# 757—763 George Street Planning Proposal

**Urban Design Report** October-2020



# GRIMSHAW

#### Job Title: 757-763 George Street

#### Document Title: Urban Design Report

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Copyright for the redevelopment of 757-763 George Street remains vested with Grimshaw and design and process shall remain the intellectual property of Grimshaw.

### Preface

### Acknowledgment of Country



Grimshaw acknowledges the Gadigal of the Eora Nation as the traditional custodians of this place we now call Sydney.

We acknowledge and celebrate the continuation of a living culture that has a unique role in this region. We also acknowledge Elders past and present as well as our emerging leaders of tomorrow and thank them for their wisdom and guidance as we walk in their footsteps.

### Our Approach to Design and Place Experience

Grimshaw, in collaboration with the broader design team, have been engaged to provide an Urban Design Report for 757-763 George Street, Haymarket. Planners Mecone are leading the submission of the Planning Proposal with the Urban Design Report forming a key component of the submission.

The site offers great development opportunity and can provide the catalyst for the rejuvenation- not only the site and its heritage- but also the re-visioning of the broader Central Precinct Innovation Hub.

The design methodology adopted for the site uses an iterative approach which tests and modifies proposed schemes seeking balance between environmental impact, heritage, amenity, public benefit, quality, economic viability and development surety.

The planning proposal seeks to redevelop the subject site into a hotel tower with ground level retail activation to Valentine Street and George Street.



Left: Sketch Tower and Heritage Relationship

Far Left: Photograph 757-763 George Street, 2020



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# Part 01 — Introduction

# **Executive Summary**

Samprian Pty Ltd propose to redevelop 757 - 763 George Street Haymarket for a tower development accommodating retail floor space at ground level and 3.5 star hotel accommodation floor space above. Samprian's objective is to retain and adaptively reuse the existing heritage building contained within the site and introduce a tower element that responds to the emerging built form context in the immediate surrounds.

The proposal has been prepared under the guise of the draft Central Sdney Planning Strategy [draft CSPS]. The draft CSPS situates the site within a Tower Cluster Area and provides an impetus for the proposed density. It establishes that future development within Tower Cluster Areas should provide employment generating floorspace. In accordance with this requirement, the proposal will deliver additional employment generating floorspace on a site that is well serviced by amenities, in proximity to public transport and less constrained by sun access controls.

The site is located a short distance from Central Precinct, which is earmarked by the NSW Government to emerge as a technology and innovation precinct. Central Precinct is divided into sub-precincts. The Western Gateway sub-precinct represents the first stage of Central Precinct's redevelopment. The sub-precinct is earmarked to accommodate a number of tower developments reaching in excess of RL 200 that are currently progressing through the planning approval process.

In this context, the redevelopment of the site provides a unique opportunity to revitalise the site's heritage building and deliver a new tower element reaching 107m (AHD 119m) that will sit comfortably in the context of these future surrounding developments. The intended mix of uses comprising retail and hotel uses are complementary to the emerging innovation and technology precinct and will support the growing workforce.

The purpose of the Planning Proposal is to establish an envelope for the site that will deliver an appropriate built form outcome, exhibit design excellence and meet the objectives and intended outcomes of the draft CSPS as well as the broader strategic planning framework. This approach has informed the Indicative Reference Scheme prepared by Grimshaw Architects put forward in this Concept Design Report prepared by Grimshaw Architects.



Above: Drawing Location of the Western Gateway sub-precinct Draft CSPS

Above: Drawing Location of Tower Cluster Areas Draft CSPS



# Part 02 — Site Context

Draft Central Sydney Planning Strategy Justification for Planning Proposal The Site

Site Views

Sutton Forest Meat Company

Approved DA

Analysis:

- (a) Site + Public Space
- (b) Transport Connectivity
- (c) Heritage Context
- (d) Haymarket Activity Node

# Draft Central Sydney Planning Strategy

The draft Central Sydney Planning Strategy (draft CSPS) comprises a suite of documentation, including a Planning Proposal to amend the Sydney LEP 2012 and a Development Control Plan (DCP) that together propose a range of planning control amendments for the Central Sydney Planning Area. The draft CSPS was recently granted Gateway Determination on the 11 March 2020 and was publicly exhibited between 1 May to 10 July.

#### **Tower Cluster Areas**

The CSPS and accompanying planning control amendments will assist in unlocking 2.9million sqm of new floor space, which will predominantly be delivered across four Tower Cluster Areas. Sites located within Tower Cluster Areas are eligible for the Design Excellence – Tower Cluster Approval Pathway and a 50% FSR bonus for exhibiting design excellence provided the requirements set out under subclause 6.21(7A) are met, including the minimum site area provision of 2,000sqm.

The site forms part of the Haymarket/Central Tower Cluster Area. However, having an area of only 1,030sqm, the site is not eligible for the 50% FSR bonus afforded by subclause Design Excellence - Tower Cluster Approval Pathway. Accordingly, the submission of a Development Application pursuant to subclause 6.21(7A) is not a viable planning pathway. It has been determined that a Planning Proposal represents the best alternative planning approval pathway option.

The draft CSPS establishes that the Design Excellence – Tower Cluster Pathway is predicated on need to provide a streamlined approval process for sites in Tower Cluster Areas to facilitate employment growth; encourage innovative design; and unlock opportunities for the delivery of cultural infrastructure and improved spaces.

Whilst the site does not meet the minimum site area requirements, which preclude it from benefiting from the Design Excellence - Tower Cluster Pathway, it is ideally suited to accommodate a tower development and has the potential to deliver on the objectives that underpin the rationale for Tower Cluster Areas. Through the submission of a Planning Proposal that seeks to realise the density afforded to larger cluster tower sites, the proposal will achieve the following:

- $\rightarrow$  Make an exceptional contribution to the Sydney skyline.
- → Promote employment growth in a Tower Cluster Area.
- $\rightarrow$  Make a positive contribution to the ground plane.
- → Promote the adaptive renewal and revitalisation of the heritage building contained within the site.
- $\rightarrow$  Exhibit design excellence.
- → Provide commercial floorspace that will support the emergence of the Innovation Precinct in and around Central Station.
- $\rightarrow$  Provide accommodation floorspace that will support the visitor economy and provide a complementary use to the commercial tower developments in the locality.

#### Svdnev LEP Amendments under the draft CSPS

Under the draft CSPS, the existing Sydney LEP 2012 provisions continue to apply. The key controls are as follows:

Zoning	B8 Metropolitan Centre		
FSR	A base maximum FSR control of 7.5:1 applies. Additional FSR up to 1.5:1 is available for accommodation floorspace. This amounts to an overall FSR of 9:1.		
	Note: In the instance clause 6.21(7A) were to apply, the maximum FSR inclusive of the FSR bonus would increase to 13.5:1.		
Height	50m		



#### Maximum Building Height for Tower Clusters

The site is located within the Haymarket/Central Tower Cluster Area. The maximum height is constrained by the sun access controls and airspace operations controls. The maximum height for the site established by these controls is approximately 264m.

#### Special Character Area

Under the draft CSPS, the site forms part of the Haymarket / Chinatown Special Character Area. The built form requirements are in part governed by the associated Special Character Area Map. This map applies a range of planning controls that have been prepared under a scenario where the site forms part of an amalgamated block.

#### Setbacks

An 8m street setback is required to George Street. The heritage item known as the 'Sutton Forest Meat' building is earmarked for retention and removes the requirement for an eastern street setback.

#### Street frontage height

A minimum street frontage height of 15m or the street frontage height of the nearest heritage item to, or within, the subject site (whichever is smaller).

map shown below.



