

ITEM 5. SCOPING – GREEN SQUARE TOWN CENTRE STREETS**FILE NO: S105611****SUMMARY**

On 8 March 2013, the Central Sydney Planning Committee provided conditional consent to the Development Application (D/2012/1175) for the Green Square Town Centre Essential Infrastructure.

This report seeks Council's endorsement of the detailed design for the new and upgraded streets network for the new Green Square Town Centre.

The scope of works will deliver all of the above and below ground infrastructure works located within the street reserves of the town centre, including all services, footpaths, tree planting, lighting and street furniture.

The town centre comprises streets of different scale and function – from busy boulevards to pedestrian lanes. The detailed street design promotes streets for people through pedestrian friendly environments and low traffic speed environments, and includes continuous off road cycle facilities both east-west and north-south. The town centre streets will be united by a strong green character created through healthy street trees, extensive plantings and raingardens, and a palette of high quality materials and urban elements drawn from adopted City Standards.

Following consultation with adjacent developers, authorities and the public, the detailed designs have been finalised and are recommended for Council's endorsement.

RECOMMENDATION

It is resolved that Council endorse the detailed design for the new and upgraded streets network for the Green Square Town Centre, as described in the subject report and as shown in Attachments A and C of the subject report, for progression to implementation.

ATTACHMENTS

Attachment A: Project Area

Attachment B: Framework Principles and Strategies

Attachment C: Detailed Design of Works

Attachment D: Project Staging

Attachment E: Financial Implications (Confidential)

(As Attachment E is confidential, it will be circulated separately from the Agenda Paper and to Councillors and relevant senior staff only).

BACKGROUND

1. Green Square Urban Renewal Area is an \$8 billion development project within the commercial corridor between the CBD and Sydney's international gateways of Port Botany and Sydney Airport. At the heart of Green Square is 13.74 hectares of land to be developed as the Green Square Town Centre. The existing site has a history of quarrying, fill and light industrial uses and storage.
2. The Green Square Town Centre is primarily located in the suburb of Zetland and includes land bounded by Botany Road, Bourke Street, Portman Street / Portman Lane, Joynton Avenue and Hansard Street / Tosh Lane (refer Attachment A).
3. The proposed streets for the Green Square Town Centre are part of the City's overall Green Square Town Centre development program, which includes public spaces, parks, community and cultural facilities, trunk drainage and recycled water supply.
4. The Sydney Development Control Plan (Green Square Town Centre) 2012 was adopted by Council on 2 April 2012 and came into effect on 24 April 2012.
5. On 8 March 2013, the Central Sydney Planning Committee provided conditional consent to Development Application (D/2012/1175) for the Green Square Town Centre Essential Infrastructure.
6. On 25 March 2013, Council approved the Green Square Town Centre Public Domain Strategy. This strategy was prepared to guide the detailed design for the Green Square Town Centre.
7. Detailed design work commenced on the Green Square Essential Infrastructure and Public Domain Works in May 2013.
8. The streets provide the framework to the town centre's public domain and facilitate access, circulation and essential services to the centre's various public and private developments. These works include:
 - (a) remediation of contaminated ground, and traditional utilities including potable water, stormwater, sewer, electricity, gas and telecommunications;
 - (b) civil and public domain works including roads, cycleways, footpaths, kerbs, water sensitive urban design features, trees, landscaping, lighting, traffic control devices (e.g. traffic signals, pedestrian crossings and thresholds), street furniture and signage;
9. These works are coordinated with a range of other concurrent projects in the precinct as follows:
 - (a) the green infrastructure projects delivering the private electricity network and non-potable recycled water, which are reticulated through the street network;
 - (b) the trunk drainage project to which the majority of street stormwater will ultimately be connected;
 - (c) the Green Square Plaza with frontage to Botany Road, Paul Street and the small streets of the town centre's inner core;

- (d) Drying Green Park – the town centre’s main park, bounded by Geddes Avenue, Paul Street, Portman Street and Zetland Avenue;
 - (e) the former South Sydney Hospital Site – a campus of community facilities, parks and gardens. This site also houses the water treatment plant for the town centre, and is bounded by Portman Street, Joynton Avenue, Hansard Street and Zetland Avenue; and
 - (f) private mixed use developments throughout the town centre, interfacing with the new street network and service connections.
10. A public art project is currently being procured separately which may be located partly or entirely within the street network and will be coordinated with the street designs once selected.

DESIGN PRINCIPLES AND PRECINCT STRATEGIES

11. The detailed design has been founded on the design as approved through the development application and associated conditions of consent. The detailed design was also informed by the following objectives for the street network identified in the Green Square Town Public Domain Strategy:
- (a) provide accessible links within and to neighbouring areas for all transport modes:
 - (i) maximising pedestrian priority, accessibility and connectivity;
 - (ii) integrating links to public transport, including future provision for light rail;
 - (iii) providing a separated cycleway network within the centre and linking to wider regional routes; and
 - (iv) facilitating vehicular access through the town centre in a slow-speed and safe environment;
 - (b) ensure a coherent network of streets of different scale, character and function;
 - (c) establish a strong and cohesive green landscape character for the town centre;
 - (d) integrate water sensitive urban design for improved ecology, stormwater quality and harvest for re-use; and
 - (e) coordinate the essential and green infrastructure services within the streets.
12. The detailed design for each street is underpinned by key precinct-wide strategies described below and illustrated in Attachment B.

