Macquarie

Sydney Metro Martin Place integrated station development

North Tower, SSD DA Stage 2: Ecologically Sustainable Design (ESD), Green Star and NABERS Report

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1 Introduction

This report supports a State Significant Development (SSD) Development Application (DA) (SSD DA) submitted to the Minister for Planning (Minister) pursuant to Part 4 of *the Environmental Planning and Assessment Act 1979* (EP&A Act) on behalf of Macquarie Corporate Holdings Pty Limited (Macquarie), who is seeking to create a world class transport and employment precinct at Martin Place, Sydney.

The SSD DA seeks approval for the detailed design and construction of the **North Site** Over Station Development (OSD), located above and integrated with Metro Martin Place station (part of the NSW Government's approved Sydney Metro project). The northern entrance to Metro Martin Place station will front Hunter Street, Elizabeth Street and Castlereagh Street, with the North Site OSD situated above.

This application follows the approval granted by the Minister for a Concept Proposal (otherwise known as a Stage 1 SSD DA) for two OSD commercial towers above the northern and southern entrances of Metro Martin Place station (SSD 17_8351). The approved Concept Proposal establishes building envelopes, land uses, Gross Floor Areas (GFA) and Design Guidelines with which the detailed design (otherwise known as a Stage 2 SSD DA) must be consistent.

This application does not seek approval for elements of the Metro Martin Place Precinct (the Precinct) which relate to the Sydney Metro City and Southwest project, which is subject to a separate Critical State Significant Infrastructure (CSSI) approval. These include:

- Demolition of buildings on the North Site and South Site;
- Construction of rail infrastructure, including station platforms and concourse areas;
- Ground level public domain works; and
- Station related elements in the podium of the North Tower.

However, this application does seek approval for OSD areas in the approved Metro Martin Place station structure, above and below ground level, which are classified as SSD as they relate principally to the OSD. These components are within the Sydney Metro CSSI approved station building that will contain some OSD elements not already approved by the CSSI Approval. Those elements include the end of trip facilities, office entries, office space and retail areas, along with other office/retail plant and back of house requirements that are associated with the proposed OSD and not the rail infrastructure.

This report addresses the ESD elements of the Secretary's Environmental Assessment Requirements (SEARs) for the proposal, which is outlined in Section 1.6 of this report.

Context

The New South Wales (NSW) Government is implementing Sydney's Rail Future (Transport for NSW, 2012), a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of customers in the future.

Sydney Metro is a new standalone rail network identified in Sydney's Rail Future. The Sydney Metro network consists of Sydney Metro Northwest (Stage 1) and Sydney Metro City and Southwest (Stage 2).

Stage 2 of Sydney Metro entails the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney's CBD to Sydenham and onto Bankstown through the conversion of the existing line to metro standards. The project also involves the delivery of seven (7) new metro stations, including Martin Place.

This step-change piece of public transport infrastructure once complete will have the capacity for 30 trains an hour (one every two minutes) through the CBD in each direction catering for an extra 100,000 customers per hour across the Sydney CBD rail lines.

On 9 January 2017 the Minister approved the Stage 2 (Chatswood to Sydenham) Sydney Metro application lodged by Transport for NSW (TfNSW) as a Critical State Significant Infrastructure (CSSI) project (reference SSI 15_7400). Work is well underway under this approval, including demolition of buildings at Martin Place.

The OSD development is subject to separate applications to be lodged under the relevant provisions of the EP&A Act. One approval is being sought for the North Site – this application – and one for the South Site via a separate application.

Site Description

The Metro Martin Place Precinct relates to the following properties (refer to Figure 1).

- 50 Martin Place, 9 – 19 Elizabeth Street, 8 – 12 Castlereagh Street, 5 Elizabeth Street, 7 Elizabeth Street, and 55 Hunter Street (North Site);
- 39 – 49 Martin Place (South Site); and
- Martin Place (that part bound by Elizabeth Street and Castlereagh Street).

This application relates **only to the North Site**, being the city block bounded by Hunter Street, Castlereagh Street, Elizabeth Street, and Martin Place (refer to Figure 1).

The South Site (39 – 49 Martin Place) is the subject of a separate Stage 2 SSD DA.

Figure 1: Aerial Photo of the North and South Site of the Metro Martin Place Precinct

Background

Sydney Metro Stage 2 Approval (SSI 15_7400)

The Sydney Metro CSSI Approval approves the demolition of existing buildings at Martin Place, excavation and construction of the new station (above and below ground) along with construction of below and above ground structural and other components of the future OSD, although the fit-out and use of such areas are the subject of separate development approval processes.

