swan River and are located adjacent to each other, with the FRB bordering the Port of Fremantle.
- 6.40 MRWA advised that the FTB is a timber road bridge over the Swan River in Fremantle, built in 1938. It has four traffic lanes carrying over 30,000 vehicles per day (weekday) and a shared bicycle and pedestrian path on its deck. It supports a range of utilities, including gas, oil, power, telecommunications, and water, which are attached at and slightly below deck level on both sides of the bridge.

- 6.41 Below the deck are two navigation channels used by large marine vessels (e.g. ferries that carry up to 500 passengers). The channels have decreasing vertical clearance from south to north. The bridge structure adjacent to the channels comprises piled fender systems surrounding timber bridge pier piles. The fender systems are not connected to the bridge pier piles.
- 6.42 The PTA advised that the FRB, constructed in 1964, comprises concrete piers and a steel deck. Recent enhancements to the bridge have seen the installation of four dolphins (man-made structure installed to protect the bridge piers from impact) on the downstream (Fremantle Port) side of the bridge in 2015. It carries the main north/south electrified rail line over the Swan River which services both passenger and freight rail. The FRB is outside the DCA, however the barge must navigate through the bridge as part of the movement proposed by Barge Co, and therefore assessed as part of this development application.
- 6.43 The Barge Co proposal states the barge is 50m x 14.3m x 7.2m and has no self-propulsion – it will be moved by tugboats. Due to size, weight and surface area of the barge, no movements are proposed to be completed when wind speed will exceed 15 Knots.
- 6.44 Given bridge clearances, the barge is proposed to be navigated through the bridges at low tide and during the period of slack tide (where there is no movement either way in the tidal stream), or should there be tidal influence, the barge will be moved in the opposite direction to the tidal flow.
- 6.45 When weather conditions are ideal for barge movement, it is likely that the public will also be actively using the same waterway.
- 6.46 A qualitative risk assessment, in accordance with MRWA Risk Management Process, was carried out during the workshop on 16 March 2017 to assess the risk of the proposed operation by Barge Co (**Attachment 7**).
- 6.47 The likelihood and consequences of the most plausible scenarios were assessed and are listed as Scenarios 1 to 5 for the FTB, and Scenario's 6 to 8 for the FRB in the below summary table:



<b>FREMANTLE TRAFFIC BRIDGE</b>	<b>Issues identified with proposed movement</b>	<b>Likely consequences</b>	<b>Qualitative measures of consequence</b>	<b>Qualitative risk assessment result</b>
<b>Scenario 1: Direct bridge pier impact</b>	<ul style="list-style-type: none"> <li>- An uncontrolled transit and an impact that causes movement bigger than the movement tolerance of the fender system.</li> <li>- Possible cause: Tug stuck on full power, tug tension line failure, loss of control due to weather parameter changes.</li> <li>- Similar events have occurred in Perth.</li> </ul>	<ul style="list-style-type: none"> <li>- Serviceability-of-bridge failure as opposed collapse most likely.</li> <li>- Potential for serious injury and death and utility failure - gas, oil, water, electricity. Bridge closure of greater than 1 week likely.</li> </ul>	<ul style="list-style-type: none"> <li>- death or severe permanent disablements</li> <li>- more than \$20 million financial loss</li> <li>- significant adverse community impact and condemnation</li> <li>- extreme negative media attention</li> <li>- consistent ongoing community loss of confidence and trust in Main Roads WA capabilities and intentions</li> <li>- major litigation involving class actions</li> <li>- more than \$20 million financial loss</li> <li>- significant adverse community impact and condemnation</li> <li>- extreme negative media attention</li> <li>- consistent ongoing community loss of confidence and trust in Main Roads WA (MRWA) capabilities and intentions</li> <li>- major litigation involving class actions</li> </ul>	<b>HIGH RISK</b> (urgent action required)
<b>Scenario 2: Direct bridge span/soffit impact</b>	<ul style="list-style-type: none"> <li>- A transit completed outside the prescribed tide parameters causing an impact that causes bridge movement.</li> <li>- Possible cause: Tide level changes during transit.</li> <li>- Intent is to provide 0.5m height clearance at all times. This is to be maintained.</li> </ul>	<ul style="list-style-type: none"> <li>- The bridge is a simply-supported steel beam bridge. A large water main is located on upstream side c.0.5m.</li> <li>- Bridge closure required for a minimum 1 week. This will also close the waterway.</li> </ul>	<ul style="list-style-type: none"> <li>- \$500,000 to \$5 million financial loss</li> <li>- sectional community impacts and concerns publicly expressed</li> <li>- increased negative media attention</li> <li>- loss of confidence and trust by community and stakeholders in MRWA processes and capability</li> <li>- Ministerial concern</li> <li>- a range of assets, including some significant assets are unusable for 24 hours</li> <li>- investigation and legal representation to determine legal liability</li> </ul>	<b>HIGH RISK</b> (urgent action required)
<b>Scenario 3: Repeated bridge scuff/clip impact</b>	<ul style="list-style-type: none"> <li>- Transit movement is predicated on sliding/kissing/nudging the bridge given clearances.</li> <li>- Possible cause: Limited clearance and alignments.</li> <li>- Likely on each transit given dimensions of barge and clearances.</li> </ul>	<ul style="list-style-type: none"> <li>- Fenders not designed for repeated contact from vessels and are designed for accidental impact only.</li> <li>- Increased maintenance reviews and works required as a consequence.</li> </ul>	<ul style="list-style-type: none"> <li>- \$500,000 to \$5 million financial loss</li> <li>- sectional community impacts and concerns publicly expressed</li> <li>- increased negative media attention</li> <li>- loss of confidence and trust by community and stakeholders in MRWA processes and capability</li> <li>- Ministerial concern</li> <li>- a range of assets, including some significant assets are unusable for 24 hours</li> <li>- investigation and legal representation to determine legal liability</li> </ul>	<b>HIGH RISK</b> (urgent action required)

**Scenario 4:  
Waterway blockage  
greater than two  
hours (vessel stuck  
between or  
underneath)**

- Blockage defined as any change that means the movement cannot be completed as planned.
- Barge becoming stuck between bridges is also included given layout and dimensions of bridges and barge.
- Possible Cause: Changing conditions occur within the period of the movement, physical constraints give a challenging movement.
- Clearance issues between bridge and tug identified in design of movement. Therefore, clipping is likely. This may lead to unplanned movements.
- The vessel has limited power/speed/control available to assist manoeuvrability.
- Waterway blockage (partial) causing severe disruption to waterway.
- Potential bridge closure more than 2 hours.
- sectional community impacts and concerns publicly expressed
- increased negative media attention
- loss of confidence and trust by community and stakeholders in MRWA processes and capability
- Ministerial concern
- a range of assets, including some significant assets are unusable for 24 hours
- investigation and legal representation to determine legal liability

**MODERATE  
RISK  
(management  
controls  
required)**

**Scenario 5:  
Waterway blockage  
less than two hours  
(vessel stuck  
between or  
underneath)**

- Blockage defined as any change that means the movement cannot be completed as planned.
- Barge becoming stuck between bridges is also included given layout and dimensions of bridges and barge.
- Possible Cause: Changing conditions occur within the period of the movement, physical constraints give a challenging movement.
- Clearance issues between bridge and tug identified in design of movement. Therefore, clipping is likely. This may lead to unplanned movements.
- The vessel has limited power/speed/control available to assist manoeuvrability.
- Waterway blockage (partial) causing severe disruption to waterway.
- Potential bridge closure less than 2 hours.
- Local community impacts and concerns
- Occasional once off negative media attention
- Trust issues raised
- A number of assets unusable but can be replaced within acceptable timeframes (1-4 hours)
- Complex legal issues to be addressed
- Potential public liability claim

**HIGH RISK  
(urgent action  
required)**



<b>Fremantle Rail Bridge</b>	<b>Issues identified with proposed movement</b>	<b>Likely consequences</b>	<b>Qualitative measures of consequence</b>	<b>Qualitative risk assessment result</b>
<b>Scenario 6: Direct bridge impact (upstream transit)</b>	<ul style="list-style-type: none"> <li>- The bridge spans are large and the approach unrestricted therefore unlikely.</li> <li>- An uncontrolled transit and an impact on the dolphin protection system.</li> <li>- Alarm system not activated.</li> <li>- Possible cause: Tug stuck on full power, tug tension line failure, loss of control due to weather parameter changes.</li> </ul>	<ul style="list-style-type: none"> <li>- Unlikely to ever collapse with impact and dolphins reduce risk further (as dolphin designed to protect rail bridge piers from a direct impact in this direction).</li> </ul>	<ul style="list-style-type: none"> <li>- Less than \$100,000 financial loss</li> <li>- Isolated local community or individual's issue-based concerns</li> <li>- Low profile media attention</li> <li>- Assets receive minimal damage or are only temporarily available</li> <li>- Legal issues may be managed by routine procedures</li> </ul>	<b>LOW RISK</b> (specify actions and monitor)
<b>Scenario 7: Direct bridge impact (downstream transit)</b>	<ul style="list-style-type: none"> <li>- Navigation under traffic bridge affects approach to rail bridge and planned transit path is close to pier structure. Therefore likelihood is high.</li> <li>- An uncontrolled transit and an impact on the bridge pier.</li> <li>- Note any bridge impact activates the alarm system leading to requirement for track assessment.</li> <li>- Possible cause: Tug stuck on full power, tug tension line failure, loss of control due to weather parameter changes.</li> </ul>	<ul style="list-style-type: none"> <li>- Unlikely to ever collapse with impact even though no additional protection to bridge from this direction (no dolphins).</li> <li>- When the alarm system is activated an engineer inspection is required taking 1-2hours. This closes the bridge for this period of time.</li> </ul>	<ul style="list-style-type: none"> <li>- Local community impacts and concerns</li> <li>- Occasional once off negative media attention</li> <li>- Trust issues raised</li> <li>- A number of assets unusable but can be replaced within acceptable timeframes (1-4 hours)</li> <li>- Complex legal issues to be addressed</li> <li>- Potential public liability claim</li> </ul>	<b>HIGH RISK</b> (urgent action required)
<b>Scenario 8: Bridge pier side impact</b>	<ul style="list-style-type: none"> <li>- Design shows only 19cm clearance to bridge pier elements during the planned transit. Therefore, contact almost certain. No support vessel to resist.</li> <li>- A side impact to the bridge piers.</li> <li>- Note any bridge impact may activate the alarm system leading to requirement for track assessment.</li> <li>- Possible cause: Limited clearance and alignments.</li> </ul>	<ul style="list-style-type: none"> <li>- Unlikely to ever collapse with impact even though no additional protection to bridge from this direction (no dolphins).</li> <li>- When the alarm system is activated an engineer inspection is required taking 1-2hours. This closes the bridge for this period of time.</li> </ul>	<ul style="list-style-type: none"> <li>- Local community impacts and concerns</li> <li>- Occasional once off negative media attention</li> <li>- Trust issues raised</li> <li>- A number of assets unusable but can be replaced within acceptable timeframes (1-4 hours)</li> <li>- Complex legal issues to be addressed</li> <li>- Potential public liability claim</li> </ul>	<b>HIGH RISK</b> (urgent action required)

6.48 According to the MRA Risk Management Process, moderate risks identified during the risk assessment process can theoretically be managed through management controls, such as authorisation for the barge movement through the FTB and FRB to only occur during specific weather and tidal conditions, the closure of the navigation channel, additional spotter vessels, etc. High risks identified during the risk assessment process require the regulator or vessel operator to take urgent action in relation to the activity.

6.49 The collaborative risk assessment concluded with the determination that the only appropriate action that could be taken by Barge Co to mitigate the high risk includes redesigning the barge to be of a smaller size to increase clearances, or

for Government to re-built the FTB using different engineering methodologies to allow it to withstand the forces of a large barge impact, or provide greater clearances. It was concluded the vessel movement through the FTB and FRB cannot occur as proposed.

- 6.50 In its submission of 19 June 2017, Barge Co proposes that a full qualitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage, can be provided as a condition of approval.

### **River Flood**

- 6.51 Policy 42 requires development proposed within the flood fringe to be designed to minimise damage during a major flood event. Parks and Wildlife is to have due regard for the DoW's floodplain management process and advice on flood risk. Policy 46 requires consideration of flood prone land including whether the design has made provisions for sea level rise, major flood events and tidal surges, and will not adversely affect the hydrology of the floodplain.
- 6.52 In its general advice in relation to mooring of barges within Perth Water, DoW advise the extent of river flooding is to be considered in the design of the barge and its moorings, and how flood risks are intended to be managed (either passively through appropriate design or actively through responses immediately preceding/during events).
- 6.53 The proposed mooring has been designed to allow for 1 in 25 year storm event (wind speed and direction), however further development of the design is required to increase the mooring strength to allow for 1 in 100 year storm events *and* flood events. Contingency planning is also required, which discusses procedures for the removal of the barge from Perth Water in events anticipated to be greater than 1 in 100 years.
- 6.54 In its submission dated 19 June 2017, Barge Co requests that mooring design and flood events are addressed through conditions of approval.

### **Cultural and Natural Heritage**

- 6.55 SPP2.10 states that the natural and cultural heritage values of the river should be protected and enhanced. Consideration of Aboriginal and European based cultural and natural heritage values should be taken into account when planning and determining proposals within the river area.
- 6.56 Policies 42, 44 and 46 further underpin the importance of minimising and managing the effects on Aboriginal and/or European heritage values.
- 6.57 Parks and Wildlife does not consider Barge Co has demonstrated an understanding of the need to support the protection of cultural heritage places including the built environment, natural resources and sites of significance to both Aboriginal and non-Aboriginal people, and has not provided information to demonstrate consultation with the South West Aboriginal Land and Sea Council.

### **Pedestrian and Vehicular Traffic**

- 6.58 Policy 46 requires proponents to provide information regarding the parking requirements of the development, and whether adequate car parking is proposed or currently exists.
- 6.59 An assessment has not been undertaken to assess the impact of an increase in vehicular and pedestrian traffic around and within Elizabeth Quay, beyond the intended capacity of that facility; and no information has been provided to support the contention that the number of existing car parks in close proximity to the proposal is adequate for the development.
- 6.60 Policy 46 requires that parking for the Barge Co venue should be equivalent to one car bay per four-person seating capacity and one car bay per two staff, or in



accordance with the parking requirements of the City of Perth's City Planning Scheme No. 2.

- 6.61 In its submission dated 19 June 2017, Barge Co requests that traffic management is addressed through a condition of approval.

### **Water Quality Protection**

- 6.62 State Planning Policy 2.9 – *Water Resources* (SPP2.9) requires that proponents prevent or, where appropriate, ameliorate the potential impact on water quality and, as a minimum, proposed development should aim to maintain water quality.
- 6.63 Potential impacts on water quality include hydrocarbon contamination from fuel storage and transfer, and accidental spills; contamination from waste storage and transfer, and accidental spills; and turbidity due to the installation and operation of the moorings.
- 6.64 Power for the barge will be supplied via diesel generators, and refuelling is proposed to occur at North Port Marine complex in Fremantle.
- 6.65 Information in relation to the volume of diesel storage on the barge, the risks posed by the bulk storage of fuel on Perth Water, and mitigation and management strategies to address these risks have not been identified by the proponent. Barge Co has not provided information relating to the refuelling of the transfer vessel.
- 6.66 No information has been provided in relation to the proposed installation methodology of the moorings, and the risk of increased turbidity in Perth Water during the construction and operational phases of the moorings.
- 6.67 Parks and Wildlife requires that moorings are environmentally friendly in design, and Barge Co's proposed mooring system is not considered to meet this criterion, specifically the four Risers (22m in length each) will be in contact with the river bed and will drag as the barge moves laterally on its moorings, over a total area of approximately 1,300m<sup>2</sup>.
- 6.68 Barge Co proposes to transfer solid and liquid waste from the barge via transfer vessel at Elizabeth Quay. This requires the installation of dedicated sullage pumping services at a short-stay berth, as well as the manual transfer of solid waste through Elizabeth Quay to the temporary bin storage shed located between Lots 2 and 3.
- 6.69 Hazardous waste is proposed to be removed from the barge during servicing at Fremantle.
- 6.70 The MRA advises that it is unlikely Barge Co will receive approval to use any aspect of Elizabeth Quay facilities to service the operation. Notwithstanding this potential limitation, it is considered inappropriate by the City of Perth, the MRA and Parks and Wildlife to transfer waste across/through Elizabeth Quay, particularly after-hours when nearby noise receptors would be the most sensitive.
- 6.71 Information in relation to the risk of discharge to the environment at each stage of waste management and transfer, and proposed mitigation strategies for each risk for the protection of water quality of the Swan River, and an assessment of the adverse impact of amenity of Elizabeth Quay and surrounds, and proposed mitigation strategies has not been provided by the proponent.
- 6.72 In its submission dated 19 June 2017, Barge Co requests that waste management is addressed through a condition of approval.

### **Ecological Health**

- 6.73 Policy 42 requires the protection and enhancement of the Swan Canning river system's ecological health. This includes maintaining tributary and stream habitats and their natural drainage functions, reducing nutrient enriched and polluted water inputs from adjacent land uses, minimising erosion of stream

banks and protecting wetland ecosystems and associated wildlife habitats. The Policy requires the promotion of the maintenance and restoration of natural vegetation and encourage proponents to retain existing native vegetation as a means of protecting linkages and natural vegetation corridors.

- 6.74 Policy 46 indicates the development footprint and essential services including water, sewerage, electricity and telecommunications are to be provided without unacceptable environmental impacts.
- 6.75 The proposed mooring area is outside zones currently mapped as containing seagrass or macroalgae benthic primary producer habitat, therefore shading or over-shadowing of the benthos is not considered to present a threat to local environmental assets.
- 6.76 Barge Co indicate that operations will be managed to minimise any potential effects on the ecological health of the Swan-Canning river system, however no environmental assessment has been conducted to quantify the potential effects, or how these will be managed.
- 6.77 A range of important fauna transitions through Perth Water and potential impact to this fauna should be taken into consideration by the proponent. The resident Swan Canning Riverpark dolphin population transits through and feeds in Perth Water. The highest sighting rate in this area occurs in winter, and dolphin sighting numbers are impacted by vessel density, with no sightings occurring during operation of Elizabeth Quay dredging barges.
- 6.78 Barge Co patron transport vessel movements should be cognisant of the potential impact on dolphin behaviour, and preferably movements should be staggered and avoid many vessel movements in peak periods, particularly during the day.
- 6.79 Artificial lighting can impact fish behaviour and this is variable based on both intensity and quality of light, and downwelling of light should be kept to a minimum. Barge Co has not provided sufficient information to assess the lighting proposed for the barge, however it should be fit for purpose and not adversely impact the natural biological regimes of the river.
- 6.80 Other risks presented by the long-term installation of large moored barges include potential build-up of antifouling in the surrounding sediment and build-up of rubbish in the surrounding environment (bottles, plastics, cigarette butts etc.).
- 6.81 Further investigations are required, including seagrass and macroalgae survey, benthic habitat survey, aquatic fauna surveys, and sediment and water quality assessments, prior to commencement of works of this nature, and a proposed ongoing sampling and survey program would also be required to monitor the impacts of the development.
- 6.82 In its submission dated 19 June 2017, Barge Co requests that ecological assessments are addressed through a condition of approval.

#### **Development of Food and Beverage Facilities On or Over Waters**

- 6.83 Policy 46 sets requirements for food and beverage facilities on waters, including details on kitchen fit out, location of grease traps, and grey water waste management, including calculations for estimated volumes of waste generated.
- 6.84 Barge Co has provided insufficient information on how foods, goods, wastes, cleaning products are to be stored and transferred to and from the barge.
- 6.85 In its submission dated 19 June 2017, Barge Co requests that these issues are addressed through conditions of approval.



### **Lighting and Signage**

- 6.86 Policy 44 requires proponents demonstrate that lighting is fit-for-purpose and will not interfere with vessel navigation, adversely affect the amenity of the area, or unacceptably alter the natural patterns of light and dark.
- 6.87 Barge Co has provided insufficient information on proposed navigational lighting, and lighting to be used for each function type, including wattage and direction, and validation that it is fit for purpose, and will not adversely impact the amenity of the area.
- 6.88 In its submission dated 19 June 2017, Barge Co requests that lighting is addressed through a condition of approval.

### **Infrastructure and Services**

- 6.89 Corporate Policy Statement No. 51 - *Planning for Wastewater Affecting the Swan Canning Development Control Area* (Policy 51) requires that proponents should demonstrate that infrastructure and services can be provided in the manner proposed.
- 6.90 Barge Co propose to lease portions of Elizabeth Quay from the MRA to support the embarking and disembarking of patrons via the transfer vessel, the installation of infrastructure for sullage removal, the movement of food/drinks and goods to the barge, and the removal of solid waste from the barge. These services are unlikely to be supported by MRA.
- 6.91 The temporary waste "bin sheds" located at Lots 2 and 3 in Elizabeth Quay are now not available due to commencement of development.
- 6.92 The servicing of the barge in Fremantle cannot occur, as the barge cannot be transported from Perth Water through the FTB and FRB due to the significant risks posed to this infrastructure.
- 6.93 The installation of moorings within the courtesy mooring area is not supported due to the extremely large development footprint (exclusion zone), and the lateral movement of the barge into the navigational channel.
- 6.94 In its submission dated 19 June 2017, Barge Co requests that these issues are addressed through conditions of approval.

### **Maintenance of Facilities**

- 6.95 Policy 46 requires proprietors and facility managers undertaking maintenance activities such as paint scraping, spraying, washing or timber treatment on the exterior of a facility, to ensure adequate measures are taken to prevent river contamination.
- 6.96 Barge Co proposes to collect wash down water from deck for treatment and reuse on the barge.
- 6.97 Barge Co has provided insufficient information on routine and other repairs and maintenance anticipated for the barge, transfer vessel and moorings, including management of micro and macro fouling and information on hull coating.
- 6.98 In its submission dated 19 June 2017, Barge Co requests that maintenance issues are addressed through a condition of approval.

### **Stormwater quality**

- 6.99 Corporate Policy Statement No. 49 - *Planning for Stormwater Management Affecting the Swan Canning Development Control Area* (Policy 49) recommends proposals include a water quality treatment train for stormwater designed to meet the water quality management objectives of the catchment.
- 6.100 Barge Co proposes to install deck strip drains either side of the barge, and within the ablution area, kitchen, main bar and upstairs bar, which will collect water runoff up to and including the first flush rainfall event. This water is treated as

grey water and treated for reuse for toilet flushing and disposal via a marine sullage port.

## 7.0 CONCLUSION

- 7.1 Parks and Wildlife has assessed information provided by Barge Co in support of the application for development approval. Extensive consultation has occurred with agencies that have an interest in the proposal, informing and supporting the assessment of the benefits and potential detrimental impacts on the social and environmental landscape.
- 7.2 Parks and Wildlife considers the Barge Co application to be fundamentally flawed in its design. Reasons for refusal stem from the bulk, size, materials and finishes of the barge, and mooring design and location.
- 7.3 The Barge Co proposal has been assessed as potentially restricting and negatively impacting public views to or from the river, particularly from vantage points, and the proposal does not ensure the essential qualities of Perth Water will be protected and enhanced. Barge Co has not demonstrated river views in redevelopment projects, specifically Elizabeth Quay and the future NICC, will be protection or enhanced. The proposed location of the barge is in direct line of sight between Elizabeth Quay, Perth City foreshore and the South Perth foreshore, in addition to being prominently visible from the Mend Street Jetty at South Perth, and will interrupt the views from all purpose-built vantage points within Elizabeth Quay, the Perth foreshore and Kings Park. Barge Co has not demonstrated an understanding of appropriate visual landscape planning to ensure consideration of the proposal's impact on the landscape.
- 7.4 The amenity and enjoyment of the area by the community will be impacted by noise from events, and the waste, services and patron management at Elizabeth Quay. Barge Co has not demonstrated an assessment of the potential impacts on current and future residents of Elizabeth Quay, Kings Park, South Perth and Perth City. Concerns of the City of Perth, the MRA and BGPA have not been adequately addressed in the submission documentation and there is no evidence to support Barge Co's contention that noise impacts can be ameliorated.
- 7.5 The proposed use of sea containers, shade sails and palm trees, and the "exotic" nature of the barge design does not meet the minimum design criteria of the City of Perth, and is not consistent with the MRA's Design Guidelines for Elizabeth Quay. While the barge is not proposed to be located within the Elizabeth Quay redevelopment area, the barge is within close proximity to the area and Parks and Wildlife considers it would be essential for the barge to complement Elizabeth Quay in its design. The barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark on the river.
- 7.6 The mooring design, and the size of the barge plus the boarding pontoon requires an exclusion zone of approximately 14,000m<sup>2</sup> in Perth Water due to the drift of the barge in changing wind and tide conditions. With a port to starboard movement of 88.3m on the moorings, the area of exclusion for the public recreational vessels and pleasure craft will be significant in addition to the loss of at least two courtesy moorings that are currently freely accessible to the public. This proposed development within the public realm affects the river and its settings to such an extent that is not offset by the potential benefits to the community.
- 7.7 The proposed location of the mooring is not appropriate as it will impact on the navigational channel. No other locations have been identified as suitable for the barge with an extremely large development footprint such as that proposed by Barge Co. It is therefore not considered reasonable to propose an alternative location, closer to the Perth foreshore or elsewhere in Perth Water.



- 7.8 The proposed use of Elizabeth Quay for the loading and unloading of passengers, specifically the use of a designated short stay boat berth within Elizabeth Quay, in addition to alterations to the berth to accommodate a vessel larger than the existing design capacity, and installation of structures for shade are not supported by the MRA. Barge Co has not demonstrated patron management can occur at Elizabeth Quay, nor any other location.
- 7.9 The proposed movement of the barge from the Swan River to Fremantle and beyond has been assessed as posing a significant unmitigable risk to public safety and to Government infrastructure. The FTB is an MRWA asset, and is at significant risk of damage from barge impact, specifically the gas, oil and electricity services. Damage to these services has the potential to cause an emergency situation with risk to human health, severe injury or death. Bridge closure of more than a week would be required to restore the services and could cost in excess of \$20M. Significant community disruptions would occur due to bridge closure and potential water way closure.
- 7.10 The FRB is located outside the DCA, however as the barge would be required to navigate through the FRB as part of the overall movement out of the Swan River and into the Fremantle Port, the potential impact on this PTA asset should be noted. Any small impact to the FRB infrastructure triggers an alarm which results in line closure and an engineer inspection.
- 7.11 It is noted that Barge Co has requested that the issues raised in the assessment be managed through conditions of approval. Parks and Wildlife considers that the proposal is fundamentally flawed and the issues raised can only be addressed through significant modifications and not conditions of approval.
- 7.12 Should Barge Co chose to significantly modify its proposal, including the size and design of the barge, the design and location of the moorings, and address the risks to the FTB and FRB, approval may be sought under Part 5 of the SCRM Act at a later date.
- 7.13 It is recommended Barge Co engage with DoT, the City of Perth, MRA, MRWA, the PTA and Parks and Wildlife during the redesign process to ensure the design meets the requirements and expectations of each agency.

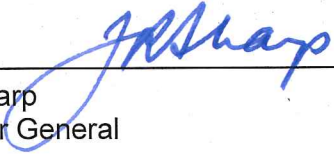
## **8.0 RECOMMENDATION – REFUSAL**

That the Director General of the Department of Parks and Wildlife advises the Minister for Environment that the Barge Co proposal for the installation of moorings and development of a barge event venue in Perth Water, Swan River on Lot 301 on Plan 47451 (Reserve 48325, Swan River), Perth received on 29 September 2016 be REFUSED for the following reasons:

1. The proposed design is excessive in terms of scale and bulk and would have a negative impact on the visual amenity of Perth Water from key vantage points.
2. The proposed barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark on the river.
3. The proposed mooring of the barge requires an exclusion zone of approximately 14,000m<sup>2</sup> in Perth Water, the loss of at least two courtesy moorings, and is located partially within the navigational channel.
4. The proposed patron transport vessel is to utilise services at Elizabeth Quay, however this location is not appropriate for the management of patrons, waste and goods, and will cause the loss of a public berth within the Quay.
5. Proposed movement of the barge through the Fremantle traffic and rail bridge pose a significant unmitigable risk to public safety and to Government infrastructure.

6. The proposal would adversely impact the amenity and enjoyment of the area by the community, due to noise from events, and waste, services and patron management at Elizabeth Quay.



**FINAL REPORT ENDORSED**


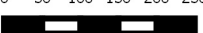
Signed:  Date: 27.6.17  
Jim Sharp  
Director General





**Legend**

 Barge Co Barge Actual     Swan River Trust - DCA

  
 1:7,500 (A3)  
 0 50 100 150 200 250 m  
  
 Geographic Projection  
 Datum: GDA94



Produced by CM,  
Department of Parks and Wildlife



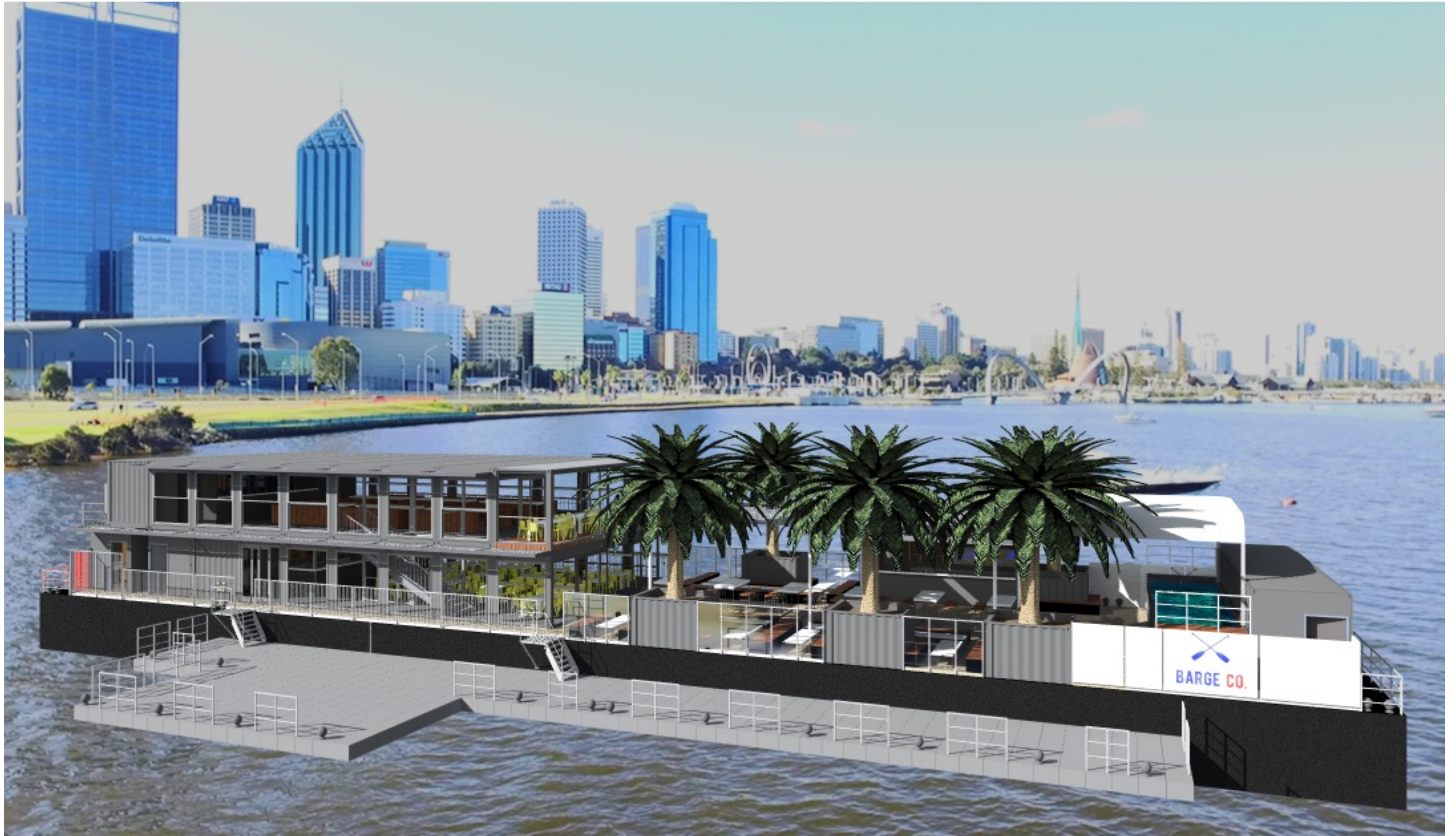
Department of  
Parks and Wildlife



Job Ref: 16/3748  
Produced at 10:56 AM on April 20, 2017

The Department of Parks and Wildlife does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequence which may arise from relying on any information depicted. Roads and tracks on land managed by DPAW may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.





**Barge overview Perth water2**

Layout ID	Status	Revision
<b>A.01.18</b>	<b>PROPOSAL</b>	

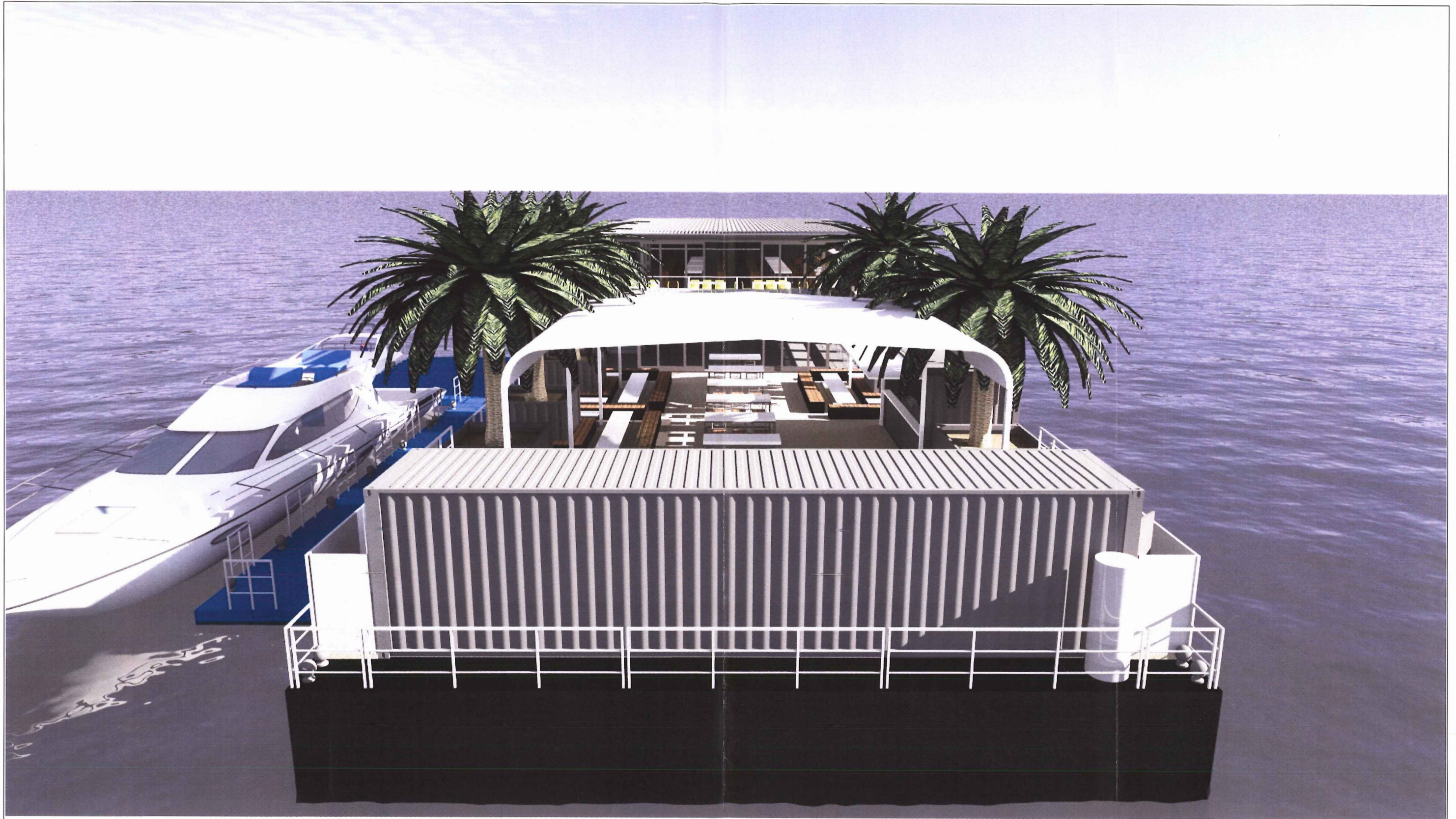




Swimming pool & deck bar\_2

Layout ID	Status	Revision
A.01.11	DPAW APPLICATION	





Front of barge

Layout ID	Status	Revision
<b>A.01.15</b>	<b>DPAW APPLICATION</b>	



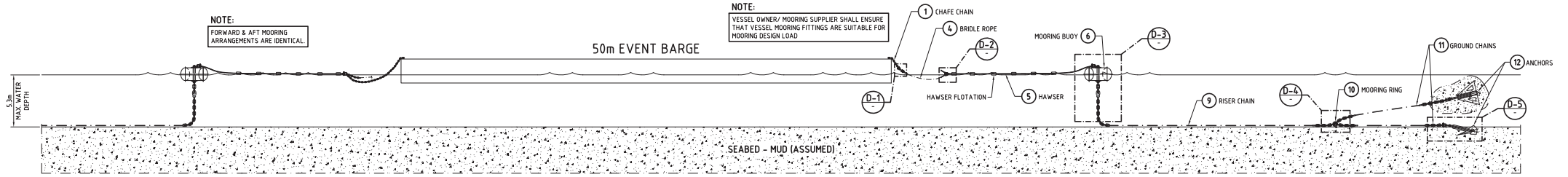


<b>Top deck</b>		
Layout ID	Status	Revision
<b>A.01.16</b>	<b>DPAW APPLICATION</b>	

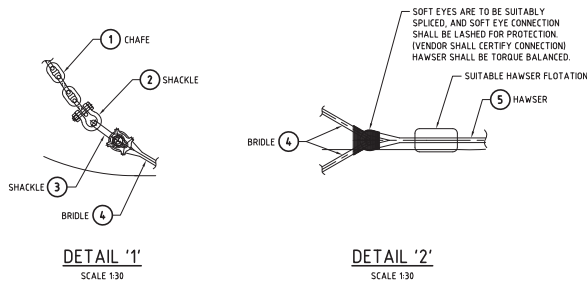


**NOTE:**  
FORWARD & AFT MOORING ARRANGEMENTS ARE IDENTICAL.

**NOTE:**  
VESSEL OWNER / MOORING SUPPLIER SHALL ENSURE THAT VESSEL MOORING FITTINGS ARE SUITABLE FOR MOORING DESIGN LOAD.

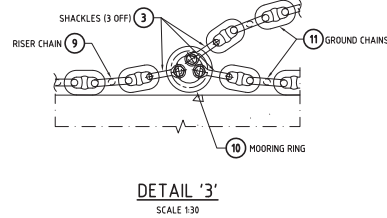


**MOORING SYSTEM PROFILE**  
SCALE 1200

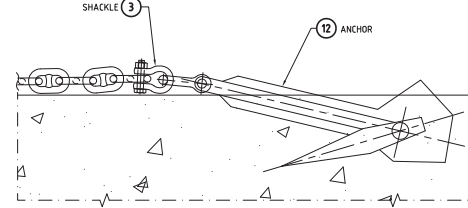


**DETAIL '1'**  
SCALE 130

**DETAIL '2'**  
SCALE 130



**DETAIL '3'**  
SCALE 130

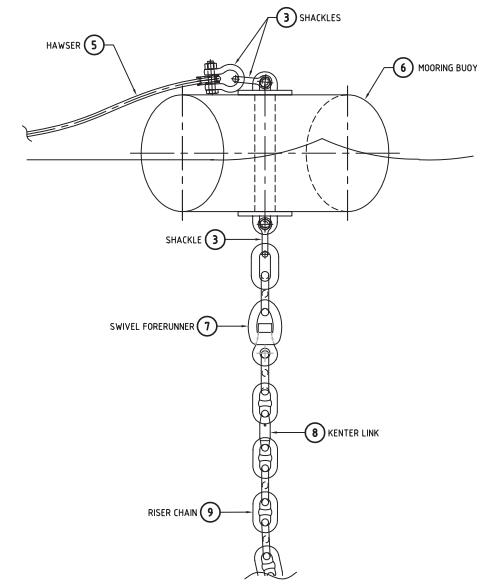


**DETAIL '4'**  
SCALE 130

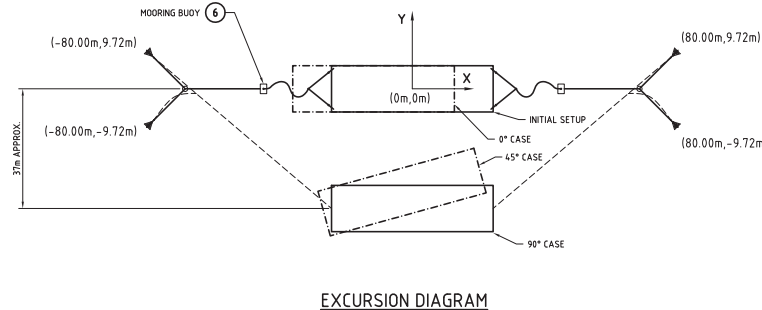
**NOTES:**

- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH TECHNICAL NOTE REF. 16-1732-003.
- THE DESIGN OF THE MOORING SYSTEM ASSUMES THAT ANCHORS ARE PROPERLY SET IN BELOW THE SEABED AS PER THE MANUFACTURERS REQUIREMENTS.
- WHERE THE HAWSER/CHAFF CHAINS ARE CONNECTED TO VESSEL, BOLLARDS & DECK TO HAVE SUFFICIENT STRENGTH TO MAINTAIN LOADS.
- SHOULD ALTERNATE CHAIN, SHACKLES OR ANY OTHER COMPONENTS BE USED. IT IS THE SUPPLIER'S RESPONSIBILITY TO ENSURE THAT IT IS OF EQUIVALENT STRENGTH AND PERFORMANCE AND IS COMPATIBLE WITH OTHER COMPONENTS USED.
- ALL SHACKLES SHALL BE TO AUSTRALIAN STANDARDS AS2741 (OR RECOGNISED EQUIVALENT). ALL SHACKLES SHALL BE NUT & BOLT TYPE WITH SAFETY PINS.
- CHAIN SHALL BE NEW OR OF KNOWN HISTORY WITH CURRENT BREAKING LOAD CERTIFICATES.
- IT IS THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER TO ENSURE THAT ALL COMPONENTS FIT - SUBSTITUTION OF EQUIVALENT STRENGTH SHALL BE PERMITTED.
- HAWSERS TO BE INSPECTED REGULARLY TO ENSURE WEAR/CHAFF IS NOT EXCESSIVE.
- SEA BOTTOM ASSUMED TO BE MUD, IF CONDITIONS CHANGE MOORING ANALYSIS MAY NEED TO BE REVISED.
- ALL COMPONENTS SHALL BE SUITABLE FOR MARINE SERVICE.
- WATER DEPTH SHALL BE VERIFIED PRIOR TO THE MOORING SYSTEM INSTALLATION.

IT IS THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER TO ENSURE THAT ALL COMPONENTS FIT - SUBSTITUTION OF EQUIVALENT STRENGTH SHALL BE PERMITTED.



