



ROOT PROJECTS

AUSTRALIA

PTY LTD

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MCA REDEVELOPMENT

**ENVIRONMENTAL
ASSESSMENT TO SUPPORT
MODIFICATION OF
PLANNING APPROVAL**

**NSW MARITIME LANDOWNERS
CONSENT**

25 March 2010

SYDNEY

Level 5, Kyle House

27-31 Macquarie Place

Sydney NSW 2000

Tel (02) 9251 8040

Fax (02) 9251 8144

syd@rootprojects.com.au

MELBOURNE

2 Davisons Place

Melbourne VIC 3000

Tel (03) 9654 0488

Fax (03) 9654 0788

mel@rootprojects.com.au

www.rootprojects.com.au

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OVERVIEW

REQUEST TO MODIFY A MAJOR PROJECT

The Museum of Contemporary Art (MCA) seek a modification under Section 75W of the Environmental Planning and Assessment Act 1979 (the Act) to Major Project Planning approval No. 08-0064 for the MCA redevelopment.

The proposed modification is sought in order to take into account NSW Maritime Landowners Consent and applies to works for the MCA redevelopment falling within NSW Maritime land. The works consist of a part of the MCA seawater heat exchange system. The Department of Planning has confirmed that the proposed modification will require a Minor Environmental Assessment. The scope of the modification and Environmental Assessment relates specifically to the area of NSW Maritime land affected by the proposed works.

The Environmental Assessment accompanies MCA request to modify the approval and provides:

- A description of the proposed modification
- An assessment of the environmental impacts of the proposed modification, with particular focus on the key assessment requirements specified in Department of Planning advice dated 16 December 2009 where they are relevant to the scope of the modification.

PROPOSED MODIFICATION

NSW MARITIME LANDOWNERS CONSENT

The modification is sought in order to take into account NSW Maritime Landowners Consent formally received on 8 December 2009 after receipt of Major Project Planning approval No. 08-0064 for the MCA redevelopment granted by the Minister on 26 June 2009. A copy of the NSW Maritime letter is contained in Appendix 1.

The scope of the minor Environmental Assessment relates only to the proposed works falling within NSW Maritime land. The works consist of a part of the MCA seawater heat exchange system.

CONTEXT AND LOCATION

The modification is sought for the portion of NSW Maritime land affected by the proposed seawater exchange works. An architectural site plan SW01 (D) has been prepared to describe the extent of the MCA proposed seawater system works and to identify the boundary of NSW Maritime land to which this modification applies, and this is included at Appendix 2.

In reference to this plan, the red line indicates the boundary of NSW Maritime land. The remainder of the land within the MCA Major Project Planning approval No. 08-0064 is owned by Sydney Harbour Foreshore Authority (SHFA) the details for which have previously been submitted and approved.

BACKGROUND TO THE PROPOSED WORKS

The approved MCA redevelopment design includes the use of a sea water heat exchange building cooling system which incorporates seawater pipes running from West Circular Quay to a seawater exchange tank located under the MCA building.

There are a number of other buildings adopting seawater heat exchange cooling systems in Sydney, nationally and overseas and the use of this type of system in the MCA redevelopment design will reduce the buildings energy and water consumption when compared to a traditional air cooled alternative mechanical system. The system is an example of the design initiatives included in the approved works as part of the MCA's commitment to Ecologically Sustainable Development (ESD) and making the project as environmentally sustainable as possible.

The seawater heat exchange system is the only element of the approved MCA redevelopment works falling within the NSW Maritime land. The modification applies to the portion of the system within NSW Maritime land.

ASSESSMENT OF KEY ISSUES

KEY DESIGN ELEMENTS

A Sea-Water Heat Exchange Report has been prepared by the MCA mechanical engineer, Steensen Varming, describing the proposed seawater pipeline system and is included at Appendix 3.

The proposed MCA seawater heat exchange system is comprised of the following key elements:

- A harbour water intake basket below minimum low tide level
- Pipework to and from the building plantroom where the pumps and heat exchangers will be located
- A discharge point located below the minimum low tide level

The use of an anti fouling agent will prevent marine growth in the system.

As noted, an architectural site plan SW01 (D) has been prepared to describe the extent of the proposed seawater system works and is included at Appendix 2.

