CEL Development Pte Ltd, c/- Future Urban

Demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-one (21) storey hotel building.

51 Pirie Street, Adelaide

020/A131/20

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Image: View east along Pirie Street. Local Heritage listed Epworth building on right in foreground

OVERVIEW

Application No	020/A131/20
Unique ID/KNET ID	2020/11272/01
Applicant	CEL Development Pte Ltd, c/- Future Urban
Proposal	Demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-one (21) storey hotel building.
Subject Land	51 Pirie Street, Adelaide
Zone/Policy Area	Capital City Zone / Central Business Policy Area 13
Relevant Authority	State Planning Commission (decision delegated to State Commission Assessment Panel)
Lodgement Date	2 June 2020
Council	City of Adelaide
Development Plan	Adelaide (City), consolidated 30 April 2020
Type of Development	Merit
Public Notification	Category 1
Referral Agencies	• Government Architect • Secretary of the Commonwealth Department of Transport and Regional Services (Adelaide Airport Limited) • Council (non-mandatory)
Report Author	Will Gormly, Senior Planning Officer
RECOMMENDATION	Development Plan Consent, subject to conditions

EXECUTIVE SUMMARY

The application proposes the construction of a 21-storey hotel building, which comprises a mix of hotel accommodation, a roof-top bar, meeting rooms, pool, and gym at 51 Pirie Street, Adelaide.

To facilitate the new construction, the application also proposes the total demolition of a Local Heritage (Townscape) Place – the former Bank of South Australia, in addition to the 1980s addition to the entire eastern portion of the Local Heritage Place to its eastern Gawler Place boundary.

The application is subject to mandatory referrals to the Government Architect, and the Commonwealth Secretary for the Department of Transport and Regional Services through Adelaide Airport Limited. The application was forwarded to the City of Adelaide for their technical comments.

The proposed development raises key planning concerns with regards to the total demolition of a Local Heritage (Townscape) Place and the overall architectural quality of the proposed new built form. In the referral responses, the Government Architect states that the 'development of this scale in this part of the city has a responsibility to deliver a high benchmark for good design, particularly in terms of public realm contribution.' In her view, the removal of the Local heritage façade must also be justified by achieving a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome. The Government Architect is not yet convinced that the design presented is sufficiently resolved to warrant removal of the Local Heritage façade. Similarly, City of Adelaide council do not support the demolition of the Local Heritage (Townscape) place, as they consider the demolition is not consistent with the clear intent of the Development Plan.

The proposal is considered to be finely balanced, given the proposed demolition of the Local Heritage Place and the overall concerns regarding design quality. These are discussed under headings in this report; 'Heritage' and 'Appearance and Design'. Notwithstanding the above, the proposed development is considered to address other key Development Plan policy and technical issues, and, when considered holistically, demonstrates merit for Development Plan Consent, subject to planning conditions recommended at the end of this report.

ASSESSMENT REPORT

1. BACKGROUND

1.1 Pre-Lodgement Process

The proponent engaged with the case managed pre-lodgement service offered by the Department of Planning, Transport and Infrastructure. The process saw only one pre-lodgement panel meeting, and two design review panel sessions.

The design was refined marginally through this process. The fundamentals and essential nature of the proposal remained mostly consistent throughout.

2. DESCRIPTION OF PROPOSAL

Application documents are included as an attachment to this report.

The nature of development includes the demolition of a Local Heritage Place and all other built elements on the land, and the construction of a twenty-one storey hotel building.

A summary of the proposal is as follows:

Land Use Description	Demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-one (21) storey hotel building.	
Building Height	21 storeys (93.85 metres to top of lift overrun)	
	Ground	Reception, lobby lounge and bar, waste room, receiving dock, offices
	Mezzanine	Plant rooms and void to ground level
	Level 1	Event rooms, event kitchen
	Level 2	Ballroom, event kitchen
	Level 3	Void to ballroom, executive offices, storage rooms
	Level 4	Plant rooms and fire water storage and pumps
	Level 5	Employee lounge, laundry room, store rooms
	Level 6	Swimming pool, gymnasium, yoga room
	Level 7 to Level 17	Guest suites (20 rooms per floor)
	Level 18 and 19	Regency suites (20 rooms per floor)
	Level 20	Breakfast/dining room, plus 14 rooms
	Level 21	Sky bar, outdoor terrace, and dining rooms
	Roof	Lift overrun and plant
Site Access	Pedestrian access to/from Gawler Place, with main entrance from Pirie Street. No public vehicle access. Receiving dock and waste area access to/from Gawler Place, with creation of a new crossover.	
Car and Bicycle Parking	No car parking spaces proposed. No bicycle parking proposed.	

Encroachments	Canopy over Pirie Street and Gawler Place, subject to separate consents obtained by City of Adelaide council.
Staging	Staging not proposed.

3. SITE AND LOCALITY

3.1 Site Description

The site consists of one allotment, legally described as follows:

Lot No	Plan	Street	Suburb	Hundred	Title
1	DP 13090	Pirie Street	Adelaide	Adelaide	CT 5292/63

The subject site is located at the south-western corner of the intersection of Gawler Place and Pirie Street. It has a frontage to Gawler Place to its eastern boundary of 36.81 metres, and 34.88 metres to its northern boundary to Pirie Street.

The site is currently occupied entirely by built form – the 1927-built Local Heritage (Townscape) listed former State Bank of South Australia, and a 1980s addition built directly to its east.

The subject site, and its surroundings, is flat.

3.2 Locality

The locality is characterised by an array of varying land uses which include car park, office, retail, café, hotel, and restaurant. Built form varies greatly, with building heights ranging from two storeys through to twenty-four storeys.

Pirie Street, the east-west road directly to the subject site's north boundary, carries one lane of traffic in each direction; each with a dedicated on-street bicycle path. Perpendicular to this, and to the site's east boundary, is the north-south running Gawler Place. Comparatively, Gawler Place sees far fewer traffic movements, owing to its one-way movement carrying vehicles and bicycles only in a northerly aspect.

Immediately to the south of the subject site is an at-grade car park associated which is ancillary to 45 Pirie Street. Beyond this is a ramp which carries vehicles to the basement of this same building.

To the west is 45 Pirie Street, as described above. This irregular shaped building has a moderate setback to Pirie Street, and is further rotated 45 degrees across the site. As a result, a substantial amount of the western boundary wall of the subject site is visible – particularly where the terraced built form recedes above its seventh floor.

To the east, and over Gawler Place, is 63 Pirie Street. This building has had its plaza space recently remodelled; removing the awning structure at the foyer of the building. This building has a chamfer to every floor of its north-western corner – which provides a generous urban area at its base.

Directly north of the site is 50 Pirie Street; a 13-storey building. This building is regular in shape, and features a void area at its ground level – offering a setback from its Gawler Place boundary. Similarly, the building at 64-70 Pirie Street, to the north-east of the subject site, does not build hard against its Gawler Place boundary. Because of this, the immediate locality does not have a strong 'hard edge' built form definition; and offers somewhat of an open feeling at this intersection. This is further experienced at the City of Adelaide administration offices, and the directly opposite Telstra Building.

Figure 1 – Location Map

4. COUNCIL COMMENTS or TECHNICAL ADVICE

4.1 City of Adelaide

The referral response from the City of Adelaide is contained in the attachments.

Council made comments under a number of headings. Notable comments are extracted here for ease of reference. These are broken down in headings and in a summarised form below:

Roads/Footpaths Engineering	Ongoing responsibilities for the planter boxes in the public realm (Pirie Street) are that of the applicant (maintenance, operations etc).
Torrens & Storm Water	The current proposal to discharge site stormwater to the surface using a checker plate drain is not supported. The installation of two strip drains on Gawler Place are not supported. The extension of the protuberance north into Pirie Street is not advisable due to the significant amount of work required. It is recommended the applicant undertakes an assessment to determine viability of these works, with all costs to the applicant.
Lighting/Electrical/CCTV	New building canopies are required to be clear of existing street lights by a minimum of 500mm.

	Under canopy lighting shall be in accordance with Council's under verandah/awning lighting requirements.
Traffic/Transport	The services vehicle turn path overhangs the eastern Gawler Place footpath when undertaking a reverse manoeuvre and this needs to be resolved.
Waste	Proper consideration needs to be given to ventilation in the bin storage room and all areas within the building where waste will be stored and transported across (internal pathways). Waste management is required to be provided by a private contractor.
Local Heritage	A Local Heritage (Townscape) Place does have status within the Development Plan, and demolition of the listed place should be considered in that context. Demolition of the listed building fabric is not consistent with the clear intent of the (Development) Plan, and is not supported.
Encroachments	The underside of the canopy over Gawler Place does not appear to be at least 5 metres above the roadway at all points. The Pirie Street canopy, if less than 5 metres to the underside, is required to be at least 600mm from the kerb face. The canopy is not supported as it will include a strong angular corner emphasis that will not respond to its context, does not assist in emphasising the entrance to the hotel, and does not provide adequate weather protection for pedestrians at the intersection. Access doors must not open outwards into the public realm. The tilt-up operable windows in Gawler Place may cause hazard during operation. Clarification is required to the dimensions where they extend into the public realm.

The applicant has responded to the comments made by Council.

This response is contained in the attachments of this report. The response is accompanied by amended documentation which relate to a revised canopy design, provides additional commentary with respect to the Local Heritage (Townscape) Place, and revised technical reports relating to stormwater and updated traffic diagrams as raised by Council.

The applicant confirms that the Pirie Street canopy edge will be at least 600mm from the kerb edge, and that the Gawler Place canopy edge will extend over the street but is greater than 5 metres above the roadway.

5. STATUTORY REFERRAL BODY COMMENTS

Referral responses are contained in the ATTACHMENTS.

5.1 Government Architect

The Government Architect is a mandatory referral in accordance with Schedule 8 of the Development Regulations 2008. The SCAP must have regard to this advice.

In the referral response, the Government Architect (GA) acknowledges the willingness with which the project team engaged with the Design Review process through the pre-lodgement. The proposal underwent two design review sessions.

The GA acknowledges the incremental changes to the design in response to the Design Review panel recommendations, however is not yet convinced that the design presented is sufficiently resolved to warrant removal of the Local Heritage façade. She recommends further review of the design of the building base and canopy, informed by the design principles, context, internal program, technical requirements, and the public realm interface.

The GA supports the concept for the tower form and angular reveals that go some way to referencing the late modernist context and the hotel use, however, the design of the building is considered to lack coherence and does not yet make a positive streetscape contribution and requires reconsideration.

The neutral glass selection raises concern of the GA, where the level of contrast between the angled reveals and the 'champagne' tinted glass being unconvincing, and the level of visual transparency by the neutral glass selection. The GA recommends further review of the neutral glass selection, with the view to increasing visual permeability and strengthening the visual contrast with the champagne tinted façade as indicated on the visualisations.

The design of the canopy is not yet convincing, where the relationship of the canopy with the façade composition, building structure, ground plane, and the interior of the building lacks coherence. The canopy is considered to not provide effective weather protection at the proposed height. The GA recommends holistic review of the canopy design informed by the façade composition, internal functions and effective weather protection.

To ensure the most successful design outcome is achieved, the GA recommends the SCAP consider:

- Further review of the neutral glass selection to the angled reveals to increase visual permeability and strengthen the visual contrast with the champagne tinted façade
- Further resolution of the development's overall lighting strategy including integration of lighting within the built form and internal spaces and colour temperature to ensure lighting enhances the hotel amenity and the building's appearance
- Further review of the building base and canopy expression to achieve a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome.

The GA does not recommend any conditions.

The GA referral response is included as an attachment to this report.

5.2 Adelaide Airport

The proposed building height of 139.45 metres AHD penetrates the Obstacle Limitation Surface for Adelaide Airport by approximately 21.45 metres, which requires approval from the Department of Infrastructure, Regional Development and Cities.

In the referral letter from Adelaide Airport Limited, they note approval will be required for the building, which will include crane operations and any lighting of the building required for shielding from aircraft flight paths.

Adelaide Airport Limited require the final overall height of all structures and masts be provided in AHD to commence the approval.

The referral agency imposes no conditions.

A copy of this referral letter is contained in the attachments.

6. PUBLIC NOTIFICATION

The application is a Category 1 development pursuant to Principle of Development Control 40(a) of the Capital City Zone, as it is not a listed Category 2 form of development.

Accordingly, no public notification was required.

7. POLICY OVERVIEW

The subject site is within the Capital City Zone and the Central Business Policy Area 13 as described within the Adelaide (City) Development Plan Consolidated 30 April 2020.

Relevant planning policies are contained in the appendices attached, and summarised below.

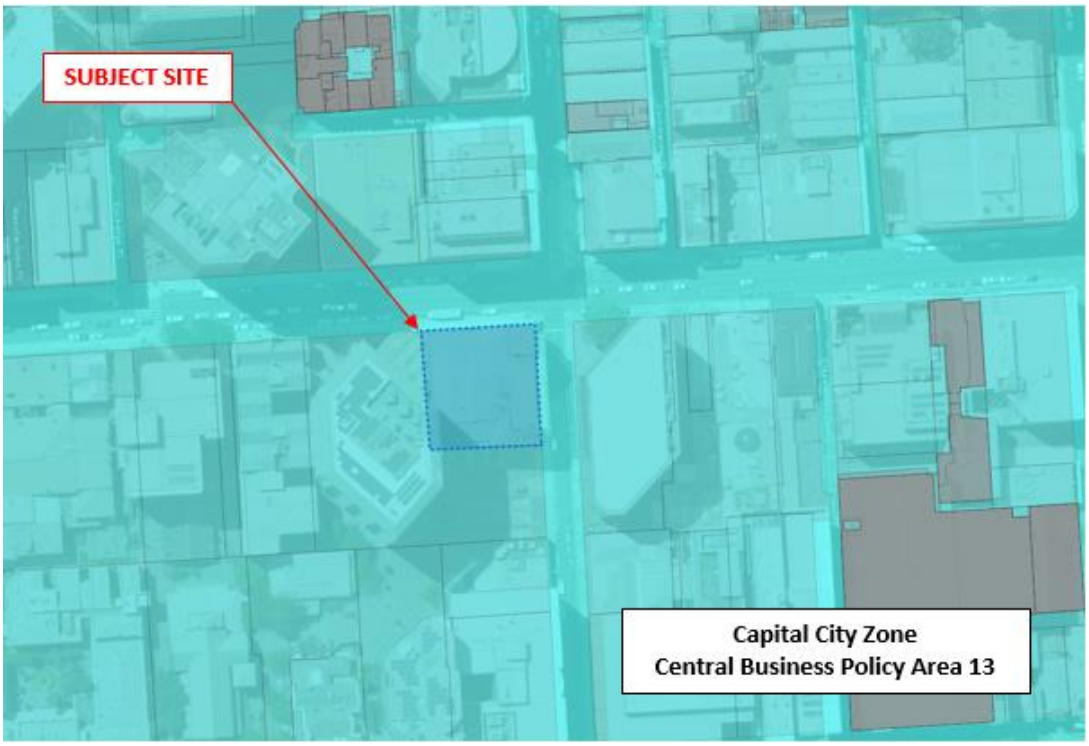


Figure 2 – Zoning Map

7.1 Central Business Policy Area 13

The Policy Area is the State's pre-eminent economic, governance and cultural hub and will be supported by educational, hospitality, and entertainment activities and increased opportunities for residential, student and tourist accommodation.

Buildings will exhibit innovative design approaches and produce stylish and evocative architecture, including tall and imposing buildings that provide a hard edge to the street and are of the highest design quality.

Complementary and harmonious buildings in individual streets will create localised character and legible differences between streets, founded on the existing activity focus, building and settlement patterns and street widths.

Development of a high standard of design and external appearance is anticipated in a way that successfully integrates with the public realm. To enable an activated street level, residential uses (or similar) should be located above ground level.

7.2 Capital City Zone

This Zone is the economic and cultural focus of the State and includes a range of employment, community, educational, tourism and entertainment facilities. It is anticipated that an increased population within the Zone will complement the range of opportunities and experiences provided in the City and increase its vibrancy.

High-scale development is envisaged in the Zone with high street walls that frame the streets. However an interesting pedestrian environment and human scale will be created at ground floor levels through careful building articulation and fenestration, frequent openings in building façades, verandahs, balconies, awnings and other features that provide weather protection.

In important pedestrian areas, buildings will be set back at higher levels above the street wall to provide views to the sky and create a comfortable pedestrian environment. In narrow streets and laneways the street setback above the street wall may be relatively shallow or non-existent to create intimate spaces through a greater sense of enclosure. In the Central Business Policy Areas, upper level setbacks are not envisaged.

7.3 Council Wide

Council Wide provisions provide guidance on the desire for increased levels of activity and interest at ground level; a high standard of design; appropriate bulk and scale of buildings and positive contribution to streetscapes including interfaces with places of heritage significance.

7.4 Overlays

7.4.1 Noise and Air Emissions

This site is located within the designated area for the Noise and Air Emissions Overlay, and as such requires assessment against *Minister's Specification SA 78B for Construction Requirements for the Control of External Sound.*

7.4.2 Adelaide City Airport Building Heights

Prescribed height limits are specified for the subject site, under the Adelaide (City) Airport Building Heights Map Adel/1 (Overlay 5).

Referral to the Department of Transport and Regional Services through Adelaide Airport Limited is required where a development would exceed the Obstacle Limitation Surface contours shown on Overlay 5. The referral confirms the OLS penetration of approximately 21.45 metres, which they state will require approval by the Department of Infrastructure, Regional Development and Cities; in line with the *Airports Act 1996* and the Airports (Protection of Airspace) Regulations 1996. Crane operations associated with construction, if approved by the Department of Infrastructure, Regional Development and Cities, will also be subject to a separate application.

A copy of the referral response is contained in the attachments.

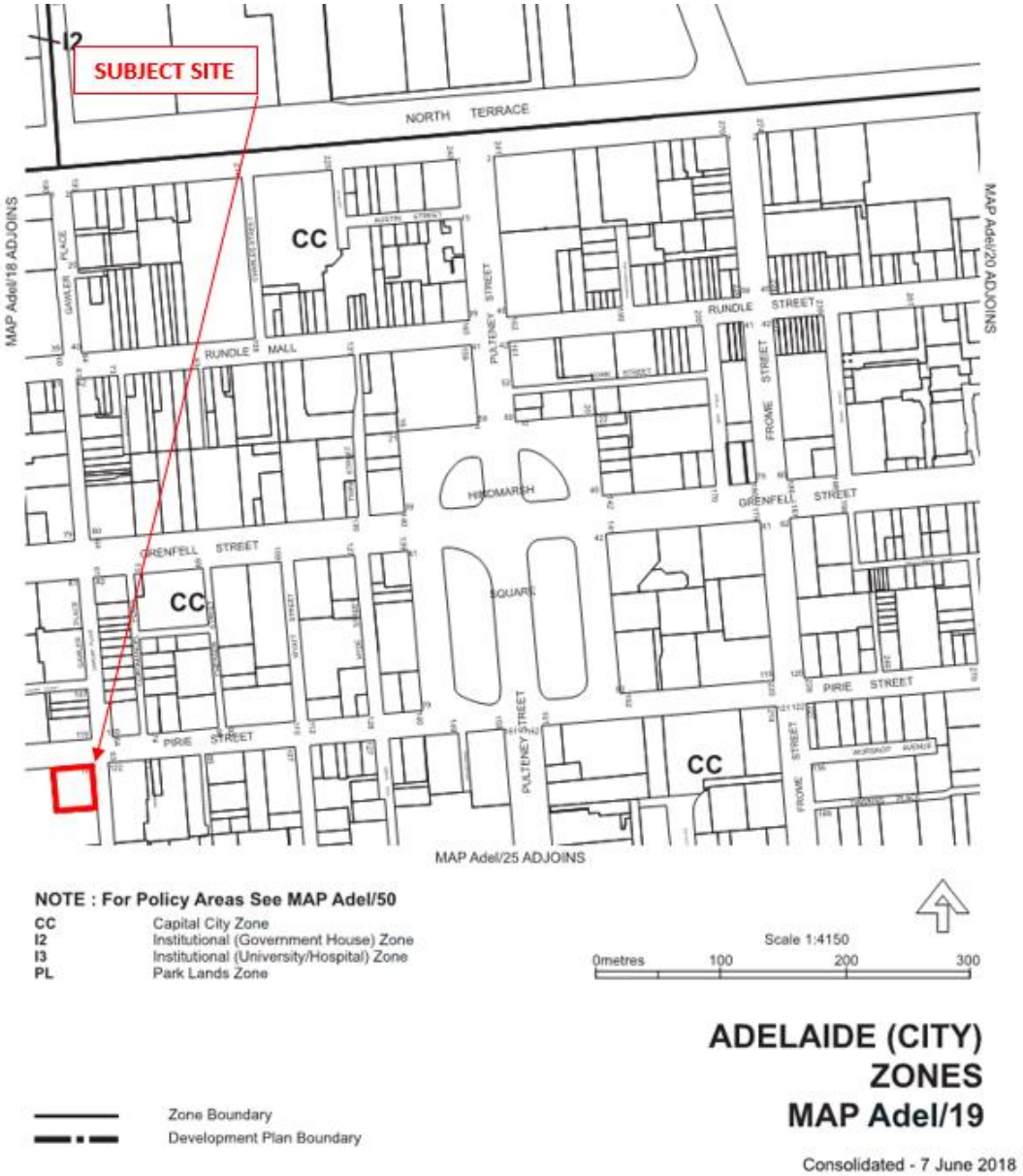


Figure 3 – Zone MAP Adel/19

8. PLANNING ASSESSMENT

The application has been assessed against the relevant provisions of the Adelaide (City) Development Plan with a consolidation date of 30 April 2020. These provisions are contained in the appendices attached.

8.1 Quantitative Provisions

	Development Plan Guideline	Proposed	Guideline Achieved	Comment
Land Use	Highest concentration of office, retail, mixed business, cultural, public administration, hospitality, educational and tourist activities.	Hotel and ancillary use.	YES ☒ NO ☐ PARTIAL ☐	
Building Height	No prescribed height limit.	93.85 metres to top of lift roof.	YES ☒ NO ☐ PARTIAL ☐	
Car Parking	No requirement for on-site car parking.	No car parking proposed.	YES ☒ NO ☐ PARTIAL ☐	
Bicycle Parking	No requirement for bicycle parking for 'hotel' land use.	18 spaces within end of trip facility and bicycle storage on Level 5.	YES ☒ NO ☐ PARTIAL ☐	Access to EOT via dedicated staff lift.
Boundary Setbacks	Buildings should be positioned regularly on the site and built to the street frontage, except where a setback is required to accommodate outdoor dining or provide a contextual response to a heritage place.	Built to all boundaries, except uniform setback from southern boundary from level 5 beyond.	YES ☐ NO ☐ PARTIAL ☒	Discussed below
Private Open Space	No requirement for private open space for 'hotel' land use.	Nil, to any hotel room.	YES ☒ NO ☐ PARTIAL ☐	

8.2 Land Use and Character

Development in the Central Business Policy Area should contribute to its role and function as the State's premier business district, having the highest concentration of office, retail, business, educational, hospitality and tourist activities with increased opportunities for residential accommodation.

The proposed hotel and ancillary land uses contribute positively to the Desired Character of the Policy Area, introducing envisaged forms of development and an increased – although transient – residential population which, in turn, will provide additional tourist activities.

8.3 Building Height

The subject site is located entirely within the portion of the Capital City Zone where no building height limit is prescribed. Notwithstanding the policy position, statutory

requirements around the safe operation of airspace exists, and as such, a referral to the Secretary of the Commonwealth Department of Transport and Regional Services (Adelaide Airport Limited) was required, as the building height penetrates the Obstacle Limitation Surface (OLS) as indicated on MAP Adel/1 (Overlay 5) of the Development Plan.

Standing at 21 storeys and 93.85m to its highest point (the lift roof), the proposed building is not considered to be an isolated feature in its context of tall buildings – namely the 'Telstra' building at approximately 104 metres, 'Grenfell Centre' or the informally named 'black stump' at approximately 103 metres, and 'Westpac House' at 132 metres. The building directly adjoins a 70 metre building to its west, however the proposed building is not considered to dominate it in any case.

The desired character of the Capital City Zone calls for minor streets having a sense of enclosure through buildings with a tall street wall compared to street width, and a sense of enclosure, with the Central Business Policy area particularly calling for no upper level setbacks. The proposal achieves these policies accordingly, with its lack of podium and upper level setback, and tall street walls at both its Pirie Street and Gawler Place elevations.

In her referral letter, the Government Architect supports the height of the building, given its inner city location.

The building interfaces well with adjoining and adjacent buildings, is not at tension with any elements which would suggest a lower building height is necessary, and has policy aspects which support a building of this height in this location.

8.4 Design and Appearance

Buildings in the Central Business Policy Area will exhibit innovative design approaches and produce stylish and evocative architecture of the highest design quality including tall and imposing buildings that provide a hard edge to the street. Development should be of a high standard of architectural design and finish to produce a variety of design outcomes of enduring appeal and contemporary juxtapositions providing new settings for heritage places.

The proposed development has remained consistent in its design through the pre-lodgement service offered by the Department. The Government Architect is not convinced that the design presented is sufficiently resolved to warrant removal of the Local heritage façade.

The building presents a 'champagne' glazed rectangular monolith, except for its north-east corner, where the building is 'peeled' upwards from this corner to reveal a clear glazed element to reveal the first three levels of the building from its base. This provides a unique form of identity to the corner, however, confusingly, the entrance is located centrally along its Pirie Street elevation – and this corner element is purely cosmetic which provides no relationship between the architecture and its logical function.
To continue this 'peeling back' gesture, the top of the building has a similar approach, where the champagne glazing is lowered at the north-west corner of the building; which reveals a portion of the roof deck and an even smaller portion of the level 20 rooms at this north-west corner.

The proposal has a high responsibility to add quality architecture to the built form of Adelaide city, whilst satisfying the policy provisions of the Zone and Policy Area, by providing contemporary built form with high quality architectural design, and hard streetscape edges to its upper levels.

Provision of a final schedule of all external materials will assist the Panel in reaching a determination of the appropriateness of the materials proposed, and this should form a Reserved Matter to any consent granted in order to ensure that the quality of finishes is suitable for the location, and that the level of quality is not diminished through post-consent evolution. This should be done so in conjunction and close collaboration with the Government Architect, and a Reserved Matter has been worded in the recommendation to support this. Alternatively the SCAP may choose to defer making a decision on the application, pending receipt and support of the schedule of materials.

8.4.1 Public Realm

Principle of Development Control 3 of the Central Business Policy Area 13 seeks that residential development (or similar) should be located above ground level in order to enable an activated street level.

The proposal locates all of its hotel suites above ground level, with the ground floor plane comprising, at its street edges, a lobby bar and lobby lounge, and reception area. Non-active edges include the areas associated with the fire booster, fire exit, gas enclosure, and receiving dock. These, however, are generally consolidated and grouped away from the Pirie Street/Gawler Place corner, and as such afford the greatest level of activation – notwithstanding the functional necessity of the inclusion of these non-active edges.

The positioning of the lobby/lounge with seating area directly behind operable windows to both Pirie Street and Gawler Place will allow the spaces between public realm and private hotel space to blend. Continuing this connection between private and public spaces is the modified protuberance to Pirie Street which will see an outdoor dining space. This, however, is not part of this application and will be subject to separate consent through the City of Adelaide council.

Continuing the public realm commitment is a proposal to lay concrete flagstone paving, and the installation of planter boxes. These, similarly, will be subject to separate consent by City of Adelaide, and do not form part of this application.

8.4.2 Occupant Amenity

Being specifically designed for hotel accommodation, the proposed development does not have specific quantitative requirements which would apply to residential development, including private open space, storage, and other amenity requirements.

The Adelaide (City) Development Plan does not provide guidance to any minimum level of amenity for a hotel development. Notwithstanding, the guest rooms are designed in such a way that is anticipated to meet the operational requirements, in addition to achieving a level of amenity that results in good natural light to every room, a mix of room types, and an efficient layout which capitalises on the rectangular footprint, and generally central and consolidated core.

A generous ground floor lobby, swimming pool and gymnasium, and 'skybar' and dining rooms provide additional and high quality amenity to visitors and guests of the hotel.

8.4.3 Building Setbacks

The Central Business Policy Area seeks tall and imposing buildings that provide a hard edge to the street. The Policy Area is silent on buildings requiring any

upper level setbacks. Principle of Development Control 178 of Council Wide provisions seek that buildings in the Capital City Zone should be built to the street edge to reinforce the grid pattern, create a continuity of frontage and provide definition and enclosure to the public realm whilst contributing to the interest, vitality and security of the pedestrian environment.

The building is proposed to be built to each of its boundaries, with the exception of the southern elevation, which steps in some 4 metres from level 5 upwards. This setback affords a separation between the proposed building and a future building, should one be built on the currently area in the adjoining allotment to the south. This setback is not considered detrimental to the policy position.

8.5 Heritage

The proposal seeks the total demolition of the Local Heritage (Townscape) Place on the subject site, in order to facilitate the new construction. The listing is for the former State Bank of South Australia, which was constructed in 1927. Since the time of its original construction, a number of developments have occurred on the land which have diminished the integrity of its original heritage value. This includes the substantial redevelopment in the 1980s which stripped all internal finishes, and expanded the built form to the east with a brutal concrete express-form addition which directly adjoins what remains of the Local Heritage Place. In this redevelopment, the original windows were replaced, original balconies infilled, ground floor window sills lowered, and original signage removed. Accordingly, this has resulted in only the Pirie Street façade being representative of the era of construction.

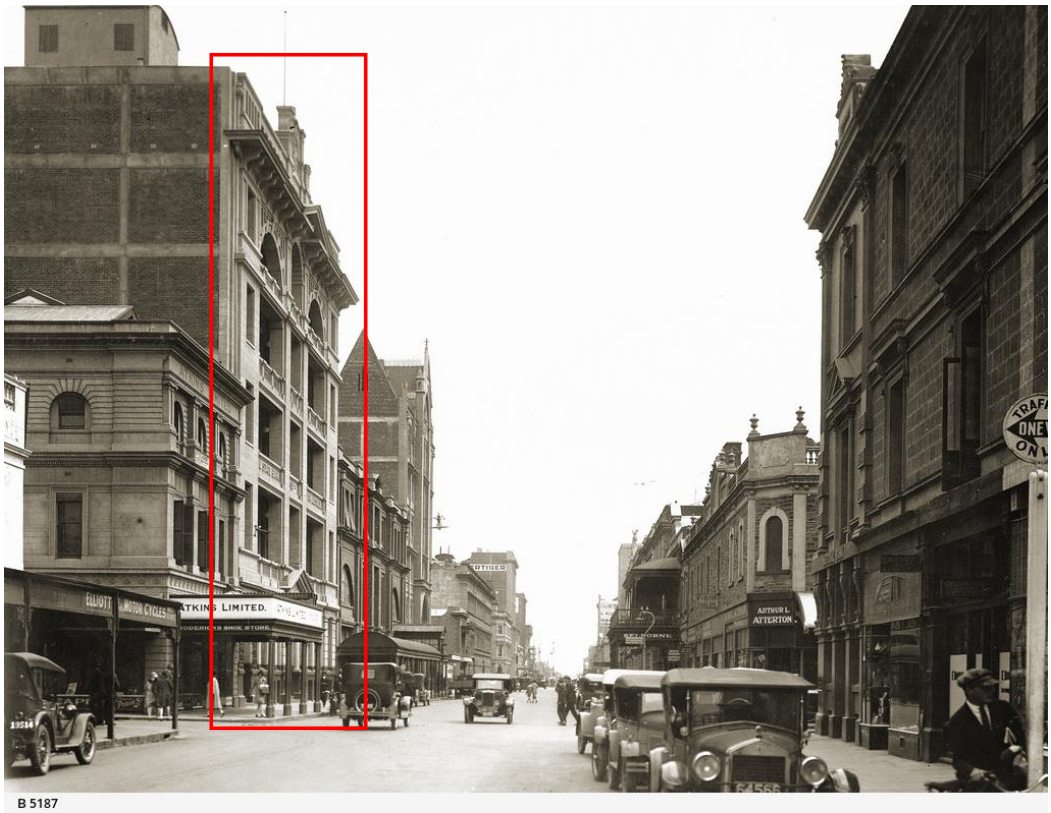


Image: Pirie Street looking west. October 1928. Source: State Library of SA.
(Subject heritage façade outlined in red)

There are a number of objectives of the Development Plan that seek development retain the heritage value and setting of a heritage place and its built form contribution to the locality; and the continued use or adaptive reuse of the land, buildings and structures comprising a heritage place; namely through Objective 43 and 44 of the City Wide Heritage and Conservation section. Principles of Development Control 137, 138, and 139 of the same section further seek any development affecting a heritage place should facilitate its continued use that are complementary to the heritage place; should not be demolished unless it can be demonstrated that the place has become so diminished in integrity that the remaining fabric is no longer capable of adequately representing its heritage value as a local heritage place; and that development of a Local Heritage Place (Townscape) should occur behind retention depths of 6 metres.

The proposal is demonstrably at odds with policies relating to heritage within the Development Plan.

A Heritage Impact Assessment, authored by Jason Schulz of DASH Architects, details the elements of heritage importance, and begins to justify the total demolition of the Local Heritage Place (Townscape). The Heritage Impact Assessment does not provide a thorough justification for the demolition of all heritage fabric on the site.

Whilst acknowledging that the proposal is at odds with the Development Plan provisions which encourage retention of places with heritage value, the author of the report suggests that, given the erosion of original heritage value of the building through its alterations over the years, its removal is necessary to facilitate the proposed development.

The City of Adelaide are not supportive of the demolition of the Local Heritage Place (Townscape) place. They iterate that the Heritage Impact Assessment prepared by DASH Architects rightly calls for the retention of the Local Heritage Place (Townscape) through Development Plan provisions, and that the demolition of this listed building fabric is therefore not consistent with the clear intent of the Development Plan.

The applicant provided a response to Council's concerns with the demolition of the listed fabric, indicating that the approach for ground level activation and high quality approach to development the public realm would not be achievable without the removal of the façade. The applicant notes the removal of the façade enables future activation of the street frontage and provides for a high quality entry to the hotel, in addition to weather protection should the heritage façade be retained.

The applicant argues that the retention of the heritage façade would not accommodate the level of permeability and street level activation sought by other policies within the Development Plan in their justification for the demolition.

Whilst the proposal is certainly at odds with a number of heritage policies of the Development Plan, the discussion of retention – when measured against any benefit of new development that requires its demolition – should be given consideration. Conversely, when considering the erosion of heritage value through numerous 'improvements' on the land; prior to its heritage listing as adopted in the Development Plan as a Local Heritage (Townscape); which has resulted in a largely adulterated version of its original self through the adaptation of various commercial uses and commercial demands, the argument mounts towards its total demolition which would allow for the development to occur in its proposed form. The benefits of the proposal and activation of this prominent corner site is considered to outweigh the benefits of the retention of this particular heritage building, noting that only the retention to a depth of 6 metres to the front façade is required by planning policy. Notwithstanding, the applicant has made no attempt to demonstrate that retention of the Local Heritage Place (which has existed on the site since 1927) is possible.

It is recommended that demolition of the local heritage place should not be allowed as a standalone stage of Development Approval. Should the SCAP agree, the applicant would be required to combine the demolition with substructure works to ensure enforceability of the early works to a replacement building, and not another vacant CBD site. This is recommended through a condition of consent.

8.6 Traffic Impact, Access and Parking

8.6.1 Site Access and Safety

Principle of Development Control 224 and 226 of Council Wide Transport and Access – Access Movement seeks that development should provide safe, convenient and comfortable movement; and means of access to land by increasing the permeability of the pedestrian network. The applicant has commissioned Wallbridge Gilbert Aztec (WGA) to undertake a traffic assessment report of the proposal.

Vehicle access to the building is proposed via a crossover towards the southern edge of the site from Gawler Place. This crossover facilitates the on-site function of the receiving dock, which serves the delivery and waste collection on the site.

A new indented parking area is proposed off Pirie Street which will facilitate 'VIP' drop-off and pick-up parking. Two vehicle spaces are proposed along Gawler Place for drop-off and pick-up, as well as service vehicle for off-peak periods.

The WGA report acknowledges the high level of pedestrian activity in the vicinity of the subject site, and that implementing pedestrian crossovers can result in safety concerns. Crash statistics at five Adelaide CBD hotels has been provided, which indicate zero pedestrian related collisions. They justify that the record of this supports the arrangement proposed at 51 Pirie Street. They do not justify, however, the number of crossovers at each, the vehicle speeds, vehicle counts, or other site-specific matters that may influence these figures. In any case, it is considered that the good long-views and relatively low speed setting of this intersection attribute that the inclusion of a crossover will not present any additional safety concerns.

Waste collection movements are further outlined in the Rawtec waste management report, however the WGA report concludes that an 8.8 metre truck is able to reverse into the loading area for collection purposes. For safety reasons, the waste collection should be restricted to 'off-peak' times. A condition to any consent shall be attached which will control this. A number of other waste-related conditions are proposed to ensure the safe collection, which will be outlined later in this report with sub-heading 'Waste Management'.

8.6.2 Traffic Impact

Wallbridge Gilbert Aztec's assessment of traffic generation concede that the development will generate up to 18 pick-up/drop-off movements per hour. This is an estimation based on real data collected from both Peppers Waymouth Hotel (202 rooms) and the Stamford Plaza Hotel (335 rooms) between 9am and 10am on a 'typical weekday'. The proposed hotel comprises 285 rooms.

WGA summarise that pedestrian sight distance requirements are met, that operational processes would be required to manage vehicles queuing beyond the allocated on-street parking spaces in demand times, the loading bay provides for sufficient space for an 8.8 metre medium rigid truck, and that, overall, the proposal is not expected to cause any significant adverse parking or traffic impacts in the surrounding area.

Council are generally comfortable with the traffic impacts, and have no objections to this development.

8.7 Environmental Factors

Development Plan policy seeks development in the council area should be designed to ensure public safety and security are maintained, essential services are provided without unreasonable disruption or disturbance to the community, micro-climatic impacts are minimised, and that new built form is compatible with the long term sustainability of the environment.

8.7.1 Crime Prevention

Policy seeks that development should promote community safety and security in the public realm and within development, through the promotion of natural surveillance through a number of design measures. These include the orientation of windows and doors to the street, avoiding high and blank walls, positioning public areas so they are bound by roads on at least two frontages, creating a mix of night time and day time activities, and ensuring service areas are either secured or exposed to surveillance.

The proposal achieves many crime prevention measures. In particular:

- Both the Gawler Place and Pirie Street frontages adopt a vast amount of glazing at ground and upper levels, which affords direct connection with the public realm – through its door openings, and unobscured glazed wall elements.
- A high level of night time and day time activity is expected on the site, given the 24-hour servicing of the reception desk at ground floor.
- Service and other back of house is secure.
- The programming of the ground space, locating its lobby, reception, and bar area allows for both night time and day time activities.
- Solid, inactive walls are minimised only to the service area at the southern end of the Gawler Place elevation, with the balance of the ground level being glazed.

The proposal is considered to sufficiently satisfy those provisions of the Development Plan which directly relate to Crime Prevention Through Urban Design under the Council Wide – Environmental section.

8.7.2 Noise Emissions

The application is accompanied by a 'planning stage noise assessment' prepared by Sonus. The report considers the external noise intrusion into the rooms from traffic in the CBD; the external noise intrusion from mechanical services plant servicing adjacent commercial buildings; and environmental noise from plant and equipment servicing the development to adjacent commercial buildings.

It should be noted that the closest form of residential land use is well in excess of 100 metres from the site, and is well shielded by other buildings which obscure it.

The assessment concludes that the development requires further detail in terms of plant equipment selection, façade construction, and the timing of ancillary activity to determine its environmental noise impact; and that the external noise intrusion would require specific glazing which is expected through the design development stage.

A standard condition requiring acoustic attenuation is proposed to be attached to any consent given to this application to ensure building occupants and adjacent noise-sensitive uses are not unreasonably disturbed by noise generated through the operation of the development.

8.7.3 Waste Management

The application is accompanied by a waste management plan prepared by Rawtec. The report details the recommended services, including estimated waste and recycling volumes, bin sizes and collection details, waste storage area, and collection requirements. The recommendations of the report align with the *SA Better Practice Guide – Waste Management in Residential or Mixed-Use Developments*.

The proposal is serviced by a dedicated waste area, located at the south-western corner of the building, and accessed through the receiving dock. The report recommends a total of eight 660L general waste bins, three 660L 'comingled' recycling bins, nine 660L organic bins, and four 660L cardboard recycling bins.

Hotel guests will dispose of their waste and recycling in bins provided in their rooms. Waste and recycling from kitchen will be collected in smaller bins, then loaded into the 660L bins in the kitchen waste rooms, then on to the general bin room for collection once full.

Rawtec are satisfied that the bin room – and its access – are sufficient to service the development.

A waste collection contractor will reverse from Gawler Place into the hotel loading area, who will then collect bins from the waste room and empty them on site. The collection vehicle will then exit the development in a forward direction. The number of collections has been estimated at 19 per week.

The report makes a number of recommendations to ensure the safety of pedestrians, including: the fitment of 360 degree reversing cameras and automatic braking; collection outside of high traffic times (i.e. before 6am and after 7pm); the utilisation of a spotter for the reversing manoeuvre.

Council administration has reviewed the proposed waste management arrangement, and are satisfied that the final waste management plan will meet the operational requirements for the development.

8.7.4 Energy Efficiency and ESD Measures

Buildings within the Council area should provide adequate thermal comfort and minimise the need for energy use for heating, cooling and lighting through design measures specified in the Council Wide Environmental - Energy section of the Development Plan.

The applicant has provided a Sustainability Management Plan prepared by Lucid Consulting Australia which accompanied the development application. The report covers a range of topics, and summarises the following initiatives as being incorporated into the design to reduce energy and water consumption; reduce the ecological footprint of the building and its occupants; and improve thermal comfort and air quality – with ESD initiatives including:

- An efficient building envelope with high performance insulation

- Glazing selected with consideration of building-specific features and climatic conditions to meet or exceed minimum NCC requirements
- Energy efficient massing
- Thermal mass through heavyweight construction materials
- High level of daylight to all rooms
- LED lighting throughout
- Heat recovery ventilation in rooms
- EOT facilities for employees
- Low VOC paints used throughout.

It is considered that the energy efficiency and sustainable design measures meet the requirements of the Development Plan.

8.7.5 Wind Analysis

Development should be designed and sited to minimise micro-climatic impact on adjacent land or buildings, including detrimental effects of wind patterns. The applicant has engaged Arup to provide an environmental wind assessment to determine the suitability of the proposed building with respect to its wind impacts.

The report predicts wind conditions on the ground plane; in and around the site based on local wind climate, topography, and building form. The report states that the height of the building, being considerably higher than surrounding buildings, would be expected to have an impact on the local wind conditions, however the width of Gawler Place, being relatively narrow, would suppress any accelerated flows.

The report concludes that the wind conditions around the site on pedestrian level would not be expected to change significantly compared with the current wind condition. The greatest increase would be expected to be for local winds along Gawler Place between the proposed building and 63 Pirie Street for winds from the north or south quadrants, where channelled flow would be expected between these buildings. This flow would be expected to be slightly faster, but more constant with less turbulence.

Arup state that, from a wind comfort perspective, the wind conditions at the majority of locations around the development site would be expected to be classified as suitable for pedestrian standing with the area to the east of the development along Gawler Place being classified as suitable for pedestrian walking. The wind conditions in these areas meet the intended use of the space, and the locations within the proposed development would pass the safety criterion.

The report concludes that numerical or physical modelling of the development would be required, which they state as best conducted during detailed design. A condition will be attached to any consent given to this application to satisfy the SCAP of the impacts of wind.

8.7.6 Stormwater Management

Development Plan policy encourages stormwater management systems designed and located to improve the quality of stormwater, minimise pollutant transfer to receiving waters and protect downstream receiving waters from high level of flow.

The applicant has engaged Wallbridge Gilbert Aztec (WGA) to provide a stormwater management plan with respect to the proposal.

The stormwater management plan outlines that the adoption of the same methodology as the existing building will occur for the new building, where only roof runoff management is required. All roof runoff will be collected by downpipes and discharged to the water table on Pirie Street and Gawler Place via steel box drain and traditional gravity feed rainwater system. Given the flow rates, 5 separate box drains are required across the footpath.

In the referral to council, the City of Adelaide state they do not support the proposed strip drains over the footpaths. Management of these matters will be resolved in conjunction with consultation with the City of Adelaide, noting that the proposed alterations to the Pirie Street protuberance will be subject to separate consents granted by the council; and are not part of this application.

8.7.7 Site Contamination

Policy in the Environmental – Contaminated Sites section of Council Wide provisions of the Development Plan recommend that where there is evidence or reasonable suspicion that land may have been contaminated, development should only occur where it is demonstrated that the land can be made suitable for its intended use prior to commencement of that use.

The applicant provides no evidence to suggest the site is suitable for development as a hotel with ancillary mixed uses. A condition is proposed to be attached to any consent given to this application that a statement from a suitably qualified environmental engineer demonstrate suitability of the site for its intended use be provided prior to the commencement of construction.

8.8 Signage

Signage does not form part of this application.

It is recommended that an Advisory Note will be included on any consent this application may be granted that requires the applicant to lodge a separate application for any building signage.

9. CONCLUSION

The proposed development raises the following key planning concerns:

- Total demolition of a Local Heritage (Townscape) Place;
- Interface between pedestrians and vehicles, with respect to the crossover required to provide delivery and waste management on the site from Gawler Place;
- The quality of architecture;
- The proposed canopy.

The applicant provided a Heritage Impact Assessment which accompanied the application documentation. This assessment did not provide a thorough justification for the demolition of all heritage fabric on the site. It made only an assessment of the place itself, and listed the changes made over the years which have eroded its original heritage qualities (since its original construction). Council are not supportive of the demolition of this Local Heritage (Townscape) Place, as it is clearly at odds with the provisions of the Development Plan which would seek its retention, and where possible, its integration with any new development. The applicant responded to the concerns raised by Council with respect to the demolition, with their response detailing reasons for demolition to include:

- The need to totally demolish to allow for future activation of the street frontages;
- Providing a new, high quality entrance for the hotel;

- The lowest-tier of heritage listing applied to the building;
- The amount of heritage fabric remaining (the front façade only);
- The finished floor levels of the building which presents significant access issues;
- Further fragmentation of the Local Heritage (Townscape) Place if integration with any new build is considered;
- The support of the Government Architect to provide a high quality public realm outcome.

To gain support, the reasons for demolition of a Local Heritage (Townscape) Place must be greater than those for retention. In reviewing the reasons provided for the demolition, it is considered an appropriate approach to allow the demolition, given that the retention of the façade – the portion listed – will present significant challenges for any future development of the site. Having said this, it has not been demonstrated to the Department that the building that has existed on the site for 93 years cannot be incorporated into any new design; simply that the demolition would be most convenient for the applicant. In addition, the GA is of the view that the building design, as currently proposed, is not of a sufficient design quality to warrant the demolition of the Local Heritage Place. This particularly relates to the canopy design and quality of materials. If the SCAP decides to support the proposal, these matters are able to be dealt with as Reserved Matters, as necessary.

The introduction of a crossover to Gawler Place to allow access to the site for waste and delivery presents a concern to the safety of pedestrians; which is particularly important for this highly pedestrianised inner central business district location. The programming of spaces beyond the property boundary includes a servicing area towards the southern end of the Gawler Place boundary. Justification to the management of the pedestrian-vehicle impacts are noted to include out-of-hours waste collection, a spotter to increase safety when reversing manoeuvres are undertaken. It is considered that the potential conflicts are able to be appropriately managed through the recommended conditions.

A condition is recommended that the Development Approval for demolition be incorporated with substructure works (at a minimum) to provide greater comfort that the building will not be demolished without the new development commencing.

It is concluded that the proposed development, on fine balance, should be granted Development Plan consent, subject to the Reserved Matters and conditions set out in the following section.

10. RECOMMENDATION

It is recommended that the State Commission Assessment Panel:

1) RESOLVE that the proposed development is NOT seriously at variance with the policies in the Development Plan.

2) RESOLVE that the State Commission Assessment Panel is satisfied that the proposal generally accords with the related Objectives and Principles of Development Control of the Adelaide (City) Development Plan consolidated 30 April 2020.

3) RESOLVE to grant Development Plan Consent to the proposal by CEL Development Pte Ltd, c/- Future Urban for the demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-one (21) storey hotel building.

RESERVED MATTERS

Pursuant to Section 33 (3) of the *Development Act 1993,* the following matters shall be reserved for further assessment, prior to the granting of Development Approval:

1. A physical samples material board with all external materials be provided to the satisfaction of the State Planning Commission (SPC), and in consultation with the Government Architect.

2. A revised design of the canopy which extends past the boundary of the subject site shall be provided to the satisfaction of the SPC, in consultation with the Government Architect and the City of Adelaide.

PLANNING CONDITIONS

1. The development herein granted Development Plan Consent shall be undertaken and completed in accordance with the stamped plans and documentation, except where varied by conditions below.

   Reason for condition: To ensure the development is undertaken in accordance with endorsed plans and application details.

2. Prior to Development Approval being issued for the first stage (should staged development be proposed through a variation), a statement by a suitably qualified professional that demonstrates that the land is suitable for its intended use (or can reasonably be made suitable for its intended use) shall be submitted to the State Planning Commission.

   Reason for condition: To ensure the land is able to be developed for its intended land uses.

3. Prior to Development Approval for the super structure works (should staged development be proposed through a variation), a wind modelling assessment that includes numerical or physical modelling of the development shall be undertaken by a qualified engineer, and submitted to the satisfaction of the State Planning Commission (SPC). Any recommendations for changes to the built form shall be approved by the SPC.

   Reason for condition: To ensure that the as-built development does not cause detriment to the amenity of the locality.

4. All driveways and vehicle entry and manoeuvring areas shall be designed and constructed in accordance with Australian Standards AS/NZS 2890.1:2004 and AS/NZS 2890.6:2009 to the reasonable satisfaction of the State Planning Commission prior to the occupation and use of the development.

   Reason for condition: To ensure safe operation of the development.

5. Clear sight lines for users of the car park entry shall be provided to ensure pedestrian safety along the Gawler Place footpath and shall be provided at all times in accordance with Australian Standard AS/NZS 2890.1:2004 Off-street Car Parking.

   Reason for condition: To ensure safe operation of the development and environment.

6. All bicycle parking spaces shall be designed and constructed in accordance with Australian Standard AS/NZS 2890.1:2015.

   Reason for condition: To ensure the appropriate access arrangements to bicycle parking and storage spaces.

7. The finished floor level of any ground floor entry points including the car park entry and exit points shall match that of the existing footpath unless otherwise agreed to by the State Planning Commission.

Reason for condition: The City of Adelaide will not alter existing footpath levels to suit the as-built levels of the development.

8. All external lighting on the subject land shall be designed and constructed to conform to Australian Standard AS/NZS 4282-1997.

   Reason for condition: To ensure external lighting does not introduce undue potential for hazards to the locality.

9. Lighting shall be installed to the verandah at street level on Pirie Street in accordance with the City of Adelaide council's guideline titled 'Under Verandah/Awning Lighting Guidelines' at all times to the reasonable satisfaction of the council and prior to the occupation or use of the Development. Such lighting shall always be operational during the hours of darkness to the reasonable satisfaction of Council.

   Reason for condition: To ensure Council requirements are met for lighting under verandah/awnings.

10. Air conditioning, air extraction and other plant material including ducting shall be sited and acoustically screened such that no unreasonable nuisance or loss of amenity is caused to users of properties in the locality, to the reasonable satisfaction of the State Planning Commission.

    Reason for condition: To ensure appropriate noise attenuation measures are in place for occupants of the building and those in the locality.

ADVISORY NOTES

a. This Development Plan Consent will expire after twelve months from the date of this Notification, unless final Development Approval from Council has been received within that period or this Consent has been extended by the State Planning Commission.

b. The applicant is also advised that any act or work authorised or required by this Notification must be substantially commenced within one year of the final Development Approval issued by Council and substantially completed within three years of the date of final Development Approval issued by Council, unless that Development Approval is extended by the Council.

c. Development Approval will not be granted until Building Rules Consent and an Encroachment Consent have been obtained. A separate application must be submitted for such consents. No building work or change of classification is permitted until the Development Approval has been obtained.

d. The application will require approval in accordance with the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996 and therefore will be forwarded to the Department of Infrastructure and Regional Development for their approval. If the development is approved by the Department of Infrastructure, Regional Development and Cities, any associated lighting would also need to conform to the airport lighting restrictions and shielded form aircraft flight paths. Crane operations associated with construction, if approved, will also be subject to a separate application. Should you require any additional information, please contact Brett Eaton, Airside Operations Manager, Adelaide Airport Limited on 08 8308 9245.

e. An Encroachment Permit will be separately issued for the proposed encroachment into the public realm when Development Approval is granted. In particular, your attention is drawn to the following:

- An annual fee may be charged in line with the Encroachment Policy.
- Permit renewals are issued on an annual basis for those encroachments that attract a fee.
- Unauthorised encroachments will be required to be removed.

f. Any activity in the public realm, whether it be on the road or footpath, requires a City Works Permit. 48 hours' notice is required before commencement of any activity. The City Works Guidelines detailing the requirements for various activities, a complete list of fees and charges and an application form can all be found on Council's website at www.cityofadelaide.com.au. When applying for a City Works Permit you will be required to supply the following information with the completed application form:

- A Traffic Management Plan (a map which details the location of the works, street, property line, hoarding/mesh, lighting, pedestrian signs, spotters, distances etc);
- Description of equipment to be used;
- A copy of your Public Liability Certificate (minimum cover of $20 million required);
- Copies of consultation with any affected stakeholders including businesses or residents.

g. Any work relating to crossing places will be undertaken by council and the cost of the work will be charged to the applicant. A separate application for the crossing places is required and the applicant can obtain a form from Customer Service at 25 Pirie Street, Adelaide or by telephone on 8203 7236. A quotation for the work will be provided by council prior to the work being undertaken.

h. The applicant is encouraged to contact the City of Adelaide as early as possible to commence a collaborative design process with respect to the proposed changes in the public realm.

i. Signage does not form part of this development application. No advertising display or signage shall be erected or displayed on the subject land without any required Development Approval being obtained first.

j. The applicant has a right of appeal against the conditions which have been imposed on this Development Plan Consent. Such an appeal must be lodged at the Environment, Resources and Development Court within two months from the day of receiving this notice or such longer time as the Court may allow. The applicant is asked to contact the Court if wishing to appeal. The Court is located in the Sir Samuel Way Building, Victoria Square, Adelaide, (telephone number 8204 0289).

k. The applicant, or any person with the benefit of this consent, must ensure that any consent/permit from other authorities or third parties that may be required to undertake the development, have been granted by that authority prior to the commencement of the development.

l. The applicant is reminded of their obligations under the *Local Nuisance and Litter Control Act 2016* and the *Environment Protection Act 1993*, with regard to the appropriate management of environmental impacts and matters of local nuisance. For further information about appropriate management of construction sits, please contact the City of Adelaide on 8203 7203.

Will Gormly
Senior Planning Officer
PLANNING AND LAND USE SERVICES
DEPARTMENT OF PLANNING, TRANSPORT and INFRASTRUCTURE

CES PIRIE HOTEL (SA) PTY LTD

51 PIRIE STREET

HYATT REGENCY HOTEL

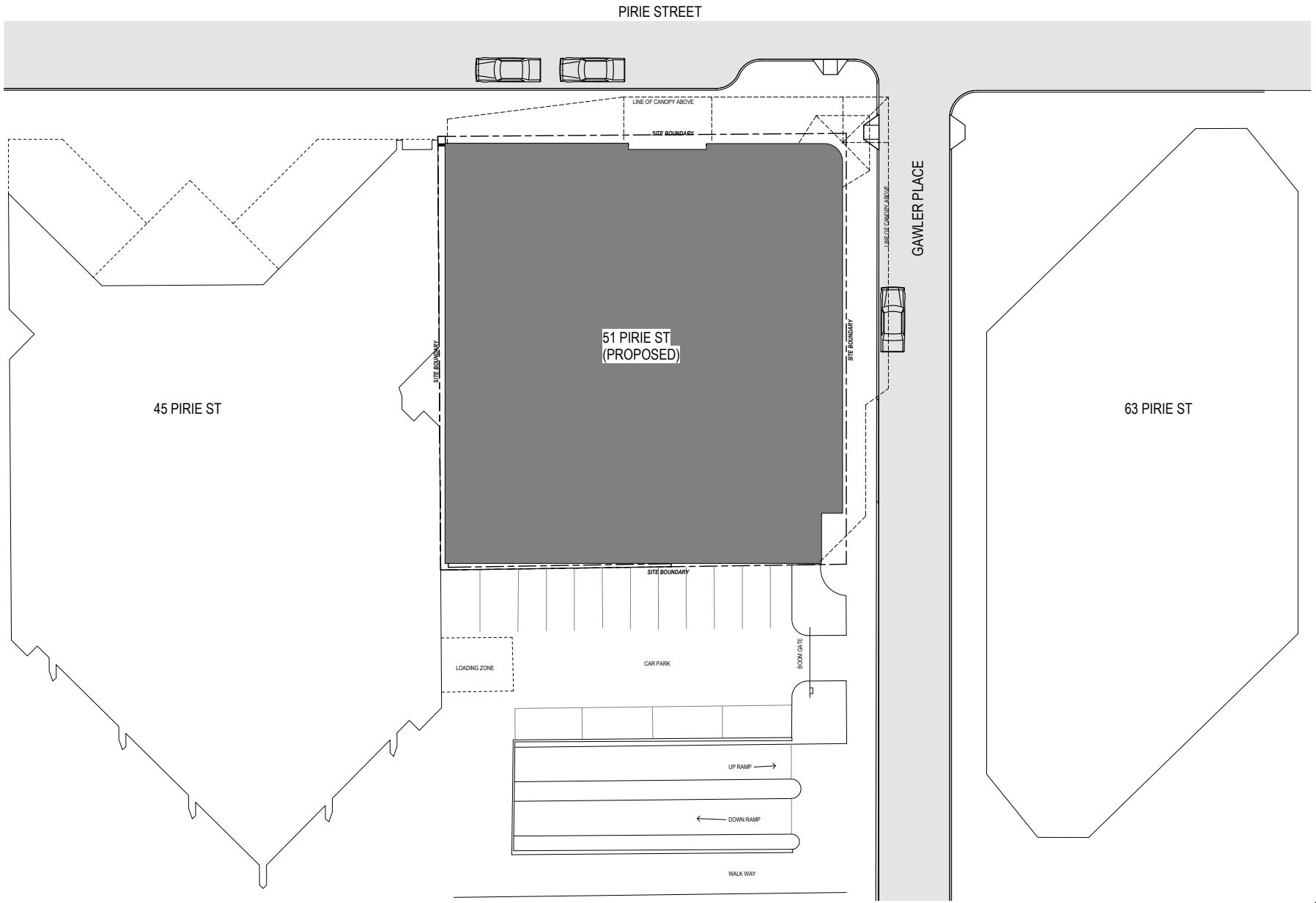
33-18952

DRAWING LIST - DEVELOPMENT APPLICATION	
DRG NO. SHEET	DRAWING TITLE
SK000	COVER PAGE
SK010	SITE PLAN
SK100	LGF-GROUND FLOOR PLAN
SK101	LGF1-GROUND FL MEZZANINE
SK102	L01-MEETING ROOM PLAN
SK103	L02-BALLROOM PLAN
SK104	L03-ADMINISTRATION PLAN
SK105	L04-PLANT
SK106	L05-EMPLOYEE FACILITIES
SK107	L06-POOL DECK
SK108	L07-L017 - GUEST SUITES
SK109	L18-19 - REGENCY SUITES
SK110	L20-REGENCY CLUB
SK111	L21-SKY BAR
SK112	ROOF PLANT
SK200	SECTION
SK201	NORTH & EAST ELEVATION
SK202	SOUTH & WEST ELEVATION
SK300	SOLAR STUDY - WINTER
SK301	SOLAR STUDY - SUMMER

GAWLER PLACE, SOUTH EAST.

GAWLER PLACE & PIRIE STREET, NORTH EAST CORNER.

PIRIE STREET, WEST.



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SK010

SITE PLAN

scale 1 : 150 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

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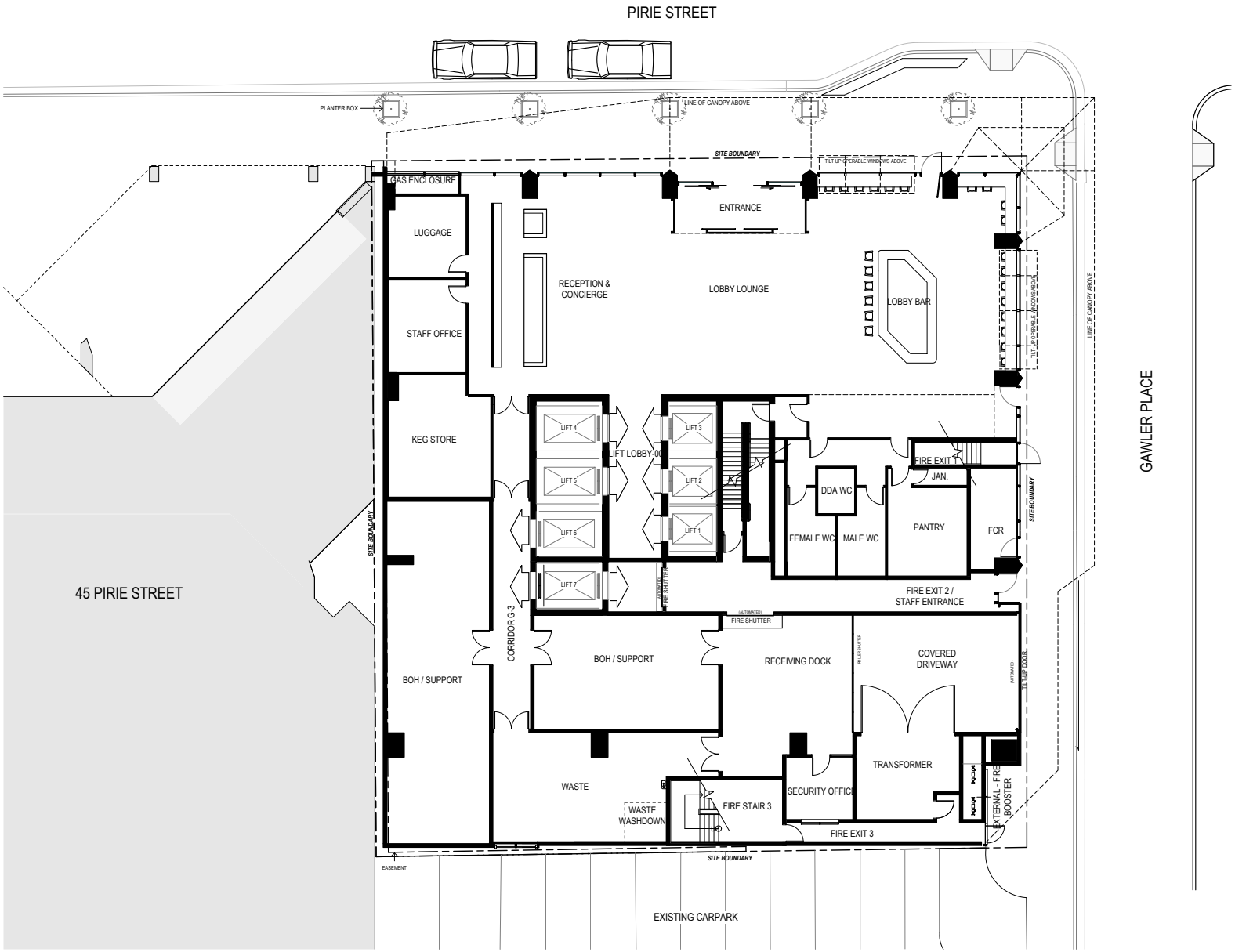

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK100

LGF-GROUND FLOOR PLAN

scale 1 : 100 @A1
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job no. 33-18952

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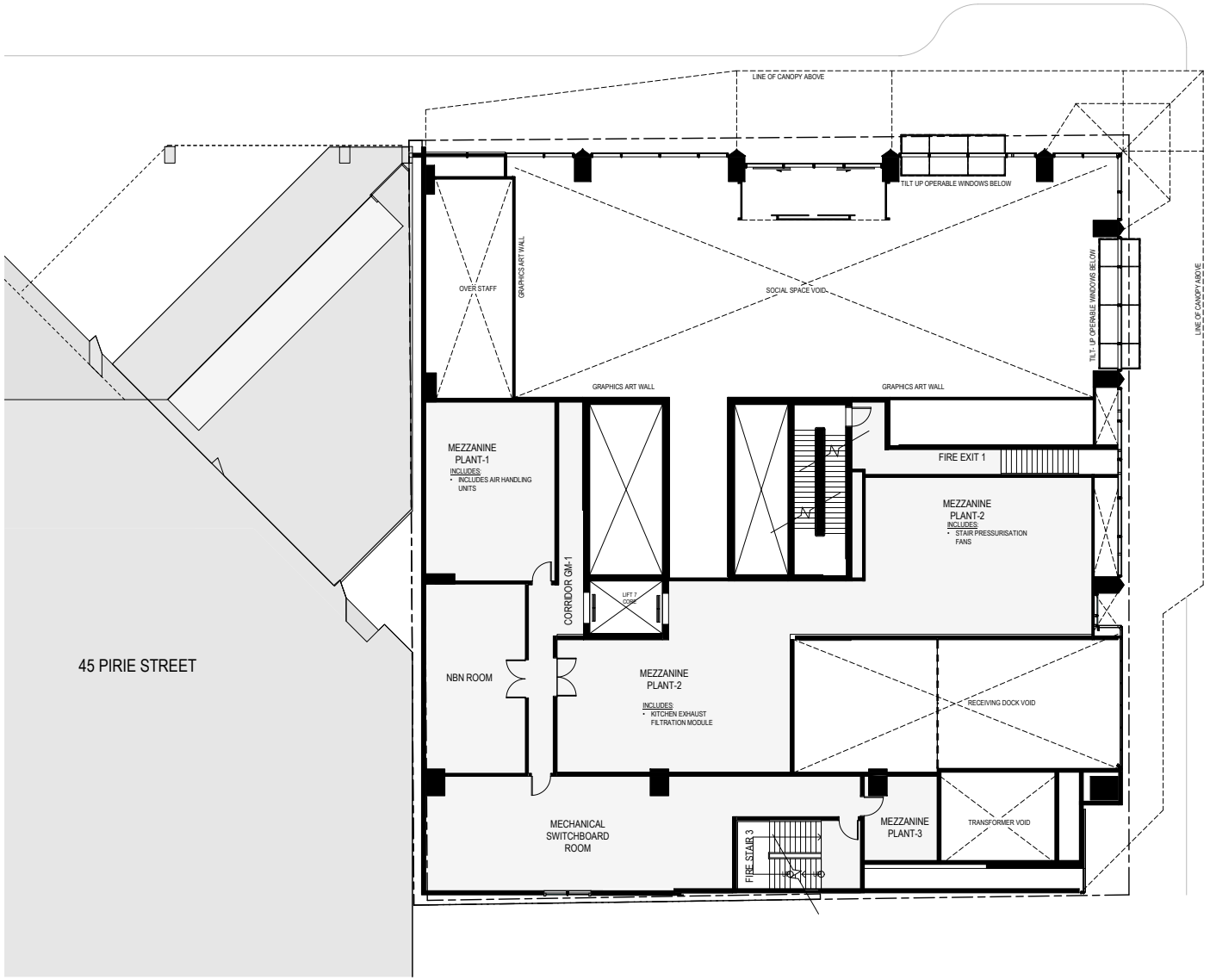

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SK101

LGF1-GROUND FL MEZZANINE

scale 1 : 100 @A1
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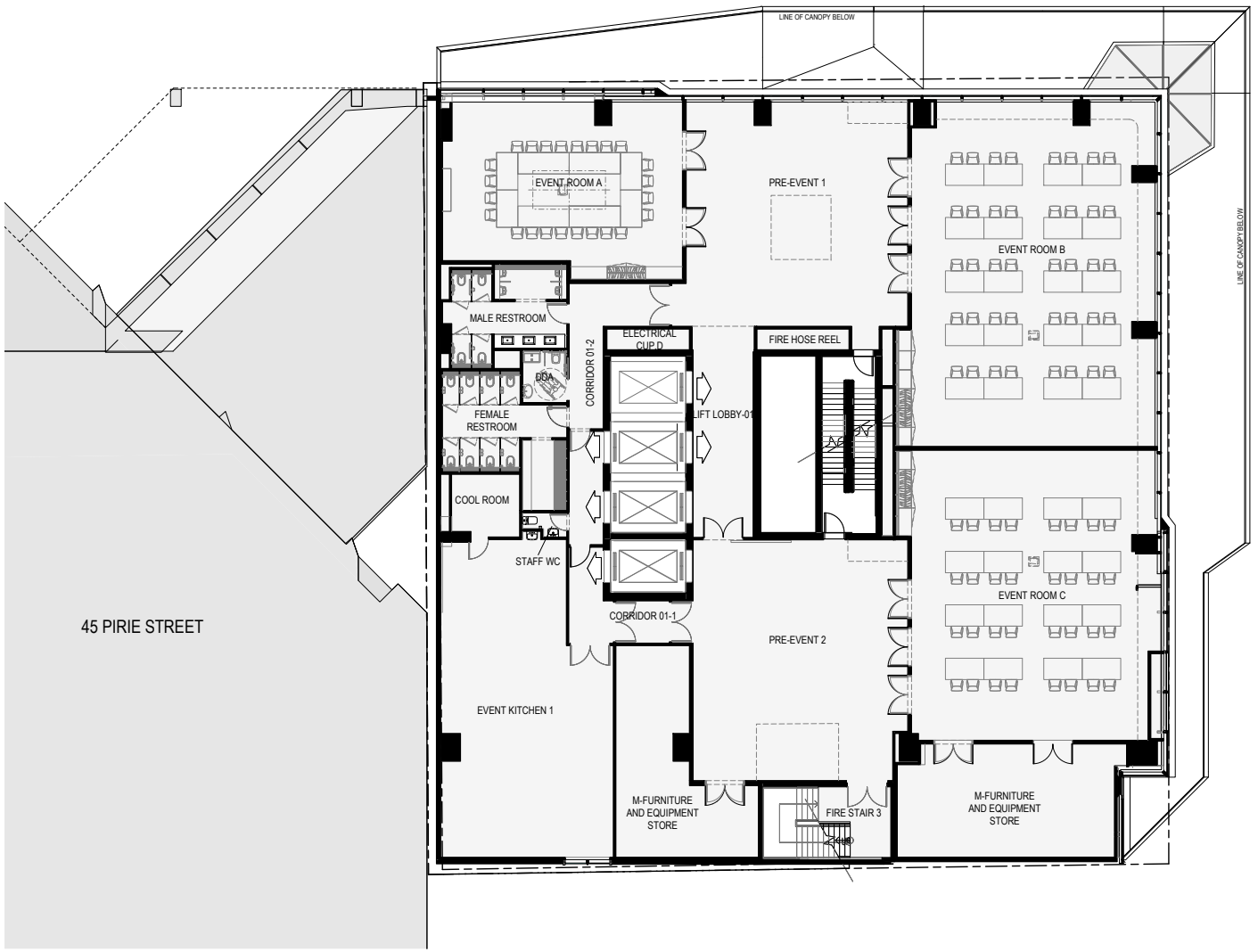

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SK102

L01-MEETING ROOM PLAN

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

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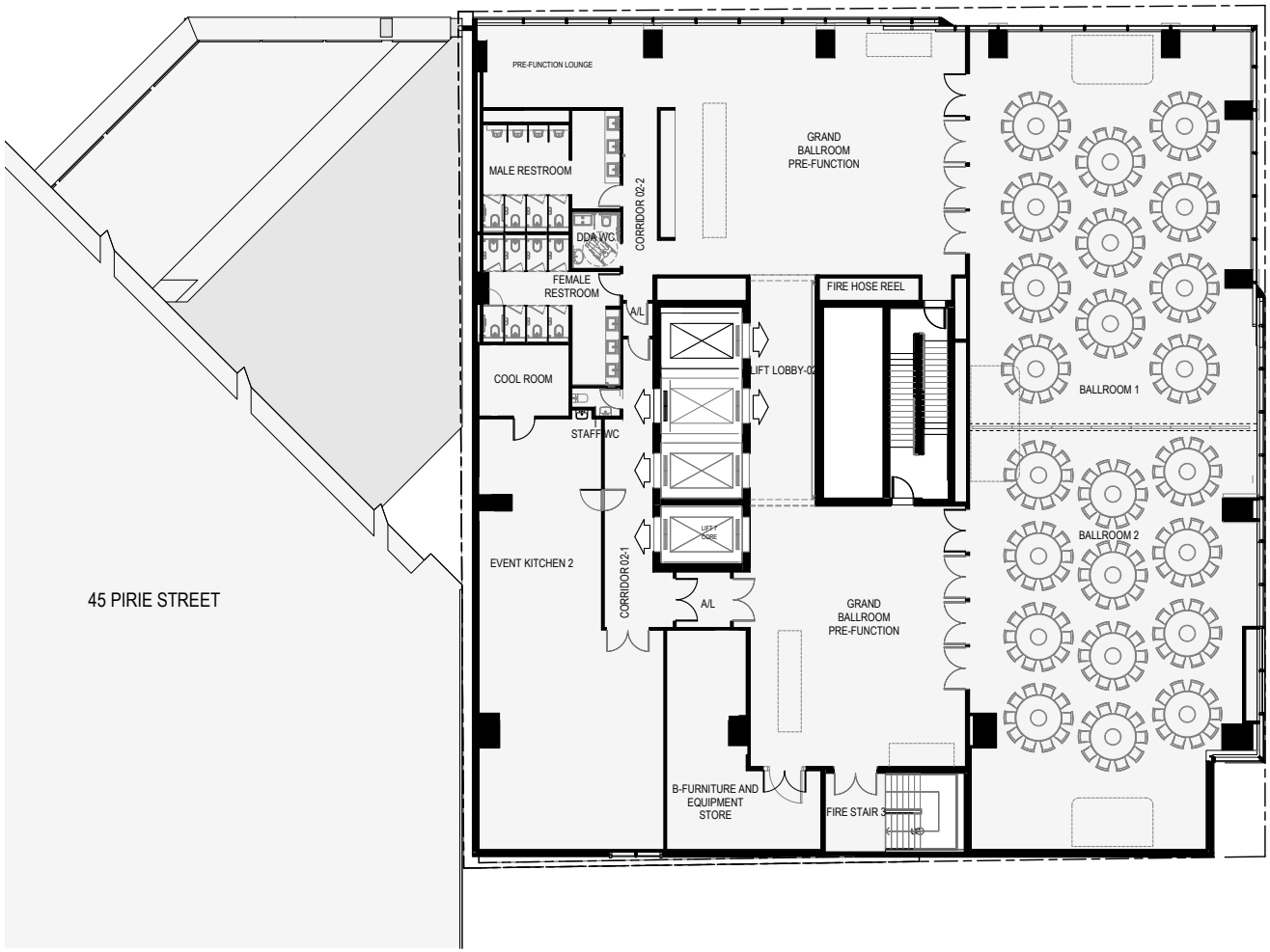

