MODIFICATION TO APPROVED TOWER BUILDING AT

100 Mount Street, North Sydney

Urban Design Report

September 2011



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TABLE OF CONTENTS

| 1 | Introd | luction | 1 |
|-----|--------|--|---|
| | 1.1 | Purpose | 1 |
| | 1.2 | Background | 1 |
| | 1.3 | The Proposal | 2 |
| 2 | Conte | extual And Site Analysis | 3 |
| | 2.1 | Local Context | 3 |
| | 2.2 | Subject Site | 3 |
| | 2.3 | Circulation, Access And Parking | 6 |
| | 2.4 | Environmental Analysis | 8 |
| 3 | Prece | dence And Principles1 | 3 |
| | 3.1 | Precedence Assessment1 | 3 |
| | 3.2 | Site Urban Design Principles1 | 5 |
| 4 | Urbaı | Design Strategy1 | 6 |
| | 4.1 | Ground Floor Plane And Public Space1 | 6 |
| 5 | Sumr | nary2 | 0 |
| Арр | endix | A Psychrometric Charts2 | 1 |
| Арр | endix | B Excerpts From North Sydney Development Controls2 | 5 |

FIGURES:

| Figure 1 – Building Elevations | 2 |
|--|----|
| Figure 2 – Local Context | 3 |
| Figure 3 – Site Location | 4 |
| Figure 4 – North Sydney Council Traffic Management Plan | 5 |
| Figure 5 – North Sydney Council Proposed Mount Street Plaza Improvements | 5 |
| Figure 6 – Traffic Pattern, Land Use, And Public Transport | 7 |
| Figure 7 – Pedestrian Routes And Public Space | 8 |
| Figure 8 - Existing Site Survey Prepared By Whelans Insites Pty Ltd | 9 |
| Figure 9 – Winter Sunlight/Shadow Analysis At 9am, Noon, 3pm | 9 |
| Figure 10 – Spring Sunlight/Shadow Analysis At 9am, Noon, 3pm | 10 |
| Figure 11 –Summer Sunlight/Shadow Analysis At 9am, Noon, 3pm | 10 |
| Figure 12 –Autumn Sunlight/Shadow Analysis At 9am, Noon, 3pm | 10 |
| Figure 13 – Winter And Spring Wind Roses | 11 |
| Figure 14 – Summer And Autumn Wind Roses | |
| Figure 15 - Photographs Of The Ark | 13 |
| Figure 16 – Photographs Of Reverse Podium At 87-95 Pitt St | 14 |
| Figure 17 – Photographs Of Australia Square | 14 |
| Figure 18 - Access And Circulation | 16 |
| Figure 19 – Site Plan | 17 |
| Figure 20 – Walker And Mount Street Perspective | 18 |
| Figure 21 – Walker And Spring Street Perspective | 18 |
| Figure 22 – North Sydney Centre Public Spaces Network | 19 |

1 Introduction

This urban design report pertains to Section 75W application to modify project MP 08_0241 that will be lodged with the North Sydney Council.

1.1 PURPOSE

Urbis have been engaged to provide urban design consultation services for the revised proposal at 100 Mount Street, North Sydney. The purpose of this report is to document the urban design process that was undertaken for the reverse podium ground plane design and associated off-site future potential public space improvements.

Urbis was tasked with providing guidance and direction as a member of the design team. The tasks included a contextual and site analysis, a review of influencing factors, such as adjacent public spaces, pedestrian and vehicular circulation, and sunlight/shadow and other environmental effects, which impact the site in its urban context, and a review of the North Sydney's design and development controls as they pertain to the future character of the Centre Planning Area and Public Domain Strategy.

In preparing this assessment, the following documents have been relied upon:

- Development Control Plan 2002 and Area Character Statements
 - Part A. Development Controls
 - Part B. Area Character Statements (as amended to December 2010)
- Public Domain Strategy North Sydney Centre, Traffic Management Plan (2005)
- North Sydney Centre Public Domain Strategy (2004)
- Miller Street Master Plan (2005)

1.2 BACKGROUND

On the 25th May 2010 the Minster for Planning approved Major Project (MP 08_0241) for a Concept Plan pertaining to 86-96 Mount Street and 100 Mount Street North Sydney.