Street typologies

13. Across the town centre, street layout reinforces the town centre as a traffic-calmed, low-speed environment, which promotes a green amenity, generous walkable footpaths and high quality cycle provision. Footpaths typically widen at intersections, with paved parking bays inter-planted with street trees / low planting to visually narrow the trafficable carriageway.

14. The street network comprises a range of street types in response to transport and urban function as follows:
- (a) the east-west boulevard (Zetland Avenue);
 - (b) the east-west connector (Geddes Avenue);
 - (c) a high street (Ebsworth Street) that features calmed traffic and wide pavements for outdoor dining and a vibrant street life, while catering for the everyday servicing of the precinct;
 - (d) north-south connector streets (Paul and Portman Streets);
 - (e) perimeter streets (Botany Road and Joynton Avenue);
 - (f) southern precinct residential streets (Sonny Leonard Street and Hinchcliffe Street (south of Geddes Avenue));
 - (g) small streets – a fine grain network of streets in the core of the town centre to maximise access and activation (Hinchcliffe Street - north of Geddes Avenue, Woolpack Street, Barker Street and Tweed Place); and
 - (h) fully pedestrianised small streets (Fellmonger Place, northern portions of Hinchcliffe Street and Barker Street at the south interface of the plaza).

Traffic and Access

15. Provision for vehicle movements has been designed to meet the following objectives of the development control plan, conditions of development consent and requirements of Roads and Maritime Services:
- (a) The street network provides a high level of amenity and safety for all users. All signalised intersections include pedestrian crossings and streets are designed to support a future 40km/hr speed zone designation by Roads and Maritime Services. Additional pedestrian crossing facilities are proposed at minor crossing and mid-block links, and a number of streets are proposed to be fully pedestrianised.
 - (b) The street network provides capacity for public transport, cycling and general traffic and their growth over future years. A local area network model that incorporates growth of traffic to 2031 has been approved by Roads and Maritime Services.
 - (c) A key public transport route is provided along Zetland Avenue as part of the Eastern Transit Corridor, including capacity for future incorporation of a light rail system.
 - (d) Works to Botany Road facilitate access to the town centre from this key sub-arterial route, which provides connectivity to the Sydney CBD to the north and Sydney Airport and Port Botany to the south. The design reflects the requirements of this key transport corridor and the potential future upgrade of this transit corridor as noted in *Sustainable Sydney 2030*.

- (e) The future bus services through the town centre will connect north-south bus corridors along Joynton Avenue and Botany Road through Zetland Avenue, Paul Street and Geddes Avenue. Bus stops are conveniently located where the boulevard meets the public plaza.
- (f) The future potential for light rail along the Zetland Avenue corridor is accommodated in the design.

Cycleway Network

16. The town centre streets will include new cycleways with links to the wider, regional network, as shown under cycle provision in Attachment B and described below:
 - (a) a pair of separated uni-directional cycleways, provided along each side of Zetland Avenue. This connects west onto a shared path at the plaza, and east along the avenue's future extension into the Epsom Park Precinct.
 - (b) A separated bi-directional cycleway along the eastern side of the upgraded section of Portman Street to provide a north-south link through the town centre, and providing a route to the existing Green Square to City facility along George Street.
 - (c) A separated bi-directional cycleway running east-west on the southern side of the Geddes Avenue connecting to the Portman Street cycleway at the eastern end. This will ultimately extend along the East-West Relief Route, west to the Bourke Road cycleway.

Stormwater and Water Sensitive Urban Design (WSUD)

17. Drainage of stormwater has been informed by the development control plan and conditions of development consent, with the design ensuring that the following objectives are met:
 - (a) Sufficient drainage capacity for handling existing (predevelopment) and new flow conditions. Hydraulic models for overland flow and the piped network have informed the design.
 - (b) Development is not subjected to undue flood risk, nor hazard to existing development exacerbated during and after the rainfall event.
 - (c) Water quality is improved through the extensive use of rain gardens and street landscaping, used to treat stormwater runoff within the streets prior to its discharge into the stormwater system. The system is designed to meet the Botany Bay and Catchment Water Quality Improvement Plan targets and above predeveloped conditions. Water quality modelling has informed the location and design of this infrastructure.
 - (d) Street trees be passively watered from street stormwater runoff as part of the Water Sensitive Urban Design Strategy.
 - (e) Additional trunk drainage capacity is provided through Green Square Stormwater Drainage project delivered separately by an alliance of Sydney Water Corporation and the City.