**DETAIL '2' - BUOY CONNECTION DETAILS**  
SCALE 130



**EXCURSION DIAGRAM**

**PRELIMINARY  
NOT FOR CONSTRUCTION**

**MOORING: PARTS LIST**

ITEM	N° OFF	DESCRIPTION	BREAKING LOAD/UJHC (kN)	INSPECTION CRITERIA (WEAR)
1	4x2m	Ø4.0mm GRADE 2 SLAC - CHAFF CHAIN (BRIDLE)	896	20.00%
2	4	25T GRADE 'S' NUT & BOLT BOW SHACKLE (4.4mm NOM)	1226	5.00%
3	20	55T GRADE 'S' NUT & BOLT BOW SHACKLE (6.3mm NOM)	2697	5.00%
4	4x8m	BRIDLE - Ø52mm 12 STRAND NYLON DSR	576	SEE NOTES
5	2x18m	HAWSER - Ø52mm 12 STRAND NYLON DSR c/w SUITABLE FLOTATION	576	SEE NOTES
6	2	2T RESERVE BUOYANCY MOORING BUOY	TIE BAR SWL: ±235	SEE NOTES
7	2	76mm NOM. GRADE 2 SWIVEL FORERUNNER	3010	20.00%
8	2	Ø76mm KENTER, GRADE 2	3010	20.00%
9	2x25m	Ø76mm GRADE 2 SLAC - RISER CHAIN	3010	20.00%
10	2	64mm NOM. MOORING RING (Ø102.4mm x Ø512mm O.D.)	3129	20.00%
11	4x13.75m	Ø76mm GRADE 2 SLAC GROUND CHAIN	3010	20.00%
12	4	2T FLIPPER DELTA ANCHOR	314	-

**NOTE:** LISTED COMPONENTS ARE FOR BOTH THE FORWARD & AFT MOORINGS.  
**NOTE:** CHAIN DIAMETER WEAR REDUCTION ASSUMED TO OCCUR ONLY IN ZONE OF CHAIN-CHAIN CONTACT (PREDOMINANTLY IN CHAIN THRASH ZONES).  
IF GENERALISED CORROSION IS OBSERVED (LESS OF CHAIN DIAMETER) OVER ENTIRE CHAIN LENGTH, THE MOORING DESIGNER SHALL BE CONTACTED FOR ADVISE.

**INSPECTION NOTES:**

- MOORING COMPONENTS SHALL BE REPLACED WHEN THE DIAMETERS HAVE DECREASED BY THE TABLED PERCENTAGES.
- ANCHOR LEG POSITIONS SHALL BE CONFIRMED DURING MOORING INSPECTION.
- THE MOORING SHALL BE INSPECTED AFTER EVERY SIGNIFICANT STORM.
- ANNUAL INSPECTION SHALL BE CARRIED OUT IN ADDITION TO ANY STORM INSPECTIONS.

**DESIGN CRITERIA**

LENGTH O.A. (MLD. HULL):	50.00m
BREADTH (MLD):	14.30m
DEPTH (MLD):	2.44m
MOORING LOCATION:	SWAN RIVER
WIND VELOCITY (30-SEC):	30 m/s
SIGNIFICANT WAVE HEIGHT:	0.50 m
CURRENT VELOCITY:	0.25 m/s

**IMC** International Maritime Consultants Pty. Ltd.  
Suite 2, Level 2, Arrow Buildings, 3 Cantonment St, Fremantle 6160 WA  
PO Box 658 Fremantle, WA 6160  
T +61 (0)8 9335 1991  
E imc@imcau.com.au | W www.imcau.com.au

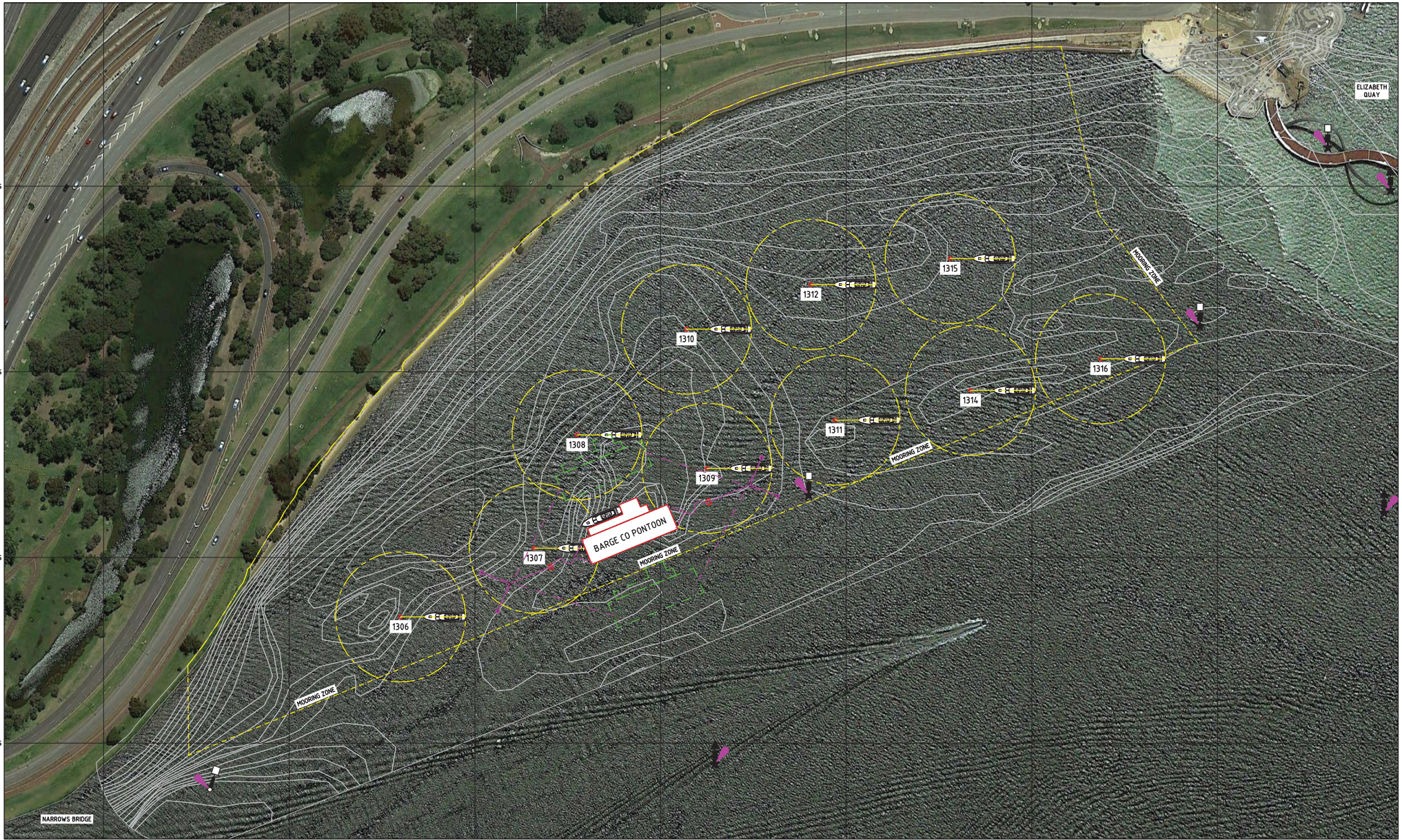
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C	25/1/17	J.M.	ISSUED FOR INFORMATION	YARD NO.:
B	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)	CONTRACT:
A	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)	
ISSUE	DATE	BY	REVISION	
CLIENT:	BARGE Co			
BUILDER:				
CLASS:				

PROJECT: SWAN RIVER EVENTS BARGE - DAY MOORING				
TITLE: DAY MOORING ARRANGEMENT & DETAILS				
DRAWN: S.W.	CHECKED: W.W.	APPROVED: J.M.	SCALE: 1:200 (I.N.O.)	DRAWING NO.: 16-1732-002 SHT. 2 OF 2
16/01/17	24/01/17	24/01/17	A1	REV C

ATTACHMENT 3





**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

**SWAN RIVER**  
SCALE 1:1000

**NOTES:**  
1. EXISTING MOORING SWING RADII ARE INDICATIVE. ACTUAL TBA BY CLIENT/DOT.

**IMC** International Maritime Consultants Pty. Ltd.  
 Suite 2, Level 2, Anval Buildings, 3 Cantonment St, Fremantle 6160 WA  
 PO Box 559 Fremantle, WA 6160  
 T +61 (0)8 9335 1991  
 E [imc@imcau.com.au](mailto:imc@imcau.com.au) | W [www.imcau.com.au](http://www.imcau.com.au)

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C	25/1/17	J.M.	ISSUED FOR INFORMATION	YARD NO.:
B	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)	CONTRACT:
A	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)	
ISSUE	DATE	BY	REVISION	
CLIENT:	BARGE CO			
BUILDER:				
CLASS:				

PROJECT: <b>SWAN RIVER EVENTS BARGE - DAY MOORING</b>				
TITLE: <b>DAY MOORING ARRANGEMENT &amp; DETAILS</b>				
DRAWN:	CHECKED:	APPROVED:	SCALE:	DRAWING NO.:
S.W.	W.W.	J.M.	1:1000	16-1732-002
16/01/17	24/01/17	24/01/17	A1	30_2702
				SHT. 1 OF 2
				<b>C</b>

ATTACHMENT 4







# Draft report



## Barge Co response to DPAW draft report

Row ID	Draft report text	Response	Date	Reference / Communications reference
1	<p>PROPOSAL: Installation of Moorings and Development of Barge Event Venue in Perth Water, SWAn River            LOCATION: Lot 301 on Plan 47451 (Reserve 48325, SWAn River), Perth            APPLICANT: Barge Co Pty Ltd            LANDOWNER: SWAn River Trust            LOCAL GOVERNMENT: City of Perth            MRS CLASSIFICATION: WaterWays            DECISION TYPE: Part 5, SWAn and Canning Rivers Management Act 2006 – Ministerial Determination            ATTACHMENTS:            1. Location Map            2. Design Concept            3. Mooring Design            4. Mooring Location Map            5. Transfer Vessel            6. Qualitative Risk Assessment            RECOMMENDATION: REFUSAL</p>			
2	<b>REPORT</b>			
3	<b>1.0 INTRODUCTION</b>			
4	1.1 The Department of Parks and Wildlife (Parks and Wildlife) has received an application from Barge Co Pty Ltd (Barge Co) to install moorings and develop a barge event venue for up to 600 patrons approximately 80m from the foreshore of Riverside Drive, adjacent to David Carr Memorial Park, in the SWAn River (Perth Water) within the designated courtesy mooring area north of the Rottnest Island – Perth ferry navigation route (Attachment 1).			
5	1.2 The moorings and barge are proposed to be located on Lot 301 on Plan 47451 (Reserve 48325) within the SWAn River vested in the SWAn River Trust (the Trust).			
6	1.3 The subject lot is located wholly within the SWAn Canning Development Control Area (DCA). The application is therefore being processed pursuant to Part 5 of the SWAn and Canning Rivers Management Act 2006 (SCRM Act). The Director General of Parks and Wildlife will provide a recommendation on the proposal to the Minister for Environment.			
7	1.4 If approved, works cannot commence on the installation of the moorings and barge until a River Reserve Lease has been granted. Barge Co will also require a permit and licence from Parks and Wildlife for the use of the barge on a commercial basis in accordance with the SCRM Act and the SWAn and Canning Rivers Management Regulations 2007.			
8	<b>Barge</b>			
9	1.5 The barge is a custom built double-tier facility, with dimensions of 50m x 14.3m (a total footprint of 715m <sup>2</sup> ), with a moulded depth of 2.44m. Internal hull compartments comprise of storage areas, potable Water tanks, ballast tanks, a black Water tank, WasteWater treatment system, and a Waste storage room. The structure will comprise of approximately 35 sea containers of varying size and modified per the purpose, such as use for the bar, toilets, eating areas and planters (Attachment 2).			
10	1.6 Barge Co proposes the barge will be moored in Perth Water for approximately 196 days per year, and transported in and out of the Riverpark depending on bookings.			
11	<b>Moorings</b>			
12	1.7 The barge will be secured in place by a new, exclusively used two-point mooring system. Each mooring will be held in place by two anchors. The moorings will be located approximately 64m from each end of the barge, and will allow for lateral movement over a total distance of 74m. The footprint of the development including the mooring footprint is 88.3m x 160m (14,128m <sup>2</sup> ) (Attachment 3).			
13	1.8 As the moorings are proposed to be located within the courtesy mooring area of Perth Water, the development will require the relocation/loss of at least two courtesy moorings (Attachment 4).			
14	<b>Patron Transportation</b>			
15	1.9 Barge Co proposes to transfer patrons to and from the barge using a dedicated transfer vessel which can seat up to 150 patrons (Attachment 5).	This is incorrect our proposal identified two purpose built aluminium hull 50 seat transfer vessels.		Details of transfer vessels are found in the Vessel Safety management system (SMS) emailed to Chantal Wilson on 30/1/17 then again on 7/2/17 then again on 24/2/17. SMS illustrates both identical transfer vessel to be 12.75m long x 4.8m wide aluminium hull powered by twin outboard motors. Each vessel is stated to have a passenger capacity of 50. The vessels are discussed in detail within the "Operational management plan" submitted on 27th Jan to Chantal Wilson by email under the headings 'Venue' and 'Arrival/departure plans and passenger safety'
16	1.10 The transfer vessel would require separate approval to operate in accordance with the Regulations.			
17	<b>Elizabeth Quay</b>			
18	1.11 Barge Co proposes to utilise a public short-stay berth within Elizabeth Quay, and extensively modify this structure so that it can accommodate the Barge Co patron transfer vessel (the berth currently accommodates vessels up to 12m, and the Barge Co transfer vessel is proposed to be approximately 16m), in addition to shade and ticketing infrastructure and sillage connections. The proposed use of Elizabeth Quay includes passenger boarding and disembarking, and solid and liquid Waste transfers between 12midnight and 6am and goods deliveries.	This is incorrect our application to MRA WAs accepted in December 2016 to lease a commercial berth behind ferry terminal. Modifications were requested by MRA to install shade structure to pontoon but are not required by Barge Co. The Transfer vessels have been designed to have a measured length of 12m as per engineering specifications obtained from the engineer who designed the pontoon structures for the MRA. Waste disposal can be accommodated at Barrack street for seWAge and solid Waste removal. See MRA communications timeline.	19/12/16	On the 17th December Barge Co responds to the City Of Perth preliminary feedback to DPaW by email. Rohan is copied into the response I sent to advise him of progress and issues. On the 19th Rohan responds thanking me for the update and attaching letter from the CEO of the MRA - Kieran Kinsella expressing support for Barge Co submission and stating we have addressed Water safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised.
19	<b>Translocation of Barge by Tug Boat</b>			



Row ID	Draft report text	Response	Date	Reference / Communications reference
20	1.12 Barge Co proposes to transport the barge via tug boat (at least two), and using the transfer vessels as spotters, to Fremantle for servicing and outside Fremantle Port for events at locations such as Port Beach. This movement will require the barge to pass under the Fremantle Traffic Bridge (Main Roads WA) and the Fremantle Rail Bridge (Public Transport Authority). The Department of Transport has indicated all marine traffic would need to be prevented from passing through the bridges while the barge passes through.	The proposed vessel movement plan identifies a single tug attached to the rear of the barge with two work boats assisting the steering movement of the barge at the front. Two tugs would eliminate the need for two workboats and so the need to close both passages of the river, the barge can also navigate only through the Southern and wider passage while moving both up and down river allowing the Northern passage to remain open. Given the opportunity to address this through a quantitative risk assessment, as a condition of approval our engineers have indicated that it is possible to demonstrate a safe transit of the barge through both bridges. Forcing Barge Co to spend tens of thousands of dollars to undertake the risk assessment without any certainty of approval would be unreasonable particularly considering the department has granted Old Salt the opportunity to address all issues as conditions of approval.		
21	1.13 A risk assessment has been undertaken by Main Roads WA (MRWA), Public Transport Authority (PTA), Fremantle Port Authority, Parks and Wildlife and Department of Transport (DoT), facilitated by Arup. This risk assessment objectively assessed the risks to Government assets and public safety, and the likely consequences should any aspect of the barge movement through the bridge lead to impact between the barge, tugs, transfer vessels and the bridges.	<p>As per 3.1 of the Risk Workshop Report, the risk assessment undertaken WAs a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.</p> <p>Subjective  - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.</p> <p>Assumptions  - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5tonnes tonne. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be RARE  - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval.</p>		<p>Basic review of barge weight stated in mooring technical note supplied to the department on 10/2/17 (DPaW 51) AS 357.5 tonnes</p> <p>The bridge fender system has been designed to withstand an impact from a 190 tonne ferry travelling at 10knots at a 8 degree angle.</p> <p>Barge Co naval architects preliminary review of the potential impact load of the barge is as follows and demonstrates that the potential barge impact is well within the load design of the fender system on the traffic bridge even travelling at 5knots well above the 1 knot limit set in the transit plans;</p> <p>Thom Magnuson Naval Architect  "As we discussed, following my review of the risk assessment "Fremantle Traffic Bridge No 916 Modification to Fendering System at Piers 15 and 16 - Feasibility report" produced by HMG Maunsell, I make the following comments;  Section 6.4 outlines the Fender system capacity to impact force as 215kN.  The impact energy design load calculated in section 5.3 is 56.8kN. Based of the 190t, travelling at 10 knots, impacting at 8 degrees.  As illustrated below, the impact energy from any of the potential collisions regarding the Barge Co barge produce an impact energy well below the design capacity of the fendering system and less than half the impact energy of the design load calculated in section 5.3.</p> <p>Using the same methodology as outlined in the report, I calculated the following impact energy for the proposed Barge Co Barge;</p> <p>1 knot - Impact @ 8 degree  <math>E=0.5 MD(V \sin a)^2 \text{ Cm Ce Cs Cc}</math>  MD =357.5 t  V = 1 knot = 0.5144 m/s  <math>E = 0.5 \times 357.5 \times (0.5144 \times \text{SIN}(8))^2 \times 1.18 \times 0.989 \times 1.0 \times 1.0</math>  E = 1.12 kN</p> <p>5 Knots - Impact @ 8 degree  <math>E=0.5 MD(V \sin a)^2 \text{ Cm Ce Cs Cc} = 56.8 \text{ kNm}</math>  MD =357.5 t  V = 5 knot = 2.572 m/s  <math>E = 0.5 \times 357.5 \times (2.572 \times \text{SIN}(8))^2 \times 1.18 \times 0.989 \times 1.0 \times 1.0</math>  E = 26.7 kN</p> <p>1 knot - Impact @ 15 degree  <math>E=0.5 MD(V \sin a)^2 \text{ Cm Ce Cs Cc}</math>  MD = 357.5 t  V = 1 knot = 0.5144 m/s  <math>E = 0.5 \times 357.5 \times (0.5144 \times \text{SIN}(15))^2 \times 1.18 \times 0.989 \times 1.0 \times 1.0</math>  E = 3.88 kN"</p>
22				
23	<b>2.0 CONSULTATION</b>			



Row ID	Draft report text	Response	Date	Reference / Communications reference
24	2.1 Upon receipt of a valid application for development approval in October 2016 Parks and Wildlife formally referred the Barge Co application to the City of Perth, the City of South Perth, the Metropolitan Redevelopment Authority (MRA), DoT, Department of Water (DoW), Department of Aboriginal Affairs (DAA), PTA and Botanic Gardens and Parks Authority (BGPA). The applicant WAs subsequently requested to provide additional information to support the application, which WAs provided on throughout January and February 2017. This information WAs referred to authorities for their comment and recommendations as it WAs received	<p>Barge Co submitted part 5 application to DPaW by email on 7th July 2016 First submission lodged with attachments Form 1, Details of proposed development and Harm minimisation policy. This submission identifies primary location to be within the courtesy mooring area on Perth WATER, a secondary mooring site at Point WAIter and both ocean locations, Port Beach and Coogee beach. Details of passenger transport, event types, vessel design, WAsTe disposal and service.</p> <p>8th July 2016 Delivered hard copy and original applications form, application and plans to DPaW office previously emailed on 7/6/16 including additional example mooring diagrams.</p> <p>Following discussions and consultation with MRA between 28th Aug &amp; 14th Sept a revised proposal is prepared by Barge Co with further details regarding the proposed pick-up location within Elizabeth Quay being the commercial pontoon berths behind ferry terminal and further alignment with the DPaW commercial policy 46.</p> <p>Letter from DPaW formally acknowledging receipt of the valid application sent to Barge Co 30th September 2016 signed by Glen-McLeod-Thorpe acknowledging application as being received on the 14th September 2016.</p> <p>DPaW Barge Co submitted no other documentation following this date until 27th January in response to comments from agencies as requested by DPaW in a letter to Barge Co on 31st of December providing a due date of 27th January. Further documentation as requested in writing by Chantal Wilson WAs provided by Barge Co between 27th Jan &amp; 2nd March 2017.</p> <p>The department has not met its responsibilities relating to the requirements under the SWAn and Canning Rivers Management Act 2006 (the SCRm Act) a Valid application for development approval WAs received by the department on the 14th of September and the comments from agencies should have closed o the 26th October instead the department extended the comment period for agencies to the end of November only notifying Barge Co by email on the 25th November of comments received from MRA (August), City Of Melville, City of Perth, Department of Aboriginal affairs, Main Roads Department of Transport but no internal expert comments. Final agency comments are provided to Barge Co on the 30th Nov 2016.</p> <p>The department then refuses to grant Barge Co request to extend the response time to this report from 14 days citing the same SCRm Act timeline requirements which apply to Barge Co but not the Department.</p>		See DPaW communication timeline attached.
25				
26	<b>City of Perth</b>			
27	2.2 The City of Perth provided comments on the proposal on 1 and 24 November 2016, and 9 and 24 February 2017.			
28	2.3 The City of Perth does not support the proposal.			
29	2.4 The City of Perth notes that Barge Co's Noise Management Plan includes modelling, which assumes wind is blowing from all directions, contending this would indicate the worst-case noise levels at all locations within a single calculation. The City's experience however is that the worst-case scenario can be where there is no wind, which has not been modelled in this assessment. While not required under the Environmental Protection (Noise) Regulations 1997, the report has not calculated the C-weighted noise generated from the barge. In the City's experience, this noise travels the furthest, has the most impact and receives the most complaints from noise sensitive receivers.	While we agree that the highest impact from music events can occur during calm conditions, the noise modelling shows the worst-case in terms of noise emission. In calm conditions the noise emissions will be less and therefore further below the assigned levels under the Regulations. Compliance is assumed providing the background levels are masking the music content, therefore not attracting a penalty under the Regulations, and this would need to be proved through the proposed noise monitoring. If it were found that this is not the case then the noise management measures would need to be revised. In terms of the C-weighted levels, the plan is clear in that the bass content must be carefully managed. If the noise emissions contain a modulation due to the bass component, then compliance would not be achieved (due to penalties). Again this can be proved through the proposed noise monitoring.		See letter 'BargeCo reply to comments' from Lloyd George acoustic consultants in direct response to comments within this draft report.
30	2.5 The report stated that in the assumption that the in-house PA system being used, compliance is achievable at sound levels of up to 85 dB(A) up until 10pm. After this time, compliance may be achieved if the wind is blowing from the south or if the external speakers are turned off and the music is played inside of the seated area with the windows and doors shut. Given operating hours are proposed until 12midnight and it is unlikely that external speaker will be turned off after 10pm it is considered that the barge will have a negative acoustic impact on noise sensitive premises within the area. In addition, if the Barge WAs to hold an event where a band is playing at 100 dB(A) the barge is not able to achieve compliance and a Regulation 18 approval would be required for each event.	The noise management plan clearly states that after 10.00pm the external speakers will be turned off. This, of course, requires good management by the operators. It is agreed that a Regulation 18 would be required for events requiring higher noise levels as indicated in the noise management plan.		See letter 'BargeCo reply to comments' from Lloyd George acoustic consultants in direct response to comments within this draft report.
31	2.6 The Noise Management Plan does not consider the cumulative effects of multiple uses of Perth WATER and surrounds in addition to the noise generated from the barge will have on the noise sensitive premises (existing and proposed) nearby.	We are not aWAre of any other uses of Perth WATER that would result in a significant contribution to the noise from the barge.		See letter 'BargeCo reply to comments' from Lloyd George acoustic consultants in direct response to comments within this draft report.
32	2.7 The City notes the barge is proposed to be constructed using sea containers by only retaining the corner posts, roof and floor and replacing WAls with anodised aluminium framed windows, providing cover and protection to patrons from weather.	The other proponent, Old Salt, who has been granted conditional approval is also constructed using sea containers. Information and examples are provided in Barge Co Design brief submitted to DPaW on 27th Jan of existing structures within the Elizabeth Quay precinct including Double tree Hilton city buildings such as Brookfield place. Sea containers will not be recognisable as sea containers externally due to the removal of WAls and doors leaving only corner posts roof and floors.		DPaW 39
33	2.8 Whilst it is understood that the vessel may meet the commercial vessel requirements it is considered that a vessel permanently moored, or moored on a regular basis, in Perth WATER should also meet the same design standards applied to any structures that surround it. The Barge is not considered to meet these standards with the materials used and the design is not considered to be of high quality contemporary design. The detailing of the design is also considered lacking and the scale of the structure unsympathetic.	The City of Perth has requested additional information to be provided by the other proponent, Old Salt, in regards to the design quality including floor plans; elevations; finish details of the external spaces and landscaped areas and a photo-montage perspective from important viewpoints including Elizabeth Quay pedestrian bridge, Riverside Drive pedestrian footpath and Kings Park. Given that Barge Co is built from the same materials as the Old Salt proposal and the location has been re-negotiated to be located within the mooring location that Barge Co originally applied for, Barge Co has not been given the same opportunity to address the City's concerns and or the opportunity to redesign the structure. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies, as Barge Co has received, however, the treatment of both applications has been entirely inconsistent.		DPaW 39
34	2.9 The City notes there are a number of unscreened services to the rear of the vessel, which have a detrimental impact on the view within the area and would be required to be screened for any other building within the City.	Barge Co has addressed the city's concerns regarding the exposed service deck area by providing plans to DPaW on the 1/2 Barge Co has not been aWArded the same opportunity to address the City's concerns and or the opportunity to redesign the structure. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies, as Barge Co has received, however, the treatment of both applications has been entirely inconsistent.		Email sent to Chantal Wilson on 1/2/17 with attached revised rear deck screens are consistent with response to City of Perth on 10th Jan (Ccd to Chantal Wilson) DeWald Gerrick. See DPaW 39 & 47 communications timeline.



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2.10	The City is concerned the impact the barge will have on the most important view in the State from Kings Park. The design is considered to be "inelegant and clumsy" (referring to the recycled containers, servicing plant, shading cover and general material quality) with a lack of design quality comparing it to the high standards required for the design of all building on the foreshore.	<p>The term "inelegant and clumsy" is emotive persuasive language. Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue of the impact the barge will have on the view from Kings Park. The proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond what vessels currently using the area do. Additionally, the barge will be mobile and thus will not be a permanent feature on Perth WATER.</p> <p>The design is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay which features similar design concepts such as Embargo. Barge Co ensures the use of recycled sea containers:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth WATER</li> </ul> <p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WATER front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and colour scheme of the vessel which matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revelly Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>Hilton Hotel - EQ</li> </ul> <p>The Barge Co design protects views through its location and use of materials which offer full views of the location and its surrounds including views:</p> <ul style="list-style-type: none"> <li>•from the WATER, both north and south of the river between the Narrows Bridge and the causeWAY and east and west between Kings Park and Heirisson Island</li> <li>•of the Kings Park escarpment from both the north and south shores and from craft on the river</li> <li>•of the river from city streets and public places.</li> </ul> <p>Barge Co ensures that the design and use of windows on all sides of the barge except back rear end of the barge:</p> <ul style="list-style-type: none"> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding buildings with dominant use of windows featured throughout the Quay as well as surrounding colour schemes of black, grey and blue and other similar design elements including</li> <li>•The Revelly Bar - external WALLs are made from black glass and bronze screen cutting.</li> <li>•City Buildings</li> <li>•Crystal SWAn</li> <li>•Hilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and use of the live date palms:</p> <ul style="list-style-type: none"> <li>•complements the natural landforms through the use of live date palm trees on board.</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Live date palms as found all along the river and throughout Perth</li> </ul> <p>Barge Co should be given the opportunity to address these concerns through a visual impact assessment as a condition of approval consistent with opportunity granted to the Old Salt proposal.</p>	03/01/17	DPaW 39
2.11	The Elizabeth Quay pedestrian bridge WAs re-designed as a light and visually permeable structure to ensure views from and around the Quay to the South Perth foreshore and the Narrows Bridge were retained. By placing the large vessel in the view-line of both the Quay and Kings Park, a negative visual impact will result and will destroy some sensitive and very successful urban design objectives	<p>The terminology - "destroy" is emotive language and not based on fact or evidence. Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue of the impact the barge will have on the view from Kings Park. The proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond what vessels currently using the area do. Additionally, the barge will be mobile and thus will not be a permanent feature on Perth WATER.</p>		DPaW 39
2.12	The City notes the photo mock-ups provided as part of the 'design brief' showing the location of the barge when viewed from Kings Park and Elizabeth Quay is not considered to accurately depict the barge size. The mock-ups are therefore not considered to acceptably reflect the impact the barge may have on views within the area.	<p>Barge Co has conducted secondary analysis confirming that the supplied design brief accurately reflects the barge in scale and in position. Barge Co should be afforded the opportunity to conduct a visual impact assessment as a condition of approval as has been granted to Old Salt.</p>		
2.13	The proposed ancillary structures required at Elizabeth Quay should also be designed to the same quality as other shade structures recently constructed in the Quay.	<p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WATER front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co should be afforded the opportunity to conduct a visual impact assessment as a condition of approval as has been granted to Old Salt.</p>		



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39	2.14	Currently the Metropolitan Redevelopment Authority can only provide a temporary solution for WASTE bins (a 'bin room') within the vacant lots within the Quay. Concern regarding the permanent solution for WASTE management after these lots are developed is raised. An 'in principle' development application for a new 25-storey hotel/serviced apartment building and a 50-storey residential building for 'Site 2' and 'Site 3' of the Elizabeth Quay Project Area has recently been approved by the MRA. As part of this development, it is proposed to remove the laneway between the two lots where the bin store is located and a new pedestrian link and covered plaza area to be provided. At this stage, it is anticipated that the proposal will proceed and as such the bin room is not a long-term solution and it would not be considered acceptable for a bin room to be located within the future plaza space in the future.	<p>On 5/12/17 MRA sent a letter to DPaW signed by the CEO stating support for Barge Co submission and stating we have addressed WATER safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised.</p> <p>On 11/11/17 Rohan Murray emailed Barge Co confirming Barge Co can nominate the area that is used by DELRON the MRA cleaning contractors where a Barge Co bin may be stored.</p> <p>WASTE management is dealt with in detail within the Barge Co WASTE management plan submitted to MRA on the 24/1/17 and DPaW on 27/1/17</p> <p>The WASTE management plan identifies the barge generates 3cubic metres of solid WASTE per week, outlines the storage capacity in the hull of the barge of 80 cubic metres. The plan also sets out hazardous WASTE, liquid WASTE, WASTE tracking, incident reporting, training and aWAREness &amp; risk considerations.</p> <p>The storage space is identified on the hull plans (A.01.1.Barge.pdf) provided to DPaW on 18/5/16, 8/7/16 and confirmed to be in the departments possession by Chantal in document review on 31/1/17 - table 4b 'design and floor plans'</p> <p>Barge Co responded to the City Of Perth on 27/1/17 included Chantal Wilson on the same email outlining the WASTE would be removed in 20lt sealed tubs.</p> <p>Disposal of Solid WASTE does not impact on the Elizabeth Quay or Perth area at all Barge Co only proposed to store bins following advice from Rohan Murray on the 1/12/17 if the situation has changed and this is no longer available Barge Co has several other viable options;</p> <p>On shore bin storage in Perth are not required at all.</p> <p>Barge Co has the ability to store WASTE in the hull of the vessel in sealed tubs, the vessel has a capacity of 80cubic metres of storage space, sealed tubs can then be transferred to shore at any time and loaded onto the Barge Co supply truck and taken directly to landfill, because the tubs are sealed the risk of spillage or breaking open is nil and they stack neatly onto sack trolleys and are easily handled and emit no smell if somehow a tub did fall overboard or into the river there would be no contamination as the tubs are completely sealed.</p> <p>Alternative option for the disposal of this solid WASTE is the Barge must return to North Port on a monthly basis for refuelling where we have shore bins available.</p> <p>Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt Proponent have put forWARD no plans whatsoever to dispose of their solid WASTE but has still received conditional approval.</p>	<p>COMMUNICATIONS TIMELINE -</p> <p>MRA 23</p> <p>MRA 28</p> <p>MRA 30</p> <p>DPaW 7</p> <p>DPaW 16</p> <p>DPaW 39</p> <p>DPaW 42</p> <p>DPaW 46</p>
40	2.15	The City notes a permanent WASTE storage area would ensure the long-term WASTE management needs of the barge are met in an efficient and sustainable manner. It would also minimise the impact of WASTE services and facilities on the streetscape and surrounds, in relation to both the footpath/public realm at Elizabeth Quay. Without this permanent solution, significant health issues could develop.	See response 2.14	
41	2.16	The City has seen evidence of these issues in other areas, such as Barrack Square. Issues already identified at Barrack Square include: •bins stored on the jetty are posing a risk of windblown litter straight into the river; •numerous complaints being received by the City relating to bins being left in sight of the public as the amount of WASTE generated is in excess of that accommodated within the existing bin rooms; and •bin rooms located in inappropriate locations making them difficult to service and sometimes resulting in the bins having to be placed on the kerb for collection.	See response 2.14 this is a city issue that needs to be addressed with all Barrack Square users Barge Co does not require permanent storage solution on shore.	
42	2.17	The applicant has advised that the barge venue will generate two 3m3 bins of WASTE each week with the barge having approximately 80m3 of storage space for WASTE tubs. All solid WASTE from kitchens and bars will be separated into recyclable and general WASTE that will be placed into sealed plastic tubs that will be stacked into the hull during operation by electric material hoist then removed daily by transfer vessel or weekly at Northport Elizabeth Quay into bins while servicing occurs.	See response 2.14	
43	2.18	The City notes that the applicant has not provided any plans to support the WASTE storage capabilities of the barge nor have there been any details provided on the WASTE calculations of the biggest event that the barge can hold. The applicant has also not detailed how the WASTE will be segregated by the staff which would potentially affect the types of WASTE generated. Given this, there is concern regarding the accuracy of the storage capabilities on the barge and the amount of WASTE that may have to be stored on a dedicated facility within the Quay.	<p>The storage space is identified on the hull plans (A.01.1.Barge.pdf) provided to DPaW on 18/5/16, 8/7/16 and confirmed to be in the departments possession by Chantal in document review on 31/1/17 - table 4b 'design and floor plans'</p> <p>Barge Co provided the city of Perth with the full plan set on the 17th December containing the hull plans (A.01.1.Barge.pdf)</p> <p>Barge Co has obtained WASTE volumes directly from WASTE contractor 'Perth WASTE' who service similar size venues within the City of Perth they have provided the volume removed from actual venues operating in a similar fashion to Barge Co and therefore the estimate of quantity is accurate.</p> <p>Even if the City doubts the accuracy the volume of storage in the hull far exceeds the weekly WASTE generation and if the sealed tubs are removed to a truck on a weekly or daily basis there is no net effect on the city or Barrack street facility whatsoever.</p>	See email correspondence with city of Perth 17/12/16 &
44	2.19	Prior to supporting the proposal, an appropriately sized permanent solution for WASTE storage and collection is required to be identified on land. The bin area will be required to meet the City's WASTE Guidelines regarding construction standards and be sufficient in terms of size, number of bins required (this number would need to equal the same volume as the WASTE calculation above), and type of WASTE. The City would require the bin store to be appropriately located (screened from pedestrian view) that is easily serviced without vehicles having to enter the public domain within the Quay. Detail of where the vehicles servicing the bin room will stop and the frequency of servicing will be required.	The city should support our proposal to store WASTE within the confines of our facility just as any other facility is permitted to do on land, all other establishments have to store bins entirely within the confines of their property moving them out to the verge or having them removed by contractors on a weekly basis. The barge will have the compliant sealed and ventilated room specifically for WASTE storage and should be granted the opportunity to further develop the WASTE management plan as a condition of approval as granted to the Old Salt proposal.	
45	2.20	The City notes the barge will dispose of all the treated liquid WASTE retained in hull tanks via a transfer vessel, which will transfer the WASTE to Elizabeth Quay between the hours of 12midnight to 6am after the barge has closed. Concern is raised relating to any noise or smell that may occur during these hours which could affect occupants of the buildings within the Quay	<p>Barge Co has negotiated with a lease holder at Barack Street Jetty to enable the disposal of its liquid WASTE into the marine silage units available under their lease. There is no requirement to use Elizabeth Quay to pump out processed WASTE WAtEr.</p> <p>Barge Co should be given the opportunity to address this as a condition of approval.</p>	
46	2.21	It is also noted that there is no detail of how deliveries will be managed to the transfer vessels (how will vehicles access, movement of goods etc.). This should also be addressed prior to the application being supported.	<p>Delivery of goods can be adequately managed using the public jetty at Barrack Street and Barge Co transfer vessels. there is no requirement to use Elizabeth Quay. Alternative option for the delivery of bulk supplies is the Barge must return to North Port on a monthly basis for refuelling where there is an industrial wharf capable of supporting semi-trailer truck with cranes and heavy lifting equipment</p> <p>Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt proponent have put forWARD no detailed plans to load and unload the vessel but has still received conditional approval.</p>	



Row ID	Draft report text	Response	Date	Reference / Communications reference
47				
48	<b>Department of transport</b>			
49	2.22 The Department of Transport (DoT) provided comments on the proposal on 27 October 2016, 16 and 18 November 2016, 23 January 2017, 1 and 8 February 2017, and 5 and 11 April 2017.			
50	2.23 DoT does not support the proposal due to the significant unmitigated risk to the Fremantle Traffic Bridge and Fremantle Rail Bridge, and the proposed mooring of the barge partly within the Perth-Rottnest navigational channel.	<p>As per 3.1 of the Risk Workshop Report, the risk assessment undertaken was a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.</p> <p>Subjective  - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.</p> <p>Assumptions  - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5 tonnes. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be rare  - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval.</p>		<p>Basic review of barge weight stated in mooring technical note supplied to the department on 10/2/17 (DPaW 51) AS 357.5 TONNES</p> <p>The bridge fender system has been designed to withstand an impact from a 190 tonne ferry travelling at 10 knots at a 8 degree angle.  Barge Co naval architects preliminary review of the potential impact load of the barge is as follows and demonstrates that the potential barge impact is well within the load design of the fender system on the traffic bridge even travelling at 5 knots well above the 1 knot limit set in the transit plans;</p> <p>Thom Magnuson Naval Architect  "As we discussed, following my review of the risk assessment "Fremantle Traffic Bridge No 916 Modification to Fendering System at Piers 15 and 16 - Feasibility report" produced by HMG Maunseil, I make the following comments;  Section 6.4 outlines the Fender system capacity to impact force as 215kN.  The impact energy design load calculated in section 5.3 is 56.8kN. Based on the 190t, travelling at 10 knots, impacting at 8 degrees.  As illustrated below, the impact energy from any of the potential collisions regarding the Barge Co barge produce an impact energy well below the design capacity of the fendering system and less than half the impact energy of the design load calculated in section 5.3.</p> <p>Using the same methodology as outlined in the report, I calculated the following impact energy for the proposed Barge Co Barge;</p> <p>1 knot - Impact @ 8 degree  <math>E = 0.5 MD(V \sin a)^2 C_m C_e C_s C_c</math>  MD = 357.5 t  V = 1 knot = 0.5144 m/s  <math>E = 0.5 \times 357.5 (0.5144 \times \sin(8))^2 \times 1.18 \times 0.989 \times 1.0 \times 1.0</math>  E = 1.12 kN</p> <p>5 Knots - Impact @ 8 degree  <math>E = 0.5 MD(V \sin a)^2 C_m C_e C_s C_c = 56.8 \text{ kNm}</math>  MD = 357.5 t  V = 5 knot = 2.572 m/s  <math>E = 0.5 \times 357.5 (2.572 \times \sin(8))^2 \times 1.18 \times 0.989 \times 1.0 \times 1.0</math>  E = 26.7 kN</p> <p>1 knot - Impact @ 15 degree  <math>E = 0.5 MD(V \sin a)^2 C_m C_e C_s C_c</math>  MD = 357.5 t  V = 1 knot = 0.5144 m/s  <math>E = 0.5 \times 357.5 (0.5144 \times \sin(15))^2 \times 1.18 \times 0.989 \times 1.0 \times 1.0</math>  E = 3.88 kN"</p>



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2.23	DoT does not support the proposal due to the significant unmitigated risk to the Fremantle Traffic Bridge and Fremantle Rail Bridge, and the proposed mooring of the barge partly within the Perth-Rottnest navigational channel.	<p>Response by Department of Transport to DPaW dated 8th February from Iain Appleby senior Planning project officer and Acting manager of Infrastructure planning at the department of transport, Coastal infrastructure have not been included in this report at all the response states;</p> <p>"Following a review of the information supplied for the above application the Department of Transport (DoT), Maritime Planning has no in principle objection to the proposal proceeding subject to the following: The Barge will only be moored at the identified locations;The mooring arrangements can accommodate the mooring loads of the barge; and Acknowledgment the Barge will not be docked/berthed at any existing infrastructure in the River. Comments on the movement of the Barge and its impact on WAtErWAYs should be sought from DoT Marine Safety."</p> <p>This omission of fact by DPaW is a clear misrepresentation of the Department of transports position on the mooring application, the opinion of the department that administers infrastructure specifically moorings, should be included in this report. The advice provided by Marine safety is related to the movement of the barge and has been misrepresented by DPaW. The Department should explain why it has left out such a critical piece of information. Barge Co has consulted with DoT since October of 2015 specifically asking if a 15m wide barge would be allowed to pass through the bridge passage received advice in writing from the department on 23/2/16 stating;</p> <p>"Please note that there is no maximum vessel / barge size regulated by DoT to go through the bridge spans. It is the responsibility of the vessel master / owner to ensure that their transit is conducted safely, in accordance with all relevant marine legislation, and without causing any damage to the bridge structure."</p> <p>Guy has further consulted with DoT on many occasions regarding the bridge transit and they have never raised it as a major issue until this draft report.</p> <p>DoT have never advised we would need to undertake a risk assessment for the transit, experienced and qualified tug operators have also noted they tow large barges close to the size of Barge Co vessel through the passage on a regular basis and have never been required to undertake a risk assessment or provide anything more than a transit plan to the harbour master.</p> <p>Barge Co provided department of transport with a mooring plan showing the barge entirely within the courtesy mooring area even under 60knot winds on the 6/2/17 by email and then on 7/2/17 on thumb drive.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>		<p>Refer to email comments sent to DPaW from Department of transport 8/2/17 See Barge Co - Department of Transport communication timeline; DoT t 8 Sam Carrelo advises Barge Co and Chris Mather director of marine safety DoT 5 multi-agency meeting bridge transit not raised DoT 10 - DoT 18 extensive consultation regarding position of mooring DoT advise that both DPaW and DoT agree that the courtesy mooring area is appropriate. DoT 37 provide two options to DoT for mooring location DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings DoT 41 Barge Co supply DoT with mooring drawings by email DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p>
51				
52	Mooring position	<p>Barge Co proposed three mooring configurations to DoT; One on the edge of the mooring area One within the mooring area with green outline of barge slightly within channel The third option provided shows the barge completely within the mooring area even under 60knot winds. The green outline illustrated on mooring plans indicate the extent of movement in 60knot winds, even the version supplied showing this green outline slightly in the channel is easily resolved by tightening lines and increasing grade of mooring components so that in 60 knot wind scenario the barge remains entirely within the mooring area.</p>		<p>See Mooring technical note extract - "The design environment conditions are outlined in Table 3. Wind speed (30-second gust) of 30m/sec WAs used which is considered to represent 25 year return period squall condition in Perth area based on IMC in-house data. The WAVE height of Hs=0.5m WAs used. This is considered conservative for the design location." DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate. DoT 37 provide two options to DoT for mooring location DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings DoT 41 Barge Co supply DoT with mooring drawings by email DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p>
53	Mooring position	<p>The draft report for Old Salt states: Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife. The moorings and barge location is expected to be within the existing courtesy mooring area in Perth WAtEr, as close to shore as is reasonably practicable. Compensation for the loss of courtesy moorings by WAY of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority.</p>		<p>It would appear inappropriate for DPaW and the MRA to negotiate with another proponent whilst our application is still being assessed to move the other proponent to the location Barge Co has applied for, if the Departments position is that there can/should only be one vessel a competitive process must be undertaken as per the departments corporate policy No8. Any objection to our mooring position in this area should also apply to the Old Salt proposal.</p>
54	2.24	<p>DoT has significant concerns with the potential adverse impact the Barge Co vessel movements may have on the safe navigation of recreational and commercial vessel traffic through the Fremantle rail and traffic bridges. Specifically, the potential to require frequent, full closure of the bridges' navigational spans to undertake the passage in a safe manner. Any movement that requires closure will need to ensure that it does not adversely impact on the ability for existing commercial operations that operate on a timetable.</p>	<p>The assumptions of the subjective risk analysis are incorrect and assume the barge will transit the bridge passage three times per week, that the barge weighs 2500 tonnes and there has been no calculations or quantitative risk assessment undertaken to establish the actual risks.</p> <p>Barge Co outlines in the operational management plans that the barge would need to return to North Port once a month for refuelling, all events that occur on the ocean would be scheduled to coincide with these movements therefore the maximum number of transits per year would be 12 not 156 as assumed during the "risk assessment" workshop.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>	
55	2.25	<p>DoT would require the applicant to notify DoT of the movement through the bridges, and seek approval pursuant to the Western Australian Marine Act 1982 to close the WAters, a minimum of 10 days prior to any vessel movement occurring. It will be a requirement at the time of the applicant requesting the closure of WAters that they also supply written confirmation from Captain Cook Cruises, Rottnest Express and the Port of Fremantle supporting the closure.</p>	<p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>	
56	2.26	<p>DoT request a risk assessment is undertaken to address the risk to the bridges in Fremantle.</p>	<p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>	
57	2.27	<p>DoT notes the proponent is intending to use the DoT managed East Street Jetty as a temporary berthing point if the barge reaches the Fremantle Traffic Bridge and conditions are not suitable to transit through</p>		
58	2.28	<p>While DoT has no objection to the temporary berthing of the barge at the East St Jetty, there are restrictions and permitting requirements the proponent must abide by.</p>		
59				