Far Right: Havmarket Tower Cluster & relationship with CBD

A maximum street frontage height of 20m as illustrated by the Special Character Area

# Justification for the Planning Proposal

#### Relationship to the Strategic Planning Framework

The Planning Proposal for new hotel accommodation and commercial space is justified through its strategic merit and consistency with the GSRP, the Eastern City District Plan, the draft LSPS and Visitor Accommodation Action Plan.

The Eastern City District Plan will implement *A Metropolis of Three Cities – the Greater Sydney Region Plan* (GSRP Region Plan) at the district level. As defined in the Eastern City District Plan, the George Street, Haymarket site sits at the intersection between the Harbour CBD and Innovation Corridor precincts. The diagram below highlights the significance of the location strategically within the City, with Central Station close-by and forming a critical sustainable transport connection to tie the two precincts together.

The Plan recognises the need to grow the tourism sector and its significance to the growth of the district economy.

**Objective 22** in the Greater Sydney Region Plan refers to investment and business activity in centres. Strong encouragement is given to new health and tertiary education facilities – and for these to evolve into more mature innovation precincts. "A mix of retail and other services including hotel type accommodation adjacent to the precinct should be supported".

In terms of building upwards, Page 30 of the Greater Sydney Region Plan refers to Greater Sydney's future. Characteristics flagged include:

- → The economy may change with a greater reliance on knowledge-intensive jobs. Tertiary education and health care are already significant growth precincts; and
- → "Development will need to better capitalise on air rights rather than making space by expanding the urban footprint".

Sydney Dance Company
Rostyn Packer Theatre
Sydney Theatre Company
Sydney Theatre Compa



The close proximity of the development site to existing education and healthcare institutions; enabling close links to the Innovation Corridor precinct is shown in the right hand diagram.

**Objective 24** identifies the economic sectors which are targeted for success. The Jobs for the Future report identifies eleven segments that NSW should target to create 1 million new jobs in NSW by 2036. These segments include: **Tourism**.

At page 140 of the Greater Sydney Region Plan it states that "Linking business and leisure visits provides better experiences and has widespread benefits".

**Strategy 24.2** specifies the issues to be addressed when preparing plans for tourism and visitation. These include: "*encouraging the development of a range of well-designed and located facilities*"; and "*incorporating transport planning to serve the transport access needs of tourists*".

#### Giving effect to the Eastern City District Plan

The Greater Sydney Commission's Eastern City District Plan will implement the GSRP at the district level. The Planning Proposal is consistent with the following Planning Priorities of the Eastern City District Plan:

- → Planning Priority E7: Growing a stronger and more competitive Harbour CBD
- → Planning Priority E8: Growing the Innovation Corridor
- → Planning Priority E11: Growin strategic centres
- → Planning Priority E13 Supporting growth of targeted industry sectors
- → Planning Priority E19: Reducin waste efficiently

The site is in a strategically significant location between the Harbour CBD and Innovation Corridor precinct with close proximity to business and numerous healthcare, tertiary education and visitor attractions. It will provide visitor and overnight accommodation needed to directly support and enhance the link between business and tourism.





Site

Above: Innovation Corridor and Harbour CBD precincts Figure 17, Eastern Sydney District Plan

- $\rightarrow~$  Planning Priority E8: Growing and investing in health and education precincts and
- $\rightarrow$  Planning Priority E11: Growing investment, business opportunities and jobs in
- $\rightarrow~$  Planning Priority E19: Reducing carbon emissions and managing energy, water and

#### Giving effect to the City of Sydney Local Strategic Planning Statement

The City Plan 2036 – Draft Local Strategic Planning Statement (draft LSPS) establishes that the demand for hotels in Sydney is projected to grow by 4.7% annually to 2020, with a greater demand for 3-star hotel accommodation. A key priority nominated by the draft LSPS is the need to support the tourism sector by providing a diversity of accommodation types that respond to different market segments.

The tourism sector is a priority for the City. We must continue to support it by providing a diversity of accommodation opportunities that respond to the different levels of demand in the market (draft LSPS).

The proposal will deliver on this objective by providing a mix of 3.5-star accommodation.

The draft LSPS locates the site within the Central Sydney South Precinct. The Precinct is identified as a strategically important employment area. A key challenge for the area is the conversion of commercial floorspace to accommodation and student housing.

Whilst this may be a challenge for the area, a number of large-scale office towers are proposed for the locality. These developments will create a demand for complementary uses such as hotel accommodation. The proposal will assist in addressing this demand and will also provide high quality commercial floor space to facilitate the shift towards higher-order employment uses.

#### City of Sydney Visitor Accommodation Action Plan

Also relevant to the consideration of the Planning Proposal at George Street, Haymarket, is the City of Sydney Visitor Accommodation Action Plan. It recognises that

"Accommodation is important to the success of the visitor economy. Visitors need appropriate places to stay if they are to visit Sydney to carry out business or see its attractions; and then for the city's retail, hospitality and transport sectors to capture the flow on spend."

It forecasts that there will be a growing demand for more affordable low-rated / mid-range accommodation options (e.g. 3.5-stars) that will need to be delivered outside of the Sydney CBD where there is already a large concentration of 5-star accommodation.

The proposal provides an opportunity to deliver a mix of 3.5-star accommodation that will cater to the demand for mid-range affordable hotel rooms.

The Action Plan notes that there is a correlation between the demand for hotel floorspace and office sectors due to the flux of corporate travelers which require short stay accommodation. The site is located within the Innovation Corridor and in proximity to Central Precinct which is earmarked to delivery significant office floorspace growth. The site is consequently ideally located to delivery hotel accommodation and will respond to the opportunities established by the Action Plan.

#### Hotel Need and Benefits

The city has demonstrated its attractiveness as a visitor destination through many years of growth in visitor numbers and spending.

In the 10 year period to 2018/19, the number of international and domestic overnight visitors staying annually in commercial accommodation increased by 53.7% (from 4.36 to 6.70 million). The number of guest nights increased by 24.2% in the same period – as also stated in the Visitor Accommodation Monitor 2018/19.

In their Hotel Futures 2019 report, Dransfield forecast an annual demand growth of 4.7% for Sydney hotels over the long term to 2027. Growth in demand opportunities "are expected through the medium and longer term as enabling supply arrives". Therefore, the stance is that supply of accommodation assists in actually driving demand.

The combined business, holiday and education attractors and reasons for travel to Sydney are unlikely to change in the medium to long term. Whilst the assessments and forecasts may need to be reviewed in light of current restrictions on travel, these restrictions are temporary and cities like Sydney have bounced back quickly from downturns.

specific.

grow.



l eft: Central Sydney South: Future focus Draft CSPS

Education, healthcare, technology hubs and innovation clusters are successful because of agglomeration benefits. The accommodation needs they generate are location-

The proposed hotel and commercial scheme at George Street, Haymarket has clear strategic merit, on the basis of the above and is at a strategic location to serve both the Harbour CBD and Innovation Corridor precincts, highly accessible by sustainable transport modes and ideally positioned as the future needs arising at those precincts

# The Site

#### Description

The subject site at 757-763 George Street is approximately 1,030 sq.m and has been owned outright by Samprian Pty Ltd since 2014. The site has consent for a hotel development that was granted in 2017.

The site has a prime location on George Street, 300m from Central Station. It was identified under the Draft Central Sydney Planning Strategy [Draft CSPS] as lying within the 'Haymarket activity node', an area of Sydney that has the potential to accommodate increased density without overshadowing any of Sydney's premier open spaces.

The corner lot, 761-763 George Street, is a heritage item of local significance under the Sydney LEP 2012. The former Sutton Forest Meat Company building is a two-storey structure which dates back to 1897. The shopfronts and interiors were altered after suffering extensive fire damage in 1985. The northern portion of the site, 757-759 George Street, contains a low-level concrete frame building of no historical significance.

