



bowen collinsville enterprise inc.

Bowen Boat Harbour

Infrastructure Planning 2020

MRP Consulting Services Pty Ltd. 30/10/2020.

Preface

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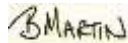
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SECTION 1. Disclaimer

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SECTION 2. Executive summary

This document identifies opportunities for the Bowen Collinsville Enterprise Incorporated (BCE) to develop the enterprise corridor that is Bowen Boat Harbour. It also provides the landscape in which these opportunities reside.

There are many opportunities identified and they are presented in two sections. Firstly, opportunities are provided aimed at revitalising the Bowen Boat Harbour. Secondly, a series of opportunities are provided aimed at the growth of Bowen Boat Harbour.

A number of conceptual arrangements regarding the opportunities as well as a master plan concept are provided.

Through this document, it will become clear how the opportunities could be met and how the timing is perfect for key stakeholders to come together in realising this potential.

The following recommendations provide avenue for work to be done to progress the standing and utility of the Bowen Boat Harbour. The major recommendations in summary are:

- 1. Engage with the respective authorities in the planning processes;**
- 2. Establish a detailed master plan for the Bowen boat harbour; and**
- 3. Conduct additional supporting works.**

SECTION 3. Background

This document was commissioned by the Bowen Collinsville Enterprise Incorporated (BCE)¹. The Author² is Bruce Martin: Principal independent consultant of MRP Consulting Services Pty Ltd (MRP).

The BCE is an incorporated organisation of industry representatives focused on delivering long term economic benefits to the residents of the Bowen and Collinsville communities.

The scope of this document is to provide recommendations for the BCE to develop the enterprise corridor and realise opportunities for Bowen Boat Harbour within Port Denison, North Queensland.

The Bowen Boat Harbour is well positioned to service industry, tourism and the local community. Perceptions currently vary on the presentation and the strategic direction of the harbour.

Now, a new series of opportunities have been presented which may lead to a significant positive uplift for the Bowen Boat Harbour enterprise corridor and in turn the wider Bowen community.

This document identifies the opportunities and the landscape in which they reside. A series of concepts are provided to aid in visualising how the opportunity may take shape. Finally, a pathway forward to these opportunities is discussed.

The key stakeholders considered in this document are:

- Bowen Collinsville Enterprise (BCE);
- Whitsunday Regional Council (WRC);
- Maritime Safety Queensland (MSQ);
- Federal and State Ministers and representatives;
- Department of Transport and Main Roads (TMR);
- North Queensland Bulk Ports Corporation (NQBP);
- Bowen Chamber of Commerce; and
- Bowen Boat Harbour lessees.

¹ The Bowen Collinsville Enterprise has a large sample of the Bowen and Collinsville regions industry representatives as member. There are currently 23 Board members (<https://bce.org.au/board-members-bce-inc/> 30/7/2020)

² A biography of Bruce Martin is available in Appendix 1.

SECTION 4. Bowen boat harbour: Current status

The Bowen Boat Harbour underwent major improvement work in late 2019, with the construction of two rock walls at the entrance to the harbour by TMR. This capital project was essential repair work as a consequence of the damage caused by severe tropical cyclone Debbie in April 2017.

Significant damage was sustained at the marina berths inside the harbour, and following studies commissioned by TMR and BCE, the decision was made to construct these additional rock walls to the entrance of the harbour.



Figure 1 - Bowen Boat Harbour: A recent view with new rock walls (2019)³

The harbour provides marine access to Port Denison including both public and private boat ramps.

The harbour has a channel depth of 2.5 metres and includes:

1. A public boat ramp with car and trailer parking;
2. The yacht club;
3. A slipway and marina;
4. Seafood industry;
5. Volunteer Marine Rescue (VMR); and
6. Vacant spoil land.

4.1. The local opinion

Bowen Boat Harbour was described in the 2013 Bowen Boat Harbour Concept Plan Report as “... an economically viable working harbour. It is a safe, vibrant and attractive destination for the local community

³ Image courtesy of NQBP

and tourists. The harbour showcases local produce and provides efficient marine and recreation access to the public and industry”⁴. Anecdotal feedback since has found the perception of the local community may no longer support this statement.

Several concerns have been raised by harbour lessees and the general public which require consideration:

1. The wave action within the harbour is considered not safe;
2. Condemned mooring piles are not being repaired or replaced;
3. There is a lack of certainty on leaseholders’ ability to secure lease extensions which is stifling investment;
4. The condition and presentation of the harbour (clean and green) considered poor;
5. There is little focus on a Bowen Boat Harbour marketing strategy;
6. There are low levels of integration and continuity between the Henry Darwen Park and the Bowen Boat Harbour.

The Bowen Boat Harbour is only a short walk from the Bowen CBD yet remains separated when there should, and could be, integration. The differences between the condition of the esplanade and the condition of the harbour are obvious. The following figures (Figure 2 and Figure 3) provide a clearly visible difference in presentation.



Figure 2 - Henry Darwen Park



Figure 3 - The Bowen esplanade and jetty

⁴ Bowen Harbour Concept Plan Report. October 2013. Department of Transport and Main Roads

SECTION 5. Revitalisation opportunities

The following opportunities provide simple and cost-effective avenues to revitalise the Bowen Boat Harbour which would help to bring the presentation and usability of the precinct to a comparable level of the surrounds.

1. Complete Henry Darwen Park

Whitsunday Regional Council and TMR should be encouraged to review and complete planned works on Henry Darwen Park to a level comparable with the esplanade in front of Santa Barbara Parade.

These works could be completed in stages or as one development. The estimated upgrade cost to complete this upgrade is \$574,436.50 (a detailed breakdown of this cost is provided in the SECTION 18).

The following figure (Figure 4) provides a general arrangement of the proposed footpath. The figure is provided by Whitsunday Regional Council.



Figure 4 - Proposed Bowen Boat Harbour Footpath

2. Complete Starboard Drive parkway

Currently the Bowen Boat Harbour precinct gives the appearance of being disconnected from the Bowen CBD. Bikeways and pathways could be extended to connect the Santa Barbara Parade pathways with the new Eastern Breakwater to provide an immediate connection. The addition of street lighting, park benches and picnic shelter(s) would help to significantly improve the connectedness of the two precincts. Further improvements could include tree and shrub planting.

These works could be completed in stages or as one development. It is estimated that this upgrade could be achieved for less than \$500,000.

3. Complete Henry Darwen Drive – curb, channelling and parking

Curbing, channelling and pathways should be extended the length of Henry Darwen Drive and provision made for angle street parking for customers of the various retail outlets in this area of the Bowen Boat Harbour.

This work could be completed in stages or as one development. It is estimated that this upgrade could be completed for an indicative cost of \$760,000.

4. Make safe the wave action within the harbour

The wave action within the harbour remains an issue for harbour users and as such BCE have proactively sought a remedy to the wave action issue. It has been reported⁵ that the current wave action within the harbour may be non-compliant with the relevant codes.

A Bowen harbour stakeholder has manually recorded observations of wave and wind action at the Bowen Boat Harbour and provided those observations to Baird Engineering for consideration. Baird responded and have indicated, based upon the observations, that *“the wave energy is being confined within the channel as the tide falls, rather than refracting out of the channel and dissipating in the shallower water east and west of the navigation channel between the two entrances”*⁶.

These observations and comments suggest that widening the channel may help with the wave action in the harbour. Based on this information, BCE have obtained a quote to undertake the following works, among others:

- Removal of 3625m³ of dredge materials from the Western Channel using 35t Excavator; and
- Removal of 2875m³ of dredge materials from the Eastern Channel using 35t Excavator.

The total proposed dredge amount is 6500m³. The budget costs for this work is in the order of \$120,000. The following figure (Figure 5) shows the potential dredge removal sites as provided to BCE.