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK103

L02-BALLROOM PLAN

N

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

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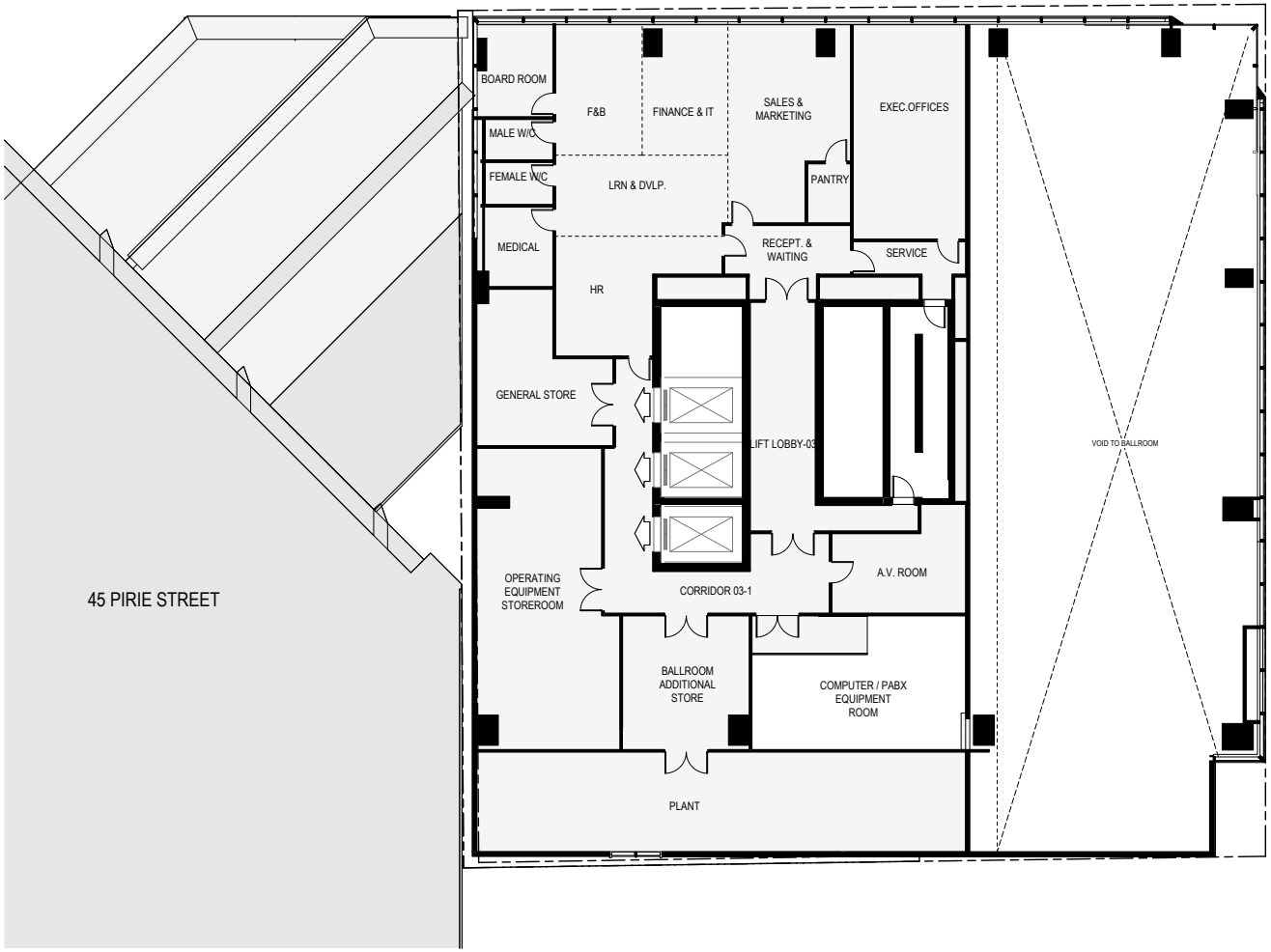

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK104

L03-ADMINISTRATION PLAN

N

scale 1 : 100 @A1
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job no. 33-18952

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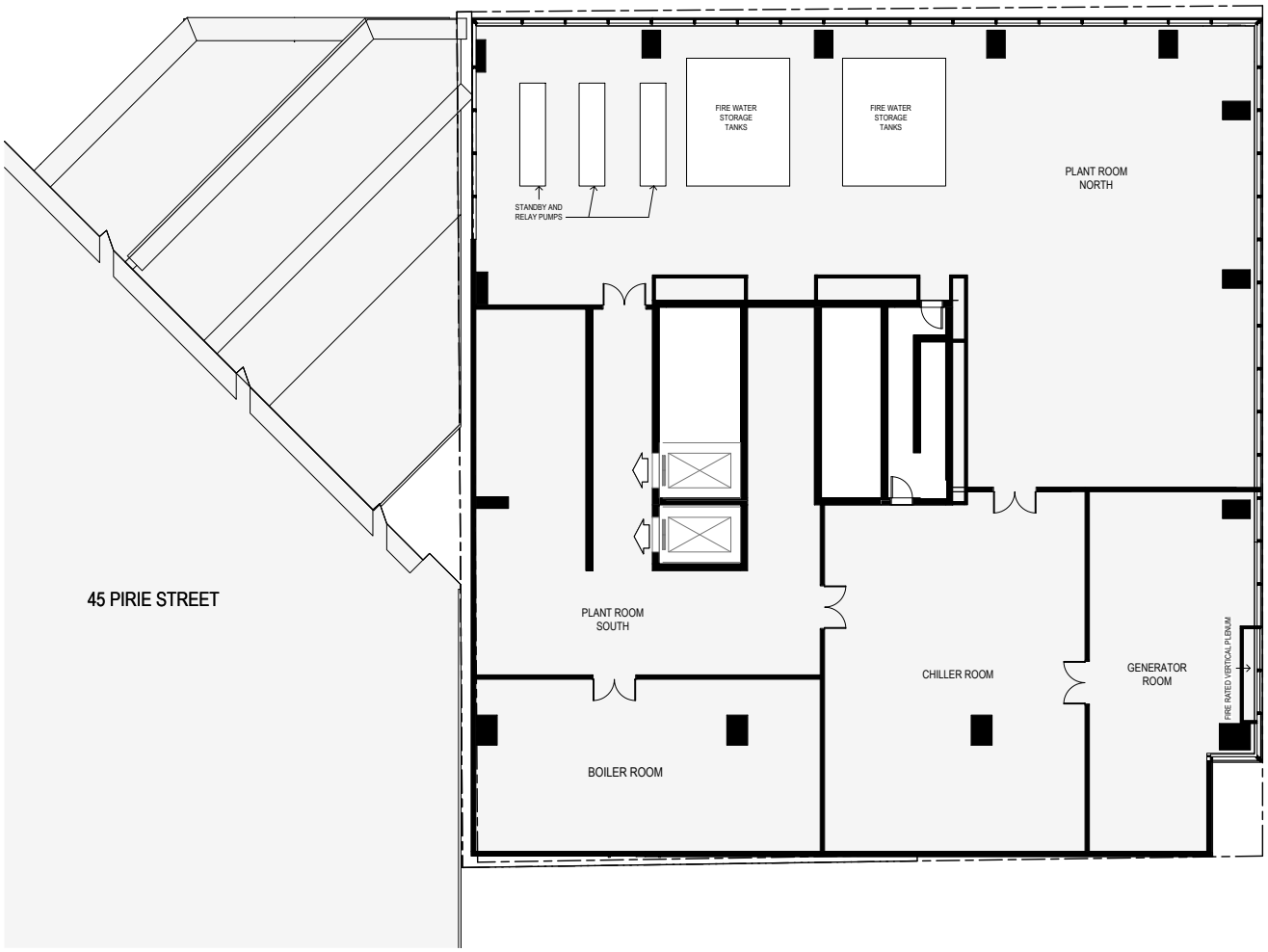

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK105

L04-PLANT

scale 1 : 100 @A1
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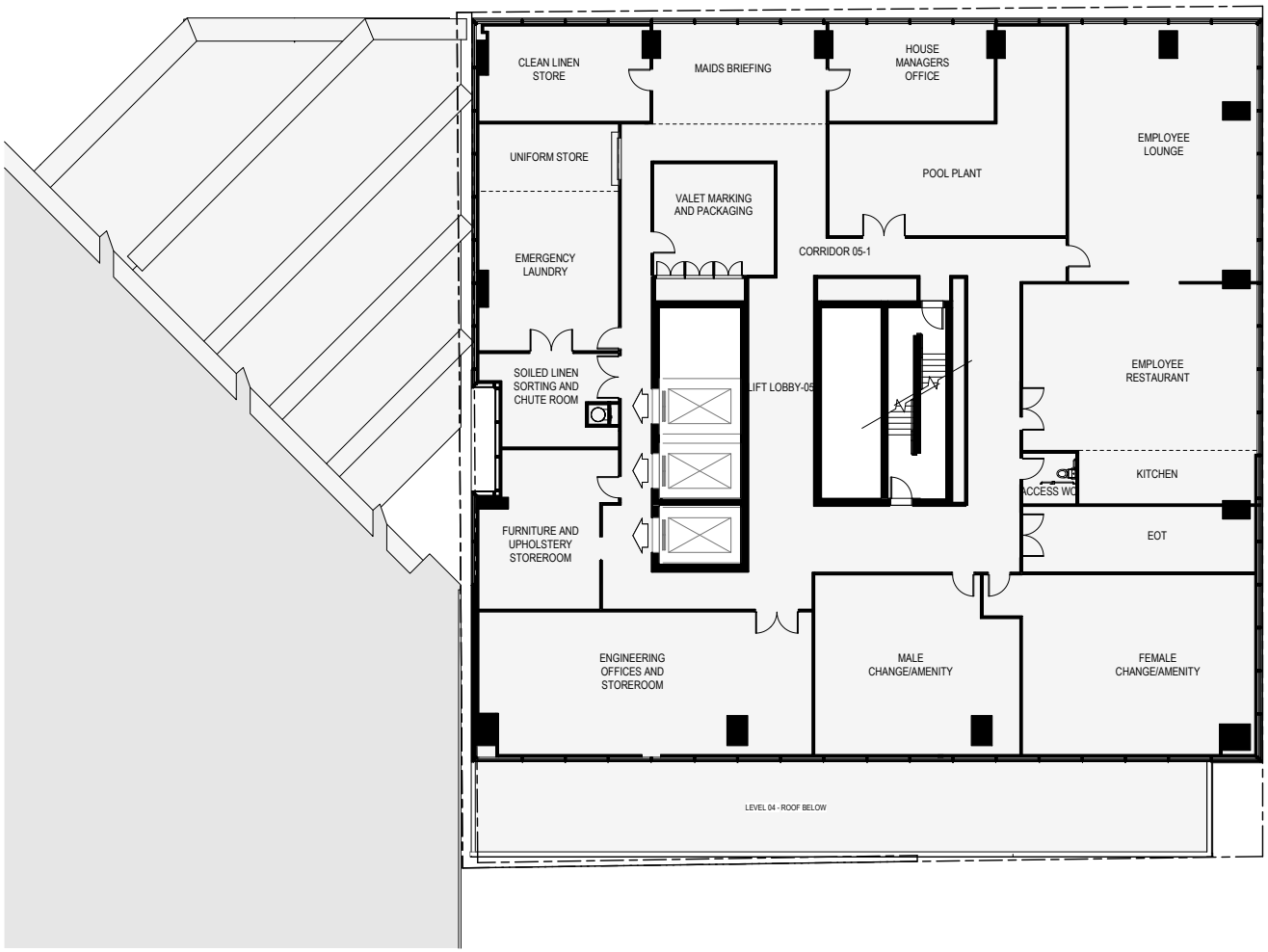

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK106

L05-EMPLOYEE FACILITIES

N

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

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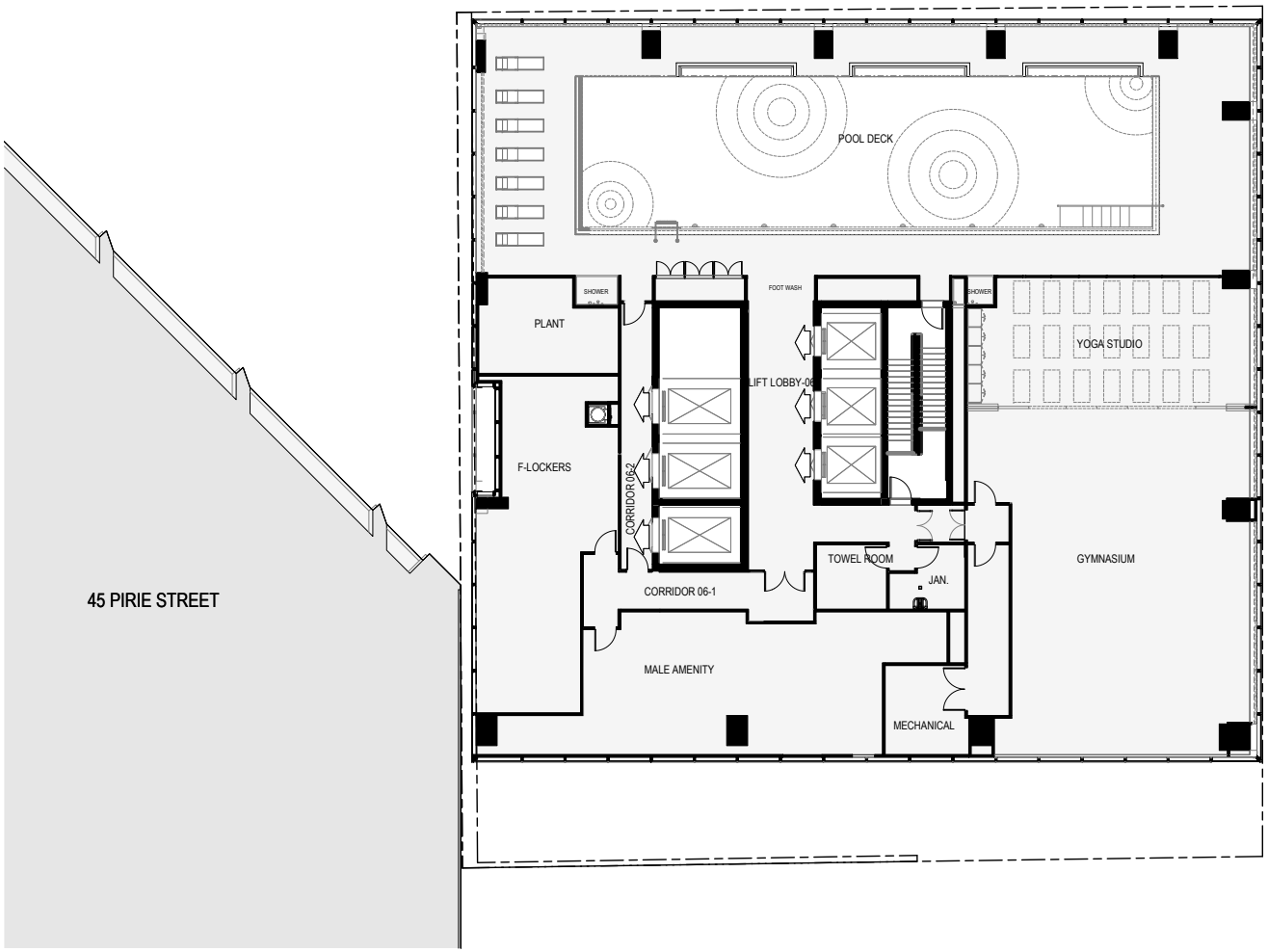

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK107

L06-POOL DECK

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

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CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK108

L07-L017 - GUEST SUITES

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adinod@ghd.com.au W www.ghdwoodhead.com

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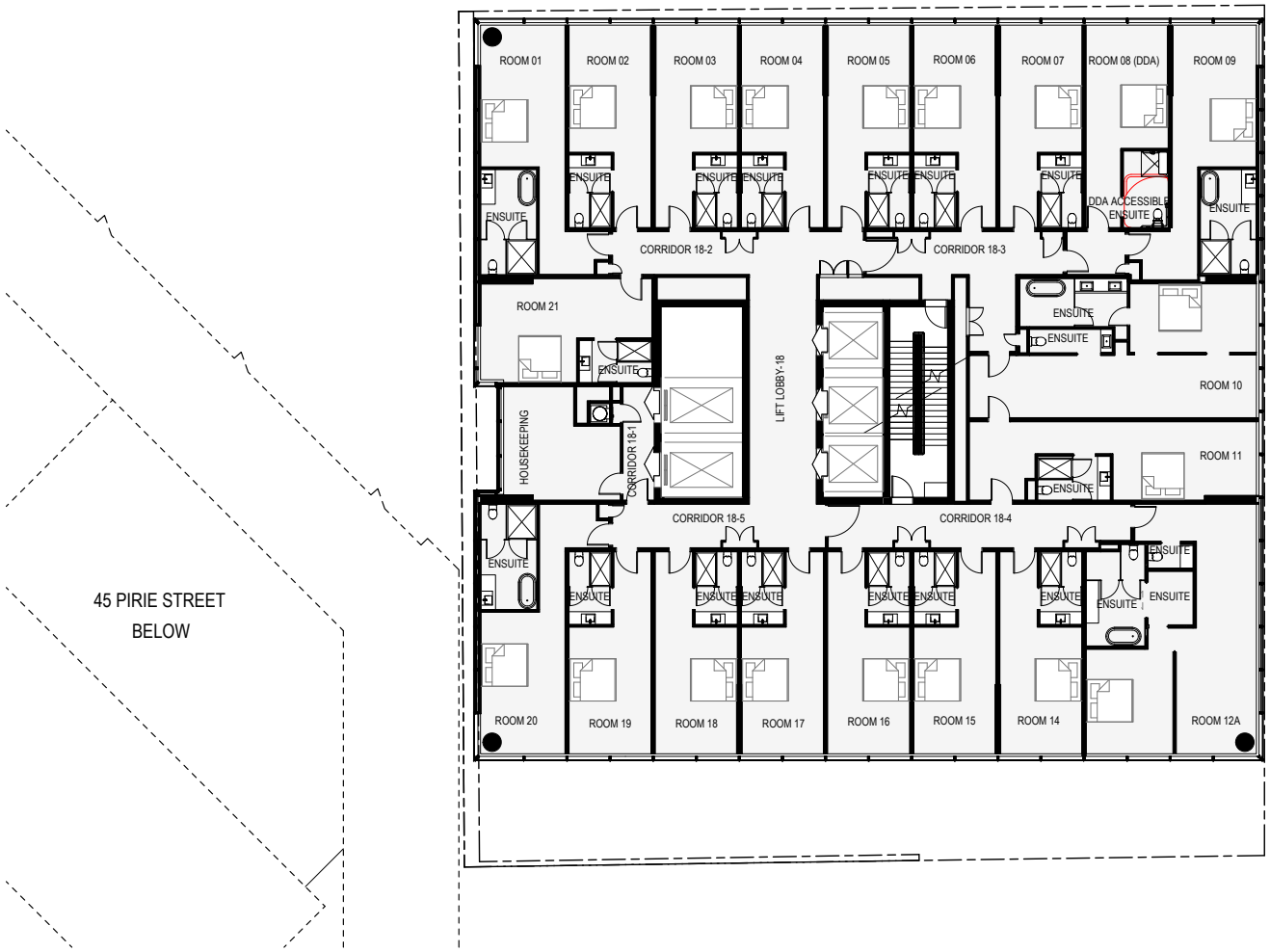

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK109

L18-19 - REGENCY SUITES

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adlmail@ghd.com.au W www.ghdwoodhead.com

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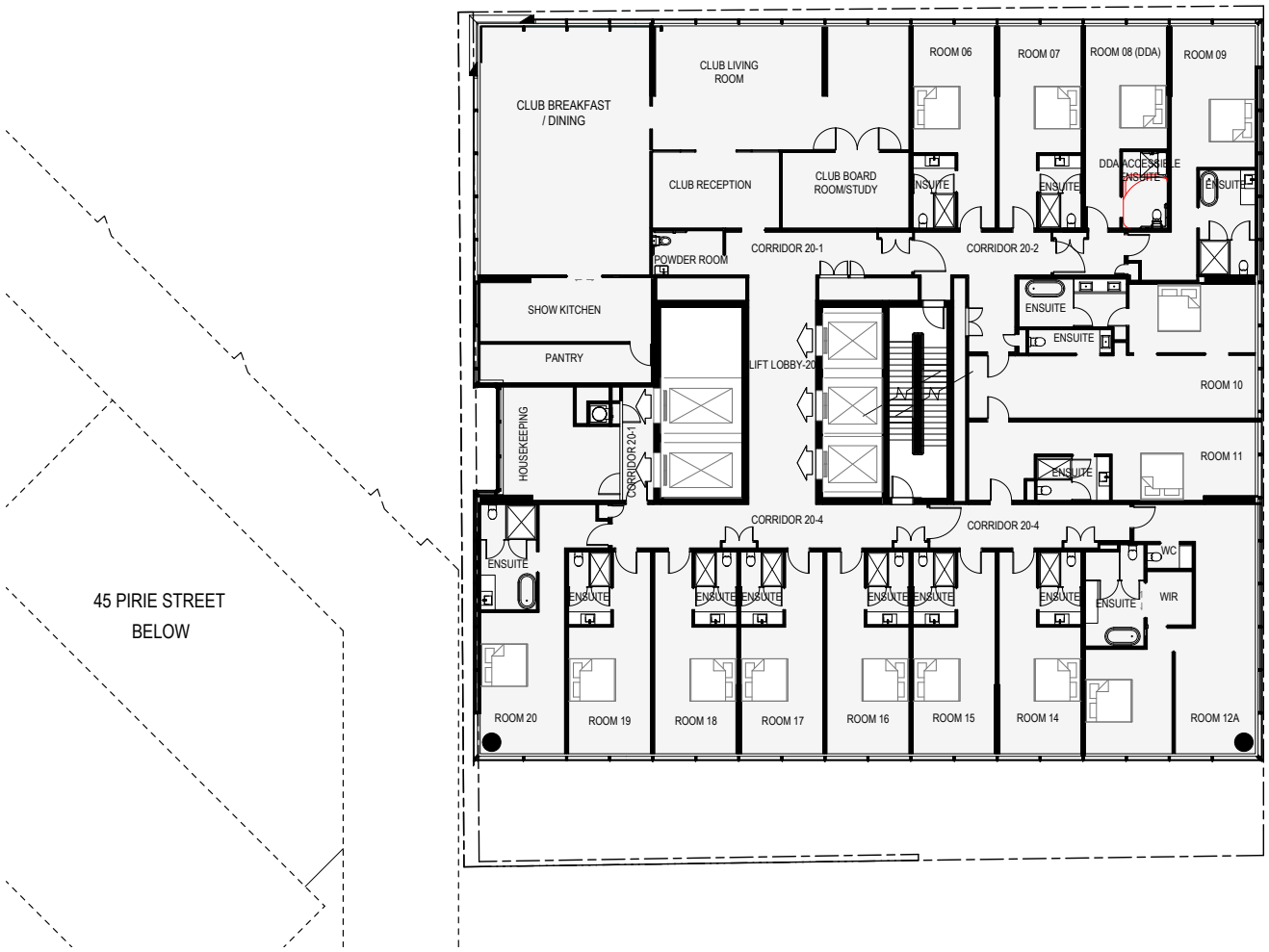

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK110

L20-REGENCY CLUB

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adinod@ghd.com.au W www.ghdwoodhead.com

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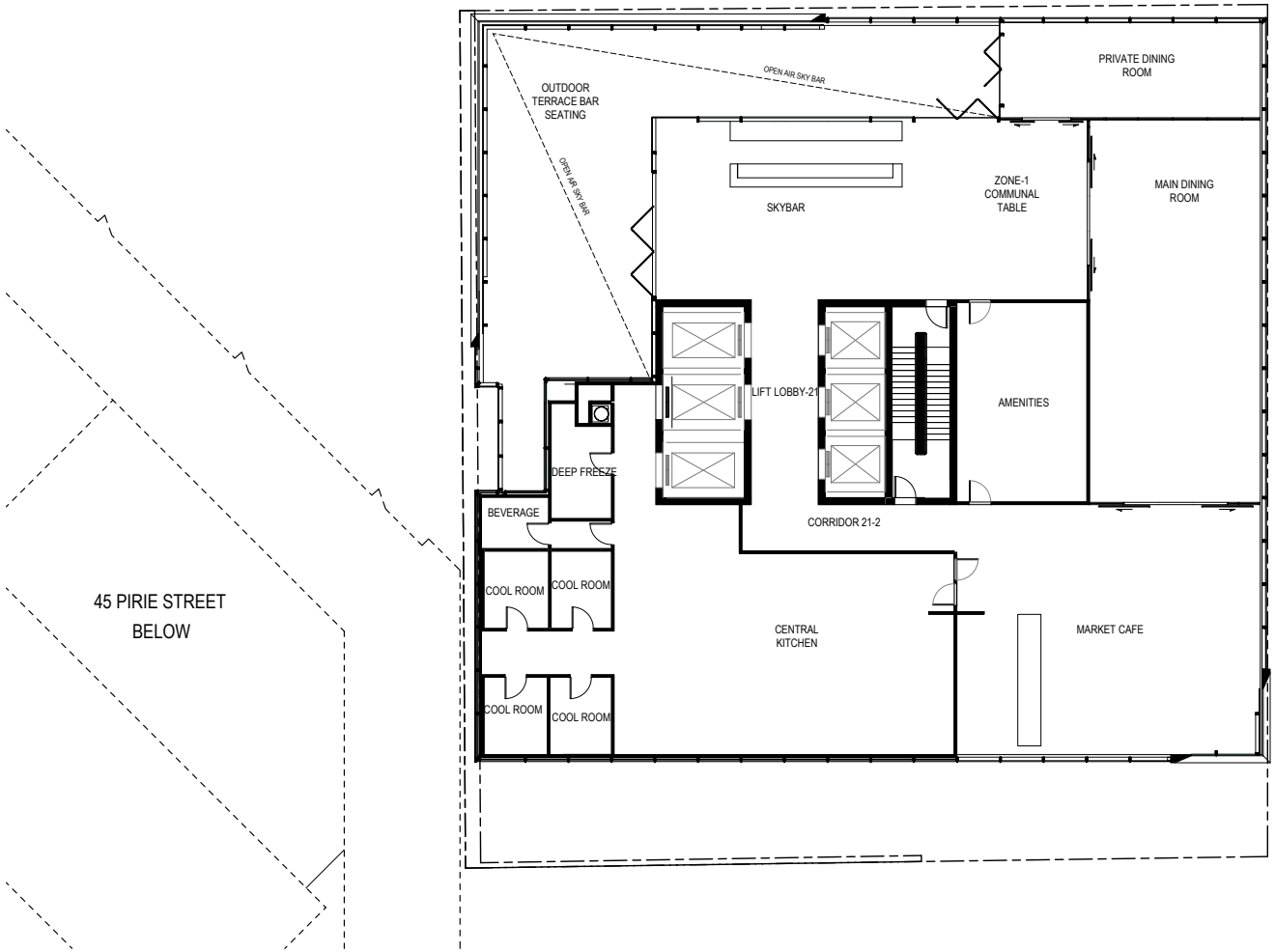

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK111

L21-SKY BAR

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adinod@ghd.com.au W www.ghdwoodhead.com

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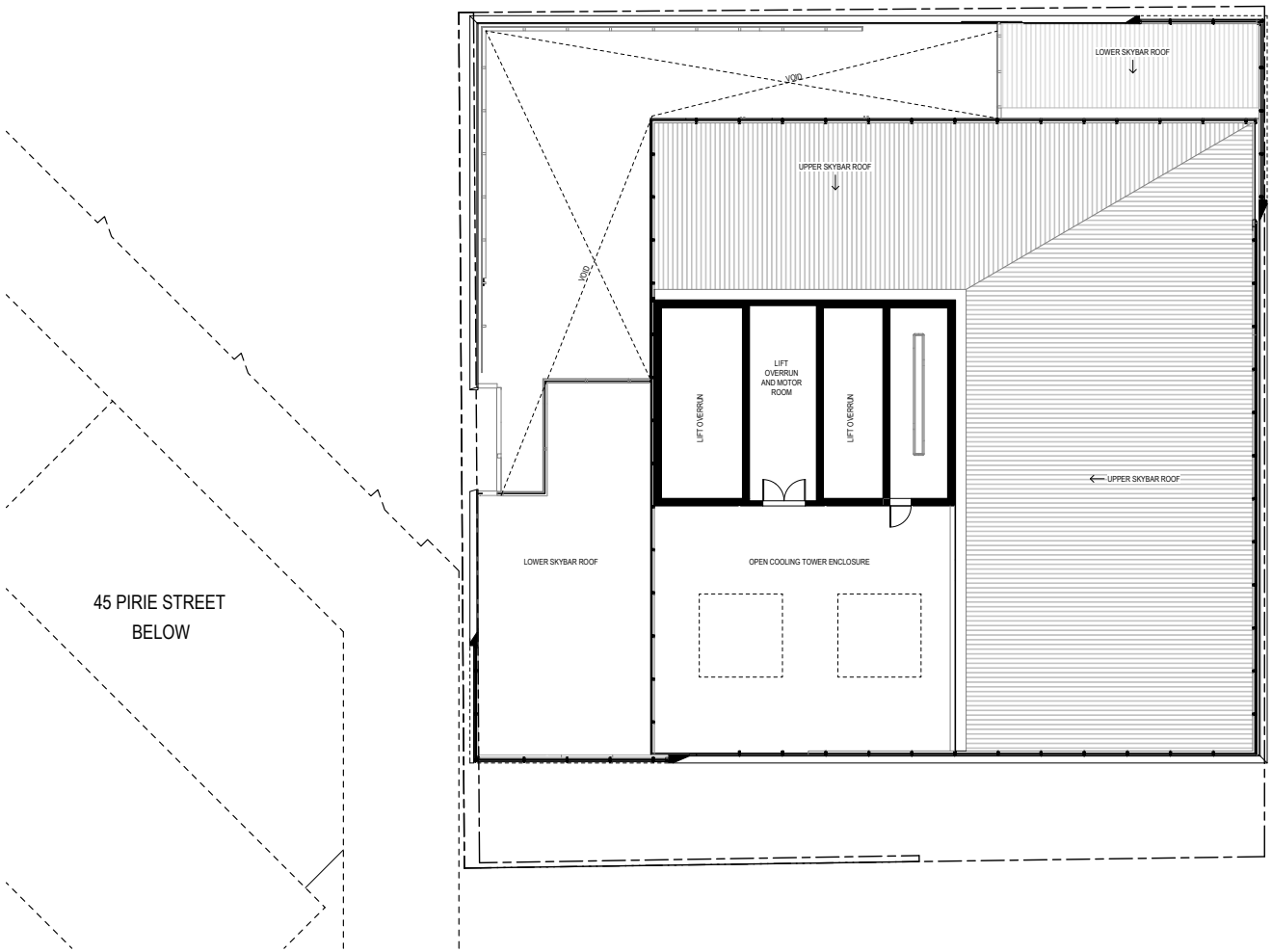

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK112

ROOF PLANT

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adinod@ghd.com.au W www.ghdwoodhead.com

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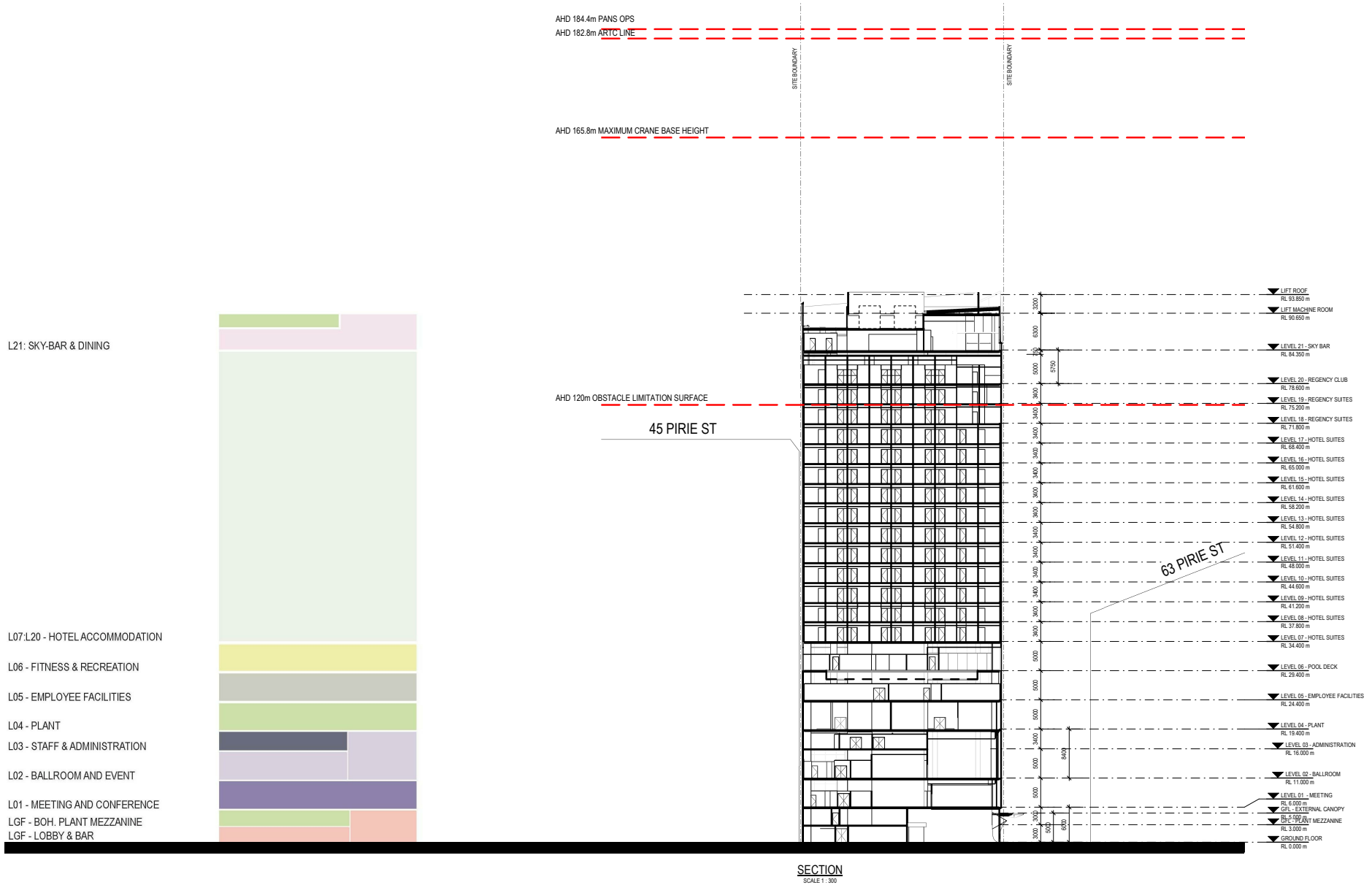


SECTION
SCALE 1 : 300

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK200

SECTION

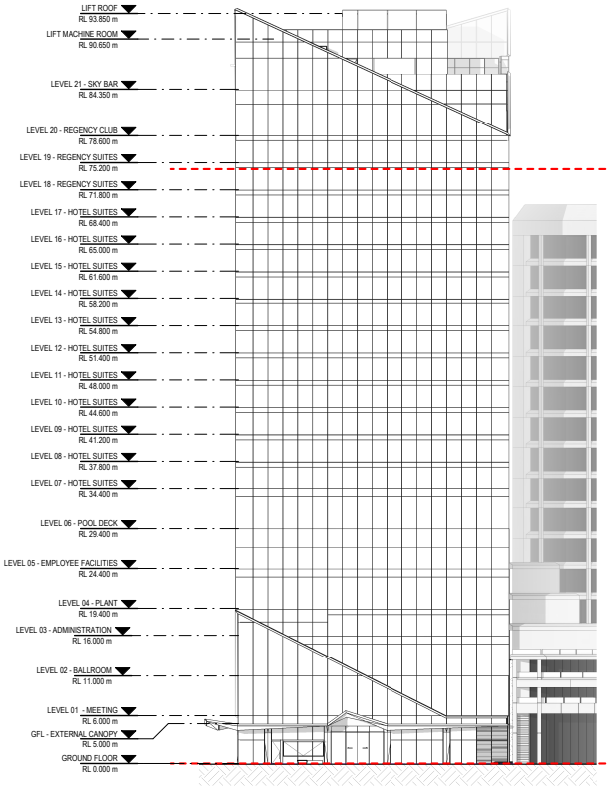
scale As indicated@A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

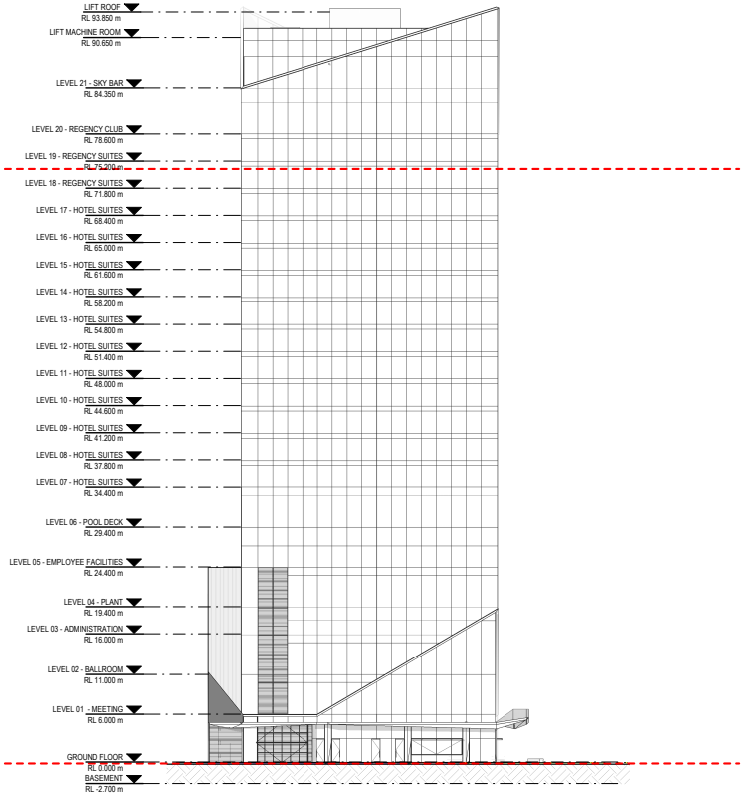
Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adinod@ghd.com.au W www.ghdwoodhead.com

Plot Date: 25/05/2020 12:24:43 PM Cad File No: BIM 360://33-18952 – 51 Pirie St/33-18952-ARC_V19.rvt

EXTERNAL FINISHES - MATERIAL SCHEDULE	
GLASS TYPE 1 - TOWER	COLOUR: "CHAMPAGNE"
GLASS TYPE 2 - "PEEL BACK" BUILDING BASE AND ROOF	COLOUR: "NEUTRAL"
CANOPY - FASCIA	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
CANOPY - SOFFIT	ALUMINIUM, FINISH: "WARM GREY" METALLIC (SEMI REFLECTIVE)
COLUMNS - EXTERNAL	POLISHED PRECAST COLOUR: "WHITE"; COLUMN CAPITAL: FINISH TO MATCH CANOPY SOFFIT
REVEAL CAPPING - "PEEL BACK" BUILDING BASE AND ROOF	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
WINDOW FRAME 1 - TOWER (CURTAIN WALL)	BLIND MULLIONS & TRANSOMS, FINISH: "WARM GREY" / "PEWTER" POWDERCOAT
WINDOW FRAME 2 - GROUND	BLIND MULLIONS & TRANSOMS, FINISH: POLISHED TINTED CHROME
PRECAST CONCRETE - SOUTH & EAST WALL	VERTICAL PATTERNED PRECAST CONCRETE, ACID ETCHED & POLISHED. COLOUR: "WHITE
LOUVRES - TOWER	FINISH: POWDERCOAT TO MATCH GLASS TYPE 1
LOUVRES - GROUND FLOOR	FINISH: MATCH WINDOW FRAME 1



NORTH ELEVATION (PIRIE STREET)
SCALE 1 : 300



EAST ELEVATION (GAWLER PLACE)
SCALE 1 : 300

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK201

NORTH & EAST ELEVATION

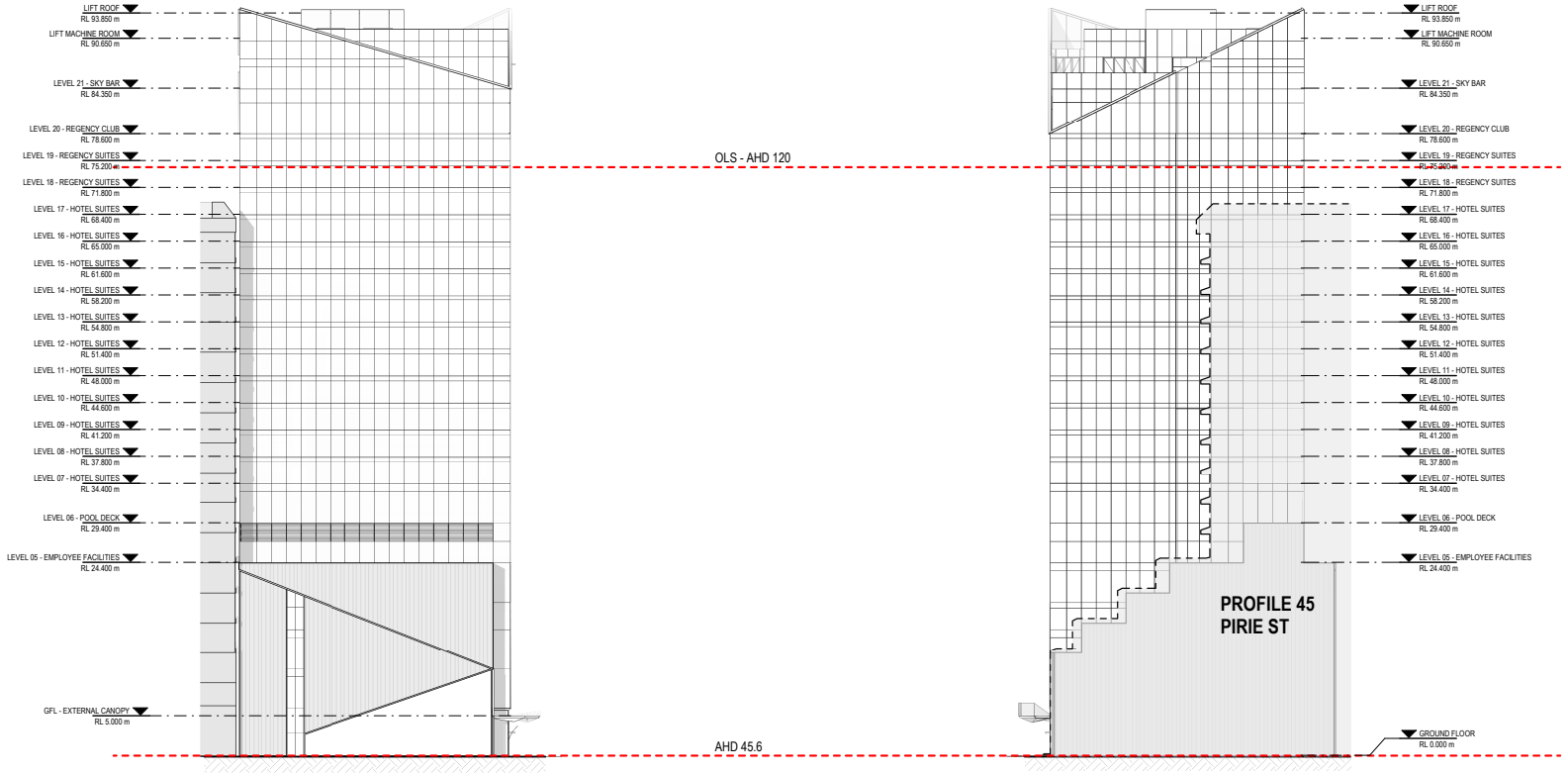
scale 1 : 300 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6099 E adlmail@ghd.com.au W www.ghdwoodhead.com

Plot Date: 25/05/2020 12:26:09 PM
Cad File No: BIM 360:/33-18952 – 51 Pirie St/33-18952-ARC_V19.rvt

EXTERNAL FINISHES - MATERIAL SCHEDULE	
GLASS TYPE 1 - TOWER	COLOUR: "CHAMPAGNE"
GLASS TYPE 2 - "PEEL BACK" BUILDING BASE AND ROOF	COLOUR: "NEUTRAL"
CANOPY - FASCIA	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
CANOPY - SOFFIT	ALUMINIUM, FINISH: "WARM GREY" METALLIC (SEMI REFLECTIVE)
COLUMNS - EXTERNAL	POLISHED PRECAST COLOUR: "WHITE"; COLUMN CAPITAL: FINISH TO MATCH CANOPY SOFFIT
REVEAL CAPPING - "PEEL BACK" BUILDING BASE AND ROOF	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
WINDOW FRAME 1 - TOWER (CURTAIN WALL)	BLIND MULLIONS & TRANSOMS, FINISH: "WARM GREY" / "PEWTER" POWDERCOAT
WINDOW FRAME 2 - GROUND	BLIND MULLIONS & TRANSOMS, FINISH: POLISHED TINTED CHROME
PRECAST CONCRETE - SOUTH & EAST WALL	VERTICAL PATTERNED PRECAST CONCRETE, ACID ETCHED & POLISHED. COLOUR: "WHITE
LOUVRES - TOWER	FINISH: POWDERCOAT TO MATCH GLASS TYPE 1
LOUVRES - GROUND FLOOR	FINISH: MATCH WINDOW FRAME 1



SOUTH ELEVATION
SCALE 1 : 300

WEST ELEVATION
SCALE 1 : 300

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK202

SOUTH & WEST ELEVATION

scale 1 : 300 @A1
date MAY 2020
rev A
job no. 33-18952

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2032 Adelaide SA 5001 T 61 8 8111 6000 F 61 8 8111 6999 E adinod@ghd.com.au W www.ghdwoodhead.com

GHDWOODHEAD

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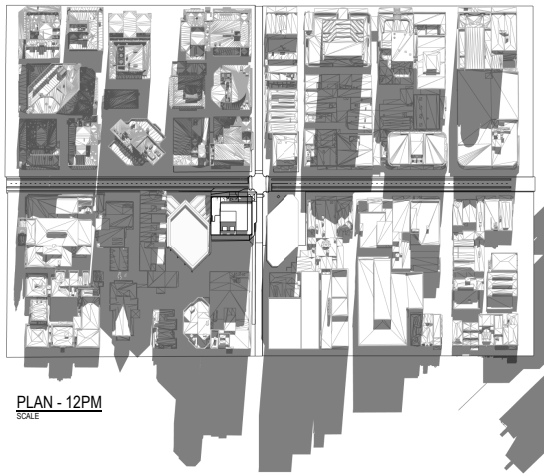
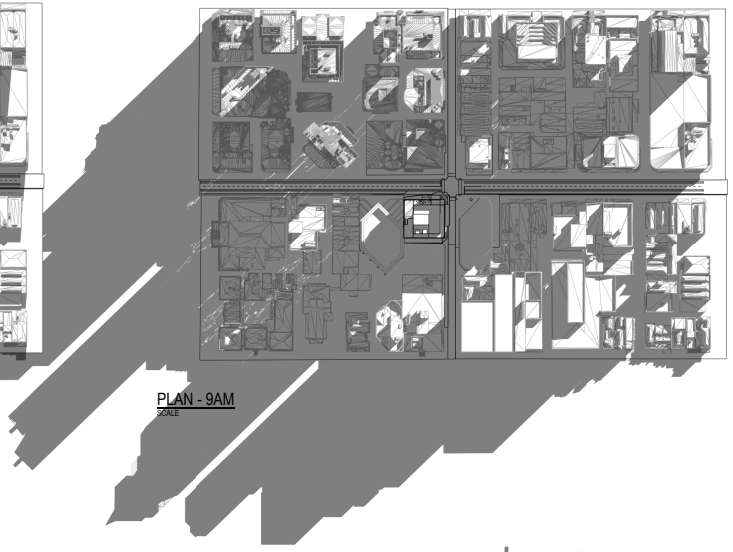
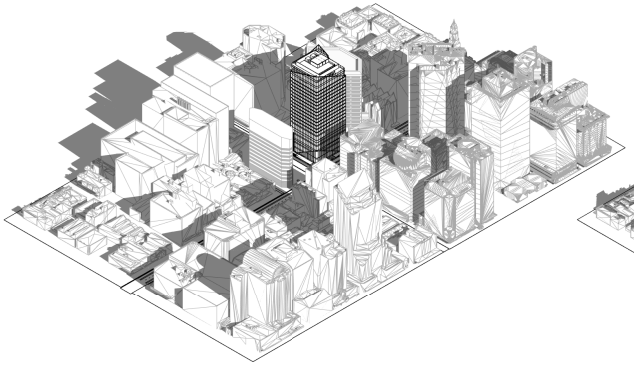


PLAN - 12PM
SCALE

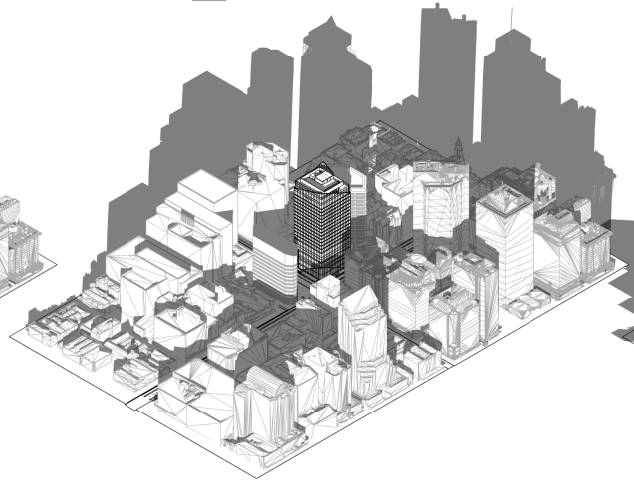


PLAN - 9AM
SCALE

PLAN - 3PM
SCALE



ISO 12PM
SCALE



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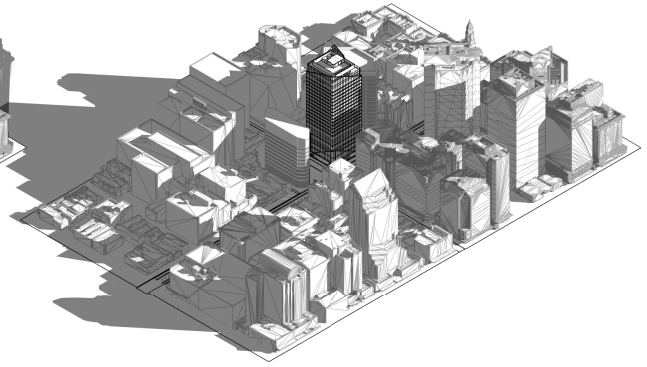
SCALE



ISO 3PM
SCALE

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK300

SOLAR STUDY - WINTER

scale @A1
date MAY 2020
rev A
job no. 33-18952

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2052 Adelaide SA 5001 T 61 8 8111 6800 F 61 8 8111 6899 E adinad@ghd.com.au W www.ghd.com

GHDWOODHEAD

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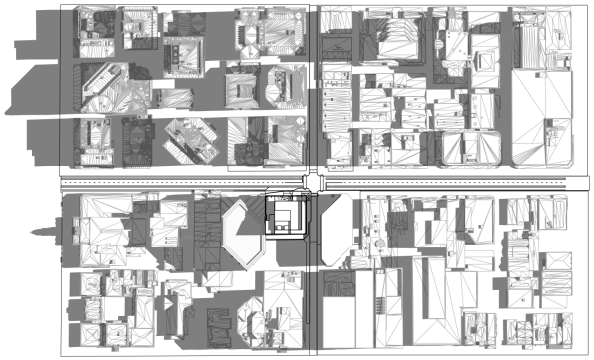
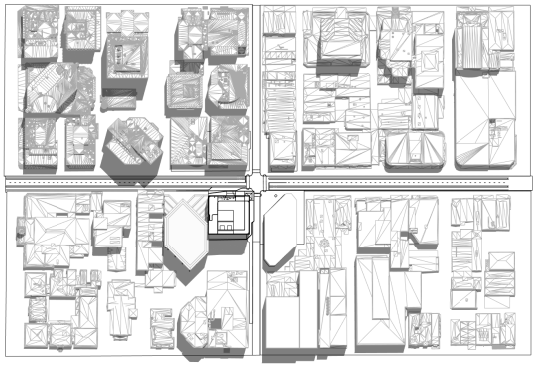


PLAN - 9AM
SCALE



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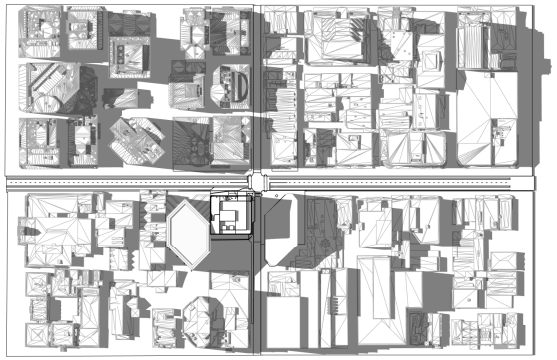
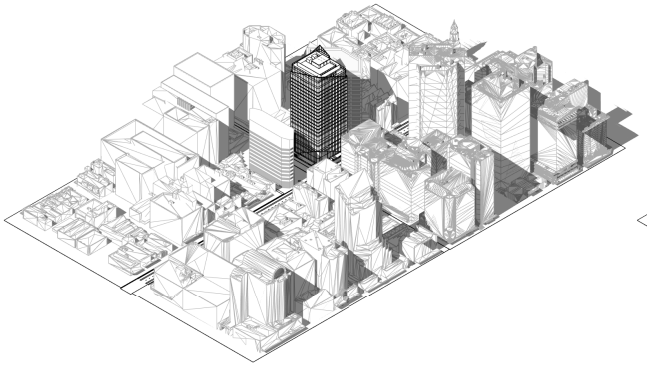


PLAN - 3PM
SCALE



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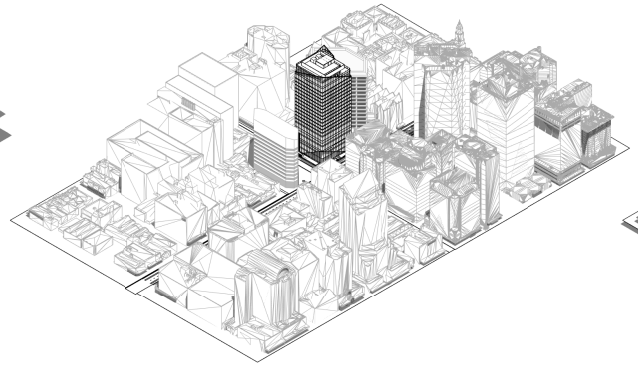
SCALE



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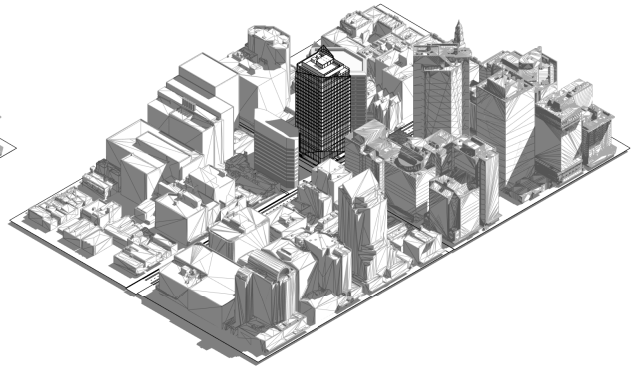


ISO 3PM
SCALE

CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK301

SOLAR STUDY - SUMMER

scale @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2052 Adelaide SA 5001 T 61 8 8111 6800 F 61 8 8111 6899 E adlmail@ghd.com.au W www.ghd.com

Plot Date: 19/05/2020 5:38:01 PM

Cad File No: BIM 360://33-18952 – 51 Pirie St/33-18952-ENSCAPE_V19.rvt

DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

COUNCIL: Corporation of the City of Adelaide

APPLICANT: CEL Development Pte Ltd, c/- Future Urban

Postal Address: GPO Box 2403, Adelaide SA 5001

Owner: Pirie Investments (Aust) Pty Ltd

Postal Address: 1st Floor / 190 Fullarton Road, Dulwich SA 5065

BUILDER: TBA

Postal Address: _____

_____ Licence No: _____

CONTACT PERSON FOR FURTHER INFORMATION

Name: Chris Vounasis, Future Urban

Telephone: 0447 029 088 [work] _____ [Ah]

Fax: _____ [work] _____ [Ah]

EXISTING USE: Office

FOR OFFICE USE

Development No: _____

Previous Development No: _____

Assessment No: _____

☐ Complying	Application forwarded to DA
☐ Non Complying	Commission/Council on
☐ Notification Cat 2	/ /
☐ Notification Cat 3	Decision: _____
☐ Referrals/Concurrences	Type: _____
☐ DA Commission	Date: / /

	Decision required	Fees	Receipt No	Date
Planning:				
Building:				
Land Division:				
Additional:				
Development Approval				

DESCRIPTION OF PROPOSED DEVELOPMENT: Demolition of existing and construction of 21 storey hotel building

LOCATION OF PROPOSED DEVELOPMENT: _____

House No: 51 Lot No: 1 Street: Pirie Street Town/Suburb: Adelaide

Section No [full/part] _____ Hundred: Adelaide Volume: 5292 Folio: 63

Section No [full/part] _____ Hundred: _____ Volume: _____ Folio: _____

LAND DIVISION:

Site Area [m^2] _____ Reserve Area [m^2] _____ No of existing allotments _____

Number of additional allotments [excluding road and reserve]: _____ Lease: **YES** ☐ **NO** ☐

BUILDING RULES CLASSIFICATION SOUGHT: _____ Present classification: _____

If Class 5,6,78 or 9 classification is sought, state the proposed number of employees: Male: _____ Female: _____

If Class 9a classification is sought, state the number o persons for whom accommodation is provided: _____

If Class 9b classification is sought, state the proposed number of occupants of the various spaces at the premises: _____

DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY? **YES** ☐ **NO** ☑

HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 2008 LEVY BEEN PAID? **YES** ☐ **NO** ☑

DEVELOPMENT COST [do not include any fit-out costs]: $ 80,000,000.00

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 2008.

SIGNATURE: Chris Vounasis Dated: 25 / 05 / 2020

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search
Date/Time	17/06/2015 11:40AM
Customer Reference	
Order ID	20150617004252
Cost	$26.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5292 Folio 63

Parent Title(s)	CT 4233/179
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	08/09/1995
Edition	15
Edition Issued	09/02/2015

Estate Type

FEE SIMPLE

Registered Proprietor

PIRIE INVESTMENTS (AUST) PTY. LTD.
OF 1ST FLOOR/190 FULLARTON ROAD DULWICH SA 5065

Description of Land

ALLOTMENT 1 DEPOSITED PLAN 13090
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

Easements

SUBJECT TO RIGHT(S) OF SUPPORT OVER THE LAND MARKED B AND C (T 5195611 AND T 5246613 RESPECTIVELY)

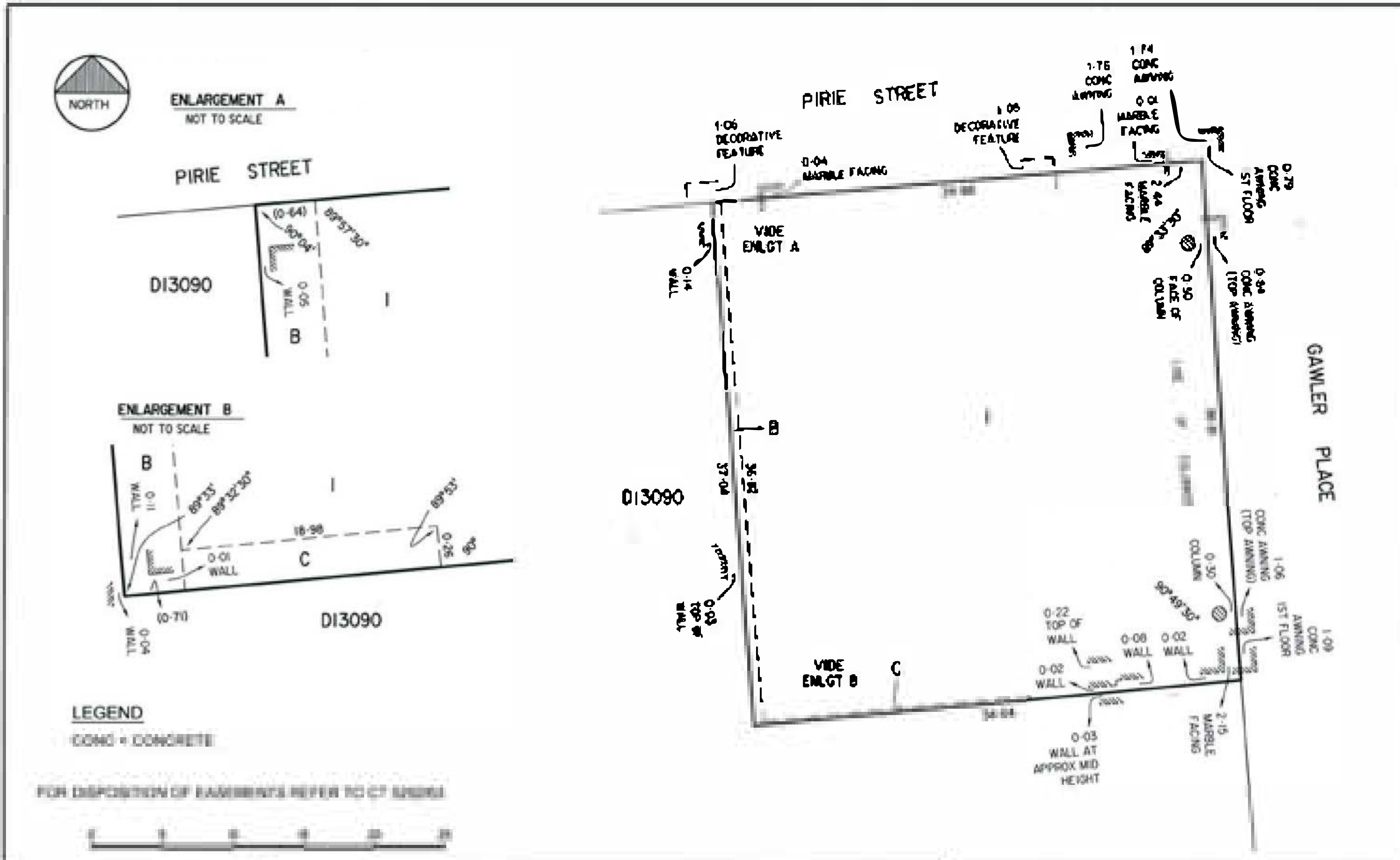
Schedule of Dealings

Dealing Number	Description
11777342	LEASE TO WCP SUPPLIES PTY. LTD. COMMENCING ON 1/9/2011 AND EXPIRING ON 31/8/2016 OF PORTION (OFFICE B1 IN FP 48041)
12318338	MORTGAGE TO UNITED OVERSEAS BANK LTD. (ACN: 060 785 284)

Notations

Dealings Affecting Title

NIL


NORTH
ENLARGEMENT A
NOT TO SCALE
PIRIE STREET
(0·64)
89°57'30"
90°04'
WALL
0·05
DI3090
B
I
ENLARGEMENT B
NOT TO SCALE
B
I
0·11
WALL
89°55'
89°32'30"
18·98
89°55'
0·26
0·01
WALL
C
(0·71)
DI3090
0·04
WALL
LEGEND
CONC = CONCRETE
PIRIE STREET
1·06
DECORATIVE
FEATURE
0·04
MARBLE FACING
1·06
DECORATIVE
FEATURE
1·75
CONC
AWNING
1·74
CONC
AWNING
0·01
MARBLE
FACING
0·79
CONC
AWNING
1ST FLOOR
VIDE
ENLGT A
0·14
WALL
0·50
FACE OF
COLUMN
0·84
CONC AWNING
(TOP AWNING)
GAWLER PLACE
B
DI3090
37·04
36·96
I
0·03
TOP OF
WALL
VIDE
ENLGT B
C
0·30
COLUMN
1·06
CONC AWNING
(TOP AWNING)
90°49'30"
0·22
TOP OF
WALL
0·08
WALL
0·02
WALL
0·02
WALL
1·09
CONC
AWNING
1ST FLOOR
0·03
WALL AT
APPROX MID
HEIGHT
2·15
MARBLE
FACING

FYFE Earth Partners

SURVEYED BY ME ON 28/11/2014

Licensed Surveyor

DATE 05/12/2014

IDENTIFICATION SURVEY

ALLOTMENT 1 OF DP 13090
CORNER OF PIRIE STREET AND GAWLER PLACE
HUNDRED OF ADELAIDE

ADELAIDE

FUTURE URBAN

51 PIRIE STREET, ADELAIDE
PLANNING STATEMENT

PROPOSED HOTEL

Prepared for:
CEL Development

Date:
25.05.2020

Proprietary Information Statement

Document Control

Revision	Description	Author	Date
V1	Draft	KG	30/4/2020
V2	Final for review	CV/KG	22/5/2020

CONTENTS

FIGURES

APPENDICES

1. INTRODUCTION

This report has been prepared to accompany an application by CEL Development ('the Proponent') for development plan consent ('consent') to:

- demolish all buildings at 51 Pirie Street, Adelaide (the 'subject land') including the Local Heritage (Townscape) Place; and,
- construct a 21 level hotel building with 285 guest rooms and associated, ground floor bar, ballroom, conference, fitness and recreation facilities and sky level bar and dining.

In preparing this report, we have:

- inspected the site and its surroundings;
- identified, and reviewed, what we consider to be the most pertinent provisions of the Adelaide (City) Development Plan ('the Development Plan');
- examined the architectural drawings at Appendix 1 and the Certificate of Title at Appendix 2;
- reviewed and responded to the assessment of the Government Architect at Appendix 3;
- reviewed, and summarised the key findings of;
  - » the Heritage Impact Statement prepared by DASH at Appendix 4,
  - » the Traffic Management Report prepared by WGA at Appendix 5;
  - » Noise Assessment prepared by Sonus at Appendix 6;
  - » Waste Management Plan prepared by Rawtec at Appendix 7; and,
  - » Stormwater Management Plan prepared by WGA at Appendix 8; and,
- had regard to the:
  - » Sustainability Management Plan prepared by Lucid Consulting at Appendix 9;
  - » Environmental Wind Analysis prepares by Arup at Appendix 10;
  - » Vertical Transportation Report prepared by Lucid Consulting at Appendix 11;
  - » Façade Report prepared by Arup at Appendix 12;
  - » Building Code Preliminary Review Report by Tecon at Appendix 13;
  - » the *Development Act, 1993;* and,
  - » the *Development Regulations, 2008* ('the Regulations').

This report contains our description of the site, its surroundings and the proposal, and our assessment of the proposal against what we consider to be the most pertinent provisions of the Development Plan.

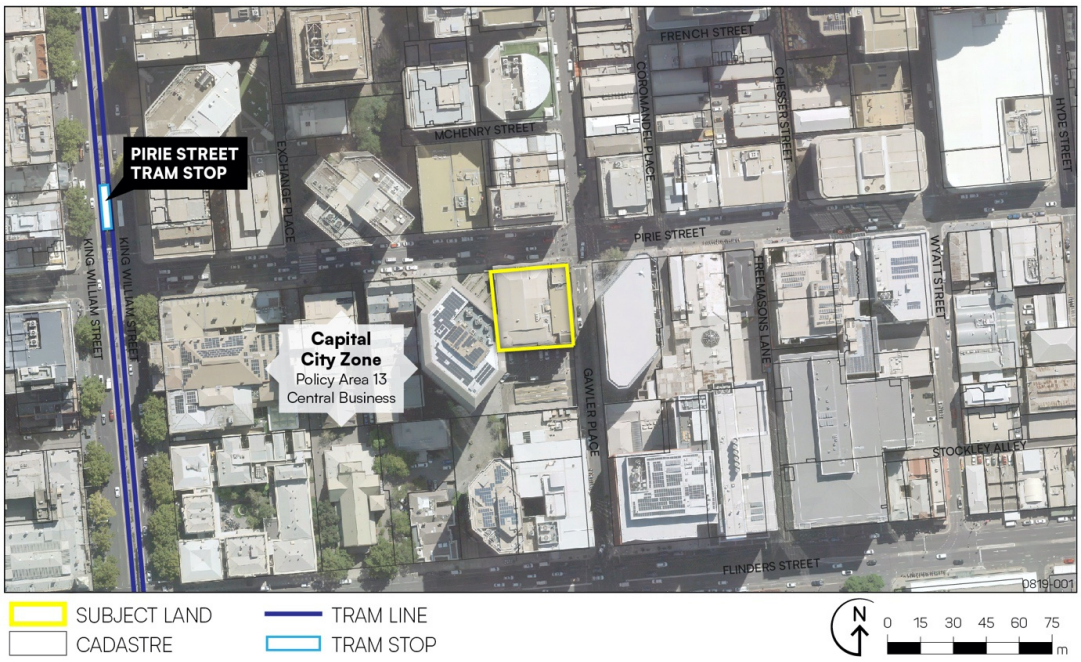
Based on our assessment of the proposed development, in our opinion, the proposed development reasonably satisfies the Development Plan and warrants development plan consent accordingly.

2. SUBJECT LAND

The subject land is identified as 51 Pirie Street, Adelaide and comprises all of allotment 1 of deposited plan 13090 on Certificate of Title Volume 5292 and Folio 63.

The subject land is identified in Figure 2.1 below.

Figure 2.1 *Subject land*



The subject land can be described as follows:

- A square shape measuring approximately 1284 square metres in size;
- A primary frontage of 34.9 metres to Pirie Street;
- A secondary frontage of 36.8 metres to Gawler Place;
- A shared boundary to the south and west with 45 Pirie Street;
- Is subject to rights of support over the land along part of the southern and western boundary;

The subject land is also currently occupied by a vacant commercial building which extends to four allotment boundaries. The exposed southern wall of the existing building is unappealing providing an institutional like appearance upon Gawler Place.

The current disposition of buildings on the site and relationship to the public realm is very poor providing very limited opportunities for activation and equitable access.

Part of the existing building on the subject land is identified as a Local Heritage Place (Townscape) (LHP) within Table Adel/3 of the Development Plan. The LHP (Townscape) was a former bank and despite the whole of the allotment being subject to the heritage listing within the Development Plan, only the Pirie Street façade of the former bank remains. According to the Heritage Impact Assessment undertaken by Dash Architects the façade has a low to moderate heritage value.

The site does not have any on-site car parking or an existing vehicle access to the site.

The ground floor of the existing building is not at grade and is elevated above the surrounding footpath.

The site is located within Central Business Policy Area 13 of the Capital City Zone.

3. LOCALITY

Upon undertaking an inspection of the subject land and its surroundings, the following was observed:

- The locality is primarily characterised by a mix of medium to high-rise office buildings;
- Directly to the south of the land is an at-grade, open car park and an access way which is associated with the existing building at 45 Pirie Street;
- Adjoining to the east and on the opposite side of Gawler Place are buildings which are characteristic of their angles and forecourts;
- Fine grain character at ground level characterised by glazed shopfronts with masonry columns;
- A plethora of tower forms and styles disparate in materiality and expression above canopy level; and
- Articulated facades comprising a mix of masonry or concrete columns with intermittent windows more common along Pirie Street.

4. BACKGROUND

The subject land currently benefits from a valid Development Plan Consent (DA 020/A016/19) for the '*demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-eight (28) storey hotel building, with ballroom, meeting rooms, and ancillary car parking*'.

Following receipt of this consent, detailed design commenced and through this process, a number of necessary changes to the design have been identified to accommodate the operational requirements of Hyatt Regency. As a result of these operational requirements, a 'fresh' application needs to be assessed.

A pre-lodgement process was undertaken with two Design Review Panel sessions held recognising that much of the contextual analysis and background investigations that would typically be undertaken in Design Review Panel #1 had been undertaken in the aforementioned development application.

A copy of the final response from the Government Architect forms Appendix 3 and we respond to the remaining comments below.

Further Review of the Design

Further review of the of the design of the building base and canopy, informed by the design principles, context, internal program, technical requirements and the public realm interface was recommended to demonstrate that the proposal provides a significant contribution to the streetscape and a high-quality design and material outcome. We note that once this is demonstrated, the Government Architect indicated that the proposal could warrant the removal of the Local Heritage (Townscape) Place.

The review of the context, internal program, technical requirements and public realm interface is provided below referencing how the proposed development responds to these matters. Our view on the development's contribution to the streetscape and high-quality design and material outcome, is also provided.

With regard to the context of the site, it is important to note that existing buildings within Pirie Street are characterised by various heights and facade expressions which contribute to a varied scale and character. The proposed angular forms are a contextual response, drawing inspiration from the buildings at 45 Pirie St, 65 Pirie St, and 30 Pirie St which themselves fall within the locale of a more highly valued Local Heritage (Townscape) Place context which contains the Adelaide Town Hall and Epworth building. These buildings were identified in the Heritage Impact Statement as having a high integrity. In contrast, the façade at 51 Pirie Street has a compromised integrity, a moderate to low relative heritage importance and is too separated from these other places to have any strong unified relationship with them which is important in the context of the intent of a townscape or character listing.

The design philosophy and angular language of the proposed development provide a strong sculptural form and identity for the hotel which is instantly recognisable but one which is also deliberately restrained in its tower design and appearance to avoid competing with the more intricate detailing of the more highly valued heritage places to the west. Such is important to ensure that the tower has a restrained appearance in the background of the Epworth building.

As the building is flanked by tall buildings the tower doesn't necessarily become exposed until you are walking along Pirie Street or Gawler Place where no canopies exist. The intent of this angular form is to make the building immediately identifiable in the round from other locations throughout the city including Victoria Square.

The internal program seeks to clearly define zones ensuring new visitors to the hotel are able to readily identify areas for checking in upon entry or finding a seat to socialise or await others. The ground floor supports permeability and equitable access that does not currently exist, promoting a strong and publicly accessible connection between Gawler Place, Pirie Street and the Hotel Ground floor public areas.

Providing a sense of arrival before entering the building, the design of the canopy provides a high - quality material outcome that catches the eye and provides a level of visual interest which is comfortable, inviting and safe, directing visitors and patrons to the main entrance on Pirie Street.

The width of the Pirie Street foot path will be increased in the north-eastern corner to provide a more generous public space which enhances the opportunities for outdoor dining, landscaping and activation between public and private realm but to blur the boundary between the two spaces to maximise physical and visual connection to achieve a highly permeable, recognisable and active space. The use of tilt up windows controls climate and the use of the space providing a changing and dynamic character during the day and during the seasons, which patrons can enjoy sitting at the bar overlooking the footpath and street.

The public realm design has been developed in conjunction with Outerspace Landscape Architects who have also developed the scheme for the roof top bar. Outerspace will continue to be involved in refining their design and will continue to work closely with Council to deliver the proponent's and operators commitment to create a high quality integrated public space.

In our opinion, the proposed ground floor design results in a significant contribution to streetscape activation and achieves a level of visual permeability which cannot be matched should the existing façade be retained. Similarly, it enables a consistent material quality along the entire façade of the building, noting that schemes retaining the blank façade were likely result in facadism or an inconsistent façade, such as the current contrast with the 1980s addition. Schemes seeking to retain the façade are also unable to provide the same level of weather protection to pedestrians and guests nor provide equitable access accompanied by a high level of physical and visual permeability that activates the streetscape. In addition, it is important to note that this particular proposal removes all above ground car parking and a porte cochere along Gawler Place which did not prioritise pedestrian access or amenity. This has been acknowledged by the Government Architect as a positive change and one which in our view provides a significant contribution to the streetscape. Consequently, in our opinion, the desire to achieve these objectives outweighs the retention of an existing façade which exhibits diminished integrity and a moderate to low relative heritage importance.