Planting

18. Typically, street trees are located within the parking lanes and medians to maximise the canopy and green character of the streets, moderate the scale of adjacent developments and minimise the heat island effect. Species selections help reinforce street hierarchy and character zones, creating a more memorable and legible centre. Examples include:
 - (a) the small inner streets are planted with narrow evergreen natives selected for their ability to survive anticipated low light levels between tall buildings;
 - (b) the high street (Ebsworth Street) and east-west boulevard (Geddes Avenue) are planted with a range of large deciduous broad species for shade and promenading pedestrians.
 - (c) residential streets to the south are united by one deciduous species with golden spring flowers to allow good solar access to residential streets and built form frontages during winter;
 - (d) north-south streets (Joynton Avenue and Portman Street) adopt a continuation of the existing native tree species leading from surrounding residential context;
 - (e) the tree species of the plaza repeat along the Botany Road frontage; and
 - (f) a tree species of the Drying Green Park repeats along the Geddes Road frontage.
19. The street trees nominated through the detailed design process have been approved as part of an update to the City of Sydney Street Tree Masterplan for the Green Square Town Centre, approved and adopted by Council in November 2015.
20. Species that evoke the wetlands and low lying lands, which once covered this site, have been incorporated through the town centre understorey planting and rain gardens.

Materials Palette

21. A cohesive palette of high quality materials have been selected for the streets, drawing strongly on adopted City Standards:
 - (a) bluestone kerbs are used throughout the town centre to reinforce a cohesive character;
 - (b) City of Sydney standard 'Village Bronze Smartpoles' are provided to the town centre streets, and the upgraded length of Portman Street. Small streets, however, will be lit with City Standard pedestrian pole top lighting (painted 'Village Bronze') or façade mounted lighting after construction of adjoining developments;
 - (c) street furniture will be from the approved City of Sydney 'village bronze palette' (Alec Tzannes designed range);

- (d) high quality concrete unit pavers, as used in the City's existing precinct high streets, are proposed in all footways within the town centre, with the exception of the southern streets which will use an in-situ concrete pavement to denote this more low-key, residential precinct, and as a transition treatment to the existing streets to the south;
 - (e) the small streets and indented parking bays throughout the town centre will have a distinctive pavement of interlocking pavers in a light contrasting colour to signify these slow speed traffic environments;
 - (f) to coordinate with the plaza design, the pavement of Paul Street along the plaza frontage adopts a continuation of the plaza treatment; and
 - (g) City of Sydney signage, including street name plate and wayfinding marker signage, will be used throughout the streets. Historic information will be integrated with these signage systems.
22. Minor adjustments to street alignments and site-wide design principles identified through the detailed design phase have been reflected in amendments to the Sydney Development Control Plan (Green Square Town Centre) 2012. These changes were approved and adopted by Council in May 2014.

DETAILED DESIGN

Ebsworth Street

23. Ebsworth Street will be the 'High Street' of the precinct, it incorporates a two-way local traffic road, with parking (2P) in indented bays and generous footpaths to both sides of the street. Regular marked pedestrian crossings, raised thresholds and pavement extensions enhance the amenity and accessibility of this traffic-calmed precinct. The three marked footway crossings at Bourke Street, just east of Tweed Place and just west of Barker Street, provide for the north-south pedestrian routes along these intersecting streets.
24. Furnished with a coordinated suite of street furniture and LED lighting, the street features garden bed planting and large deciduous street trees of *Liriodendron tulipifera* planted in the parking lane alignment, both forming part of the on-site treatment and re-use of stormwater.

Zetland Avenue

25. Zetland Avenue is a 36 metre wide, grand tree-lined boulevard, and is the major east-west street through the Green Square Town Centre. The northern frontage will be retail and commercial, while to the south will be the public park (Drying Green) and the former South Sydney Hospital site.
26. On either side of the dual lane carriageway, over nine metres of paved area provides for street trees, parking bays, a uni-directional cycleway and pedestrian footpath. Trees are located in generous planting zones aligned with the parking lane. Street lighting sits within the generous separation between parked cars and the cycleway.
27. The central median is 4.2 metres wide and planted with gardens that feature banksias and cycads. Intermittent kerbstones combined with carriageway grading allows some rainfall to be directed to the median and absorbed into the garden to the benefit of the planting.

28. The avenue trees, *Zelkova serrata*, will be approximately 7 metres tall at planting stage, but are expected to reach 20 metres high by 15 metres wide at maturity. The form and regularity of these trees will create a grand avenue with a broad deciduous canopy.
29. The central median is planted with the narrow upright species, *Agathis robusta*, which will reach 25 metres tall by 6 metres wide at maturity. This provides for a quicker short-term greening of the central spine and an evergreen component to the design in winter months. Selection of these species ensures the clearance required for the future light rail envisaged to run down the centre lanes of the carriageway, adjacent the central median.
30. The westbound bus stop for the town centre is located on Zetland Avenue on approach to the Paul Street intersection.
31. Intersections along Zetland Avenue provide for signalised pedestrian crossings on all sides, and signal phasing facilitates cycling interchange with Portman Street. To meet the heavy demands on intersections from vehicular traffic, pedestrians and bike riders, improve safety and avoid potential 'rat runs', the following right turn restrictions have been designed and approved in-principle by Roads and Maritime Services:
 - (a) Portman Street southbound into Zetland Avenue westbound;
 - (b) Zetland Avenue westbound into Portman Street northbound; and
 - (c) Zetland Avenue eastbound into Portman Street southbound.
32. In this widest street within the town centre, larger 9.6 metre high smartpoles are an appropriate scale and are proposed to efficiently light the street.