The development approved under MP 08_0241 is summarised as follows:

- "Demolition of the existing buildings on both sites.
- Excavation for 5 levels of basement.
- Construction and use of a 38 storey commercial and retail building together with 5 levels of basement car parking with vehicular access via Spring Street; and
- Construction of through-site pedestrian link and on-site streetscape, footpath reconstruction and infrastructure works in Mount Street, Walker Street and Spring Street together with public art works."

Currently, Laing O'Rourke Mount Street Pty Ltd is seeking to modify the approved Concept Plan based on feedback from potential tenants in the Sydney and North Sydney office marketplace. To provide a premium grade building in a premier location, Laing O'Rourke Mount Street Pty Ltd has engaged the services of world renowned tower architects and engineers Skidmore Owings and Moore in co-operation with local architects Architectus to improve key aspects of the approved building including: floor plate layout, the ground plane (public domain), energy efficiency, and general appearance.

1.3 THE PROPOSAL

The proposal consists of a 147m high commercial office tower which covers the entirety of the site. The means by which the building meets the ground plane is somewhat unique to an office tower. Instead of the more typical 2-3 storey podium with a tower that is setback and projects upward at the upper levels the proposal proposes a free standing tower absent of a podium except for a small glass box that sits on the ground plane providing a secure lobby space and elevator access to the building above. For the purposes of this report this condition is referred to as a reverse podium; a semi-outdoor plaza space at the ground level located under the building.

The reverse podium has both an upper ground floor level (lobby / plaza level) that is accessible from Mount Street and Spring Street and lower ground floor level (retail level at Walker Street) that has commercial storefronts proposed along Walker Street.

The proposed modified building design for the 100 Mount Street site includes several key modifications that improve the building's contribution the surrounding urban environment. These modifications included:

- Relocation of the tower core from a central north position to a more appropriate western position to improve ground floor plane openness and sunlight penetration
- Simplification of building facade through reduction of visual clutter and variation in building setbacks and protruding design elements
- The inclusion of an exposed structural steel brace forming a strong architectural design feature to the Walker Street frontage of the building
- Improved ground floor plane to enhance public space and through-site movement
- Removal of two vehicle access points on Spring Street to one access point on Walker Street, which will allow the opportunity to create shared zones or possible street closures of portions of Spring Street and Denison Street in the future
- Relocation of amenities floor from basement to above ground including an open glazed frontage to improve amenity for building patrons and activate the podium





2 Contextual and Site Analysis

2.1 LOCAL CONTEXT

North Sydney is a vibrant suburb and commercial district that is located 3 kilometres north of Sydney. The central business district of North Sydney is characterised as highly pedestrian-oriented with active street frontages, public and private plaza spaces, and shared-use zones and laneways.

The site is located within the heart of the North Sydney CBD. Land uses surrounding the site are predominantly commercial office space in tall buildings with ground and lower level retail shops. Buildings within the CBD step down from the centralised taller forms to the lower scale commercial and mixed use buildings on the fringe of the CBD. Residential development and open space is located on the fringe of the centre.



FIGURE 2 – LOCAL CONTEXT

2.2 SUBJECT SITE

The subject site is located at the northwest corner of the intersection of Mount Street and Walker Street and is bounded by Spring Street to the north and Denison to the west. The streets and laneways surrounding the site form an important part of the local vehicular and pedestrian movement network. Walker Street connects to the Pacific Highway to the south and to Berry Street to the north. Mount Street forms a major pedestrian link between Walker Street to the east and Miller Street / Pacific Highway to the west. In addition, pedestrians use Spring Street to move between Walker Street and Denison Street / the MLC Centre / Tower Square / Mount Street.

Buildings surrounding the site range in height from 2 storeys across Spring Street (the Firehouse Hotel), to taller buildings at the following locations:

- Approximately 35 storeys on the south western corner of Walker and Mount Street;
- Approximately 40 storeys on the south eastern corner of Walker and Mount Street;
- Approximately 8 storeys on the north eastern corner of Walker and Mount Street;
- Other buildings fronting Walker Street north of Mount Street range in height to approximately 30 storeys; and

Buildings fronting Walker Street south of Mount Street range in height to approximately 20 storeys.