Design of the Building Corner

Further testing and resolution of the of the design of the building corners was recommended, particularly where the transparent curtain wall meets the orthogonal tower form.

In response, the curved building corners have been removed from the final design, to enable a consistent angular corner along the tower and transparent reveals.

Glazed Bi-fold Doors and Hotel Entry

Further consideration of the functional requirements for the hotel entrance, lobby and public spaces, the hotel's entry experience and sense of address was recommended, particularly in relation to the proposed bi-fold doors.

Upon review, the design has been revised in consultation with Hyatt to remove the bi-fold doors and include tilt windows to the north and east with the primary entrance positioned on Pirie Street. Such will improve security and temperature control for the lobby area, whilst retaining the visual and physical permeability of the ground floor. The bar area will be outward facing along part of the northern and eastern building facades, ensuring that the removal of the bi-fold doors, does not prevent the interaction of the ground floor with the public realm and will enable the active surveillance of this space even in the event of inclement weather.

Canopy Design

A holistic review of the canopy design informed by the façade composition, internal functions and effective weather protection was recommended.

The canopy design has been further refined to integrate with the tower to achieve a more holistic and integrated form and improves the legibility of the primary entrance to the building. Whilst the height of the canopy is punctuated at the corner, the height of the canopy above the entrance is given primacy to enhance legibility and accentuate a sense of address. The canopy depth and solidarity will afford the necessary pedestrian protection and comfort. Notwithstanding, a glazed insert is provided at the corner to encourage impromptu glimpses of the tower above and the active uses in the base to support a social grounding of, or interaction with, the tower element.

Capping

Consideration of recessed vertical joints in lieu of projecting cappings was recommended. This change has been accommodated and blind mullions have been proposed.

Glass tones

Consideration of champagne/gold tones was recommended to provide the building a true sense of identity. Champagne tones are proposed in the final design in Appendix 1.

Lighting Strategy

Further resolution of the overall lighting strategy was recommended, with regard to the strip lighting proposed along the angled reveals. The lighting strategy is still evolving and will continue to be refined in line with detailed design.

Services Area Treatment

Further clarification of the visual impact of the service areas at the southern end of the eastern façade was requested. Such is illustrated in Figure 4.1 below, noting that the proposed treatments are recessive and avoid drawing attention to the service area.

Figure 4.1 *Eastern Elevation of Ground Level*

Planters

It was recommended that planters be concentrated along Pirie Street to maintain the width of the Gawler Place footpath. The planters along Gawler Place have been removed.

Overall, we believe the design of the development has responded positively to the comments raised by the Government Architect which are of a detailed design nature and which will progressively be developed through the detailed design stage.

5. PROPOSED DEVELOPMENT

The Proponent seeks to obtain development plan consent to:

- demolish all buildings at 51 Pirie Street, Adelaide (the 'subject land') including the Local Heritage (Townscape) Place; and,
- construct a 21 level hotel building with 285 guest rooms and associated, ground floor bar, ballroom, conference, fitness and recreation facilities and sky level bar and dining.

The total gross building area is approximately 22,500 square metres and the use of each level can be summarised as follows:

- Ground Floor: Lobby and Bar (with plant in an elevated/screened mezzanine area)
- Level 1: Meeting and conference facilities
- Level 2: Ballroom and event space
- Level 3: Staff, Administration and void above ballroom
- Level 4: Plant
- Level 5: Employee Facilities
- Level 6: Fitness and Recreation
- Level 7 – 20: Hotel Accommodation
- Level 21: Sky Bar and Dining

5.1 Design and Appearance

In general terms, the building will have a height of 93.9 metres presenting a glazed curtain wall system finished in 'champagne' colour featuring angled reveals at the base and top of the building, highlighting the ground floor bar, lower active building levels and sky bar. Strip lighting accentuates the edge of these reveals, further distinguishing the public and 'private' areas within the hotel when viewed from the street.

The ground floor supports permeability and equitable access that does not currently exist promoting a strong and publicly accessible connection between Gawler Place, Pirie Street and the Hotel Ground floor public areas.

The ground level is setback slightly from Pirie Street and to a lesser degree on Gawler Place. The purpose of which is to increase the width of the pedestrian footpath to provide a more generous public space to enhance the opportunities for outdoor dining, landscaping and activation between the public and private realm and to maximise physical and visual connection to achieve a highly permeable, recognisable and active space.

The ground floor will provide floor to ceiling glass for the majority of the façade, with glass sliding doors to the entrance and tilt up windows provided along the outward facing bar. This is with the exception of services and the service access which will feature a panel lift door and/or glazing to obscure views of the services.

The design of the canopy and public realm creates a human scale and a high level of visual interest which is comfortable, inviting and safe. The 5 metre high canopy overhanging the Pirie Street and Gawler Place footpaths rises to form a peak over the main Pirie Street entrance. The canopy will be feature a metallic 'medium bronze' folded metal fascia with a semi-reflective warm grey aluminium soffit.

Landscaping will be provided in planter boxes along Pirie Street and within the sky bar on the top floor.

The simplicity and timeless quality of the tower façade expression is very representative of the hotel brand and its aspirations, its functional requirements but also required when responding to context. The design looks and feels like an elegant hotel brand. The context within which this building is to be inserted is commercially strong in character, its commercial in its appearance and unquestionably, commercial in it's feel. The external appearance responds to the client's functional requirements which is highly important for the brand. The less is more approach is appropriate in this instance and one which is very attentive to the broader context.

The design philosophy and angular language provide a strong sculptural form and identity for the hotel which is instantly recognisable but one which is also deliberately restrained in its tower design. This is important when observing the building from the west where the tower provides a restrained appearance in the background of the Epworth building.

As the building sits within a context of tall buildings the tower doesn't necessarily become exposed until you are walking along that of Pirie Street or Gawler Place where no canopies exist. And when at those points attention will be drawn to the base of the building in the first instance.

As one walks closer to the building, the base becomes more evident and the building starts to activate through the interest created by the angular forms in the canopy, the peel away at the northeast corner to expose internal functions and the public realm landscaping to support the active ground level program.

The intent of the angular form at the top of the building whilst not evident in the immediate surrounds is to make the building immediately identifiable in the round from other locations throughout the city including Victoria Square.

The overall program of the building emphasises that the base of the building is highly active and it is this element of the building that will contribute to the experience at ground level within the immediate vicinity of the site.

The sky bar is the other element that will be identifiable but at the longer views such as Victoria Square, hence the intent to create a sculptural top to complement the base. The middle in our view needs to be restrained to not compete with the active base and the more significant heritage places to the west which is critical at the longer western view point. A similar design philosophy was adopted for the CBUS development.

The design principle associated with value cannot be understated – both in terms of the current economic climate where a shovel ready project such as this can stimulate much needed economic growth but the contribution this project will make to the Pirie Street precinct will be profound.

First, it will introduce a 24 hour operation in a locality that has remained stagnant for many years.

Secondly, it will complement the emerging food and beverage scene that is assisting to activate the street.

Thirdly, it will bring visitors into the area to not only feed the emerging food and beverage scene, but to grow and establish it so that existing non-active gaps along the Pirie Street ground plane are filled with active uses.

Fourthly, the hotel use will complement existing and new commercial uses in the area.

And finally, the hotel will provide a positive contribution to the public realm or otherwise public benefit that does not currently exist.

It is these and many other features of the development that not only offset the moderate to low contribution of the existing façade on the site but go to the core of the ODASA 'value' principle which seeks to create desirable places that promote community and local investment as well as enhancing social value.

5.2 Environmental Sustainability

Lucid Consulting Australia have been engaged to prepare the sustainability strategy for the proposed development. The Sustainability Management Plan forms Appendix 9 of this report.

The following initiatives have been incorporated into the design of the building to improve the environmental performance of the development:

- Wall, floor and roof insultation to meet best practice guidelines;
- Glazing selected with consideration of building-specific features and climatic conditions to meet or exceed minimum National Construction Code requirements
- Energy efficient massing (minimal exposed ceilings and floors)
- Master shutdown switches provided to each guest room allowing the lighting, air-conditioning and exhaust fans to be switched off when the unit is unoccupied
- Thermal mass provided through heavyweight construction material
- High levels of daylight provided to all hotel rooms
- LED lighting to be implemented throughout
- Motion sensors for lighting control within common areas
- High efficiency, hydronic central plant
- Heat recovery ventilation throughout guest rooms
- Economy cycle / carbon dioxide monitoring to common areas to increase mechanical system efficiency (free cooling, reduction of outside air in periods of low occupation)
- Water efficient fixtures and fittings
- End of trip facilities for employees
- Low VOC paints used throughout the building
- Operational waste segregation and recycling
- Promotion of recycling construction waste in lieu of landfill disposal

We also note that further investigation into the feasibility of incorporating a roof mounted solar PV system will occur as part of detailed design.

5.3 Vehicle Access

The subject land does not currently benefit from a vehicle access and to accommodate on-site loading of deliveries and waste, a new vehicle access is proposed on Gawler Place. The access is designed to enable delivery and refuse vehicles to reverse into the designated loading area within the building then exit in a forward direction.

Two indented drop-off and pick-up vehicle spaces are proposed along Pirie Street with two kerbside drop off and pick up spaces available in Gawler Place.

5.4 Waste Management

A waste storage area is proposed on the ground level which can store 24 x 660 litre bins. Additional storage is provided in each of the kitchen and administration areas on the upper levels to reduce the frequency of transferring waste to the ground floor.

Some 19 collections will be required per week from the loading area adjacent Gawler Place.

5.5 Stormwater Management

Roof runoff will be discharged from the site via a siphonic drainage system. A detention storage of $22m^3$ is also proposed to be located within the upper floors of the building, with the siphonic drainage directed to this tank, prior to the overflow heading to the Pirie Street kerb and gutter via a checker plate drain at a flow rate equal to or less than 15 l/s.

Runoff collected on the predominantly undercover paved area to the east of the site will be collected in a series of small strip drains and discharged to the Gawler Place kerb and gutter via a checker plate drain.

5.6 Public Realm

A Landscaping plan has been prepared by Outerspace which is included in the proposal plans. It is important to note that whilst the landscape design has evolved since the last design review this process sits outside the planning process but nonetheless the evolution of the design demonstrates the commitment by the proponent and operator to achieve a high quality outcome which does not currently exist.

As is evident in the ground plan, concrete flagstone pavers match the approved Council finishes palette as do the planters which importantly lift the landscaping above ground to avoid the extensive services which exist in Pirie Street.

The higher canopy also provides the opportunity to grow small trees in planters but also the opportunity to integrate planters with bench seating within the outdoor dining area.

Landscaping was originally considered for Gawler Place, however, given the narrow width of the existing footpath and the desire to have a 600 millimetre separation between the kerb/vehicles and the planter box, landscaping along Gawler Place would have unreasonably restricted pedestrian movement in this location.

6. PROCEDURAL MATTERS

6.1 Nature of Development

The proposed development is accurately described as follows:

> '*Demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-one (21) storey hotel building, with ballroom and meeting rooms'*

The subject land is situated within the Capital City Zone and Central Business Policy Area 13.

The proposed development is not identified as a complying or non-complying form of development within the Zone, and accordingly shall be assessed 'on-merit'.

6.2 Relevant Authority

The proposed development is in the area of the Corporation of the City of Adelaide and the development cost exceeds $10 000 000. Accordingly, the State Commission Assessment Panel is the relevant authority pursuant to section 34 of the *Development Act 1993*.

6.3 Category of Development

The Capital City Zone identifies all forms of development as Category 1 for public notification purposes, except for the following:

> '*Any development where the site of the development is adjacent land to land in the City Living Zone or Adelaide Historic (Conservation) Zone and it exceeds 22 metres in building height*.'

The subject land is not adjacent to land in the City Living Zone or Adelaide Historic (Conservation) Zone and therefore, no public notification is required.

6.4 Referrals

The following referrals are required as part of the assessment of this application:

- Commonwealth Secretary for the Department of Transport and Regional Services due to exceeding the 120 Obstacle Limitation Surface (OLS) Contour on Airport Building Heights Map Adel/1 (Overlay 5) pursuant to schedule 8 of the Regulations; and,
- The City of Adelaide pursuant to regulation 38(2)(b) of the Regulations.

A pre-lodgement process has been undertaken and a copy of the response from the Government Architect forms Appendix 3.

7. DEVELOPMENT ASSESSMENT

7.1 Relevant Provisions

The subject land is situated within the Capital City Zone and Central Business Policy Area 13, as shown in Figure 7.1 below and within the Adelaide (City) Development Plan on Maps Adel/19 and Adel/50.

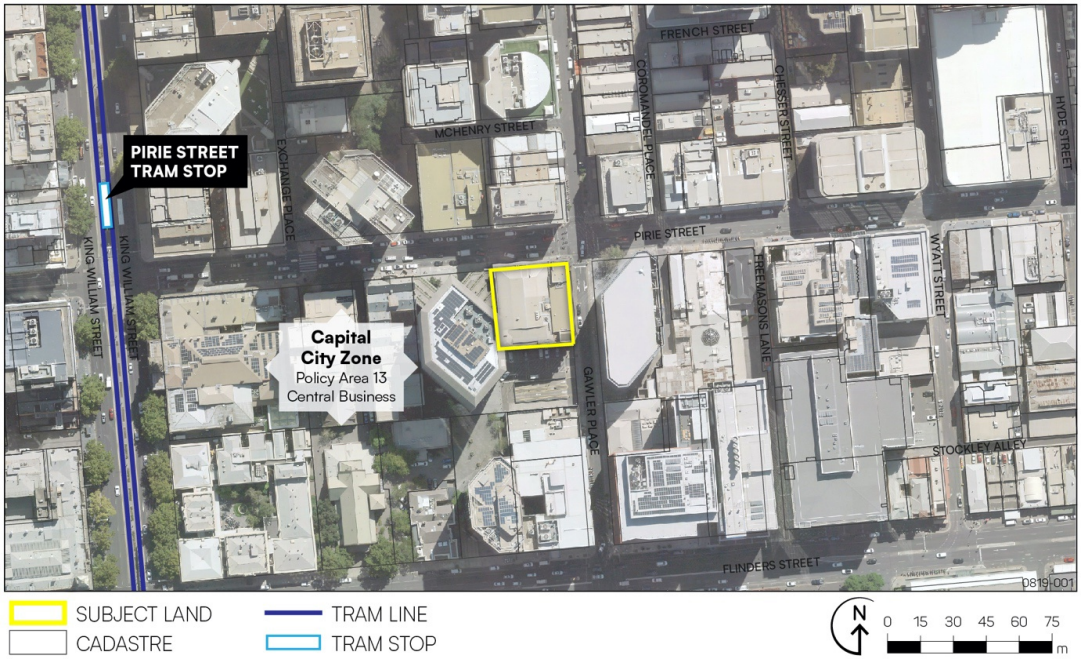


Figure 7.1 *Subject Land and Zoning*

The subject land is also within the following areas:

- Core Pedestrian Area as identified on Primary Pedestrian Area Map Adel/1 (Overlay 2A); and
- 110 – 120 AHD Obstacle Limitation Surface (OLS) Contour on Airport Building Heights Map Adel/1 (Overlay 5).

In our opinion, the following provisions are relevant to this assessment:

Capital City Zone

Objectives: 1 – 8

Principles of Development Control: 1, 2, 4 – 12, 14 -16, 21, 22, 26 – 29

Central Business Policy Area 13

Objectives: 1 – 3

Principles of Development Control: 1 – 3

Living Culture

Objectives: 1 – 3

Principles of Development Control: 1 – 3

Environmental

Objectives: 24 – 30

Principles of Development Control: 82, 84, 87 – 89, 91 – 97, 101 – 112, 119, 120, 122 – 135

Heritage and Conservation

Objectives: 42 – 45

Principles of Development Control: 136 – 139

Built Form and Townscape

Objectives: 46 – 53, 55

Principles of Development Control: 168 – 170, 172, 179 – 182, 186 – 196, 198, 200 – 203, 207 – 210

Squares and Public Spaces

Objectives: 57 - 59

Principles of Development Control: 220, 221, 223

Transport and Access

Objectives: 60 – 63, 65, 68 – 72

Principles of Development Control: 224 – 238, 241 – 247

Economic Growth and Land Use

Objectives: 73 – 76

Principles of Development Control: 266, 268 – 269, 271

Centres and Main Streets

Objective: 77

Principle of Development Control: 273

An assessment of the proposed development against the most relevant provisions is provided in the following sections.

7.2 Land Use

The Capital City Zone and the Central Business Policy Area are the principal focus for the economic, social and political life of metropolitan Adelaide and the State. Accordingly, a vibrant mix of commercial, retail, and medium and high-density living are anticipated within the Zone and Policy Area. Furthermore, Zone Principle of Development Control (PDC) 1 envisages hotels, licensed premises, restaurants and tourist accommodation.

As a result, the proposed land use is entirely appropriate within both the Zone and Policy Area and achieves the intent of the Desired Character.

We also note that the building has been designed to ensure there are no guest rooms on the ground floor, enabling an activated street façade along both Pirie Street and Gawler Place and satisfying Policy Area PDC 3.

7.3 Design and Appearance

The Capital City Zone envisages the following with respect to the design and appearance of buildings:

> Excerpt of Zone's Desired Character:
>
> '*High-scale development is envisaged in the Zone with high street walls that frame the streets…*
>
> *Minor streets and laneways will have a sense of enclosure (a tall street wall compared to street width) and an intimate, welcoming and comfortable pedestrian environment with buildings sited and composed in a way that responds to the buildings' context. There will be a strong emphasis on ground level activation through frequent window openings, land uses that spill out onto the footpath, and control of wind impacts.'*
>
> Zone PDC 7: *Buildings should achieve a high standard of external appearance by:*
>
> *a) the use of high quality materials and finishes. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level;*
> *b) providing a high degree of visual interest though articulation, avoiding any large blank facades, and incorporating design features within blank walls on side boundaries which have the potential to be built out;*
> *c) ensuring lower levels are well integrated with, and contribute to a vibrant public realm; and*
> *d) ensuring any ground and first floor level car parking elements are sleeved by residential or non-residential land uses (such as shops, offices and consulting rooms) to ensure an activated street frontage.*
>
> Excerpt of Policy Area's Desired Character:
>
> '*Buildings will exhibit innovative design approaches and produce stylish and evocative architecture, including tall and imposing buildings that provide a hard edge to the street and are of the highest design quality. A wide variety of design outcomes of enduring appeal are expected. Complementary and harmonious buildings in individual streets will create localised character and legible differences between streets, founded on the existing activity focus, building and settlement patterns, and street widths.'*

The proposed building offers high and imposing walls that frame the street and will provide a sense of enclosure to Gawler Place. The ground floor lobby incorporates tilt up windows along both façades above bar seating areas, which when open, will offer an extension of the public realm and contribute to a welcoming and comfortable pedestrian environment. An outdoor seating area on the footpath is proposed along Pirie Street activating the streetscape.

A glazed curtain wall system finished in 'champagne' colour and which peels away at podium level and the roof top which references both the sandstone material in the broader context and the angled geometry of buildings in the immediate surrounds provides a contemporary yet sympathetic juxtaposition in the diverse locality context to appropriately blend the diverse architectural themes at play in the streetscape.

In addition, in our opinion, the proposed development exhibits the high standard of external appearance and activation at the street level expected of buildings within the Capital City Zone, particularly by:

- Using high quality materials and finishes, namely glass and fold stainless steel which minimise staining, discolouration and deterioration;
- Providing a high level of visual permeability along the ground level by avoiding large blank facades along Gawler Place and Pirie Street;
- Incorporating elements of visual interest through a unique folded metal canopy and vertical tilt up windows; and
- Integrating the public realm through tilt up windows along the outward facing bar, providing increased opportunities for surveillance and allowing for a legible and natural connection between the internal and external seating areas.

Matters relating to the building height, setbacks and public realm are considered further below.

7.3.1 Building Height

Adelaide (City) Building Heights Concept Plan Figure CC/2 confirms that there is no prescribed height limit for the subject land. Zone PDC 22 also envisages a minimum building height of 28 metres, albeit such does not apply to sites which contain a heritage place. In any event, the proposed building height of 93.9 metres does not offend either the minimum or 'maximum' building height.

We note that the subject land is also situated within 110 – 120 AHD OLS contour on Airport Building Heights Map Adel/1 (Overlay 5). The proposed building exceeds this contour by 18.7 metres. We note the height of the building which received consent as part of DA 020/A016/19 protruded some 38 metres above this OLS contour and was not considered to adversely affect the operational, safety or commercial requirements of Adelaide International Airport. Similarly, the reduced building height of the proposed building is not considered to threaten the ongoing operation of the airport satisfying Central Business Policy Area PDC 2 and Council Wide PDC 172.

7.3.2 Public Realm

Given the position of the land within the Capital City Zone and Central Business Policy Area, activated facades that create a vibrant public realm are envisaged. In particular, the Zone and Policy Area seek the following:

- Development will continue to provide visual interest after hours by being well lit and having no external shutters (Zone Desired Character);
- An interesting pedestrian environment and human scale will be created at ground floor levels through careful building articulation and fenestration, frequent openings in building façades, verandahs, balconies, awnings and other features that provide weather protection (Zone Desired Character);
- Buildings present an attractive pedestrian-oriented frontage that adds interest and vitality to City streets and laneways (Zone PDC 8);
- The finished ground floor level of buildings should be at grade and/or level with the footpath to provide direct pedestrian access and street level activation (Zone PDC 9); and,
- Residential development or similar should be located above ground floor level (Policy Area PDC 3).

The proposed design achieves the above by positioning the lobby and a bar on the ground floor creating a welcoming and pedestrian-oriented façade that contributes to a highly active environment along both Pirie Street and Gawler Place.

The 24 hour operation of the hotel will ensure that the lobby remains well-lit and provides natural surveillance 'after hours' to the immediate surrounds of the subject land – a significant improvement from the current situation.

The subject land is situated within the Core Pedestrian Area as identified on Primary Pedestrian Area Map Adel/1 (Overlay 2A) and '*should be designed to provide weather protection for pedestrians against rain, wind and sun'* (Council Wide PDC 123). Capital City Zone PDC 10 and Council Wide PDC 229 suggest that this should be in the form of '*verandahs, awnings or canopies'* and PDC 230 confirms that such structures should have a clearance of 3.0 metres above the existing footpath level.

The proposed building incorporates a canopy that will extend the entire length of the Pirie Street frontage and the majority of the length of the Gawler Place frontage, and will have a clearance greater than 3.0 metres above the footpath. Accordingly, Capital City Zone PDC 10 and Council Wide PDCs 123, 229 and 230 are all satisfied.

7.3.3 Building Setbacks

There is no minimum setback within the Central Business Policy Area and accordingly, the proposed development satisfies Capital City Zone PDC 11 and Council Wide PDC 179.

7.3.4 Landscaping

A Landscaping plan has been prepared by Outerspace. It is important to note that whilst the landscape design within the public realm sits outside the planning process but nonetheless demonstrates the commitment by the proponent and operator to achieve a high quality design outcome which does not currently exist.

As is evident in the ground plan, concrete flagstone pavers match the approved Council finishes palette as do the planters which importantly lift the landscaping above ground to avoid the extensive services which exist in Pirie Street.

The higher canopy also provides the opportunity to grow small trees in planters but also the opportunity to integrate planters with bench seating within the outdoor dining area.

Landscaping will be provided within the sky bar.

Whilst final species are still being selected in consultation with the City of Adelaide, species will be selected that conserve water and will be positioned to define the outdoor seating and reinforce paths and edges in keeping with Council Wide Objective 55 and Council Wide PDC 207.

Landscaping was originally considered for Gawler Place, however, given the narrow width of the existing footpath and the desire to have a 600 millimetre separation between the kerb/vehicles and the planter box, landscaping along Gawler Place would have unreasonably restricted pedestrian movement in this location.

Overall, the landscaping proposed within the development site and within the public realm is of a high quality and contribute to a much improved streetscape character and amenity.

7.4 Heritage

Part of the existing building on the subject land is identified as a Local Heritage Place (Townscape) (LHP) within Table Adel/3 of the Development Plan. The LHP (Townscape) was a former bank and despite the whole of the allotment being subject to the heritage listing within the Development Plan, only the Pirie Street façade of the former bank remains. Consequently, the demolition of this façade is one of the fundamental planning considerations for this application.

To undertake this assessment, we have reproduced the Objectives and PDCs that we consider most relevant to heritage conservation below:

Council Wide Objective 43: Development that retains the heritage value and setting of a heritage place and its built form contribution to the locality.

Council Wide PDC 136: Development of a heritage place should conserve the elements of heritage value as identified in the relevant Tables.

Council Wide PDC 138: A local heritage place (as identified in Tables Adel/2, 3 or 4) or the Elements of Heritage Value (as identified in Table Adel/2) should not be demolished unless it can be demonstrated that the place, or those Elements of Heritage Value that are proposed to be demolished, have become so distressed in condition or diminished in integrity that the remaining fabric is no longer capable of adequately representing its heritage value as a local heritage place.

Council Wide PDC 142: Development that abuts the built form/fabric of a heritage place should be carefully integrated, generally being located behind or at the side of the heritage place and without necessarily replicating historic detailing, so as to retain the heritage value of the heritage place.[Please note that the site does not abut a heritage place, however this PDC is considered relevant to highlight that the heritage value, not the place, is what the Development Plan seeks to conserve.]

(underlining our emphasis)

It's evident that all of the above policies seek to retain or conserve the 'heritage value' of the place. With this in mind, we note the following:

- 51 Pirie Street does not have any 'elements of heritage value' identified within Table Adel/3;
- The Development Plan suggests that the LHP does not satisfy any of the criteria provided by section 23(4) of the *Development Act 1993* which allow a Development Plan to '*designate a place as a place of local heritage value'* by virtue of not identifying the relevant criteria in a similar manner to Table Adel/2;
- The place was identified in a townscape study and Council sought to protect such places in a similar manner to a heritage listing prior to the introduction of the criteria in section 23(4) of the *Development Act 1993*;
- Despite heritage related Development Plan Amendments (DPA) occurring since these criteria were introduced (such as the City Centre Heritage DPA in 2013 and the Local Heritage Amendments PAR in 2001), Council have not amended the Development Plan to identify the 'elements of heritage value' or how they satisfy the criteria under section 23(4) of any of the 'LHP's within Table Adel/3;
- The Adelaide City Council website suggests that an LHP (Townscape) is '*a place that positively contributes to the townscape character*'. We note that contribution to the townscape character is not consistent with any of the criteria under section 23(4) of the *Development Act 1993*.

Noting the above, it is arguable whether the building façade at 51 Pirie Street even exhibits the heritage value that the above Objective and PDCs seek to retain.

A Heritage Impact Statement (HIS) has been prepared by DASH Architects (Appendix 4). The HIS provides the following context to undertaking an assessment of a development against the above PDCs:

> '[The] *Full Court of the Supreme Court judgement for the Development Assessment Commission v A&V Contractors noted, however, that planning judgements of this nature require assessment against a range of Development Plan provisions and planning objectives which are often in tension with each other. Most of these provisions are general rules and not*

inviolable prescriptions. Balancing these provisions as part of a planning judgement is informed by factual circumstances of a proposed development.

The Full Court of the Supreme Court in Lakshmanan & Anor v City of Norwood, Payneham and St Peters & Anor provided additional context to this, noting that the relative heritage importance (i.e. where a place falls in the range of all Local Heritage places), forms part of these factual circumstances, and is necessary when considering any departure from heritage provisions and planning objectives within Council Development Plans'.

With the above in mind, the HIS confirmed the following with respect to the relative heritage importance and integrity of the LHP:

- The existing building façade only has a moderate to low relative heritage importance;
- That the LHP has a '*moderate state of integrity*', noting that the LHP was substantially redeveloped in the 1980s with all internal finishes stripped and the following the changes made to the building façade:
  - » Original windows replaced;
  - » Original balconies infilled;
  - » Most ground floor window sills lowered; and
  - » Signage removed.
- That '*of the four heritage buildings* [on the Pirie Street streetscape], *51 Pirie Street is of the lowest integrity*'.

This demonstrates that the existing building façade is diminished in integrity and is only capable of representing a moderate to low relative heritage importance as a Local Heritage Place. Accordingly, in our opinion, the demolition of the façade is considered appropriate in the context of Council Wide PDC 138.

The aforementioned judgement of *Lakshmanan & Anor v City of Norwood, Payneham and St Peters & Anor* also suggested that the relative heritage importance should be considered in the context of competing principles of a Development Plan. In this particular judgement, the following statement was in relation to competing flooding and heritage principles (at 55):

'Even though the flooding risk and the local heritage value are hardly commensurable, a planning judgment is called for as to which consideration should, as a matter of planning judgment, predominate. The degree of flooding risk which will constitute good reason to approve demolition will necessarily be higher the greater the heritage value of the place which is the subject of the development application.'

Based on the judgement above, the relative heritage importance of the existing building façade should be considered in the context of the competing principles which, if no heritage building existed on the land, would be relevant when assessing the design of a new building. This approach is supported by the Government Architect noting the following comment within Appendix 3:

'*In my view, the removal of the Local heritage façade must also be justified by achieving a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome… My support for the removal of the heritage façade is contingent on the new proposition providing a significant contribution streetscape and achieving a high quality design and material outcome…'*

In our opinion, competing principles exist in this instance with respect to design quality, activating the public realm and improving the amenity for pedestrians within the Capital City Zone. Examples of such are provided below:

Excerpts from Capital City Zone Desired Character: 'An interesting pedestrian environment and human scale will be created at ground floor levels through careful building articulation and fenestration, frequent openings in building façades, verandahs, balconies, awnings and other features that provide weather protection… There will be a strong emphasis on ground level activation through frequent window openings, land uses that spill out onto the footpath, and control of wind impacts.'

Zone PDC 9: The finished ground floor level of buildings should be at grade and/or level with the footpath to provide direct pedestrian access and street level activation.

Zone PDC 10: Providing footpath widths and street tree growth permit, development should contribute to the comfort of pedestrians through the incorporation of verandahs, balconies, awnings and/or canopies that provide pedestrian shelter.

In terms of weighing up such principles in this planning assessment, in our opinion, the importance of activating the public realm and improving the amenity for pedestrians should be considered at a higher level where the relative heritage importance of a place has been demonstrated to be of a low to moderate level or diminished integrity. It is also relevant to note that the above Zone PDCs should have a greater weighting than the general Council Wide PDCs. It follows that given the moderate to low relative heritage importance of the existing building façade, a building design which achieves the above principles suggests that the removal of the existing façade may be warranted in this particular instance.

Having regard to the assessment of the design quality and contribution to the public realm and pedestrian amenity in section 7.3 above, it is evident that the proposed design achieves this intent. It is also evident that the proposed design achieves a number of improvements with respect to public realm, street level activation and pedestrian amenity, particularly when assessing the limited contribution that could be achieved if the current building façade were to be retained. Such can be observed between Figures 7.2 and 7.3 below, particularly noting:

- The improved visual and physical permeability between the ground level of the building and the footpath;
- The transparency of the façade creating highly permeable and active street frontages;
- The ability to activate the street with dining and seating areas;
- Improved pedestrian comfort, safety and amenity;
- Increased opportunities for natural and passive surveillance of Pirie Street and Gawler Place; and
- The finished floor level of the proposed building being level with the footpath.

Therefore, in light of the moderate to low relative heritage importance of the existing facade, the importance of public realm and pedestrian amenity within the Capital City Zone and the significant contribution the proposed development would deliver for the streetscape we have concluded that in this particular instance, the proposed design constitutes strong planning reason to approve the demolition of the existing façade.

On the contrary, the retention of the existing bank façade presents a number of constraints with respect to the contribution to the public realm and pedestrian amenity. In particular, the existing façade presents the following constraints:

- a high solid to void ratio with limited physical and visual permeability between the ground floor and the public realm, limiting opportunities to activate the streetscape;
- the ground floor is not aligned with the footpath level, presenting challenges for equitable access and maintaining a connection between the public realm and activities within the building; and

- no weather protection for pedestrians along the footpath, including hotel guests unloading luggage from vehicles along Pirie Street.

Consequently, the demolition of the existing façade offers the opportunity to significantly improve the contribution of the site to streetscape activation and pedestrian amenity.

In addition to the above, we note that a development plan consent exists over the land which included the demolition of the existing heritage façade. In our opinion, the design proposed as part of this application, will result in significant improvements for the public realm by removing all of the above ground car parking and the Gawler Place porte cochere, reducing the potential for pedestrian conflict and providing opportunities for genuine activation of the lower building levels.

Figure 7.2 *Proposed Pirie Street Façade Render*

Figure 7.3 *Existing Pirie Street Façade*

7.5 Traffic Impact, Access and Parking

7.5.1 Traffic Impact and Pick-Up/Drop-Off

A Traffic Assessment Report has been prepared by WGA and forms Appendix 5. This report confirms the following in relation to traffic impact:

- The expected number of pick-ups/drop-offs would be 18 vehicles per hour;
- Two new indented drop off/pick up vehicle spaces are proposed along Pirie Street with two kerbside drop off and pick up available in Gawler Place;
- The four drop off/pick up spaces are considered to be sufficient for servicing the proposed development;
- The proposal is not expected to cause any significant adverse parking or traffic impacts in the surrounding area.

7.5.2 Site Access and Safety

Due to the position of the land within the Core Pedestrian Area, Council Wide PDC 245 suggests that there should be no increase in the number of parking spaces served by the existing crossing nor any increase in the number of crossings serving a development. We note that the subject land does not currently have a vehicle crossover and such will be introduced to the land, contrary to PDC 245.

Notwithstanding this, we note that the proposed crossover enables a waste collection vehicle to reverse onto the site and be loaded on-site before exiting in a forward motion. The alternative is to have a waste collection area on the street and bins would need to be transferred across the footpath and loaded into the collection vehicle.

In our opinion, given the frequency of waste collection (up to 19 collections are expected per week), having a dedicated loading area on-site will reduce the impact of waste collection on the pedestrian amenity. Therefore, despite the addition of a crossover, such is not considered to unreasonably compromise the intent of the Core Pedestrian Area.

In relation to safety, the Traffic Assessment Report confirmed that the peak hour pedestrian counts revealed an estimated peak hour two-way pedestrian flow in excess of 300 pedestrians per hour along Gawler Place and that sight lines will exceed the requirements of AS2890.1.

7.5.3 Vehicle Parking

Zone PDC 29 requires that off-street car parking be provided in accordance with Table Adel/7. There is no minimum requirement for off-street car parking for non-residential development within the Capital City Zone. Consequently, the absence of off-street car parking satisfies Zone PDC 29.

In relation to on-street car parking, the Traffic Assessment Report (Appendix 5) confirms that 4 on-street car spaces will be made available for guest drop off and pick up purposes. These four spaces will be able to cater for approximately 24 vehicles per hour, noting that peak demand for the proposed development is only expected to be 18 vehicles per hour.

Table Adel/6 does not identify a minimum number of bicycle parks for hotels or tourist accommodation.

7.6 Environmental Considerations

7.6.1 Crime Prevention

The intent of the relevant crime prevention provisions of the Development Plan seek to provide a safe and secure, crime resistant environment that:

- Ensures that land uses are integrated and designed to facilitate natural surveillance;
- Promotes building and site security; and
- Promotes visibility through the incorporation of clear lines of sight and appropriate lighting.

In our opinion, the proposed development achieves this through the following design features:

- Windows and doors are oriented to the public realm and overlook both Pirie Street, Gawler Place and the car park to the south, promoting natural surveillance;
- Avoiding features that obscure direct views to public areas;
- Positioning the lobby on the ground floor to enable natural surveillance of the public realm in the evenings;
- Providing a 24 hour operation with active ground level uses, extending the duration and level of intensity of public activity at ground level;
- Establishing clear lines of sight within both buildings and different activity areas including around lifts and stairwells and services areas;
- Establishing clear lines of sight through the lift lobby areas of both buildings and surrounding publicly accessible spaces to provide clearly defined routes for visitors;
- Avoiding opportunities for concealment, including a tilt-up door is proposed adjacent the receiving door to minimise opportunities for concealment when the crossover isn't in use;
- Planting particular tree and plat species along Pirie Street that will maintain views through the space;
- Providing adequate and consistent lighting of building entrances, servicing and pedestrian areas to avoid the creation of shadowed areas;
- Potentially introducing CCTV throughout the ground level publicly accessible spaces to monitor activity;
- Ensuring rear service doors are monitored and well-lit; and.
- Using robust and durable design features to discourage vandalism.

Accordingly, the proposed development is considered to satisfy Council Wide Objective 24 and PDC 82.

7.6.2 Noise Emissions

Sonus have undertaken a Noise Assessment which forms Appendix 6. This assessment confirmed the following:

- Environmental noise from the development will achieve the relevant noise criteria with no specific acoustic treatments, noting that there are no relevant receivers in the immediate vicinity;
- Deliveries and waste collections should align with Council Wide PDC 94 and be limited to between 7 am and 7 pm Monday to Saturday (inclusive) and 9 am to 7pm on Sundays or public holidays;

- Full height glazing will be required on levels 7 through to 20 to ensure that the internal noise levels of the guest rooms does not exceed 35 dB(A); and
- An assessment of music noise generated within the development, such as within the ballroom or bars, to the sleeping areas will need to be done as part of the sign stage process in order to satisfy the operators brief.

Based on the above, Sonus concluded that the proposed development has been designed to '*not unreasonably interfere with the desired character of the locality and to protect residents from existing noise sources, achieving all relevant provisions of the Development Plan in relation to environmental noise and external noise intrusion'.*

7.6.3 Waste Management

A Waste Management Plan has been prepared by Rawtec and forms Appendix 7. The Plan confirms the following:

- A total of 28 x 660 litre bins will be required for the storage of waste (including general waste and recycling);
- The ground level waste storage area can store 24 x 660 litre bins with additional storage provided in each of the kitchen and administration areas above to reduce the frequency of transferring waste to the ground floor; and
- Some 19 collections will be required per week from the loading area adjacent Gawler Place.

WGA have undertaken an assessment of the collection vehicle size and turning paths, confirming that the collection vehicle will be able to reverse into the loading bay then exit in a forward motion. This swept path diagram is included adjacent the ground floor plan in Appendix 1.

The above is considered to satisfy Council Wide Objective 28 and Council Wide PDCs 101 and 103.

Ventilation for the waste storage area will need to be considered as part of the detailed design and ensure compliance with Australian Standard 1668.2-2002 and Council Wide PDC 104.

7.6.4 Energy Efficiency

A Sustainability Management Plan has been prepared by Lucid Consulting (Appendix 9) and outlines the Ecologically Sustainable Design (ESD) initiatives incorporated into the building design. These initiatives are intended to:

- Minimise consumption of non-renewable resources (Council Wide Objective 30); and
- Provide adequate thermal comfort for occupants and minimise the need for energy use for heating, cooling and lighting (Council Wide PDC 106).

Such is considered to align with the intent of Council's Development Plan. We also note that further investigation into the feasibility of incorporating a roof mounted solar PV system will occur as part of detailed design.

7.6.5 Wind Impact

Development should be designed and sited to minimise micro-climatic and solar access impact on adjacent land or buildings and minimise the wind tunnel effect. Due to the height of the building, an Environmental Wind Analysis has been undertaken by Arup, which forms Appendix 10.

The analysis refers to the original design (DA 020/A016/19), noting that the proposed changes between the previous development application and the current application are likely to improve the wind conditions:

'*The CFD assessment of wind conditions in and around the site was conducted for the original design. The reduction in building height is expected to slightly reduce the measured wind speed on the ground level, thereby improving the predicted ground level wind conditions reported in Arup (2019). The wind conditions in the report were found to be suitable for the intended use of the ground plane as a pedestrian accessway*.'

The analysis of the original analysis is also included in Appendix 10.

In addition, analysis confirms that wind conditions for the casual café style, outdoor seating area proposed on Pirie Street will be suitable from a wind speed perspective for 90% of time.

Consequently, wind conditions adjacent the building will be suitable for their intended purpose and the development will satisfy Council Wide PDCs 119 and 125.

7.6.6 Stormwater Management

A Stormwater Management Plan has been prepared by WGA and forms Appendix 8. The Stormwater Management Plan proposes the following methodology:

> *'…the majority of the roof runoff will be discharged from the site via a siphonic drainage system and as such detention storage will be required to limit the flow rate to 15 l/s. A detention storage of 22m^3 is proposed to be located within the upper floors of the building, with the siphonic drainage directed to this tank, prior to the overflow heading to the Pirie Street kerb and gutter via a checker plate drain (in accordance with the City of Adelaide standard details).*
>
> *Runoff collected on the predominantly undercover paved area to the east of the site will be collected in a series of small strip drains (within the site boundary) and discharged to the Gawler Place kerb and gutter via a checker plate drain (in accordance with the City of Adelaide standard details).*

We note that the localised widening of the Pirie Street footpath (on the north-east corner of the site) may also require underground drainage infrastructure to manage the impact of water flow during storm events.

Based on the above, we note that:

- The development has been designed to protect stormwater from pollution sources (i.e. there is limited surface runoff, and roof runoff will be contained within downpipes before discharge) (Council Wide Objective 36);
- The quality of stormwater is unlikely to be compromised, given mainly roof runoff will occur from the site, and therefore measures to reduce sediment are not proposed; and
- The design capacity of existing or planned downstream systems are not exceeded, by limiting the flowrate from a single drain to 15 L/s (Council Wide PDC 131).

7.6.7 Site Contamination

The subject land is currently occupied by a commercial office building. Figure 4 in the HIS (Appendix 4) shows that the land was occupied by a former bank and what appears to be a shoe store. Whilst a comprehensive site history report has not been prepared, there is no reason to suspect that a potentially contaminating activity has occurred in the land. In any event, a more sensitive use is not proposed on the ground level with guest accommodation being situated from level seven. The first six levels of the building will continue to be occupied on a daily basis for 'non-habitable' purposes, similar to the current occupation of the commercial office building.

8. CONCLUSION

Based on our planning assessment, it is evident that the proposed development aligns with the majority of the relevant provisions of the Development Plan, particularly relating to land use, design and appearance, traffic impact and environmental considerations.

The main area of variance from the Development Plan is in relation to heritage conservation and the demolition of the façade of the former bank. However, the HIS confirmed the following with respect to the relative heritage importance and integrity of the LHP:

- The existing building façade only has a moderate to low relative heritage importance;
- That the LHP has a '*moderate state of integrity*', noting that the LHP was substantially redeveloped in the 1980s with all internal finishes stripped and the following the changes made to the building façade:
  - » Original windows replaced;
  - » Original balconies infilled;
  - » Most ground floor window sills lowered;
  - » Signage removed; and
- That '*of the four heritage buildings* [on the Pirie Street streetscape], *51 Pirie Street is of the lowest integrity*'.

The relative heritage importance and integrity of the existing building façade should be considered in the context of competing principles of the Development Plan which, if no heritage building existed on the land, would be relevant when assessing the design of a new building.

In terms of weighing up such principles in this planning assessment, in our opinion, the importance of activating the public realm and improving the amenity for pedestrians should be considered at a higher level where the relative heritage importance of a place has been demonstrated to be of a low to moderate level or diminished integrity.

Therefore, in light of the moderate to low relative heritage importance of the existing facade, the importance of public realm and pedestrian amenity within the Capital City Zone and the significant contribution the proposed development would deliver for the streetscape we have concluded that in this particular instance, the proposed design constitutes strong planning reason to approve the demolition of the existing façade.

In addition, the design proposed as part of this application, will result in significant improvements for the public realm by removing all of the above ground car parking and the Gawler Place porte cochere, reducing the potential for pedestrian conflict and providing opportunities for genuine activation of the lower building levels.

Therefore, when weighing up all relevant provisions of the Development Plan, the State Commission Assessment Panel should be satisfied that a significant contribution to the streetscape and a high quality design and material outcome has been achieved. Accordingly, Development Plan Consent is warranted in this particular instance.

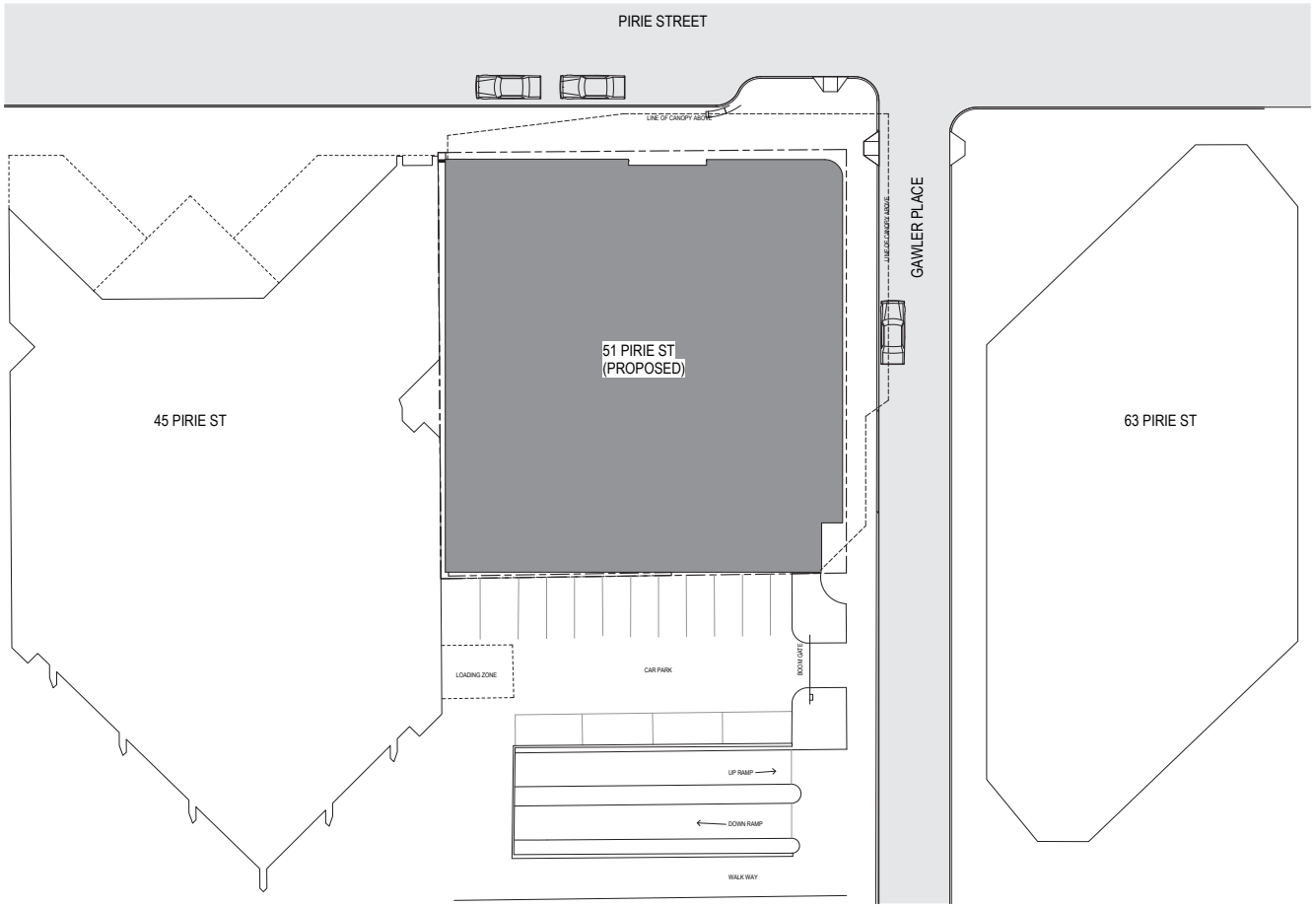
GHDWOODHEAD

51 PIRIE STREET HYATT REGENCY HOTEL

MAY 2020 - DEVELOPMENT APPLICATION

HYATT REGENCY | 51 PIRIE STREET | MAY 2020

SITE PLAN



PROJECT SUMMARY

- 21 level 285 room 5 star Hyatt Regency hotel.
- The building is 94m above the 45.6m AHD datum level on Pirie Street.
- Site area is approximately 1,350m2. Total gross building area is approximately 21,290m2
- Proposal offers ground floor bar, ballroom, conference, fitness and recreation facilities and sky level bar and dining.

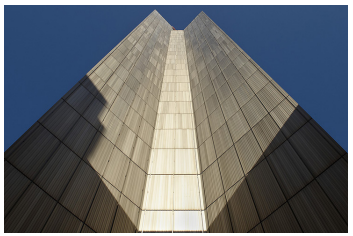
- **It will serve to redefine the corner of Pirie St & Gawler Place, and requires the demolition in its entirety of the current buildings on site.**

CONTEXT | REFFERENCES


63 PIRIE ST


45 PIRIE ST


25 PIRIE ST


30 PIRIE ST - TELSTRA

CITYSCAPE | EXISTING CONTEXT & PEDESTRIAN VIEWS


PEDESTRIAN VIEW FROM GAWLER PLACE


PEDESTRIAN VIEW OF SOUTHERN BOUNDARY INTERFACE


PEDESTRIAN VIEW OF PIRIE STREET FACING WEST


PEDESTRIAN VIEW OF PIRIE STREET AND GAWLER PLACE INTERSECTION

SPATIAL FINE GRAIN

- Continuous linear street edge.
- Kerb extension of Pirie St.
- At grade ground floor entry.
- Covered and expanded footpath with outdoor seating and planters.
- Active, open and accessible ground plane with equal frontages.
- Open, permeable public interface, with seamless integration.

900X600X80MM CONCRETE FLAGSTONE PAVING TO MATCH THE APPROVED CITY OF ADELAIDE FINISHES PALETTE

HIGH QUALITY GRC 900X900X700 CUBE PLANTER BOXES TO MATCH APPROVED CITY OF ADELAIDE SPECIFICATIONS WITH UNDERSTOREY PLANTING.

Liriope muscari 'Isabella'
Isabella
H: 0.5m W: 0.5m

Clivia miniata
Fire lily
H: 0.6m W: 0.8m

Nandina domestica 'Nana'
Dwarf Sacred Bamboo
H: 0.5m W: 0.5m

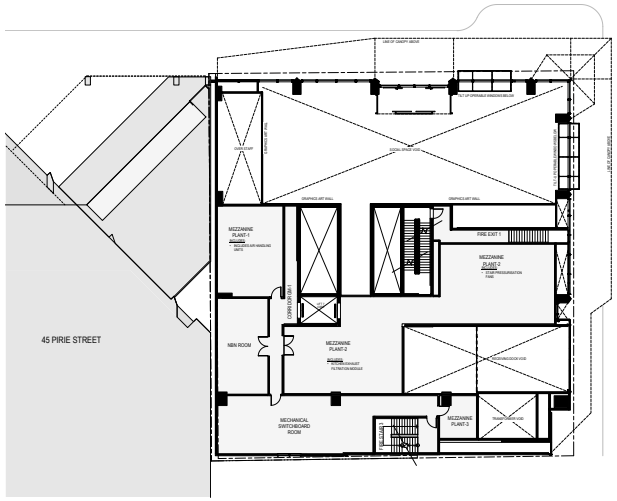
cotyledon orbiculata 'silver dollar'
Pig's ear
H: 0.5m W: 0.7m

UNDERSTOREY PLANTING

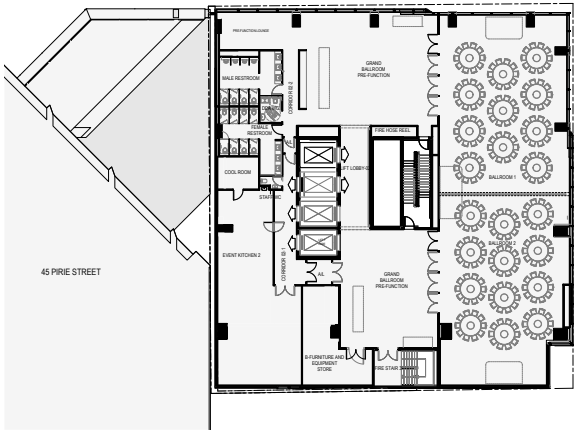
HIGH QUALITY SECURITY BARRIER STREET FURNITURE / PLANTER BENCH.

GROUND FLOOR | LANDSCAPE

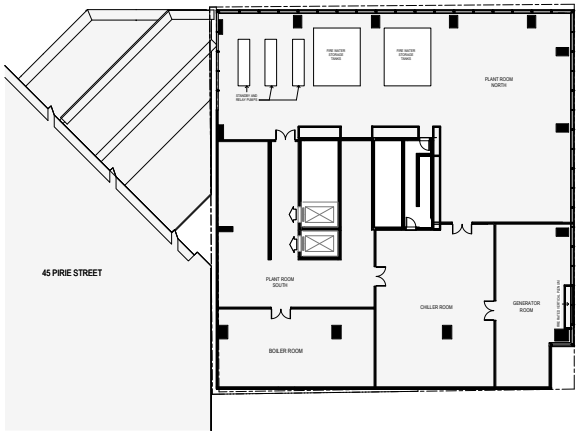
IN-PLANTER FEATURE EVERGREEN TREE PLANTING - FISCUS MICROCARPA HILLII



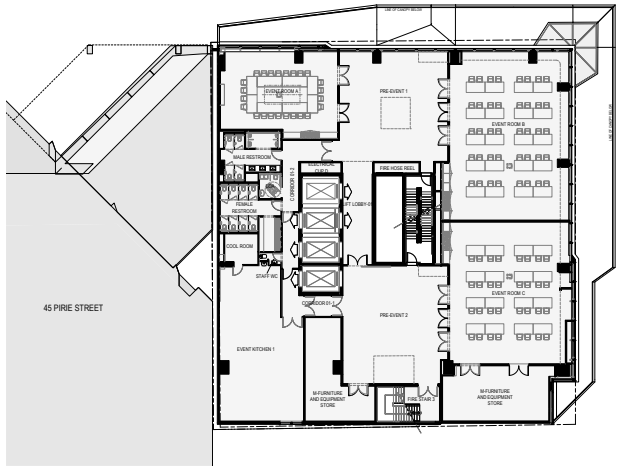
GROUND FLOOR | PLANT MEZZANINE



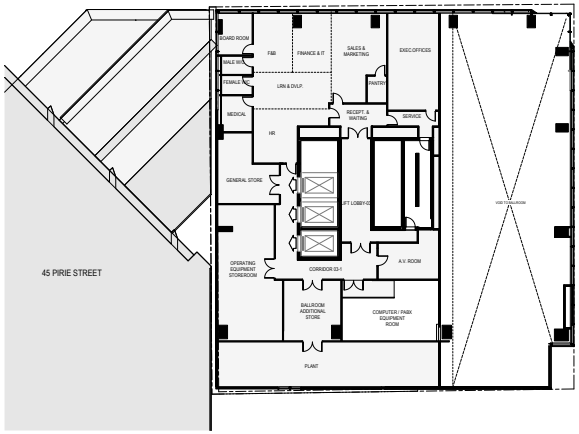
LEVEL 2 | BALLROOM



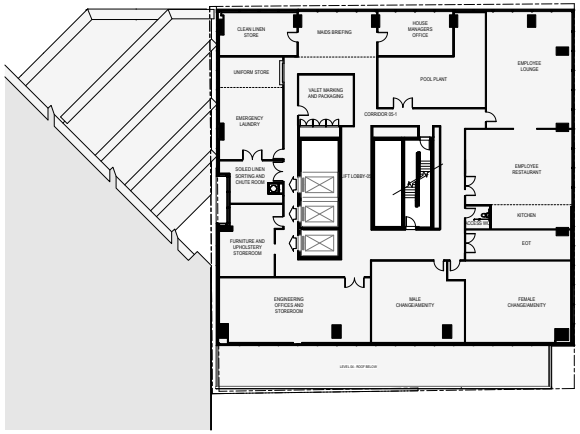
LEVEL 4 | PLANT



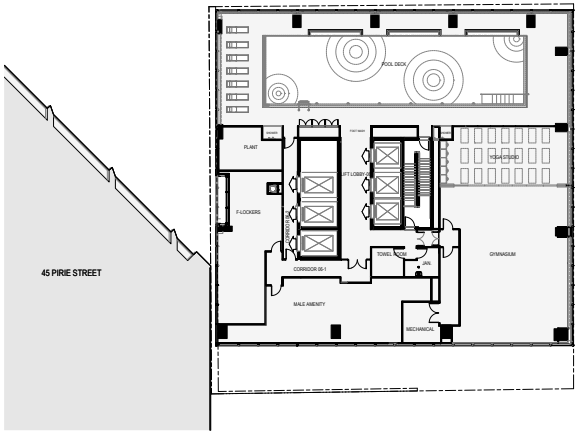
LEVEL 1 | CONFERENCE AND MEETING FACILITIES



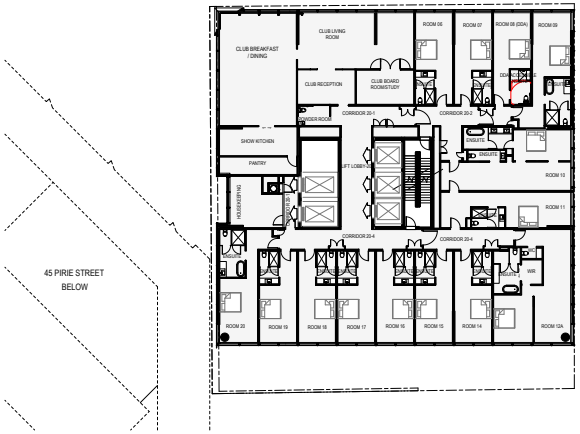
LEVEL 3 | ADMINISTRATION



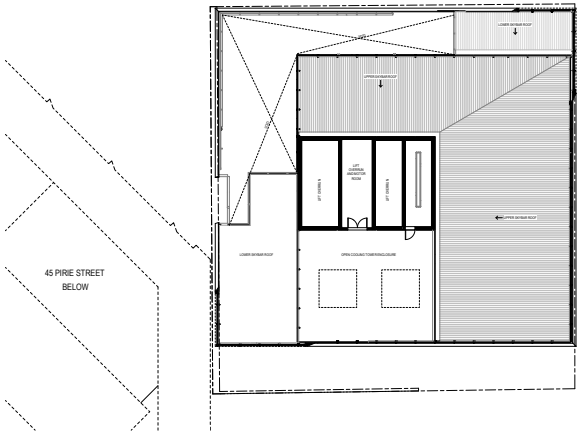
LEVEL 5 | EMPLOYEE FACILITIES



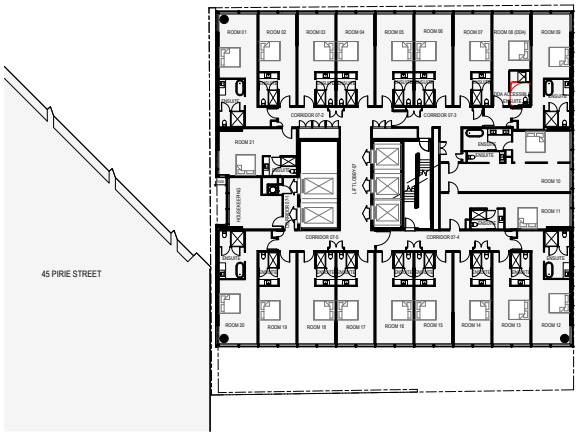
LEVEL 6 | POOL DECK



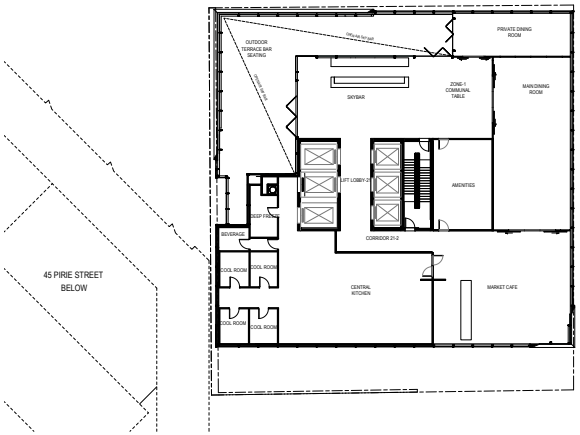
LEVEL 20 | REGENCY CLUB



ROOF LEVEL | PLANT



LEVEL 7-19 | TYPICAL GUEST SUITES



LEVEL 21 | SKY BAR & DINING

OBJECTIVES

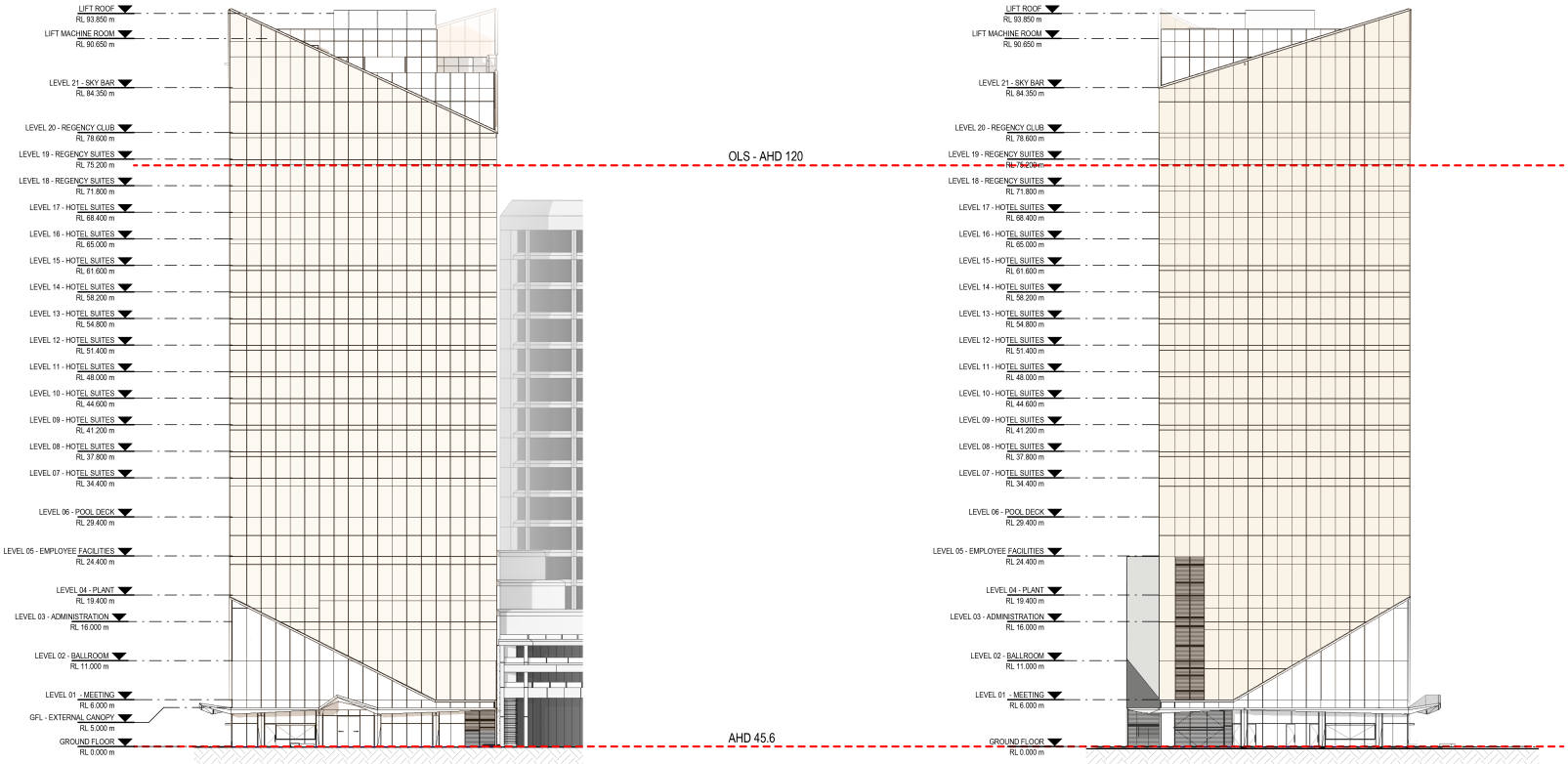
- Accentuating slenderness.
- Generating sculptural form.

AESTHETIC

- A curtain wall solution presents a singular holistic facade.
- A clean, refined approach in line with the hotel operators corporate identity.

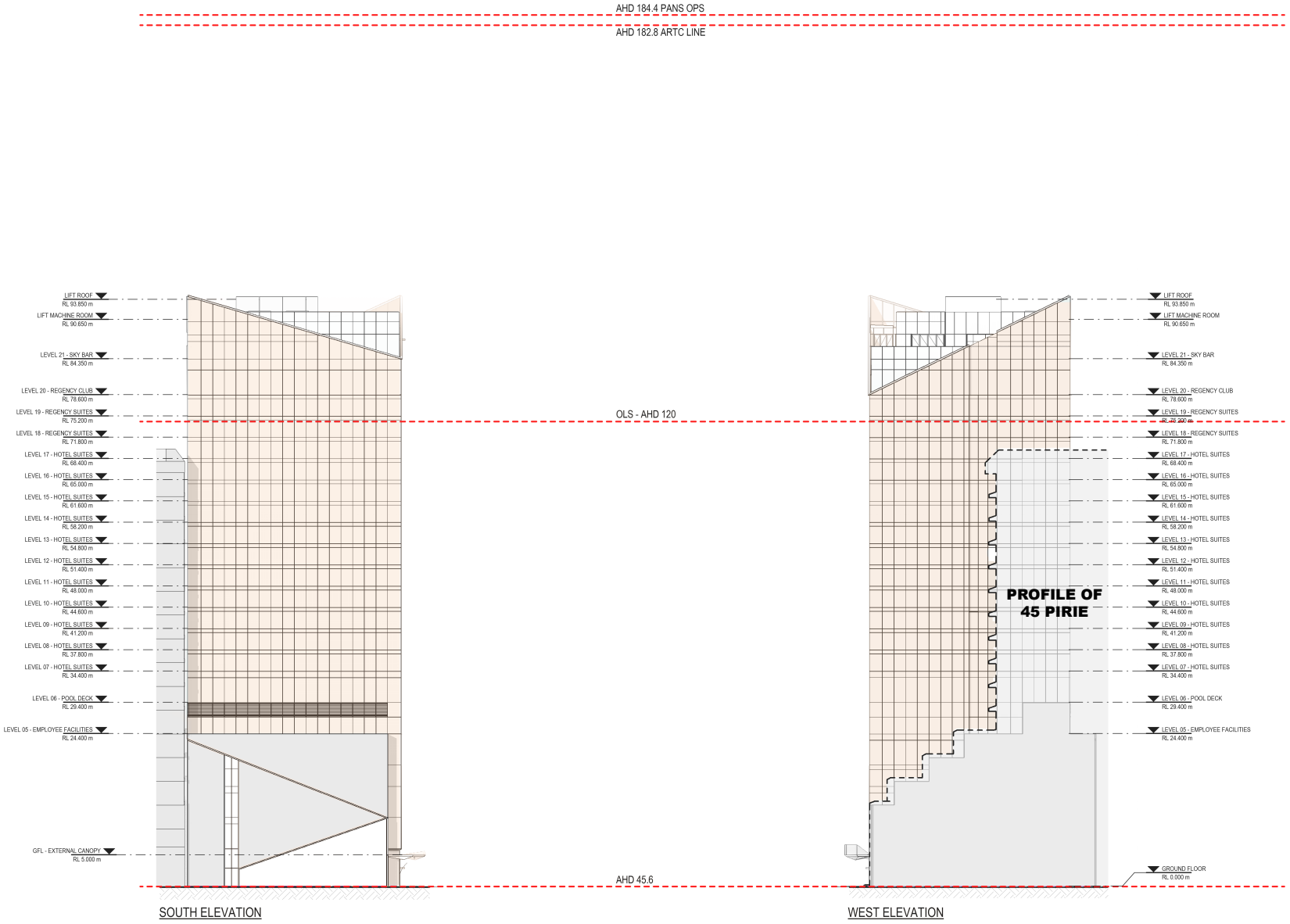
FACADE ARTICULATION

- Holistic facade with elegant, corporate aesthetic.
- An abstracted podium is achieved by peeling away the facade to expose activated public zones at pedestrian level.
- Matching architectural expression is employed at the roof skybar and regency club levels.
- Active zones have visual clarity, contrasting with the glazing of public zones, creating prisms of light at both skyline and pedestrian levels at night.



NORTH ELEVATION (PIRIE STREET)

EAST ELEVATION (GAWLER PLACE)


AHD 184.4 PANS OPS
AHD 182.8 ARTC LINE
OLS - AHD 120
AHD 45.6
LIFT ROOF RL 93.850 m
LIFT MACHINE ROOM RL 90.650 m
LEVEL 21 - SKY BAR RL 84.350 m
LEVEL 20 - REGENCY CLUB RL 78.600 m
LEVEL 19 - REGENCY SUITES RL 75.200 m
LEVEL 18 - REGENCY SUITES RL 71.800 m
LEVEL 17 - HOTEL SUITES RL 68.400 m
LEVEL 16 - HOTEL SUITES RL 65.000 m
LEVEL 15 - HOTEL SUITES RL 61.600 m
LEVEL 14 - HOTEL SUITES RL 58.200 m
LEVEL 13 - HOTEL SUITES RL 54.800 m
LEVEL 12 - HOTEL SUITES RL 51.400 m
LEVEL 11 - HOTEL SUITES RL 48.000 m
LEVEL 10 - HOTEL SUITES RL 44.600 m
LEVEL 09 - HOTEL SUITES RL 41.200 m
LEVEL 08 - HOTEL SUITES RL 37.800 m
LEVEL 07 - HOTEL SUITES RL 34.400 m
LEVEL 06 - POOL DECK RL 29.400 m
LEVEL 05 - EMPLOYEE FACILITIES RL 24.400 m
GFL - EXTERNAL CANOPY RL 5.000 m
PROFILE OF 45 PIRIE
GROUND FLOOR RL 0.000 m
SOUTH ELEVATION
WEST ELEVATION

FACADE MATERIALITY

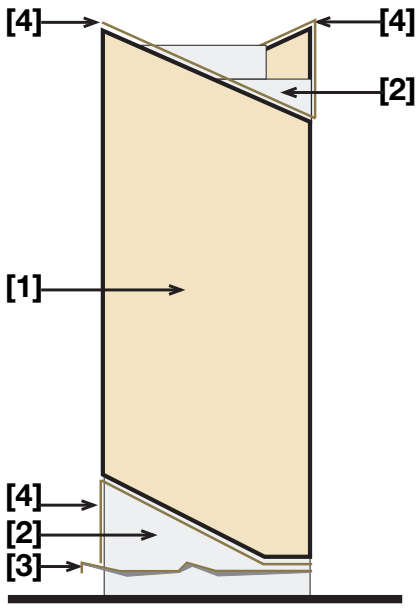
[1] GLASS - COLOUR:
- 1: CHAMPAGNE

[2] GLASS - COLOUR:
- 2: NEUTRAL

[3] CANOPIES
- -3A: FASCIA - ALUMINIUM, FINISH: MEDIUM BRONZE METALLIC
- -3C: SOFFIT - ALUMINIUM, FINISH: WARM GREY METALLIC (SEMI REFLECTIVE)

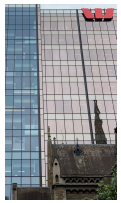
[4] REVEALS
- -4: CAPPING - ALUMINIUM, FINISH: MEDIUM BRONZE METALLIC

[5] WINDOW FRAMES:
- -5A: TOWER (CURTAIN WALL) - BLIND MULLIONS & TRANSOMS, FINISH: WARM GREY / PEWTER POWDERCOAT
- -5B: GROUND- BLIND MULLIONS & TRANSOMS, FINISH: POLISHED TINTED CHROME



GLASS TYPES

[1] CHAMPAGNE - SAMPLE



150 COLLINS ST, MLB [PEDDLE THORP]

[2] NEUTRAL GLASS - SAMPLE

TWO MELBOURNE QUARTER, WOODS BAGOT

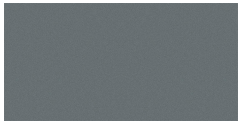
JOHN COOPER SCHOOL, ZIEGLER COOPER

TAUBMAN COLLEGE OF ARCH & URBAN PLANNING INTEGRATED DSGN. SOLUTIONS

ALUMINIUM FINISHES - INDICATIVE COLOURS

FINISH: MEDIUM BRONZE METALLIC

FINISH: WARM GREY METALLIC (SEMI-REFLECTIVE)

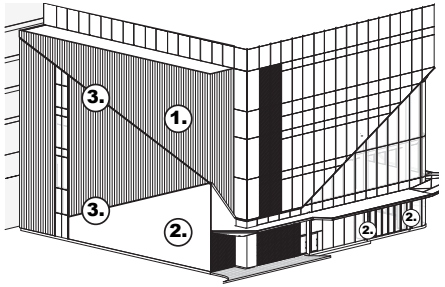


FINISH: WARM GREY / PEWTER

FINISH: POLISHED TINTED CHROME

SOUTHERN FACADE

GEOMETRIC INSPIRED ELEMENTS TO SOLID PORTIONS OF PODIUM LEVEL REFLECTIVE OF PRISM LANGUAGE AT BUILDING BASE AND CAPITAL.



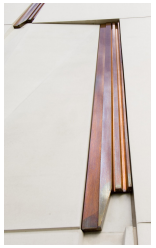
PRECAST CONCRETE

COLOUR: WHITE OXIDE COLOUR CONTROL ADMIXTURE PRECAST.
FINISH: TYPE 1 - ACID ETCHED VERTICAL PATTERNED PRECAST
TYPE 2 - POLISHED PRECAST (INCL. GF EXT. COLUMNS)
TYPE 3 - CAST IN FEATURE METAL & LED STRIP LIGHTING

1.

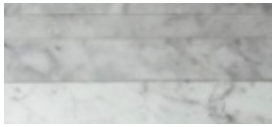
2.

3.



[UNISA HAWKE BUILDING, SA- JOHN WARDLE ARCHITECTS]

INDICATIVE INTERIOR FINISHES



NATURAL STONES

NATURAL TIMBERS

NORTH ELEVATION, PIRIE ST.

CONTEXT | VICTORIA SQUARE

CONTEXT | NORTH EAST ADELAIDE CBD

GAWLER PLACE, SOUTH EAST.

GAWLER PLACE & PIRIE STREET, NORTH EAST CORNER.

PIRIE STREET, WEST.

PIRIE ST, NORTH ELEVATION

PIRIE ST, WEST.

SOUTH EAST APPROACH, GAWLER PL.

GAWLER PLACE, EAST ELEVATION.

PIRIE ST, NORTH ELEVATION CANOPY PROFILE

NIGHT | ROOF TOP ACTIVATION, NORTH WEST - LEVEL 20 REGENCY CLUB / LEVEL 21 SKY BAR

GAWLER PLACE CROSSING, EAST

DAY | ROOF TOP ACTIVATION, NORTH WEST - LEVEL 20 REGENCY CLUB / LEVEL 21 SKY BAR

PIRIE ST, ENTRY.

LEVEL 21, SKYBAR.

GROUND FLOOR, RECEPTION & LOBBY

51 Pirie Street, Adelaide

Heritage Impact Assessment

DA183586 Issue B

12.05.20

1.0 Introduction

DASH Architects is one of South Australia's leading architectural practices specialising in the provision of professional heritage services. The Practice's expertise includes:

- Heritage and character assessments;
- The conservation and preservation of places of heritage significance;
- Conservation and management policy development;
- The provision of expert witness services to the Environment Resources and Development Court; and
- Heritage advisory services.

In addition to this, the Practice's director Jason Schulz (author of this report) is a past member of the Local Heritage Advisory Committee, and a current member of the South Australian Heritage Council.

