Homebush Bay Bridge | Environmental Assessment

APPENDIX E

Government authorities and public utility providers consultation meeting minutes and correspondence

Government authorities and utility providers consultation records

Date	Consultation type	Record
City of Canada Bay Council		
3 March 2011	Consultation meeting with Council on Traffic Management and Access	Minutes
7 June 2011	Consultation meeting with Council on proposal and Rhodes bridge landing arrangements	Minutes
14 June 2011	Presentation to Canada Bay Council Councillors	Minutes
17 June 2011	Council response on proposal	Letter
27 July 2011	Fairmead Business response to Council letter dated 17 June 2011	Letter
Auburn City Council		
3 March 2011	Consultation meeting with Council on Traffic Management and Access	Minutes
21 July 2011	Consultation meeting with Council on proposal and preferred bridge design	Minutes
Former NSW Maritime (now RMS)		
2 February 2011	Consultation meeting with NSW Maritime on preliminary bridge design and clearances	Minutes
7 February 2011	Letter to NSW Maritime seeking feedback on preliminary bridge design	Letter
14 April 2011	Consultation meeting on NSW Maritime related issues	Minutes
25 May 2011	Consultation meeting presenting proposed design solution	Minutes
Former RTA (now RMS), Department of Transport, SOPA		
23 February 2011	Consultation meeting on Traffic Management and Access with RTA, Department of Transport, SOPA	Minutes
State Transit Authority		
29 March 2011	Consultation meeting with	Minutes
Sydney Olympic Park Authority		
29 April 2011	Consultation meeting with SOPA	Minutes
15 July 2011	Consultation meeting with SOPA	Minutes
Office of Environment and Heritage		
14 February 2011	Consultation on operational noise assessment methodology	Phone call record
7 July 2011	Consultation via contamination auditor consultant	Email correspondence
11 January 2012	Consultation meeting	Minutes
3 February 2012	Consultation meeting	Minutes
RailCorp		
14 March 2011	Correspondence seeking feedback from RailCorp	Email correspondence
NSW Office of Water		
17 February 2011	Correspondence seeking feedback from NSW Office of Water	Email correspondence

Date	Consultation type	Record
NSW Industry and Investment		
13 July 2011	Correspondence seeking feedback from NSW Industry and Investment (Fisheries)	Email correspondence
14 July 2011	Response from NSW Industry and Investment (Fisheries)	Email correspondence
Utility providers		
11 April 2011	Correspondence seeking feedback from Energy Australia, Sydney Water	Letter
17 May 2011	Feedback from Sydney Water	Email correspondence
12 April 2011	Correspondence seeking feedback from AGL, Jemena and NBC	Letter
15 April 2011	Feedback from AGL	Email Correspondence
19 April 2011	Feedback from Jemena	Email Correspondence

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number** 221379
Meeting name and number	Traffic Management and Access Workshop – Canada Bay Council	
Location	City of Canada Bay Council Chambers	**Time and date** 2.30 pm 3 March 2011
Purpose of meeting	Gather input from City of Canada Bay Council on the various transport matters relevant to the Homebush Bay Bridge project.	**Page 1 of 4**
Present	Tony , City of Canada Bay Council Ursula Lang, City of Canada Bay Gary Sawyer, City of Canada Bay Marjorie Ferguson, City of Canada Bay Debbie Gillman, City of Canada Bay Rick Graf, Graf Greg Dowling, Scott Carver Colin Henson, Arup Darnelle Stipp, Arup Javier Valderrama, Arup Safiah Moore, Arup	
Apologies	Lisa Miscamble, City of Canada Bay	
Circulation	As above	

Action

1.1 Introductions

1.2 CH and RG provided a brief explanation of the bridge.

- Concept and function of the bridge – Bridge connects to Rhodes and Wentworth Point
- Key connection between Wentworth Point to Rhodes Station and shopping centre. There will also be a desire line between Rhodes and the Wentworth Point ferry terminal and school services
- The bridge will also be able to carry utilities – water, etc
- The bridge provides choice for transport

Prepared by Safiah Moore

Arup
Arup Pty Ltd ABN 18 000 966 165

Action

1.3 Transport growth forecasts

Project team to review mode split changes

- Forecast population in 25 years: Rhodes 14,000 residents; Wentworth Point, 10,000 – 30,000 residents; SOPA: 5,000 – 20,000 residents
- The Homebush Bay area presents a new medium – high density area for the Sydney Metropolitan Region to meet the Sydney Metropolitan Strategy targets.
- The proposed bridge will have a strong influence on transport behaviour for both Rhodes and Wentworth Point residents and seeks to provide a proactive approach to change from the development at Wentworth Point
- The VPA regarding the proposed uplift in densities at Wentworth Point will include a TMAP which will further analyse mode split changes and transport demand management strategies to support behaviour change towards public and active transport

1.4 Future bus service:

- Capacity per direction depends on nature of the bus: Shuttle bus capacity 20 pax/bus; Larger bus capacity 40 pax/bus
- Details for the shuttle bus are uncertain at this stage
- Council supports the idea of the shuttle bus and understands that shuttle bus service is in its initial phases of development however expresses concerns over the costing, long term for the bus service.
- RTA seeks to design the bridge to allow for STA size buses
- The provision of a bus service will be important to provide from day 1 of the bridge to enable good travel habits
- Private shuttle bus may be considered by the landowners initially, however a long term service should be considered as supported by public service
- It is acknowledged that the community reference group resists regional buses on the bridge. CRG feedback should be considered within context of future demand
- There will be broad planning for light rail integrated into the design of the bridge

Action

1.5 Bridge design

- 3x options were presented for 8 m width bridge
- 2x options for 10 – 12m wide bridge were presented
- Preliminary preferred options: 10 – 12m wide 2 way bus and shared pedestrian/ cyclist way
- 1 way bus way is not appropriate due to safety issues
- 25km/ h is not an acceptable speed limit by RTA
- Council would like a definitive outline of the bridge to gain an understanding of the ownership of the bridge and how it will integrate within Rhodes land – e.g. easements

1.6 Bridge design at Rhodes

Scott Carver to arrange design meeting with Ursula Lang and relevant Council staff for design workshop

- Design team (Scott Carver) proposed a collaborative working team between Council planners, landscape architects etc to develop a solution that is satisfactory with Council
- Council is concerned about the loss of open space and compensation of loss of open space on Rhodes side
- Interface of bridge at Rhodes along Gauthorpe Street needs careful consideration
- Current bridge design doesn't impede on residential buildings along Gauthorpe Street
- Linear foreshore pathway is of significant concern to Council
- Allocation of bus stops and the future community centre needs focused design and planning
- Possibility of integrating bus stop with community centre facilities

1.7 Bridge costing

- Questions costing from initial budget
- The bridge has a limited budget and the design must fit that budget
- The bridge will be built within budget providing the structural capacity for future uses – however aesthetics and amenity accoutrements may be provided at later stage if there are limits to the budget

Action

1.8 Design of the Bridge

- Bridge design to consider the integration of public art
- It is recognised that 400m is a significant length for a pedestrian/cycle bridge and amenity provisions e.g. Water bubblers, shelter, viewing platforms should be considered in the design
- The design concept of the bridge is to follow a 'ribbon' design – low profile that follows the horizon
- Simple and elegant in design
- Low maintenance design, and long life

1.9 Safety

- Pedestrian desire lines are to be further considered to understand pedestrian movements and safety implications and interface between development at Rhodes.

1.10 Next steps

- Ursula Lang to provide site plans/ building layouts of community centre and other developments within proximity to the bridge — UL to provide site plans to Arup
- Rick Graf asked Council to assist with the gathering of reports and information from Thiess — Council to assist with gathering reports from Thiess
- Greg Dowling to coordinate meeting with Council to workshop landscape and urban design issues for bridge landing at Rhodes. — GD to coordinate meeting with Council
- Arup to digest comments and discussions to input into Environmental Assessment submission
- Arup to circulate minutes and discussion notes from workshop — Arup to circulate minutes

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number** 221379
Meeting name and number	Canada Bay Council statutory consultation	
Location	City of Canada Bay Council Chambers	**Time and date** 3.30 pm 7 June 2011
Purpose of meeting	Present progress on bridge design and gather input from Council on proposed landing arrangements at Rhodes.	
Present	Tony McNamara, City of Canada Bay Council Ursula Lang, City of Canada Bay Lisa Miscamble, City of Canada Bay Craig Tennant, City of Canada Bay Greg Dowling, Scott Carver Angela Hynes, Scott Carver Mike Cook, Arup Javier Valderrama, Arup Rick Graf (Graf International)	
Circulation	Arup project team	

Action

Bridge design update

Note

- MK and GD presented an update on the bridge design and proposed landing arrangements on Rhodes, Mike and Greg reported:
    - The bridge landing at Rhodes addresses sea level rise issues
    - Bridge carriage ways will be for buses and cyclist
    - Shoreline drive and Gauthorpe Street intersection would be a right-of-way intersection. No traffic signals are proposed

Council feedback

- Council acknowledged the proposed Rhodes community centre must also address sea level rise issues — Note

Prepared by Javier Valderrama

Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	3 March 2011

	Action
- Council would like to see opportunities for public art on the bridge. - Land occupied by the bridge landing and approach road will be transferred to Council in the upcoming months. - Council asked if the Rhodes approach road can be designated as a share zone (10km/h). Project team explained this proposal was not supported by transport authorities as recorded on consultation meeting held with RTA/Dep of Transport and SOPA on 23 February 2011.	Council to email further details on its public art program. Scott Carver to consider Council suggestion
- Council will prepare a letter with comments on the proposal	Council to forward letter to project team. Project team to address comments provided.

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number** 221379
Meeting name and number	Presentation to Canada Bay Council Councillors	
Location	City of Canada Bay Council Chambers	**Time and date** 6.00 pm 14 June 2011
Purpose of meeting	Present short list of bridge design options, construction details and proposed landing arrangements at Rhodes.	**Page 1 of 2**
Present	Tony McNamara, City of Canada Bay Council Ursula Lang, City of Canada Bay Council City of Canada Bay Council Councillors David Robinson, KJA Greg Dowling, Scott Carver James Naylor, Arup Javier Valderrama, Arup Rick Graf, Graf International	
Circulation	Arup project team	

Action

Bridge presentation

Note

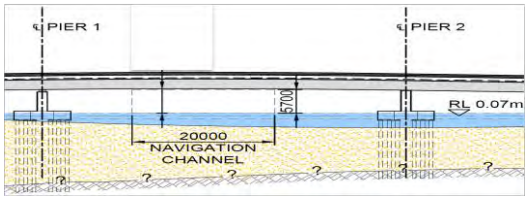
- JV, JN and GD presented on:
  - Bridge proposal, approval regime and ownership
  - Bridge function and operation options
  - Adopted operation function as follows

  - Bridge design development including clearance at the navigational channel as follows:

Prepared by Javier Valderrama

Arup
Arup Pty Ltd ABN 18 000 966 165

Action



- Short list of bridge types
- Pedestrian experience and potential contribution of public art
- Bridge connectivity with Rhodes foreshore

- The presentation followed a Q&A session.
- Council to provide a written response on the proposal to the project team via Rick Graf. — Council to provide response

17 June 2011

Mr Rick Graf
Project Team for Homebush Bay Bridge Project

Dear Rick and Consultant Team

ISSUES IDENTIFIED BY CITY OF CANADA BAY, RELATING TO THE HOMEBUSH BAY BRIDGE

Firstly, Council wishes to thank you for your efforts in addressing the Councillors at the Workshop of Tuesday 14th June, 2011, and also the Rhodes Community Reference Group Meeting on 1st June.

Information about the further design development of the Bridge, and the recent series of meetings, have raised a number of issues which Council has identified in relation to the proposed Bridge, and its landing area on the Rhodes Peninsula at the eastern side of Homebush Bay.

Council's new Community Centre

- Council would like its Community Centre and forecourt area to be the focal point of the Rhodes Foreshore, and not the proposed Bridge abutment. This should be reflected in the urban design and landscape treatments of all areas around the Bridge landing.

- The Community Centre floor level will be the Probably Maximum Flood (PMF) flood level plus 500 mm freeboard. The Community Centre will have two levels.

Maintenance and Construction Issues

- The roadway and abutment through the Park will require a Licence to occupy the Park. The Licence shall include a provision that SOPA will be the maintaining and renewal Authority for the Bridge and associated infrastructure (clearly described).

- The developer shall be responsible to construct the disabled access ramps, adjust the park and foreshore levels to suit the bridge, strengthen and raise the seawalls as a result of the bridge levels, undertake landscaping of the area shown in the Bridge Landing Concept Rhodes (June 2011). A plan clearly showing the exact extent of works funded by the developer is requested as soon as possible for Council's further consideration. Council's view is that these works must be funded by the developer, as they have been made necessary due to the Bridge.

- Council accepts that the Bridge will require a construction and landing compound which will be landscaped area shown in the Bridge Landing Concept Rhodes (June 2011)

Access Issues and Safety Issues

- Planning for children walking across the Bridge, potentially from Rhodes to a new School at Wentworth Point, should be incorporated into the Bridge design. This would necessitate that children be prevented from moving from the pedestrian walkway of the Bridge onto the Bridge roadway by the use of a physical barrier.

- Council considers that the approach roadway through the foreshore park should operate as a shared 10km/hr zone in keeping with the usage of the park by pedestrians.

- Council requests that you consult with Council's Access Committee in respect of the proposal.

Additional Bus Traffic on Local Rhodes roads

- Assessment of the impact of the additional bus traffic on the roads in the Rhodes area is requested, with an indication of what ameliorative measures can and will be undertaken by the developer or other Government Authorities (ie STA, RTA) to ensure access for buses is adequate.

- Information on the funding and location of bus shelters and associated infrastructure to ensure people's comfort and shelter when waiting for buses, and to encourage high usage as soon as the services become available. This needs to be considered as part of public domain planning around the Bridge landing area.

Bridge Design in response to Sea Level Rise

- Council would expect the developer to raise and strengthen the seawall at the abutment and the ramps to accommodate the Bridge levels. This will ensure that Council will not have to fund bridge abutment protection measures in the future, arising from sea level rise due to climate change.

- The Bridge abutment shall be immediately behind the seawall to minimise the Bridge's occupation of the Foreshore Park and Community Centre forecourt. This will allow Council's Foreshore Park and Community Centre forecourt to be designed without the constraint of the Bridge abutment, terminals, fencing and traffic barrier rails.

Public Art and Cultural Experience of Using the Bridge

- Council would like more information on the opportunities that you propose for the incorporation of public art in the Bridge and associated landing areas. In your

presentation to Council, the Bridge was introduced as serving a core purpose being to "connect communities". The presentation further emphasised the need to ensure that the bridge delivers the best pedestrian experience possible for the communities who utilise it. As you are aware, Council is applying a place-making approach to the Rhodes West area. This approach considers the connecting of communities and the development of meaningful experiences for communities to be a high priority in all aspects of urban design, infrastructure and public domain. Council's position regarding public art in this context is that it serves an instrumental purpose in delivering on these core aspects. Please detail the budget allocation for this aspect of the Bridge and the strategies that you are going to undertake to implement this programme.

Should you wish to further discuss any of the above matters, please contact Council's Urban Renewal Manager, Rhodes Peninsula, Ursula Lang in the first instance, on 0418 265 271.

Yours faithfully

Bruce Cook
Acting General Manager, City of Canada Bay

WENTWORTH POINT LANDOWNERS ALLIANCE

27 July 2011

Mr Gary Sawyer
General Manager
City of Canada Bay Council

Dear Gary,

ISSUES IDENTIFIED BY CITY OF CANADA BAY, RELATING TO THE HOMEBUSH BAY BRIDGE

I refer to the letter of 17 June from the acting General Manager and our subsequent meeting with John Kinsella and myself and Mayor Angelo Tsirekas on 19 July regarding several issues raised by the Council.

Firstly, the entire project team wishes to thank Council and its officers for the constructive ongoing dialogue regarding the preparation of the environmental assessment report.

I will now address the issues that Council has identified in relation to the proposed Bridge, and its landing area on the Rhodes Peninsula at the eastern side of Homebush Bay.

