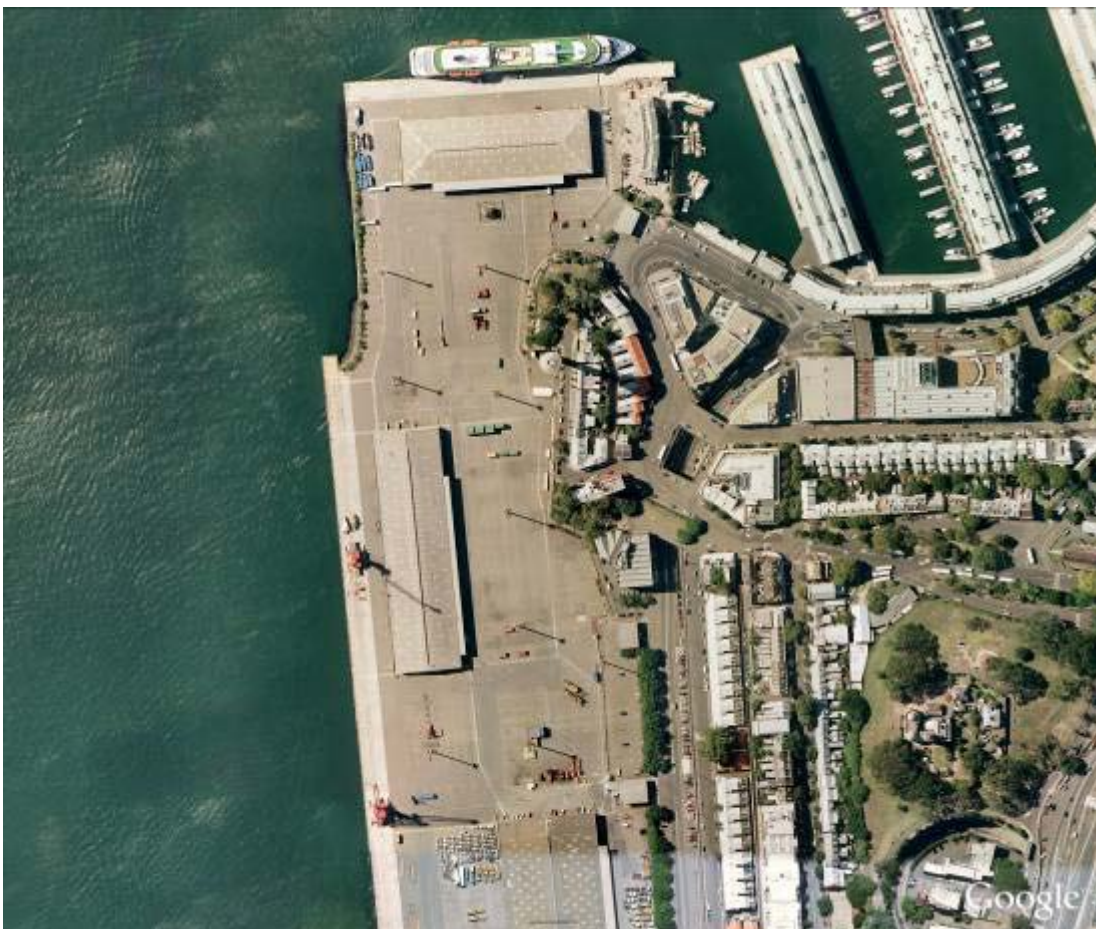


# APPENDIX 14

Marine Reply to Planning Submissions

# BARANGAROO DELIVERY AUTHORITY BARANGAROO HEADLAND PARK MARINE REPLY TO PLANNING SUBMISSIONS

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**Hyder Consulting Pty Ltd**

ABN 76 104 485 289

Level 5, 141 Walker Street  
Locked Bag 6503  
North Sydney NSW 2060  
Australia

Tel: +61 2 8907 9000

Fax: +61 2 8907 9001

www.hyderconsulting.com



# BARANGAROO DELIVERY AUTHORITY

## BARANGAROO HEADLAND PARK

### MARINE REPLY TO PLANNING SUBMISSIONS

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**Author** Peter Masters

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**Checker** Greg Riordan

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**Approver** Peter Masters

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**Report No** DD-HYD-S3-0904 Rev 1

**Date** Wednesday, 19 January 2011

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# CONTENTS

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1	GOVERNMENT AGENCIES .....	1
1.1	NSW MARITIME.....	1
1.2	Sydney Ports .....	1
2	PUBLIC SUBMISSIONS.....	3
2.1	JANE IRWIN LANDSCAPE ARCHITECT .....	3
2.2	BARANGAROO HARBOUR ASSOCIATION.....	4



