

# SSD\_7375 HARBOURSIDE REDEVELOPMENT

## Stage 1 DA Acoustic Report

14 November 2016

Mirvac

TH964-02F02 (r1) Acoustic Rpt

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## Document control

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# 1 Introduction

This report supports a State Significant Development Application (SSDA) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Mirvac Projects Pty Ltd (Mirvac) is seeking to secure approval to establish concept proposal details for the redevelopment of the Harbourside Shopping Centre (Harbourside), including a new retail shopping centre, residential apartment tower and substantial public domain improvements.

The project supports the realisation of the NSW State Government's vision for an expanded 'cultural ribbon' spanning from Barangaroo, around to Darling Harbour and Pyrmont. The project importantly will add further renewed diversity in tourism and entertainment facilities to reinforce Sydney's CBD being Australia's pre-eminent tourist destination.

## 1.1 Background

Mirvac acquired Harbourside, a key location within the Darling Harbour precinct, in November 2013. Harbourside, which was opened in 1988 as part of the Bicentennial Program, has played a key role to the success of Darling Harbour as Australia's premier gathering and entertainment precinct.

Despite its success, with an annual pedestrian visitation of around 13 million people, Harbourside is now outdated and in decline. The building lacks a quality interface to the Darling Harbour public domain and Cockle Bay and does not integrate well with the major transformation projects underway and planned for across Darling Harbour.

Harbourside is at risk of being left behind and undermining the significant investment being made in Darling Harbour that will see it return to the world stage as a destination for events and entertainment.

Accordingly, Mirvac are taking a carefully considered and staged approach to the complete revitalisation of the site and its surrounds.

## 1.2 Site description

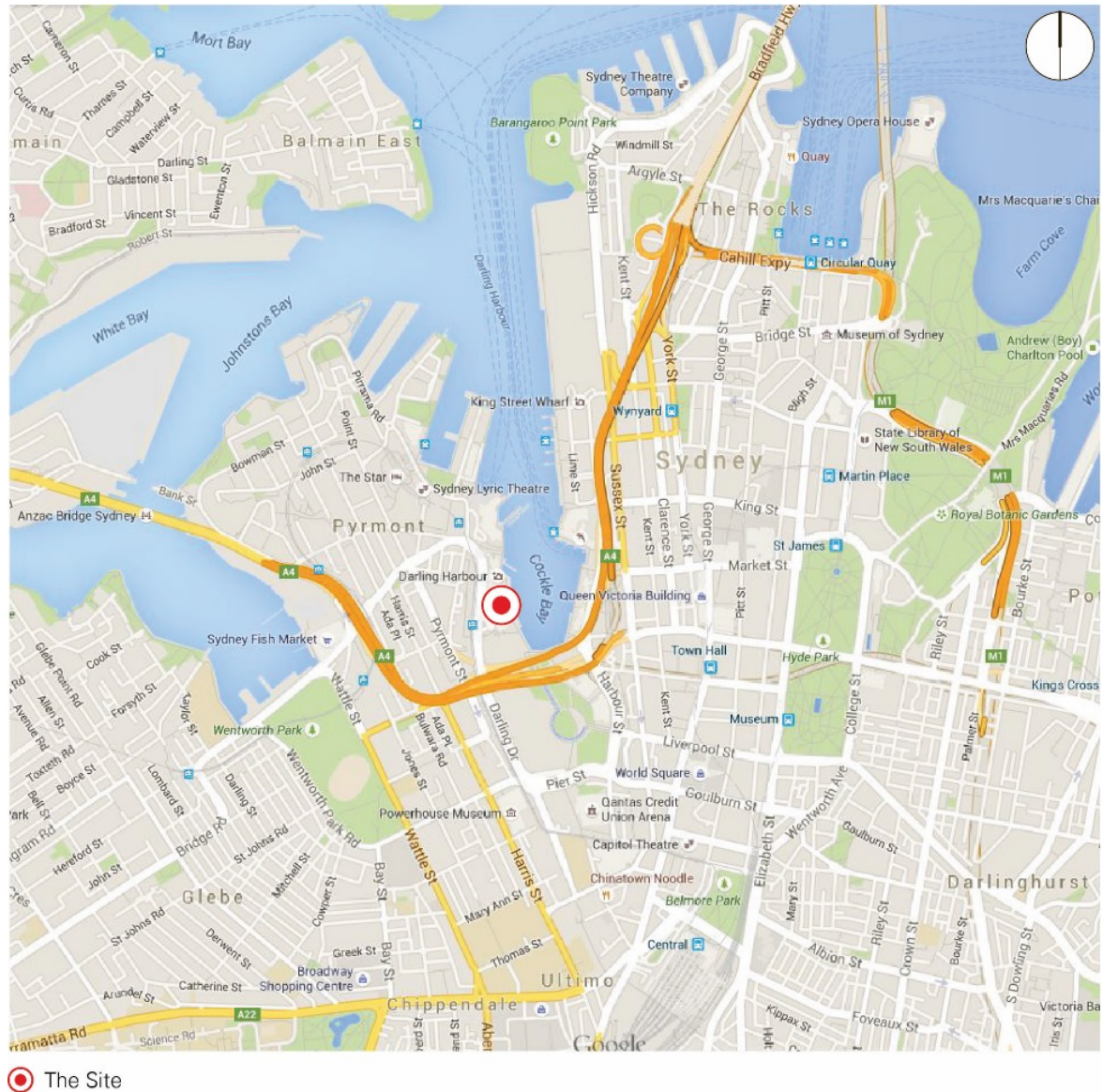
The Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