Council's new Community Centre

- The consultant team fully understands that Council would like its Community Centre and forecourt area to be the focal point of the Rhodes Foreshore, and not the proposed Bridge abutment. The team would like to stress that the illustrative sketches presented at our meetings have been produced simply to identify issues that need to be addressed when the foreshore area is being designed. However, this design task is not the responsibility of the Bridge designers – rather, when Council's design for this area is being prepared, the Bridge approach lanes through the park need to be considered and should be reflected in the urban design and landscape treatments of all areas around the Bridge landing.

- The design team notes that the Community Centre floor level will be the Probable Maximum Flood (PMF) flood level plus 500 mm freeboard. The Bridge developer is committed to ensuring that the Bridge design team will fully collaborate with Council and neighbouring landowners in establishing final design and construction levels for the Bridge landing zone and the adjoining public domain. This collaboration is seen as essential in ensuring that the overall design outcome is optimised and that abortive works by any party are avoided.

- The Bridge developer and each other party (Council, RHB and others) will in turn be responsible for the design and implementation of its own works up to the interface line between the Bridge and the public domain.

Maintenance and Construction Issues

- It is understood that the roadway and abutment through the Park will require a Licence to occupy the Park. The Licence shall include a provision that SOPA will be the maintaining and renewal Authority for the Bridge and associated infrastructure (clearly described).

- Council's comments regarding disabled ramps, adjusting levels and strengthening seawalls and undertaking landscaping are based on a misunderstanding of the sketches and diagrams of the landing (June 2011). These plans were prepared simply to illustrate issues rather than to propose a solution. As Council and the developer have agreed to collaborate on the preparation of the respective designs of adjoining areas, these interface works will be eliminated. The plan now attached illustrates the potential Bridge landing zone within which the Bridge termination may occur in order to coordinate with Council's preferred levels.

- The Bridge will deliver bus traffic to connect with Shoreline Drive via a 7M wide pavement through the park, and similarly will deliver pedestrians and cycles to connect with Council's preferred connection points or direct to Shoreline Drive. The Council may wish to specify surface materials for the pavement to coordinate with its landscape design for the park.

- If the completion of the Bridge precedes adjoining works, the Council or adjoining landowners will, if needed, provide temporary barriers to the Council's requirements.

- If the Bridge completion follows the completion of adjoining works, the Bridge development will 'make good' any disturbed areas.

- The main construction compound for the Bridge will be located on Wentworth Point. However, for a short part (estimated 6 months) of the overall construction period, it will also require a small construction and landing compound at Rhodes, that will be selected and agreed when final designs and construction methodology are being finalized.

Access Issues and Safety Issues

- A physical barrier will be incorporated into the Bridge design to separate pedestrians from bus traffic.

- It is noted that Council considers the approach roadway through the foreshore park should operate as a shared 10km/hr zone in keeping with the usage of the park by pedestrians, and this will be conveyed to SOPA the STA.

- The design team will be pleased to consult with Council's Access Committee in respect of the proposal. Please advise an appropriate time for this consultation.

Additional Bus Traffic on Local Rhodes roads

- The design team have noted Council's interest in the assessment of the impact of the additional bus traffic on the roads in the Rhodes area. The Rhodes streets have been reviewed as part of the EA in terms of physical movement and capacity for bus movement.

- The funding and location of bus shelters and associated infrastructure are matters that are the responsibility of the transport providers rather than the Bridge design and construction team.

Bridge Design in Response to Sea Level Rise

- The Bridge abutment will be designed to accommodate sea level rise and, when detailed design is being undertaken, will incorporate necessary adjustments to the sea wall at the abutment.

- The Bridge termination is able to be designed anywhere within the landing zone to suit and coordinate with Council's design for the public domain. The Bridge designers will collaborate with Council on setting these preferred levels to ensure that any abortive works are avoided and any interface works are minimised.

Public Art and Cultural Experience of Using the Bridge

- The Bridge design is incorporating the concept of public art into a series of activity nodes/rest areas in order to enhance the pedestrian experience of crossing the bridge. These public art elements will be funded as part of the Bridge cost. Further public art elements may be incorporated into the public domain surrounding the Bridge landings at both Rhodes and Wentworth Point and the Bridge designers believe that such public art elements should be conceived in concert with the art on the Bridge. However the public domain art elements would be responsibility of the relevant Councils.

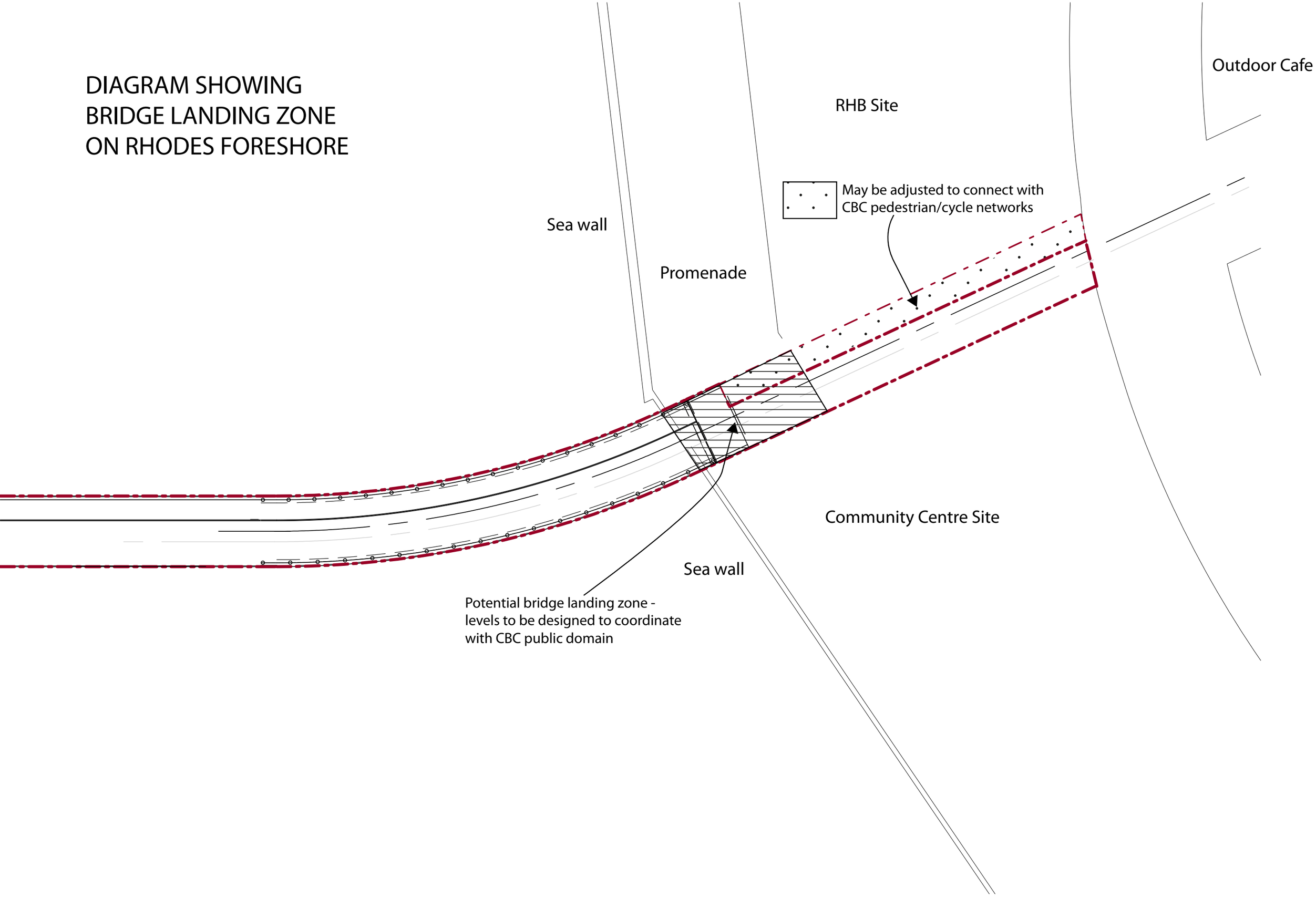
Yours faithfully,

[signed]

Rick Graf
For the Wentworth Point Landowners Alliance
Tel: +61 2 9360 1400
Mob: +61 418 727 282
Email: graf@graf.com.au

CC: Mr Michael Nasser, Homebush Bay Holdings; Nr Michael Narunsky, Homebush Bay Properties; Mr John Kinsella, Fairmead Business

DIAGRAM SHOWING BRIDGE LANDING ZONE ON RHODES FORESHORE



Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number** 221379
Meeting name and number	Traffic Management and Access Workshop – Auburn Council	
Location	Auburn Council	**Time and date** 9.00 am 3 March 2011
Purpose of meeting	Gather input from Auburn Council on the various transport matters relevant to the Homebush Bay Bridge project.	
Present	Mark Brisby, Auburn Council Jacky Wilkes, Auburn Council Soma Somaskathan, Auburn Council Craig Bagley, SOPA Rick Graf, Graf Greg Dowling, Scott Carver Colin Henson, Arup Javier Valderrama, Arup Safiah Moore, Arup	
Apologies		
Circulation	Those present	

Action

1.1 Introductions

1.2 CH and RG provided a brief explanation of the bridge.

- Concept and function of the bridge – Bridge connects to Rhodes and Wentworth Point
- Key connection between Wentworth Point to Rhodes Station and shopping centre. There will also be a desire line between Rhodes and the Wentworth Point ferry terminal and school services
- The bridge will also be able to carry utilities – water, etc
- The bridge provides choice for transport

Prepared by Safiah Moore

Arup
Arup Pty Ltd ABN 18 000 966 165

Action

1.3 Transport growth forecasts

Project team to review mode split changes

- Forecast population in 25 years: Rhodes 14,000 residents; Wentworth Point, 10,000 – 30,000 residents; SOPA: 5,000 – 20,000 residents
- The Homebush Bay area presents a new medium – high density area for the Sydney Metropolitan Region to meet the Sydney Metropolitan Strategy targets.
- Existing transport mode splits form SCAPE (July, 2010) to be peer reviewed by Arup through the EA process.
- Auburn Council would like to see evidence of mode split reductions
- The proposed bridge will have a strong influence on transport behaviour for both Rhodes and Wentworth Point residents and seeks to provide a proactive approach to change from the development at Wentworth Point
- The VPA regarding the proposed uplift in densities at Wentworth Point will include a TMAP which will further analyse mode split changes and transport demand management strategies to support behaviour change towards public and active transport

1.4 Future bus service:

- Capacity per direction depends on nature of the bus: Shuttle bus capacity 20 pax/bus; Larger bus capacity 40 pax/bus
- Details for the shuttle bus are uncertain at this stage
- RTA seeks to design the bridge to allow for STA size buses
- The provision of a bus service will be important to provide from day 1 of the bridge to enable good travel habits
- Private shuttle bus may be considered by the landowners initially, however a long term service should be considered as supported by public service
- It is acknowledged that the community reference group resists regional buses on the bridge. CRG feedback should be considered within context of future demand
- There will be broad planning for light rail integrated into the design of the bridge
- Event buses are considered not to use the bridge in the short

		Action
	term, at further stages SOPA may conduct further investigation for event buses to use the bridge in the longer term if required	
1.5	**Bridge design** - 3x options were presented for 8 m width bridge - 2x options for 10 – 12m wide bridge were presented - Preliminary preferred options: 10 – 12m wide 2 way bus and shared pedestrian/ cyclist way - 1 way bus way is not appropriate due to safety issues - 25km/ h is not an acceptable speed limit by RTA - Arup to note changes in traffic arrangements proposed for Auburn: Hill Road, Benelong Park Way and Bayswater Road	Project team to further investigate safety for bridge at Wentworth Point and Rhodes access points
1.6	**Bridge users** - Safety should be considered with high recreation/ younger children cyclist and pedestrians - High speed cyclists would use the bus lane - Consider limiting the types of buses that use the bridge; STA buses, coaches, school buses, shuttle buses etc. - CCTV and monitoring technology will be used to enforce bus only way	
1.7	**Bridge ownership** - SOPA will take ownership of the bridge following construction - Ownership of roads within Wentworth Point will be considered as public accessible (not within Council control) and will allow private or public bus services	Ownership of road interfaces and infrastructure (traffic signals etc.) to be confirmed by SOPA
1.8	**Proposed bridge bus movements** - Preliminary bus routes from current option from Homebush Bay Bridge website - Linking Newington has not been considered at this stage ; expanding the bus route limits the ability to provide a high frequency service - Key foundation of the bus services is high frequency to invoke behaviour change	

		Action
1.9	**Safety** - Pedestrian desire lines are to be further considered to understand pedestrian movements and safety implications and interface between development on Wentworth Point. - Installations of water fountains and elements on the bridge will encourage use of the bridge	Project team to continue design development considering safety
1.10	**Next steps** - Project team to digest comments and discussions to input into Environmental Assessment submission - Arup to circulate minutes and discussion notes from workshop	Arup to circulate minutes

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number**	221379
Meeting name and number	Preferred bridge design option presentation		
Location	Auburn Council	**Time and date**	2.30 pm 21 July 2011
Purpose of meeting	Update Auburn Council on progress	**Page 1 of 2**	
Present	Mark Brisby, Auburn Council Paul Donovan, Auburn Council Glenn Francis, Auburn Council Jacky Wilkes, Auburn Council George Stamatakos, Auburn Council Bill Eberhart, Auburn Council Javier Valderrama, Arup Peter Byrne, Arup		
Apologies	Greg Dowling, Scott Carver		
Circulation	Those present		

Action

1.1 Introductions

1.2 JV and PB provided a brief update on the progress of the bridge.

- Bridge design development approach. JV discussed the consultations undertaken with statutory authorities, inputs from interest groups, input from community reference groups and environmental investigations.
- Bridge design operations – JV explained the process of how the team came to the preferred solution.
- JV discussed the bridge principles at both landings and how pedestrians travel to and from.
- Concept and function of the preferred option – how the bridge connects to connects to Rhodes and Wentworth Point and the journey.
- PB discussed the process of how the options evolved and with

Action

the constraints and filtering system the team came up with the preferred bridge design. PB also discussed the construction methodology and probable compound location on both sides of the shore.

- JV/PB explained the process for the application and how the next six months would move.
- The preferred option was well received by Auburn Council.

1.3 Council feeback.

Council asked the environmental assessment take into consideration the visual impact of the bridge landing at Wentworth Point

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number** 221379
Meeting name and number	Consultation meeting with NSW Maritime	
Location	NSW Maritime (Rozelle)	**Time and date** 2.00 pm 2 February 2011
Purpose of meeting	Present preliminary bridge drawings and seek feedback.	**Page 1 of 2**
Present	Neil Mudge, NSW Maritime Ken Bywater, NSW Maritime Rick Graf, Graf International Mike Cook, Arup Javier Valderrama, Arup	
Circulation	Arup project team	

Action

Preliminary design presentation

- Arup presented preliminary drawings including landing levels and vertical clearances.

Council to provide response

NSW Maritime feedback

- Thiess was commissioned by NSW Maritime to remediate Lot 201 DP 1101828 and the portion of Homebush Bay in proximity to the Rhodes foreshore
- Remediation aimed to reduce overall average dioxin levels. NSW Maritime has contamination reports that can be forwarded to the project team

Arup to request reports via email to NSW Maritime

- NSW Maritime explained once Rhodes site is remediated (ie. Lot 201 DP 1101828, Rhodes within City of Canada Bay local government area) the land ownership will be transferred to Brookfield Multiplex
- NSW maritime would encourage rowing activity on the navigational channel. Project team will need to liaise with Rowing NSW on this matter

Project team to consult with Rowing NSW

- Excess remediated material from the Rhodes site may not be available to be used for the bridge

Prepared by Javier Valderrama

	Action
landing at Rhodes	
- NSW Maritime asked the project team to review existing and likely future maritime activity on the Bay as a way to inform the vertical clearance of the bridge	Project team to investigate
- Propose meet NSW Maritime operational staff to further discuss vertical clearances on the bridge	Project team to meet with NSW Maritime operational staff
- Arup to seek formal feedback on vertical clearances for the bridge	Arup to prepare a request letter
- NSW Maritime suggested contact DECCW to gather more information on Bay contamination	Arup to contact DECCW

Our ref 220708/JV

ARUP

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Ken Baywater

Manager, Business Improvement and Development

NSW Maritime

ken.baywater@maritime.nsw.gov.au

7 February 2011

Dear Ken,

Homebush Bay Bridge - NSW Maritime consultation

Further our meeting on Wednesday 2 February 2011, please find attached an indicative bridge concept drawing and information on the proposed Homebush Bay Bridge. General information on the project can be also found at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4331

As part of the statutory consultation for the project, we request feedback from you on NSW maritime issues associated with impacts of the proposed bridge (construction and operational) on existing and future maritime and recreational use of Homebush Bay.