To the north of the site is the Capitol Terrace Apartments building, a 50m Strata property built to the boundary line and faces the subject site with a predominantly south facing blank wall. To the west of the site is a 10-storey commercial building at 187 Thomas Street also with a blank wall facing the site.





Above: Site Plan Central Station Area

# Streetscape

#### Site views

The existing George St streetscape follows a predominantly straight line from Town Hall to Railway Square, gently descending to Hay Street before climbing more steeply at the southern end towards Central Station. The immediate surrounding area is characterised by low-medium rise buildings up to 50m height, with larger 120m buildings within a 100m radius of the site. Heritage items regularly punctuate the streetscape, particularly between the site and Central Station where heritage items line both sides of George Street creating a consistent street wall.

To the east of the site is the Christ Church of St. Laurence, which is situated on the axis created by Valentine Street.















Site







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# Heritage

#### Sutton Forest Meat Company

The Sutton Forest Meat Company building is considered of local significance as a legacy of the historical wholesale meat trade in Sydney, and due to the quality of the building form and its application of ceramic tiles. It is described as an "example of Federation Free Style architecture with Arts & Crafts influences, distinguished by the use of ceramic wall tiles."

Changes made to the building since the 1960s have included the introduction of more partitions and the upgrade of services. In 1985, the restaurant was extended to include 761 George Street. In the same year the building suffered severe fire damage which destroyed much of the interiors and all the original shopfronts. The building was subsequently adapted as accommodation and restaurants, leaving only the façade as the remaining original fabric.





Above: Photograph, N-W view showing Valenti

Drawing, Original architectural design drawings for Sutton Forest Meat Co building by E. Lindsay Thompson, 1910







Above: Site Plan East facing view along Valentine Street prior to resumption and street widening in 1910

Above: Photograph 759-763 George Street, Haymarket, 1979 Above: Photograph 757-763 George Street, Haymarket, 2020

Photograph, N-W view showing Valentine Lane and 761-765 George Street in 1910

# Approved DA Scheme

#### Baker Kavanagh Architects, 2017

On 23 October 2017, Council granted consent to a Development Application (D/2017/353) for the construction of a 15-storey hotel building comprising 174 hotel rooms.

The consent provides approval for the adaptive re-use of the Sutton Forest Meat Company building through the demolition of all non-significant interior fabric and retention of the heritage façade. It permits a tower development above the heritage item that reaches a compliant height of 50m.

The approval permits a 0m setback to the northern boundary which interfaces with Capitol Terrace apartments for the full height of the building. Above the street frontage, the tower provides a 10m setback to the southern boundary fronting Valentine Street. From Level 8 to 14 the setback reduces to 7.3m (including facade articulation), permitting the tower element to cantilever over the heritage item.

#### Stamped Plans



Approved Setbacks





# **Context Analysis**

#### Transport Connectivity

The subject site is located at one of the primary transport hubs in Sydney, and a gateway between wider New South Wales and Sydney's CBD. Central Station, a major bus interchange and Rawlson Street Light Rail are all within 300m of the site boundary ensuring that any development at 757-763 George Street will benefit from high footfall and a desirable location.



01. Central Station



02. Light Rail



03. Railway Square Bus Terminal



04. George Street Pedestrianisation



#### Surrounding Heritage

The subject site is situated in the Special Character Area of Haymarket and has a significant number of heritage items in its locality including Central Station and Christ Church St. Laurence. There is a public protected view of the Church of St. Laurence from Valentine Street which includes reference to the low street wall height of the Sutton Forest Meat Company building. The strong heritage base around Central Station is a key reason why the precinct was identified as suitable for redevelopment, due to the existing building stock being able to support and add richness to the proposed tech hub.



01. Central Station



02. Sutton Forest Meats Company



03. Church of St. Laurence



04. Marcus Clark Tower



05. Flat Iron Building



06. Adina Hotel



# **Context Analysis**

#### **Tower Cluster Area**

Sydney's tower cluster areas were proposed as part of the Draft CSPS in 2016. The identified cluster zones are situated in areas of the city where height and density can be accommodated without resulting in a loss of solar amenity to Sydney's key public spaces. The subject site falls within the Haymarket Tower Cluster.

The closest major open space to the subject site is Belmore Park, which lies approximately 200m to the East. The site is also located 100m from Railway Square, which has been earmarked for redevelopment and expansion as a key component of the new Central Station Technology Hub. This new public space at Central Station was recommended as part of Jan Gehl's 2007 urban review of Sydney Public Space/ Public Life. The solar access planes for both Belmore Park and Railway Square do not impact the subject site as per diagram 4\_23 'Sun Protection Controls Heights Map' from the Draft CSPS.





02. Central Station Forecourt



Abovet: CSPS Tower Cluster Map Potential Haymarket Sites Highlighted

#### Haymarket Activity Node

The site is located to the north west of the future Central Station Precinct and is earmarked by the NSW Government to emerge as a technology and innovation precinct. The Western Gateway sub-precinct forms part of the Central Station Precinct and is envisaged to accommodate a number of substantial tower developments currently progressing through the planning approval process. In this context, the redevelopment of the site provides a unique opportunity to revitalise an important heritage building whilst simultaneously delivering an appropriate scale tower for the Central Station Precinct. The intended mix of uses are complementary to the emerging innovation and technology precinct. The proposed uses will provide short stay accommodation and amenity to support the growing workforce.



01. Central Station Redevelopment



02. Atlassian, BVN & Shop



03. Dexus, Fender Katsalidas & SOM



04. Railway Square Redevelopment

Site



# Part 3 — Urban Design

Site Response

Streetscape Setback Analysis

- (a) George Street
- (b) Valentine Street
- (c) Side & Rear

Active Frontage

Maximum Building Height

Proposed Building Height

**Development Summary** 

# Site Response

#### Urban Design Principles

#### 01. Heritage site revitalisatioin

The subject site sits within the Special Character Area of Chinatown/ Haymarket. Critical to the successful development of the site is careful consideration of the impact of the scheme on both the heritage items within the site boundary and in the immediate context. The scheme seeks to add value to the area through the revitalisation of the Sutton Forest Meat Company building and protection of views to surrounding heritage through analysis of setbacks and views.

#### 02. Active frontage

A key objective of the scheme is the maximisation of active frontage to both George and Valentine Street. Minimising the area of façade required for loading and the careful conservation of the Sutton Forest Meat Company building will invigorate the public domain and provide a new destination for the rapidly growing area around Central Station.

#### 03. Environmentally driven envelope

The site's location within the Haymarket tower cluster area provides the opportunity for high-density development to cater for Sydney's growing demands while protecting solar amenity to the public spaces that distinguish Sydney's urban fabric. The mass and setbacks of the tower have been established through streetscape massing analysis and interrogated through detailed environmental testing of the impacts on daylight and wind conditions in the surrounding public domain. This iterative process has followed the procedures outlined in Schedule 11.





# **Streetscape Setback Analysis**

#### George Street

Careful analysis of the surrounding streetscapes has been undertaken to establish appropriate massing setbacks for the proposed development. This section of George Street is characterised by a strong yet inconsistent heritage street wall between Quay Street and Valentine Street. Although the DCP 2012 allows for a maximum street wall height of 20m at 757-759 George Street, the proposed massing seeks to align with the lower height of the Sutton Forest Meat Company building to provide a consistent relationship with the existing heritage item.

A setback of 6m is proposed above street wall height on George Street. This is critical to enable a viable floorplate while allowing a larger setback above the heritage building on Valentine Street. The massing images (right) indicate an equivalent bulk and scale above the heritage item when compared against the compliant 8m DCP required setback.