More generally the site is bound by Pyrmont Bridge to the north, the Sydney International Convention, Exhibition and Entertainment Centre Precinct (SICEEP) to the south, Darling Drive and the alignment of the Light Rail to the west and Cockle Bay to the east.

A locational context area plan and location plan are provided at Figures 1 and 2 below.

The Darling Harbour precinct is undergoing significant redevelopment as part of the SICEEP, Darling Square, and IMAX renewal projects. The urban, built form and public transport / pedestrian context for Harbourside will fundamentally change as these developments are progressively completed.

**Figure 1: Location Context Area Plan**



### 1.3 Overview of proposed development

The proposal relates to a staged development application and seeks to establish concept proposal details for the renewal and re-imagining of Harbourside.

The concept proposal establishes the vision and planning and development framework which will be the basis for the consent authority to assess future detailed development proposals.

The Harbourside site is to be developed for a mix of non-residential and residential uses, including retail and restaurants, residential apartments, and open space.

The Concept Proposal seeks approval for the following key components and development parameters:

- Demolition of existing site improvements, including the Harbourside Shopping Centre, pedestrian bridge links across Darling Drive, obsolete monorail infrastructure, and associated tree removal;
- A network of open space areas and links generally as shown within the Public Domain Concept Proposal, to facilitate re-integration of the site into the wider urban context;
- Building envelopes;
- Land uses across the site, limited to only non-residential uses and residential uses;
- A maximum total Gross Floor Area (GFA) across the Harbourside site of 87,000m<sup>2</sup> for mixed use development (non-residential and residential development);
- Basement parking;
- Car parking rates to be utilised in subsequent detailed (Stage 2) Development Applications);
- Urban Design and Public Realm Guidelines to guide future development and the public domain; and
- Strategies for utilities and services provision, drainage and flooding, and ecological sustainable development.

A more detailed and comprehensive description of the proposal is contained in the Environmental Impact Statement (EIS) prepared by JBA.

## 1.4 Planning approvals strategy

The Site is located within the Darling Harbour precinct, which is identified as a State Significant Site in Schedule 2 of State Environmental Planning Policy (State and Regional Development) 2011. As the proposed development will have a capital investment exceeding \$10 million, it is declared to be State Significant Development (SSD) for the purposes of the Environmental Planning and Assessment Act 1979 (EP&A Act), with the Minister for Planning the consent authority for the project.

This State Significant Development Application (DA) is a staged development application made under section 83B of the EP&A Act. It seeks approval for the concept proposal for the entire site and its surrounds.

More specifically this staged DA includes establishing land uses, gross floor area, building envelopes, public domain concept, pedestrian and vehicle access and circulation arrangements and associated car parking provision.

Detailed development application/s (Stage 2 DAs) will accordingly follow seeking approval for the detailed design and construction of all or specific aspects of the proposal in accordance with the approved staged development application.

The Department of Planning and Environment provided the Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development on 30 August 2016. This report has been prepared having regard to the SEARs as relevant.

## **1.5 Scope of acoustic assessment**

The DA seeks approval for retail and residential uses however will be subject to subsequent detailed Stage 2 DAs. Therefore, this report outlines the relevant considerations for the Stage 2 detailed DA(s), including relevant criteria and assessment methodology.