Aspects on which we specifically seek feedback include, but are not limited to:

- bridge height clearance over the navigable channel and the remainder of the bay;
- horizontal clearance between bridge piers/pile caps at navigable channel and the remainder of the bay;
- recreational boating types to be allowed to pass under the bridge;
- workboats, etc to be allowed to pass under the bridge – for instance to maintain wharves or other structures;
- any requirement for future dredging to the navigable channel;
- rowing course – currently 3 rowing lanes will fit under each of the two main spans over the navigable channel;
- requirements for safety of navigation in Homebush Bay for water based traffic.

Note that the preferred maximum height clearance over the navigable channel is between 3m and 4.5 m above MHW.

It is appreciate if you could provide such feedback before Friday 25 February 2011. If you have any questions, please feel free to contact me.

Yours sincerely

Javier Valderrama
Senior Consultant
Arup
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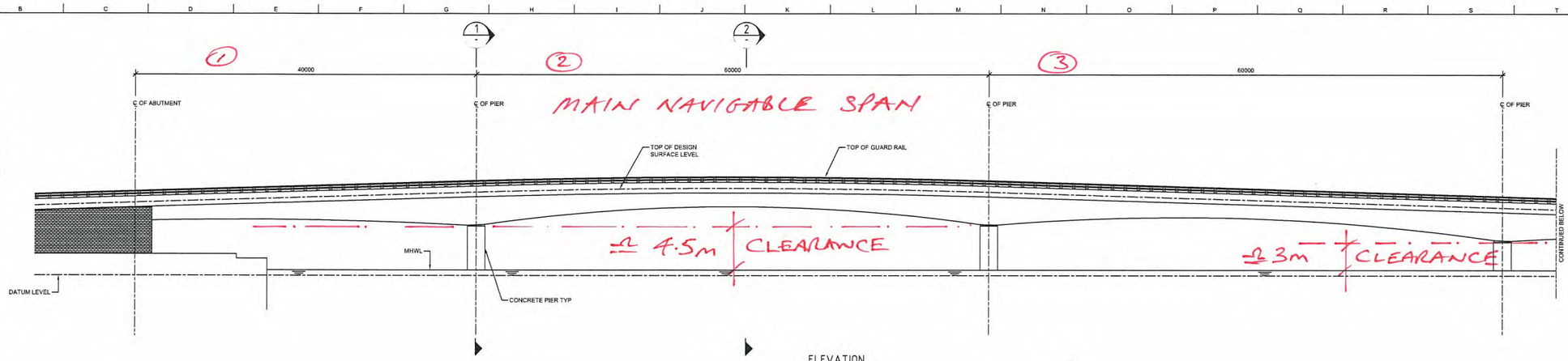
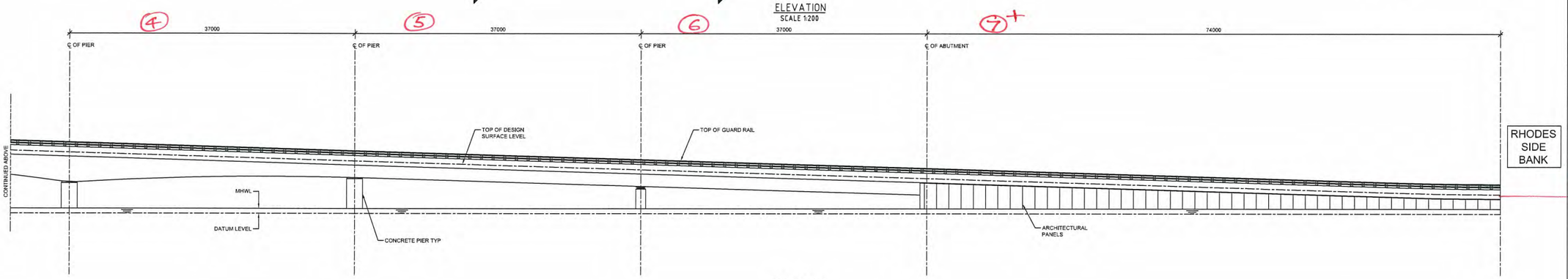


ELEVATION
SCALE 1:200



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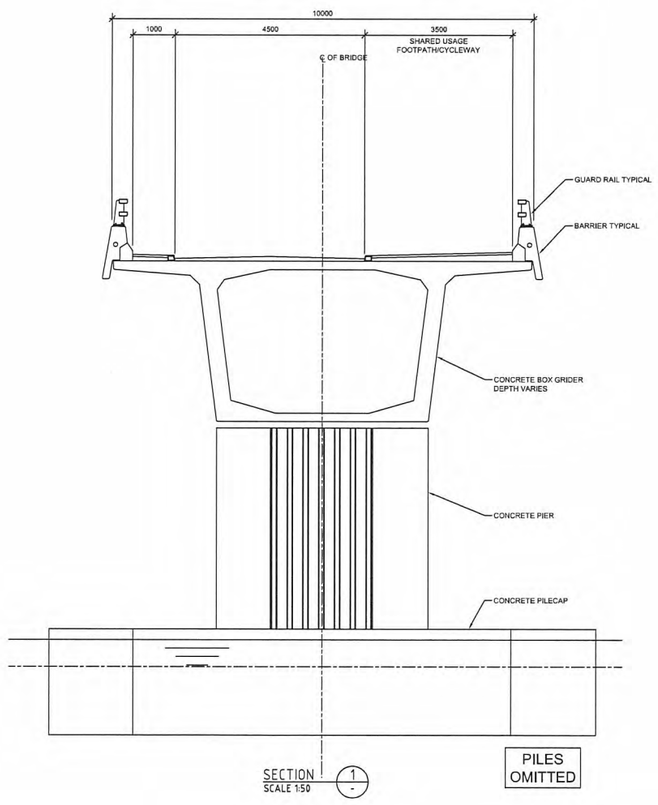
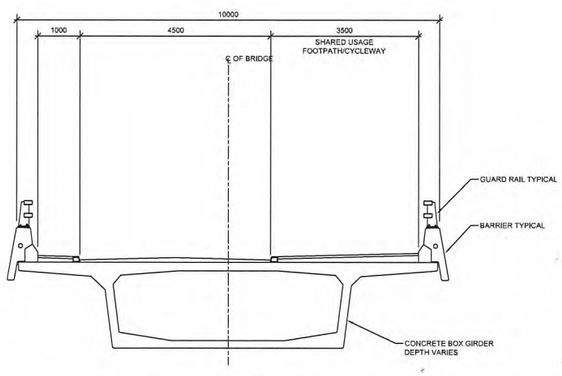
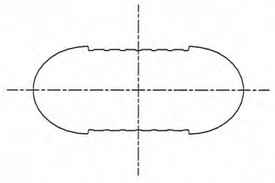


SECTION 1
SCALE 1:50

PILES OMITTED



SECTION 2
SCALE 1:50



TYPICAL PIER CROSS SECTION
SCALE 1:50

INDICATIVE BRIDGE CONCEPT
7/2/11

Issue	Date	By	Chkd	Appd
P02	20/07/10	NL	DPS	DPS
Deck Width Updated				

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Client
WATERPOINT
HOMEBUSH BAY PTY LTD

Job Title
Homebush Bay

Drawing Title
GENERAL ARRANGEMENT
ELEVATION AND SECTIONS

Scale at A0: AS SHOWN
Discipline: BRIDGES
Drawing Status: SCHEME

Job No	Drawing No	Issue
220708	S01-CSK-700	P02

0 0.5 1 1.5 2 2.5 Metres Scale 1:50
0 5 10 Metres Scale 1:200

Minutes

ARUP

Project title	Homebush Bay Bridge	Job number	221379
Meeting name and number	Statutory consultation with NSW Maritime		
Location	NSW Maritime offices Rozelle Bay	Time and date	9.00 am 14 April 2011
Purpose of meeting	Gather feedback from NSW maritime on proposed bridge clearances, concept development and other maritime related matters.		
Present	Ken Bywater (Business Manager, NSW Maritime) Stephen Brown (Operations Manager, NSW Maritime) Neil Mudge (Executive Director, NSW Maritime) (partial attendance) Mike Cook (Arup) Javier valderrama (Arup)		
Apologies	None		
Circulation	Arup project team Scott Carver Rick Graf		

		Action
1.	**Contamination**	Note
	JV reported difficulties in obtaining recent draft EMP, site audit report, validation reports for the former Lednez-Union Carbide site recently remediated by Thiess. NM said he will be able to forward a copy of the recent validation report for the Bay.	
	Action: NSW Maritime to forward a copy of the recent validation report for the Bay to Javier Valderrama (Arup)	Neil Mudge
2.	**Design development progress**	Note
	MC provided an update on the progress of the bridge design concepts since the preparation of the preliminary environmental assessment report. • Proposed vertical clearance across the main navigable span of 5.7m above MHWL. • Spacing of bridge piers varies for different bridge types under consideration. Proposed horizontal clearance between supports on the navigable channel currently approx. 40m+ - which should	

Prepared by Javier Valderrama

Date of circulation 14 April 2011

Date of next meeting

Action

suit 3 rowing lanes of 13m

- Bridge section towards Rhodes landing could have a 'wharf' appearance
- Bridge section towards Rhodes landing could potentially cater for passive light craft launching (eg. kayak)

3. Vertical clearance — Note

SB noted the preferred clearance from NSW Maritime is 6.5m and 2 clear spans of 50m – as per Urban Futures report for the footbridge and cycleway. MC noted that the deeper bridge required supporting two lanes of buses and the limiting gradient to the Rhodes shore for accessibility has made 6.5m clearance difficult to achieve.

NSW Maritime stated 5.7m would be the absolute minimum.

SB noted there are two wharfs upstream of the proposed bridge that need to be served/maintained from time to time. These wharfs are being maintained by a contractor (Paul Whitmarsh from Australian Wharf & Bridge Ph: 0418 618 561).

During the meeting, SB spoke with Paul Whitmarsh regarding the proposed 5.7m vertical clearance for the Homebush Bay bridge. Paul said in principle it seems to be a workable clearance that would allow the maintenance barges to access the wharfs located upstream of the proposed bridge, but subject to stage of tide. — Mike Cook

SB asked Arup to discuss this matter with Paul.

Action: Arup to discuss the access requirements of the NSW Maritime maintenance crafts (ie. barges) with Paul Whitmarsh.

4. Horizontal clearance — Note

SB stated horizontal clearance should be at least 2 x 50m width spans to allow for Rowing NSW sprint racing uses.

Other maritime traffic (eg. barges used to maintain the wharfs upstream the proposed bridge) would need a 30 m horizontal clearance over the navigable channel. This is NSW Maritime preferred horizontal clearance from a maritime traffic circulation perspective.

JV reported Arup has had previous consultation with Rowing NSW (Christian Renford and Andrew Rowley). *[During the consultation Rowing NSW stated they will require a course for "sprint competitions" of 1000 – 1,500m distance only. Longer ‚official"competitions (ie. 2,000m distance) will be held at Penrith. The rowing course will run parallel to the Wentworth Point foreshore which is where the deep navigation channel is located. Ideally, the course would have 6 lanes marked by*

Action

buoys. Each lane should have a minimum width of 12.5 – 13m. During the consultation Arup explained the required 6 lanes could be achieved with 3 lanes each under adjacent spans. Rowing NSW agreed to this arrangement].

5. Matters related to the Bridge section towards Rhodes — Note

NSW Maritime emphasised that this section of the bridge should not be referred to as a 'wharf' as this term would give the wrong impression of maritime activity towards the Rhodes side of the Bay.

Passive craft launching (eg kayaks) or water taxi stop would not be encouraged in the Rhodes side of the Bay.

The water depth is shallow at the proposed location of the light craft launching point (on the Rhodes side). Light power crafts (eg water taxi) are likely to disturb contaminated sediments. Kayak owners will need to carry their kayak for a relatively long distance (about 100 m) so the launching point may not be useful.

Passive craft launching only should be encouraged south of the proposed bridge.

Passive craft launching should be encouraged only on the Wentworth Point side which is in proximity to the navigational channel where all recreational maritime activity should occur.

6. Next steps

Action: Arup to further develop its bridge concept. Arup to email a letter and attached dimensioned drawing to NSW Maritime requesting a written response on the proposed bridge design. — Mike Cook

Minutes

ARUP

Project title	Homebush Bay Bridge	Job number	221379
Meeting name and number	Statutory consultation with NSW Maritime		
Location	NSW Maritime offices Rozelle Bay	Time and date	4.00 pm 25 May 2011
Purpose of meeting	Present proposed Homebush Bay bridge vertical clearance on the navigational channel and its rationale.		
Present	Bruce Green (Executive Director Strategic Projects and Development, NSW Maritime) Neil Mudge (Executive Director, NSW Maritime) Wayne Cartner (NSW Maritime) Mike Cook (Arup) Javier Valderrama (Arup)		
Apologies	None		
Circulation	Arup project team Scott Carver Rick Graf		

Action

1. Bridge design

Note

MC presented two bridge options: one showing a 4-span bridge and the other one showing a 6-span bridge, and confirmed that both options will

- Provide a vertical clearance at the navigational channel of at least 5.7 m; and
- Fulfil Rowing NSW requirements in terms rowing race lanes.

The depth of bridge deck for the 4 span bridge (60m span) is proportionately deeper than the 6 span bridge (40m span) therefore the navigational clearance is governed by the 4 span bridge.

MC explained the rationale of the vertical navigational clearance in terms of required landing levels at Rhodes and Wentworth Point and accessibility considerations. The vertical elevation of the bridge deck is governed by:

Prepared by Javier Valderrama

Date of circulation 26 May 2011

Action

1. The level at the Rhodes shore for accessibility onto the bridge from the foreshore at RL 2.00m AHD;
2. Achieving a gradient of less than 1:33 for accessibility across the bridge from the Rhodes shore; — Arup
3. Achieving the required vertical clearance over the navigational channel;
4. Achieving adequate headroom under the bridge on the Wentworth point foreshore. — Noted

MC explained that as the concept is finalised for the EA (and later as the project goes through its detail design stage) the vertical clearance on the navigational channel may vary, but that the clearance will be at least 5.7 m and possibly approach 6.5m.

NSW Maritime agreed that the proposed 5.7 m minimum clearance above MHW on the navigational channel is acceptable. Adequate clearance should also be maintained for the spans over the rowing lanes.

Action: Arup to ensure adequate vertical clearance over the rowing lanes.

NSW Maritime stated the 4 span bridge may be more appropriate for Rowing NSW users as this would provide the option to extend the race course diagonal to the Wentworth Point foreshore.

NSW Maritime suggested undertaking further consultation with Rowing NSW on the proposed bridge design solution.

Action: Arup to undertake further consultation with Rowing NSW.

Minutes

ARUP

Project title	Homebush Bay Bridge		**Job number** 221379
Meeting name and number	Traffic Management and Access Workshop - SOPA and Transport NSW: 1		**File reference**
Location	Arup Office		**Time and date** 9.00 am 23 February 2011
Purpose of meeting	Gather input from Transport NSW and SOPA on the various transport requirements for the Homebush Bay Bridge proposal.		**Page 1 of 6**
Present	Chris Walsh, Transport NSW Edward Osiowy, Transport NSW Rick Graf, Graf Colin Henson, Arup Safiah Moore, Arup	Hillary Johnson, RTA Steve Kennet, SOPA Greg Dowling, Scott Carver Javier Valderrama, Arup	
Apologies	Mike Cook, Arup	Brian Mander, STA	
Circulation	As above		

Action

1.1 Introductions Note.

- STA not able to attend, Arup will meet with STA separately to discuss transport issues and incorporate issues raised in discussions into EA.