FIGURE 3 – SITE LOCATION

PROPOSED ADJOINING ACTIVITIES

88 Walker Street & 77-81 Berry Street, labelled on Figure 3, is a development application that includes two towers. The proposed 88 Walker Street development consists of a 117m high hotel development which covers the entirety of the site with the main entrance to the lobby of the hotel located on Walker Street. A through site link is proposed from Walker Street to Little Spring Street along the north boundary of the site.

The proposed 77-81 Berry Street development consists of a 123m high commercial office tower which is setback from the southern end of the site. A new through site road is proposed between Little Spring Street and Denison Street, while an outdoor public plaza area is proposed at the southern end of the site. The site further proposes the closure and reuse of Denison Street as a pedestrian way from Spring Street north to the proposed new street location.



FIGURE 4 – NORTH SYDNEY COUNCIL TRAFFIC MANAGEMENT PLAN

The North Sydney Council has adopted a North Sydney Centre Public Domain Strategy that provides a framework for upgrading public domain areas that will accommodate increased population growth, resulting from redevelopment of the Centre over the next 15 years. Two key elements of The Strategy have now been drafted - the draft North Sydney Centre Traffic and Pedestrian Management Plan (The Management Plan), and the draft Miller Street/Victoria Cross Masterplan.

The Management Plan identifies relevant traffic management and pedestrian issues and establishes actions to implement the strategy and accommodate growth. Proposed improvements adjoining our site include; the replacement of the diagonal parking along the north side of Mount Street with parallel parking and a widened foot path; and the reduction of Walker Street width from 4 lanes of travel to two lanes of travel. This will result in the widening of the footpath adjoining our site. The proposed development can accommodate these proposed improvements.



FIGURE 5 – NORTH SYDNEY COUNCIL PROPOSED MOUNT STREET PLAZA IMPROVEMENTS

The draft Miller Street/Victoria Cross Masterplan outlines proposals for the enhancement and upgrade of Miller Street and Victoria Cross intersection. Included in the Masterplan are landscape, site furnishings, and pavement improvements for the Mount Street Plaza.

The built environment surrounding the site is changing. Improved pedestrian public space and circulation via through site connections, widened foot paths and plaza improvements are a hallmark of the changing character of the North Sydney Centre.

2.3 CIRCULATION, ACCESS AND PARKING

VEHICULAR CIRCULATION

The site is well-accessed via private transportation given its close proximity to the Pacific Highway to the south and Warringah Freeway to the east. The streets within the vicinity of the site are characterised by high traffic volumes due to the proximity of on and off ramps from the Warringah Freeway. These streets include:

- Walker Street: a north south collector street that connects the Pacific Highway to Berry Street which borders the site to the east;
- Miller Street: a north south collector street that also connects the Pacific Highway to Berry Street;
- Berry Street: an east west, east-bound, one-way collector street that connects a large portion of the North Sydney CBD to the Warringah Freeway.

Lower traffic volumes occur on the internalised streets that border the site. These streets include:

- Spring Street: an east west, west-bound, one-way laneway that provides site access and service to local buildings. Spring Street borders the site to the north;
- Little Spring Street: a north south, south-bound, one-way laneway that provides site access and service to local buildings;
- Denison Street: a north south street that is both a laneway and a "shared zone" which provides site access and service to local buildings;
- Mount Street: an east west, east-bound, one-way local street that connects localised traffic to Walker Street. Mount Street borders the site to the south.

The site is also easily accessed via public transportation with several bus stops in close proximity to the site including the North Sydney Railway Station which is less than 300 metres away. The patterns of traffic flow, land use and public transport have been illustrated in Figure 6.

VEHICLE ACCESS AND PARKING

The proposed modifications include the reduction in vehicle access points from two points of access on Spring Street to a single point of access located off Walker Street.

