

COCKLE BAY PARK REDEVELOPMENT

Appendix Q Fire Engineering SSDA Statement

State Significant Development, Development Application (SSD DA)

Prepared for DPT Operator Pty Ltd and DPPT Operator Pty Ltd

23 September 2021

Revision [1.2]





**Norman
Disney &
Young**
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SSDA Statement

DPT Operator Pty Ltd and DPPT Operations Pty Ltd
Cockle Bay Park
Fire Engineering

CONFIDENTIAL

Revision: 1.2 – For Approval Issued: 23 September 2021



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NDY QA SYSTEM: Cockle Bay Park

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Revision		Date Issued	Comment
First Issue	1.0	9/09/2021	For SSDA submission
Second Issue	1.1	10/09/2021	Site Plan modified
Third Issue	1.2	23/09/2021	Minor updates

1 INTRODUCTION

1.1 Overview

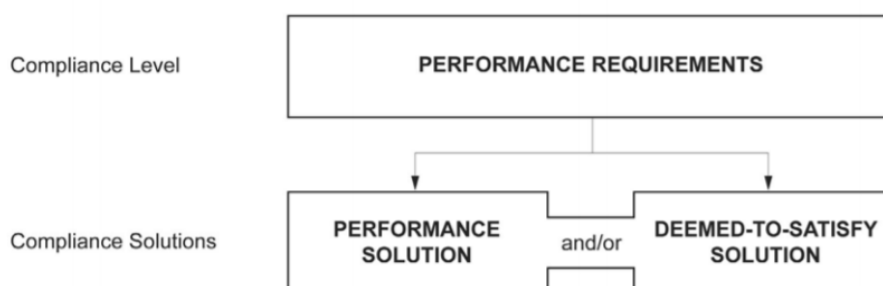
This Fire Engineering statement has been prepared to accompany a detailed State Significant Development (SSD) Development Application (DA) (Stage 2) for a commercial mixed-use development, Cockle Bay Park, which is submitted to the Minister for Planning and Public Spaces pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The development is being conducted in stages comprising the following planning applications:

- Stage 1 – Concept Proposal setting the overall ‘vision’ for the redevelopment of the site including the building envelope and land uses, as well as development consent for the carrying out of early works including demolition of the existing buildings and structures. This stage was determined on 13 May 2019, and is proposed to be modified to align with the Stage 2 SSD DA.
- Stage 2 – detailed design, construction, and operation of Cockle Bay Park pursuant to the Concept Proposal.

This Fire Engineering letter is provided in support of the Development Application (DA) and to comment on potential Fire Engineering Performance Solutions to address fire safety related BCA DTS non-compliances associated with only the Retail podium and the Commercial Tower of the development and excludes the Landbridge structure which we understand is assessed by Aurecon. It is noted that no specific SEARS or items from the condition of consent relate to Fire Engineering for the Retail Podium and the Commercial Tower.

Norman Disney & Young (NDY) have been engaged by DPT Operator Pty Ltd and DPPT Operation Pty Ltd to provide fire safety engineering services for the Retail podium and the Commercial Tower of the project only.

The fire safety engineering design for the development is to comply with the Performance Requirements of the Building Code of Australia 2019 Amendment 1 (BCA). This shall be achieved either through design solutions that meet Deemed-to-Satisfy (DTS) prescriptive measures or through fire engineered Performance Solutions, or a combination as outlined with Section A2.1 of the BCA.



Where departures from the BCA DTS provisions are addressed as Performance Solutions, these will be documented based on methodologies outlined in Clause 1.2.9.2 of the International Fire Engineering Guidelines, in order to demonstrate compliance with the Performance Requirements of the BCA.

A preliminary meeting with Fire and Rescue NSW (FRNSW) was undertaken to discuss the proposed location of the fire brigade infrastructure for the Retail podium and the Commercial Tower of the development on 30 August 2021. No concerns were raised by FRNSW regarding the proposed brigade infrastructure at the meeting.