The proposed massing also includes an increased 6.4m setback in the façade on George Street aligned with the heritage item. This both increases the perceived setback at the corner of George Street and Valentine Street and ensures that the tower element has a relationship with the mass of the Sutton Forest Meat Company building.

Proposed Setback: 6m - 6.4m



Above: Figure E49, CSPS Appendix E, Special Character Areas



Above: Current Condition, Google Images





Above: DCP Compliant Setbacks and maximum/ minimum Street Wall Height

Above: Proposed Setbacks

#### ALIGN STREET WALL WITH HERITAGE







Above: George Street Elevation

# **Streetscape Setback Analysis**

#### Valentine Street

Valentine Street is defined by the axial view to Christ Church St. Laurence and the Central Station Clock Tower. This view is protected under Appendix E of the Draft CSPS with special reference to the low-scale street wall to protect the amount of sky that frames the Church of St. Lawrence's spire.

The proposed massing looks to protect the view of the church by retaining the existing street wall height of the Sutton Forest Meat Company building. An 8m setback is proposed above the heritage item which maintains the sky space around the Church Spire and increases the setback of the approved DA from 7.3m. The corner is further pulled away from the church spire due to the notch on George Street which aligns with the heritage form. This notch is repeated on the west, creating an 11m setback adjacent to 187 Thomas Street at podium level to create building separation between the tower element and the adjoining property.

Proposed Setback: 8m-11m





Above: Current Condition, Google Images





Above: Corner of Valentine Street and Quay Street

Above: Midpoint of Valentine Street towards George Street







Above, Valentine Street Elevation

# **Streetscape Setback Analysis**

#### Side Setback: 187 Thomas Street Setback (West)

In line with the DCP setback requirements for buildings under 120m, the proposed tower setback to 187 Thomas Street is 4m. This allows for adequate building separation to 187 Thomas Street which has a site area of approximately 2350 sq.m and is eligible to benefit for additional height/FSR under the Draft CSPS.

The proposed massing has an increased setback of 4.4m to the north and south, which on the latter is drawn below the height of the adjacent buildings to heritage level to further increase the visible building separation from the public domain.

Proposed West Setback: 4m-4.4m



Above: Current Condition, Google Images





Above: DCP Compliant Setbacks and maximum/ minimum Street Wall Height

Above: Proposed Setbacks

# ADJACENT SITE

### PROVIDE BUILDING SEPERATION WITH



#### Rear Setback: Capitol Terrace Apartment (North)

The proposal interfaces with a residential flat building to the direct north known as 'Capitol Terrace'. At this interface, this development's southern facade incorporates a limited number of windows which largely relate to secondary habitable living spaces such as bedrooms and bathrooms. A limited number of windows relate to living areas. The floorplans for the Capitol Terrace building and a detailed Solar Access Study showing equivalence with the approved DA scheme can be found in the Appendices.

The existing DA was approved with a Om setback for the full extent of the northern boundary. The proposed massing provides a better outcome by increasing this setback to 0.4m around the affected windows, creating a 1.8m wide lightwell. The tower element is setback 1.8m from the northern boundary to the west. When compared against a compliant massing with 4m setback to the side and rear boundaries, the massing implications are negligible when viewed from George Street as shown (right).

For additional studies regarding the interface with Capitol Terrace apartments please refer to the appendices.



Above: Current Condition, Google Images



Proposed North Setback: **0m - 1.8m** 



Above: DCP Compliant Setbacks and maximum/ minimum Street Wall Height



Above: Proposed Setbacks

# **Active Frontage**

#### **CSPS Active Frontages**

As part of the Central Sydney Planning Strategy, a paper was included in the appendices entitled 'Erection of Tall Buildings in Central Sydney'. This document outlined common mistakes in the design of tall buildings on small sites. A previous scheme for 757-763 George Street was included within the analysis.

The paper highlights the importance of active street frontages in creating successful developments on small sites. According to the report, a development acheives 'Excellent Activation' when over 70% of the street frontages are activated. This has formed the target for our development proposal.

Final extent of active frontage to be confirmed by detailed DA submission.





Above: Valentine Street Current Condition, Google Images



Above: George Street Current Condition, Google Images



Above: Sydney DCP 2012, Active Frontage Map

Far Right: Render Proposed indicative scheme from George Street





Above: Proposed George Street Elevation

#### PROVIDE > 80% ACTIVE FRONTAGE



Above: Proposed Valentine Street Elevation



# Maximum Building Height

The draft Central Sydney Planning Strategy uses solar access planes and airspace controls to determine maximum buildable height. At 757-763 George Street, the solar plane for the proposed square at Central Station misses the site to the East, and the plane for Prince Alfred Park crosses the site higher than the airspace controls. Allowing for a 25m construction zone, the maximum height is constrained at RL 275.

The site ranges in elevation from RL 11- RL 12, providing a maximum allowable building height of 264m.



Left:

ower tide line

Far Right: Diagram

Right: Diagram

Diagram Draft CSPS, Sun Protection Controls Heights Map

MAXIMUM BUILDING HEIGHT = 264m

# **Proposed Building Height**

A building height of 105.87m (RL 117.87m) is proposed, significantly below the maximum as defined by the Draft CSPS. This height has been established through a consideration of the site area, setbacks to adjacent plots and commercial viability of the floorplate. In line with the Draft CSPS, the massing has been verified against a compliant base case massing to ensure that it provides an improved wind comfort and sky view factor condition for the surrounding public domain.

The proposed height sits comfortably within the existing urban fabric of Haymarket, with two towers of similar scale (Market City 130m and 10 Barlow Street 125m) within a short distance of the site boundary. The development should also be considered in context of the proposed Atlassian and Dexus Towers at Central Station which have a suggested height of 180m and 150m respectively.





PROPOSED BUILDING HEIGHT = 107m V

# **Development Summary**

#### Proposed DCP Envelope

The proposed DCP Envelope for 757-763 George Street has been developed through careful analysis of the existing historic character and future development opportunity for Haymarket and the Central Station Precinct. The site provides an opportunity for the revitalisation of the Sutton Forest Meat Company building and surrounding public domain, and the provision of a considered 3.5\* hotel tower at a contextual scale to facilitate Council's vision for a new Innovation Hub and third public square at Central Station.

The proposed setbacks and building height are the result of in-depth urban analysis and extensive environmental testing as set out by Council's Draft CSPS. A detailed summary of these can be found in the Appendices.





#### **Preferred Scheme**

The preferred indicative scheme interrogates the possible yield available within the proposed DCP envelope, taking into consideration an appropriate development strategy for the existing heritage item, hotel requirements, building services, and architectural articulation during the design excellence phase.

**Building Height:** 



Development GFA:



Hotel Amenity GFA:



Ground Floor Retail GFA:

→ 171 m<sup>2</sup>

Keys:



FSR:





-RL 117.42

# Part 4 — 12:1 FSR Development Proposal

Building Design Principles Public Benefit Opportunities Indicative Scheme Plans and Amenity Building Elevations Indicative Views



# **Building Design Principles**

The preferred scheme for 757-763 George Street sits within the proposed massing envelope as outlined in the previous chapter. This section of the report investigates the proposed indicative scheme to illustrate that an FSR of 12:1 can be comfortably achieved within the DCP envelope allowing for adequate plant, vertical circulation and architectural articulation.