Geddes Avenue

33. Geddes Avenue provides a collector road function, and is 22.2 metres wide with three signalised intersections located at Botany Road, Paul Street and Portman Street.
34. A single travel lane in each direction is bolstered with a third central lane configured as back-to-back right turn bays in each street block to facilitate traffic flow. Pedestrian islands are also located within this centre lane, midway between signalised intersections, together with footpath build-outs and pedestrian ramps.
35. The bi-directional cycle path located to the southern side of the street is separated by a wide median (varying from 1.8 to 2.2 metres) in which tree planting, smartpoles and gardens are located. To the north, kerbside gardens and street trees complete and balance the avenue, providing a continuous green buffer to the kerbside travel lane.
36. Distinct tree species have been selected for each block of Geddes Street. Between Botany Road and Paul Street, a broad deciduous avenue of *Ulmus Parvifolia* is proposed. This echoes other elm avenues in the wider Green Square precinct and in the future will extend west along the proposed East-West Relief Route. The eastern portion between Paul and Portman Streets interfaces with Drying Green Park and adopts the park species of *Angophora Costata* to harmonise and extend the park character.

37. There is no parking provided in Geddes Avenue.

Botany Road (east side only)

38. A full upgrade of Botany Road along the frontage of Green Square Plaza will include new kerbs, paving, street lighting and tree planting. The comprehensive refurbishment will:
- (a) adjust the bus layover and shelter location to improve pedestrian circulation at the entry to Green Square Plaza;
 - (b) extend the plaza character to the street edge, adopting the signature *Corymbia citriodora* trees of the plaza; and
 - (c) buffer the arterial road with kerbside plantings.
39. Other works to the east side of Botany Road will facilitate the traffic arrangements and provide an interim treatment, with further upgrade of treatments to the same standard of the town centre to be provided by respective developers of the adjacent building lots. The interim works comprise:
- (a) kerb realignment and replacement with bluestone kerbs to facilitate a widened carriageway on approach to the new signalised intersection with Geddes Avenue;
 - (b) new asphalt footpaths and Ausgrid lights; and
 - (c) kerbside buffer planting will extend the plaza frontage treatment for the length of the project area.

Portman Street

40. Portman Street is an existing north-south street. Along the length of the street, a bi-directional separated cycle path to the eastern side of the carriageway extends the regional north-south route through this precinct, linking north to the George Street cycleway and on into the city centre. For other modes, Portman Street will play a varied role along its length in the new town centre.
- (a) The Northern portion connects existing residential areas to the centre and consists of a single lane in each direction, with no parking. At Portman Lane, a pedestrian crossing provides a link from Portman Lane to its future eastern extension. Right turns are banned on three arms of the Portman Street and Zetland Avenue intersection to facilitate the major movements through the town centre between Botany Road and Joynton Avenue, and to ensure the northern and lower sections of Portman Street maintain a residential character, catering for local traffic. The turn prohibitions of this intersection also allow enhanced cycle priority phasing in the signal design.

- (b) The Central portion provides for the main east-west traffic flows through the town centre, linking Zetland Avenue and Geddes Avenue with two traffic lanes in each direction. Footpath build-outs improve safety and circulation for pedestrians at the intersection with Geddes Avenue for the anticipated high volume of pedestrians connecting between the Drying Green Park and the open space and facilities of the former South Sydney Hospital site. The regional cycling route bypasses these signals and the build-out areas provide for safe storage for bike riders interchanging between Portman Street and the Geddes Avenue cycleway.
- (c) The Southern portion returns to a residential role and character. Between Geddes Avenue and Sonny Leonard Street, a one-way southbound single lane mitigates 'rat runs' through the town centre during peak times, retaining vehicular traffic within the larger capacity streets and out of the community residential precinct. The parking provision on both sides within indented bays includes a fully accessible car parking space and short term parking to facilitate access to the former South Sydney Hospital site. Between Sonny Leonard and Hansard Street, a two-way single lane carriageway enables traffic to circulate in the residential precinct. On-street car parking, in indented bays, is located along both sides of the street in this block.
41. The existing street tree species of *Eucalyptus icrocorys* to the north is extended through the town centre. To ensure optimal tree growth, linked trenches and passive irrigation have been provided. Water treatment rain gardens have been located close to low points to harvest and filter rainwater before entering the stormwater system. Understorey planting has been placed within the car parking alignment wherever possible to maximize footpath widths.

Paul Street (north)

42. Paul Street (north) runs between Zetland and Geddes Avenues with two lanes in each direction. Right turning lanes are provided at each intersection.
43. This road layout caters to bus turning requirements in both directions, and the eastbound service bus stop is located on the western footpath, with a direct pedestrian connection to the plaza.
44. Kerbside parking adjacent the Drying Green Park is provided, including a fully accessible parking space.
45. The species of the high street to the north, large deciduous Tulipwoods, *Liriodendron tulipifera*, are extended through into Paul Street north. Kerbside understorey planting has been provided to all footpath areas where possible, except at the north-west corner of the Drying Green Park, where the park meets the street as an urban plaza with integrated artwork.