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60	<b>Main Roads WA</b>			
61	2.29 Main Roads WA (MRWA) provided comments on the proposal on 21 October 2016, 23 November 2016 and 4 April 2017			
62	2.30 MRWA does not support the proposal due to the significant unmitigated risk to the Fremantle Traffic Bridge and requested a risk assessment is undertaken to address the risk to the bridge.	<p>DPaW and MRWA have known for some time prior to the draft report about the bridge concerns and at no time WAs Barge Co given the opportunity to respond or address it before the Department formed its view on the proposal.</p> <p>Barge Co questions the term "unmitigated" used in the finding. Barge Co has demonstrated significant mitigation to risks in the controls applied to management of the barge through the bridges. We accept additional information or planning may be required however risk mitigation measures have been provided.</p> <p>The draft report indicates this issue as a key issue in the Departments decision to refuse the application, however as previously identified in our comments, the assumptions and risk assessment procedure WAs subjective opinion and should not have been relied upon to inform the Departments decision.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>		<p>Barge Co consulted extensively with both Main Roads WA and Arup - See MRWA communication timeline 1-11 MRWA07 - Barge Co WAs asked by Main Roads (Lance Thomas) on the 18/1/17 to provide;</p> <ul style="list-style-type: none"> <li>· Sufficient consideration of vertical clearance, considering your vessel's air draft will be in excess of 7m and current bridge clearance is about 6m (refer DoTs bridge clearance chart for details) all movements below bridge will need to have a favourable tide level. Please refer to DoT's exceedance probability curves as this not only includes predicted high and low tide levels for the next few years but will include Highest Astronomical Tide (HAT) levels as well as LAT.</li> <li>· Movements below bridge will need to be during slack tides</li> <li>· As you'll mainly use the Southern Arch two spotter vessels will need to be in the WAtter managing river users WAnting to utilise the same arch (please consult DoT Marine Safety for Spotter Vessel requirements)</li> <li>· As a failsafe I recommend Arup conducts load analyses with the design vessel being the maximum payload (Barge and Tug) travelling 2 knots. Both glancing and head on impact should be assessed</li> </ul> <p>MRWA 08 - Barge Co provided Lance Thomas preliminary plans and requested comment from them toWard any deficiencies Barge Co did not at any time following this receive any comments or suggestion that what we had provided WAs insufficient</p> <p>MRWA 10 - Barge Co provided Lance Thomas and Alex Jarvis with final plans and requested comment from them toWard any deficiencies Barge Co did not at any time following this receive any comments or suggestion that what we had provided WAs insufficient</p> <p>MRWA 11 - 27/1/17 Alex Jarvis responds to submitted documents and to Chantal Wilson (DPaW) advising they will be reviewed and main roads require 2 weeks. Alex states that Main Roads are satisfied at this point with the information provided.</p> <p>Barge Co WAs not provided with any feedback from Main Roads WA until the receipt of the draft report on the 2nd June.</p> <p>It is unreasonable to require Barge Co to provide a full risk assessment unless as a condition of approval.</p> <p>The department has known for some time prior to the draft report about the concerns and at no time WAs Barge Co given the opportunity to respond or deal with them before the department formed its view on the proposal. The draft report indicates this issue as a key issue in the departments decision to refuse the application but the assumptions and risk assessment procedure WAs flawed and therefore should not have been relied upon to inform the departments decision.</p>
63	2.31 Subsequent to the risk assessment being undertaken, MRWA requires the high risks to be mitigated by the proponent.	Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.		
64				
65	<b>Department of WAtter</b>			
66	2.32 Department of WAtter (DoW) provided comments on the proposal on 20 October 2016, and expressed concern that flooding of the river has not been considered.	Barge Co should be given the opportunity to address this as a condition of approval and notes the department have specifically requested completely revised mooring location drawings from Old Salt as a condition of approval moving them to the location Barge Co applied for. This is inconsistent with the departments stated position that any changes to the Barge Co application must be put forWard in a new application (email Glen McLeod-Thorpe to Barge Co 13/6/17)		
67				
68	<b>Department of Aboriginal Affairs</b>			
69	2.33 Department of Aboriginal Affairs (DAA) provided comments on the proposal on 14 November 2016 and 13 February 2017.	Barge Co is happy to continue to consult with the DAA and SWALSC as a condition of approval.		
70	2.34 DAA advised that the proposed works are within the boundary of Aboriginal site DAA 3536 (SWAn River), which is on the Register of Places and Objects. DAA recommends Barge Co provide information relating to the proposal to the South West Aboriginal Land and Sea Council for comment. This will assist Barge Co to determine whether an approval under the Aboriginal Heritage Act 1972 will be required.	Barge Co is happy to continue to consult with the DAA and SWALSC as a condition of approval.		
71				
72	<b>Metropolitan Redevelopment Authority</b>			
73	2.35 The Metropolitan Redevelopment Authority (MRA) provided comments on the proposal on 5 December 2016 and 27 February 2017.			
74	2.36 MRA does not support the proposal due to the location of the proposed moorings, the use of Elizabeth Quay to transfer passengers to and from the barge, insufficient planning for WAsE management, and noise impacts.	<p>On 4.11.16 Barge Co received an email from Rohan Murray cc'ing in Caryn Earnshaw and John Quinn advising that "A jetty Sub-License can be negotiated with Barge Co to secure access to the pontoon". Rohan also requested further details on Barge Co events schedule, safety plan and details of potential modifications that he requested for the pontoon and provides acoustic consultant details for Lloyd George for Barge Co to engage to complete acoustic modeling. Rohan also provided a map of Elizabeth Quay infrastructure to assist Barge Co to identify where we may source WAtter from and where seWAge point are located.</p> <p>Also note the attached letter of support from the MRA for Barge Co dated 5 December 2016, which also states we have addressed WAtter safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised, whilst DPaW's draft report includes additional comments provided 27 February 2017 that completely contradict the previous position of the MRA. This is highly irregular as no changes were made to the Barge Co proposal during this time to cause a change in the MRA's position on the project, nor were any issues brought to our attention to reflect this.</p>	19/12/16	<p>On the 17th December Barge Co responds to the City of Perth preliminary feedback to DPaW by email, Rohan is copied into the response I sent to advise him of progress and issues. On the 19th Rohan responds thanking me for the update and attaching letter from the CEO of the MRA - Kieran Kinsella expressing support for Barge Co submission and stating we have addressed WAtter safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised.</p>

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75	2.37	MRA noted that Barge Co seeks to utilise a portion of the courtesy mooring area located to the southwest of Elizabeth Quay, currently managed by the MRA. The courtesy mooring area is restricted to a four hour limit between 7am and 7pm, and makes allowance for a maximum vessel size of 25m.	The MRA have requested Old Salt use the same mooring area as a condition of their approval.		
76	2.38	Barge Co proposes to make unavailable at least two courtesy moorings due to the size of the barge and total footprint (taking into account barge movement on the mooring). MRA noted that the use of the courtesy moorings by commercial enterprise is not considered to be of public benefit and may diminish the amenity for other recreational users of the moorings, and recommends Barge Co consider an alternative mooring location.	<p>At no time during extensive consultation between Barge Co and MRA from August 2016 - March 2017 did MRA raise any issue with our proposed mooring area.</p> <p>Barge Co note the MRA have raised no Objection to 'Old Salt' using the same mooring area which is inconsistent with the position taken against Barge Co they are both entertainment barges with sea container structures on deck ferrying passengers to and from shore.</p> <p>Both Department of Transport and DPaW were consulted on the suitability of this location and agreed it WAS suitable.</p> <p>The MRAs position is inconsistent with letter of support dated 5th December, Barge Co did not change the mooring location past this date there is no reason the MRAs position would change.</p> <p>DPaW have stated in the Old Salt Draft report under 'advice to applicant' that DPaW and MRA negotiated with another proponent to request they submit revised mooring plans to situate them entirely within the courtesy mooring area, the same location as Barge Co.</p> <p>Moving the Old Salt application to the same location as Barge Co effectively make the two applications identical, and so, they should be assessed through a competitive assessment process, not as two separate applications.</p> <p>This represents a failure by DPaW to follow their own Corporate policy No 8, the department have not looked at both proposals thoroughly to examine which one will deliver the best value to the government and the state specifically;</p> <p>5.5 Decisions on whether or not to apply a competitive selection process to facilitate developments will be based on a risk management approach and will require approval by the Director General.</p> <p>5.6 A competitive process will be undertaken to issue a lease or licence where:</p> <ul style="list-style-type: none"> <li>• an opportunity is identified and its realisation is initiated by the department or the Government; and/or</li> <li>• the department wishes to gauge the breadth of opportunities that may be developed; and/or</li> <li>• it is understood that there is likely to be more than one proponent interested in the opportunity and there is a need to assess the benefits of one over another to ensure the best outcome is achieved; and/or</li> <li>• it is considered that there is significant environmental, social or economic risk to the department in not running a competitive process.</li> </ul>		<p>See full correspondence with MRA from 1-38 No Mention by the MRA of opposition to our mooring location.</p> <p>DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate.</p> <p>DoT 37 provide two options to DoT for mooring location</p> <p>DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings</p> <p>DoT 41 Barge Co supply DoT with mooring drawings by email</p> <p>DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p> <p>Old Salt Draft Report advice to applicant - "Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife. The moorings and barge location is expected to be within the existing courtesy mooring area in Perth Water, as close to shore as is reasonably practicable. Compensation for the loss of courtesy moorings by Way of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority."</p>
77	2.39	MRA expressed concern that the jetty berth within the Elizabeth Quay inlet is proposed to be utilised by Barge Co for the loading and unloading of up to 600 patrons, however the inlet design caters for Public Transport Authority ferry passengers and small pleasure craft, and is not adequately equipped to accommodate the Barge Co proposal. Further, MRA considers there is insufficient information to support the loading and unloading of passengers in a safe and secure manner that will minimise disruption to pedestrian movement and the amenity of the adjacent Water park. MRA recommends Barge Co consider an alternative location for the loading and unloading of passengers.	<p>Barge Co extensively consulted with the MRA and also obtained details of the contractor who built the jetty pontoon WAlcon Marine.</p> <p>Engineers of the pontoon structure have confirmed that the pontoon is capable of holding up to 200 people, far more people than the 50 Barge Co plan to have WAlk from our transfer vessel over the pontoon and up the ramp to the paved area at any one time.</p> <p>The Barge Co 'Operational management plan' submitted to DPaW on 27th Jan contains extensive details of how passengers will board and disembark from the transfer vessel to shore under the heading Ticketing &amp; Arrival/departure plans. Did DPaW share this information with the MRA?</p> <p>The 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' both illustrate controls for passengers, the area where Barge Co has indicated passengers due is entirely off the pontoon and not obstructing any other business or facility. Did DPaW provide this documentation to MRA?</p> <p>The distance from the top of the jetty ramp, South to the ferry terminal, is approximately 15m, the distance from the edge of the board WAlk to the step adjacent to the paved area is 10m this = 150square metres and is more than enough room to accommodate Barge Co passengers.</p> <p>In the opposite direction passengers may queue along side the seat/WAl of the Quay this extended in a curved manner all the WAl back to the board WAlk approximately 70m in length.</p> <p>Barge Co does not intend to host large music concerts on Perth Water due to the noise restrictions this means there will not be a situation where 600 people arrive to board the barge at once.</p> <p>Even for performing arts events If there were a large number of passengers arriving at the location, each of the two Barge Co transfer vessels are capable of moving 50 people to the barge every 15 minutes and can therefore provide a maximum loading capacity of 400 people per hour. This provides more than adequate capacity to ensure the jetty and paving space nominated are kept clear.</p> <p>It is worth noting that the MRA saw fit to host 'Embargo bar' on Lot 3 for four months from Jan 2017- April 2017 this venue had a capacity of 2000 and often had a line outside the door along the same paved area of up to 1000 people.</p> <p>The same area is more than capable of catering to 3000 people Embargo placed there on a nightly basis during that time, Barge Co is not proposing to move more than 1000 people through the area in any one service period of 12hrs this amounts to 83 people per hour.</p>		<p>MRA 21- Rohan provides details for contractor who manufactured the pontoon structure to enable Barge Co to investigate costs and installation of handrail and shade structure as requested by MRA.</p> <p>See email attachment from WAlcon Marine confirming the pontoon engineering capacities</p> <p>DPaW 40 - 27/1/17 Barge Co provides plans and details of Elizabeth Quayproposal to Chantal</p> <p>DPaW 42 - 27/1/17 Barge Co provides Operational management plan, 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' and other documentation to DPaW</p>



Row ID	Draft report text	Response	Date	Reference / Communications reference
78 2.40	MRA noted that Barge Co seeks to utilise existing temporary WASTE management facilities on Lots 2 and 3 in Elizabeth Quay, however these lots will soon be developed and the facilities will no longer be available to lease for commercial use and an alternative location for WASTE disposal is to be sought.	<p>On 5/12/16 MRA sends letter to DPaW signed by the CEO stating - "support for Barge Co submission and stating we have addressed WAter safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised."</p> <p>On 11/1/17 Rohan Murray emailed Barge Co confirming Barge Co can nominate the area that is used by DELRON the MRA cleaning contractors where a Barge Co bin may be stored.</p> <p>Waste management is dealt with in detail within the Barge Co WASTE management plan submitted to MRA on the 24/1/17 and DPaW on 27/1/17</p> <p>The WASTE management plan identifies the barge generates 3cubic metres of solid WASTE per week, outlines the storage capacity in the hull of the barge of 80 cubic metres. The plan also sets out hazardous WASTE, liquid WASTE, WASTE tracking, incident reporting, training and aWAREness &amp; risk considerations.</p> <p>The storage space is identified on the hull plans (A.01.1.Barge.pdf) provided to DPaW on 18/5/16, 8/7/16 and confirmed to be in the departments possession by Chantal in document review on 31/1/17 - table 4b 'design and floor plans'</p> <p>Barge Co responded to the City of Perth on 27/1/17 included Chantal Wilson on the same email outlining the WASTE would be removed in 20lt sealed tubs.</p> <p>Disposal of Solid WASTE does not impact on the Elizabeth Quay or Perth area at all Barge Co only proposed to store bins following advice from Rohan Murray on the 1/12/17 if the situation has changed and this is no longer available Barge Co has several other viable options;</p> <p>On shore bin storage in Perth is not required at all.</p> <p>Barge Co has the ability to store WASTE in the hull of the vessel in sealed tubs, the vessel has a capacity of 80cubic metres of storage space, sealed tubs can then be transferred to shore at any time and loaded onto the Barge Co supply truck and taken directly to landfill, because the tubs are sealed the risk of spillage or breaking open is nil and they stack neatly onto sack trolleys and are easily handled and emit no smell if somehow a tub did fall overboard or into the river there would be no contamination as the tubs are completely sealed.</p> <p>Alternative option for the disposal of this solid WASTE is the Barge must return to North Port on a monthly basis for refuelling where we have shore bins available.</p> <p>Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt Proponent have put forWArD no plans whatsoever to dispose of their solid WASTE but has still received conditional approval.</p>		<p>COMMUNICATIONS TIMELINE -</p> <p>MRA 23</p> <p>MRA 28</p> <p>MRA 30</p> <p>DPaW 7</p> <p>DPaW 16</p> <p>DPaW 39</p> <p>DPaW 42</p> <p>DPaW 46</p>
79 2.41	MRA recommends WASTE management is to be planned and coordinated as an integral component of the design and development process and the depositing of WASTE from Barge Co operations within Elizabeth Quay is not considered appropriate.	<p>Barge Co has negotiated with a lease holder at Barack street jetty to enable the disposal of its liquid WASTE into the marine silage units available under their lease.</p> <p>There is no requirement to use Elizabeth Quay to pump out processed WASTE WAter.</p> <p>Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt Proponent have put forWArD no plans whatsoever to dispose of their solid WASTE but has still received conditional approval.</p>		
80 2.42	MRA does not consider Barge Co has provided insufficient information within the Noise Management Plan to sufficiently demonstrate that the operation can achieve compliance with the Environmental Protection (Noise) Regulations 1997. It is anticipated Elizabeth Quay will accommodate over 1400 residents and the base level and special event noise emissions from the barge have not been considered adequately, and will have significant impact on the ambient noise levels at Elizabeth Quay. Additionally, Barge Co has not provided measures to control music, entertainment and other noise emissions, ongoing procedures to ensure amplified music on the barge will not exceed noise levels at nearby future residents, and complaint response procedures specifying how complaints will be received, recorded and investigated.	<p>The assessment clearly shows that the assigned levels can be achieved at Elizabeth Quay under the conditions modelled, particularly considering the extent of commercially zoned land around the Quay. However, it is agreed that special events could impact on Elizabeth Quay and other areas and therefore a Regulation 18 Approval would be required to manage the noise.</p> <p>Barge Co has stated in the noise assessment that all music events would be held at ocean locations unless on special occasions such as Australia Day, New Years Eve etc the report states these events would need to be under a section 18 permit.</p> <p>The noise impact on the Perth and Elizabeth Quay area is not an issue - the barge is not at this location while hosting loud events and therefore cannot impact the area.</p> <p>All other events are set to be within the 85db limit Barge Co has clearly demonstrated compliance at this level and location at all times.</p> <p>Also note the letter of support from the MRA for Barge Co dated 5 December 2016, which also states we have addressed WAter safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised, whilst DPaW's draft report includes additional comments provided 27 February 2017 that completely contradict the previous position of the MRA.</p> <p>This is highly irregular as no changes were made to the Barge Co proposal during this time to cause a change in the MRA's position on the project, nor were any issues brought to our attention to reflect this.</p> <p>The MRA and DPaW have not taken into consideration the clear evidence provided by Barge Co in regard to noise management.</p>		<p>LLOYD GEORGE Acoustic Consultants Response letter.</p> <p>COMMUNICATIONS TIMELINE</p> <p>MRA 23</p> <p>MRA 30</p> <p>DPaW 40</p>

Row ID	Draft report text	Response	Date	Reference / Communications reference
2.43	Barge Co will be required to seek development approval from the MRA for additional structures or signage for Elizabeth Quay in accordance with the Metropolitan Redevelopment Authority Regulations 2011.	<p>Barge Co WAs asked to modify the jetty pontoon structure by the MRA on 4/11/16 specifically to install a shade structure over it to protect the Barge Co staff.</p> <p>Barge Co responded to MRA on 10/3/16 -</p> <p>"Jetty modifications transfer vessel suitability I have redesigned our transfer vessels to be within the engineering specifications of the existing pontoon, we only proposed the modifications to it after discussions with Rohan to provide permanent shade cover which he said would be a preferred option over temporary shade structures to cover our staff.</p> <p>To be clear the pontoon requires no changes at all for us to operate from it safely and is rated to 3kpa and ramp 4kpa loads that equate to having the whole pontoon covered shoulder to shoulder with two layers of people, well beyond the 50 that we intend to move over the pontoon at any one time.</p> <p>The vessels propulsion system has also been changed from propeller shaft drive to outboard motors, outboard motors do not direct thrust downWArds rather along the top of the WAtEr where fixed propeller shafts tend to churn up the bottom in shallow WAtEr. The pontoons have been designed and engineered to accommodate vessels up to 12m long (measured length) our vessel has been designed within this specification.</p> <p>Please see attached designs. Since our initial proposal, I have also engaged with Captain Cook to have them staff and operate our transfer vessels they also operate the ferry service and have said they feel the pontoon jetty is more than capable of accommodating our operation without impacting other operators.</p> <p>Their experience and systems will ensure that the management of passengers and the jetty is professional and respectful of other operators, as they run the ferry service communication between the ferry and Barge Co vessels will be efficient therefore also avoiding clashes or disruption to the PTA jetty."</p> <p>Since these discussions the MRA have installed a sea container room at the top of the jetty ramp to provide the staff of all the operators on the jetty with storage for brochures and a front desk area. This structure would be more than suitable to cater for barge staff checking tickets and managing passenger boarding/disembarking.</p> <p>Therefore the pontoon requires no changes at all for any reason.</p>		<p>COMMUNICATIONS TIMELINE</p> <p>MRA 5</p> <p>MRA 23</p> <p>MRA 37</p>
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83	<b>Public Transport Authority</b>			



Row ID	Draft report text	Response	Date	Reference / Communications reference
84 2.44	The Public Transport Authority (PTA) participated in the Risk Assessment Workshop on 16 March 2017.	<p>"As per 3.1 of the Risk Workshop Report, the risk assessment undertaken WAs a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.</p> <p>Subjective - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.</p> <p>Assumptions - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5 tonnes tonne. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be rare - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval."</p>		<p>Basic review of barge weight stated in mooring technical note supplied to the department on 10/2/17 (DPaW 51) AS 357.5 TONNES</p> <p>The bridge fender system has been designed to withstand an impact from a 190 tonne ferry travelling at 10knots at a 8 degree angle.</p> <p>Barge Co naval architects preliminary review of the potential impact load of the barge is as follows and demonstrates that the potential barge impact is well within the load design of the fender system on the traffic bridge even travelling at 5knots well above the 1 knot limit set in the transit plans;</p> <p>Thom Magnuson Naval Architect</p> <p>"As we discussed, following my review of the risk assessment "Fremantle Traffic Bridge No 916 Modification to Fendering System at Piers 15 and 16 - Feasibility report" produced by HMG Maunsell, I make the following comments: Section 6.4 outlines the Fender system capacity to impact force as 215kN. The impact energy design load calculated in section 5.3 is 56.8kN. Based of the 190t, travelling at 10 knots, impacting at 8 degrees. As illustrated below, the impact energy from any of the potential collisions regarding the Barge Co barge produce an impact energy well below the design capacity of the fendering system and less than half the impact energy of the design load calculated in section 5.3.</p> <p>Using the same methodology as outlined in the report, I calculated the following impact energy for the proposed Barge Co Barge;</p> <p>1 knot - Impact @ 8 degree E=0.5 MD(V sin a)<sup>2</sup> Cm Ce Cs Cc MD =357.5 t V = 1 knot = 0.5144 m/s E = 0.5 x 357.5 (0.5144 x SIN(8))<sup>2</sup> x 1.18 x 0.989 x 1.0 x 1.0 E = 1.12 kN 5 Knots - Impact @ 8 degree E=0.5 MD(V sin a)<sup>2</sup> Cm Ce Cs Cc = 56.8 kNm MD =357.5 t V = 5 knot = 2.572 m/s E = 0.5 x 357.5 (2.572 x SIN(8))<sup>2</sup> x 1.18 x 0.989 x 1.0 x 1.0 E = 26.7 kN</p> <p>1 knot - Impact @ 15 degree E=0.5 MD(V sin a)<sup>2</sup> Cm Ce Cs Cc MD = 357.5 t V = 1 knot = 0.5144 m/s E = 0.5 x 357.5 (0.5144 x SIN(15))<sup>2</sup> x 1.18 x 0.989 x 1.0 x 1.0 E = 3.88 kN"</p>
85 2.45	PTA does not support the proposal due to the significant unmitigated risk to the Fremantle Rail Bridge.	<p>Barge Co questions the term "unmitigated" used in the finding. Barge Co has demonstrated significant mitigation to risks in the controls applied to management of the barge through the bridges. We accept additional information or planning may be required however risk mitigation measures have been provided.</p> <p>The assumptions of the subjective risk analysis are incorrect and assume the barge will transit the bridge passage three times per week, that the barge weighs 2500 tonnes and there has been no calculations or quantitative risk assessment undertaken to establish the actual risks.</p> <p>Barge Co outlines in the operational management plans that the barge would need to return to NorthPort once a month for refuelling, all events that occur on the ocean would be scheduled to coincide with these movements therefore the maximum number of transits per year would be 12 not 156 as assumed during the "risk assessment" workshop.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>		
86				
87	<b>Botanic Gardens and Parks Authority</b>			
88 2.46	The Botanic Gardens and Parks Authority (BGPA) provided comments on the proposal on 24 February 2017.	Barge Co WAs not advised to consult with the Botanic Gardens and parks authority nor that they would be consulted to offer comments toWArd the proposal.		Barge Co not afforded the opportunity to consult or advised to consult with this organisation by DPaW
89 2.47	The BGPA advises that the Barge Co vessel will be clearly within the view lines from Kings Park, and particular care should be taken in the choice of materials and colours used on the vessel so as not to negatively impact on the views from Kings Park. The BGPA preference would be for non-reflective materials to be used on all surfaces and that muted or natural colours are used to ensure the vessel blends with its surrounding environment and to avoid glare or distraction of the eye toWArds the vessel in the outlook from viewing points in the park.	Barge Co provided design brief to DPaW as part of documents submitted that detail the colour of the roof and barge, in general, would be that of the river so that when viewed from Kings park the barge would blend into its surrounding environment. Barge Co specifically provided a photo from the main vantage point at Kings park under the heading "Visual Impact" showing the barge overlaid into the photo.	27/01/17	Documents provided to DPaW on 27th January specifically the design brief were not taken into consideration. Were these documents provided to Botanic Gardens and Parks Authority?
90 2.48	The BGPA has some concern about the proposed use of Date Palms on the barge will look completely foreign within the river environment and have the effect of making the barge more prominent in the view lines from Kings Park. The BGPA would prefer the use of Australian plants in this setting to reinforce a sense of place.	The use of Canary Island date palms on board is consistent with the City of Perth planting along the entire length of Riverside drive that is also visible from Kings park as outlined in the Barge Co design brief document. Several of the same trees are planted within John Oldham park directly in the foreground of the view provided by Barge Co to DPaW in the design brief.	27/01/17	Documents provided to DPaW on 27th January specifically the design brief are not taken into consideration. Were these documents provided to Botanic Gardens and Parks Authority?

Row ID	Draft report text	Response	Date	Reference / Communications reference
91 2.49	The BGPA expressed concern the noise from proposed music concerts and other events will impact on the Kings Park visitor experience. Visitors to Kings Park enjoy a relatively quiet, park atmosphere for relaxation and passive recreation. The BGPA is concerned that loud music on the vessel for private events will extend into the popular visitor areas along the ridge of the Mt Eliza Escarpment, interrupting the ambience of the park environment for visitors.	<p>The noise assessment report by Lloyd George acoustic consultant's states clearly in the discussion of results -</p> <p>"Figures 3-1 to 3-4 show that assuming the in-house PA system being used, compliance is achievable at sound levels of up to 85 dB(A) up until 10.00 pm. After this time, compliance may be achieved if the wind is blowing from the south or if the external speakers are turned off and the music is played inside of the seated area with the windows and doors shut. Of course, if the music is played at a lower level, then compliance may be achieved at all times."</p> <p>Further to this Barge Co states in the introduction section of the noise assessment</p> <p>" Music concerts These will occur mainly on the ocean at Port beach or Coogee but on special days such as new years, Australia day, Melbourne cup, grand final day etc. it is intended to host these at Elizabeth Quay. Approximately 18 Events per year."</p> <p>This point is key to our proposal meeting the noise requirements as the only events on board where noise levels would be over 100db would be music concerts and we intend to host these completely out of the river park (unless for special days under a section 18 exemption for the Perth mooring site) this means the potential impact to Kings Park and surrounding areas from these loud events is nil. Although we intend on hosting a total of 18 music concert events we do not intend to hosting any at the Perth WAtEr location unless under a section 18 permit. The assessment shows that noise levels along the ridge of My Eliza Escarpment would around 35 dB(A). This is likely to be significantly less than the background noise levels considering the traffic noise from the freeWay and Mounts Bay Road.</p> <p>While we do not believe the barge will adversely impact upon these areas, the proposed noise monitoring would confirm this and the noise management plan would be revised if impacts were found to occur.</p>	27/01/17	Documents provided to DPaW on 27th January specifically the noise assessment document are not taken into consideration. Were these documents provided to Botanic Gardens and Parks Authority?
92	<b>City Of South Perth</b>			
93 2.50	The City of South Perth provided comments on the proposal on 14 February 2017 and requested information on proposed noise management due to possible impact from larger events on South Perth residents.	<p>The noise assessment report by Lloyd George acoustic consultant's states clearly in the discussion of results -</p> <p>"Figures 3-1 to 3-4 show that assuming the in-house PA system being used, compliance is achievable at sound levels of up to 85 dB(A) up until 10.00 pm. After this time, compliance may be achieved if the wind is blowing from the south or if the external speakers are turned off and the music is played inside of the seated area with the windows and doors shut. Of course, if the music is played at a lower level, then compliance may be achieved at all times."</p> <p>Further to this Barge Co states in the introduction section of the noise assessment</p> <p>" Music concerts These will occur mainly on the ocean at Port beach or Coogee but on special days such as new years, Australia day, Melbourne cup, grand final day etc. it is intended to host these at Elizabeth Quay. Approximately 18 Events per year."</p> <p>This point is key to our proposal meeting the noise requirements as the only events on board where noise levels would be over 100db would be music concerts and we intend to host these completely out of the river park (unless for special days under a section 18 exemption for the Perth mooring site) this means the potential impact to Kings Park and surrounding areas from these loud events is nil. Although we intend on hosting a total of 18 music concert events we do not intend to hosting any at the Perth WAtEr location unless under a section 18 permit. The assessment shows that noise levels along the ridge of My Eliza Escarpment would around 35 dB(A). This is likely to be significantly less than the background noise levels considering the traffic noise from the freeWay and Mounts Bay Road.</p> <p>While we do not believe the barge will adversely impact upon these areas, the proposed noise monitoring would confirm this and the noise management plan would be revised if impacts were found to occur.</p>		
94 2.51	At the time of preparing this Draft Report, no further comment from the City of South Perth has been received.			
95				
96	<b>Tourism W.A</b>			



Row ID	Draft report text	Response	Date	Reference / Communications reference
2.52	Tourism WA corresponded with Parks and Wildlife on 31 March 2017, recommending consideration of the Barge Co proposal in terms of the long-term vision for Perth WAtEr, and the significant investment of both Government and private investors for the development of Elizabeth Quay.	<p>These comments have been taken from a letter sent to DPaW following a boat trip with tourism to discuss many proposals DPaW have received for Perth WAtEr and the development of a specific policy for Perth WAtEr they do not specifically relate to the Barge Co proposal.</p> <p>It is misleading to suggest this is the tourism departments position toWArD the Barge Co proposal when the letter WAs the tourism departments response to DPaWs strategic vision for Perth WAtEr, a policy still in development, not the Barge Co event venue application.</p> <p>Comments from agencies in the draft report should reflect their feedback toWArD the proposal not to other policies yet to be implemented by DPaW.</p> <p>This is the text provide to DPaW by Barge Co from tourism toWArD Barge Co liquor license application-</p> <p>*application for a liquor licence for the Barge Co floating event venue</p> <p>Tourism and hospitality provides a significant economic and social contribution to WA and the people employed in these sectors are often the first point of contact for visitors to the State. The provision of a range of facilities, services, and visitor amenities are integral to supporting the visitor economy, and providing a range of experiences to the local community and visitors alike. In 2014-15, half of tourism employees in WA worked in hospitality businesses and tour operations, accounting for 23% of the tourism sector's contribution to the State's Gross Value Added1 .</p> <p>The proposal from Barge Co will establish a new style of floating event venue to Perth that will utilise the city's river environment. This venue will enable visitors to experience this important tourism asset; indeed research undertaken by TNS in 2016 indicates that 73% of visitors to the SWAn River consider that more events that take advantage of this unique setting to be a significant opportunity.</p> <p>In addition, research undertaken by Tourism Research Australia in 2014 indicates that 1.1 million visitors to WA partake in a specific food and wine activity while travelling in the State. Of this number, 38% consider good food, wine and local produce as a determining factor when choosing a destination, and 64% of these visitors consider dining in a WAtErfront location to be highly appealing.</p> <p>The Barge Co Float Event venue, which includes a restaurant, bar and event venue for theatre, ballet, orchestra, art exhibitions, sunset cinemas and concerts in the middle of the SWAn River, and off the Perth coastline, is an example of the type of facility that will enable visitors to participate in these experiences. Significantly, this supports the implementation of the State Government's Taste 2020: A strategy for food and wine tourism in Western Australia for the next five years and beyond.</p> <p>The incorporation of event and function space complement the location, and access and views of the SWAn River and Perth's coastline will provide an attractive setting for this type of activity. Tourism WA believes that the proposal for a floating event venue will enhance the State's tourism industry and wishes you all the best with this new venture.</p> <p>Tourism WA is pleased to offer this letter of support for the licence application to the Department of Racing, Gaming and Liquor. Please feel free to use this as you see fit in relation to this process.</p> <p>Yours sincerely</p> <p>DERRYN BELFORD Executive Director Destination Development 25 October 2016</p>		
2.53	Tourism WA notes the future development of the National Indigenous Cultural Centre (NICC) may be adversely impacted by any permanent/semi-permanently moored barge vessels in Perth WAtEr.			
	<b>SWAn River Trust</b>			
2.54	In accordance with section 75(3A) of the SCRM Act 2006, the Trust considered the draft report at its meeting on 9 May 2017.			
2.55	<p>The Trust discussed the following issues:</p> <ul style="list-style-type: none"> <li>•the general question of whether event barges in Perth WAtEr are acceptable;</li> <li>•the visual amenity of large, industrial-looking barges permanently placed in the landscape;</li> <li>•the appearance of the barge, especially over time;</li> <li>•the interference with view-scapes from key locations such as Elizabeth Quay, Kings Park and South Perth;</li> <li>•that the proposal will detract from the key aspects of what makes the river important to the community;</li> <li>•there being a significant difference between development at the river's edge and permanent structures mid-river;</li> <li>•the planning around future commercial and residential development in surrounding areas, especially Elizabeth Quay;</li> <li>•noise and other impacts associated with moving patrons, supplies and WAtE materials from the operation;</li> <li>•the impact on other river users, including the need to remove or relocate existing courtesy moorings;</li> <li>•the relationship of the proposals to the policy objectives of State Planning Policy 2.10;</li> <li>•that if approved, the proposal would need to be time-limited and be subject to strict conditions.</li> </ul>			
2.56	The Trust noted that the proposal had not been supported by referral agencies.	This is incorrect, DOT and MRA expressed support for the venue in comments to DPaW, Tourism WA comments have been misrepresented by DPaW.		
2.57	<p>The Trust resolved:</p> <p>"to support the draft report and recommendation as outlined as it does not consider the application by Barge Co Pty Ltd to be acceptable and should be refused.</p> <p>The Trust fundamentally opposes the development of floating barge event venues on the river system due to the adverse impact on visual amenity, the permanent alienation of the WAtErWAY from community use, the interference with key view-scapes, the incompatibility of the use with the community's use and enjoyment of the river system, the noise impacts on surrounding current and future residents and the issues relating to servicing such venues. Furthermore, the Barge Co Pty Ltd proposal clearly presents an unmitigable risk to the Fremantle traffic and rail bridges.</p> <p>In reaching this decision, the advice and recommendations of the City of Perth, the City of South Perth, the Metropolitan Redevelopment Authority, the Department of Transport, the Department of WAtEr, the Department of Aboriginal Affairs, the Public Transport Authority and the Botanic Gardens and Parks Authority were considered and supported."</p>	<p>The terminology - "alienation" is emotive language and not based on fact. Barge Co questions the term "unmitigated" used in the finding. Barge Co has demonstrated significant mitigation to risks in the controls applied to management of the barge through the bridges. We accept additional information or planning may be required however risk mitigation measures have been provided.</p> <p>The assumptions of the subjective risk analysis are incorrect and assume the barge will transit the bridge passage three times per week, that the barge weighs 2500 tonnes and there has been no calculations or quantitative risk assessment undertaken to establish the actual risks.</p> <p>Barge Co outlines in the operational management plans that the barge would need to return to North Port once a month for refuelling, all events that occur on the ocean would be scheduled to coincide with these movements therefore the maximum number of transits per year would be 12 not 156 as assumed during the "risk assessment" workshop.</p> <p>Barge Co will provide a full quantitive risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>		

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105				
106	<b>Public Notice</b>			
107	2.58 The proposal WAs formally advertised in accordance with Section 74(2) of the SCRM Act. The advertisements were run for two consecutive weeks in The West Australian newspaper (4 and 11 February 2017) and the Western Suburbs Weekly (Perth CBD) and Southern Gazette (South Perth) (7 and 14 February 2017). The public submissions period WAs open for a period of four weeks concluding on 4 March 2017.			
108	2.59 Two submissions were received during the public notice period, and two submissions were received late.			
109	2.6 The first submission WAs received on 8 February 2017, and WAs supportive of the development.			
110	2.61 The second submission WAs received on 2 March 2017, and amounted to an objection to the proposal due to the vulnerability of the river and the "lack of need" for more eateries in the area. The submission noted that Government should have more respect for the rivers and wetlands.			
111	2.62 The third and fourth submissions were received on 11 April 2017, and amounted to objections to the proposal due to possible noise impacts on the residents of South Perth Peninsular.			
112				
113	<b>Relevant Policies and Plans</b>			
114	<ul style="list-style-type: none"> <li>•State Planning Policy 2.9 – WAtEr Resources (SPP2.9)</li> <li>•State Planning Policy 2.10 – SWAn-Canning River System (SPP2.10)</li> <li>•Corporate Policy Statement No. 42 - Planning for Land Use, Development and Permitting Affecting the SWAn Canning Development Control Area (Policy 42)</li> <li>•Corporate Policy Statement No. 44 - Planning for Jetties in the SWAn Canning Development Control Area (Policy 44)</li> <li>•Corporate Policy Statement No. 46 - Planning for Commercial Operations in the SWAn Canning Development Control Area (Policy 46)</li> <li>•Corporate Policy Statement No. 48 - Planning for Development Setback Requirements Affecting the SWAn Canning Development Control Area (Policy 48)</li> <li>•Corporate Policy Statement No. 49 - Planning for StormWAtEr Management Affecting the SWAn Canning Development Control Area (Policy 49)</li> <li>•Corporate Policy Statement No. 51 - Planning for WAsTeWAtEr Affecting the SWAn Canning Development Control Area (Policy 51)</li> </ul>			
115				
116	<b>3 Environmental and Planning Considerations</b>			
117	<ul style="list-style-type: none"> <li>•Landscape character</li> <li>•Public access and community benefit</li> <li>•Amenity</li> <li>•Recreation and tourism</li> <li>•Transport</li> <li>•River flood</li> <li>•Cultural and natural heritage</li> <li>•Pedestrian and vehicular traffic</li> <li>•WAtEr quality protection</li> <li>•Ecological health</li> <li>•Development of food and beverage facilities on or over WAters</li> <li>•Lighting and signage</li> <li>•Infrastructure and services</li> <li>•Maintenance of facilities</li> <li>•StormWAtEr quality</li> </ul>			
118				
119	<b>4 Discussion</b>			
120	<b>Landscape Character</b>			
121	4.1 State Planning Policy 2.10 – SWAn-Canning River System (SPP2.10), Corporate Policy Statement No. 42 - Planning for Land Use, Development and Permitting Affecting the SWAn Canning Development Control Area (Policy 42), Corporate Policy Statement No. 44 - Planning for Jetties in the SWAn Canning Development Control Area (Policy 44) and Corporate Policy Statement No. 46 - Planning for Commercial Operations in the SWAn Canning Development Control Area (Policy 46) require development proposals do not to restrict or negatively impact on public views to or from the river, particularly from vantage points, and that proposals ensure the essential qualities of Perth WAtEr are protected and enhanced.	Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue of the impact the barge will have on the view from Kings Park. The proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond what vessels currently using the area do. Additionally, the barge will be mobile and thus will not be a permanent feature on Perth WAtEr.		
122	4.2 SPP2.10 requires the protection of views across and from the WAtEr, both north and south of the river between the Narrows Bridge and the CauseWAY and east and west between Kings Park and Herrison Island; the protection of views of the Kings Park escarpment from both the north and south shores and from craft on the river; the maintenance and enhancement views of the river from city streets and public places; the protection and enhancement of river views in redevelopment projects; and ensuring that development complements the natural landforms and provides opportunities for public access to and enjoyment of the river.	The Barge Co design protects views through its location and use of materials which offer full views of the location and its surrounds including views: <ul style="list-style-type: none"> <li>•from the WAtEr, both north and south of the river between the Narrows Bridge and the causeWAY and east and west between Kings Park and Herrison Island</li> <li>•of the Kings Park escarpment from both the north and south shores and from craft on the river</li> <li>•of the river from city streets and public places.</li> </ul>		
123	4.3 Policy 42 requires proposals have due regard for the provisions of the Visual Landscape Planning in Western Australia: A manual for evaluation, assessment, siting and design (Western Australian Planning Commission, 2007), and consider the proposal's impact on the landscape.	Barge Co has received almost identical feedback in regards to concerns on Visual Landscape, however DPaW have given Old Salt the opportunity to submit a Visual Impact Assessment as a condition of approval. Barge Co will address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies as Barge Co has received, however, the treatment of both applications has been inconsistent.		Barge Co design brief images have been scaled and are an accurate reflection of the barge in place. Old Salt however have only provided a red Google maps pin overlaid onto a photo of the river and do not demonstrate any visual impacts whatsoever.
124	4.4 The proposed location of the barge is in direct line of sight between Elizabeth Quay, Perth City foreshore and the South Perth foreshore, in addition to being prominently visible from the Mend Street Jetty at South Perth, and will interrupt the views from all purpose-built vantage points within Elizabeth Quay, the Perth foreshore and Kings Park.	Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue of the impact the barge will have on the view from Elizabeth Quay, the Perth Foreshore and Kings Park. The proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond what vessels currently using the area do. Additionally, the barge will be mobile and thus will not be a permanent feature on Perth WAtEr.		