On 22 March 2018, the Minister approved Modification 3 to the Sydney Metro CSSI Approval. This enabled the inclusion of Macquarie-owned land at 50 Martin Place and 9-19 Elizabeth Street within Metro Martin Place station, and other

associated changes (including retention of the opening to the existing MLC pedestrian link).

Concept Proposal (SSD 17_8351)

On 22 March 2018, the Minister approved a Concept Proposal (SSD 17_8351) relating to Metro Martin Place Precinct. The Concept Proposal establishes the planning and development framework through which to assess the detailed Stage 2 SSD DAs.

Specifically, the Concept Proposal encompassed:

- Building envelopes for OSD towers on the North Site and South Site comprising:
  - 40+ storey building on the North Site (see Figure 2: North Site Approved OSD Building Envelope)
  - 28+ storey building on the South Site
  - Concept details to integrate the North Site with the existing and retained 50 Martin Place building (the former Government Savings Bank of NSW)
- Predominantly commercial land uses on both sites, comprising office, business and retail premises
- A maximum total GFA of 125,437m^2 across both sites
- Design Guidelines to guide the built form and design of the future development
- A framework for achieving design excellence
- Strategies for utilities and services provision, managing drainage and flooding, and achieving ecological sustainable development
- Conceptual OSD areas in the approved Metro Martin Place Metro station structure, above and below ground level[1]

[1] *Refers to those components within the Metro CSSI approved station envelope that will contain some OSD elements not approved in the CSSI consent. Those elements include the end of trip facilities, office entries, office space and retail areas, along with other office/retail plant and back of house requirements that are associated with the proposed OSD and not the rail infrastructure.*

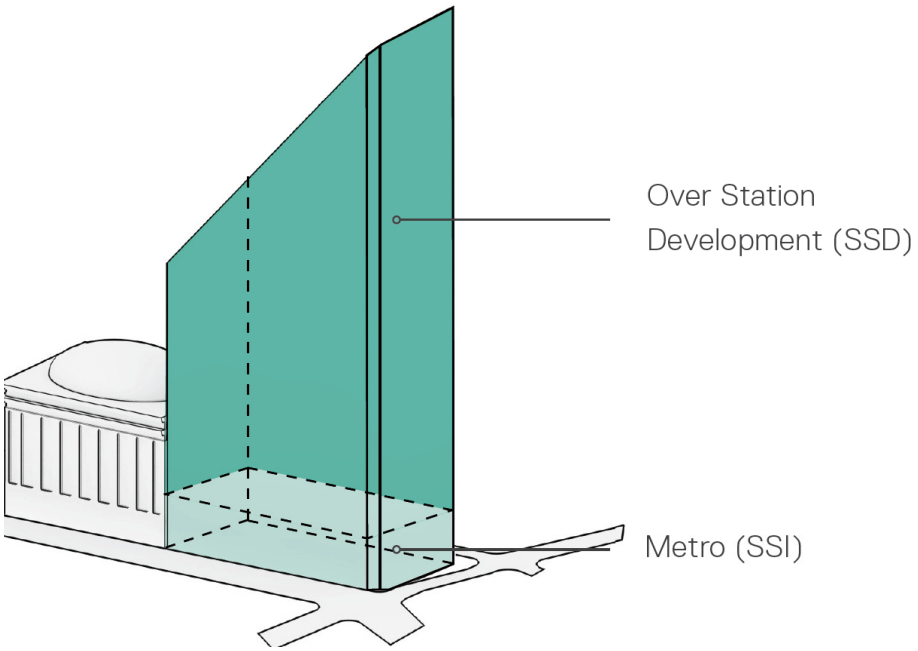

Figure 2: North Site Approved OSD Building Envelope

Planning Proposal (PP_2017_SYDNE_007_00) - Amendment to Sydney LEP 2012

The Planning Proposal (PP_2017_SYDNE_007_00) sought to amend the development standards applying to the Metro Martin Place Precinct through the inclusion of a site-specific provision in the Sydney Local Environmental Plan (LEP) 2012. This site-specific provision reduced the portion of the **South Site** that was subject to a 55 metre height limit from 25 metres from the boundary to Martin Place, to 8 metres, and applies the Hyde Park North Sun Access Plane to the remainder of the South Site, forming the height limit of the tower. It also permits a revised FSR of 22:1 on the South Site and 18.5:1 on the North Site. These amendments were gazetted within Sydney LEP 2012 (Amendment No. 46) on 8 June 2018 and reflect the new planning controls applying to the Precinct.