Southern Residential Streets

46. The southern area of the town centre to the west of Portman Street and south of Geddes Avenue define the southern residential precinct.

47. A strongly cohesive character for this precinct will be established through the landscape design. The streets are to be planted with informal avenues of a single species of *Koelreuteria bipinnata* 'Urbanite', a broad-canopied, hardy, deciduous species. Garden bed species within the residential streets are another subtle distinction, providing seasonal variation in colour and form with plantings of *Clivea minniata* and *Anthropodium sp*, *Critum 'Te puna'*, *Trachelospermum jasminoides Tricolor*, and *Loropetalum chinensis 'purple pixie'*.
48. The streets of this precinct comprise:

Paul Street (Geddes Avenue to Tosh Lane)

- (a) This wide street is configured as a dual carriageway, providing a single lane in each direction, separated by a central median planted with an additional row of street trees forming an extensive cohesive green avenue transitioning into the existing neighbourhoods. Indented bays for parking (2P) to both sides of the road are alternated with tree planting.

Sonny Leonard Street

- (b) This 15 metre wide corridor includes two-way traffic with a single lane in each direction, and indented parking (2P) bays to both sides of the road. To maximise pedestrian space on the 2.5 metre wide footpaths, smartpoles and trees are positioned 'in road' within the car parking bay alignment. Footway build-outs into the parking lane occur mid-block and at the intersections of Paul and Hinchcliffe Streets. Water quality is achieved through rain gardens adjacent to intersections at low points to capture and treat run-off.

Hinchcliffe Street (Geddes Avenue to Sonny Leonard Street)

- (c) The design treatments in this street emulate Sonny Leonard Street. At the intersection with Geddes Avenue, movements are restricted to left-in and left-out by a raised median on Geddes Avenue to maintain safety due to the close proximity with the Botany Road signalised intersection. This intersection also facilitates safe connection to the bi-directional cycleway with a raised threshold and a marked pedestrian crossing. Following the completion of the road network, this part of Hinchcliffe Street will be made one-way northbound between the driveway entry of building 9B and Geddes Avenue to ensure vehicle numbers are kept low at this intersection.

Tosh Lane (Paul Street to Portman Street)

- (d) This pedestrianised lane provides a 'finer grain' link from the residential precinct to adjacent neighbourhoods and the community facilities to the east. Materials consistent with the palette for this precinct will extend into this pedestrian way, with complementary low maintenance planting to screen existing residential buildings along the southern edge.

Small Streets

49. These small streets provide for high pedestrian numbers, and low volumes of traffic to building entries, including garbage and delivery truck access, in the core of the town centre. Fully paved carriageways with contrasting interlocking pavers signal the slow speed environment in trafficable sections. Low kerbs promote easy pedestrian movement and pedestrian pole top lighting instils a finer grain character. Some sections are fully pedestrianised, allowing pedestrian paving across the width of the street and tree planting of Chinese elms *Ulmus parvifolia* down the centre. The suite of small streets are:

Barker Street

- (a) Barker Street (north of Ebsworth Street) reserve is 20 metres wide, consistent with Merton Street to the north, and provides a view corridor to the plaza. This no-through road provides a two-way carriageway with no parking catering for low volumes of traffic accessing development basements. The resulting generous footpaths are over 6.5 metres wide and are planted with broad canopy evergreen *Waterhousia floribunda* "Green Avenue" to create a setting for outdoor dining and activity associated with the retail frontages at the Ebsworth corner.
- (b) The northern end of the street terminates with a twin staircase connecting to existing Merton Street. At the top of the staircase, integrated with the balustrade, signage interprets the precinct's history. The concrete retaining walls of the staircase have been etched with a design that recalls the claws of the incinerator buckets previously operating on the site.
- (c) Barker Street (plaza to Ebsworth Street) will be a one-way northbound movement enabling traffic on the shared zone, which runs through the plaza, to return to the street network. It may also provide access for driveways to Sites 17 and 18 if required. Restriction to one-way traffic movement limits the carriageway width to 3.7 metres, achieving 4.15 metre wide footpaths on each side with *Elaeocarpus Eumundii* street trees. A 6 metre setback on Site 18 will bolster the pedestrian domain of this street block, and create a consistent alignment with the wider portion of the street to the north.
- (d) Barker Street (Woolpack to plaza) is a 16 metre wide pedestrian street connecting pedestrians between the southern retail area and the plaza.
- (e) Barker Street (Geddes Avenue to Woolpack Street) provides a single lane, one-way vehicular connection northbound from Geddes Avenue to Woolpack Street. The paved laneway south of Woolpack Street is restricted to 3.7 metres wide to allow for generous footpath widths of 6.15 metres, providing opportunity for outdoor dining and pedestrian movements utilising the through-site link on Sites 11A and 9B and the mid-block crossing refuge on Geddes Avenue. Street tree planting of *Elaeocarpus eumundii* is consistent with other small trafficable streets.