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125 4.5	The Barge Co barge features sea containers, shade sails and palm trees, and has been designed "to be part of the landscape", however is marketed as being "exotic".	<p>Barge Co is entirely confident that we are able to address this concern if given the same opportunity as Old Salt has been given - to provide a visual impact assessment as a condition of approval. The building on deck is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay that feature similar design concepts such as Embargo. Barge Co has proposed the use of recycled sea containers for their floor and roof structural capacities only if the remaining WALLS on toilet blocks are a visual concern they can be clad easily with a more sympathetic covering, the bulk of the container building is entirely transparent given all WALLS and windows are replaced by windows:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth WAtEr</li> </ul> <p>Barge Co has design the steel framed, shade sale window awnings which match the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WAtEr front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co design and colour scheme of the vessel matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revely Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>Hilton Hotel - EQ</li> </ul> <p>Barge Co use of windows on all sides of the barge except back rear end of the barge:</p> <ul style="list-style-type: none"> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding buildings with dominant use of windows featured throughout the Quay as well as surrounding colour schemes of black, grey and blue and other similar design elements including</li> <li>•The Revely Bar - external WALLS are made from black glass and bronze screen cutting.</li> <li>•City Buildings</li> <li>•Crystal SWAn</li> <li>•Hilton Hotel - EQ</li> </ul> <p>Barge Co use of the live date palms:</p> <ul style="list-style-type: none"> <li>•complements the natural landforms through the use of live date palm trees on board.</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Live date palms as found all along the river and throughout Perth particularly in John Oldham park directly opposite the proposed mooring location.</li> </ul>		
126 4.6	The MRA, City of Perth and Parks and Wildlife do not agree that the barge has been designed with the essential qualities of Perth WAtEr in mind, and the design appears to have misinterpreted those essential qualities.	<p>The design is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay which features similar design concepts such as Embargo. Barge Co ensures the use of recycled sea containers:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth WAtEr</li> </ul> <p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WAtEr front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and colour scheme of the vessel which matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revely Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>Hilton Hotel - EQ</li> </ul>		

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127	4.7 The use of sea containers, shade sails, palm trees, stark lines, edges, dark colours and most other design attributes are inconsistent, and in most cases contradictory to the design criteria set by the City of Perth for public buildings, and the MRA for all elements of Elizabeth Quay.	<p>The design is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay which features similar design concepts such as Embargo. Barge Co ensures the use of recycled sea containers:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth WATER</li> </ul> <p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WATER front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and colour scheme of the vessel which matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revelly Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>•Hilton Hotel – EQ</li> </ul> <p>Barge Co is entirely confident that we are able to address this concern if given the same opportunity as Old Salt has been given.</p>		The barge is vessel and not permanently in place and should not be considered a building it is not permanent. The departments opinion is subjective and not based upon any objective assessment of the vessel within the surrounding landscape.
128	4.8 It is anticipated the barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark on the river.	<p>The design is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay which features similar design concepts such as Embargo. Barge Co ensures the use of recycled sea containers:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth WATER</li> </ul> <p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WATER front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and colour scheme of the vessel which matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revelly Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>•Hilton Hotel – Elizabeth Quay</li> </ul> <p>The Barge Co design protects views through its location and use of materials which offer full views of the location and its surrounds including views:</p> <ul style="list-style-type: none"> <li>•from the WATER, both north and south of the river between the Narrows Bridge and the causeWAY and east and west between Kings Park and Heirisson Island</li> <li>•of the Kings Park escarpment from both the north and south shores and from craft on the river</li> <li>•of the river from city streets and public places.</li> </ul>		
129	4.9 Policy 48 requires that, where the height, bulk, scale or form, orientation or location of a development is likely to create significant visual impacts within the context of the surrounding landscape: a)require the development minimise overshadowing and break up the hard edges, solid faces and bulk of buildings; b)require the development to be designed such that the levels step back in a landWARD direction and step down to complement adjacent buildings and the foreshore landscape; c)consider requiring applicants to undertake a Visual Impact Assessment to justify that an application is in keeping with the wider landscape and the immediate foreshore	<p>Barge Co has received almost identical feedback in regards to concerns on Visual Landscape, however DPaW have given Old Salt the opportunity to submit a Visual Impact Assessment as a condition of approval. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies as Barge Co has received, however, the treatment of both applications has been inconsistent.</p>		
130	4.1 Barge Co has not provided information to support the development proposal consistent with the requirements of Visual Landscape Planning in Western Australia: A manual for evaluation, assessment, siting and design, and has not designed the barge to ensure the essential qualities of Perth WATER are protected and enhanced.	<p>Barge Co has received almost identical feedback in regards to concerns on Visual Landscape, however DPaW have given Old Salt the opportunity to submit a Visual Impact Assessment as a condition of approval. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies as Barge Co has received, however, the treatment of both applications has been inconsistent.</p>		
131				
132	<b>Public Access and Community Benefit</b>			
133	4.11 SPP2.10 requires public access to the river to be maintained and enhanced while protecting the river; jetties and similar structures over and abutting the river do not restrict public access along the foreshore; and development proposals recognise that the river is a public resource that should be available to the community in perpetuity. Any proposal for a use or development within the public realm that may affect the river and its settings should demonstrate a benefit to the community that offsets any detrimental impacts on the environment.			



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134	4.12 Policy 42 seeks to ensure proposals do not impair other forms of acceptable use or jeopardise the safety of others utilising the SWAn Canning river system and its foreshores.			
135	4.13 Policy 46 requires possible conflicts of use with other established tourism and recreational facilities, public uses, or river transport infrastructure to be identified, and development proposals do not cause conflicts with other appropriate forms of use or unacceptable congestion.			
136	4.14 The Barge Co proposal includes the mooring of a barge in Perth WAter for private commercial use, which will reduce the area of Perth WAter currently accessible to the public at no cost. The total footprint of the development is over 14,000m2, and would ultimately form an exclusion zone within Perth WATER	<p>At no time during extensive consultation between Barge Co and MRA from August 2016 - March 2017 did MRA raise any issue with our proposed mooring area.</p> <p>Barge Co note the MRA have raised no Objection to 'Old Salt' using the same mooring area which is inconsistent with the position taken against Barge Co they are both entertainment barges with sea container structures on deck ferrying passengers to and from shore.</p> <p>Both Department of Transport and DPaW were consulted on the suitability of this location and agreed it WAS suitable.</p> <p>The MRAs position is inconsistent with letter of support dated 5th December, Barge Co did not change the mooring location past this date there is no reason the MRAs position would change.</p> <p>DPaW have stated in the Old Salt Draft report under 'advice to applicant' that DPaW and MRA negotiated with another proponent to request they submit revised mooring plans to situate them entirely within the courtesy mooring area, the same location as Barge Co.</p> <p>Moving the Old Salt application to the same location as Barge Co effectively make the two applications identical, and so, they should be assessed through a competitive assessment process, not as two separate applications.</p> <p>This represents a failure by DPaW to follow their own Corporate policy No'8, the department have not looked at both proposals thoroughly to examine which one will deliver the best value to the government and the state specifically;</p> <p>5.5 Decisions on whether or not to apply a competitive selection process to facilitate developments will be based on a risk management approach and will require approval by the Director General.</p> <p>5.6 A competitive process will be undertaken to issue a lease or licence where:</p> <ul style="list-style-type: none"> <li>• an opportunity is identified and its realisation is initiated by the department or the Government; and/or</li> <li>• the department wishes to gauge the breadth of opportunities that may be developed; and/or</li> <li>• it is understood that there is likely to be more than one proponent interested in the opportunity and there is a need to assess the benefits of one over another to ensure the best outcome is achieved; and/or</li> <li>• it is considered that there is significant environmental, social or economic risk to the department in not running a competitive process.</li> </ul>		<p>See full correspondence with MRA from 1-38 No Mention by the MRA of opposition to our mooring location.</p> <p>DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate.</p> <p>DoT 37 provide two options to DoT for mooring location</p> <p>DoT t 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings</p> <p>DoT 41 Barge Co supply DoT with mooring drawings by email</p> <p>DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p> <p>Old Salt draft report advice to applicant - "Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife.</p> <p>The moorings and barge location is expected to be within the existing courtesy mooring area in Perth WATER, as close to shore as is reasonably practicable.</p> <p>Compensation for the loss of courtesy moorings by WAY of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority."</p>
137	4.15 The barge is proposed to be located within the existing courtesy mooring area, and will reduce the number of moorings currently accessible to the public by at least two.			
138	4.16 Barge Co propose to lease one of the designated short stay boat berths within Elizabeth Quay from MRA, altering the structure to accommodate a vessel larger than the existing design capacity, and install structures for shade. This berth is currently accessible to the public for stays up to 3 hours. The lease of this berth for exclusive use by Barge Co would reduce public access to Elizabeth Quay and is unlikely to be approved by MRA.	<p>This is a complete misrepresentation of existing negotiations with the MRA - at no time did Barge Co ask or request to use the short stay berths within Elizabeth Quay that exist on the Eastern side of the quay. These are not the commercial berths that Barge Co applied for and WAs given approval to lease by the MRA which are not public berths but designated commercial berths currently operating jet boat and gondola tours, as well as the little boat company - all commercial operations which all hold leases with the MRA to operate commercial activities from these designated pontoon berths.</p> <p>On 4.11.16 Barge Co received an email from Rohan Murray cc'ing in Caryn Earnshaw and John Quinn advising that "a jetty sub-license can be negotiated with Barge Co to secure access to the pontoon".</p> <p>Barge Co extensively consulted with the MRA and also obtained details of the contractor who built the jetty pontoon WAlcon Marine.</p> <p>Engineers of the pontoon structure have confirmed that the pontoon is capable of holding up to 200 people, far more people than the 50 Barge Co plan to have WAlk from our transfer vessel over the pontoon and up the ramp to the paved area at any one time.</p> <p>The Barge Co 'Operational management plan' submitted to DPaW on 27th Jan contains extensive details of how passengers will board and disembark from the transfer vessel to shore under the heading Ticketing &amp; Arrival/Departure plans. Did DPaW share this information with the MRA?</p> <p>The 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' both illustrate controls for passengers, the area where Barge Co has indicated passengers due is entirely off the pontoon and not obstructing any other business or facility. Did DPaW provide this documentation to MRA?</p> <p>The distance from the top of the jetty ramp, South to the ferry terminal, is approximately 15m, the distance from the edge of the board WAlk to the step adjacent to the paved area is 10m this = 150square metres and is more than enough room to accommodate Barge Co passengers.</p> <p>In the opposite direction passengers may queue along side the seat/WAlk of the Quay this extended in a curved manner all the WAY back to the board WAlk approximately 70m in length.</p> <p>Barge Co does not intend to host large music concerts on Perth WATER due to the noise restrictions this means there will not be a situation where 600 people arrive to board the barge at once.</p> <p>Even for performing arts events If there were a large number of passengers arriving at the location, each of the two Barge Co transfer vessels are capable of moving 50 people to the barge every 15 minutes and can therefore provide a maximum loading capacity of 400 people per hour. This provides more than adequate capacity to ensure the jetty and paving space nominated are kept clear.</p> <p>It is worth noting that the MRA saw fit to host 'Embargo bar' on Lot 3 for four months from Jan 2017- April 2017 this venue had a capacity of 2000 and often had a line outside the door along the same paved area of up to 1000 people.</p> <p>The same area is more than capable of catering to 3000 people Embargo placed there on a nightly basis during that time, Barge Co is not proposing to move more than 1000 people through the area in any one service period of 12hrs this amounts to 83 people per hour.</p>		<p>MRA 21- Rohan provides details for contractor who manufactured the pontoon structure to enable Barge Co to investigate costs and installation of handrail and shade structure as requested by MRA.</p> <p>See email attachment from WAlcon Marine confirming the pontoon engineering capacities</p> <p>DPaW 40 - 27/1/17 Barge Co provides plans and details of Elizabeth Quayproposal to Chantal</p> <p>DPaW 42 - 27/1/17 Barge Co provides Operational management plan, 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' and other documentation to DPaW</p>

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139	4.17 Barge Co has not demonstrated that opportunities for public access to the river have been maximised. The proposal will potentially impair other forms of acceptable use, including quiet enjoyment on Perth Water and the foreshores of Perth and South Perth by the public.			
140	4.18 The vistas from Kings Park, Elizabeth Quay, and the Perth and South Perth foreshores are currently uninterrupted on a permanent basis, with only transient interruptions by private and commercial vessel movements through Perth Water. The moored barge will negatively impact on the community's enjoyment of an uninterrupted vista from various vantage points in the Perth area (due to the bulk, scale and design of the barge).	Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue of the impact the barge will have of Kings Park, Elizabeth Quay, and the Perth and South Perth foreshores. The proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond what vessels currently using the area do. Additionally, the barge will be mobile and thus will not be a permanent feature on Perth Water.		
141				
142	<b>Amenity</b>			
143	4.19 Policy 46 requires proponents to demonstrate they are managing effects on amenity.			
144	4.2 The MRA object to the use of Elizabeth Quay for the management of patrons via a purpose built boarding pontoon and shade structure. Elizabeth Quay has been designed to cater for ferry passengers and small pleasure craft and is not adequately designed to accommodate the transfer of 600 patrons, in addition to goods and Waste to and from the barge.	<p>On 4.11.16 Barge Co received an email from Rohan Murray cc'ing in Caryn Earnshaw and John Quinn advising that "a jetty sub-license can be negotiated with Barge Co to secure access to the pontoon". Barge Co extensively consulted with the MRA and also obtained details of the contractor who built the jetty pontoon WAlcon Marine.</p> <p>Engineers of the pontoon structure have confirmed that the pontoon is capable of holding up to 200 people, far more people than the 50 Barge Co plan to have Walk from our transfer vessel over the pontoon and up the ramp to the paved area at any one time.</p> <p>The Barge Co 'Operational management plan' submitted to DPaW on 27th Jan contains extensive details of how passengers will board and disembark from the transfer vessel to shore under the heading Ticketing &amp; Arrival/Departure plans. Did DPaW share this information with the MRA?</p> <p>The 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' both illustrate controls for passengers, the area where Barge Co has indicated passengers due is entirely off the pontoon and not obstructing any other business or facility. Did DPaW provide this documentation to MRA?</p> <p>The distance from the top of the jetty ramp, South to the ferry terminal, is approximately 15m, the distance from the edge of the board Walk to the step adjacent to the paved area is 10m this = 150square metres and is more than enough room to accommodate Barge Co passengers.</p> <p>In the opposite direction passengers may queue along side the seat/Wall of the Quay this extended in a curved manner all the way back to the board Walk approximately 70m in length.</p> <p>Barge Co does not intend to host large music concerts on Perth Water due to the noise restrictions this means there will not be a situation where 600 people arrive to board the barge at once.</p> <p>Even for performing arts events If there were a large number of passengers arriving at the location, each of the two Barge Co transfer vessels are capable of moving 50 people to the barge every 15 minutes and can therefore provide a maximum loading capacity of 400 people per hour. This provides more than adequate capacity to ensure the jetty and paving space nominated are kept clear.</p> <p>It is worth noting that the MRA saw fit to host 'Embargo bar' on Lot 3 for four months from Jan 2017- April 2017 this venue had a capacity of 2000 and often had a line outside the door along the same paved area of up to 1000 people.</p> <p>The same area is more than capable of catering to 3000 people Embargo placed there on a nightly basis during that time, Barge Co is not proposing to move more than 1000 people through the area in any one service period of 12hrs this amounts to 83 people per hour.</p>	<p>MRA 21- Rohan provides details for contractor who manufactured the pontoon structure to enable Barge Co to investigate costs and installation of handrail and shade structure as requested by MRA.</p> <p>See email attachment from WAlcon Marine confirming the pontoon engineering capacities</p> <p>DPaW 40 - 27/1/17 Barge Co provides plans and details of Elizabeth Quayproposal to Chantal</p> <p>DPaW 42 - 27/1/17 Barge Co provides Operational management plan, 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' and other documentation to DPaW</p>	
145	4.21 The use of Elizabeth Quay by Barge Co will cause significant impacts on amenity for patrons using Elizabeth Quay for recreational purposes, causing congestion with pedestrian traffic and the possible overflow of patrons into the Water park area.			
146	4.22 The development of the residential towers within Elizabeth Quay and subsequent occupancy for residential purposes has not been accounted for in terms of noise assessment, and it is anticipated the area will be significantly impacted by noise of patrons at Elizabeth Quay, the operation of transfer vessels, the movement of Waste across Elizabeth Quay via wheeled trolleys, and the increase in commercial deliveries to the area.			
147				
148	<b>Recreation and Tourism</b>			
149	4.23 SPP2.10 and Policy 42 requires development must maintain access to the river for recreation and tourism.			
150	4.24 Barge Co proposes to host private and corporate events, weddings and performances of live music and cinema, increasing opportunities for tourism and recreation.			
151	4.25 Barge Co has not addressed other potential/future events that may be held on the river (such as the Perth City Skyworks, sailing and rowing events), or future planned development of Elizabeth Quay and surrounds.			



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152 4.26	Tourism WA advises that Elizabeth Quay is a critical piece of tourism infrastructure that will, as it develops, become a key destination, place to stay, and centre of activity for visitors to Perth and Western Australia. This represents a significant level of both Government and private investment including a number of existing and proposed hotels, bars, restaurants and cafes. Importantly, the proposed future development of a National Indigenous Cultural Centre (NICC) is to be located in Perth WAter adjacent to Elizabeth Quay.	<p>These comments have been taken from a letter sent to DPaW following a boat trip with tourism to discuss many proposals DPaW have received for Perth WAter and the development of a specific policy for Perth WAter they do not specifically relate to the Barge Co proposal.</p> <p>It is misleading to suggest this is the tourism departments position toWard the Barge Co proposal when the letter WAs the tourism departments response to DPaWs strategic vision for Perth WAter, a policy still in development, not the Barge Co event venue application.</p> <p>Comments from agencies in the draft report should reflect their feedback toWard the proposal not to other policies yet to be implemented by DPaW.</p> <p>This is the text provide to DPaW by Barge Co from tourism toWard Barge Co liquor license application- "application for a liquor licence for the Barge Co floating event venue"</p> <p>Tourism and hospitality provides a significant economic and social contribution to WA and the people employed in these sectors are often the first point of contact for visitors to the State. The provision of a range of facilities, services, and visitor amenities are integral to supporting the visitor economy, and providing a range of experiences to the local community and visitors alike. In 2014-15, half of tourism employees in WA worked in hospitality businesses and tour operations, accounting for 23% of the tourism sector's contribution to the State's Gross Value Added1 .</p> <p>The proposal from Barge Co will establish a new style of floating event venue to Perth that will utilise the city's river environment. This venue will enable visitors to experience this important tourism asset; indeed research undertaken by TNS in 2016 indicates that 73% of visitors to the SWAn River consider that more events that take advantage of this unique setting to be a significant opportunity.</p> <p>In addition, research undertaken by Tourism Research Australia in 2014 indicates that 1.1 million visitors to WA partake in a specific food and wine activity while travelling in the State. Of this number, 38% consider good food, wine and local produce as a determining factor when choosing a destination, and 64% of these visitors consider dining in a WAterfront location to be highly appealing.</p> <p>The Barge Co Float Event venue, which includes a restaurant, bar and event venue for theatre, ballet, orchestra, art exhibitions, sunset cinemas and concerts in the middle of the SWAn River, and off the Perth coastline, is an example of the type of facility that will enable visitors to participate in these experiences. Significantly, this supports the implementation of the State Government's Taste 2020: A strategy for food and wine tourism in Western Australia for the next five years and beyond.</p> <p>The incorporation of event and function space complement the location, and access and views of the SWAn River and Perth's coastline will provide an attractive setting for this type of activity. Tourism WA believes that the proposal for a floating event venue will enhance the State's tourism industry and wishes you all the best with this new venture.</p>		
153 4.27	Barge Co seeks to utilise this area of Perth WAter which should be considered in the context of a long-term vision. Any use of Perth WAter should not restrict the potential development of a major tourist attraction such as the NICC, or unduly impact on the day to day operation of Elizabeth Quay.	If there is to be a single lease granted in this mooring position - the two proposals should be considered fairly and according to established competitive analysis. The two options of operation for the state is a small floating party platform, with a capacity of 200 patrons catering to the 18 - 45 year old market as per the Old Salt proposal, or a significant venue which is capable of hosting full-scale performing arts events, large corporate conferences and WA local brands promotional events with a capacity of up to 600 people of all ages including families and the elderly as per the Barge Co proposal. Personally I am not opposed to there being two vessels, in fact, I encourage their proposal as they serve the 'party boat' market that Barge Co does not wish to have aboard our venue.		
154 4.28	Parks and Wildlife considers that proposals should support the growth of Elizabeth Quay as a destination as it develops. Importantly, this ensures that the long-term intent, and future opportunities associated with the expansion of Elizabeth Quay, the Perth Convention and Exhibition Centre and the NICC are acknowledged and planned for.			
155				
156	<b>Transport</b>			
157 4.29	SPP2.10 and Policy 42 requires development not inhibit river transport, both commercial and recreational.			

Row ID	Draft report text	Response	Date	Reference / Communications reference
158	4.3 The barge is proposed to be located partially within the Perth-Rottnest navigational channel in Perth WAter, and DoT advises this location is not appropriate due to potential hindrance of commercial and recreational vessels utilising the channel.	<p>Response by Department of Transport to DPaW dated 8th February from Iain Appleby senior Planning project officer and Acting manager of Infrastructure planning at the department of transport, Coastal infrastructure have not been included in this report at all the response states;</p> <p>"Following a review of the information supplied for the above application the Department of Transport (DoT), Maritime Planning has no in principle objection to the proposal proceeding subject to the following: The Barge will only be moored at the identified locations;The mooring arrangements can accommodate the mooring loads of the barge; and Acknowledgment the Barge will not be docked/berthed at any existing infrastructure in the River. Comments on the movement of the Barge and its impact on WaterWAYS should be sought from DoT Marine Safety."</p> <p>This omission of fact by DPaW is a clear misrepresentation of the Department of transports position on the mooring application, the opinion of the department that administers infrastructure specifically moorings, should be included in this report. The advice provided by Marine safety is related to the movement of the barge and has been misrepresented by DPaW. The Department should explain why it has left out such a critical piece of information. Barge Co has consulted with DoT since October of 2015 specifically asking if a 15m wide barge would be allowed to pass through the bridge passage received advice in writing from the department on 23/2/16 stating;</p> <p>"Please note that there is no maximum vessel / barge size regulated by DoT to go through the bridge spans. It is the responsibility of the vessel master / owner to ensure that their transit is conducted safely, in accordance with all relevant marine legislation, and without causing any damage to the bridge structure."</p> <p>Guy has further consulted with DoT on many occasions regarding the bridge transit and they have never raised it as a major issue until this draft report.</p> <p>DoT have never advised we would need to undertake a risk assessment for the transit, experienced and qualified tug operators have also noted they tow large barges close to the size of Barge Co vessel through the passage on a regular basis and have never been required to undertake a risk assessment or provide anything more than a transit plan to the harbour master.</p> <p>Barge Co provided department of transport with a mooring plan showing the barge entirely within the courtesy mooring area even under 60knot winds on the 6/2/17 by email and then on 7/2/17 on thumb drive.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant." Refer to email comments sent to DPaW from Department of transport 8/2/17</p>		<p>See Barge Co - Department of Transport communication timeline; DoT 8 SAM Sam Carrelo Advises Barge Co And Chris Mather Director Of Marine Safety DoT 5 Multi-Agency meeting bridge transport not raised DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate. DoT 37 provide two options to DoT for mooring location DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings DoT 41 Barge Co supply DoT with mooring drawings by email DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p>
159	4.31 Barge Co will require the movement of the barge to Fremantle for servicing, in addition to relocation to Port Beach and Coogee Beach for events. Movement of the barge is detailed in the proponent's Vessel Movement Plan, which details the movement of the barge, using tug boats for power and steering, through the Fremantle Traffic Bridge (FTB) and Fremantle Rail Bridge (FRB). The proponent contends that the barge is unlikely to make contact with either bridge, with plans showing the smallest clearance between the barge, tug boats, and bridge infrastructure at 19.9cm.			
160	4.32 MRWA, PTA, DoT, Fremantle Port Authority (FPA), the Australian Maritime Safety Authority (AMSA) and Parks and Wildlife participated in a collaborative risk workshop on 16 March 2017 to assess the risks associated with the vessel transit beneath the FTB and FRB, facilitated by Arup.	<p>As per 3.1 of the Risk Workshop Report, the risk assessment undertaken WAs a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.</p> <p>Subjective - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.</p> <p>Assumptions - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5tonnes tonne. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be RARE - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval.</p> <p>Both DPaW and MRWA have known for some time prior to the draft report about the bridge concerns and at no time WAs Barge Co given the opportunity to respond or address it before the department formed its view on the proposal.</p> <p>The draft report indicates this issue as a key issue in the departments decision to refuse the application but the assumptions and risk assessment procedure WAs flawed and therefore should not have been relied upon to inform the departments decision.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is significant.</p>		<p>Barge Co consulted extensively with both Main Roads WA and Arup - See MRWA communication timeline 1-11 MRWA07 - Barge Co WAs asked by Main Roads (Lance Thomas) on the 18/1/17 to provide;</p> <ul style="list-style-type: none"> <li>- Sufficient consideration of vertical clearance, considering your vessel's air draft will be in excess of 7m and current bridge clearance is about 6m (refer DoT's bridge clearance chart for details) all movements below bridge will need to have a favourable tide level. Please refer to DoT's exceedance probability curves as this not only includes predicted high and low tide levels for the next few years but will include Highest Astronomical Tide (HAT) levels as well as LAT.</li> <li>- Movements below bridge will need to be during slack tides</li> <li>- As you'll mainly use the Southern Arch two spotter vessels will need to be in the WATER managing river users WANTing to utilise the same arch (please consult DoT Marine Safety for Spotter Vessel requirements)</li> <li>- As a failsafe I recommend Arup conducts load analyses with the design vessel being the maximum payload (Barge and Tug) travelling 2 knots. Both glancing and head on impact should be assessed</li> </ul> <p>MRWA 08 - Barge Co provided Lance Thomas preliminary plans and requested comment from them toWArD any deficiencies Barge Co did not at any time following this receive any comments or suggestion that what we had provided WAs insufficient</p> <p>MRWA 10 - Barge Co provided Lance Thomas and Alex Jarvis WITH FINAL PLANS and requested comment from them toWArD any deficiencies Barge Co did not at any time following this receive any comments or suggestion that what we had provided WAs insufficient</p> <p>MRWA 11 - 27/1/17 Alex Jarvis responds to submitted documents and to Chantal Wilson (DPaW) advising they will be reviewed and Main Roads require 2 weeks. Alex states that main roads are satisfied at this point with the information provided.</p> <p>Barge Co WAs not provided with any feedback from Main Roads WA until the receipt of the draft report on the 2nd June.</p>
161	4.33 MRWA and PTA note that the FTB and FRB are core transport routes across the SWAn River and are located adjacent to each other, with the FRB bordering the Port of Fremantle.			
162	4.34 MRWA advised that the FTB is a timber road bridge over the SWAn River in Fremantle, built in 1938. It has four traffic lanes carrying over 30,000 vehicles per day (weekday) and a shared bicycle and pedestrian path on its deck. It supports a range of utilities, including gas, oil, power, telecommunications, and WAtter, which are attached at and slightly below deck level on both sides of the bridge.			



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163	4.35 Below the deck are two navigation channels used by large marine vessels (e.g. ferries that carry up to 500 passengers). The channels have decreasing vertical clearance from south to north. The bridge structure adjacent to the channels comprises piled fender systems surrounding timber bridge piers piles. The fender systems are not connected to the bridge pier piles.			
164	4.36 The PTA advised that the FRB, constructed in 1964, comprises concrete piers and a steel deck. Recent enhancements to the bridge have seen the installation of four dolphins (man-made structure installed to protect the bridge piers from impact) on the downstream (Fremantle Port) side of the bridge in 2015. It carries the main north/south electrified rail line over the SWAn River which services both passenger and freight rail. The FRB is outside the DCA, however the barge must navigate through the bridge as part of the movement proposed by Barge Co, and therefore assessed as part of this development application.			
165	4.37 The Barge Co proposal states the barge is 50m x 14.3m x 7.2m and has no self-propulsion – it will be moved by tugboats. Due to size, weight and surface area of the barge, no movements are proposed to be completed when wind speed will exceed 15 Knots.			
166	4.38 Given bridge clearances, the barge is proposed to be navigated through the bridges at low tide and during the period of slack tide (where there is no movement either WAy in the tidal stream), or should there be tidal influence, the barge will be moved in the opposite direction to the tidal flow.			
167	4.39 When weather conditions are ideal for barge movement, it is likely that the public will also be actively using the same WAterWAY.			
168	4.4 A qualitative risk assessment, in accordance with MRWA Risk Management Process, WAs carried out during the workshop on 16 March 2017 to assess the risk of the proposed operation by Barge Co (Attachment 6).	As per 3.1 of the Risk Workshop Report, the risk assessment undertaken WAs a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.  Subjective - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.  Assumptions - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5tonnes tonne. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be RARE - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval.		
169	4.41 The likelihood and consequences of the most plausible scenarios were assessed and are listed as Scenarios 1 to 5 for the FTB, and Scenario's 6 to 9 for the FRB in the below summary table:			
170	4.42 According to the MRA Risk Management Process, moderate risks identified during the risk assessment process can theoretically be managed through management controls, such as authorisation for the barge movement through the FTB and FRB to only occur during specific weather and tidal conditions, the closure of the navigation channel, additional spotter vessels, etc. High risks identified during the risk assessment process require the regulator or vessel operator to take urgent action in relation to the activity.	As per 3.1 of the Risk Workshop Report, the risk assessment undertaken WAs a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.  Subjective - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.  Assumptions - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5tonnes tonne. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be RARE - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval.		
171	4.43 The collaborative risk assessment concluded with the determination that the only appropriate action that could be taken by Barge Co to mitigate the high risk includes redesigning the barge to be of a smaller size to increase clearances, or for Government to re-build the FTB using different engineering methodologies to allow it to withstand the forces of a large barge impact, or provide greater clearances. It WAs concluded the vessel movement through the FTB and FRB cannot occur as proposed	As per 3.1 of the Risk Workshop Report, the risk assessment undertaken WAs a subjective - not objective - risk workshop considering qualitative data and opinions of participants. The workshop did not consider quantitative data or statistical analysis, assumptions used to guide the workshop are incorrect. There is no evidence the risk assessment applied an accepted methodology or complied to the requirements of ISO 31000 Risk Management Standard.  Subjective - There is confusion in regards to the Consequence ratings identified for each bridge - for the traffic bridge it is identified as Catastrophic yet for the Rail Bridge it is identified as Insignificant.  Assumptions - 2,500 tonne weight - actual displacement weight as identified by IMC Naval architects in the Mooring technical note supplied to DPaW on 10/2/17 is 357.5tonnes tonne. According to ARUP the 2,500 tonne weight assumes the barge is fully submerged, this is incorrect in any case due to the error in the displacement weight of the vessel however even using the actual displacement weight the likelihood of this occurring at the same time the barge is transiting under a bridge would be RARE - Consequence rated as 5 Catastrophic - it does not appear reasonable to assume with no calculation or regard to fact that a 357.5 tonne vessel to cause fatality or over \$20,000,000 damage at 1.0 knot impact. Barge Co should be given the opportunity to address this by providing a full quantitative risk assessment as a condition of approval.		
172				
173	<b>River Flood</b>			
174	4.44 Policy 42 requires development proposed within the flood fringe to be designed to minimise damage during a major flood event. Parks and Wildlife is to have due regard for the DoW's floodplain management process and advice on flood risk. Policy 46 requires consideration of flood prone land including whether the design has made provisions for sea level rise, major flood events and tidal surges, and will not adversely affect the hydrology of the floodplain.			

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175	4.45 In its general advice in relation to mooring of barges within Perth WAtEr, DoW advise the extent of river flooding is to be considered in the design of the barge and its moorings, and how flood risks are intended to be managed (either passively through appropriate design or actively through responses immediately preceding/during events).			
176	4.46	Old Salt have been given the opportunity to provide further evidence to demonstrate the mooring is designed for 1 in 100 year flood events. Their draft report also states that contingency planning is also required, which discusses procedures for the removal of the barge from Perth WAtEr in storm and flood events anticipated to be greater than 1 in 100 years. Final Mooring Design Drawings will also be required from Old Salt as a condition of approval. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies as Barge Co has received, however, the treatment of both applications has been entirely inconsistent.		
177				
178	<b>Cultural and Natural Heritage</b>			
179	4.47 SPP2.10 states that the natural and cultural heritage values of the river should be protected and enhanced. Consideration of Aboriginal and European based cultural and natural heritage values should be taken into account when planning and determining proposals within the river area			
180	4.48 Policies 42, 44 and 46 further underpin the importance of minimising and managing the effects on Aboriginal and/or European heritage values.			
181	4.49 Parks and Wildlife does not consider Barge Co has demonstrated an understanding of the need to support the protection of cultural heritage places including the built environment, natural resources and sites of significance to both Aboriginal and non-Aboriginal people, and has not provided information to demonstrate consultation with the South West Aboriginal Land and Sea Council.	Old Salt similarly corresponded and met with traditional owners, as did Barge Co, to seek the support of the traditional owners - however, Old Salt has been encouraged by DPaW to undertake further proactive consultation with the traditional owners to ensure the development is consistent with the values of the Whadjuk people. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies as Barge Co has received, however, the treatment of both applications has been inconsistent.		
182				
183	<b>Pedestrian and Vehicular Traffic</b>			
184	4.5 Policy 46 requires proponents to provide information regarding the parking requirements of the development, and whether adequate car parking is proposed or currently exists.			
185	4.51 An assessment has not been undertaken to assess the impact of an increase in vehicular and pedestrian traffic around and within Elizabeth Quay, beyond the intended capacity of that facility, and no information has been provided to support the contention that the number of existing car parks in close proximity to the proposal is adequate for the development.			
186	4.52 Policy 46 requires that parking for the Barge Co venue should be equivalent to one car bay per four-person seating capacity and one car bay per two staff, or in accordance with the parking requirements of the City of Perth's City Planning Scheme No. 2.	DPaW have given Old Salt the opportunity to provide a detailed Traffic Management Plan giving due consideration to parking, walking cycling and public transport will be required as a condition of approval, and should be prepared in consultation with the City of Perth for approval by Parks and Wildlife. Barge Co is entirely confident that we are able to address all of the concerns raised in the draft report if given the opportunity, just as Old Salt has been given, as the conditions of approval for the Old Salt proposal have raise almost identical objections and concerns from the relevant agencies as Barge Co has received, however, the treatment of both applications has been inconsistent.		
187				
188	<b>WAtEr Quality Protection</b>			
189	4.53 State Planning Policy 2.9 – WAtEr Resources (SPP2.9) requires that proponents prevent or, where appropriate, ameliorate the potential impact on WAtEr quality and, as a minimum, proposed development should aim to maintain WAtEr quality.			
190	4.54 Potential impacts on WAtEr quality include hydrocarbon contamination from fuel storage and transfer, and accidental spills; contamination from WAtE storage and transfer, and accidental spills; and turbidity due to the installation and operation of the moorings.			
191	4.55 Power for the barge will be supplied via diesel generators, and refuelling is proposed to occur at North Port Marine complex in Fremantle.			
192	4.56 Information in relation to the volume of diesel storage on the barge, the risks posed by the bulk storage of fuel on Perth WAtEr, and mitigation and management strategies to address these risks have not been identified by the proponent. Barge Co has not provided information relating to the refuelling of the transfer vessel.			
193	4.57 No information has been provided in relation to the proposed installation methodology of the moorings, and the risk of increased turbidity in Perth WAtEr during the construction and operational phases of the moorings.			
194	4.58 Parks and Wildlife requires that moorings are environmentally friendly in design, and Barge Co's proposed mooring system is not considered to meet this criterion, specifically the four Risers (22m in length each) will be in contact with the river bed and will drag as the barge moves laterally on its moorings, over a total area of approximately 1,300m2.			
195	4.59 Barge Co proposes to transfer solid and liquid WAtE from the barge via transfer vessel at Elizabeth Quay. This requires the installation of dedicated sullage pumping services at a short-stay berth, as well as the manual transfer of solid WAtE through Elizabeth Quay to the temporary bin storage shed located between Lots 2 and 3.			
196	4.6 Hazardous WAtE is proposed to be removed from the barge during servicing at Fremantle.			



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197	4.61 The MRA advises that it is unlikely Barge Co will receive approval to use any aspect of Elizabeth Quay facilities to service the operation. Notwithstanding this potential limitation, it is considered inappropriate by the City of Perth, the MRA and Parks and Wildlife to transfer WASTE across/through Elizabeth Quay, particularly after-hours when nearby noise receptors would be the most sensitive.	<p>On 5/12/17 MRA sends letter to DPaW signed by the CEO stating - "Support for Barge Co submission and stating we have addressed WAtEr safety, operating hours, noise impacts and liquor licensing to ensure that the developments impact on the amenity of the public realm and residents of Elizabeth Quay project area is minimised."</p> <p>On 11/1/17 Rohan Murray emailed Barge Co confirming Barge Co can nominate the area that is used by DELRON the MRA cleaning contractors where a Barge Co bin may be stored.</p> <p>Waste management is dealt with in detail within the Barge Co WASTE management plan submitted to MRA on the 24/1/17 and DPaW on 27/1/17</p> <p>The WASTE management plan identifies the barge generates 3 cubic metres of solid WASTE per week, outlines the storage capacity in the hull of the barge of 80 cubic metres. The plan also sets out hazardous WASTE, liquid WASTE, WASTE tracking, incident reporting, training and aWAreNess &amp; risk considerations.</p> <p>The storage space is identified on the hull plans (A.01.1.Barge.pdf) provided to DPaW on 18/5/16, 8/7/16 and confirmed to be in the departments possession by Chantal in document review on 31/1/17 - table 4b 'design and floor plans'</p> <p>Barge Co responded to the City Of Perth on 27/1/17 included Chantal Wilson on the same email outlining the WASTE would be removed in 20lt sealed tubs.</p> <p>Disposal of Solid WASTE does not impact on the Elizabeth Quay or Perth area at all Barge Co only proposed to store bins following advice from Rohan Murray on the 1/12/17 if the situation has changed and this is no longer available Barge Co has several other viable options;</p> <p>On shore bin storage in Perth are not required at all.</p> <p>Barge Co has the ability to store WASTE in the hull of the vessel in sealed tubs, the vessel has a capacity of 80 cubic metres of storage space, sealed tubs can then be transferred to shore at any time and loaded onto the Barge Co supply truck and taken directly to landfill, because the tubs are sealed the risk of spillage or breaking open is nil and they stack neatly onto sack trolleys and are easily handled and emit no smell if somehow a tub did fall overboard or into the river there would be no contamination as the tubs are completely sealed.</p> <p>Alternative option for the disposal of this solid WASTE is the Barge must return to NorthPort on a monthly basis for refuelling where we have shore bins available.</p> <p>Barge Co should be given the opportunity to address this as a condition of approval as Old Salt and notes the Old Salt Proponent have put forWArD no plans whatsoever to dispose of their solid WASTE but has still received conditional approval.</p>		<p>COMMUNICATIONS TIMELINE -</p> <p>MRA 23</p> <p>MRA 28</p> <p>MRA 30</p> <p>DPaW 7</p> <p>DPaW 16</p> <p>DPaW 39</p> <p>DPaW 42</p> <p>DPaW 46</p>
198	4.62 Information in relation to the risk of discharge to the environment at each stage of WASTE management and transfer, and proposed mitigation strategies for each risk for the protection of WAtEr quality of the SWAn River, and an assessment of the adverse impact of amenity of Elizabeth Quay and surrounds, and proposed mitigation strategies has not been provided by the proponent.	<p>WASTE management is dealt with in detail within the Barge Co WASTE management plan submitted to MRA on the 24/1/17 and DPaW on 27/1/17</p> <p>The WASTE management plan identifies the barge generates 3cubic metres of solid WASTE per week, outlines the storage capacity in the hull of the barge of 80 cubic metres. The plan also sets out hazardous WASTE, liquid WASTE, WASTE tracking, incident reporting, training and aWAreNess &amp; risk considerations.</p> <p>The storage space is identified on the hull plans (A.01.1.Barge.pdf) provided to DPaW on 18/5/16, 8/7/16 and confirmed to be in the departments possession by Chantal in document review on 31/1/17 - table 4b 'design and floor plans'</p> <p>Barge Co responded to the City Of Perth on 27/1/17 included Chantal wilson on the same email outlining the WASTE would be removed in 20lt sealed tubs.</p> <p>Disposal of Solid WASTE does not impact on the Elizabeth Quay or Perth area at all Barge Co only proposed to store bins following advice from Rohan Murray on the 1/12/17 if the situation has changed and this is no longer available Barge Co has several other viable options;</p> <p>On shore bin storage in Perth are not required at all.</p> <p>Barge Co has the ability to store WASTE in the hull of the vessel in sealed tubs, the vessel has a capacity of 80cubic metres of storage space, sealed tubs can then be transferred to shore at any time and loaded onto the Barge Co supply truck and taken directly to landfill, because the tubs are sealed the risk of spillage or breaking open is nil and they stack neatly onto sack trolleys and are easily handled and emit no smell if somehow a tub did fall overboard or into the river there would be no contamination as the tubs are completely sealed.</p> <p>Alternative option for the disposal of this solid WASTE is the Barge must return to NorthPort on a monthly basis for refuelling where we have shore bins available.</p> <p>Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt Proponent have put forWArD no plans whatsoever to dispose of their solid WASTE but has still received conditional approval.</p>		
199				
200	<b>Ecological Health</b>			
201	4.63 Policy 42 requires the protection and enhancement of the SWAn Canning river system's ecological health. This includes maintaining tributary and stream habitats and their natural drainage functions, reducing nutrient enriched and polluted WAtEr inputs from adjacent land uses, minimising erosion of stream banks and protecting wetland ecosystems and associated wildlife habitats. The Policy requires the promotion of the maintenance and restoration of natural vegetation and encourage proponents to retain existing native vegetation as a means of protecting linkages and natural vegetation corriDoTs.			
202	4.64 Policy 46 indicates the development footprint and essential services including WAtEr, sewerage, electricity and telecommunications are to be provided without unacceptable environmental impacts.			
203	4.65 The proposed mooring area is outside zones currently mapped as containing seagrass or macroalgae benthic primary producer habitat, therefore shading or over-shading of the benthos is not considered to present a threat to local environmental assets.			
204	4.66 Barge Co indicate that operations will be managed to minimise any potential effects on the ecological health of the SWAn-Canning river system, however no environmental assessment has been conducted to quantify the potential effects, or how these will be managed.			

