

Direction	Comment
	or the Sydney CBD) to be able to access the variety of fashion and beauty retailers that meet their needs.
7.1 Implementation of A Plan for Growing Sydney	A Plan for Growing Sydney has been superseded by the Greater Sydney Region Plan. This Planning Justification Report demonstrates that the Planning Proposal is consistent with the Greater Sydney Region Plan.

In view of the above, it is demonstrated that the Planning Proposal is consistent with applicable Ministerial Directions under Section 9.1 of the EP&A Act.

### 9.2.4. Future Transport Strategy 2056

As identified above, the Future Transport Strategy 2056 vision for the Greater Sydney mass transit network identifies a new mass transit corridor to the Eastgardens - Maroubra Junction strategic centre, which would significantly enhance the public transport accessibility of the strategic centre and support the growth of the centre in the future.

Scentre Group made submissions to draft Future Transport 2056 in December 2017, which supported the confirmation of Eastgardens as a strategic centre and identified the imperative to provide for greater mass transit services to the centre which would be achieved by an extension of light rail or metro rail connection to Eastgardens.

The integration of land use and transport is referred to in Section 9.1 Direction '3.4' above. To support this, the Future Transport Strategy 2056 is the key NSW integrated transport strategy which brings together land use planning with transport planning. Table 11 below outlines the Planning Proposal's consistency with the 'Objectives' within the Strategy.

Table 11 – Future Transport Strategy 2056 Strategy objectives

Actions	Response
<ul style="list-style-type: none"> <li>Safely, efficiently and reliably moving people and goods</li> </ul>	The Proposal includes the upgrade of the existing bus interchange to in capacity, improve accessibility and improve customer experience, as well as improve customer safety in and around the interchange.
<ul style="list-style-type: none"> <li>Connecting people and places in a growing city</li> </ul>	As part of the proposed upgrades to the bus interchange, an increase in bus standing areas will provide the opportunity for greater bus services to and from the centre, increasing the sites accessibility.
<ul style="list-style-type: none"> <li>Sustaining and enhancing the liveability of our places</li> </ul>	The proposed commercial towers will provide increased employment opportunities for the strategic centre and will be supported by an upgraded bus interchange along with a new public plaza and pedestrian access.
<ul style="list-style-type: none"> <li>Accessibility for all customers, convenient and responsive to customer needs; and makes best use of available resources and assets.</li> </ul>	The proposal responds to the changing modal needs of customers by improving the user experience of the bus interchange by reconfiguring the underground terminus and providing connectivity to a new active public plaza above with improvements to passenger experience.

The proponent will also seek to encourage visitors to travel to the site through modes of transport other than private motor vehicle. To achieve this, it is proposed to adopt a travel demand management approach through a travel access guide to meet the specific needs of the site, future employees and visitors.

The site is well served by public transport, meaning that employees and visitors can be encouraged to use this mode through the provision of information, maps and timetable as part of the travel access guide. The detail of the travel access guide can be developed at the development application stage, such that it can respond to the transport circumstances and guidelines at that stage.

### 9.3. ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACT

***Q7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?***

The site is situated within an urban context and is currently used for commercial purposes. The site is previously developed and therefore the Planning Proposal will not affect any critical habitat or threatened species, populations or ecological communities.

***Q8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?***

Given the proposed uplift in building height and density, the potential environmental effects that are relevant to the Planning Proposal are addressed below, along with the pertinent parts of the DCP.

#### 9.3.1. Bulk, Scale and Massing

The planning proposal will increase the permissible heights and floor space ratio across the site. As such, the proposal will allow for an increased scale of built form beyond that which currently exists. This is demonstrated in the Urban Context Report prepared by Architectus attached at **Appendix A**. The Report illustrates the proposed building envelopes and how the centre could be developed to accommodate the new retail and commercial floor space.

The location of future height and density uplift has been based on a detailed review of the opportunities and constraints for the site and guided by the design principles established in the Architectus study. The key considerations include:

- The constraints provided by the existing location of major retail tenants of the shopping centre who have rights under long term leases;
- The location of existing loading facilities at the centre which are a critical to the continuing operation of the centre;
- The requirement to minimise the impacts from the built form on surrounding residential land uses, including overshadowing on properties to the south;
- The desire to locate the bulk of the new built form away from the Wentworth Avenue / Denison Street intersections which is on a hazardous goods route;
- The desire to locate commercial office development adjacent to existing transport infrastructure (the bus terminus); and
- The location of towers along Bunnerong Road to allow for separate street addresses, improving legibility for commercial tenant operations and contributing to the public domain.

#### Height for Commercial Office Towers (part 59m, part 40m)

The Revised Urban Context Report (Appendix A) includes a height strategy which reviews alternative options for providing height on the site. The selected option was successful in minimising overshadowing impacts whilst achieving the requirement for successful commercial developments.

The indicative design illustrates how the commercial and multi-use towers could be designed to create a unique and welcoming precinct that is tailored to the needs of the community and cements the centre as a mixed-use strategic centre.

Land on the corner of Wentworth Avenue and Bunnerong Road is proposed to have a 40m height limit to accommodate a future multi use commercial tower containing flexible floorspace to accommodate potential

office, health and wellbeing practices, and civic services uses, to meet the needs of the local community. The site, which contains an existing single storey commercial building, occupied by a gym, is envisaged to accommodate an 'iconic' building to form the gateway to the Eastgardens precinct. It will be designed with setbacks to retain the established vegetation buffer, and the height has been established to minimise overshadowing impacts to surrounding residential land uses whilst bookending the street wall along Bunnerong Road.

The part 59m envelope has been redesigned as part of the latest update to the Planning Proposal Request. It is now positioned with an increased (35m) setback from the Wentworth Avenue site boundary, above a podium of retail and car parking. Whilst being set back, the location still allows for an address point from the public plaza and connectivity to the bus terminus. The East-West orientation and slender configuration of the tower has been designed to achieve the DCP objectives and minimise the overshadowing impacts on the surrounding low-density residential land uses.

The final design of the towers will be subject to further design development after the Planning Proposal stage. However, the part 59m and part 40 height limit provides flexibility for future tower designs to achieve the objectives of the District Plans, meet the needs of future tenants, and minimise the impact on the surrounding land uses adjacent to the Commercial Core.

### Height Zone for Retail (part 34m)

The other amended height control is proposed at 34m to accommodate outlier height elements of the existing and proposed retail centre such as the cinema expansion, additional mezzanine parking decks, and new solar panel shade structures over the car park.

The remainder of the site will retain the existing height control.

The proposed amendment to the controls will facilitate suitable building envelopes and future development concept, which will ensure an appropriate design whilst accommodating the requisite additional floor space and additional levels of development across the site. The site is well positioned to accommodate additional height and density, and the proposal will also serve to bring the maximum height of development on the eastern part of the site in relative alignment with the current redevelopment of the site to the north.

The Meriton site opposite Westfield Drive, is currently being redeveloped into a high-density mixed-use precinct consisting of several residential flat building of between 16 and 20 storeys in height. This provides a reference point for the future extent of development within this part of the strategic centre.

### Adherence to Aeronautical Height Requirements

The Meriton site has established a height datum that has been tested and approved by the relevant authorities to be compliant with aeronautical movements in proximity to Sydney Airport.

That aside, the applicant has engaged a study specifically for this proposal which has confirmed that the proposed buildings heights (and clearance for cranes to construct the buildings) have no technical issues that would prevent them from being approved at the time when such an application is lodged (recommended to be at Development Approval stage)

Specifically, the Aeronautical Assessment contained at **Appendix H** demonstrates that although the proposal penetrates the OLS, the proposal is considered acceptable given the tallest tower at RL 83 has sufficient clearance below the lowest relevant PANS-OPS height datum of RL 126.4m. It should be noted that the previously lodged Aeronautical Assessment (in March 2019) was based on the previous scheme of up to RL94.4m. As this is now reduced by 11m to RL83m, the revised proposal is more compliant and the submitted report does not need updating to reflect these changes.

In summary, the location of the proposed maximum height envelopes at the site is demonstrated to have been carefully selected as a result of site constraints and opportunities and the guiding urban design principles. Whilst the final design will include design features to break up the facade including articulation, modulation, softening and permeability, which can all be addressed in more detail at the development application stage.

### 9.3.2. Traffic Generation and Parking

#### Traffic

An amended transport modelling and traffic engineering assessment was undertaken by SLR and is attached at **Appendix E**. The previous Traffic Report was prepared based on an increase of 27,500sqm retail GLA and 25,000sqm commercial office GLA, and confirmed that the proposed external intersection upgrade works detailed in the original report were acceptable to cater for development traffic.

This revised planning proposal scheme has some 1,000sqm less office GLA. Furthermore, the adjacent Meriton proposal was reduced to an FSR of 2:1 (from 2.35:1 assumed at the time of traffic modelling) meaning that the local modelled traffic levels would be further reduced. As such, the proposed external intersection upgrade works detailed in the original report also remain valid.

#### Car Parking

The existing centre provides over 3,100 car parking spaces in an arrangement of covered multi-deck and rooftop parking.

A controlled car parking and parking guidance system has recently been installed across Westfield Eastgardens and has significantly improved the availability of car parking spaces to retail customers through the removal of non-retail car parking (e.g. commuter car parking for the bus interchange, employees of adjacent sites, and even airport parking), and through the relocation of staff car parking (i.e. through the provision of 'nested' staff parking areas) to previously underutilised rooftop car parking areas;

Additional car parking will be provided in the scheme to compensate for the spaces lost for the Level 2 retail expansion (into the existing car park) and to support the additional retail and office GLA in the proposal.

The final provision of car parking will be resolved at DA stage based on occupancy modelling of the existing car park and the development overlay. Much of the new retail will be experience-based offers (vs goods) that are more viable for non-car transport options.

An envelope has been included in the proposal for 4 additional mezzanine parking levels if the Applicant is required to provide parking based on the 2002 RTA Guide to Traffic Generating Developments.

The RMS now considers this ratio methodology to be outdated given:

- the progress in car park data collection and modelling,
- the fact that as major retail centres have evolved many additional activities are overlapped in the one trip; and
- additional uses as part of retail expansions often have a peak demand that sits outside the traditional peak periods for shopping centres (i.e. dining and cinema peak periods are in the evening; and commercial offices are not occupied on the weekends when retail centres are at their busiest). This can allow effective sharing of car parking spaces across the development.

The Applicant expects that the 4 levels of additional mezzanine parking identified in the extra parking envelope will be justified at the DA stage, as not being required for construction, once reliable data is available for modelling, following the introduction of ticketless parking data capture at Westfield Eastgardens since December 2018.

#### Public Transport

The Planning Proposal presents a significant opportunity to improve travel by sustainable transport modes to Westfield Eastgardens and the surrounding area.

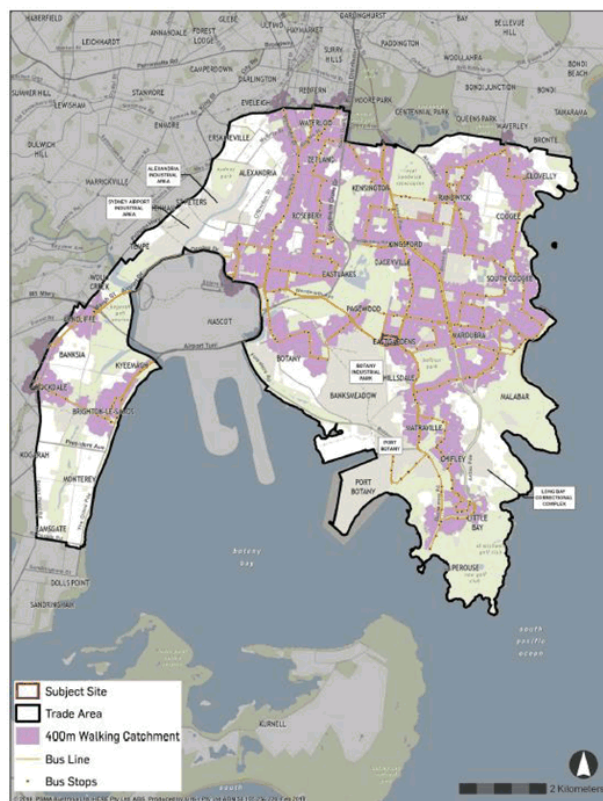
Due primarily to the bus interchange located within the site, Westfield Eastgardens has excellent existing access to public transport with 12 existing bus routes servicing the site. Extracted below is a figure from the report at Appendix E (Figure 16) which demonstrates the high proportion of the Westfield Eastgardens trade area catchment located within 400m walking distance of an existing bus route that services Westfield Eastgardens. Generally, the gaps in coverage only exist for golf course and bushland, or the large industrial estates.

The proposed upgrades to the existing bus interchange are intended to improve the customer experience as well as provide additional operating capacity for increased buses stopping at the centre as patronage numbers continue to grow. The overall upgrade is intended to encourage more travel to and from the centre



by public transport, and to make the bus interchange a feature of the public plaza and arrival experience to the centre.

Figure 16 – Bus Stops 400m Walking Catchment Area



Source: Urbis

## Active Transport

The Meriton development to the immediate North of the site will provide a resident population of approximately 7,000 people who are all within a 500m walk of Westfield Eastgardens. The proposal responds to this opportunity by improving the arrival experience for pedestrians by clear placemaking of the East and West entrance points and improving the public domain at these locations. In addition, it is anticipated that there will be an increase in linked trips at the site where workers in the office buildings undertake shopping trips before or after the working day.

The scheme will also accommodate new end of trip facilities which will serve to promote both cycling and walking to the site for both the retail and office workers.

### 9.3.3. Quantitative Risk Assessment

An updated Quantified Risk Assessment Report was undertaken by Systra Scott Lister and is included at **Appendix F**. The report assessed the proposed amendments to the original proposal, being the increased population generated by the commercial office development, and the weighting of population distribution towards the East of the site which is the location of the commercial development. The assessment notes that the increased population results in an increase in the societal risk for the dangerous goods route along Wentworth Avenue, but that this increased risk sits within the ALARP (as low as reasonable practical) range based on the modelling assumptions for the site; and based on DPE guidance a development that sits within the ALARP cannot be precluded.

The report notes three design mitigations that have not been modelled in the results and will have the effect of reducing the risk if implemented in the modelling. It should be noted that since this report was published, the proposed scheme has been reduced by 6,500sqm GLA and therefore the incremental risk will further reduce.

**Q9. Has the planning proposal adequately addressed any social and economic effects?**

### 9.3.4. Economic Impact

Two Economic Impact Assessments have been prepared to assess the proposal, one for retail expansion and another for the commercial office development.

The analysis of market need, demand and economic impacts of the proposed results in the following key conclusions:

- The proposal is aligned to the priorities of the Region Plan and Eastern City District Plan.
- There is a market need and demand for the scale and type of retail expansion proposed for Westfield Eastgardens given the forecast growth in population and expenditure in the trade area.
- The impacts to surrounding retail centres are well within the bounds of a normal and healthy competitive environment.
- The expansion will generate circa 1,139 direct operational jobs and +\$190m Gross Value Added per annum to the NSW economy during the operational phase.
- The expansion of Westfield Eastgardens is complementary to the objectives of the *Eastern City District Plan*, underpinning Westfield Eastgardens' position and place in the hierarchy as a Strategic Centre, as well as providing employment opportunities to target the Bayside Council area.
- The Eastgardens precinct is the only area within the Eastgardens-Maroubra strategic centre that is zoned B3 Commercial core and therefore provides the opportunity to develop a truly mixed-use centre.
- The proposed floor size of the commercial tower (up to 1,000sqm) is unique within the Eastgardens-Maroubra centre which typically provides smaller floorplates (50-200sqm) and therefore, would attract specific tenants that would otherwise not consider this strategic centre. Further the predicated impact on existing commercial tenancies is therefore considered negligible.
- The proposal would attract new companies to the local area, providing significant jobs growth in an area that is currently experiencing high population growth due to neighbouring high-density developments as well as a regional trend towards more medium density development. There is the ability to accommodate between 900 – 1,200 new commercial office-based jobs.
- The expansion supports the objective of a 30-minute city by providing additional employment opportunities within an established centre.

### Retail

The retail economic impact assessment at Appendix B is an addendum to the previous report by Urbis to respond to the comments received from the peer review undertaken by RPS.

The addendum provides extensive support for the expansion of the Eastgardens Shopping Centre, given the current size of the centre's trade area and the expected growth of the market, which is forecast to continue to grow strongly and increase by \$1.1 billion or 24% in constant dollar terms from 2017 to 2023.

The analysis demonstrates:

- The expansion of the centre would result in Westfield Eastgardens capturing an additional \$149 million or 13% of the forecast growth in trade area retail expenditure. The trade area market share would increase by 2.6 percentage points, with a resulting market share of 10.4%.
- The assessed market shares are within the typical range achieved by higher order centres of a similar scale and role to that of Westfield Eastgardens. The centre would be capturing a share of the market consistent with the role of regional scale shopping centres and not be taking an unreasonable proportion of market demand.

- The report presents new analysis including that 76% of expenditure by trade area residents on apparel, homewares and leisure goods (discretionary items) is undertaken at centres/locations outside the trade area. This loss of local sales is referred to as 'leakage', and Eastgardens has the highest percentage of discretionary expenditure leakage among Westfield centres. This can be explained by the lack of range in fashion, homewares and leisure retailers, and the result is that residents are forced to drive to other locations and local jobs and economic activity is lost.
- There is strong demand for food catering offerings within the centre, with the proposal to address the shortfall and contain expenditure within the local community.
- The assessed impact on other retail centres is marginal, calculated at between 1.0% and 3.1% depending on which centre, and is far below the threshold of 10% impact that is considered to raise concern.
- The expansion can deliver 1,139 operational jobs per annum, and a Gross Value Added of \$190m per annum to the NSW economy, once completed.
- The shopping centre has not been redeveloped in over 15 years and is at serious risk of failing to respond to changing consumer expectation and losing relevance and market share in an environment where other retail centres are investing in their product.

Overall, the proposal is considered to address large retail demand shortfalls and provide greater opportunities for retail and food and beverage to be located within the trade area, enabling the local community the opportunity to stay within the parameters of the trade area.

### Commercial

A commercial office EIA has been prepared by *Colliers International* (Appendix C) which provides an in-depth analysis of the existing office markets in the region, what factors drive business occupancy decisions, and the points of difference of the Eastgardens office proposal that will make it attractive as a new workplace precinct.

The report demonstrates that:

- There is strong demand for commercial office space within the Greater Sydney Area.
- Demand is not confined to Sydney CBD, with many tenants looking at precincts within close proximity, particularly where close to public transport, such as the bus interchange at Eastgardens.
- The proposed floor size of the commercial tower (up to 1,000sqm) is unique within the Eastgardens-Maroubra centre which typically provides smaller floorplates (50-200sqm) and therefore, would attract specific tenants that would otherwise look outside of the centre.
- The predicated impact on existing commercial tenancies within the trade area is therefore considered negligible as they fulfil the needs of a different occupier type.
- The mix of large floor plates, transport accessibility and retail/dining/leisure amenity will be an appealing point of difference for establishing a workplace precinct.
- The proposal would attract new companies to the local area, providing significant jobs growth in an area that is currently experiencing high population growth due to neighbouring high-density developments as well as a regional trend towards more medium density development.

The proposal enables the centre to meet the objectives of a strategic centre by providing additional commercial employment opportunities within an accessible and established precinct. The report demonstrates that there is high demand for commercial floor space within the centre, especially the large floor plates proposed as part of future office towers. The report notes that the ability to achieve such large floor plates provides a great opportunity to attract new tenants to the area, diversifying the local economy and provide additional employment within the area.

Ultimately, the proposed expansion of Westfield Eastgardens will result in a net community benefit. The range of choice available to residents will be enhanced, with existing and planned centres still continuing to serve their role in the retail hierarchy.

The proposed office development will make an important contribution to the realisation of the strategic goals for the Eastgardens Strategic Centre, including:

- Diversification of its role into a multi-functional activity centre.
- The proposal will also address a need for the provision of new office development to provide employment opportunities locally for the large and growing white collar workforce in the region, which provides economic, social and environmental benefits.
- The economic benefits are significant including the ability to provide for 900 to 1,200 full time equivalent jobs once constructed.

