**Table**

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<th>Date</th>
<th>Prepared by</th>
<th>Revision or issue description</th>
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Purpose of this Report

This document provides a copy of the presentation provided to members of the Two Rocks Marina Reference Group on May 2, 2018 in Two Rocks.

It should be noted that the presentation formed part of a larger discussion at the Reference Group meeting, not all of which is captured in the presentation document.

Agenda

The Two Rocks Marina Reference Group meeting considered the following agenda items:

- Terms of Reference & Minutes, Feedback from Meeting No.1
- Modern Day Boat Harbours - Recap
- Existing Marina Redevelopment
- Q&A
- Marina Expansion
- Q&A
- Evaluation & Agenda Setting for Meeting No.3
- Close

Presentation

The Two Rocks Marina Reference Group Meeting No. 2 presentation is attached to this document at Appendix A.
Appendix A

Two Rocks Marina Reference Group Meeting No. 2 presentation.
Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

Two Rocks Marina
Reference Group Meeting #2

Order of Proceedings

- Terms of Reference & Minutes, Feedback from Meeting #1
- Modern Day Boat Harbours - Recap
- Existing Marina Redevelopment
- Q&A
- Marina Expansion
- Q&A
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- Close

Timing and Materials

- Technical opportunities and constraints including report and studies done
- Reclamation/proposed development concepts
- Linkages to Town Centre
- Future expansion opportunities
- Coastal engineering
- Dredging
- Funding

Terms of Reference and Minutes

- Terms of Reference Confirmed
- Minutes – minor changes as inserted
Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

Feedback from Reference Group No.1

➢ Through:
  ➢ Reference Group
  ➢ Feedback subsequent to Reference Group from member networks
  ➢ Direct email to project email address
  ➢ Transport WA Facebook page post (59 comments, 17 shares)
  ➢ Two Rocks Marina Development Community Forum Facebook Page (50 members, 41 comments)
  ➢ Attorney General John Quigley Facebook post (2 comments)
  ➢ Yanchep Sun City Yacht Club (2 likes – recent post about repairs has 7 comments)

➢ Total approximate inputs - 120

Feedback from Reference Group No.1

➢ Main themes:
  ➢ Queries about reclamation
  ➢ Commercial/tourism development
  ➢ Maintaining maritime industry
  ➢ Recreational use
  ➢ Boating Infrastructure
  ➢ Community Infrastructure
  ➢ Transport, parking and access
  ➢ Environmental/coastal
  ➢ Marina repair/keeping
  ➢ Funding
  ➢ Aesthetic
  ➢ Governance

Feedback from Reference Group No.1

➢ Main Opportunities:
  ➢ Commercial/Tourism and Marine Industry Use - Redevelopment of harbour to include more commercial, recreational, tourism spaces, with an opportunity to position it as a regional hub. Extends to an opportunity for a growth in the local economy. (High)
  ➢ Marine Industry - Support for local commercial fishing and boating industries by including processing facilities and space for seafood markets. Supports existing boat lifters and maintenance workers and provide further employment opportunities. (High)
  ➢ Boating Infrastructure - Inclusion of more boat ramps, with the current becoming crowded. (High)

Feedback from Reference Group No.1

➢ Main Opportunities:
  ➢ Boating Infrastructure - Include wash down area and cleaning facilities as in other marinas. (High)
  ➢ Recreational Use - Swimming Beach, variously identified both within and outside the marina. Restoration discussed for northern beach. Opening of the northern breakwater to the public. (High)
  ➢ Community Infrastructure - Increase public open space. (Medium)
  ➢ Recreational Use - Use of the northern groyne for various community uses. (Low)
Main Issues/Challenges:

- **Reclamation**: Concerns that it will impact space for recreation (sailing, kayaking, SUPing) and general aesthetics of the area, and not sure if it will negatively impact future growth (High).
- **Environmental Issues**: Erosion and seaweed accretion issues, as well as other environmental issues caused by the marina. (High)
- **Community Infrastructure**: Current lack of public facilities are having adverse effects. Needs greater provision of toilets and rubbish bins. (High)
- **Governance**: There is a need for future planning (medium-long term, master plan) in order to avoid wasting the funds available. (Medium)
- **Funding and lack thereof**: Seen as a threat – delivery not certain even if plan is good (Medium)
- **Repair and Upkeep**: Top priority, especially breakwater (Medium)

Aesthetics:

- **Combining commercial, fishing, boating, tourism and community uses in a small area to satisfy everyone’s needs.** The current commercial could be damaging to other industries. (Medium)
- **Integration of industrial uses with other expanded uses, such as commercial and tourism**: (Medium)
- **Aesthetics/Community Infrastructure**: Needs to be welcoming and safe. Currently there are public safety issues regarding insufficient pedestrian access and perceived danger on the north and south seawalls. (Low)
- **Transport, parking and access**: Areas for improvement; car parks seen as inefficiently organised, with excessive use of median strips and islands. Pedestrian access is seen as non-existent and dangerous (Low)

What type of Harbour?:

- **Public** (High)
- **Private** (Low)

Suggestions:

- Recreational boat pen holder representation on Reference Group (user group)
- Developer of adjacent landholding representation on Reference Group (linkages)

Hear more about:

- Reclamation and funding allocation
- Erosion mitigation, seaweed management
- Dredging
- Public access
- Funding
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Modern Boat Harbours - Recap

Types of Boat Harbours (Marinas)
- Public (Hillarys BH, Fremantle FBH, Augusta BH)
- Public & Private (Mandurah Ocean Marina, Port Coogee)
- Private / Leasehold (Fremantle Sailing Club, Mindarie Marina, Port Geographe, Two Rocks prior to 2014)

Preferred outcome from Reference Group meeting #1 was a Public Boat Harbour
Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

**Breakwaters**

**Safe Navigation**

**Boat Pens**

**Pen Holder Amenities**

**Boat Launching Facility, Roads & Car Parking**

**Service Wharf & Hardstand**
Marina Expansion

Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

Marine Servicing & Boat Storage

Boat Storage

Boat Yard

Marine Commercial

Receival Depots

Fuel Facility Fremantle FBH

Example Under Ground Fuel Tank Installation Port Coogee

What popular boat harbours provide?
What we need to consider (marina planning):
- Coastal impacts (erosion, accretion, wrack)
- Water depths (dredging)
- Safe navigation (on approach to harbour)
- Wave climate (in harbour)
- Geotechnical (rock & ground conditions)
- Available land & water for development
- Land uses (marine commercial & servicing, retail, tourism, marine related community groups)
- Water & land tenure
- Staging options

What we need to consider - cont:
- Facility demand & forecasting (launching ramps, boat pens, fishing & commercial, parking, land)
- Town Planning (integration with existing structure plans & adjoining residents)
- Heritage (Indigenous & European)
- Environmental (marine & terrestrial)
- Land topography
- Existing lessees (commercial businesses, pen holders)
- Existing assets (condition & service life)
- Services demand & forecasting
- Traffic & transport

Studies & Investigations Undertaken or Underway

Asset Inspections & Priority Maintenance Planning
Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

Seabed Subbottom Profiler Survey (Basement Rock)

Dredging & Rock Removal

Acoustic Wave & Current Monitoring

Swell & Wave Penetration Study

| Location | L (m) | H (m) | Depth (m) | SW & WP
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Objective ID: A10280223
Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

Wave Climate at Entrance (movie)

Environmental

Beach Monitoring - South Camera

Beach Monitoring - North Camera

Environmental & Coastal Studies
Other studies & investigations undertaken:
- Breakwater assessment, investigations & preliminary design
- Traffic & transport analysis

Possible additional studies & investigations required (but not limited to):
- Geotechnical – Bed Rock Removal Investigation
- Demand Assessments (services, boat pens, commercial & fishing needs & opportunities, parking, land)
- Rock & Sand Supply Options
- Land Tenure
- Seishing Investigation
- Wrack Management – Options Analysis
- Development Staging

Possible additional studies & investigations required (but not limited to) cont:
- Water Quality / Flushing for Beach
- Benthic Habitat Mapping
- Flora & Fauna Study
- Drainage Management Plan
- Design Guidelines for Built Form
Marina Redevelopment

Overview of existing marina
- 5.6ha land & 11.4ha water
- 118 operational boat pens
- Boat lifter facility & marine servicing (lease)
- Yacht club & sea rescue group (leases)
- Lobster receivals (lease)
- Fuel facility (lease)
- Boat launching facility

Redevelopment Commercial Precinct Concept A

Redevelopment Commercial Precinct Concept B

Reclamation Areas Comparison
Presented at the Two Rocks Marina Reference Group meeting No. 2 dated May 2, 2018

Indicative Section Through Town Centre

Sharni Howe Architects
• Integrated Marina & Town Centre Study

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Questions & Answers – Group Discussion
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Marina Expansion

- Opportunities & Constraints
- Water Depths
- Conceptual Opportunities
- Indicative Cross Section

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Evaluation & Agenda Setting for Meeting #3

Thank You!