## 2 Stage 2 DA requirements

### 2.1 Assessment criteria

In accordance with recent State Significant Development assessments, the Stage 2 development proposals are to be assessed in accordance with relevant NSW policies and guidelines, such as those listed below:

Policy or guideline	Assessment outline
NSW Industrial Noise Policy [1]	Operational noise, including retail use, loading docks and mechanical equipment serving the development, and its potential impact on surrounding noise sensitive land uses.
Office of Liquor Gaming and Racing	Operational noise from within any licensed premises should they be proposed as part of the development.
NSW Road Noise Policy [2]	Road traffic generated by the development on the local road network and its potential impact on surrounding noise sensitive land uses.
State Environmental Planning Policy (Infrastructure) 2007	Assessment of noise onto the development from busy roads and rail corridors. Only required for noise sensitive development should it be proposed within the site.
Development Near Rail Corridors and Busy Road-Interim Guideline [3]	Supporting guideline for the State Environmental Planning Policy – Infrastructure 2007.
Interim Construction Noise Guideline [4]	Construction noise and its potential impact on surrounding development.
Assessing Vibration: A Technical Guideline [5]	Primarily utilised for assessment of vibration generated during the demolition and construction phase. Also referenced in the State Environmental Planning Policy – Infrastructure 2007 with regard to rail vibration.

### 2.2 Assessment approach

The following outlines the general approach for the acoustic assessment of the Stage 2 DA(s):

- Examine the proposed development to identify acoustic aspects of the construction and operation,
- Identify the sensitive receiver locations surrounding the site, which are to be assessed with regard to construction and operational activities,
- Establish the existing noise environment at the site and surrounding receiver locations for the purpose of setting noise targets for the project,
- Carry out a quantitative acoustic assessment of potential impacts and compare against the relevant noise and vibration targets,
- Where required, identify potential noise and vibration mitigation measures, inclusive of both physical and management measures for the construction and operation phases. The report will also outline where further design development and detailed specifications are required.