This change enables several key strategic improvements to the ground plane site plan. The walker Street entry:

- Reduces the number of vehicular-pedestrian conflicts by crossing the footpath once at Walker Street instead of three times; once across the Walker Street footpath and twice across the Spring Street footpath (one at the car park entry and one at the service dock entry).
- Reduces the amount of traffic within the internal street system (Spring Street, Little Spring Street, Denison Street, and Mount Street) thus advancing the North Sydney Centre Public Domain Strategy of bringing these street more in alignment with a system of shared laneways.
- Allows the use of Spring Street as a pedestrian priority zone with greatly improved access between other commercial / retail destinations via Denison Street and Little Spring Street
- Opens the Spring Street facade to facilitate pedestrian circulation through and around the site
- Enables a generous through site link from Spring Street to Mount Street



FIGURE 6 - TRAFFIC PATTERN, LAND USE, AND PUBLIC TRANSPORT

PEDESTRIAN CIRCULATION

High-frequency pedestrian traffic is a characteristic of the surrounding streets and pedestrian ways. The highest frequency of pedestrian traffic and movements occur during the morning, lunch and afternoon hours.

Walker Street, the eastern boundary of the site, carries a significant amount of pedestrian traffic from the bus stop and the North Sydney Rail Station south of the site to various office locations north of the site. Mount Street, the southern boundary of the site, forms an important part of the pedestrian network within North Sydney. It is a major east-west pedestrian link, collecting pedestrian from the Mount Street Plaza and the pedestrian bridge over the Pacific Highway and delivering them east to Walker Street.

Spring Street, the northern boundary of the site, and Denison Street are roadways surrounding the site that have a strong pedestrian presence. Denison Street is used as a north-south link between Mount Street and Spring Street, and beyond to Berry Street.

The patterns of pedestrian travel have also been illustrated in Figure 7



FIGURE 7 – PEDESTRIAN ROUTES AND PUBLIC SPACE

2.4 ENVIRONMENTAL ANALYSIS

Environmental characteristics that affect the site include topography, sunlight/shadow, wind, temperature, and humidity levels.

TOPOGRAPHY

Topography is a significant issue with a general change in grade of approximately five metres across the site from west to east (approximately 7.5 per cent slope from Denison to Walker Street) and to a lesser extent, approximately 0.5 metres, from north to south (approximately 0.5 per cent slope from Spring to Mount Street). Thus Mount Street and Spring Street slope quite steeply west-east from Denison Street to Walker Street. Spring Street itself rises steeply from the intersection with Little Spring Street to Denison Street. There is currently a high point on Denison Street just north of the intersection with Spring Street.



FIGURE 8 - EXISTING SITE SURVEY PREPARED BY WHELANS INSITES PTY LTD

SUNLIGHT/SHADOW ANALYSIS

Because the site is centrally located within the CBD of North Sydney, the surrounding tall buildings block most of the direct sunlight, leaving the site in shadow for most of the year. This becomes especially apparent during days with heavy overcast. However, during sunny days there is a high likelihood that reflected light will provide a small measurable amount of ground plane illumination given the high degree of glazing on the surrounding commercial towers. A high floor-to-ceiling dimension will help to maximise the light exposure of the ground plane below the building.



FIGURE 9 - WINTER SUNLIGHT/SHADOW ANALYSIS AT 9AM, NOON, 3PM



FIGURE 10 - SPRING SUNLIGHT/SHADOW ANALYSIS AT 9AM, NOON, 3PM



FIGURE 11 - SUMMER SUNLIGHT/SHADOW ANALYSIS AT 9AM, NOON, 3PM



FIGURE 12 - AUTUMN SUNLIGHT/SHADOW ANALYSIS AT 9AM, NOON, 3PM

WIND ANALYSIS

Given the proposed building height and the heights of the surrounding buildings winds and their associated downdrafts will be an issue. A detailed wind analysis has been performed by Windtech and their subsequent results have been documented in *Pedestrian Wind Environment Study for the proposed developments located at 100 Mount Street and 88 Walker Street & 77-81 Berry Street, North Sydney* (August 10, 2011). However, the initial preliminary analysis validated a variety of different wind directions and speeds occur year-round within North Sydney and around the site.