1.2 RG and JV provided a brief explanation of the bridge.

- Concept and function of the bridge – Bridge connects to Rhodes and Wentworth Point.
- Key connection between Wentworth Point to Rhodes Station and shopping centre. There will also be a desire line between Rhodes and the Wentworth Point ferry terminal.
- Rhodes road network is largely established.
- Existing road network on Wentworth Point responds to the current warehouse uses.

Prepared by Safiah Moore

1.3 Transport growth forecasts Note

- Forecast population in 25 years: Rhodes 14,000 residents; Wentworth Point, 10,000 – 30,000 residents; SOPA: 5,000 – 20,000 residents.
- The Homebush Bay area presents a new medium – high density area for the Sydney Metropolitan Region to meet the Sydney Metropolitan Strategy targets.
- Proposed bridge movements relate to the expected level of travel behaviour change from private vehicle to public transport use, walking and cycling (low, medium, high).
- The bridge seeks to provide a proactive approach to travel behaviour change from the development at Wentworth Point.

1.4 Future bus service: Note

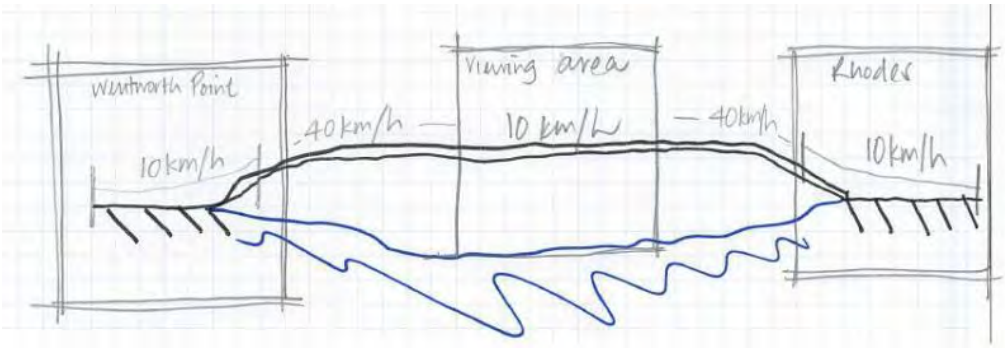
- Capacity per direction depends on nature of the bus: Shuttle bus capacity 20 pax/bus; Larger bus capacity 40 pax/bus.
- Regional buses are assumed not to use the bridge, only local buses at early stages.
- It is acknowledged that the some among the community reference group (CRG) resists regional buses on the bridge. CRG feedback should be considered within context of future demand.
- The bridge needs to be seen as a 100 year piece of infrastructure, for the first 5 – 10 years it may be an underutilised piece of infrastructure however the bridge will establish a key connection between the two developing communities.
- In the long term, may consider integrating the two communities with regional bus links.
- There will be broad planning for light rail integrated into the design of the bridge.
- CRG has flagged initial concerns over shuttle bus ticketing.
- Regional event buses would not use the bridge, however SOPA may assess the need for local event buses serving Wentworth Point and Rhodes to use the bridge in the future.
- Consideration for event bus movements is not within the scope of the Part 3A Environmental Assessment, if required in the long term, SOPA will lodge a Part 3A modification.

1.5 Bridge design

Arup to design for safety for bridge at Wentworth Point and Rhodes access points

- 3 options were presented for 8 m width bridge.
- 2 options for 10 – 12m wide bridge were presented.
- TNSW and the RTA require a 2 lane busway and separated shared pedestrian/ cyclist way. Thus the 8m width bridge options are not supported.
- Need a controlled environment for bus/pedestrian/cyclist interaction on the bridge and at landings.
- Grade separated crossing of the intersection where the bridge lands at the Wentworth Point side is not an option to be considered.
- Bridge design and interface with landings will be designed to be pedestrian safety oriented as possible.
- A joint design exercise will be carried out with Canada Bay Council to investigate the intersection with Gauthorpe St, Rhodes.
- Initial proposed design speed – 25km/h: RTA advises speed limits are in multiples of 10: 10km/h or 40km/h or higher, with 50km/h being the default.
- A speed limit of 50km/h is preferred given the length of the bridge and its transport function, given the higher speeds used by confident cyclists and practicality issues for bus operation.
- 2 lane bridge width is required to accommodate emergency vehicle movements. A two-way, single lane bridge would present safety and operational issues if there are breakdowns or traffic signal failures.
- Design of the bridge should convey understanding of traffic and pedestrian, cyclist interaction.
- 10km/h shared zones were explored at critical locations of the bridge as below and not endorsed as the space would not be appropriately self enforcing, given its disparate operational functions:

Figure 1 SK01 Workshop Illustration_potential design speeds



- RTA advised that a 10km/h design speed is required for shared zones and is only appropriate to self enforcing environments such as short laneways in built up urban areas.

1.6 Bridge users — Note.

- Safety must be considered with high recreation/ younger children cyclist and pedestrians.
- High speed cyclists would likely use the bus lane.
- Consider limiting the types of buses that use the bridge; regular STA service buses and shuttle buses.
- Buses using the bridge are to be managed by SOPA and may need transitway regulation to exclude other bus types

1.7 Bridge ownership — Ownership of road interfaces and infrastructure to be confirmed by SOPA

- SOPA will take ownership of the bridge following construction.
- Bridge will be considered a road related area, managed by SOPA, with traffic signals under RTA jurisdiction.
- Ownership of signals needs to be confirmed if under community title.

1.8 Proposed bridge bus movements — Note

- Preliminary bus routes from current option from Homebush Bay Bridge website.
- Shuttle bus service is likened to the Manly Shuttle service costing $500,000/year to run, every 10 minutes with a gold coin donation, noting that such an operation would need to be authorised and accredited as per the Passenger Transport Act 1990.
- Linking Newington has not been considered at this stage ; expanding the bus route could limit the ability to provide a high frequency service.

- Rather than extending the shuttle bus route to cover Newington, Concord Hospital etc, transfers between shuttle and STA routes could be more likely. Other options include shuttle bus loop services to Newington and Concord Hospital that would interchange with the Wentworth Point to Rhodes shuttle.
- The suburb of Newington has existing STA buses that run on a 15 minute frequency. The Wentworth Point community likens their community to Newington and expect a similar frequency transport service.
- Some Wentworth Point residents fear the provision of a shuttle bus service as a funded service through body corporate could inhibit the provision of STA buses if providing a good/ viable service.
- Bus bridge movements could attract other people to Wentworth Point (not residents) to use the bridge and bus services, may present parking issues for Wentworth Point: there will be limited on street parking at Wentworth Point.

1.9 Safety

Arup to further investigate pedestrian desire lines on both Rhodes and Wentworth Point side

- Pedestrian desire lines to the bridge and adjoining parklands are to be further considered to understand pedestrian movements and safety implications at either end of the bridge.
- Pedestrian movements and crossing opportunities should be shown clearly and be conveyed clearly through the submission.
- Temporary traffic management measures were discussed – i.e. traffic lights/ controlled crossings at peak times only. Permanent traffic and pedestrian management measures are required to ensure consistent awareness of the road user environment for safety purposes.
- Safety issues should also be considered with pedestrian and cyclist interaction.
- TNSW and the RTA support the concept of the bridge, however safety issues are key and TNSW and the RTA will only be in support of the bridge if safety issues have been addressed.
- Frequency of the bus service was discussed: high and low frequency bus movements are considered as a safety concern with potential for pedestrian/cyclist/bus collisions; lower frequency bus movements could result in pedestrians and cyclists being less aware of potential for pedestrian/cyclists/bus collisions.

1.10 Bridge design requirements

Arup, pending

- 2 lane busway for regular service bus types and shared pedestrian/ cyclist way separated by crash barriers for the length of the bridge.
- 3m – 3.5 m wide bus lane.
- Access to the bridge from the south side with barriers to separate conflicting movements of general traffic, pedestrians, bicycles and buses.
- Controlled environment for bus/pedestrian/cyclist interaction on the bridge and at landings.
- Bridge design and interface with landings will be designed to be pedestrian safety oriented as possible.
- Design of the bridge should convey understanding of traffic and pedestrian, cyclist interaction .
- Design for high use for recreation including younger children, cyclists and pedestrians.
- Measures to stop people fishing/ jumping from the bridge.
- Lighting for safety and security purposes.

direction from its client.

1.11 Design elements of the bridge

- Potential to provide shade along the pedestrian route.
- Potential for shelter, and protection to be enabled by the bridge structure.
- Incorporate safety measures into a preferred aesthetic design result if possible, considering the available budget.
- Design of the bridge to encourage behavioural change toward public transport/ bicycle use and walking.

Next steps

Arup to circulate minutes

Design team to have direct discussion with STA buses for input into traffic management and access issues

Arup to incorporate requirements into Environmental Assessment submission

Arup to circulate minutes and discussion notes from workshop

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number**	221379
Meeting name and number	Consultation with STA		
Location	Arup Offices	**Time and date**	10am 29 March 2011
Purpose of meeting	Gather input from STA on the various transport matters relevant to the Homebush Bay bridge project. This input will be incorporated into the design development and environmental assessment process.		
Present	Rick Graf (Graf International) Colin Henson (Arup) Javier Valderrama (Arup) Safiah Moore (Arup) Fiona Riley (Arup)		Robert Rosadi (STA) Brian Mander (STA) Edward Osiowy (STA) Greg Dowling (Scott Carver)
Apologies	None		
Circulation	Those present Arup project team Hilary Johnson (RTA)		

Action

- JV welcomed all and made introductions
- CH showed a presentation outlining: Note
    - Purpose of the bridge (pedestrian & cyclist access with limited buses, possible connection for utilities, providing additional cycling, walking, bus and rail connections).
    - Forecast growth likely to be significant; plan is to provide more opportunity for public transport and walking and cycling.
    - Potential for significant shift in transport mode split – reducing impact of traffic congestion.
    - Suggested configuration – two way bus lane with shared pedestrian / cycle lane. The carriageway would be available for competent cyclists (bus lane design speed of 40km/h, with 10km/h for pedestrian conflict zones)

Prepared by	Fiona Riley
Date of circulation	29 March 2011
Date of next meeting	March 2011

Action

- Methods of controlling bus only access to bridge to be discussed in further detail – further refinement of options needed
- Community have requested a Shuttle Bus service (mid-sized bus to be operated by the community)
- The future dense residential population requires an established, reliable and frequent public transport system.
- This assessment does not include the Bridge to be used for events. If SOPA choose to utilise the Bridge for events, this will be a separate assessment process.
- Preferred bridge configuration presented at the meeting as follows:

Configuration	Design Speed
-Two way bus lane -Shared pedestrian and cycle lane	10km/h – 40km/h

indicative sketches only

- STA comments — Note

- RR indicated STA would be cautious about a shuttle service. The route must accommodate a medium rigid (12.5m) bus as a minimum for STA to consider it.
- STA does not operate shuttle bus services.
- Bridge design should be based on a 'standard' 12.5m length bus.
- STA buses may not be able to follow the presented proposed shuttle route as some are local roads and are unable to accommodate full size buses.
- Shuttle buses are not a long term solution – they won't service such a large community sufficiently.
- Designing a bus route should be a long term route that can be accessed by both shuttle bus and STA buses.
- Desirable lane width for the two bus lanes would be 7.0m kerb to kerb. Absolute minimum of 6.5m kerb to kerb.
- Threshold of any pedestrian crossing (ie. shared zone) not to be higher than 75mm, with 1.5m ramps either side.
- STA Typical bus stop requires 30m length with no indent.

Action

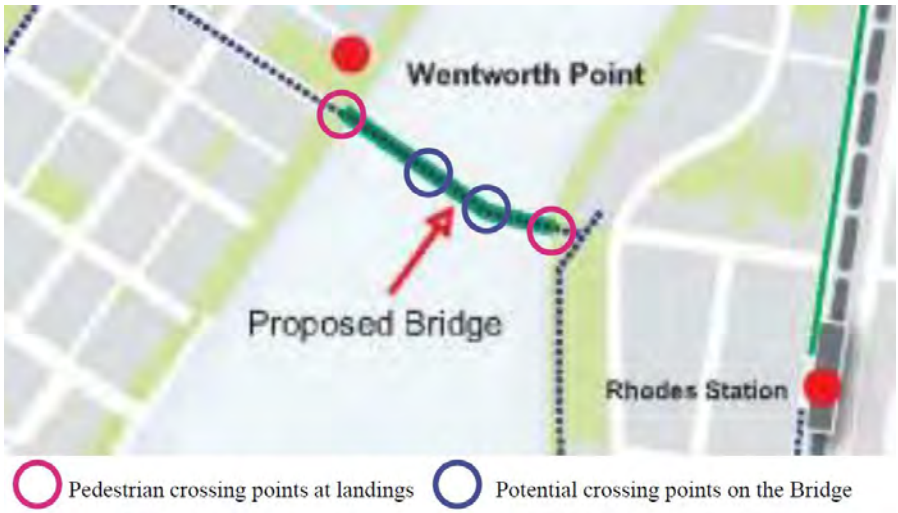
- There is no major issue with 'high speed' cycle commuters sharing bus lanes with buses.
- Redirecting regional buses through the Bridge would result in longer journey times over existing Homebush Bay Drive.

- Attendees agree on the importance to attract behavioural change towards walking/cycling/using public transport at a very early stage of the development. — Note

- Greg Dowling showed a presentation outlining: — Note
  - Street widths (20m – Rhodes; 25m Wentworth Point)
  - The bridge should respond to the want for people to engage with the bridge as a viewing platform or to gain access to the water.
  - The crossing points of the bridge at each landing will need to be managed effectively to ensure pedestrian safety.
  - Due to the park and community uses on Wentworth Point (north side of the landing of the bridge) and Rhodes (south side of the landing of the bridge), there may be a desire for pedestrians to cross the bridge at a point on the Bridge. This crossing point could also be used for viewing events in the Bay such as rowing.
  - Crossing point was suggested in close proximity to the Rhodes landing. RR suggested that 2 conflict points within a small distance (less than 200m) is undesirable.
  - Suggestion of a managed crossover point halfway across the bridge – though there are concerns with the management of this with multiple buses and interaction with children etc.
  - It is best to minimise the conflict points. Crossing point could be served at both landing points to respond to the pedestrian desire line travelling north – south along the foreshore.
  - An indicative sketch showing the pedestrian crossing points discussed at the meeting is presented below

Project title	**Job number**	**Date of Meeting**
Homebush Bay Bridge	221379	29 March 2011

Action



- It was suggested to have as a potential solution for pedestrian circulation a pedestrian crossing at halfway point (rather than shared zone). This crossing point requires clear demarcation of who has right of way. — Note
- Raised table crossing was suggested. This requires clearances for buses of minimum 75mm.
- Establishing a pedestrian crossing will be dependent on RTA warrants with consideration to PV(pedestrian x vehicle volumes to be at least 60,000)
- There have been instances where the RTA have considered a reduced warrant.
- Attendees agreed to meet again with STA and other transport agencies once a concept solution has been developed — Arup to coordinate this meeting
- JV to circulate draft and final minutes among the attendees — Action

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number**	221379
Meeting name and number	Statutory Consultation with SOPA		
Location	SOPA offices (Sydney Olympic Park)	**Time and date**	3.00 pm 29 April 2011
Purpose of meeting	Present progress on bridge design and seek feedback from the authority.		
Present	Craig Bagley, SOPA Greg Dowling, Scott Carver James Naylor, Arup Javier Valderrama, Arup Peter Byrne, Arup		
Circulation	Project team		

	Action
GD and JN presented current bridge design and landing arrangements at Rhodes and Wentworth Point.	Note
The following points were noted based on SOPA correspondence to Rick Graf on 21 March 2011: ▪ SOPA has given in-principle support to accept ownership of the bridge once completed. ▪ SOPA will seek amendment of the SOPA Act to include the bridge and bridge approaches within the definition of Sydney Olympic park ▪ SOPA will exercise road and traffic authority functions on the bridge and bridge approaches ▪ Bridge needs to comply with RTA standards for use as a road and bridge. ▪ Appropriate funding must be allocated to cover bridge operational costs during the initial lifespan of the asset	Note
SOPA to clarify level of involvement of the RTA in the bridge design	SOPA
In terms of ownership arrangements it was proposed: ▪ Rhodes landing area - Land occupying road approach and bridge abutment to get a licence (easement) to occupy City of Canada bay	Note

Prepared by Javier Valderrama

Action

proposed public open space.