⁵ Bowen Boat Harbour – Review of Boat Harbour Entrance Protection Options – Draft. 12 September 2018.

⁶ Page 2 of 6, Bowen Observations. Project Number: P13053.200

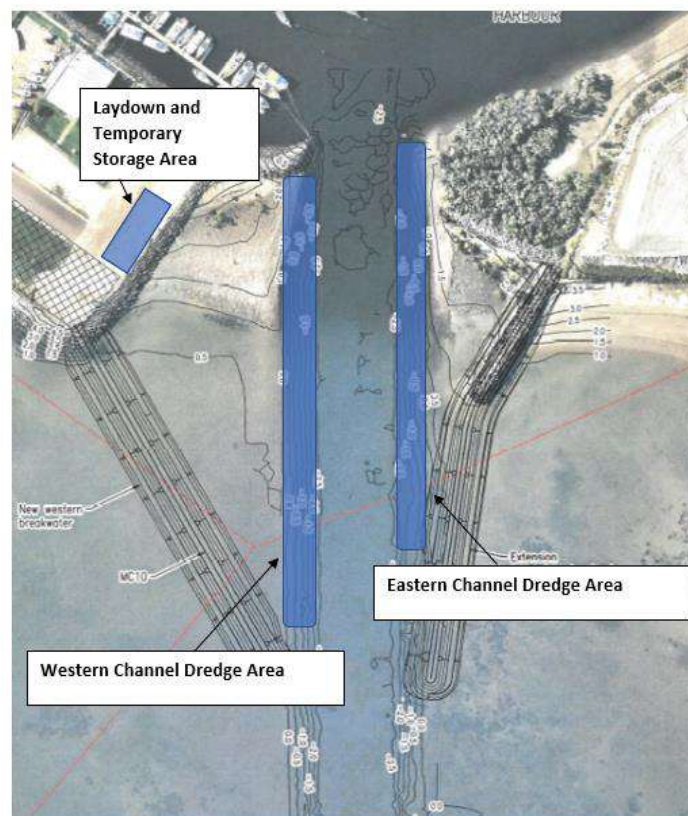


Figure 5 - Proposed remedy to wave action

BCE should collaborate with the Regional Harbour Master (MSQ) and TMR to quantify the situation beyond doubt and to identify actions that may be required.

5. Rationalise harbour moorings

Within the harbour there are 125 pile moorings and 70 wet berths⁷. At the time of writing this document it was estimated that less than 60 were operational (~48% of the 125). From Figure 6 it can be seen that there are approximately 118 piles remaining in situ and on the day of this picture (2019) there were approximately 42 boats moored (occupancy 33%).



⁷ Agenda of Council's Ordinary Meeting. Whitsunday Regional Council. 12/10/2016.

Figure 6 - Pile moorings⁸

The pile mooring arrangements should be assessed to establish the remaining life of each mooring. This information can be used to assess strategies to manage: the eventual loss of all existing pile moorings (assuming the current strategy); and the transition to a replacement or alternative mooring system.

While the current long-term strategy for the pile moorings within the Bowen Boat Harbour is not readily available, it is estimated the replacement cost for 125 pile moorings is \$1M. The Regional Harbour Master was approached; however no response has been received as yet.

SECTION 6. Growth opportunities

Firstly, it should be recognised that any growth in the Bowen Boat Harbour beyond its current 'small boat' status requires a deepening of the entrance channel which will involve capital dredging. Capital dredging is the removal and relocation of natural, previously undisturbed seabed to increase water depth for channels, swing basins and berth pockets. As such, the approval process for capital dredging is much more rigorous than for maintenance dredging.

As recently as 2018 the Whitsunday Regional Council announced a vision for the Bowen Boat Harbour. The plan included a Marine Centre of Excellence and a Super Yacht Service Facility. This vision provided substantial development in the northern pond area as well as landside development on council owned land to the west of Henry Darwen Drive.

The 2018 proposal to develop the harbour hinged on attracting larger vessels to the precinct and with that, attract supporting industries. While the proposal was well received it did not progress.

Now, in 2020, a number of opportunities have emerged which provides possibility to further develop the Bowen Boat Harbour. The following figure (Figure 7) shows the conceptual layout of the Whitsunday Marine Centre of Excellence (courtesy of WRC).

Note that the concept shown in the following figure does not consider tug mooring locations in the harbour. A master plan concept that includes tug mooring locations, among others, is provided in SECTION 7.

⁸ Image courtesy of NQBP.



Figure 7 - Whitsunday Marine Centre of Excellence

Proposed Features of the Whitsunday Marine Centre of Excellence

- Up to 20,000sqm concrete hardstand area
- Slipways, 1,200T ship lift catering to vessels 60m-80m, 400T and 250T travel lifts
- Boat storage, workshops and large Superyacht workshops
- Marine Industry and trade units, offices and administration
- Superyacht and boat moorings, Car parks
- Potential for further education facility, accommodation and expansion.

The following table (Table 1) provides indicative projects costs associated with the 2018 Whitsunday Marine Centre of Excellence project.

Indicative Whitsunday Marine Centre of Excellence Costings (2018)		
	Estimate 1 (3 rd Party)	Estimate 2 (3 rd Party)
Design and Preliminaries	\$4.8m	\$6.6m
Demo, Dredging, Revetments, Utilities and Breakwater	\$10	\$10.1
WMCE Site Civil works	\$6.2	\$8
Nav Aids	\$0.4	\$0.2
Hardstand and Pavements	\$10.1m	\$8.8m
Building Structures	\$78.6m	\$19m

Boat Lifts and travel lift structures	\$31m	\$78.6m
Marine structures	\$2m	\$2m
Contractor Overheads		\$20m
Total	\$143m	\$153m

Table 1 - Whitsunday Marine Centre of Excellence project cost structure

6.1. The governing landscape and key stakeholders

The Bowen Boat Harbour is owned by the State Department of Transport and Main Roads (TMR) with management by Maritime Safety Queensland (MSQ).

The nearby Bowen Jetty is owned and operated by North Queensland Bulk Ports Corporation (NQBP). NQBP is a Government Owned Corporation (GOC). The Queensland Government owns all shares in NQBP⁹, which are held by two shareholding ministers: The Treasurer, Minister for Infrastructure and Planning and the Minister for Transport and Main Roads.

Added to this, NQBP is the port authority for the Port of Abbot Point and is the governing authority for the towage license. The Port of Abbot Point is located approximately 25 kilometres north of Port Denison and Bowen. The Abbot Point Port Limits stretch from Abbot Point to Port Denison and Cape Gloucester in the south (Refer to SECTION 19 for a map of the port limits). The Bowen Boat Harbour sits just outside the Port Limits (refer Figure 5 below).

Meanwhile, the responsibility for port planning currently resides with the Queensland Government and is also managed by TMR through the *Sustainable Port Development Act 2015*. The Queensland Government also provide *Priority Ports Master Planning Guideline (2019)*. This guideline provides the Government's objectives and principles in port planning for the priority ports.

6.2. The situation leading to an opportunity

Point 1: Bowen Boat Harbour is not presently part of a priority port. The Port of Abbot Point is a priority port

⁹ <https://nqbp.com.au/about-us/governance>



Figure 8 - Proximity of priority port envelope to Bowen Boat Harbour

The Queensland Government's commitments under the Reef 2050 Long-Term Sustainability Plan have seen restrictions on capital dredging to the four priority ports, prohibiting the sea-based placement of dredge material from port related development, and mandating the beneficial re-use of port related capital dredge material¹⁰.

Point 2: Capital dredging is possible within the designated priority port master plan area

The previously mentioned Ports Act enables the Minister to make guidelines about matters that may be considered in preparing or reviewing a master plan, including identifying the master planned area¹¹.

Therefore, the master plan must:

1. Identify the master planned area (including the establishment of a boundary)
2. Apply to the whole master planned area
3. State the strategic vision, objectives, and desired outcomes for the master planned area
4. Identify state interests affected or likely to be affected by existing uses at the port and future development in, or associated with the port
5. Include an environmental management framework.