DASH Architects has been engaged by CES Pirie Street (SA) Pty Ltd to provide heritage advice with regard to the proposed redevelopment of 51 Pirie Street, Adelaide (The Subject Site).

1.1 Amended Heritage Impact Statement

On 22 February 2019 DASH Architects issued a Heritage Impact Assessment with regards to an application to demolish the Local Heritage Place at 51 Pirie Street and develop the site into a 29 storey hotel.

This development, including the demolition of the Local Heritage Place on the site, was approved in March 2019 (020/A016/19).

The applicant now seeks to amend this proposal (by way of a new application), reducing the height of the development from 113m and 29 storeys to 93.8m and 22 storeys. Other changes to the proposal include the reconfiguration of spaces within the building, as well as a revised façade treatment. Given, however, the heritage impacts of the proposal are limited to the proposed demolition of the existing Local Heritage Place (Townscape) on the site, the changes to the replacement development do not materially affect the assessment, or conclusions of this Heritage Impact Assessment.

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2.0 Subject Site

The Site is located within the Capital City Zone, Central Business Policy Area.

While there are several State and Local Heritage places within the vicinity of the Subject Site, the only heritage place considered to be materially affected by the proposed development is on the Site itself, namely (as described by the Adelaide (City) Development Plan, Table Adel/3):

Heritage Category
Local Heritage Place (Townscape)

Property Address
51 Pirie Street, Adelaide

Description of Place
Bank

Certificate of Title
CT 4233/179

Figure 1: Locality Plan, showing Subject Site and nearby heritage places. Base image source: Location SA.

NOTE: The Extent of listing as indicated in the Location SA mapping above is not accurate, as discussed in more detail in Section 4.0 below. Also refer Figure 7.

The Local Heritage Place (LHP) on the Subject Site was constructed in 1927 to accommodate the State Bank of South Australia. Somewhat unusually for a Bank, the building design and construction was relatively restrained, particularly when compared to the nearby Epworth Building that was built that same year.

The LHP was substantially redeveloped in the 1980s, with all internal finish stripped, and the building expanded to the east (refer Figure 4 and Figure 5) This redevelopment effectively resulted in the only the Pirie Street façade remaining representative of the era of construction. This too underwent modification during the redevelopment, with the following changes notable in a comparison with early photographs of the building:

- Original windows replaced;
- Original balconies infilled;
- Most ground floor window sills have been lowered; and
- Signage removed.

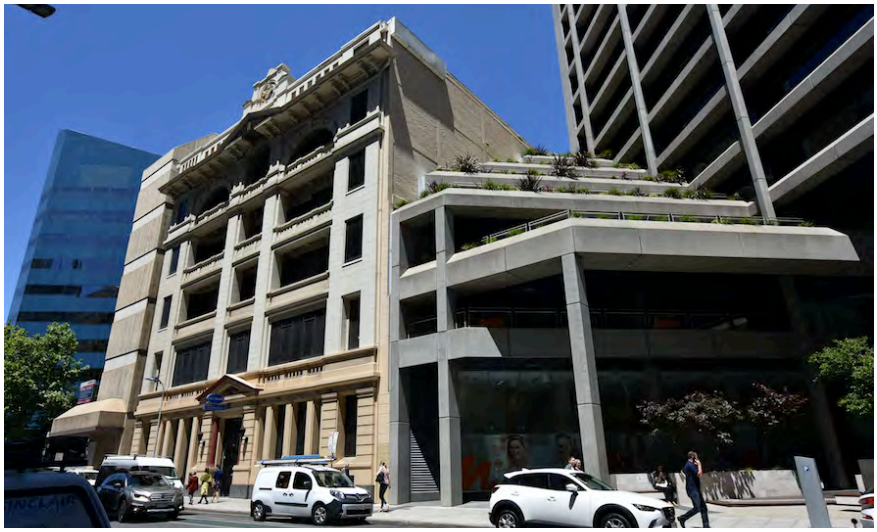


Figure 2: LHP on the Subject Site looking South Eastward.

Figure 3: LHP on the Subject Site looking South Westward, showing c1980s addition to eastern land portion.

Figure 4: Former State Bank of South Australia, c1928. Source: SLSA, B_5187

Figure 5: Former State Bank of South Australia, c1928. Source: SLSA, B_4716

3.0 Proposed Development

Development Plan Consent was granted in March 2019 for the demolition of the Local Heritage Place (Townscape) on the Subject Site, to enable the construction of a new 29 storey (113m high) hotel (020/A016/19).

The applicant now seeks to amend this proposal (by way of a new application), reducing the height of the development from 113m and 29 storeys to 93.8m and 22 storeys, and revising its internal configuration and façade treatment. Like the approved development, the amended proposal similarly seeks to demolish the Local Heritage Place on the site.

The new proposal generally consists of:

- Ground level lobby, bar and loading;
- Level 1 Conference and meeting facilities;
- Level 2 Ballroom;
- Level 3 Administration;
- Level 4 Plan;
- Level 5 Employee Facilities
- Level 6 Pool Deck
- Level 7-19 Typical Guest Suites;
- Level 20 Regency Club; and
- Level 21 Skybar.

Figure 6: Artist's render of proposed development Source: GHD Woodhead

4.0 Development Plan Provisions (Heritage)

Development Plan provisions considered most relevant to this HIA include:

City Wide Heritage and Conservation

Obj 43 Development that retains the heritage value and setting of a heritage place and its built form contribution to the locality.

Obj 44 Continued use or adaptive reuse of the land, buildings and structures comprising a heritage place.

PDC 136 Development of a heritage place should conserve the elements of heritage value as identified in the relevant Tables.

PDC 137 Development affecting a... Local heritage place (Townscape) (Table Adel/3), including:

a) adaptation to a new use;

b) additional construction;

c) part demolition;

d) alterations; or

e) conservation works;

should facilitate its continued or adaptive use, and utilise materials, finishes, setbacks, scale and other built form qualities that are complementary to the heritage place.

PDC 138 A local heritage place (as identified in Tables Adel/2, 3 or 4)… should not be demolished unless it can be demonstrated that the place, or those Elements of Heritage Value that are proposed to be demolished, have become so distressed in condition or diminished in integrity that the remaining fabric is no longer capable of adequately representing its heritage value as a local heritage place.

PDC 139 Development of Local Heritage Places (Townscape) should occur behind retention depths (as established from the street facade of the heritage place) of 6 metres in non-residential Zones and Policy Areas… or as otherwise indicated in the heritage Tables in respect of frontages and side wall returns.

PDC 140 Development on land adjacent to a heritage place in non-residential Zones or Policy Areas should incorporate design elements, including where it comprises an innovative contemporary design, that: (a) utilise materials, finishes, and other built form qualities that complement the adjacent heritage place; and (b) is located no closer to the primary street frontage than the adjacent heritage place.

PDC 142 Development that abuts the built form/fabric of a heritage place should be carefully integrated, generally being located behind or at the side of the heritage place and without necessarily replicating historic detailing, so as to retain the heritage value of the heritage place.

Capital City Zone Provisions

This Zone is the economic and cultural focus of the State… High-scale development is envisaged in the Zone with high street walls that frame the streets.

…New development will achieve high design quality by being:

a) Contextual – so that it responds to its surroundings, recognises and carefully considers the adjacent built form, and positively contributes to the character of the immediate area.

Contemporary juxtapositions will provide new settings for heritage places. Innovative design is expected in areas of identified street character with an emphasis on contemporary architecture that responds to site context and broader streetscape, while supporting optimal site development. The addition of height, bulk and massing of new form should be given due consideration in the wider context of the proposed development.

PDC 11 Buildings should be positioned regularly on the site and built to the street frontage, except where a setback is required to accommodate outdoor dining or provide a contextual response to a heritage place.

Guidance on the extent of listing of LHP(Townscape) items is provided in City Wide (Heritage and Conservation) PDC 139, that notes development *should occur behind a retention depth of 6 metres for non-residential areas* (as applicable in this instance). This suggests that fabric behind this retention depth can be demolished and redeveloped.

While of no statutory status, further guidance on LHP(Townscape) items can be found on the Adelaide City Council's website, which notes:

> *Local Heritage Place (Townscape) is a place that positively contributes to the townscape character of the area and the listed portion generally comprises the frontage, roof and side wall returns of the place that are visible from the street.*[1]

The extent of heritage listing of LHP is considered to be as illustrated in Figure 8 below, based on:

- Alterations of the LHP noted in Section 2.0;
- the extent of the building visible from the street; and
- the extent to which those visible portions contribute towards the townscape character of the area.

Given this, the Development Plan generally seeks the rendered masonry portion of the Pirie Street façade to be retained, and new development to be set back 6m. The Zone provisions recognise the Site to be located in the primary economic and cultural focus of the State, with intensive development providing juxtaposed new settings to heritage places. While this is somewhat

[1] http://www.cityofadelaide.com.au/planning-development/city-heritage/heritage-listings/

at odds with the noted 6m setback, Zone PDC 11 recognises this may not always be achieved where a heritage place is to be accommodated.

Figure 7: Actual extent of heritage listing. Author's annotations (yellow) over Location SA base image.

5.0 Heritage Impact Assessment

This Heritage Impact Assessment will be undertaken in two parts as follows:

- Part 1: Provide assessment of the relative heritage importance of the Local Heritage Place to assist the weighting of heritage provisions in terms of the overall merits of the application.
- Part 2: Assess the impact of the proposed development on the affected heritage places against the relevant heritage provisions of Council's Development Plan; and

5.1 Part 1: Relative Heritage Importance

5.1.1 Background to Approach

The Full Court of the Supreme Court judgement for Development Assessment Commission v A&V Contractors Pty Ltd noted:

> *Objectives and principles are generally stated on a council wide and zone basis, by reference to particular classes of developments, and on occasion by reference to particular sites. Moreover, the objectives and principles are directed towards a wide range of planning*

objectives. Therefore, there will necessarily be a degree of tension between the provisions of development plans. Some principles and objectives may militate for a development and others militate against it. Nonetheless, a proposed development must be assessed against all of the provisions of a development plan which, on their terms, apply to that development…

... planning authorities do not apply the objectives and principles of development plans in a vacuum. First, as I earlier observed, there will often be tension between those objectives and principles. Most of the objectives and principles, as a matter of construction, apply as general rules and not as inviolable prescriptions; they are guidelines within which an expert planning judgment must be made. Most obviously, the particular factual circumstances of a proposed development will inform that planning judgment, and, in particular, affect which of the principles and objectives will predominate.

That is to say, planning applications will require assessment against a range of Development Plan provisions and planning objectives which are often in tension with each other. Most of these provisions are *general rules* and not *inviolable prescriptions.* Balancing these provisions as part of a *planning judgement* is informed by the *factual circumstances of a proposed development*.

Further guidance on this matter was provided by the Full Court of the Supreme Court in *Lakshmanan & Anor v City of Norwood, Payneham and St Peters & Anor*, a trial that DASH Architects provided expert heritage advice to with regards to the proposed demolition of a Local Heritage Place. In this case, the demolition was proposed due to flood risk and matters of the practicality of ongoing habitation of the dwelling. When considering the merits of any proposed demolition the judgement noted:

It is well accepted that principles of development control are guidelines. An application for development must be assessed against those principles…

…The degree of flooding risk which will constitute good reason to approve demolition will necessarily be higher the greater the heritage value of the place which is the subject of the development application…

An inquiry into the heritage value of a Local Heritage Place is not conducted by way of collateral challenge to the designation of the place by the Development Plan. To the contrary, the inquiry is undertaken for the purpose of determining ***the weight to be given to that listing.*** *The inquiry is not much different to the assessment of the weight to be given to other competing principles of a Development Plan. In the case of a Local Heritage Place****, an assessment of its relative heritage importance is necessary to determine whether to depart from the principles which protect it.*** *The selection of a Local Heritage Place is necessarily a process of fact and degree. The listing itself is not challenged by inquiring where a particular place falls*

in the range of all Local Heritage Places which have qualified for listing.

This judgement provides additional context to the *factual circumstances* referred to in the Development Assessment Commission v A&V Contractors Pty Ltd. It notes that an understanding of the ***relative heritage importance*** (ie *where a place falls in the range of all Local Heritage places)*, is necessary when considering any departure from heritage provisions and planning objectives within Council Development Plans.

This Heritage Impact Assessment seeks to providing the *factual circumstances* associated with the Local Heritage Place (Townscape) on the site, and in turn its *relative heritage importance*, to assist the Planning Authority in the balancing of the relevant heritage provisions in their planning judgement.

5.1.2 Background to Heritage Listing

51 Pirie Street, Adelaide, is identified as a Local Heritage Place (Townscape) place within the Adelaide (City) Development Plan. Understanding the basis and reasoning behind its heritage listing is relevant when considering its *relative heritage importance*, and in turn informing the weighting to be applied to the relevant heritage provisions within Council's Development Plan.

The process and basis for Townscape listings was protracted (taking more than a decade) and highly politicised, making an accurate understanding of the basis for listing difficult.

Unlike Local Heritage places that were identified, assessed and listed for their individual heritage value, the origins of Townscape places were a schedule of building groups and streetscapes that contributed towards the City's distinctive character. The process commenced in 1982 with a Heritage Study prepared for Council by Christine Johnson and Rod Elphinstone. This report identified the southern Pirie Street streetscape between King William Street and Gawler Place as reflecting "*significant aspects of the history and development of the City of Adelaide*".

The Streetscape schedule evolved into a Character Schedule, that then in turn into a Townscape schedule. Identification of groups of buildings were dropped, due to concerns regarding the rigour of assessments, in lieu of the identification of individual buildings that had otherwise not warranted individual local heritage listing.

This revised list of buildings manifested in a Townscape exhibition (1991) of buildings that were considered to contribute towards townscapes of "*architectural and historical significance within the City of Adelaide".* Council engaged McDougall and Vines to assess objections to the exhibited properties. Their Townscape Assessment report of July 1992 notes:

A designated townscape consists of a group of buildings which, when viewed from the street, have a consistency or cohesion. This cohesion is the result of similarity of one or more of the following features:

- *Age of buildings;*
- *Architectural style;*
- *Scale of development;*
- *Setback and siting of development;*
- *Subdivision pattern;*
- *External details – such as roof forms, verandahs, balconies, doors and windows, materials, colours and finishes.*

...Townscape listing is not about remarkable or individually significant buildings – it is about groups of buildings and whole areas as well as special conjunctions of topography and streets which together comprise character areas of special coherence and conformity.

This summary appears to imply a shift back towards *groups of buildings* that contribute towards overall historic streetscapes, rather than individual places.

After more than a decade of work by Council, and factional infighting over the process and outcome, the State Government stepped in and established a committee to progress an outcome. On legal advice that protections afforded to Townscape places had little difference to those of heritage places it was recommended that the character schedule and heritage lists be merged, resulting in the current Local Heritage Places (Townscape).

An information bulletin currently published by Council notes, with regard to Townscape places:

These places were identified in a Townscape Survey undertaken between 1988 and 1990 and listed in the early 1990s. The heritage values of these places relate to those parts of the building that can be seen from the street (i.e. the front façade and side walls of the building).

As noted in Section 4.0, Council's website also notes for LHP (Townscape) items:

Local Heritage Place (Townscape) is a place that positively contributes to the townscape character of the area and the listed portion generally comprises the frontage, roof and side wall returns of the place that are visible from the street.[2]

In summary, Townscape places are individual places that contribute to a *consistent and cohesive townscape of architectural and historical significance within the City of Adelaide.*

5.1.3 Townscape Analysis

The 1982 Heritage Survey identified 51 Pirie Street for its contribution to the southern Pirie Street streetscape between King William and Gawler Place. This streetscape is approximately 190m in length and comprises the following heritage places:

[2] http://www.cityofadelaide.com.au/planning-development/city-heritage/heritage-listings/

Place	Heritage Status	Address	Approx Frontage	Integrity
Adelaide Town Hall Complex	State Heritage	1 - 17 Pirie Street	55m frontage	High
Queens Chambers	State Heritage	19 Pirie Street	10m frontage	High
Epworth Building	Local Heritage place – City Significant	31-35 Pirie Street	20m frontage	High
Former Bank (Subject Site)	Local Heritage place – Townscape	51 Pirie Street	24m frontage	Moderate

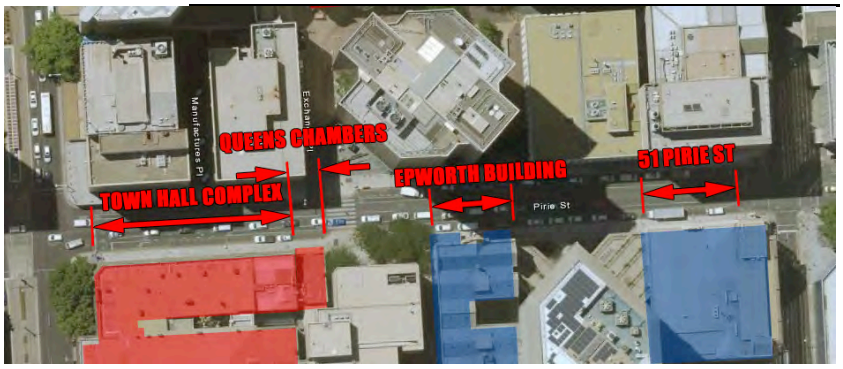


Figure 8: Streetscape analysis.


Figure 9: Pirie Street streetscape looking westward from Gawler Place.

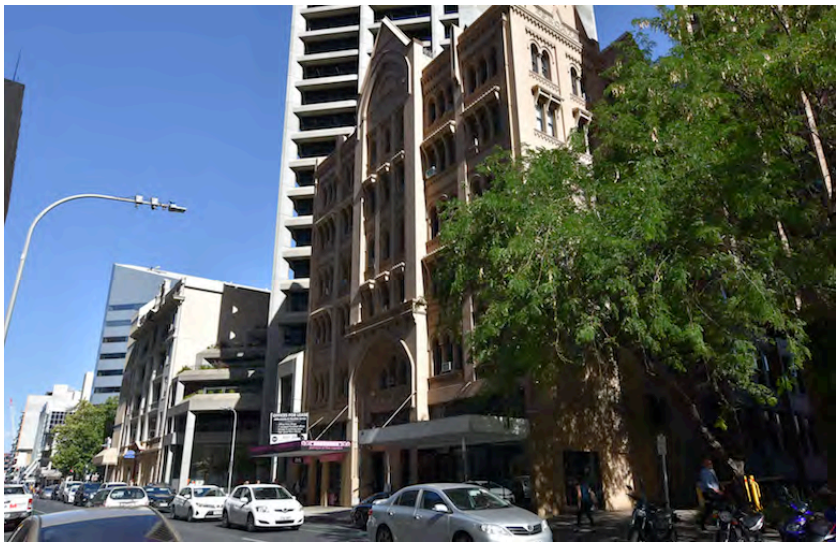


Figure 10: Pirie Street streetscape looking eastward with Epworth Building (centre right) and 51 Pirie Street (left).

Figure 11: Western end of Pirie Street with Queens Chambers (left) and Town Hall Complex (right).

Based upon an initial assessment of the relevant Pirie Street streetscape, DASH Architects makes the following assessment of its contribution to the *consistent and cohesive townscape of architectural and historical significance within the City of Adelaide*:

- The southern side of Pirie Street between King William Street and Gawler Place has a moderate degree of historic character, with heritage places comprising approximately 60% of the streetscape (refer Figure 8);
- While Queens Chambers is a storey lower than the Town Hall Complex, the two buildings share a comparable architectural style and visual articulation. These heritage places form a visually dominant

'book end' to the western end of Pirie Street and collectively comprise a consistent 35% of the relevant street frontage. Both buildings retain high integrity;

- At 6-7 storeys in height, the Epworth Building is a prominent feature in the relevant streetscape. Of Gothic design, unusual for Adelaide, and located approximately centrally to the relevant streetscape, the building makes a strong and positive contribution to the historic character of the locality. The building retains high integrity;
- 51 Pirie Street is located at the eastern end of the relevant streetscape. While it has a slightly wider frontage than the Epworth Building, it stands lower (5 storeys) and is notably less ornate. The building stands in a moderate state of integrity, having undergone the following modifications:
  - Original windows replaced;
  - Original balconies infilled;
  - Most ground floor window sills have been lowered; and
  - Signage removed.
- While the title of the Subject Site extends to the intersection of Pirie Street and Gawler Place, the LHP does not actually address this corner, with a later addition to the eastern side of the site forming this interface;
- Of the four heritage buildings within the relevant streetscape, 51 Pirie Street is the least significant, being heritage listed only for its character contribution (unlike the other places that are listed for their individual heritage significance);
- Of the four heritage buildings, 51 Pirie Street makes the least contribution to the historic character of the streetscape; and
- Of the four heritage buildings, 51 Pirie Street is of the lowest integrity.

5.1.4 Relative Heritage Importance

Based on the above DASH considers the *relative heritage importance* of 51 Pirie Street to be as follows:

	Relative Heritage Importance
When compared to other heritage places within the relevant streetscape	**Moderate to low**
When considering the relative streetscape contribution	**Moderate**

5.1.5 Design Considerations

The design team have advised the following reasons for the proposed demolition of the heritage place on the site:

- The existing LHP is of diminished integrity;

- The existing LHP makes only a moderate contribution to the historic streetscape character of the locality;
- The retention of the LHP restricts options to activate the public realm to Pirie Street, with the current proposal providing an expansive transparent interface between the hotel lobby and the street;
- The proposal provides equitable and compliant access along Pirie Street through the lobby with no steps or ramps. This would not be possible if the LHP façade was retained; and
- The removal of the LHP greatly assists in achieving the Zone objectives that seek the Site to be developed in an intensive manner, with high street walls that frame the streets, within a locality considered to be the economic and cultural focus of the State.

5.2 Part 2: Development Plan Assessment

The application seeks to demolish the Local Heritage Place (Townscape) place on the site. This is at odds with the provisions outlined in Section 4.0 that seek the rendered masonry Pirie Street façade to be retained and reused in any redevelopment of the site (Obj 43, 44; PDC 136, 137, and 138).

Additional provisions that speak to establishing a complementary, albeit contemporary setting for the existing LHP will not be relevant in the absence of the heritage place that is sought to be demolished.

As noted in Full Court of the Supreme Court in *Lakshmanan & Anor v City of Norwood, Payneham and St Peters & Anor*, an understanding of the *relative heritage importance* of the affected place is necessary when determining whether to depart from the planning principles that seek to protect it.

The assessment undertaken in Section 5.1 considered the relative heritage importance of the Local Heritage Place (Townscape) to be Moderate to Low.

6.0 Summary

Development Plan Consent was granted in March 2019 for the demolition of the Local Heritage Place (Townscape) on the Subject Site, to enable the construction of a new 29 storey (113m high) hotel (020/A016/19).

This proposal is now sought to be amended (by way of a new application), to reduce the height, internal configuration and external façade treatment of the proposed hotel tower on the site. Like the approved development, the amended application similarly seeks to demolish the existing Local Heritage Place (Townscape) on the site.

The existing heritage place currently stands in a compromised state of integrity, having been substantially redeveloped in the 1980s, with all internal finishes stripped, and the building expanded to the east. This redevelopment effectively resulted in the only the Pirie Street façade remaining representative

of the era of construction, which has also modified through window replacement, infill of balconies, façade modification at street level.

Council's Development Plan generally seeks Local Heritage Places to be retained and reused in any redevelopment of the site (Obj 43, 44; PDC 136, 137, and 138). It is acknowledged that proposed demolition of the LHP is inconsistent with the intent of these provisions.

Full Court of the Supreme Court judgement for Development Assessment Commission v A&V Contractors Pty noted, however, that planning judgements of this nature require assessment against a range of Development Plan provisions and planning objectives which are often in tension with each other. Most of these provisions are *general rules* and not *inviolable prescriptions.* Balancing these provisions as part of a *planning judgement* is informed by the *factual circumstances of a proposed development*.

The Full Court of the Supreme Court in Lakshmanan & Anor v City of Norwood, Payneham and St Peters & Anor provided additional context to this, noting the *relative heritage importance* (ie *where a place falls in the range of all Local Heritage places)*, forms part of these *factual circumstances,* and is necessary when considering any departure from heritage provisions and planning objectives within Council Development Plans.

The LHP had been identified in Council's Development Plan as Townscape Item for its contribution to a *consistent and cohesive townscape of architectural and historical significance within the City of Adelaide*.

A detailed assessment of the townscape within which 51 Pirie Street is located concluded that the LHPs contribution towards a *consistent and cohesive townscape of architectural and historical significance* was only 'moderate', while its overall *relative heritage importance* was 'moderate to low'.

It is not the role of this Heritage Impact Assessment to consider and balance the broad range of planning polices relevant to this application. Undertaking this 'on balance' assessment is a planning consideration, which in the case of the applicant's supporting information will be prepared by Future Urban. Rather, this Heritage Impact Assessment seeks to provide the relevant planning experts and the *factual circumstances*, in this instance the *relative heritage value* of the affected place, to enable such a balanced assessment to be undertaken.

DASH Architects, and its Director Jason Schulz (author of this assessment) has significant experience within the City of Adelaide in the areas of heritage assessment, advisory services, policy development, heritage conservation and adaptive reuse. These services require a detailed understanding of the nature and application of Development Plan provisions and the necessary balancing of heritage provisions that can often be in tension with other planning objectives. In the circumstances of this particular case, whilst the subject Local Heritage (Townscape) Place has some historic character, its contribution to the historic townscape, is only moderate, while its *relative heritage value* is moderate to low. It therefore follows that a diminished, or lesser weighting is appropriate to be applied to Development Plan provisions

that speak to its retention, than would otherwise be appropriate for an example of higher *relative heritage value*.

WALLBRIDGE GILBERT AZTEC

CES Pirie Hotel (SA) Pty Ltd

51 Pirie Street

TRAFFIC ASSESSMENT REPORT

Project No. 150093
Doc No. WGA150093-RP-TT-0001[D]
Rev. E

22 May 2020

Revision History

Rev	Date	Issue	Originator	Checker	Approver
A	29/1/18	Draft Report	NM	HSB	HSB
B	15/2/19	Planning Issue	NM	HSB	HSB
C	21/2/19	Revised Issue	NM	HSB	HSB
D	22/4/20	Revised Issue	NM	HSB	HSB
E	22/5/20	Revised Issue	NM	HSB	HSB

CONTENTS

Appendices

1 INTRODUCTION

1.1 BACKGROUND

WGA has been engaged by CES Pirie Hotel (SA) Pty Ltd to undertake a traffic impact assessment on the proposed development at 51 Pirie Street, Adelaide. The hotel is understood to consist of a total of 285 rooms.

Figure 1 shows the locality plan of the site and the immediately surrounding road network.

Figure 1: Locality Plan

Access and egress to the site for deliveries and refuse collection is proposed via Gawler Place with an indented parking arrangement shown in Figure 2.

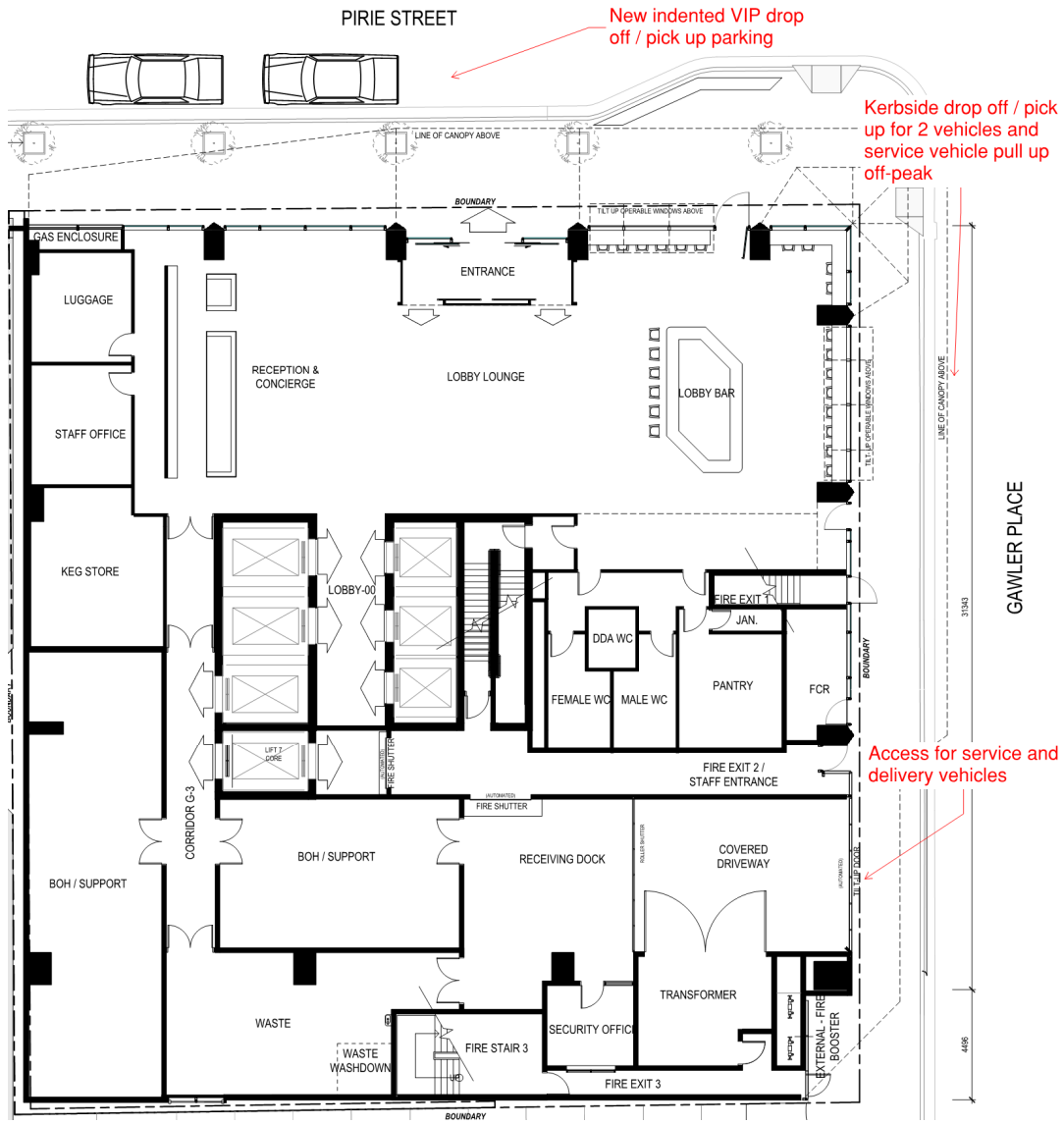


Figure 2: Access and Egress Arrangement

1.2 PURPOSE OF THE ASSESSMENT

This assessment will include discussion on:

- Existing arrangement
- Expected trip and parking arrangement
- The proposal
- Performance of proposal
- Outstanding issues

2 EXISTING CONDITIONS

2.1 ROAD NETWORK

The site is bordered by Gawler Place to the east and Pirie Street to the north. Gawler Place is a two-lane, one-way arterial road. In addition to forming a north-south link running in the Capital City Zone, this specific section is identified as an existing pedestrian link as it connects city workers to Rundle Mall. Pirie Street to the north of the site forms part of the city's movement network and hosts high volumes of pedestrian, bike, vehicle and servicing activity. It is identified as a Core Pedestrian Area in the DPTI's 2018 Adelaide (City) Development Plan.

The site's proximity to two traffic sensitive arterial roads and its strategic impact on city planning warrant the need for this traffic assessment.

2.2 ON-STREET PARKING

Currently, there is two spaces of 15-minute parking and one 10-minute loading zone parking during standard business hours on Gawler Place as shown in Figure 3.

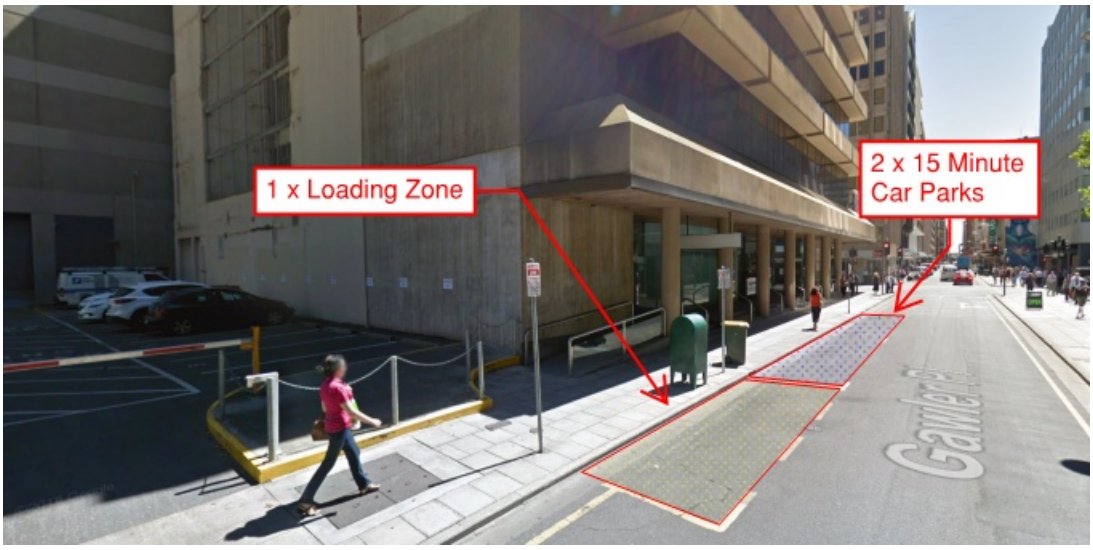


Figure 3: Current Gawler Place On-Street Parking

There is also an existing reserved car park adjacent to the site that is to remain according to current plans. This does not serve as public parking.

As for the Pirie Street side of the lot, there is one space of 15-minute parking outside of the Adelaide GPO (9am-4:30pm weekdays and 9am-12pm Saturday) and an extended 10-minute loading zone during business hours (8am-5pm weekdays).

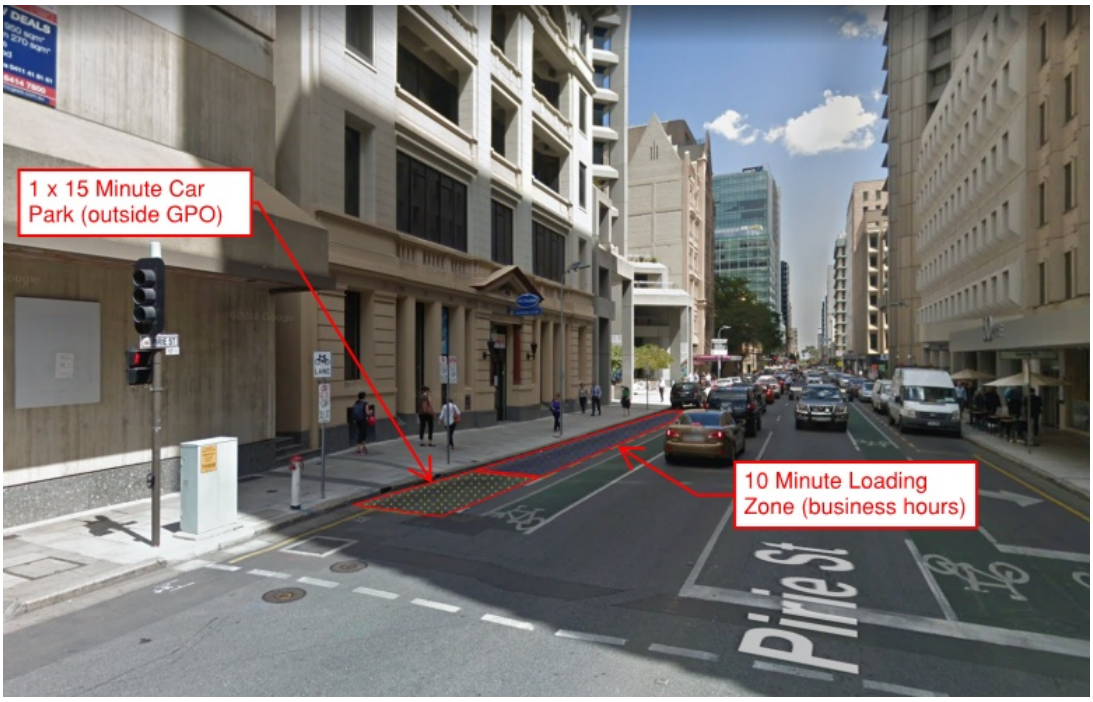


Figure 4: Current Pirie Street On-Street Parking

2.3 PEDESTRIANS

There is a high level of pedestrian activity in the vicinity of the site. There are pedestrian actuated crossings on both Pirie Street and Gawler Place.

A pedestrian survey was undertaken at two sites in the Adelaide CBD to determine the expected pedestrian demand that may conflict with the proposed access/egress arrangement. The survey was taken on a typical weekday for a 30-minute period. The first location, 150 North Terrace, is the location of the Stamford Plaza Hotel, a 335-room hotel. The second location, 120 Gawler Place, diagonally opposes 51 Pirie Street and provides similar expected pedestrian volumes as the development site. The volumes are shown below in Table 1.

Table 1: Observed Pedestrian Volumes

Pedestrian Counts	Half-hour Counts		Half-hour Total	One-Hour Estimate
150 North Terrace	**Eastbound**	**Westbound**	292	584
	156	136		
120 Gawler Place	**Northbound**	**Southbound**	149	298
	73	76		

2.4 PUBLIC TRANSPORT

Whilst the two adjacent streets do not currently host public transport routes Gawler Place is subject to future development in the Adelaide (City) Development Plan. With the new hotel's parking on Gawler Place, development of this lot should consider this plan and align its access & egress plan with the city's strategy.

The local public transport plan is visualised below in Figure 5.

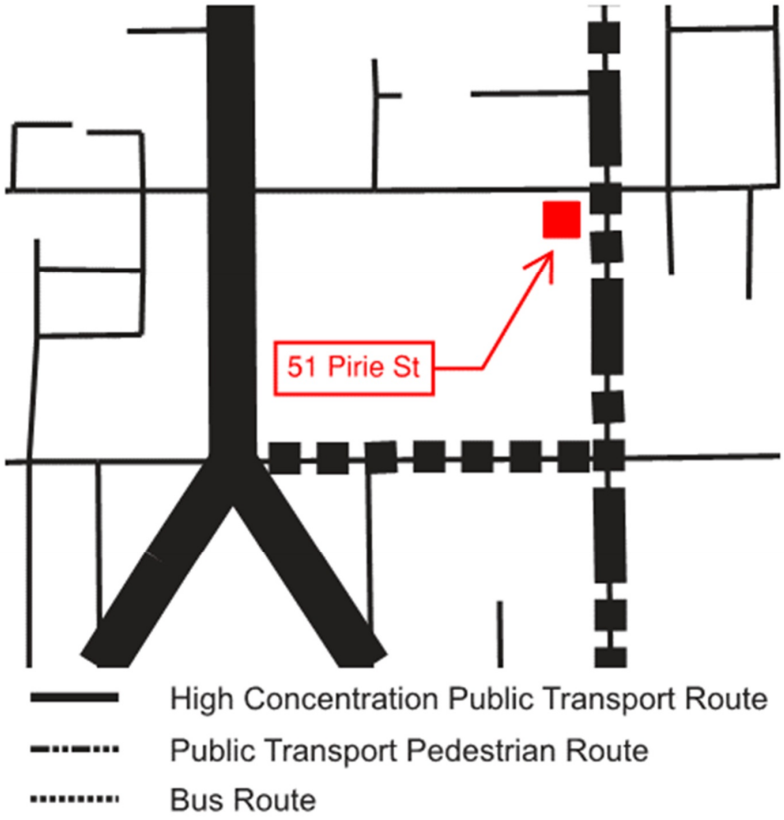


Figure 5: DPTI Public Transport Network Plan

3 PARKING ASSESSMENT AND TRIP GENERATION

3.1 PARKING DEMAND

Through a number of meetings and discussions with the City of Adelaide (CoA) the provision of two indented drop off and pick up parking spaces on Pirie Street and two on-street drop off and pick up spaces on Gawler Place has been determine suitable for servicing this development. These spaces would need to be sign posted by the CoA prior to the opening of the hotel.

Delivery and refuse parking is allocated one parking space which would be managed through the timing of deliveries and refuse collection.

The plan drawings show the on-street parking to be within 20 metres of the Gawler Place / Pirie Street intersection. Whilst this does not comply with Rule 170 of the Australian Road Rules (SA), it has been raised and discussed with the CoA and is considered a suitable outcome for this site

3.2 EXPECTED TRIP GENERATION

To determine the trip generation for this site, site surveys were conducted at the Peppers Waymouth Hotel (202) rooms and the Stamford Plaza Hotel (335 rooms). These hotels were selected due to their proximity to 51 Pirie Street and the relatively high volumes of pedestrian traffic.

The location of the two sites are shown below in Figure 6.

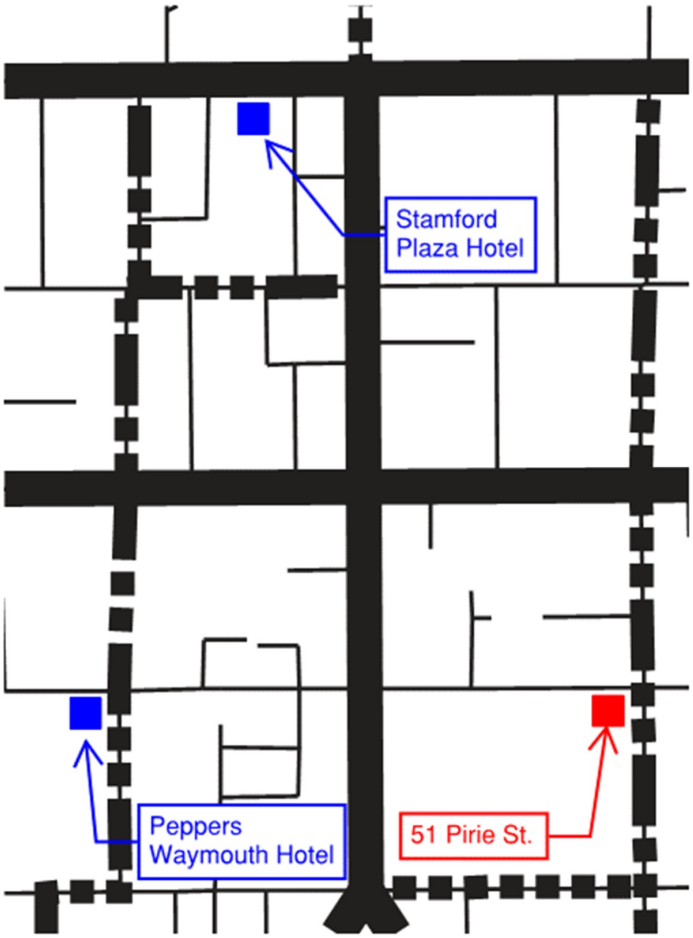


Figure 6: Site Survey Locations

Figure 7: Peppers Waymouth Hotel Drop Off / Pick Up Area

For the Peppers Waymouth Hotel, the site survey was conducted between 9am and 10am on a typical weekday and revealed a total of 6 pick-ups/drop offs.

For the Stamford Plaza Hotel, the observations were recorded between 9am and 10am on a typical weekday and revealed a total of 21 pick-ups/drop offs.

Scaling these results to suit 51 Pirie St, the expected number of pick-ups/drop offs would be 18 vehicles per hour.

3.3 SAFETY

Implementing pedestrian crossovers on can result in safety concerns. This is particularly undesirable given the pedestrian-heavy site of Gawler Place. To support the proposed access/egress arrangement, a collection of crash statistics at five hotels in the Adelaide CBD was collected below in Table 2.

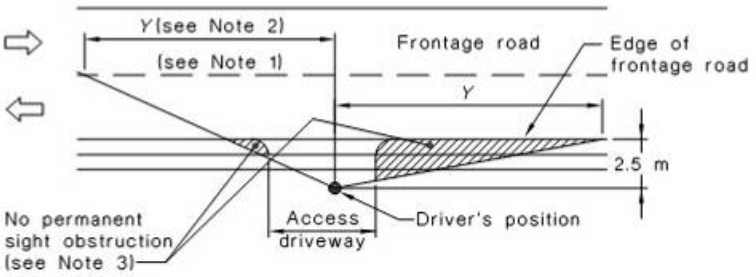
Table 2: Crash Statistics (2013 - 2017)

Name	Location	Total No. Crashes Recorded	Pedestrian Related Crashes
Ibis Hotel	122 Grenfell St, SA 5000	0	0
Peppers Waymouth Hotel	55 Waymouth St, SA 5000	0	0
Hilton Adelaide	233 Victoria Square, SA 5000	2	0
Stamford Plaza Hotel	150 North Terrace, SA 5000	0	0
Mercure Grosvenor Adelaide	125 North Terrace, SA 5000	0	0
The Playford Hotel	120 North Terrace, SA 5000	0	0

In the past five years no pedestrian related crashes have occurred. This safe record supports the arrangement proposed at 51 Pirie Street.

3.4 SIGHT DISTANCE REQUIREMENTS

AS2890.1 Parking Facilities Part 1: Off-Street car parking, Figure 3.2, specifies a desirable sight distance for an access driveway of 70m based on a frontage road speed of 50km/h, as outlined in Figure 8.



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 8: Sight Distance Requirements

The 50km/h traffic speed is based on the posted speed limit on Gawler Street. Figure 9 shows the sight lines for the proposed access in accordance with AS2890.1.

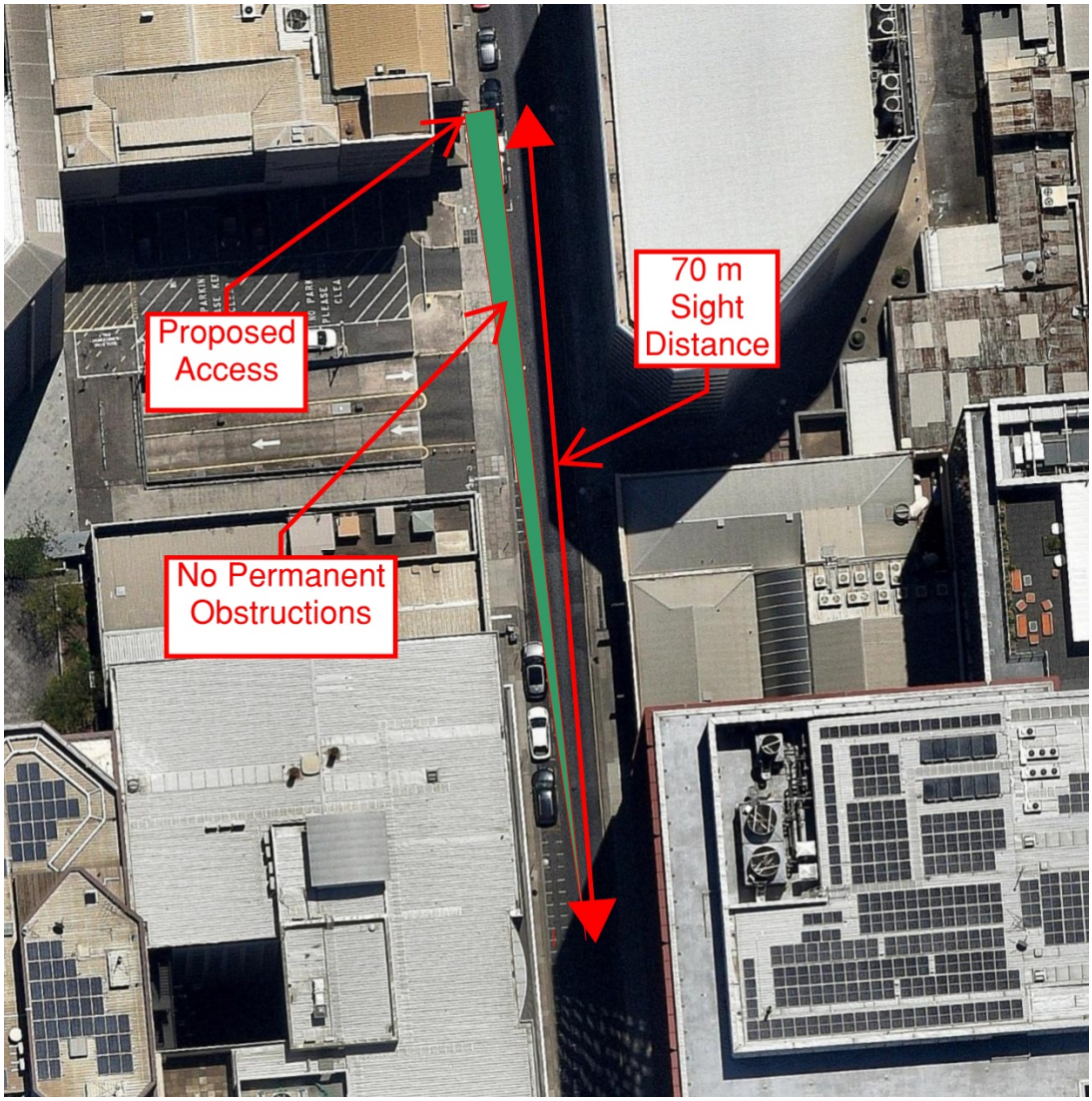


Figure 9: Assessment of Sight Lines

In order to achieve adequate sight lines for pedestrian safety, AS2890.1 recommends that 'sight triangles' are included at access driveways in order to maximise visibility. Figure 10 illustrates the areas required to be kept clear of obstructions to visibility. The proposed service vehicle access meets the requirements of minimum sightlines to pedestrians.

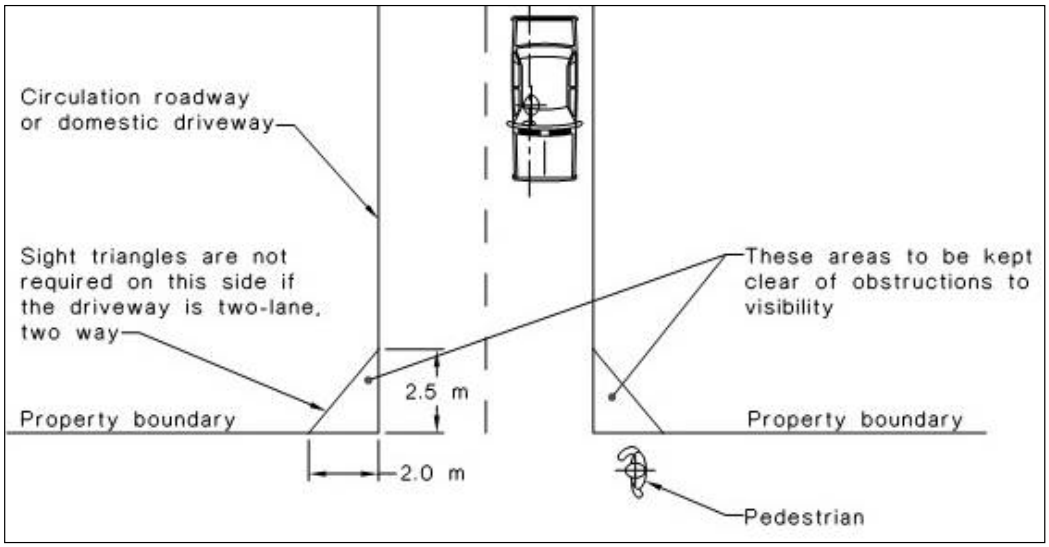


Figure 10: Minimum Sight Lines for Pedestrian Safety

4 PARKING ARRANGEMENTS

4.1 ON-STREET PARKING

As indicated in the Figure 11, a total of 4 dedicated guest drop off and pick upon street spaces will be provided for this development.

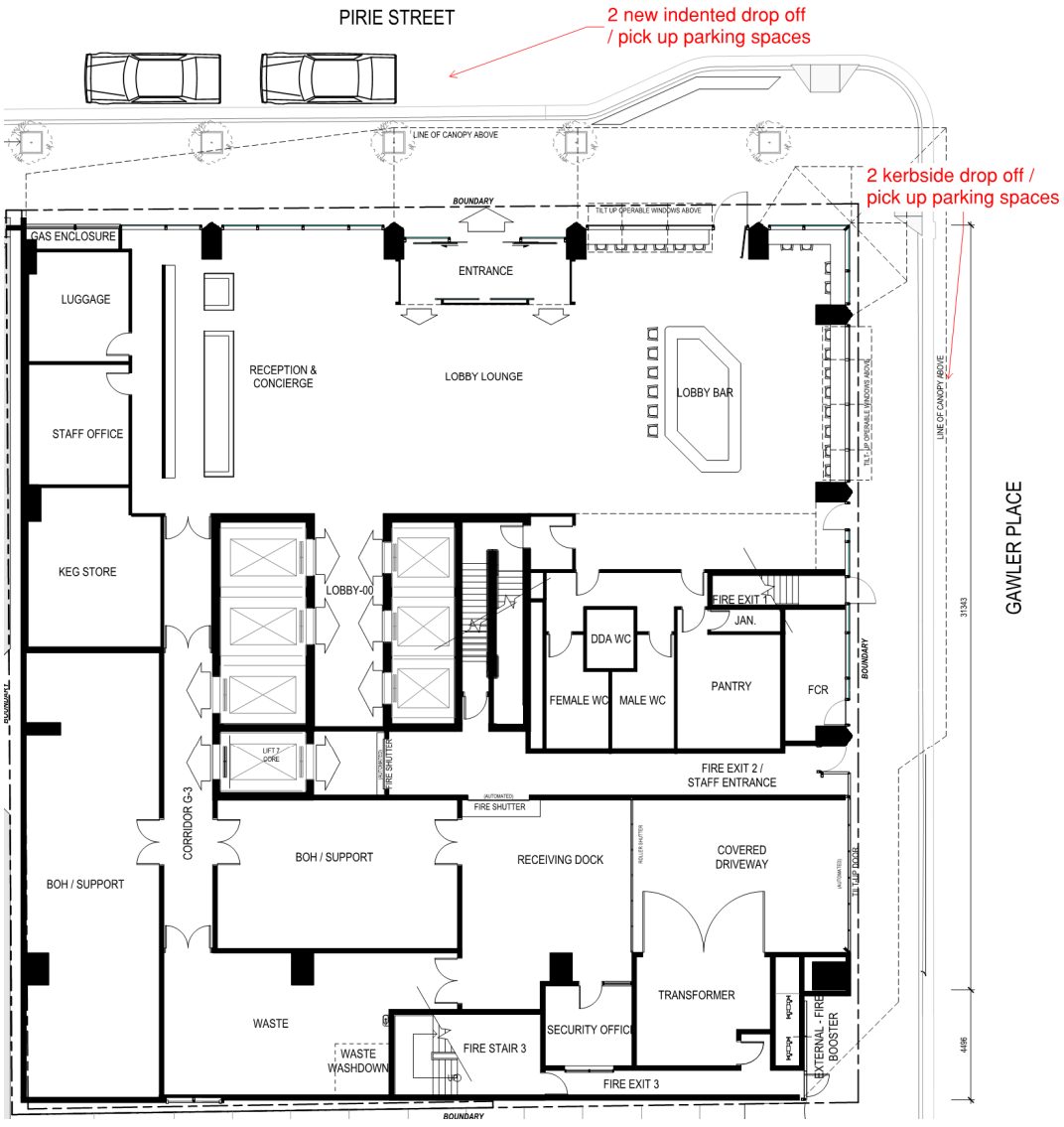


Figure 11: On Street Parking Locations

Based on observation of nearby hotels we anticipate vehicles will occupy parking spaces for typically 4 to 5 minutes, or 12 vehicles per hour. As indicated in Section 3, we anticipate a peak arrival demand of nominally 18 vehicles per hour. The theoretical capacity of the three parks is estimated to be in the order of 24 vehicles per hour based on 12 vehicles per hour per space.

Vehicles will, however, tend to arrive at varying intervals, and critical to the availability of on street parking is the need for vehicles to be moved on as soon as possible. Operational processes would need to be in place to limit the risk of vehicles queuing beyond the allocated two spaces during high demand periods. Operational processes may include the ability to organise and assign employees from nearby areas to parking duties when the need arises. The level of employees would also need to be flexible and align to the actual demand being experienced.

Through discussions with the CoA the provision of four on street parking spaces is considered adequate for this development. The four on street spaces would be zone for Guest Pick up and Drop Off use. However, this parking zone still allows for short term delivery use by the adjacent land uses.

The Gawler Place on-street spaces are located approximately 15 metres from the Pirie Street signalised intersection. Whilst Rule 170 of ARR (SA) requires a minimum of 20 metre offset from the intersection, this was discussed at a meeting with CoA on 17th March 2020 where it was agreed off-street service vehicle access was a priority and this offset from the intersection would suffice.

4.2 LOADING BAY AREA

The loading area and refuse collection will occur in the south east corner of the development. Access will be via a left in movement from Gawler Place. The loading and refuse collection will be restricted to Small Rigid Vehicles (SRV) and Medium Rigid Vehicles (MRV).

The SRV vehicle will enter and exit in a forward direction through the previous of an internal reversing area located in the south eastern corner of the development. The internal reversing area is located clear of any pedestrian thoroughfares. Access to the proposed angled parking in the undercover driveway will be restricted during the reversing process and as such only one angled bay will be provided as part of the development.

WGA consulted with waste management consultants, Rawtec, and met with CoA on 8th February 2019 to discuss access for MRV vehicles. It was determined that a standard 8.8m MRV could reverse into the loading area from the on-street parking spaces. Given the access utilises the on-street parking and the turn path crosses a pedestrian thoroughfare, it was agreed the access for MRV vehicles is restricted to off-peak times.

The above engagement is also referenced in the Rawtec waste management report:

"Based on discussions with City of Adelaide, the collection vehicle will reverse into the development's loading area from Gawler Street, and then exit the development in a forward direction. To ensure the safety of pedestrians it is recommended that the waste collection vehicles:

- *Are fitted with 360 degree reversing cameras and automatic braking for rear obstructions/pedestrians.*
- *Collect waste and recycling out of peak times to avoid high traffic and pedestrian times (e.g. before 6am/after 7pm).*
- *Utilise a spotter provided by the hotel/contractor for the reversing vehicle."*

Given the reverse in requirements of the two vehicles, it is proposed that access for both vehicles is restricted to off-peak times.

Turn paths for the MRV vehicles are enclosed in Appendix A.

5 SUMMARY AND CONCLUSIONS

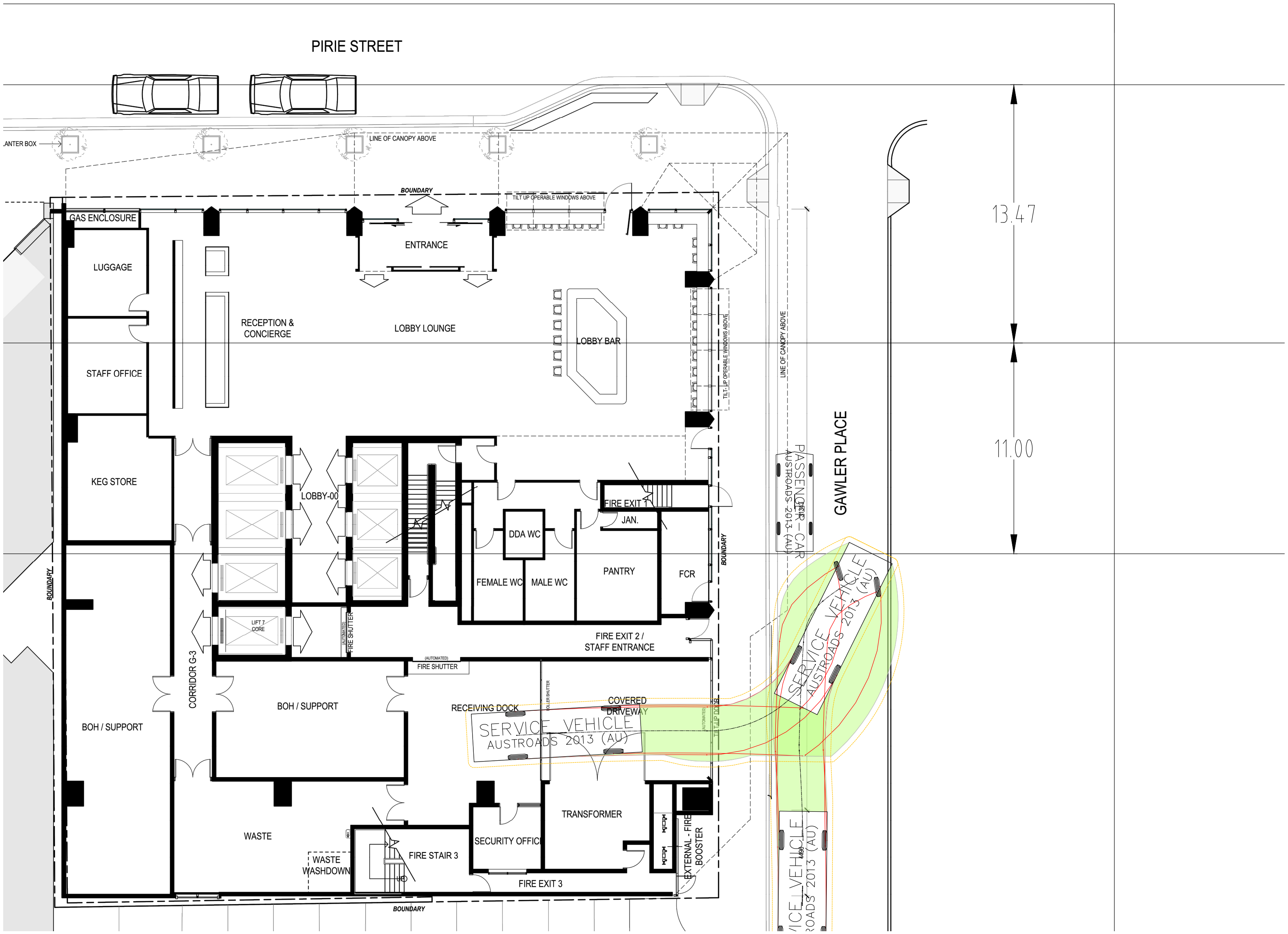
The key aspects of this Traffic Assessment are:

- The assessment related to the development of a new hotel at 51 Pirie Street, Adelaide.
- The development will consist of 285 rooms, and 4 on-street parking spaces for guest drop off and pick up purposes
- Drop off and pick up parking is proposed to be available through
  - Two on-street parking bays on Pirie Street; and
  - Two on-street parking bays on Gawler Place
- Service vehicle and refuse collection entry and exit to the site is proposed to be via Gawler Place.
- Pedestrian sight distance Gawler Place meets requirements to the north and to the south.
- Available vehicle sight distance is greater than the requirement of 70m. Street furniture and light poles are located within the area to be kept clear; however, it is considered that this does not pose a significant obstruction to sight lines.
- The Gawler Place footpath across the proposed access is designated by the CoA as a high pedestrian priority area. Peak hour pedestrian counts revealed an estimated peak hour two-way pedestrian flow in excess of 300 pedestrians/hr. Sight lines that exceed the requirements of AS2890.1 are provided.
- When compared to similar sites it is expected that the site will generate approximately 18 vehicles per hour.
- Turn path analyses have been undertaken to confirm that:
  - A SRV (6.4m long rigid truck) can reverse into the site from Gawler Place
  - A MRV (8.8m long rigid truck) can reverse into the site from Gawler Place

Overall, the proposal is not expected to cause any significant adverse parking or traffic impacts in the surrounding area.

APPENDIX A

VEHICLE TURN PATH DIAGRAMS



When sheet printed full size, the scale bar is 100mm.

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©

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51 Pirie Street

Planning Stage Noise Assessment

May 2020

S5821C7

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Document Title	: 51 Pirie Street Planning Stage Noise Assessment
Document Reference	: S5821C7
Date	: May 2020
Author	: Brent Poland
Reviewer	: Jason Turner, MAAS

TABLE OF CONTENTS

1 INTRODUCTION

A planning stage noise assessment has been made for the proposed development at 51 Pirie Street, Adelaide to ensure compliance with the relevant Adelaide City Council Development Plan requirements.

The proposed development comprises ground floor public realm and plant, meeting facilities on level 1, ballrooms on level 2, administration on level 3, plant on level 4, employee facilities on level 5, a pool and gymnasium on level 6, guestrooms on levels 7 through 20, and a bar and dining areas on level 21.

Fundamentally, from an acoustic perspective, the building is well positioned in that it is removed from the direct influence of major road corridors and is not adjacent noise sensitive or noise generating land uses. Notwithstanding this, the following acoustic issues have been considered in accordance with the Development Plan:

- *Environmental noise* from the following sources;
    - music within the ballrooms and bar areas;
    - mechanical plant; and
    - ancillary activities such as rubbish collection and deliveries; and
- *External noise intrusion* into the guestrooms from;
    - traffic;
    - general central business district activity; and,
    - music from entertainment venues.

The assessment has been based on:

- *GHD Woodhead* drawing set for “51 PIRIE STREET HYATT REGENCY HOTEL”, reference “DRP 1”, dated April 2020;
- *GHD Woodhead* drawing “LGF-GROUND FLOOR PLAN”, drawing no. “SK100”, revision “A”, dated May 2020, for job no. “33-18952”;
- Continuous noise monitoring conducted at the site on two facades between Tuesday 4 to Wednesday 13 February 2019; and
- An inspection of the site and the surrounding areas on Tuesday 4 February 2019.

2 CRITERIA

2.1 Development Plan

The proposed development and all nearby land uses are located in the *Central Business District Policy Area* within the *Capital City Zone* of the City of Adelaide Development Plan[1] (the Development Plan). The Development Plan includes specific acoustic provisions for developments of this nature. The relevant Objectives and Principles of Development Control are as follows:

Council Wide – City Living

Objective 26 *Development that does not unreasonably interfere with the desired character of the locality by generating unduly annoying or disturbing noise.*

Objective 27 *Noise sensitive development designed to protect its occupants from existing noise sources and from noise sources contemplated within the relevant Zone or Policy Area and that does not unreasonably interfere with the operation of non-residential uses contemplated within the relevant Zone or Policy Area.*

PDC 68 *Medium to high scale residential or serviced apartment development close to high noise sources (e.g. major roads, established places of entertainment and centres of activity) should be designed to locate noise sensitive rooms and private open space away from noise sources, or be protected by appropriate shielding techniques.*

PDC 69 *Attached or abutting dwellings/apartments should be designed to minimise the transmission of sound between dwellings and, in particular, to protect bedrooms from possible noise intrusions.*

PDC 89 *Development with potential to emit significant noise (including licensed entertainment premises and licensed premises) should incorporate appropriate noise attenuation measures in to their design to prevent noise from causing unreasonable interference with the amenity and desired character of the locality, as contemplated in the relevant Zone and Policy Area.*

[1] Consolidated 16 January 2020.

PDC 91 *Development of licensed premises or licensed entertainment premises or similar in the Capital City, Main Street, Mixed Use and City Frame Zones should include noise attenuation measures to achieve the following when assessed at:*

(a) the nearest existing noise sensitive location in or adjacent to that Zone:

(i) music noise ($L_{10,\ 15\ min}$) less than 8 dB above the level of background noise ($L_{90,15\ min}$) in any octave band of the sound spectrum; and

(ii) music noise ($L_{A10,\ 15\ min}$) less than 5 dB(A) above the level of background noise ($L_{A90,15\ min}$) for the overall (sum of all octave bands) A-weighted levels; or

(b) the nearest envisaged future noise sensitive location in or adjacent to that Zone:

(i) music noise ($L_{10,\ 15\ min}$) less than 8dB above the level of background noise ($L_{90,15\ min}$) in any octave band of the sound spectrum and music noise ($L_{10,\ 15\ min}$) less than 5dB(A) above the level of background noise ($L_{A90,15\ min}$) for the overall (sum of all octave bands) A-weighted levels; or

(ii) music noise ($L_{10,\ 15\ min}$) less than 60dB(Lin) in any octave band of the sound spectrum and the overall ($L_{A10,15\ min}$) noise level is less than 55 dB(A)

PDC 92 *Speakers should not be placed on the fascias of premises or on the pavement adjacent to the premises to ensure development does not diminish the enjoyment of other land in the locality.*

PDC 93 *Mechanical plant or equipment should be designed, sited and screened to minimise noise impact on adjacent premises or properties. The noise level associated with the combined operation of plant and equipment such as air conditioning, ventilation and refrigeration systems when assessed at the nearest existing or envisaged noise sensitive location in or adjacent to the site should not exceed*

(a) 55 dB(A) during daytime (7.00am to 10.00pm) and 45 dB(A) during night time (10.00pm to 7.00am) when measured and adjusted in accordance with the relevant environmental noise legislation except where it can be demonstrated that a high background noise exists.

(b) 50 dB(A) during daytime (7.00am to 10.00pm) and 40 dB(A) during night time (10.00pm to 7.00am) in or adjacent to a City Living Zone, the Adelaide Historic (Conservation) Zone, the North Adelaide Historic (Conservation) Zone or the Park Lands Zone when measured and adjusted in accordance with the relevant environmental noise legislation except where it can be demonstrated that a high background noise exists.

PDC 94 *To ensure minimal disturbance to residents:*

(a) ancillary activities such as deliveries, collection, movement of private waste bins, goods, empty bottles and the like should not occur:

(i) after 10.00pm; and

(ii) before 7.00am Monday to Saturday or before 9.00am on a Sunday or Public Holiday.

(b) typical activity within any car park area including vehicles being started, doors closing and vehicles moving away from the premises should not result in sleep disturbance when proposed for use after 10.00pm as defined by the limits recommended by the World Health Organisation.

PDC 95 *Noise sensitive development should incorporate adequate noise attenuation measures into their design and construction to provide occupants with reasonable amenity when exposed to noise sources such as major transport corridors (road, rail, tram and aircraft), commercial centres, entertainment premises and the like, and from activities and land uses contemplated in the relevant Zone and Policy Area provisions.*

PDC 97 *Noise sensitive development adjacent to noise sources should include noise attenuation measures to achieve the following:*

(a) satisfaction of the sleep disturbance criteria in the bedrooms or sleeping areas of the development as defined by the limits recommended by the World Health Organisation;

(b) the maximum satisfactory levels in any habitable room for development near major roads, as provided in the Australian/New Zealand Standard AS/NZS 2107:2000 - 'Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors'; and

(c) noise level in any bedroom, when exposed to music noise (L_{10}) from existing entertainment premises, being:

(i) less than 8 dB above the level of background noise ($L_{90,15\ min}$) in any octave band of the sound spectrum; and

(ii) less than 5 dB(A) above the level of background noise ($L_{A90,15\ min}$) for the overall (sum of all octave bands) A-weighted levels.

2.2 Environmental Noise

Music

PDC 91 of the Development Plan provides objective criteria for music levels to be achieved at noise sensitive locations from licensed venues or similar.

The criteria provided by the provision are based on the existing background noise within the environment, as following is to be achieved at the nearest noise sensitive location:

- music noise ($L_{10,\ 15\ min}$) less than 8 dB above the level of background noise ($L_{90,15\ min}$) in any octave band of the sound spectrum; and,
- music noise ($L_{A10,\ 15\ min}$) less than 5 dB(A) above the level of background noise ($L_{A90,15\ min}$) for the overall (sum of all octave bands) A-weighted levels.

These criteria are consistent with those provided by the Environment Protection Authority's guideline, *Music noise from indoor venues and the South Australian Planning System* (2015).

PDC 91(b) provides specific criteria for envisaged sensitive land uses within the Zone. However, it is understood there are no existing development applications for residential land uses within the immediate area.

Patrons

Objective criteria for the noise from patrons are not provided by the Development Plan. In these circumstances, it is considered that the noise from patrons in licensed areas will not unreasonably interfere with the amenity and desired character of the locality if the noise level at sensitive locations is no greater

than the existing background (L_{90}) noise level or the goal noise level assigned by the *Environment Protection (Noise) Policy 2007* (the Policy) to a Capital City Zone, whichever is the greater.

The Policy is based on *the World Health Organisation Guidelines* to prevent annoyance, sleep disturbance and unreasonable interference on the amenity of an area. Therefore, compliance with the Policy is considered to be sufficient to satisfy all provisions of the Development Plan relating to environmental noise.

The Policy provides goal noise levels to be achieved at residences based on the principally promoted land use of the Development Plan Zones in which the noise source (the development) and the noise receivers (the residences) are located. Based on the land uses and the "development" nature of the project, the following goal noise levels are provided by the Policy to be achieved at residences:

- an average (L_{eq}) noise level of 52 dB(A) during the day (7am to 10pm); and,
- an average (L_{eq}) noise level of 45 dB(A) at night (before 7am or after 10pm).

When measuring or predicting noise levels for comparison with the Policy, adjustments may be made to the average goal noise levels for each "annoying" characteristic of tone, impulse, low frequency, and modulation of the noise source. The characteristic must be dominant in the existing acoustic environment and therefore the application of a penalty varies depending on the assessment location, time of day, the noise source being assessed, and the predicted noise level. The application of penalties is discussed further in the Assessment section of this report.

Mechanical Plant

PDC 93 of the Adelaide City Development Plan provides objective criteria for noise from mechanical plant and equipment at the development and provides the ability to increase the criteria in the circumstance of a high background noise environment.

Based on PDC 93, the relevant criteria for mechanical plant noise from the development at the closest noise sensitive receivers are the greater of:

- an average ($L_{Aeq,15min}$) noise level of 55 dB(A) during the day (7am to 10pm);
- an average ($L_{Aeq,15min}$) noise level of 45 dB(A) at night (10pm to 7am); and,

- A noise level which does not exceed the lowest equivalent ($L_{Aeq,15min}$) measured noise levels in the existing environment.

Ancillary Activity

PDC 94(a) deals with ancillary activity (such as rubbish collection and deliveries) by effectively limiting the hours to the least sensitive period of the day. The provision requires that this activity only occurs between the hours of 9am and 7pm on Sundays or public holidays, and between 7am and 7pm on any other day.

2.3 External Noise Intrusion

Major Roads, Commercial Centres, and Entertainment Premises

PDC 97(a) and PDC 97(b) reference the *World Health Organisation Guidelines* (the **WHO Guidelines**) and *Australian/New Zealand Standard AS/NZS 2107:2000 - 'Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors'* (the **Standard**) respectively, to provide appropriate internal noise level criteria within habitable rooms and sleeping areas.

The Standard recommends satisfactory internal noise levels for *Sleeping areas — Hotels and motels near major roads* of 35 to 40 dB(A). The WHO Guidelines recommends an internal noise level of 30 dB(A) within sleeping areas of dwellings.

To assist in determining the appropriate design criterion for guest rooms, reference is made to the *Minister's Specification SA 78B Construction requirements for the control of external sound* (**SA78B**). SA78B is the State Government's contemporary approach to protect the occupants of residential buildings from the sound intrusion of transport (being both road and rail) corridors and from mixed use activity. To this end, SA 78B establishes internal noise levels, the maximum of which is 35 dB(A) in a bedroom.

Based on the above and considering the nature of the development, a design criterion of 35 dB(A) within a guest room during the night period has been utilised in this assessment. It is noted that the development will also be designed in accordance with the project specific acoustical performance requirements described within the *Hyatt Technical Standards and Guidance.* This document provides maximum internal noise levels

from mechanical plant for areas other than sleeping areas. Therefore, the development will also be designed to achieve the criteria in Table 1 which will ensure appropriate amenity in all areas.

Table 1: *Project specific internal noise criteria.*

Area	Maximum internal noise level
Guestroom, Suites & Corridors	35 dB(A)
Public Areas & Lobby Circulation	40 dB(A)
Restaurant & Bar	40 dB(A)
Entertainment Centre & Night Clubs	45 dB(A)
Ballroom & Meeting Rooms	30-35 dB(A)
Treatment Rooms	35 dB(A)
Fitness Centre / Gym	35 dB(A)
Offices	35 dB(A)
Support Areas (Back of House)	40-45 dB(A)

Music

PDC 97(c) of the Development Plan provides objective criteria for music noise to be achieved in all bedrooms, in addition to the above internal noise requirements.