- Bay area (bridge foundations) – Community lease between NSW Maritime and SOPA
- Wentworth Point - Land occupying road bridge abutment to get a licence (easement) to the point in which mergers with the proposed approach road (approach road is outside the HBB application and part of the DA for the site masterplan)

Project title	**Job number**
Homebush Bay Bridge	221379

Minutes

ARUP

Project title	Homebush Bay Bridge	**Job number** 221379
Meeting name and number	Statutory Consultation with SOPA	
Location	SOPA offices (Sydney Olympic Park)	**Time and date** 11.00 am 15 July 2011
Purpose of meeting	Present preferred bridge design and seek feedback from the authority.	**Page 1 of 2**
Present	Andrew Brown, (AB) SOPA Craig Bagley, (CB) SOPA Darlene van der Breggen, (DvdB) SOPA Greg Dowling, (GD) Scott Carver James Naylor, (JN) Arup Peter Byrne, (PB) Arup	
Circulation	All attendees.	

	Action
PB presented preferred concept bridge design that will be detailed as part of the environmental assessment report. He illustrated the potential safety issues surrounding the crossing of the bridge and the solutions that have been adopted to alleviate the issues.	Note
GD presented the landing concepts on both Wentworth Point and Rhodes that Scott carver are finalising. He also presented the architectural concepts for the experience as part of the bridge.	Note
CB spoke to the RTA verbally regarding their involvement in the design process and stated that they are unlikely to have a major part in the design process. Nonetheless, Arup as standard practice will design in accordance with RTA standards and design codes.	Note
DvdB noted that SOPA would like to put the area under the bridge beside the proposed abutment to good functional use. This will be considered during design development stage.	Note
Arup are to present to the preferred option to the SOPA peer review panel in the near future.	Note

Prepared by Peter Byrne

Arup
Arup Pty Ltd ABN 18 000 966 165

Record of Telephone Communication

ARUP

Project title	Homebush Bay Bridge Operational Noise Assessment Methodology	Job number	221379
Communication from	Mitchell Allen	File reference	221379
Organisation	Arup	Date of communication	14 February 2011
Telephone no	(02) 9320 9944		
Communication to	Larry Clark		
Organisation	OEH (previously DECCW)		
Telephone no	(02) 9995 5786		

Record of communication — Action

SUBJECT:

- Assessment methodology of operational noise emissions from buses utilising Homebush Bay Bridge.

CONSIDERATIONS:

- Low traffic flow, potentially below threshold of CoRTN robustness.
- Input data for CoRTN heavy vehicles may not correspond directly to bus noise.

PROPOSED:

- Calculate for 50 vehicles per hour and scale logarithmically as appropriate.
- Calculate for 100% heavy vehicles.

CONFIRMED:

- Proposed methodology robust.

SUGGESTED:

- Confirm results against FHWA modelling as being robust at low traffic flows and having.

Javier Valderrama

From: Rod Harwood [rodharwood@environmentalstrategies.com.au]
Sent: Thursday, 7 July 2011 11:35 AM
To: 'Rod Harwood'; Javier Valderrama; 'Doyle, Shane'; 'Molinari, Seth'
Cc: Peter Byrne; deanstafford@environmentalstrategies.com.au
Subject: RE: HBB - Consultation with DEH

Javier,
Stephanie does not require any additional involvement beyond the formal process VIA planning but did stress the importance of ensuring protection of the marine environment during piling to be the major concern.

Rod Harwood,
Principal Hydrogeologist
Environmental Strategies Pty Ltd
Accredited Contaminated Land Auditor,
NSW EPA,WA DEC and DERM QLD (TPR).

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rodharwood@environmentalstrategies.com.au

Providing Benefits

From: Rod Harwood [mailto:rodharwood@environmentalstrategies.com.au]
Sent: Thursday, July 07, 2011 11:15 AM
To: 'Javier Valderrama'; 'Doyle, Shane'; 'Molinari, Seth'
Cc: 'Peter Byrne'; 'deanstafford@environmentalstrategies.com.au'
Subject: RE: HBB - Consultation with DEH

Javier,

Stephanie Yu from OEH has already been consulted on this project and is aware of it-it always helps with Part 3 A(will continue since there are DG requirements already written) to communicate early-I personally think that communication at Step 2 is the best option but I will give Stephanie a call and talk through it.

Rod Harwood,
Principal Hydrogeologist
Environmental Strategies Pty Ltd
Accredited Contaminated Land Auditor,
NSW EPA,WA DEC and DERM QLD (TPR).

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Providing Benefits

From: Javier Valderrama [mailto:Javier.Valderrama@arup.com.au]
Sent: Thursday, July 07, 2011 7:39 AM
To: Rod Harwood; Doyle, Shane; Molinari, Seth
Cc: Peter Byrne; deanstafford@environmentalstrategies.com.au
Subject: HBB - Consultation with DEH

Rod/Shane/Seth,

One of the Homebush Bay bridge DGRs for is to consult with DEH (EPA).

I was wondering if you could provide some guidance on the following:

1. From your experience in similar Part 3A projects, do we need to consult DEH before the EA report is lodged or can we say that, for the purposes of this assessment, the environmental auditor acts as DEH and therefore there is no need to approach and consult with DEH directly?

2. If we need to approach DEH directly, when is the best time to do this ie do we need to wait until Environmental strategies reviews Golder's contamination assessment report in order to undertake the consultation?

Advice on this matter will be appreciated. Thanks.
Regards,

Javier Valderrama
Senior Consultant

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Minutes

ARUP

Project title	Homebush Bay Bridge	Job number	221379
Meeting name	Consultation with OEH on the Homebush Bay Bridge		
Location	OEH offices 59-61 Goulburn Street, Sydney	Time and date	10.00 am 11 January 2012
Purpose of meeting	Gather OEH feedback on issues related to construction environmental management, contamination and monitoring. Discuss issues raised with DoP about the adequacy of the draft EA.		
Present	John Coffey (EPA), Javier Valderrama (Arup), Seth Molinari (Golder), Rita Bonetti (Golder), Stuart Taylor (Geochemical Assessments), Rod Harwood (Environmental Strategies) and Dean Stafford (Environmental Strategies).		
Circulation	Those present, Project team, Andrew Beatty (DP&I)		

Minutes	**Action**
Introduction	Noted.
After the introductions EPA confirmed its support for the overall project and its intention that the project is constructed in a manner that minimises impacts to the environment, and in particular minimises the disturbance of sediments in the Bay.	
EPA noted Homebush Bay is one of the most contaminated sites in the Harbour. Contamination has extended to the Parramatta River. There is currently a fishing ban in the Bay.	
Bridge clearance	Make clear in the EA why the design incorporated the proposed maritime clearance
EPA expressed a view that the proposed clearance will encourage maritime traffic in the southern section of the Bay with the potential of disturbing contaminated sediments.	
The project team responded that it considers that it is not the function of the bridge to regulate traffic in this portion of the Bay. At present, without the bridge, vessels of unlimited size may access all parts of the Bay.	
Project team noted the proposed clearance is based on consultation with RMS and Rowing NSW.	
Project team proposed to make clear in its response to comments on the EA how the proposed maritime clearance was established.	

Prepared by Javier Valderrama

Date of circulation 25 January 2012

Arup
Arup Pty Ltd ABN 18 000 966 165

Minutes

Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	11 January 2012

Minutes	Action
EMP for the Bay	Noted.
EPA noted that on 28 December 2011 RMS agreed to develop an EMP for the Bay. The plan is yet to be prepared. Project team agreed to continue consulting with RMS and establish a dialog regarding this EMP.	Project team to establish a dialog with RMS during the preparation of the bridge construction CEMP.
Monitoring	
Project team explained the proposed monitoring regime to be undertaken during the maritime-based construction activities. EPA outlined the monitoring program taken during the remediation of the Eastern portion of the Bay. EPA expressed the view that a program similar to the water monitoring program implemented during Thiess's remediation of sediments be considered. The Project team clarified that the bridge construction would <u>not</u> involve excavating or disturbing contaminated sediments / material nor generate hazardous waste. EPA noted this is not clear in the EA and needs to be clarified in the EA	Project team to make clear in the EA that the proposal would <u>not</u> involve excavating or disturbing contaminated sediments / material nor generate hazardous waste.
Project team pointed out that the work undertaken by Thiess involved a greater time scale and the disturbance and exposure of a considerable area of contaminated material. Therefore the program they had in place needed to be more extensive. Project team noted that in the case of the Homebush Bay Bridge, the proposed construction methodology and monitoring systems are proportional to the low level of risk of disturbing contaminants and impacting the water quality of the Bay. EPA did not agree that this was acceptable. EPA highlighted the need for more robust sediment control systems and more details on what is to be used.	Project team to further discuss/consult with EPA on the need for more robust sediment control systems and more details on what is to be used.
EPA suggested considering the potential for use of Semi Permeable Membrane Device (SPMD) as part of the monitoring program. EPA explained this type of membrane was used during the Bay's remediation works carried out by Thiess. EPA noted there is baseline (SPMD) data for the Bay and that it can be utilised for comparison during the proposed bridge maritime-based construction activities.	Project team to consider existing monitoring data and incorporation of SPMD into the construction environmental management and monitoring program.

Minutes

Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	11 January 2012

Minutes	Action
Scouring EPA expressed concern about potential scouring issues associated with the bridge. It suggested a scour resistant structure could be installed around the piles. Project team clarified that sediment scouring is unlikely to be an issue due to low current velocities in the Bay. EPA queried what justification is offered for this conclusion.	Project team to provide in the EA the justification to the conclusion that 'scouring won't be an issue'.
Project team also noted that other than driven piles and associated pile caps, it is not proposed to have any other overwater element of the bridge below high tide level. EPA appreciated this matter but noted the EA needs to better explain this.	Project team to better explain in the EA that, other than driven piles and associated pile caps, it is not proposed to have any other overwater element of the bridge below high tide level.
Additional consultation EPA suggested consulting with Therese Manning (EPA Scientific Services) concerning the use of existing monitoring data, and supplementing the proposed monitoring program with the use of SPMD. Also consider silt curtain construction details, possibly involving input from Thiess.	Project team to set up a second consultation meeting with EPA
Issues raised on the adequacy of the draft EA Parties agreed to continue face to face consultation to address the issues raised on the adequacy of the draft EA.	Project team to set up a second consultation meeting with EPA

Minutes

ARUP

Project title	Homebush Bay Bridge	Job number	221379
Meeting name	Consultation with EPA on the Homebush Bay Bridge		
Location	EPA offices 59-61 Goulburn Street, Sydney	Time and date	10.00 am – 12.15pm 3 February 2012
Purpose of meeting	Gather EPA feedback on issues related to construction environmental management, contamination and monitoring.		
Present	Therese Manning (EPA), Stephanie Yu (EPA), John Coffey (EPA), Rick Graf (Graf International), Javier Valderrama (Arup), Peter Rand (Arup) Seth Molinari (Golder), Shane Doyle (Golder), Stuart Taylor (Geochemical Assessments) and Rod Harwood (Environmental Strategies).		
Circulation	Those present, Project team, Andrew Beatty (DP&I)		

Minutes	Action
Project background	
Project team provided background information about the proponent, the context of the project the bridge and the proposed construction methodology.	
With regards to the construction methodology it was noted:	
On the remediated section of the Bay (eastern side) - The bridge structure (known as „approach bridge" in the EA) is a „jetty type" structure designed to minimise impacts within the capped area. The proposed foundations are 550 mm diameter precast concrete piles. The piles would be driven through the water column, capping layer and sediments to bedrock. The piles are expected to perforate the geotextile marker layer with minimal pull-down or disturbance of the marker layer. Drawings illustrating the construction methodology were presented (see picture overleaf). The „approach bridge" would be built incrementally from the foreshore towards west. No barges would be utilised during the construction of the approach bridge.	Note

Prepared by Javier Valderrama

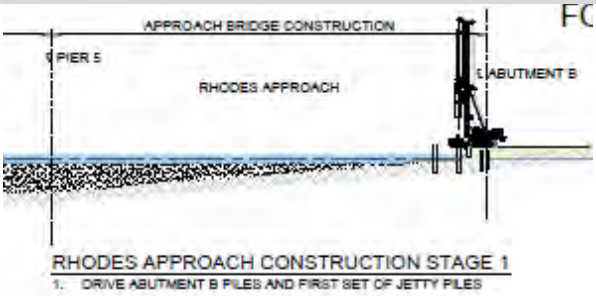
Date of circulation 7February 2012

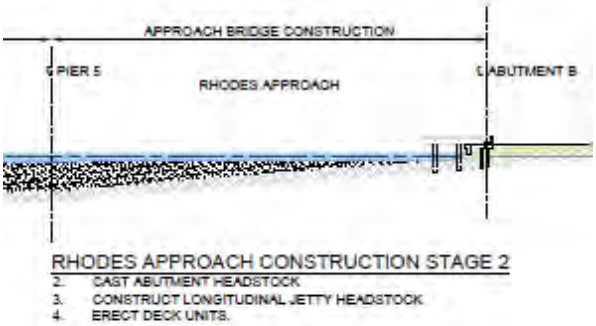
Arup
Arup Pty Ltd ABN 18 000 966 165

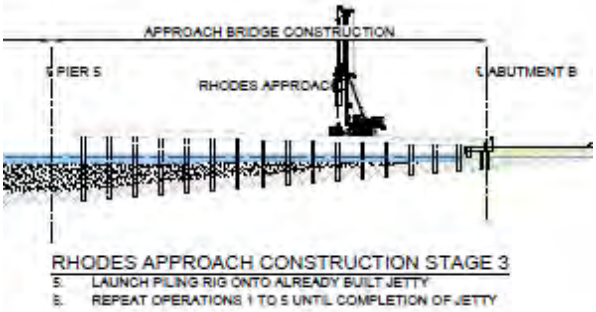
Minutes

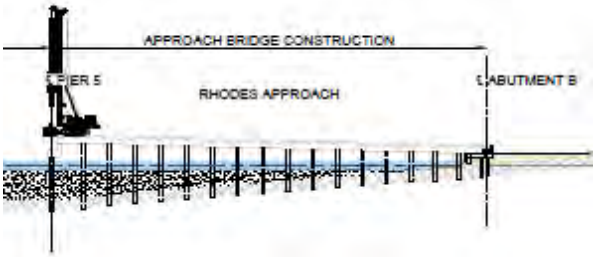
Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	3 February 2012

Minutes	Action









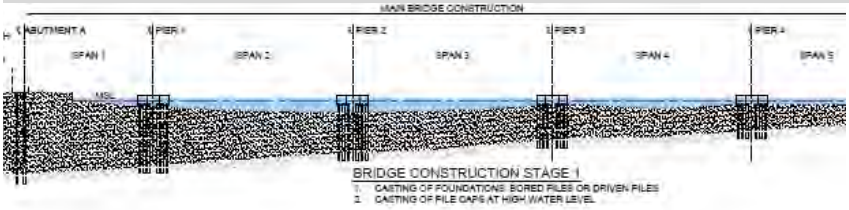
On the remaining section of the Bay (un-remediated) – The structure located in the remaining section of the bay as known as „main bridge" in the EA. The main bridge would have four piers. Piling would be installed from piling barges. The proposed foundations are 550 mm diameter precast concrete piles. The piles would be driven (not bored) through the water column, capping layer and sediments to bedrock.