#### Heritage item



#### Central bar core + services



#### Activated north facing core wall





#### Vertical bars of rooms





#### Flexible system




## **Public Benefit Opportunities**

Providing the best outcome for the site and surrounding area has been the primary objective of this proposal. A key responsibility of any development at 757-763 George Street is the successful revitalisation of the existing heritage item and activation of Valentine Street and George Street through active frontage and an improved public domain. There is an opportunity to provide a through site link between George Street and the existing open space at 187 Thomas Street, which would provide an additional laneway and finer grain connectivity through the city block. Details of this would need to be developed with Council and adjoining site owners.

### Heritage revitalisation

The proposed regeneration of the Central Station precinct is founded not only on its connectivity, but also on the rich heritage that surrounds the Station and contributes to its unique character. The conservation of this heritage is crucial for the future resilience of the precinct. The Sutton Forest Meat Company building has the potential to provide richness and activation to the surrounding public domain, and the proposed development is committed to the respectful conservation and revitalisation of the item.

### Public domain upgrade

Jan Gehl recommended the pedestrianisation of George Street as part of his 2007 Urban Study into Sydney. Recently, the Draft CSPS and indicative plans for a third public square at Central Station also indicated the staged widening of the pedestrian realm at George Street surrounding the site. There is an opportunity for the development at 757-763 George Street to contribute to the upgrading of the public domain around the site.

## Through site link

A through site connection could be integrated into the proposal for 757-763 George Street to link with any development opportunity at 187 Thomas Street and existing arcade connection through the Capitol Terrace Apartments. The provision of secondary circulation through the city block would encourage greater opportunity for retail activation and effective pedestrian movement. Please refer to the indicative scheme ground level plan for further details of one possible approach.



Above: Proposed indicative scheme from George Street



Above: Render, George Street Pedestrianisation



Render, Barrack Lane

# **Building Arrangement**

## Ground Floor

- (01)
   Reception

   (02)
   Retail/ Amenity
- 03 вон
- 04 Car Park
- 05 Plant
- 06 Circulation
- 07 External Terrace
- 08 3.5\* Hotel Room





## Hotel Amenity Floor







## **Typical Podium Floor**

- 01 Reception
- 02 Retail/ Amenity
- 03 вон
- 04 Car Park
- 05 Plant
- 06 Circulation
- 07 External Terrace
- 08 3.5\* Hotel Room





## Typical Floor







## **Building Elevations**

North

North East

East

South East









South

South West

West







North West



# **Indicative Views**

Views have been taken of the proposed indicative scheme from significant locations in the surrounding area. The views include potential towers within the Central Station precinct that may be developed under the Draft CSPS.

**01.** Belmore Park









## **03.** George Street North









**05.** George Street









# Part 5 — Appendices

(a) <u>Survey</u>

- (b) Preferred Indicative Scheme FSR 12:1
- (c) Proposed DCP Envelope Drawings
- (d) Varying Setback Controls and Base Case Massing
- (e) <u>Sky View Factor Analysis</u>
- (f) Design Excellence Strategy
  - Alternative Massings and SVF
  - Indicative FSR
  - Facade Zone and Architectural Articulation
- (g) Wind Analysis
- (h) Capitol Terrace Apartments Study
- (i) Overshadowing Analysis
- (j) Physical Model Images



## Appendix A - Survey



BAR SCALE PLOTED SCALE 1:100 (A1 SIZE SHEET)

TABLE OF BOUNDARY COORDINATES				
POINT ID	EASTING	NORTHING		
А	333937.86	6249491.98		
В	333900.75	6249510.36		







## Appendix B - Preferred Indicative Scheme 12:1 FSR

### **Drawing List**

Schedule of Accomodation

GA I	Plans	LEVEL	USE	GBA (m2)	GFA (m2)	Keys	F2F (m)	Height (m)	AHD (m)
01		ROOF						105.12	117.12
01 02	Basement Level 02 Basement Level 01	LEVEL 31	PLANT + LIFT OVERRUN				3.18	101.94	113.94
02	Level 01 - Ground Floor	LEVEL 30	HOTEL AMENITY + PLANT	242.9	150.0		3.18	98.76	110.76
03	Level 02 - Heritage First Floor	LEVEL 29	3.5* HOTEL	474.9	382.0	12	3.18	95.58	107.58
05	Level 03 - Heritage Terrace	LEVEL 28	3.5* HOTEL	474.9	382.0	12	3.18	92.40	104.40
06	Level 05 - Podium Typical Level 09 - Podium Plant Level 10 - Podium Terrace	LEVEL 27	3.5* HOTEL	474.9	382.0	12	3.18	89.22	101.22
07		LEVEL 26	3.5* HOTEL	474.9	382.0	12	3.18	86.04	98.04
07		LEVEL 25	3.5* HOTEL	474.9	382.0	12	3.18	82.86	94.86
08		LEVEL 24	3.5* HOTEL	474.9	382.0	12	3.18	79.68	91.68
	Level 11 - Void	LEVEL 23	3.5* HOTEL	474.9	382.0	12	3.18	76.50	88.50
10	Level 20 - Typical Hotel	LEVEL 22	3.5* HOTEL	474.9	382.0	12	3.18	73.32	85.32
11	Level 30 - Roof Plant/ Amenity	LEVEL 21	3.5* HOTEL	474.9	382.0	12	3.18	70.14	82.14
12	Level 32 - Roof Plan	LEVEL 20	3.5* HOTEL	474.9	382.0	12	3.18	66.96	78.96
	Flouretiene	LEVEL 19	3.5* HOTEL	474.9	382.0	12	3.18	63.78	75.78
GAI	Elevations	LEVEL 18	3.5* HOTEL	474.9	382.0	12	3.18	60.60	72.60
47		LEVEL 17	3.5* HOTEL	474.9	382.0	12	3.18	57.42	69.42
13	George Street Podium Elevation	LEVEL 16	3.5* HOTEL	474.9	382.0	12	3.18	54.24	66.24
14	Valentine Street Podium Elevation	LEVEL 15	3.5* HOTEL	474.9	382.0	12	3.18	51.06	63.06
15	North/ East/ South/ /West Elevation	LEVEL 14	3.5* HOTEL	474.9	382.0	12	3.18	47.88	59.88
		LEVEL 13	3.5* HOTEL	474.9	382.0	12	3.18	44.70	56.70
		LEVEL 12	3.5* HOTEL	474.9	382.0	12	3.18	41.52	53.52
		LEVEL 11	3.5* HOTEL + VOID	355.9	263.0	8	3.18	38.34	50.34
		LEVEL 10	3.5* HOTEL + TERRACE	355.9	263.0	8	3.18	35.16	47.16
		LEVEL 09	3.5* HOTEL + PLANT	445.9	353.0	8	3.18	31.98	43.98
		LEVEL 08	3.5* HOTEL	532.9	440.0	8	3.18	28.80	40.80
		LEVEL 07	3.5* HOTEL	532.9	440.0	8	3.18	25.62	37.62
		LEVEL 06	3.5* HOTEL	532.9	440.0	8	3.18	22.44	34.44
		LEVEL 05	3.5* HOTEL	532.9	440.0	8	3.18	19.26	31.26
		LEVEL 04	3.5* HOTEL	532.9	440.0	8	3.18	16.08	28.08
		LEVEL 03 Mezz	HOTEL AMENITY LEVEL	472.9	190.0		3.18	12.90	24.90
		LEVEL 03	HOTEL AMENITY LEVEL	472.9	380.0		3.18	9.72	21.72
		LEVEL 02	COMMERCIAL LOBBY + RETAIL	908.9	816.0		4.32	5.40	17.40
		LEVEL 01 (Ground)	HOTEL LOBBY + RETAIL	919.7	826.8		5.40	0	12
		BASEMENT 01	BOH/ PLANT		1030.0		4.5	-4.5	7.5
		BASEMENT 02	BOH/ PLANT		1030.0		4.5	-9	3
		GBA TOTAL (sq.m) (excluding B1/B2)							
		(excluding bir bz)		15388					
		GFA TOTAL (sq.m)							
		(excluding B1/B2)							
					12318				
		SITE AREA			1030				
		FSR			12.0				
		HOTEL KEYS				280			