Overview of the Proposed Development

The subject application seeks approval for the detailed design, construction and operation of the North Tower. The proposal has been designed as a fully integrated station and OSD project that intends to be built and delivered as one development, in-time for the opening of Sydney Metro City and Southwest in 2024. This application seeks consent for the following:

- The design, construction and operation of a new 39 storey commercial OSD tower (plus rooftop plant) within the approved building envelope for the North Site, including office space and retail tenancies.
- Physical connections between the OSD podium and the existing 50 Martin Place building, to enable the use of the North Site as one integrated building.
- Vehicle loading areas within the basement levels.

- Extension and augmentation of physical infrastructure / utilities as required.
- Detailed design and delivery of 'interface areas' within both the approved station and Concept Proposal envelope that contain OSD-exclusive elements, such as end of trip facilities, office entries, office space and retail areas not associated with the rail infrastructure.

Planning Approvals Strategy

The *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD) identifies development which is declared to be State Significant. Under Schedule 1 and Clause 19(2) of SEPP SRD, development within a railway corridor or associated with railway infrastructure that has a capital investment value of more than $30 million and involves commercial premises is declared to be State Significant Development (SSD) for the purposes of the EP&A Act.

The proposed development (involving commercial development that is both located within a rail corridor and associated with rail infrastructure) is therefore SSD.

Pursuant to Section 4.22 of the EP&A Act a Concept DA may be made setting out concept proposals for the development of a site (including setting out detailed proposals for the first stage of development), and for which detailed proposals for the site are to be the subject of subsequent DAs. This SSD DA represents a detailed proposal and follows the approval of a Concept Proposal on the site under Section 4.22 of the EP&A Act.

Submitted separately to this SSD DA is a SSD DA for the South Site (Stage 2 South Site SSD DA). A Stage 1 Amending SSD DA to the Concept Proposal (Stage 1 Amending DA) has also been submitted that has the effect of aligning the approved South Site envelope with the new planning controls established for the South Site (achieved through the site specific amendment to the Sydney LEP 2012).

- Figure 3: Relationship of key planning applications to the Stage 2 North Site DA (this application)