Seasonal westerlies are the dominate winds of the winter and spring seasons, as the wind roses in Figure 13 indicate. The heights of the surrounding buildings and the resultant downdrafts concentrate the power of wind gusts. For this reason, areas exposed to adverse wind conditions should be protected.

During the summer and autumn seasons the dominate winds come from the east northeast direction, as the wind roses in Figure 14 indicate. These winds generally provide cooling relief to the summer heat and therefore should be harnessed for the affects.



FIGURE 13 – WINTER AND SPRING WIND ROSES



FIGURE 14 - SUMMER AND AUTUMN WIND ROSES

COMFORT ANALYSIS

Seasonal temperatures and humidity levels will also impact the level of comfort on the site throughout the year. The measureable level of Comfort is defined by the ASHRAE Handbook of Fundamentals Comfort Model, 2005;

For people dressed in normal winter clothes, Effective Temperatures of 68°F (20°C) to 74°F (23.3°C) (measured at 50% relative humidity), which means the temperatures decrease slightly as humidity rises. The upper humidity limit is 64°F (17.8°C) Wet Bulb and a lower Dew Point of 36F (2.2°C). If people are dressed in light weight summer clothes then this comfort zone shifts 5°F (2.8°C) warmer.

The climatic data were taken from Blues Point Reserve, which is located directly south of the site on Port Jackson. The psychrometric charts for the winter, spring, summer and autumn seasons are included in Appendix A.

Because the subject site is located in a predominately professional office district, the comfort analysis specifically studied the level of comfort that typically occurs during the lunch break hours. The following Comfortable Percentages for the hours between 11am and 2pm were determined as:

- Winter 12%
- Spring 29%
- Summer 47%
- Autumn 53%

3 Precedence and Principles

3.1 PRECEDENCE ASSESSMENT

An assessment of several reverse podium designed buildings around Sydney was undertaken to determine ground plane design best practices as well as other factors that can contribute success or shortcomings of publically accessible spaces. The recently built Ark at 40 Mount Street building, with its high floor-to-ceiling dimension, is cited as a successful example.

THE ARK - 40 MOUNT STREET

- Successful example of reverse podium
 - The Building won the NSW Development of the Year award
- High floor-to-ceiling dimension allows direct and ambient light and air into space
- Light coloured materials brightens space
- Ceiling as feature adds additional dimension of interest
- Wood and other natural material accents are used to warm and soften space
- Coffee vendor activates space
- Movable site furnishings provides a planned and coincidental gathering place



FIGURE 15 - PHOTOGRAPHS OF THE ARK

AUSTRALIA SQUARE BLOCK - GEORGE/BOND STREET

Reverse Podium at 87-95 Pitt St. (Building East of Australia Square)

- Less successful example of a reverse podium building
- Heavy column treatment dominates space and blocks light from entering area.
- Low floor-to-ceiling make space feel cramped and uninviting
- Dark paving and vertical materials adds to darkness
- No activating ancillary commercial uses
- Anchored and limited site furnishings limit gathering potential



FIGURE 16 - PHOTOGRAPHS OF REVERSE PODIUM AT 87-95 PITT ST

Australia Square (publically accessible plaza)

- Open-air plaza with movable site furnishings provides a planned and coincidental gathering place
- Water feature as dynamic white noise
- Activated by retail/food



FIGURE 17 – PHOTOGRAPHS OF AUSTRALIA SQUARE

3.2 SITE URBAN DESIGN PRINCIPLES

The Site Urban Design Principles that guided the proposed modified building design were derived from the precedence studies and indicated future character of the North Sydney development controls. The specific aspects of the development controls that pertain to the site have been included in Appendix B: Excerpts from North Sydney Development Controls.