### 9.3.5. Social Impact

The proposal will have positive social impacts on the local community and wider LGA:

- The proposal provides additional retail floor space in an existing shopping centre which is close to transport infrastructure and is highly accessible;
- Upgrading of this retail shopping centre will provide an improved retail experience and offer, commensurate with the expectation of its customers. These expectations are changing along with society habits around shopping and socialising change. These expectations are becoming greater following the gentrification and densification of the surrounding suburbs.
- These improved retail services along with the introduction of additional commercial building including a range of office space will enhance the business activity within Eastgardens and support its future growth as a Strategic Centre;
- The proposal will assist in meeting job targets set by the State Government and Greater Sydney Commission, with jobs created in both the construction and operational phase of the development; and
- The development is likely to result in a reduction in the number of vehicular trips made by customers within the trade area which pass the site to visit competing centres due to a wider available offer.

The proposal will generate positive social and economic effects that will be beneficial to Eastgardens and the broader region.

### 9.3.6. Overshadowing

The characteristics of the surrounding area is predominantly low density residential and therefore presents a challenge when adding additional height at the site. The proposed increase in height and density results in some overshadowing to adjacent residential dwellings.

Following the March 2019 submission, Council, informed by independent consultant assessment, provided feedback on the proposal, with the key matter being overshadowing. This centred on the overshadowing impact to the five most impacted dwellings to the south of Wentworth Avenue, which was deemed not supportable.

It was clarified that there were no plans to change to the zoning or density of these properties in the foreseeable future as part of the Local Strategic Planning Strategy process and LEP updates. As such further justification and analysis for the location of the height was requested.

A series of workshops were held between the Proponent and Council staff where proposed solutions were presented and this submission (and specifically the Urban Context Report by Architectus) represents the adoption of these amendments as the revised Planning Proposal Request.

Detailed shadow diagrams are included in the Urban Context Report attached at **Appendix A**.

The study analyses existing shadows, including self-shadowing of primary private open space and living area windows at the rear of the dwellings, and compares these with shadows cast by the proposal, to assess additional overshadowing to primary private open space on dwellings in the vicinity of the proposal.

To limit the impacts of overshadowing and maintain residential amenity, the height strategy for the proposal was amended to be outcomes based, to achieve the following at the Winter Solstice:

- Maintain approximately 2 hours of solar access between 9am and 3pm to 50% of the primary private open space areas located at the rear of the single residential dwelling houses to the south of Wentworth Avenue;



- Where the primary private open space of the adjoining development currently receives less than the required amount of sunlight (50% coverage for a minimum of 2 hours), which is the case due to the self-shadowing under existing conditions, then development is to not create additional overshadowing to the primary private open space of the adjoining development;
- In addition, where the primary private open space of the adjoining development currently receives less than the required amount of sunlight (50% coverage for a minimum of 2 hours), development is to ensure that 50% of each front yard receives approximately 1 hour of solar access between 9am and 3pm.

The study indicates that during the winter solstice the proposed towers cast long shadows that are relatively fast moving and affect the surrounding residential areas for relatively short periods of time. The greatest impact on residential dwellings is seen in the area immediately to the south of Wentworth Avenue. There are 5 houses on Wentworth Avenue (Numbers 244, 246, 248, 250, 252). More detailed analysis of these 5 dwellings found that:

- There is no additional overshadowing to primary private open space at the rear of the 5 properties. (per DCP Section 4A.4.3, Clause C3.)
- A desktop study revealed that it can be reasonably assumed that the living areas of the 5 houses in question are located at the rear/ southern side of each property and so do not require the minimum 2 hours of solar access on 21 June to their front façades. (per DCP 4A, 4.3, clause C1)
- Notwithstanding the location of living areas for the 5 dwellings, the proposal ensures a minimum of 1-hour solar access to at least 50% of the front-yards in mid-winter between the times of 9am to 3pm.
- The proposal also ensures a minimum of 1-hour solar access to the front building façades.
- Between the equinox times (from the 21st September to 21st March), the proposed development does not create any additional overshadowing impact
- Before and after the equinox, from approximately the 3rd August to the 10th May, all 5 properties achieve a minimum of 2 hours solar access to 100% of the front yards and northern facade.

Given the strategic importance of the site in the context of developing the Eastgardens-Maroubra Junction Strategic Centre, the potential overshadowing impacts of the proposal on existing dwellings is considered to be reasonable and acceptable.

## 9.4. STATE AND COMMONWEALTH INTERESTS

### *Q10. Is there adequate public infrastructure for the planning proposal?*

It is understood that the existing infrastructure at and surrounding the site has the capacity to accommodate further development on the site, subject to any necessary expansion and augmentation at the detailed application stage. The adequacy of the road network is identified in Section 9.3.2 and will be further evidenced in the updated Traffic Report Addendum at Appendix E.

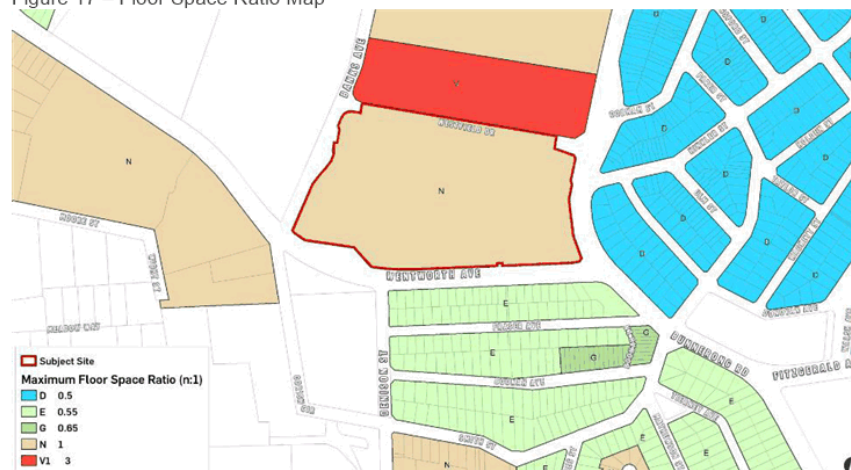
### *Q11. What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?*

The Planning Proposal is still in a preliminary stage. All relevant State and Commonwealth public authorities will be consulted as required following the Gateway Determination

## 10. PART 4 – MAPPING

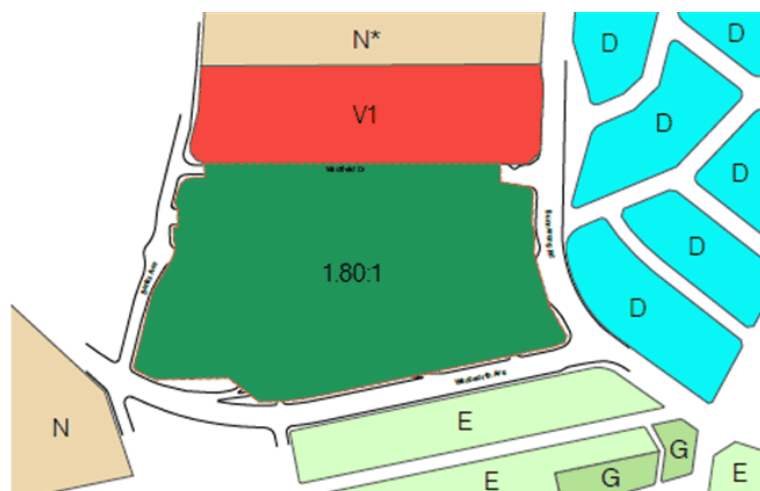
THE BBLEP incorporates the FSR and Height of Building Maps which will need to be altered through the Planning Proposal process. Figure 17 below illustrate the proposed LEP Map amendments. The below maps are also attached individually at Appendix D.

Figure 17 – Floor Space Ratio Map



Picture 5 – Existing FSR Map

Source: Urbis



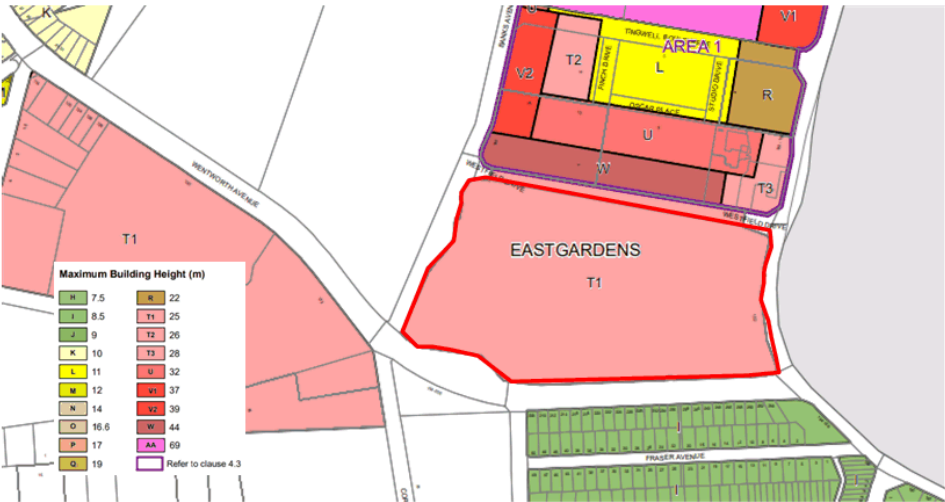
Picture 6 – Proposed FSR Map

Source: Architectus

The above illustrates the increase in FSR at the site on the LEP FSR Map from the existing 1:1 (Picture 5) to the proposed 1.8:1 (Picture 6).

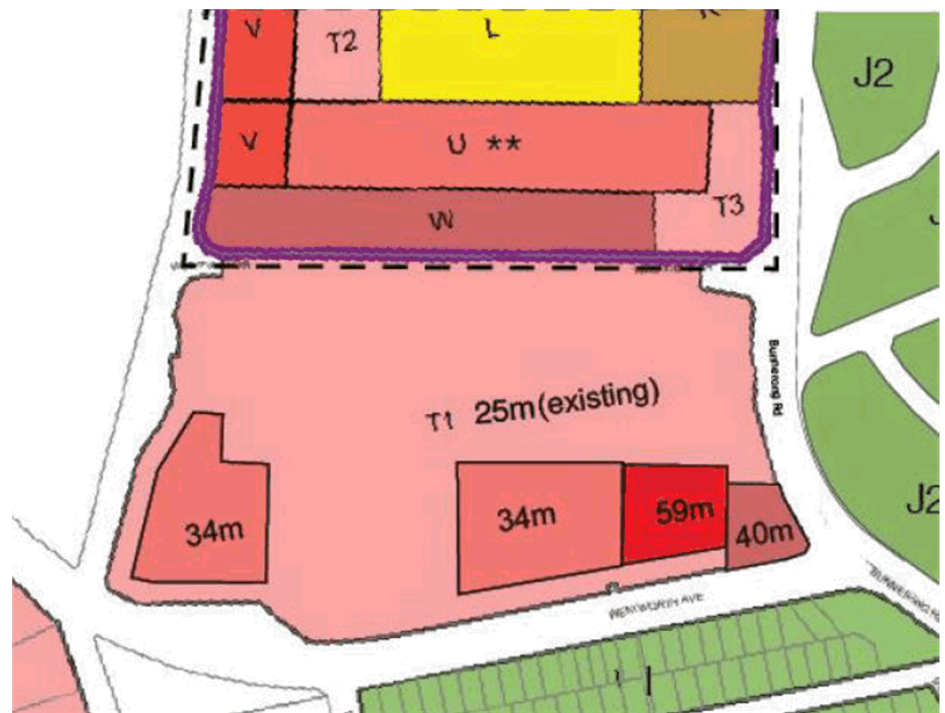


Figure 18 – Height of Building Maps



Picture 7 – Existing Height of Building Map

Source: Urbis



Picture 8 – Proposed Height of Building Map

Source: Architectus

The above Figure 18 illustrates the increase in the maximum height of building at the site on the LEP Height of Building Map from 25m (Picture 7), to part 34m / part 40 / part 59m with the remainder of the site unchanged (Picture 8).

To confirm the intended outcome of the Planning Proposal, the above maps illustrate the following amendments to the LEP controls:

Floor Space Ratio: Introduce a new maximum allowable FSR of **1.8:1** (from existing 1:1 on LEP Map)

Height of Buildings: Introduce a new maximum allowable building height of part **34m**, part **40m** and part **59m** (with the remainder at 25m as per existing controls).

## 11. PART 5 – COMMUNITY CONSULTATION

The proponent has had continuing engagement with Bayside Council since March 2017. During this time feedback has been received from council, either directly from officers or through the peer review reports prepared by advisers to Council. This feedback has been well considered, and elements of the proposal have evolved considerably as a response.

This revised proposal represents a consolidated submission to support the revised Planning Proposal Request that was originally presented to Council officers in December 2018 and again in March 2019.

The proponent has also had continuing engagement with Meriton as owner and developer of the adjacent Pagewood Green masterplan.

Clause 57 of the EP&A Act requires the relevant planning authority to consult with the community in accordance with the Gateway determination.

It is noted that the Council have a policy relating to community consultations, which include proposals for major re-zonings. However, in this instance, it is anticipated that the Planning Proposal will be required to be publicly exhibited for 28 days in accordance with the requirements of the DPE guidelines *A Guide to Preparing Local Environmental Plans* and dependent on the outcome of the Gateway determination.

It is anticipated that the public exhibition would be notified by way of:

- A public notice in the local newspaper(s).
- A notice on the Council website.
- Written correspondence to adjoining and surrounding landowners.

The Planning Proposal would be publicly exhibited at Council's offices and any other locations considered appropriate to provide interested parties with the opportunity to view the submitted documentation.

In light of the above, the direction as to the nature and extent of the necessary public consultation will be decided after receiving Gateway determination to ensure the State Government supports the merit of the proposal before opening wider community feedback.

## 12. PART 6 – PROJECT TIMELINE

The 'Guide to Preparing Planning Proposals' published in December 2018 indicates that the following details should be provided, with our estimated dates for each stage in Table 12 below.

Table 12 – Project Timeline

Stage	Timeframe and/or Date
Consideration by Bayside Council	Q1 2020
Planning Proposal referred to DPE for Gateway Determination	Q1 2020
Gateway Determination by DPE	Q2 2020
Commencement and completion of public exhibition period	Q3 2020 Anticipated timeframe for public exhibition is 28 days.
Consideration of submissions	Q3 2020
Consideration of the Planning Proposal post-exhibition	Q3 2020
Submission to DPE to finalise the LEP	Q4 2020
Gazettal of LEP Amendment	Q4 2020

The above information will be crystallised by the RPA following the issue of the Gateway determination and through the production of the formal Planning Proposal. However, it is considered that this would be a straightforward Planning Proposal and based upon other similar proposals which are compliant with strategic policy, it is expected that the process can be finalised within 12 months and the consequential LEP amendments gazetted within this timeframe.

## 13. CONCLUSION

This Revised Planning Justification Report supports a Planning Proposal which seeks amendments to Botany Bay LEP 2013 to facilitate an expansion of the shopping centre at Westfield Eastgardens.

The Planning Proposal has been prepared in accordance with Section 3.33 of the Environmental Planning and Assessment Act 1979 (the EP&A Act) and the relevant guidelines prepared by the NSW Department of Planning and Environment (now DPIE) including "A Guide to Preparing Local Environmental Plans" and "A Guide to Preparing Planning Proposals."

The Planning Proposal seeks to introduce a new maximum allowable FSR of 1.8:1 a new maximum allowable building height of part 34m, part 40m and part 59m at the site (and the remainder unchanged at 25m), which is the only B3 zoned Commercial Core within the Eastgardens-Maroubra Strategic Centre.

The Vision for the site is to develop a vibrant, mixed use centre accommodating an enhanced retail and leisure offer, as well as commercial buildings containing 'A' grade offices. This proposal will also accommodate a new multi-use commercial tower containing flexible floorspace to accommodate potential office, health and wellbeing practices, and civic services, along with an improved arrival experience for visitors travelling on foot, by car or public transport.

The amended Planning Proposal provides a comprehensive justification of the proposed amendment to the BBLEP 2013. The proposal is consistent with the objectives and actions contained within 'Greater Sydney Region Plan, Eastern City District Plan and Council's Strategic Plan. It is also consistent with applicable State Environmental Planning Policies and Section 9.1 Directions.

The proposal will allow the future expansion of a mixed-use precinct at the site which reflects the importance of Westfield Eastgardens as a major regional shopping centre within a key strategic centre as identified within the Eastern City District Plan. The market need and demand for this expansion is supported by the gentrification and densification of the trade area, along with the relative shortfall in retail floor space when compared to available expenditure.

The proposal will improve the arrival experience and connections to transport modes including bus, taxi and car. This will ensure the centre is more accessible to all demographics as well as encourage alternative modes to and from the centre other than the car. The proposal will create an external experience, currently not seen at the centre by creating a new public plaza, with cafes and restaurants as well as improvements to pedestrian access.

The proposal includes an upgrade to the existing bus interchange to meet growing demand and modal shifts towards public transport, by increasing bus standing capacity and improving customer experience within an enclosed interchange.

The proposal is consistent and responds to the current large-scale redevelopment of the adjacent site, by providing additional employment opportunities and services within a high accessible area.

The site is highly accessible, given that it is close to main arterial roads which form part of a Strategic Bus Corridor and the site already accommodates a bus interchange which caters for twelve separate bus services. Furthermore, the potential for future mass transit to the site (rapid bus, light rail extension or metro train) is being investigated and would also serve to enhance the accessibility of the site.

The proposal will facilitate a future redevelopment of Westfield Eastgardens that will improve the interface between the internal and external elements of the centre and provides clear public benefits including an upgraded bus terminus, a new publicly accessible plaza fronting Bunnerong Road and enhanced pedestrian linkages.

The introduction of a new commercial buildings at the site will facilitate the co-location of a variety of uses at the site and immediate vicinity, which also benefit from the proximity of the bus interchange. The enhanced retail offer and new office accommodation, along with the residential development to the north will serve to create a new sense of place at this location where the local community can live, work and spend leisure time.

The proposed vision includes the possible future development of student accommodation of hotel which would add activation to the new public plaza and be supported by the upgraded interchange and employment opportunities.

This additional investment in the centre will serve to improve business activity and create approximately 2,339 jobs at this location, which will help to grow and evolve the Eastgardens- Maroubra Junction Strategic Centre.

It has been demonstrated that the proposed amendment to the BBLEP 2013 has strategic merit because:

- The scheme would be consistent with the aims of the Greater Sydney Region Plan and the Eastern City District Plan, which means that the proposal accords with the range of strategic policies which cover the site,
- The proposal is consistent with the objectives of the Greater Sydney Region Plan by providing additional employment opportunities outside of the Sydney CBD to meet the objectives of a 30-minute city.
- The proposal also responds to a change in circumstances locally, with the significant investment in the adjacent former BATA site and resulting in an increase in local population requiring modern retail facilities and additional commercial employment opportunities.

It has been demonstrated that the proposed amendment to the BBLEP 2013 has site specific merit because:

- The existing centre is recognised as a major shopping centre and the increase in height and FSR at the site will facilitate its expansion, which will help maintain its relevance and offer within the region;
- The proposal will allow for a building envelope which can accommodate the expansion of the shopping centre and provides the benefits of co-location with the proposed new commercial buildings;
- The development has been designed to minimise any adverse environmental effects on the neighbouring residents;
- The proposal is entirely appropriate for the site given that it will augment the existing retail, commercial and leisure provision, and provide new local job opportunities, at a location which is highly accessible location, and which responds to the growth in population locally; and
- There is sufficient infrastructure to accommodate the increased floor space with adequate public transport, sufficient car parking provided on site and capacity within the local road network to accommodate the increased demand.

Overall, the revised Planning Proposal Request and revised Urban Context Report presents a reimagined scheme that directly responds to the comments from consultation with Bayside Council and Council's independent advisors.

As such, there is a clear public benefit for proceeding with this Planning Proposal and it should be favourably considered by Council, and that Council resolve to forward it to the Department of Planning and Environment; to allow the Department to consider the Planning Proposal for Gateway Determination, under Section 3.34 of the *Environmental Planning and Assessment Act 1979*.