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- 02 Retail/ Amenity
- 03 вон
- 04 Car Park
- 05 Plant
- 06 Circulation
- 07 External Terrace
- 08 3.5\* Hotel Room

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CONSULTANTS

PROJECT NAME 757-763 GEORGE ST

PROJECT NO. 19287

ADDRESS 757-763 GEORGE ST SYDNEY, NSW, AUSTRALIA

REV BY DATE DESCRIPTION 1 16.10.20 Issue for Information

KEY PLAN

DRAWING TITLE GA PLAN - LEVEL B1 - BASEMENT 01

SCALE			STATUS		
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		SCALE STATUS 1:100 @ A1 For Information
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3		30.07.20	Issue for Information
4		31.08.20	Issue for Information
5		10.09.20	Issue for Information
6		19.10.20	Issue for Information

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# Appendix C - Proposed DCP Envelope Drawings

## Drawing List

## GA Plans

- Basement Level 02 01
- 02
- 03
- Basement Level 02 Basement Level 01 Level 01 Ground Floor Level 05 Podium Typical Level 20 Typical Hotel Level 32 Roof Plan 04
- 05
- 06

## **GA Elevations**

07 North/ East/ South/ /West Elevation

GA Sections

08 Section AA/BB









6 A07-1100







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# Appendix D - Planning Controls to Vary Setbacks

## Minimum Street Setbacks

#### Section 5.1.1.1

(3) Where noted in Table 5.2 Minimum Street Setbacks and on the Special Character Area maps, variation to Street Setbacks may be permitted to building massing that provides:

encroachment(s) 2m forward of the minimum Street Setback within (a) the middle third of the frontage to a Public Place and provision of compensating recess(es) of equal to or greater area up to 4m behind the minimum Street Setback: or

equivalent or improved wind comfort, wind safety and daylight (b) levels in adjacent Public Places relative to a base case building massing with complying Street Frontage Heights and Street Setbacks (i.e. variation to massing is governed by achieving equal or better performance). Procedures for demonstrating compliance with 5.1.1.1(3)(a) and (b) are set out in Schedule 11.

## Side and Rear Setbacks and Building Form Separations

#### Section 5.1.1.3

(5) Variation to Side and Rear Setbacks and Building Form Separations may be permitted to building massing that provides equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Side and Rear Setbacks (i.e. variation to massing is governed by achieving equal or better performance).

Procedures for demonstrating compliance with 5.1.1.3(4) are set out in Schedule 11.

#### Schedule 11

Diagram

Figure 1.9, Sydney DCP 2012 Schedule 11 Amendment

Procedures for demonstrating compliance with variation provisions for setbacks, separations and tapering in Central Sydney.

Procedure B: Equivalent or improved wind comfort and wind safety and daylight levels in adjacent Public Places

In order to demonstrate compliance with Section 5.1.1.1(3)(b) and Section 5.1.1.3(5) in regards to varying Minimum Street Setbacks and Side and Rear Setbacks, Building Form Separations and Tapering provisions respectively, the following procedure must be followed:

(1) Procedure B can only be used to vary setbacks for sites larger than 1000m2.

(2) Where (1) is satisfied, variation to relevant setbacks may be permitted to building massing that provides equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Height, Street Frontage Heights, Street Setbacks,



#### Method

Grimshaw have undertaken Sky View Factor analysis in line with the requirements of Schedule 11. The study looks to understand the proposed development's impact on the amount of visible sky over a 1m grid to a radius of 250m from the centre of the subject site at 757-763 George Street, when compared against a compliant base case massing. The base case massing is explained further on the following page.

Station.





Above Diagram Figure 1.10, Sydney DCP 2012 Schedule 11 Amendment

The test radius was chosen specifically to include the proposed public space at Central



#### **Base Case Modelling**

The base case envelope has been generated in line with Schedule 11 requirements and with input from council from a meeting held on 29.04.20. Previous iterations of the base case massing included the approved planning envelope, which was contested by Council at the April pre-lodgment meeting. During a subsequent meeting with council on 29.04.20, it was suggested to that a compliant base case massing could be achieved using Table 5.4 (right) from the DCP. The resulting compliant base case massing has a maximum building height of 121.667m.

#### Podium compliance

Heritage item modelled at existing height	$\checkmark$
Street wall modelled in compliance with lower of heights on Table 5.3	Podium aligned with heritage item
Podium aligns with the minimum street wall height	$\checkmark$

#### Tower compliance

Compliant street, side and rear setbacks	$\checkmark$
Area over heritage item excluded	$\checkmark$
No tower component under 6m width	$\checkmark$
Tower extruded to 121.667m maximum height as it varies around the site (defined by 4.05m side/rear setbacks at 3.33%)	$\checkmark$
Tower scaled by 95% at 120m	$\checkmark$

#### <u>Setbacks</u>

The setbacks applied to the subject site were taken from the DCP 2012 Table 5.4 Minimum Side and Rear Setbacks and Building Form Separations as suggested by council on 29.04.20. The site allows 4.05m setback to then northern boundary before the resultant massing width falls below

Sydney DCP 2012 - Central Sydney Planning Review Amende

Table 5.4: Minimum Side and Rear Setbacks and Building Form Separations

Minimum Side	Proposed total height of building						
and Rear Setbacks and Building Form Separations	Up to 55m	Greater than 55m up to 120m	Greater than 120m up to 240m	Greater than 240m			
Side and Rear Setback above Street Frontage Height	0m	4m	3.33% of the proposed total height of building	8m			
Building Form Separations on the same site	0m	8m	6.66% of the proposed total height of building	16m			

the required separation.



Heritage item retained at existing height



Awnings/ canopies removed over public place

#### Envelope

Max RL 134.40m (varies around site) Building Height 121.667m



## Appendix E - Sky View Factor Analysis

#### Base Case Massing

Max RL 134.40m The base case massing has been modelled closely in line with Schedule 11. The heritage - Calculated using a 1m Grid (varies around site) - Calculated using a test radius from site of 250m to include Railway Square item has been modelled at its existing height with no tower area above. The podium Building Height 121.667m has been modelled at the lower of the heights nominated in the Special Character Area - Calculated as integer between 0-1 (where 0= no sky visible, and 1= sky fully visible) Map for Haymaket/ Chinatown and Table 5.3, which is 14m to align with the adjacent heritage item. The Tower element has been modelled to a maximum height of 121.667m as it varies around the site with compliant 4.05m setbacks at the side and rear to maintain consistency with Table 5.4 which requires setbacks to be 3.33% of the total 95% taper at 120m building height. The tower has been scaled at 120m by 95% in the X and Y direction and has a minimum width of 6m. Setbacks 4.05m Heritage item retained at existing Podium modelled height aligned with adjoining heritage 4.05m in line with table 4.05m 5.3 6m 8m \*Area over heritage item excluded Awnings/ canopies removed over

public place

#### Sky View Factor

# SVF= 0.437040



## Proposed DCP Envelope

Through iterative analysis, the results showed that the proposed envelope with setbacks defined in the streetscape analysis acheives a height of 105.87m while providing an improved sky view factor outcome.