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205	4.67 A range of important fauna transitions through Perth Water and potential impact to this fauna should be taken into consideration by the proponent. The resident SWAn Canning Riverpark dolphin population transits through and feeds in Perth Water. The highest sighting rate in this area occurs in winter, and dolphin sighting numbers are impacted by vessel density, with no sightings occurring during operation of Elizabeth Quay dredging barges.			
206	4.68 Barge Co patron transport vessel movements should be cognisant of the potential impact on dolphin behaviour, and preferably movements should be staggered and avoid many vessel movements in peak periods, particularly during the day.			
207	4.69 Artificial lighting can impact fish behaviour and this is variable based on both intensity and quality of light, and downwelling of light should be kept to a minimum. Barge Co has not provided sufficient information to assess the lighting proposed for the barge, however it should be fit for purpose and not adversely impact the natural biological regimes of the river.			
208	4.7 Other risks presented by the long-term installation of large moored barges include potential build-up of antifouling in the surrounding sediment and build-up of rubbish in the surrounding environment (bottles, plastics, cigarette butts etc.).			
209	4.71 Further investigations are required, including seagrass and macroalgae survey, benthic habitat survey, aquatic fauna surveys, and sediment and Water quality assessments, prior to commencement of works of this nature, and a proposed ongoing sampling and survey program would also be required to monitor the impacts of the development.	Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt Proponent have put forWARD no plans whatsoever in regards to Ecological Health but has still received conditional approval.		
210				
211	<b>Development of Food and Beverage Facilities On or Over Waters</b>			
212	4.72 Policy 46 sets requirements for food and beverage facilities on Waters, including details on kitchen fit out, location of grease traps, and grey Water Waste management, including calculations for estimated volumes of Waste generated.			
213	4.73 Barge Co has provided insufficient information on how foods, goods, WAs, cleaning products are to be stored and transferred to and from the barge.			
214				
215	<b>Lighting and signage</b>			
216	4.74 Policy 44 requires proponents demonstrate that lighting is fit-for-purpose and will not interfere with vessel navigation, adversely affect the amenity of the area, or unacceptably alter the natural patterns of light and dark.			
217	4.75 Barge Co has provided insufficient information on proposed navigational lighting, and lighting to be used for each function type, including WAtage and direction, and validation that it is fit for purpose, and will not adversely impact the amenity of the area.	Barge Co should be given the opportunity to address this as a condition of approval as Old Salt has and notes the Old Salt Proponent have put forWARD no plans whatsoever in regards to lighting and signage but has still received conditional approval.		
218				
219	<b>Infrastructure and Services</b>			
220	4.76 Corporate Policy Statement No. 51 - Planning for WasteWater Affecting the SWAn Canning Development Control Area (Policy 51) requires that proponents should demonstrate that infrastructure and services can be provided in the manner proposed.			
221	4.77 Barge Co propose to lease portions of Elizabeth Quay from the MRA to support the embarking and disembarking of patrons via the transfer vessel, the installation of infrastructure for sullage removal, the movement of food/drinks and goods to the barge, and the removal of solid Waste from the barge. These services are unlikely to be supported by MRA.			
222	4.78 The temporary Waste "bin sheds" located at Lots 2 and 3 in Elizabeth Quay are now not available due to commencement of development.			
223	4.79 The servicing of the barge in Fremantle cannot occur, as the barge cannot be transported from Perth Water through the FTB and FRB due to the significant risks posed to this infrastructure.			
224	4.8 The installation of moorings within the courtesy mooring area is not supported due to large development footprint (exclusion zone), and the lateral movement of the barge into the navigational channel.	<p>At no time during extensive consultation between Barge Co and MRA from August 2016 - March 2017 did MRA raise any issue with our proposed mooring area.</p> <p>Barge Co note the MRA have raised no Objection to 'Old Salt' using the same mooring area which is inconsistent with the position taken against Barge Co they are both entertainment barges with sea container structures on deck ferrying passengers to and from shore.</p> <p>Both Department of Transport and DPaW were consulted on the suitability of this location and agreed it was suitable.</p> <p>The MRAs position is inconsistent with letter of support dated 5th December, Barge Co did not change the mooring location past this date there is no reason the MRAs position would change.</p> <p>DPaW have stated in the Old Salt Draft report under 'advice to applicant' that DPaW and MRA negotiated with another proponent to request they submit revised mooring plans to situate them entirely within the courtesy mooring area, the same location as Barge Co.</p> <p>Moving the Old Salt application to the same location as Barge Co effectively make the two applications identical, and so, they should be assessed through a competitive assessment process, not as two separate applications.</p> <p>This represents a failure by DPaW to follow their own Corporate policy No 8, the department have not looked at both proposals thoroughly to examine which one will deliver the best value to the government and the state specifically;</p> <p>5.5 Decisions on whether or not to apply a competitive selection process to facilitate developments will be based on a risk management approach and will require approval by the Director General.</p> <p>5.6 A competitive process will be undertaken to issue a lease or licence where:</p> <ul style="list-style-type: none"> <li>• an opportunity is identified and its realisation is initiated by the department or the Government; and/or</li> <li>• the department wishes to gauge the breadth of opportunities that may be developed; and/or</li> <li>• it is understood that there is likely to be more than one proponent interested in the opportunity and there is a need to assess the benefits of one over another to ensure the best outcome is achieved; and/or</li> <li>• it is considered that there is significant environmental, social or economic risk to the department in not running a competitive process.</li> </ul>		See full correspondence with MRA from 1-38 No Mention by the MRA of opposition to our mooring location.  DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate. DoT 37 provide two options to DoT for mooring location DoT t 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings DoT 41 Barge Co supply DoT with mooring drawings by email DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.  Old Salt draft report advice to applicant - "Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife. The moorings and barge location is expected to be within the existing courtesy mooring area in Perth Water, as close to shore as is reasonably practicable. Compensation for the loss of courtesy moorings by Way of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority."
225				
226	<b>Maintenance of Facilities</b>			



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227	4.81 Policy 46 requires proprietors and facility managers undertaking maintenance activities such as paint scraping, spraying, WASHing or timber treatment on the exterior of a facility, to ensure adequate measures are taken to prevent river contamination.			
228	4.82 Barge Co proposes to collect WASH down WATER from deck for treatment and reuse on the barge.			
229	4.83 Corporate Policy Statement No. 49 - Planning for StormWATER Management Affecting the SWAn Canning Development Control Area (Policy 49) recommends proposals include a WATER quality treatment train for stormWATER designed to meet the WATER quality management objectives of the catchment.			
230	4.84 Barge Co proposes to install deck strip drains either side of the barge, and within the ablation area, kitchen, main bar and upstairs bar, which will collect WATER runoff up to and including the first flush rainfall event. This WATER is treated as grey WATER and treated for reuse for toilet flushing and disposal via marine sullage port.			
231	4.85 Parks and Wildlife requires additional information on routine and other repairs and maintenance anticipated for the barge, transfer vessel and moorings, including management of micro and macro fouling and information on hull coating.			
232				
233	<b>StormWATER Quality</b>			
234	4.86 Policy 49 recommends proposals include a WATER quality treatment train for stormWATER designed to meet the WATER quality management objectives of the catchment.			
235	4.87 Barge Co proposes to install deck strip drains either side of the barge, and within the ablation area, kitchen, main bar and upstairs bar, which will collect WATER runoff up to and including the first flush rainfall event. This WATER is treated as grey WATER and treated for reuse for toilet flushing and disposal via a marine sullage port.			
236				
237	5 <b>Conclusion</b>			
238	5.1 Parks and Wildlife has assessed information provided by Barge Co in support of the application for development approval. Extensive consultation has occurred with agencies that have an interest in the proposal, informing and supporting the assessment of the benefits and potential detrimental impacts on the social and environmental landscape.			
239	5.2 Parks and Wildlife considers the Barge Co application to be fundamentally flawed in its design. Reasons for refusal stem from the bulk, size, materials and finishes of the barge, and mooring design and location.	<p>At no time during extensive consultation between Barge Co and MRA from August 2016 - March 2017 did MRA raise any issue with our proposed mooring area.</p> <p>Barge Co note the MRA have raised no Objection to 'Old Salt' using the same mooring area which is inconsistent with the position taken against Barge Co they are both entertainment barges with sea container structures on deck ferrying passengers to and from shore.</p> <p>Both Department of Transport and DPaW were consulted on the suitability of this location and agreed it WAS suitable.</p> <p>The MRAs position is inconsistent with letter of support dated 5th December, Barge Co did not change the mooring location past this date there is no reason the MRAs position would change.</p> <p>DPaW have stated in the Old Salt Draft report under 'advice to applicant' that DPaW and MRA negotiated with another proponent to request they submit revised mooring plans to situate them entirely within the courtesy mooring area, the same location as Barge Co.</p> <p>Moving the Old Salt application to the same location as Barge Co effectively make the two applications identical, and so, they should be assessed through a competitive assessment process, not as two separate applications.</p> <p>This represents a failure by DPaW to follow their own Corporate policy No'8, the department have not looked at both proposals thoroughly to examine which one will deliver the best value to the government and the state specifically;</p> <p>5.5 Decisions on whether or not to apply a competitive selection process to facilitate developments will be based on a risk management approach and will require approval by the Director General.</p> <p>5.6 A competitive process will be undertaken to issue a lease or licence where:</p> <ul style="list-style-type: none"> <li>• an opportunity is identified and its realisation is initiated by the department or the Government; and/or</li> <li>• the department wishes to gauge the breadth of opportunities that may be developed; and/or</li> <li>• it is understood that there is likely to be more than one proponent interested in the opportunity and there is a need to assess the benefits of one over another to ensure the best outcome is achieved; and/or</li> <li>• it is considered that there is significant environmental, social or economic risk to the department in not running a competitive process.</li> </ul>		<p>See full correspondence with MRA from 1-38 No Mention by the MRA of opposition to our mooring location.</p> <p>DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate.</p> <p>DoT 37 provide two options to DoT for mooring location</p> <p>DoT t 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings</p> <p>DoT 41 Barge Co supply DoT with mooring drawings by email</p> <p>DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p> <p>Old Salt draft report advice to applicant - "Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife.</p> <p>The moorings and barge location is expected to be within the existing courtesy mooring area in Perth WATER, as close to shore as is reasonably practicable.</p> <p>Compensation for the loss of courtesy moorings by WAY of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority.</p>

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240	5.3 The Barge Co proposal has been assessed as potentially restricting and negatively impacting public views to or from the river, particularly from vantage points, and the proposal does not ensure the essential qualities of Perth WAter will be protected and enhanced. Barge Co has not demonstrated river views in redevelopment projects, specifically Elizabeth Quay and the future NICC, will be protection or enhanced. The proposed location of the barge is in direct line of sight between Elizabeth Quay, Perth City foreshore and the South Perth foreshore, in addition to being prominently visible from the Mend Street Jetty at South Perth, and will interrupt the views from all purpose-built vantage points within Elizabeth Quay, the Perth foreshore and Kings Park. Barge Co has not demonstrated an understanding of appropriate visual landscape planning to ensure consideration of the proposal's impact on the landscape.	<p>Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue of the impact the barge will have on the view from Kings Park. The proposed location of the mooring point is such that, when the barge is moored, it will not unduly impact views from the shoreline beyond what vessels currently using the area do. Additionally, the barge will be mobile and thus will not be a permanent feature on Perth WAter.</p> <p>The design is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay which features similar design concepts such as Embargo. Barge Co ensures the use of recycled sea containers:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth WAter</li> </ul> <p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong WAter front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and colour scheme of the vessel which matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revelly Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>•Hilton Hotel - EQ</li> </ul> <p>The Barge Co design protects views through its location and use of materials which offer full views of the location and its surrounds including views:</p> <ul style="list-style-type: none"> <li>•from the WAter, both north and south of the river between the Narrows Bridge and the causeWAY and east and west between Kings Park and Heirisson Island</li> <li>•of the Kings Park escarpment from both the north and south shores and from craft on the river</li> <li>•of the river from city streets and public places.</li> </ul>		DPaW 39
241	5.4 The amenity and enjoyment of the area by the community will be impacted by noise from events, and the WAste, services and patron management at Elizabeth Quay. Barge Co has not demonstrated an assessment of the potential impacts on current and future residents of Elizabeth Quay, Kings Park, South Perth and Perth City. Concerns of the City of Perth, the MRA and BGPA have not been adequately addressed in the submission documentation and there is no evidence to support Barge Co's contention that noise impacts can be ameliorated.	<p>Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue outlined here in regards to noise.</p> <p>The assessment clearly shows that the assigned levels can be achieved at Elizabeth Quay under the conditions modelled, particularly considering the extent of commercially zoned land around the Quay. However, it is agreed that special events could impact on Elizabeth Quay and other areas and therefore a Regulation 18 Approval would be required to manage the noise. As per our proposal, Barge Co has specified that for events that exceed the sound limits, they will be located at our proposed Port Beach location where it is primarily an industrial area therefore no disturbance to nearby residents. Barge Co is entirely confident that we are able to address this concern and find an alternative if required, if given the same opportunity as Old Salt has been given - where a complaints response procedure can be developed. Barge Co is entirely confident that we are able to address this concern if given the same opportunity as Old Salt has been given. If there is to be a single lease granted in this position that the two proposals are considered fairly and according to established competitive analysis so that all aspects of the proposals are considered, not just the appearance and environmental factors.</p>		



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242	5.5 The proposed use of sea containers, shade sails and palm trees, and the "exotic" nature of the barge design does not meet the minimum design criteria of the City of Perth, and is not consistent with the MRA's Design Guidelines for Elizabeth Quay. While the barge is not proposed to be located within the Elizabeth Quay redevelopment area, the barge is within close proximity to the area and Parks and Wildlife considers it would be essential for the barge to complement Elizabeth Quay in its design. The barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark on the river.	<p>Given that DPaW and the MRA have negotiated with Old Salt to be located within the mooring area that Barge Co originally applied for - it is assumed that the proponent would face the same issue in regards to design.</p> <p>The design is made from sea containers - the same as the Old Salt proposal, as well as matching other business already operating within Elizabeth Quay which features similar design concepts such as Embargo. Barge Co ensures the use of recycled sea containers:</p> <ul style="list-style-type: none"> <li>•Complements the natural landforms with its distinct urban character</li> <li>•Matches the surrounding aesthetics of Elizabeth Quay -aligning with existing business within the Quay using the same materials.</li> <li>•Matches surrounding colour schemes of black, grey and blue.</li> <li>•Matches other businesses already operating within Elizabeth Quay which features similar design elements</li> <li>•Complements the surrounding SWAn River and Perth aesthetics</li> <li>•Reinforces the linear form of the foreshore and provides strong vertical definition to remain in line with the architecture around Perth Water</li> </ul> <p>Barge Co ensures the design of the steel framed, white shade sales which matches the surrounding aesthetics of Elizabeth Quay -aligning with surrounding shade sales featured throughout the Quay, including:</p> <ul style="list-style-type: none"> <li>oFeatured in front of Bell Tower</li> <li>oAlong Water front, in front of V Burger</li> <li>oPVC membrane shade structures at Kings Park and located throughout EQ</li> <li>oHilton Hotel - EQ</li> </ul> <p>Barge Co ensures that the design and colour scheme of the vessel which matches the surrounding aesthetics of Elizabeth Quay -aligning with many other existing businesses within the Quay with the same or similar colour palette including:</p> <ul style="list-style-type: none"> <li>•The Revelly Bar</li> <li>•The Narrows Bridge</li> <li>•City Buildings</li> <li>•Elizabeth Quay bridge</li> <li>•Crystal SWAn</li> <li>•Hilton Hotel – EQ</li> </ul> <p>The Barge Co design protects views through its location and use of materials which offer full views of the location and its surrounds including views:</p> <ul style="list-style-type: none"> <li>•from the Water, both north and south of the river between the Narrows Bridge and the causeway and east and west between Kings Park and Heirsson Island</li> <li>•of the Kings Park escarpment from both the north and south shores and from craft on the river</li> <li>•of the river from city streets and public places.</li> </ul>		
243	5.6 The mooring design, and the size of the barge plus the boarding pontoon requires an exclusion zone of approximately 14,000m2 in Perth Water due to the drift of the barge in changing wind and tide conditions. With a port to starboard movement of 88.3m on the moorings, the area of exclusion for the public recreational vessels and pleasure craft will be significant in addition to the loss of at least two courtesy moorings that are currently freely accessible to the public. This proposed development within the public realm affects the river and its settings to such an extent that is not offset by the potential benefits to the community.	<p>At no time during extensive consultation between Barge Co and MRA from August 2016 - March 2017 did MRA raise any issue with our proposed mooring area.</p> <p>Barge Co note the MRA have raised no Objection to 'Old Salt' using the same mooring area which is inconsistent with the position taken against Barge Co they are both entertainment barges with sea container structures on deck ferrying passengers to and from shore.</p> <p>Both Department of Transport and DPaW were consulted on the suitability of this location and agreed it WAs suitable.</p> <p>The MRAs position is inconsistent with letter of support dated 5th December, Barge Co did not change the mooring location past this date there is no reason the MRAs position would change.</p> <p>DPaW have stated in the Old Salt Draft report under 'advice to applicant' that DPaW and MRA negotiated with another proponent to request they submit revised mooring plans to situate them entirely within the courtesy mooring area, the same location as Barge Co.</p> <p>Moving the Old Salt application to the same location as Barge Co effectively make the two applications identical, and so, they should be assessed through a competitive assessment process, not as two separate applications.</p> <p>This represents a failure by DPaW to follow their own Corporate policy No'8, the department have not looked at both proposals thoroughly to examine which one will deliver the best value to the government and the state specifically;</p> <p>5.5 Decisions on whether or not to apply a competitive selection process to facilitate developments will be based on a risk management approach and will require approval by the Director General.</p> <p>5.6 A competitive process will be undertaken to issue a lease or licence where:</p> <ul style="list-style-type: none"> <li>• an opportunity is identified and its realisation is initiated by the department or the Government; and/or</li> <li>• the department wishes to gauge the breadth of opportunities that may be developed; and/or</li> <li>• it is understood that there is likely to be more than one proponent interested in the opportunity and there is a need to assess the benefits of one over another to ensure the best outcome is achieved; and/or</li> <li>• it is considered that there is significant environmental, social or economic risk to the department in no</li> </ul>		<p>DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate.</p> <p>DoT 37 provide two options to DoT for mooring location</p> <p>DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings</p> <p>DoT 41 Barge Co supply DoT with mooring drawings by email</p> <p>DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p> <p>Old Salt draft report advice to applicant -"Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife. The moorings and barge location is expected to be within the existing courtesy mooring area in Perth Water, as close to shore as is reasonably practicable. Compensation for the loss of courtesy moorings by WAy of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority."</p>

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5.7	<p>The proposed use of Elizabeth Quay for the loading and unloading of passengers, specifically the use of a designated short stay boat berth within Elizabeth Quay, in addition to alterations to the berth to accommodate a vessel larger than the existing design capacity, and installation of structures for shade are not supported by the MRA. Barge Co has not demonstrated patron management can occur at Elizabeth Quay, nor any other location.</p>	<p>Barge Co extensively consulted with the MRA and also obtained details of the contractor who built the jetty pontoon WAlcon Marine.</p> <p>Engineers of the pontoon structure have confirmed that the pontoon is capable of holding up to 200 people, far more people than the 50 Barge Co plan to have WAlk from our transfer vessel over the pontoon and up the ramp to the paved area at any one time.</p> <p>The Barge Co 'Operational management plan' submitted to DPaW on 27th Jan contains extensive details of how passengers will board and disembark from the transfer vessel to shore under the heading Ticketing &amp; Arrival/departure plans. Did DPaW share this information with the MRA?</p> <p>The 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' both illustrate controls for passengers, the area where Barge Co has indicated passengers due is entirely off the pontoon and not obstructing any other business or facility. Did DPaW provide this documentation to MRA?</p> <p>The distance from the top of the jetty ramp, South to the ferry terminal, is approximately 15m, the distance from the edge of the board WAlk to the step adjacent to the paved area is 10m this = 150square metres and is more than enough room to accommodate Barge Co passengers.</p> <p>In the opposite direction passengers may queue along side the seat/WAlk of the Quay this extended in a curved manner all the WAlk back to the board WAlk approximately 70m in length.</p> <p>Barge Co does not intend to host large music concerts on Perth WAlk due to the noise restrictions this means there will not be a situation where 600 people arrive to board the barge at once.</p> <p>Even for performing arts events If there were a large number of passengers arriving at the location, each of the two Barge Co transfer vessels are capable of moving 50 people to the barge every 15 minutes and can therefore provide a maximum loading capacity of 400 people per hour. This provides more than adequate capacity to ensure the jetty and paving space nominated are kept clear.</p> <p>It is worth noting that the MRA saw fit to host 'Embargo bar' on Lot 3 for four months from Jan 2017- April 2017 this venue had a capacity of 2000 and often had a line outside the door along the same paved area of up to 1000 people.</p> <p>The same area is more than capable of catering to 3000 people Embargo placed there on a nightly basis during that time. Barge Co is not proposing to move more than 1000 people through the area in any one service period of 12hrs this amounts to 83 people per hour.</p>		<p>MRA 21- Rohan provides details for contractor who manufactured the pontoon structure to enable Barge Co to investigate costs and installation of handrail and shade structure as requested by MRA.</p> <p>See email attachment from WAlcon Marine confirming the pontoon engineering capacities</p> <p>DPaW 40 - 27/1/17 Barge Co provides plans and details of Elizabeth Quayproposal to Chantal</p> <p>DPaW 42 - 27/1/17 Barge Co provides Operational management plan, 'Elizabeth Quay boarding pontoon plan' &amp; 'Barge Arrival &amp; Departure plan' and other documentation to DPaW</p>



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245 5.8	The proposed movement of the barge from the SWAn River to Fremantle and beyond has been assessed as posing a significant unmitigable risk to public safety and to Government infrastructure. The FTB is an MRWA asset, and is at significant risk of damage from barge impact, specifically the gas, oil and electricity services. Damage to these services has the potential to cause an emergency situation with risk to human health, severe injury or death. Bridge closure of more than a week would be required to restore the services and could cost in excess of \$20M. Significant community disruptions would occur due to bridge closure and potential WAtEr WAy closure.	<p>Response by Department of Transport to DPaW dated 8th February from Iain Appleby senior Planning project officer and Acting manager of Infrastructure planning at the department of transport, Coastal infrastructure have not been included in this report at all the response states;</p> <p>"Following a review of the information supplied for the above application the Department of Transport (DoT), Maritime Planning has no in principle objection to the proposal proceeding subject to the following: The Barge will only be moored at the identified locations;The mooring arrangements can accommodate the mooring loads of the barge; and Acknowledgment the Barge will not be docked/berthed at any existing infrastructure in the River. Comments on the movement of the Barge and its impact on WAtErWAys should be sought from DoT Marine Safety."</p> <p>This omission of fact by DPaW is a clear misrepresentation of the Department of transports position on the mooring application, the opinion of the department that administers infrastructure specifically moorings, should be included in this report. The advice provided by Marine safety is related to the movement of the barge and has been misrepresented by DPaW. The Department should explain why it has left out such a critical piece of information.</p> <p>Barge Co has consulted with DoT since October of 2015 specifically asking if a 15m wide barge would be allowed to pass through the bridge passage received advice in writing from the department on 23/2/16 stating;</p> <p>"Please note that there is no maximum vessel / barge size regulated by DoT to go through the bridge spans. It is the responsibility of the vessel master / owner to ensure that their transit is conducted safely, in accordance with all relevant marine legislation, and without causing any damage to the bridge structure."</p> <p>Guy has further consulted with DoT on many occasions regarding the bridge transit and they have never raised it as a major issue until this draft report.</p> <p>DoT have never advised we would need to undertake a risk assessment for the transit, experienced and qualified tug operators have also noted they tow large barges close to the size of Barge Co vessel through the passage on a regular basis and have never been required to undertake a risk assessment or provide anything more than a transit plan to the harbour master.</p> <p>Barge Co provided department of transport with a mooring plan showing the barge entirely within the courtesy mooring area even under 60knot winds on the 6/2/17 by email and then on 7/2/17 on thumb drive.</p> <p>The assumptions of the subjective risk analysis are incorrect and assume the barge will transit the bridge passage three times per week, that the barge weighs 2500 tonnes and there has been no calculations or quantitative risk assessment undertaken to establish the actual risks.</p> <p>Both DPaW and MRWA have known for some time prior to the draft report about the bridge concerns and at no time WAs Barge Co given the opportunity to respond or address it before the department formed its view on the proposal.</p> <p>The draft report indicates this issue as a key issue in the departments decision to refuse the application but the assumptions and risk assessment procedure WAs flawed and therefore should not have been relied upon to inform the departments decision.</p> <p>Barge Co outlines in the operational management plans that the barge would need to return to NorthPort once a month for refuelling, all events that occur on the ocean would be scheduled to coincide with these movements therefore the maximum number of transits per year would be 12 not 156 as assumed during the "risk assessment" workshop.</p> <p>Barge Co will provide a full quantitative risk assessment mitigating the risk to the bridges and accompanying transit drawings showing a safe method for moving the barge through the passage that does not require both passages to be closed. Barge Co should be given the opportunity to do so as a condition of approval as the cost of this work is sig</p>		Refer to email comments sent to DPaW from Department of transport 8/2/17 See Barge Co - Department of Transport communication timeline; DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate. DoT 37 provide two options to DoT for mooring location DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings DoT 41 Barge Co supply DoT with mooring drawings by email DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.
246 5.9	The FRB is located outside the DCA, however as the barge would be required to navigate through the FRB as part of the overall movement out of the SWAn River and into the Fremantle Port, the potential impact on this PTA asset should be noted. Any small impact to the FRB infrastructure triggers an alarm which results in line closure and an engineer inspection.			











Row ID	Draft report text	Response	Date	Reference / Communications reference
247	5.1 The location of the mooring is not appropriate as it will impact on the navigational channel. No alternate locations have been readily identified by Barge Co or Parks and Wildlife.	<p>At no time during extensive consultation between Barge Co and MRA from August 2016 - March 2017 did MRA raise any issue with our proposed mooring area.</p> <p>Barge Co note the MRA have raised no Objection to 'Old Salt' using the same mooring area which is inconsistent with the position taken against Barge Co they are both entertainment barges with sea container structures on deck ferrying passengers to and from shore.</p> <p>Both Department of Transport and DPaW were consulted on the suitability of this location and agreed it WAs suitable.</p> <p>The MRAs position is inconsistent with letter of support dated 5th December, Barge Co did not change the mooring location past this date there is no reason the MRAs position would change.</p> <p>DPaW have stated in the Old Salt Draft report under 'advice to applicant' that DPaW and MRA negotiated with another proponent to request they submit revised mooring plans to situate them entirely within the courtesy mooring area, the same location as Barge Co.</p> <p>Moving the Old Salt application to the same location as Barge Co effectively make the two applications identical, and so, they should be assessed through a competitive assessment process, not as two separate applications.</p> <p>This represents a failure by DPaW to follow their own Corporate policy No'8, the department have not looked at both proposals thoroughly to examine which one will deliver the best value to the government and the state specifically;</p> <p>5.5 Decisions on whether or not to apply a competitive selection process to facilitate developments will be based on a risk management approach and will require approval by the Director General.</p> <p>5.6 A competitive process will be undertaken to issue a lease or licence where:</p> <ul style="list-style-type: none"> <li>• an opportunity is identified and its realisation is initiated by the department or the Government; and/or</li> <li>• the department wishes to gauge the breadth of opportunities that may be developed; and/or</li> <li>• it is understood that there is likely to be more than one proponent interested in the opportunity and there is a need to assess the benefits of one over another to ensure the best outcome is achieved; and/or</li> <li>• it is considered that there is significant environmental, social or economic risk to the department in not running a competitive process.</li> </ul>		<p>See full correspondence with MRA from 1-38 No Mention by the MRA of opposition to our mooring location.</p> <p>DoT 10 - DoT 18 Extensive Consultation Regarding Position of Mooring DoT Advise that both DPaW and DoT agree that the courtesy mooring area is appropriate.</p> <p>DoT 37 provide two options to DoT for mooring location</p> <p>DoT 40 Barge Co advise mooring options provided are not absolute requirement just option to retain existing courtesy moorings</p> <p>DoT 41 Barge Co supply DoT with mooring drawings by email</p> <p>DoT 42 Barge Co delivers thumb drive to DoT with mooring detail and Safety Management System on it.</p> <p>Old Salt draft report advice to applicant</p> <p>- 'Final Mooring Location Drawings required under Condition 5 are to be endorsed by the City of Perth and the Metropolitan Redevelopment Authority prior to submission to the Department of Parks and Wildlife.</p> <p>The moorings and barge location is expected to be within the existing courtesy mooring area in Perth WAter, as close to shore as is reasonably practicable.</p> <p>Compensation for the loss of courtesy moorings by WAy of installation of additional courtesy moorings must be incorporated into the Final Mooring Location Drawings, as negotiated between Old Salt, the Department of Parks and Wildlife and the Metropolitan Redevelopment Authority.</p>
248	5.11 Should Barge Co chose to significantly modify its proposal, including the size and design of the barge, the design and location of the moorings, and address the risks to the FTB and FRB, approval may be sought under Part 5 of the SCRMM Act at a later date.			
249	5.12 It is recommended Barge Co engage with DoT, the City of Perth, MRA, MRWA, the PTA and Parks and Wildlife during the redesign process to ensure the design meets the requirements and expectations of each agency.			
250				
251	6 <b>Recommendation - Refusal</b>			
252	<p>That the Director General of the Department of Parks and Wildlife advises the Minister for Environment that the Barge Co proposal for the installation of moorings and development of a barge event venue in Perth WAter, SWAn River on Lot 301 on Plan 47451 (Reserve 48325, SWAn River), Perth received on 29 September 2016 be REFUSED for the following reasons:</p> <ol style="list-style-type: none"> <li>1.The proposed design is excessive in terms of scale and bulk and would have a negative impact on the visual amenity of Perth WAter from key vantage points.</li> <li>2.The proposed barge will not blend with the surrounding river environment, and will be a significant, visually-obtrusive landmark OR tile river.</li> <li>3.The proposed mooring of the barge required an exclusion zone of approximately 14,000m2 in Perth WAter, the loss of at least two courtesy moorings, and is located partially within the navigation channel.</li> <li>4.The proposed patron transport vessel is to utilize services at Elizabeth Quay, however this location is not appropriate for the management of patrons, WAste and goods, and will cause the loss of a public berth within the Quay 5. Proposed movement of the barge through the Fremantle traffic and rail bridge pose a significant unmitigated risk to public safety and to Government infrastructure.</li> <li>6. The proposal would adversely impact the amenity a enjoyment of the area by the community, due to noise from events, and WAste, services and patron management at Elizabeth Quay.</li> </ol>			



# BargeCo communication timeline



REF No'	Event type	Date	From	To	KEY POINT	Summary
1						<b>Metropolitan Redevelopment Authority</b>
2	MRA 1	25/08/16	Guy Mouritz	jenelle.provost@mra.wa.gov.au		Introductory email to Jenelle Provost who responded the same day advising that Caryn Earnshaw and John Quinn would be in contact to arrange a time to visit EQ. Attachments sent – Barge Co marketing document July 2016
3	MRA 2	29/08/16	Caryn Earnshaw	Guy Mouritz		Caryn Earnshaw emails to arrange meeting a EQ, Guy Mouritz responds same day with availability. Guy met with Caryn soon after and discussed our proposal.
4	MRA 3	14/09/16	Guy Mouritz	Caryn Earnshaw		Email to Caryn Earnshaw with details of proposal submitted to DPAW Attachments sent – Barge Co DPAW proposal Barge Co Harm minimisation policy Photo of proposed pontoon Barge Co requests to lease
5	MRA 4	21/10/16	Guy Mouritz	Caryn Earnshaw		Email to Caryn Earnshaw requesting update on progress and asking if MRA had received documents from DPAW for comment. Following this email Guy Mouritz was contacted by Rohan Murray who advised he had been assigned to handle the Barge Co application due to Caryn having to take on other responsibilities.
6	MRA 5	04/11/16	Guy Mouritz	Rohan Murray		11:30am Meeting at MRA building in Elizabeth Quay with Rohan Murray to discuss the proposal, during the meeting Rohan and Guy viewed the pontoon berth Rohan requests that Barge Co provide shade structure/s to pontoon and additional handrails. Guy explains requirements for sewage point to pump out processed water from barge Rohan suggests utilising existing sewage points near ferry terminal that accommodate temporary toilet blocks for activations.
7	MRA 6	04/11/16	Rohan Murray	Guy Mouritz		Rohan Murray emails Guy, Caryn Earnshaw and John Quinn advising that "A JETTY SUB-LICENSE CAN BE NEGOTIATED WITH BARGE CO TO SECURE ACCESS TO THE PONTOON" Rohan also requests further details on our events schedule safety plan and details of potential modifications he requested for the pontoon and provides acoustic consultant details for Lloyd George for us to engage to complete acoustic modelling. Rohan also provides a map of EQ infrastructure to assist us to identify where we may source water from and where sewage point are located.
8	MRA 7	07/11/16	Rohan Murray	Guy Mouritz		Rohan Murray emails providing information regarding water safety approvals for aquatic events he is unsure if we require approval and advises we check with DOT while waiting for MRA lease
9	MRA 8	07/11/16	Guy Mouritz	Rohan Murray		Called and spoke to Rohan about jetty modifications he suggested I contact City of Perth and discuss with them
10	MRA 9	07/11/16	Rohan Murray	Guy Mouritz		Rohan emails contact for City of Perth
11	MRA 10	29/11/16	Guy Mouritz	Rohan Murray		Email to Rohan Murray CC: Caryn Earnshaw, Glenn Watson & John Quinn MRA; Provided requested event schedule Reasons for selecting EQ as pick-up jetty Provide link for MRA to download Barge Co liquor application public interest assessment Provide BargeCo's security contractors SOPS Discuss request for Barge Co to modify the pontoon to include a shade structure and requested contact details for original contractor who installed the pontoon in order to obtain plans and source a quote to modify. Attachments sent - Forecast calendar.xlsx Barge Co EQ client dispersal procedure Night scene SOPS
12	MRA 11	30/11/16	Rohan Murray	Guy Mouritz		Rohan Murray acknowledges receipt of the information advises he will provide feedback from a 'Barge Co inlet activation review'
13	MRA 12	01/12/16	Guy Mouritz	Rohan Murray		Email to Rohan, John, Caryn, Glenn requesting permission to install a weather station within the Quay area to record local weather conditions for future operational planning.
14	MRA 13	09/12/16	Rohan Murray	Guy Mouritz		Rohan emails Guy Mouritz advises the MRA require invitation to comment from DPAW before they are able to process the application, acknowledges Guys request to meet with the CEO and Caryn Earnshaw to present the project refuses on the ground of compromising impartiality of MRA.
15	MRA 14	09/12/16	Guy Mouritz	Rohan Murray		Guy responds to Rohan Murray, Caryn Earnshaw, Glenn Watson, John Quinn advising DPAW had already requested comments in August and that MRA had provided them at that stage but DPAW were awaiting further comments regarding recent negotiations toward lease of pontoon, requested Rohan send Glenn McLeod-Thorpe from DPAW updated comments.
16	MRA 15	09/12/16	Guy Mouritz	Rohan Murray		Email to Rohan preliminary feedback from agencies responding to DPAW request for comment. Highlights the only comments received from MRA were from August
17	MRA 16	12/12/16	Rohan Murray	Guy Mouritz		Rohan email response acknowledges that our application has moved through to the next phase and that all of the team has our documents
18	MRA 17	12/12/16	Guy Mouritz	Rohan Murray		Email to Rohan requesting a of letter of support from MRA toward Barge Co liquor license application
19	MRA 18	13/12/16	Rohan Murray	Guy Mouritz		Rohan responds advising the MRA had not provided letter of support toward the 'Old salt' proposal and could not provide one to Barge Co. Advises a letter of support for BargeCo from MRA was issued to DPAW approximately two weeks ago.
20	MRA 19	13/12/16	Guy Mouritz	Rohan Murray		Email to Rohan with attached document from Old Salt submission stating they had recieved a letter of support from MRA. See 5.13a in attached alignment documentation from Old Salt submission.
21	MRA 20	14/12/16	Glenn Watson	Guy Mouritz		Email from Glen to Guy and Rohan stating no letter of support was provided to 'Old Salt' toward their proposal.
22	MRA 21	14/12/16	Rohan Murray	Guy Mouritz		Email from Rohan confirming no letter of support was provided to 'Old Salt' toward their proposal. Rohan provides details for contractor who manufactured the pontoon structure to enable bargeCo to investigate costs and installation of handrail and shade structure as requested by MRA.
23	MRA 22	16/12/16	Guy Mouritz	Rohan Murray		Guy forwards a copy of correspondence with DPAW to Rohan requesting the letter of support the MRA provide for BargeCo to DPAW. On the 16th Guy emailed Chantel Wilson from DPAW requesting a copy of the letter of support the MRA provided DPAW with toward our submission, Chantel refuses to provide the letter and suggests we will need to get a copy directly from the MRA
24	MRA 23	19/12/16	Guy Mouritz	Rohan Murray		<b>On the 17th December BargeCo responds to the City of Perth preliminary feedback to DPAW by email, Rohan is copied into the response I sent to advise him of progress and issues. On the 19th Rohan responds thanking me for the update and attaching LETTER FROM THE C.E.O OF THE MRA - KIERAN KINSELLA EXPRESSING SUPPORT FOR BARGE CO SUBMISSION AND STATING WE HAVE ADDRESSED WATER SAFETY, OPERATING HOURS, NOISE IMPACTS AND LIQUOR LICENSING TO ENSURE THAT THE DEVELOPMENTS IMPACT ON THE AMENITY OF THE PUBLIC REALM AND RESIDENTS OF ELIZABETH QUAY PROJECT AREA IS MINIMISED.</b>
25	MRA 24	04/01/17	Guy Mouritz	Rohan Murray		Email to Rohan requesting detailed plumbing plans of the EQ area and providing him with plans obtained from Water Corporation required for BargeCo to prepare a trade waste application.
26	MRA 25	10/01/17	Rohan Murray	Guy Mouritz		Rohan provides detailed plumbing plans to BargeCo illustrating plumbing connections and pipe sizing required to calculate flow rates and capacity.
27	MRA 26	10/01/17	Guy Mouritz	Rohan Murray		BargeCo responds to City of Perth's further criticisms of the 3rd January copying Rohan Murray in so the MRA are informed of our responses. BargeCo addresses all issues raised by the city. MRA does not respond with comment or provide feedback.
28	MRA 27	11/01/17	Guy Mouritz	Rohan Murray		Email to Rohan requesting option for solid waste bin storage location within EQ.
29	MRA 28	12/01/17	Rohan Murray	Guy Mouritz		Rohan responds confirming BargeCo can nominate an area that is used by DELRON the MRA cleaning contractors where a BargeCo bin may be stored.
30	MRA 29	18/01/17	Guy Mouritz	Rohan Murray		Emailed Rohan requesting in principal agreement with lease for pontoon lease, waste disposal site to include in our updated response to DPAW due on the 27th Jan. No response from Rohan.