Tweed Place

- (f) This no-through road provides a two-way carriageway with no parking catering for low volumes of traffic accessing development basements for sites 5 and 16 to the north and sites 6 and 7 to the south. The carriageway is limited to 6 metres wide, providing for 3 metre wide footpaths on each side planted with *Elaeocarpus Eeumundii* trees. The northern end terminates at pedestrian stairs and ramps that provide access to Portman Lane. At the southern end, the road transitions to one-way southbound beyond the development driveways, providing access to the shared zone within the plaza.

Hinchcliffe Street

- (g) Hinchcliffe Street (Geddes Avenue to Woolpack Street) provides a 3.7 metre wide one-way southbound carriageway, providing access onto Geddes Avenue, working in concert with the southern end of Barker Street to facilitate vehicular access to the Woolpack Street developments. The resulting footpath provision is 4.15 metres wide, which will accommodate *Elaeocarpus eumundii* trees and rain gardens.
- (h) Hinchcliffe Street (Woolpack Street to plaza) provides a 12 metre wide pedestrian only street connecting the southern retail area to the plaza, with high quality pedestrian paving and a single central avenue of Chinese elm tree planting, *Ulmus parvifolia*.

Woolpack Street

- (i) Woolpack Street provides two-way traffic movement, access to driveways to Sites 8B, 8C and 19A and on-street parallel parking within indented bays. The 2.8 metre wide footpaths on each side of the road almost double in width at intersections to create generous pedestrian areas and safe crossing points. *Elaeocarpus eumundii* trees to both sides of the street echo those in other trafficable small streets to create a cohesive character to the precinct.

Fellmonger Place

- (j) Fellmonger Place comprises a 12 metre wide pedestrian street connecting the high street of Ebsworth Street to the plaza. Paved for the width of the street, a single row of centrally located, broad-canopied deciduous tree planting of *Ulmus parvifolia* with scattered seating, the design is consistent with the pedestrianised lengths of Barker and Hinchcliffe Streets, to create a cohesive character to the precinct. The simple design for these pedestrian streets maximises the opportunity for outdoor dining and other activation from adjoining buildings.

COMMUNITY CONSULTATION UNDERTAKEN

50. A comprehensive communications and community engagement program has been implemented throughout the design development period for the new street network for the Green Square Town Centre. This is part of the City of Sydney's ongoing commitment to community engagement for the Green Square urban redevelopment area.

51. The design for the new streets were presented at the face-to-face community engagement events from 2014 to 2015, including:
- (a) Community day and Green Square Info-Hub on Saturday, 17 May 2014;
 - (b) Green Square Have Your Say Day on Saturday, 20 September 2014;
 - (c) Green Square Have Your Say Day at East Village Shopping Centre on Saturday, 2 May 2015;
 - (d) Green Square is Here Day at Beaconsfield Park on Saturday, 29 June 2015;
 - (e) two Green Square Town Centre stakeholder roundtables in June and October 2015;
 - (f) Green Square Community Information Session at the Green Square Community Hall on Thursday, 26 November 2015; and
 - (g) Green Square Info-Hub at Green Square Markets on Saturday 5 December 2015.
52. The face-to-face events have been supported by the City's online consultation hub, Sydney Your Say, and the Green Square section of the City of Sydney's website, which showcases artists' impressions and documents construction progress. Designs and construction progress has also been highlighted in the "Green Square Community Update" newsletter, delivered twice a year to more than 19,000 residents in the urban renewal area.
53. There has been support for the new street network and concept designs from the community. The main themes raised through the engagement program included:
- (a) support for a new street network providing access to the Green Square Railway Station and new town centre community facilities and retail offerings;
 - (b) support for new cycleways and associated infrastructure;
 - (c) enthusiasm for naming of streets reflecting the area's history and heritage;
 - (d) support for the unique purpose and character of each street; and
 - (e) concerns related to proposed redevelopment and construction impacts, such as:
 - (i) overshadowing to existing property from proposed high rise developments;
 - (ii) impacts from construction on noise, dust and traffic within the local area;
 - (iii) respite nights for night road works for services and utilities.