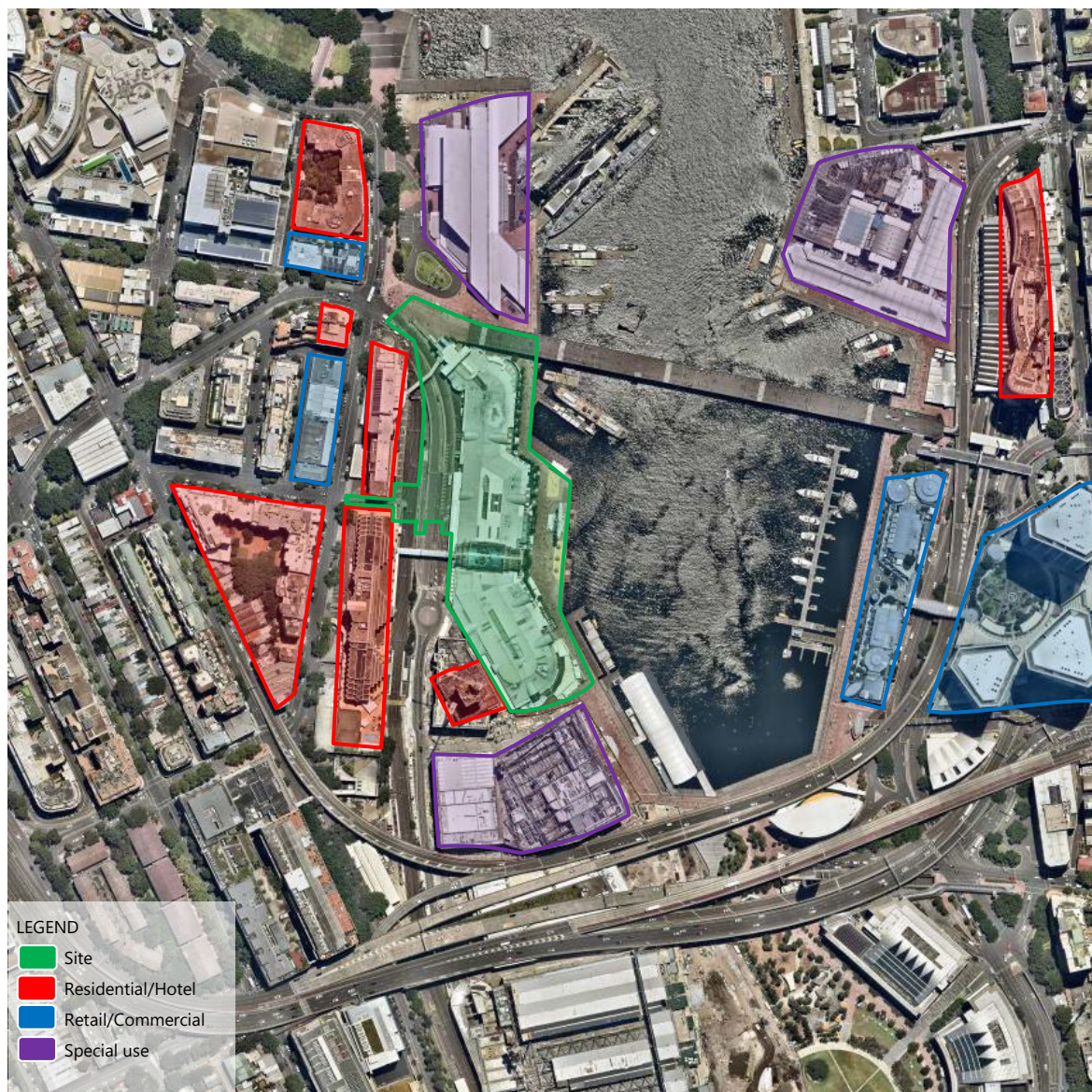
## 2.3 Preliminary site review

At this Stage 1 phase, a preliminary review of the site and surrounds has been carried out to establish the nearest most potentially affected receiver locations.

The nearest land uses surrounding the site have been identified in Figure 2. The primary locations considered sensitive with regard to operational noise are the Novotel and Ibis Hotels located to the west of the site, along with the International Convention Centre (ICC) Hotel currently under construction.

In addition to the existing residential receivers above, the construction phase will also need to consider potential impacts upon less sensitive uses within the vicinity of the site. Consideration may need to be given to the ICC site uses, depending upon the construction program.

Figure 2: Site and surrounding land use map



## 2.4 Operational noise

With regard to operational noise, the primary acoustic aspects of the development are expected to be the retail areas, particularly any food & beverage uses where external patron areas may be provided, and mechanical plant and equipment serving the retail and residential tower components. Traffic generated by the development on the local road network as well as loading dock operations will also need to be assessed. The Stage 2 report will seek to identify the strategies for noise control and management, which may include physical design measures and management measures such as permissible hours of operation for the various uses.

## 2.5 Noise intrusion from existing development

The proposed residential tower would likely be the most noise sensitive component of the proposed development with regard to noise intrusion. Noise to internal areas of the residential building can readily be mitigated through appropriate design of the building envelope in order to meet relevant Australian Standards. As the acoustic design is to be delivered through a balanced responsibility between the residential building design and management and design of the retail uses, the residential building envelope will be designed on the basis specific external noise limits for the retail noise. It is necessary to provide noise limits to which the retail uses are to be designed and operated.

Standard noise policy and criteria applicable to retail type development places the onus of noise control and management upon the operator (noise emitter). In mixed use developments, the proximity of residential development can place onerous restrictions on retail usage, such as:

- limiting operating hours,
- prohibiting or minimising the extent of outdoor seating
- prohibiting or minimising the extent openable facades,
- limiting music noise levels etc.

To provide greater flexibility to the operation of the retail operations, the following approach is to be adopted through consultation with Mirvac during design development:

- Set alternative noise criteria for operation times of restaurants
- The alternative noise criteria to apply inside residential premises with windows and doors closed,
- Façade and building envelope of the residential tower to be designed to provide noise reduction of external noise to meet established internal noise goals,
- Retail external noise limit defined based on the established internal noise goals and residential façade design.

## 2.6 Construction management

The construction phase will need to consider both noise and vibration impacts in accordance with the relevant NSW policies and guidelines. A preliminary Construction Management Plan forms part of the Stage 1 submission, which will be further developed for the Stage 2 DAs and supplemented by the acoustic assessment. Assessment for each primary phase of development is expected to be carried out, including demolition, excavation, structures and fit-out phases. The management of construction noise and vibration will include consideration of work methods, equipment selection, site arrangement, physical controls, monitoring programs and consultation.

### 3 Conclusion

Renzo Tonin & Associates was engaged by Mirvac to carry out an acoustic review of the Stage 1 DA for the proposed Harbourside redevelopment. The review outlines the relevant NSW policies and guidelines with regard to construction and operational noise and vibration, which are to be adopted for the Stage 2 DAs. For this Stage 1 DA, a preliminary review of the site and surrounds has been carried out in order to identify the most sensitive developments surrounding the site that may dictate the acoustic design of the proposed development. This report also outlines the noise and vibration assessment methodology and preliminary design considerations expected to be detailed in the Stage 2 DAs.

## References

- [1] NSW EPA, NSW Industrial Noise Policy, Sydney: NSW EPA, 2000.
- [2] NSW EPA, NSW Road Noise Policy, Sydney: NSW EPA, 2012.
- [3] NSW Department of Planning, "Development near Rail Corridors and Busy Roads – Interim Guideline," NSW Department of Planning, Sydney, 2008.
- [4] Department of Environment and Climate Change NSW, "Interim Construction Noise Guideline," Department of Environment and Climate Change NSW, Sydney, 2009.
- [5] Department of Environment and Conservation (NSW), "Assessing Vibration: A technical guideline," Department of Environment and Conservation (NSW), Sydney, 2006.