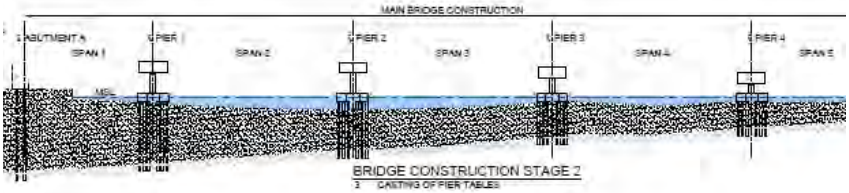
Note

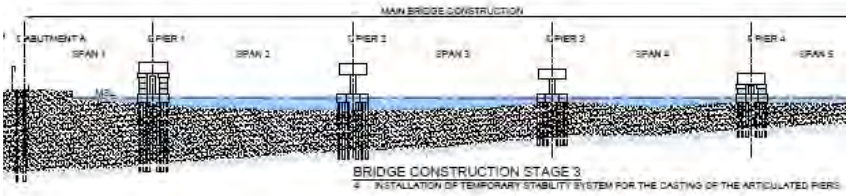
Minutes

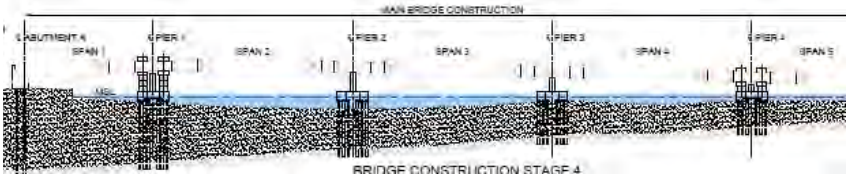
Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	3 February 2012

Minutes	Action









Project team noted the piles both for the „approach" and the „main" bridge would be driven (not bored) through the sediments. The adopted construction method is conservatively based as the whole area is highly contaminated and exposure/release of these contaminated sediments must be avoided. Sediment movement caused by driving piles would be down and sideways, with a low potential for sediments/contaminants to migrate up the side of the pile.

EPA suggested the EA should explain the rationale behind the predicted sediment displacement during piling (ie down and sideways displacement) and whether the piling operations would involve vibration that may potentially disturb contaminated sediments.

Project team to explain in the EA the rationale behind the predicted sediment displacement during piling (ie down and sideways displacement) and whether the piling operations would involve vibration with potential to remobilise contaminated sediments.

Construction methodology

Note

Team noted detailed construction methodology will be available once the detailed design is finalised and the construction contractor is engaged. It was recognised that not all construction details are available at this stage. EPA acknowledged they were generally comfortable with the proposed construction methodology.

Description of existing contamination in the Bay

EPA stated this section of the report needs a stronger statement acknowledging the high levels of contamination of Homebush Bay. EPA suggested this section should be expanded perhaps by putting the contaminant status of Homebush Bay in an international context.

Project team to expand the existing contamination conditions section with a more explicit statement acknowledging the level of contamination in the Bay.

Minutes

Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	3 February 2012

Minutes	Action
Contamination levels quoted in the report EPA noted that contaminant concentrations in some parts of the bay are higher than the levels quoted in the report. EPA comments were about concentrations at depth in the remediated area (not just the concentrations at the surface in the rest of the Bay). Project team noted that concentrations in the report generally refer to sediments in the remediated area, which are directly relevant to the proposal. EPA suggested expanding this discussion in the report and making reference to the overall concentrations of different type of contaminants. Project team note this discussion can be expanded but quantifying these levels would not necessarily be relevant to the assessment of disturbance of surficial sediments.	Project team to expand the discussion on the status of various contaminants in Homebush Bay.
Post meeting comment from EPA: The Grid monitoring study found surface concentrations of dioxins to be at most 20-60ug/kg but when grab samples were taken, to do some dissolution experiments, they found surface samples as high as 2,000ug/kg. So there is a large potential for concentrations to be significantly higher (or lower) than we are aware of – that appreciation of first the magnitude of the situation and the uncertainty in the data we have are what we would like better explained in the report.	Project team to expand the existing contamination conditions section with a more explicit statement acknowledging the level of contamination in the Bay.
Monitoring regime Project team explained the proposed monitoring regime for water-based construction activities in Homebush Bay. It was noted that the Bay"s contaminants are generally associated with particulate matter, i.e. turbidity. It was noted that unlike other parts of Sydney Harbour resuspended particles are likely to settle quickly given the low water velocities at the project site. It was noted westerly wind generated waves impinging on sediments in shallow water areas, and to a lesser degree stormwater events, were the main turbidity generators in Homebush Bay. EPA noted the proposed construction activities would not be an activity to be licenced under the *Protection of the Environment Operations Act 1997*.	Note
Parties acknowledged turbidity would be the main parameter (proxy indicator) to monitor during the proposed construction water-based activities.	Note
Parties agreed that turbidity needs to be measured by a qualified person using a submersible data logger. Turbidity at various heights in the water column would be recorded both inside and outside the sediment curtain and reference locations e.g. "upstream/downstream" of activities with potential to disturb sediment. Measurements should be taken frequently. This will be reflected in the CEMP to be prepared when the construction contractor is appointed.	Note
Parties agreed that the use of automated data loggers is not appropriate for this particular case as they would not offer additional benefit to the manual readings.	Note
Water quality inside the silt curtain EPA noted there are not established turbidity trigger levels for inside the curtain. It is not possible to pick the trigger numbers at this stage but there should be triggers established by the project team. EPA expects contingencies when established triggers are exceeded. Contingencies have to be prescriptive – but it"s the project that has to set the levels– they then have to be prescriptive to the construction contractor. The construction work must	CEMP (which will be prepared once the design has been finalised and the construction contractor engaged) to specify turbidity trigger levels and contingencies when established triggers are exceeded.

Minutes

Project title	Job number	Date of Meeting
Homebush Bay Bridge	221379	3 February 2012

Minutes	Action
then be reactive to the levels of turbidity measured.	
Parties agreed the ambient turbidity and turbidity at potentially impacted areas would be assessed in real time with a feedback mechanism that allows continuously improvement in construction methodology.	Note
Semi permeable membrane device (SPMD)	
EPA explained the operation of SPMDs as used during the remediation works undertaken by Thiess at Rhodes. The devices measure time-averaged concentrations of contaminants of concern during the deployment period (typically 28-days).	Note
EPA suggested such devices, or alternatives, should be used during the proposed maritime construction activities. SPMD data previously acquired by Thiess might be available to the project team (contact point is Theresa Avila from Thiess). EPA noted it is not prescribing the use of this device and is open to alternative approaches to complement the turbidity monitoring described above.	
Project team suggested one alternative approach involving the use of sediment traps.	
Parties agreed that monitoring contaminant concentrations would complement the high frequency turbidity monitoring program.	Parties agreed the report is to provide details on contaminant monitoring that would complement the turbidity monitoring program.
EA statement of commitments	
EPA suggested expanding the statement of commitments section with contamination environmental management matters that will need to be consulted and/or approved by EPA.	Project team to add in the Statement of commitments the CEMP items that need to be consulted and/or approved by EPA.
EA chapter 13	
Parties agreed to update chapter 13 of the EA (soils and contamination) to reflect the relevant actions from this meeting.	Update Section 13 of the EA
Post meeting comment from EPA: Need to be aware of the OHS requirements relevant for the people constructing the bridge. This is not anything we need to get involved in obviously but if workers have the potential to come into regular contact with the sediments then they need to consider the need to implement a blood monitoring program as was done for the construction workers at Billbergia. If they never have the chance to contact the sediments then probably normal processes apply. Based on the Thiess experience, if there is any potential for construction workers to come in contact with the contaminated sediments, there will be the need to be consideration for what are the appropriate levels of PPE and decontamination systems.	EA to make clearer the potential for humans (eg. workers) to come into regular contact with the sediments is very low.
Project team response: Human exposure pathways resulting from construction activities have been considered as part of the assessment (Refer to Section 4.2 of the Contamination report). Identified pathways were found to be significantly reduced or not completed as sediment and associated contaminants and soil-bound contaminants would not be exposed or disturbed by the proposed construction works. Regular exposure to contaminants is unlikely. However, this will be reassessed during the preparation of the CEMP.	Project team to re-assess the risk during the preparation of the CEMP

Javier Valderrama

From: Javier Valderrama
Sent: Monday, 14 March 2011 3:39 PM
To: 'jim.tsirimiagos@railcorp.nsw.gov.au'
Subject: Homebush Bay bridge statutory consultation: Railcorp
Attachments: HBBB_Part3A_FINAL_18Aug2010_2_3Mb (3).pdf; Homebush Bay Bridge - DGR (2).pdf

Hi Jim,

Further our phone conversation a while ago, we've been appointed for the preparation of the Part 3A environmental assessment for the Homebush Bay bridge. As discussed, it is envisaged SOPA will take ownership of the bridge once it is constructed. I've attached FYI:

- The preliminary environmental assessment of the project
- The DGRs and associated DGRs background correspondence from various government authorities
- The DoP's project application:
  http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4331
- Additional background information can be found at the project website:
  http://homebushbaybridge.com.au/index.html

As part of the statutory consultation for the project, I'd appreciate it if you could provide some comments/feedback on the proposal. If you have any questions, please feel free to contact me. Thank you.
Regards,

Javier Valderrama
Senior Consultant

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Javier Valderrama

From: Javier Valderrama
Sent: Thursday, 17 February 2011 12:55 PM
To: 'janne.grose@water.nsw.gov.au'
Subject: Homebush Bay bridge statutory consultation: NSW Office of Water
Attachments: HBBB_Part3A_FINAL_18Aug2010_2_3Mb (3).pdf; Homebush Bay Bridge - DGR (2).pdf

Hi Janne,

As discussed earlier today, your colleague Mark Mignanelli suggested to contact you in regards to the Part 3A Homebush Bay bridge project. We're in the process of preparing the Part 3A environmental assessment for this project.

I've attached FYI:

- The preliminary environmental assessment of the project
- The DGRs and associated DGRs background correspondence from various government authorities
- Also, the DoP's project application:
  http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4331
- Additional background information can be found at the project website:
  http://homebushbaybridge.com.au/index.html

As part of the statutory consultation for the project, I'd appreciate it if NSW Office of Water could provide some comments/feedback on the project.

If you have any questions, please feel free to contact me. Thank you.
Regards,

Javier Valderrama
Senior Consultant

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Javier Valderrama

From: Javier Valderrama
Sent: Wednesday, 13 July 2011 2:47 PM
To: 'carla.ganassin@industry.nsw.gov.au'
Subject: Homebush Bay Bridge - Consultation with Industry and Investment (Fisheries)
Attachments: S011-CST-700[D].pdf; Homebush Bay Bridge_Secondary Context_002.pdf

Dear Carla,

Further to our phone call, we are undertaking a Part 3A environmental assessment for a proposed bridge in Homebush Bay, NSW.

The proposed bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area). The proposed bridge travels along Homebush Bay over land known as harbour title CT V5018 F1 below the mean high water mark owned by NSW Maritime. Portions of land below the mean high water mark occupied by the bridge piers and piles are proposed to be leased from NSW Maritime to SOPA which will be the owner of the Bridge.

I've attached a draft location map and plan for your information. Please note these two drawings are 'work in progress'.

The proposed marine-based components associated with the construction of the proposed bridge that may be relevant to NSW Fisheries would include installation of piles at pier locations, installation of pile caps and piers and superstructure. The construction activities would include, but are not limited to:

Installing piles at pier locations

Foundations would be required at each bridge pier to provide a firm support down to bedrock. Options for foundations at the pier locations include:

- octagonal precast concrete or steel circular hollow section piles driven to bedrock
- bored concrete piles cast within permanent steel casings driven to bedrock, or
- concrete footing cast within a large diameter steel tube or steel sheet pile cofferdam driven to bedrock.

Installing pile caps

- Reinforced concrete pile caps would be constructed to spread the load from each bridge pier into the supporting piles.
- Pile caps may be completely above water or submerged at some stages of the tide, as long as the outside of the pile caps is visible at all stages of the tide, in order to ensure marine navigational safety. For pile caps submerged at some stages of the tide, or as a consequence of global warming, the outer edges would be marked by means of bollards or other devices.

Constructing piers

The bridge piers would be constructed from reinforced concrete using precast and/or in-situ methods.

- All bridge piers will have similar shape for consistency and aesthetics.
- The bridge piers may be constructed using high strength in-situ concrete. A high degree of control over the finish of the exposed concrete surface is required for aesthetics and in order to achieve the required long term durability.
- Integral piers: Substructures are designed to resist the forces and moments induced during service and construction hence no temporary structures required.
- Articulated piers: Temporary nailing system needs to be designed to temporarily make the deck and pier monolithic and provide stability during erection of the balanced cantilevers. For aesthetic and structural reasons, the slenderness of the pier needs to be maintained hence little opportunity to incorporate the nailing in the pier. The preferred system could be a set of props supported off the pilecap with a set of vertical tendons "to nail" the deck during erection.

Installing superstructure

The bridge superstructure will be constructed from reinforced and prestressed concrete using in-situ methods.

In terms of environmental studies and investigations, the project team is undertaking the following:

Ecology investigations

• Assessment of impacts on critical habitats, threatened species, populations or ecological communities and their habitats in the region;
• Assessment of any impacts on the biodiversity values of mangrove and saltmarsh communities of Homebush Bay, wetlands of national importance and migratory shorebird habitats.

Contamination investigations

• Assessment of the potential impacts of the construction of the bridge piers on the disturbance of contaminated marine sediments in Homebush Bay and the connecting ramps on contaminated land in Wentworth Point and Rhodes.
• A site audit statement and a site audit report by an auditor accredited under the *Contaminated Land Management Act* 1997. Details of the assessment and recommendations of the investigations will be provided with the statement.

The findings of these studies will be documented in the EA.

Please feel free to browse additional information on the project at:

- the DP&I's project application:
  http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4331
- the project's website:
  http://homebushbaybridge.com.au/index.html

As part of the statutory consultation for the project, Should Industry and Investment (Fisheries) have any comments on the proposal, please email these comments **before Friday 22 July 2011**. If you have any questions, please feel free to contact me. Thank you.
Regards,

Javier Valderrama
Senior Consultant

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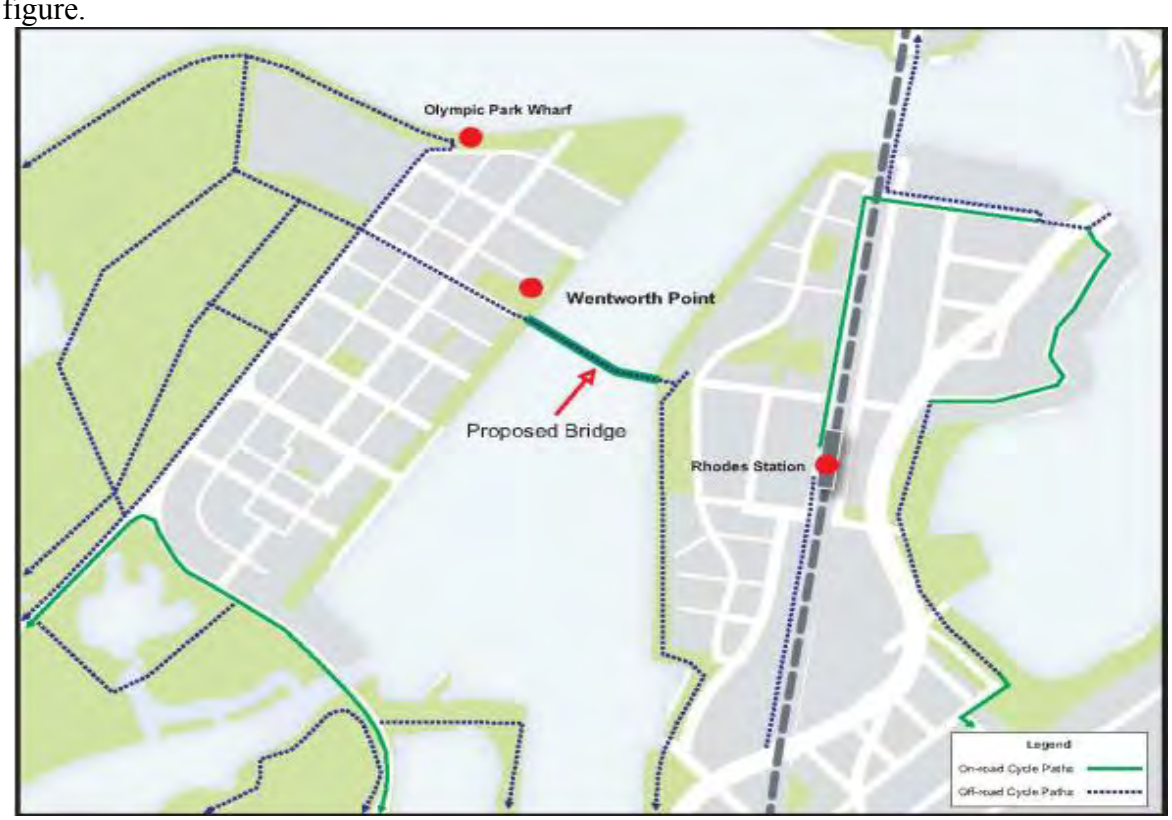
11 April 2011

Dear Frank

Homebush Bay Bridge utility undertakings

As you may be already aware, Arup is preparing the part 3A environmental assessment and preliminary design for the proposed Homebush bay bridge.