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## **APPENDIX A URBAN CONTEXT REPORT**

## **APPENDIX B ECONOMIC IMPACT ASSESSMENT (RETAIL)**

## **APPENDIX C ECONOMIC IMPACT ASSESSMENT (COMMERCIAL)**



## **APPENDIX D      LEP MAPPING**

## **APPENDIX E      UPDATED TRAFFIC MODELLING**

## **APPENDIX F    UPDATED QUANTITATIVE RISK ASSESSMENT**

APPENDICES

REVISD PLANNING JUSTIFICATION REPORT\_DECEMBER 2019\_FINAL

URBIS

## **APPENDIX G      SITE SPECIFIC DCP**

## **APPENDIX H      AERONAUTICAL ASSESSMENT**

**BRISBANE**

Level 7, 123 Albert Street  
Brisbane QLD 4000  
Australia  
T +61 7 3007 3800

**GOLD COAST**

45 Nerang Street,  
Southport QLD 4215  
Australia  
T +61 7 5600 4900

**MELBOURNE**

Level 12, 120 Collins Street  
Melbourne VIC 3000  
Australia  
T +61 3 8663 4888

**PERTH**

Level 14, The Quadrant  
1 William Street  
Perth WA 6000  
Australia  
T +61 8 9346 0500

**SYDNEY**

Tower 2, Level 23, Darling Park  
201 Sussex Street  
Sydney NSW 2000  
Australia  
T +61 2 8233 9900

**CISTRI – SINGAPORE**

*An Urbis Australia company*  
#12 Marina View  
21 Asia Square, Tower 2  
Singapore 018961  
T +65 6653 3424  
W [cistri.com](http://cistri.com)

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## WESTFIELD EASTGARDENS

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### QUANTIFIED RISK ASSESSMENT





## WESTFIELDS EASTGARDENS

### QUANTIFIED RISK ASSESSMENT

IDENTIFICATION TABLE	
Client/Project owner	SCENTRE Group
Project	Westfields Eastgardens Redevelopment Masterplan
Study	Quantified Risk Assessment
Type of document	Report
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Framework	
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Version	Name		Position	Date	Signature	Modifications
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	Leonard Gawecki			20/02/2019		
	Howard Lister			20/02/2019		

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4	Simon Meiers			27/02/2019		
	Leonard Gawrecki			27/02/2019		
	Howard Lister			27/02/2019		

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## 1. INTRODUCTION AND SCOPE OF REPORT

### 1.1 Background

Scentre Group operate, manage and co-own the Westfield Eastgardens Shopping Centre with co-owners Terrace Tower Group. Westfield Eastgardens Shopping Centre (the site) is located at 152 Bunnerong Road, Eastgardens, NSW 2036.

Scentre Group seeks to initiate the preparation of an amendment to the Botany Bay Local Environmental Plan 2013 (BBLEP) as it applies to the Site. In order to do so Bayside Council (the "Council") need to prepare a Planning Proposal to amend the planning controls at the Site in accordance with Section 3.33 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

#### *Proposed Development Vision*

The 'Vision' for the Westfield Eastgardens redevelopment is to create a mixed use town centre through introducing new land use such as commercial office, and extending the depth of the retail offer into new categories including casual dining, restaurants, entertainment, gym, beauty and wellness, and additional services such as childcare and medical. The existing bus interchange will be upgraded through additional capacity and an improved customer experience. The proposed scheme responds to the evolving needs and behaviours of the community, and will assist in the creation of jobs and strengthening the economic role of the centre.

#### *Proposed LEP Amendment*

To Facilitate this vision, it is intended to amend the BBLEP 2013 as follows:

- Floor Space Ratio: Introduce a new maximum allowable floor space ratio (FSR) of 1.85:1
- Height of Buildings: Introduce a new maximum allowable building height of Part 34m / Part 40m / Part 70m.

Scentre Group had originally proposed to redevelop the site to increase the floor area (GFA) from 95,500 sqm to 155,500 sqm, with associated increases in patronage. They are now proposing increasing the GFA from 99,400 sqm to 171,700 sqm. The current land use zoning of Commercial Core remains unchanged.

The revised scheme for the site seeks to introduce an increase in floor space at the centre by approximately 72,300 sqm of Gross Floor Area (GFA) of which approximately 37,500 sqm (GFA) would be for retail purposes and 34,800 sqm (GFA) would be for a new commercial building. An increase in car parking will also be provided at the site to support the expanded centre.

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	GFA	
	Previous Systra report	Feb 2019 re-submission
Existing	95,500 sqm	99,400 sqm
Incremental Retail	+60,000 sqm	+37,500 sqm
Incremental Office	-	+34,800 sqm
Sub-total incremental	+60,000 sqm	+72,300 sqm
<b>Total GFA on completion</b>	<b>155,500 sqm</b>	<b>171,700 sqm</b>
Land size	92,900 sqm	92,900 sqm
FSR	1.67x (1.70x rounded)	1.85x

Table 1 Planned Floor Area Increases

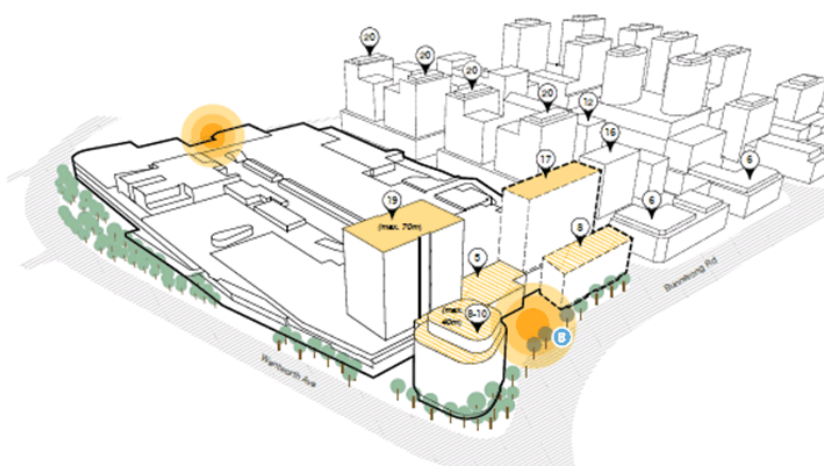


Figure 1: Westfield Eastgardens – Proposed masterplan concept

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### ***Dangerous Goods Risks***

The Eastgardens site is exposed to risk from the Dangerous Goods route running along Denison St, Wentworth St and Bunnerong Road. These risks have been analysed by the initial report by Systra Scott Lister.

The area of Port Botany is undergoing substantial change, with many industries in decline or ceasing operations. This offers opportunities for re-development but can identify conflicts with incumbent industries and port operators desire to remain unconstrained by further residential or commercial development.

The suitability of sensitive developments such as residential in proximity to major industrial hazards such as the Botany Industrial Precinct (BIP) and Port Botany is determined by planning authorities such as Bayside Council and the DPE. Such authorities follow policy of the State Environmental Planning Policy (SEPP) which refers to risk based criteria for the suitability of sensitive developments near major hazards (expressed in documents such as HIPAP 4).

A review of the re-development plans has been performed by council which included the original Systra Scott Lister report on risks to the development from Dangerous Goods traffic coming from Denison St. Council engaged Arriscar Pty Ltd to perform the review. Arriscar are very familiar with the Dangerous Goods model developed by Systra Scott Lister as they have previously performed work with the model under contract from Systra Scott Lister. Additionally in 2016, Arriscar undertook a review of land use safety planning controls due to the proximity of the Botany Industrial Park (BIP) and the transport of Dangerous Goods (DGs) along Denison Street, for Bayside Council. This review drew heavily on the Systra Scott Lister assessments for Bunnings and other developments around Denison St.

In their review Arriscar has raised a number of recommendations to the original report for the Eastgardens re-development. These mainly regard documentation of assumptions, the presentation of results with regard to DPE risk criteria and contributors to fatality risks at the Eastgardens site.

The report makes a number of recommendations, which are reproduced below:

1. Refer to the Department of Planning for an interpretation of 'incremental risk' in societal risk assessment for new developments near major hazard facilities. This will assist in risk criteria compliance with HIPAP No.4.
2. The risk assessment must be updated to account for an increase in building height up to 70m, taking into account the building wake effects in the dispersion calculations. The report must also provide consequence results of incidents at the corner of Wentworth Avenue and Denison Street. Currently Ref.2 does not have consequence calculation results.
3. The existing cumulative F-N curve must be compared with an updated F-N curve including the population from the proposed future development at East Gardens to assess the impact of incremental risk. If the overall F-N curve including the proposed development exceeds the upper limit, the development clearly exceeds acceptable land use safety for the location.

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4. The Planning Safety Report must be updated to address (a) risk contributors to the incremental risk and rank them (b) assumed population distribution of the 1640 persons (c) whether the risk was assessed for persons inside and outside the building, and at different levels in the building, and (d) how the risk mitigation in design suggested in Ref.1 have been addressed in the incremental risk assessment.
5. If the updated F-N curve for the area still falls within the ALARP and the incremental risk is deemed marginal, the development cannot be precluded.
6. The emergency response plan for the Westfield East Gardens complex must include response to a dangerous goods transport accident near the intersection of Denison Street and Wentworth Avenue.
7. There must be a public address system in the East Gardens Complex to notify shoppers of the actions to take in the event of a dangerous goods transport accident that may affect the car park on Wentworth Avenue.

Recommendation 5 is just a restatement of the HIPAP 4 and HIPAP 10 criteria. Recommendations 6 and 7 are sensible emergency management provisions that can be integrated in the centre's future emergency management plans. As such recommendations 5, 6 and 7 are not discussed further.

Scentre Group has asked Systra Scott Lister to update the original report to reflect the updated re-development scheme and to address the applicable comments from the Arriscar report. This study addresses those two requests.

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## 1.2 Scope

The scope of this report is to use models available to Systra Scott Lister on risks presented by the BIP and DG transport on Wentworth Avenue and how they impact on the proposed redevelopment on the site. This involves the following tasks;

- Update the societal risk model with the new concept for the development,
- Add the risk increment to the cumulative societal risk for all populations in the study area. Compare the resulting FN curve with the upper limit of the DPE societal risk criteria,
- Present societal risk contributors to the incremental risk of the development,
- Document the assumed population distribution of the additional populations on site (was previously 1,640),
- Document how populations were located on different levels of the building and if they were indoors or outdoors,
- Document how the risk mitigation in design suggested in the original study have been addressed in the incremental risk assessment
- Update the report conclusions.

## 1.3 Assumptions and Limitations

The concept scheme and design drawings relied upon by SSL have been supplied by Scentre Group. This data is presented in Appendix A – Master Plan. Calculations of expected populations and where they are located are presented in Appendix B.

The following parameters apply to the assessment:-

1. Generally the assessment follows a Level 3 Risk methodology laid done in the NSW DP&E Multi-Level Risk Assessment (Ref 1)
2. Risk Inputs are taken from the SHERPA 2012 BIP QRA study (Ref 2), and models developed by Scott Lister for Dangerous Goods transport along Denison St.
3. The Risk review does not consider natural hazards, or chronic health risk issues, and only covers acute risks as a result of an industrial incident (e.g. tank release at the BIP) as defined in item 2 above.

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## 2. OVERVIEW OF THE SITE MASTERPLAN

The redevelopment of the Eastgardens site will lift the GFA from 99,400 sqm to 171,700 sqm and will realise an average population increase from around 3,200 to around 5,800 when fully developed. (See Appendix B for details).

### 2.1 Site Location, Zoning and Surrounding Land Uses

The Westfield Eastgardens site sits within the B3 Commercial Core (coloured light blue) under the *Botany Bay Local Environmental Plan 2013* (Botany LEP).

This area lies outside of the Pert SEPP zone IN1 - General Industrial under SEPP (3 Ports) 2013 (coloured Purple) as shown in Figure 2. (Taken from Local Environmental Plan Land Zoning Map LZN 005 9<sup>th</sup> October 2015 (current version)).

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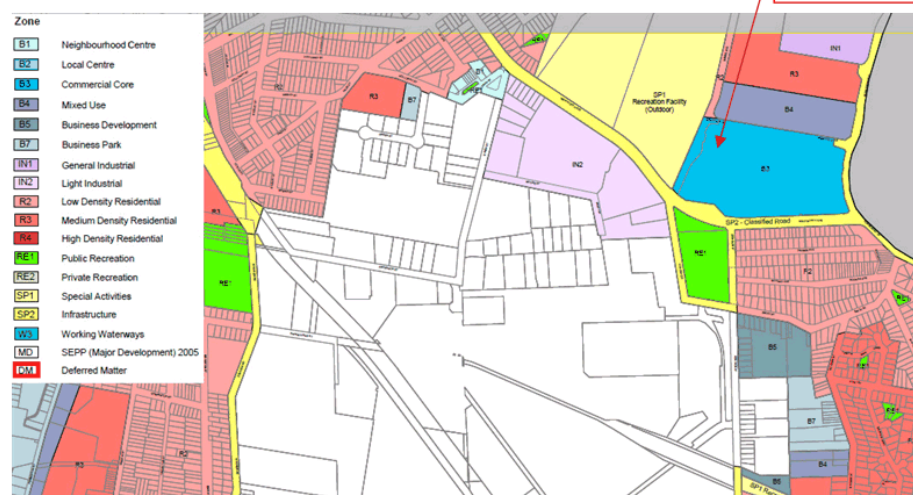


Figure 2 Zoning Map

The site is situated along Wentworth Ave, adjacent to the Hensley Athletic Field to the South, and, Bonnie Doon Golf Club and Much Park to the West

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### 3. PROPOSAL DESCRIPTION

Scentre Group propose a mix of commercial and retail development as summarised Table 2, with an existing average population of around 3,200 persons, that will increase to around 5,800 persons when fully developed. The concept scheme proposes new retail within the existing footprint of the Level 2 car park, a new vertical fresh food, casual dining and restaurant precinct on the Western edge of the site, and two new commercial buildings on the Bunnerong Road edge, above a redeveloped bus interchange and new public plaza.

It should be noted that for the existing retail areas it is not the same 3,200 people each hour, and neither is it the same 3,200 each day. A shopping centre has a complete spread of visitation, from weekly shoppers to those who only attend for one-off Christmas shopping. This stands in contrast to say a residential area, where it is largely the same group of people day to day. Hence considerations of individual risk should take into account this low exposure per person.

Area	GFA (m2)	Population assumption
Existing	99,400	3,200
Incremental Retail	37,500	1,207
Incremental office	34,800	1,373
Total on completion	171,700	5,780 (say 5,800 rounded)

**Table 2 Site Development Areas and Estimated Populations**

Further details on how these have been determined are provided in Appendix B.

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## 4. RISK ASSESSMENT FRAMEWORK

### 4.1 NSW Risk Criteria for Hazardous Industries

To keep communities and hazardous industry sufficiently separated the NSW Department of Planning & Environment (NSW DP&E) has developed planning controls based on an assessment of hazards and risks. The NSW DP&E has formulated and implemented risk assessment and land use safety planning processes that account for both the technical and the broader locational safety aspects of potentially hazardous industry. These processes are implemented as part of the environmental impact assessment procedures under the Environmental Planning and Assessment Act 1979 and include the following planning guidelines;

- State Environmental Planning Policy (SEPP) 33 - provides an approach to determine whether industries are to be considered hazardous or offensive, and the level of information required to be submitted to planning authorities to allow a suitable determination to accept or reject the proposal
- HIPAP Series of documents (1 through 10) – In particular HIPAP 4 sets out the Individual and Societal risk criteria relevant to hazardous industries and surrounding land uses.
- Multilevel risk assessment – sets out the appropriate level of detail for a risk assessment study

### 4.2 Individual Risk

HIPAP 4 sets out the Individual and Societal risk criteria relevant to hazardous industries and surrounding land uses. 'Individual fatality risk' is the risk of death to a person at a particular point if they were to remain there for a year. Table 2 indicates a range of various risks to which people are exposed as the result of various activities.

Consideration of such risks led the department to conclude that if a risk from a potentially hazardous installation is below most risks being experienced by the community, then that risk may be tolerated. This is consistent with the basis of criteria setting used in HIPAP 4 (ref 4), as well as those adopted by most authorities nationally and internationally.

The department has adopted a fatality risk level of one in a million per year (1 x 10.6 per year) as the limit for risk acceptability for residential area exposure. This risk criteria has been adopted by the department when assessing the safety implications of industrial development proposals and when advising on land use proposals in the vicinity of a hazardous industry.

Experience with implementation indicates that the criteria is practical and appropriate, and as such should be maintained. It is necessary, however, to account for variations in the duration of exposure to that risk at any particular point by any one individual. It is also necessary to account for variations in people's vulnerability to the hazard and their ability to take evasive action when exposed to the hazard.

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The one in a million criterion assumes that residents will be at their place of residence and exposed to the risk 24 hours a day and continuously day after day for the whole year. In practice this is not the case and this criterion is therefore conservative.

People in hospitals, children at school or old-aged people are more vulnerable to hazards and less able to take evasive action, if need be, relative to the average residential population. A lower risk than the one in a million criterion (applicable for residential areas) may be more appropriate for such cases. On the other hand, land uses such as commercial and open space do not involve continuous occupancy by the same people. The individual's occupancy of these areas is on an intermittent basis and the people present are generally mobile. As such, a higher level of risk (relative to the permanent housing occupancy exposure) may be tolerated. A higher level of risk still is generally considered acceptable in industrial areas.

Accordingly, the following risk assessment criteria are used by the NSW DP&E and planning authorities for the assessment of the safety of location of a proposed development of a potentially hazardous nature, or the land use planning in the vicinity of existing hazardous installations (such as the BIP) :

- (a) Hospitals, schools, child-care facilities and old age housing development should not be exposed to individual fatality risk levels in excess of half in one million per year ( $0.5 \times 10^{-6}$  per year).
- (b) Residential developments and places of continuous occupancy, such as hotels and tourist resorts, should not be exposed to individual fatality risk levels in excess of one in a million per year ( $1 \times 10^{-6}$  per year).
- (c) Commercial developments, including offices, retail centres, warehouses with showrooms, restaurants and entertainment centres, should not be exposed to individual fatality risk levels in excess of five in a million per year ( $5 \times 10^{-6}$  per year).
- (d) Sporting complexes and active open space areas should not be exposed to individual fatality risk levels in excess of ten in a million per year ( $10 \times 10^{-6}$  per year).
- (e) individual fatality risk levels for industrial sites at levels of 50 in a million per year ( $50 \times 10^{-6}$  per year) should, as a target, be contained within the boundaries of the site where applicable.

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Table 3 summarises the preceding criteria for the various categories of land use.

Land Use	Suggested Criteria (risk in a million per year)
Hospitals, school, child-care facilities, old age housing	0.5
Residential, hotels, motels, tourist resorts	1
Commercial developments including retail centres, offices and entertainment centres	5
Sporting complexes and active open space	10
Industrial	50

**Table 3 Individual Risk Criteria**

### 4.3 Injury & Irritation Criteria

Relying entirely upon fatality risk criteria may not account for the following factors:

- Society is concerned about risk of injury as well as risk of death.
- Fatality risk levels may not entirely reflect variations in people's vulnerability to risk.

Some people may be affected at a lower level of hazard exposure than others. It is therefore appropriate that risk criteria also be set in terms of injury, i.e. in terms of levels of effects that may cause injury to people but will not necessarily cause fatality.

The suggested injury risk criteria from HIPAP 10 of the NSW DP&E are:

- Incident heat flux radiation at residential and sensitive use areas should not exceed 4.7 kW/m<sup>2</sup> at a frequency of more than 50 chances in a million per year.
- Incident explosion overpressure at residential and sensitive use areas should not exceed 7 kPa at frequencies of more than 50 chances in a million per year.
- Toxic concentrations in residential and sensitive use areas should not exceed a level which would be seriously injurious to sensitive members of the community following a relatively short period of exposure at a maximum frequency of 10 in a million per year.
- Toxic concentrations in residential and sensitive use areas should not cause irritation to eyes or throat, coughing or other acute physiological responses in sensitive members of the community over a maximum frequency of 50 in a million per year.

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#### 4.4 Societal Risk

Developing criteria on tolerability of risks for hazards giving rise to societal concerns is difficult. Hazards giving rise to such concerns often involve a wide range of events with a range of possible outcomes. The summing or integration of such risks, or their mutual comparison, may call for the attribution of weighting factors for which, at present, no generally agreed values exist as, for example, the death of a child as opposed to an elderly person, dying from a dreaded cause, e.g., cancer, or the fear of affecting future generations in an irreversible way.