The criteria provided by the provision are based on the existing background noise within the bedroom environment; the following is to be achieved within all bedrooms:

- music noise ($L_{10,\ 15\ min}$) less than 8 dB above the level of background noise ($L_{90,15\ min}$) in any octave band of the sound spectrum; and,
- music noise ($L_{A10,\ 15\ min}$) less than 5 dB(A) above the level of background noise ($L_{A90,15\ min}$) for the overall (sum of all octave bands) A-weighted levels.

3 ASSESSMENT

3.1 Environmental Noise

The environmental noise criteria are to be achieved at all noise sensitive locations in the vicinity of the subject site. Based on an inspection of site and surrounding area, the proposed development is located amongst commercial and retail land uses such that there are no relevant receivers within the immediate vicinity. In this circumstance, the environmental noise from the development will achieve the relevant environmental noise criteria with no specific acoustic treatments.

Ancillary activity such as rubbish collection and deliveries remains subject to the requirements of the development Plan, being limited to 9am and 7pm on Sundays or public holidays, and between 7am and 7pm on any other day.

3.2 External Noise Intrusion

Major Roads, Commercial Centres, and Entertainment Premises

An assessment has been made of the external noise intrusion into the development from major noise sources in the area comprising traffic, mixed use activity, and mechanical plant from other buildings. To inform this assessment continuous traffic noise level monitoring was conducted at the subject site from 4-13 February 2019. The following noise levels were recorded at the north (level 5) and the south (level 4) facades of the existing building:

Table 2: *Measured average (L_{eq}) noise levels, dB(A).*

Noise Level	Total	Octave band centre frequency						
		63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz
North (day) – $L_{eq,15hrs}$	65	43	52	54	58	60	59	54
North (night) – $L_{eq,9hrs}$	57	35	44	48	51	53	51	43
South (day) – $L_{eq,15hrs}$	59	39	46	49	52	54	53	49
South (night) – $L_{eq,9hrs}$	56	33	40	44	48	51	50	46

The above noise levels have been used to calibrate a 3 dimensional noise model of the proposed development which enables the influence of distant road corridors to be taken into account at the upper levels of the development. The model (ISO 9613-2:1996 noise propagation model "*Acoustics – Attenuation of sound during propagation outdoors*" (ISO 9613), in the SoundPlan noise modelling software) provides external noise levels at every room on every level and facade.

In addition, an allowance needs to be made for mechanical plant on the rooftops of buildings which are overlooked by the development and in close proximity, as is the case with rooftop plant at 45 Pirie Street.

To inform this assessment, an inspection and noise measurements of the existing rooftop plant at 45 Pirie St was conducted on 25 September 2019. Based on this inspection, the roof top units comprise:

- 2x larger cooling towers;
- 3x smaller cooling towers including one which operates 24 hours per day;
- An extraction fan; and
- An emergency generator.

Sound power level data for the above equipment has been derived from measurements, manufacturer's data for the specific models, and previously procured noise data for similar mechanical services equipment. The sound power levels for the units are:

- 96 dB(A) each for the large cooling towers;
- 88 dB(A) for the extraction fan; and
- 93 dB(A) each for the small cooling towers.

All equipment was contained in an area surrounded by minimum 3.0m high screens. Several ventilation louvres were observed through the northern and eastern screens.

It is understood that the only equipment which typically operates during the night is one small cooling tower. All other equipment (except the generator which only operates during emergencies and maintenance) will operate between 7:00am and 6:00pm to service the commercial office building.

The predicted noise levels at the façade and the proposed façade construction were used to predict the internal noise levels within each room to ensure compliance with the 35 dB(A) design criterion during the night (before 7am or after 10pm).

Based on the above and full height glazing on levels 7 through 20, the following façade constructions are recommended:

- 6.38mm thick laminated glass or equivalent ($R_w + C_{tr} \geq 30$) for the extent shown in **YELLOW** in the following figures.
- 10.38mm thick laminated glass or equivalent ($R_w + C_{tr} \geq 33$) for the extent shown in **GREEN** in the following figures;
- 12.5mm thick *Vlam Hush* glass or equivalent ($R_w + C_{tr} \geq 37$) for the extent shown in **PINK** in the following figures; and
- 6mm thick glass with a layer of 25mm *CSR shaft liner* behind (or equivalent system which achieves $R_w + C_{tr} \geq 38$) for the extent shown in **BLUE** in the following figures.

It is understood that at this stage double glazing is preferred to satisfy the building's thermal requirements. Therefore, the proposed glazing constructions are likely to comprise the following suitable alternatives:

- 8mm glass, a 12mm air gap, and 10.38mm thick laminated glass for the areas shown as **YELLOW** or **GREEN**; and
- 8mm glass, a 12mm air gap, and 12.76mm thick laminated glass for the areas shown as **PINK**.

Figure 1: *Recommended acoustic treatments - Levels 7 to 15.*

Figure 2: *Recommended acoustic treatments - Levels 16 to 19.*

Figure 3: *Recommended acoustic treatments – Level 20.*

Music

The music noise intrusion criteria apply to music from other entertainment premises. As described in the Environmental Noise section, an inspection of the site and surrounding area has identified the surrounding land uses as commercial and retail in nature. Therefore, a detailed assessment of music noise intrusion has not been made.

It is noted that the existing noise levels measured within the vicinity of the site were high and therefore the glazing selections and façade design provide a high level of attenuation from any external noise source.

An assessment of music noise generated within the development, such as within the Ballroom or Bars, to the sleeping areas will need to be made as part of the design stage process in order to satisfy the operators brief.

4 CONCLUSION

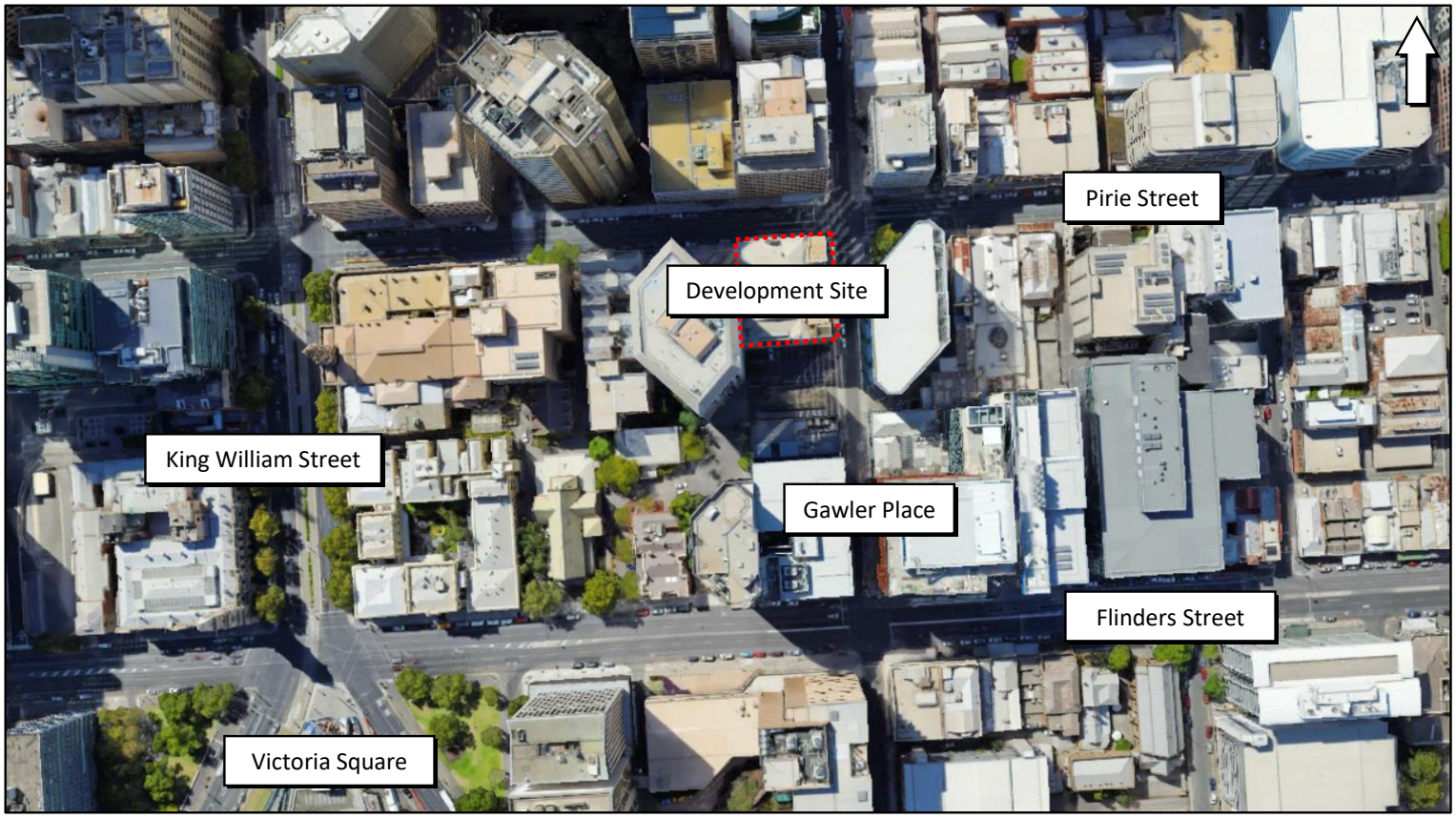
A noise assessment has been made for the proposed development to be located at 51 Pirie Street, Adelaide.

The assessment has considered the environmental noise from the development, and the external noise intrusion into the development against the relevant criteria of the Adelaide Council Development Plan. Acoustic treatment measures have been recommended to achieve appropriate residential amenity, comprising;

- specific façade constructions; and,
- limiting the times of ancillary activity.

Subject to the implementation of the above treatments, the development is predicted to achieve all relevant criteria. Therefore, the development has been designed to *not unreasonably interfere with the desired character of the locality* and to *protect residents from existing noise sources*, achieving all relevant provisions of the development plan relation to environmental noise and external noise intrusion.

APPENDIX A


Pirie Street
Development Site
King William Street
Gawler Place
Flinders Street
Victoria Square

CES - 51 Pirie Street, Adelaide

Waste Management Plan

Document verification

Date	Version	Title	Prepared by	Approved by
15/02/19	V1	51 Pirie Street Waste Management Plan - DRAFT	K. Le Gallou & J. Webb	J. Webb
21/02/19	V1.1	51 Pirie Street Waste Management Plan	K. Le Gallou & J. Webb	J. Webb
23/04/20	V2	51 Pirie Street Waste Management Plan	K. Le Gallou & J. Webb	M. Allan

Document summary

This waste management plan (WMP) has been developed at the planning stage of the development. The client, project managers, project architects, and traffic consultant have been consulted and consideration given to the relevant policy requirements (Appendix 1).

The proposed waste management system (WMS) is outlined in this document. This a high-level view and includes a preliminary design that demonstrates waste can be successfully managed at the site. If land uses and waste management arrangements for the development are altered during detailed design work, this WMP may need to be updated.

1. Development summary

Project	51 Pirie Street, Adelaide
Client	CES
Architect	GHD Woodhead
Traffic Engineer	WGA

1.1. Land use and occupancy

Table 1 outlines the proposed building and land uses of the development. This is based on the most recent architectural plans. The waste resource generation categories are based on the land use outlined in the plans.

Table 1 Land use and occupancy overview

Level	Name	Size		WRGR[1]
Ground	Staff office	25	m^2	Offices/Consulting
	Lobby Bar	22	m^2	Hotel/Motel Bar areas
Mezzanine	Plant	-	-	-
Level 1	Event Kitchen[2]	106	m^2	Café/Restaurant
	Event rooms[2]	442	m^2	Hotel or Motel (Combined Bar & Dining Areas)
	Pre-event[2]	221	m^2	Hotel or Motel (Combined Bar & Dining Areas)
Level 2	Event kitchen[2]	118	m^2	Café/Restaurant
	Ballroom[2]	413	m^2	Hotel or Motel (Combined Bar & Dining Areas)
	Pre-event[2]	251	m^2	Hotel or Motel (Combined Bar & Dining Areas)
Level 3	Offices	188	m^2	Offices or Consulting Rooms
Level 4	Plant	-	-	-
Level 5	Kitchen	17	m^2	Café/Restaurant
	Employee restaurant	77	m^2	Hotel or Motel (Combined Bar & Dining Areas)
	Employee lounge	90	m^2	Offices/Consulting
	House managers office	31	m^2	Offices/Consulting
Level 6	Gym and Yoga	273	m^2	Gym
Level 7-19	Hotel rooms	273	beds	Hotel or Motel (Accommodation)
Level 20	Hotel rooms	12	Beds	Hotel or Motel (Accommodation)
	Kitchen	21	m2	Café/Restaurant
	Breakfast/dining	84	m^2	Hotel or Motel (Combined Bar & Dining Areas)
Level 21	Central kitchen	150	m^2	Café/Restaurant
	Main dining room	162	m^2	Hotel or Motel (Combined Bar & Dining Areas)
	Market café	76	m^2	Café/Restaurant
	Communal table	70	m^2	Hotel or Motel (Combined Bar & Dining Areas)
	Skybar	117	m^2	Hotel/Motel Bar areas

[1] Land use categories based on the Waste Resource Generation Rates (WRGRs) in the SA Better Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA, 2014) or other industry sources.

[2] Note that the function and pre-function waste and recycling volumes assume the equivalent of one full day of events per week.

1.2. Recommended services

For the development to achieve effective waste and recycling management it is recommended the services outlined in Table 2 be provided.

Table 2 Recommended waste management services

		Required/recommended waste and recycling collection services						
	Development land uses	**Hotel rooms**	**Kitchens + Event Kitchens**	**Dining areas**	**Lobby Bar + Skybar**	**Event + Pre Event**	**Offices**	**Gym+Yoga**
Routine collection (rear lift)	General waste	X	X	X	X	X	X	X
	Comingled recycling	X	X	X	X	X	X	X
	Organics recycling	X	X	X	X	X	X	X
	Cardboard recycling	NS	X	X	X	X	NS	NS
	Paper recycling	NS	NS	NS	NS	NS	X	NS
	Confidential paper recycling	NS	NS	NS	NS	NS	X	NS
On-call or external drop-off	Hard waste	X	X	X	X	X	X	X
	E-waste	X	X	X	X	X	X	X
	CFL/Lighting	X	X	X	X	X	X	X
	Printer Cartridges	X	X	X	X	X	X	X
	Batteries	X	X	X	X	X	X	X

X = Required/Desired

NS = Not serviced as separate service not required

These recommendations align with the *SA Better Practice Guide – Waste Management in Residential or Mixed-Use Developments* (Green Industries SA, 2014). The volumes and regular service provision of the following streams have not been estimated however they should still be considered in the overall development:

- Electronic waste (batteries, printer cartridges, lighting)
  - E-waste would be temporarily stored within the development where it is generated (e.g. offices). It would then be taken to an appropriate receival facility (e.g. recycling depot or participating retailer) or collected by a certified collection contractor.
- Hard Waste (e.g. hotel equipment, furniture, mattresses)
  - Hard waste would be temporarily stored within the development (e.g. storeroom) and managed via a pull-in/pull-out collection service during retrofitting or maintenance activities. This would be arranged by the building management in conjunction with building services, to ensure that collection via the on-property loading area is undertaken at an appropriate time.

2. Waste management analysis

2.1. Estimated waste and recycling volumes

Table 3 below outlines the estimated volumes of waste and recycling produced within the development per stream each week.

Table 3 Estimated waste volumes produced by the development[3]

Estimated waste generation volumes (litres per week)									
Development land use		**Hotel rooms**	**Kitchens + Event Kitchens**	**Dining areas**	**Lobby Bar + Skybar**	**Event + Pre Event**	**Offices**	**Gym+Yoga**	**Total**
WRGR classification		*Hotel or Motel (Accommodation)*	*Café/Restaurant*	*Hotel or Motel (Combined Bar & Dining Areas)*	*Hotel or Motel (Bar Areas)*	*Hotel or Motel (Combined Bar & Dining Areas)*	*Offices or Consulting Rooms*	*Gym*	
Waste stream	General waste	10,000	6,200	8,300	500	4,000	500	90	**29,600**
	Comingled recycling	6,000	1,000	700	100	300	200	90	**8,400**
	Organics recycling	3,000	8,300	11,000	20	5,300	80	10	**27,700**
	Cardboard recycling	NE	3,100	2,100	400	1,000	NE	NE	**6,600**
	Paper recycling	NE	NE	NE	NE	NE	300	NE	**300**
	Confidential paper recycling	NE	NE	NE	NE	NE	30	NE	**30**
Total site volume		**19,000**	**18,600**	**22,100**	**1,000**	**10,600**	**1,100**	**190**	**72,600**

*Totals have been rounded and may not equate

NE = Not Estimated as Not Required

[3] Estimates are based on the proposed land use data provided by the client and architect, client expectations and waste management policies (Outlined in Appendix 1) relevant to the developments' land uses. The metrics used are based on those found in The SA Better Guide Practice Guide – Waste Management for Residential and Mixed-Use Developments and developed by Rawtec based on industry knowledge and experience.
Note that the function and pre-function waste and recycling volumes assume the equivalent of one full day of events per week.

2.2. Bin size and collection details

Table 4 below provides estimates of the number of bins and collections per week required to service the development. These figures are based on the total volumes of waste and recycling for the development and the assumption that all waste and recycling would be collected by one service provider.

Table 4 Estimated bin requirements and collections per week

	Waste room		
	Bin size (L)	**Number of bins required**	**Collections per week**
General waste	660	8	6
Comingled recycling	660	3	5
Organics recycling	660	9	5
Cardboard recycling	660	4	3
Paper recycling	240	3	On call
Confidential paper recycling	240	1	On call
Total		28	19

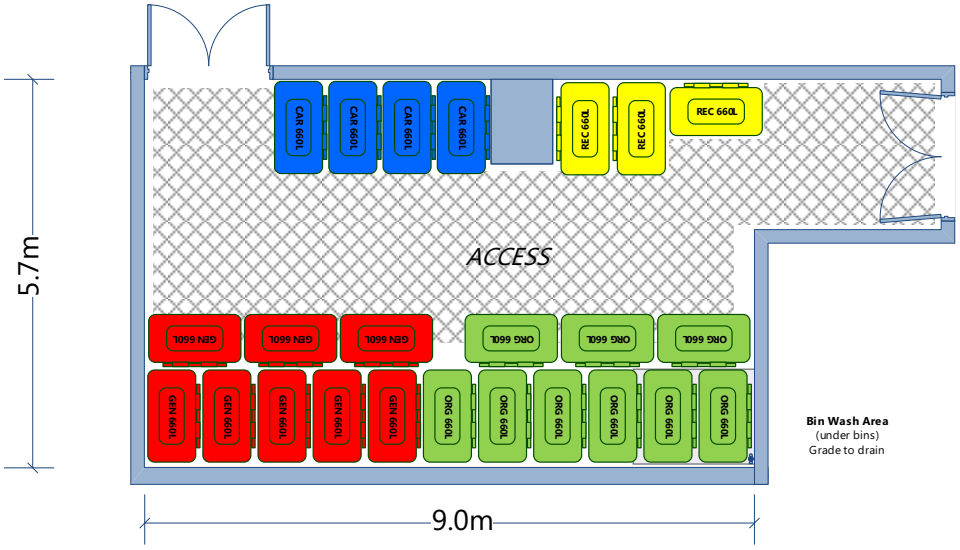
*Totals have been rounded and may not equate

2.3. Waste storage areas

Figure 1 outlines the ground floor waste room. It is anticipated that all waste from the cleaning of the hotel rooms will be brought to this level by cleaning staff. Bulk bins from the kitchen waste rooms will also be transferred to this room once they are full. Empty bins can then be taken back up to the kitchen waste rooms for use.

Additional design advice and other considerations have been included in Appendix 2.

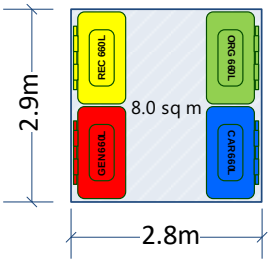
Figure 1 Indicative ground floor waste storage area



LEGEND	Note: These bin sizes are for **illustration purpose only** and are based on the standard MASTEC Australia bin sizes (http://www.mastec.com.au). Bin sizes and shapes may differ depending on manufacturer, collection contractor or local waste authority. Please allow extra room (e.g. >10%) for differences in bin sizes, bin access, opening and closing and manoeuvring etc.
GEN = General waste **REC = Comingled recycling** **ORG = Organics recycling** **CAR = Cardboard recycling**	

To ensure efficient and effective operations of the kitchens (especially the central kitchen), it is advised that a 660-litre bulk bin of each stream be available. This will reduce the need for staff to transfer material to the ground floor waste room during the day. When the bins are full, they can be swapped with empty bins from the ground floor waste room. Figure 2 outlines an example configuration outlining the estimated size and layout for each kitchen.

Figure 2 Indicative kitchen waste storage area



3. Waste management system

A Waste management system has been developed to effectively manage the waste generated at the development. The WMS outlined in Table 5 addresses each land use within the development and considers the appropriate policies for waste management (Appendix 1).

Table 5 Waste management system for the development

Proposed waste management system		
Waste/recycling services	• General waste • Comingle recycling • Organics recycling	• Cardboard recycling • Paper recycling • Confidential paper recycling
WMS step	**WMS notes**	
1. User storage	• Hotel guests will dispose of their waste and recycling in bins provided in their rooms. – It is recommended at minimum that a general waste and recycling bin be provided with clear signage. • Waste and recycling from kitchens will be collected in 40-80 litre bins and then transferred into the 660 litre bulk bins in the kitchen waste rooms when required: – General waste will be collected using black bin liners – Organics will be collected using compostable bin liners – Comingled recycling will be collected loose – Cardboard will be collected loose. • Levels with administration facilities are recommended to have a 240-litre paper recycling and 240 litre confidential paper recycling bin in the printing/utility room.	
2. Transfer pathways and bin transfer	• Full 660 litre bulk bins from the kitchens will be transferred via the service lifts to the ground floor waste room ready for collection. Previously emptied 660 litre bins will then be transferred via the service lifts and stored for use in the kitchen waste rooms. • Waste and recycling from hotel rooms will be transferred by the cleaners via the service lifts to the ground floor waste room. • Paper bins will be transferred to the ground floor waste room when full. • Transfer routes must be at least 1.25m wide, free of obstructions and steps and a slope of no more than 1:10.	
3. Aggregation & storage	• Cleaners will place waste and recycling from the hotel rooms directly into the appropriate 660 litre bulk bin. • Bulk bins awaiting collection will be stored in the ground floor waste room.	
4. Bin collection	• The waste collection contractor will reverse from Gawler street into the hotel loading area. • The contractor will collect bins from the waste room and empty them at the rear of the collection vehicle and then return them to the waste room. • The collection vehicle will then exit the development in a forward direction.	

4. Collection requirements

4.1. Vehicle movements per week

The number of collection vehicle movements has been estimated at 19 per week. This is based on the estimated waste and recycling volumes and service frequency as outlined in Table 4. This also assumes that collection will take place by the same waste collection contractor for all services.

4.2. Collection vehicle

Based on discussions with City of Adelaide, the collection vehicle will reverse into the development's loading area from Gawler Place, and then exit the development in a forward direction. To ensure the safety of pedestrians it is recommended that the waste collection vehicles:

- Are fitted with 360 degree reversing cameras and automatic braking for rear obstructions/pedestrians.
- Collect waste and recycling out of peak times to avoid high traffic and pedestrian times (e.g. before 6am/after 7pm).
- Utilise a spotter provided by the hotel/contractor for the reversing vehicle.

Approximate truck dimensions are provided to help the Traffic Consultant's analysis (Table 6). Please note:

- Collection vehicle dimensions and operating requirements vary between waste collection contractors.
- Rawtec does not offer assurance that the collection zone can accommodate waste collection vehicles.
- The Traffic Consultant must independently confirm there is sufficient space for the collection vehicle and that it can enter and exit the development safely.
- The client must ensure the preferred waste collection contractor can service the development before collection can begin.

Table 6 Truck dimensions for consideration

Collection vehicle dimensions[4]		
Vehicle type	Rear Lift	Pan-tech/Flat Bed
Collection type	Collection of bins up to 1100 L	At call waste streams
Dimensions	Up to 4m (h) x 2.5m (w) x minimum 8.8m - up to 10m (l)	Up to 4.5m (h) x 2.5m (w) x 8.8m (l)
Rear loading space required	2m	-
Operational vehicle height	Up to 4m	Up to 4.5m
Vehicle turning circle	18-25m	10m

[4] Vehicle width dimensions are based on Australian MRV standard specifications - AS 2890.2-2002. Vehicle length and heights are based on common collection vehicles currently operating in the SA market. However, it should be noted that waste and recycling collection vehicles are custom designed and may differ from these specifications.

Appendix 1 - Policies

This WMP has been prepared in consideration of the following policies, design and operational requirements:

- The South Australian Environment Protection (Waste to Resources) Policy 2010 (W2REPP) (Government of South Australia, 2011):
  - Waste is subject to resource recovery processes, which can include source separation, before disposal to landfill.
- South Australian Better Practice Guide – Waste Management in Residential or Mixed-Use Developments (Green Industries SA (previously Zero Waste SA), 2014):
  - Identifies need for areas to store waste and recyclable materials. They must be appropriate to the size and type of development, screened from public, minimises disturbance to residents and provides access to service vehicles.
- Adelaide (City) Development Plan (Department of Planning, Transport & Infrastructure, 2017).
  - OBJ 28: Development which supports high local environmental quality, promotes waste minimisation, re-use and recycling, encourages waste water, grey water and stormwater re-use and does not generate unacceptable levels of air, liquid or solid pollution.
  - PDC 101: A dedicated area for on-site collection and sorting of recyclable materials and refuse should be provided within all new developments.
  - PDC 102: A dedicated area for the collection and sorting of construction waste and the recycling of building materials during construction as appropriate to the size and nature of the development should be provided and screened from public view.
  - PDC 103: Developments greater than 2,000 square metres of total floor area should manage waste by:
    - Containing a dedicated area for the collection and sorting of construction waste and recyclable building materials;
    - On-site storage and management of waste;
    - Disposal of non-recyclable waste; and
    - Incorporating waste water and stormwater re-use including the treatment and re-use of grey water.

Appendix 2 - Additional waste management and design considerations

This table provides additional considerations and advice for the development. This information is based on the SA Better Practice Guide Waste Management for Residential and Mixed-Use Developments.

Area	Consideration
Bin/chute rooms	• Access to bin/chute rooms by mobility impaired persons must be considered. • Allocating chutes in closed waste rooms on each floor may prevent odours or spillage issues compared to providing access directly from a hallway.
Bin design, colours and signage	• Bins and signage should conform to the Australian Standard for Mobile Waste Containers (AS 4213).
Bin transfer routes	• The Better Practice Guide recommends transfer routes be at least 1.25m wide, free of obstructions and steps and a slope of no more than 1:10. • These should not pass through living areas or dwellings.
Bin washing	• A bin washing station must: – Slope to a drain leading to the sewer – Have a tap and a hose with mains supply – Be at least 2m x 2m – Be slip resistant to prevent slippage during washing. • Note: – Line marking and bunding is not required around the bin wash area. – Bins can be stored on top of the bin wash area in the waste room. During washing, other bins can be placed outside the waste collection room while bins are washed in the waste room. Alternatively, the bin wash area can be installed outside the waste room. It may also be possible for the waste contractor to be contracted to provide this service (either on-site or off-site).
Detailed design and construction	• This WMP provides a high-level overview of waste management at the development. Appropriate design and construction advice should be sought during the detailed design phase to ensure equipment, infrastructure and building services can fulfil the functions proposed.
Education and training	• The developer should consider providing education and training for staff and guests in the building's WMS to ensure appropriate waste management practices.
Hard waste	• An aggregation point for hard waste should be provided that is easy to access for collection vehicles. – This streamlines collection logistics. If stored in individual locations the building services manager, tenant and collection contractor will need to be present for collection. This may increase costs.

Area	Consideration
Health and amenity	• The Better Practice Guide stipulates effective WMS design should: – Minimise and mitigate odour and noise – Consider and preserve visual amenity for residents/tenants, neighbours and the public – Prevent waste spreading beyond the defined location – Specify washable services enabling periodic cleaning – Provide adequate ventilation.
Lid within a lid bin	• Bulk bins (e.g. 1100 litre) with a 'lid within a lid' system can be used to make waste and recycling disposal easier for services, tenants/residents. – A smaller, lighter lid reduces the weight and risk for people disposing of materials. – The larger lid can be locked, stopping oversize items being put into the bin.
Peak periods	• Peak periods during the year (e.g. Easter, Public Holidays, Christmas) can increase waste generation rates. Additional collections may need to be scheduled in these circumstances.
Waste collection timing	• Waste collection timing and frequency should be scheduled to minimise the impact of noise and traffic on residents, neighbours and the public.
Waste storage area	• A secure storage area should be provided to prevent interference with the bins and equipment from the public.
Waste streams	• The SA Better Practice Guide indicates that organics (food and/or garden) is a required/expected service for residents in South Australia. • It is beneficial for disposal points of all three streams (general waste, comingled recycling and food organics) located together.

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WALLBRIDGE GILBERT AZTEC

CES Pirie Hotel (SA) Pty Ltd

51 Pirie Street

STORMWATER MANAGEMENT PLAN

Project No. 150093
Doc No. WGA150093-RP-CV-0001
Rev. D

22 May 2020

Revision History

Rev	Date	Issue	Originator	Checker	Approver
A	01 February 19	Council Approval	ASF	CH	
B	21 February 19	Council Approval	ASF	CH	
C	30 April 20	Council Approval	CH	CH	
D	22 May 2020	Council Approval	CH	CH	

CONTENTS

Appendices

1 INTRODUCTION

1.1 BACKGROUND

WGA was engaged by CES Pirie Hotel (SA) Pty Ltd to prepare a Stormwater Management Plan for a proposed multi-storey building on Pirie Street. It is understood the proposed development is to be a multi-storey hotel facility.

This report is intended to conceptually outline the stormwater management design for the proposed development and detail the stormwater management methodology. A final detailed design should be carried out to provide construction documentation and incorporate the stormwater design principles outlined in this report. The final documentation is considered to be beyond the scope of this report.

1.2 SCOPE OF THE ASSESSMENT

The preparation of the plan comprises the scope of services listed below:

- Site visit
- Liaise with the City of Adelaide (Council) to determine appropriate stormwater requirements for the site
- Prepare a Stormwater Management Plan detailing the proposed method of collection and the disposal of site generated stormwater runoff
- Prepare a preliminary sketch plan showing possible site drainage infrastructure and based on Council and client requirements

1.2.1 Documentation

The client has provided preliminary Architectural plans for the development.

2 DETAILED REPORT

2.1 DEVELOPMENT DESCRIPTION

The proposed development is located at 51 Pirie Street, Adelaide. The site is currently occupied by a commercial building which is to be demolished prior to development. The proposed development involves the construction of a multi-storey hotel facility. Refer to Appendix A for GHD Woodhead Architect's site plan for the proposed development.

2.2 CATCHMENT DESCRIPTION

The proposed site footprint covers approximately 1300m² and is currently occupied by developed land, an aerial photograph of the site is shown in Appendix B.

An existing site survey indicates that Pirie Street falls from east to west across the front of site and Gawler Place falls from South to North adjacent the building. Refer to Appendix C for a copy of the site survey.

2.3 EXISTING STORMWATER DRAINAGE

Roof runoff is collected by downpipes and is disposed from the site via steel box drains across the footpath into either Pirie Street or Gawler Place. There are three outlets on Pirie Street and two on Gawler Place.

Based on information provided by council, the site runoff is ultimately collected by a 675mm pipe that runs east to west, located in the centre of Pirie St.

Refer to Appendix D for existing Council stormwater drainage location.

2.4 COUNCIL REQUIREMENTS

The City of Adelaide has provided guidance in regards to storm water management design, which was utilised in the development of this stormwater management plan. These are summarised below:

1. Stormwater runoff from the proposed development must be contained within the property boundaries, collected and discharged to Pirie Street and Gawler Place.
2. Council place limitations on the flow rate allowed to be discharged through a single drain outlet to 15 L/s and the minimum spacing between outlets to be 5m. No stormwater detention is required.
3. Council encourages the development to minimize the number of stormwater property connection wherever possible.
4. Minimum finished floor level shall be no lower than the existing level of the site boundary.
5. Where siphonic downpipes are adopted, detention storage is required to reduce the peak flow rate from a 1 in 100 year storm event to the peak flow rate from a 1 in 20 year storm event

Additional information regarding Council's stormwater drainage requirements are contained in the City of Adelaide "Technical Design Criteria" updated in January 2020. This particularly relates to the proposed protuberance into Pirie Street on the north eastern corner of the site.

- An analysis of the contributing catchment are for the proposed system is required. The analysis shall include the preparation of a Hydrological model and the determination of the peak duration of storms for the 10 or 20 year ARI storm events. The analysis shall determine the capacity of the proposed drainage system, the roadway and the 100 year floe paths. The City of Adelaide will provide a catchment map for the hydraulic analysis.

- An assessment shall be made for the potential overland flow path of stormwater for the 100 year ARI gap flows assuming the minor stormwater system becomes 20% blocked. Freeboard between the 100 year ARI flood levels and property boundary levels must exceed 50mm.

- Stormwater catchpits shall be as per City of Adelaide standard number C210-01, A2/86/1 and A2/80/17.

2.5 STORMWATER MANAGEMENT METHODOLOGY

Based on Council's requirements, the following stormwater management methodology is proposed,

It is understood that the majority of the roof runoff will be discharged from the site via a siphonic drainage system and as such detention storage will be required to limit the flow rate to 15 l/s. A detention storage of 22m^3 is proposed to be located within the upper floors of the building, with the siphonic drainage directed to this tank, prior to the overflow heading to the Pirie Street kerb and gutter via a checker plate drain (in accordance with the City of Adelaide standard details).

Runoff collected on the predominantly undercover paved area to the east of the site will be collected in a series of small strip drains (within the site boundary) and discharged to the Gawler Place kerb and gutter via a checker plate drain (in accordance with the City of Adelaide standard details).

It is noted that part of the development includes a localised widening of the Pirie Street footpath (on the north-east corner of the site). Further detailed design and consultation with the City of Adelaide will be required to review the impact on the 1 in 100 year flow in Pirie Street as the widening of the footpath will extend past the existing southern gutter of Pirie Street. It is noted that the FFL is 45.700 and as such the 1 in 100 year flow level will need to be a maximum of 45.650 in this location to provide the minimum of 50mm freeboard. Additional underground drainage infrastructure may be required in this location. It is also proposed that a concrete channel with a heelguard grate is located on the line of the current water table to allow for surface water to be collected and for minor flows to continue along the southern side of Pirie Street. The detailed design of this system will be undertaken during the Design phase of the project and submitted to the City of Adelaide for approval.

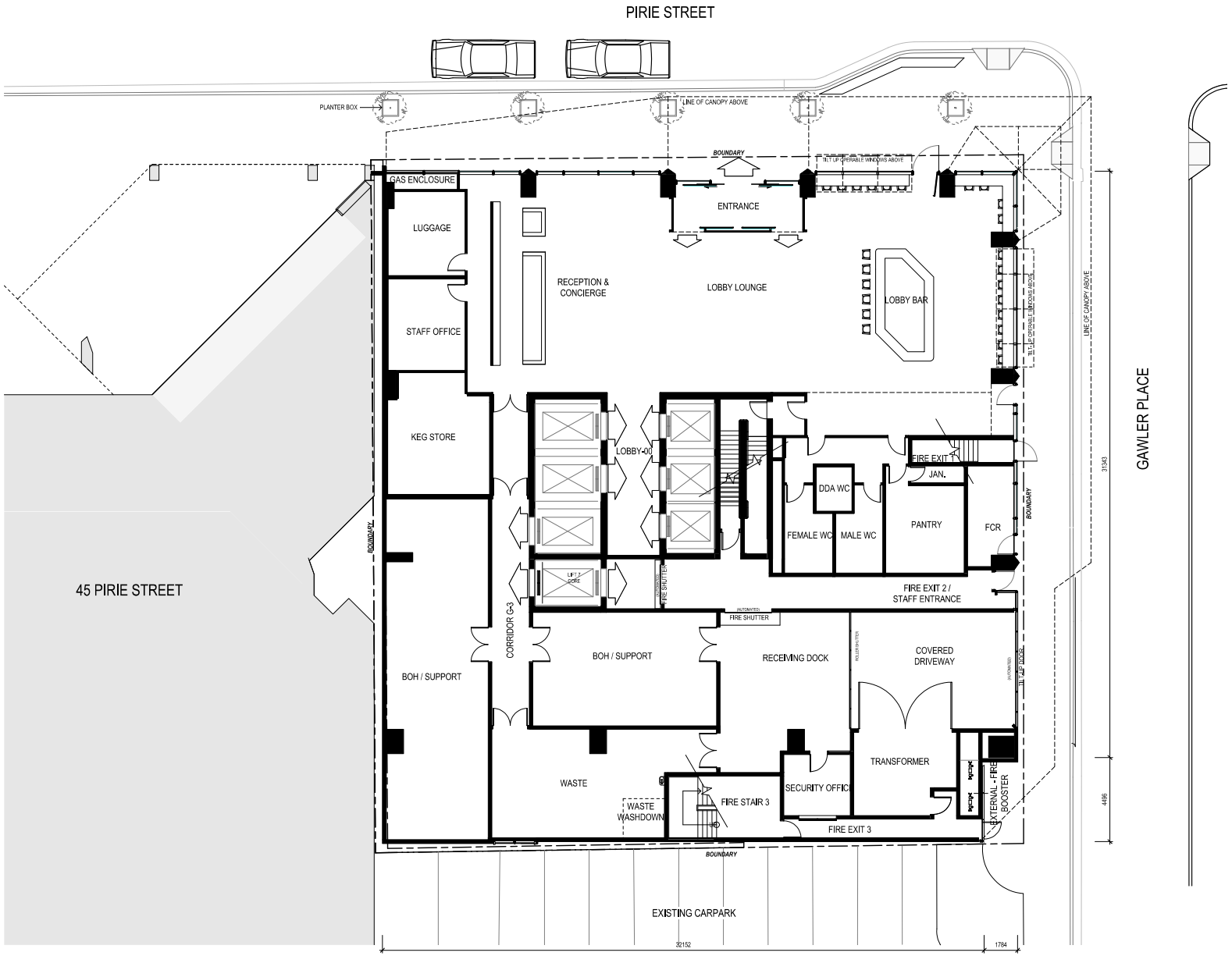
Refer to Appendix D and Appendix E for a copy of the stormwater calculations and preliminary Stormwater Management Plan.

2.6 SUMMARY

The Preliminary sketch plan contained within this report has been prepared to demonstrate the philosophy behind proposed management of the stormwater runoff from this development. The information provided is preliminary and will be subject to detailed design and documentation.

APPENDIX A

ARCHITECTURAL SITE PLAN



CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK100

LGF-GROUND FLOOR PLAN

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 1, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2052 Adelaide SA 5001 T 61 8 8111 9000 F 61 8 8111 9099 E adelaide@ghd.com.au W www.ghdwoodhead.com

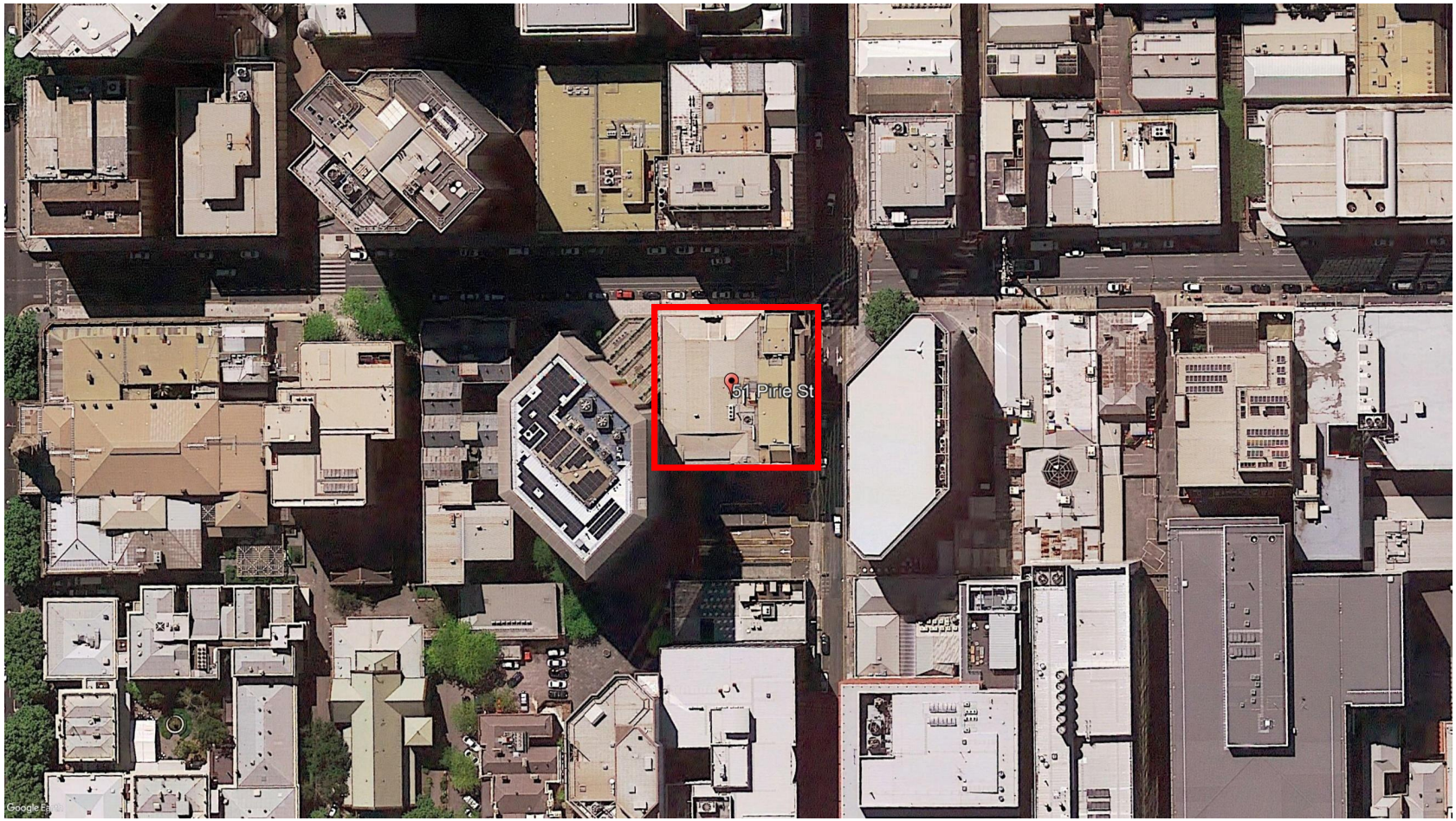
Plot Date: 22/05/2020 9:37:20 AM

Cad File No: BIM 360://33-18952 – 51 Pirie St/33-18952-ARC_V19.rvt

APPENDIX B

AERIAL

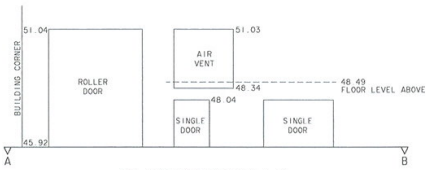
PHOTOGRAPHY



Aerial Photo - 2019

APPENDIX C

SURVEY



ENLARGEMENT SECTION A-B
NOT TO SCALE

EASEMENT NOTE:
ALLOTMENT 1 IN D13090 SUBJECT TO AN EASEMENT MARKED A FOR RIGHTS OF SUPPORT APPURTENANT TO ALLOTMENT 2 VIDE D13090 FOR DETAILS

LEGEND

- ETSA INSPECTION COVER
- FIRE PLUG
- GAS IP
- GRATE
- HYDRANT
- JUNCTION BOX
- JUNCTION BOX
- SEWER MANHOLE
- WATER METER
- SEWER I.P.
- SEWER I.O.
- STREET LIGHT
- SIGN POST
- STOP VALVE
- SEWER I.P.
- STORM WATER OUTLET
- INSPECTION COVER
- TELSTRA PIT (MEDIUM)
- TELSTRA PIT
- TELSTRA PIT (LARGE)
- TRAFFIC LIGHT
- FENCE

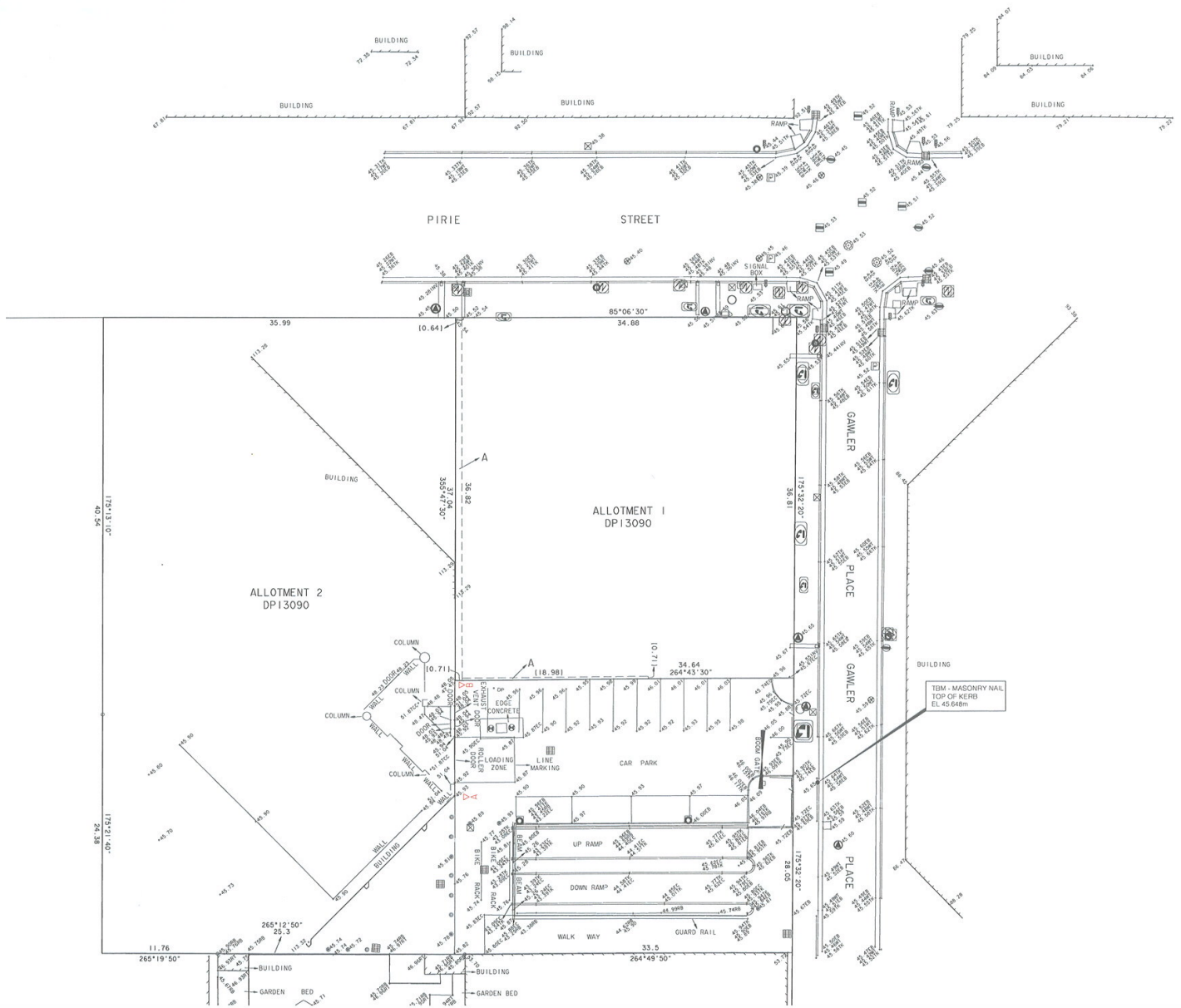
45.38EB INDICATES EDGE OF BITUMEN LEVEL
45.55TK INDICATES TOP OF KERB LEVEL
45.28INV INDICATES INVERT LEVEL
51.87CC INDICATES CONCRETE CEILING LEVEL
45.76RB INDICATES RETAINING WALL BOTTOM LEVEL
46.93RT INDICATES RETAINING WALL TOP LEVEL

The title boundaries shown hereon were not marked at the time of survey

BOUNDARY DATA CERTIFIED CORRECT

LICENSED SURVEYOR

DATE 17/8/2010



VIDE SHEET 2 FOR CONTINUATION

VIDE DETAIL AND LEVEL PLAN 19171T10 FOR BASEMENT DETAILS

ORIGINAL SIZE A1

LICENSED & ENGINEERING SURVEYORS
LAND & PROPERTY DEVELOPMENT
GEOGRAPHIC INFORMATION MANAGEMENT
PETROLEUM INFRASTRUCTURE SURVEY & DESIGN

FYFE Pty Ltd
A.C.N. 008 116 130
143 FULLARTON ROAD ROSE PARK SA 5067
PHONE (08) 8364 1000
FAX (08) 8364 0904
EMAIL info@fyfe.com.au
Brisbane (07) 3208 9600
Moombe (08) 8675 6665
Ballera (07) 4646 8377

PLAN DETAILS
COUNCIL : ADELAIDE CITY COUNCIL
MAP SHEET : 6628-42-J
CT REFS : 5292/63, 5227/807

0 5 10 15 20
SCALE 1: 200

LEVEL DATUM : AHD
LEVEL AUTHORITY : PSM 6628/42607 EL 45.556 (26 AUGUST 1999) INSTRUCTION : 19171-2-1
CO-ORD DATUM : ARBITRARY
DATA FILE/S : 19171-2-1-PLC.SDR

NO.	REVISION	STAFF	CHECK	DATE
0	ISSUED FOR INFORMATION	DXG	JJB	16/08/10
A	PRELIMINARY ISSUE	DXG	JJB	13/08/10

CHARTER HALL GROUP

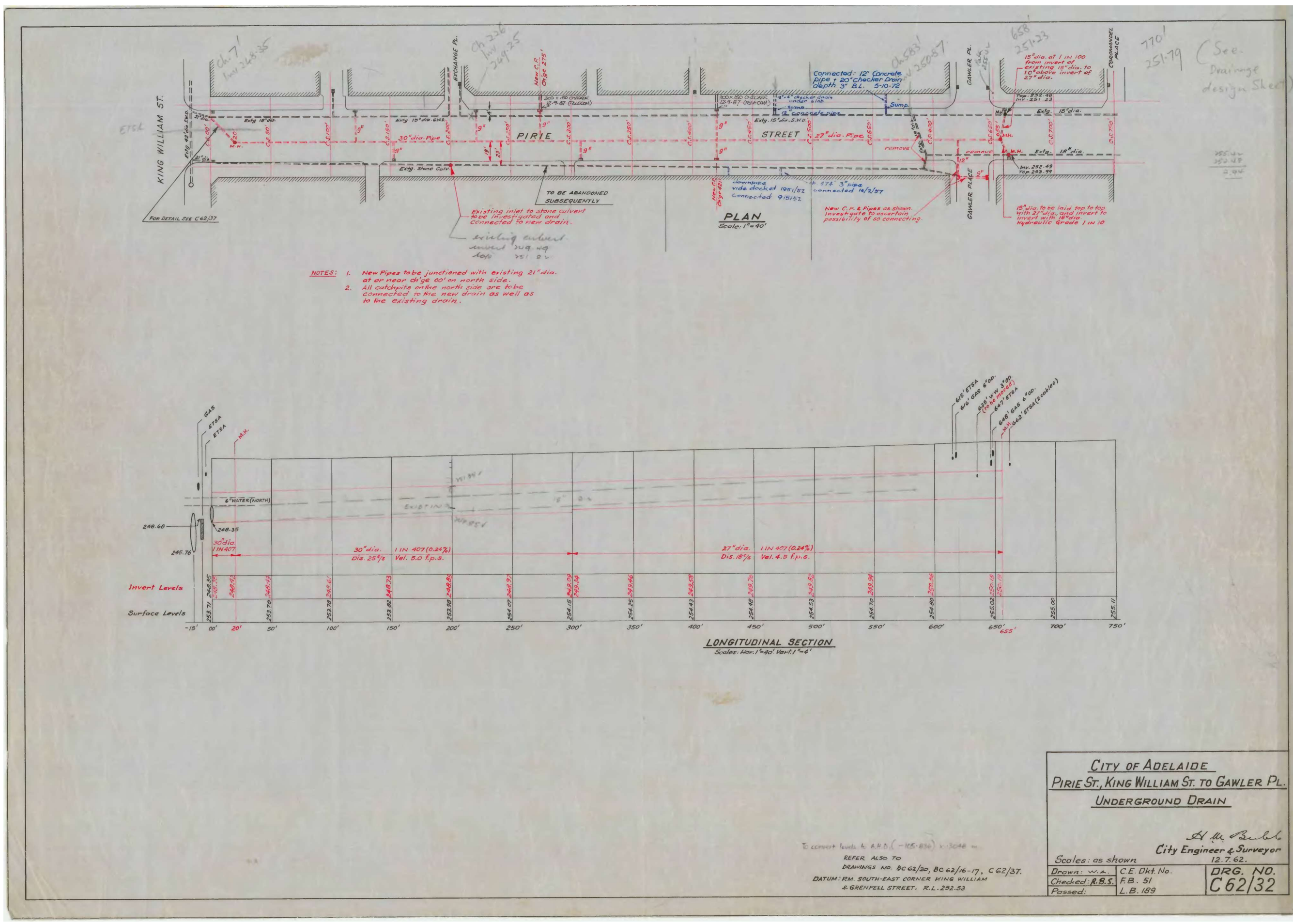
DETAIL AND LEVEL SURVEY - GROUND FLOOR STREET LEVEL
ALLOTMENT 1 AND 2 IN D13090
PIRIE STREET
HUNDRED OF ADELAIDE
ADELAIDE

DRAWING 19171T02-R0
DATE 17/08/2010
SHEET 1 OF 2
REV. 0

DETAIL AND LEVEL SURVEY

APPENDIX D

EXISTING COUNCIL STORMWATER DRAINAGE


KING WILLIAM ST.
EXCHANGE PL.
PIRIE
STREET
GAWLER PLACE
Connected: 12" Concrete pipe + 20" Checker Drain Depth 3' B.L. 5-10-72
Existing inlet to stone culvert to be investigated and connected to new drain.
existing culvert invert 249.49 top 251.82
TO BE ABANDONED SUBSEQUENTLY
Extg. Stone Culv.
30" dia. Pipe
27" dia. Pipe
PLAN
Scale: 1"=40'
NOTES: 1. New Pipes to be junctioned with existing 21" dia. at or near ch'ge 00' on north side.
2. All catchpits on the north side are to be connected to the new drain as well as to the existing drain.
Invert Levels
Surface Levels
LONGITUDINAL SECTION
To convert levels to A.H.D. (−105·836) x ·3048 m
REFER ALSO TO
DRAWINGS NO. BC 62/20, BC 62/16-17, C 62/37.
DATUM: P.M. SOUTH-EAST CORNER KING WILLIAM
& GRENFELL STREET. R.L. 252.53
CITY OF ADELAIDE
PIRIE ST., KING WILLIAM ST. TO GAWLER PL.
UNDERGROUND DRAIN
City Engineer & Surveyor
12.7.62.
Scales: as shown
Drawn: W.A.
Checked: R.B.S.
Passed:
C.E. Dkt. No.
F.B. 51
L.B. 189
DRG. NO.
C 62/32

APPENDIX E

CALCULATIONS

Wallbridge and Gilbert
60 Wyatt Street
Adelaide SA 5000

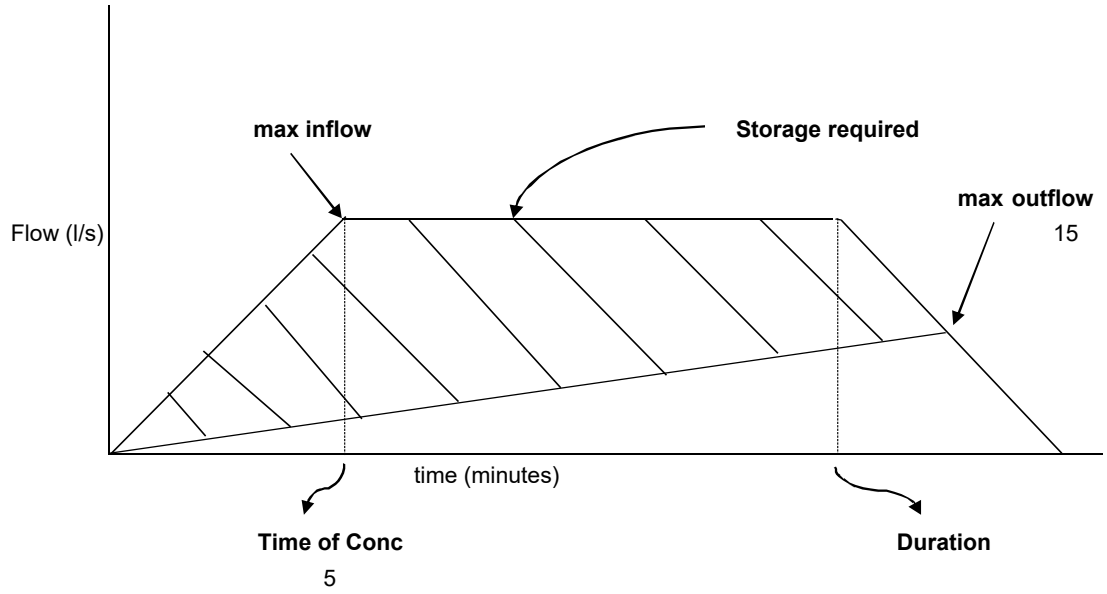
Basic Stormwater Detention Assessment

Title: 51 Pirie St

Date: 26/09/19
Job No: 150093

Area	1150	m²
Coeff Permeability	0.9	
Time of conc.	5	min
ARI Storm	100 Year	
Max Outflow Qp	15	l/sec

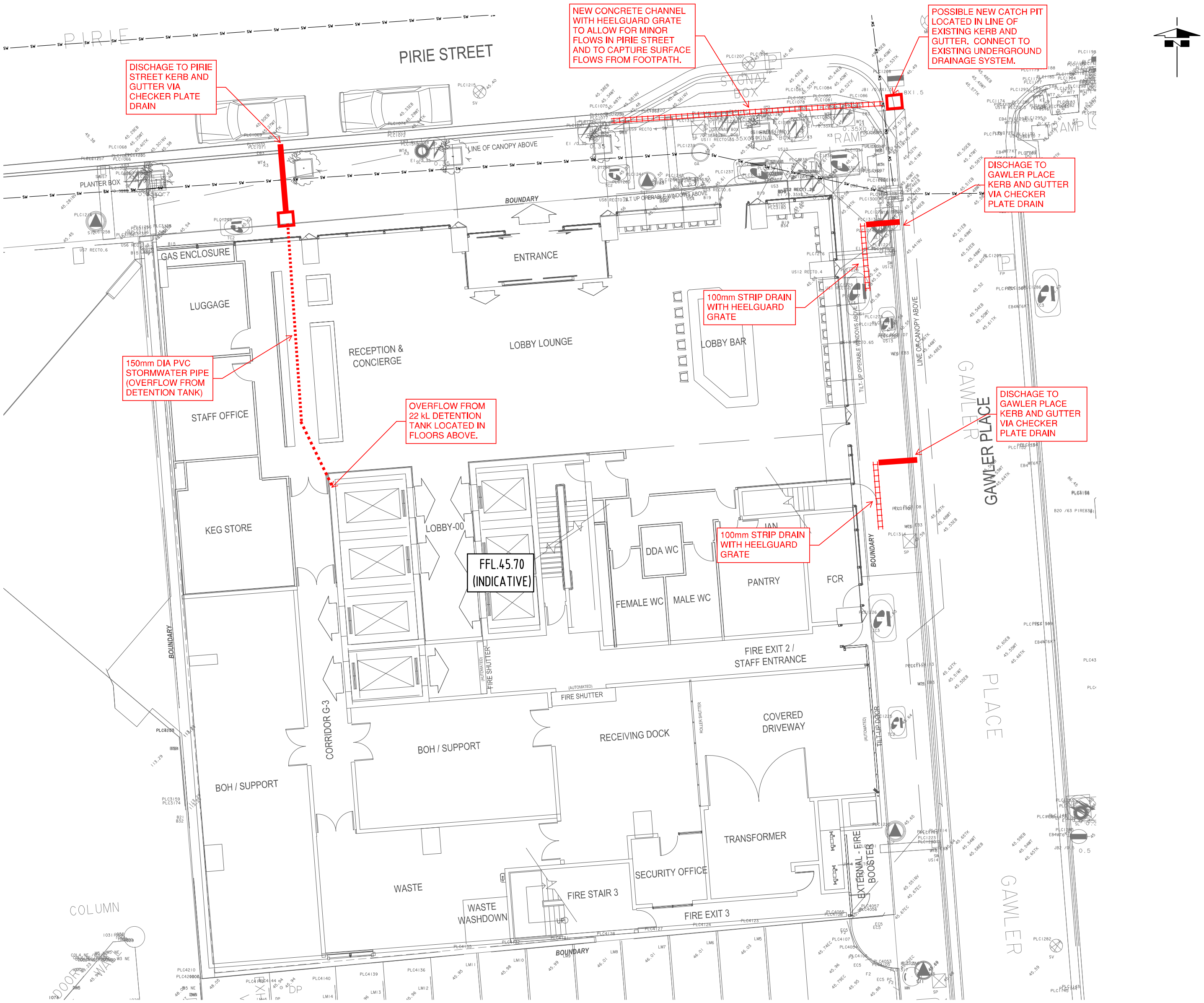
Duration min	Intensity mm/hr	Inflow rate Ip l/sec	Inflow Vol Vi m3	Max Storage Smax m3
5	186	53.5	16.04	11.54
6	172	49.5	17.80	12.85
8	152	43.7	20.98	15.13
10	136	39.1	23.46	16.71
15	110	31.6	28.46	19.46
20	94	27.0	32.43	21.18
25	82	23.6	35.36	21.86
30	74	21.3	38.30	22.55
35	67	19.3	40.45	22.45
40	62	17.8	42.78	22.53
45	57	16.4	44.25	21.75
50	53	15.2	45.71	20.96
55	49.5	14.2	46.96	19.96



Print Date : 30/04/2020

APPENDIX F

STORMWATER MANAGEMENT PLAN



When sheet printed full size, the scale bar is 100mm.

0 50 100mm

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHKD
A	01.02.19	PRELIMINARY ISSUE	ASF	C. HILL	
B	24.04.20	PRELIMINARY ISSUE	ASF	C. HILL	
C	19.05.20	PRELIMINARY ISSUE	ASF	C. HILL	

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60 Wyatt Street, Adelaide
South Australia 5000
Telephone 08 8223 7433
Email adelaide@wga.com.au

51 PIRIE ST
PIRIE ST, GAWLER PLACE
ADELAIDE, 5000
STORMWATER MANAGEMENT PLAN ©

A1 DRAWING NUMBER
Project Number / Sheet No. / Rev.
Design ASF Drawn ASF
WAD150093-SK- CC-0001 C

Andreas Fusco
CIVIL DESIGN DRAFTER

Telephone: 08 8223 7433

Email: afusco@wga.com.au

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Adelaide SA 5000
Telephone: 08 8223 7433
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South Melbourne VIC 3205
Telephone: 03 9696 9522

PERTH
634 Murray St
West Perth WA 6005
Telephone: 08 9336 6528

DARWIN
Suite 7/9 Keith Ln
Fannie Bay NT 0820
Telephone: 08 8941 1678
Facsimile: 08 8941 5060

WHYALLA
1/15 Darling Tce
Whyalla SA 5600
Phone: 08 8644 0432

WALLBRIDGE GILBERT AZTEC
www.wga.com.au
adelaide@wga.com.au

HOTEL DEVELOPMENT
51 PIRIE STREET, ADELAIDE

SUSTAINABILITY MANAGEMENT PLAN

Project No: LCE9672

MAY 2020

LUCID
CONSULTING AUSTRALIA

CONTENTS

1 INTRODUCTION

1.1 OBJECTIVES

This report has been prepared to support the development planning submission by outlining the sustainability strategy for the development This report outlines the Ecologically Sustainable Design (ESD) framework and initiatives that are proposed for the development, and details each of the primary ESD features.

The intent of each initiative is to add value to the project by improving the environmental performance of the development. Collectively, these initiatives will: -

- Reduce energy and water consumption;
- Reduce the ecological footprint of the building and its occupants;
- Improve thermal comfort and air quality within the building; and
- Improve occupant well-being.

1.2 PROJECT OVERVIEW

The proposed hotel development at 51 Pirie Street (Adelaide) is a predominantly Class 3 building under the National Construction Code which comprises:

Ground Floor	Entry lobby and reception, offices and luggage store, lounge and bar, pantry, back of houses areas, waste collection and loading/receiving dock
Mezzanine	Building Services Plant
Level 1	Pre-event spaces and event function rooms, amenities, kitchen and furniture and equipment stores
Level 2	Ballrooms and pre-function areas, kitchen, amenities, furniture and equipment store
Level 3	Administration offices, medical and storage rooms.
Level 4	Building Services Plant
Level 5	Employee areas including lounge, restaurant and change areas, housekeeping, pool plant and storage areas
Level 6	Pool deck, gymnasium, yoga studio and amenities
Levels 7-19	Standard guest rooms and housekeeping
Level 20	Guest rooms, housekeeping and the 'executive club' areas, including boardroom, lounge, dining and kitchen
Level 21	Sky bar and dining areas, kitchen, food and beverage store, market café and terrace

The following figure shows the site's location.

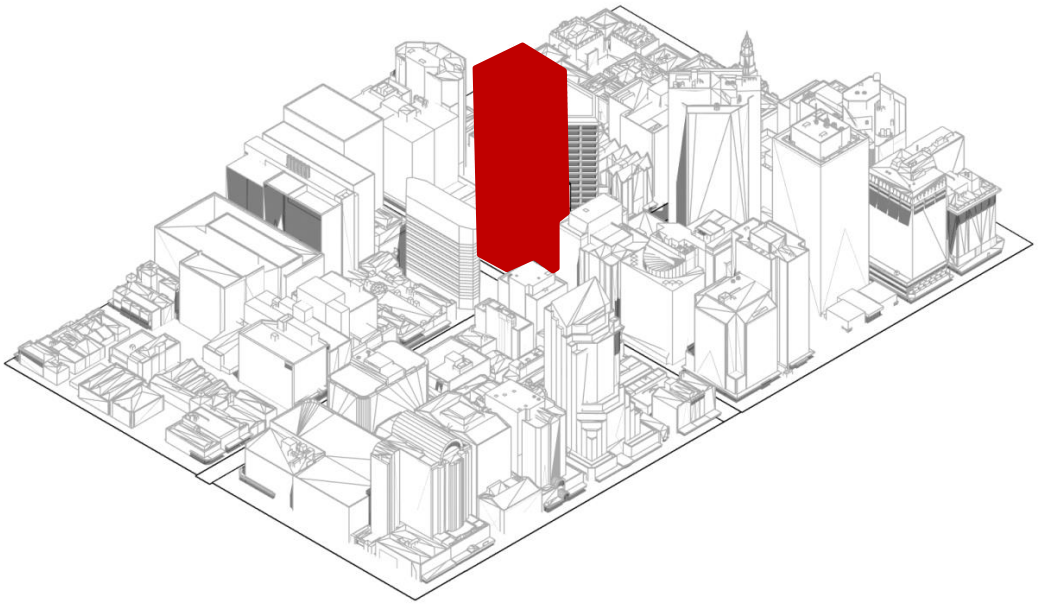

Figure 1: Isometric image showing location of proposed building (Image courtesy of GHD WOODHEAD)

1.3 SUMMARY OF KEY ESD INITIATIVES

The following initiatives have been adopted and incorporated into the design of the building to satisfy the above objectives and comply with the hotel operator sustainability brief:

- High performance building envelope; wall, floor and roof insulation R-values to meet best practice guidelines
- Glazing selected with consideration of building-specific features and climatic conditions to meet or exceed minimum NCC requirements
- Energy efficient massing (minimal exposed ceilings and floors)
- Master shutdown switches provided to each guest room allowing the lighting, air-conditioning and exhaust fans to be switched off when the unit is unoccupied
- Thermal mass provided through heavyweight construction material
- High levels of daylight provided to all hotel rooms
- LED lighting to be implemented throughout
- Motion sensors for lighting control within common areas
- High efficiency, hydronic central plant
- Heat recovery ventilation throughout guest rooms
- Economy cycle / carbon dioxide monitoring to common areas to increase mechanical system efficiency (free cooling, reduction of outside air in periods of low occupation)
- Water efficient fixtures and fittings (refer to Section 2.6 for proposed WELS ratings)
- End of trip facilities for employees
- Secure bicycle storage area for employees and visitors

- Low VOC paints used throughout the building
- Renewable energy - review the feasibility of a roof mounted Solar PV system
- Operational waste segregation and recycling
- Promotion of recycling construction waste in lieu of landfill disposal

1.4 SUSTAINABILITY FRAMEWORK & GOVERNANCE

The preferred hotel operator has an established, internationally recognised set of standards and guidelines for best practice sustainability outcomes.

A project specific framework must be implemented to source and track sustainability initiatives against the framework which covers the following project elements:-

- Site Characteristics
- Building Envelope Performance (Passive Solar)
- Potable Water System Efficiency
- Cooling, Heating and Domestic Hot Water Systems
- Ventilation
- Lighting
- Appliances
- FF & E
- Recycling
- Waste Management

Complies = Yes / No / NA (Not Applicable) / EXG (Exception Granted)					
Area / System	Item	Description	Requirement	Complies	Comments
1.7 Lighting					
Site, Exterior and Interior Lighting	Light Sources	Site, exterior and interior lighting shall be energy efficient, and primarily consist of -approved LED light sources. Halogen and other low efficacy lighting sources are not allowed.	Lighting performance and efficiencies shall follow the mandated requirements of the latest version of ASHRAE 90.1 (or country-specific code/standard where applicable) and the recommendations of the Illuminating Engineering Society's Design Guide for Hotel Lighting.		
	Total Lighting Power	The total power for lighting shall not exceed a minimum of 10% less than the prevailing energy code or recognized standard for the location of the project.	Total lighting power shall not exceed a minimum of 10% less than the baseline maximum allowed by the latest version of ASHRAE 90.1 or the country-specific energy code/standard applicable to the project.		

Figure 2: Excerpt of hotel operator sustainability framework (Source: Hotel operator brief)

2 SUSTAINABILITY INITIATIVES

2.1 EFFICIENT BUILDING THERMAL ENVELOPE

High performance insulation

An efficient building envelope is a highly robust feature as its benefits will remain constant throughout the life of the building, and are also largely independent of the behaviour of the occupants. For this development, the performance of wall, floor and ceiling/roof insulation is to meet best practice guidelines with consideration to relevant items of objective 30 'Energy Efficiency', of the Adelaide City Council's Development Plan, refer to appendix A.

Glazing Performance

Specification of glazing units will consider the optimal thermal requirements of each space, the orientation of the glazing itself, and the Adelaide climate. As a result, accommodation units will benefit from free heating provided by the sun during winter while minimising solar heat gains during summer.

Energy efficient massing

The massing has been optimised such that all floorplate boundaries of Levels 5 to 21 are identical, which minimises the area of exposed floors and ceilings within guest rooms and throughout the building. Insulation will be applied to all guest rooms and common areas where ceilings/floors are exposed to non-conditioned or external spaces above/below.

LEVEL 6 | POOL DECK

LEVEL 7-19 | TYPICAL GUEST SUITES

Figure 3: The building's footprint remains consistent on the majority of floors, resulting in minimal exposed floors and ceilings throughout the building.

2.2 THERMAL MASS

The building has been designed with concrete slabs and columns for the core structure. As a result, the building has a high level of thermal mass, which combined with tailored shading system assists in passively maintaining comfortable temperatures within the accommodation units for longer periods. This is achieved by:

1. In summer, delaying the peak temperature that occurs throughout the day (hence the space is more comfortable for a longer period during the morning), and reducing the overall peak temperature

2. In winter, absorbing heat throughout the day which reduces the requirement for heating at night time.

2.3 ENERGY EFFICIENT SERVICES DESIGN

Selection of energy efficient practices will be integrated into electrical and mechanical services, such as high efficiency LED lighting throughout the development and mechanical plant that exceeds Minimum Energy Performance Standards (MEPS), utilising a high efficiency, hydronic central plant and heat recovery ventilation throughout guest rooms.

To further reduce operational costs and carbon emissions, the feasibility of carbon dioxide monitoring for outside air reduction where possible and economy cycle operation for free cooling where available will be assessed during the design phase.

Lighting in common areas as well as mechanical plant operation will be controlled automatically via motion sensors and time schedules to ensure services only operate when required. Similarly, master shutdown switches provided to each guest room ensures the lighting, air-conditioning and exhaust fans are switched off when the unit is unoccupied.

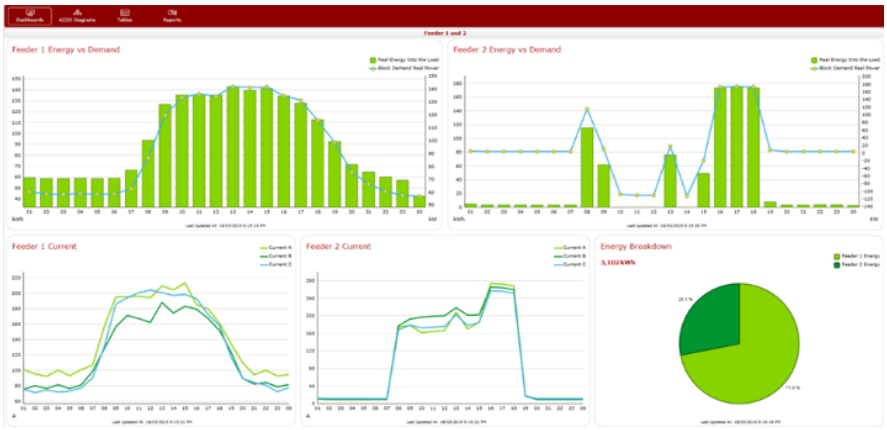

Figure 4: Energy management dashboard example

2.4 INDOOR ENVIRONMENT QUALITY

Painted surfaces throughout the building will be achieved using low VOC (volatile organic compounds) paints, reducing off-gassing and improving air quality within interior spaces of the building, particularly guest rooms.

The development will provide excellent levels of daylight to the guest rooms and common areas due to the highly glazed facade. All glass will achieve a high visual light transmittance. Higher daylight levels will improve visual comfort and reduce energy usage for lighting.

Figure 5: Highly glazed façade maximises daylight to guest rooms and areas (Image courtesy of GHD WOODHEAD)

2.5 WATER EFFICIENCY

Selection of fittings and fixtures is paramount for achieving a water efficient building. All fixtures and fittings shall be selected as low-flow where possible. The following minimum WELS ratings are proposed:-

- Taps with a WELS rating of not less than 5 Stars (6.0 L/min)
- Shower heads with a WELS rating of not less than 3 Stars (9.0 L/min)
- Water closets with a WELS rating of not less than 4 Stars (3.5 L/flush, dual flush)

The following table demonstrates the potential water savings expected to be achieved per person (targeting >30%) resulting from the use of these low-flow fittings.