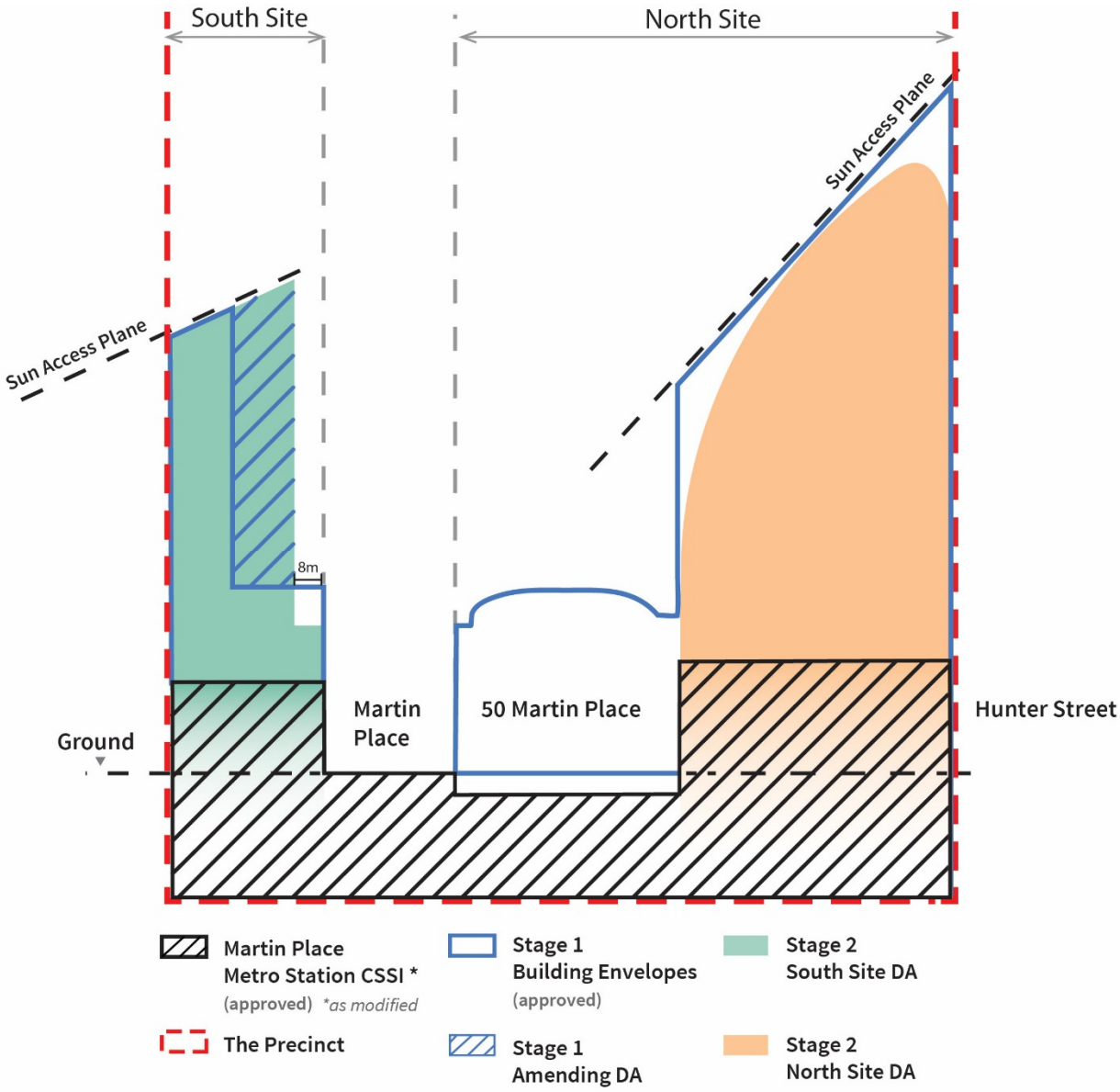

Figure 3: Relationship of key planning applications to the Stage 2 North Site DA (this application)

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

The EIS shall:

- Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the EP&A Regulation 2000) will be incorporated in the design, construction and ongoing operation of the development.

- Demonstrate the proposed development will reflect leading industry practice in sustainable building principles to improve environmental performance, including energy and water efficient design and technology, and use of renewable energy.

The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the EP&A Regulation 2000. Provide these as part of the EIS rather than as separate documents.

In addition, the EIS must include the following:

- ESD statement (incorporating a sustainability framework).

Furthermore, Condition B5 of the Development consent, Section 4.38 of the Environmental Planning and Assessment Act 1979, states:

- B5. Future Development Application(s) shall demonstrate the incorporation of Ecological Sustainable Development principles in the design, construction and ongoing operation phases of the development, consistent with the Ecologically Sustainable Design, Green Star and NABERS report, prepared by ARUP dated 24 November 2017, including the following minimum environmental standards:

    - 5 star NABERS Energy based

    - 3.5 star NABERS Water based

    - 6 Star Green Star Office Design

    - Occupant wellbeing.

2 Response to SEARS

The SEARS for ESD are as follows:

Requirement 1: *Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the EP&A Regulation 2000) will be incorporated in the design, construction and ongoing operation of the development.*

The ESD principles will be incorporated into the design as follows, with further detail on these strategies provided in this report.

1. **The Precautionary Principle**
   Careful evaluation to avoid damage to the environment will be mitigated via strategies such as the use of responsibly sourced materials. Such requirements will be achieved via a 6-star Green Star Design & As Built v1.1 rating.

2. **Intergenerational Equity**
   This principle will be demonstrated via:
   - Promotion of community integration with the precinct such as a centralised waste management strategy, consideration in the tower design to enable best practice station comfort for optimised customer experience.
   - Reduced carbon emissions:
     - recycled materials
     - optimised precinct energy usage through high performance façades and efficient mechanical systems
   - Reduced waste to landfill (via a centralised waste strategy)
   - Reduced potable water usage
   - A soft landings approach to minimise operational energy

3. **Conservation of Biological Diversity and Ecological Integrity**
   As the project will be on an existing site, it will be ensured that the conservation of biological diversity and ecological integrity will be maintained equal to or greater than the current level. A precinct greening strategy will be considered.

4. **Improved Valuation, Pricing and Incentive Mechanisms**

   The project aims to achieve a 6-star Green Star rating in the most cost effective way via a life cycle cost approach that provides best return on investment.

Specific features included in the design at this stage, that contribute towards the achievement of this requirement include:

- Reduced energy intensity to minimise greenhouse gas emissions using high efficiency chilled water systems, a high performance façade and an underfloor air distribution system combined with passive chilled beam technology.