# 1 GOVERNMENT AGENCIES

## 1.1 NSW MARITIME

Comment,

*“Concern over Northern Cove – based on the PA documentation considers that the depth of the Northern Cove is unclear. It would be preferable for it to be of sufficient depth to allow some navigation of area. Notes there is potential to provide further protection for the shoreline by building out part of the shoreline. Cutting the existing caissons to just below the tide level, rather than the bed level of the cove itself has the potential to create a significant navigation hazard and should be reconsidered.”*

Reply,

The harbour floor of the Northern Cove is at AHD RL -4.00 which is equates to Zero Fort Denison Tide Gauge (ZFDTG), or Chart Datum (CD) or Lowest Astronomical Tide (LAT) or Indian Spring Low Water (ISLW) of RL-3.075. This will allow access for powered vessels up to 25 metres at all times. A cross section showing the depth of Northern Cove is shown on Hyder drawings HYD-P-S0-2015-B “Section Through North Cove” and HYD-P-S0-1011-B “General Arrangement Site Plan”.

Comment

*“Recommend further design development of the shoreline and associated infrastructure should involve close consultation with NSW Maritime”*

Reply,

The BDA and Marine Consultant met with NSW Maritime on 25th January 2011 to discuss NSW Maritime issues associated with the site. The concerns expressed by NSW Maritime will be addressed as part of the final design.

## 1.2 Sydney Ports

Comment

*“Notes Navigation and Water Safety Report indicates navigation impact of proposed Barangaroo development has not been assessed. Recommends assessment be undertaken prior to determination”*

Reply

All excavation, demolition and construction will be land based from the Barangaroo site and within the site boundary. There will be no water based construction such as dredges or barges involved in the project. A large proportion of the work will be carried out behind (on the landward side) the existing caissons with the caisson demolition down to AHD RL -4.0 being one of the last activities in construction of the seawall. A turbidity curtain will be installed along the perimeter of the site.

There will be no change to the existing port navigational functionality Further Sydney Ports Corporation, the Harbour Master and NSW Maritime are being consulted.

Comment

*“Requests confirmation of water depths in shipping channel to north and west will not decrease as a result of development”*

Reply,

We confirm that the shipping channel depths will not be changed by the proposed development.

Comment

*“Object to use of area of western side of Moore’s Wharf being used for kayak (or any other form of boating) access. No assessment of risk undertaken”*

Reply

We confirm that there will be no kayaking launching facility in this cove. Further NSW Maritime will be consulted as to the appropriate signage for recreational craft in this area

Comment

*“Need to confirm navigation aid on Merriman Street will not be obscured from sea level in the area of Peacock Point during construction works and when completed”*

Reply

Sydney Ports is being consulted as to the appropriate treatment of the navigation aid at Merriman Street

Comment

*“Harbour Master’s approval required under Clause 67 of Management of Waters and Waterside Regulations – NSW.”*

Reply

The Harbour Master and Sydney Ports are being consulted to gain the necessary approval

Comment

*“**Construction Impacts on Moore’s Wharf:** The EA did not assess the impact on the proposed shoreline construction works on the Moore’s Wharf site, for example the migration of sediment from Moore’s Wharf site, risks, security access and impacts on port safety and operational functions etc. Sydney Ports therefore requests that this assessment be undertaken prior to the Application being determined to better understand the proposed construction methodology and potential impacts (both construction and operational )on the Moore’s Wharf site when constructing the new wharf”*

Reply

Sydney Ports Corporation has previously expressed a concern that there may be loss of fines from behind the wall which could lead to settlement of the existing stone building.

To allay this concern a continuous, fines impervious wall extending down to rock is proposed. The developed design is for CFA (Continuous Flight Auger) piles with jet grout piles installed between the CFA . This type of construction will result in no gaps in the wall. The Darling Walk Project currently under construction by Bovis Lend Lease at Darling Harbour has such a system installed.

This wall is constructed from the existing hardstand area and will have no vibration associated with it i.e. it is a bored type and injection type wall. There is no pile driving.

Please find below an extract from Frankipile Australia website which gives more information

***“CONTINUOUS FLIGHT AUGER (CFA) PILES***

*The CFA Pile is a non-displacement pile used where fast vibration free installation is required in difficult ground conditions. The drilling process is suitable for penetrating dense layers and is unaffected by ground water or collapsing soil conditions.*

*The pile is formed by first drilling into the ground with a continuous flight auger. Cement-sand grout or concrete is then injected under pressure through the auger's hollow stem as it is being withdrawn.*

*The grout or concrete pressure is maintained during the auger withdrawal so that it assists the extraction as well as exerting a lateral pressure on the surrounding soils. On completion of this operation, a reinforcing cage is placed into the fluid column of grout or concrete.”*

Once the pile wall is completely installed, and the Moore’s Wharf site effectively sealed below the surface, from the Barangaroo site, excavation of the cove and installation of the harbour floor and seawall to Moore’s Wharf Cove will be carried out.

