Sydney Harbour – Natural Environment, Transport and Infrastructure

Half Day Seminar
20 August 2012, Chatswood

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Chairperson of COPEP & Board Member PIANC Australia
Welcome

- Housekeeping
- Natural Harbour Environment Session followed by Transport and Infrastructure Session
- Final Panel Session to close
- Post Event Dinner and Drinks, Chatswood RSL.
Programme: overview

- **Session 1: Natural Harbour Environment**
  1. Overview – habitats, hydrodynamics, threats. - *Emma Johnston*
  2. Changes in Sediment and water quality and ecology – *Gavin Birch*
  3. Sea level rise vulnerability studies- *Phil Watson*
  4. Coastal Zone Management in Mossman- *Peter Horton*

- **Afternoon Tea**

- **Session 2: Transport and Infrastructure**
  1. Commercial shipping – *Marika Calfas*
  2. Heat Exchange system in the Rocks- *Brian Cock*
  3. Sydney Ferries – commuter wharf upgrade programme – *Neil Mudge*
  4. Recreation Vessels – facilities, interaction, challenges and conflicts – *Ian McAndrew/ Darren Vaux*
  5. Seawall design, construction and performance – *Gary Blumberg*
  6. Panel Session and Wrap up - *All speakers* – chaired by *Alan Betts*
Setting the Scene, Population and Trends: The Challenge

- Sydney - 20% of Australia’s population
  - 4.4M in 2012.
  - 0.5M increase since 2001,
  - 12% growth in 10 years

- Major growth in last 10 years in areas adjacent or close to Sydney Harbour
  - City of Sydney 43%
  - Auburn 37%
  - Canada Bay 30%
  - More recently Parramatta
  - Camden 28% more on urban fringe
Setting the Scene, Population and Trends: The Challenge

- Highest density city in Australia
- Population estimate
  - 6.2M by 2036.
- Growth areas:
  - Camden +144k, 250%,
  - Blacktown + 171k, 55%,
  - Sydney +120k, 63%,
  - Parramatta +56k, 33%,
  - Auburn +52k, 67%,
  - Penrith 54k,
  - Bankstown 48k,
  - Fairfield 39k.
- Little growth expected in north shore, Blue Mountains and Canada Bay as their development suburbs become full
Our Interaction with the Harbour: Crossing it

• Bridges:
  • Sydney Harbour Bridge– 1932
    • 51m clearance (poses challenges for new generation of cruise vessels)
Other Major Bridges

- Anzac Bridge
  - Built 1995
  - Longest cable stayed bridge in Australia
• Pyrmont Bridge
  • Constructed 1902 - heritage structure
  • Central column rotates for vessel access
  • Functional and tourist
• Spit Bridge
  • Bascule type – deck opening
  • Constructed in 1958
  • Serves northern beaches – north shore
  • 2 lanes of traffic each way
The Navy

- First European residents of Sydney Harbour – Port Jackson
- Fort Dennison, 1857
- Garden Island
- Captain Cook Graving Dock, 1945
- Chowder Bay – refuelling facilities
- HMAS Platys - Neutral Bay 1942
- Cockatoo Island 1900 – 1992
- HMAS Watson, Penguin
Port Botany

- Indirect effect on Sydney Harbour
- Cargo changes and containerisation
- Brotherson Dock constructed in 1970’s
- 3.2MTEU +
- Preferred to Port Jackson for Commercial Shipping infrastructure
Darling Harbour

Darling Harbour 1970

Darling Harbour 2012
Sydney Opera House

- Construction (1959 – 1973)
- Seven million visitors annually
- Former Tram depot
- 10 years late, 14 times over budget ($7m – $102M)
Oil Terminals

- Ballast Point – Former Caltex Terminal
- Shell Gore Bay Terminal
Service began 1861
30 Million Passengers p/a prior to Harbour Bridge.
Use fell to 7 Million p/a a year after Harbour Bridge opened
Numerous vessel types in operation today.
Servicing Commercial Vessels

- Commercial Tug Base at Balmain, alongside Marine Area Command (Police) base
- SPC Pilot & tug base
Servicing Commercial Vessels

- Marine civil engineering contractors
- Ferry servicing facilities at Balmain
- RMS (NSW Maritime) facilities, including clean up
Barangaroo

- Next major CBD development.
- Mix of commercial, residential and recreational activities
- Headland park
- Former stevedoring operation
Acknowledgement

- Keith Patrick
  Maritime Engineer

- Kenan Aldemir
  Associate Maritime Engineer
Themes and Challenges for the Seminar

1. Understand the existing natural and modified environment of Sydney Harbour

2. Understand our interaction with the Harbour, our needs and to ensure appropriate infrastructure is provided now and in the future