DESIGN APPROACH & CONSULTATION WITH NSW MARITIME

The proposed system design has been reviewed and discussed with NSW Maritime engineers and planning representatives and developed on the basis of inspections undertaken with NSW Maritime at the proposed pipe locations. The design was submitted to NSW Maritime for their review prior to issue of the NSW Maritime Landowners Consent approval.

Structural engineering drawings for the seawater exchange system (S20.11 P4 Promenade Details Sheet 1 and S20.01P4 Pipe work Structural Design Intent) are included at Appendix 4 describing the pipe work location and access below the existing wharf and details of the system components.

REGULATORY REQUIREMENTS

The Department of the Environment, Climate Change and Water NSW (DECCW) has reviewed the proposed MCA seawater exchange design and confirmed their requirements in letter dated 26 March 2009 and included at Appendix 5.

DECC advise that the Protection of the Environment Operations Act 1997 (the PEO Act) does not require a licence for the proposed MCA seawater exchange system however note that the system must be operated in accordance with the general environment protection provisions of the PEO Act and in accordance with the provisions of the Pesticides Act 1999.

The provisions of the PEO Act place a limit on the maximum temperature differential between the intake and discharge of the sea water system. The MCA seawater heat exchange system has been designed to ensure that these limits will not be exceeded.

The regulatory requirements stipulate that only certain pesticides can be used as antifouling agents to prevent fouling of the seawater pipework. The project has selected an agent which is approved and permitted for use by the appropriate regional and national authority.

It is therefore understood that this design is compliant with the relevant regulatory requirements and will achieve a result that is beneficial to both the environment and the MCA.

The final design has been issued to DECC confirming compliance with the requirements.

MARINE ECOLOGY

An assessment of the potential impact of the proposed works on the marine environment has been undertaken and is included at Appendix 6. This assessment concluded that the installation and operation of the proposed system is unlikely to result in any discernible impacts on the water quality of the receiving environment. No threatened marine fauna will be affected by the proposed development as no threatened aquatic fauna are likely to occur in the vicinity of the proposed development.

ARCHAEOLOGICAL AND HERITAGE CONSIDERATIONS

Casey and Lowe, MCA archaeological consultants have assessed the impact of the proposed seawater heat exchange system in their review of the proposed works and included this element in the Archaeological Management Plan for the redevelopment which has been issued to the Department of Planning to satisfy Condition B9 of the Minister's Approval (Major Project No. 08-0064).

The seawater exchange and associated pipeline is located in the western area of the existing MCA open-air car park site (under the proposed new MCA building), and outside the area of the identified heritage docks. As part of the Archaeological Management Plan and works strategy the excavation and construction of this element will be preceded by an archaeological early works package, comprising archaeological monitoring and recording.

As indicated in the seawater design documentation, the route of the seawater pipeline passes from underneath the MCA building and the through west Circular Quay in the area between the MCA existing building (original MSB building) and Sydney Harbour where the seawater pipeline intake and output are situated. The land in this area is a product of reclamation and suspended wharfage and Casey and Lowe have noted that it is likely that the ongoing use of the area will have left little in the way of significant archaeological remains.

The below statement is included from Casey and Lowe Archaeological Management Plan, Section 8.4, Seawater Intake; which has been issued to the Department of Planning to satisfy Condition B9 –

Excavation for the seawater piping should be monitored by the archaeologist. Any dockyard period remains or remains of nineteenth-century seawalls should be recorded.

It is noted that the seawater heat exchange works applicable to this application are located primarily in the area of suspended wharfage and therefore not considered to have significant archaeological remains

APPENDIX 1

NSW Maritime Landowners Consent letter dated 8 December 2009.

APPENDIX 2

Architectural drawing - SW01 (D) MCA Redevelopment Site Plan Seawater Exchange, dated 3 March 2010

APPENDIX 3

Steensen Warming Seawater Heat Exchange Report, revision 2, dated 29 January 2010

APPENDIX 4

Structural engineering drawings – S20.01 (P4) MCA Redevelopment Seawater Exchange
Pipework – Structural Design Intent, dated 19 March 2010 and S20.11 (P4) MCA Redevelopment
Seawater Exchange Promenade Details – Sheet 1, dated 19 March 2010

APPENDIX 5

Letter from the Department of the Environment, Climate Change and Water NSW (DECCW) dated 26 March 2009 regarding the MCA Harbour Water Heat Exchange System.

APPENDIX 6

Marine ecology risk assessment - Worley Parsons MCA Redevelopment Seawater Heat Exchange preliminary Marine Risk Assessment, dated 24 March 2010.