The environmental impact of the wall construction is minimal as there is only a small amount of material removed from the pile hole. The excavation for the Moore’s Wharf Cove will be land based. There will be no water based construction activities such as dredging or barging of materials. All material excavated will remain on the site for use as fill. A turbidity curtain will be installed along the perimeter of the site.

There are no other environmental effects.

This is a proven system used extensively in building projects which results in complete containment of fines and results in minimal ground settlement at the face of the wall and no movement at the building foundation line.

There will be no impact on port safety and operational functions.

## 2 PUBLIC SUBMISSIONS

### 2.1 JANE IRWIN LANDSCAPE ARCHITECT

Comment

*“Northern Cove – query potential for vessels to enter given depth of -1.2m”*

Reply

The harbour floor of the Northern Cove is at AHD RL -4.00 which is equates to Zero Fort Denison Tide Gauge (ZFDTG), or Chart Datum (CD) or Lowest Astronomical Tide (LAT) or Indian Spring Low Water (ISLW) of RL-3.075. This will allow access for powered vessels up to 25 metres at all times.

Comment

*“Believes beach could be a safety concern given use of park for special events”*

Reply

The Beach has been deleted from the design

Comment

*“Questions ability of Northern Cove to effectively flush water”*

Reply

A flushing analysis has been carried out for the Northern Cove using NSW Public Works Manly Hydraulic Laboratory data for Port Jackson. The flushing time for Northern Cove is approximately 2.2 days.

It should be noted that the Northern Cove is a small cove, has a relatively wide opening entrance (approximately 80m), is immediately adjacent to deep (15m) water and is close to the main harbour channel. Further the cove is shallow so that at each tidal change there is significant new water entering the cove.