REF No'	Event type	Date	From	To	KEY POINT	Summary
31	MRA 30	Email	24/01/17	Guy Mouritz	Rohan Murray	 <p>Emailled final detailed proposal to Rohan Murray and Caryn Earnshaw. Provided full details regarding: Trade waste application - sewage Detailed plumbing modifications plans Completed noise assessment – Lloyd George Acoustics Pontoon canopy plans Pontoon modification plans Barge Co waste management plan</p>
32	MRA 31	Email	31/01/17	Guy Mouritz	Rohan Murray	 <p>Emailled Rohan to request response to the proposal and ask for the statistics MRA released via news.wa.gov.au</p>
33	MRA 32	Email	31/01/17	Rohan Murray	Guy Mouritz	 <p>Rohan responded with media release and stated they would be meeting to discuss the proposal on the 1st Feb.</p>
34	MRA 33	Email	03/02/17	Guy Mouritz	Rohan Murray	 <p>Emailled request to Rohan and John Quin to place our liquor license signage and house our Public interest assessment document. No Response.</p>
35	MRA 34	Email	21/02/17	Caryn Earnshaw	Guy Mouritz	 <p>Guy Emailled Caryn and John requesting update on the progress of our proposal Caryn responded saying they could not provide any of what we had negotiated with Rohan and suggestion to move to Barrack street jetty.</p>
36	MRA 35	Email	21/02/17	Guy Mouritz	Caryn Earnshaw	 <p>Responded expressing extreme disappointment that after all the work and resources that we have invested we were not advised of critical issues earlier such as lot 2&amp;3 being developed they would have known this for a long time. I detail how we modified our transfer vessel design to suit the pontoon in consultation with the engineer who designed the pontoons.</p>
37	MRA 36	Meeting	08/03/17	Caryn Earnshaw	Guy Mouritz	 <p>Caryn arranged a time on the 8th March to meet and discuss the proposal then cancelled proposing a new date 14th. I had a medical appointment on that date and advised Caryn who then cancelled the meeting and would not answer my calls.</p>
38	MRA 37	Email	10/03/17	Guy Mouritz	Caryn Earnshaw	 <p>Caryn refused to respond to calls. Emailled Caryn, John Quinn, Rohan Murray, Glenn Watson a detailed response to the issues raised by MRA. Hi Caryn,  Did you get my message regarding rescheduling our meeting? I am available after 11:30am on Wednesday following our ultrasound as you know its a big deal finding out if it is blue or pink little bundle of joy we are expecting.  I would really appreciate the opportunity to present what BargeCo is actually about I understand there may be a view within the MRA of our Barge being a 'party boat' which is definitely not what we intend there are plenty of charter boats filling that space at the moment the last thing the river and Perth needs is more of this.  DPAW &amp; Swan River Trust On Tuesday this week we presented to DPAW and the Swan River Trust our vision for the venue and it was well received, the media has insisted on classifying us as a 'party boat' because to date that is the only thing that the river has been used for. We want to change that by offering a range of events for the whole community, families, disabled the elderly and particularly tourist. The venue will be an international tourist attraction and we would really like our visitors first impression to be of Elizabeth Quay as it embodies the W.A experience. Our focus is performing arts, weddings and corporate events and when we do have a concert event that will be loud and attract the younger market we move the barge out of the river park onto the ocean to industrial areas where it will not disturb anyone. Our bar &amp; restaurant days hosted on Perth Water will be focussed on hosting existing brands such as wineries, breweries and fine food brands and others such as fashion brands and luxury boats/car brands in this way the venue will be used to promote W.A local business and products.  Jetty suitability &amp; access I understand that the MRA believe Barrack street jetty to be a more suitable place for us to pick up and drop off, Alan Mcombie from DOT advised 15th November of last year in writing that there is no room at all for us. That is why I approach and began working with the MRA toward an alternate solution. The last thing I want is for our customers particularly tourists, corporate clients and families to be exposed to is the constant stream of drunks and strippers that dominate the public jetty at Barrack street from the 'party charter boats'.  We want to offer a level of sophistication that eliminates this behaviour completely and changes the way the public experience the river.  The pontoon ramp that we have requested to use in EQ is also suitable for full disabled access, if we cannot secure this access we will not be able to accommodate full disabled access which would be a real blow to our events. The only other possibility is where the Dufykn is currently berthed but this is so high that it would severely impact our accessibility plans and eliminate wheelchair accessibility completely.</p>
39	MRA 38	Phone call	14/03/17	Jenelle Provost	Guy Mouritz	 <p>Jetty modifications &amp; transfer vessel suitability I have re-designed our transfer vessels to be within the engineering specifications of the existing pontoon, we only proposed the modifications to it after discussions with Rohan to provide permanent shade cover which he said would be a preferred option over temporary shade structures to cover our staff. To be clear the pontoon requires no changes at all for us to operate from it safely and is rated to 3kpa and ramp 4kpa loads that equate to having the whole pontoon covered shoulder to shoulder with two layers of people, well beyond the 50 that we intend to move over the pontoon at any one time. The vessels propulsion system has also been changed from propeller shaft drive to outboard motors, outboard motors do not direct thrust downwards rather along the top of the water where fixed propeller shafts tend to churn up the bottom in shallow water. The pontoons have been designed and engineered to accommodate vessels up to 12m long (measured length) our vessel has been designed within this specification. Please see attached designs.  Since our initial proposal, I have also engaged with Captain Cook to have them staff and operate our transfer vessels they also operate the ferry service and have said they feel the pontoon jetty is more than capable of accommodating our operation without impacting other operators. Their experience and systems will ensure that the management of passengers and the jetty is professional and respectful of other operators, as they run the ferry service communication between the ferry and Bargeco vessels will be efficient therefore also avoiding clashes or disruption to the PTA jetty.  Waste disposal Our waste water disposal requires no modification to any infrastructure, the initial proposal to install our own sewer connection was put forward after Water corporation suggested it would be easier from a billing perspective to utilise a main connection and neither Rohan or I were aware of pending development on Lot 3 &amp; 4. The Water Corporation have approved the installation of testing equipment on board our barge instead of on land this means that ALL waste water will pass through the sampling device and Water corporation will collect and store the records so we can prove how much we discharged and what quality it was. Our treatment facility in the hull treats the sewage to near drinking water quality, the total daily amount of water we need to dispose of is 12000lt so the existing 100mm pipe that exists servicing the ferry terminal is more than capable of accommodating this volume particularly in that it will only be pumped in after 12am when there is rarely any activity in the Quay. Solid waste can be stored in our hull for up to three weeks if there is no room on shore for bins it can be emptied periodically by our transfer vessels at any other public jetty then loaded onto our truck and removed.  Aboriginal investment and partnership We have also formed a partnership with local Aboriginal tour operator Walter McGuire who has agreed to invest and become an owner and partner in the business, Walter runs 'GoCultural Aboriginal heritage tours' from EQ you may already know him. We have planned to have an Aboriginal tour guide on each of our transfer vessels to deliver a short cultural introduction to our visitors and promote Go cultural tours to increase the number of people learning about Perth's pre-settlement history something not taught in schools or delivered to many tourist visitors at the moment.  This is an exciting partnership with further plans to include aboriginal training and jobs within our broad operations from hospitality to vessel operations and lifeguard positions we expect to be able to provide a significant benefit to the Aboriginal community.  Please see attached letters of support from some key organisations and groups in the performing arts sector who understand what we are doing, we have already begun discussions with them toward bo</p>
40	MRA 38	Phone call	14/03/17	Jenelle Provost	Guy Mouritz	 <p>I received a call on the 14th March from Jenelle Provost, the GM of MRA and told that they could not support the application and I should have the minister provide them with direction on the proposal.</p>
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42						

REF No'	Event type	Date	From	To	KEY POINT	Summary
43						<b>Department of parks and Wildlife</b>
44	DPAW 1	15/10/15	rivers.planning@dpaw.wa.	Guy Mouritz		Introduction email outlining the first concept vessel based upon 36 x 12m barge.
45	DPAW 2	10/11/15	Suzanna Chan	Guy Mouritz		Response from Suzanna Chan providing form 7 & Form 8 application for commercial license and permit to operate in the River Park.
46	DPAW 3	21/04/16	Guy Mouritz	roland.mau@dpaw.wa.gov.au		Request for advice toward mooring location within the River Park compared to anchoring, how long we could remain in the river if anchored.
47	DPAW 4	28/04/16	roland.mau@dpaw.wa.go	Guy Mouritz		Response from Roland saying he was investigating options and would get back to me.
48	DPAW 5	09/05/16	Glen McLeod-Thorpe	Guy Mouritz		Email from Glen responding to meeting with DOT where the proposal was discussed requests meeting to discuss BargeCo application
49	DPAW 6	16/05/16	Guy Mouritz	Glen McLeod-Thorpe		A meeting is arranged to review the new proposal BargeCo provides DPAW with revised plans for the revised design of barge 50 x 14.3m.
50	DPAW 7	18/05/16	Guy Mouritz	Glen McLeod-Thorpe		Guy emails full set of plans to DPAW prior to meeting.
51	DPAW 8	18/05/16	Guy Mouritz	Glen McLeod-Thorpe		Meeting at DPAW office between Guy Mouritz BargeCo and Glen McLeod-Thorpe. General discussion about change to size of barge and revised plans provided. Also discuss the option of anchoring resolved it would be too big to anchor and a mooring would be a more suitable option to fix the barge in position.
52	DPAW 9	18/05/16	Glen McLeod-Thorpe	Guy Mouritz		Email follow up from meeting, Glen provides details of Part 5 application form for the mooring and process in form of link to the DPAW website, acknowledges BargeCo has already consulted with relevant departments and agencies explains that Swan River Trust will be consulted and that ultimately Jim Sharp the director general will make recommendation to the minister.
53	DPAW 10	31/05/16	Mark Briant	Guy Mouritz		Response from DOT confirming meeting with DPAW where it was agreed that BargeCo should proceed to lodge the application for proposed mooring locations. Attachments include the Google earth images with location pins provided by BargeCo
54	DPAW 11	07/06/16	Guy Mouritz	Glen McLeod-Thorpe		First submission lodged with attachments Form 1, Details of proposed development and Harm minimisation policy. This submission identifies primary location to be within the courtesy mooring area on Perth Water, a secondary mooring site at Point Walter, both ocean locations Port Beach and Coogee beach. Details of passenger transport, event types, vessel design, waste disposal and service.
55	DPAW 12	15/06/16	Glen McLeod-Thorpe	Guy Mouritz		Response from Glen requesting the original application form to be sent or delivered to DPAW. Provided advice on signage discussed.
56	DPAW 13	06/07/16	Guy Mouritz	Glen McLeod-Thorpe		Guy provides mooring example to Glen noting the significant cost to design location specific moorings and that if this particular location and not approved they will be void. Request to assess the application using example until approved location can be confirmed.
57	DPAW 14	06/07/16	Glen McLeod-Thorpe	Guy Mouritz		Glen confirms DPAW are happy to proceed to assess the application using example mooring plans as requested.
58	DPAW 15	06/07/16	Guy Mouritz	Glen McLeod-Thorpe		Response to Glen advising requested plans will be delivered the following day.
59	DPAW 16	08/07/16	Guy Mouritz	Glen McLeod-Thorpe		Delivered hard copy and original applications form, application and plans to DPAW office previously emailed on 7/6/16 including additional example mooring diagrams
60	DPAW 17	02/08/16	Howard, Katherine	Guy Mouritz		Introduction as the officer assigned to the application advises initial response from agencies would be 12th August
61	DPAW 18	10/08/16	Howard, Katherine	Guy Mouritz		Request from Katherine Howard to discuss the proposal on 19th August.
62	DPAW 19	19/08/16	Howard, Katherine	Guy Mouritz		Meeting with Katherine Howard and Glen McLeod-Thorpe. Discussed the requirement to seek permission from DOT to use barrack street jetty to pick-up and drop-off passengers as well as the new DPAW corporate policy 46 commercial operations.
63	DPAW 20	19/08/16	Howard, Katherine	Guy Mouritz		Katherine sends corporate policy and contact details for Alan McCombie the manager of Barrack Square at DOT.
64	DPAW 21	14/09/16	Guy Mouritz	Howard, Katherine		Following discussions and a meeting with Caryn Earnshaw from MRA between 28th Aug & 14th Sept a revised proposal is prepared by BargeCo with further details regarding the proposed pick-up location within EQ being the commercial pontoon berths behind ferry terminal and further alignment with the DPAW commercial policy 46. CONSULTATION PERIOD OF 42 DAYS SHOULD CLOSE 26TH OCTOBER.
65	DPAW 22	27/09/16	Guy Mouritz	Howard, Katherine		Called and spoke to Katherine was advised the proposal would be presented to the Swan River Trust board also expressed that there was some issue with there being no existing planning framework for the area on Perth Water we had applied to install our mooring.
66	DPAW 23	30/09/16	Howard, Katherine	Guy Mouritz		Letter formally acknowledging receipt of application
67	DPAW 24	07/10/16	Guy Mouritz	Howard, Katherine		Requesting update on progress following conversation where she advised the proposal would be presented to the SWT. Requested meeting with the director general Jim Sharp.
68	DPAW 25	07/10/16	Howard, Katherine	Guy Mouritz		Response from Katherine advising the application had been referred to external and internal stakeholders for comment that would take 42 days (therefore comment period close 18th November). Advised the proposal has been included in the director's report to the SRT on 11th October for feedback.
69	DPAW 26	15/11/16	Alan McCombie	Glen McLeod-Thorpe		Response from Alan McCombie to Glen (DPAW) and Guy regarding BargeCo request for access to Barrack street Jetty and sullage/fuel facilities at Barrack street. States BargeCo would be able to use the public jetty only but could negotiate with existing leaseholders for access to sullage discharge points.
70	DPAW 27	23/11/16	Chantel Wilson	Guy Mouritz		Chantal Wilson (DPAW) advises she is taking over from Katherine Howard who has moved overseas. Advises that all but 2 external agencies have provided comments and a meeting can be arranged within 2 weeks to discuss the comments received.
71	DPAW 28	24/11/16	Guy Mouritz	Chantel Wilson		Response to Chantal and Glen questioning the length of time for consultation as previously advised by Katherine as the 12th August. Request that comments received be provided so I may begin to address them. Advise I have secured the berth in EQ with MRA (see email correspondence with Rohan Murray MRA 4/11/16)
72	DPAW 29	24/11/16	Glen McLeod-Thorpe	Guy Mouritz		Glen responds advising the first round of consultation undertaken was only to provide feedback the formal consultation process began following receipt of further information from Bargeco (see updated submission email above 14th Sept, this would make the 42 day consultation period close 26th October)





























REF No'	Event type	Date	From	To	KEY POINT	Summary
73	DPAW 30	Email	25/11/16	Chantal Wilson	Guy Mouritz	<p>Chantal provides comments received to date from agencies;</p> <p>DOT- Request full design of mooring plan advise MRA owns the moorings Mooring should not impede the channel</p> <p>Details on draft of vessel Vessel may need to be removed from Perth waters for large aquatic events Not supportive of Moorings at Point Walter Congestion at jetty 1 Barrack Street - no fuel</p> <p>Main Roads- States technically the barge can fit through with little room for error Request vessel management plan with naval architect approval Assessment of Narrows and Queen Victoria bridge required</p> <p>Dept of Aboriginal affairs - Advise area is within Aboriginal site Advise BargeCo is to provide information to Whadjuk people</p> <p>City of Perth- Concerns regarding design Acoustic Impact request modelling for each event Waste management details of bins and how waste will be collected and managed Patron management request detail of queuing and structures to facilitate this</p> <p>City of Melville- Issues with Noise, wind, conflict with other users traffic</p> <p>MRA (August comments)- Acoustic, Patron management &amp; water traffic Use of EQ berth state that they have not been approached, comments are prior to BargeCo negotiations.</p>
74	DPAW 31	Email	30/11/16	Chantal Wilson	Guy Mouritz	<p>Chantal provides comments from Internal experts requests meeting to discuss comments 5th Dec</p> <p>The mooring sites are outside zones currently mapped as contain seagrass habitat. However there are limitations of that mapping and therefore the accuracy of seagrass boundaries is not clearly be defined, particularly in deep water areas. There is for example known seagrass habitat near the Point Walter jetty.</p> <p>Seagrass in the area of nearby Lucky Bay in the marine park has been identified as being relatively poor condition compared to other sites in the estuary and is therefore vulnerable to further impact. All effort should be employed in this proposal to reduce any risk of further nutrient contribution in the area. Consideration should be given to how the swimming pool (which will probably be chlorinated) will be maintained (ie: should not be drained to the estuary).</p> <p>Point Walter is an important site for shorebirds (as is the nearby Alfred Cove marine reserve). Thereby consideration of noise and lights may be pertinent.</p> <p>There is no consideration of how the transfer vehicle operating from the jetty might impact on the nearby environmental values. Nor is there information on the tugs that will bring the barge to location. No information also on the period of time it is expected to be in place.</p>
75	DPAW 32	Meeting	05/12/16	Chantal Wilson	Guy Mouritz	Meeting with Glen and Chantal discussed comments from agencies.
76	DPAW 33	Email	16/12/16	Guy Mouritz	Chantal Wilson	Request for copy of letter of support for BargeCo provided to DPAW by MRA
77	DPAW 34	Emai	16/12/16	Chantal Wilson	Guy Mouritz	Chantal refuses to release letter from MRA as it is addressed to DPAW suggests I approach MRA directly.
78	DPAW 35	Email	21/12/16	Guy Mouritz	Chantal Wilson	Email to Chantal advising withdrawal of Point Walter mooring application. Authorising Sustainability consultants to act on behalf of BargeCo.
79	DPAW 36	Email & Letter	30/12/16	Glen McLeod-Thorpe	Guy Mouritz	Email from Glen with letter attached advising the department received an application for development on the 27th September contradicting their previous written correspondence that the application was received on the 14th September. Requesting additional information to address agency comments by 27th January.
80	DPAW 37	Call	04/01/17	Guy Mouritz	Glen McLeod-Thorpe	Phone call with Glen requesting information on mooring area and marine sullage pump-out facilities.
81	DPAW 38	Email	04/01/17	Glen McLeod-Thorpe	Guy Mouritz	Glen emails requested mooring map and referral contact at Main roads department Alex Jarvis in order to obtain plans of the Fremantle traffic bridge.
82	DPAW 39	Email	27/01/17	dewald.gericke@cityofperth.wa.gov.au	Guy Mouritz	<p>Guy Mouritz copied Chantal Wilson to BargeCo response to the City of Perths comments to BargeCo on 3rd Jan and providing City of Perth with all revised documentation.</p> <p>In response to the concerns and design critique of the vessel;</p> <p>The vessel (or barge) is not a building but a commercial vessel suitable to operate in all ocean and river conditions. Material selections have been made to meet all the requirements under National Standard for Commercial Vessels (NSCV) part C 'Construction' and Part B particularly section 3.4 "design environmental parameters" that call for "A vessel that is for use in an operational area mentioned in the following table must comply with the requirements for each design parameter mentioned in the table for the operational area." It then lists a table of requirements to be met to be deemed acceptable. The requirement for the structure to withstand the movement of the water and impact of swell influenced the decision to use sea containers for the above deck structure as they are designed for this purpose.</p> <p>The vessel will not be on the mooring at Perth water all the time. Our current forecast calendar has the vessel there for approximately 200 days of the year with the balance of the time spent at our Port Beach location and when not in use stored on a mooring within Northport Marine in Fremantle. There are no other moorings or berths within the Swan river park that could accommodate the vessel. As such, whilst in the river park it could only be located at the proposed site where the mooring has been designed specifically to accommodate the vessel being moored for 24hrs a day.</p> <p>Aesthetic parameters have been considered through the design process given the prominence of the mooring location. Design has not been entirely focussed upon practical engineering requirements.</p> <p>The impact on views from Kings Park will be negligible as the colour of the roof, which is the only part of the vessel that will be visible from that vantage point, has been selected to be similar to the water colour so the vessel actually blends into the surroundings. The steel corner posts/walls of the sea containers will also be painted to match.</p> <p>The trees on board are Canary Island Date Palms (Phoenix canariensis) feature heavily all along Riverside Drive and appear on the city's tree register. As such, they have been selected to complement the existing environment.</p> <p>The sea containers are only used for the roof and floors. The walls and doors are removed from all but five containers on board, which leaves only the 100x100 mm corner posts and blocks. The container doors are replaced by anodised aluminium windows and the whole structure is visually permeable, with flat surfaces being made almost entirely of glass. Aside from the corner post, a 300 mm thick roof structure is the only part of the containers left in place and when standing at EQ looking at the vessel, one can look through this section. There are no large flat panels aside from the rear of the vessel, where toilet blocks have the walls left in place. This is only seen from the narrows bridge.</p> <p>I note that the service deck on the rear of the vessel is exposed and is somewhat unsightly. Screens will be put in place to hide the facilities, however these must allow for the movement of air given the air conditioners require a free flow of fresh air. The mechanics of this will be resolved during the construction design.</p>

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83						<p>Our waste (both solid and liquid) will be removed from the barge using our transfer vessels. These have tanks built into the hull and the waste water is then transported to shore facilities and disposed of according to a Water Corporation trade waste permit. As a part of our lease agreement with MRA, we will have an allocated bin storage area where we will empty the sealed solid waste containers from the vessel. These are 20 L sealable plastic tubs that fit under our bars and food prep areas. Once full, they are stored stacked in the hull of the barge and, as required, transported to shore by boat to be carried to the designated bulk bin area. Waste disposal contractors will empty the bulk bins via truck on a weekly basis.</p> <p>We are not intending on using Barrack St jetty. Our berth for servicing and pick-up/drop-off location is within EQ.</p> <p>Along with being designed to meet requirements under the NSCV we will also meet conditions under the proposed lease with DPAW and conditions under its license to operate within the river park.</p>
84	DPAW 40	27/01/17	Guy Mouritz	Chantal Wilson		<p>Email to Chantal Wilson details of EQ proposal negotiated with and submitted to MRA.</p> <p>Attachments – EQ Proposal Barge Co Noise assessment Barge co Design brief Plumbing detail Barge Co EQ proposal EQ 60-01 Pontoon canopy EQ pontoon modification proposal BargeCo o waste management plan</p>
85	DPAW 41	27/01/17	Guy Mouritz	Chantal Wilson		<p>Email to DPAW Policy alignment documents. Attachments BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix A.pdf 413K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix B.pdf 553K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix C.pdf 448K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix D.pdf 425K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment.pdf 400K</p>
86	DPAW 42	27/01/17	Guy Mouritz	Chantal Wilson		<p>Email to Chris Mather (DOT) and Chantal Wilson submitting Management documents.</p> <p>Attachments- Barge Co Alcohol Management Plan.pdf 469K A 01-30 BARGE ARRIVAL &amp; DEPARTURE PLAN.pdf 3125K Barge Co Waste Management Plan.pdf 716K ELIZABETH QUAY BOARDING PONTOON.pdf 374K Emergency and Security Management Plan.pdf 669K EquipmentListResults.pdf 160K Barge Co Noise Management plan.pdf 2684K Barge Co Traffic Management Plan.pdf 290K Barge Co Operational Management Plan.pdf 771K</p>
87	DPAW 43	27/01/17	JARVIS Alex (Con)	Chantal Wilson		<p>Email from Alex Jarvis (Main roads) to Chantal confirming receipt of plans and drawings responding to their comments. Requests 2 weeks to review.</p>
88	DPAW 44	30/01/17	Guy Mouritz	Chantal Wilson		<p>Email - Here is the link to download the vessel safety management system as required under the NSCV in its current draft form. <a href="https://www.sugarsync.com/pdf/D3944057_07926436_7742835">https://www.sugarsync.com/pdf/D3944057_07926436_7742835</a></p> <p>I have paid to have a marine consultant to produce this and the bridge transit and methodology documents and they contain information that may be used by the other applicant. Much of our content and concept is apparent in Old salts proposal they have clearly cut and paste a lot of what we have put in not to mention the whole design and concept that they obtained through Hayden Crystals other company 'Caterlink'.</p> <p>I am more than happy to share the information with any agencies that require it but do not want it published for public access.</p> <p>There is sufficient information in the operational plans to demonstrate to the public our commitment to the safe operation of the vessel, I will be providing Chris Mather a copy of this he can't use these links to download files from his work.</p>
89	DPAW 45	31/01/17	Chantal Wilson	Guy Mouritz		<p>Chantal acknowledges receipt of SMS and agrees to keep it confidential</p>
90	DPAW 46	31/01/17	Chantal Wilson	Guy Mouritz		<p>Chantal provides list of documents to be published on website and requests revised form 1 to exclude Point Walter and High resolution Mooring plans</p>
91	DPAW 47	01/02/17	Guy Mouritz	Chantal Wilson		<p>Response to Chantal Wilson regarding submitted documents;</p> <ol style="list-style-type: none"> <li>1. Supplied new form 1 to remove Point Walter location</li> <li>2. Requested withdrawal of original 'DPAW proposal' document lodged 14/9/16 as OMP, ESMP, Alcohol management and alignment documents replace it.</li> <li>3. PROVIDE NEW PLANS SPECIFICALLY ILLUSTRATING REAR DECK SCREENING TO CONCEAL EQUIPMENT AS REQUESTED BY CITY OF PERTH</li> <li>4. Requested withdrawal of original Management plan doc 14/9/16 replaced by alcohol management plan.</li> <li>5. Supplied revised OMP, traffic and Alcohol management plans reflecting advice to separate house policy and code of conduct into separate docs.</li> <li>6. Requested withdrawal of Harm minimisation policy 14/9/16 as OMP replaces it</li> <li>7. Supplied link to download high res mooring plans</li> </ol>
92	DPAW 48	02/02/17	Guy Mouritz	Chantal Wilson		<p>Emailed Chantal - Approvals mapping alignment document revised for public, original document written to BargeCo</p>
93	DPAW 49	07/02/17	Guy Mouritz	Chantal Wilson		<p>Emailed Chantal BargeCo SMS</p>
94	DPAW 50	10/02/17	Chantal Wilson	Guy Mouritz		<p>Chantal asks if the images I supplied showing the barge in position are to scale, I respond to explain I scaled the vessel from existing objects in the photo. Email contains full response to the City of Perth on 27th &amp; 10th January, the City of Perth did not respond to this by email or respond to further requests for feedback.</p>
95	DPAW 51	10/02/17	Guy Mouritz	Chantal Wilson		<p>Chantal asks for Mooring technical note Naval architect did not supply, Guy responds with the note. This document contains the weight of the barge relevant to the risk assessment PROVIDES THE DISPLACEMENT WEIGHT OF THE BARGE TO BE 357.5 TONNES.</p>
96	DPAW 52	13/02/17	Chantal Wilson	Guy Mouritz		<p>Chantal requests further detail on bridge transit drawings attaches plans illustrating what she would like to see.</p>
97	DPAW 53	13/02/17	Guy Mouritz	Chantal Wilson		<p>Supplied requested drawings.</p>
98	DPAW 54	17/02/17	Glen McLeod-Thorpe	Guy Mouritz		<p>Glen advises that DPAW have met with Main Roads WA, PTA, DOT who want to meet and carry out risk assessment, MRA and City of Perth are providing advice by end of week and public consultation period ends 4th March.</p>
99	DPAW 55	24/02/17	Chantal Wilson	Guy Mouritz		<p>Chantal request BargeCo present our project to the Swan River Trust board on 7th March. BargeCo accepts.</p>
100	DPAW 56	24/02/17	Chantal Wilson	Guy Mouritz		<p>Chantal requests information regarding the boarding pontoon where it will be stored and if it detaches while moving, Guy responds explaining that it will be detachable and towed separately by one of the transfer vessels and will be stored with the barge at NorthPort Marine, it also acts as a life raft for 100% of passengers and crew in the event of emergency evacuation. Guy Submits revised SMS with this detail added.</p>
101	DPAW 57	27/02/17	Sandra Cherry	Guy Mouritz		<p>Email from Sandra Cherry Executive officer advising BargeCo would only have 15 minutes to present to the Swan River Trust at 9:50am 6th march.</p>

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102	DPAW 58	Email	28/02/17	Guy Mouritz	Chantal Wilson	<p>BargeCo submits formal objection to Old Salt through public comment period email also provided DPAW with image of the BargeCo transfer vessels;</p> <p>Waste management – Old Salt do not identify quantities, storage or handling stating they intend on DIRECTLY DISCHARGING WASTE WATER INTO THE SWAN RIVER Provide comparative and contrasting accurate waste assessment by BargeCo proposal.</p> <p>Hazardous waste- No plan in place by Old Salt to manage hazardous waste.</p> <p>Fresh water – No plan to provide fresh water Old Salt identify the waste treatment system recycling sewage to be used on board. Use of bottled water for human consumption no plan for hand or dish washing or food preparation.</p> <p>Refuelling- No plan for refuelling barge in place permanently.</p> <p>Noise management- Old Salt propose to host events with music at 95dba while BargeCo removes its vessel entirely from Perth water for these events.</p> <p>Power supply and fuel- No plan for generator size or fuel storage</p> <p>Emergency procedures – Old Salt have a single vessel with 38 pax capacity rely on other vessels in the area to evacuate.</p> <p>Economic benefits- Old Salt provides no Plan of number of events or markets they intend on servicing.</p> <p>Visual amenity – Old Salt provide no impressions of what their vessel would look like in position.</p> <p>Tourism benefits- Old Salt provides no detail how they will benefit the tourism market.</p> <p>Community benefits- Old salt do not demonstrate this in any way.</p>
103	DPAW 59	Email	02/03/17	Chantal Wilson	Guy Mouritz	<p>Chantal requests that I explain exactly what parts of the SMS have been updated. I respond- Anchoring and mooring requirements pg 20 &amp; 21 - Added description of pontoon being towed separately from the barge by transfer vessels. The anchoring and mooring procedures detailed relate to the transfer vessels as the mooring and movement of the barge will be performed by professional tug contractor TAMS.</p> <p>First Aid arrangements pg 22 - Included reference to the equipment that will be on board and directs the reader to see both equipment list and safety equipment location plan</p> <p>Crew member induction sheet pg 23</p> <p>Marine Wildlife restrictions pages 24 &amp; 25 - relating to the transfer vessels and their movement as we will be operating on the ocean where whales may be encountered as well as dolphins in the River Park</p> <p>Launching of life raft pg 26- Details the pontoon structure and procedure for launch.</p> <p>Use of EPIRB pg 27</p> <p>Jetski Operation pg 28</p>
104	DPAW 60	Meeting	07/03/17	Swan River Trust	Guy Mouritz	<p>Guy Mouritz, Meghan Hepworth From Barge Co and Walter McGuire from Go Cultural tours presented Barge Co proposal to the Swan River Trust Board.</p> <p>Director General was not in the meeting for the majority of the meeting and did not hear our presentation arrived for the final few minutes of the meeting.</p> <p>Presentation detailed; Public Benefit Tourism benefits Business community benefits Target Markets - Tourists, Business events, Performing arts, Live music market, Weddings Business model - branded bar/restaurant days providing local brands opportunity to showcase their products. Total market size Indigenous partnership with Go Cultural tours.</p>
105	DPAW 61	Email	28/03/17	Guy Mouritz	Glen McLeod-Thorpe	<p>Request update from Glen, he advises they have briefed the director general and draft report, have not received ARUP report. Provided notice of application form to DPAW for BargeCo liquor license.</p>
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112	DOT 1	Email	05/10/15	Guy Mouritz	navigational.safety@transport.wa.gov.au	<p>Department of Transport</p> <p>Initial enquiry regarding width of bridge passage widths</p>
113	DOT 2	Email	09/10/15	Carrello, Sam	Guy Mouritz	<p>Response stating channel widths: North 15.3m, Central 10.8m, South 15.3m</p>
114	DOT 3	Email	28/10/15	Guy Mouritz	Mark Briant	<p>Introduction to the first version of barge 35x12m operating at Port Beach requested advice as to our ability to operate in this location. provided map with pin and showing outer harbour boundary</p>
115	DOT 4	Email	11/11/15	Guy Mouritz	Chris J Mather	<p>Guy email to Chris J Mather, Nick Martin Updating proposal to operate on Swan River and requesting information on any permits or applications required to anchor in the Port Beach location, identifying pick up and drop off locations at Coogee and Fishing boat harbour. Confirming conversation with Chris Mather from Nav safety acknowledging no issue with anchoring and operating at the Port beach site only advising to check with City of Fremantle.</p>
116	DOT 5	Meeting	27/11/15	Guy Mouritz	Various	<p>Multi-agency meeting at Marine House Essex Street Fremantle. Attendees - DOT Herman Demello, Mark Briant, Matt Vernie, Peter Beattie, Simon Andreson, Steven Wenban, Brad Wilson, Paul Dutton. DPAW Roland Mau, TAMS Bill Plug and Guy Mouritz.</p>
117	DOT 6	Email	27/11/15	Bill Plug	Guy Mouritz	<p>Meeting summary from Bill Plug TAMS - AMSA:</p> <ul style="list-style-type: none"> <li>As vessel is operating in Australian waters, it will be subject to Port State Control inspections.</li> <li>Vessel needs to be Classed as a Passenger ship.</li> <li>AMSA want to see all Cook Island Class certifications including Plans, procedures, SOPEP, MOB etc</li> <li>AMSA are interested in crowd management and crew qualifications etc.</li> <li>Vessel could be subject to some components of MLC. Exemptions to be sought for items not applicable for this type of vessel.</li> <li>Rescue tender must be DoT compliant.</li> </ul> <p>Parks and Wildlife:</p> <ul style="list-style-type: none"> <li>Concerns on sillage volumes and if transfer will occur in Perth waters.</li> <li>Concerns on fuel spillage, transfer and contingency plans.</li> <li>Concerns on rubbish removal and littering. Would like to see contingency plans.</li> <li>Would prefer fixed moorings to prevent long term damage to sea grass.</li> </ul> <p>Deputy Harbour Master;</p> <ul style="list-style-type: none"> <li>Needs to be satisfied that the mooring layout is fit for purpose.</li> <li>Would like to see mooring analysis for each location.</li> <li>Would like to see a vessel monitoring system when barge is unmanned. We have solar powered B Class AIS. Is this suitable/acceptable?</li> </ul>
118	DOT 7	Email	22/02/16	Guy Mouritz	Carrello, Sam	<p>Guy looking for suitable size vessels asks DOT what the maximum permissible size of a vessel allowed through the bridge passages. Advise that I am looking at purchasing a 15m wide x 39.5m long barge do not want to purchase if it will not be allowed to move through the bridges.</p>



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119	DOT 8	Email	23/02/16	Carrello, Sam	Guy Mouritz	 Sam Carrello responds to Guy includes Chris Mather (director of Marine safety) and Mark Briant; "Please note that there is no maximum vessel / barge size regulated by DoT to go through the bridge spans. It is the responsibility of the vessel master / owner to ensure that their transit is conducted safely, in accordance with all relevant marine legislation, and without causing any damage to the bridge structure."
120	DOT 9	Email	29/02/16	Chris J Mather	Guy Mouritz	 Chris J Mather provides BargeCo with measurements between traffic and train bridges including clearances.
121	DOT 10	Email	12/04/16	Guy Mouritz	Mark Briant	 Email to Mark Briant (Navigational safety & Moorings Manager DOT) requesting Dept of Transport and DPAW input toward our mooring site selection. Details on vessel provided including plans and 3D render of the vessel.
122	DOT 11	Email	14/04/16	Mark Briant	Guy Mouritz	 Mark responds by saying he will have the issue "added to the next joint agency meeting and provide a response post the meeting. This should be early May."
123	DOT 12	Email	18/04/16	Guy Mouritz	Mark Briant	 Guy responds to Mark and asks about the length of time a domestic commercial vessel is allowed to remain anchored within the river park 6days?
124	DOT 13	Email	20/04/16	Mark Briant	Guy Mouritz	 Mark responds to query; "Under the Mooring Regulations 1998 the following applies. In addition to this I believe that under the Swan River Trust legislation restrictions apply to the amount of time you can live on a vessel in the River park. I think this is around the 6 or 7 day mark. In regards to the ocean there are no restrictions to the amount to time it can be anchored is State Waters that I am aware of but you may need to check this with the Port of Fremantle if it is to be within their waters.  If you were to obtain a mooring within the River park there would currently be no limit to the amount of time the vessel can remain on the mooring unmanned. 6A. Use of temporary anchors in mooring control area (1) A person must not, in a mooring control area — (a) secure a vessel, or allow it to remain secured to any gear other than a mooring for a period of more than 6 hours; or (b) otherwise anchor a vessel, or allow it to remain anchored, for a period of more than 6 hours, unless the vessel is manned for the whole of the period it is so secured or anchored.
125	DOT 14	Email	20/04/16	Guy Mouritz	Mark Briant	 Guy responds thanking Mark asking if we are able to apply for an exemption to the 7 day limit to avoid additional movement in and out of the river park.
126	DOT 15	Email	21/04/16	Mark Briant	Guy Mouritz	 Mark responds advising that the restriction on living aboard is with DPAW but he will flag it at their meeting suggests I contact them directly regarding an exemption.
127	DOT 16	Email	21/04/16	Guy Mouritz	roland.mau@dpaw.wa.gov.au	 Request for advice toward mooring location within the River Park compared to anchoring, how long we could remain in the river if anchored.
128	DOT 17	Email	28/04/16	roland.mau@dpaw.wa.gov	Guy Mouritz	 Response from Roland saying he was investigating options and would get back to me.
129	DOT 18	Email	31/05/16	Mark Briant	Guy Mouritz	 Mark Responds to BargeCo request for input on our mooring selection on behalf of DOT and DPAW- "DoT recently met with the Department for Parks and Wildlife (DPaW) and as discussed I raised your request.  It was agreed that whilst this response should not be taken as approval for your proposed locations you should proceed with your application to DPaW based on these proposed locations so that they can be fully assessed through the standard DPaW processes.  Whilst alternate locations were not identified in this meeting I trust this is enough for you to progress with you application to DPaW."  This confirmation demonstrates the consultation undertaken with DOT and DPAW Prior to lodging the part 5 application where both departments acknowledge the suitability of the mooring location.  AT NO TIME DID EITHER DPAW OR DOT ADVISE BARGECO THAT THE COURTESY MOORING AREA WAS OWNED AND OR MANAGED BY MRA.
130	DOT 19	Emails	14/06/16	Chris J Mather	Guy Mouritz	 Guy requests boat statistics from DOT toward market research. Chris Mather provides them in Excel file.
131	DOT 20	Email	25/08/16	Guy Mouritz	Alan McCombie	 Email to Alan McCombie, Harbour Manager   Coastal Infrastructure   Department of Transport requesting advice on availability of berth or jetty space within Barrack street jetty.
132	DOT 21	Email	31/08/16	Alan McCombie	Guy Mouritz	 Alan advises he is busy and unfamiliar with the project and on training until september.
133	DOT 22	Email	05/09/16	Guy Mouritz	Alan McCombie	 Email to Alan advising that I am exploring options within Elizabeth Quay asking again for options at Barrack Street. Request meeting. No Reply.
134	DOT 23	Email	15/11/16	Guy Mouritz	Alan McCombie	 Further email to Alan requesting information and response to the previous questions and or if there are others in the department who may help.
135	DOT 24	Email	15/11/16	Alan McCombie	Guy Mouritz	 Response from Alan to Guy Mouritz , Glenn Mcleod-Thorpe (DPAW) Chris Mather (DOT) provides attachment - aerial map of Barrack Street Jetty;  1. Barge Co would only have access to the public jetties that run off Jetty 1. See attached aerial photo. There is no available jetty space available as all other jetties are leased to commercial operators; 2. Congestion is a problem during peak periods on the public jetties as these jetties are used by commercial charter boat operators and the public. Any more vessels during this time will only add to the congestion and delay transfers; 3. There is no fuel available from the public jetties at Jetty 1; 4. We have no public sullage discharge facilities available on Jetty 1. All sullage discharge facilities are on the leaseholder jetties; 5. We have Trade Waste Approvals in place with the Water Authority for discharge of sullage into the sewer network. If Barge Co were able to negotiate with an existing leaseholder to bring the transfer vessel alongside say Jetty 5 for example we would need to know the discharge rate and volumes (we have a maximum discharge rate of 2 L/sec and currently have a daily rate of 1.53kl per day in place). If this were to increase then we could be faced with further charges; 6. If the transfer vessel could get alongside one of the other jetties (by negotiation with a leaseholder) the problem we have is that we do not have a high flow discharge for water at BJS so filling tanks of any volume may be a problem.
136	DOT 25	Email	16/11/16	Guy Mouritz	Alan McCombie	 Thank Alan for response ask if there are further applications or assessments BargeCo would need to undertake to establish larger volumes discharge to marine sullage points.
137	DOT 26	Email	22/11/16	Guy Mouritz	Chris J Mather	 Request attendee list of stakeholders meeting held on 27/11/2015 ask for further meeting to update stakeholders on progress.
138	DOT 27	Email	23/11/16	Chris J Mather	Guy Mouritz	 Chris provides list of attendees. Suggests I wait until the outcome of our application with DPAW to hold another meeting. WHAT DID DOT KNOW AT THIS EARLY STAGE WERE THEY AWARE OF THE DECISIONS OUTLINED IN THE DRAFT REPORT?? WHY WOULD DOT REFUSE A MEETING TO UPDATE THEM ON OUR PROPOSAL UNLESS THEY KNEW THE OUTCOME WOULD BE REFUSAL?
139	DOT 28	Email	19/12/16	Guy Mouritz	Mark Briant	 Request for courtesy mooring area charts. Request for information on the application process for ocean moorings.
140	DOT 29	Email	03/01/17	Mark Briant	Guy Mouritz	 Mark provides shape files for courtesy mooring area and link to download application for ocean mooring
141	DOT 30	Email	04/01/17	Guy Mouritz	Mark Briant	 Request for shape file data to be provided as JPG or PDF cannot open GIS file type provided.
142	DOT 31	Email	04/01/17	Guy Mouritz	Mark Briant	 Request navigation charts for Perth Water.
143	DOT 32	Email	04/01/17	Guy Mouritz	matt.verney@transport.wa.gov.au	 Request to DOT for information relating to discharge of waste water into the ocean, provided details for volumes and details of treatment system on board.
144	DOT 33	Email	06/01/17	matt.verney@transport.wa	Guy Mouritz	 Response from Matt Verney with links to regulation for discharge of sullage into ocean

REF No'	Event type	Date	From	To	KEY POINT	Summary
145	DOT 34	Email	18/01/17	Guy Mouritz	Chris J Mather	Request for tidal submergence curve data to establish times to move the barge through the bridge passage.
146	DOT 35	Email	23/01/17	Tian, Lei	Guy Mouritz	Response from DOT with submergence curve data for Fremantle.
147	DOT 36	Email	23/01/17	Steven James	Guy Mouritz	Following numerous requests DOT supply DXF format drawings of Perth water mooring area as requested on 4th Jan.
148	DOT 37	Email	24/01/17	Guy Mouritz	Chris J Mather	Email to Chris Mather with two options for the barge mooring inside the courtesy mooring area in Perth water. Advised we have tried to preserve existing courtesy moorings and ask where DOT would prefer to see the new mooring. Explained the green outline illustrates the barge location in 60knot winds and this could be adjusted if necessary.
149	DOT 38	Email	25/01/17	Chris J Mather	Guy Mouritz	Response from Chris Mather - "We are unable to open the files. However based on the emails below our preference is not to protrude into the existing channel. However having been through these process previously I suggest you include both but highlight your preferences. We would need to conduct further investigation as to the exact location. The approval from DPaW if provided will likely be subject to having a mooring licence approved by DoT where we tweak the exact location."
150	DOT 39	Email	27/01/17	Guy Mouritz	Chris J Mather	Email to Chris Mather DOT with attached final updated documents submitted to DPAW. Advised that I would deliver the full document list including Vessel Safety management system (SMS) on thumb drive to their office in Fremantle.  Attachments: Operational Management Plan Barge Co Alcohol Management plan A.1.30 Barge arrival & Departure plan (drawing) Barge Co Waste Management Plan Elizabeth Quay boarding pontoon (drawing) Emergency and Security Management Plan Safety Equipment list Barge Co Noise Management Plan Barge Co Traffic Management Plan
151	DOT 40	Email	27/01/17	Guy Mouritz	Chris J Mather	Email to Chris J Mather (DOT), Alex Jarvis & Lance Thomas (Main Roads)  Detailing transit plans and options for installation of moorings one inside and one outside of Perth courtesy mooring area, BARGECO CLEARLY STATES THAT MOORING OPTIONS ARE NOT ABSOLUTE REQUIREMENT WE ARE TRYING TO AVOID DISTURBING EXISTING MOORINGS.  ATTACHMENTS- (Files delivered as images due to DOT servers not being capable of receiving large attachments.) Mooring option 2 inside mooring area (2 x images) Preferred mooring option (2 x images) Tug Total spirit spec sheet TAMS Example voyage plan Barge Co Vessel movement plan
152	DOT 41	Email	06/02/17	Guy Mouritz	Mark Briant	Supplied updated mooring location to Mark Briant showing the barge completely inside courtesy mooring area even in 60knot winds. Attachment too large delivered thumb drive with drawing to the DOT Capo-deorlando drive office personally.
153	DOT 42	MEETING	07/02/17	Guy Mouritz	Mark Briant	GUY DELIVERS THUMB DRIVE TO MARK BRIANT WITH SMS AND ADJUSTED MOORING LOCATION ILLUSTRATING BARGE ENTIRELY WITHIN COURTESY MOORING AREA.
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160	MRWA 01	Email	10/01/17	JARVIS Alex (Con)	Guy Mouritz	<b>Main Roads Department</b> Alex emails introducing himself as the person responsible for statutory referrals.
161	MRWA 02	Phone Call	10/01/17	Guy Mouritz	JARVIS Alex (Con)	Discussion with Alex regarding obtaining information such as plans and details of protection structures recently installed to the traffic bridge in Fremantle.
162	MRWA 03	Email	10/01/17	Guy Mouritz	JARVIS Alex (Con)	Thanks for your time today, as discussed we are currently working on the analysis of the bridges at Fremantle with both tug operators and our Naval architect and require some information from Main roads to ensure accuracy and complete the movement plans. We intend to attach the tug to the front of the barge using winches and bollards attached to the barge this will provide the tug with a greater amount of control over the movement and speed of the barge, movements would also be conducted pushing the tide eliminating the risk of current applying forward movement to the vessel. I have attached a plan that our tug operator provided illustrating the distances between bridges and through each passage, we require this plan as a CAD file or pdf that is dimensionally accurate for the two bridges and also showing the new piles that have recently been installed to protect the bridges I would imagine that there would be survey plans for the structures? I also require the engineering details for the new concrete protection pylons in between the southern passage the fact that the barge has only 450mm of clearance either side when traversing the southern passage of the Fremantle traffic bridge makes it inherently safer as it can only ever gather a specific amount of momentum and apply a set force regardless of current or windage factors. Once we have the plans we can provide accurate drawings illustrating the path of the barge and tug along with supporting documentation. Could you also see if there are more basic plans available for the Narrows and Queen victoria bridges? There is plenty of clearance through these however I cannot find where we can access any of these plans via public websites etc and would like to provide similar information to the Fremantle passage (but perhaps more simple plans) for the movements. DPAW gave us notice on the 30th of December that we needed to provide response to initial feedback so they can advertise for public comment given the election they are trying to action this before government shuts down. If you could please provide the plans at your earliest convenience it would be much appreciated.
163	MRWA 04	Email	16/01/17	Guy Mouritz	Julia Summers	Having not received any plans of the bridge from main roads Guy contacts the contractor currently working on the bridge to find the engineering firm contact details who Main Roads WA contracted to design the protection structures to obtain as-constructed plans of the bridge/s.
164	MRWA 05	Email	16/01/17	JARVIS Alex (Con)	Guy Mouritz	Alex responds authorising Julia Summers (Arup) to release plans of bridge to BargeCo and that it is the only way to demonstrate the swept path of the vessel.
165	MRWA 06	Email	18/01/17	Julia Summers	Lance Thomas	Julia Summers (ARUP) emails Guy and lance Thomas (MRWA) introducing Lance as a contact within Main Roads who could provide information requested and guidance on issues.