Nevertheless, the Department has provisionally adopted indicative criteria as shown in Figure 3 for addressing societal concerns arising when there is a risk of multiple fatalities occurring in one event. These were developed through the use of so-called FN-curves (obtained by plotting the frequency at which such events might kill N or more people, against N). The technique provides a useful means of comparing the impact profiles of man-made accidents with the equivalent profiles for natural disasters with which society has to live. The suggested criteria take into account the fact that society is particularly intolerant of accidents, which though infrequent, have a potential to create multiple fatalities. The indicative societal risk criteria reflect these regions as three societal risk bands: negligible, ALARP and intolerable.

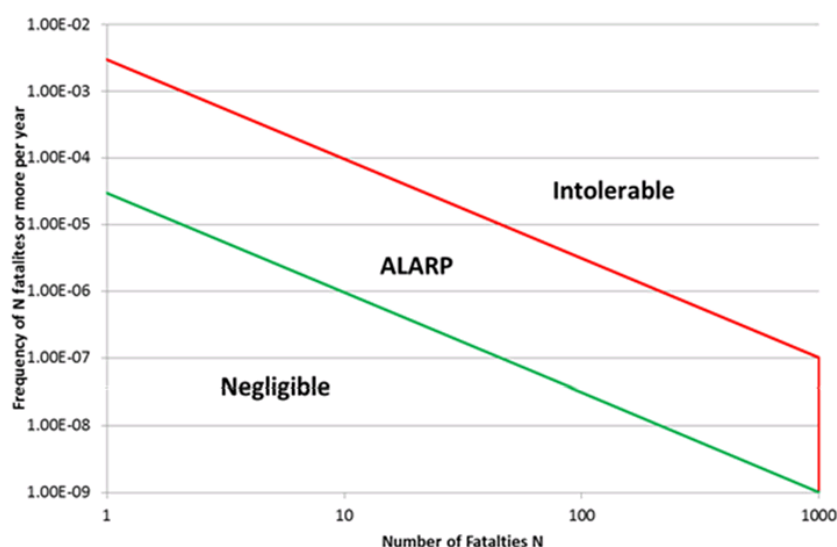


Figure 3 DPE Interim Societal Risk Criteria

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Below the negligible line, provided other individual criteria are met, societal risk is not considered significant. Above the intolerable level, an activity is considered undesirable, even if individual risk criteria are met. Within the ALARP region, the emphasis is on reducing risks as far as possible towards the negligible line. Provided other quantitative and qualitative criteria of HIPAP 4 are met, the risks from the activity would be considered tolerable in the ALARP region.

#### 4.5 Risk Criteria for Development in the Vicinity of Potentially Hazardous Facilities

##### 4.5.1 Individual risk

The suggested risk assessment criteria outlined in section 4 apply when assessing the land use safety implications of industrial development of a potentially hazardous nature. There are also similar criteria for land use planning and development in the vicinity of existing potentially hazardous facilities.

While existing industry should ideally meet the same residential and sensitive land use criteria as new proposals, it is recognised that this may not be possible in practice. The following principles apply to residential and sensitive use development in the vicinity of existing industry:

- the half in a million per year individual fatality risk level is an appropriate criterion above which no intensification of sensitive use development should take place;
- the one in a million per year individual fatality risk level is an appropriate criterion above which no intensification of residential development should take place;
- residential intensification may be appropriate where mitigating measures can be implemented to reduce risk exposure to less than the one in a million per year individual fatality risk level, provided the pre-mitigation residual risk levels are below the 10 in a million per year individual fatality risk level; and
- no residential intensification should take place where pre-mitigation residual risk levels are in excess of the 10 in a million per year individual fatality risk level.

The injury and irritation individual risk criteria from Section 4 also apply for developments in vicinity of existing industrial hazards.

##### 4.5.2 Societal Risk

In accordance with HIPAP 4, when there is a significant intensification of population around an existing hazardous facility the incremental societal risk must be assessed.

HIPAP 4 suggests that for a new development in proximity to a major hazard that

*"... where a development proposal involves a significant intensification of population in the vicinity of such a facility, the change in societal risk needs to be taken into account, even if individual risk criteria are met.*

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*Examples of such situations would include medium to high density residential development (although this would not normally be considered to be appropriate in such a location), sporting facilities where large numbers of spectators are likely to be present and shopping complexes.*

*In such instances, the incremental societal risk should be compared against the indicative criteria of Figure 3. Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas. If, after taking this step, there is still a significant portion of the societal risk plot within the ALARP region, the proposed development should only be approved if benefits clearly outweigh the risks."*

This suggested criteria is ambiguous on whether the incremental societal risk is for the development on its own, or the total societal risk with the additional population.

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#### 4.6 Botany Industrial Park (BIP) Risk Assessment

The Botany Industrial Park (BIP) is a large integrated petrochemical and chemical manufacturing complex located at Matraville, NSW (formerly ICI Australia). Multiple companies own and operate plants at the site. Facilities include Chloralkali, operated by Orica, an Olefines plant and plastics manufacturing plants operated by Qenos, and a Surfactants Facility operated by Huntsman. Utilities and other services support these plants. There are also a number of remediation processes occurring at the site to clean up land portions known to be contaminated. However, The Botany Industrial Park (BIP) is undergoing substantial change, with many industries in decline or ceasing operations as chemical manufacturing moves offshore.

The BIP has a residential area immediately to the east along Denison St, and in all other directions adjoins industrial or commercial land uses. A cumulative Quantitative Risk Assessment (QRA) drawing on detailed design information and the results from previous risk studies has been prepared at the request of the NSW DP&E by SHERPA Engineering (Ref 6) for the operating facilities at the BIP. This study currently forms the land use safety study used to make decisions on the suitability of development proposals in the area.

The QRA focused on the effects of potential major accident scenarios and atypical events with the potential to have impacts outside the BIP site boundary. It does not cover long-term or chronic impacts or continuous small emissions. These are addressed via other mechanisms such as environmental protection licences, site remediation action plans and occupational health and safety management regulations.

SHERPA used TNO Riskcurves version 7.0 a to generate the individual fatality risk, injury and irritation risk, property damage risks and societal risk results as required by the condition of consent.

In broad terms, risk was estimated quantitatively by:

- identifying hazardous incident / release scenarios.
- estimating the physical consequences, i.e. the extent of fire, explosion or toxic release, and the associated impact on people for the defined release scenarios due to heat radiation from fire events, explosion overpressure or acute toxic exposure.
- combining the consequence and impact results with incident frequency information, plant grid information and population data to determine risk.

For this QRA, the results of the risk calculations have been presented in four forms:

- **Individual Fatality Risk:** the likelihood of fatality to notional individuals at locations around the site, as a result of the defined fire / explosion and toxic gas release scenarios. This is shown as contours on a map of the area. The units for individual risk are probability (of fatality) per million per year. By convention it is assumed that people are located outdoors, are always present and take no evasive action if an incident occurs. The results are presented cumulatively for all fire/explosion and toxic gas impacts in Figure 4.1

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- **Injury and Irritation Risk:** is the likelihood of injury or irritation to individuals at locations around the site as a result of the same scenarios used to calculate individual fatality risk. As for individual risk, evasive action is not allowed for. Results are presented as contours and are shown separately for fire/explosion injury at  $50 \times 10^{-6}$  per year (Figure 4.2 & 4.3), and toxic injury and irritation impacts, as there are different criteria for flammable and toxic gas exposures.

- **Escalation / Property Damage:** is the likelihood of property damage occurring to surrounding facilities as a result of exceeding threshold levels of heat radiation or overpressure. Results are presented as risk contours.

- **Societal Risk:** takes into account the number of people exposed to risk. Whereas individual risk is concerned with the risk of fatality to a (notional) person at a particular location (person 'most at risk'), societal risk considers the likelihood of actual fatalities among people exposed to the hazard and allows mitigating effects such as probability of presence, whether they are located inside or outside etc., to be accounted for, hence requires population data as an input. Societal Risk results are presented in Figure 4.6.

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5. BIP RISK ASSESSMENT FINDINGS

The concept risk assessment results are presented in this section for the Eastgardens Redevelopment.

5.1 BIP Individual Risk

The individual risk contours arising from the BIP development to the south of the Eastgardens site are presented as Figure 4.



Figure 4 BIP Individual Fatality Risk 2012

The results show that the subject site is exposed to risks below 0.5 in a million per year (as the site is outside the green line, site not shown in the image). Therefore there are no individual risk concerns from the BIP that would prevent development on the site, including more sensitive land uses such as medical or residential development.

The individual risk of injury from 4.7kW/m2 of radiation is shown in Figure 5. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.

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Figure 5 INJURY RISK – HEAT RADIATION 4.7KW/M2 at 50 chances in a million per year BIP 2012

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The individual risk of injury from overpressure of 7kPa is shown in Figure 6. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.



Figure 6 INJURY RISK – OVERPRESSURE 7KPA at 50 chances in a million per year BIP 2012

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The individual risk of injury from toxics is shown in Figure 7. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.



**Figure 7** INJURY RISK – TOXIC GAS (ERPG3) 50 chances in a million per year BIP 2012

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The individual risk of irritation from toxics is shown in Figure 8. Risk levels of greater than 50 chances in a million do not reach the Eastgardens site.



Figure 8 IRRITATION RISK – TOXIC GAS (ERPG2) at 50 million chances per year BIP 2012

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## 5.2 BIP Societal Risk

The 2012 societal risk result for the BIP on all surrounding populations is presented as Figure 9. The result shows the FN curve is towards the middle of the ALARP zone. This means that there is some “risk budget” available for an increase of populations around the BIP.

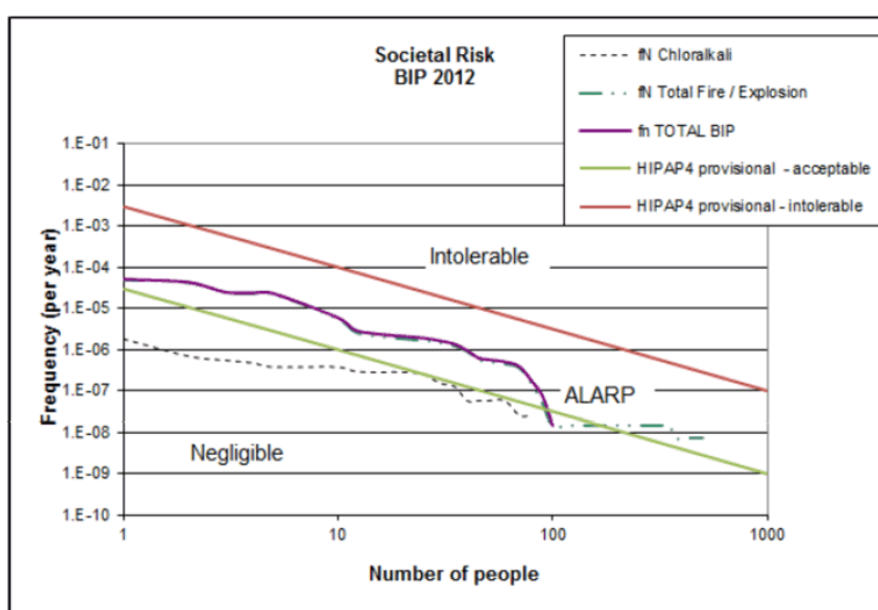


Figure 9 Societal Risk BIP 2012

To determine the increment in societal risk for the expanded Eastgardens development access to the Sherpa risk model is required. Systra Scott Lister does not have such access. Regardless, considering how Eastgardens is a long distance from the BIP, and how the site is also very distant from the individual risk contours of fatality, injury and irritation, we do not expect the societal risk to increase markedly as a consequence of the proposed development.

For BIP risks it has become common practice to calculate the “Scaled Risk Integral” (SRI) as described in HIPAP 10, but since values of individual risk at the site are not available from the BIP QRA results (contours fall well short of the site) this calculation cannot be performed either. Because the individual risk contours of the lowest level of interest of 0.5 in a million fall well short of the facility, the SRI would be small. An example is provided below to demonstrate this.

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Area (ha)	n (number of people)	T (portion of time)	c (Land use category)	IFR (Individual Fatality Risk)	P = (N+N^2)/2	SRI (Scaled Risk Integral)
7.36	3000	0.33	1	0.005	4501500.0	1009

This calculation shows individual risks would need to be greater than  $5 \times 10^{-9}$  before the SRI nears the criteria value of 1100. Looking at our own models the  $5 \times 10^{-6}$  contour drops to  $5 \times 10^{-9}$  in 200m which if the same drop off is experienced for BIP risks, the level of individual risk will be  $< 5 \times 10^{-9}$  at Westfield Eastgardens.

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## 6. DANGEROUS GOODS TRANSPORT RISK STUDY

The Dangerous Goods Transport QRA, Denison St, Hillsdale was finalised by Systra Scott Lister in 2015 on the request of the NSW Department of Planning and Environment and Botany Bay Council (now Bayside Council) to assist in the assessment of a development application for a new Bunnings Warehouse store at Denison Street, Hillsdale. This report calculated the individual and societal risk results for dangerous goods truck movements along Denison Street.

In broad terms, risk was estimated quantitatively by:

- identifying hazardous incident / release scenarios as a results of dangerous goods truck accidents
- estimating the physical consequences, i.e. the extent of fire, explosion or toxic release, and the associated impact on people for the defined release scenarios due to heat radiation from fire events, explosion overpressure or acute toxic exposure.
- combining the consequence and impact results with truck accident frequency information, and population data to determine risk.

Consistent with the 2015 Denison St study, the risk acceptability criteria used for this study are those detailed in the DPE's Hazardous Industry Planning Advisory Paper No.4, Risk Criteria for Land Use Safety Planning [HIPAP4 - Ref 003]. The DP&E does not have any formal published criteria for transport risk but for the 2015 Denison St report, the HIPAP4 criteria for fixed installations was accepted by the Department as providing a reasonable basis to inform planning decisions. (Note: This infers a risk/ km basis for societal risk for transport movements).

For this Dangerous Goods QRA, the results of the risk calculations have been presented as individual and societal risk.

**Individual Risk** - the likelihood of fatality to notional individuals at locations alongside Denison Street, as a result of the defined fire / explosion and toxic gas release scenarios. This is shown as contours on a map of the area. The units for individual risk are probability (of fatality) per million per year. By convention it is assumed that people are located outdoors, are always present and take no evasive action if an incident occurs. The results are presented cumulatively for all fire/explosion and toxic gas impacts in Figure 10.

**Societal Risk** - takes into account the number of people exposed to risk. Whereas individual risk is concerned with the risk of fatality to a (notional) person at a particular location (person 'most at risk'), societal risk considers the likelihood of actual fatalities among people exposed to the hazard and allows mitigating effects such as probability of presence, whether they are located inside or outside etc., to be accounted for, hence requires population data as an input.

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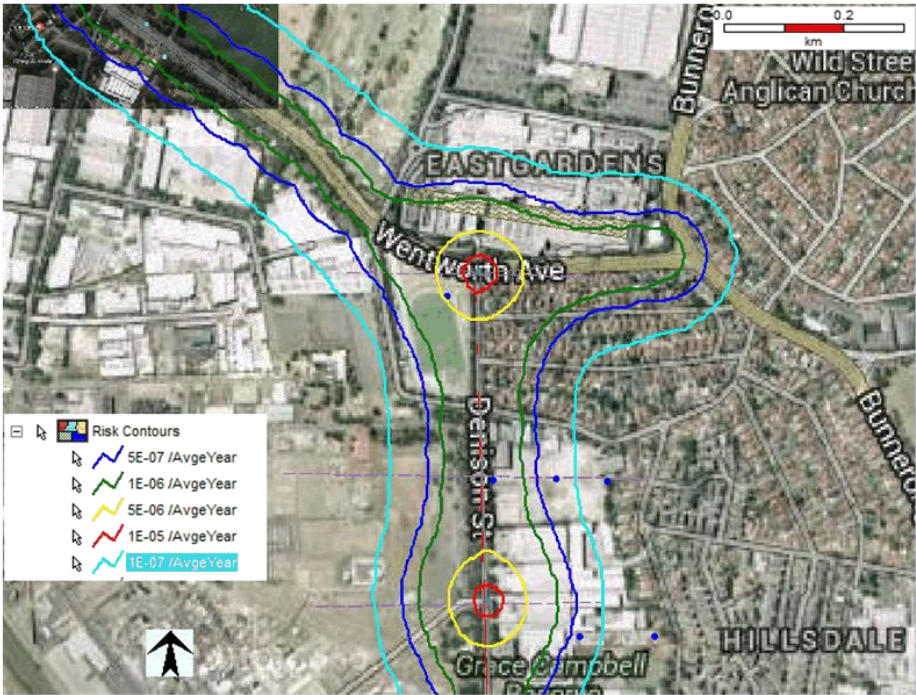


Figure 10 Individual Risk Results for Dangerous Goods Transport on Denison Street & Wentworth Ave

The Dangerous Goods routes have been extended east and west along Wentworth Ave. The working assumption is an even split of traffic east and west.

Note that the individual risk shown in Figure 11 has a small excursion of the 5 in a million contour (yellow line) into the existing parking area of the Eastgardens development, opposite the intersection between Denison St and Wentworth Ave. As this is part of the proposed development area, risk mitigations can be incorporated into the design to ensure an acceptable level of individual risk is achieved. Possible mitigations are discussed in Section 7.

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Previous studies for dangerous goods on Denison St have modelled DG traffic running from Wentworth St to Beauchamp Rd, the original area of focus for the Dangerous Goods Transport study. For this assessment a 1km section of road has been shifted north up along Wentworth St so that the hazard is opposite the area of interest. This produces a difference societal risk curve to that presented in previous studies.

#### 6.1.1 Incremental Societal Risk from Dangerous Goods

The incremental societal risk from Dangerous Goods has been assessed, in accordance with HIPAP 4 and 10. This has been done by calculating the societal risk FN curve for the population of the new development with an increased population of around 2,600 additional persons during the day and 10% estimated during the night.

HIPAP 4 suggests that for a new development in proximity to a major hazard that

*“... where a development proposal involves a significant intensification of population in the vicinity of such a facility, the change in societal risk needs to be taken into account, even if individual risk criteria are met.*

*Examples of such situations would include medium to high density residential development (although this would not normally be considered to be appropriate in such a location), sporting facilities where large numbers of spectators are likely to be present and shopping complexes.*

*In such instances, the incremental societal risk should be compared against the indicative criteria of Figure 3. Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas. If, after taking this step, there is still a significant portion of the societal risk plot within the ALARP region, the proposed development should only be approved if benefits clearly outweigh the risks.”*

This suggested criteria is ambiguous on whether the incremental societal risk is for the development on its own, or the total societal risk with the additional population. We have assumed it is the total societal risk with all populations in the area, plus the additional developments population (the additional Westfield Eastgardens proposal plus other recent developments that have been added to our model).

The incremental risk result is presented as Figure 11, where the total societal risk for all surrounding areas plus the expanded Westfield Eastgardens is presented. It shows the total societal risk result does not exceed the upper criteria line, but does exceed the maximum fatality limit of 1000 people.

Possible protective measures to reduce the risk to populations in the expanded area of Westfield Eastgardens are:

1. The Level 2 conversion of the existing parking areas into retail can be sealed with solid walls to the south, and east and west corners. The internal area will be pressurised from roof mounted HVAC units and have auto sliding doors at entry points to the internal retail mall. Such arrangements are expected to protect occupants from the effects of toxic gases arising from accidents on Denison St or Wentworth Ave.

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2. That the new Level 2 retail area built into the existing car park will be oriented such that back-of-house and storage functions are towards the southern façade wall, with the bulk of customers and staff to the North of the façade wall.
3. Construction of new retail areas will have solid steel reinforced concrete walls to the Southern building façade facing Wentworth Avenue. Such walls are to have no glazing and no ventilation ports. Walls will be fire rated to withstand LPG fire radiation of 37kW/m<sup>2</sup> for 15 minutes. Solid steel reinforced concrete walls on the southern sides of the expanded retail areas are recommended to protect customers from the impacts of flash fires, jet fires and fireballs

It is noted that the previous version of this report suggested the ground level carpark could be walled-in to the south, east and west to prevent the accumulation of flammable gases in the area. Current modelling does not use the 3D explosion module in Safeti v8 and assumes strong explosions for all vapour cloud explosions. Therefore given an acceptable incremental societal risk result has been achieved with these conservative assumptions, such a mitigation should not be necessary.