Equipment	Benchmark Hotel		Pirie St Hotel Guest Room		
	Flow Rate	Daily Consumption	WELS	Flow Rate	Daily Consumption
Taps	9.0 L/min	48 L	5 Star	6.0 L/min	32 L
WC's	8.0 L/flush	48 L	4 Star	3.5 L/flush	21 L
Showers	15.0 L/min	135 L	3 Star	9.0 L/min	81 L
Total	-	231 L	-	-	134 L

2.6 RENEWABLE ENERGY

The feasibility of a roof mounted Solar PV system will be assessed for the site, including size of the system and determining is environmental and economic value.

Renewable energy generation systems on site in the form of a solar photovoltaic (PV) array can provide a further opportunity to reduce operational costs and carbon emissions.

Solar photovoltaic (PV) panels connected to the building's electrical infrastructure convert solar radiation into electricity, which can then be consumed directly within the building, offsetting electricity that would otherwise be imported from the grid.

Electricity generated by the PV system that is not consumed immediately within the building would be exported to the grid. However, given likely electrical demand of this development, it is anticipated that the quantity of exported electricity will be minimal.

Figure 6: Rooftop Solar PV

2.7 SUSTAINABLE TRANSPORT

A secure bicycle storage area will be provided to employees and visitors to facilitate and encourage low-carbon forms of transportation in line with objectives within the City of Adelaide's Development Plan, supporting a 'shift' towards 'sustainable transport modes', refer to appendix A. End of trip facilities will also be provided for staff.

These sustainable transport initiatives contribute towards achieving the Adelaide City Council's target to achieving a balance between transport options, by providing electric vehicle charging infrastructure and world class cycling infrastructure with a view to reducing city carbon emissions by 35% by 2020 (from 2006-07 baseline). This is presented in the Council's "Smart Move Transport and Movement Strategy Interim Action Plan 2016-2018"; refer to Appendix B

2.8 OPERATIONAL AND CONSTRUCTION WASTE

Throughout the construction process, the recycling of general construction waste will be promoted in lieu of landfill disposal. Recycling construction materials saves energy as it reduces the consumption of natural resources, it also has economic benefits as recycling or reusing materials reduces associated disposal and transportation costs.

Operational waste will be segregated into individual waste streams, including general, recycling, organics and paper, to facilitate optimum resource recovery and reduce contamination in recycling streams that leads to the disposal of recyclables into landfill. A dedicated waste storage area is provided on the ground floor, conveniently adjacent the loading/receiving docks, refer to figure below.

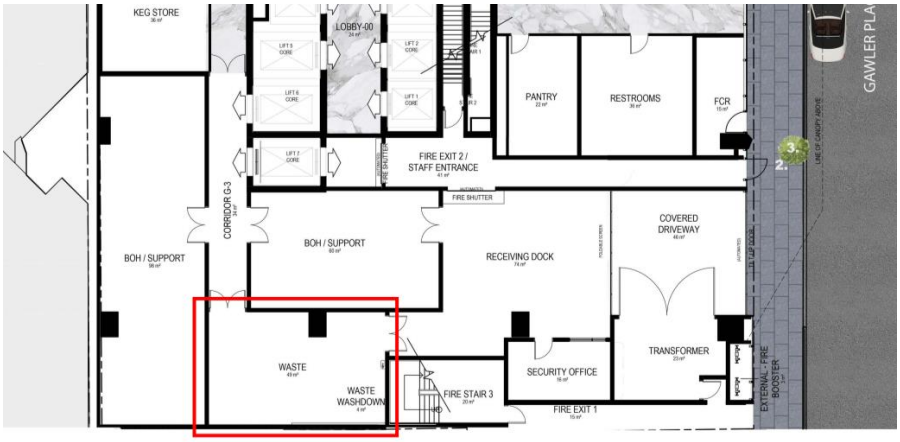

Figure 7: Proposed location of waste storage area on ground floor

2.9 RESPONSIBLY SOURCED MATERIALS

The feasibility of sourcing timber that is certified by the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC) is recommended to be considered during detailed design phase and implemented where possible, to encourage sustainable forestry management. Forests around the globe act as carbon sinks, drawing the greenhouse gas from the atmosphere and storing this within the trees.

Figure 8: FSC and PEFC certification organisations (https://au.fsc.org/en-au and https://www.pefc.org/)

Selecting pipework, flooring, blinds and cables that achieve Best Practice PVC manufacturing guidelines (BEP) as recognised by the Vinyl Council Australia should be given priority where possible to reduce the environmental and human health impacts of polyvinyl chlorine.

Figure 9: Vinyl Council Australia and Best Practice PVC (https://www.vinyl.org.au/in-greenstar/best-practice-pvc-product-register)

Furthermore, it is recommended that preference is placed on procurement of products and materials which are certified to a third party certification scheme, such as Good Environmental Choice Australia (GECA). This provides verified assurance of lower environmental and health impacts and encourages change within the industry.

Figure 10: Good Environmental Choice Australia (http://www.geca.eco/)

2.10 NON-TOXIC MATERIALS AND PAINTS

Volatile Organic Compounds (VOCs) are off-gassed from building materials and furniture, which pollute indoor air, resulting in reduced air quality and impacting occupant health. Where feasible preference will be given to selecting materials with low or no total VOC levels, refer to figure 6 for recommended total VOC levels. This is particularly relevant to carpets, adhesives, sealants and paints. In the case of paints, it is recommended that products with zero VOC content be selected where possible to improve air quality and reduce odour in newly painted spaces. In addition, consideration should be given to selecting engineered wood products with low formaldehyde levels.

Product Category	Max TVOC content recommended of ready to use product
General Purpose Adhesives and Sealants	**50 g/L**
Interior wall and ceiling paint, all sheen levels	**Zero preferred** (max 16g/L)
Trim, varnishes and wood stains	**75 g/L**
Primers, sealers and prep coats	**65 g/L**
One and two pack performance coating for floors	**140 g/L**
Acoustic, architectural and fire-retardant sealants and adhesives, and waterproofing membranes	**250 g/L**
Structural glazing adhesives, wood flooring and laminate adhesives and sealants	**100 g/L**
Carpet	**0.5 mg/m² per hour** (consider carpet products certified through Australian Institute of Carpets Environments Certification Scheme)

Figure 11: Maximum recommended TVOC content as per Green Star guidelines

APPENDIX A – EXTRACTS FROM ADELAIDE CITY COUNCIL'S DEVELOPMENT PLAN

Bicycle Access

OBJECTIVES

Objective 64: Greater use of bicycles for travel to and within the City and the improvement of conditions, safety and facilities for cyclists.

Objective 65: Adequate supply of secure, short stay and long stay bicycle parking to support desired growth in City activities.

PRINCIPLES OF DEVELOPMENT CONTROL

233 Development should have regard to the bicycle routes identified within Map Adel/1 (Overlay 3) by:

(a) limiting vehicular access points; and

(b) ensuring that vehicles can enter and leave the site in a forward direction, thereby avoiding reverse manoeuvres.

234 An adequate supply of on-site secure bicycle parking should be provided to meet the demand generated by the development within the site area of the development. Bicycle parking should be provided in accordance with the requirements set out in Table Adel/6.

235 Onsite secure bicycle parking facilities for residents and employees (long stay) should be:

(a) located in a prominent place;

(b) located at ground floor level;

(c) located undercover;

(d) located where passive surveillance is possible, or covered by CCTV;

(e) well lit and well signed;

(f) close to well used entrances;

(g) accessible by cycling along a safe, well lit route;

(h) take the form of a secure cage with locking rails inside or individual bicycle lockers; and

(i) in the case of a cage have an access key/pass common to the building access key/pass.

236 Onsite secure bicycle parking facilities for short stay users (i.e. bicycle rails) should be:

(a) directly associated with the main entrance;

(b) located at ground floor level;

(c) located undercover;

(d) well lit and well signed;

(e) located where passive surveillance is possible, or covered by CCTV; and

(f) accessible by cycling along a safe, well lit route.

237 Access to bicycle parking should be designed to:

(a) minimise conflict with motor vehicles and pedestrians;

(b) ensure the route is well signed and well lit including the use of road markings such as a bicycle logo if appropriate to help guide cyclists; and

(c) ensure the route is unhindered by low roof heights.

Design Technique *(this is ONE WAY of meeting the above Principle)*

237.1 *In relation to Principle 237(a):*

(a) avoid unnecessary vehicular crossing points, particularly with potential reversing movements from motor vehicles; and

(b) utilise the shortest, most direct route for cycles to reach the destination bicycle parking

237.2 *In relation to Principle 237(c), a minimum clearance of 2 metres for new, permanent structures.*

238 To facilitate and encourage the use of bicycles and walking as a means of travel to and from the place of work, commercial and institutional development should provide on-site shower and changing facilities.

(Extract from p.75-77)

Energy Efficiency

OBJECTIVE

Objective 30: Development which is compatible with the long term sustainability of the environment, minimises consumption of non-renewable resources and utilises alternative energy generation systems.

All Development

106 Buildings should provide adequate thermal comfort for occupants and minimise the need for energy use for heating, cooling and lighting by:

(a) providing an internal day living area with a north-facing window, other than for minor additions*, by:

(i) arranging and concentrating main activity areas of a building to the north for solar penetration; and

(ii) placing buildings on east-west allotments against or close to the southern boundary to maximise northern solar access and separation to other buildings to the north.

(b) efficient layout, such as zoning house layout to enable main living areas to be separately heated and cooled, other than for minor additions;

(c) locating, sizing and shading windows to reduce summer heat loads and permit entry of winter sun;

(d) allowing for natural cross ventilation to enable cooling breezes to reduce internal temperatures in summer;

(e) including thermal insulation of roof, walls, floors and ceilings and by draught proofing doors, windows and openings;

(f) ensuring light colours are applied to external surfaces that receive a high degree of sun exposure, but not to an extent that will cause glare which produces discomfort or danger to pedestrians, occupants of adjacent buildings and users of vehicles;

(g) providing an external clothes line for residential development; and

(h) use of landscaping.

(Extract from p.45-46)

APPENDIX B – EXTRACTS FROM ADELAIDE CITY COUNCIL'S "SMART MOVE" STRATEGY

Balancing transport options

The City of Adelaide will seek to balance the full range of transport options including public transport, pedestrians, motor vehicles, cyclists and two-wheeled vehicles. Actions will focus on meeting the needs of multiple movement forms and will not disadvantage a particular transport type. In particular, infrastructure will be installed to minimise impacts on car parking, public safety, accessibility and traffic flow, with every effort made to mitigate unavoidable impacts.

Sourced directly from the City of Adelaide's Strategic Plan 2016-2020, which states a desired future for Adelaide to be the easy movement of people into, out of and around the city. Achieving a better balance between the full suite of transport options including vehicles, public transport, cycling and walking is vital to a prosperous city. Achieving this balance between various modes of transport is a key refinement outlined by this Smart Move Interim Action Plan 2016-18.

(Extract from p.14)

Cycling

North-south bikeway (6)
Design and implement the Frome Street, Frome Road and Lefevre Terrace bikeway route, including reconstruction of the existing Frome Bikeway to accommodate four lanes of traffic during peak periods in collaboration with DPTI.

East-west bikeway (7)
Assess east-west bikeway route options; and select, design and implement a preferred route in collaboration with DPTI.

Public bike share scheme study
Undertake a feasibility study to research, identify and assess point to point public bike share options, whilst continuing to operate the Adelaide Free Bike scheme.

Bikeways network implementation plan
Research, plan and prioritise a City of Adelaide Bikeways Network to guide future bikeway projects.

End of trip bike facilities
Install racks and/or on-street bike parking nodes where demand is high and impact on car parking and pedestrians is low.

Cycling education and promotion
Promote and encourage safe cycling via a range of activities and events, including annual cordon counts.

(Extract from p.19)

Green Travel

Electric vehicle incentives
Install electric vehicle charging points, both on-street and off-street, and identify and implement incentives to encourage increased electric vehicle purchase and use, including investigating the viability of a community electric vehicle bulk purchase scheme.

Sustainable travel behaviour change
Continue to work with DPTI to implement sustainable travel behaviour change programs, including for council staff.

Car share expansion
Review existing car share schemes and operators, and develop a policy position to support sustainable growth of the industry.

Increase council's electric vehicle purchasing
Continue to implement procurement plans for Council owned passenger vehicles to be low or zero emission, and investigate opportunities for electric heavy vehicle use.

(Extract from p.20)

4. Cycling

Strategic Plan 2016-2020 Alignment:

- Create world class infrastructure by adopting a three year rolling capital works program for the City and Park Lands to ensure all new and existing infrastructure are delivered and maintained to high quality standards, incorporating universal access, technology, heritage, arts and green elements.
- City carbon emissions will be reduced by 35% from the 2006-07 baseline by 2020, on the way to an 80% real reduction by 2040.
- Plan and deliver priority walking and cycling routes throughout and beyond the city and Park Lands, including the provision of East-West and North-South cycleways and connections.
- Plan and seek partnerships for major city infrastructure projects, including cycling corridors, major transport routes, laneways and city squares.

(Extract from p.32-33)

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22 May 2020

51 Pirie Street, Adelaide— Environmental Wind Conditions

Dear Louis,

Please find herein comments regarding the expected change in wind conditions around the proposed development caused by the proposed architectural amendments. This letter report is to discuss the impact of the geometric changes to the development on the local wind conditions in and around the site for the development application process.

The GHDWoodhead drawings prepared for this application DRP 2 dated May 2020, have been reviewed from an environmental wind perspective at ground level. The qualitative wind report submitted with the original DA report was supported with the quantitative Arup CFD assessment report dated October 2019. Comparative drawings between the current design, and those used for the quantitative CFD assessment report are presented in Figure 3 to Figure 2. The main geometric change from a wind perspective is the reduction in height from 109 m in the original design to 94 m in the current design.

The CFD assessment of wind conditions in and around the site was conducted for the original design. The reduction in building height is expected to slightly reduce the measured wind speed on the ground level, thereby improving the predicted ground level wind conditions reported in Arup (2019). The wind conditions in the report were found to be suitable for the intended use of the ground plane as a pedestrian accessway.

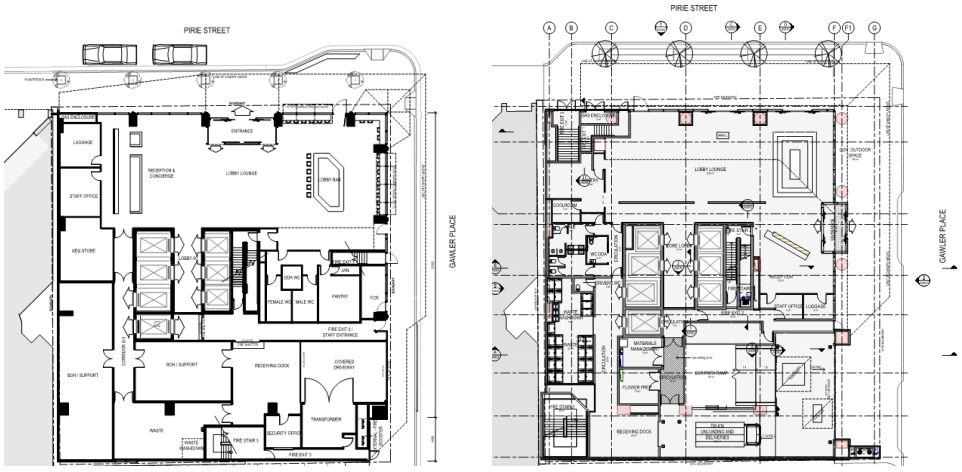

Figure 1. Ground floor plan: new proposed design (L), CFD simulated previous design (R)

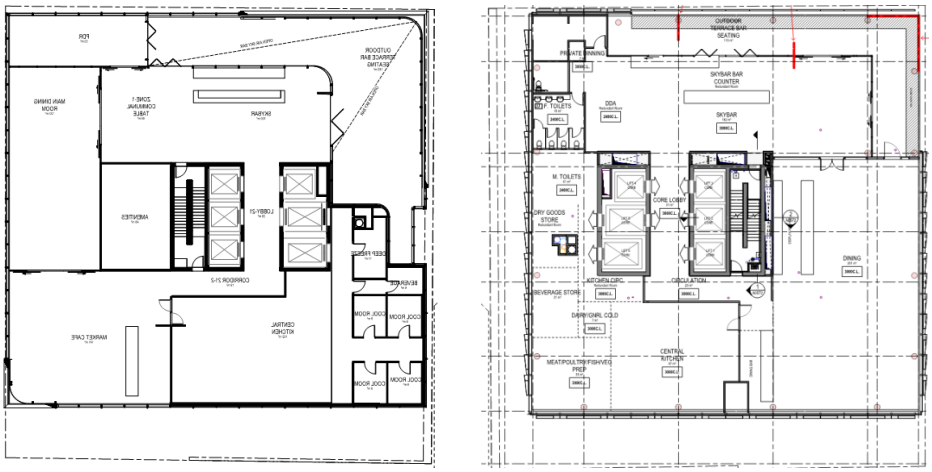

Figure 2. Skybar floor plan: proposed design (L), CFD simulated previous design (R)

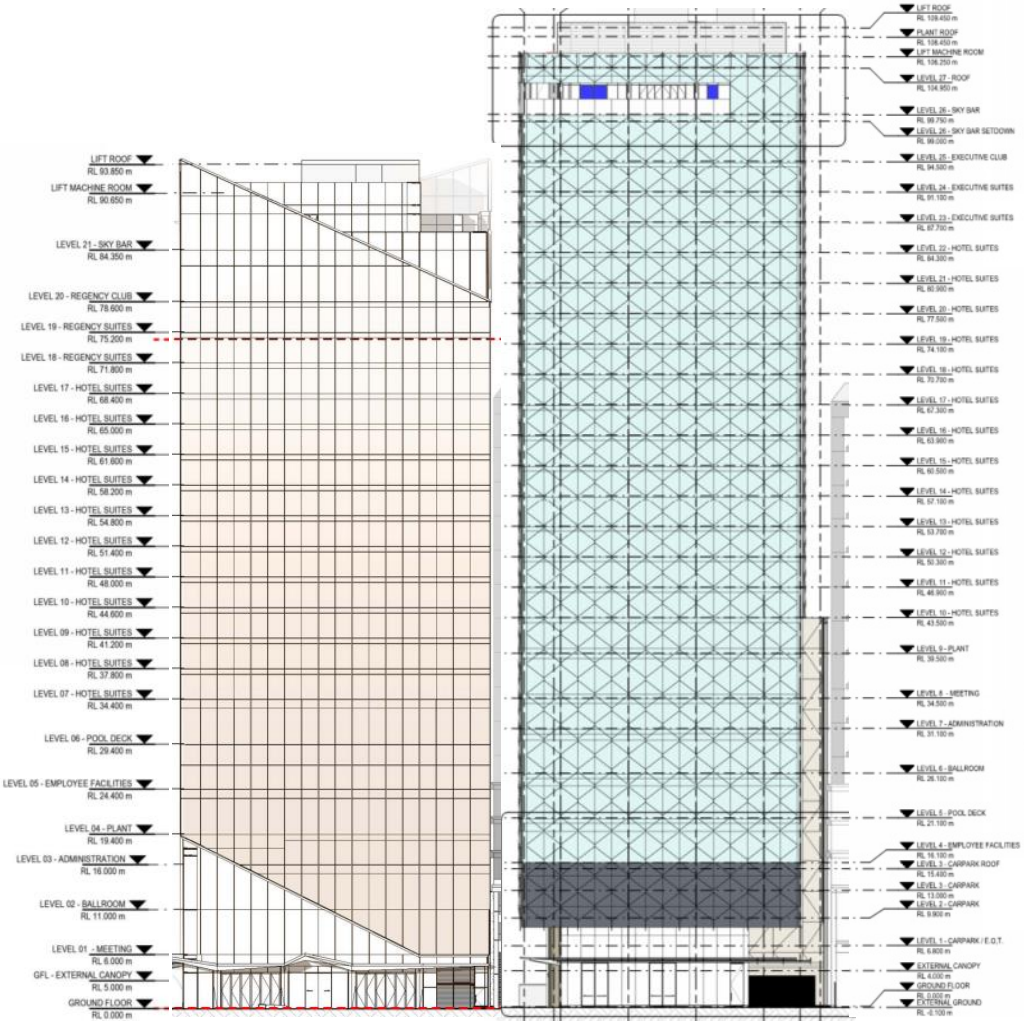

Figure 3. North elevation: new proposed design (L), CFD simulated previous design (R)

Additional Advice

Comfort condition along Pirie Street

From the revised drawings, it is understood that the pedestrian walkway to the north of the building along Pirie Street is proposed for a potential outdoor sitting and dining. To further assist with the design of this area, the probabilistic wind condition is depicted in Figure 4. It is shown that about 55% of time this space is below 2 m/s, which is the wind speed associated with the classification for outdoor dining based on Lawson wind comfort criteria. For more casual café style usage (mean wind speed < 4 m/s), the wind conditions are suitable for about 90% of time. The wind conditions are more suitable remote from the building corner.

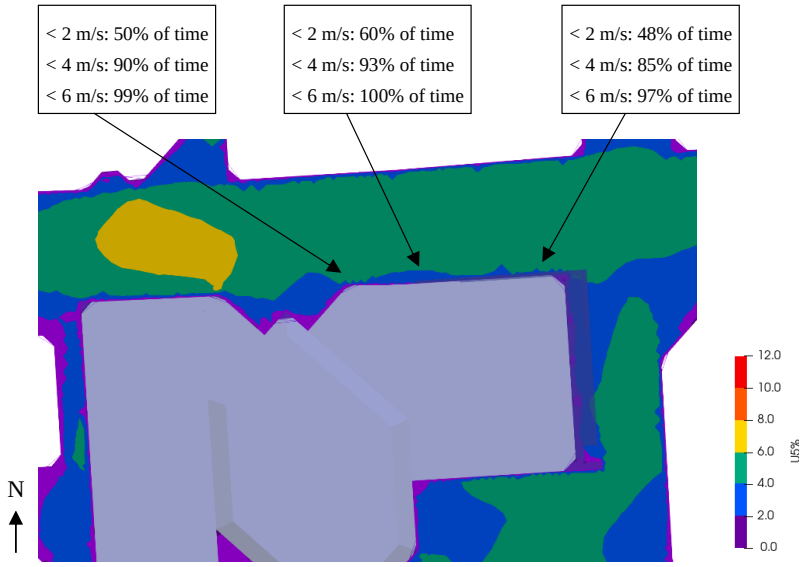

Figure 4. Classification of wind comfort around 51 Pirie Street

I hope this is of assistance, please do not hesitate to contact me on 9320 9559 if you would like to discuss any aspect of this report.

Sina Hassanli

Wind & CFD specialist

References

Arup (2019), 51 Pirie Street, Adelaide, Environmental Wind Assessment

GHD Woodhead

51 Pirie Street, Adelaide

Environmental Wind Assessment

Wind

Rev.01 | 18 February 2019

Job number 265820-00

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ARUP

Document Verification

ARUP

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Revision	**Date**	**Filename**	51 Pirie Street_Arup_REP_20190213		
Initial release	13 Feb 2019	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Sina Hassanli	Graeme Wood	Graeme Wood
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			Prepared by	Checked by	Approved by
		Name	Graeme Wood	Graeme Wood	Graeme Wood
		Filename			
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		Name			
				Issue Document Verification with Document	✓

Executive summary

Arup have been commissioned by GHD Woodhead to provide an experience-based impact assessment of the proposed development at 51 Pirie Street, Adelaide on the wind conditions in and around the site for pedestrian comfort and safety.

Arup have provided qualitative advice for the impact of the proposed development on pedestrian wind comfort. From a wind comfort perspective, the wind conditions at the majority of locations around the site would remain similar to the existing condition and would be expected to be classified as suitable for pedestrian standing activities with the exception of area to the east of the development, which would be classified as suitable for pedestrian walking activities. These conditions would be considered suitable for the intended use of the space. All locations in and around the proposed development would be expected to meet the safety criterion.

To quantify the qualitative advice provided in this report, numerical or physical modelling of the development would be required, which is best conducted during detailed design.

Contents

Tables

Figures

Disclaimer

This assessment of the site environmental wind conditions is presented based on engineering judgement. In addition, experience from more detailed simulations have been used to refine recommendations. No detailed simulation, physical or computational study has been made to develop the recommendations presented in this report.

1 Introduction

GHD Woodhead have engaged Arup to provide a qualitative environmental wind assessment for the proposed development at 51 Pirie Street, Adelaide. This report outlines the assessment for wind engineering services related to pedestrian wind comfort and safety on the ground level in and around the development. To quantify the qualitative advice provided in this report, numerical or physical modelling would be required.

2 Wind assessment

2.1 Local wind climate

Weather data recorded at Adelaide Airport by the Bureau of Meteorology have been analysed for this project. The analysis is summarised in Appendix 1. The prevailing wind directions in this region is from the north-east and south-west, with strong winds from the west quadrant. A general description on flow patterns around buildings is given in Appendix 2.

2.2 Specific wind controls

Wind comfort is generally measured in terms of wind speed and rate of change of wind speed with distance or time, where higher wind speeds and gradients are considered less comfortable. Air speed has a large impact on thermal comfort and are generally welcome during hot summer conditions. This assessment is focused on wind speed in terms of mechanical comfort.

There have been many wind comfort criteria proposed, and a general discussion is presented in Appendix 3. The Adelaide (City) Development Plan has no specific wind assessment controls or criteria. The wind controls used in this wind assessment are based on the work of Lawson (1990) as described in Figure 11 and Table 1. These have both a comfort and safety component and tend to better describe the usage of the space from a comfort perspective. Converting the wind climate to the site location, the mean wind speed exceeded 5% of the time would be approximately 4 m/s at pedestrian level. With reference to Table 1, this wind speed is on the boundary of pedestrian sitting and standing conditions and from our knowledge of the environs would be considered realistic.

Table 1 Pedestrian comfort criteria for various activities

Comfort (max. of mean or GEM wind speed exceeded 5% of the time)	
<2 m/s	Dining
2-4 m/s	Sitting
4-6 m/s	Standing
6-8 m/s	Walking
8-10 m/s	Objective walking or cycling
>10 m/s	Uncomfortable
Safety (max. of mean or GEM wind speed exceeded 0.022% of the time)	
<15 m/s	General access
<20 m/s	Able-bodied people (less mobile or cyclists not expected)

2.3 Site description

The proposed development at 51 Pirie Street, Adelaide is located in the heart of Adelaide city on the north-west corner of the block bounded by Flinders, King William, and Pirie Streets, and Gawler Place, Adelaide, Figure 1. The site is surrounded by mid- to high-rise buildings to a radius of approximately 500 m in all directions and low- to medium-rise buildings further from the site. The topography of surroundings is essentially flat from the wind perspective.

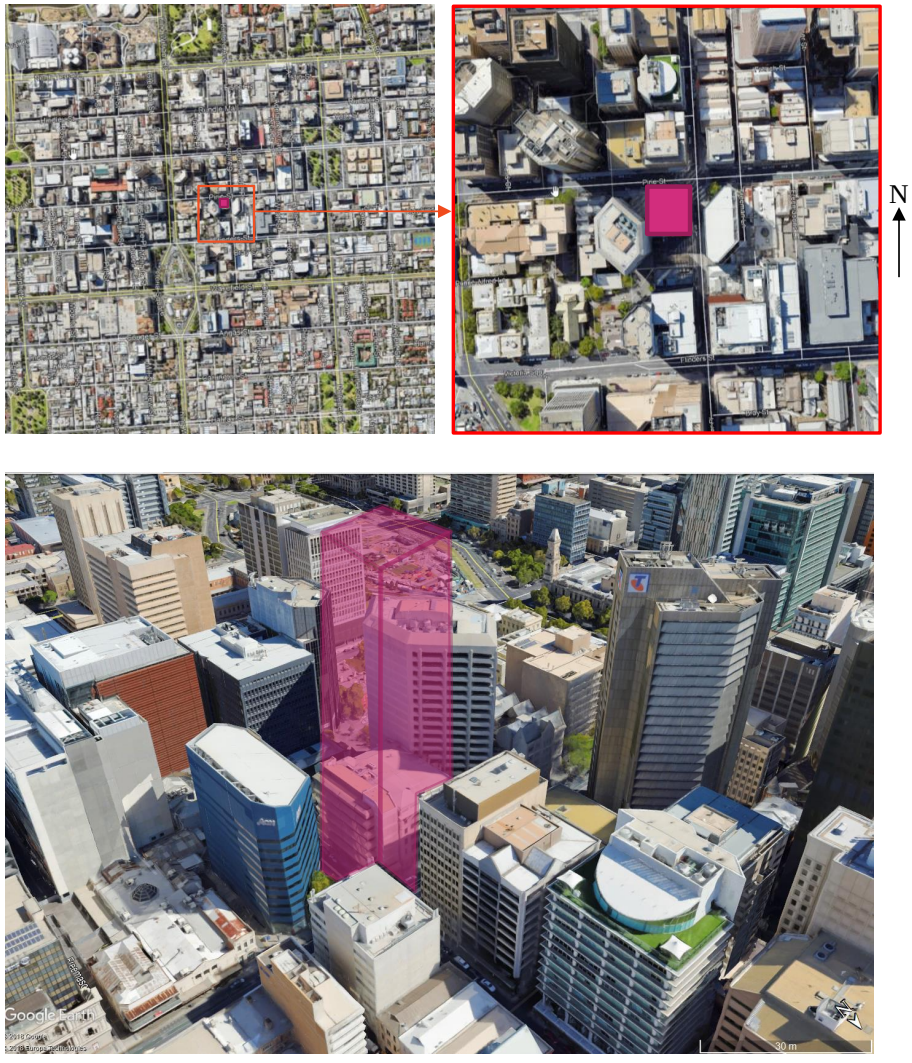

Figure 1: Site location plan view (T), 3d close-up view from north-west with indicative massing of the proposed developed (source: Google Earth Pro)

The proposed mixed-used development is of a prismatic shape rising to approximately 115 m above the ground level, Figure 2. The tower is significantly taller than the immediate surrounding buildings. There is a two-story colonnade to the east of the proposed design, a tower setback of approximately 4.4 m from

south façade on Level 3, and tower setback of approximately 3 m from the west façade on Level 10.

Figure 2: North elevation (TL), East elevation (TR), and Floor plans: Ground floor (ML), Level 1 (MR), Level 2 (BL), and Levels 11-21 (BR).

2.4 Predicted wind conditions on ground plane

This section of the report outlines the predicted wind conditions in and around the site based on local wind climate, topography, and building form. The street grid pattern of Adelaide CBD is at an angle to the prevailing wind directions and therefore does not encourage significant channelled flow along Pirie Street and Gawler Place. The height of the proposed development is considerably higher than surrounding buildings, and would therefore be expected to have an impact on the local wind conditions.

Being located in the middle of the city, the lower levels of the proposed development are largely shielded by the density of the upwind mid- to high-rise buildings. These upstream buildings lift the general approach flow over the roof of the buildings, cause recirculation in the wake, and develop the channelling effect along the streetscapes. The proximity of the proposed building to the immediate neighbouring buildings to the east and west are important as from a wind perspective these will act as a compound shape. The width of Gawler Place if relatively narrow relative to the width of the tower and therefore would suppress any accelerated flow to the east and divert the flow around the greater compound shape.

Winds from the north-east

Winds from the north-east cross the massing of the city before reaching the site. The higher incident winds would impinge on the corner of the exposed upper section of the tower. This incident angle encourages horizontal flow around the building rather than inducing significant downwash. Hence the wind conditions at ground level would not be expected to change significantly.

Winds more from the north would be channelled along Gawler Place by the upwind buildings. Being normal to the façade, the exposed upper section of the tower would induce downwash. The downwash would be suppressed by the proximity of the building to the east side of Gawler Place and would be expected to slightly increase the pressure driven flow between the buildings, with a significant portion of the downwash passing over the roof of the neighbouring building. The two-storey colonnade along the east of the building would encourage more flow into this space, however the low level awning would offer some protection to pedestrians from the downwash flow reaching ground level. The majority of the flow at ground level is expected to be horizontal and therefore the canopy would do little from a wind perspective, but would offer protection from wind driven rain, and incident solar. Wind conditions at ground level are expected to be faster, but less turbulent than current conditions.

Winds from the south-west

The proposed development is more exposed to winds from south-west due to large open space at Victoria Square and the relatively small number of mid-rise buildings upwind from the site. Similarly to winds from the north-east, the incident winds will impinge on the corner of the tower encouraging the flow to travel horizontally around the tower and over the roof of 45 and 63 Pirie Street.

The wind conditions at pedestrian level around the site would be expected to be similar to the existing conditions.

Incident winds more from the south would be channelled along Gawler Place. Similar to winds from the north, the exposed upper section of the tower would induce downwash. The proximity of the neighbouring buildings would reduce the amount of downwash impinging on the car park to the south of the site, with a significant portion passing over the roofs of 45 and 63 Pirie Street. The resulting flow along Gawler Place would be expected to slightly greater than the existing conditions.

Winds from the west

Winds from the west tend to be the strongest in Adelaide. These would impinge on the west façade inducing some downwash. The downwash would be redirected by the roof of 45 Pirie Street, which is acting like a podium to the tower, with a high-level component being directed along Pirie Street. The wind conditions further to the east would be expected to slightly increase.

Summary

The proposed development is located at Adelaide CBD with surrounding mid- to high-rise buildings in all directions. The building is taller than the neighbouring buildings and exposed to higher level incident flow. The wind conditions around the site on pedestrian level would not be expected to change significantly compared with the current wind condition. The greatest increase would be expected to be for local winds along Gawler Place between the proposed building and 63 Pirie Street for winds from the north or south quadrants, where channelled flow would be expected between these buildings. This flow would be expected to be slightly faster, but more constant with less turbulence.

Qualitatively, integrating the expected directional wind conditions around the site with the wind climate, it is considered that wind conditions at the majority of locations around site would be classified as suitable for pedestrian standing and walking. These conditions are suitable for the intended use of the space. Wind conditions at all locations are expected to pass the safety criteria.

3 Summary

Arup have provided qualitative advice for the impact of the proposed development on the pedestrian level wind conditions. From a wind comfort perspective, the wind conditions at the majority of locations around the development would be expected to be classified as suitable for pedestrian standing with the area to the east of the development along Gawler Place being classified as suitable for pedestrian walking. Wind conditions in these areas meet the intended use of the space.

It is considered that all locations within the proposed development would pass the safety criterion.

To quantify the qualitative advice provided in this report, numerical or physical modelling of the development would be required, which is best conducted during detailed design.

4 References

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Appendix 1: Wind climate

The wind frequency and direction information measured by the Bureau of Meteorology anemometer at a standard height of 10 m at Adelaide Airport has been used in this analysis, Figure 3. The arms of the wind rose point in the direction from where the wind is coming from. The station is located about 8 km to the west-south-west of the site.

Hot and cold winds tend to come from the south quadrant and north-west quadrants, respectively. Typically, mornings tend to have winds from north-west and evenings from south-east.

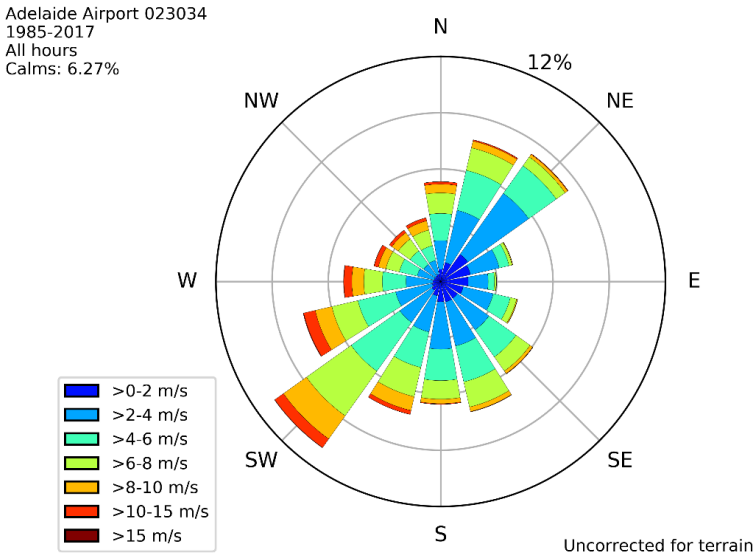


Figure 3: Wind rose showing probability of time of wind direction and speed

Appendix 2: Wind flow mechanisms

An urban environment generates a complex wind flow pattern around closely spaced structures, hence it is exceptionally difficult to generalise the flow mechanisms and impact of specific buildings as the flow is generated by the entire surrounds. However, it is best to start with an understanding of the basic flow mechanisms around an isolated structure.

Isolated building

When the wind hits an isolated building, the wind is decelerated on the windward face generating an area of high pressure, Figure 4, with the highest pressure at the stagnation point at about two thirds of the height of the building. The higher pressure bubble extends a distance from the building face of about half the building height or width, whichever is lower. The flow is then accelerated down and around the windward corners to areas of lower pressure, Figure 4. This flow mechanism is called **downwash** and causes the windiest conditions at ground level on the windward corners and along the sides of the building.

Rounding the building corners or chamfering the edges reduces downwash by encouraging the flow to go around the building at higher levels. However, concave curving of the windward face can increase the amount of downwash. Depending on the orientation and isolation of the building, uncomfortable downwash can be experienced on buildings of greater than about 6 storeys.

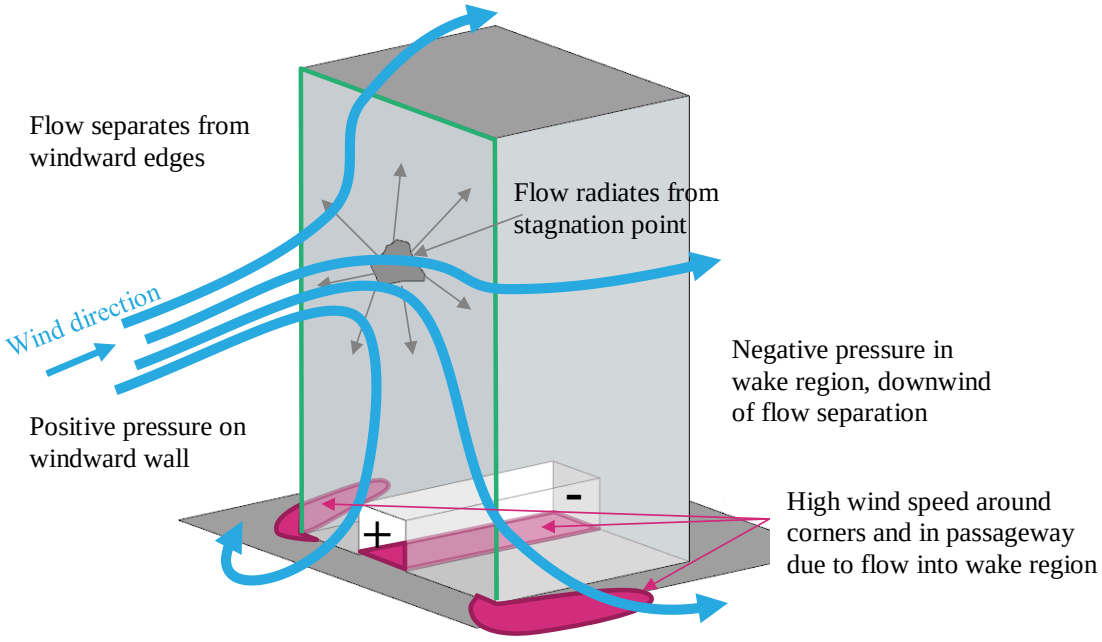


Figure 4 Schematic wind flow around tall isolated building

Techniques to mitigate the effects of downwash winds at ground level include the provision of horizontal elements, the most effective being a podium to divert the downward flow away from pavements and building entrances, but this will generate windy conditions on the podium roof, Figure 5. Generally, the lower the podium roof and deeper the setback from the podium edge to the tower improves the ground level wind conditions. The provision of an 8 m setback on an isolated building is generally sufficient to improve ground level conditions, but is highly dependent on the building isolation, orientation to prevailing wind directions, shape and width of the building, and any plan form changes at higher level.

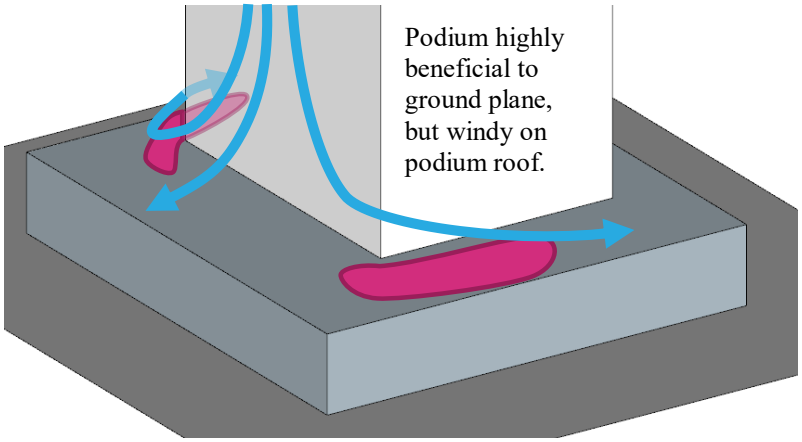


Figure 5 Schematic flow pattern around building with podium

Awnings along street frontages perform a similar function as a podium, and generally the larger the horizontal projection from the façade, the more effective it will be in diverting downwash flow, Figure 6. Awnings become less effective if they are not continuous along the entire façade, or on wide buildings as the positive pressure bubble extends beyond the awning resulting in horizontal flow under the awning.

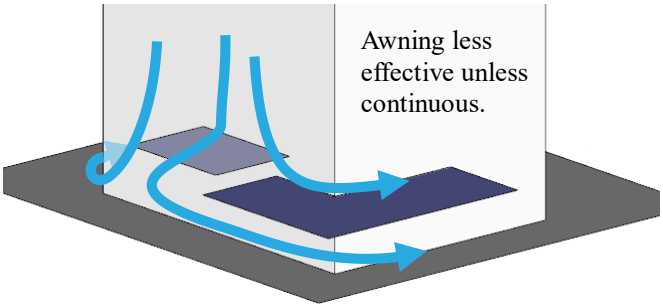
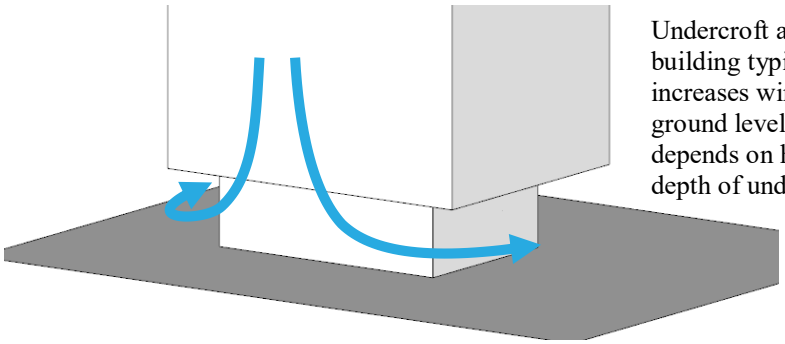


Figure 6 Schematic flow pattern around building with awning

It should be noted that colonnades at the base of a building with no podium generally create augmented windy conditions at the corners due to an increase in the pressure differential, Figure 7. Similarly, open through-site links through a building cause wind issues as the environment tries to equilibrate the pressure generated at the entrances to the link, Figure 4. If the link is blocked, wind conditions will be calm unless there is a flow path through the building, Figure 8. This area is in a region of high pressure and therefore the is the potential for

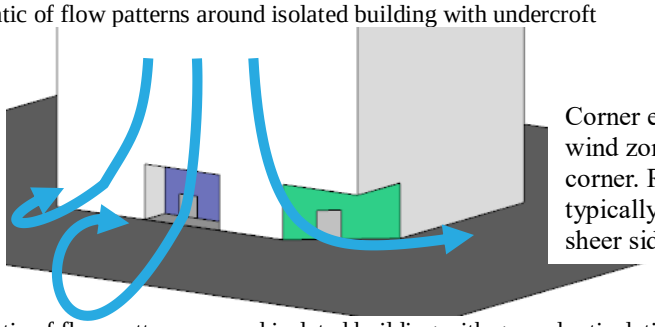
internal flow issues. A ground level recessed corner has a similar effect as an undercroft, resulting in windier conditions, Figure 8.



Undercroft all round a building typically increases wind speed at ground level, but depends on height and depth of undercroft.

Figure 7 Schematic of flow patterns around isolated building with undercroft

Recessed entry provides low wind speed at door location, but high pressure and potential internal flow issues.



Corner entry in high wind zone at building corner. Recess side typically windier than sheer side.

Figure 8 Schematic of flow patterns around isolated building with ground articulation

Multiple buildings

When a building is located in a city environment, depending on upwind buildings, the interference effects may be positive or negative, Figure 9. If the building is taller, more of the wind impacting on the exposed section of the building is likely to be drawn to ground level by the increase in height of the stagnation point, and the additional negative pressure induced at the base. If the upwind buildings are of similar height then the pressure around the building will be more uniform hence downwash is typically reduced with the flow passing over the buildings.

Stagnation point increases in height resulting in more downwash

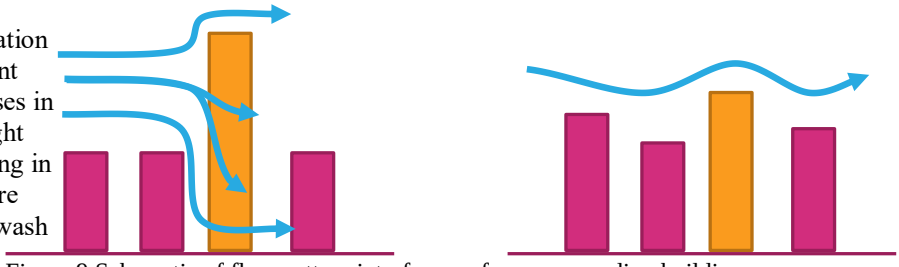


Figure 9 Schematic of flow pattern interference from surrounding buildings

The above discussion becomes more complex when three-dimensional effects are considered, both with orientation and staggering of buildings, and incident wind direction, Figure 10.

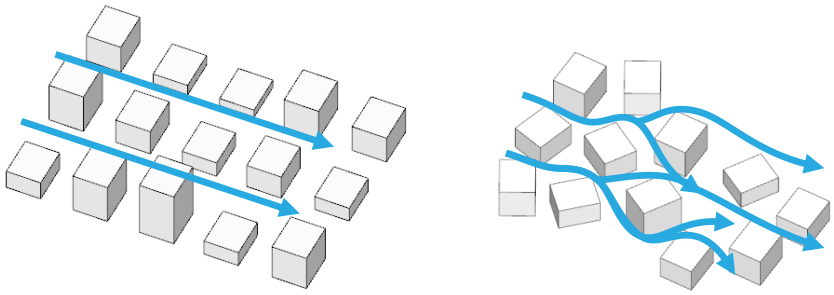


Figure 10 Schematic of flow patterns through a grid and random street layout

Channelling occurs when the wind is accelerated between two buildings, or along straight streets with buildings on either side, Figure 10(L), particularly on the edge of built-up areas where the approaching flow is diverted around the city massing and channelled along the fringe by a relatively continuous wall of building facades. This is generally the primary mechanism driving the wind conditions for this perimeter of a built-up area, particularly on corners, which are exposed to multiple wind directions. The perimeter edge zone in a built-up area is typically about two blocks deep. Downwash is more important flow mechanism for the edge zone of a built-up area with buildings of similar height.

As the city expands, the central section of the city typically becomes calmer, particularly if the grid pattern of the streets is discontinued, Figure 10(R). When buildings are located on the corner of a central city block, the geometry becomes slightly more important with respect to the local wind environment.

Appendix 3: Wind speed criteria

General discussion

Primary controls that are used in the assessment of how wind affects pedestrians are the wind speed, and rate of change of wind speed. A description of the effect of a specific wind speed on pedestrians is provided in Table 2. It should be noted that the turbulence, or rate of change of wind speed, will affect human response to wind and the descriptions are more associated with response to mean wind speed.

Table 2 Summary of wind effects on pedestrians

Description	Speed (m/s)	Effects
Calm, light air	0–2	Human perception to wind speed at about 0.2 m/s. Napkins blown away and newspapers flutter at about 1 m/s.
Light breeze	2–3	Wind felt on face. Light clothing disturbed. Cappuccino froth blown off at about 2.5 m/s.
Gentle breeze	3–5	Wind extends light flag. Hair is disturbed. Clothing flaps.
Moderate breeze	5–8	Raises dust, dry soil. Hair disarranged. Sand on beach saltates at about 5 m/s. Full paper coffee cup blown over at about 5.5 m/s.
Fresh breeze	8–11	Force felt on body. Limit of agreeable wind on land. Umbrellas used with difficulty. Wind sock fully extended at about 8 m/s.
Strong breeze	11–14	Hair blown straight. Difficult to walk steadily. Wind noise on ears unpleasant. Windborne snow above head height (blizzard).
Near gale	14–17	Inconvenience felt when walking.
Gale	17–21	Generally impedes progress. Difficulty with balance in gusts.
Strong gale	21–24	People blown over by gusts.

Local wind effects can be assessed with respect to a number of environmental wind speed criteria established by various researchers. These have all generally been developed around a 3 s gust, or 1 hour mean wind speed. During strong events, a pedestrian would react to a significantly shorter duration gust than a 3 s, and historic weather data is normally presented as a 10 minute mean.

Despite the apparent differences in numerical values and assumptions made in their development, it has been found that when these are compared on a probabilistic basis, there is some agreement between the various criteria. However, a number of studies have shown that over a wider range of flow conditions, such as smooth flow across water bodies, to turbulent flow in city centres, there is less general agreement among. The downside of these criteria is that they have seldom been benchmarked, or confirmed through long-term measurements in the field, particularly for comfort conditions. The wind criteria

were all developed in temperate climates and are unfortunately not the only environmental factor that affects pedestrian comfort.

For assessing the effects of wind on pedestrians, neither the random peak gust wind speed (3 s or otherwise), nor the mean wind speed in isolation are adequate. The gust wind speed gives a measure of the extreme nature of the wind, but the mean wind speed indicates the longer duration impact on pedestrians. The extreme gust wind speed is considered to be suitable for safety considerations, but not necessarily for serviceability comfort issues such as outdoor dining. This is because the instantaneous gust velocity does not always correlate well with mean wind speed, and is not necessarily representative of the parent distribution. Hence, the perceived 'windiness' of a location can either be dictated by strong steady flows, or gusty turbulent flow with a smaller mean wind speed.

To measure the effect of turbulent wind conditions on pedestrians, a statistical procedure is required to combine the effects of both mean and gust. This has been conducted by various researchers to develop an equivalent mean wind speed to represent the perceived effect of a gust event. This is called the 'gust equivalent mean' or 'effective wind speed' and the relationship between the mean and 3 s gust wind speed is defined within the criteria, but two typical conversions are:

$$U_{GEM} = \frac{(U_{mean} + 3 \cdot \sigma_u)}{1.85} \text{ and } U_{GEM} = \frac{1.3 \cdot (U_{mean} + 2 \cdot \sigma_u)}{1.85}$$

It is evident that a standard description of the relationship between the mean and impact of the gust would vary considerably depending on the approach turbulence, and use of the space.

A comparison between the mean and 3 s gust wind speed criteria from a probabilistic basis are presented in Figure 11 and Figure 13. The grey lines are typical results from modelling and show how the various criteria would classify a single location. City of Auckland has control mechanisms for accessing usability of spaces from a wind perspective as illustrated in Figure 11 with definitions of the intended use of the space categories defined in Figure 12.

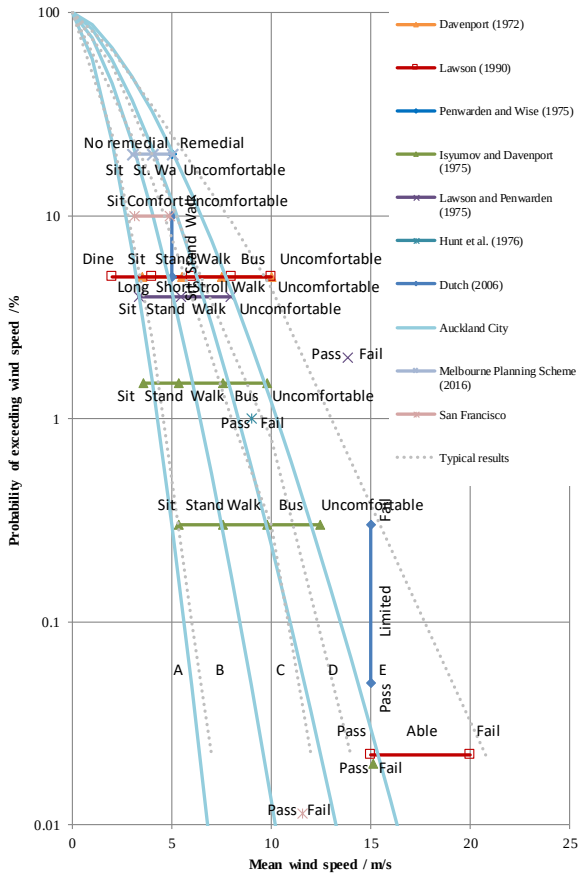


Figure 11 Probabilistic comparison between wind criteria based on mean wind speed

Category A	Areas of pedestrian use or adjacent dwellings containing significant formal elements and features intended to encourage longer term recreational or relaxation use i.e. public open space and adjacent outdoor living space
Category B	Areas of pedestrian use or adjacent dwellings containing minor elements and features intended to encourage short term recreation or relaxation, including adjacent private residential properties
Category C	Areas of formed footpath or open space pedestrian linkages, used primarily for pedestrian transit and devoid of significant or repeated recreational or relaxational features, such as footpaths not covered in categories A or B above
Category D	Areas of road, carriage way, or vehicular routes, used primarily for vehicular transit and open storage, such as roads generally where devoid of any features or form which would include the spaces in categories A - C above.
Category E	Category E represents conditions which are dangerous to the elderly and infants and of considerable cumulative discomfort to others, including residents in adjacent sites. Category E

Figure 12: Auckland Utility Plan (2016) wind categories

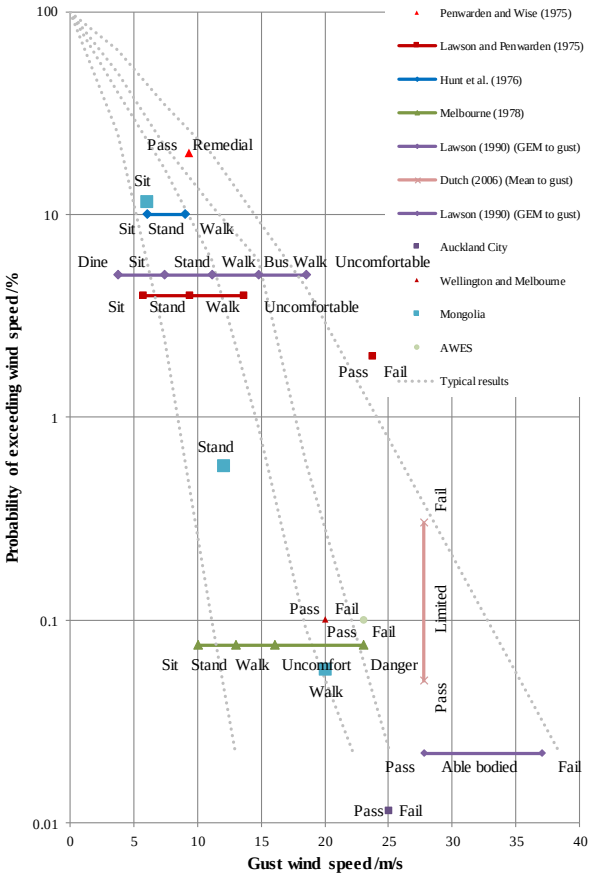


Figure 13 Probabilistic comparison between wind criteria based on 3 s gust wind speed

Appendix 4: Reference documents

In preparing the assessment, the following documents have been referenced to understand the building massing and features.

33-18952-23-01-19.pdf
33-18952-Sheet - SK022 - BASEMENT.dwg
33-18952-Sheet - SK022 - BASEMENT-Floor Plan - BASEMENT.dwg
33-18952-Sheet - SK023 - GROUND FLOOR.dwg
33-18952-Sheet - SK023 - GROUND FLOOR-Floor Plan - GROUND FLOOR.dwg
33-18952-Sheet - SK024 - LEVEL 1.dwg
33-18952-Sheet - SK024 - LEVEL 1-Floor Plan - LEVEL 1.dwg
33-18952-Sheet - SK025 - LEVEL 2-4.dwg
33-18952-Sheet - SK025 - LEVEL 2-4-Floor Plan - LEVEL 3.dwg
33-18952-Sheet - SK026 - LEVEL 5.dwg
33-18952-Sheet - SK026 - LEVEL 5-Floor Plan - LEVEL 5 - POOL PLANT.dwg
33-18952-Sheet - SK027 - LEVEL 6.dwg
33-18952-Sheet - SK027 - LEVEL 6-Floor Plan - LEVEL 6 - POOL AND GYM.dwg
33-18952-Sheet - SK028 - LEVEL 7.dwg
33-18952-Sheet - SK028 - LEVEL 7-Floor Plan - LEVEL 7 - BALLROOM.dwg
33-18952-Sheet - SK029 - LEVEL 8.dwg
33-18952-Sheet - SK029 - LEVEL 8-Floor Plan - LEVEL 8 - ADMINISTRATION.dwg
33-18952-Sheet - SK030 - LEVEL 9.dwg
33-18952-Sheet - SK030 - LEVEL 9-Floor Plan - LEVEL 9 - MEETING.dwg
33-18952-Sheet - SK031 - LEVEL 10.dwg
33-18952-Sheet - SK031 - LEVEL 10-Floor Plan - LEVEL 10 - PLANT.dwg
33-18952-Sheet - SK032 - LEVEL 11-21.dwg
33-18952-Sheet - SK032 - LEVEL 11-21-Floor Plan - LEVEL 11.dwg
33-18952-Sheet - SK033 - LEVEL 22.dwg
33-18952-Sheet - SK033 - LEVEL 22-Floor Plan - LEVEL 22.dwg
33-18952-Sheet - SK034 - LEVEL 23.dwg
33-18952-Sheet - SK034 - LEVEL 23-Floor Plan - LEVEL 23.dwg
33-18952-Sheet - SK035 - LEVEL 24.dwg
33-18952-Sheet - SK035 - LEVEL 24-Floor Plan - LEVEL 24.dwg
33-18952-Sheet - SK036 - LEVEL 25.dwg
33-18952-Sheet - SK036 - LEVEL 25-Floor Plan - LEVEL 25.dwg
33-18952-Sheet - SK037 - LEVEL 26.dwg
33-18952-Sheet - SK037 - LEVEL 26-Floor Plan - LEVEL 26.dwg
33-18952-Sheet - SK038 - LEVEL 27.dwg
33-18952-Sheet - SK038 - LEVEL 27-Floor Plan - LEVEL 27.dwg
33-18952-Sheet - SK039 - LEVEL 28.dwg
33-18952-Sheet - SK039 - LEVEL 28-Floor Plan - LEVEL 28.dwg
33-18952-Sheet - SK042 - BUILDING SECTION.dwg
33-18952-Sheet - SK042 - BUILDING SECTION-Section - SECTION B.dwg
33-18952-Sheet - SK108 - South + West Elevation.dwg
33-18952-Sheet - SK109 - NORTH + EAST ELEVATION.dwg

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LUCID CONSULTING AUSTRALIA

HYATT HOTEL

51 PIRIE STREET, ADELAIDE

Project No: LCE9672

Vertical Transportation Report

April 2020

Revision 7

DOCUMENT ISSUE REGISTER

Revision	Description	Date Issued	Author	Reviewed
0	Draft Issue	11/02/19	LF	PC
1	Draft Issue	21/02/19	LF	PC
2	Final Issue – Planning Phase	21/02/19	LF	PC
3	Draft Issue – 60%	2/09/19	LF	PC
4	Draft Issue – 60%	01/10/19	LF	PC
5	Issued for Approval	16/10/19	LF	PC
6	Draft Issue – Amended Planning Submission	17/04/20	LF	PC
7	Final Issue – Amended Planning Submission	30/04/20	LF	PC

CONTENTS

1 INTRODUCTION

The proposed development at 51 Pirie Street, Adelaide will comprise a 285 suite Hyatt Regency hotel. The 22 storey building (plus part ground mezzanine level) will generally be configured as follows:

FLOOR	USE
Ground	Lobby and BOH
Mezzanine	Services
Level 1	Conference facilities, Event Kitchen and associated public ablutions
Level 2	Ballrooms, Ballroom Pre-function areas, Event Kitchen and associated public ablutions
Level 3	Administration Offices
Level 4	Plant
Level 5	Employee Facilities
Level 6	Hotel Guest recreation facilities including Pool, Gym, Yoga Studio and associated hotel guest ablution areas.
Level 7-17	Hotel Suites (x21 per floor)
Level 18-19	Hotel Suites (x20 per floor)
Level 20	Hotel Suites (x14) and Regency Club
Level 21	Sky Bar and Dining Level

A traffic management study has been undertaken to provide an assessment of the simulated performance of the proposed Vertical Transportation Services. The study utilises the briefed design criteria of the *Hyatt Technical Standards – Vertical Transportation: Lifts and Escalators* and reports against the standards performance requirements.

The following lift configuration has been assessed and is currently indicated on the architectural drawings:

- **Lift 1 to 3:** Three (3) x 21 passenger/1600kg lifts operating as dedicated guest lifts
- **Lift 4:** One (1) x 26 passenger/2000kg lift operating as a dedicated express lift for Public Level (Level 1 Conference, Level 2 Ballroom and Level 21 Skybar)
- **Lift 5:** One (1) x 26 passenger/2000kg lift operating as a dual purpose Public/Service Lift. The lift use is proposed to be time switch controlled between Public and Service Use. The Lift Management System will also allow manual control of Lift groups.
- **Lift 6:** One (1) x 26 passenger/2000kg lift operating as a dedicated Service Lift on all floors.
- **Lift 7:** One (1) x 26 passenger/2000kg lift operating as a dedicated Staff and Food and Beverage Service lift-up to Level 6

2 STANDARDS

The Vertical Transportation installation shall comply with the requirements of the WorkCover Authority, Australian Standards, NCC and other applicable Authority requirements. In particular the vertical transportation system shall comply with current editions including addenda of: -

- AS 1735 Parts 1 to 15 inclusive – Lifts, Escalators and Moving Walks, including full compliance of installations with part 12 of AS 1735.
- AS 3000 - SAA Wiring Rules and requirements of all regulatory authorities having jurisdiction over the work.
- National Construction Code (NCC).
- CIBSE Guide D: 2015 - Transportation Systems in Buildings.

3 DESIGN GUIDELINES

The following table outlines the design criteria adopted for the vertical transportation study as per the Design Criteria nominated in the Hyatt Technical Standards and Guidance - Q4 2018 document titled Vertical Transportation: Lifts and Escalators

DESIGN CRITERIA	PROPOSED CRITERIA – GUEST LIFTS
Population	Hotel Operator Brief: 1.75 people/Hotel Suite Alternative Criteria: 1.5 people/Hotel Suite (for Sensitivity Analysis purposes)
Car Capacity	1600 kg
Platform Size	1600mm (W) x 2100mm (D)
Entrance Size (mm)	1100mm (W) x 2100mm (H)
Door Type	Centre Opening
Car Height (mm)	2800mm (H)
Lift Speed *(based on traffic analysis)*	4.0 m/s (Machine-room)
Traffic Flow	2-Way (50% incoming/ 50% outgoing) Afternoon peak – guest check-in
Arrival Rate	12% minimum
Door Open Time	1.8 s
Door Close Time	2.3 s
Passenger Transfer Time	1.5 s
Average Waiting Time	30 seconds maximum
Average Interval	40 seconds maximum

DESIGN CRITERIA	PROPOSED CRITERIA – SERVICE LIFTS
Car Capacity	2000kg (1600 kg minimum briefed)
Platform Size	1500mm (W) x 2700mm (D)
Entrance Size (mm)	1400mm (W) x 2100mm (H)
Door Type	Side Opening
Car Height (mm)	3000mm (H)
Car Speed *(based on traffic analysis)*	Lift 5/6 - 4.0 m/s (Machine-room) Lift 7 – 1.75 m/s (low-rise)
Traffic Flow	Early morning 30-minute Peak Traffic

4 BUILDING SUMMARY

4.1 GUEST LIFTS

The traffic studies for the main guest lifts have been based on the following building features:

FLOOR	FLOOR LEVEL	PROPERTIES	POPULATION	ENTRANCE LEVEL
G	RL 0.0m	Lobby	Nil	Yes – 100%
M	RL 3.0m	Services	N/A – not served by Guest Lifts	-
L1	RL 6.0m	Conference facilities	N/A – not served by Guest Lifts	-
L2	RL 11.0m	Ballrooms, Ballroom Pre-function areas	N/A – not served by Guest Lifts	-
L3	RL 16.0m	Administration Offices	N/A – not served by Guest Lifts	-
L4	RL 19.4m	Plant	N/A – not served by Guest Lifts	-
L5	RL 24.4m	Employee Facilities	N/A – not served by Guest Lifts	-
L6	RL 29.4m	Hotel Guest recreation facilities including Pool, Gym, Yoga Studio	Nil – not considered in Peak Study	No
L7-17	RL 34.4m to RL 68.4m	Hotel Suites	21 suites per level - 36.75 people/floor @ 1.75 persons/suite - 31.5 people/floor @ 1.5 persons/suite	-
L18-19	RL 71.8m to RL 75.2m	Hotel Suites	20 suites per level - 35 people/floor @ 1.75 persons/suite - 30 people/floor @ 1.5 persons/suite	-
L20	RL 78.6m	Hotel Suites and Regency Club	14 suites – 24.5 people @ 1.75 persons/suite - 21 people @ 1.5 persons/suite	
L21	RL 84.35m	Sky Bar	Nil – not considered in Peak Study	No
Total Travel	**84.35m**		**499 people @ 1.75 persons/hotel suite (briefed)** (428 people @ 1.5 persons/hotel suite for purpose of sensitivity analysis of results with less occupancy) **Hotel guests only**	**100%**

4.2 EVENT & HOSPITALITY LEVELS (PUBLIC) LIFTS

The traffic studies for the lifts serving the Event and Hospitality Levels 1, 2 and 21 have been based on the following building parameters:

FLOOR	FLOOR HEIGHT	PROPERTIES	POPULATION
G	RL 0.0m	Lobby	Nil
L1	RL 6.0m	Conference facilities, Event Kitchen and associated public ablutions	~280 people – refer comments
L2	RL 11.0m	Ballrooms, Ballroom Pre-function areas, Event Kitchen and associated public ablutions	~280 people – refer comments
L21	RL 84.35m	Sky Bar	200 persons maximum based on the aggregate width of discharge stairs

The Hyatt Technical Standard calls for ballrooms located above ground floor to be provided with sufficient vertical transportation in order to achieve a discharge time of 30 minutes based on full occupancy of the ballroom.

The Lift Service allocated to service the Event and Hospitality levels comprising Lift 4 and Lift 5 is sufficient to meet this requirement.

Lift 4 will be available at all times of the day and is dedicated to servicing the Event levels.

Lift 5 is proposed to be arranged as a dual-purpose lift with time schedule control as per below Hyatt previous suggestion (subject to comment from the Hyatt Adelaide management team once appointed);

- 5pm to 1am – be grouped with Lift No 4 to exclusively service the Event Levels 1, 2 and 21.
- 1am to 5pm – be grouped with Lift no 6 for use as a Hotel Service Lift.

It is recommended that consideration be given to providing manual override controls as part of the Lift Management System at the Reception Desk to allow the above grouping to be varied at any time should the need arise. This feature should be considered if there is a likelihood that events on both Level 1 and 2 conclude at the same time and is outside of the time schedule when 2 lifts are available.

Furthermore, the Hyatt Technical Standards do not provide any design criteria to assess the people traffic accessing the Event levels and whether there is a likelihood that access times to events on Levels 1 and 2 will coincide. Incorporating flexibility in the Lift Service will assist to ensure that persons attending the Event floors reach their destination in a timely manner.

5 TRAFFIC STUDY – RESULTS

A traffic analysis has been conducted based upon the design criteria outlined in Sections 3 and 4 of this report utilising ELEVATE Lift Traffic Simulation Software developed by Peters Research.

The simulations are based upon an hourly profile for a hotel typical peak two-way traffic as stipulated in the *Hyatt Technical Standard and Guidance – Q4 2018 – Vertical Transportation* document. The peak handling capacity of the hourly profile is approximately 12.5%, aligning with the requirements of the above referenced Technical Standard and representing a suitable measure of Vertical Transportation performance for this development.

The traffic analysis has considered the hotel guests entering and leaving the building during an afternoon 'check-in' peak to form a basis of the vertical transportation services performance assessment. Further commentary is then provided to address access to other areas within the building such as the ballroom and conference rooms, as well as the philosophy surrounding public and private access.

The performance of four (4) dedicated guest lifts vs. three (3) dedicated guest lifts has been assessed at varying hotel room occupancy densities (1.75 persons/hotel suite versus 1.5 persons/hotel suite) to provide a sensitivity analysis with respect to varying the number of lifts available for Guest Service and the hotel occupancy levels.

Refer to Appendix A for a summary of the Traffic Studies utilising the Design Criteria contained with the Hyatt Technical Standard.

6 ANALYSIS OF RESULTS AND RECOMMENDATIONS

6.1 GUEST LIFTS

The results of the traffic study indicate that four (4) guests lifts are required to meet the vertical transportation performance stipulated in the Hyatt Technical Standards for Waiting Time and Interval during a two-way late afternoon/early evening Peak Traffic period. Refer Appendix A Simulations 1 and 3 for comparative details.

The Hyatt Technical Standard nominates as a guide that 3-4 guest lifts are required for a 300-room development up to 15 storeys. As this development is 23 storeys, the provision of four lifts would appear consistent with the expectations of the Technical Standards.

Given that traffic simulations for 3 x guest lifts with varying speeds and occupancies was not able to demonstrate compliance with the stipulated maximum waiting times during the peak traffic period, whereas the simulations for 4 lifts demonstrated adherence to the waiting times, we suggest that consideration be given to providing access to a 4th Guest Lift during the peak period.

The above suggestion is for consideration by Hyatt and would involve the introduction of additional doors to Lift No 4 and the ability to switch Lift 4 between Lift groups via the Elevator Management System. Lift No 4 could therefore also be dual purpose lift switching between Guest Use and Public (Event Use) to suit demand.

Alternatively should Hyatt wish to maintain the strict 3 + 2 arrangement and whilst we expect this is based on previous 'real life' operational experience with a hotel of a similar scale, given that the report findings do not align, we require Hyatt confirmation to adopt 3 x dedicated Guest Lifts.

As per the results of the traffic simulations it is recommended that a lift speed of 4.0m/s be adopted for this project.

Exceeding 3.0-3.5m/s travel speed necessitates the provision of an overhead lift motor room, as this is the limit of current available technology for motor-room-less lifts in Australia. The use of lift motor room mounted lift equipment also provides the following advantages;

- Most of the service work is undertaken from within the Lift Motor Room and not from the top landing level on L21.
- Quieter operating noise levels
- The higher speeds available are an advantage when shuttling patrons from Ground to the Hotel Sky Bar. It should also be noted that for the Service Lifts (Lifts 5 & 6) which extend the full height of the building, 2000kg capacity lifts require a lift motor room for speeds greater than 1.75m/s. To achieve satisfactory performance for Service Lifts 5 & 6, a higher speed is required.

Furthermore, given that a Lift Motor Room is required for Lifts 5 and 6 to achieve the higher speed required, there is little benefit in reducing the speed of the guest lifts (Lifts 1-3) to accommodate the limitations of the motor-room-less technology lifts.

6.2 PUBLIC AREAS

When considering the high occupancy rate and demand on the vertical transportation system imposed by the public access to the Level 1 Conference Rooms, Level 2 Ballrooms and Level 21 Sky Bar, to adequately service this demand it is recommended that 2 lifts be made available for this service.

Given the limitations of the building core for this development, and the restrictions this imposes on the number of lifts in the core, we recommend that the lift service to this building be flexible via the lift management system and allow lift groupings to be easily varied by the Operator to suit the demand. For the function and entertainment levels mentioned above, we recommend that Lifts 4 & 5 be grouped to provide a shuttle service dedicated to transporting hotel patrons to Levels 1, 2 or 21. For this purpose it is recommended that Lift 5 (Service Lift) be configured as a shared Events/Service lift.

During periods where the Ballrooms, Conference Rooms and/or Sky Bar are experiencing high up or down peak loads i.e. the start or end of an event, it is recommended that the Lift Management System allow for the lift grouping to be varied such that one the guest lifts (Lift 4) be grouped with Lift 5 and prioritised to serve the function levels to assist with the access to and/or discharge from of patrons in a timely manner.

Lift 4 is proposed as a dedicated public access lift whereas it is proposed that Lift 5 will be made available for public access service during the following times:

- Evening (5pm-1am) to enable shuttle to/from the Level 21 Sky Bar and other Event levels when booked for after 5pm use.

  From an operational flexibility perspective, it is recommended that an elevator management system (EMS) be provided to enable manual control of lift groups by a trained employee of the Hotel operator. The objective is that the system is flexible to allow for the following operation outside of the time clock scheduled time period;

- Switching over of 2nd lift at the end of scheduled events from Level 1 and Level 2 to assist with down-peak (Hotel operator controlled).

- At the start of scheduled events from Level 1 and Level 2 to assist with up-peak (Hotel operator controlled).

An elevator management system (EMS) will be provided to enable the above control and lift prioritising to be undertaken by a trained employee of the Hotel operator.

6.3 HYBRID DESTINATION CONTROL SYSTEM

The provision of a hybrid destination control system is proposed to be adopted to all public access floors (Ground, Level 1, Level 2 and Level 21) to assist with controlling traffic at Ground level, whilst prioritising lift selection on Level 1, 2 and 21 when patrons are leaving the premises.

The provision of Destination Operating Panels (DOP's) at Ground level enables the public to enter the building, select their destination on an intuitive display (Level 1, 2 or 21) and be efficiently directed to the designated lifts (i.e. Lift 4 or 5). This assists with the separation of hotel guests and the public and minimises the risk of the public gaining access to the hotel room floors.

The DOP's can also be used by hotel guests, who can swipe their access card at one of the Ground Floor Lift Lobby DOP's, which will then automatically direct them to the selected lift which will transport them to the floor level where their room is located. They may also select other areas in the Hotel in which they are authorised to access e.g. Pool Level.

As all guest lifts (Lifts 1 to 3) plus Lifts 4 & 5 will serve the Level 21 Sky Bar, it is recommended that DOP's are also positioned on this level in vicinity of the Lift Lobby, to assist in dispatching traffic out of the building or back to their hotel suites. The DOP's will enable the public to select the Ground level and be directed to Lift 4 or 5, whilst the hotel guests can select their hotel room floor via their access card and will automatically be directed to Lift 1, 2 or 3.

The same philosophy will apply to the Level 1 and 2 Conference Facilities and Ballroom.

Figure 1 – Example Destination Operating Panels (DOPs)

6.4 SERVICE LIFTS

From a servicing perspective, the proposed arrangement is as follows:

- One (1) x 26 passenger/2000kg lift operating as a dedicated service lift up to Level 6 (Lift No 7)
- One (1) x 26 passenger/2000kg lift operating as a dedicated service lift to all floors (Lift No 6)
- One (1) x 26 passenger/2000kg lift operating as a shared Public (Event Levels) / Service lift to all floors (Lift 5)

Service Lift No 7 which will service Ground up to Level 6 will have a travel speed of 1.75 m/s whilst Lift Nos 5 and 6 serving all floors will possess a minimum speed of 4.0 m/s, as per the Guest Room lifts.