- Reduce lighting power density significantly below code requirements use LED lighting technology
- Double glazed façade with integrated internal blinds, controlled to minimising heat gains to the building.
- A building wide Integrated Communications Network (ICN) that allows building systems to be monitored centrally so that any system inefficiencies can be identified and rectified quickly.

Requirement 2: *Detail how the proposed development will reflect leading industry practice in sustainable building principles to improve environmental performance, including energy and water efficient design and technology, and use of renewable energy.*

In order to address this requirement, a suite of rating systems and supporting design features have already been incorporated into the design and/or remain under consideration for the finalisation of the design. These are detailed in Section 4 of this report. Key framework elements include the development of studies for benchmarking the proposal against world's best practice in transport oriented development, Green Star to inform the design development through to as-built documentation, and target operational ratings under NABERS Energy and NABERS Water. Details of the specific features integrated into the design at this stage are detailed in Section 4.

3 Response to Stage 1 DA Planning Conditions

As part of the Stage 1 DA approval, the following condition was imposed on the development.

- B5. Future Development Application(s) shall demonstrate the incorporation of Ecological Sustainable Development principles in the design, construction and ongoing operation phases of the development, consistent with the Ecologically Sustainable Design, Green Star and NABERS report, prepared by ARUP dated 24 November 2017, including the following minimum environmental standards:

  - 5 star NABERS Energy based
  - 3.5 star NABERS Water based
  - 6 Star Green Star Office Design
  - Occupant wellbeing.

To achieve the above noted NABERS Energy and Water ratings, a number of design features have been included in the project. These are detailed in Section 4.

4 Design Features

The project being surrounded by the pedestrianized Martin Place offers a unique opportunity; to consider the redevelopment holistically and at a precinct level, with sustainability as a key driver for the development of the design.

The following drivers form part of the sustainability philosophy and aspirations for the North Tower of the Sydney Metro Martin Place Station Integrated Station Development:

- Worlds' Best Practice Benchmark using a Green Star Design & As Built v1.1 tool.
- Environmental impact – a design capable of reducing carbon emissions, promoting energy efficiency and reducing resource consumption.
- Sustainable definition – a design capable of achieving recognised high performance with efficient use of resources.
- Integration of the station with the surrounding precinct.
- Implementation of highly efficient systems - The use of energy efficient heating, ventilation, air conditioning (HVAC) and lighting systems combined with the passive strategies in the building will further contribute to energy, water and carbon reduction.

4.1 Key Strategies

Key design strategies that are being considered throughout the finlisation of desgn development are highlighted as follows:

Human Centred Design 

Implement initiatives which will provide tangible benefts to the community during and beyond the construction period. for example the mechanical services design has focused on occupant comfort throughout the precinct. Wellness is also a central aim for the development.

Facade Strategy 

High performance facades utilising blinds and mixed mode solutions where appropriate, balancing internal environmental comfort with energy efficiency.

Water Reclaim 

Non-potable and potable operational demand targets will be reached through strategies such as rainwater harvesting and condensate capture.

World Leading Comfort 

Various strategies will be investigated such as utilising spill air to cool public areas in order to improve local conditions.

Daylight and Wayfinding Design

Optimised daylight access; penetration into the underground station and maximised useful daylight on the tower floors. Cutting edge wayfinding technology will be investigated for the precinct providing mobile applications and other technologies to assist users.

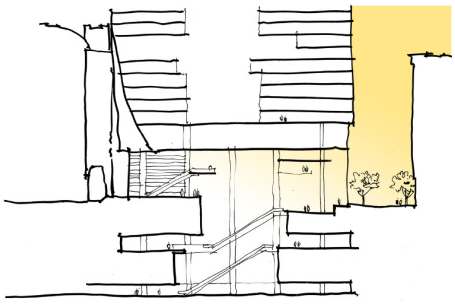

Figure 2: Predicted Daylight Behaviour into the North Station Box

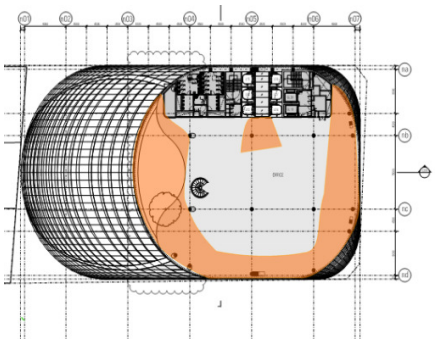

Figure 3: Daylight Analysis Summary for an example floor of the North Tower highlighting targeted area with sufficient daylight

The figure below highlights the area available to provide daylight access to the North Tower through the side lit atrium, in comparison to 50 Martin Place.