1.2 The Site

The site is located at 241-249 Wheat Road, Sydney to the immediate south of Pyrmont Bridge, within the Sydney CBD, on the eastern side of the Darling Harbour precinct. The site encompasses the Cockle Bay Wharf development, parts of the Eastern Distributor and Wheat Road, Darling Park and Pyrmont Bridge.

The Darling Harbour Precinct is undergoing significant redevelopment as part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) including Darling Square and the IMAX renewal W Hotel projects. More broadly, the western edge of the Sydney CBD has been subject to significant change following the development of the Barangaroo precinct.

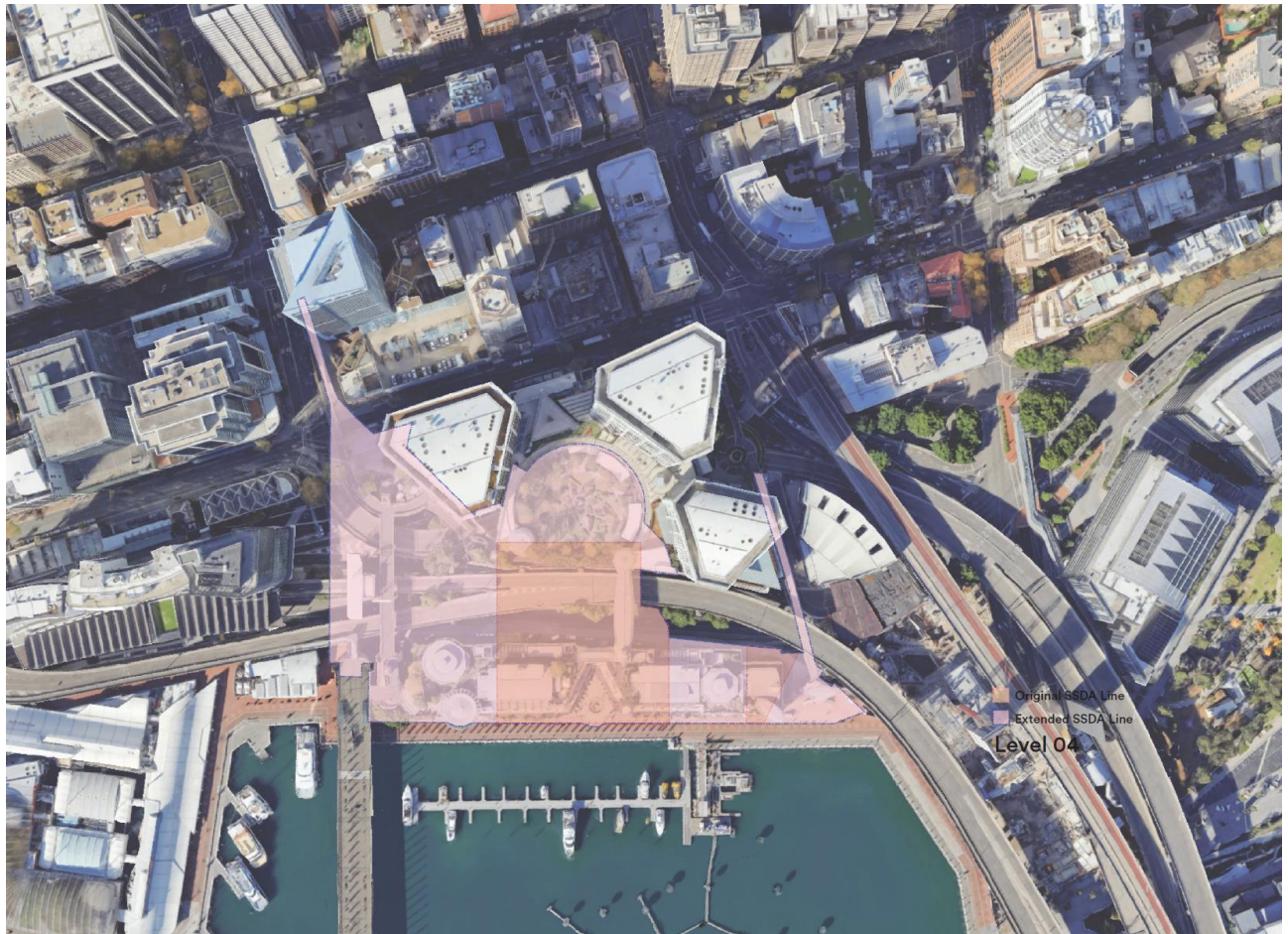


Figure 1 – Location Plan

1.3 Limitations

It is noted that this document provides only an overview of anticipated non-compliances that will require Fire Engineering analysis and is subject to be further developed in subsequent design phases.

The proposed works for the Retail podium and the Commercial Tower will require a detailed BCA assessment in order to confirm the non-compliances required to be addressed by Fire Engineering Performance Solutions.

This statement and NDY's scope of fire engineering works relates to the Retail podium and the Commercial Tower of the development only and does not include the 'Landbridge' structure over the Western Distributor, nor any transport infrastructure related elements of design or analysis. These aspects will be addressed by



the relevant fire engineer who is responsible for this area of the development, including all relevant approvals processes with Transport for NSW plus Fire and Rescue NSW.

1.4 Reference Documents

- Architectural drawings prepared by Architectus & Henning Larsen, Stage 3B Concept Design, project no. 200077.00, dated 21 September 2021.



2 OVERVIEW OF PERFORMANCE SOLUTIONS

A detailed fire engineering strategy is currently in development to address a range of departures from the prescriptive Building Code of Australia (BCA) Deemed-to-Satisfy (DTS) provisions by way of Performance Solutions.

Based on the preliminary BCA advice received by McKenzie Group, Performance Solutions are anticipated to include (but are not limited to) the following:

- Fire Resistance and Compartmentation
 - To permit oversized fire compartment sizes to podium levels