54. The community feedback also requested clearer visual information for them to understand the street network and its broader connections to the region. This has been addressed through updated presentation material at community events and through additional information provided online at Sydney Your Say. Specific items provided include:
- (a) new plans showing street layouts, street character, cycleway information and delivery staging;
 - (b) further information clarifying how the street network design prioritises pedestrian safety, traffic calming, lower vehicle speeds and parking provision; and
 - (c) further information regarding accessible routes connecting existing areas to the new town centre.
55. The following items were also raised by the community, but sit outside this project scope. They are being considered and addressed as part of the wider Green Square Town Centre program. These include:
- (a) how the light rail will connect with the wider street network beyond the town centre;
 - (b) street improvement works to the interface between Portman Lane and Merton Street and the northern edge of the town centre to further facilitate access from existing areas; and
 - (c) access to more information on the significance of the new town centre street naming strategy (in addition to that which will be provided in the on-site interpretive signage).
56. Consultation has occurred with key stakeholders throughout each phase of the project, including:
- (a) Roads and Maritime Services and Transport for New South Wales, principally through the Transport Working Group and other meetings and correspondences.;
 - (b) utility companies such as Sydney Water Corporation, Ausgrid, Jemena, Telstra, NBN, Optus and other Telecommunication providers regarding protection or relocation of their existing assets and design of their new assets;
 - (c) regular updates to the Cycling Advisory Committee on the design of the cycle facilities within the Green Square Town Centre. The project team has reviewed and addressed the concerns raised at committee meetings, adjusting designs where possible to improve sight lines, turning movements by cyclists and setbacks at interfacing cycle paths;
 - (d) the Green Square Advisory Committee was consulted to provide advice on the management of cost and time risks, including major stakeholder consultation;
 - (e) developers, including Lateral Corp, Mirvac, Bridgehill, Crown Group and City West, have been regularly consulted and updated for interface of public domain design with the building facades and to provide essential services to their development lots.

Design Advisory Panel

57. The Design Advisory Panel was presented with a briefing on the Green Square Town Centre public domain coordination on 5 August 2015. The panel commended the team and made the following comments for consideration in the development of the public domain plan regarding the planting to Zetland Avenue:
- (a) The Panel questioned the need for the *Agathis robusta* median planting, noting that the avenue planting is more important to define the spatial experience of the street. The Panel suggested deleting the median planting and reallocating resources to provide an increased size of trees for the avenue planting.
 - (b) The Panel recommended tightening the boulevard planting at the intersection with Portman Street so that better continuity is provided for the Zetland Avenue planting.
 - (c) The Panel discussed the options that were previously presented for the location of parking and street trees adjacent to the Drying Green Park. The Panel recommended that continuous street tree planting be provided along the park edge, and that parking arrangements are secondary to achieving a continuous tree canopy. The Panel noted that the Zetland Avenue trees compete with the proposed palms at the park edge and recommended that the park design development address this issue.
58. In response, the detailed design has ensured the avenue species, *Zelkova serrata*, are provisioned to reach their maximum potential. Tree spacing has been adjusted to ensure maximum canopy, while still maintaining sight line safety for vehicular traffic, bike riders and pedestrians. Final car parking numbers were reduced to enlarge the tree pits and soil volumes to enable large specimen plantings (1000L trees, 8 metres tall). The median tree planting has been retained in the design for a faster establishment of trees to this major street and an evergreen component in winter months. Spacing has been increased to ensure the avenue species visually predominates.

KEY IMPLICATIONS

Strategic Alignment - Sustainable Sydney 2030

59. *Sustainable Sydney 2030* is a vision for the sustainable development of the city to 2030 and beyond. It includes 10 strategic directions to guide the future of the city, as well as 10 targets against which to measure progress. This project is aligned with the following strategic directions and objectives:
- (a) Direction One - A Globally Competitive and Innovative City – the new town centre streets form the vital public domain framework to ensure the development and growth in the Green Square area and to complement the high quality community facilities, parks and public spaces.
 - (b) Direction Two - A Leading Environmental Performer – the street network integrates a series of rain gardens throughout to reduce stormwater pollutant loads within the local catchment. The project streets will deliver recycled water pipes to all new developments, and will be illuminated by energy efficient LED light fittings.

- (c) Direction Three - Integrated Transport for a Connected City – the street network has been designed to accommodate local demand, providing new connections across the precinct east-west and north-south, while maintaining regional traffic flows on existing arterial and sub-arterial roads. Public transport routes and provision for an Eastern Transit Corridor on Zetland Avenue, including safe guarding for future light rail, have been integrated with the designs.
- (d) Direction Four - A City for Walking and Cycling – the new streets have been designed as safe, green and vibrant spaces that will invite the community to walk and cycle to the new parks, community facilities, shopping and transport. The high quality cycle network links to the developing regional cycle network.
- (e) Direction Six - Vibrant Local Communities and Economies – the focus on high amenity and the pedestrian and cycling modes within a traffic-calmed town centre, will invite activation of the footpaths.

Organisational Impact

- 60. These new streets will become additional assets for the City of Sydney and, as such, will require further resourcing for ongoing maintenance and management.

Risks

- 61. The key risks to be managed include:
 - (a) coordination with other City projects and adjacent developers to minimise potential interface issues and maximise cooperative opportunities;
 - (b) coordination with utility companies and authorities, including achieving their timely approvals; and
 - (c) contamination has been identified on the site and will be managed in accordance with the requirements of Environmental Protection Authority (NSW) as stipulated and approved through site Remedial Action Plans.

Social / Cultural / Community

- 62. The new Green Square Town Centre streets will provide a safe, accessible and high amenity environment for all residents, workers and visitors.
- 63. Two fully compliant accessible parking spaces have been provided adjacent community uses, including one space on Paul Street interfacing the Drying Green Park and one space on Portman Street adjacent to the former South Sydney Hospital site, which includes various community and childcare facilities.