Point 3: The Minister has authority to shape the boundary of the master planning area in relation to a priority port

¹⁰ Page 4, Draft priority ports master planning guideline (2019) Queensland Government.

¹¹ Page 3, Draft priority ports master planning guideline (2019) Queensland Government.

Development of the Abbot Point Master Plan will be led by TMR in close collaboration with port authorities (NQBP) and other key stakeholders. A notice of proposal must be issued to the relevant port authority and each local government, when the local government area includes the port, to advise the commencement of the master planning process. This notice gives the port authority and local government adequate time to prepare for the master planning process.

The Master Planning notice for the Port of Abbot Point has not been issued. It is expected to be issued in the near future.

Point 4: The master planning process has not started and the notice to commence is likely to be issued in the immediate future

The Ports Act includes provisions to ensure public consultation is undertaken during port master planning. In addition to these statutory requirements, further consultation and engagement with stakeholders may be undertaken as required during the process of preparing port master plans and associated draft port overlays. The Queensland Government must work with port authorities, local governments, other key stakeholders and the general community¹².

Point 5: The Department of Transport and Main Roads must consult and engage with port authorities, local governments, other key stakeholders and the general community

At this point a connection will be made between Bowen Boat Harbour and the Master Planning process for the priority Port of Abbot Point will be made. As part of the opportunities presented in this document, capital dredging will be required. To attain approvals for capital dredging, the dredging must be within a priority port. This means that there may be a need to include part of the Bowen Boat Harbour in the Abbot Point master planning area to enable progression.

Point 6: The mechanism for planning the port is due to start soon and the door is open to enable contribution

In terms of advocating for the realisation of the growth opportunities for Bowen Boat Harbour, the above outline a logical order to progress.

6.3. The pivotal opportunity

Adjacent to the Bowen Boat Harbour, within Port Denison, is the Bowen Jetty. The Bowen Jetty is the current primary mooring location for the tugboats that service North Queensland Export Terminal (NQET).

The Bowen Jetty is considered to be nearing the end of its commercial life in its current condition and a new primary mooring location may be required for the tugboats.

The Port of Abbot Point contains the North Queensland Export Terminal and a Material Offtake Facility (MOF) and is otherwise an open water port. Therefore, this location would require significant investment to make it a suitable primary mooring location for the tugboats.

If the tugboats are relocated outside of Port Denison, there is a real chance that the Bowen community will lose not only the towage provider work force but any related supporting business, including fuel, maintenance and accommodation requirements.

The Port of Abbot Point is in naturally deep water and with the adjacent Abbot Point State Development Area is collectively considered to have significant potential for trade growth.

There is a range of options and potentials for alternate locations of the land based supporting infrastructure for towage service for the Port of Abbot Point ranging from a renewed Bowen Jetty to an offshore facility closer to the Port. The Bowen Boat Harbour presents as a credible option for a base for

¹² Page 18, Draft priority ports master planning guideline (2019) Queensland Government.

tugboats, and a stepping stone to further growth potential as envisaged under the WRC vision for a Marine Centre of Excellence.



Figure 9 - Bowen Boat Harbour entrance with Jetty in the background

6.3.1. What the opportunity might look like

Until a position is reached by NQBP in respect of the future of the Bowen Jetty, and its continued use as a home for tugboats, it is difficult to define and scale the ultimate opportunity. There is however, an opportunity to work with key stakeholder such as TMR, and the towage services industry to advocate for development in the Bowen Boat Harbour with its obvious opportunities and relatively easy solutions.

With the assistance of Whitsunday Regional Council, NQBP the Towage Service Industry a ready-made solution could be advocated by BCE for the Bowen community.

In considering this opportunity, several concept plans have been created and included in this report. These sketches work to visualise a low-cost solution to allowing larger vessels, including tugboats, access to the Bowen Boat Harbour. The concepts consider mooring requirements for larger vessels coupled with a dredging footprint and indicative infrastructure costs. Dredging remains one of the most significant impediments to progression of any opportunity.

Nine concepts were contemplated. Four of the favoured concepts are first with the remaining concepts provided in Section 10 – 15. These concepts have the following assumptions and basis:

1. Tug envelope considered:
 - a. Tug length over all is 33 metres;
 - b. Tug beam is 13 metres; and
 - c. Tug draft is 5.8 metres.
2. Dredge cost is modelled at \$50/m³.
3. Dredged depth is minus 7 metres.
4. Vessel locations include 10 metre buffer on all hard perimeters. This may be reduced subject to vessel handling and operational safety assessments.
5. Dredge envelopes have been identified in Figure 15 – Notional dredging envelopes.
6. Infrastructure costs provided are indicative only.
7. Owners cost, project costs and financing are not considered.
8. All dollar figures are in today's Australian dollars.
9. Sketches are drawn to scale.

A summary table of the concepts in provided in Section 6.3.7.

6.3.2. Concept 1: West Breakwater + Two finger jetties

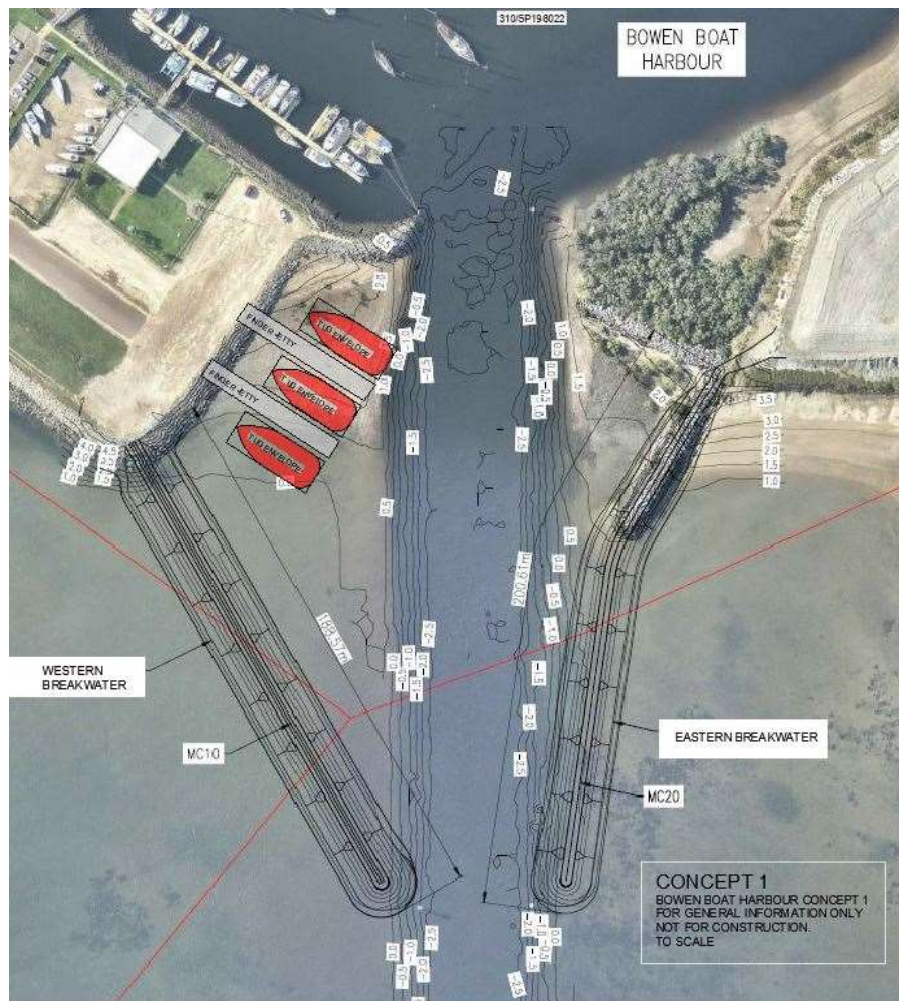


Figure 10 - Concept 1

Concept 1 provides mooring locations for three tugs: The tug mooring locations are depicted by the red tug envelopes in Figure 10).