The incremental risk result presented as Figure 11 does not include the effect of the mitigations recommended above. With the building protected from flashfires, explosions and fireballs from accidental releases of pressure liquefied flammable gases, it is expected that the maximum fatality levels will drop to the toxics curve and therefore avoid of the breach of the maximum number of fatalities.

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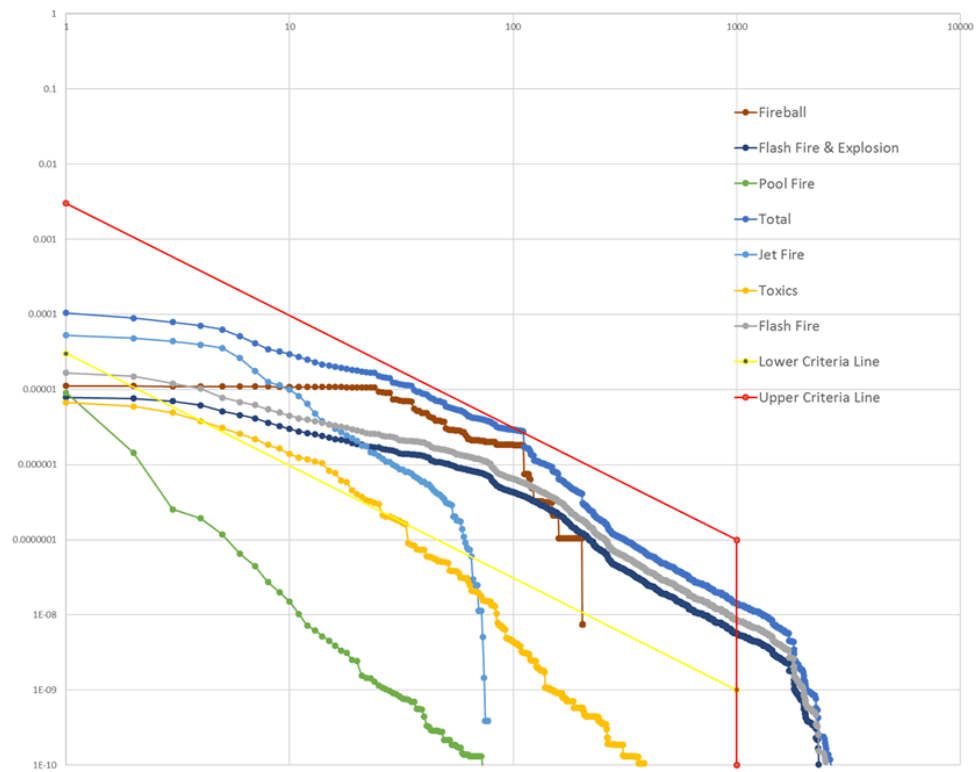


Figure 11 Societal Risk from DGs on Denison St and Wentworth Avenue

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## 7. CONCLUSIONS

Scentre Group are proposing a redevelopment of the Westfield Eastgardens site at Wentworth Avenue in Banksmeadow and have engaged Systra Scott Lister to undertake a quantified risk assessment of the proposed redevelopment scheme.

The risk review uses QRA models available to Systra Scott Lister for DGs transport, and included the Botany Industrial Park (BIP) Risk assessment undertaken by SHERPA Engineering.

Risks from the BIP do not appear to exceed the DPEs criteria for development in the vicinity of hazardous installations, although without access to the BIP QRA model the acceptability of the increment in societal risk cannot be confirmed.

Individual risk from Dangerous Goods has a small excursion of the 5 in a million contour into the existing parking area of the subject site, opposite the intersection between Denison St and Wentworth Ave. This area forms part of the redevelopment proposal and through design engineering appropriate mitigations be can included to reduce this risk to an acceptable level.

In order to meet the incremental societal risk criteria for dangerous goods, it is recommended that the development meets a number of design requirements. These are as follows:

1. The Level 2 conversion of the existing parking areas into retail can be sealed with solid walls to the south, and east and west corners. The internal area will be pressurised from roof mounted HVAC units and have auto sliding doors at entry points to the internal retail mall. Such arrangements are expected to protect occupants from the effects of toxic gases arising from accidents on Denison St or Wentworth Ave.
2. That the new Level 2 retail area built into the existing car park will be oriented such that back-of-house and storage functions are towards the southern façade wall, with the bulk of customers and staff to the North of the façade wall.
3. Construction of new retail areas will have solid steel reinforced concrete walls to the Southern building façade facing Wentworth Avenue. Such walls are to have no glazing and no ventilation ports. Walls will be fire rated to withstand LPG fire radiation of 37kW/m<sup>2</sup> for 15 minutes. Solid steel reinforced concrete walls on the southern sides of the expanded retail areas are recommended to protect customers from the impacts of flash fires, jet fires and fireballs

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## 8. REFERENCES

1. Hazardous Industry Planning Advisory Paper No.6 – Guidelines for Hazard Analysis, Department of Planning, NSW, 2011.
2. State Environmental Planning Policy No.33 – Hazardous and Offensive Development Application Guidelines (2011), "Applying SEPP 33", Department of Planning NSW.
3. Multi-Level Risk Assessment, Department of Infrastructure, Planning and Natural Resources – May 2011.
4. Hazardous Industry Planning Advisory paper No.4, "Risk Criteria for Land Use Safety Planning", NSW Department of Infrastructure, Planning and Natural Resources (2011)
5. Botany Industrial Park– QRA, SHERPA Engineering - 2012
6. Dangerous Goods Transport Study – Denison Street, Botany, Scott Lister ( 2015 ) (to support planning approval for the Bunnings site at Denison St)

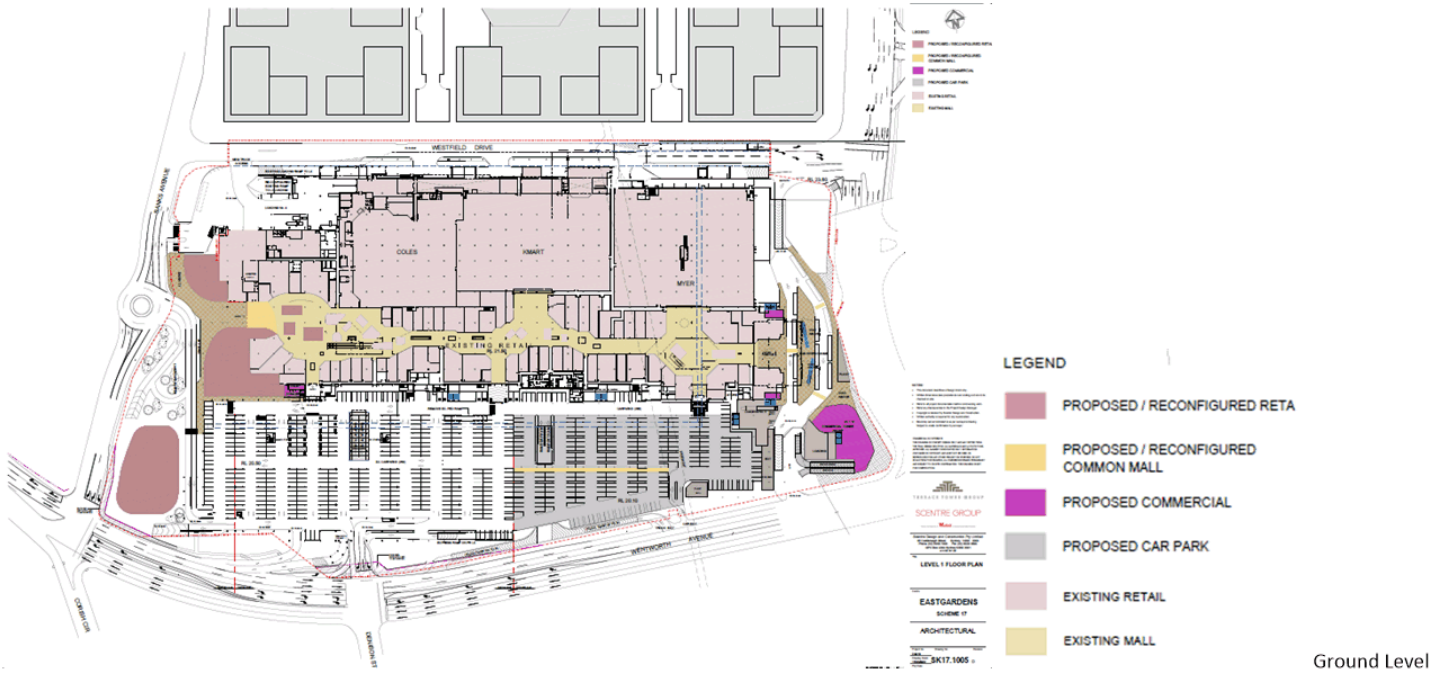
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## APPENDIX A - CLIENT INPUT DATA – CONCEPT SCHEME

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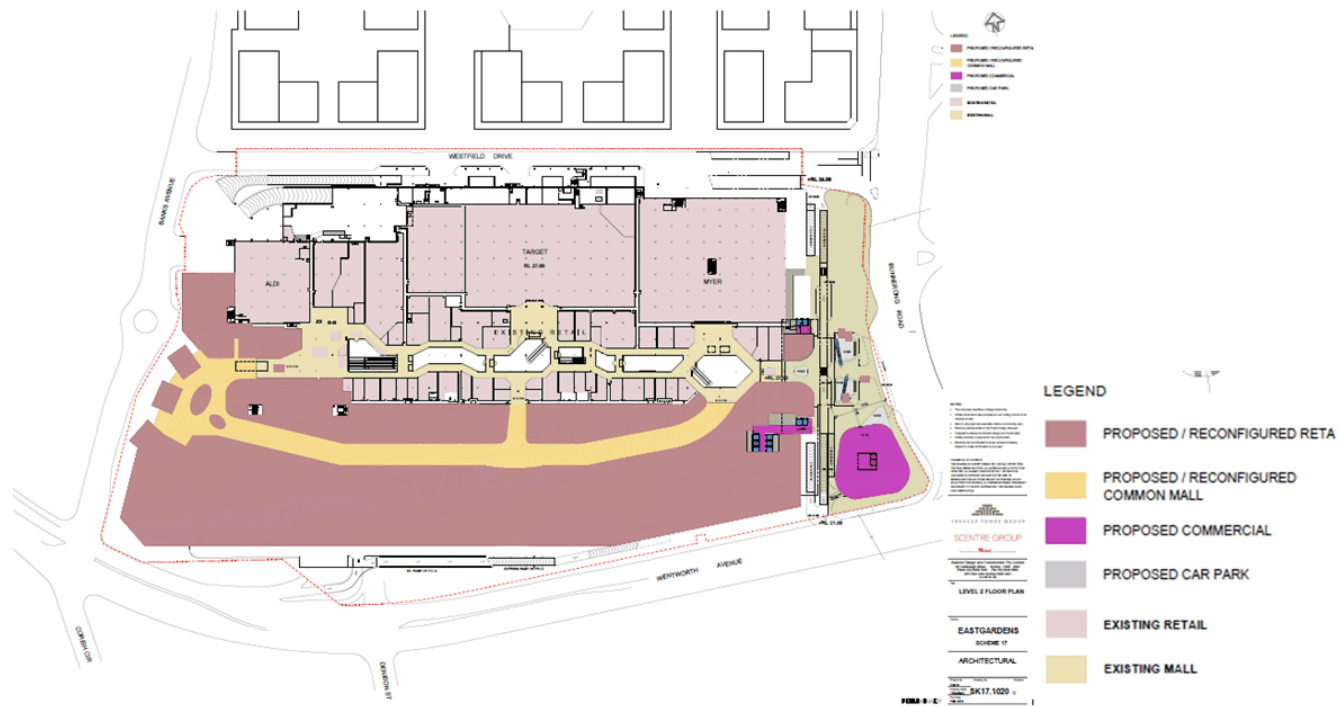
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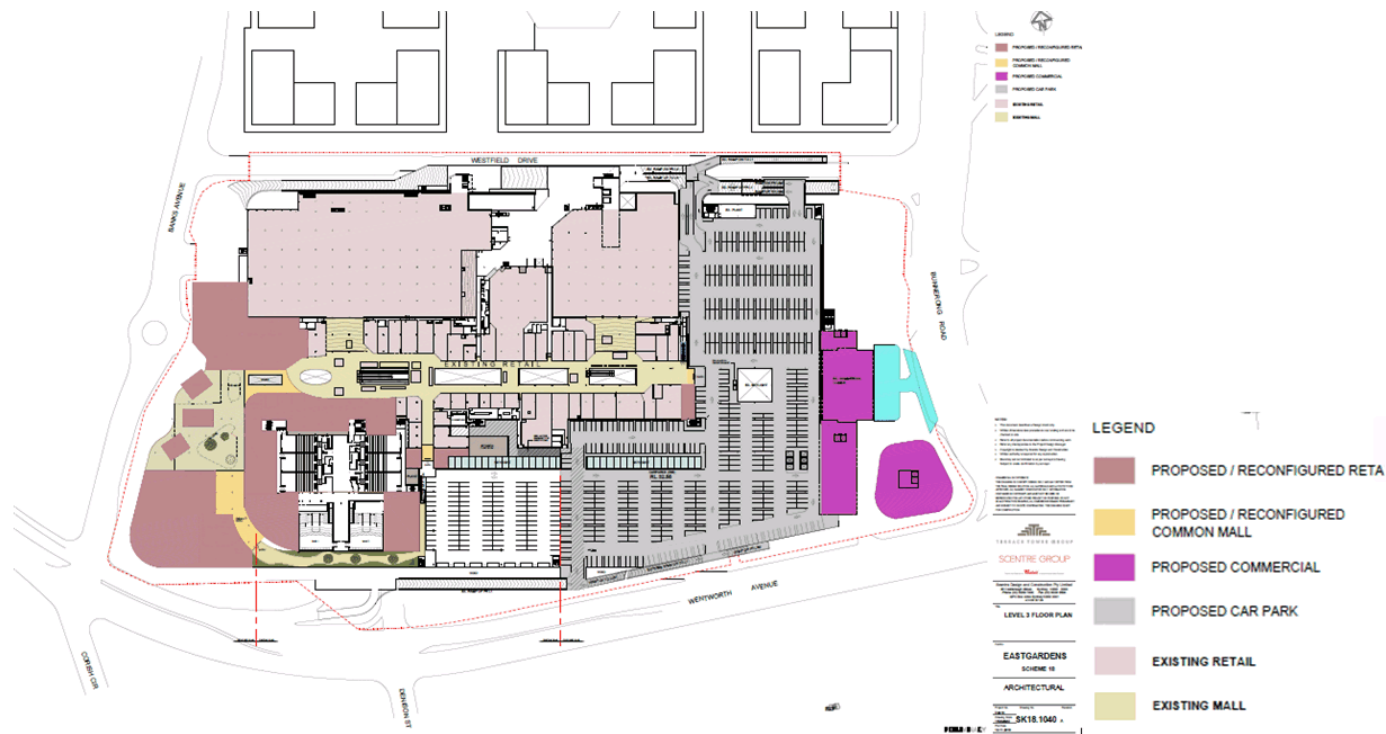
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First Level



Second Level

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## APPENDIX B - CLIENT INPUT DATA – POPULTAION DATA

Retail populations are estimated using Westfield Eastgardens total actual visits for 2018.

Office populations are estimated using the worker density estimates included in the Colliers Economic Impact Assessment.

Annual visits	11,454,000	Based on door counters at entries, 2018		Assumed average visit time:		1 hours	
Weeks per year	52				Casual car park dwell time for Feb 2019 is 64.8mins		
Visits per week	220,269						
Distribution of an average week		Trading hours	Add 15% for after hours	Total hours	Straight-line People per hour		Person per GFA sqm
Monday	0.13	27,681	8.5	1.3	9.8	2,832	99,400
Tuesday	0.13	27,956	8.5	1.3	9.8	2,860	99,400
Wednesday	0.13	27,966	8.5	1.3	9.8	2,861	99,400
Thursday	0.16	35,666	12.0	1.8	13.8	2,585	99,400
Friday	0.15	32,254	8.5	1.3	9.8	3,300	99,400
Saturday	0.17	37,211	8.0	1.2	9.2	4,045	99,400
Sunday	0.14	31,535	7.0	1.1	8.1	3,917	99,400
Total	1.00				Average:	3,200	0.039
Existing centre:					Retail development proposal:		
Lettable area	84,400				Additional retail area (GFA):		37,500
Common mall	15,000				Additional retail population:		1,207
Total GFA	99,400						
Commercial population calculations:							
Proposed incremental GFA		34,800					
Efficiency factor		88%					
Proposed incremental GLA		30,500					
Assumed worker density per sqm of GLA		1 worker per 20-25sqm of GLA					
Low worker estimate		1,220					
High worker estimate		1,525					
Mid worker estimate		1,373					
Worker density per sqm of GFA		0.039					
Commercial GFA located <10m above ground level		3,248	Assumed to be GFA for basement, Level 1 and Level 2				
Worker population located <10m above ground level		128					

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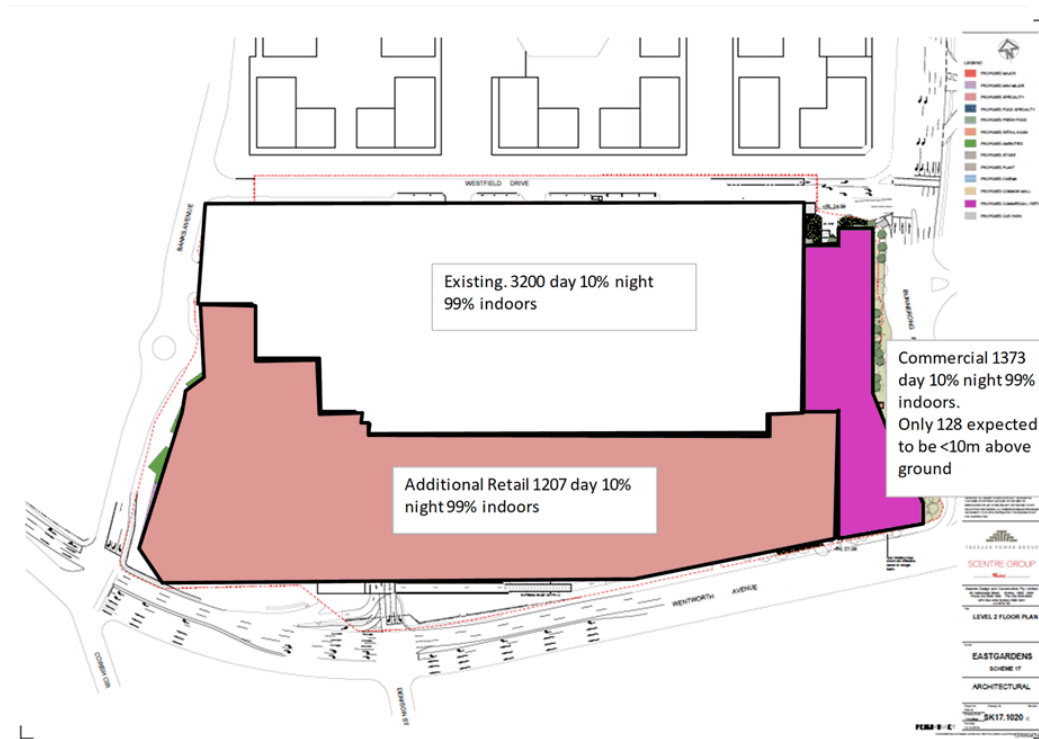
Based on an existing floor area of 99,400m<sup>2</sup> and an average 1 hour visit per customer, this produces an average density of 0.032 people per square meter and an average daytime population of 3,200 people. For an additional 37,500m<sup>2</sup> of retail this introduces an additional 1,207 people.

For commercial office areas a density of 22.5sqm of GLA per person is assumed. Which for 34,800sqm of commercial GFA this produces 30,500sqm of gross lettable space and 1,373 people during the day. Given the vertical arrangement of the office buildings, and the fact that two buildings site above the retail podium, only 128 of this population are expected to be less than 10m above ground level.