BUILT FORM

- Architecture allows for the humanization of the ground spaces and offers respite from the vehicular traffic beyond
- Active Street Frontages
 - Reduce external blank walls
 - Provide opportunities for passive surveillance
 - Maximise active frontages on Mount St, Walker St and where possible Spring St.
 - Improve street character and safety through defined edges

PUBLIC DOMAIN AND PEDESTRIAN CONNECTIVITY

- Street level contributes to diversity, vitality, social engagement and 'a sense of place'
- Utilise Spring St as an opportunity to add connectivity and richness to the urban experience
- Potential opportunity to introduce a 'shared zone' facility
- Provide pedestrian through site connections
 - Link Spring St to Mount St at approximately mid-block
- Provide a continuation of Mount St Mall (east of Denison St) to Walker Street

ENVIRONMENTAL

- Protect against wind tunnel effect due to building height and surrounding building heights
- Maximise and take advantage of solar access to special areas and open spaces
- Landscape should be highly urbanised, but softened by introduced water and greenery where practical

4 Urban Design Strategy

4.1 GROUND FLOOR PLANE AND PUBLIC SPACE

ACCESS AND CIRCULATION

Vehicular access to the site for underground parking and building services is proposed to occur at the northeast corner of the building off of Walker Street instead of occurring at two points along Spring Street; one access for parking and another for building services. A significant benefit of this solution is the removal the site's vehicular traffic from internal roadway system of Spring, Denison, and Mount Streets. Therefore an opportunity becomes available to realise aspects of North Sydney Council's Public Domain Strategy by turning those streets into shared use zones thus allowing for free pedestrian movements among Mount Street Plaza, 100 Mount Street Plaza and future public space improvements at 88 Walker Street. Figure 18 illustrates how the site's improvements together with shared use zones would contribute to the North Sydney public space system.



FIGURE 18 - ACCESS AND CIRCULATION

ACTIVE STREET FRONTS

The change of gradient from the Walker Street frontage to the western edge of the site is better addressed by "splitting" the ground floor levels into an upper ground floor (lobby / plaza level) and a lower ground floor level (retail level at Walker Street). This approach allows the upper ground floor to be almost level with Spring Street to the north and Mount Street to the south thereby facilitating pedestrian accessibility and circulation through the site. Additionally the upper ground floor will gradually step up in large planes to the east to provide vertical dimension to accommodate the retail space at the lower ground floor fronting and activating Walker Street.

The ground floor plane design solution contributes to the public realm in a number of ways:

 The public domain works to the footpaths surrounding the site and within the site boundary from the building to the kerb line on Mount, Walker & Spring Streets;

- The interface with the wider public domain of the local area, including Walker, Spring, Denison and Mount Streets as a whole i.e. an indicative public domain master plan; and
- The linkages with and between other public domain spaces and the pedestrian network of North Sydney based upon the principles, approach and strategies contained in the North Sydney Centre Public Domain Strategy.
- Encourage pedestrian traffic to pass through the site and invite the public to gather in the public/private space at the ground floor level.
- Facilitate a seamless transition from the public domain through the public/private space at the ground floor of the building.

AMENITY

Operable glass walls have been proposed to occur at the upper ground floor level along the Mount Street, Spring Street and Walker Street elevations as illustrated in Figure 20 and Figure 21. These transparent elements will not only mitigate the negative effects determined during the sunlight/shadow, wind, comfort levels analyses by, for example, enclosing the upper ground floor plaza during windy days, but also will allow for the positive attributes of an indoor-outdoor space. An additional benefit of the operable glass walls is the ability to use the space under the reverse podium building as public-private space throughout the entire year



FIGURE 19 – SITE PLAN



FIGURE 20 – WALKER AND MOUNT STREET PERSPECTIVE



FIGURE 21 – WALKER AND SPRING STREET PERSPECTIVE



FIGURE 22 – NORTH SYDNEY CENTRE PUBLIC SPACES NETWORK

5 Summary

The proposed 100 Mount Street building located in the centre of North Sydney's CBD is a complex and challenging project. The site is surrounded by tall commercial office buildings and busy roadways; centred in a pedestrian oriented setting that provide cross-site connections to employment destination as well as highly utilised public spaces; impacted by a variety of other physical and environmental conditions such as steep topography, minimal direct solar access, strong seasonal winds, and dynamic comfort levels.