This concept provides tugs moored against two separate finger jetties. The jetties are attached to the eastern end of Starboard Drive and are located to the norther side of the western breakwater.

6.3.3. Concept 4: West Breakwater + one finger jetty + 2 hard stand wharves

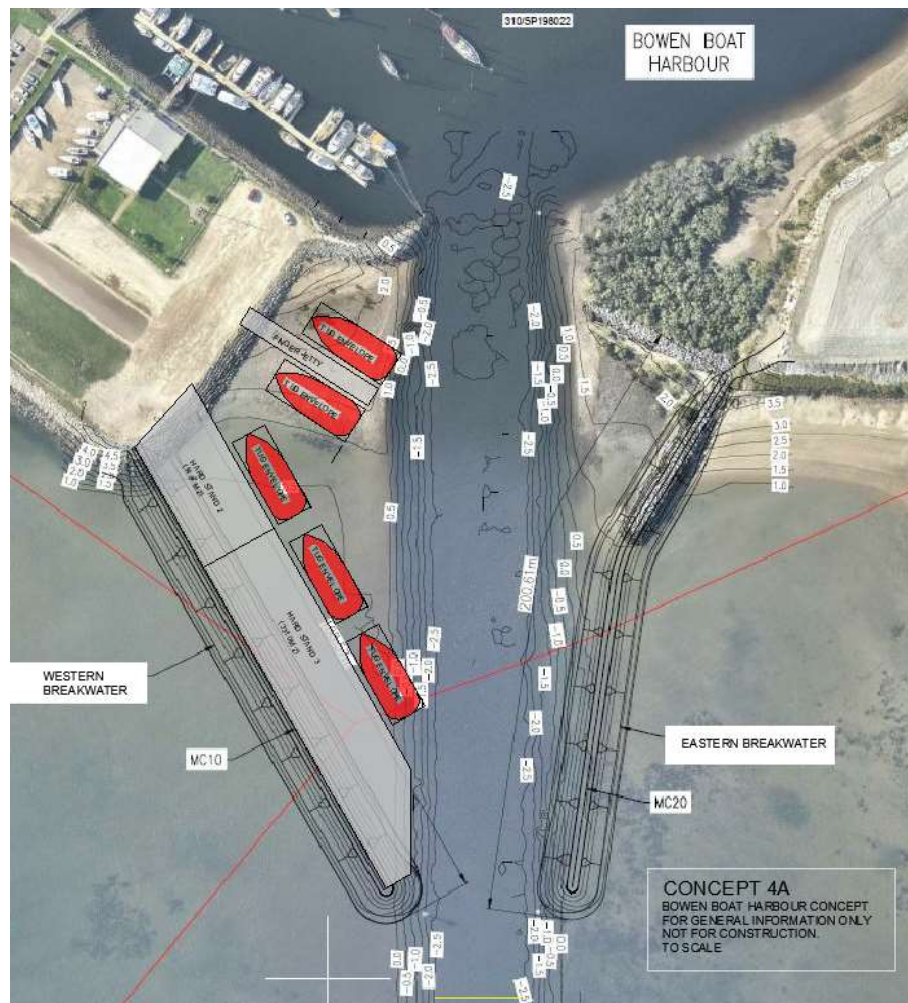


Figure 11 - Concept 4

Concept four provides multiple mooring configurations. The above figure shows an arrangement catering for five tugs. Another arrangement is provided in the following figure (Figure 12 - Concept 4B) that shows three tug locations and a Cape class naval patrol boat.

The tug mooring locations are depicted by the red tug envelopes in Figure 11 - Concept 4. Two tugs are moored against a finger jetty attached to the eastern end of Starboard Drive with another three tugs moored against a new wharf constructed against the existing western breakwater.

The wharf in this concept is approximately 154m in length and has a total area of approximately 4797m² (1487m²+ 3310m²). The wharf may enable maintenance and provision tasks related to the towage service. It also provides a deep water keyline for mooring other vessels such as naval and tourist vessels.

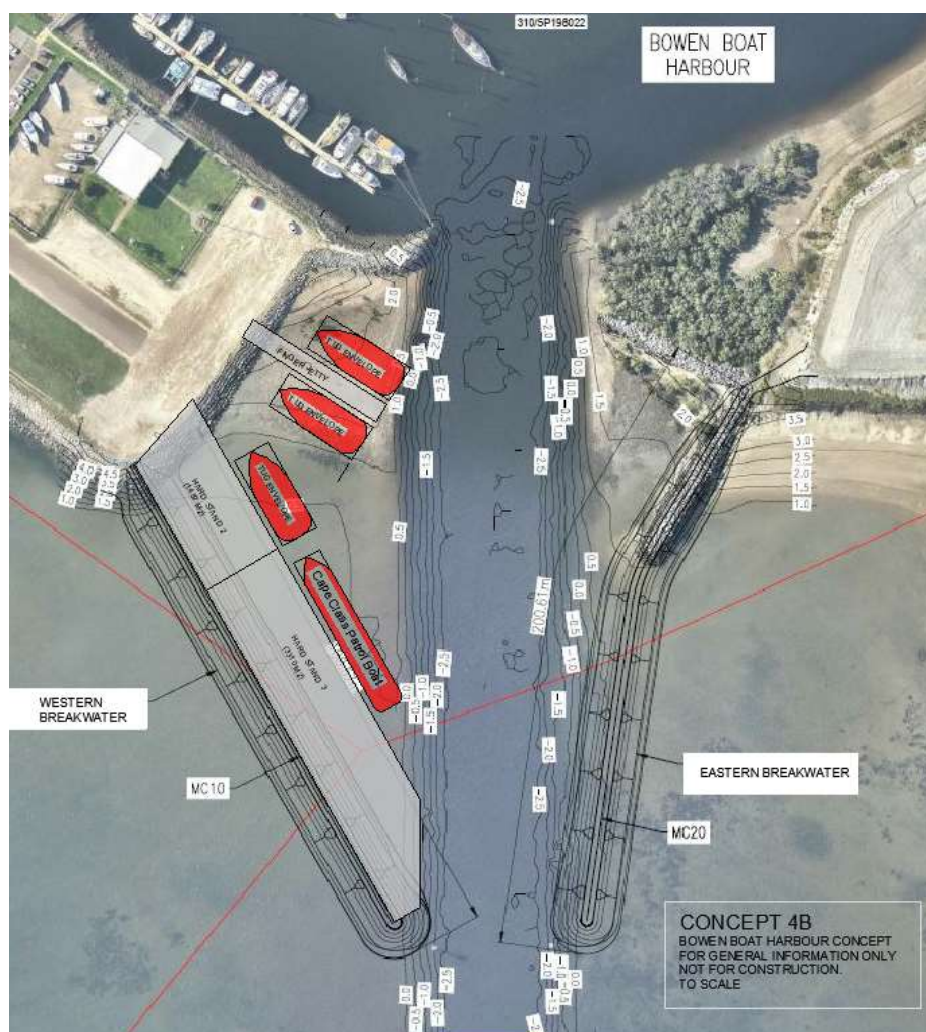


Figure 12 - Concept 4B

6.3.4. Concept 8: North-North East corner



Figure 13 - Concept 8

Concept 8 provides a mooring location toward the north – north east corner of the harbour. The above figure shows an arrangement catering for three tugs. The tug mooring locations are depicted by the red tug envelopes