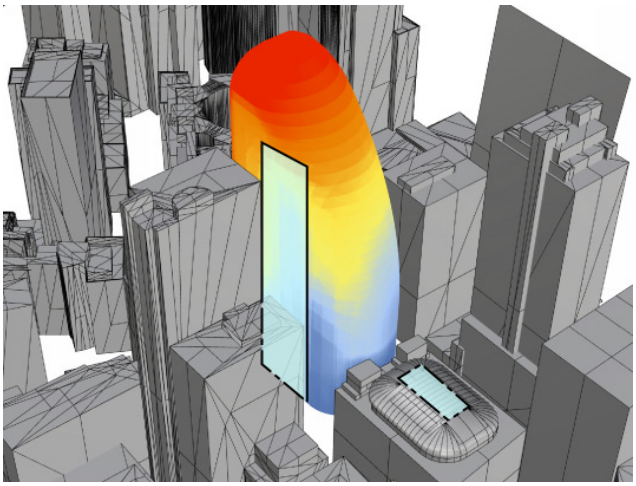

Figure 6: Side Lit Atrium of the North Tower

Active Transport 

Precinct-wide end of trip facility will be located at the heart of the development interchange. The aspiration is to deliver a world leading active transport hub.

Smart Systems 

Smart systems will be provided to occupants in order to meet energy, waste and water targets. Educating users on their impacts on the space should aid reduction of resource use.

Resilience 

A climate change resilience plan will be developed in accordance with the following:

- The requirements of Green Star Design & As-built Version 1.1
- The recommendations of AS5334 Climate change adaptation for settlements and infrastructure—A risk based approach
- Arup's experience with best practice approaches to risk, resilience, and climate change vulnerability adaptation

Renewable Energy: 

Onsite renewable energy generation options were explored during design development however the best-for-project, cost effective, solution was determined to be a commitment by Macquarie to purchase green power as part of the project Green Star Pathway.

Energy Efficiency 

The OSD development has committed to designing to provide the potential for very high levels of energy efficiency. The key base building features contributing to energy efficiency include that are being considered and developed through design development include:

- Cooling Plant – High efficiency water cooled chillers.
- Pumping systems – Generally variable flow and variable pressure to minimise energy use.
- High Performance Facade – High performance glazing with an automated internal reflective blind to further reduce heat loads.
- Internal Heat Loading – The base building air conditioning systems are sized to lower than traditional loads. This minimises system sizes and energy use compared to buildings with historically higher design heat loading allowances.

- Air Handling – Air handling units are designed to minimise system pressures and maximise fan wire to air efficiencies. Zone controls will enable system volumes to turn down when zones to minimse loads associated with ventilation, dehumidification, or heating / cooling further reduce system energy use.
- Common Light & Power – High efficiency light sources will be used throughout (predominantly LED) with demand based addressable controls as appropriate (daylight switched/dimmed, occupancy sensors etc.).
- Vertical Transportation – High efficiency lift design using destination control systems and regenerative breaking have been assumed in the modelling.
- Energy Metering – An extensive sub-metering strategy is proposed to enable certainty in delivery
- Tenant Lighting – Tenant lighting is entirely LED and is demand controlled on motion and daylight sensing (where appropriate) with each fitting having the ability to be individually controlled.

4.2 Ratings

4.2.1 Building Codes of Australia – Section J

Compliance with Section J Parts 1, 2, and 3 will be achieved through the Alternative Compliance path JV3 fabric.

The JV3 methodology involves the comparison of the predicted energy consumption of a reference building model that is developed using the deemed to satisfy (DTS) requirements of the National Construction Code (NCC), with the proposed building model. If the predicted energy consumption of the proposed building model is no more than the reference model then a complying alternative solution to the NCC Section J is achieved.

4.2.2 Green Star and NABERS

The strategies to achieve worlds' best practice will be addressed under rating schemes such as Green Star and NABERS. Green Star Design & As Built and NABERS are the primary benchmarks used for commercial buildings.