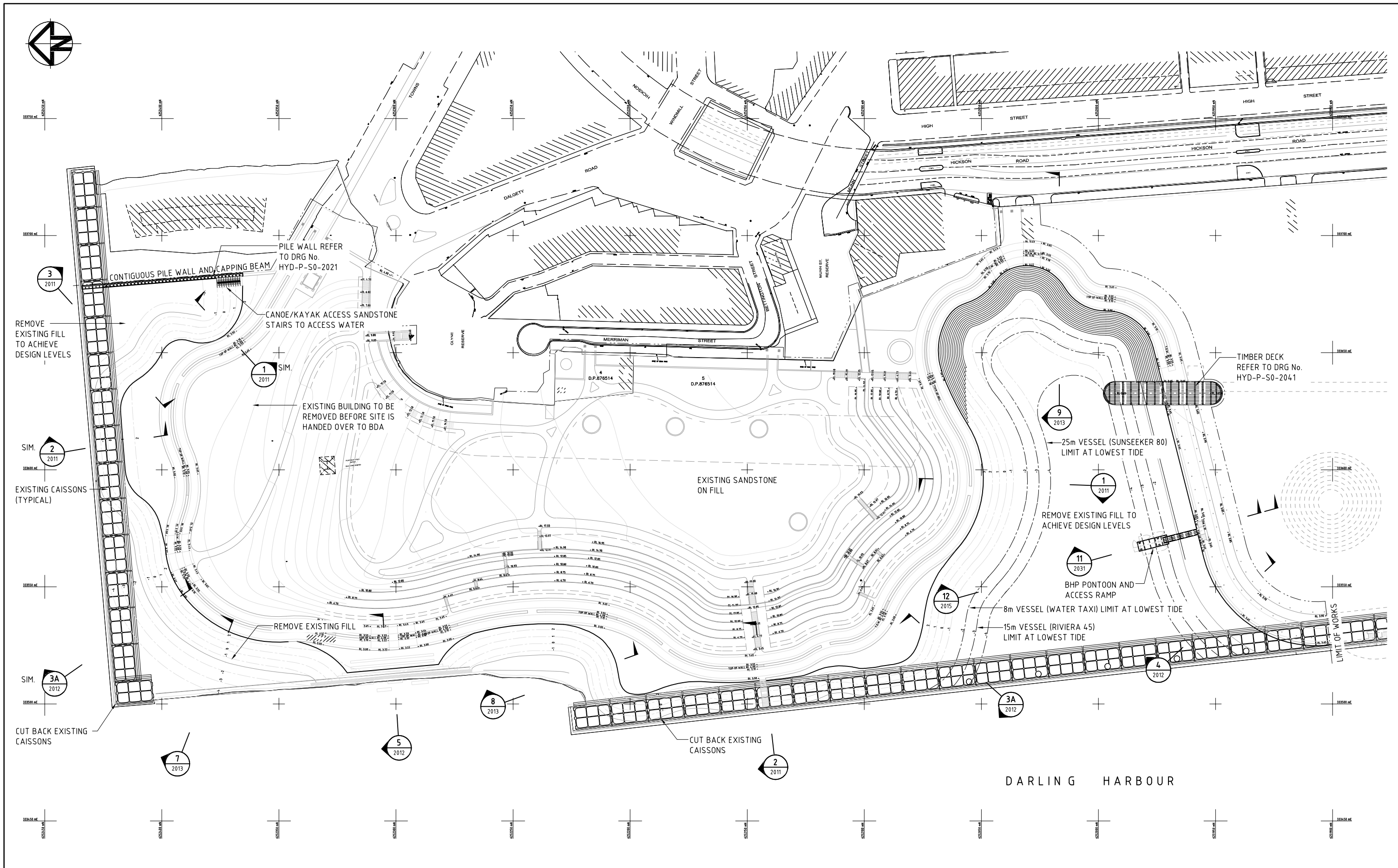
## 2.2 BARANGAROO HARBOUR ASSOCIATION

Comment

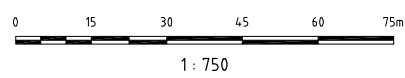
*“Queries whether impact of “no-wash” rivercat ferries has been considered in design”*

Reply

Rivercats, ferries charter boats and various combinations of these in combination with wind wave effects has been considered. Observations of wave impact have also been made at the site and at a number of adjacent sites.



B	REVISED DESIGN DEVELOPMENT	12.11.2010
A	DESIGN DEVELOPMENT	05.11.2010
Issue	Description	Date



Client

**BARANGAROO DELIVERY AUTHORITY**





Status		<b>PRELIMINARY</b> NOT USED FOR CONSTRUCTION	
Scales	AS SHOWN	Current Issue Signatures	
Original Size	A1	Drawn	APT
Height Datum	AHD	Designed	TR
Grid	MGA	Checked	
Filename:	HYD-P-S0-1011.dwg	Approved	PM

Project

**BARANGAROO HEADLAND PARK AND PUBLIC DOMAIN MARINE WORKS**

Title

**GENERAL ARRANGEMENT SITE PLAN**

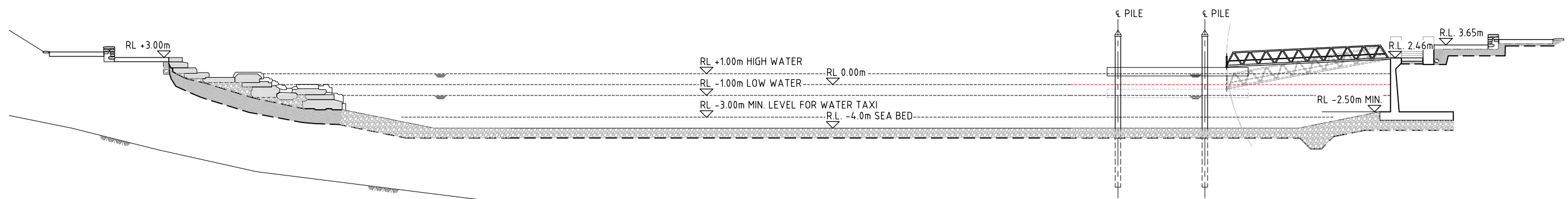


HYDER CONSULTING PTY LTD  
ABN 76 104 485 289  
Level 5, 141 Walker St  
North Sydney NSW 2060  
Australia

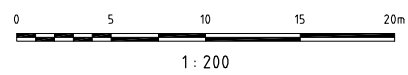
Tel: +61 (0)2 8907 9000  
Fax: +61 (0)2 8907 9001  
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Hyder Project No. **AA003264**

Stage | Company | Discipline | Zone | Document No | Issue  
**DD - HYD - P - S0 - 1011 - B**





SECTION 12  
SCALE 1 : 100



Issue	Description	Date

Client


**BARANGAROO DELIVERY AUTHORITY**

Status		<b>PRELIMINARY</b> NOT USED FOR CONSTRUCTION	
Scales	AS SHOWN	Current Issue Signatures	
Original Size	A1	Drawn	APT
Height Datum	AHD	Designed	TR
Grid	MGA	Checked	
Filename:	HYD-P-S0-2015.dwg	Approved	PM

Project		<b>BARANGAROO HEADLAND PARK AND PUBLIC DOMAIN MARINE WORKS</b>	
Title		<b>SECTION THROUGH NORTHERN COVE</b>	

Hyder Project No. <b>AA003264</b>			
Stage	Company	Discipline	Zone
DD	HYD	P	S0
Document No. <b>2015</b>			
Issue <b>B</b>			



HYDER CONSULTING PTY LTD  
ABN 76 104 485 289  
Level 5, 141 Walker St  
North Sydney NSW 2060  
Australia

Tel: +61 (0)2 8907 9000  
Fax: +61 (0)2 8907 9001  
www.hyderconsulting.com  
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