The location of populations is shown with the following figure. The risk model used, Safeti v8, cannot distinguish vertical separation of populations. Hence all populations are modelled as being on the same level, including the full 1,373 office population.

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## APPENDIX C – RESPONSE TO RECOMMENDATIONS

ARRISCAR recommendations from Planning Risk Assessment Review S17/75 Planning Proposal by Scentre Group for Westfield East Gardens For Bayside Council 2 July 2018 Doc. No.: J-000315-BC-01 Revision: 1.

### Recommendation 1

*Refer to the Department of Planning for an interpretation of 'incremental risk' in societal risk assessment for new developments near major hazard facilities. This will assist in risk criteria compliance with HIPAP No.4.*

#### Response:

Incremental societal risk is described in HIPAP 4 and HIPAP 10 . HIPAP 4 suggests that for a new development in proximity to a major hazard that:

*"... where a development proposal involves a significant intensification of population in the vicinity of such a facility, the change in societal risk needs to be taken into account, even if individual risk criteria are met.*

*Examples of such situations would include medium to high density residential development (although this would not normally be considered to be appropriate in such a location), sporting facilities where large numbers of spectators are likely to be present, and shopping complexes.*

*In such instances, the incremental societal risk should be compared against the indicative criteria of Figure 3. Provided the incremental societal risk lies within the negligible region, development should not be precluded. If incremental risks lie within the ALARP region, options should be considered to relocate people away from the affected areas. If, after taking this step, there is still a significant portion of the societal risk plot within the ALARP region, the proposed development should only be approved if benefits clearly outweigh the risks."*

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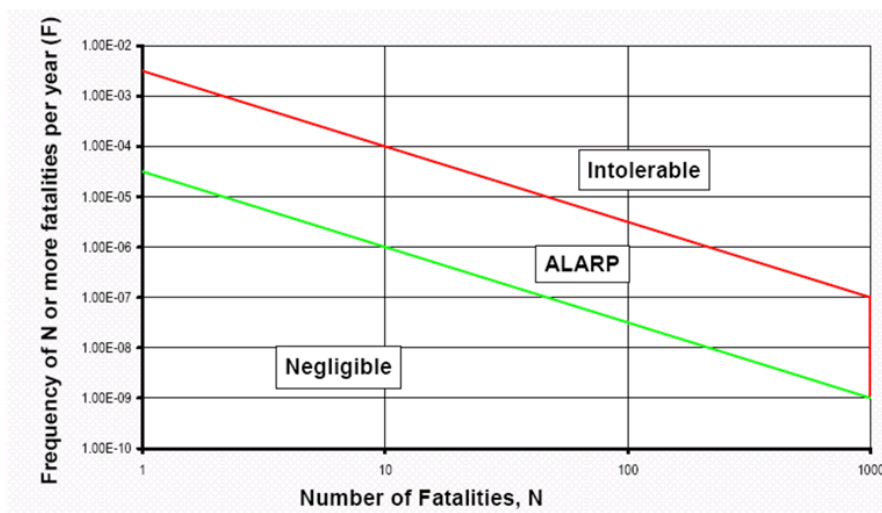


Figure 3 Indicative Societal Risk Criteria for risks from fixed installations

This description of the societal risk increment is ambiguous. It can be interpreted either as:

- (a) the societal risk from the population of the new development alone in proximity of a major hazard is assessed against the criteria.

Equally it can be assessed as

- (b) being the incremental risk of the developments population on top of the existing populations in the area, assessed against the criteria.

Following interpretation (a), an increment of societal risk that falls below negligible line would make a very small difference to the total societal risk if the total were to be positioned in the upper ALARP region, as the criteria lines are two orders of magnitude apart.

Following interpretation (b) If the total societal risk is in the ALARP area, then:

...options should be considered to relocate people away from the affected areas [HIPAP No. 10 Section 5.5.4]. If, after taking this step, there is still a significant portion of the societal risk plot within the 'Tolerable if ALARP' region, the proposed development should only be approved if benefits clearly outweigh the risks [HIPAP No. 10 Section 5.5.4].

This means once the overall populations in the area put the societal risk into the ALARP zone, any further development may be rejected if the benefits clearly don't outweigh the risks. This judgement of benefits and risks is subjective and ambiguous as well and does not provide clear guidance to developers.

In addition for dangerous goods risks in the ALARP zone, it is also incumbent on the transporter of dangerous goods to reduce risks as low as reasonably practicable. Hence those transporting dangerous goods (following the chain of responsibility) should be exploring if safer options that are reasonable and practicable are available, and adopting them if so. This may involve alternative routes.



To address this ambiguity, both interpretations of the societal risk increment have been considered. The risk of the new development on top of all existing populations being assessed against the criteria has been chosen the proposed interpretation (ie interpretation (b) above). This is considered to be the more conservative interpretation of the policy.

Further to this, Systra Scott Lister have tried to engage with the representative from the Department of Planning and Environment who is responsible for assessments in this region, however they do not wish to engage until after the proposal is referred to them during the post Gateway consultation phase.

The methodology applied in this report is consistent with other submissions we have made, where both the total populations plus the additional has been considered as well as the new population on its own. Such submissions have been assessed and approved by DPE, and therefore it is considered appropriate for the purposes of this report.

## Recommendation 2

*The risk assessment must be updated to account for an increase in building height up to 70m, taking into account the building wake effects in the dispersion calculations. The report must also provide consequence results of incidents at the corner of Wentworth Avenue and Denison Street. Currently Ref.2 does not have consequence calculation results.*

### Response:

Such modelling capabilities are only just becoming available. For example DNV GL's Phast v8 made the following release statement in October 2018:

#### Update on addition of 3D Visualization to Phast

The work to include 3D visualization capability to Phast is well advanced. A development version showcased at the Phast/Safeti user conference in London in early October was well received by users.

Key features include:

- Ability to import 3D geometry
- Ability to build your own geometry (currently limited to a few object types)
- View dispersion results in 3D
- View heat flux/radiation shielding results in 3D

Development is ongoing with a view to releasing it in a future version of Phast. Current emphasis is on optimization, improving the feature set and robustness testing.

As such capabilities mature, such modelling can be performed.

It is our view that the hazards most likely to reach the proposed commercial buildings are dense gas releases which stay at lower levels due to the density of gas vs air. Hence the fact that the office buildings are generally raised above the retail podium (apart from the corner building) significantly reduces the potential impact for this commercial office worker population set. It is estimated that only 128 persons would be accommodated below 10m above ground level in the commercial development.

Some representative consequence modelling results are provided with the following figures.

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Figure 1. LPG tanker rupture – Flash Fire Envelope – all wind directions

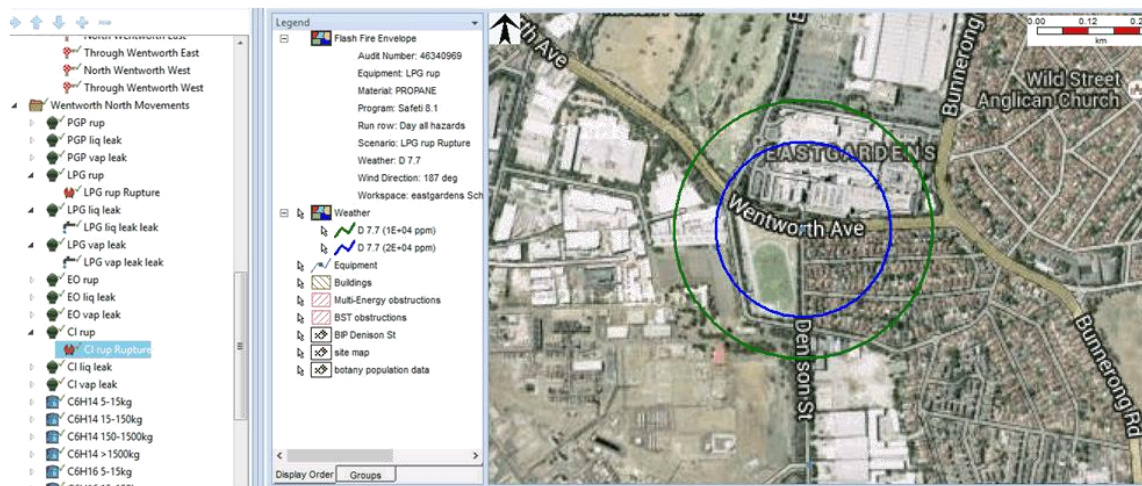
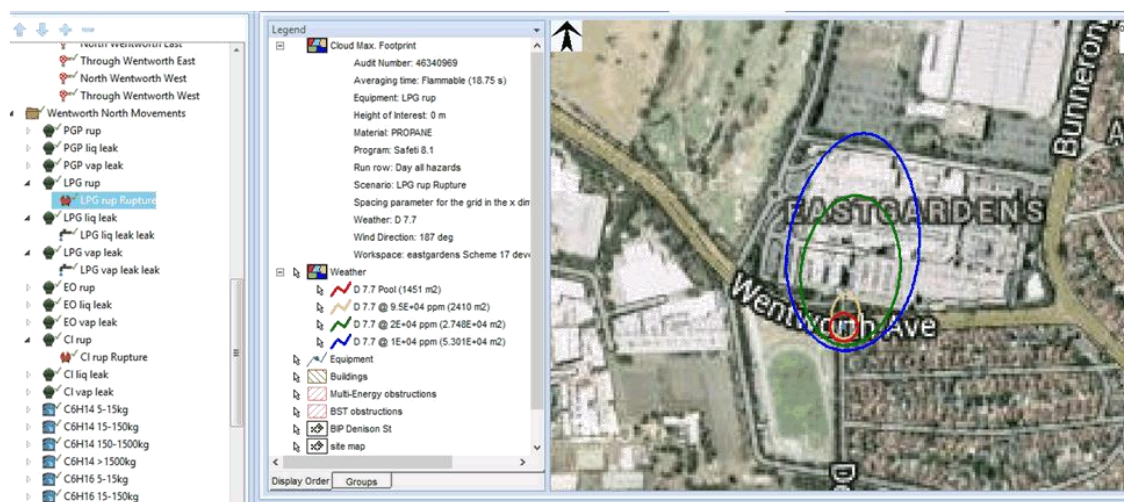


Figure 2. LPG Road Tkr Rupture – Max cloud footprint – wind from the south



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Figure 3. LPG – large leak – Flash fire envelope

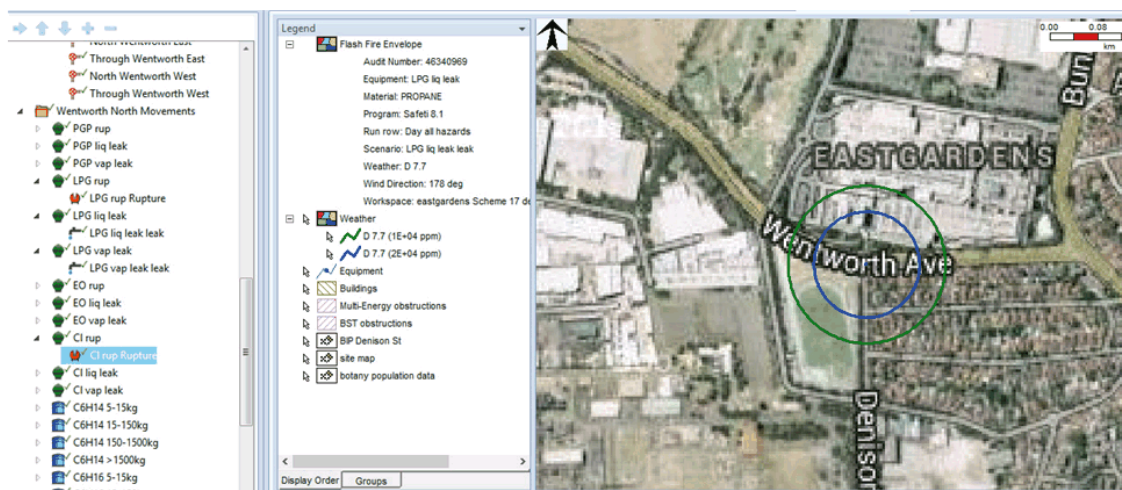
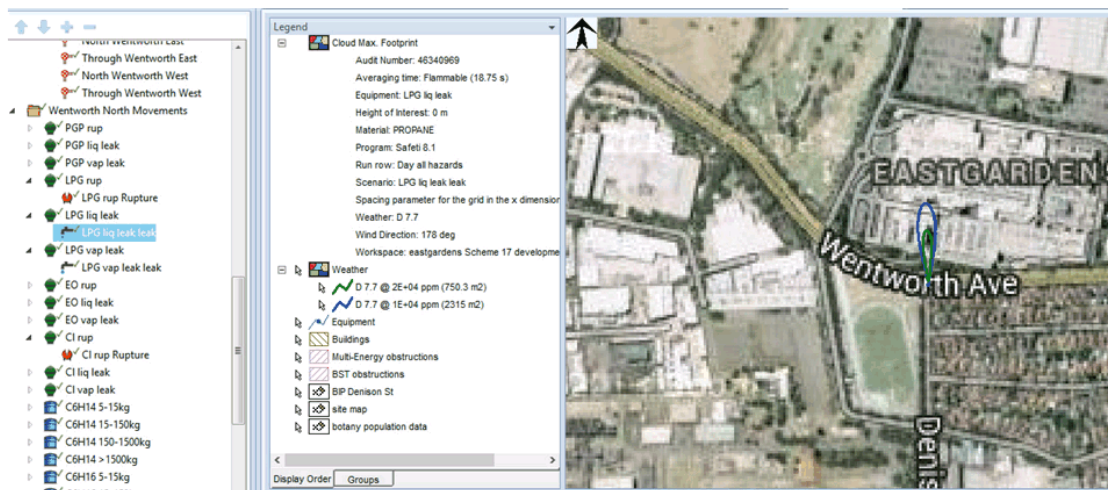


Figure 4. LPG – large leak – Flash fire cloud shape – wind from the south



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Figure 5. Chlorine Tkr – Rupture – Toxic indoor fatality envelope

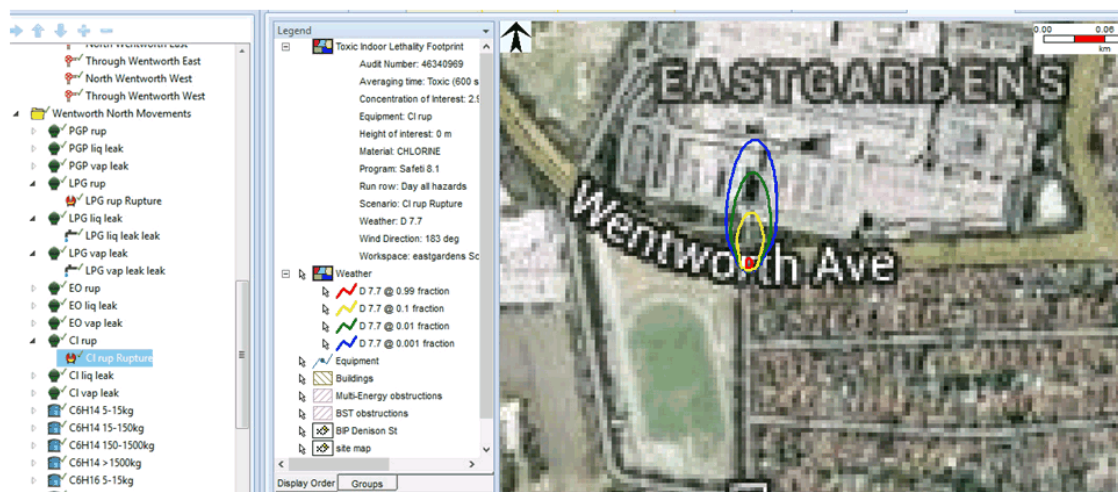
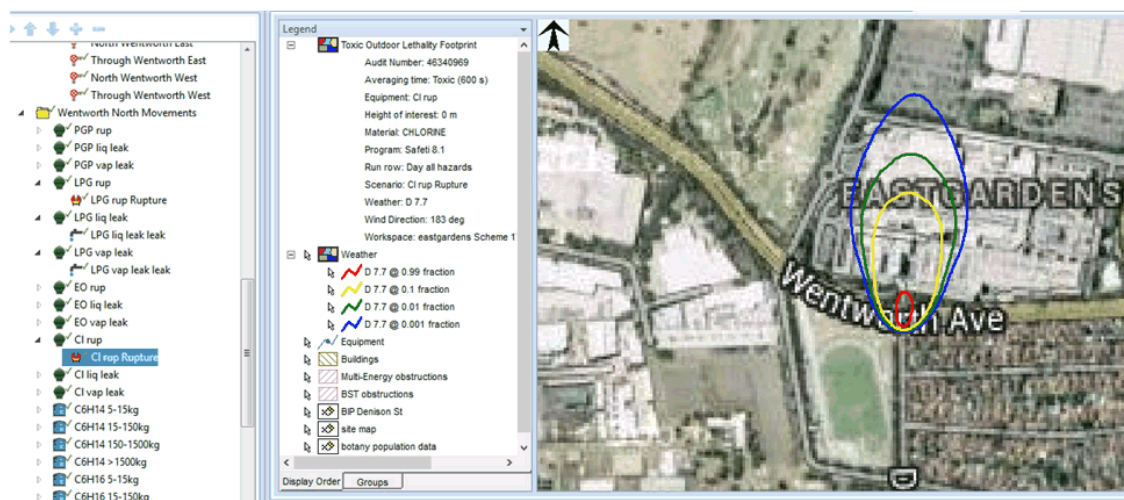


Figure 6. Chlorine Tkr – Rupture – Toxic outdoor fatality envelope



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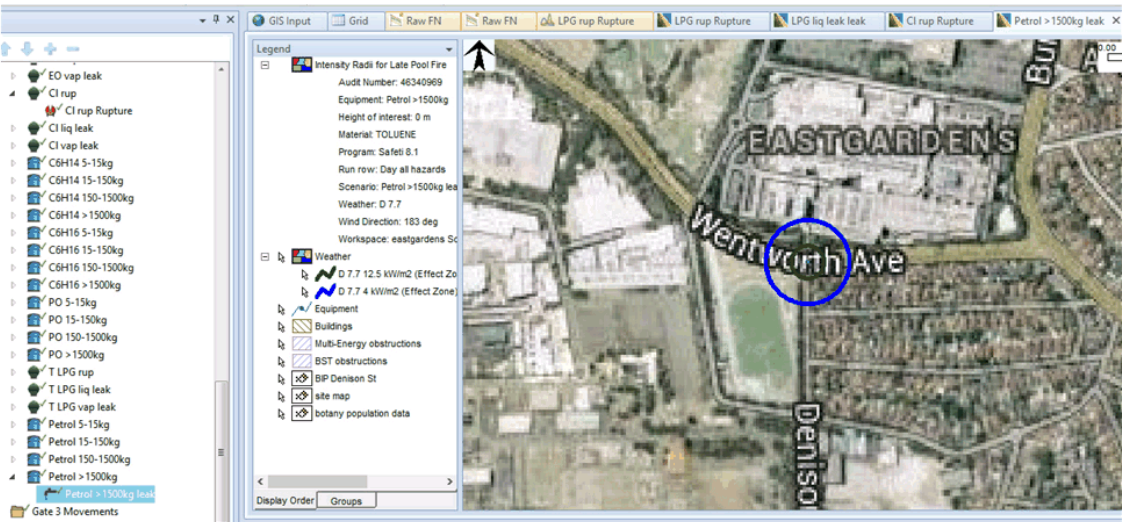
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Figure 7. Petrol Tanker – Large release – 1500kg – pool fire



**Recommendation 3**

*The existing cumulative F-N curve must be compared with an updated F-N curve including the population from the proposed future development at East Gardens to assess the impact of incremental risk. If the overall F-N curve including the proposed development exceeds the upper limit, the development clearly exceeds acceptable land use safety for the location.*

**Response:**

This has been compared in Figure 11 of the main report, the proposed development does not exceed the upper limit.