6.3.5. Concept 9: East Breakwater + one hard stand wharf

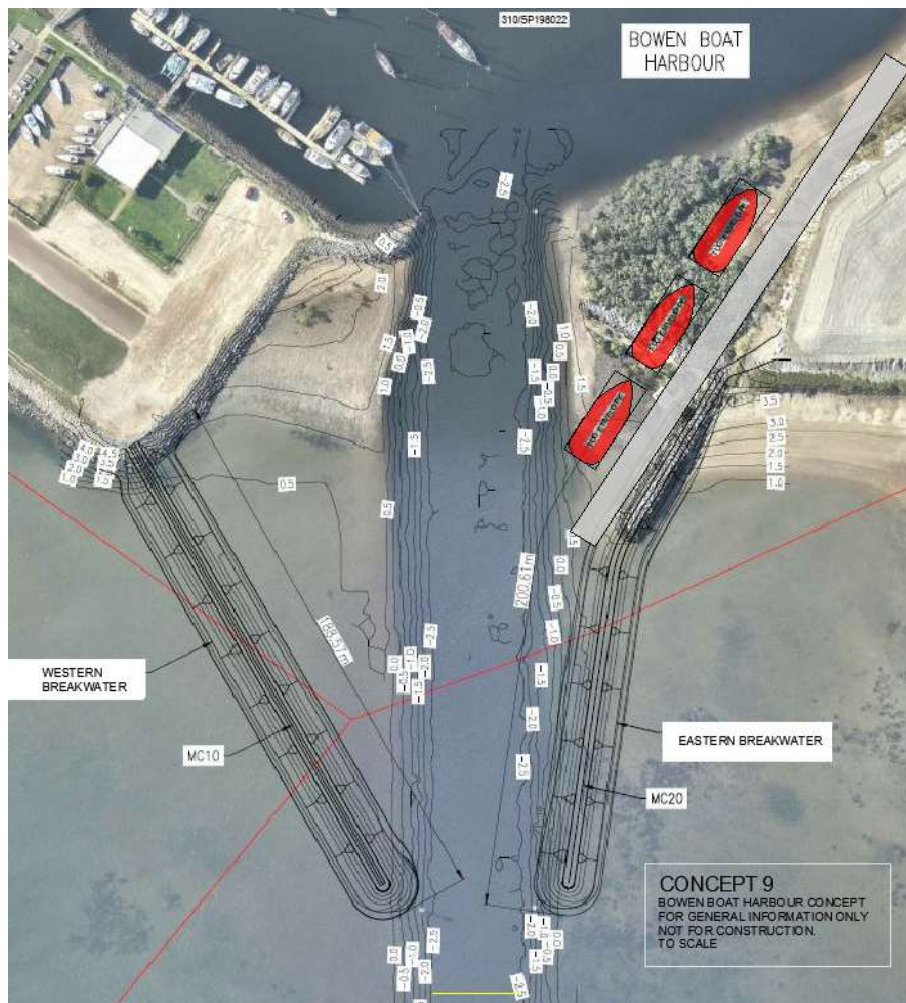


Figure 14 - Concept 9

Concept 9 provides mooring locations for three tugs and an adjacent hardstand wharf located on the Eastern breakwater. The tug mooring locations are depicted by the red tug envelopes in Figure 14.

The wharf in this concept is approximately 200 metres in length and has a total area of approximately 2000m². The wharf may enable maintenance and provision tasks related to the towage service. It also provides a deep water keyline for mooring other vessels such as naval and tourist vessels.

Concept 9 is also a favourable concept because it literally opens the entrance to the harbour and could create an additional 300 metre wharf keyline. This concept (labelled Concept 9B) is provided in Section 15

6.3.6. Dredge envelopes (Notional)

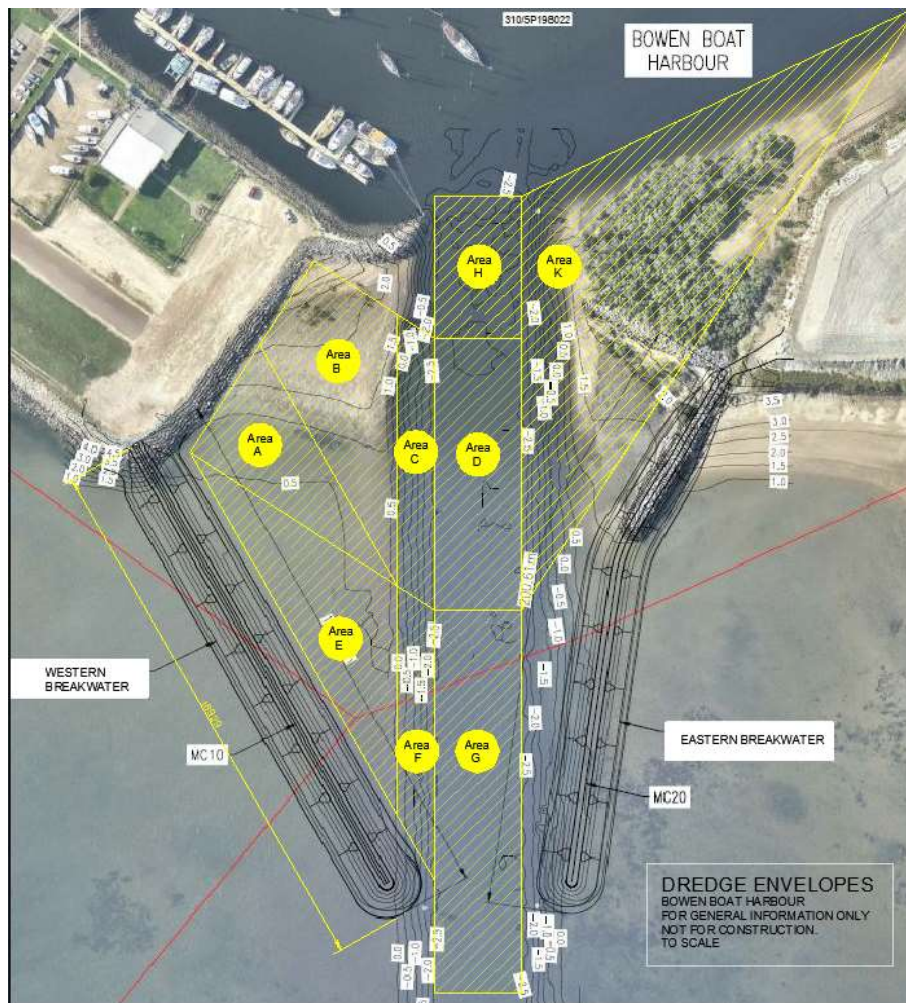


Figure 15 – Notional dredging envelopes

To calculate the dredge volumes provided in the concepts, the notional dredging envelopes, as depicted by the yellow envelopes in Figure 15, are considered.

6.3.7. Summary table of Indicative concept costs

Concept Number	Description	Indicative Dredge cost	Indicative infrastructure cost	Indicative concept cost
1	West Breakwater + two finger jetties + 1 hard stand	\$8.33M	\$4.80M	\$13.13M
4	West Breakwater + one finger jetty + 2 hard stands	\$9.47M	\$16.02M	\$25.49M
8	North-North East corner	\$10.84M	\$22.66M	\$33.50M
9	East Breakwater + 1 hard stand wharf	\$9.18M	\$22.66M	\$31.84M

Table 2 - Indicative concept costs

6.4. The benefits of the pivotal opportunity

Relocating the towage services to Bowen Boat Harbour also provides avenue for additional services and utility at the harbour which are currently not provided.

Additional services and utility may include, but are not limited to:

1. Bunker provisioning (fuel, water and supplies);
2. Heavy vessel slipway and maintenance facility;
3. Cargo transfer services (Material Offtake Facility (MOF), Roll on-roll off (RORO) and Cranage);
4. Large vessels mooring and marina (Naval, cruisers and fishing vessels);
5. Industrial wash down facilities and waste disposal and treatment; and
6. Increasing access to skills and training opportunities and employment for the above services (among others).