REF No'	Event type	Date	From	To	KEY POINT	Summary
166	MRWA 07	Email	18/01/17	Lance Thomas	Guy Mouritz	<p>Lance emails Julia Summers and Guy Mouritz includes as-constructed drawings of bridge protection structures; "Please ensure your submission includes the 5 key risk mitigations, ie.:</p> <ul style="list-style-type: none"> <li>- Sufficient consideration of vertical clearance, considering your vessel's air draft will be in excess of 7m and current bridge clearance is about 6m (refer DoTs bridge clearance chart for details) all movements below bridge will need to have a favourable tide level. Please refer to DoT's exceedance probability curves as this not only includes predicted high and low tide levels for the next few years but will include Highest Astronomical Tide (HAT) levels as well as LAT.</li> <li>- Movements below bridge will need to be during slack tides</li> <li>- As you'll mainly use the Southern Arch two spotter vessels will need to be in the water managing river users wanting to utilise the same arch (please consult DoT Marine Safety for Spotter Vessel requirements)</li> <li>- As a failsafe I recommend Arup conducts load analyses with the design vessel being the maximum payload (Barge and Tug) travelling 2 knots. Both glancing and head on impact should be assessed</li> </ul> <p>As mentioned I'll be happy to do a quick review prior to you submitting it to MRWA, PTA and DPaw."</p>
167	MRWA 08	Email	19/01/17	Guy Mouritz	Lance Thomas	Guy emails Lance Thomas and Julia Summers with suggested methodology as provided by Tug contractor TAMS including proposed tug details for comment and review. Includes direct email correspondence from Tug operators detailing their experience and recommendation toward the transit plan as requested by Lance Thomas.
168	MRWA 09	Email	19/01/17	Julia Summers	Lance Thomas	Julia Summers emails Guy, Lance Thomas and Alex Jarvis (MRWA) plans of the bridges noting changes were made and to preference as-constructed drawings.
169	MRWA 10	Email	27/01/17	Guy Mouritz	Lance Thomas	<p>Email to Chris J Mather (DOT), Alex Jarvis &amp; Lance Thomas (Main Roads) requesting feedback and acknowledgement of receipt. Main roads and DOT did not respond with comments or feedback.</p> <p>Detailing transit plans and options for installation of moorings one inside and one outside of Perth courtesy mooring area, BARGECO CLEARLY STATES THAT MOORING OPTIONS ARE NOT ABSOLUTE REQUIREMENT WE ARE TRYING TO AVOID DISTURBING EXISTING MOORINGS.</p> <p>ATTACHMENTS- (Files delivered as images due to DOT servers not being capable of receiving large attachments.) Mooring option 2 inside mooring area (2 x images) Preferred mooring option (2 x images) Tug Total spirit spec sheet TAMS Example voyage plan Barge Co Vessel movement plan</p>
170	MRWA 11	Email	27/01/17	JARVIS Alex (Con)	Guy Mouritz	Alex responds to submitted documents and to chanel Wilson (DPaw) advising they will be reviewed and Main Roads require 2 weeks. ALEX STATES THAT MAIN ROADS ARE SATISFIED AT THIS POINT WITH THE INFORMATION PROVIDED.
171						
172						City Of Perth
173	COP 1	Email	17/12/16	Guy Mouritz	dewald.gericke@cityofperth.wa.gov.au	<p>Guy responds to the City of Perth requests with preliminary comments toward;</p> <p>The proposed vessel - providing full plans set including hull plan clearly illustrating the location and size of the case storage room in hull and brief of materials to be used in construction.</p> <p>Waste management - details of processing system, options for disposal under investigation, solid waste management</p> <p>Acoustic report - Advises that Lloyd George are in the process of producing report</p> <p>Management of patrons - Brief of patron management</p>
174	COP 2	Email	03/01/17	dewald.gericke@cityofperth.wa.gov.au	Guy Mouritz	<p>Hi Guy</p> <p>Sorry this is being provided in drips and drabs however I want to respond to you asap to save time. Our Waste section has provided the following. Your response will be appreciated: The information we require before considering supporting the proposal include:</p> <p>Waste calculations of the biggest event that the barge can hold.</p> <p>How the waste will be segregated by the staff, ie will there be separate bins underneath the bar etc?</p> <p>Details of the bin storage on the barge. Size, diagram etc to show that 14 weeks worth of waste can be stored. Site of bulk bin storage area, including size, number of bins (this number would need to equal the same volume as the waste calculation above), waste stream type etc. If bins are to be collected weekly, then the max volume The bulk bin area would need to have impervious walls, a tap and floor waste.</p> <p>How the bulk bin area will be serviced, where the service vehicle would stop, how often etc. The service vehicle should be able to park within approx 10m of the storage area.</p> <p>Current issues at Barrack Square already include the following and the concern is that the development will only add to the problems:</p> <p>Bins stored on Jetty's posing a risk of windblown litter straight into the river.</p> <p>We receive numerous complaints in regards to bins being left in sight of the public as there is already too much waste generation to be stored in the existing bin rooms.</p> <p>Bin rooms are also located in inappropriate locations making them hard to service and sometimes result in the bins having to be placed on the kerb for collection.</p> <p>Your response and providing the above information will be appreciated.</p>
175	COP 3	Email	03/01/17	dewald.gericke@cityofperth.wa.gov.au	Guy Mouritz	<p>Concerns are being expressed by City officers regarding the impact the barge will have on the most important view in the State from Kings Park considering the design to be inelegant and clumsy (referring to the recycled containers, servicing plant, shading cover and general material quality) with a lack of design quality comparing it to the high standards required for the design of all building on the foreshore. It is noted that the Elizabeth Quay pedestrian bridge for example was re-designed, at considerable expense to the State, primarily to enable views from and around the quay to the South Perth foreshore and the Narrows Bridge. The pedestrian bridge was designed as a light and visually permeable structure to achieve this outcome.</p> <p>Concern is expressed that by placing a large vessel in the view-line would destroy some sensitive and very successful urban design objectives. Can you provide a response to these issues for consideration and specifically on the expected time the barge will be moored in Perth Water (days, nights and hours), and where it will be parked/stored out of view when not in use. As mentioned waste is a concern and specifically how and where on land storage and transfer will occur at the jetty in terms of volumes and storage areas (where no detail has been provided except that it will be arranged with the MRA) whilst the City has ongoing issues dealing with the waste at Barrack Square and with ongoing events at EQ to which this facility will add.</p> <p>Your response to the above will be appreciated.</p>



REF No'	Event type	Date	From	To	KEY POINT	Summary
176	COP 4 Email	10/01/17	Guy Mouritz	dewald.gericke@cityofperth.wa.gov.au		<p>Hi Dewald,</p> <p>In response to the concerns and design critique of the vessel;</p> <p>The vessel (or barge) is not a building but a commercial vessel suitable to operate in all ocean and river conditions. Material selections have been made to meet all the requirements under National Standard for Commercial Vessels (NSCV) part C 'Construction' and Part B particularly section 3.4 "design environmental parameters" that call for "A vessel that is for use in an operational area mentioned in the following table must comply with the requirements for each design parameter mentioned in the table for the operational area." It then lists a table of requirements to be met to be deemed acceptable. The requirement for the structure to withstand the movement of the water and impact of swell influenced the decision to use sea containers for the above deck structure as they are designed for this purpose.</p> <p>The vessel will not be on the mooring at Perth water all the time. Our current forecast calendar has the vessel there for approximately 200 days of the year with the balance of the time spent at our Port Beach location and when not in use stored on a mooring within Northport Marine in Fremantle. There are no other moorings or berths within the Swan river park that could accommodate the vessel. As such, whilst in the river park it could only be located at the proposed site where the mooring has been designed specifically to accommodate the vessel being moored for 24hrs a day.</p> <p>Aesthetic parameters have been considered through the design process given the prominence of the mooring location. Design has not been entirely focussed upon practical engineering requirements.</p> <p>The impact on views from Kings Park will be negligible as the colour of the roof, which is the only part of the vessel that will be visible from that vantage point, has been selected to be similar to the water colour so the vessel actually blends into the surroundings. The steel corner posts/walls of the sea containers will also be painted to match.</p> <p>The trees on board are Canary Island Date Palms (Phoenix canariensis) feature heavily all along Riverside Drive and appear on the city's tree register. As such, they have been selected to complement the existing environment.</p> <p>The sea containers are only used for the roof and floors. The walls and doors are removed from all but five containers on board, which leaves only the 100x100 mm corner posts and blocks. The container doors are replaced by anodised aluminium windows and the whole structure is visually permeable, with flat surfaces being made almost entirely of glass. Aside from the corner post, a 300 mm thick roof structure is the only part of the containers left in place and when standing at EQ looking at the vessel, one can look through this section. There are no large flat panels aside from the rear of the vessel, where toilet blocks have the walls left in place. This is only seen from the narrows bridge.</p> <p>I note that the service deck on the rear of the vessel is exposed and is somewhat unsightly. Screens will be put in place to hide the facilities, however these must allow for the movement of air given the air conditioners require a free flow of fresh air. The mechanics of this will be resolved during the construction design.</p>
177	COP 5					<p>Our waste (both solid and liquid) will be removed from the barge using our transfer vessels. These have tanks built into the hull and the waste water is then transported to shore facilities and disposed of according to a Water Corporation trade waste permit. As a part of our lease agreement with MRA, we will have an allocated bin storage area where we will empty the sealed solid waste containers from the vessel. These are 20 L sealable plastic tubs that fit under our bars and food prep areas. Once full, they are stored stacked in the hull of the barge and, as required, transported to shore by boat to be carried to the designated bulk bin area. Waste disposal contractors will empty the bulk bins via truck on a weekly basis.</p> <p>We are not intending on using Barrack St jetty. Our berth for servicing and pick-up/drop-off location is within EQ.</p> <p>Along with being designed to meet requirements under the NSCV we will also meet conditions under the proposed lease with DPAW and conditions under its license to operate within the river park.</p>
178	COP 6 EMAIL	27/01/17	Guy Mouritz	dewald.gericke@cityofperth.wa.gov.au		<p>Guy Provides full documentation to the City and to Chantal WILSON FROM DPAW including attachment;</p> <p>Barge Co Design Brief.pdf</p> <p>Barge Co Noise Management plan.pdf</p> <p>Barge Co Waste Management Plan.pdf</p> <p>Barge Co Operational Management Plan.pdf</p> <p>Barge Co Traffic Management Plan.pdf</p> <p>Emergency and Security Management Plan.pdf</p> <p>Barge Co Alcohol Management Plan.pdf</p> <p>A.01.30 BARGE ARRIVAL &amp; DEPARTURE PLAN.pdf</p> <p>ELIZABETH QUAY BOARDING PONTOON.pdf</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix D.pdf 425K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix C.pdf 448K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix B.pdf 553K</p> <p>BCO001 - Barge Co - Approvals Mapping &amp; Alignment - Appendix A.pdf 413K</p>



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<b>To:</b>	Barge Co	<b>From:</b>	Daniel Lloyd
<b>Attention:</b>	Guy Mouritz	<b>Date:</b>	15 June 2017
<b>Email:</b>	<a href="mailto:guy@bargeco.com.au">guy@bargeco.com.au</a>	<b>Pages:</b>	2
<b>Our Ref:</b>	16122381-02		
<b>Re:</b>	Reply to Comments		

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Detailed below are our replies to the comments raised by the stakeholders regarding Barge Co's proposed event space on Perth Water.

### City of Perth Comments

2.4 - The City of Perth notes that Barge Co's Noise Management Plan includes modelling, which assumes wind is blowing from all directions, contending this would indicate the worst-case noise levels at all locations within a single calculation. The City's experience however is that the worst-case scenario can be where there is no wind, which has not been modelled in this assessment. While not required under the Environmental Protection (Noise) Regulations 1997, the report has not calculated the C-weighted noise generated from the barge. In the City's experience, this noise travels the furthest, has the most impact and receives the most complaints from noise sensitive receivers.

#### Reply

While we agree that the highest impact from music events can occur during calm conditions, the noise modelling shows the worst-case in terms of noise emission. In calm conditions the noise emissions will be less and therefore further below the assigned levels under the Regulations. Compliance is assumed providing the background levels are masking the music content, therefore not attracting a penalty under the Regulations, and this would need to be proved through the proposed noise monitoring. If it were found that this is not the case then the noise management measures would need to be revised. In terms of the C-weighted levels, the plan is clear in that the bass content must be carefully managed. If the noise emissions contain a modulation due to the bass component, then compliance would not be achieved (due to penalties). Again this can be proved through the proposed noise monitoring.

2.5 - The report stated that in the assumption that the in-house PA system being used, compliance is achievable at sound levels of up to 85 dB(A) up until 10pm. After this time, compliance may be achieved if the wind is blowing from the south or if the external speakers are turned off and the music is played inside of the seated area with the windows and doors shut. Given operating hours are proposed until 12midnight and it is unlikely that external speaker will be turned off after 10pm it is considered that the barge will have a negative acoustic impact on noise sensitive premises within the area. In addition, if the Barge was to hold an event where a band is playing at 100 dB(A) the barge is not able to achieve compliance and a Regulation 18 approval would be required for each event.

#### Reply

The noise management plan clearly states that after 10.00pm the external speakers will be turned off. This, of course, requires good management by the operators. It is agreed that a Regulation 18 would be required for events requiring higher noise levels as indicated in the noise management plan.

2.6 - The Noise Management Plan does not consider the cumulative effects of multiple uses of Perth Water and surrounds in addition to the noise generated from the barge will have on the noise sensitive premises (existing and proposed) nearby.

#### Reply

We are not aware of any other uses of Perth Water that would result in a significant contribution to the noise from the barge.

### **Metropolitan redevelopment authority Comments**

2.42 - MRA does not consider Barge Co has provided insufficient information within the Noise Management Plan to sufficiently demonstrate that the operation can achieve compliance with the Environmental Protection (Noise) Regulations 1997. It is anticipated Elizabeth Quay will accommodate over 1400 residents and the base level and special event noise emissions from the barge have not been considered adequately, and will have significant impact on the ambient noise levels at Elizabeth Quay. Additionally, Barge Co has not provided measures to control music, entertainment and other noise emissions, ongoing procedures to ensure amplified music on the barge will not exceed noise levels at nearby future residents, and complaint response procedures specifying how complaints will be received, recorded and investigated.

#### [Reply](#)

The assessment clearly shows that the assigned levels can be achieved at Elizabeth Quay under the conditions modelled, particularly considering the extent of commercially zoned land around the Quay. However, it is agreed that special events could impact on Elizabeth Quay and other areas and therefore a Regulation 18 Approval would be required to manage the noise. A complaints response procedure will be developed.

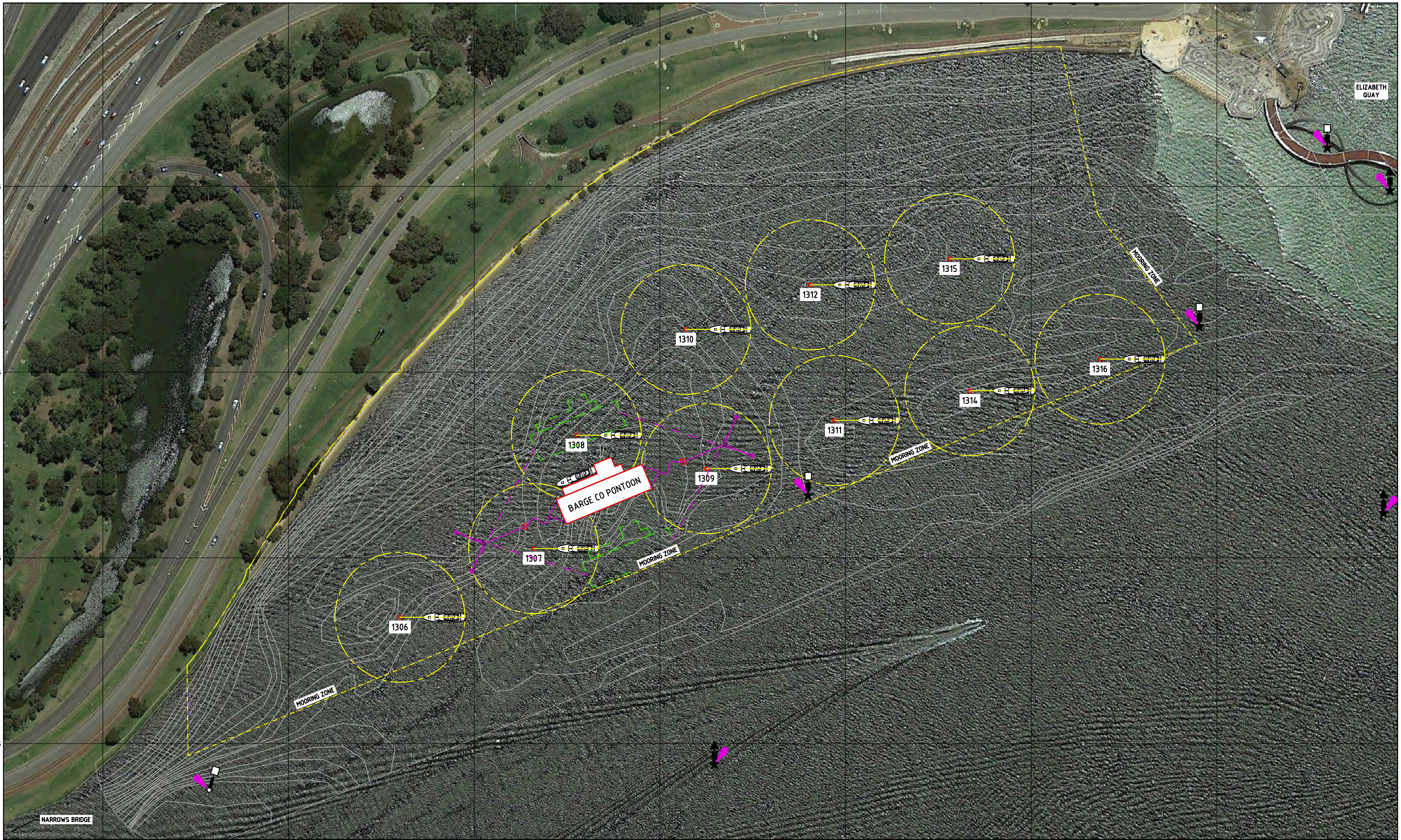
### **Botanic Gardens and Parks Authority Comments**

2.49 - The BGPA expressed concern the noise from proposed music concerts and other events will impact on the Kings Park visitor experience. Visitors to Kings Park enjoy a relatively quiet, park atmosphere for relaxation and passive recreation. The BGPA is concerned that loud music on the vessel for private events will extend into the popular visitor areas along the ridge of the Mt Eliza Escarpment, interrupting the ambience of the park environment for visitors.

#### [Reply](#)

The assessment shows that noise levels along the ridge of My Eliza Escarpment would around 35 dB(A). This is likely to be significantly less than the background noise levels considering the traffic noise from the freeway and Mounts Bay Road. While we do not believe the barge will adversely impact upon these areas, the proposed noise monitoring would confirm this and the noise management plan would be revised if impacts were found to occur.





**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

**SWAN RIVER**  
SCALE 1:1000

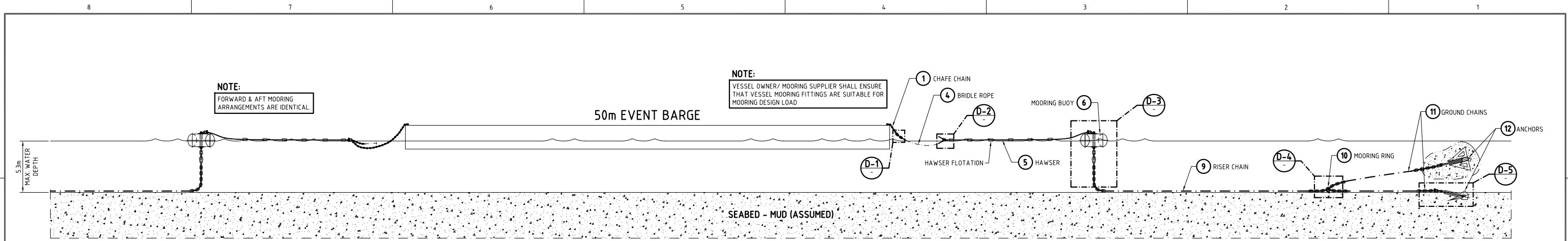
**NOTES:**  
1. EXISTING MOORING SWING RADII ARE INDICATIVE. ACTUAL TBA BY CLIENT/DOT.

**IMC** International Maritime Consultants Pty. Ltd.  
 Suite 2, Level 2, Atwell Buildings, 3 Cantonment St, Fremantle 6160 WA  
 PO Box 558 Fremantle, WA 6959  
 T +61 (0)8 9335 1991  
 E Imc@imcau.com.au | W www.imcau.com.au

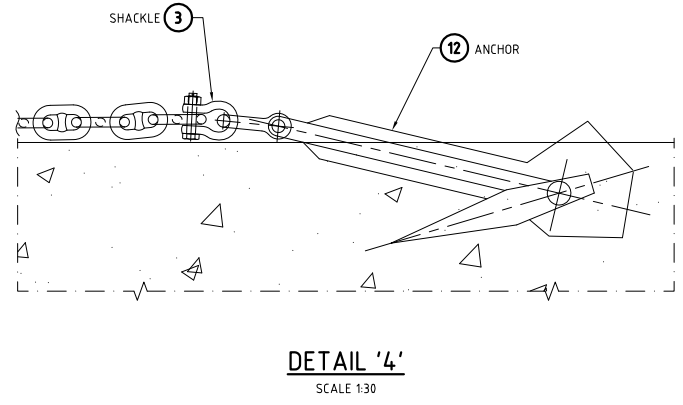
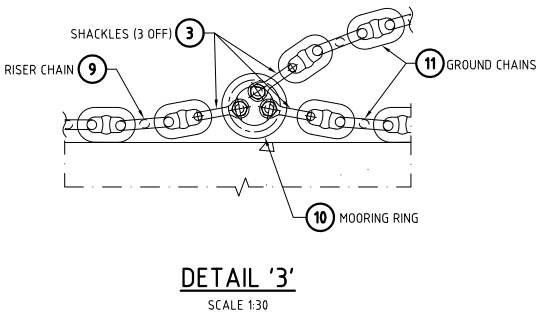
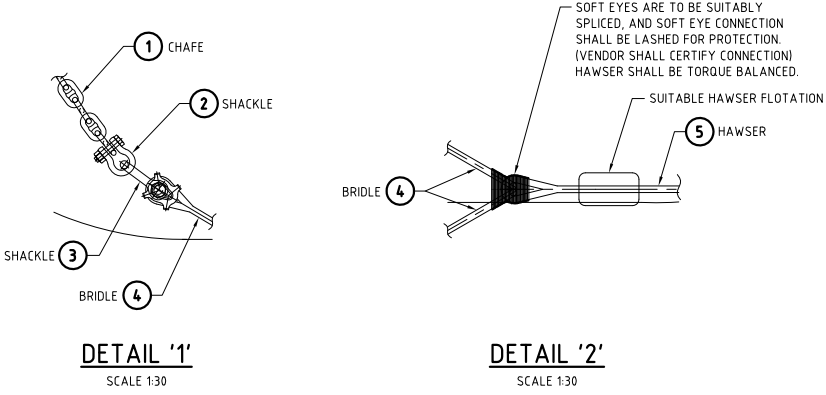
ISSUE	DATE	BY	REVISION
D	06/02/17	JM	ISSUED FOR INFORMATION
C	25/01/17	J.M.	ISSUED FOR INFORMATION
B	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)
A	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)
CLIENT:	BARGE Co		YARD NO.:
BUILDER:			CONTRACT:
CLASS:			

PROJECT:				<b>SWAN RIVER EVENTS BARGE - DAY MOORING</b>			
TITLE:				DAY MOORING ARRANGEMENT & DETAILS			
DRAWN:	CHECKED:	APPROVED:	SCALE:	DRAWING NO.:	REV		
S.W.	W.W.	J.M.	1:1000	16-1732-002	SHT. 1 OF 2	D	
16/01/17	24/01/17	24/01/17	A1	35-3732			



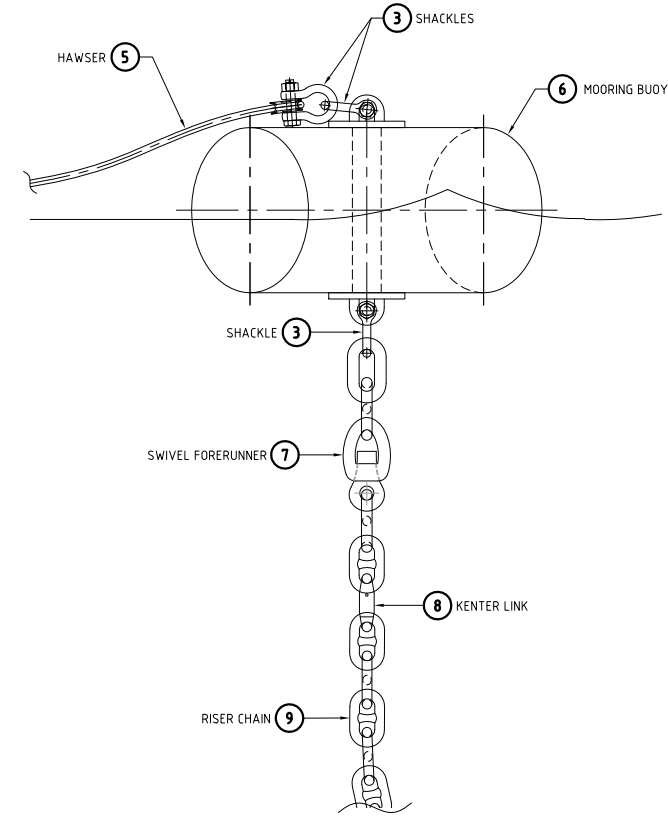


**MOORING SYSTEM PROFILE**  
SCALE 1200

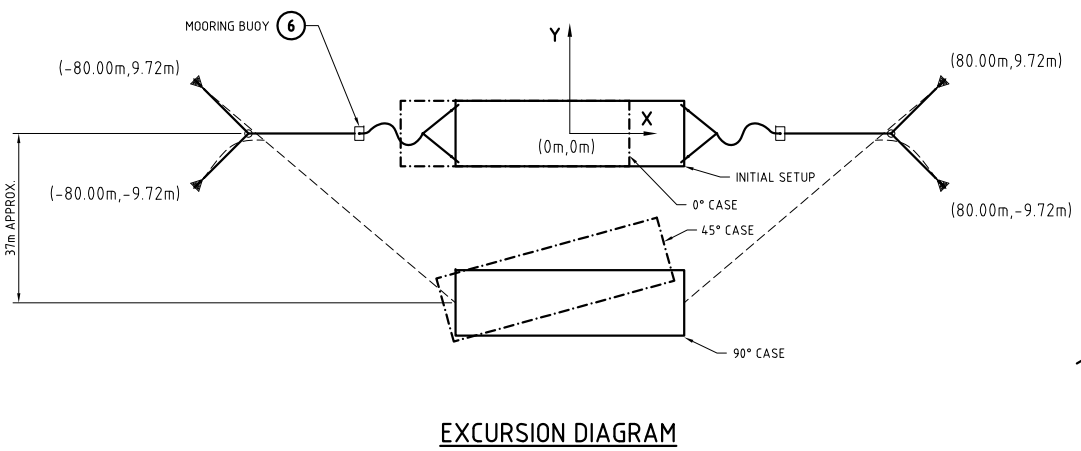


- NOTES:**
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH TECHNICAL NOTE REF: 16-1732-003.
  - THE DESIGN OF THE MOORING SYSTEM ASSUMES THAT ANCHORS ARE PROPERLY SET IN BELOW THE SEABED AS PER THE MANUFACTURERS REQUIREMENTS.
  - WHERE THE HAWSER/CHAFF CHAINS ARE CONNECTED TO VESSEL, BOLLARDS & DECK TO HAVE SUFFICIENT STRENGTH TO MAINTAIN LOADS.
  - SHOULD ALTERNATE CHAIN, SHACKLES OR ANY OTHER COMPONENTS BE USED, IT IS THE SUPPLIER'S RESPONSIBILITY TO ENSURE THAT IT IS OF EQUIVALENT STRENGTH AND PERFORMANCE AND IS COMPATIBLE WITH OTHER COMPONENTS USED.
  - ALL SHACKLES SHALL BE TO AUSTRALIAN STANDARDS AS2741 (OR RECOGNISED EQUIVALENT). ALL SHACKLES SHALL BE NUT & BOLT TYPE WITH SAFETY PINS.
  - CHAIN SHALL BE NEW OR OF KNOWN HISTORY WITH CURRENT BREAKING LOAD CERTIFICATES.
  - IT IS THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER TO ENSURE THAT ALL COMPONENTS FIT - SUBSTITUTION OF EQUIVALENT STRENGTH SHALL BE PERMITTED.
  - HAWSERS TO BE INSPECTED REGULARLY TO ENSURE WEAR/CHAFF IS NOT EXCESSIVE.
  - SEA BOTTOM ASSUMED TO BE MUD, IF CONDITIONS CHANGE MOORING ANALYSIS MAY NEED TO BE REVISED.
  - ALL COMPONENTS SHALL BE SUITABLE FOR MARINE SERVICE.
  - WATER DEPTH SHALL BE VERIFIED PRIOR TO THE MOORING SYSTEM INSTALLATION.

IT IS THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER TO ENSURE THAT ALL COMPONENTS FIT - SUBSTITUTION OF EQUIVALENT STRENGTH SHALL BE PERMITTED.



**DETAIL '2' - BUOY CONNECTION DETAILS**  
SCALE 130



**EXCURSION DIAGRAM**

**PRELIMINARY  
NOT FOR CONSTRUCTION**

**DESIGN CRITERIA**

LENGTH O.A. (MLD. HULL):	50.00m
BREADTH (MLD):	14.30m
DEPTH (MLD):	2.44m
MOORING LOCATION:	SWAN RIVER
WIND VELOCITY (30-SEC):	30 m/s
SIGNIFICANT WAVE HEIGHT:	0.50 m
CURRENT VELOCITY:	0.25 m/s

**MOORING: PARTS LIST**

ITEM	N° OFF	DESCRIPTION	BREAKING LOAD/U.H.C (kN)	INSPECTION CRITERIA (WEAR)
1	4x2m	Ø40mm GRADE 2 SLAC - CHAFE CHAIN (BRIDLE)	896	20.00%
2	4	25T GRADE 'S' NUT & BOLT BOW SHACKLE (44mm NOM.)	1226	5.00%
3	20	55T GRADE 'S' NUT & BOLT BOW SHACKLE (63mm NOM.)	2697	5.00%
4	4x8m	BRIDLE - Ø52mm 12 STRAND NYLON DSR	576	SEE NOTES
5	2x18m	HAWSER - Ø52mm 12 STRAND NYLON DSR c/w SUITABLE FLOTATION	576	SEE NOTES
6	2	2t RESERVE BUOYANCY MOORING BUOY	TIE BAR SWL: >235	SEE NOTES
7	2	76mm NOM. GRADE 2 SWIVEL FORERUNNER	3010	20.00%
8	2	Ø76mm KENTER, GRADE 2	3010	20.00%
9	2x25m	Ø76mm GRADE 2 SLAC - RISER CHAIN	3010	20.00%
10	2	64mm NOM. MOORING RING (Ø102.4mm x Ø512mm O.D.)	3129	20.00%
11	4x13.75m	Ø76mm GRADE 2 SLAC GROUND CHAIN	3010	20.00%
12	4	2t FLIPPER DELTA ANCHOR	314	-

**NOTE:** LISTED COMPONENTS ARE FOR BOTH THE FORWARD & AFT MOORINGS.  
**NOTE:** CHAIN DIAMETER WEAR REDUCTION ASSUMED TO OCCUR ONLY IN ZONE OF CHAIN-CHAIN CONTACT (PREDOMINANTLY IN CHAIN THRASH ZONES). IF GENERALISED CORROSION IS OBSERVED 1-5% OF CHAIN DIAMETER) OVER ENTIRE CHAIN LENGTH, THE MOORING DESIGNER SHALL BE CONTACTED FOR ADVISE.

**INSPECTION NOTES:**

- MOORING COMPONENTS SHALL BE REPLACED WHEN THE DIAMETERS HAVE DECREASED BY THE TABLED PERCENTAGES.
- ANCHOR LEG POSITIONS SHALL BE CONFIRMED DURING MOORING INSPECTION.
- THE MOORING SHALL BE INSPECTED AFTER EVERY SIGNIFICANT STORM.
- ANNUAL INSPECTION SHALL BE CARRIED OUT IN ADDITION TO ANY STORM INSPECTIONS.

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CLIENT:	BARGE Co	YARD NO.:	
BUILDER:		CONTRACT:	
CLASS:			
ISSUE:	DATE	BY	REVISION
D	06/01/17	JM	ISSUED FOR INFORMATION
C	25/1/17	J.M.	ISSUED FOR INFORMATION
B	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)
A	24/01/17	S.W.	ISSUED FOR INFORMATION - (CLIENT)

PROJECT: SWAN RIVER EVENTS BARGE - DAY MOORING				
TITLE: DAY MOORING ARRANGEMENT & DETAILS				
DRAWN:	CHECKED:	APPROVED:	SCALE:	DRAWING NO.:
S.W.	W.W.	J.M.	1:200 (U.N.O.)	16-1732-002 SHT. 2 OF 2
16/01/17	24/01/17	24/01/17	A1	
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Main Roads Western Australia &  
Department of Parks and Wildlife  
**Fremantle Bridges Risk  
Assessment of Barge Co. Proposal**  
Workshop Findings

REP01

Issue | 30 March 2017

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 254635-00

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# Document Verification

<b>Job title</b>		Fremantle Bridges Risk Assessment of Barge Co. Proposal		<b>Job number</b> 254635-00	
<b>Document title</b>		Workshop Findings		<b>File reference</b>	
<b>Document ref</b>		REP01			
<b>Revision</b>	<b>Date</b>	<b>Filename</b>			
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			Prepared by	Checked by	Approved by
		Name	Philip Fisher	Julia Summers	Julia Summers
		Signature			
Issue	30 Mar 2017	<b>Filename</b>	REP01_Findings_Issue.docx		
		<b>Description</b>	Client comments included.		
			Prepared by	Checked by	Approved by
		Name	Philip Fisher	Philip Fisher	Julia Summers
		Signature			
		<b>Filename</b>			
		<b>Description</b>			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
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			Prepared by	Checked by	Approved by
		Name			
		Signature			
<b>Issue Document Verification with Document</b>					
<input checked="" type="checkbox"/>					

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## Appendices

### **Appendix A .**

Vessel Movement Plan

### **Appendix B**

Bridge Transit Arrangements

### **Appendix C**

MRWA Consequence Rating Descriptions

### **Appendix D**

Qualitative Risk Assessment

# 1 Introduction

---

Arup has been appointed by Main Roads Western Australia (MRWA), in collaboration with the Department of Parks and Wildlife (DPaW), to facilitate a stakeholder risk workshop in relation to the proposed operation of a large barge on the Swan River by Barge Co.

A collaborative risk workshop, held on 16<sup>th</sup> March 2017, was required to inform stakeholder recommendations to the Swan and Canning Rivers Management Act (2006) Part 5 Development Application assessment and subsequent recommendation by DPaW.

The focus of the qualitative risk assessment was solely on the risks associated with the vessel transit beneath the Fremantle Traffic Bridge (FTB) and Fremantle Rail Bridge (FRB). Whilst the Barge Co. application is likely to have wider impacts on the River these did not form part of the workshop scope nor the Arup scope of works.

## 2 Background

---

The Fremantle Traffic and Rail Bridges are core transport routes across the Swan River and are located adjacent to each other, with the Rail Bridge bordering the Port of Fremantle.

### 2.1 Fremantle Traffic Bridge

The Fremantle Traffic Bridge is a timber road bridge over the Swan River in Fremantle, built in 1938. It has four traffic lanes carrying over 30,000 vehicles per day (weekday) and a shared bicycle and pedestrian path on its deck. It supports a range of utilities, including gas, oil, power, telecommunications, and water, which are attached at and slightly below deck level on both sides of the bridge.

Below the deck are two navigation channels used by large marine vessels (e.g. ferries that carry up to 500 passengers). The channels have decreasing vertical clearance from south to north. The bridge structure adjacent to the channels comprises piled fender systems surrounding timber bridge pier piles. The fender systems are not connected to the bridge pier piles.

### 2.2 Fremantle Rail Bridge

The Fremantle Rail Bridge, constructed in 1964, comprises concrete piers and a steel deck. Recent enhancements to the bridge have seen the installation of four dolphins on the downstream (Fremantle Port) side of the bridge in 2015.

It carries the main north/south electrified rail line over the Swan River which services both passenger and freight rail.



## 2.3 Barge Co. Proposal

Barge Co. has submitted a proposal to operate an entertainment barge in Perth Water. Whilst this proposal includes the movement of the barge through to the city, this report focusses solely on the transit of the barge beneath the Fremantle Bridges. As such only information pertinent to this movement is included here.

The barge is 50 m x 14.3m x 7.2m, has two levels and has no self-propulsion - it will be moved by tugboats,

Due to size, weight and surface area of barge no movements are proposed to be completed when wind speed will exceed 15 Knots.

Given bridge clearances, the barge is proposed to be navigated through the bridges at low tide and during period of slack tide. Any tidal movement during the slack tide period is proposed to be flowing in the opposite direction to the proposed barge movement.

When weather conditions are ideal for this barge operation, the public will also be assumed to be actively using the same waterway.

Refer to Appendix A for the vessel movement plan and Appendix B for bridge Transit arrangements.

## 3 Risk Assessment

### 3.1 Process

A qualitative risk assessment, in accordance with Main Roads WA Risk Management Process, was carried out during the workshop on 16<sup>th</sup> March to assess the risk of the proposed operation by Barge Co.

Risk assessments are by nature a subjective process, carried out by key stakeholders and so consistency is assessed more transparently by repeating the Rail Bridge risk assessment using Main Roads WA procedure.

The following tables present the risk matrix and likelihood and consequence rankings used in the risk assessment process.

		LIKELIHOOD				
		1 – Rare, 2 – Unlikely, 3 – Moderate, 4 – Likely, 5 – Almost Certain				
Consequences		1	2	3	4	5
5 – Catastrophic		H	H	H	VH	VH
4 – Major		M	H	H	H	VH
3 – Moderate		M	M	M	H	H
2 – Minor		L	L	M	H	H
1 – Insignificant		L	L	L	M	M

LEVEL	DESCRIPTOR	FREQUENCY
1	Rare	Less than once in 20 years
2	Unlikely	At least once in 10 years
3	Moderate	At least once in 3 years
4	Likely	At least once per 1 year
5	Almost certain	More than once per year

Risk Rankings	
VH	Very High (Unacceptable)
H	High (Urgent Action)
M	Moderate (Management Controls)
L	Low (Specify Actions & Monitor)

Figure 1: Main Roads WA Risk assessment key.

Refer to Appendix C for descriptions of MRWA consequence ratings.

## 3.2 Attendees

The following attendees attended the session following invitation from MRWA and DPaW:

Name	Organisation	Comment
Glen Mcleod-Thorpe	Department Parks and Wildlife	-
Chantal Wilson	Department Parks and Wildlife	-
Adnaan Abrahams	Department Parks and Wildlife	-
Jeff Oo	Main Roads WA	-
Adam Lim	Main Roads WA	-
Chris Mather	Department of Transport	-
Mark Briant	Department of Transport	-
Carlo Di Meglio	Australian Marine Safety Authority	Part attendance
Chris Battel	Australian Marine Safety Authority	Part attendance
Barry Pantall	Public Transport Authority	Part attendance
Allan Gray	Fremantle Ports	Part attendance
Julia Summers	Arup	
Philip Fisher	Arup	

Figure 2: Workshop Attendees

## 3.3 Assumptions

The following assumptions were defined by the stakeholders at the outset of the workshop to inform the risk assessment:

- 0.5 to 1.0 knot maximum vessel speed during transit of bridges
- Wind speed to be less than 15 knots during transit of bridges
- Between one and three vessel movements beneath the bridges per week
- Maximum height to be that of the barge structure. All vegetation to be less than this dimension
- Given the towing arrangement, the Tug Master will be unsighted during the movement
- Maximum Barge weight of 2,500tons
- All movements will be completed in daylight hours in parallel with normal river and bridge operations
- Each movement will take an average of one hour to complete
- Given the tight clearances in the designed transit movement, there will be barge/structure interaction on each transit



During the definition of these assumptions, the stakeholders raised concerns regarding the compatibility of the potential frequency of operation and the defined weather parameters for operation set by Barge Co.

However, for the purposes of this risk assessment, the stakeholders assumed that vessel movements will occur as per the defined environmental conditions.

## 3.4 Scenarios

The layout of the bridges and navigation channels means that the bridges are subject to different risks. In addition, given the bridge piers do not align and the bridges cross a busy waterway, the resultant transit movement is complex. As such it was deemed appropriate by stakeholders to consider both structures during this assessment.

### 3.4.1 Traffic Bridge

To frame the risk assessment, the stakeholders defined the following scenarios to risk assess.

1. Direct bridge pier impact
2. Direct bridge span/soffit impact
3. Repeated bridge pier scuff/clip impact (leading to fender damage)
4. Waterway blockage greater than two hours (barge stuck underneath / between bridges)
5. Waterway blockage less than two hours (barge stuck underneath / between bridges)

### 3.4.2 Rail Bridge

To frame the risk assessment, the stakeholders defined the following scenarios to risk assess.

1. Direct bridge pier impact (upstream transit)
2. Direct bridge pier impact (downstream transit)
3. Bridge pier side impact

### 3.5 Outputs

The following provides a summary of the outputs of the risk assessment. The full risk assessment is provided in Appendix D.

Scenario		Direct Bridge Pier Impact	Direct Bridge Span/Soffit Impact	Repeated Bridge Scuff/Clip Impact	Waterway Blockage Greater than two Hours (Vessel stuck between or underneath bridge(s))	Waterway Blockage Less than two Hours (Vessel stuck between or underneath bridge(s))
TRAFFIC BRIDGE	Likelihood	L = 2	L = 2	L = 5	L = 2	L = 5
	Consequence	C = 5	C = 5	C = 3	C = 3	C = 2
	Risk	R = L x C = H	R = L x C = H	R = L x C = H	R = L x C = M	R = L x C = H

Figure 3: Fremantle Traffic Bridge Risk Assessment Summary

Scenario		Direct Bridge Impact (Upstream transit)	Direct Bridge Impact (Downstream transit)	Bridge Pier Side Impact
RAIL BRIDGE	Likelihood	L = 1	L = 5	L = 5
	Consequence	C = 1	C = 2	C = 2
	Risk	R = L x C = L	R = L x C = H	R = L x C = H

Figure 4: Fremantle Rail Bridge Risk Assessment Summary

### 3.6 Summary

The findings provided here summarise the collaborative risk assessment completed by Stakeholders. It can be seen that a number of scenarios for each bridge have resulted in a High (Urgent Action) risk. It is understood that each Stakeholder will utilise this information to inform their recommendations to DPaW and that DPaW will subsequently utilise all information during the Part 5 assessment process.

## **Appendix A.**

### **Vessel Movement Plan**





**BARGE CO.**



## **Vessel movement plan**

January 2017



## **Weather Parameters**

Due to size, weight and surface area of barge no movements are to be completed when wind speed will exceed 15 Knots. The barge must be navigated through bridges at low tide and during period of slack tide.

Any tidal movement during the slack tide period must be flowing in the opposite direction to the proposed barge movement.

## **Marine Traffic and Waterway Obstacles**

When weather conditions are ideal for this barge operation, the public will also be assumed to be actively using the same waterway.

In anticipated times of high traffic, Barge Co transfer vessels shall be positioned as spotter vessels at either side of the bridges - one up and one down river to manage traffic and ensure there will be less chance of the manoeuvre being negatively affected by public marine traffic or obstacles.

Notice to Mariners will be issued prior to movements to ensure other commercial marine operators such as ferriers and cruise vessels are aware of the barges movements and understand the process of the manoeuvre.

Illuminated LED Information boards have been installed to the bridges during recent upgrades. Barge Co requests that Department of Transport allow access to this LED board to apply notifications in advance and during the operation.

Fremantle Port will be notified of our intentions prior to the proposed time of voyage and updated during and at the completion of the operation through the port. Vessel movement schedules shall be planned to avoid conflicting with Port operations.

Shipping activity that could delay the barge move would be shipping activities at Berths 10, 11 and 12. Also E and F Berths.

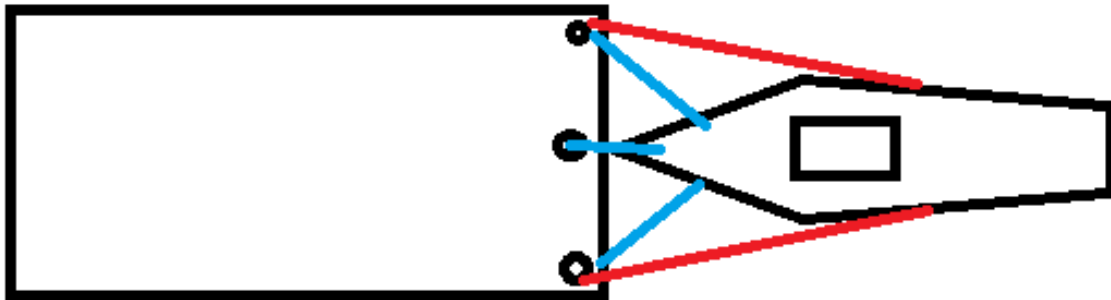
## **Towage Resources**

Typically, when previous barges have moved through the bridges, the tug operator's engine tug is located at the stern of the barge and made fast in a composite configuration.