Lift No 7 will primarily be used for servicing the Ballroom, Conference Rooms and associated BOH areas. The overrun for this lift will terminate in the Level 6 Pool Deck Level.

The dedicated service lift (Lift No 6) to all floors will primarily be used for servicing the suite floors for housekeeping and/or room service.

The shared Public (Event Levels)/Service lift (i.e. Lift No 5) will be time schedule controlled as per previously outlined such that available for Events use after 5pm each evening.

We suggest that Hyatt consider the time scheduled sequence of operation and whether manual control via the Elevator Management System is required for additional flexibility of operation.

The dedicated service lifts do not require the use of hybrid destination control and will therefore be provided with conventional landing control stations (i.e. up/down), similar to the below.

Figure 2 – Example Conventional Landing Control Station

7 SPATIAL REQUIREMENTS

The following section details the minimum spatial requirements for each type of lift proposed.

LIFT 1-3 (GUEST LIFTS)	
Number of Lifts	3
Rated Capacity	21 passenger / 1600kg
Speed	4 m/s
Car Configuration	Single Entry
Lift Platform Size	1600mm (W) x 2100mm (D)
Door Opening	1100mm (W) x 2300mm (H) – centre opening
Shaft Size (per lift)	2650mm (W) x 2580mm (D)
Pit Depth	5000mm
Overrun	6100mm
Machine Room	Yes – 3000mm (H)

LIFT 4 (GUEST LIFT), LIFT 5 (GUEST/SERVICE LIFT) and LIFT 6 (SERVICE LIFT)	
Number of Lifts	3
Rated Capacity	26 passenger / 2000kg
Speed	4 m/s
Car Configuration	L-4: Single Entry L-5/L-6: Through Entry
Lift Platform Size	1500mm (W) x 2700mm (D)
Door Opening	1400mm (W) x 2300 (H) – side opening
Shaft Size (per lift)	2650mm (W) x 3520mm (D)
Pit Depth	5000mm
Overrun	6350mm
Machine Room	Yes – 3000mm (H)

LIFT 7 (SERVICE LIFT UP TO LEVEL 6)	
Number of Lifts	1
Rated Capacity	26 passenger / 2000kg
Speed	1.75 m/s
Car Configuration	Through Entry
Lift Platform Size	1500mm (W) x 2700mm (D)
Door Opening	1400mm (W) x 2300 (H) – side opening
Shaft Size (per lift)	2550mm (W) x 3430mm (D)
Pit Depth	2000mm
Overrun	5000mm
Machine Room	No

8 BUILDING OPERATION

Based upon the findings and recommendations contained within Section 6, the following section summarises the proposed operation of each floor, the extent of openings and how each floor is proposed to be accessed.

8.1 GROUND - LOBBY

The ground floor will be the main entry for the public and guests to access ballrooms, conference facilities, guest rooms and the Sky Bar. With a mixture of patrons, it is important to efficiently separate the public from hotel guests.

Destination Operating Panels (DOPs) will be located within the main lobby at Ground Floor level to enable the following:

- Public attending Event/Hospitality Levels 1, 2 or 21 shall be directed to Lift No 4 or depending of time schedule or manual control to Lift No 5. Access to these floors will be 'free entry' without use of access control (as access is enabled by the hotel operator and monitored via the Reception staff)

- Hotel Guests will be directed to Lifts 1, 2 or 3 if seeking to access to the floor level in which their hotel suite is located and/or to access Level 6 (pool/gym). Hotel Guests will also be able to access the Sky Bar with these lifts such that access to Sky Bar is separate from Public access to this level. Access to any floor will be enabled with access control authorisation.

Lift 6 and 7 will also be provided with conventional landing call stations (i.e. up/down) positioned in Back-of-House (BOH) areas for rear lift access by hotel staff only.

There is currently no rear lift access indicated to ground floor of Service Lift No 5. Hyatt to consider whether a rear Entry to Lift 5 will be operationally beneficial.

Lift Openings:

Lift 1-4 – Front

Lift 5 – Front only (consideration to be given to rear entry to suit Lift dual purpose)

Lift 6 – Rear

Lift 7 – Front/Rear

8.2 MEZZANINE - SERVICES

The mezzanine level shall be served via Lift 7 only for access to plant. The lift shall be provided with conventional landing call stations for access by hotel staff only.

Lift Openings:

Lift 7 – Front/Rear

8.3 LEVEL 1 – CONFERENCE FACILITIES

This level will be operated in a similar manner as the Ballroom level. Refer *Section 8.4 – Level 2 Ballroom* for recommendations.

8.4 LEVEL 2 – BALLROOM

Level 2 contains the main ballroom for the public and guests. As detailed in Section 8.1, the public will be directed to Lifts 4 and 5 from Ground Floor to gain access to this floor via the Hybrid Destination Control System. In a similar manner, DOP's will be located on Level 2 to direct the public to Lift 4 and 5 at the end of an event to exit the building.

Lift No 4 and dual-purpose Lift No 5 (subject to time schedule) will provide access to the Ballroom level.

The below is for consideration only.

Passenger Lifts 1-3 are currently not proposed to service the Event floors directly hence hotel guests that are attending an Event on Level 1 or 2 must travel to Ground and transfer to Lift 4 or Lift 5 (if time schedule suits). Providing landing doors for the Guest Lifts to the Event Levels (similar to current arrangement for access to Level 21 Sky Bar) will provide the following advantages;

- Ease congestion within the Ground Floor lobby at the commencement and conclusion of an event.
- Result in reduced waiting times for hotel guests to leave the ballroom floor and return to their room after an event. DOP's proposed to be positioned within the Lift Lobby will direct Hotel Guests and visitors to the hotel to the related lift.
- Result in lower trip time for hotel guests if allowed to travel direct from their Hotel Suite to the Ballroom.
- Provide operational flexibility by enabling reprogramming of lift groups, in the event that either Lift 4 or 5 is not operational due to fault or service.

The DOP's will be used to direct Event attendees staying at the Hotel i.e. hotel guests to Lift 1 to 3 at the end of an event.

In addition to the above, Lifts 5, 6 and 7 will be provided with rear entries for access to service passage or direct into Event Kitchen (should passage wall be deleted), thus separating the service staff access to Level 2 from the hotel guests and public access.

Architectural drawings currently also indicate front access to dedicated Service Lifts 6 and 7 onto public lobby areas. *Hyatt to consider whether these openings are required*.*

<u>Lift Openings:</u>

Lift 1-3 – None currently proposed

Lift 4 - Front

Lift 5 – Front/Rear

Lift 6 – Front/Rear (**refer above comments)*

Lift 7 – Front/Rear (**refer above comments)*

8.5 LEVEL 3 – ADMINISTRATION

Level 3 is a hotel staff area including Administration and Storeroom areas. As there is no access to this level required by guests or public this level will only be accessed via Lift Nos 5, 6 and 7.

Current architectural drawings indicate Lifts 5, 6 & 7 all with rear entrances to a rear access passage. *Hyatt to consider whether supplementing the rear entry doors to Lift 5, 6 and 7 with front entry doors to*

*utilise the larger circulation area within the main lift lobby and for more direct access to Reception/Waiting area is an operational advantage***.

Lift 5, 6 and 7 will be provided with conventional landing call stations (i.e. up/down) for access via hotel staff.

Lift Openings:

Lift 5-7 – Rear (*also refer comments above***)

8.6 LEVEL 4 – PLANT

This level is proposed to be served via the dedicated Service Lifts 6 & 7, the configuration of which is still to be determined. Planning of plantroom equipment layouts should be carefully considered to ensure that a generous access path is provided from all areas of the plantroom to the Lift entrance for the purpose of manoeuvring equipment through the plantroom to the Lifts for removal of for access from Lifts. The use of front or rear entries for these lifts shall be determined during detailed design.

Lift Openings:

Lift 6 & 7 – TBC

8.7 LEVEL 5 – EMPLOYEE FACILITIES

Level 5 is a hotel staff area including Staff Amenities areas and Laundry/ Linen Storage facilities and as such must be accessed from Lifts 5, 6 and 7.

The Lift entrances are currently indicated as rear entrances only, however it is noted that there is an opportunity to access these levels from front entries in order to utilise the larger circulation area within the main lift lobby.

Alternatively a front entry could be introduced to Lift 7 only, for staff to gain access to the lounge, restaurant and employee amenities via the Lift Lobby. This arrangement may minimise any potential bottlenecks likely to be experienced through the western circulation passage. *Hyatt to consider final preferred lift configuration on Level 5****.

Lift 5, 6 and 7 will be provided with conventional landing call stations (i.e. up/down) for access via hotel staff.

Lift Openings:

Lift 5-7 – Rear *(consideration to be given to introducing front entry to Lift 7 ****)*

8.8 LEVEL 6 – POOL DECK

Level 6 incorporates the hotel pool deck and gym facilities which will be accessible by guests only (no public access). As such Guest Lifts No 1, 2, and 3 serve this floor. Conventional landing call stations are proposed for this level.

Additionally, Service Lift 5, 6 and 7 will be provided with rear entries for access to a service passage separated from the hotel guests.

Lift Openings:

Lift 1-3 – Front

Lift 4 – no opening

Lifts 5-7 - Rear

8.9 LEVEL 7 TO 20 – GUEST ROOMS

The guest room floors will be accessible to hotel guests via Lifts 1 to 3.

The report findings indicate that consideration should be given to adopting a dual-purpose lift i.e. Lift No 4 to operate as a Public (Events) and Guest Room lift subject to demand. The dual-purpose function would be demand activated and switch Lift No 4 from Lift 5 group to Lifts 1-3 group. *The suggested enhancement which involves providing access from Lift 4 to all Guest Suite accommodation levels would provide improved flexibility of the lift installation to cater for varying occupancy conditions and redundancy*****.

As these floors (Levels 7-20 inclusive) will be accessed by guests only and there will be limited destinations for guests to travel to when calling a lift from their room floor (i.e. Ground, Level 6 or Level 21), it is proposed that conventional landing control stations be provided on these floors, as there is no perceived benefit in adopting DOP's on the hotel suite levels.

Lift 5 and 6 will be provided with rear entries for access to the housekeeping area.

Lift Openings:

Lift 1-3 – Front

Lift 4 – None currently proposed (*Refer comments above*****)*

Lift 5 – Rear

Lift 6 - Rear

8.10 LEVEL 21 - SKYBAR

The Sky Bar will be accessible by hotel guests using Lift 1 to 3 from their respective room floors.

Lift 4 is the proposed priority access lift for the public to access Levels 1 (Meeting Rooms), 2 (Ballroom) and 21 (Skybar).

During the evening (5pm-1am), Lift 5 will also be prioritised via time schedule control to enable public shuttle service between the Ground Floor and Sky Bar.

The Sky Bar will be provided with DOP's to enable the public to be directed to Lift 4 and 5 and hotel guests to Lift 1 to 3 when leaving the Sky Bar. This approach will minimise the extent of 'ghosting' which takes place, i.e. the public gaining access to the guest floors.

Lift 5 and 6 will also be provided with rear entries to provide staff access to the BOH service areas. During 'public shuttle' periods in the evening, it is proposed that Lift 6 will be the only lift accessible to the Sky Bar as a service lift.

Lift Openings:

Lift 1-3– Front

Lift 4 – Front

Lift 5 – Front/Rear

Lift 6 – Rear

8.11 ENTRY SUMMARY

The below table summarises the current openings as indicated on the current architectural drawings.

FLOOR	L1 to L3	L4	L5	L6	L7
Ground	Front	Front	Front	Rear	Front/Rear
Mezzanine	-	-	-	-	Front/Rear
Level 1	-	Front	Front/Rear	Rear	Rear
Level 2	-	Front	Front/Rear	Rear	Rear
Level 3	-	-	Rear	Rear	Rear
Level 4	-	-	TBC	TBC	TBC
Level 5	-	-	Rear	Rear	Rear
Level 6	Front	-	Rear	Rear	Rear
Level 7-19	Front	-	Rear	Rear	N/A
Level 20	Front	-	Rear	Rear	N/A
Level 21	Front	Front	Front/Rear	Rear	N/A

APPENDIX A – LIFT TRAFFIC SIMULATIONS

	Number of Lifts (Guests)	Speed (m/s)	Occupancy (persons /room)	Average Waiting Time (<30s)	Average Interval (<40s)	Compliant (Yes/No)
Simulation 1	4	4.0	1.75	20.2	30.4	Yes
Simulation 2	3	4.0	1.75	51.5	62	No
Simulation 3	4	4.0	1.5	18.6	30	Yes
Simulation 4	3	4.0	1.5	33.7	46.6	No

TABLE A – Summary of Traffic Simulations for Guest Lifts based on two-way peak traffic.

ELEVATE graphs are presented for each of the simulations for reference.

Simulation 1 – Four (4) lifts @ 4.0 m/s (1.75pp/room)

	Design Criteria (s)	Results (s)	Compliant (Yes/No)
Average Waiting time	<30	20.2	Yes
Average Interval	<40	30.4	Yes

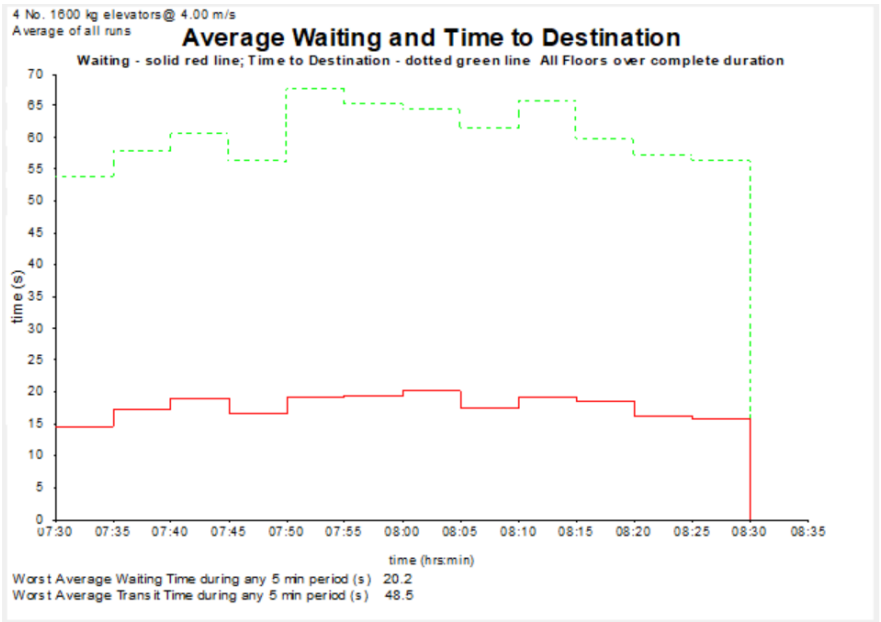

Figure 3 – Average Waiting Time Graph – Simulation 1

Simulation 2 – Three (3) lifts @ 4.0 m/s (1.75pp/room)

	Design Criteria (s)	Results (s)	Compliant (Yes/No)
Average Waiting time	<30	51.5	No
Average Interval	<40	62.0	No

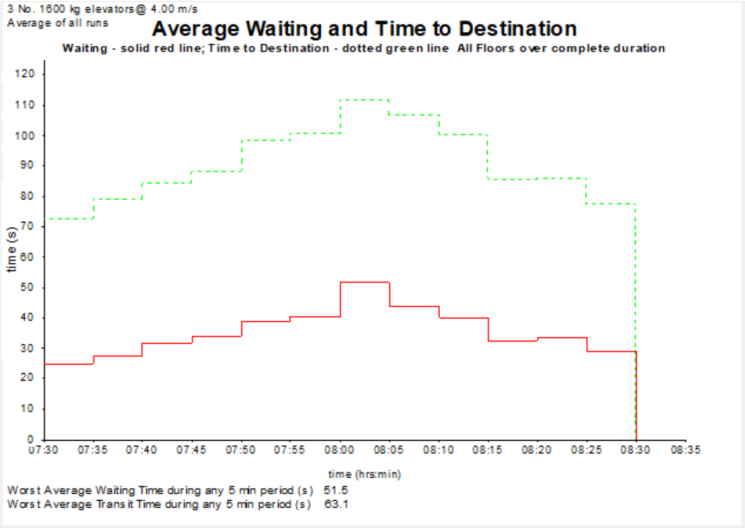

Figure 4 – Average Waiting Time Graph – Simulation 2

Simulation 3 – Four (4) lifts @ 4.0 m/s (1.5pp/room)

	Design Criteria (s)	Results (s)	Compliant (Yes/No)
Average Waiting time	<30	18.6	Yes
Average Interval	<40	30.0	Yes

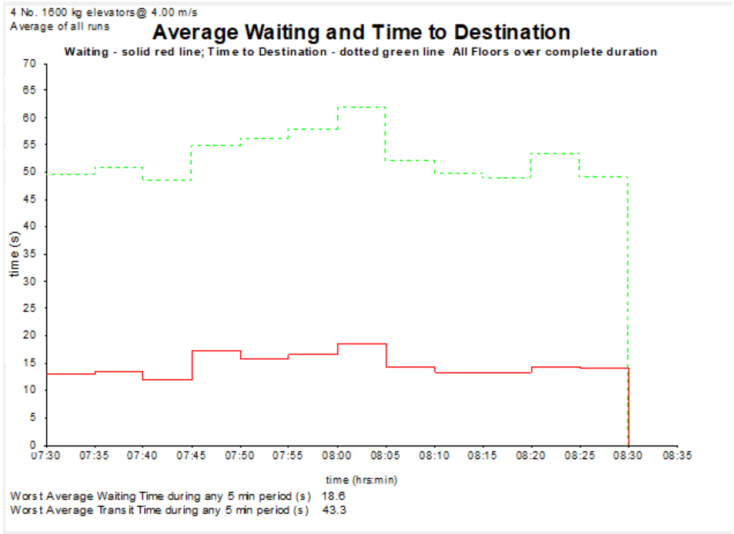

Figure 5 – Average Waiting Time Graph – Simulation 3

Simulation 4 - Three (3) lifts @ 4.0 m/s (1.5pp/room)

	Design Criteria (s)	Results (s)	Compliant (Yes/No)
Average Waiting time	<30	33.7	No
Average Interval	<40	46.6	No

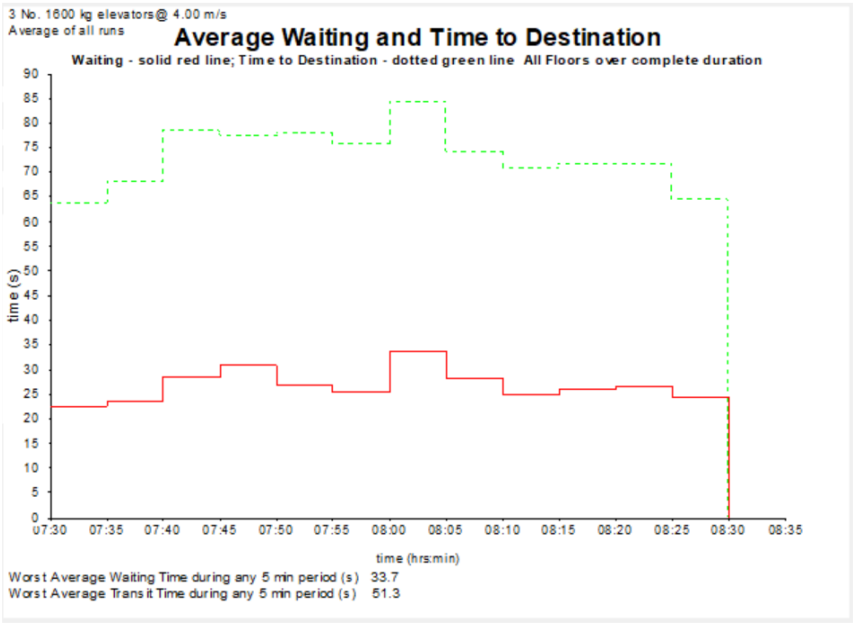

Figure 6 – Average Waiting Time Graph – Simulation 4

51 Pirie Street

CES Pirie Hotel (SA) Pty Ltd

Façade Sketchbook

Rev 01 | 25/05/2020

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Document verification

Job title	51 Pirie Street
Job number	265820-00
Document title	Façade Sketchbook

Revision	Date	Prepared by	Checked by	Approved by
Rev 0	25/05/2020	DLL / JR	DLL	NRR
Rev 1	25/05/2020	DLL / JR	DLL/NRR	NRR

Contents

1.0 Façade Design Aspirations

We understand the key aspects for this project include:

- Elegant, corporate aesthetic
- High-performing building envelope
- Meet project budgets
- Practical and procurable system selection that consider all performance requirements
- Safe and effective access for maintenance and material replacement
- Low ongoing costs

2.0 Project Team

Client	CES Pirie Hotel (SA) Pty Ltd
Architect	GHD Woodhead
Early Contractor Involvement (ECI)	Hansen Yuncken
Acoustic Consultant	Sonus
Façade Consultant	Arup
Civil / Structural Engineer	WGA
Fire Engineer	Lucid
Access & Maintenance Consultant	Arup
Services / ESD Engineer	Lucid

3.0 Introduction

This sketchbook presents the schematic design of the building envelope on the proposed hotel development at 51 Pirie Street, Adelaide. Included façade types are the main tower glazed façade, the stepped shard feature, skybar and ground floor glazing.

This booklet outlines the key performance requirements and preliminary design considerations and solutions for each of the key envelope systems.

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4.0 Performance Parameters for Design of Envelope

The performance requirements for envelope systems will be based on the following current statutory requirements, in order of hierarchy:

1. The National Construction Code (2019, with the exception of Section J which will be designed to 2016 + AMDT 1)
2. Standards referenced by the National Construction Code
3. Performance criteria defined by the design team based on their experience and recommendations (including references to international standards where no Australian standard exists)
4. Project specific requirements

4.1 Durability, Warranties and Lifespan

The assumed design life of the building envelope is 50 years, as described below.

Component	Minimum design life
All items that provide support to other components including but not limited to framing members, screws, bolts and connecting brackets	50 years – no maintenance
All other components	50 years – suitable maintenance

Service Life: *Defined as the number of years that the material, component or construction will meet the performance requirements of this Specification without requiring excessive expenditure on operation, maintenance or repair i.e. life to first maintenance.*		
Component	Minimum service life	Minimum warranties from Practical Completion
Structural components including mullions, transoms, support members, screws, bolts, connections, brackets, etc. (i.e. those that provide support to other components)	50 years	15 years
Insulated glass units	20 years	10 years
Laminated glass	20 years	10 years
Structural Glazing, Canopy, Awnings Systems, and Balustrades. Louvre system	50 years	10 years
Flashings	20 years	10 years
PVDF and anodised aluminium finishes	25 years	20 years
Mild steel and polyester powder coat finishes	20 years	15 years
Gaskets and sealants	25 years	10 years
Hardware (door operators etc)	5 years	1 year
All other components	50 years	As required

4.2 Corrosion

The corrosivity categories may be subject to project-specific microclimate condition, which may result in a different category than the typical value referenced below.

Corrosion	
Project corrosivity category in accordance with AS 4312	C2 – Low

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4.3 Structural

4.3.1 Loading

The façade will be designed to withstand the following design loads: dead load, wind load, live load and seismic load

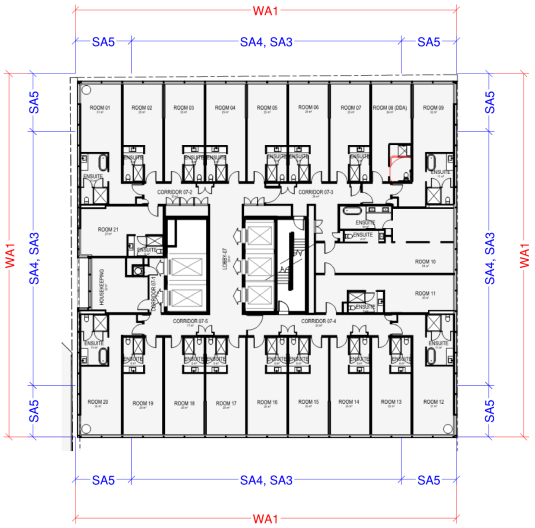
Dead load
Self weight of the façade panels (glass, aluminium, glazing materials, etc.)

Wind Load
The façade wind pressure for the proposed development was calculated below in accordance with AS1170.2:2011.

Positive wind pressure (WA1 zone as shown below):
- Pu= + 2.60 kPa - ultimate limit state (ULS)
- Ps= + 1.68 kPa - serviceability limit state (SLS)

Negative wind pressure (SA5, SA4 and SA3 zones as noted below):
- Pu= - 3.38 kPa (SA5 zone), - 2.6 kPa (SA4 and 3 zones) - ULS
- Ps= - 2.19 kPa (SA5 zone), - 1.68 kPa (SA4 and 3 zones) - SLS

Generally, the ultimate limit state value is used to check strength of materials and the serviceability state value is used to check deflection in accordance with the National Construction Code (NCC).



Markup on the floor plan showing different wind zones

Live Load
Façade systems could be susceptible to maintenance load and live load from the building occupants, which are described in the table below;

Live loads type and magnitude	
Horizontal/near horizontal surfaces: Structural elements	Vertical uniformly distributed load of 0.25kPa, and a concentrated load of 1.4kN acting separately on a 150mm diameter contact area applied separately to any gutters, copings or flat and near flat surfaces.
Horizontal/near horizontal surfaces: Non-structural elements, over which boards must be laid	A concentrated load of 0.5kN acting on a 150mm diameter contact area
BMU	Loads at BMU restraint points as advised by BMU manufacturer & not less than 1.1kN in any direction.
Abseiling	Where abseiling ropes are to be draped over elements of the Works, design those elements to support the following loads: **Serviceability** – Point Load of 3kN applied over a length of parapet capping of 250mm. No permanent deformation or damage to the Façade shall be accepted. **Ultimate** - as anchorage loads given in AS/NZS 4488. Deformation or damage to the Façade shall be permitted.

Seismic Load
The façade will be designed to resist the seismic loading in accordance with AS1170.4:2007 Structural Design Actions: Part 4 Earthquake Actions in Australia; however, it is unlikely that seismic loads will govern the design. In the case of movement of the structure due to an earthquake, the façade detailing will accommodate these displacements.

4.3.2 Façade Component Deflection Limits

Main façade components will be designed to the following deflection limit to maintain the performance and visual criteria;

Façade deflection limits		
Components		*Maximum deflection limit*
General framing members (including those that support glass)	Out-of-plane loads	Span/250
	Dead loads	Span/360
Framing members to which brittle materials such as natural stone is to	Out-of-plane loads	The lesser of Span/400 or 3mm
	Dead loads	The lesser of Span/500 or 3mm
Glass	Out-of-plane short and medium terms loads	Lesser of Span/60 or 35mm
	Out-of-plane loads for unsupported edges of IGUs	Span/175 (or as negotiated with successful fabricator)
	Long term loads	Lesser of Span/360 or to avoid ponding
Visible glazed or cladding edges		Span/500
Metal panels – out-of-plane loads		Lesser of Span/60 or 35mm or supplier recommendation for a given product. (whichever is more stringent)

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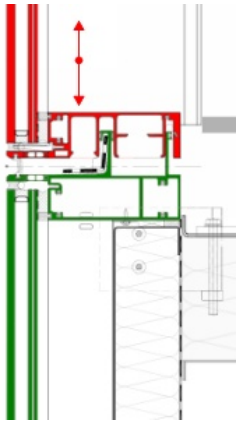
4.3.3. Building Movement and Deflection

Panelised floor-to-floor glazing can accommodate relative floor-to-floor movements at the stack joints and the mullion joints. They can typically accommodate +/- 10 to 12mm (serviceability) vertical movement but custom extrusions can be designed to accommodate more than this.

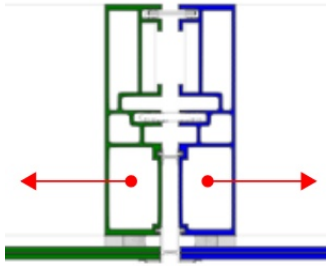
The maximum relative floor-to-floor slab movements that need to be accommodated are those which occur after the glazing wall has been installed. They include movements due to superimposed dead load, live load, creep, column shortening etc.

Until the next detailed phase of design in association with the project structural engineer, Arup have assumed the following values for building movements and displacements:

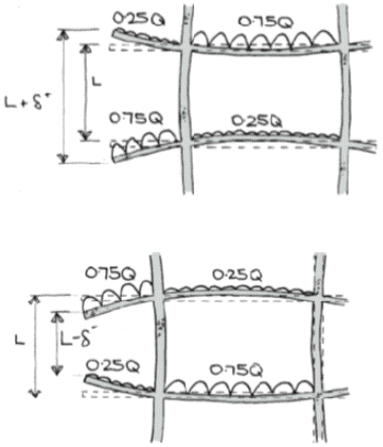
		VALUE ASSUMED BY ARUP	VALUE ADVISED BY PROJECT STRUCT. ENG	Why relevant to the building envelope design
COLUMN / WALL SHORTENING				
S1	Column shortening after installation (elastic shortening + creep)	0.5mm per m of height	To be advised (TBA)	Affects design of stack joint (Refer also comments in item S7)
SLAB MOVEMENT IN PLAN				
S2	Long term creep & shrinkage	-0.6mm / m	TBA	Affects design of split mullion joint width
INTERSTOREY DRIFT				
S3	Maximum "serviceability" interstorey drift (1:25 annual probability of exceedance for wind event [or earthquake event for importance level 4 structures]	d_{st} = 0.3% of storey height	TBA	Affects design of corner junctions
S4	Maximum "ultimate" interstorey drift (ultimate EQ_u or W_u)	d_{st} = 1% of storey height	TBA	Affects design of corner junctions



Example of stack joint moving up and down



Example of mullion opening left and right

EDGE OF FLOOR SYSTEM DIFFERNTIAL DISPLACEMENT				
S5	Maximum self-weight deflection of edge of floor system prior to façade installation	15mm max from theoretical structural floor level (SSL).	TBA	Affects façade system vertical installation tolerance design (e.g. jacking screw on a curtainwall hook bracket)
S6	Maximum incremental deflection of edge of floor system (referred to as "incremental deflection" in RAPT) i.e.: [Permanent load (**SW** + **SDL** + $\mathbf{y_L}$**LL** + **PW**) with long term concrete modulus plus shrinkage curvature] + [short term load (**SW** + **SDL** + **ysLL** + **PW**) – long term load (**SW**+**SDL**+$\mathbf{y_L}$**LL** + **PW**)] – [initial load (**SW** + **SDL** + **PW**)] Where: **SW** = base structure self-weight **SDL** = super dead load placed on base structure (including façade weight) **ysLL** = Live load with short term load factor $\mathbf{y_L}$**LL** = Live load with long term load factor **PW** = Action from prestress (if applicable)	Span/500	TBA	Affects closing of mullion joints at top and opening of mullion joints at bottom
S7	Maximum differential displacement between floors after façade installation (should consider differential incremental load (refer above) + differential live and any other effects) *Where there is significant difference around the structure, provide plan of displacements.* Please ensure differential live considers pattern live loading, E.G.:  	δ^- = -12 mm δ^+ = 6 mm	TBA	Affects design of stack joint. Stack joint must be detailed to allow for this movement + axial shortening (refer item S1) + thermal differential + base structure tolerance (refer items CT3, CT5) + façade fabrication tolerance + façade installation tolerance.

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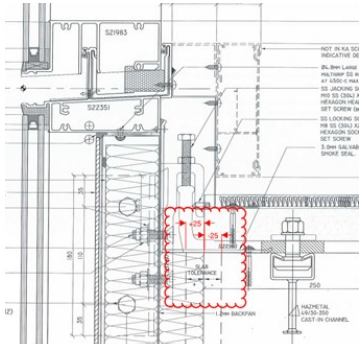
4.4. Superstructure Tolerances

The adjacent superstructure tolerances have been adopted until advised otherwise by the project structural engineer or building consultant:

		VALUE ASSUMED BY ARUP	VALUE ADVISED BY PROJECT STRUCT. ENG	Why relevant to the building envelope design
CONCRETE BASE STRUCTURE				
CT1	Deviation **in-plan** of edge of concrete slab from theoretical location: 	+/- 25mm	TBA	Affects façade support bracket design tolerance
CT2	Deviation **in-plan** for installation of cast-in items (e.g. cast-in channel) placed by form-worker	+/- 5mm	TBA	Affects cast-in channel and façade support bracket design tolerance
CT3	Deviation **vertically** from theoretical location of façade connection (not including movements described in items 1-10)	+/- 5mm	TBA	Affects façade system vertical installation tolerance design (e.g. jacking screw on a curtainwall hook bracket)

		VALUE ASSUMED BY ARUP	VALUE ADVISED BY PROJECT STRUCT. ENG	Why relevant to the building envelope design
STEEL BASE STRUCTURE				
CT4	Deviation **in-plan** from theoretical location of façade connection	+/- 20mm	TBA	Affects façade support bracket design tolerance
CT5	Deviation **vertically** from theoretical location of façade connection (not including movements described in items 1-9)	+/- 5mm	TBA	Affects cast-in channel and façade support bracket design tolerance

4.5. Thermal Performance

Thermal performance of the building envelop affects the energy consumption and human comfort. During schematic phase, preliminary performance target values for the main tower façade are provided by the ESD consultant, which are:

- Total system U value - <=3.2 W/m2k
- Total system SHGC value - <=0.23

Those values will need to be refined during design development by the ESD consultant to meeting Section J requirements.

4.6. Daylighting, Glare and Thermal Comfort

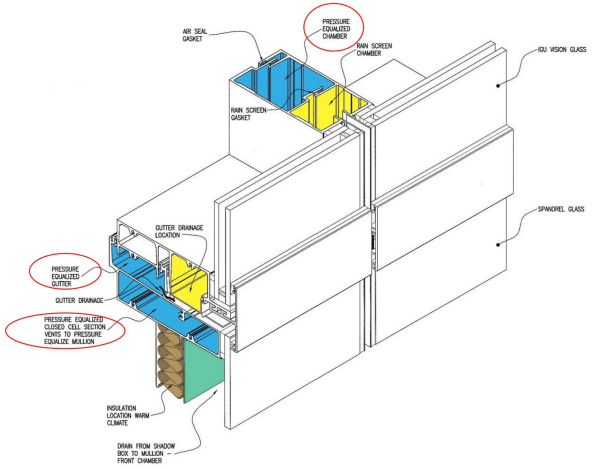
The glass will be selected to maximise the daylighting and still meet thermal performance requirements (SHGC).

Glare is a factor that will be manually controlled via blinds (the tenants of the individual rooms to suit their needs), which gives the flexibility to meet the preference of individual suites guests.

The external reflectivity of the facade will be limited to max. 20%.

4.7. Pressure Equalisation vs Face-Sealed

All façade systems not readily accessible on both the exterior and interior will be designed as “pressure equalised”.



Pressure equalised curtain wall system © University of Southern Queensland

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4.8. Air Infiltration

Air infiltration is the uncontrolled flow of air through gaps and cracks in the skin of a building. It is driven by differences in pressure (wind) and temperature (colder air is 'denser') between in the interior and exterior of the building.

Benefits of Minimising Infiltration
- Energy and cost savings
- Reduced CO2 emissions
- Reduced air-conditioning requirements
- Reduced risk of deterioration

Air Infiltration Paths
- Junctions around main structural envelope elements
- Joints between walling components
- Around openings such as windows, doors and skylights
- Through gaps in membranes, linings and finishes
- Service penetrations
- Around access and emergency openings
- Through permeable materials

Identifying Zones Requiring Protection
It is important to establish the buildings conditioned zones and provide an airtightness layer between them and any unconditioned zones such as:
- Vertical shafts
- Entrances
- Delivery bays
- Services zones
- Plant rooms

Project Specific Criteria
Arup will adopt the following air infiltration criteria:

Building reference	Maximum air Infiltration	Testing Standard
Sealed façade systems general (excluding openings)	0.3L/m2/s @ 300Pa	AS 4284
Operable Windows (except as below)	1.0L/m2/s @ 75Pa	AS2047
Operable Windows (with compressible gaskets):	0.8L/m2/s @ 75Pa	AS2047
Sliding doors (semi-framed):	1.0L/m2/s @ 75Pa	AS2047
Bifold doors (semi-framed):	4.0L/m2/s @ 75Pa	AS2047

4.9. Acoustic

To be developed and advised by the acoustic consultant.

4.10. Fire

Metal Cladding Panels
No composite panels will be used as the metal cladding systems that form part of the building envelope following recent incidents/tragedy which highlighted the complications of using composite metal panels.

All external façade elements will be supplied as "deemed non-combustible" as defined by NCC 2019 Amdt 2. No composite metal panel products will be used in the building envelope.

4.11. Security

To be confirmed.

Security	
Doors and windows	To be developed (TBD)
Resistance to attack	TBD
Blast requirements	TBD

4.12. Green Star

The Green Star rating is not a consideration for this project.

4.13. Safety in Design

Under current legislation, all project participants, including clients, designers, architects, builders and engineers, have safety in design responsibilities. A crucial part of this process is the undertaking of reviews, to ensure the safety for contractors and those associated with the construction process, users of the facility or product, and those who maintain or ultimately dismantle or demolish the building.

Arup have undertaken a Safety in Design review for the proposed envelope systems. Hazards, risks and control measures have been identified and registered in the Safety in Design (SiD) register as attached in Appendix A.

4.14. Access and Maintenance

Providing adequate access to repair and service the building is crucial for maintaining the expected design life of the structure and façade. Cleaning and replacement of façade is also dependent on sufficient access.

Poor design may lead to expensive and time consuming activities to provide simple repairs and cleaning to the façade. For this project, both rope access and a BMU are being considered.

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5.0 Design Considerations

5.1 Glazing Safety

All **ground floor and glazing which is accessible to direct occupant contact** are required to be Grade A safety glass in accordance with AS 1288 (Glass in Buildings). There are several types of "Grade A" safety glass which could be used. For this project, we can consider either monolithic **fully toughened** glass or **laminated** glass for all glazing which is within 1000mm of the floor. To avoid the risk of spontaneous failure due to Nickel Sulphide inclusions, we recommend the use of either **annealed** or **heat-strengthened** laminated glass product to the inner lite of all insulated glazing units.

5.2 Nickel Sulphide inclusions

All heat treated glass is at risk of spontaneous fracture from Nickel Sulphide impurities. When **fully toughened** glass suffers spontaneous failure, the entire panel fractures into small "dice" as seen in the photo below. If the fractured panel is not laminated, the glass can fall out of

the frame, and scare bystanders (in some cases, if falling from a height of greater than 5m, it may even cause injury to passers by). When the inner lite of an Insulated Glazing Unit (IGU) is made from fully toughened glass and it fails, the entire panel will need to be replaced, which is expansive.

Spontaneous Nickel sulphide failure can be significantly reduced (from approx. 1 failure in every 13 tonnes of glass produced to approx. 1 in every 400 tonnes of glass produced) by "**heat-soak testing**". However, this relies on the heat-soak testing being correctly carried out (sometimes not the case).

Nickel sulphide failure can be eliminated by using annealed glass. Unfortunately, annealed glass is not always suitable for use (due to risk of thermal fracture and strength) in certain locations. As a middle ground, heat strengthened laminate can be used. It is very rare for heat strengthened glass to fail from spontaneous nickel sulphide failure, and hence often used. Where heat treated glass is required for strength or to reduce risk of thermal fracture on this project, heat-strengthened glass will be used.

5.3 Heat-induced Distortion in Glazing

All heat treated glazing will experience a level of visual distortion. It is unavoidable. Types of heat-induced distortion include:

Rollerwave:

To minimise rollerwave, our specification will request max 0.15mm (measured peak to trough), and we will generally avoid using glass in the orientation shown above as horizontal roller-wave is harder to pick with the naked eye. We will also select glazing thicknesses to reduce this effect.

Edge Curl / Edge Dip

Edge dip is where the edge of the glass "curls" up due to the heat treatment process. The effect is a visible distortion at the edge of the panel only.

Arup will limit Edge Curl to 0.20mm max, and will specify glazing thicknesses to reduce the effect.

General Glazing Distortion
Unfortunately, most glazing distortion witnessed on projects is due to general overall glazing distortion. General glazing distortion is exacerbated by: looking through glass at an angle (glass leaning out is worse than vertical glass), and using multiple laminated lites.

It is difficult to provide a numerical tolerance for this. Arup will seek to minimise general glazing distortion by specifying glass with lower risk. HOWEVER - we recommend that a full-size mock-up for each type of glass is produced prior to ordering glass so that the client can understand the level of distortion to be expected/agreed.

5.4 External Reflectivity of Glazing systems

While there is no numerically specified limit for glazing reflection in the Adelaide CBD, Arup recommend that the project adopt a limit of 20% external reflectivity (vision portion of spectrum) to avoid nuisance reflection from the face of the building.

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5.5 Installation Method

The following methods are commonly adopted for façade installation:

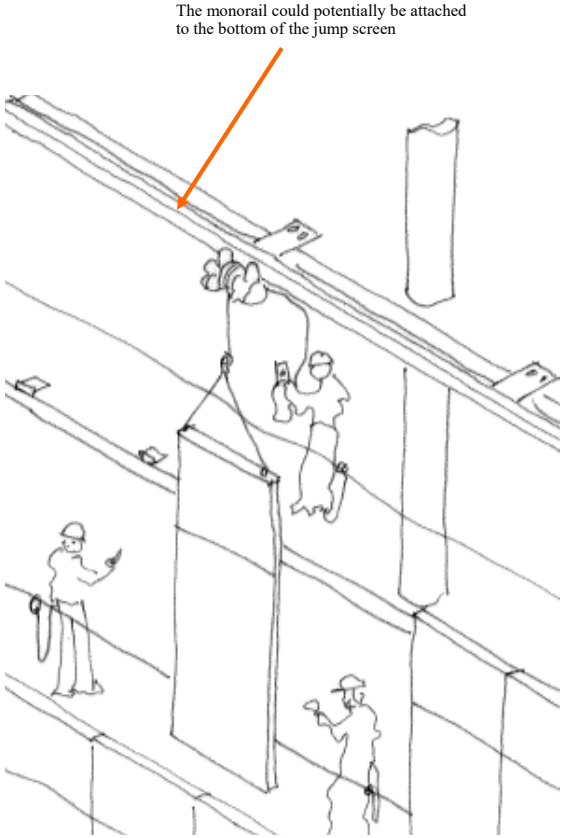
- Monorail
- Mobile crane
- Tower crane (occasional use)

The curtain wall panels are typically laid on their back, stacked 4 or 5 high on a wheeled stillage in the factory and then transported to site. The stillage will be lifted and stored to the floor they will be installed on via goods lift or tower crane.

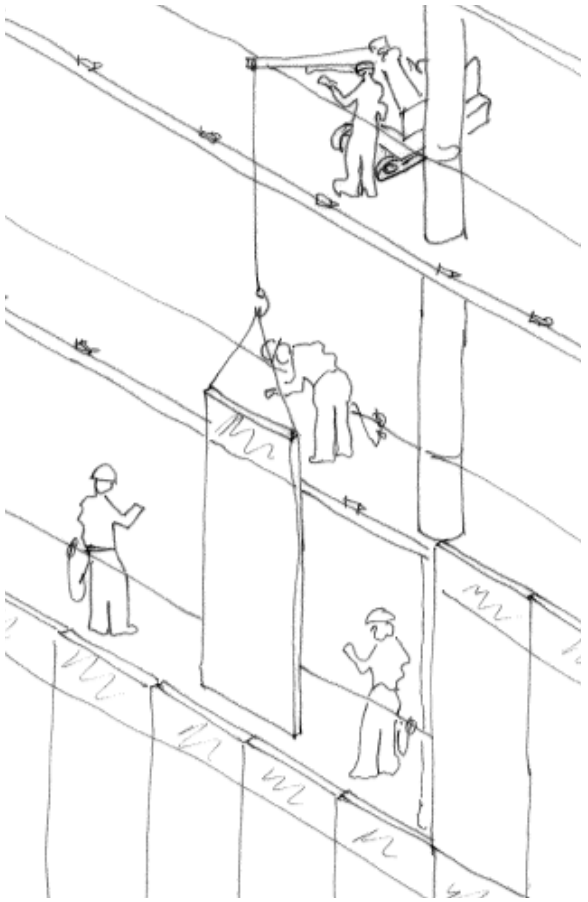
A mobile-crane or monorail will then be deployed few levels above to hoist each panel into position. The images on the right depict this process for both options.

This means that the contractor is not fully reliant on the use of the tower crane during panel installation on site. This would speed up the installation and release the tower crane to other trades.

However, tower crane may be occasionally required for lifting heavy panels. In this case, careful coordination with the main contractor and other trades is required to ensure that the crane is available for installation at the correct times throughout the build.



monorail



mobile crane

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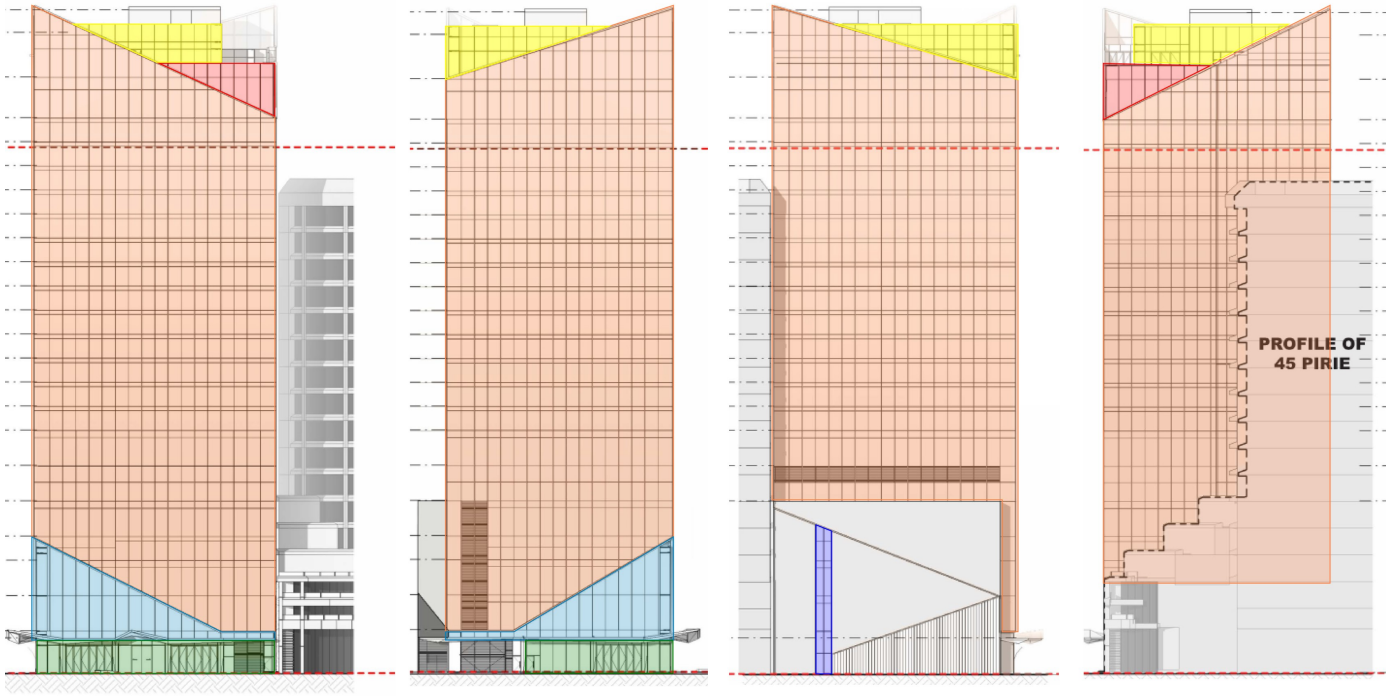
6.0 Façade Type Summary

Six glazed façade types have been identified on the updated elevations as sent by the Architect.

These are colour-coded and tabulated below.

Glazed Façade Types

Name	Description	Colour ID
FT-01	Main Tower Curtain Wall	
FT-02	Podium Shard Curtain Wall	
FT-03	L20 Shard Curtain Wall	
FT-04	Skybar Glazed Window Wall	
FT-05	Ground Floor Glazed Windows	
FT-06	Strip Windows to the Precast	
FT-07	Main Street Canopy	



North East South West

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7.0 Glass Type Summary (Preliminary)

Arup's proposed glass makeup recommendations are shown below:

Façade Type	Glass Type	Location	General Makeup	Glass Centrepane Properties				
				SHGC (max.)	U-value (max.)	VLT (min.)	Acoustic Rw + Ctr (min.)	Coating Reference Products
FT-01	GL-01a	Vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 10.76 mm low-iron clear annealed laminate**	0.24	1.70	35%	30	China Southern 6CEN14-42D #2 on clear, or China Southern 6CED14-46SD-1 #2 on clear
FT-01	GL-01b	Vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 12.76 mm low-iron clear annealed laminate with acoustic inter-layer** (This glass type is to be used when acoustic treatment is required from external noise. Areas of this glass type to be confirmed)	0.24	1.70	35%	37	China Southern 6CEN14-42D #2 on clear, or China Southern 6CED14-46SD-1 #2 on clear
FT-01	GL-01c	Non-vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 6mm clear heat strengthened with ceramic frit to #4	N/A	1.70	N/A	N/A	China Southern 6CEN14-42D #2 on clear, or China Southern 6CED14-46SD-1 #2 on clear
FT-02 & 03	GL-02a	Vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 10.76 mm low-iron clear annealed laminate**	0.24	1.70	45%	30	China Southern 6SJ152S-1 #2 on clear
FT-02 & 03	GL-02b	Vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 12.76 mm low-iron clear annealed laminate with acoustic inter-layer** (This glass type is to be used when acoustic treatment is required from external noise. Areas of this glass type to be confirmed)	0.24	1.70	45%	37	China Southern 6SJ152S-1 #2 on clear
FT-02 & 03	GL-02c	Non-vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 6mm clear heat strengthened with ceramic frit to #4	N/A	1.70	N/A	N/A	China Southern 6SJ152S-1 #2 #2 on clear
FT-04 & 05	GL-03a	Vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 10.76 mm low-iron clear annealed laminate**	0.30	1.70	60%	30	China Southern 6SJ72s-1 #2 on clear
FT-04 & 05	GL-03b	Non-vision Zone	6mm clear heat strengthened with low-E soft-coat to #2 + 12mm air + 6mm clear heat strengthened with ceramic frit to #4	0.30	1.70	60%	None	China Southern 6SJ72s-1 #2 on clear
FT-06	GL04	Vision Zone	To be developed					
FT-07	GL05	Canopy Glass	17.52 heat strengthened laminated glass	N/A	N/A	N/A	N/A	17.52 heat strengthened laminated glass with PVB interlayer

All criteria to NFRC standards

Preliminary glass build-up are based on preliminary assessments (wind, visual, thermal and acoustic etc.) These are provided for tender costing only. Final build-up to be determined by the contractor's engineer

Reference glazing products have been selected to represent the visual appearance and quality that must be achieved. Any alternative products offered shall achieve the specified performance values, visual appearance and quality

Abbreviations: HS– heat strengthened glass, FT—fully toughened glass

** All annealed glass to have polished edges to reduce risk of thermal fracturing

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8.0 Façade Systems Design Consideration

8.1 FT-01 Main Tower Curtain Wall

Design Strategy

Unitised structurally glazed curtain wall system to the main tower. Glass to be structurally glazed in the factory with two-part structural silicone. Panels to be shipped and installed on site as unitised modules

Modulation

Module height: to match floor height

We recommend to keep the curtain wall module width as wide as possible. The panel width is best to be kept at around 1.8 m for design optimization. Benefit of having wide panels are listed below;

- Improved thermal performance - less thermal bridging via the aluminium frames
- reduces the number of lifts on site during construction; and
- maximise the utilizations of shipping containers if the curtain wall panels come from overseas.

Thermal Performance

As per Section 4.5 of this sketch book.

Glass

High performance insulated glazed units (IGUs) with soft low-e coat to the vision area with reflected champagne / bronze appearance. To reassemble the uniform appearance, the same glass is recommended to be used in the non-vision zone with either ceramic frit to the last layer of the IGUs or a sperate ceramic coated glass 60 mm behind the unit.

Glass Replacement

To be developed. Could be from inside for the vision glass. Spandrel glass would have to be replaced via external access.

Mullion Size

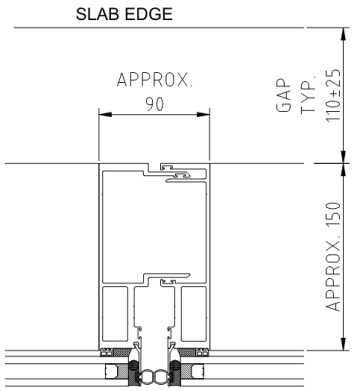
Curtain wall mullions are structural beams that transfer load from the glass and aluminium to the base structure. They are typically supported by slab brackets to the top and interlocked with the panel below at stack joints. Preliminary engineering will need to be carried out in the design development stage to determine the mullion sizes, especially the panels on the higher and lower levels where the floor height are and over 5.0 m.

For the typical guest suite floors (level 7 to level 19) where the floors heights are 3.4 m. A 150 mm deep by ~ 90 mm wide mullion would be suitable (refer typical mullion plan detail to the right)

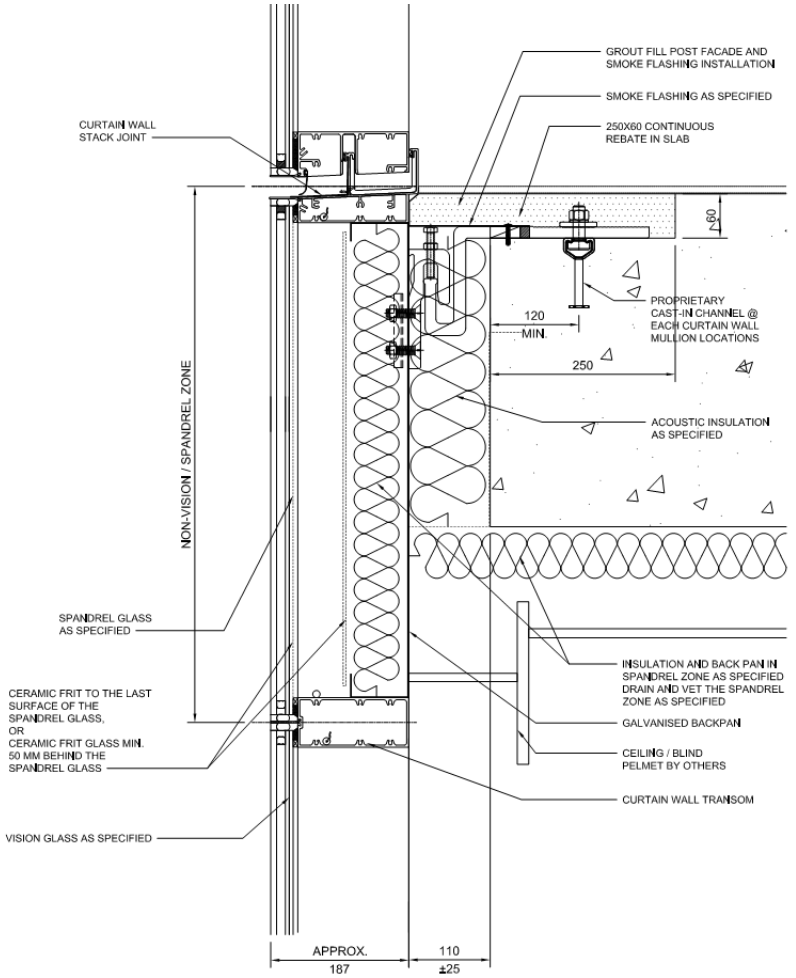
Stack Joint Detail

The curtain wall stack joints are lined up with floor levels as shown in the DRP2 architectural documents (May version). To achieve the design intent and to maximise the floor area, the detail adjacent could be adopted with a grout filled continuous rebate.

The typical detail on the right shows how the architectural design intent is achieved.



150 mm deep Mullion Plan Detail



Typical Section Detail at Stack Joint and Spandrel Zone of Curtain Wall

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8.0 Façade Systems Design Consideration

8.2 FT-02 & 3 Podium and L20 Curtain Wall with Shard

Design Strategy

Unitised structurally glazed curtain wall system to the main tower. Glass to be structurally glazed in the factory with two-part structural silicone. Panels to be shipped and installed on site as unitised modules

Modulation

As per typical main tower curtain wall

Thermal Performance

As per Section 4.5 of this sketch book.

Glass

High performance insulated glazed units (IGUs) with soft low-e coat to the vision area with neutral reflected appearance.

The glass to the non-vision zone is the same as per the typical main tower curtain wall

Glass Replacement

As per typical main tower curtain wall

Mullion Size

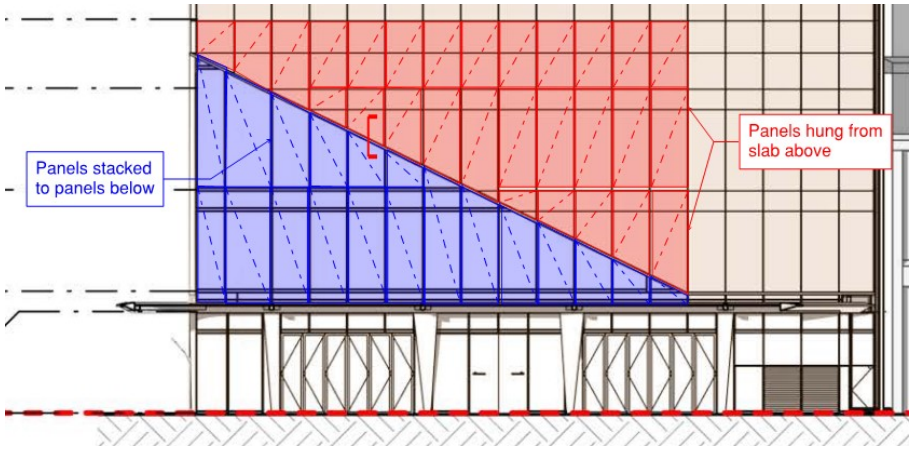
As per typical main tower curtain wall

Shard Feature

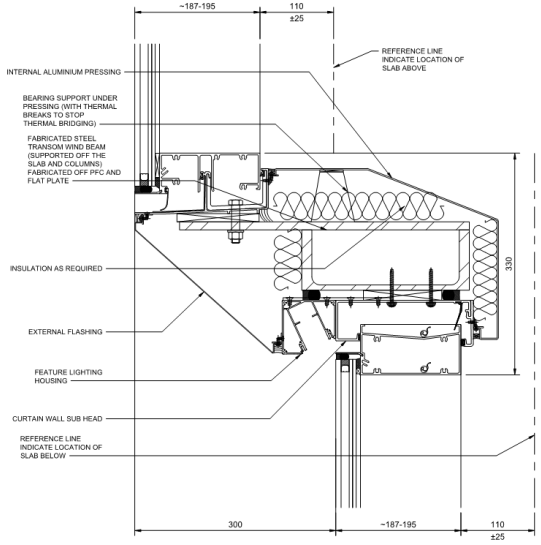
The shard feature is achieved via “stepping” the curtain wall along the designated diagonal line. Steel transom beams are required along the joint to support the panel above and below the step. The lighting is incorporated into the façade design via mounting the light bulb into a proprietary extruded aluminium housing that are attached to the façade panels. The section detail on the right demonstrates how the design intent is achieved

Panel set out

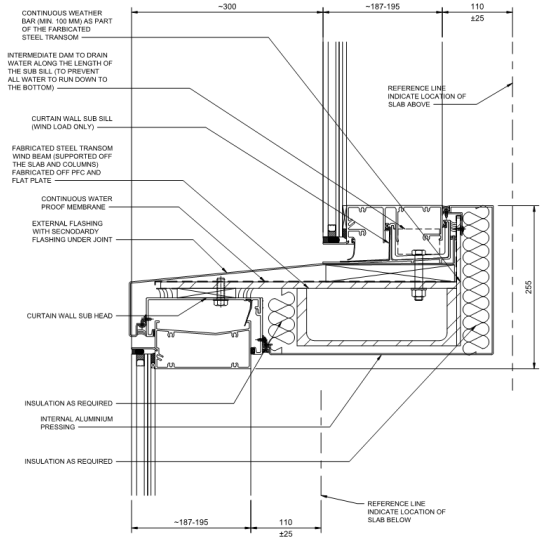
Review partial elevation on the right regarding the set out of the curtain wall panel around the shard area.



Partial elevation of the shard area at podium level



Typical Section Detail at the podium shard



Typical Section Detail at the L20 shard

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8.0 Façade Systems Design Consideration

8.3 FT-04 Skybar Glazed Windows

Design Strategy

Unitised structurally glazed curtain wall as per FT-01

Modulation

To be developed, but the same principle as per main tower curtain wall

Thermal Performance

As per Section 4.5 of this sketch book.

Glass

High performance insulated glazed units with soft low-e coat to the vision area.

Glass Replacement

To be developed. Could be from inside for the vision glass. Spandrel glass would have to be replaced via external access.

Mullion Size

To be developed

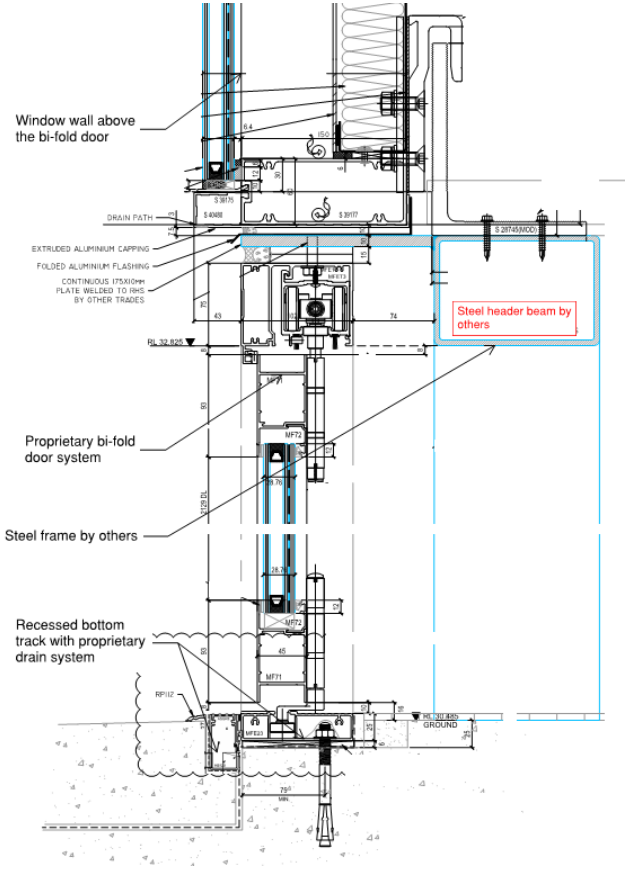
Bi-folding doors

Proprietary tested top hung bi-folding door is recommend for this area - high exposure to wind and rain. Bottom stacked bi-folding door is prone to damage and dust and debris accumulation.

Bi-folding door system to be tested to AS2047 as a min. requirement for water and air tightness once closed.

Bench mark product: Alspec Hawksbury Top-hung Bi-fold Door

Steel portal frame is required to support the weight of the door and wind caught on the door when closed. Deflection limit of the steel beam under weight of the door should be kept within 5 mm.



Section A-A - Section of the bi-fold door , header beam and windows above

Render of the Skybar from the Arch DRP2 documents

Alspec Hawksbury Bi-fold Door

ARUP

8.0 Façade Systems Design Consideration

8.4 FT-05 Ground Floor Glazed Windows

Design Strategy

Unitised structurally glazed window system to the ground floor. Glass to be structurally glazed in the factory with two-part structural silicone. Panels to be shipped and installed on site as unitised modules

Modulation

To be developed, but the same principle as per main tower curtain wall

Thermal Performance

As per Section 4.5 of this sketch book.

Glass

High performance insulated glazed units with soft low-e coat to the vision area with high transparency (high visual light transmittance).

Glass Replacement

Replaced externally from the street

Mullion Size

To be developed

Tilt up Awning

Proprietary tested system to be used here. The hardware to have fail-safe mechanism so not to cause injury to the user.

The system to be tested to AS2047 as a min. for water resistance at its closed position.

8.5 FT-07 Main Street Canopy

Design Strategy

Steel framed canopy with metal and glass cladding

Modulation

To be developed

Thermal Performance

Not applicable

Glass

PVB or SGP laminated heat strengthen glass to be used as overhead glazing for maximum structural performance and fail-safe mechanism.

Metal Cladding

To be developed. However, recommend “interlocking” panelized system to minimise visible joints.

Material for consideration

- Aluminium
- Stainless steel
- Copper
- Bronze

Material Replacement

Replaced externally from the street.

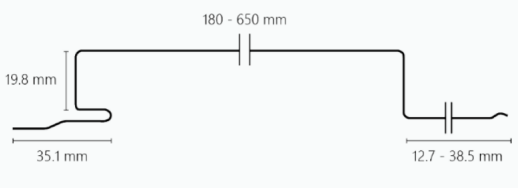
The canopy to be designed to take maintenance load as “Street Awning Access from Ground” in accordance with AS1170.

Further Consideration

Metal cladding is prone to visual distortion from buckling. Buckling can occur from fabrication (rolling) AND in service from thermal expansion. Proper consideration of design detailing (e.g.slotted holes in direction of panel to facilitate thermal expansion), engineering and fabrication (e.g. preventing "locked in" stresses) are required to minimise potential buckling (sometimes colloquially referred to as "oil canning")

Render of the main street canopy the Arch DRP2 documents

Example of interlocking system @ Metroll



Example of a typical section view of cladding modules @ Metroll (note the width can be wider with careful design development)

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8.0 Façade Systems Design Consideration

8.6 Strip Windows to the Precast

Design Strategy

Unitised structurally glazed curtain wall system

Modulation

To suit the design intent, generally keep at 1.8 m wide module if possible

Thermal Performance

As per Section 4.5 of this sketch book.