The proposed modified building design and ground floor planes advance the vision of North Sydney Centre as outlined in the DCP's Area Character Statement and the North Sydney Public Domain Strategy documents. The ground plane with its upper ground floor (lobby / plaza level) and lower ground floor level (retail level at Walker Street) meets the City's desire to:

- Extend Mount Street Mall to Walker Street;
- Increase the footpath width along Walker Street;
- Increase the footpath with along Spring Street;
- Improve pedestrian access by providing a cross-block access through the site;
- Allow for the North Sydney Council to take advantage of "shared zones" along Spring, Little Spring, and Mount Streets; and
- Activate the ground floor of Walker Street with commercial uses.



Psychrometric Charts



PSYCHROMETRIC CHART (WINTER)



PSYCHROMETRIC CHART (SPRING)



PSYCHROMETRIC CHART (SUMMER)



PSYCHROMETRIC CHART (AUTUMN)



Excerpts from North Sydney Development Controls.

Part B. North Sydney Development Control Plan 2002

Area Character Statements (as amended to December 2010)

1. North Sydney Centre Planning Area

Environmental Criteria

- The extremes of sun, wind and rain are ameliorated by building design.
- Natural light reaches buildings, public places and streets.
- Sounds are of humans; mechanical sounds are subdued.
- Solar access to special areas and open spaces is maintained and contributes to enjoyment of those spaces for use by public during lunchtime.

Quality Built Form

- A north south pedestrian spine is established along Elliot, Ward, Little Spring and Denison Streets forming an integral part of the open space network in the Centre.
- There is a pleasant, well designed and well lit series of urban plazas and gardens, connected by a continuous pedestrian walkway.
- Miller and Walker Streets are the principal access north/south through the Centre.

Quality Urban Environment

• Rear lanes allow for vehicle access to properties.

Public Domain

• Streetscape improvements occur in accordance with the North Sydney Centre Public Domain Strategy.

1.1 Central Business District

Function

- a. Diversity of activities, facilities, opportunities and services.
 - iii. A variety of outdoor and indoor community spaces (eg. gymnasium; gardens; seating; outdoor and indoor eating areas for public use).
- c. Identity/Icons
 - iv. Mount Street Plaza/ Ward Street Plaza

Environmental Criteria

- d. Awnings
 - i. Provide continuous awnings to commercial buildings (in accordance with s.20.2(g) except on Miller Street between Pacific Highway and Mclaren Street.
 - e. Solar access
 - i. Solar access to special areas and open spaces maintained between the hours of 10am and 2pm throughout the year.
 - g. Public spaces and facilities
 - iii. Mount Street Plaza is a focus point for North Sydney CBD.

Quality Urban Environment

r. Public Domain

- i. Have regard to Public Domain designed in accordance with the North Sydney Centre Public Domain Strategy and North Sydney Council Infrastructure Manual.
- s. Landscaping
 - i. Continued use of tree planting and use of native vegetation to enhance the urban environment and attract birdlife.
 - ii. Choice of trees and vegetation in accordance with North Sydney Centre Public Domain Strategy, Street Tree Strategy and North Sydney Council Infrastructure Manual.

North Sydney Public Domain Strategy (2005)

The North Sydney Centre Public Domain Strategy provides a framework for upgrading public domain areas that will accommodate increased population growth, resulting from redevelopment of the Centre over the next 15 years.

2.0 PUBLIC DOMAIN STRATEGY

2.2 Strategies

Balancing Pedestrian, Cyclist and Vehicle Demands (Page 9)

Improve pedestrian access to and from North Sydney Station, and enhance pedestrian flows, through the most concentrated area, by:

Developing of Mount Street (already part mall) as a plaza that pedestrians cross-over freely to connect with Miller Street, Walker Street and the laneways

3.0 SITE ANALYSIS

3.1 Urban Character

Current City Centre Focus (Page 14)

The way the city centre has developed over recent years has resulted in there being a sense of major street-oriented focus along Walker Street between the highway and Berry Street – particularly near the Mount Street junction – and along Miller Street between the highway and Berry Street though mainly along the eastern side. That these areas hold such importance suggests that it would be desirable to improve pedestrian access (including cross-block access) as much as possible as well as upgrade the whole street design (pavement material, furniture, etc).