 - Rationalisation of Fire Resistance Levels to the retail podium levels, where supported by fire severity calculations.
 - To permit the use of timber structures and pergolas on top of the podium
 - Performance based fire separation between the retail podium and office tower
- Egress
 - Extended travel distances within the tower supported through enhanced smoke detection
 - Rationalised egress widths within the retail podium, supported by smoke modelling.
- Smoke Hazard Management
 - Performance based natural ventilation strategy as part of the smoke hazard management for Level 1 and 2 in lieu of mechanical smoke systems
- Fire Systems
 - Hydrant booster assembly not in sight of main entrance, due to the building containing multiple entrances
 - Fire Control Room not in sight of main entrance
 - To permit the hydrant system to be designed to AS 2419.1-2017 in lieu of AS 2419.1-2005.



3 FIRE ENGINEERING PROCESS

The fire engineering process that is being undertaken is as follows, in accordance with the International Fire Engineering Guidelines (IFEG) which is endorsed by the Australian Building Codes Board (ABCB):

- Concept Review and Strategy Development (ongoing)
- Performance-Based Design Brief consultation process, including consultation with Fire & Rescue NSW and submission of Fire Engineering Brief Questionnaire (to complete in subsequent stages)
- Fire Engineering Report (to complete in subsequent stages)
- In construction – Fire Engineering Inspection Reports (to complete)



4 CONCLUSION

Based on the works undertaken to date in consultation with the design team and the Building Certifier, the Retail podium and the Commercial Tower is capable of complying with the Performance Requirements of the BCA. This will be achieved either through meeting prescriptive DTS provisions, through fire engineering Performance Solutions, or a combination of both.

A Fire Engineering Concept review has been undertaken as part of the SSDA phase. Next steps include finalising the non-compliances required to be addressed by Fire Engineering solutions, to be documented within the Performance-Based Design Brief (PBDB) for referral to FRNSW, followed by a Fire Engineering Report (FER) during the detailed design stage of the project.

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