#### Sky View Factor

- Calculated using a 1m Grid

# IMPROVED SKY VIEW FACTOR FOR PUBLIC DOMAIN $\checkmark$

# SVF= 0.437041 +0.000001



- Calculated using a test radius from site of 250m to include Railway Square - Calculated as integer between 0-1 (where 0= no sky visible, and 1= sky fully visible)

# Appendix F - Design Excellence Strategy

#### Massing Alternatives

The Design Excellence Strategy Amendment requires the preparation of an options analysis which documents at least three different site development envelopes. These alternatives have been verified through sky view factor and wind comfort analysis. The options will inform the Site-Specific DCP and the Design Excellence Process.

#### Alternative Envelope A

## Alternative Envelope B

## Alternative Envelope C















# +0.00002

## Appendix F - Design Excellence Strategy

#### Massing Alternatives - Indicative FSR

In addition to environmental equivalence, the Design Excellence Strategy requires an indicative FSR to be applied to each massing envelope.

## Proposed DCP Envelope

Total GBA (before exlusions): **17,865sq.m** GFA (after exlusions): **12,359 sq.m** 

## FSR: 12.0

#### Alternative Envelope A

GBA (before exlusions): **19,061 sq.m** GFA (after exlusions): **13,156 sq.m** 

# FSR: 12.8

#### Alternative Envelope B

Total GBA (before exlusions): **17,862 sq.m** GFA (after exlusions): **12,352 sq.m** 

## FSR: 12.0

RL 115.70m

Building Height 103.70m ·

#### Design Excellence FSR Checklist

15m Architectural Roof Feature Zone	$\checkmark$
5m clear floor to floor for ground and first floors	$\checkmark$
3.85 metres floor to floor for typical commercial floors	$\checkmark$
3.3 metres floor to floor for typical hotel floors	$\checkmark$
A full floor for every 20 occupied levels at minimum 6m floor to floor with no floor space	1x 6m plant floor assumed in tower, remaining plant assumed in Basement
15% of the design envelope for architectural articulation	12.5% design envelope for architectural articulation
750mm facade depth for facade and external shading elements	200mm closed cavity facade zone assumed
16 per cent floor space exclusions allocated to building core	$\checkmark$
Vehicle access, servicing, services, balconies, voids or other areas are not counted as floor space	60 sq.m excluded at ground level for vehicle access



#### Alternative Envelope C

Total GBA (before exlusions): **15,995 sq.m** GFA (after exlusions): **11,041 sq.m** 





#### Closed Cavity Facade

The Design Excellence Procedure Amendment suggests the inclusion of a 750mm façade zone for sites over 2000 m2. Due to the constrained nature of the site and predominantly south facing orientation, a 200mm façade zone has been included for FSR calculations. This zone is suggested to maximise the efficiency of the floorplate and provides adequate space for either a DGU or Closed Cavity Façade System depending on requirements.

#### Architectural Articulation

The proposed indicative scheme illustrates how architectural articulation can be accommodated within the proposed DCP envelope while maintaining an FSR of 12:1. The green below indicates volume of the proposed DCP envelope that is not utilised for GFA. Due to the constrained nature of the site, 12.5% of the volume has been allowed for architectural articulation.



Architectural articulation



## ARCHITECTURAL ARTICULATION 12.5% 🗸

## Appendix G - Wind Analysis

A wind tunnel study has been undertaken to assess wind speeds at selected outdoor trafficable areas within and around the subject development. The test procedures followed for this wind tunnel study were based on the guidelines set out in the Australasian Wind Engineering Society Quality Assurance Manual (AWES-QAM-1-2019), ASCE 7-16 (Chapter C31), and CTBUH (2013).

Testing was performed at Windtech's boundary layer wind tunnel facility. The wind tunnel has a 3.0m wide working section and a fetch length of 14m, and measurements were taken from 16 wind directions at 22.5 degree increments. Testing was carried out using a 1:300 detailed scale model of the development. The effects of nearby buildings and land topography have been accounted for through the use of a proximity model which represents an area with a radius of 375m.

Testing was performed for five massing variations of the development, as well as for the existing site conditions, which are denoted by the following scenarios:

- $\rightarrow$  With the existing surrounding buildings and the inclusion of the Base Case Massing
- → With the existing surrounding buildings and the inclusion of Proposed DCP Envelope
- $\rightarrow$   $\;$  With the existing surrounding buildings and the inclusion of Alternative Envelope A
- $\rightarrow$   $\;$  With the existing surrounding buildings and the inclusion of Alternative Massing B  $\;$
- $\rightarrow$   $\;$  With the existing surrounding buildings and the inclusion of Alternative Massing C  $\;$
- $\rightarrow$  With the existing surrounding buildings and the existing building on the subject development site.

Peak gust and mean wind speeds were measured at selected critical outdoor trafficable locations within and around the subject development. Wind velocity coefficients representing the local wind speeds are derived from the wind tunnel and are combined with a statistical model of the regional wind climate (which accounts for the directional strength and frequency of occurrence of the prevailing regional winds) to provide the equivalent full-scale wind speeds at the site. The wind speed measurements are compared with criteria for pedestrian comfort and safety, based on Gust-Equivalent Mean (GEM) and annual maximum gust winds, respectively.

The model was tested in the wind tunnel without the effect of any forms of wind ameliorating devices. The results of the study indicate that wind conditions for the majority of trafficable outdoor locations within and around the development will be suitable for their intended uses. The effect of vegetation was also excluded from the testing.

#### Wind Tunnel



Above: Model Base Case Massing Envelope

#### **Test Point Location**



#### **Target Criteria**

City of Sydney DCP in accordance with Draft Sydney DCP 2012 - Central Sydney Planning Review Amendment: - Wind Comfort Standard for Walking criterion of 8m/s (5% exceedance) for walking - Safety criterion of 24m/s (gust - 0.1% exceedance) for safety

Safety criterion of 24m/s (gust - 0.1% exceedance) for safety
City of Sydney DCP in accordance with Draft Sydney DCP 2012 - Central Sydney Planning
Review Amendment:

- Wind Comfort Standard for Standing criterion of 6m/s (5% exceedance) for standing
- Safety criterion of 24m/s (gust - 0.1% exceedance) for safety



Study Point	(5% e	GEM (5% exceedance)			Annual Gust				
Study Point	Criterion (m/s)	Results (%)	Grade	Criterion (m/s)	Results (m/s)	Grade	Final Result		
Point 01	0.0	4%	Pass	24	23	Pass	Pass		
Existing	8.0	1%	Pass	24	18	Pass	Pass		
Point 02	8.0	0%	Pass	24	13	Pass	Pass		
Point 03	8.0	0%	Pass	24	15	Pass	Pass		
Point 04		2%	Pass	24	18	Pass	Pass		
Existing	- 8.0	1%	Pass	24	17	Pass	Pass		
Point 05	0.0	0%	Pass	24	13	Pass	Pass		
Existing	8.0	0%	Pass	24	11	Pass	Pass		
Point 06		2%	Pass	24	16	Pass	Pass		
Existing	6.0	0%	Pass	24	24	24	12	Pass	Pass
Point 07	8.0	0%	Pass	24	15	Pass	Pass		
Point 08	8.0	1%	Pass	24	19	Pass	Pass		
Point 09	8.0	4%	Pass	24	17	Pass	Pass		
Point 10	- 8.0	2%	Pass	24	20	Pass	Pass		
Existing	8.0	1%	Pass	24	18	Pass	Pass		
Point 11	8.0	1%	Pass	24	20	Pass	Pass		
Point 12	- 6.0	15%	Fail	24	22	Pass	Fail		
Existing	0.0	4%	Pass	24	17	Pass	Pass		
Point 13	8.0	0%	Pass	24	15	Pass	Pass		
Point 14	8.0	1%	Pass	24	16	Pass	Pass		
Point 15	8.0	1%	Pass	24	20	Pass	Pass		
Point 16	8.0	0%	Pass	24	13	Pass	Pass		
Point 17	8.0	1%	Pass	24	19	Pass	Pass		