6.4.1. Legacy issues

In addition to this, the deepening of the channel and widening the approach to the marinas may also provide avenue to remedying legacy issues such as:

1. Harbour design matters. It has been reported¹³ that the current wave action within the harbour may be non-compliant with the relevant codes and may need review;
2. Review of existing asset strategies (such as pile moorings). There appears to be uncertainty on asset maintenance strategies regarding pile moorings;
3. Provide avenue to review lease holdings and strategic direction of lease holdings

6.4.2. Further value for the Bowen Community

The indicative current value of Abbot Point towage service is estimated to be in the order of \$36M per year. This is based upon vessel handling charges of \$50,000 per vessel movement¹⁴ for 360 vessels per year. Of this and estimated \$4.1M in wages enters the community each year.

Should the utilisation levels of Abbot Point increase to capacity then the value of Abbot Point towage service is estimated to be in the order of \$72M per annum. Of this an estimated \$8M in wages would be expected to enter the community.

6.5. A way forward

A number of objectives are outlined below, providing a clear way forward from here:

6.5.1. Objective 1

The first objective is to advocate industry and key stakeholders to locating the towage service in Bowen Boat Harbour is their preferred outcome.

A suggested method for this would be for BCE to lobby the Ministers and representatives to require stakeholders to work together to consider the development of the Bowen Boat Harbour.

¹³ Bowen Boat Harbour – Review of Boat Harbour Entrance Protection Options – Draft. 12 September 2018.

¹⁴ <https://www.marinelink.com/news/australia-charges-changes372971>

6.5.2. Objective 2

The second objective is to engage with TMR in the priority port master planning process for the Port of Abbot Point. This would be with the intent of including the Bowen Boat Harbour channel and towage related areas as part of the priority port area. Without this classification, the required capital dredging will not be possible.

6.5.3. Objective 3

The third objective is to establish a framework for discussion and progression of the opportunities that are, or may be, outside the priority port area. A working group could be developed with the relevant stakeholders to enable interaction with set objectives and expectations.

This group could consider a Memorandum of Understanding (MOU) with clear principles and expectations for clarity of purpose. These principles and expectations are critical as opportunities progress. The parties to the MOU's must understand their respective organisations position on decision making particularly in relation to contributions and investment. The suggested members of the Bowen Boat Harbour Working Group may include a representative of:

1. Maritime Safety Queensland;
2. The Department of Transport and Main Roads (TMR);
3. North Queensland Bulk Ports;
4. Whitsunday Regional Council;
5. Bowen Chamber of Commerce;
6. Bowen Collinsville Enterprise; and
7. Independent Chairperson.

6.5.4. Objective 4

The outcome from the working group could be to establish a Bowen Boat Harbour Master Plan: incorporating the tug relocation requirements among other elements. The Bowen Boat Harbour Master Plan should be transparent to relevant stakeholders and managed by nominated stakeholders as provided in the MOU and should consider:

1. Landside improvement and growth plan:
 - a. Marine Centre of Excellence;
 - b. Walkways and cycle paths linking foreshore and Henry Darwen park and back roads;
 - c. Curb and channelling;
 - d. Dedicated angle parking;
 - e. Limit vehicular access;
 - f. Picnic tables and cooking facilities;
 - g. Solar street lighting; and
 - h. Additional fish cleaning tables;
2. Marine improvement and growth plan:
 - a. Relocation of the NQET towage service at Bowen Boat Harbour;
 - b. Super Yacht Service Facility;
 - c. Channel depth strategy and management;
 - d. Towage support base;
 - e. Light and heavy maintenance;
 - f. Pile moorings strategy;
 - g. Investigate supporting amenities required to support visiting yachts; and
 - h. Salvage facilities;

3. Bowen Boat Harbour marketing plan:
 - a. Whitsunday Regional Council & Bowen Tourism strategy;
 - b. Safe harbour;
 - c. Harbour fees; and
 - d. Services and capability statement.
4. Dedicated harbour workforce/resources.
5. Asset management strategies;
6. Lease strategies;
7. Simplification and beautification strategy;
8. Addressing legacy issues; and
9. Market sounding for growth;

Some of the critical responsibilities to be considered by the working group should be:

1. Who creates the plan;
2. Who has ownership of the plan upon completion;
3. Who implements the agreed plan; and
4. How is funding attained?

6.5.5. Objective 5

Complete economic and engineering studies to create documents to assist and guide processes associated with recommendations 1 through 4. This may include:

- Conducting an economic study on the benefits of the Bowen Boat Harbour conceptual master plan;
- Conducting preliminary engineering works on all the planning requirements including dredging and approvals, amongst others.

This is aimed at providing active feed into the lobbying process and the priority port planning process. TMR and NQBP will be conducting studies as part of their internal processes which may not be available publicly; therefore BCE should conduct their own work in support, or to challenge, and to avoid presenting empty handed to meetings and workshops.

SECTION 7. A Bowen harbour master plan: concept 2020

In considering the opportunities and the way forward provided in this paper, the author has assembled a conceptual Bowen harbour master plan to provide a vision of the potential that is the Bowen harbour.

A larger electronic version (A3 paper size) is also provided with this report.



Figure 16 - Bowen harbour master plan: Concept 2020

SECTION 8. Conclusion

Bowen Boat Harbour is well positioned at the northern end of the Whitsunday Island group as well as being just south of the key State Development Area and existing operations at the Port of Abbot Point. However, local stakeholder perceptions are the Bowen Boat Harbour lacks integration with the central business district and lacks stewardship.

The opportunity to develop Bowen Boat Harbour as a base for tugboats and other large vessels may not been front of mind for key stakeholders, decision makers and investors. In order to achieve the outlined objectives within this report (Section 6.5), the following recommendations are made to enhance the future of Bowen Boat Harbour:

- 1. Engage with the respective authorities in the planning processes;**
- 2. Establish a detailed master plan for the Bowen boat harbour; and**
- 3. Conduct additional supporting works.**

Presently there is no active Bowen Boat Harbour Master Plan and no vision. A master plan would provide the framework for agreement and progression of the development of the harbour in a staged approach.

In saying this, the growth opportunities rely on the ability to undertake capital dredging, which will require engaging with the relevant authorities. The opportunity to develop supporting infrastructure for towage operations in the Bowen Boat Harbour appears to be an attractive option and would prove the single biggest, industry funded, uplift in utility the Bowen Boat Harbour would see in generations.

It is important to note that a master plan for the Bowen Boat Harbour may require a different process to the priority port planning process applied for other priority ports.

For the opportunities presented in this document to be realised, success hinges around stakeholders working together within good governance frameworks to establish plans and forward momentum for the Bowen Boat Harbour. The progression towards achieving the objectives should reside within a framework of known roles and responsibility. A working group should be developed with the relevant stakeholders to enable interaction with set objectives and expectations.

SECTION 9. Bruce Martin CURRICULUM VITAE

Name: Mr. Bruce Martin

Name of Firm: MRP Consulting Services Pty Ltd

Position in Firm: Principal Independent Consultant & Director

Qualifications: Trade, Mech. Eng. (Hon), EMBA (NC), GC Law

Summary:

Bruce is a dedicated and enthusiastic professional who has over 30 years' experience in the sugar, coal and iron ore export industries. He has niche experience that connects operations, infrastructure and commercials. Bruce has held numerous executive, operations and technical roles and his holistic understanding of supply chains has seen him engaged with clients such as infrastructure providers, service providers and government agencies. Bruce has been engaged as an expert on numerous occasions.