Environmental

- 64. This project will align with the City of Sydney's environment performance objectives and targets. Key initiatives include:
 - (a) Energy – local private wire network from the former South Sydney Hospital Site will provide power for lighting of Portman Street, Geddes Avenue, Paul Street, Zetland Avenue, Sonny Leonard Street, Hinchcliffe Street, Woolpack Street and Barker Street (south of plaza).

- (b) Water – groundwater, stormwater and wastewater management. Potable water consumption will be reduced within the streets by installing rainwater harvesting in the street design where possible. Adopting elements, such as passive irrigation to tree pits and water cleansing through street network management and treating stormwater run-off with a network of dish drains and rain gardens across all catchment zones, across the street network.
- (c) Construction Waste – most construction waste will be diverted from landfill.
- (d) Transport – Street parking has been de-prioritised in many areas in favour of maximising street planting, and providing for active transport modes.
- (e) Materials – materials adopted for this project are in line with standard City of Sydney approved products, which are selected from responsible manufacturers and sourced within Australia.
- (f) Land Use and Ecology – the site is located on what was once a rich and diverse landscape within Botany Swamp. Locally appropriate native planting will provide habitat and increase biodiversity. Heat island effects will be reduced through appropriate maximisation of street tree canopy and the introduction of maximised areas of street understorey garden bed and rain garden planting.

BUDGET IMPLICATIONS

- 65. There are sufficient funds allocated for proceeding with the recommended scope. Current forecast costs and financial implications are presented in confidential Attachment E.

RELEVANT LEGISLATION

- 66. Environmental Planning and Assessment Act 1979 (Part 4). A development application for the works has been approved.
- 67. All work phases pertaining to this project will be undertaken in line with the following and other relevant legislation:
 - (a) Work, Health and Safety Act 2011.
 - (b) Contaminated Land Management Act 1997.
- 68. Procurement of contractors for this project will be in accordance with the Local Government Act 1993.
- 69. Attachment E contains confidential information which, if disclosed, would confer a commercial advantage on a person with whom Council is conducting (or proposes to conduct) business. Discussion of the matter in an open meeting would, on balance, be contrary to the public interest because it would compromise Council's ability to negotiate fairly and commercially to achieve the best outcome for its ratepayers.

CRITICAL DATES / TIME FRAMES

70. The subject streets' program of works is progressing on time. Scheduled time frames at this stage for the delivery of streets are as below (refer Attachment D):

Streets Name	Tender	Construction
Ebsworth Street, Tweed Place, Barker Street (North of Ebsworth Street)	Complete	Complete
Geddes Avenue, Paul Street (North of Geddes Av) and Botany Road Interface	Jan 2016 – Feb 2016	Jun 2016 – Aug 2017
Joynton Avenue, Zetland Avenue (Portman Street to Victoria Park Parade), Fellmonger Place and Barker Street (Ebsworth Street to plaza)	Nov 2016 – Dec 2016	April 2017 – Nov 2018
Zetland Avenue (Paul Street to Portman Street) and Portman Street	Nov 2017 – Dec 2017	Jul 2018 – Dec 2019
Sonny Leonard Street, Paul Street (south of Geddes Avenue), Hinchcliffe Street (south of Geddes Avenue) and Tosh Lane	Works-In Kind by Private Developers	Jun 2016 – Feb 2019
Hinchcliffe Street (north of Geddes Avenue), Woolpack Street and Barker Street (Geddes Avenue to plaza)	Streets in stratum. Option of delivery as Works-In Kind by Private Developers	Anticipated 2021 –2026

PUBLIC CONSULTATION

71. The community consultation process previously undertaken and key outcomes have been summarised earlier in this report.
72. Ongoing communications and engagement activities include:
- (a) coordinated community relations program for Green Square Town Centre – North construction, including activities to support the construction of new streets. This includes a dedicated community relations consultant, enquiry and complaint management system, advanced notifications of works, respite nights and a Construction Liaison Group;
 - (b) ongoing communications, including the Green Square Community Update, media relations, City of Sydney website and SydneyYourSay.com.au;
 - (c) face-to-face events, including Community Information Sessions and the monthly Green Square Infohub at the Green Square markets;
 - (d) ongoing stakeholder roundtables and engagement; and

- (e) future placemaking activities to activate the new streets and make the area welcoming during the construction period.
73. Key suggestions and recommendations from the community that will be addressed in the construction of the works include:
- (a) ensuring advanced construction commencement notification of all future projects;
 - (b) ensuring advanced notification of any night road works associated with infrastructure and utilities and coordination between different stakeholders;
 - (c) building in respite periods for night road works for services and utilities. Respite nights for night works and construction instated with all parties for two nights per week (Friday, Saturday);
 - (d) concerns about traffic congestion and parking availability in the Green Square Town Centre, including access to new facilities; and
 - (e) new display collateral and key messages being developed to demonstrate the lifestyle opportunities, built form for the town centre, transport and walking and cycling options for Green Square.
74. Community consultation for the detailed designs for Joynton Avenue (including the new signalised intersection of Joynton Avenue and Elizabeth Street) and Zetland Avenue (east of Joynton Avenue) will be undertaken in April 2016.

AMIT CHANAN

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