#### Base Case Massing Envelope Results

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For any study points listed with two rows of results data, the second row is for the

existing site conditions. Test results are shown without any treatments applied. The base case massing scenario has been tested to establish a level of wind comfort performance that is to be compared analist for the proposed massing envelopes. Proposed massing envelopes are also



## Proposed DCP Envelope Results

Study	GEM (5% exceedance)		Annual Gust			Final	Description of		
Point	Criterion (m/s)	Results (%)	Grade	Criterion (m/s)	Results (m/s)	Grade	Result	Treatment	
Point 01	0.0	10%	Fail	24	27	Fail	Fail	Modify NW corner of base	
Existing	- 8.0	1%	Pass	24	18	Pass	Pass	of tower at podium level.	
Point 02	8.0	1%	Pass	24	16	Pass	Pass		
Point 03	8.0	4%	Pass	24	22	Pass	Pass		
Point 04	0.0	4%	Pass	24	19	Pass	Pass		
Existing	- 8.0	1%	Pass	24	17	Pass	Pass		
Point 05	- 8.0	3%	Pass	24	22	Pass	Pass		
Existing	8.0	0%	Pass	24	11	Pass	Pass		
Point 06		7%	Fail		20	Pass	Fail	Ground level awning along	
Existing	6.0	0%	Pass	24 S	12	Pass	Pass	the eastern and northern aspects. See Figure 7.	
Point 07	8.0	0%	Pass	24	15	Pass	Pass		
Point 08	8.0	5%	Pass	24	24	Pass	Pass		
Point 09	8.0	2%	Pass	24	20	Pass	Pass		
Point 10		7%	Fail		23	Pass	Fail	Ground level awning along	
Existing	8.0	1%	Pass	24	18	Pass	Pass	the eastern and northern aspects. See Figure 7.	
Point 11	8.0	1%	Pass	24	18	Pass	Pass		
Point 12		9%	Fail		19	Pass	Fail	Ground level awning along	
Existing	6.0	4%	Pass	24	17	Pass	Pass	the eastern and northern aspects. See Figure 7.	
Point 13	8.0	0%	Pass	24	12	Pass	Pass		
Point 14	8.0	0%	Pass	24	17	Pass	Pass		
Point 15	8.0	1%	Pass	24	21	Pass	Pass		
Point 16	8.0	0%	Pass	24	16	Pass	Pass		
Point 17	8.0	1%	Pass	24	20	Pass	Pass		

For any study points listed with two rows of results data, the second row is for the existing site conditions. Test results are shown without any treatments applied. If treatments are required, they are described in the Table above.

Pass with treatments

Pass

#### Recommendations

Massing.



Above: 3D Image showing inclusion of impermeable awning to northern/ eastern facades following wind testing advice

In-principle recommendations are suggested as follows:

ightarrow An impermeable awning along the northern and eastern building aspects with a small return along the south aspect.

 $\rightarrow$  It is also recommended that the level of the podium that meets the base of the tower be configured at the north-western corner to direct winds around that corner and towards the south-west and to minimise downwash of the north-east winds off the northern aspect being directed westward.

With the inclusion of the above treatments in the final design, it is expected that wind conditions for all outdoor trafficable areas within and around the Proposed Envelopes will be equivalent to or better than the wind conditions pertaining to the Base Case

## Appendix H - Capitol Terrace Apartments Impact Analysis

#### **Capitol Terrace Apartments**

This section investigates the proposed envelope's impact and relationship with the residential building to the north. The plans and elevations shown indicate the apartments affected by the proposal. Due consideration has been given to the draft CSPS objective nominated under Section 5.1.2 which provides the following:

'Ensure that development does not unreasonably borrow amenity from neighbouring sites including access to views and sunlight'.

For the reasons addressed below, the proposal is consistent with the objective.

#### Visual Privacy

The Indicative Concept Scheme does not provide windows and balconies along the portion of its northern façade that orientates towards the windows of the Capitol Terrace building. This precludes the opportunity for sightlines and demonstrates that the redevelopment of the site as envisaged by the Indicative Concept Scheme has the potential to prevent additional visual and acoustic privacy impacts to the adjacent northern property.

#### Private View Impacts

With regards to private view impacts, the proposed northern setbacks will not give rise to additional view impacts beyond that of a complying scheme. The draft CSPS permits the delivery of a building that provides a 4m northern setback. As such, even under a complying scheme, the affected apartments would experience view loss and their view corridors altered to comprise a new tower element. In light of this, the extent of the view loss impacts when comparing both a complying and a non-complying scheme will be commensurate.

In addition, it should be acknowledged that the development approval for the site permits a nil northern setback. Given a nil setback is considered acceptable from an approvals perspective in the context of the site's conditions, the proposed setback which actually increases the building separation should be deemed appropriate.

#### Access to Solar

A Solar Access Study included on the following page confirms that the preferred envelope is capable of maintaining equivalent solar access for the Capitol Terrace apartments when compared against the approved DA scheme.



# 1

## Unit 2

11 x floors affected

**Capitol Terrace South Elevation** 

Unit 1 11 x floors affected

Unit 8 9 x floors affected





#### Existing

The site located at 757 – 759 is occupied by a four (4) storey mixed use building. the site located at 761 – 763 George Street contains a two storey heritage listed building identified as the Sutton Forest Meat Building (1843) under the Sydney Local Environmental Plan 2012 (SLEP 2012).

The proposal interfaces with a residential flat building to the direct north known as 'Capitol Terrace'. At this interface, this development's southern facade incorporates a limited number of windows which largely relate to secondary habitable living spaces such as bedrooms and bathrooms. A small number of windows are associated with primary living spaces; however, these spaces are orientated towards west and thus its south facing windows are not the principle source of views and solar.

#### Approved DA

On 23 October 2017, Council granted consent to a Development Application (D/2017/353) for the construction of a 15 storey hotel building comprising 174 hotel rooms.

It should be acknowledged that the development approval for the site permits a nil northern setback. Given a nil setback is considered acceptable from an approvals perspective in the context of the site's conditions, the proposed setback which actually increases the building separation should be deemed appropriate.

## Proposed DCP Envelope

The proposal provides a better outcome than the approved DA by pulling the podium facade 0.4m away from the site boundary around the affected windows. This increases building separation, and creates a 1.8m wide lightwell between podium facade and apartment windows.









Existing



## Proposed DCP Envelope



PROPOSED ENVELOPE PROVIDES EQUIVALENT SOLAR ACCESS TO CAPITOL TERRACE APARTMENTS COMPARED WITH APPROVED DA SOLAR ACCESS

+ 0.00

 $\checkmark$ 



## Appendix I - Overshadowing Study

#### Proposed Central Square

The proposal has followed the Draft CSPS maps to establish the solar planes affecting the site, which includes those protecting solar access to the new public square at Central Station. These maps locate the subject site within a tower cluster area with a maximum height of RL 300.

The existing Railway Square is located to the south of the proposed Central Square, and is not protected by the solar planes defined in the Sun Protection Controls Heights Map. No overshadowing of the existing Railway Square would preclude the redevelopment of the Haymarket/ Ultimo Tower Cluster altogether.

The following study shows the overshadowing of the proposed DCP envelope on 21 June between 8am-2pm.





Above: Diagram Draft CSPS, Sun Protection Controls Heights Map

Above: Render Central Square, Artist Impression 2020







## Preferred Envelope Overshadowing







21 June: 1000



21 June: 1300





# Appendix J - Physical Model Images

<u>South</u>

South West

East







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