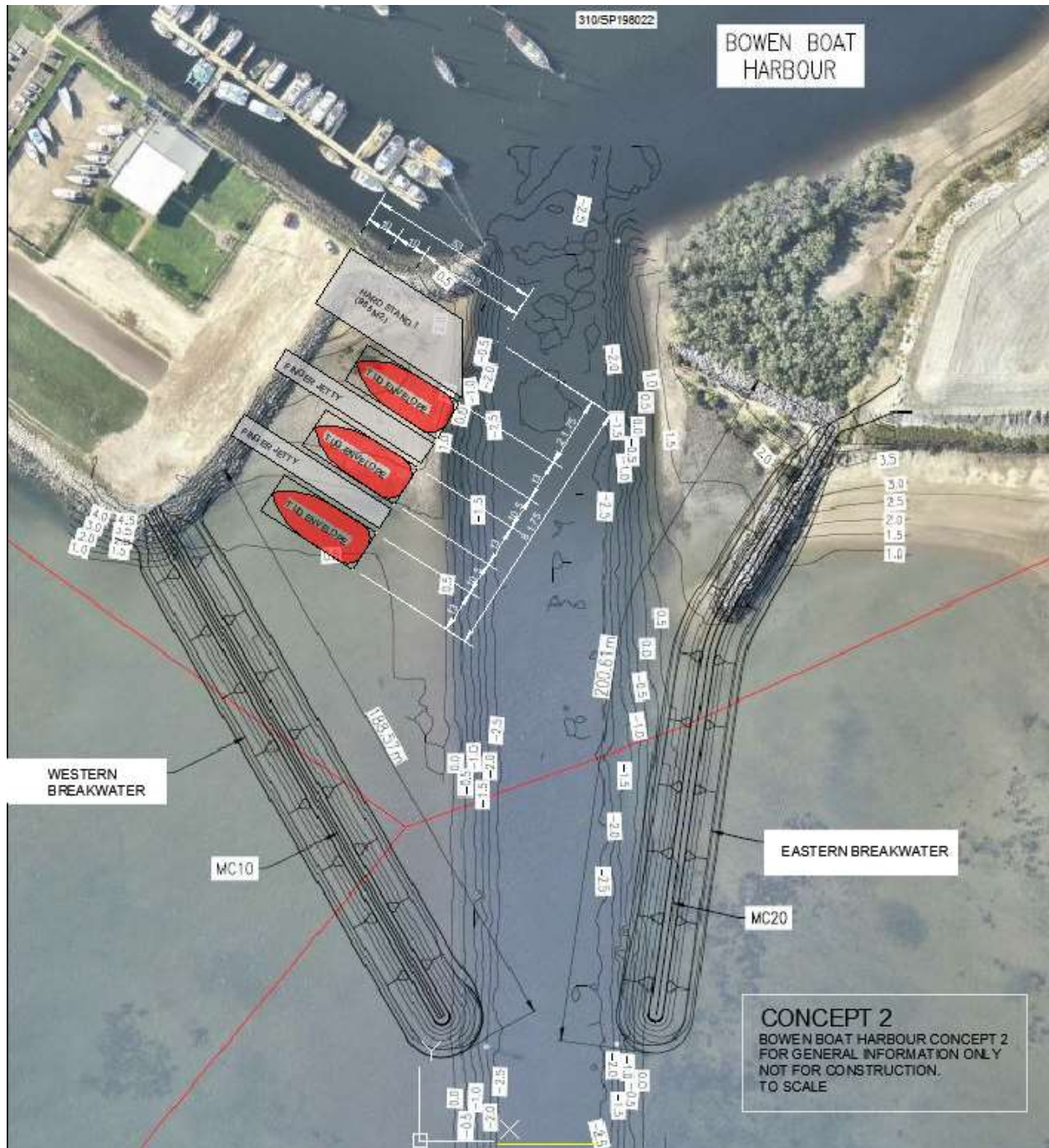
Bruce's areas of expertise are in capacity and operating strategy, development and commercial matters. His extensive experience stems from roles in: operational strategy; capacity and infrastructure; and due-diligence processes. Furthermore he has exceptional experience in the development of system frameworks and models. Providing decision support and justification are some of his key strengths from the perspective of capacity, capability, constraints and economics.

Bruce is a qualified tradesmen, has an Honours Degree in Engineering, and Applied law qualifications.

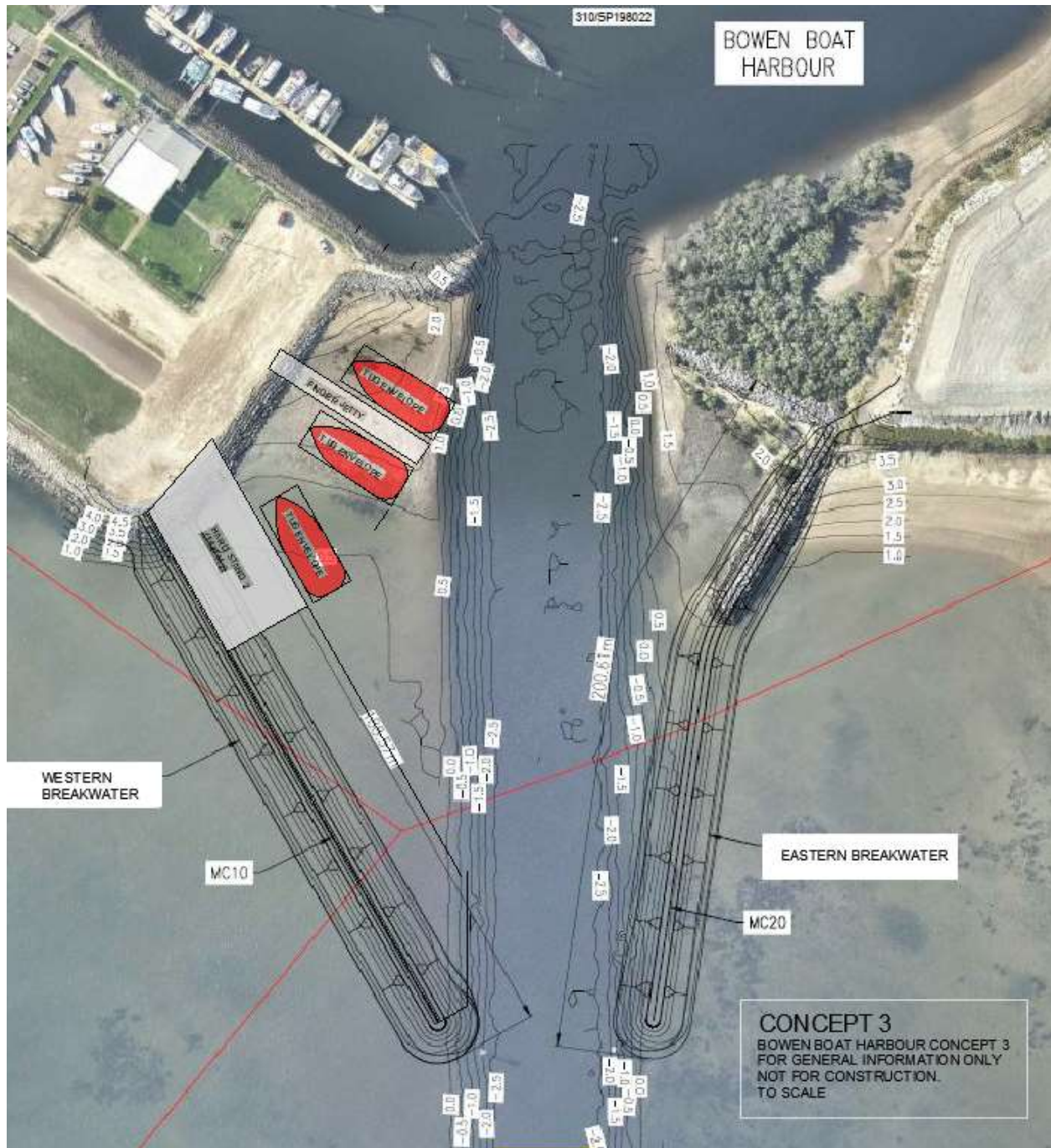
Recent Assignments:

Capacity review of Abbot Pt Coal Terminal; Adani Abbot Point Terminal Pty Ltd	2020
Biomass supply chain [land and sea logistics and cost focus] study; Idemitsu	2019
Performance reporting and the Integrated Logistics Company (ILC); Pacific National	2019
Capital policies, procedures and projects restructure; Adani (AAPT)	2018
Port operations and capacity expert [Wiggins Island Coal Export Terminal]; Quinn Emanuel	2017- 2018
Port technical technology study; KPMG	2018
Digitisation Project & Studies [Information flows for container supply chain]; Port of Brisbane	2018
Acquisition due diligence study [targeting Wiggins Island Coal Export Terminal]; Aurizon	2018
Hydroscopic supply chain study, Australian Potash	2017
Newcrest capacity assessment study [operations and capacity simulation]. Bear Rock	2017
Major Project Cost Benchmark Project, Enthalpy	2017
Principal Development Manager, North Queensland Bulk Ports	2016-2017
West Pilbara Iron Ore Port - Project Port Lead, West Pilbara Iron Ore Project, Aurizon	2014-2016
GVK Acquisition Project - Port Lead, Aurizon	2014

SECTION 10. Concept 2



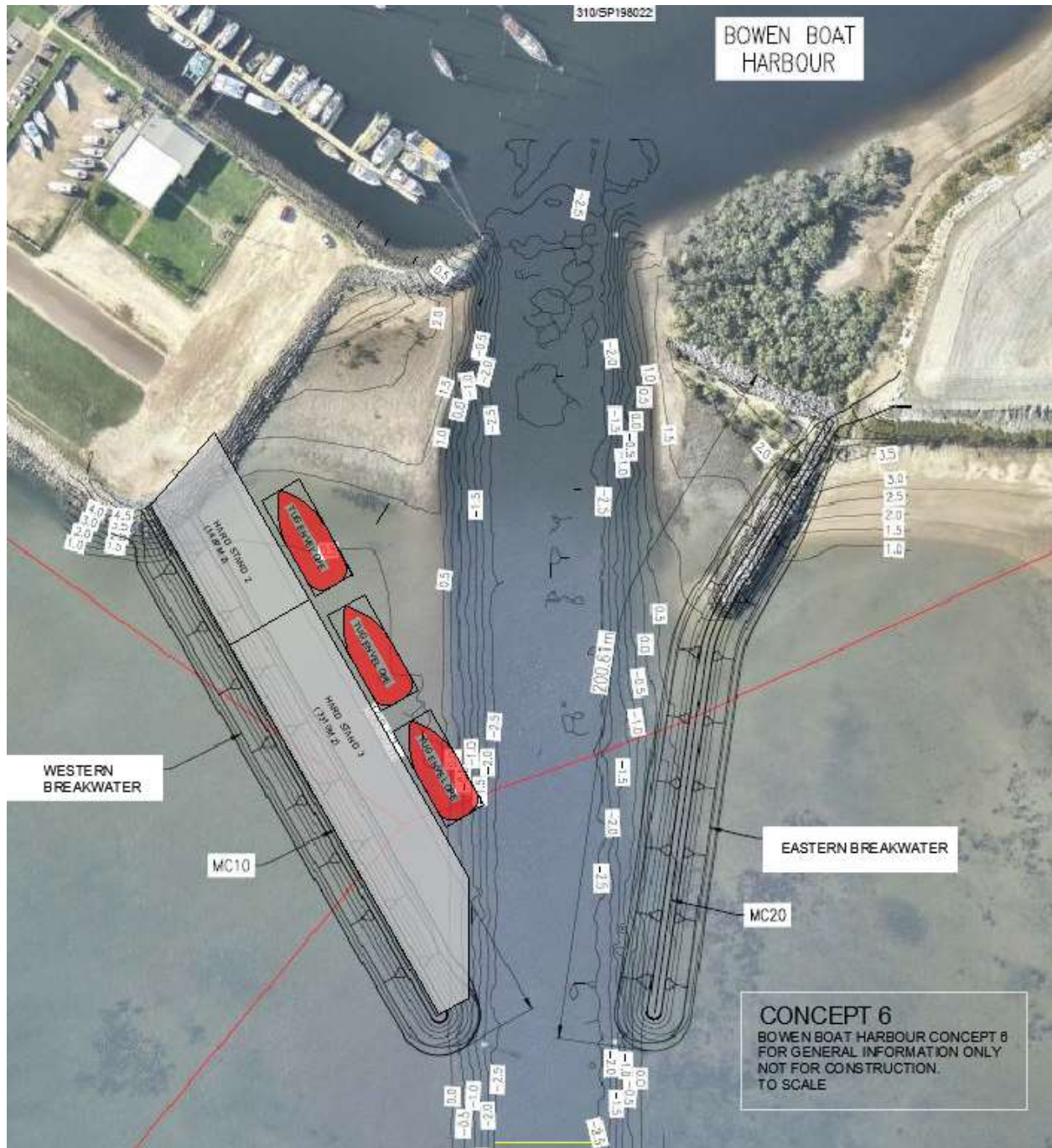
SECTION 11. Concept 3



SECTION 12. Concept 5



SECTION 13. Concept 6



SECTION 14. Concept 7



SECTION 15. Concept 9B



SECTION 17. The Planning Framework

The following explanation of the planning framework comes from the Bowen Boat Harbour Concept Plan Report. October 2013 (Department of Transport and Main Roads)

An extensive planning framework at the local, state and national level influences the development potential of the harbour.

Local governments control development through the zonings, codes and desired outcomes of their planning schemes under the Sustainable Planning Act 2009. This includes the Bowen Shire Council Planning Scheme 2006 administered by Whitsunday Regional Council.

The State Government also controls development through its role assessing the potential impact of development proposals on the objectives of the State. Of particular importance to development proposals in the harbour will be the State's objective to protect ecological processes and biodiversity, heritage values and the safe and efficient operation of the State infrastructure.

The Commonwealth Government also controls development to ensure development proposals will not compromise a matter of national environmental significance under the Environmental Protection and Biodiversity Conservation Act 1999.

Consequently, any development applications within the harbour will be subject to assessment and approval by a combination of local, state and potentially national government bodies against numerous plans and policies.

SECTION 18. Bowen boat harbour footpath upgrade

As provided by BCE

PROJECT: BOWEN HARBOUR FOOTPATH**DATE:** 21/08/20**DESCRIPTION:** New footpath to connect the Bowen Harbour area to the CBD.

DESCRIPTION	UN	QTY	RATE	TOTAL
Site Establishment / Disestablishment	lump sum	1	\$5,000.00	\$5,000.00
Clearing, grubbing and demolition	lump sum	1	\$5,000.00	\$5,000.00
Traffic control	Day	10	\$1,200.00	\$12,000.00
Concrete Footpath	m2	2544	\$110.00	\$279,840.00
Paint (Marking)	lump sum	1	\$2,000.00	\$2,000.00
Kerb and channel	m	291	\$70.00	\$20,370.00
Shelter	each	1	\$15,000.00	\$15,000.00
Light pole	each	15	\$1,500.00	\$22,500.00
Trees (small)	each	50	\$130.00	\$6,500.00
Tactile Marking	each	8	\$800.00	\$6,400.00
Handrail	m	680	\$55.00	\$37,400.00
Water services	lump sum	1	\$3,000.00	\$3,000.00
Services Investigation	lump sum	1	\$1,500.00	\$1,500.00
Design	lump sum	1	\$15,000.00	\$15,000.00
Implementation work management	lump sum	1	\$60,000.00	\$60,000.00
Survey	lump sum	1	\$8,000.00	\$8,000.00
SUBTOTAL				\$499,510.00
CONTINGENCIES	%	15		\$74,926.50
TOTAL				\$574,436.50

SECTION 19. Abbot point port limits