Green Star—Design & As Built v1.1

Green Star – Design & As Built v1.1 assesses the sustainability outcomes from the design and construction of new buildings or fit outs, across nine impact categories:

- Management
- Indoor Environment Quality
- Energy

- Transport
- Water
- Materials
- Land Use & Ecology
- Emissions
- Innovation

The tower is highly integrated with the metro station below. A custom tool has been developed by the Sydney Metro and will be used to inform the development of the Station element of the development; where appropriate, the design of the tower and station will be integrated to allow the achievement of the Green Star ratings in both development elements.

Examples of credits targeted in the current Green Star scheme to achieve the World Leadership, 6 star Green Star rating that also contribute towards the achievement of the ESD Principles include:

- Macquarie commit to providing a well-managed asset that will continue to operate in a sustainable manner – to achieve this, all points are targeted under the Management category in the Green Star pathway.
- IEQ plays an important part in providing a premium grade building, and thus the design is targeting to achieve all the IEQ credits available within the constraints of the allowable site massing.
- A Green Travel Plan will be developed as part of the design finalisation to help identify how the building can contribute to emissions reductions, encouraging and active transport.
- A integrated EOTF is proposed which will serve the whole Metro Martin Place development, significant allowances have dedicated in this facility for the North Tower.
- High efficiency fixtures and fittings are proposed as part of the development to reduce potable water consumption. Condensate capture and reuse also contributes to offsetting potable water use.
- Life cycle assessment will be used as part of the Green Star rating to identify potential material efficiencies that can be leveraged.
- All material stewardship and transparency credits are targeted in the Green Star pathway.
- Urban heat island effect is to be targeted through the design of the development, assisting in reducing the impact of the building on the local microclimate.
- Stormwater quality and discharge reductions are targeted as part of the Green Star pathway. Other Emissions category credits targeted include light pollution reduction and minimisation of refrigerant impacts.

NABERS Energy and Water

NABERS is a national rating system that measures the environmental performance of Australian buildings, tenancies and homes. This is measured in terms of the energy efficiency, water usage, waste management and indoor

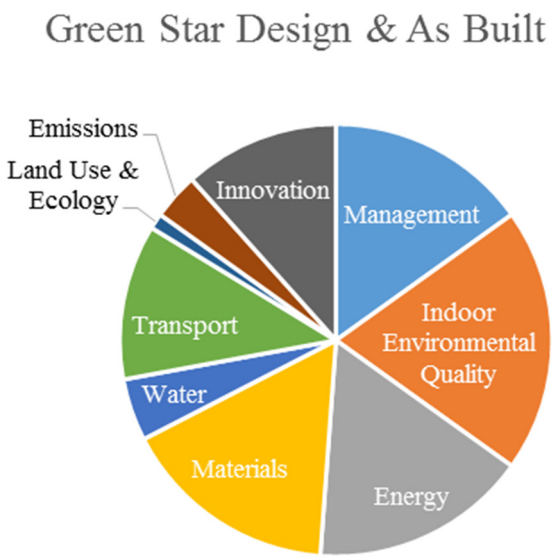

Figure 7: Targeted Point Breakdown for Green Star Design & As Built v1.1

environment quality of a building or tenancy and its impact on the environment.

This is undertaken with measured and verified performance information, such as utility bills, and converting them into an easy-to-understand star rating scale from one to six stars. For example, a 6-star rating demonstrates market-leading performance, while a 1-star rating means the building or tenancy has considerable scope for improvement.

Examples of design initiatives adopted in the current design which contribute towards the achievement of the NABERS Energy and NABERS Water rating include:

- High efficiency chilled water systems are proposed to assist in reducing the energy and greenhouse gas emissions related to the project.
- A high performance façade, with integrated control to internal blinds is proposed to reduce the solar loads, and subsequent cooling loads and energy of the building.
- Highly efficient passive chilled beams are proposed as part of the HVAC systems, with low pressure air distribution via an underfloor plenum.
- The water efficiency features noted in the Green Star strategy, will contribute to a significant reduction in water usage relative to industry benchmarks. These include efficient fixtures and fittings, and condensate capture and reuse.