The bow of the tug is made fast to the centre AFT (rear) of the barge, with breast lines to each quarter. Finally, winches are used to make the tug fast with tension - these wires are run from the engine tugs mid-ships to each quarter of the barge.



The image below illustrates the engine tug made fast to the stern of the barge in a push-pull configuration.



The blue lines represent rope working lines and the red lines represent the winch wires in position to make the barge and engine tug a composite unit.

The Tug typically used for this operation is Vessel 'Total Spirit'. Please see attached spec sheet.

Two small work boats would be used to assist in navigating and providing the engine tug with information and distances for clearance.

They will also be located either side of the barge to assist with controlling the direction and movement of the barge from port to starboard.

These vessels would also escort the barge throughout the entire voyage providing the same assistance and information.

The tug operator may require the use of a second tug to assist with the operation this will be decided by the master following a risk assessment of conditions and other relevant factors. This tug would be used to tow the barge with the existing engine tug be used predominantly as a brake and for steering.

## Personnel and Responsibilities

**Barge Master:** A Barge Master will be engaged for this operation responsible for ensuring all vessels and vessel operators are fully aware of the procedures the barge master shall work with the vessel masters to safely complete the voyage.

**Vessel Masters:** The master of each vessel will work with the Barge Master to ensure all required personnel and authorities have been notified of the voyage.

They then ensure the vessels are in the correct position and ready to complete the operation as advised by the Barge Master.

Ultimately the Vessel masters have their own obligations to the safety and wellbeing of their crew and vessel, and if in any doubt they will coordinate with the Barge Master to reassess the situation and make the necessary changes to ensure the safety and success of the operation.

**Vessel Crews:** All crews on board the Barge or Vessels will be directed by the Barge Master or Vessel Masters to complete tasks safely and effectively. All crew will also carry radios to communicate any potential issues and assist with the safe navigation throughout the operation.





## **Vessel Operation**

Considering the above contributing factors of weather, water movement, marine traffic and the vessels to be utilised during the operation, the following methodology will be used to complete the operation;

- Schedule to be revised daily to allow for weather forecasts, tide and marine traffic.
- Communication to be maintained between all parties to ensure sufficient notice can be issued to authorities, port, marine operators and the public.
- Pre-departure meeting to be completed to ensure all involved are aware of the procedure and the requirements associated with the safe completion of the operation.
- Pre-departure checks of vessels and equipment.
- Voyage plan to be completed and approved by barge owner/operator and the engaged towage operator.
- Vessels to make fast to barge in previously mentioned configuration.
- Once final clearance has been confirmed with authorities the Barge Master will request tug and work/escort vessel masters to proceed with voyage and navigate course as detailed in voyage plan.
- Throughout port waters and within the swan river barge will be moved at a predicted 3-3.5 Knots.
- On approach to bridges this speed will be reduced to between 0.5-1.5 Knots.
- Spotter Vessel or work/escort vessel to travel ahead of barge and give update to water movement and conditions and the bridges.
- Spotter vessels will be in position either side of bridges and towage vessels will be in configuration before the barge within 300 metres of the bridge entry.
- I propose this distance being the final point for confirmation of safe passage between the bridges and the point we receive our final clearance from Fremantle Port and the spotter vessels.
- As a contingency from this point traveling either direction we can temporarily berth the barge at East Street Jetty or one of the Ports Eastern Berths (North Quay 12 or F Berth), if there were to be any delays or issues.
- Once safe clearance is confirmed the engine tug with barge in composite will make way towards the southern arch and a dead slow speed.
- Work boats will be standing by either side of the barge to direct the bow through the entry and maintain clearance through the first bridge structure.
- Once barge is clear of first bridge the workboats will travel through and complete the same procedure for the second bridge.
- Confirmation of the completion of the voyage will be communicated to the Port, authorities and marine operators.

The tug operator will complete a full voyage plan as per sample attached.

## **Attachments**

**Bridge transit arrangements**

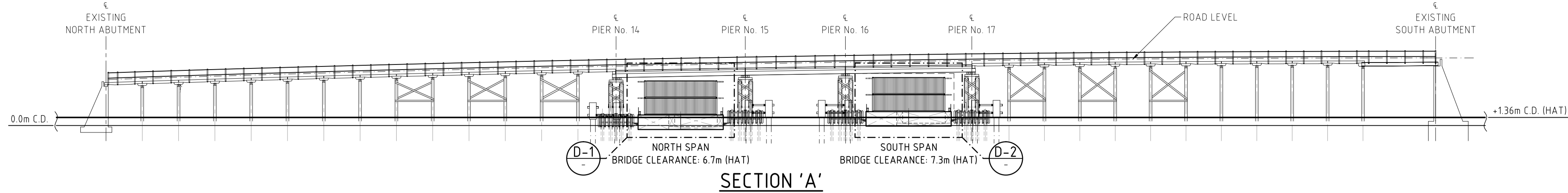
**Sample Voyage plan**

**Total Spirit vessel spec**

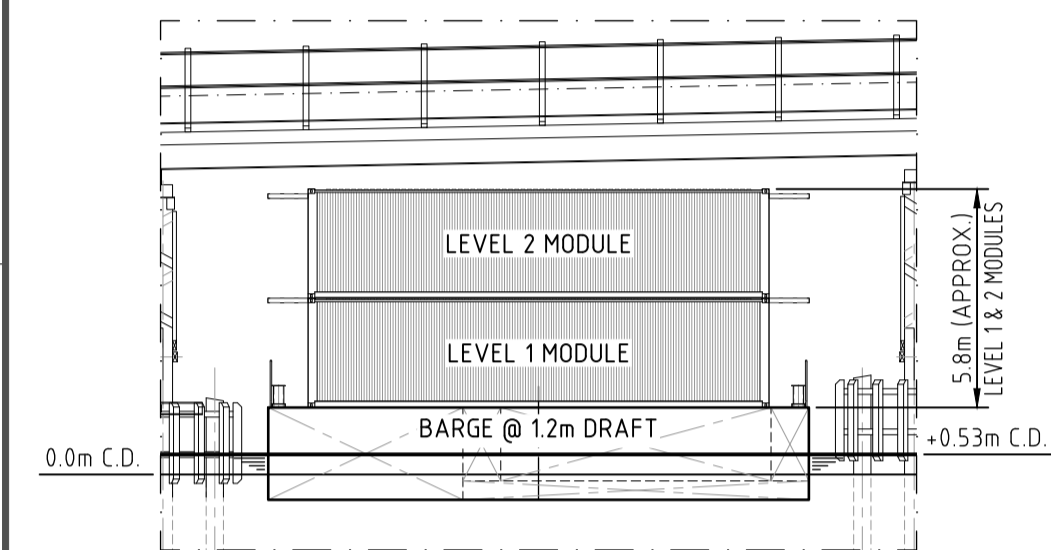


## **Appendix B**

### **Bridge Transit Arrangements**



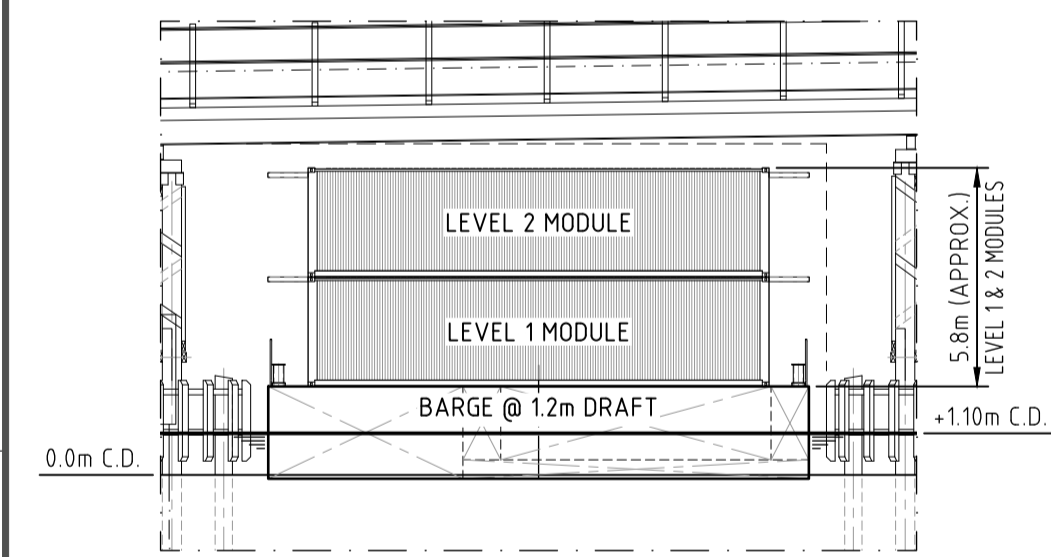
SECTION 'A'



DETAIL '1' - NORTH SPAN

SCALE 1:200

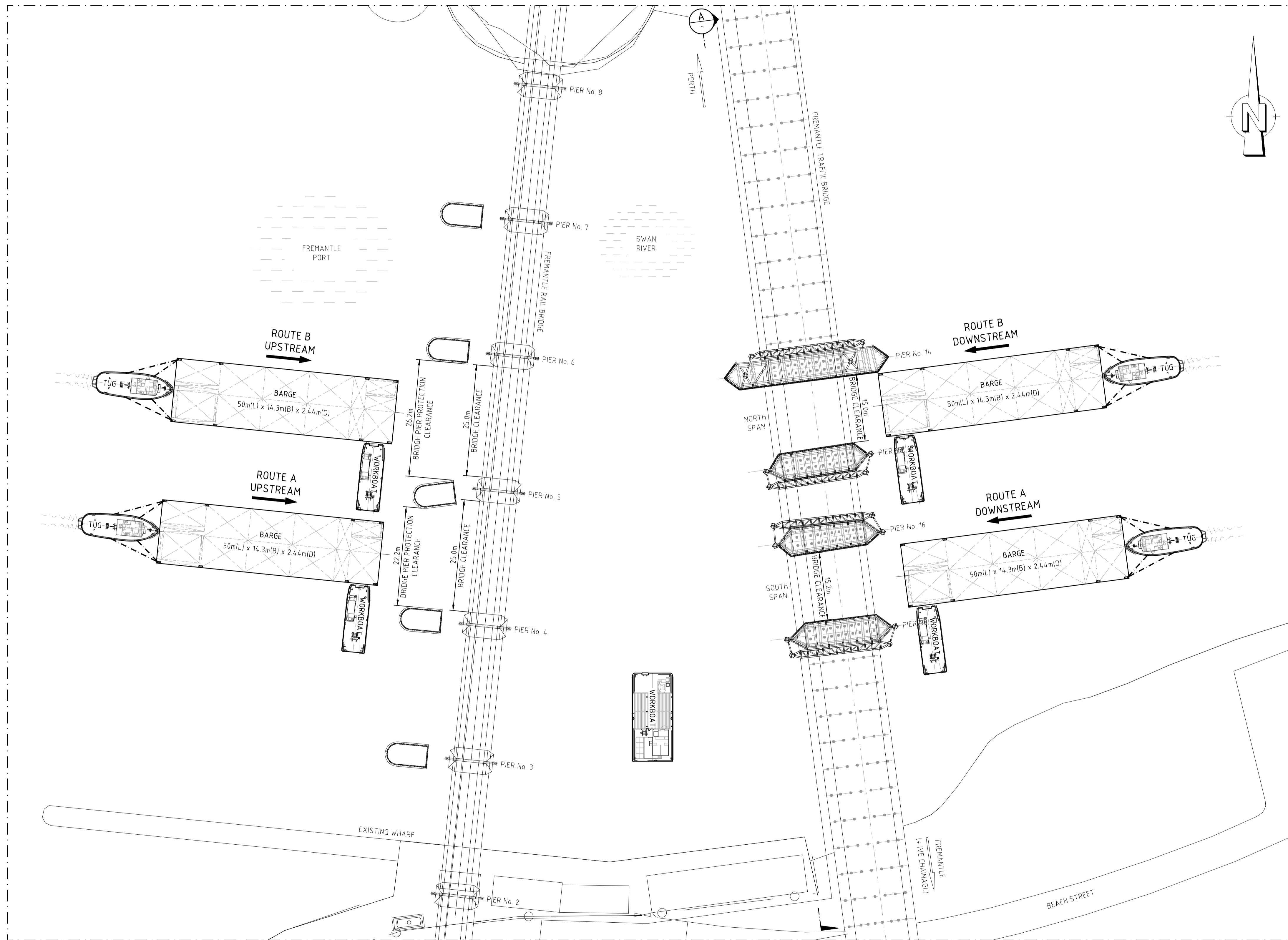
NOTE: BARGE TO TRAVERSE UNDER BRIDGE AT +0.53m C.D. WATER LEVEL OR LESS TO ENSURE MIN. 0.5m CLEARANCE HEIGHT BETWEEN TOP OF MODULES & BRIDGE UNDERSTRUCTURE.



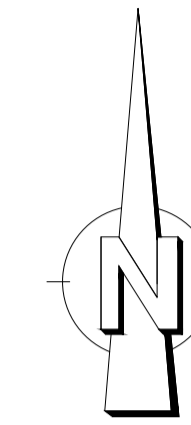
DETAIL '2' - SOUTH SPAN

SCALE 1:200

NOTE: BARGE TO TRAVERSE UNDER BRIDGE AT +1.10m C.D. WATER LEVEL OR LESS TO ENSURE MIN. 0.5m CLEARANCE HEIGHT BETWEEN TOP OF MODULES & BRIDGE UNDERSTRUCTURE.



PLAN VIEW



**PRELIMINARY**  
NOT FOR CONSTRUCTION

DATUMS AND TIDAL DATA	
METRES +2.0	
	+1.36 HAT
	+1.10 MHHW
+1.0	+1.00 MLHW
+0.0 AHD	+0.76 MSL
	+0.53 MHLW
	+0.42 MLLW
	-0.21 LAT
ALL LEVELS CHART DATUM (C.D.)	
AHD = AUSTRALIAN HEIGHT DATUM	
NOTE: DATUMS AND TIDAL DATA EXTRACTED FROM DWG No. 232224-DRG-005 REV. 0	

**NOTES:**  
1 ENVIRONMENTAL RESTRICTIONS (WIND, CURRENT) AND VESSEL SPECIFICATION AND CONFIGURATION TO BE DETERMINED.

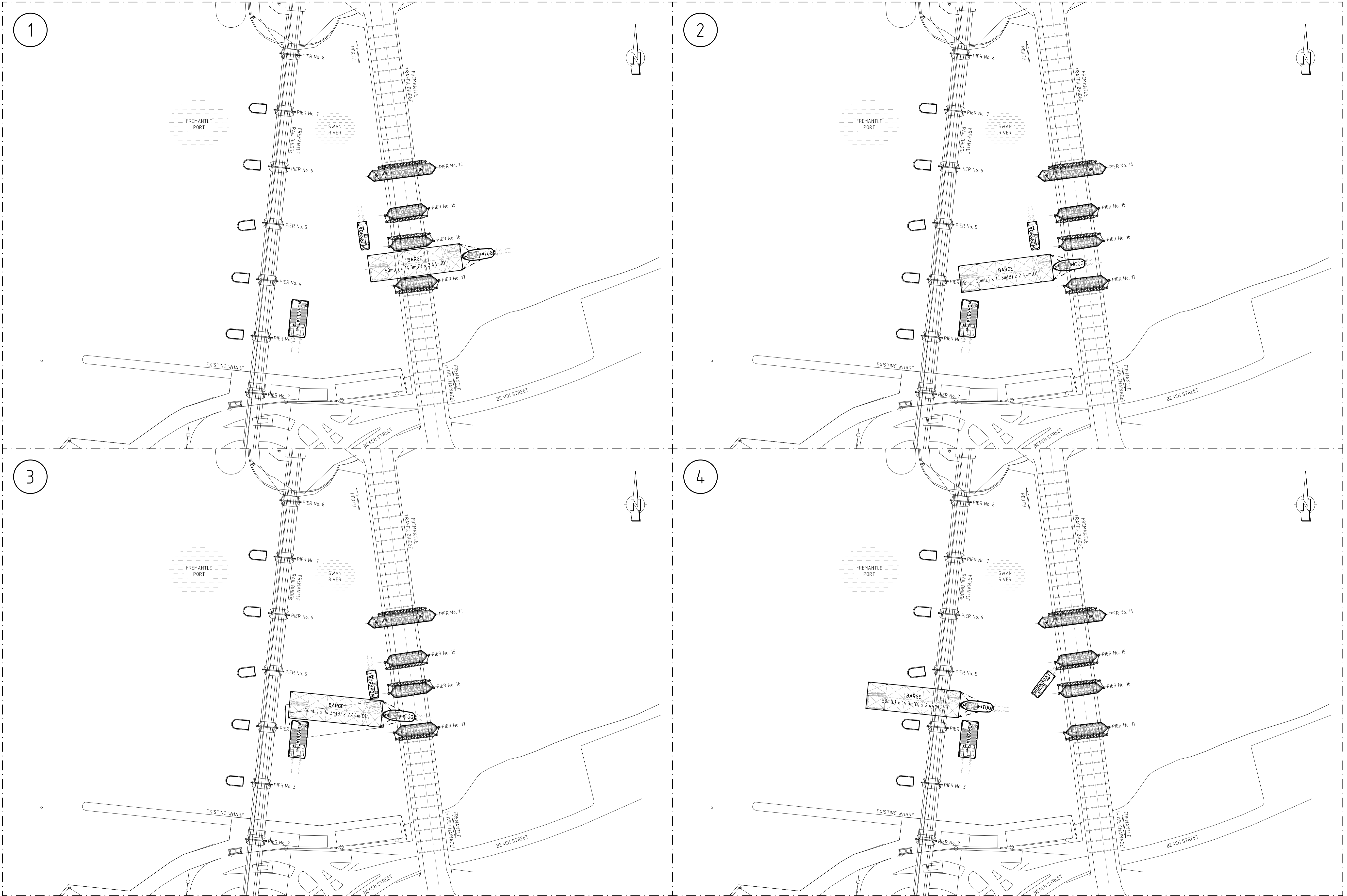
**IMC** International Maritime Consultants Pty. Ltd.  
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ISSUE	DATE	BY	REVISION
B	25/01/17	B.T.	ISSUED FOR INFORMATION - (CLIENT)
A	13/01/17	B.T.	ISSUED FOR INFORMATION - (CLIENT)
CLIENT:	BARGE CO.		
BUILDER:	-		
CLASS:	-		
YARD NO.:	-		
CONTRACT:	-		

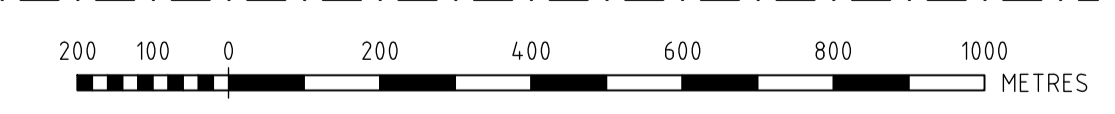
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TITLE: BARGE - BRIDGE TRANSIT ARRANGEMENT					
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B.T.	P.B.	J.M.	1:500, U.N.O.	16-1732-001	B
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PLAN VIEW - ROUTE A - DOWNSTREAM



**PRELIMINARY**  
NOT FOR CONSTRUCTION

NOTES:  
REFER TO SHEET 1.

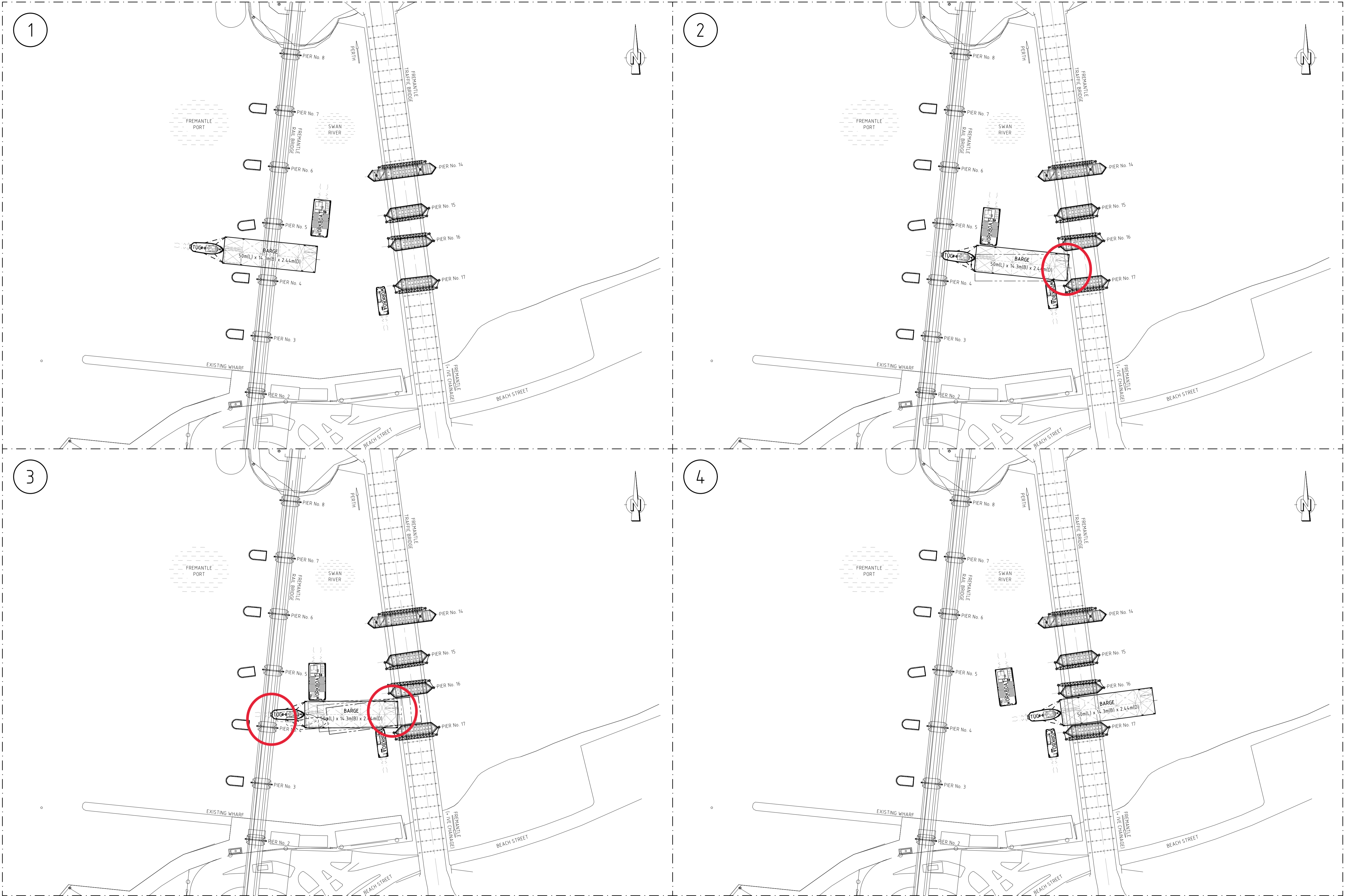
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CLASS:	-		
ISSUE DATE:	25/01/17	B.T.:	ISSUED FOR INFORMATION - (CLIENT)
	13/01/17	B.T.:	ISSUED FOR INFORMATION - (CLIENT)
		REVISION	

PROJECT:		SWAN RIVER EVENTS PONTOON			
TITLE:		BARGE - BRIDGE TRANSIT ARRANGEMENT			
DRAWN:	CHECKED:	APPROVED:	SCALE:	DRAWING NO.:	REV
B.T.	P.B.	J.M.	1:1000	16-1732-001	SHEET 2 OF 5
12/01/17	25/01/17	25/01/17	A1		B





PLAN VIEW - ROUTE A - UPSTREAM

**PRELIMINARY**  
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NOTES:  
REFER TO SHEET 1.



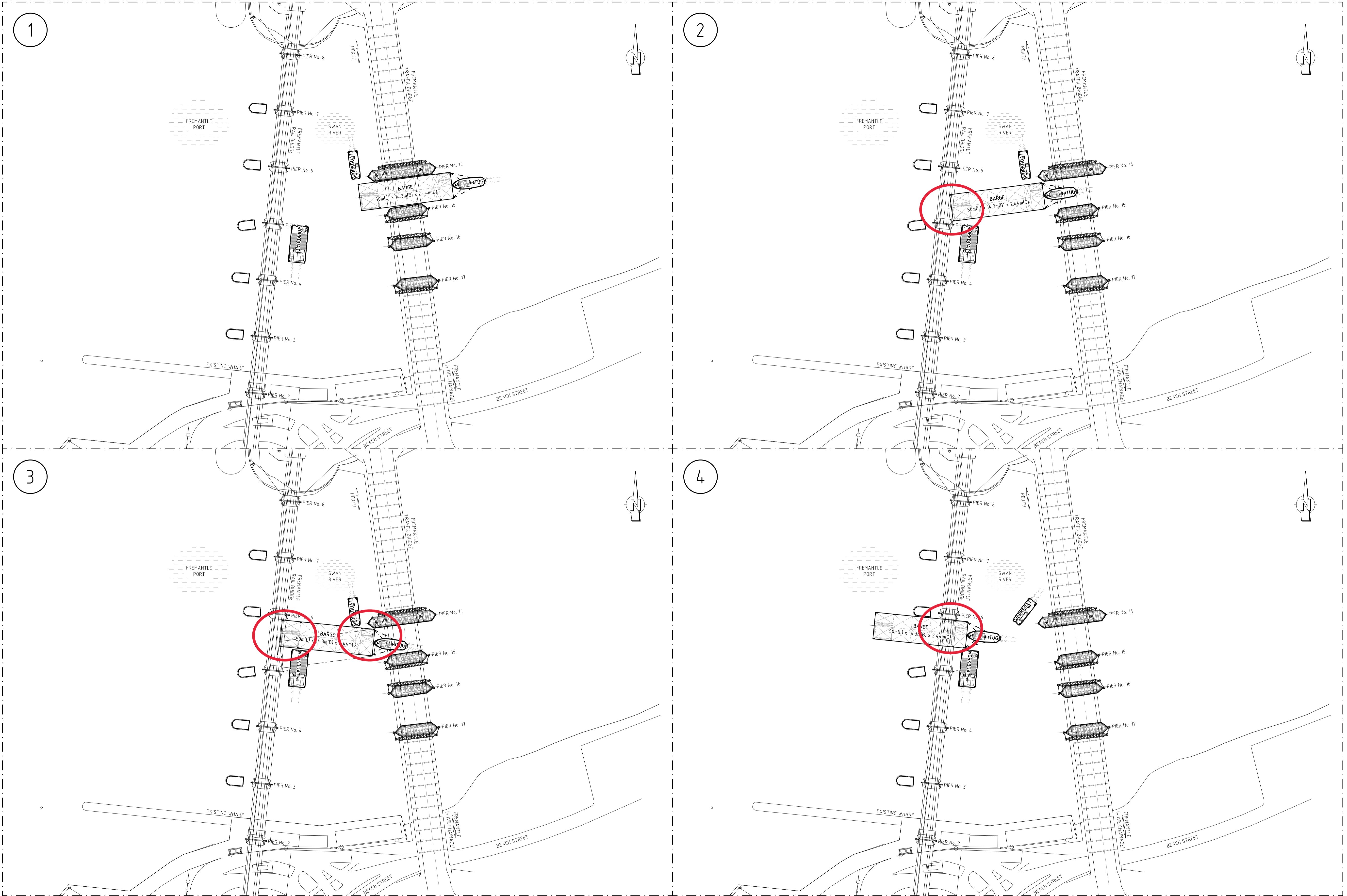
**International Maritime Consultants Pty. Ltd.**  
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CLIENT:	BARGE CO.			
BUILDER:	-			
CLASS:	-			
YARD NO.:	-			
CONTRACT:	-			

PROJECT:					SWAN RIVER EVENTS PONTOON				
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DRAWN:	CHECKED:	APPROVED:	SCALE:	DRAWING NO.:	REV				
B.T.	P.B.	J.M.	1:1000	16-1732-001	3	SHEET 3 OF 5			
12/01/17	25/01/17	25/01/17	A1	16-1732	B				

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PLAN VIEW - ROUTE B - DOWNSTREAM



**PRELIMINARY**  
NOT FOR CONSTRUCTION

NOTES:  
REFER TO SHEET 1.



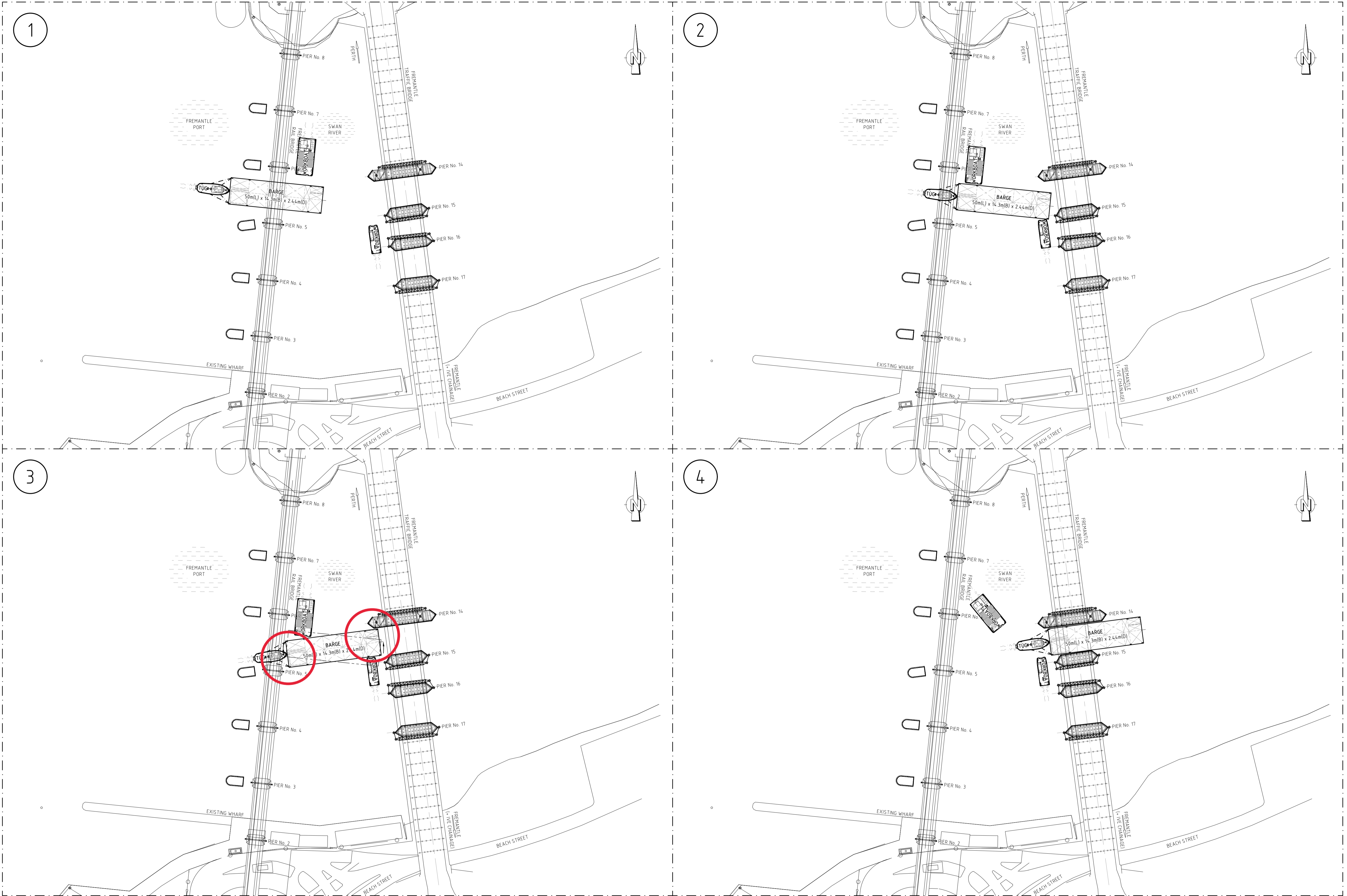
**International Maritime Consultants Pty. Ltd.**  
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	A	DATE:	13/01/17
	B.T.	BY:	B.T.
		REVISION:	ISSUED FOR INFORMATION - (CLIENT)
			ISSUED FOR INFORMATION - (CLIENT)

PROJECT:					<b>SWAN RIVER EVENTS PONTOON</b>	
TITLE:					<b>BARGE - BRIDGE TRANSIT ARRANGEMENT</b>	
DRAWN:	CHECKED:	APPROVED:	SCALE:	DRAWING NO.:	REV	
B.T.	P.B.	J.M.	1:1000			
12/01/17	25/01/17	25/01/17	A1	<b>16-1732-001</b>	<b>SHEET 4 OF 5</b>	
					<b>B</b>	





PLAN VIEW - ROUTE B - UPSTREAM

**PRELIMINARY**  
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12/01/17	25/01/17	25/01/17	A1	SHEET 5 OF 5		

## Appendix C

### MRWA Consequence Rating Descriptions

## APPENDIX 1 - QUALITATIVE MEASURES OF CONSEQUENCE

LEVEL	RANK	HEALTH & SAFETY	FINANCIAL LOSS	REPUTATION & TRUST (STAKEHOLDER & COMMUNITY SATISFACTION)	BUSINESS EFFECTIVENESS CAPABILITY & CAPACITY	ENVIRONMENTAL	ASSET MANAGEMENT & INTERRUPTION OF NETWORK OPERATIONS	LEGAL & COMPLIANCE
1	Insignificant	No medical treatment required	Less than \$100,000.	-Isolated local community or individual's issue-based concerns -Low profile media attention	- Up to 5% Variation in KPI or objective. -Low impact of service disruption and effectiveness of MRWA - Impact can be managed through routine activities	-Local negligible impact. Simple treatment or none. No lasting effect of significance.	-Assets receive minimal damage or are only temporarily unavailable -less than 1 hour	-Legal issues managed by routine procedures -Little to no level of legal prosecution
2	Minor	First aid treatment.	\$100,000 to \$500,000	-Local community impacts & concerns -Occasional once off negative media attention -Trust issues raised	5% to 10% Variation in KPI or objective. -Ability to achieve objectives & deliver outcomes is affected -Efficiency of elements of the organisation is reduced. - Impact requires additional local management effort or redirection of resources to respond	-Local minimal impact. Standard treatment. Minor local short-term residual effect.	-A number of assets unusable but can be replaced within acceptable timeframes  -1 hour to 4 hours	-Complex legal issue to be addressed -Likely level of legal prosecution -Potential public liability claim
3	Moderate	Medical treatment required.	\$500,000 to \$5 million	-Sectional community impacts & concerns publicly expressed -Increased negative media attention -Loss of confidence & trust by community & stakeholders in MRWA processes & capability -MRWA Integrity in question -Relationships compromised (Dispute) - & Ministerial concern	10% to 25% Variation in KPI or objective. -Efficiency of major elements of MRWA is reduced & one or more projects is significantly impaired - Impact requires management and resources from a key area of the organisation to respond	-Local significant impact. Significant treatment / monitoring. Significant medium term residual effect.	-A range of assets, including some significant assets, are unusable for 24 hours  -4 hours to 24 hours	-Serious incident requires investigation and legal representation to determine legal liability  -non-compliance with regulation -high level of legal prosecution
4	Major	Extensive injuries.	\$5 million to \$20 million,	-Considerable & prolonged community impact & dissatisfaction publicly expressed -Consistent negative media attention -Criticism & loss of confidence / trust by community & stakeholders in MRWA processes & capability -Relationships damaged (Third party intervention) - Ministerial intervention.	25% to 50% Variation in KPI or objective. -Continual capability of organisation is threatened -One or more critical programs or projects cannot be delivered - Impact requires long term significant management and organisational resources to respond	-Local and offsite severe impact. Major treatment / monitoring. Major medium term residual effect.	-Non-critical community infrastructure assets are destroyed  -Significant or critical assets are unusable for up to a week  -24 hours to 1 week	-Major breach of regulations -Major litigation and or prosecution -Major public liability claim
5	Catastrophic	Death or severe permanent disablements.	More than \$20 million,	-Significant adverse community impact & condemnation - Extreme negative media attention -Consistent ongoing community loss of confidence & trust in MRWA capabilities and intentions -Relationships breakdown (Legal intervention) -Government intervention	More than 50% Variation in KPI or objective -Majority of critical programs or projects cannot be delivered -Ministerial intervention - Impact cannot be managed within the organisation's existing resources and threatens survival of the organisation - Ministerial intervention	-Widespread severe impact. Major long term treatment / monitoring. Major long term residual effect.	-Significant or critical community infrastructure assets are destroyed  -Significant or critical community infrastructure assets are unusable for multiple weeks  -More than 1 week	-Significant prosecution and fines -Major litigation involving class actions -Major non-compliance with Legislation



## Appendix D

### Qualitative Risk Assessment

**Qualitative Risk Assessment - Rail Bridge - Do Nothing**

Issue - agreed in meeting with MRWA

16/03/2017

PJF

**LIKELIHOOD**

1 – Rare, 2 – Unlikely, 3 – Moderate, 4 – Likely, 5 – Almost Certain

Consequences  
5 – Catastrophic  
4 – Major  
3 – Moderate  
2 – Minor  
1 – Insignificant

	1	2	3	4	5
5	H	H	H	VH	VH
4	M	H	H	H	VH
3	M	M	M	H	H
2	L	L	M	H	H
1	L	L	L	M	M

LEVEL	DESCRIPTOR	FREQUENCY
1	Rare	Less than once in 20 years
2	Unlikely	At least once in 10 years
3	Moderate	At least once in 3 years
4	Likely	At least once per 1 year
5	Almost certain	More than once per year

Risk Rankings	
VH	Very High (Unacceptable)
H	High (Urgent Action)
M	Moderate (Management Controls)
L	Low (Specify Actions & Monitor)

Scenario		Direct Bridge Impact (Upstream transit)	Direct Bridge Impact (Downstream transit)	Bridge Pier Side Impact
RAIL BRIDGE	Likelihood	L = 1	L = 5	L = 5
	Consequence	C = 1	C = 2	C = 2
	Risk	R = L x C L	R = L x C H	R = L x C H
	<b>Cause Commentary</b>	An uncontrolled transit and an impact on the dolphin protection system. Alarm system not activated.  Possible cause: Tug stuck on full power, tug tension line failure, loss of control due to weather parameter changes.	An uncontrolled transit and a impact on the bridge pier. Note any bridge impact activates the alarm system leading to requirement for track assessment.  Possible cause: Tug stuck on full power, tug tension line failure, loss of control due to weather parameter changes.	A side impact to the bridge piers. Note any bridge impact may activate the alarm system leading to requirement for track assessment.  Possible cause: Limited clearance and alignments.
	<b>Consequence &amp; Likelihood Commentary</b>	Likelihood The bridge spans are large and the approach unrestricted therefore unlikely.  Consequence Unlikely to ever collapse with impact and dolphins reduce risk further (as dolphin designed to protect rail bridge piers from a direct impact in this direction).	Likelihood Navigation under traffic bridge affects approach to rail bridge and planned transit path is close to pier structure. Therefore likelihood is high.  Consequence Unlikely to ever collapse with impact even though no additional protection to bridge from this direction (no dolphins). When the alarm system is activated an engineer inspection is required taking 1-2hours. This closes the bridge for this period of time.	Likelihood - design shows only 19cm clearance to bridge pier elements during the planned transit. Therefore contact almost certain. No support vessel to resist.  Consequence Unlikely to ever collapse with impact even though no additional protection to bridge from this direction (no dolphins). When the alarm system is activated an engineer inspection is required taking 1-2hours. This closes the bridge for this period of time.

**Qualitative Risk Assessment - Traffic Bridge - Do Nothing**

Issue - agreed in meeting with MRWA

16/03/2017

PJF

Consequences  
 5 – Catastrophic  
 4 – Major  
 3 – Moderate  
 2 – Minor  
 1 – Insignificant

**LIKELIHOOD**

1 – Rare, 2 – Unlikely, 3 – Moderate, 4 – Likely, 5 – Almost Certain

	1	2	3	4	5
5	H	H	H	VH	VH
4	M	H	H	H	VH
3	M	M	M	H	H
2	L	L	M	H	H
1	L	L	L	M	M

LEVEL	DESCRIPTOR	FREQUENCY
1	Rare	Less than once in 20 years
2	Unlikely	At least once in 10 years
3	Moderate	At least once in 3 years
4	Likely	At least once per 1 year
5	Almost certain	More than once per year

Risk Rankings	
VH	Very High (Unacceptable)
H	High (Urgent Action)
M	Moderate (Management Controls)
L	Low (Specify Actions & Monitor)

Scenario		Direct Bridge Pier Impact		Direct Bridge Span/Soffit Impact		Repeated Bridge Scuff/Clip Impact		Waterway Blockage Greater than two Hours (Vessel stuck between or underneath)		Waterway Blockage Less than two Hours (Vessel stuck between or underneath)	
TRAFFIC BRIDGE	Likelihood	L = 2		L = 2		L = 5		L = 2		L = 5	
	Consequence	C = 5		C = 5		C = 3		C = 3		C = 2	
	Risk	R = L x C	H	R = L x C	H	R = L x C	H	R = L x C	M	R = L x C	H
	<b>Commentary</b>	An uncontrolled transit and an impact that causes movement bigger than the movement tolerance of the fender system.  Possible cause: Tug stuck on full power, tug tension line failure, loss of control due to weather parameter changes.		A transit completed outwit the prescribed tide parameters causing an impact that causes bridge movement.  Possible cause: Tide level changes during transit.		Transit movement is predicated on sliding/kissing / nudging the bridge given clearances  Possible cause: Limited clearance and alignments.		Blockage defined as any change that means the movement cannot be completed as planned. Barge becoming stuck between bridges is also included given layout and dimensions of bridges and barge.  Possible Cause: Changing conditions occur within the period of the movement, physical constraints give a challenging movement.		Blockage defined as any change that means the movement cannot be completed as planned. Barge becoming stuck between bridges is also included given layout and dimensions of bridges and barge.  Possible Cause: Changing conditions occur within the period of the movement, physical constraints give a challenging movement.	
	<b>Consequence &amp; Likelihood Commentary</b>	Likelihood: Similar events have occurred in Perth. Barge movements assumed to be 1-3 per week.  Consequence: Serviceability bridge failure as opposed collapse most likely. Potential for serious injury and death and utility failure - gas, oil, water, electricity. Bridge closure of greater than 1 week likely.		Likelihood: Intent is to provide 0.5m clearance at all times. This is to be maintained.  Consequence: The bridge is a simply supported steel beam bridge. A large water main is located on upstream side c.0.5m. Bridge closure required for a minimum 1 week. This will also close the waterway.		Likelihood: Likely on each transit given dimensions of barge and clearances.  Consequence: Fenders not designed for repeated contact from vessels and are designed for accidental impact only. Increased maintenance reviews and works required as a consequence.		Likelihood: Clearance issues between bridge and tug identified in design of movement. Therefore clipping is likely. This may lead to unplanned movements. The vessel has limited power / speed / control available to assist manoeuvrability.  Consequence: Waterway blockage (partial) causing severe disruption to waterway. Potential bridge closure More than 2 hours		Likelihood: Clearance issues between bridge and tug identified in design of movement. Therefore clipping is likely. This may lead to unplanned movements. The vessel has limited power / speed / control available to assist manoeuvrability. Likelihood of incident leading to a short blockage is greater than the likelihood of a long blockage.  Consequence: Waterway blockage (partial) causing severe disruption to waterway. Potential bridge closure	