**Recommendation 4**

*The Planning Safety Report must be updated to address*

- (a) risk contributors to the incremental risk and rank them*
- (b) assumed population distribution of the 1640 persons*
- (c) whether the risk was assessed for persons inside and outside the building, and at different levels in the building, and*

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*(d) how the risk mitigation in design suggested in Ref.1 have been addressed in the incremental risk assessment.*

**Response:**

- (a) risk contributors to societal risk are shown in Figure 11 of the main report.
- (b) Diagrams showing the assumed distribution of populations have been provided in Appendix B.
- (c) Diagrams showing the assumed distribution of populations have been provided in Appendix B. These indicate if persons are outside or inside.
- (d) Mitigations are suggested, but the modelling does not include them. Hence the presented risk results overstate the risk.

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EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

# **Part 9E**

## **Eastgardens Mixed-use Centre**

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

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## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.1 INTRODUCTION**

This Part establishes a framework to guide the staged development of Westfield Eastgardens, at 152 Bunnerong Road, Eastgardens, NSW 2036 (the site), shown at Figure 1, overleaf.

**9E.1.1 DCP NAME AND COMMENCEMENT**

This DCP is called Botany Bay Development Control Plan (DCP) 2013 – Part 9E Eastgardens Mixed-use Centre.

**9E.1.2 AIMS AND OBJECTIVES OF THIS PART**

The objectives of this Part are to:

- Establish a clear vision, development principles and controls for the development of the site;
- Promote the delivery of high-quality retail and commercial uses that support the needs of current and future residents in the local community and beyond; and
- Encourage the evolution of the retail asset as a high-quality mixed-use centre, consistent with its role within the Eastgardens-Maroubra Junction Strategic Centre.
- Staged public domain upgrades with the renewal of stages of the site over time.

**9E.1.3 LAND TO WHICH THIS PART APPLIES**

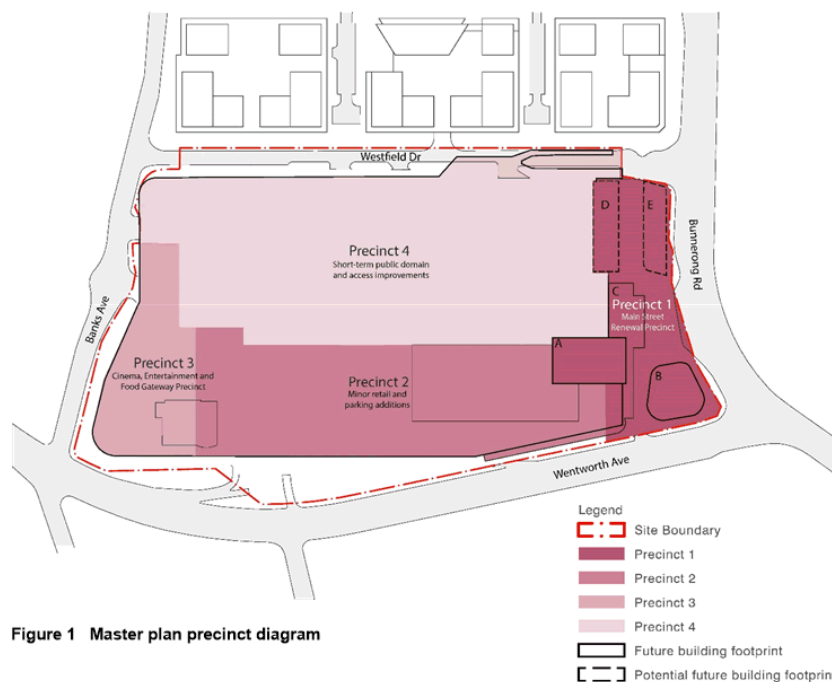
This Part applies to land at 152 Bunnerong Road (Lot 1 DP 1058663), Eastgardens, as outlined in red at Figure 1. For the purposes of this DCP, the site has been divided into four precincts, which are at different stages of planning and development. The DCP provides directions for each precinct, as outlined below.

**Table 1 Explanation of precincts**

<b>Precinct</b>	<b>DCP directions</b>
<b>Precinct 1 – Bunnerong Road Main Street Renewal Precinct</b>	<ul style="list-style-type: none"> <li>- Following a master plan process and LEP amendment (2019 Planning Proposal), this DCP provides more detailed guidance on planning and design outcomes for this renewal precinct within the site.</li> <li>- Detailed provisions for access and public domain for this precinct</li> <li>- Detailed provisions for the design of buildings A, B and C</li> <li>- The "future development" footprints D and E show potential locations for future development of student housing or commercial premises, subject to feasibility, design and planning considerations. This DCP provides principles for future master planning to test these building locations.</li> </ul>
<b>Precinct 2 – Wentworth Avenue – minor retail and parking additions</b>	<ul style="list-style-type: none"> <li>- The planning controls allow for some additional retail and parking development in this precinct, subject to design and future Development Applications (DA's)</li> <li>- This DCP provides principles and controls for the location and design of any additional development.</li> </ul>
<b>Precinct 3 – Cinema, Entertainment and Food Gateway Precinct</b>	<ul style="list-style-type: none"> <li>- Additional development for entertainment, retail and food and beverage uses in this precinct will help to activate this important corner. The intent is to reduce the impacts of vehicles to this edge and open the center to the street with some outdoor dining opportunities, for future assessment via the DA process.</li> <li>- This DCP provides principles and controls for the location and design of any additional levels under the current controls, and extended cinema under revised controls.</li> </ul>

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

	<ul style="list-style-type: none"> <li>– This DCP provides principles for future master planning or development applications where tower height may be considered in the long-term.</li> </ul>
<b>Precinct 4 – Westfield Drive – Short-term public domain and access improvements</b>	<ul style="list-style-type: none"> <li>– The planning controls do not allow for substantial new development, or taller buildings in this precinct.</li> <li>– This area may be subject to future master planning, and at that time, a review of the site's access and servicing will be required, with a view to improve the activation, walkability and presentation of Westfield Drive.</li> <li>– The DCP provides general guidelines for future master planning or development approval and some interim design outcomes for short term improvements to the presentation and functionality of Westfield Drive.</li> </ul>



## 9E.1.4 RELATIONSHIP WITH OTHER PARTS OF THE DCP

This site specific DCP forms part of The Botany Bay Development Control Plan 2013 (Botany Bay DCP 2013 or the DCP). This Part should be read in conjunction Part 3 General Provisions.

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Development within the site will need to have regard to this Part of the DCP as well as other relevant controls in the DCP. In the event of any inconsistency between this Part and other Parts of the DCP, this Part will prevail to the extent of the inconsistency.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.2 VISION****9E.2.1 VISION FOR THE EASTGARDENS MIXED-USE CENTRE**

Westfield Eastgardens will transform over time into a vibrant, mixed-use centre with the introduction of additional uses, an improved retail and entertainment offer and a focus on enhancing customer visitation to the centre on foot and by public transport. New commercial office towers will be integrated into an active civic plaza connected to the bus terminus at the eastern end. The transformation of Westfield Eastgardens is an opportunity to improve accessibility, better connect with the community, create jobs and strengthen the important strategic and economic role of the centre.

Westfield Eastgardens will transcend its role as a traditional shopping centre and become a morning to evening community hub where people can fulfil more of their daily needs.

A new street address fronting Bunnerong Road, centred on an active publicly accessible civic plaza, will ensure the centre integrates with the surrounding neighborhood and delivers an improved arrival experience for visitors travelling on foot, by car or by public transport.

Key elements of the vision are:

- To expand and redevelop the shopping centre to deliver a mix of new uses to meet the needs of the local community.
- To accommodate future employment growth and promote job creation at the centre.
- To accommodate health, wellbeing and civic service and lifestyle uses to support the day to day needs of the community.
- To deliver an improved retail offer that builds on the strategic retail importance of the centre.
- To improve pedestrian accessibility, amenity, safety and permeability.
- To improve the external interface and quality of the streetscape around the centre.
- To create a better civic entry from the east by rearranging bus and taxi access, along with an enhanced public domain.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

## 9E.2.2 MASTER PLAN AT A GLANCE – KEY FEATURES

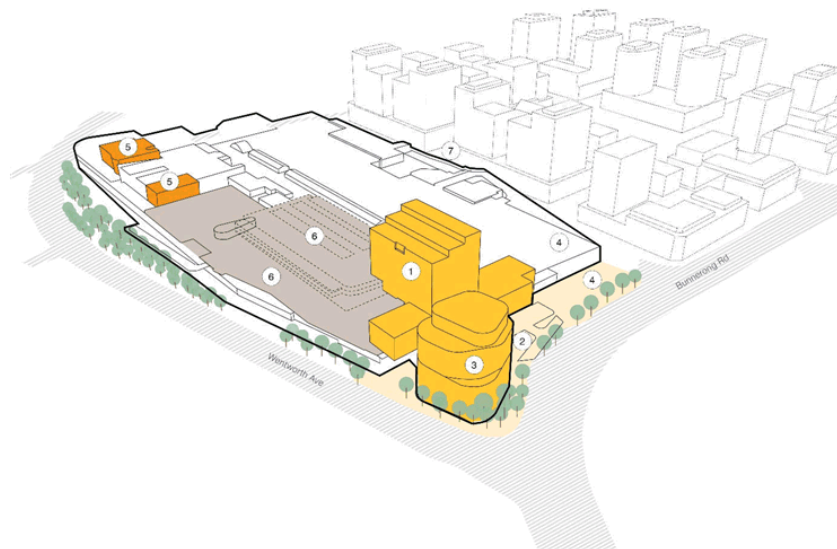


Figure 2 Master Plan – Key Features

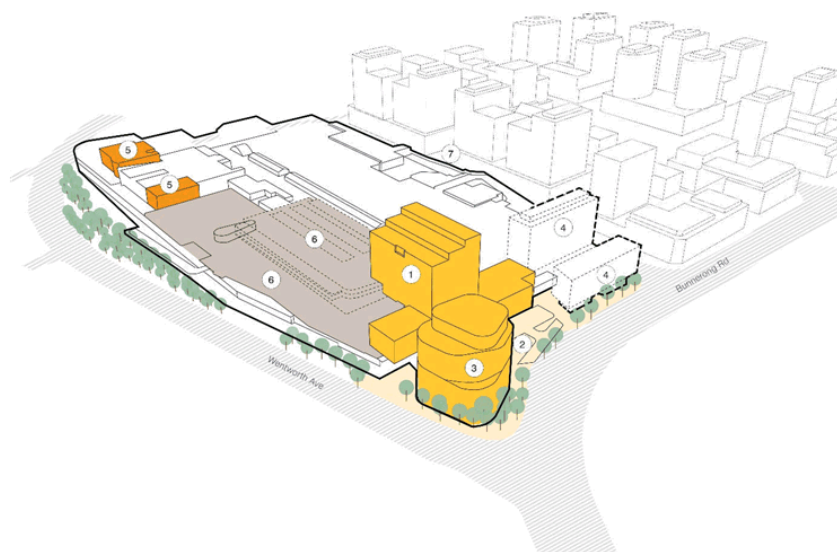


Figure 3 Master Plan – Key Features (including potential Future Stage tower forms)

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

The redevelopment of the site should be consistent with the indicative master plan illustrated at Figure 2 and Figure 3 and the key features outlined in Table 2.

**Table 2 Master Plan – Outline of key features**

<i><b>Key features</b></i>	
<b>1</b>	A new commercial building up to a height of 59 metres
<b>2</b>	A new publicly accessible plaza fronting Bunnerong Road
<b>3</b>	A new commercial building up to a height of 40 metres
<b>4</b>	Potential locations for future student housing or commercial development (subject to future testing, assessment and planning approvals)
<b>5</b>	Preferred location for minor retail expansion, including outdoor food & beverage terrace and additional cinemas
<b>6</b>	Potential car park extension (subject to future authority requirements only)
<b>7</b>	Public domain and walkway improvements to Westfield Drive and new pedestrian crossing to the Meriton Pagewood Green site to the north.



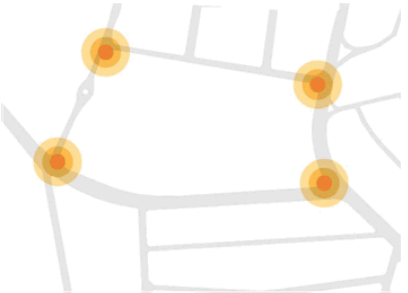

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

## 9E.2.3 PRINCIPLES FOR THE SITE

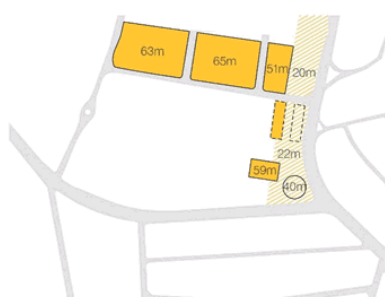
**Principles for Precincts 1, 2, 3 and 4**

The following principles apply to all precincts within the site. Any future development of the site is to demonstrate consistency with the following principles:

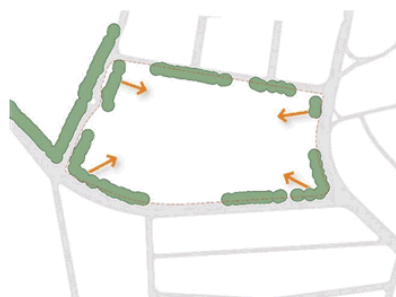
Table 3 Principles for the Site

- 
- 
- a) **Destination hubs at each end linked by central spine:** Create two active hubs at the eastern and western end of the centre to enhance the arrival experience to the centre. A new plaza at the eastern end will connect to the existing central spine.
- b) **Entries:** Ensure that all new buildings have entries at ground level from the public domain and that building lobbies are clearly visible and publicly accessible.
- 
- 
- c) **Activate corners:** Corners should be activated with ground floor uses and high-quality landscaping where appropriate. Blank walls and facades are to be minimised as the centre evolves over time.
- d) **Defined street functions:** Each street to have a defined role and function:
- **Bunnerong Road (east edge)** to function as the main public transport and pedestrian interface
  - **Wentworth Avenue (south edge)** to accommodate vehicular entries, exits and car parking in a landscaped setting
  - **Westfield Drive (north edge)** to continue essential loading services and ramp access, with improved pedestrian amenity, safety and pedestrian crossings.
  - **Banks Avenue (west edge)** future DA's to demonstrate how this precinct can be an improved place for pedestrians to meet, gather and enter to site.

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan



- e) Heights to relate to adjacent context:** Establish an appropriate street wall height along Bunnerong Road to provide an appropriate transition to surrounding development. Taller built form is to be set back on the podium behind the street wall.



- f) Strengthen green edges:** Retain and enhance vegetation to create a green buffer around the perimeter of the site.

**9E.3.1 LANDSCAPE, PEDESTRIAN ACCESS AND AMENITY****Objectives**

- O1** Provide a high-quality public domain that is publicly accessible and pedestrian focused.
- O2** Create an attractive environment for people to arrive, depart, meet, shop and dine.
- O3** Where possible retain existing significant trees and vegetation and enhance as an integral part of the public domain.
- O4** Ensure public spaces are accessible, safe and pleasant at all times of the day.
- O5** Allow for a staged approach to the public domain, specifically:
  - Ensure good pedestrian access to the site from the BATA with or without the potential future buildings D and E; and
  - Ensure that public domain upgrades and access improvements make Westfield Drive a better environment for pedestrians and cyclists in the short-term, ahead of any major renewal in Precinct 2 in the longer term.

**9E.3.2 LANDSCAPE STRATEGY REQUIRED FOR PRECINCT 1 PRIOR TO DEVELOPMENT**

- C1** The landscaped areas should be provided generally in accordance with the public domain strategy provided in Figure 4 and Figure 5.
- C2** A development application for either Building A, B or C (whichever is first) should be accompanied by a staged Landscape Strategy for Precinct 1, which is generally consistent with the strategy shown at Figure 4, and will be delivered in stages as each building is approved for development. The Landscape Strategy must comprise:

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

- Design and location of bus shelters and access points;
  - Streetscape design –including materials, pavement and kerb design, furniture and pedestrian access points;
  - A detailed landscaping strategy;
  - Signage and wayfinding palette;
  - Arrangement of outdoor seating attached to dining premises;
  - Street lighting;
  - Materials palette; and
  - Public art strategy (if required).
- C3** The total area of the plaza and full extent of the laneway will be delivered in stages as development of Buildings A, B and C occur over time. Staging is to be agreed as part of the Landscape Strategy, endorsed as part of the first DA for a new building in Precinct 1.
- C4** An application for the development of Buildings D or E must be accompanied by a revised Landscape Strategy that demonstrates that the principles of the plan in Figure 5 can be achieved.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan



Figure 4 – Landscape and publicly accessible areas public domain indicative plan – where Buildings D and E are not constructed



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

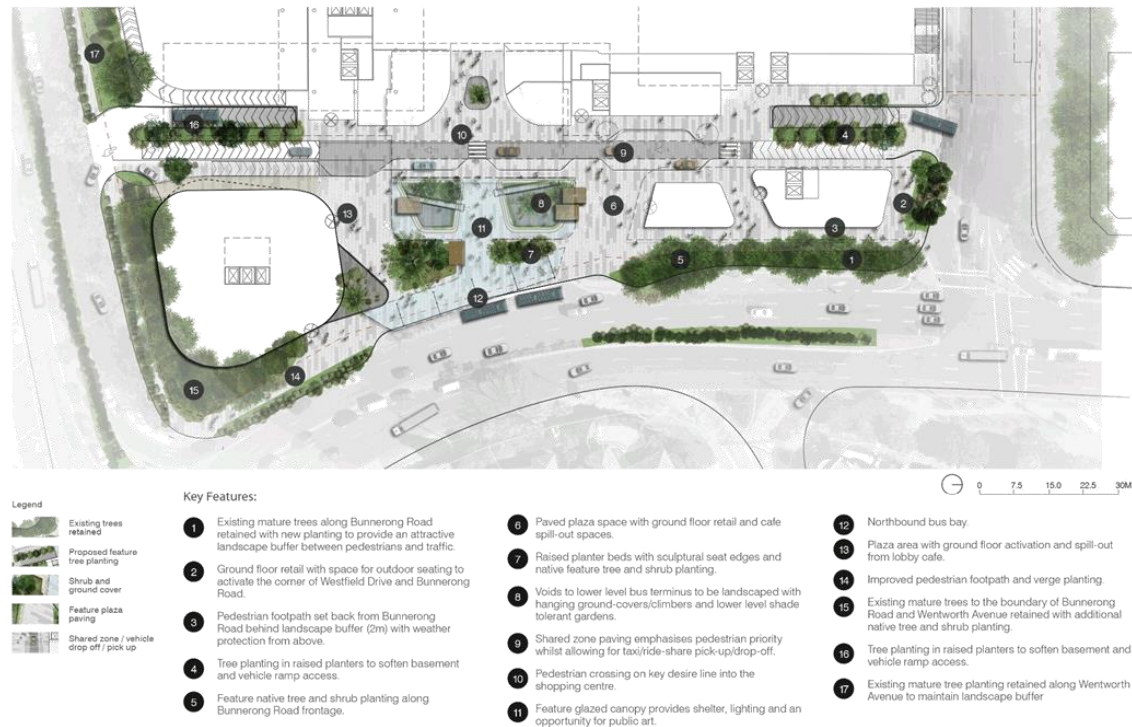


Figure 5 – Landscape and publicly accessible areas public domain plan indicative FUTURE PLAN – should Buildings D and E be developed in the future

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

9E.3.3 DESIGN AND OPERATION CONTROLS FOR PUBLICLY ACCESSIBLE SPACES IN  
PRECINCT 1Bunnerong Road Plaza

- C5** A new active civic plaza is to be delivered along Bunnerong Road, generally in accordance with Figure 4.
- C6** The plaza is to remain in private ownership, but the level at street grade is to be publicly accessible for 24 hours a day.
- C7** The design of the new plaza must:
- Provide improved pedestrian access to the entrance to the retail centre and building entries of buildings A, B and C.
  - Be activated by either ground floor retail, café, outdoor dining or community uses.
  - Be as open to the air and sky as possible.
  - Where the lane way is not open to sky, new development over the lane should be limited to canopies and weather protection, and the space is to be naturally ventilated and feel open and public.
  - Include high quality landscaping.
  - Allow for natural ventilation and daylight access to the below ground level bus terminus.
  - Provide direct access from the plaza to the bus terminus below.
  - Be integrated with the new laneway, sunken bus terminus and future development area.
  - Provide natural daylight to the bus terminus at Level 1 below the plaza.
- C8** The landscaping strategy should prioritise native or locally inspired planting to complement existing mature vegetation.