Squandered Opportunities in Laneways (Page 15)

Past development emphases have been to use the main streets as the only address for towers and other major commercial projects. Where these projects also have frontage to laneways or secondary streets the nature of the development and site planning has invariably neglected or shunned the laneways as addresses for the buildings. This has resulted in many laneways being treated as nothing more than loading docks or, worse, urban wastelands. The reality is that these access ways are prime pedestrian space and could be readily enriched and reclaimed by appropriate site planning and sensitive architectural design. Much of Little Walker Street, Little Spring Street, Denison Street, Spring Street, Hill Street and Ward Street have all been squandered by past development with the result that they have an austere and neglected character. Each of these smaller-scaled streetscapes offers considerable potential for improvement to the benefit of pedestrians using the city centre. This idea is further developed in the following sections.

Transverse Spine of Mount Street (Page 16)

Mount Street has a somewhat varied character within the city centre in that it has an intense focus between Miller and Walker streets culminating in Victoria Cross, a lively energy to the east of this yet a much quieter character west of the highway. That there is this varied ambience about Mount Street is actually a desirable attribute that should be retained and enhanced. The central section should be further emphasized in its importance as a pedestrian precinct by being considered as a shared zone.

Laneways (Page 16)

The following hold opportunities to add richness to the urban experience by making the laneways an important part of the city centre life (such as the ones in Melbourne city).

Little Spring Street

Street Frontages Walker and Hill Streets (Page 17)

There is a need for architecture to positively address the following streets in a way that allows for the humanization of the ground spaces and offers respite from the vehicular energy beyond:

Mount Street

5.5 Pedestrian Facilities

Pedestrian Links (Page 75)

Access link between Walker Street and Denison Street via the existing connection i.e. Spring Street. This access way needs to be furnished with better pedestrian footpath and lighting with introduction of "shared zone" facility.

Shared zone along Little Spring Street.

Shared zone along Mount Street, west of Walker Street

Pedestrian Facilities and Amenities

Walker Street: (Page 77-78)

Provision of scrambled pedestrian crossing (as part of the traffic signal) at intersection of Walker and Mount Streets.

Widen the footpath along the western side of Walker Street between Hill and Mount Streets and Spring and Mount Streets.

5.6 Opportunities and Constraints

Laneways (Page 80)

In order to understand the level of route connectivity within the study area and provide an appropriate route analysis, a survey of laneways throughout the study area has also been undertaken. The survey aimed to identify main laneways that can be used as an alternative route as part of the pedestrian network.

The analysis of the study area and route network suggests that parts of NSC could also enjoy a better connectivity for pedestrian routes through its laneways. While such an asset could be well utilised among Centre's community, lack of appropriate ambience and street furniture have restricted such use of these laneways.

The study has recognised the importance of these routes and has selected a number of these links for reactivation and better use by the community and visitors to the area.

Accordingly, measures such as Shared-way proposal together with installation of signage and lighting are proposed as part of the PAMP and plan of management for the area.

6.0 MANAGEMENT PLAN

6.3 Walker Street (Page 91)

Redefine Walker Street as a "High Street" as part of PDS

Investigate and implement footpath widening on west side of Walker Street on north and south sections of Mount Street

Introduce pedestrian scrambled phase crossings as part of the traffic signals at intersection of Mount and Walker Streets

Implement the proposed PAMP and 40kph traffic management measures

6.9 Other Streets (Page 94)

Engage street frontage by appropriate architectural design as part of the future developments to facilitate better urban amenity along laneways particularly Little Walker and Little Spring Streets.

Improve street furniture, footpath surface and material along Little Walker and Little Spring Streets with a view to change their characteristics to a "shared way zone" as part of the future developments within the Centre.

Implement the PDS recommendation of changing angle parking to parallel parking in Mount Street to create wider footpath area for dining and outdoor activity with introduction of shared zone.

Emphasise connectivity for pedestrians through arcades and laneways as part of any future development

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