The proposed bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area) as shown in the following figure.



It is expected to start operating in year 2014. Additional information on the proposal can be found at the Department of Planning website (link) and at the project's website (link).

The Director-General's Requirements (DGRs) for the project were issued on 22 December 2010. The DGRs identify under key issues:

- *An assessment of risk and mitigation measures from sewage and/or oil spills from infrastructure conduits (sewage and energy supply) located on the bridge structure.*

In order to advance in the preliminary design and the environmental assessment, would you please advise whether Energy Australia has an interest in using the bridge to carry utility undertakings. Should Energy Australia have an interest in using the bridge would you please provide, in the first instance:

1. Timing when such an infrastructure is likely to be required
2. Envelope details such as type of infrastructure (eg. cable), diameter and weight, materials (including liquids or other possible contaminants), protection measures (e.g concrete cover thickness)
3. Specific operational requirements and mitigation measures to prevent oil spills
4. Access requirements for installation, inspection & maintenance
5. Location of closest existing service.

This information will be used by our project team for the environmental assessment and preliminary design of the bridge.

It would be appreciated if you could respond to our request before **Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.

Yours sincerely

Javier Valderrama
Senior Sustainability Consultant
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Our ref 220708

ARUP

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javier.valderrama@arup.com
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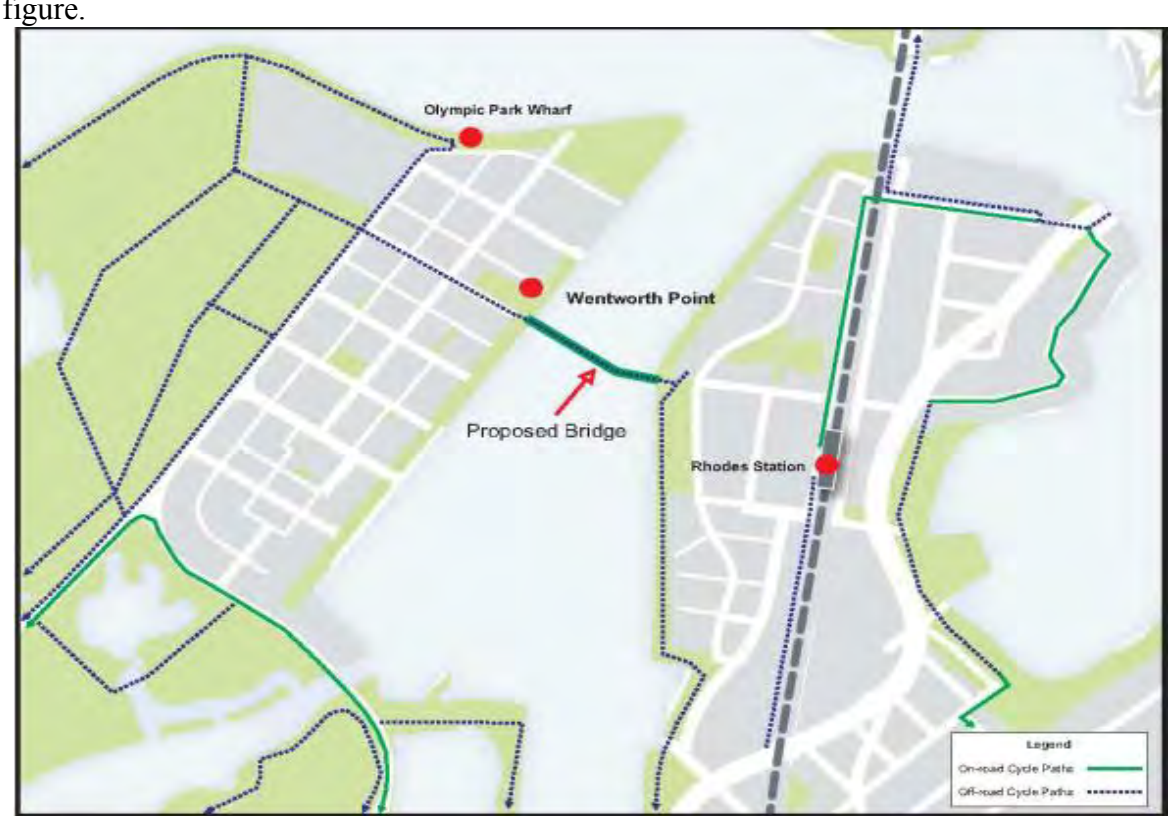
11 April 2011

Dear Tim,

Homebush Bay Bridge utility undertakings

As discussed last week, Arup is preparing the part 3A environmental assessment and preliminary design for the proposed Homebush bay bridge.

The proposed bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area) as shown in the following figure.



It is expected to start operating in year 2014. Additional information on the proposal can be found at the Department of Planning website (link) and at the project's website (link).

The Director-General's Requirements (DGRs) for the project were issued on 22 December 2010. The DGRs identify under key issues:

- *An assessment of risk and mitigation measures from sewage and/or oil spills from infrastructure conduits (sewage and energy supply) located on the bridge structure.*

In order to advance in the preliminary design and the environmental assessment, would you please advise whether Sydney Water has an interest in using the bridge to carry mains (eg. sewer, recycled water mains). Should Sydney Water have an interest in using the bridge would you please provide, in the first instance:

1. Timing when such a main is likely to be required
2. Envelope details such as type of infrastructure (eg. water, sewer, recycled water main), diameter and weight, materials (including liquids or other possible contaminants), protection measures (e.g concrete cover thickness)
3. Specific operational requirements and mitigation measures to prevent spills
4. Access requirements for installation, inspection & maintenance
5. Location of closest existing water, sewer, recycled water main.

This information will be used by our project team for the environmental assessment and preliminary design of the bridge.

It would be appreciated if you could respond to our request before **Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.

Yours sincerely

Javier Valderrama
Senior Sustainability Consultant
Arup
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javier.valderrama@arup.com

Javier Valderrama

From: DAY, TIM [Tim.Day@sydneywater.com.au]
Sent: Tuesday, 17 May 2011 4:24 PM
To: Javier Valderrama
Subject: RE: Homebush Bay bridge - consultation with Sydney Water

Hi Javier
The following is in response to your questions regarding potential Sydney Water services attached to the proposed Homebush Bay bridge.

The Homebush Bay bridge provides an opportunity for Sydney Water to provide a recycled water main to link recycled water networks in Homebush Bay West and Rhodes. Currently, the recycled water mains in Rhodes are cross-connected to the potable water supply as there is no lead-in main to bring in recycled water from SOPA's Water Reclamation and Management Scheme (WRAMS). The closest existing recycled water reticulation mains are in Burroway Rd in Homebush Bay West, and in Shoreline Drive and Marquet St in Rhodes.

There are no plans for water or wastewater mains to be attached to the proposed bridge.

The recycled water main would be 300mm in diameter (this could possibly be reduced to 250mm following more detailed hydraulic assessment). It is anticipated that the recycled water pipe would be installed at the time of construction of the bridge, which would be easier than having to install it at a later stage. However, this is subject to gaining funding approval by Sydney Water - currently there is no funding approval for this main.

A recycled watermain on a new bridge would ideally be layed in a designated duct within the bridge span in a "footway" section of the bridge with removable panels above for maintenance access. Refer to drawing WAT-1312 from the Water Code.

Where the pipe is on supports, pipe materials/jointing could be rubber ring jointed DICL or GRP for pipe spans up to approx 6m ie supports for pipe up to 6m max. PE-coated SCL pipe (rubber ring jointed) could be used if longer spans were required. Sydney Water would likely prefer DICL or SCL (GRP has been expensive and not so readily available). DICL is typically not used for recycled water in these smaller diameter ranges to distinguish from drinking watermains in buried applications, however there is no reason not to consider DICL pipe in this bridge application.

Movement of the bridge would be accommodated within the rubber ring joints.

For longer pipe spans (>6m), fully welded PE-coated SCL pipe would be required (expansion joints might need to be used subject to how fixed to the bridge and accounting for design bridge movements).

Where a fully enclosed duct is constructed and pipe embedded in sand, all materials with rubber ring joints could be considered (incl mPVC pipe) - design bridge movements to be considered and appropriate number of rubber ring joint fittings (or couplings) required at the "bulkhead" or abutment of bridge. The size of the duct would need to be at least the size (width and depth) as a standard trench to allow proper installation and access for future maintenance if required. If the required space could not be provided then a maintenance free solution might be required eg fully welded (concrete encased) or welded PE pipe in a cement-stablised embedment.

It really comes down to the bridge design, space available, requirements for other services to be accommodated, cost etc.

The second alternative would be supporting the pipe off or under the bridge (externally). PE-coated SCL rubber ring jointed or fully welded pipe with the same movement provisions as previously stated. Access would need to be provided for maintenance purposes.

Let me know if I can be of any further assistance.

Regards
Tim Day

From: Javier Valderrama [mailto:Javier.Valderrama@arup.com.au]
Sent: Monday, 11 April 2011 3:19 PM
To: DAY, TIM
Cc: Mike Cook
Subject: Homebush Bay bridge - consultation with Sydney Water

Hi Tim,

As discussed last week, our team is preparing the Part 3A environmental assessment and undertaking consultation with several stakeholders including utility providers for the above project.

The attached letter asks whether Sydney Water has an interest in using the bridge to carry water/sewer/recycled water mains. It would be great if you could provide your response before Friday 29 April 2011. Please feel free to contact me if you have any questions. Thanks.
Cheers,

Javier Valderrama
Senior Consultant

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Our ref 220708

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Natalie Leighton
AGL Property Development Coordinator
nleighton@agl.com.au

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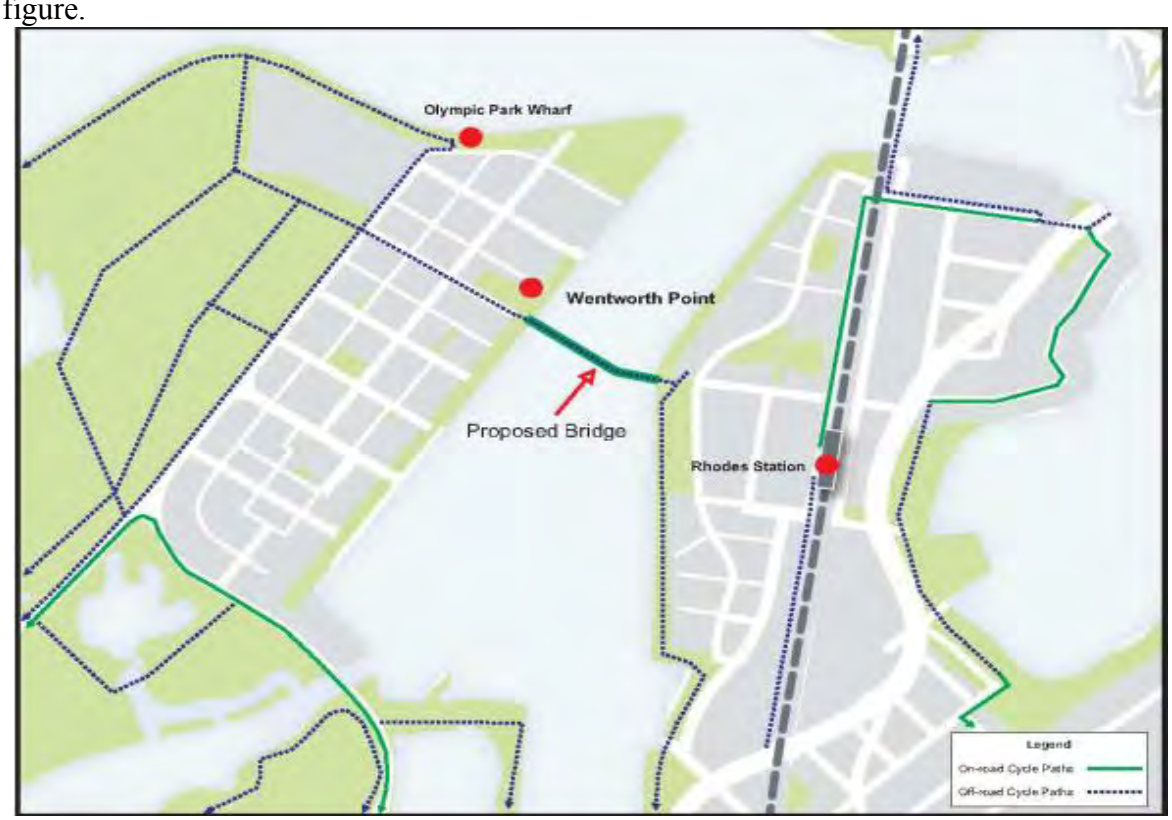
12 April 2011

Dear Natalie

Homebush Bay Bridge utility undertakings

Arup is preparing the part 3A environmental assessment and preliminary design for the proposed Homebush Bay Bridge.

The bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area) as shown in the following figure.



It is expected the bridge is commissioned in year 2014. Additional information on the proposal can be found at the Department of Planning website (link) and at the project's website (link).

In order to advance in the preliminary design and the environmental assessment, would you please advise whether AGL has an interest in using the bridge to carry gas pipeline and/or transmission lines. Should AGL have an interest in using the bridge would you please provide, in the first instance:

1. Timing when such an infrastructure is likely to be placed over the bridge
2. Envelope details such as type of infrastructure (eg. transmission line, gas pipeline, water main, etc), diameter, weight, materials (including liquids or other possible contaminants), protection measures (eg. concrete cover thickness)
3. Operational requirements
4. Access requirements for installation, inspection & maintenance
5. Location of closest existing service.

This information will be used by our project team for the environmental assessment and preliminary design of the bridge.

It would be appreciated if you could respond to our request before **Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.

Yours sincerely

Javier Valderrama
Senior Sustainability Consultant
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Javier Valderrama

From: Natalie Leighton [NLeighton@agl.com.au]
Sent: Friday, 15 April 2011 12:00 PM
To: Javier Valderrama
Subject: RE: Homebush bay bridge - consultation with AGL

Hi Javier,

Thank you for your note, I have contacted other AGL business units in regard to the proposal should there be any benefits or conflicts with the proposal we will be in contact.

Regards,

Natalie Leighton
Property Development Coordinator, Upstream Gas

AGL Energy Limited
Level 22, 101 Miller Street
North Sydney NSW 2060
Locked Bag 1837
St Leonards NSW 2065

M: 0419 442 061
T: 02 9921 2209
F: 02 9921 2474
E: nleighton@agl.com.au
www.agl.com.au

From: Javier Valderrama [mailto:Javier.Valderrama@arup.com.au]
Sent: Tuesday, 12 April 2011 9:37 AM
To: Natalie Leighton
Subject: Homebush bay bridge - consultation with AGL

Hi Natalie,

I've tried to call you yesterday and earlier today but my call went into your voice mail.

My name is Javier Valderrama and I work for Arup. We are undertaking a Part 3A environmental assessment for a proposed bridge in Homebush Bay, NSW.

The bridge will connect Wentworth Point (Auburn Council local government area) and Rhodes (City of Canada Bay local government area) peninsulas and will be used by pedestrians, cyclists and buses (no access to private motor vehicles).