4.3 Strategies: OSD

The ESD objectives for the North Tower are summarised as follows:

- 5 star NABERS Energy minimum based on 2016 protocol
- 3.5 star NABERS Water Rating target based on 2016 protocol
- 6 star Green Star Office Design & As-Built v1.1
- Occupant wellbeing

Key design strategies that are being considered throughout the development are highlighted as follows:

North Tower

Facade

- Exceed BCA compliance by a combination of internal and external shading with high performance glazing

Reflectivity of the façade will be designed to comply with City of Sydney minimum performance guidelines

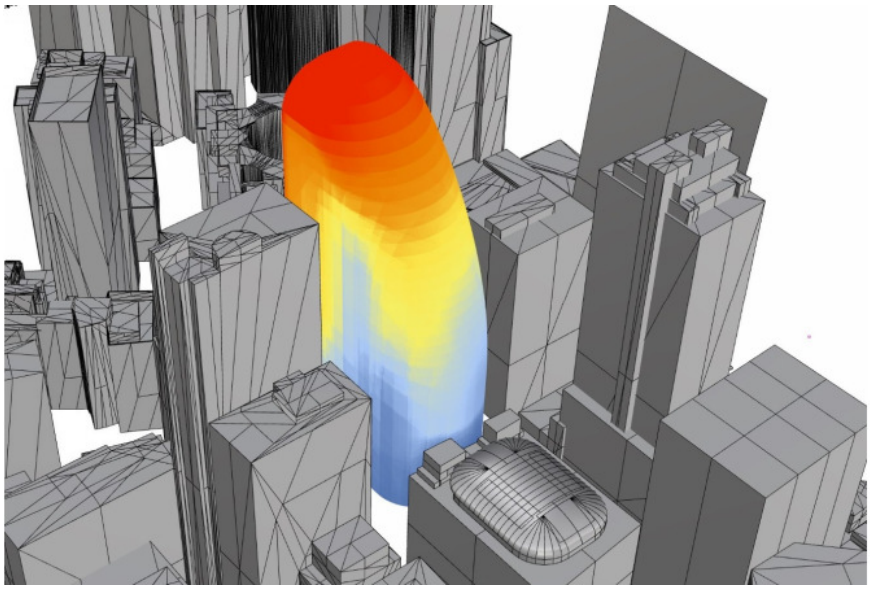

Figure 8: Contour plot of annual solar loads analysis undertaken to inform facade design

Mechanical / BMS

- High end mechanical systems and water cooled chillers to optimise indoor environmental quality, environmental and energy performance. Systems proposed are passive chilled beams, under floor dedicated outside air distribution system.

Electrical/Hydraulic

- Water Efficiency Labelling and Standards (WELS) rated fixtures
- Rain-water harvesting

North Tower

Carbon

- Renewable energy options such as Green Power and Renewable Energy Certificate (RECs)

Architectural – Spatial Planning

- Area considerations for recycled waste and garbage rooms and effective waste management to optimise land fill diversion

Materials

- Recycled demolition and construction waste
- Provision for responsibly sourced construction materials
- Best Practice use of PVC

Indoor Environmental Quality (IEQ)

- Zone controls will enable systems to turn down to minimse loads associated with ventilation, dehumidification, or heating / cooling further reduce system energy use.
- Tenant lighting has daylight sensing (where appropriate) with each fitting having the ability to be individually controlled.
- Space provision for carbon filtration to Air Handling Unit (AHU)

Innovation

- Soft landings to minimise operational energy
- Potential to purchase of Green Power to offset carbon emissions and improve performance in Energy credits
- Tenancy fit out systems review

5 Stretch Targets

The project aims to strive beyond the design features noted in the previous section. The following aspirations will also be considered through design development:

Precinct Development
Precinct-Wide Greening Strategies • Further extension of green infrastructure to celebrate culture and wellbeing
Digital Infrastructure • Considerations such as mobile applications with features for monitoring and feedback to promote an integrated precinct
Community Facilities • E.g. providing support facilities and retail spaces for cyclists, buskers and active commuters to further promote active lifestyles, arts and culture

6 Agency consultations

Consultation has been undertaken on this SSD DA Stage 2 proposal with Sydney Metro and other relevant agencies as detailed in the Stakeholder and Community Engagement Summary Report, prepared by Ethos Urban

7 Conclusion

The North Tower will achieve the required targets as stipulated in the SEARs and SSDA Stage 1 Conditions through implementation of the design solutions and project frameworks described in this report.

ESD principles as defined in EP&A Regulation 2000 have been considered and incorporated in the design, and evaluated through appropriate assessment tools, including Green Star and NABERS rating systems.

Design solutions have been developed with due regard to intergenerational efficiency through consideration of life cycle costs.

The development will reflect leading industry practice in sustainable building principles by incorporating the measures documented in this report, and by benchmarking against world's best practice to improve environmental performance, including energy and water efficient design and technology, and use of renewable energy.

As the design progresses, further opportunities for ESD will continue to be investigated, including the exploration of Stretch Targets.