The lane way

- C9** The new lane way is to provide a new north-south connection through the plaza from Westfield Drive to Wentworth Avenue, generally in accordance with Figure 4.
- C10** The design of the new laneway must:
- Be designed to allow for a minimum width of 3 metres.
  - Be as open to the air and sky as possible, with the minimum areas to be open to the sky shown in Figure 6.
  - Be publicly accessible with 24-hour access.
  - Prioritise pedestrian safety and amenity, whilst still allowing flexible pick up / drop off space for taxi / ride-share / private vehicles.
  - Allow for direct access from the plaza to the retail centre and lobbies of buildings A and C via new pedestrian crossings which maintain a key desire line from the northbound kerbside bus bay along Bunnerong Road into the retail centre.
  - Use materials/paving treatment to encourage a slow speed environment.
  - Appropriate lighting should be installed for safety and security purposes.

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

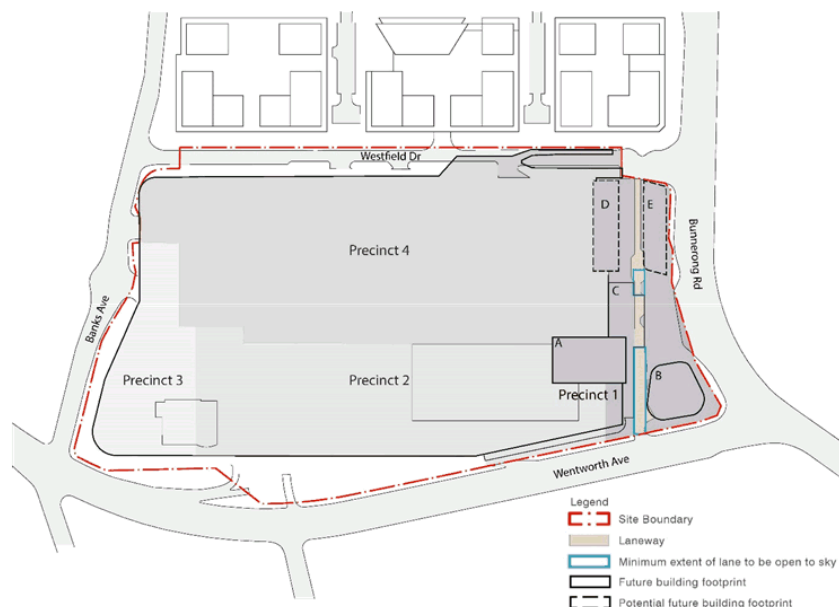


Figure 6 – Plan showing areas of the new laneway to be designed to be opened to the sky



Figure 7 – Section diagram showing the new laneway on the upper level, with sunken south-bound bus terminus below

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9E.3.4 PUBLIC DOMAIN & ACCESS IMPROVEMENTS TO WESTFIELD AVENUE– PRECINCT 4

Controls

- C1 Public domain and access improvements to the site at Westfield Drive, shown in Figure 8 to Figure 12 must be undertaken to Council's satisfaction prior to the occupancy of any development in Precinct 1.

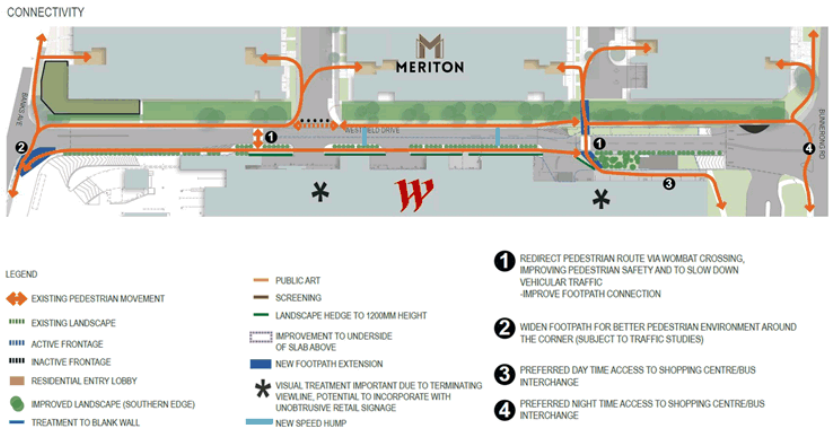


Figure 8 – Required pedestrian access improvements to Westfield Drive (short term project)

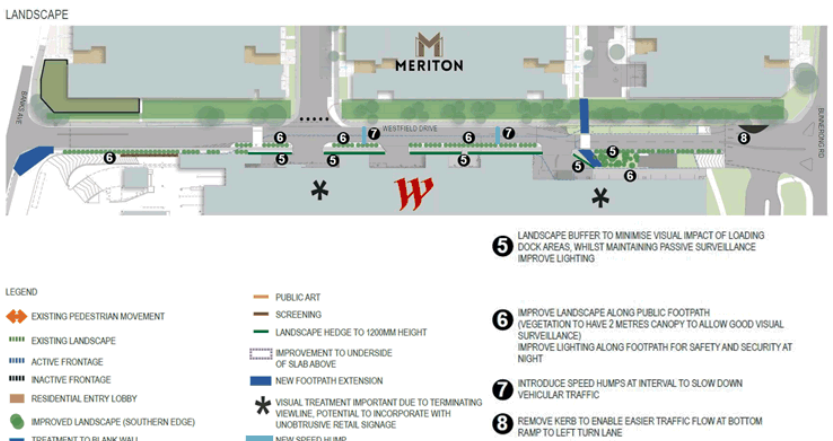


Figure 9 – Required public domain improvements to Westfield Drive (short term project)

EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

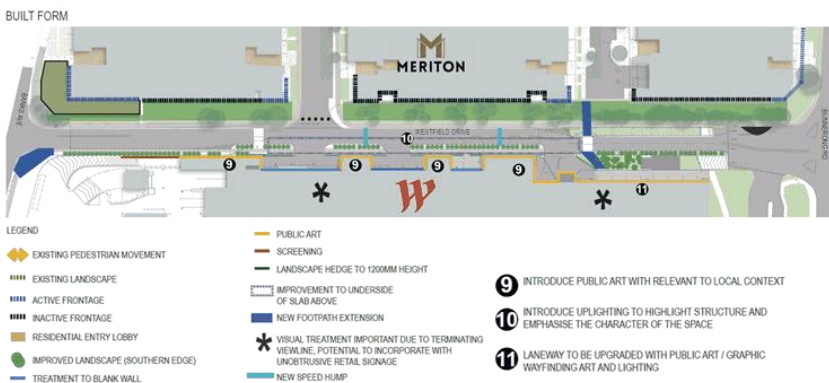


Figure 10 – Required activation improvements to Westfield Drive (short term project)

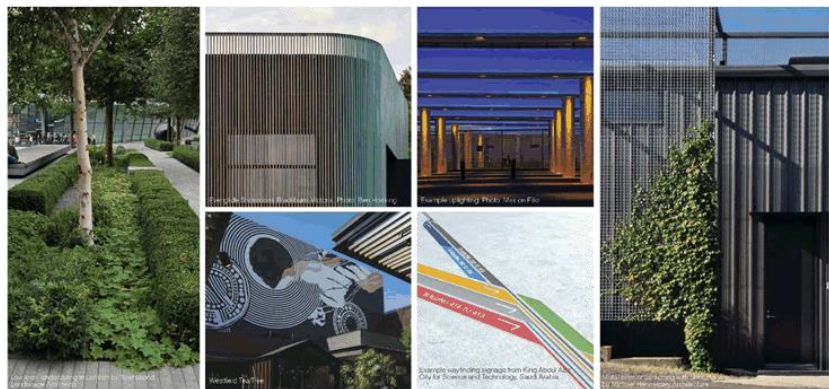


Figure 11 – Example precedent imagery for potential public domain improvements



Figure 12 – Example precedent imagery for potential public art (examples shown are from recent Scentre Group developments)



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.3.5 PUBLIC DOMAIN & ACCESS IMPROVEMENTS IN PRECINCTS 2 & 3****Objectives**

- O1** To ensure that future development of Precincts 2 and 3 deliver improved landscape, design and access conditions.

**Controls**

- C1** Any significant future development in Precinct 2 or 3 must be accompanied by a Landscape and Access Strategy for that precinct, which is to be informed by more detailed planning for these precincts via the Development Consent process.
- C2** The Landscape and Access Strategy must demonstrate how renewal can:
- Promote accessibility to the centre by foot, bike and public transport;
  - Reduce the visual impact of new above ground car parking and blank facades;
  - Minimize vehicle and pedestrian conflict areas; and
  - Create a more typical and improved town centre environment.

**9E.3.6 HOURS OF ACCESS AND OPERATION****Objectives**

- O1** To provide safe access and permeability through the site during hours of operation.

**Controls**

- C1** During the hours of operation of the dining and cinema precinct, a safe path of travel is to be maintained through the centre to the bus interchange (providing bus services are available),
- C2** Access to the bus interchange must be provided during hours of bus service operation.

**9E.3.7 PUBLIC ART STRATEGY****Objectives**

- O1** To create public places that are interesting and relevant to support increased activation and place-making.

**Controls**

- C1** A detailed public art strategy is to be submitted as part of the development application for Building A, B or C (whichever is first), which may be delivered in stages as the precinct is developed.
- C2** The public art strategy should draw on inspiration from either the indigenous heritage, the botanical heritage of Botany Bay, the coastal location or the industrial heritage of the port precinct.

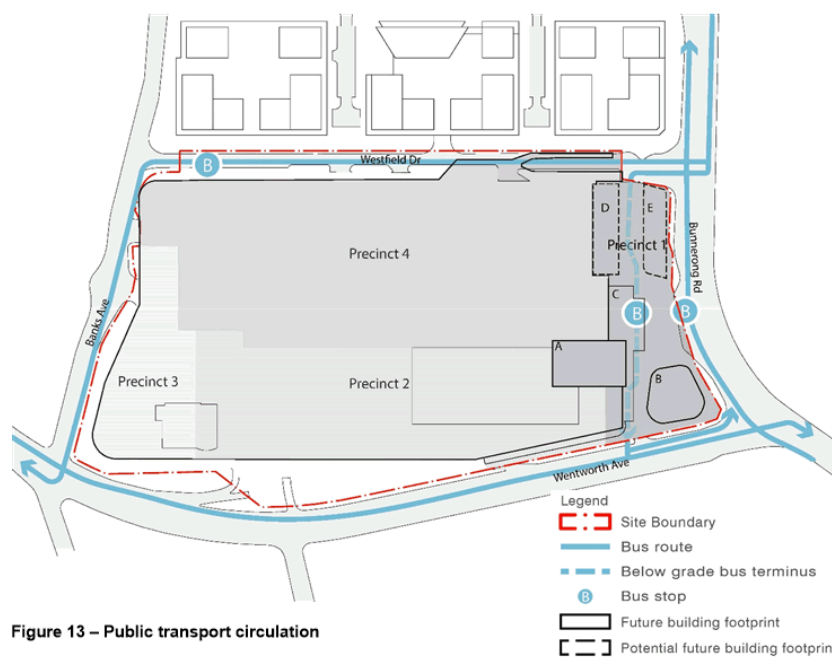
## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.3 TRANSPORT AND MOVEMENT****9E.4.1 PUBLIC TRANSPORT****Objectives and controls for Precincts 1, 2, 3 and 4****Objectives**

- O1** Ensure Bunnerong Road is the main public transport and pedestrian interface.
- O2** Provide clear links to public transport and to increase pedestrian traffic.

**Controls**

- C1** Provide a sunken bus terminus for southbound buses, generally as shown in Figures 7 and 13. **Figure 7 – Section diagram showing the new laneway on the upper level, with sunken southbound bus terminus below**
- C2** Provide a pull-in bay for northbound buses on the western edge of Bunnerong Road.
- C3** Where possible, provide clear links to public transport from building entries.
- C4** Provide a new laneway for shared drop-off (shared mobility, taxi, kiss & ride) focused around a pedestrian plaza, generally as shown in Figure 13.



## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

**9E.4.2 PEDESTRIAN ACCESS****Objectives**

- O1** Improve pedestrian accessibility, amenity, safety and permeability.
- O2** Encourage public transport use, walking and cycling.
- O3** Improve connections from the east of the site to the bus terminus adjacent Bunnerong Road.
- O4** Direct pedestrians away from the south side of Westfield Drive.
- O5** Minimise potential for pedestrian conflict with cyclist and vehicular traffic.

**Controls – Precinct 1**

- C1** Pedestrian access is to be provided in accordance with the locations and design requirements in Figure 16 and accessible to the public at all times.
- C2** Paths should be unobstructed by landscape, opening doors or furniture. Paving materials should be of a high quality and support way-finding by the public and visitors to the site. Where the paths are part of the shared plaza area, the path may be designed to integrate with the plaza.
- C3** Pedestrian safety and ease of movement should be prioritized. Vehicular cross-overs of the identified pedestrian routes should be minimized.
- C4** Where the pedestrian connection is provided under a building overhang, the path is to have a two-story height – i.e. the ground level and first level are to be setback 3m in from the building above.
- C5** Escalators should be easy to navigate, be clearly visible and contiguous with the path of travel.
- C6** All paths are to be provided on the subject site. Where there is existing footpath on public land, this can be used to augment the width of the path or provide additional landscape opportunities.
- C7** The paths at the edges of the site should be sheltered by tree canopy wherever possible.
- C8** On Bunnerong Road, a minimum 2m landscape buffer is required on the subject site in addition to the 3m minimum pathway. This additional planted area will allow for mature trees to be retained, and help to buffer pedestrians from the busy street Figure 14 illustrates how the path and landscaped buffer is to be designed on the edge of Bunnerong Road, should Buildings D and E be constructed in the future.
- C9** Retain mature trees in the street setbacks where possible and augment with additional trees.



EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

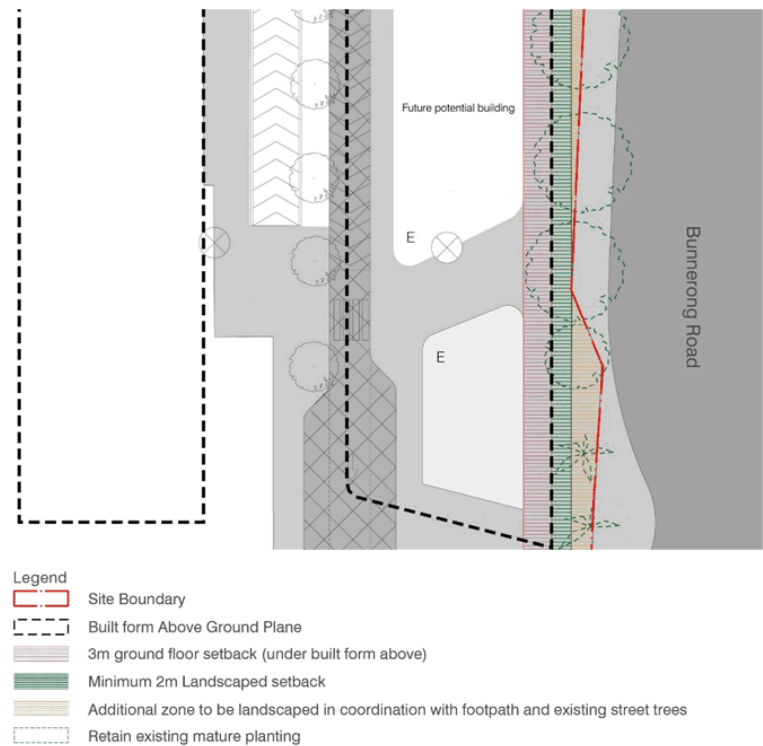


Figure 14 – Illustrative master plan showing pedestrian access and a landscape buffer along Bunnerong Road (future plan)

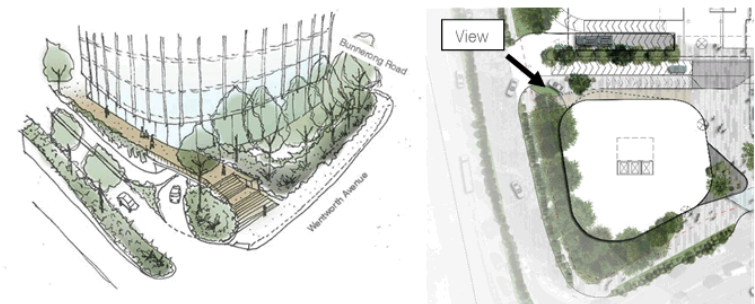


Figure 15 Indicative 3D and plan view of pedestrian access to the west of Building B

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**Controls – Precincts 2, 3 and 4**

- C1** Provide continuous pedestrian connections in and around the site, including reconfigured footpaths, consistent with pedestrian movement indicated in Figure 16.
- C2** Prior to construction of any additional development in Precincts 2,3 or 4, a Landscape and Access Strategy for that precinct must be submitted as part of a development application to demonstrate how pedestrian access to the centre in these precincts can be improved.
- C3** Development should not restrict the potential for new pedestrian connections and improved site permeability
- C4** Disabled access through the main pedestrian entries must be provided in accordance with Part 3C – Access and Mobility and the Disability Discrimination Act 1992



Figure 16 - Pedestrian access and building entries

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**9E.4.3 ACCESS TO BUILDINGS****Objectives and controls for Precincts 1, 2, 3 and 4****Objectives**

- O1** Ensure that all new buildings have entries at ground level from the public domain.
- O2** Ensure that building lobbies are clearly visible and accessible from the public domain.
- O3** Encourage entrances that orientate visitors and public as to the access points for the building and the transition between private and public spaces.

**Controls**

- C1** Access to existing and proposed buildings are to be generally consistent with Figure 16.
- C2** New entries to Bunnerong Road and Banks Avenue are to be provided, each with their own character and active frontage.
- C3** Access to all buildings including lobbies should be clearly visible from internal laneways, footpaths and where possible address the street frontage.

**9E.4.4 PARKING AND VEHICULAR ACCESS****Objectives for Precincts 1, 2, 3 and 4****Objectives**

- O1** Minimise vehicle and pedestrian conflict.
- O2** Ensure that the location and design of car park entries are efficient, safe, and integrated into the design of the development to minimise visual impact.
- O4** Maintain efficient service vehicle access.
- O5** Maintain the existing primary vehicular access points to the site (off Wentworth Avenue, Westfield Drive and Banks Avenue).
- O6** Retain existing car parking provision and provide additional parking appropriate for the expansion of the centre

**Controls for Precinct 1**

- C1** No car access directly off Bunnerong Road.
- C2** The laneway is to provide for one-way traffic, moving north to south.
- C3** No parking to be provided in the new laneway, apart from short stay drop off bays.
- C4** A development application for either A, B and C (whichever is first) should be accompanied by an updated traffic management plan for the whole site, which may be delivered in stages.

**Controls for Precincts 1, 2, 3 and 4**

- C5** Car parking provision to be determined by surveys of other centres and analysis of current use and demand. Key considerations in determining appropriate car parking rates include:

## EASTGARDENS MIXED-USE CENTRE – DRAFT Development Control Plan

- Access to public transport and active transport opportunities.
  - Where different uses on site have alternative peak periods and can effectively share parking
  - Where technology can be used to ensure parking is used efficiently.
- C6** Minimise the visual impact of basement entries and ramps through good design and landscape treatment.

**Principles for Precincts 2, 3 and 4**

- P1** Any proposed changes to vehicle access to the site should seek to improve accessibility to and through the site for pedestrians, cyclists and public transport.

**9E.4 LAND USE****9E.5.1 PREFERRED LAND USE STRATEGY****Objectives for Precincts 1, 2, 3 and 4**

- O1** Create an integrated mixed-use precinct that is activated at all times of the day and into the night, with retail, commercial and community spaces.
- O2** Encourage new office uses that will support the centre's important economic function and reinforce the centre's strategic employment role.
- O3** Encourage a range of uses that will activate the centre for extended hours of the day, including late night trading premises to enhance the vibrancy and vitality of the centre.

**Controls for Precinct 1**

- C1** Development should be generally in accordance with the preferred land use strategy provided in Figure 17.
- C2** The future uses of the Buildings D and E is to be subject to a future planning approval. The uses should encourage activation of the public plaza areas and complement the existing commercial and retail uses.