As part of the consultation for the project we are seeking feedback from utility providers on whether they have an interest in using the bridge to carry their pipelines/transmission lines. I've attached a letter with such a request.

It would be appreciated if you could email me a response for this matter **before Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.
Regards,

Javier Valderrama
Senior Consultant

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Our ref 220708

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Peter Bowden
Jemena - General Manager Gas Planning & Development
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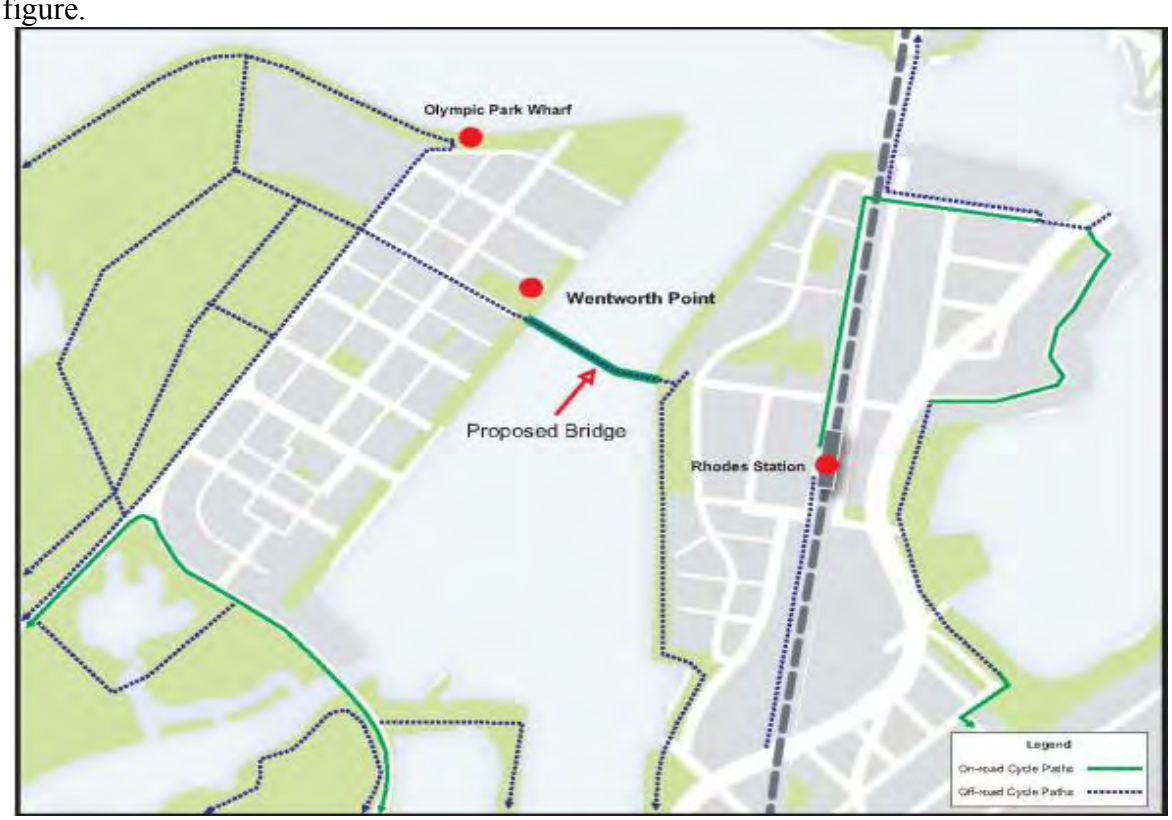
12 April 2011

Dear Peter

Homebush Bay Bridge utility undertakings

Arup is preparing the part 3A environmental assessment and preliminary design for the proposed Homebush Bay Bridge.

The bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area) as shown in the following figure.



It is expected the bridge is commissioned in year 2014. Additional information on the proposal can be found at the Department of Planning website (link) and at the project's website (link).

In order to advance in the preliminary design and the environmental assessment, would you please advise whether Jemena has an interest in using the bridge to carry gas pipelines. Should Jemena have an interest in using the bridge would you please provide, in the first instance:

1. Timing when such an infrastructure is likely to be placed over the bridge
2. Envelope details such as type of infrastructure (eg. transmission line, gas pipeline, water main, etc), diameter, weight, materials (including liquids or other possible contaminants), protection measures (eg. concrete cover thickness)
3. Operational requirements
4. Access requirements for installation, inspection & maintenance
5. Location of closest existing service.

This information will be used by our project team for the environmental assessment and preliminary design of the bridge.

It would be appreciated if you could respond to our request before **Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.

Yours sincerely

Javier Valderrama
Senior Sustainability Consultant
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Javier Valderrama

From: Hee, Tammy [Tammy.Hee@jemena.com.au]
Sent: Tuesday, 19 April 2011 8:32 AM
To: Javier Valderrama
Cc: Wieckowski, Veronica
Subject: FW: Homebush Bay bridge - consultation with utility providers
Attachments: Jemena 2011.04.12 Rev 0.pdf

Hi Javier,

Thanks for your email. As per your correspondence, Jemena has no plan in utilising the bridge to carry gas pipelines in the long term.
You may contact me if you have any further concerns, Thanks.

Regards,
Tammy Hee
Asset Planning Engineer
Asset Services
Jemena

Office: 100 Bennelong Parkway, Homebush Bay NSW 2127
(O) 9397 9424 (M) 0422 353 779 (F) 9397 9997
Email: tammy.hee@jemena.com.au

From: Javier Valderrama [mailto:Javier.Valderrama@arup.com.au]
Sent: Tuesday, 12 April 2011 10:04 AM
To: Bowden, Peter
Subject: Homebush Bay bridge - consultation with utility providers

Hi Peter,

I've tried to call you yesterday and earlier today but my call went into your voice mail.

My name is Javier Valderrama and I work for Arup. We are undertaking a Part 3A environmental assessment for a proposed bridge in Homebush Bay, NSW.

The bridge will connect Wentworth Point (Auburn Council local government area) and Rhodes (City of Canada Bay local government area) peninsulas and will be used by pedestrians, cyclists and buses (no access to private motor vehicles).

As part of the consultation for the project we are seeking feedback from utility providers on whether they have an interest in using the bridge to carry their pipelines/transmission lines. I've attached a letter with such a request.

It would be appreciated if you could email me a response for this matter **before Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.
Regards,

Javier Valderrama
Senior Consultant

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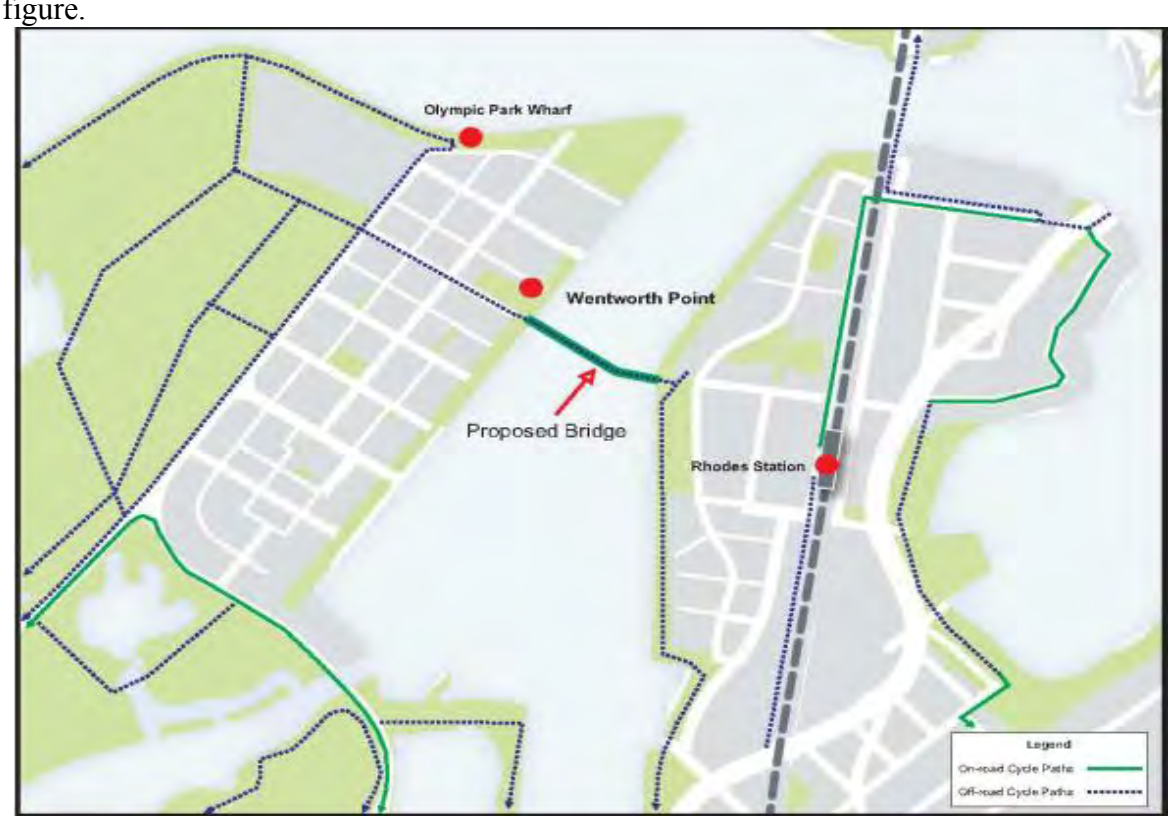
12 April 2011

Dear sir/madam

Homebush Bay Bridge utility undertakings

Arup is preparing the part 3A environmental assessment and preliminary design for the proposed Homebush Bay Bridge.

The bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area) as shown in the following figure.



It is expected the bridge is commissioned in year 2014. Additional information on the proposal can be found at the Department of Planning website (link) and at the project's website (link).

In order to advance in the preliminary design and the environmental assessment, would you please advise whether NBN Co has an interest in using the bridge to carry its network cables. Should NBN Co have an interest in using the bridge would you please provide, in the first instance:

1. Timing when such a network cable infrastructure is likely to be placed over the bridge
2. Envelope details such as cable diameter and weight, materials, protection measures (eg. coating / concrete cover thickness)
3. Specific operational requirements
4. Access requirements for installation, inspection & maintenance

This information will be used by our project team for the environmental assessment and preliminary design of the bridge.

It would be appreciated if you could respond to our request before **Friday 29 April 2011**. If you have any questions, please feel free to contact me. Thank you.

Yours sincerely

Javier Valderrama
Senior Sustainability Consultant
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Javier Valderrama

From: carla.ganassin@industry.nsw.gov.au
Sent: Thursday, 14 July 2011 2:10 PM
To: Javier Valderrama
Subject: Re: Homebush Bay Bridge - Consultation with Industry and Investment (Fisheries)
Attachments: S011-CST-700[D].pdf; Homebush Bay Bridge_Secondary Context_002.pdf; SOPA Bridge.doc

Dear Javier,

Thank you for referring this proposal onto Primary Industries - Fisheries for comment.

Aspects of this proposal of concern to this department are:
- the potential for harm of marine vegetation during construction (although this would probably be unlikely considering the local environment).
- erosion and sedimentation impacts during construction. Mitigation measures are to be employed to minimise turbidity impacts on the aquatic environment.
- potential dredging/excavation activities associated with the pier works. The preference of this Department is for any excavated material to be removed from the waterway and deposited on land.

Primary Industries - Fisheries is also interested in the management of any contamination issues associated with these works and would prefer that the re-distribution of contaminated material in the waterway be avoided where possible.

It is understood that fish passage in this waterway will not be fully blocked during construction.

Attached is a list of some environmental assessment requirements for these works.

Regards,
Carla Ganassin | Conservation Manager | Aquatic Habitat Protection Unit
Industry & Investment NSW | PO Box 21 | Cronulla NSW 2230 | 202 Nicholson Parade | Cronulla NSW 2230
T: 02 9527 8552 | F: 02 9527 8576 | E: carla.ganassin@industry.nsw.gov.au
W: www.industry.nsw.gov.au | www.dpi.nsw.gov.au

From: Javier Valderrama <Javier.Valderrama@arup.com.au>
To: "carla.ganassin@industry.nsw.gov.au" <carla.ganassin@industry.nsw.gov.au>
Date: 13/07/2011 02:48 PM
Subject: Homebush Bay Bridge - Consultation with Industry and Investment (Fisheries)

Dear Carla,

Further to our phone call, we are undertaking a Part 3A environmental assessment for a proposed bridge in Homebush Bay, NSW.

The proposed bridge would land on the west on to Lot 10 DP 776611, on Wentworth Point (Auburn Council local government area) and on the east on to Lot 201 DP 1101828, on the Rhodes Peninsula (City of Canada Bay local government area). The proposed bridge travels along Homebush Bay over land known as harbour title CT V5018 F1 below the mean high water mark owned by NSW Maritime. Portions of land below the mean high water mark occupied by the bridge piers and piles are proposed to be leased from NSW Maritime to SOPA which will be the owner of the Bridge.

I've attached a draft location map and plan for your information. Please note these two drawings are 'work in progress'.
The proposed marine-based components associated with the construction of the proposed bridge that may be relevant to NSW Fisheries would include installation of piles at pier locations, installation of pile caps and piers and superstructure. The construction activities would include, but are not limited to:

Installing piles at pier locations

Foundations would be required at each bridge pier to provide a firm support down to bedrock. Options for foundations at the pier locations include:

- octagonal precast concrete or steel circular hollow section piles driven to bedrock
- bored concrete piles cast within permanent steel casings driven to bedrock, or
- concrete footing cast within a large diameter steel tube or steel sheet pile cofferdam driven to bedrock.

Installing pile caps

- Reinforced concrete pile caps would be constructed to spread the load from each bridge pier into the supporting piles.
- Pile caps may be completely above water or submerged at some stages of the tide, as long as the outside of the pile caps is visible at all stages of the tide, in order to ensure marine navigational safety. For pile caps submerged at some stages of the tide, or as a consequence of global warming, the outer edges would be marked by means of bollards or other devices.

Constructing piers

The bridge piers would be constructed from reinforced concrete using precast and/or in-situ methods.

- All bridge piers will have similar shape for consistency and aesthetics.
- The bridge piers may be constructed using high strength in-situ concrete. A high degree of control over the finish of the exposed concrete surface is required for aesthetics and in order to achieve the required long term durability.
- Integral piers: Substructures are designed to resist the forces and moments induced during service and construction hence no temporary structures required.
- Articulated piers: Temporary nailing system needs to be designed to temporarily make the deck and pier monolithic and provide stability during erection of the balanced cantilevers. For aesthetic and structural reasons, the slenderness of the pier needs to be maintained hence little opportunity to incorporate the nailing in the pier. The preferred system could be a set of props supported off the pilecap with a set of vertical tendons “to nail” the deck during erection.

Installing superstructure

The bridge superstructure will be constructed from reinforced and prestressed concrete using in-situ methods.

In terms of environmental studies and investigations, the project team is undertaking the following:

Ecology investigations

• Assessment of impacts on critical habitats, threatened species, populations or ecological communities and their habitats in the region;
• Assessment of any impacts on the biodiversity values of mangrove and saltmarsh communities of Homebush Bay, wetlands of national importance and migratory shorebird habitats.

Contamination investigations

• Assessment of the potential impacts of the construction of the bridge piers on the disturbance of contaminated marine sediments in Homebush Bay and the connecting ramps on contaminated land in Wentworth Point and Rhodes.
• A site audit statement and a site audit report by an auditor accredited under the *Contaminated Land Management Act* 1997. Details of the assessment and recommendations of the investigations will be provided with the statement.

The findings of these studies will be documented in the EA.

Please feel free to browse additional information on the project at:

- the DP&I’s project application:

  http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4331

- the project’s website:

  http://homebushbaybridge.com.au/index.html

As part of the statutory consultation for the project, Should Industry and Investment (Fisheries) have any comments on the proposal, please email these comments **before Friday 22 July 2011**. If you have any questions, please feel free to contact me. Thank you.
Regards,

Javier Valderrama
Senior Consultant

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