Glass

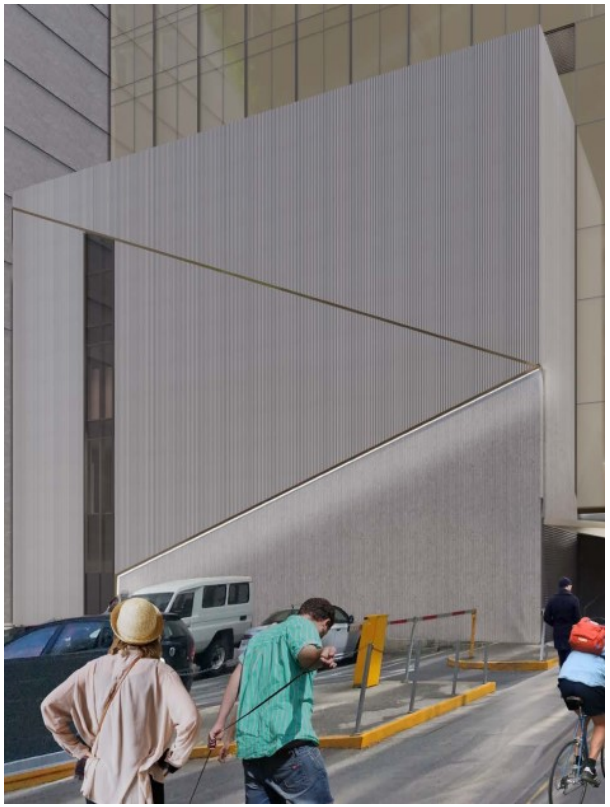
High performance insulated glazed units with soft low-e coat to the vision area

Glass Replacement

Replaced externally from the street

Mullion Size

As per the main tower curtain wall



Render of the strip window from the Arch DRP2 documents

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Appendix A

Safety in Design (SiD) Register

ARUP

Project Number ▶	265820-00	Project Name ▶	51 Pirie Street		
Project Participants ▶	Arup Australia Pty Ltd; GHDWoodhead;				
Client ▶	CES Pirie Hotel (SA) Pty Ltd	Date ▶	25-05-20	Revision ▶	0

			↙ Base Risk ↘				↙ Residual Risk ↘			
Hazard ID	**Area/Location of Risk Exposure**	**Description of Hazard and Risk Exposure**	Likelihood	Severity	Base Risk Score	**Control Measure**	Likelihood	Severity	Residual Score	**Comment / Residual Risk**
	A) General items for guidance									
	(To be used as a prompt for SID review to highlight project specific risks)									
A.1	*General - Design*	Use of **unfamiliar design codes** (such as international standards) that could lead to incorrect design.	Low	Medium	Low	Confirm that local, familiar design codes may be used as an alternative.	Low	Low	Low	
						Employ an external consultant and/or Arup Expert to assist with the design or review.	Low	Low	Low	
A.2	*General - Design*	Use of **unfamiliar materials** of which there is limited local experience that may lead to failure if incorrectly designed.	Medium	High	High	Ensure Arup Materials Expert or an external consultant is available to assist with material review and testing.	Low	Low	Low	*Residual risk dependant on outcome of review.*
						Propose suitable alternate materials for use.	Low	Low	Low	
A.3	*General - Design*	Use of **unusual/bespoke components** that have not been tried before (e.g. patch fixings in stone etc) and of which failure will result in catastrophic failure.	Medium	High	High	Undertake testing of a prototype components to ensure they meet the anticipated design requirements.	Low	Low	Low	
A.4	*General - Design*	Use of **uncommon façade system** in Australia which has not been tried or tested thoroughly on high-rise construction to Australian standards.	Medium	High	High	Conduct through research, discussion and design of systems to support an informed decision.	Low	Low	Low	
						Request testing to local standards.	Low	Low	Low	
A.5	*General - Design*	Risks of failure due to **Earthquake** scenario in seismically active areas.	Low	High	Medium	Review detailing to ensure that seismic design is accounted for, ie double brackets etc.	Low	Low	Low	
A.6	*General - Design*	Risk of **fire spread**; combustible materials, fire stopping between floors/walls not properly considered, etc.	Medium	Medium	Medium	Use non-combustible materials. Ensure that fire engineer confirms requirements regarding fire stopping.	Low	Low	Low	
						Provide alternative fire engineered solution.	Low	Low	Low	
A.7	*General - Design*	Any **special conditions**, such as tensioned facade elements, particular structural considerations.	Medium	Medium	Medium	*To be developed based on system type.*	Low	Low	#NAME?	
A.8	*General - Design*	Coatings selected have high toxic emissions.	Medium	High	High	Consider replacement of coating with low-emission/VOC coatings.	Low	Low	Low	
						Ensure paint shop operates appropriate controls such as containment and respiratory protection.	Low	Low	Low	
A.9	*General - Construction*	Façade **installation on the exterior** of the building from temporary access platforms (mast climbers or swing stages) leading to risk of human injury.	Medium	High	High	Design unitised façade systems installed from the safety of the building.	Low	Medium	Low	Consider type of façade system (panelised or site built) and whether panels can be craned to required floor or, otherwise, can physically fit into building (e.g. via lift).
						Contractor to develop appropriate strategy including detailed method statement.	Low	Low	Low	
A.10	*General - Construction*	Installation of **large panels** result in handling risks to installers and bystanders.	Medium	High	High	Panel sized should be manageable for easier and safer installation.	Low	Low	Low	Panel sizes are dependent on manufactures / suppliers. This can be researched during design development.
						Contractor to develop appropriate strategy including detailed method statement.	Low	Low	Low	

Project Number ▶	265820-00	Project Name ▶	51 Pirie Street		
Project Participants ▶	Arup Australia Pty Ltd; GHDWoodhead;				
Client ▶	CES Pirie Hotel (SA) Pty Ltd	Date ▶	25-05-20	Revision ▶	0

			↙ Base Risk ↘				↙ Residual Risk ↘			
Hazard ID	**Area/Location of Risk Exposure**	**Description of Hazard and Risk Exposure**	Likelihood	Severity	Base Risk Score	**Control Measure**	Likelihood	Severity	Residual Score	**Comment / Residual Risk**
A.11	*General - Construction*	Requirement for **temporary support** during installation leading to risk of failure and injury in temporarily supported case.	Medium	High	High	Ensure temporary support installed correctly. Engineer to review prior to depropping of complicated elements. SWMS to be issued by subcontractor.	Low	Low	Low	
						Redesign system to avoid need for propping.	Low	Low	Low	
A.12	*General - Construction*	Installation of facade will involve **lifting over public spaces**/near to publicly accessed areas, leading to potential public injury due to dropping items.	Low	High	Medium	Normal building activity. Use skilled and trained professionals. Installation of the facade elements to be discussed with contractor prior to commencement. Safety documentation by contractor to be reviewed and adhered to for the duration of the works. Ensure Overhead protection is installed above public footpaths for the duration of works.	Low	Low	Low	
A.13	*General - Construction*	Complex façade systems leading to risks associated with **on-site handling** and fixing (i.e. entrapment, manual handling, potential failure of components if incorrectly assembled on site).	Medium	High	High	Reconfigure design to allow substantial off-site fabrication.	Low	Low	Low	
						Set up specific facade fabrication compound on site.	Low	Low	Low	
A.14	*General - Construction*	Complex façade systems may lead to risk of **incorrect assembly** on site leading to failure and human injury.	Medium	High	High	Normal building activity. Use skilled and trained professionals. Complete prototype design to ensure a benchmark installation procedure is established by the contractor.	Low	Low	Low	
A.15	*General - Construction*	Special risk of failure if façade components are **incorrectly transported/lifted/installed**, ie such as with very large panels of unframed glass.	Medium	Medium	Medium	Modify design to eliminate unusual conditions. E.g. reduce modulation.	Low	Low	Low	
						Contractors to complete SWMS for transport and installation addressing specific risks prior to installation.	Low	Low	Low	
A.16	*General - Construction*	Edge protection is not available, or personnel have to work outside edge protection because of external installation requirements. **Fall risk at slab edges.**	Medium	High	High	Reconfigure façade design to negate the need for edge protection.	Low	Low	Low	
						Contractor to provide alternative methods of edge protection such as fall arrest restraints installed to protect potential fall hazards at slab edge.	Low	Medium	Low	
						Provide appropriate PPE such as fall arrest harnesses and anchor points.	Low	Medium	Low	
A.17	*General - Construction*	Particularly **unusual working at height requirement** such as under-slab bracket connections requiring personnel to work off-slab at the building edge (possibly on ladders). This is an elevated fall risk situation.	Low	High	Medium	Reconfigure façade design to eliminate under-slab fixing brackets.	Low	Low	Low	
						Contractor to provide fully contained edge protection to cater for working above slab level (e.g. contained mobile scaffold).	Low	Low	Low	
						Contractor to provide appropriate PPE such as fall arrest harnesses and anchor points.	Low	Medium	Low	
A.18	*General - Construction*	**Site welding** leading to risk of human injury and fire.	Low	High	Medium	Reconfigure facade design to avoid site welding.	Low	Medium	Low	
						Set up specific facade fabrication compound on site.	Low	Medium	Low	
						Put in place control administrative measures so that site welding is subject to permit approval including review of surroundings etc prior to welding	Low	Medium	Low	

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A.19	*General - Construction*	Consideration of **ability to rescue** personnel to avoid suspension trauma. Will the installation process impeded rescue if someone were injured?	Medium	High	High	Ensure rescue considerations are implemented in to the overall facade design scheme. Contractor to ensure rescue plan is in place during the construction stage.	Low	Medium	Low	
	B) Façades Detailed Hazards									
	(Specific scenarios)									
B.1	Exterior Glazing (Toughened)	Potential of Nickel Sulphide inclusions (NiS) & spontaneous breakage. When broken toughened glass will shatter into small 'dice' and may not remain in place. Potential for falling glass to cause human injury. **Note:** Base risk Likelihood is Med/High depending on amount of glass on project.	High	High	High	Heat soak test all glass to mitigate (but not completely eliminate) risk.	Low	High	Medium	Contractor to obtain heat-soak certificates from supplier. Recommend batches of glass are recorded in relation to where in elevation they are installed - such that in event of bad batch, all affected panels can be identified.
						Consider presence of physical barriers on outside of glass (e.g. balcony, balustrade, awning) so fragments cannot fall.	High	Low	Medium	Recommend heat soaking even if not required by code to reduce likelihood of failure and risk of injury, cost implications of replacement and damage to image/reputation of client associated with spontaneous failure.
						Use laminated toughened glass with PVB interlayer, fully captured with structural silicone around perimeter so panel cannot detach when broken.	High	Low	Medium	" "
						Use laminated toughened glass with SGP interlayer.	High	Low	Medium	" "
						Use heat-strengthened glass (not known to fail spontaneously).	Low	Low	Low	
B.2	External Glazing	Glass breakage due to thermal shock, leading to risk of injury.	Low	High	Medium	Use annealed glass and conduct stress analysis to demonstrate that likelihood of breakage is low.	Low	High	Medium	If edges of glass are damaged, likelihood of breakage is increased and this is difficult to check thoroughly. Contractor to ensure glass is damage free.
						Use heat treated glass (e.g. heat strengthened) which is not susceptible to this type of failure.	Low	Low	Low	
B.3	Typical Vertical Glazing	Risk of glass breaking and fragments falling out from height.	Low	High	Medium	If DGU, avoid toughened monolithic glass as outer ply in fully framed system.	Low	Low	Low	
						If SGU, use heat strengthened laminated glass in fully framed system.	Low	Low	Low	Consider carrying out nominal load test (e.g. service wind) on broken laminate. Carry out 'drop out test' on broken laminate for 24 hrs at elevated temperature.
B.4	Typical Vertical Glazing	Impact with glazing internally may cause glass to break and fall, leading to risk of human injury.	Low	Medium	Low	For SGU and DGU inner lite, use heat-strengthened laminated Grade 'A' safety glass.	Low	Low	Low	
						For DGU inner lite only, use toughened monolithic Grade 'A' safety glass. Heat soak all toughened glass.	Low	Low	Low	
						Provide adequate sill height to act as a kick plate (reduces likelihood in failure).	Low	Medium	Low	
						Use heat-strengthened laminated glass (PVB interlayer).	Low	Medium	Low	

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B.5	**Glass Balustrades**, Fully Framed	Glass breaks leading to risk of glass falling out and causing injury.	Low	High	Medium	Use toughened laminated glass (PVB interlayer) with perimeter structural silicone support to restrain panel from dislodging when both plies break.	Low	High	Medium	Residual risk if glass broken (either 1 or both plies) that glass cannot resist nominal loads and/or could dislodge.
						Use toughened laminated glass (SGP structural interlayer).	Low	Medium	Low	
B.6	**Glass Balustrades**, 2-Side Supported	Glass breaks leading to risk of glass falling out and causing injury.	Low	High	Medium	Use heat-strengthened laminated glass (PVB interlayer).	Low	Medium	Low	
						Use toughened laminated glass (SGP structural interlayer).	Low	Medium	Low	
B.7	**Glass Balustrades**, Patch Supported from Stanchions	Glass breaks leading to risk of glass falling out and causing injury.	Low	High	Medium	Use heat-strengthened laminated glass (PVB interlayer).	Low	Medium	Low	
						Use toughened laminated glass (PVB interlayer) with perimeter structural silicone support to restrain panel from dislodging when both plies break.	Low	High	Medium	Residual risk if glass broken (either 1 or both plies) that glass cannot resist nominal loads and/or could dislodge.
						Use toughened laminated glass (SGP structural interlayer).	Low	Medium	Low	
B.8	**Glass Balustrades**, Cantilevered	Glass breaks leading to risk of glass falling out and causing injury.	Low	High	Medium	Use heat-strengthened laminated glass (PVB interlayer) with structurally continuous handrail patch fitted or adhered with silicone.	Low	Medium	Low	Note this is unlikely to work structurally.
						Use toughened laminated glass (PVB interlayer) with perimeter structural silicone support (edges of adjacent panels and to continuous handrail) to restrain panel from dislodging when both plies break. Design patch fittings to resist glass tearing out.	Low	High	Medium	Residual risk if glass broken (either 1 or both plies) that glass cannot resist nominal loads and/or could dislodge.
						Use toughened laminated glass (SGP structural interlayer) with structurally continuous handrail patch fitted or adhered with silicone.	Low	Medium	Low	Fully heat soak toughened glass to reduce likelihood of spontaneous failure.
B.9	**Glass Balustrades**, Cantilevered	Individual glass panel breaks leading to progressive collapse.	Low	High	Medium	Design considering redundancy. I.e. check case for single panel fully broken and providing no support to ensure surrounding structure (handrails, glass) is sufficient to support full design loads on broken panel (as per Aus Standards).	Low	Low	Low	Ensure design of patch fittings, setting blocks, handrail and handrail joints are designed to transfer load to adjacent support.
						Design balustrade such that elements are structurally independent. I.e. glazing supported directly to stanchions such that a broken panel will not be detrimental to system stability.	Low	Low	Low	
B.10	Overhead Glazing	Breakage of glass roof during construction / maintenance works leading to risk of glass and/or maintenance personnel falling.	Medium	High	High	Use heat strengthened laminated safety glass as lowest layer with 4 edge support.	Medium	Low	Low	
						Ensure construction / maintenance personnel are provided with fall arrest system when working on overhead glazing.	Medium	Low	Low	
						Devise cleaning and replacement strategy to avoid standing on glass.	Medium	Low	Low	

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						Design glass and support detailing to pass CWCT "Safety and Fragility of Glazed Roofing" guidance and test procedure, Technical Notes TN66 & TN67.	Medium	Low	Low	
B.11	Glass Doors	Spontaneous failure or impact damage to toughened glass doors leading to risk of dislodgement of glass fragments.	Medium	Low	Low	Use toughened monolithic glass and fully heat soak.	Low	Low	Low	Residual risk that glass could fall out and cause injury.
						Use heat-strengthened laminated glass (if framed only, not code compliant in unframed doors).	Low	Low	Low	
B.12	Monolithic Glass Fins	Breakage of monolithic glass fins leading to localised collapse of system and risk of injury.	Medium	High	High	Design residual/redundancy into system so that loads are transmitted via an alternative load path in the event of failure.	Low	Low	Low	
						Use laminated glass fins.	Low	Low	Low	Check redundancy case of single ply broken with temperature load and nominal short term loading.
						Apply film to monolithic fins.	Medium	Medium	Medium	Films have relatively short service life and can be scratched.
B.13	Balustrades	People climbing over and falling from height.	Low	High	Medium	Consider raising height of balustrade above NCC minimum requirement.	Low	Low	Low	
						Remove any climbable elements within or adjacent to balustrade as per NCC requirements.	Low	Low	Low	
B.14	Balustrades	Objects placed on handrail/top edge of balustrade falling.	Medium	High	High	Profile top surface (sloping in to balcony) so items won't be placed on handrail or items placed will fall back rather than out.	Low	Low	Low	
						Make horizontal dimension too small to act as reasonable surface for placement of objects.	Low	Low	Low	
						If handrail separate and not in line with balustrade, make height of balustrade over handrail high enough to prevent fall of small objects.	Low	Low	Low	
B.15	Balustrades	Objects falling through low level gap between balustrade and slab causing injury to people below.	Medium	High	High	Ensure gap is closed or minimised so that small items (eg. marbels) can't fall through.	Low	Low	Low	
B.16	Roof planters	Risk of objects (eg. pebles, stones) being kicked off or flung off by birds causing injury / glass breakage below.	Low	High	Medium	Ensure garden beds at roof edge have suitably selected fill materials.	Low	Low	Low	
B.17	Operable Windows	Risk of people climbing out of operable elements and falling from height.	Low	High	Medium	Incorporate locking to limit operable window openings to say 100mm.	Low	Low	Low	
						Limit access by increasing height of operable element such that it isn't considered to be accessible.	Low	Low	Low	
						Provide physical barrier internal to opening.	Low	Low	Low	
B.18	Operable Windows	Risk of objects falling out of operable elements from height.	Low	High	Medium	Provide physical barrier to public below such that likelihood that falling object will reach public is reduced.	Low	Medium	Low	
						Limit access by increasing height of sill so that items cannot be rolled/kicked out.	Low	Medium	Low	
						Provide physical barrier internal to opening without large openings (eg. mesh).	Low	Low	Low	
B.19	Awning Windows	Risk that awning sash chain winder with built in restrictors fails (by damage or overwinding) and awning sash comes loose.	Medium	High	High	Provide restrictor arm fitted with security screws to ensure sash maintains compliance in the event the chain winder fails, is tampered with or removed.	Low	Low	Low	

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B.20	Brittle Materials (e.g. Stone, Terracotta)	Material failure in service due to impact (e.g. by BMU or Mobile Elevated Working Platform) leading to risk of falling material.	High	Medium	High	Carry out appropriate impact tests to confirm post-breakage performance is adequate (i.e. doesn't break or no fragments fall).	Low	Low	Low	*Residual risk dependant on outcome of review.*
B.21	CFC Cladding	Material or fixing failure in service (due to incorrect installation or degradation of material) leading to risk of panels falling from height and human injury.	Medium	High	High	Ensure installed correctly so that fixings are appropriate and material will not degrade. E.g. allow for movement, appropriate fixing edge distances, paint CFC board off site on all 6 sides, supporting frame of appropriate material.	Medium	Medium	Medium	Residual risk that mitigation measures not taken appropriately on site.
						Use more robust material.	Low	Low	Low	
B.22	External Features	External feature (e.g. external bead, fin, etc.) or components dislodging and falling from height leading to risk of human injury.	Medium	High	High	Secure external feature with mechanical fixings.	Low	Low	Low	Fixings to be locked as per specification (via loctite, spring washers, etc.) to reduce risk of them loosening and falling out. Contractor to provide appropriate protection to prevent objects (screws, components, etc.) falling during installation.
						Prefix features to panelised system.	Low	Low	Low	
						Eliminate feature.	Low	Low	Low	
B.23	External Feature Bead	External feature bead dislodging and falling from height.	Low	High	Medium	Secure external feature with fixing screw.	Low	Low	Low	
B.24	Soffit Concrete Anchors	Installation of chemical anchors to soffits (i.e. fixing upwards) leading to installation safety risk - chemical bonding mixture is hazerdous.	Low	High	Medium	Use chemical anchor with proprietry sleeve to prevent leakage.	Low	Low	Low	
						Use mechanical anchor (e.g. expansion bolt).	Low	Low	Low	
B.25	Sunshades	Tonal Noise (such as whistling)	Low	Medium	Low	Avoid fine gaps of less than 20mm in width, by removing duplicate plates that are close together, introducing a thermal gasket	Low	Low	Low	
B.26	Sunshades	Broadband Noise	Unknown	Medium	Low	Further specialist study could be carried out to identify the magnitude of the wind speed and noise levels, which would help on quantifying frequency of occurrence.	Low	Low	Low	Broadband noise is likely to happen but difficult to quantify/compare with backgrond noise on a windy day.
B.27	Sunshades	Dynamic Excitation/Flutter (known as vortex shedding and buffetting) - may induce dynamic instability to sunshades via resonance (VIV) and background vibration (buffeting)	Low	Low	High	Maintain the sunshade orientation angle (e.g. running diagonally). Maintain the sunshade as monolithic sheet with bend. Maintain a 125mm gap between the sunshade and façade below. Remove the sunshade cantilever to the roof.	Low	Low	Low	
	C) Access Detailed Hazards									
	(TO BE REVIEWED BY ACCESS TEAM IF WE HAVE ACCESS SCOPE - OTHERWISE FOR REFERENCE ONLY)									
C.1	*General - Access*	Cleaning of facade will result in activities above public spaces, and hence a possibility of injury due to items being dropped from cradle/EWP etc.	Low	Medium	Low	Develop access strategy to ensure that the facade is accessed safely without increased risk to the general public or maintenance personnel. The access strategy may include for BMU and/or rope access strategy.	Low	Medium	Low	
						Access the façade from internal areas of the building.	Low	High	Medium	Ensure all maintenance tools are roped off and safely secured to harness or structure.

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C.2	*General - Access*	Can all areas of the building facade be accessed safely from fixed platforms with appropriate containment is in place?	Medium	High	High	Access the facade using fixed Building Maintenance Unit (BMU) for maintenance to the external areas of facade.	Low	High	Medium	Ensure all maintenance tools are roped off and safely secured to the BMU Cradle. Ensure that the BMU is regularly maintained and certified prior to use.
						Where areas of the facade are not accessible by BMU, use Industrial Rope Access techniques.	Low	High	Medium	Ensure that qualified staff are undertaking maintenance works. All maintenance tools are roped off and safely secured to IRA harness. Also ensure that anchor point certification is current.
						Use PPE/fall arrest for maintenance to parapets, awnings, roofs etc.	Low	High	Medium	Ensure that the fall arrest system is used in accordance with manufacturer requirements.
						Use temporary access such as EWP.	Low	High	Medium	Ensure facade configuration allows for use of EWP without increasing risks of impact damage during ascent/descent.
C.3	*General - Access*	Can all areas of the building be accessed safely without risk of entrapment (ie lockable doors, winds holding doors shut, etc)?	Low	Medium	Low	Ensure doors are shielded from wind.	Low	Low	Low	
C.4	Panel replacement	Can all panels be reglazed without risk of manual handling injuries, dropped panels, access via internal lifts, etc?	Low	Medium	Low	Review re-glazing activities with respect to selected building access methodology to ensure compatibility (i.e. glass weight, module size, etc).	Low	Low	Low	
C.5	Panel replacement	Working from height, high risk work activity - potential for fall from height during facade element replacement.	Medium	High	High	Document all procedures in O&M Manual to ensure adequate and safe procedures are described for the operational staff of all maintenance systems.	Low	Medium	Low	
						Install Building Maintenance Unit (BMU) that adequately addresses all maintenance requirements.	Low	Low	Low	
C.6	Brittle surfaces	Can all areas be accessed without risk of travel over brittle surfaces which may fail under maintenance loads (i.e. correct glass specification on canopies, etc).	Low	Medium	Low	Design in accordance to all relevant codes.	Low	Low	Low	

BUILDING CODE OF AUSTRALIA
PRELIMINARY REVIEW REPORT

Hyatt Regency Hotel development

51 Pirie Street, Adelaide

5/126 Carrington St, Adelaide, SA 5000 Telephone: (08) 8228 1600 Email: admin@teconaust.com.au

INTRODUCTION

Tecon Australia have undertaken a preliminary review of the proposal, as at 22 May 2020 for the building located on 51 Pirie Street, Adelaide.

The proposal comprises a 21 storey hotel with basement on the corner of Pirie Street and Gawler Place, Adelaide.

Based on our review we consider the building is a hotel building which includes ground floor reception, bar area and loading area, conference and meeting facilities (level 1), ballroom (level 2), staff administration (level 3 & 5), pool level (level 6), hotel floors (levels 7-20), bar area (level 21). Table 1 has been included below provides an outline of the buildings use, classification and area per storey.

Table 1 – Break-up of building use, classification and area per storey

Storey	Use	Classification (BCA)	Floor Area (approx.)
Ground	Bar	6	1250sqm
	Office/Reception	5	
Plant Mezz	Plant Level	3	1250sqm
Level 1	Conference/meetings	9b	1250sqm
Level 2	Ballroom	9b	1250sqm
Level 3	Administration	5	650sqm
Level 4	Plant	3	1250sqm
Level 5	Employee Facilities	5	1250sqm
Level 6	Pool deck	10b	363sqm
Level 6	Gym/Yoga/Amenity	9b	890sqm
Level 7-20	Hotel rooms	3	1250sqm
Level 21	Skybar/restaurant	6	1250sqm

DOCUMENTATION

Our assessment has been undertaken based on the GHD Woodhead Design Review documents dated May 2020 and ground floor architectural plan (SK100)

LIMITATIONS AND ASSUMPTIONS

The following general assumptions and limitations are associated with this report:

- Unless specifically nominated within this report, it is the assumption that the design achieves compliance with the DtS requirements of the BCA and associated referenced standards.
- This report does not purport to address compliance with the Disability Discrimination Act, Dangerous Goods Act and/or Occupational Health and Safety Act (and associated regulations).
- This document does not place emphasis on deliberate or malicious fire starts (i.e. arson) as part of the fire engineering analysis. The effects of explosive devices, terrorism, arson, fire accelerants, multiple fire starts or deliberate sabotage of installed fire systems has not been identified as a considerable risk for this property. This document predominantly therefore reviews the incidence and likelihood of accidental or single fire events.
- The intent of this report or its findings is not to achieve an absolute (100%) level of life safety within the building. It is assumed that by demonstrating that the Performance Requirements of the Building Code of Australia are met, an acceptable level of life safety has been achieved.

- The Building Code of Australia does not address property or asset protection, and no specific client requirements are noted. The proposed fire safety design outlined within this fire engineering analysis therefore does not attempt to address these items.
- This report has been based upon the information provided to our office as listed within this report and any additional or amended information can in turn affect the results of engineering analysis associated with this report and the associated outcomes.

This report should not be used or referenced unless written approval is granted by Tecon Australia Pty Ltd. Tecon Australia does not accept any responsibility or liability where this report is used without written permission.

BCA REPORT

Table 2 – BCA Compliance Comments

ITEM	LEGISLATIVE REFERENCE	NOTES	COMPLIANCE COMMENTS
Administration			
Referrals		SAMFS Report required prior to approval.	
CITB Levy		To be paid prior to approval	
Development Plan Consent		Confirmation of compliance with all conditions	
Building Rules Consent		Assessed under NCC2019	
BCA Part A	**Part A**		
General Provisions			
Classification	A3.3	Indicate Class (1-10) Multiple Classification Clause A3.3	See above Table 1
BCA Part B **Structural Provisions**	**Part B**		
		Full engineering to be submitted for assessment	
BCA Part C	**Part C**		
Fire Resistance	**Part C1**		
Construction Type Rise in Storeys	C1.1 & C1.2	Rise in Storeys and Class Calculation of Rise in storeys	Rise in storey - 22 Type A Construction Effective Height 84.35m
Fire hazard indices	C1.10	Floors, walls, ceilings, air-conditioning ductwork, lift cars, sarking etc.	TBA
Ancillary Attachments	C1.14	Ancillary elements must not be fixed to internal or external faces of an external walls that is required to be non-combustible unless permitted under this clause.	
Fire Source features	A1.1 & Spec C1.1	Confirm where exposure occurs – site boundaries & other buildings on site	

Spec C1.1 General Requirements	Spec C1.1	Support of another part	FRL generally 120mins
Compartmentation and Separation	**Part C2**		
Floor Area limitations - Compartment floor area - Compartment volume	C2.2	Dependent on type of construction	N/A
Stairways and lifts in one shaft	C2.11	Stairs and lifts shall be separated where either one must be in fire resisting shaft	Complies
Separation of Equipment	C2.12	- Lift motors/control panels - Emergency generators - Central smoke control plant - Boilers - Certain batteries	120min construction required
Electrical supply systems	C2.13	- Internal substations - Main switchboards sustaining emergency equipment - Electrical conductors - Emergency and non-emergency switchgear	120min construction required
Public corridors in class 2 & 3 Buildings	C2.14	Where more than 40m in length smoke walls/barriers need to be considered	Complies
Protection of openings	**Part C3**		
Protection of opening in external walls	C3.2	3m to boundary and 6m to external walls that are required to have an FRL	Appears to comply otherwise external wall wetting sprinklers
Service penetrations in fire isolated exits	C3.9		Final details to be provided
Openings in fire isolated lift shafts	C3.10		Final details to be provided
Bounding construction: class 2, 3 & 4	C3.11	Difference depending on Type of Construction.	Fire doors to SOU

Openings in floors and ceilings for services	C3.12		Final details to be provided
Openings in shafts	C3.13		Final details to be provided
Openings for service installations	C3.15		Final details to be provided
Construction joints	C3.16		Final details to be provided
ACCESS AND EGRESS	**Part D**		
Provision for escape	**Part D1**		
Number of exits required	D1.2		Complies
Fire isolated exits	D1.3	Dependent on travel past a certain number of levels	Complies
Exit travel distances	D1.4		Clarification of egress for the covered driveway/receiving doc area
Distance between exits	D1.5	Not less than 9m or more than 45/60m dependent on class. A path of travel shall not converge within 6m of the alternative travel path.	Complies
Exit dimensions	D1.6 Table D1.13	Relevant to both path of travel and door widths	Complies re 450 persons to level 1 & 2 & 8 200 other floors
Travel via fire isolated exits	D1.7	Only certain doors may open into exit. This clause also specifies where such an exit will need to discharge.	
External stairways/ramps in lieu of fire isolated exits	D1.8	Important consideration is the need for fire separation from the building.	N/A
Non-fire isolated stairs	D1.9	Must provide a continuous means of travel from every storey served to the ground floor. Discharge point must be considered.	N/A
Discharge from exits	D1.10		Ensure exits cannot be block at ground level
Horizontal exits	D1.11	- Must not comprise more than half of the required exits.	N/A

		- Check the area on the other side of the door based on occupancy.	
Non-required stairs, ramps or escalators	D1.12		N/A
Number of persons accommodated	D1.13	Various means of determining occupancy numbers. Note that facilities and egress widths can also govern.	200 per floor except L1 & L2 - 450
Plant rooms, lift machine rooms and electrical network substations	D1.16	Concessions available permitting different forms of access/egress from these areas.	Complies
Access to lift pits	D1.17	If more than 3m in depth an access doorway is necessary	Details to be provided
Construction of exits	**Part D2**		
Fire isolated stairways and ramps	D2.2	To be non-combustible and designed that failure will not cause structural damage; or impair fire resistance of the shaft	
Non-fire-isolated stairways and ramps	D2.3	Dependent on rise in storeys must comply with D2.2 of constructed with materials listed in this clause.	N/A
Separation of rising and descending flights	D2.4	Stairs providing egress from a basement level shall not be in the same shaft as those from a descending stair.	Central stair will comply/be separated
Open access ramps and balconies	D2.5	Relates to table E2.2a (smoke hazard management).	N/A
Smoke lobbies	D2.6	Where more than 2 access doorways open into a fire isolated exit a smoke lobby may be required as an alternative to pressurisation.	Required for rooms opening into the ground floor fire isolated passage
Installations in exits and paths of travel	D2.7		Final details to be provided
Enclosure under stairs and ramps	D2.8,	The space under a fire-isolated stair must not be enclosed. Where the underside of a non-fire	Will comply

		isolated stair is enclosed this must achieve a 60/60/60 FRL.	
Width of required stairways and ramps	D2.9,	Handrails are required at 2m centres if the total width of the stair is to be considered in the exit width.	N/A
Pedestrian Ramps	D2.10		N/A
Fire isolated passage ways	D2.11	This must have the same FRL as the stair/ramp that it is serving; or 60/60/60 in any other case.	complies
Roof as open space	D2.12	Must achieve a minimum 120/120/120 FRL and not have openings within 3m of the path of travel.	N/A
Goings and Risers	D2.13, D2.18	G & R, size of openings & slip resistance. Require constant dimensions throughout a flight. Stair width for egress important consideration.	Final details to be provided
Landings	D2.14		Final details to be provided
Thresholds	D2.15	A step is generally not permitted within the width of the door leaf. Concessions available under this clause.	Final details to be provided
Balustrades and other barriers	D2.16	Check height, gaps & construction/connections.	Final details to be provided
Handrails	D2.17	Along at least one side of the stair/ramp. In primary schools secondary rails are necessary. AS1428.1 will need to be considered where building is accessible.	Final details to be provided
Fixed platforms, walkways	D2.18		
Doorways and doors	D2.19		Complies
Swinging doors	D2.20	Door swing and the need for hold-open devices to be considered	Applies to comply
Operation of latch	D2.21	Single hand downwards motion	Final details to be provided
Re-entry from fire-isolated exits	D2.22	In class 9a, 9c and serving any storey above 25m in effective height.	Required for any stair which serves a floor >25m in effective height – all stairs
Signs on doors	D2.23	Fire doors, smoke doors & doors discharging from fire isolated exits	Final details to be provided

Protection of openable windows	D2.24	Class 2, 3, 4 or 9b early childhood centres. Bedrooms in the class 3 (where surface below) is greater than 2m shall have any opening below 1.7m. Window to be restricted to 125mm sphere	Final details to be provided
Access for people with a disability	**Part D3**		
DDA to be considered		Any issues to be raised with client	
Disability Access	D3.1		
Access to buildings	D3.2	To building from: - Main points of pedestrian entry from boundary; - Pedestrian links between buildings; and - From accessible carpark 50% of entrances to be accessible. Need to consider staff and patrons as total.	Final details of the toilets (ambulant and accessible) to be provided Details of DDA rooms have been provided
Parts of a building to be accessible	D3.3	- Every ramp and stairway except those in areas exempted by D3.4. - Every passenger lift. - Accessways and turning spaces need to be considered. - Concession for ramps/lifts where upper level less than 200 sqm	
Exemptions	D3.4	Where access to a specific area would be unsafe; or unsuitable based on the use. Support of access consultant beneficial.	Some BOH areas maybe applicable
Accessible car parking	D3.5	Number of parking spaces based on table D3.5. These need to comply with AS/NZS2890.6	N/A
Signage	D3.6	Required to identify: - All sanitary facilities - All required exit doors required to be provided with an exit sign (under E4.5) - Space with a hearing augmentation system	

		- Where accessible entrances not available - The type of accessible facility (i.e. left/right hand)	
Hearing Augmentation	D3.7	Required where an inbuilt amplification system is installed in: - A room in a class 9b - In an auditorium, conference room, meeting room, room for judicatory purposes; - At a ticket sellers booth/reception counter where public is screened from service provider	Required to function areas where inbuilt amplification installed
Tactile indicators	D3.8	To be provided to: - Stairway (non-fire isolated) - An escalator - Passenger conveyor - Ramp (non-fire isolated) - Overhead obstruction - An accessway that meets vehicular way where there is no change in level	Final details to be provided
Wheelchair seating spaces in class 9b buildings	D3.9		N/A
Swimming pools	D3.10		Access into pool is provided by fixed ramp and an aquatic wheelchair will be required
Ramps	D3.11	Max combined vertical height of 3.6m	
Glazing in access ways	D3.12	Visual markings necessary to AS1428.1 where can be mistaken for an opening	
SERVICES AND EQUIPMENT	**Part E**		
Fire Fighting Equipment	**Part E1**		
Hose reels	E1.3 & AS2441	- Required where >500 sqm floor area. - Not required in Class 2 or 3 buildings where extinguishers provided.	N/A to class 3 levels

		- 36m coverage + 4m spray. - Pressure and flows - Water supply	
Hydrants	E1.4 & AS2419	- Required where >500 sqm in floor area. - Boosted system necessary where >2000 sqm or as prescribed in AS2419. - 30m coverage + 10m spray (internally) - 60m coverage + 10m spray (external attack) - 20m to hardstand, 60m coverage + 10m spray (external feed) - To extend 1m into all rooms - Radiation barriers - Pressures and flows - Water supply	Final details to be provided
Sprinklers	E1.5 & AS2118	See Table E1.5. See NT E1.5 for Class 9a buildings	Final details to be provided
Portable extinguishers	E1.6	See Table E1.6 for areas of risk. Also need to be provided where FHR not installed.	Final details to be provided
Fire control centres	E1.8	Required where effective height exceeds 25m	Complies located on GF
Precautions during construction	E1.9		
Provisions for special hazards	E1.10		N/A
Smoke hazard management	**Part E2**		
General requirements	E2.2	Various instances where required based on classification and also rise in storeys	Final details to be provided
Provisions for special hazards	E2.3		

Lift installations	**Part E3**		
Lift installations	E3.1		
Stretcher lifts	E3.2	Must be provided in at least one emergency lift required by E3.4 or in passenger lifts that serve storeys above 12m in effective height.	Appears to comply
Warning against the use of lifts in fire	E3.3	Signage necessary	Final details to be provided
Emergency Lifts	E3.4	Required in buildings with effective height >25m; or in Class 9a buildings where patient care areas are not located at ground level (where there is direct egress to road/open space)	Final details to be provided
Landings	E3.5		
Passenger lifts	E3.6	Access for people with disabilities needs to be considered	Final details to be provided
Fire Service Controls	E3.7	Where serving any storey above 12m in effective height	Final details to be provided
Aged care buildings	E3.8	Ramp/stretcher facility necessary if at a level where egress to road/open space not available.	Final details to be provided
Fire service recall switch	E3.9	Applicable where E3.7 applies	Final details to be provided
Lift car fire service control switch	E3.10	Applicable where E3.7 applies	Final details to be provided
Emergency lighting	**Part E4**		
Emergency lighting requirements	E4.2	Various triggers for emergency lighting	Final details to be provided
Measurement of distance	E4.3		
Design and operation of emergency lighting	E4.4	To AS2293.1	Final details to be provided
Exit signs	E4.5	Above each exit door and doors opening to required exits	Final details to be provided

Direction signs	E4.6	As appropriate	
Class 2 and class 3 buildings and class 4 parts: exemptions	E4.7		Final details to be provided
Design and operation of exit signs	E4.8	To AS2293.1	Final details to be provided
Sound systems and intercom systems for emergency purposes	E4.9	Required: - Where building has effective height >25m. - Other prescribed instances in Class 3, 9a & 9b buildings	Final details to be provided
HEALTH AND AMENITY	**Part F**		Final details to be provided
Damp and weatherproofing	**Part F1**		
Stormwater Drainage	F1.1	Needs to be designed to comply with AS3500.3	
External above ground membranes	F1.4	Where external waterproofing is necessary (i.e. balconies over habitable rooms)	
Roof Coverings	F1.5	To comply with necessary AS based on material.	
Sarking	F1.6	Must comply with AS/NZS4200.1 & 2	
Waterproofing of wet areas in buildings	F1.7	Necessary in various areas or Class 2-9 buildings in accordance with Table F1.7	
Damp-Proofing	F1.9	Moisture from the ground must be prevented from rising. Standards specified for damp proofing of walls.	
Damp-Proofing of floors on the ground	F1.10	Membrane to AS2870 required. I.e. Fortecon	
Provision of floor wastes	F1.11	Required in Class 2, 3 or 4 where bathroom or laundry located above a sole occupancy unit.	
Sub-floor ventilation	F1.12		
Glazed assemblies	F1.13	To comply with AS2047	

Sanitary and other facilities	**Part F2**		
Facilities in residential buildings	F2.1	Dependent on classification: - Kitchen sink - Food prep areas - Bath or shower - Wash tub and WM space - Clothes drying facilities - Employee (Caretaker) facilities Variations available for laundry configurations	N/A
Calculation of number of occupants and facilities	F.2.2		Ambulant accessible toilets to be provided
Facilities in class 3 to 9 buildings	F2.3	- Pans, WBs & Urinals. - Important to consider separation of facilities in schools. - Additional requirements for early childhood centres and health care buildings - Sporting venues require shower facilities - Unisex accessible facility caters for 10 staff	Final details to be provided
Accessible sanitary facilities	F2.4 & AS1428.1	- See Table F2.4(a) for required number of facilities. - Ambulant facilities required at a bank of toilets incorporating an accessible WC. - Left and right handed - Accessible showers to Table F2.4(b)	Final details to be provided
Construction of sanitary compartments	F2.5	- Partition heights - Door construction to fully enclosed facilities - Early childhood facilities	Final details to be provided
Interpretation: Urinals and washbasins	F2.6	Each 600mm of a trough may be counted as a urinal. A pan may also be substituted.	Final details to be provided
Microbial (legionella) control	F2.7	AS/NZS 3666.1	Final details to be provided

Waste management	F2.8	Class 9a & 9c buildings	N/A
Room Heights	**Part F3**		
Height of rooms and other spaces	F3.1	Varies between 2-3m dependent on use of space	Floor to ceiling required Class 3 – Corridor/Facilities – 2.1m Class 3 – Habitable – 2.4m Class 5 – Corridor/Facilities – 2.1m Class 5 – General – 2.4m Class 7a – Carpark area – 2.1m Class 9b – Functions space >100persons – 2.7m Commercial Kitchen – 2.4m
Light and Ventilation	**Part F4**		
Provision of natural Light	F4.1	Applicable to Class 2, 3, 4, and 9 buildings.	Final details to be provided
Methods and extent of natural lighting	F4.2	- 10% of floor area via window; or 3% of floor area via roof light. - The setback from boundaries needs to be considered especially in multi-storey buildings. - Sill heights important in early childhood and aged care buildings	
Natural light borrowed from adjoining room	F4.3		
Artificial lighting	F4.4	AS1680	
Ventilation of rooms	F4.5	Natural or to AS1668.2 and AS/NZS 3666.1	
Natural ventilation	F4.6	5% or floor area to be openable via windows, doors or other devices.	Final details to be provided
Ventilation borrowed from adjoining room	F4.7	Varies between 5% and 10%.	
Restriction of water closets and urinals	F4.8	Specific instances where WC cannot open into a room.	

Airlocks	F4.9	Generally screening/air lock necessary and room to be provided with mechanical ventilation if E4.8 applies	Final details to be provided
Car parks	F4.11	Applicable to every storey of carpark unless open-deck	Final details to be provided
Kitchen local exhaust ventilation	F4.12		Final details to be provided
Sound Transmission and Insulation	**Part F5**		Final details to be provided
ANCILLARY PROVISIONS	**Part G**		
Minor Structures and Components	**Part G1**		
Refrigerated chambers, strong rooms and vaults	G1.2	Require: - Door which is capable of being opened from inside - Internal lighting with control located adjacent the entrance door - An indicator lamp positioned outside the chamber which is illuminated when interior lights are switched o - An alarm which is controlled from inside - Door with clear width of 600mm and height of 1.5m.	Final details to be provided
ENERGY EFFICIENCY	**Part J**		BCA2016

RECOMMENDATIONS

Tecon Australia's preliminary review is on early stages drawings and we note there are a few areas on non-compliance which should be reviewed by the design team. We have also not received all the details documentation will be required to clarify the final details. Some of the areas to be review are:

- There is extended travel distance from some of the hotel rooms (in the corner of the building), performance solution required
- There is a requirement for hearing augmentation in the function/bar areas
- Ambulant accessible toilets required
- Ensure door from fire exit does not open over street (Gawler Place)

25 June 2020

Will Gormly
Department of Planning, Transport & Infrastructure
GPO Box 1815
ADELAIDE SA 5001

To Whom it May Concern
/
DEVELOPMENT NUMBER: **020/A131/20**
APPLICANT: **CEL Development Pty Ltd C/- Future Urban**
NATURE OF DEVELOPMENT: **Demolition of all buildings on site, including a Local Heritage (Townscape) Place and construction of a twenty-one (21) storey hotel building.**
SUBJECT LAND: **51 PIRIE STREET ADELAIDE SA 5000**

The application has been assessed and the building at an approx. proposed height of RL 139.45m AHD the application **will** penetrate the Adelaide Airport Obstacle Limitation surfaces (OLS) which is protected airspace for aircraft operations.

The application will require approval in accordance with the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996 with final approval by the Department of Infrastructure and Regional Development.

The developments will penetrate the OLS by approximately 21.45 metres.

The final overall height including all structures and masts will need to be provided to the airport in Australian Height Datum (AHD) to commence the approval.

If the development is approved by the Department of Infrastructure, Transport, Regional Development and Cities any associated lighting would also need to conform to the airport lighting restrictions and shielded from aircraft flight paths.

Crane operations associated with construction, if approved, will also be subject to a separate application.

Should you require any additional information or wish to discuss this matter further please contact the undersigned on 8308 9245.

Yours sincerely,

Brett Eaton
Airside Manager

Adelaide Airport

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OFFICE FOR DESIGN + ARCHITECTURE SA

Confidential

File No:
2019/16592/01

Ref No:
15732262

9 July 2020

Mr Will Gormly
Senior Planning Officer
City and Inner Metro Development Assessment
Planning and Land Use Services
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
Adelaide SA 5000

will.gormly@sa.gov.au

51 Pirie Street, Adelaide

Further to the referral 020/A131/20 received 9 June 2020 and subsequent information received 1 July and 9 July 2020 pertaining to the development application at the above address and in my capacity as a statutory referral in the State Commission Assessment Panel, I am pleased to provide the following comments informed by the Design Review process for your consideration.

The proposal was presented to the Design Review panel on two occasions. I acknowledge the willingness with which the project team engaged with the Design Review process.

The proposal is for a 21 level hotel with 285 guest rooms and associated ground floor lobby and bar, ballroom, conference, fitness and recreation facilities, and sky level bar and dining room. The previous scheme, which was also for hotel use, received Development Approval in April 2019 (with Reserve Matters). I understand the new proposal has been informed by the hotel operator requirements.

I support the aspiration to deliver a high quality hotel development in this location that activates the street with day and night time activity. While this proposal is a new application, I also acknowledge the positive change to the scheme, with the removal of above ground car parking and the Gawler Place porte cochere, which reduces pedestrian conflict risk and provides opportunities for genuine activation of the lower building levels.

Development of this scale in this part of the city has a responsibility to deliver a high benchmark for good design, particularly in terms of the public realm contribution. In my view, the removal of the Local heritage facade must also be justified by achieving a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome. I acknowledge the incremental changes to the design in response to the Design Review panel recommendations, including refinement of the angled reveals at the base and top of the building and the canopy design. However I am not yet convinced that the design presented is sufficiently resolved to warrant removal of the Local heritage facade. I recommend further review of the design of the building base and canopy, informed by the design principles, context, internal program, technical requirements and the public realm interface.

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The 1350 square metre site is located on the corner of Pirie Street and Gawler Place in the Capital City Zone, which has no prescribed height limit. The surrounding area is characterised by a mix of contemporary commercial buildings of varying heights and uniquely includes a number of buildings with a 45 degree angle to the city grid. Pirie Street forms part of the city's movement network with high volumes of pedestrian, bike, vehicle and servicing activity, and is also identified in the Development Plan as a Core Pedestrian Area. Gawler Place is a north-south link that runs from Wakefield Street to North Terrace. This section of Gawler Place has a high level of pedestrian activity as it connects city workers to Rundle Mall. The broader context includes an intact section of nineteenth century streetscape to the west of the site, which comprises the Adelaide Town Hall, Eagle Chambers and the Epworth Building. The context directly west and east of the site comprises late modernist tall buildings, both characterised by distinctive 45 degree angled forms.

The site currently contains a Local (Townscape) heritage place identified in the Development Plan as a former Bank. The heritage place was substantially redeveloped in the 1980s, with approximately 600mm of the heritage facade retained and a concrete building constructed behind and to the east. The proposal seeks to demolish the Local (Townscape) heritage place. While I acknowledge the proponent team's heritage and planning opinion regarding removal of the extant facade, in my view the heritage facade presents a unique opportunity and has the potential to enrich the project and the hotel's local identity. A new building also presents an opportunity to reinvent the 1980s intervention in a contemporary manner. My support for the removal of the heritage facade is contingent on the new proposition providing a significant contribution to the streetscape and achieving a high quality design and material outcome, which in my view has not yet been demonstrated.

The proposed building height is 21 storeys (93.85 metres) expressed as a singular building without a podium, which I support given the inner city location.

The proposed architectural expression comprises a singular glazed tower with set back angled reveals at the base and top of the building that intend to reveal the hotel's public functions and express an abstracted podium at the pedestrian level. The angled reveals also seek to create visually interesting and enlivened environments for the internal spaces. In principle, I support the concept for the tower form and angular reveals that go some way to referencing the late modernist context and the hotel use. However, in my view the design of the building base lacks coherence and does not yet make a positive streetscape contribution and requires reconsideration.

Neutral coloured framed glazing is proposed within the angled reveal and along the ground floor Pirie Street and Gawler Place frontages. The lobby bar, located in the north east corner of the development, features tilt up windows with bar seating overlooking the street. The main building entrance is proposed off Pirie Street via an airlock, with a secondary entrance off Gawler Place. I support the intent for streetscape activation through operable windows and extensive glazing and I acknowledge the hotel's functional and security requirements regarding the extent of facade permeability. I understand preliminary testing of the facade's performance against quantitative energy efficiency requirements has been undertaken to determine the achievable level of transparency, and I support the provision of Insulated Glass Unit (IGU) samples. Based on these samples, I am concerned by the level of visual transparency achieved by the neutral glass selection. I am also not yet convinced that the neutral glass will achieve the envisaged level of contrast between the angled reveals and the main champagne tinted facade. I recommend further review of the neutral glass selection, with the view to increasing visual permeability and strengthening the visual contrast with the champagne tinted facade as indicated on the visualisations. Strip lighting is proposed to accentuate the angled reveals, which I support in principle.

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I recommend further resolution of the development's overall lighting strategy, with consideration given to effective integration with the built form and internal spaces and colour temperature to ensure lighting enhances the hotel amenity and the building's appearance.

A continuous 4.2 to five metre tall canopy is proposed along the Pirie Street and Gawler Place frontages, which is characterised by a flat and folded expression that lifts in a prismatic form above the Pirie Street entrance. The soffit has a folded form along its length with the exception of the service access zone which is flat to achieve a five metre clearance. The soffit and column capitals are clad with warm grey metallic semi-reflective aluminium sheet, and the folded canopy fascia is clad with medium bronze metallic aluminium sheet. Canopy downpipes are recessed into the structural column polished precast lining. A section of glazing is proposed in the north east corner, with the view to visually connecting the building base to the tower above. The canopy projects past the Gawler Place kerb to provide coverage to guests utilising the Gawler Place drop-off and the width tapers at the edges of the site. In my view, the relationship of the canopy with the facade composition, building structure, ground plane and the building interior lacks coherence and is not yet convincing. I am also not convinced that the canopy provides effective weather protection at the proposed height. Noting that signage does not form part of the application, I am also concerned by the potential impact of building signage on the canopy expression and ground floor facade generally. I recommend holistic review of the canopy design informed by the facade composition, internal functions and effective weather protection.

The site to the south contains an at-grade car park and ramp, diesel storage and delivery bay. The built form from level five to level 21 is set back six metres from the southern boundary, which I support as this protects the amenity of south facing hotel rooms should development occur on the adjoining boundary and also provides a degree of visual surveillance. I support the inclusion of a vertical slot window to the lower level solid southern facade to improve the amenity of the adjoining back of house functions and provide more direct visual surveillance to the laneway. I also support the approach for varied texture, angled articulation and integral lighting to the precast wall.

The tower facade comprises a singular curtain wall expression with blind mullions that seeks to respond to the hotel brand and the commercial function, and with the view to presenting a finely detailed, refined and elegant outcome. On the western facade, the curtain wall staggers to following the neighbouring building form. A high performance champagne tint is proposed for the tower glazing which intends to contrast against the angled reveals and accentuate the dual facade planes. In my view, the curtain wall glazing colour presents the opportunity to distinguish the hotel and its hospitality offer from surrounding commercial development and to provide a strong identity. I urge ongoing testing of the facade's day and night time presentation based on the glass colour selection with consideration given to any hotel room amenity impacts. Louvres are proposed in the lower sections of the east and south elevations, which appear to be reasonably integrated based on the visualisations.

The ground floor level includes a gas enclosure in the north west corner and a fire control room, three fire exits, a fire booster and a tilt up door accessing a covered driveway and receiving dock on the southern half of the eastern elevation. The service zones appear to be enclosed by pewter powdercoated louvres which extend to the underside of the canopy. I support the uniform treatment of services which appears to be composed and ordered.

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Outdoor seating and five cube planters containing evergreen trees are proposed along Pirie Street which sit below the canopy. A security barrier/planter/bench is also proposed on the north east corner in the location of the extended footpath and kerb. I generally support the ambition for the proposed public realm improvements that include new paving, street trees and planter boxes and I welcome the continued engagement with the City of Adelaide.

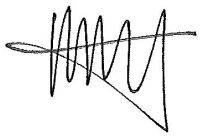
I commend the logic and efficiency of the internal planning of the hotel room floors and vertical circulation core, particularly given the challenging site dimensions. I also support the mix and envisaged quality of the hotel rooms and the configuration that maximises north and south orientation. Additionally, I support the provision of publicly accessible hospitality offerings at the bottom and top of the hotel and the orientation of the rooftop social spaces.

I understand the project team is investigating the feasibility of incorporating roof mounted solar PV system as part of detailed design. I strongly urge ongoing consideration of the environmental credentials of the project that go beyond the mandatory requirements.

To ensure the most successful design outcome is achieved the State Commission Assessment Panel may like to consider particular aspects of the project, which would benefit from protection as part of the planning permission, such as:

- Further review of the neutral glass selection to the angled reveals to increase visual permeability and strengthen the visual contrast with the champagne tinted facade
- Further resolution of the development's overall lighting strategy including effective integration of lighting with the built form and internal spaces and colour temperature to ensure lighting enhances the hotel amenity and the building's appearance
- Further review of the building base and canopy expression to achieve a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome

Yours sincerely



Kirsteen Mackay
South Australian Government Architect

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CoA Ref: S10/45/2020
SCAP Ref: 020/A131/20

7 July 2020

State Commission Assessment Panel
By email: will.gormly@sa.gov.au
Cc: scapadmin@sa.gov.au

Attention: State Commission Assessment Panel

Dear Sir/Madam

Application: S10/45/2020
Applicant: CEL DEVELOPMENT P/L
Address: 49-57 Pirie Street, ADELAIDE SA 5000
Description: Demolition of all buildings on site, including Local Heritage (Townscape) Place and construction of a twenty-one storey hotel building

Council has the following comments to make on the above application:

TECHNICAL COMMENTS

ROADS / FOOTPATHS ENGINEERING

Damage caused to Council's road, footpath and kerb infrastructure during development is the responsibility of the applicant to rectify to a standard that equals or improves the pre-development condition.

Existing boundary (back of path) levels must not be modified. Finished floor levels and entry point levels must be based around retaining the existing back of path levels, unless approved in writing by Council.

Ongoing responsibilities for the planter boxes in the private realm (on Pirie Street) are that of the applicant (maintenance, operations etc).

TORRENS & STORM WATER

The proposed drainage system requires considerable change. These have been split into works connecting from the site and works within the public realm.

Site

Stormwater runoff from the development must be contained within property boundaries, collected and discharged to Council underground stormwater infrastructure in Pirie Street. There is an existing 675mm diameter stormwater pipe on the southern side of Pirie Street which the stormwater pipe can connect to. The current proposal to discharge to the surface using a checker plate drain is not supported.

	Council has no GIS records of the stormwater pipe within the southern footpath of Pirie Street shown on the plans. There does not appear to be a Council stormwater pipe in this location and the presence and/or ownership of this service needs to be determined. <u>Public Realm</u> The installation of two strip drains on Gawler Place are not supported. Back of footpath levels must be retained within the public realm to enable stormwater collected on the footpath to flow over the surface and into the kerb and watertable. The extension of the protuberance north into Pirie Street is not advisable due to the significant amount of work required. Should the applicant still seek to build this protuberance, drainage modelling of Pirie Street (including upstream catchment) and how the protuberance maintains the required Council service levels for stormwater drainage within the public realm are required. Based on experience in Pirie Street, this would be achieved by installing a large stormwater pipe under the protuberance (between services) to offset the lost surface water capacity from the kerb and watertable. This has been proven to be cost prohibitive for Council previously, primarily due to high presence of existing services. It recommended the applicant undertakes an assessment to determine viability. Should the applicant proceed with the protuberance, Council requires the abovementioned drainage assessment and associated civil design documentation to be undertaken before Council can undertake an appropriate review of the build. The detail currently provided is insufficient for Council to undertake a full assessment. All works will be at cost to the applicant.
LIGHTING / ELECTRICAL / CCTV	New building canopies are required to be clear of existing street lights by a minimum of 500mm between the canopy and pole/light. It appears the existing lights on Pirie Street and Gawler Place will be removed. Is the applicant proposing to reinstate lighting on the corner of Pirie Street and Gawler Place where the protuberance is proposed? Under canopy lighting shall be in accordance with Council's under veranda/awning lighting requirements.
TRAFFIC / TRANSPORT	The service vehicle turn path overhangs the eastern Gawler Place footpath when undertaking a reverse manoeuvre and this needs to be resolved. The four no-stopping parking spaces proposed (two spaces on Gawler Place and two spaces on Pirie Street) are supported. Any modifications to the public realm will require full design documentation and separate approval from City of Adelaide. All such works will be at cost to the applicant.

WASTE

The waste management plan is acceptable. As indicated, appropriate design and construction advice should be sought as the detailed design progresses, to ensure equipment, infrastructure and building services can fulfil the functions proposed. Design of the waste collection zone/receiving dock must accommodate waste collection vehicles.

Proper consideration needs to be given to ventilation in the bin storage room and all areas within the building where waste will be stored and transported across (internal pathways).

The proposed land use and 19 collections per week will not be eligible for Council's waste collection services. Building management will, therefore, need to engage a private contractor to provide those services in line with the waste management system submitted.

LOCAL HERITAGE

The "legal" interpretation offered by the author of the Heritage Impact Assessment is noted but the relevance of that case in relation to this application in questioned.

As a point of clarification, the "Townscape" heritage listing of buildings pre-dates the *Development Act 1993* (SA) which established Local Heritage Places and the criteria for their assessment.

Notwithstanding the arguments within the Heritage Impact Assessment against the "townscape" merit of the listed building, a Local Heritage Place (Townscape) listing does have status within the Development Plan and demolition of the listed place should be considered in that context.

As the Heritage Impact Assessment acknowledges (pages 8-9), there are numerous provisions within the relevant Development Plan which call for the retention of this Local Heritage Place (Townscape). Demolition of the listed building fabric is therefore not consistent with the clear intent of the Plan and is not supported.

The previous application proposed a more elegant and highly refined sculptural form which would have made a significant design contribution to the locality and city. It was more in keeping with the Desired Character for the Zone with its contextual response to the surrounding streetscape character. The current proposal is not to the same high quality design and will make considerably less contribution to the city at the expense of (loss of) the Local Heritage Place.

PLANNING RELATED COMMENTS

Council Administration has not undertaken a thorough planning assessment of the proposal but makes the following comments in relation to the proposed development:

ENCROACHMENTS

The underside of the canopy over Gawler Place does not appear to be at least 5 metres above the roadway at all points. The elevations provided appear to show a portion will extend lower than 5 metres. There must be a clearance of at least 5 metres between the underside of the canopy and the roadway.

It is not clear if the portion of the canopy over Pirie Street is setback at least 600mm from the kerb. If the underside of the canopy is less than 5 the Pirie Street roadway and less than 600mm from the kerb it will need to be amended to either be at least 5 metres from the Pirie Street roadway or at least 600mm from the kerb.

The canopy is not supported as it will include a strong angular corner emphasis that will not:

- respond to its context whereby strong horizontal canopies are a feature of the locality
- assist in emphasising the entrance to the hotel
- accentuate a strong corner or respond appropriately to the 'minor street' frontages. It would be more appropriate fronting one of the city's boulevards, terraces or squares
- provide adequate weather protection for pedestrians at the intersection.

An access doorway to Pirie Street partly opens onto the footpath. This needs to be amended to ensure it only opens within site boundaries.

The tilt-up operable windows in Gawler Place extend over the footpath and those in Pirie Street will also extend slightly over Pirie Street. This may cause hazard during operation. The portions extending over each footpath will need to be no lower than 2.3 metres above footpath level at any point, including when opening or closing. It appears this minimum height may be satisfied, however it is not clear and needs to be clarified.

Yours faithfully

Seb Grose
SENIOR PLANNER - DEVELOPMENT ASSESSMENT

REF: 0738-002

8 July 2020

Ground Floor,
89 King William Street
GPO Box 2403
Adelaide SA 5001
PH: 08 8221 5511
W: www.futureurbangroup.com
E: info@futureurbangroup.com
ABN: 34 452 110 398

Mr Will Gormly
Senior Planning Officer – City and Inner Metro Development Assessment
Department of Planning, Transport and Infrastructure

Via Email: will.gormly@sa.gov.au

Dear Will,

RE: RESPONSE TO CITY OF ADELAIDE COMMENTS REGARDING DA 020/A131/20

On behalf of CEL Development (the 'Proponent'), we write in response to the City of Adelaide's letter dated 7 July 2020 regarding DA 020/A131/20 for the '*demolition of all buildings on site, including Local Heritage (Townscape) Place and construction of a twenty-one storey hotel building*'. For ease of reference, we respond to each of the matters raised under the same headings below.

Notwithstanding the responses below, it is worth noting that many of the matters raised by the City of Adelaide (the 'Council') will be subject to a separate approval process for undertaking alterations to Council assets. Consequently, the remaining matters in relation to stormwater and lighting will be resolved in consultation with Council.

Roads, Footpaths and Engineering

Any damage caused to Council's road, footpath and kerb infrastructure during construction will be rectified to a standard that equals or improves the pre-development condition and will be included within the builder's scope of works.

WGA have prepared an amended Stormwater Management Plan (attached) which confirms that the existing 'back of footpath' levels will be maintained ensuring that the fall of the footpath will be to the kerb and gutter matching the current conditions.

The ongoing maintenance of the planter boxes shall be undertaken by the Proponent.

Torrens and Stormwater

An amended Stormwater Management Plan prepared by WGA is attached which is updated to reflect the following:

- Stormwater will be discharged via the existing 657 mm diameter stormwater pipe on the southern side of Pirie Street and not via a checker plate; and
- The strip drains on Gawler Place have been removed with the back of footpath levels retained.

In relation to the localised widening of the Pirie Street footpath, WGA have confirmed that further detailed design and consultation with the City of Adelaide will be required to review the impact on the 1 in 100 year flow in Pirie Street as the widening of the footpath will extend past the existing southern gutter of Pirie Street.

It is acknowledged that additional underground drainage infrastructure may be required in this location and the detailed design of this system will be undertaken during the design phase of the project and submitted to the City of Adelaide for approval.

Lighting/Electrical/CCTV

Lighting will be installed to the underside of the canopy, with the final details to be resolved during the detailed design phase in collaboration with City of Adelaide.

In relation to the approach, Lucid Consulting will initially measure the existing roadway lighting levels resulting from the subject fittings and undertake a lighting assessment to resolve an alternative solution. This could involve relocation of existing poles or upgrade existing poles to produce an equivalent lighting level.

The final design will be issued to the City of Adelaide Lighting Engineer for final approval.

Traffic / Transport

WGA have reviewed the turning paths for the service vehicle and have confirmed that the service vehicle can undertake a reverse manoeuvre without overhanging the Gawler Place footpath. The revised turning path diagram is attached.

We note that any modifications to the public realm will require full design documentation and separate approval from the City of Adelaide.

Waste

Design and construction advice will be sought as the detailed design progresses to ensure that equipment and infrastructure can fulfil the functions proposed. Furthermore, the waste collection area is designed to accommodate waste collection vehicles, as shown on the attached turn path diagram.

In relation to ventilation, the current concept mechanical services drawings (60% design) make allowance for a mechanical ventilation system to serve this area. The fan will also be monitored by the building's management system and generate a fault signal to the Hotel Maintenance Manager should the fan go into a fault condition.

We acknowledge that the proposed development will not be eligible for Council's waste collection services and a private contractor will be engaged, as proposed within the provide Waste Management Plan.

Local Heritage

"Legal" interpretation was included in the Heritage Impact Assessment to provide a background and rationale to the structure of the assessment undertaken. The Supreme Court has confirmed that the "relevant heritage importance" of a heritage place is an important consideration when considering the weighting to be provided to the relevant heritage provisions within Council's Development Plan. As the heritage place is a Townscape item, its "relevant heritage importance" is the extent to which it contributes towards the historic streetscape of the locality. This assessment was subsequently undertaken, and found that the streetscape contribution of the Local Heritage Place (Townscape) (LHP) was "moderate to low".

Its is acknowledged and agreed in the Heritage Impact Assessment that there are numerous provisions that speak to the retention of the LHP. However, in the judgement of the Full Court of the Supreme Court *Development Assessment Commission v A&V Contractors Pty Ltd* [2011] SASCFC 21 (at 77) (1 April 2011) the following was stated:

> "*Some principles and objectives may militate for a development and others militate against it... planning authorities do not apply the objectives and principles of development plans in a*

vacuum. First, as I earlier observed, there will often be tension between those objectives and principles. Most of the objectives and principles, as a matter of construction, apply as general rules and not as inviolable prescriptions; they are guidelines within which an expert planning judgment must be made. Most obviously, the particular factual circumstances of a proposed development will inform that planning judgment, and, in particular, affect which of the principles and objectives will predominate"

The assessment of the "relative heritage importance" by the DASH report is undertaken to assist the Authority in undertaking this planning judgment. The report concluded that LHP had a "relative heritage importance" of "moderate to low". The report in turn concluded:

> *"It therefore follows that a diminished, or lesser weighting is appropriate to be applied to Development Plan provisions that speak to its retention, than would otherwise be appropriate for an example of higher relative heritage value."*

The City of Adelaide's response appears to consider the relevant heritage provisions as mandatory, and accordingly they do not support the proposal due to its failure to address select provisions only. This approach is at odds with an 'on balance' planning assessment noted by the Supreme Court.

The relative heritage importance of the existing building façade should be considered in the context of the competing principles which, if no heritage building existed on the land, would be relevant when assessing the design of a new building. In our opinion, competing principles also exist in this instance with respect to activating the public realm and improving the amenity for pedestrians within the Capital City Zone. These provisions are considered at length within the Planning Report lodged with the application and it is evident the proposed design satisfies these provisions.

In terms of weighting such principles in an assessment, the importance of activating the public realm and improving the amenity for pedestrians is higher where the relative heritage importance is lower. It follows that given the moderate to low relative heritage importance of the existing building façade, a building design which achieves the design outcomes expected by the Development Plan could constitute good reason to approve demolition of the LHP. Such was likely considered in the previous decision to approve the demolition of the building façade as part of the original development application.

It is important to note that the proposal results in a significant contribution to streetscape activation and achieves a level of visual permeability which cannot be matched should the existing façade be retained. Similarly, it enables a consistent material quality along the entire façade of the building, noting that schemes retaining the blank façade were likely to result in facadism or an inconsistent façade treatment and expression, such as the current contrast with the 1980s addition. Schemes seeking to retain the façade are also unable to provide the same level of weather protection to pedestrians and guests nor provide equitable access accompanied by a high level of physical and visual permeability that activates the streetscape. In addition, it is important to note that this particular proposal removes all above ground car parking and a porte cochere along Gawler Place which did not prioritise pedestrian access or amenity (which was associated with the previously approved scheme). This has been acknowledged by the Government Architect as a positive change and one which in our view provides a significant contribution to the streetscape and a much improved design quality. Consequently, in our opinion, the desire to achieve these objectives outweighs the retention of an existing façade which exhibits diminished integrity and a moderate to low relative heritage importance

Encroachments

Amended plans have been prepared by GHDW and are attached. The following changes are proposed to address Council's comments in relation to encroachments:

- The canopy edge along Pirie Street will be a minimum of 600 millimetres from the kerb;
- The canopy edge along Gawler Place will be a minimum of 5 metres above the finished floor level for at least 600 mm from the kerb;
- The angular corner at the Pirie Street and Gawler Place intersection has been removed, with the only raised portion of the canopy to be directly above the Pirie Street entrance. Figure 1 below illustrates the revised presentation to the north-eastern corner of the site;
- The Gawler Place access doorway has been amended to ensure that it only opens within the site boundaries; and,
- The elevation plan has been amended to confirm that the vertical bifold windows will be no lower than 2.3 metres above the footpath level at any point.

Figure 1 – Amended canopy design

Should you have any questions, please do not hesitate to contact me on 0447 029 088.

Yours sincerely

Chris Vounasis
Managing Director

Enclosed: Amended Stormwater Management Plan, Amended Turning Paths, Amended Plans by GHD

WALLBRIDGE GILBERT AZTEC

CES Pirie Hotel (SA) Pty Ltd

51 Pirie Street

STORMWATER MANAGEMENT PLAN

Project No. 150093
Doc No. WGA150093-RP-CV-0001
Rev. E

08 July 2020

Revision History

Rev	Date	Issue	Originator	Checker	Approver
A	01 February 19	Council Approval	ASF	CH	
B	21 February 19	Council Approval	ASF	CH	
C	30 April 20	Council Approval	CH	CH	
D	22 May 2020	Council Approval	CH	CH	
E	8 July 2020	Council Approval	CH	CH	

CONTENTS

Appendices

1 INTRODUCTION

1.1 BACKGROUND

WGA was engaged by CES Pirie Hotel (SA) Pty Ltd to prepare a Stormwater Management Plan for a proposed multi-storey building on Pirie Street. It is understood the proposed development is to be a multi-storey hotel facility.

This report is intended to conceptually outline the stormwater management design for the proposed development and detail the stormwater management methodology. A final detailed design should be carried out to provide construction documentation and incorporate the stormwater design principles outlined in this report. The final documentation is considered to be beyond the scope of this report.

1.2 SCOPE OF THE ASSESSMENT

The preparation of the plan comprises the scope of services listed below:

- Site visit
- Liaise with the City of Adelaide (Council) to determine appropriate stormwater requirements for the site
- Prepare a Stormwater Management Plan detailing the proposed method of collection and the disposal of site generated stormwater runoff
- Prepare a preliminary sketch plan showing possible site drainage infrastructure and based on Council and client requirements

1.2.1 Documentation

The client has provided preliminary Architectural plans for the development.

2 DETAILED REPORT

2.1 DEVELOPMENT DESCRIPTION

The proposed development is located at 51 Pirie Street, Adelaide. The site is currently occupied by a commercial building which is to be demolished prior to development. The proposed development involves the construction of a multi-storey hotel facility. Refer to Appendix A for GHD Woodhead Architect's site plan for the proposed development.

2.2 CATCHMENT DESCRIPTION

The proposed site footprint covers approximately 1300m² and is currently occupied by developed land, an aerial photograph of the site is shown in Appendix B.

An existing site survey indicates that Pirie Street falls from east to west across the front of site and Gawler Place falls from South to North adjacent the building. Refer to Appendix C for a copy of the site survey.

2.3 EXISTING STORMWATER DRAINAGE

Roof runoff is collected by downpipes and is disposed from the site via steel box drains across the footpath into either Pirie Street or Gawler Place. There are three outlets on Pirie Street and two on Gawler Place.

Based on information provided by council, the site runoff is ultimately collected by a 675mm pipe that runs east to west, located in the centre of Pirie St.

Refer to Appendix D for existing Council stormwater drainage location.

2.4 COUNCIL REQUIREMENTS

The City of Adelaide has provided guidance in regards to storm water management design, which was utilised in the development of this stormwater management plan. These are summarised below:

1. Stormwater runoff from the proposed development must be contained within the property boundaries, collected and discharged to Pirie Street and Gawler Place.
2. Council place limitations on the flow rate allowed to be discharged through a single drain outlet to 15 L/s and the minimum spacing between outlets to be 5m. No stormwater detention is required.
3. Council encourages the development to minimize the number of stormwater property connection wherever possible.
4. Minimum finished floor level shall be no lower than the existing level of the site boundary.
5. Where siphonic downpipes are adopted, detention storage is required to reduce the peak flow rate from a 1 in 100 year storm event to the peak flow rate from a 1 in 20 year storm event

Additional information regarding Council's stormwater drainage requirements are contained in the City of Adelaide "Technical Design Criteria" updated in January 2020. This particularly relates to the proposed protuberance into Pirie Street on the north eastern corner of the site.

- An analysis of the contributing catchment area for the proposed system is required. The analysis shall include the preparation of a Hydrological model and the determination of the peak duration of storms for the 10 or 20 year ARI storm events. The analysis shall determine the capacity of the proposed drainage system, the roadway and the 100 year floe paths. The City of Adelaide will provide a catchment map for the hydraulic analysis.

- An assessment shall be made for the potential overland flow path of stormwater for the 100 year ARI gap flows assuming the minor stormwater system becomes 20% blocked. Freeboard between the 100 year ARI flood levels and property boundary levels must exceed 50mm.

- Stormwater catchpits shall be as per City of Adelaide standard number C210-01, A2/86/1 and A2/80/17.

Further design feedback was received on 7th July 2020 (Council's letter to SCAP) which addressed several key stormwater items. The methodology discussed below addresses these latest comments from Council.

2.5 STORMWATER MANAGEMENT METHODOLOGY

Based on Council's requirements, the following stormwater management methodology is proposed,

It is understood that the majority of the roof runoff will be discharged from the site via a siphonic drainage system and as such detention storage will be required to limit the 1 in 20 year flow rate to the pre-development 1 in 100 year flow rate. A detention storage of $8m^3$ is proposed to be located within the upper floors of the building, with the siphonic drainage directed to this tank, prior to the connection to the existing 675mm dia RCP located in Pirie Street (in accordance with Council's requirements). The exact alignment and levels of this underground connection will be determined once all the existing underground services are accurately located and depthed.

Finished floor levels along the Gawler Street frontage will be set to allow for the existing "Back of footpath" levels to be maintained, with fall on the footpath to the kerb and gutter matching the current conditions.

It is noted that part of the development includes a localised widening of the Pirie Street footpath (on the north-east corner of the site). Further detailed design and consultation with the City of Adelaide will be required to review the impact on the 1 in 100 year flow in Pirie Street as the widening of the footpath will extend past the existing southern gutter of Pirie Street. It is noted that the FFL is 45.700 and as such the 1 in 100 year flow level will need to be a maximum of 45.650 in this location to provide the minimum of 50mm freeboard. Additional underground drainage infrastructure may be required in this location. It is also proposed that a concrete channel with a heelguard grate is located on the line of the current water table to allow for surface water to be collected and for minor flows to continue along the southern side of Pirie Street. The detailed design of this system will be undertaken during the Design phase of the project and submitted to the City of Adelaide for approval.

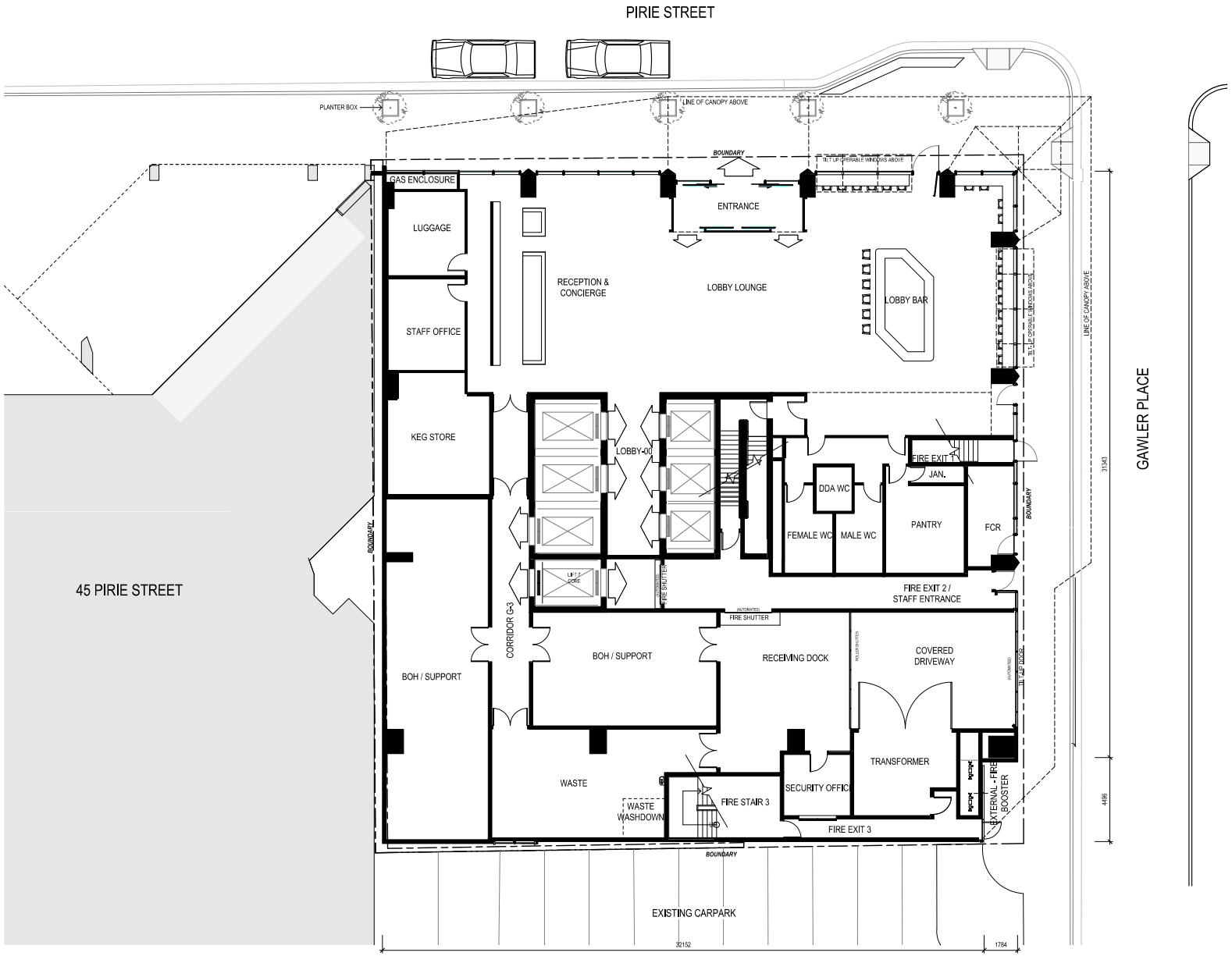
Refer to Appendix D and Appendix E for a copy of the stormwater calculations and preliminary Stormwater Management Plan.

2.6 SUMMARY

The Preliminary sketch plan contained within this report has been prepared to demonstrate the philosophy behind proposed management of the stormwater runoff from this development. The information provided is preliminary and will be subject to detailed design and documentation.

APPENDIX A

ARCHITECTURAL SITE PLAN



CES PIRIE HOTEL (SA) PTY LTD / 51 PIRIE STREET

SK100

LGF-GROUND FLOOR PLAN

scale 1 : 100 @A1
date MAY 2020
rev A
job no. 33-18952

GHDWOODHEAD

Level 1, 211 Victoria Square Adelaide SA 5000 Australia GPO Box 2052 Adelaide SA 5001 T 61 8 8111 9000 F 61 8 8111 9099 E adelaide@ghd.com.au W www.ghdwoodhead.com

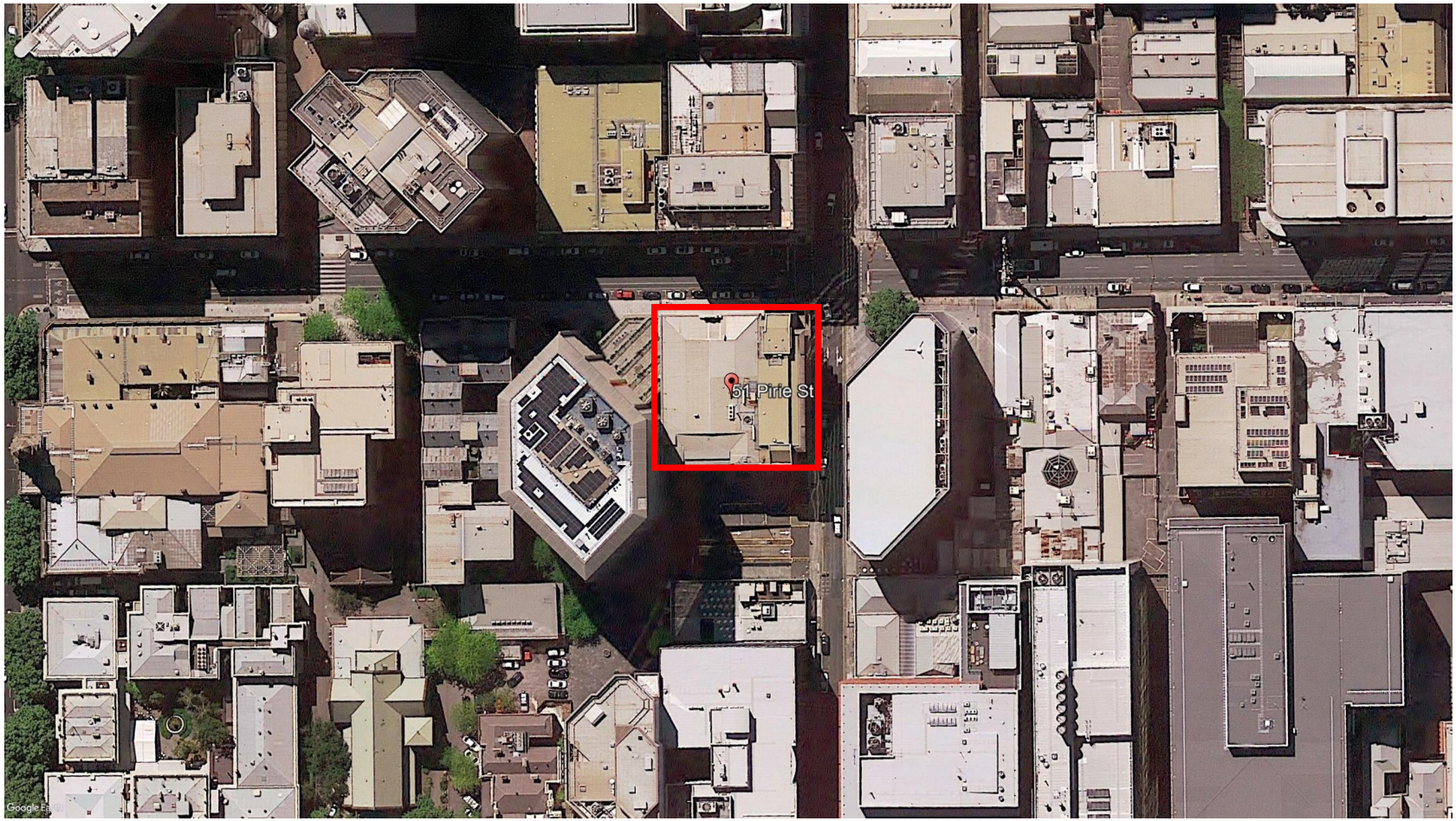
Plot Date: 22/05/2020 9:37:20 AM

Cad File No: BIM 360://33-18952 – 51 Pirie St/33-18952-ARC_V19.rvt

APPENDIX B

AERIAL

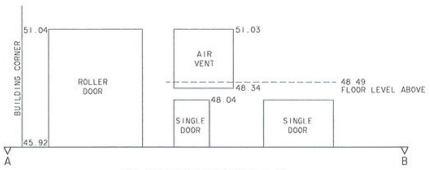
PHOTOGRAPHY



Aerial Photo - 2019

APPENDIX C

SURVEY



ENLARGEMENT SECTION A-B
NOT TO SCALE

EASEMENT NOTE:
ALLOTMENT 1 IN D13090 SUBJECT TO AN EASEMENT MARKED A FOR RIGHTS OF SUPPORT APPURTENANT TO ALLOTMENT 2 VIDE D13090 FOR DETAILS

LEGEND

- ETSA INSPECTION COVER
- FIRE PLUG
- GAS IP
- GRATE
- HYDRANT
- JUNCTION BOX
- JUNCTION BOX
- SEWER MANHOLE
- WATER METER
- SEWER I.P.
- SEWER I.O.
- STREET LIGHT
- SIGN POST
- STOP VALVE
- SEWER I.P.
- STORM WATER OUTLET
- INSPECTION COVER
- TELSTRA PIT (MEDIUM)
- TELSTRA PIT
- TELSTRA PIT (LARGE)
- TRAFFIC LIGHT
- FENCE

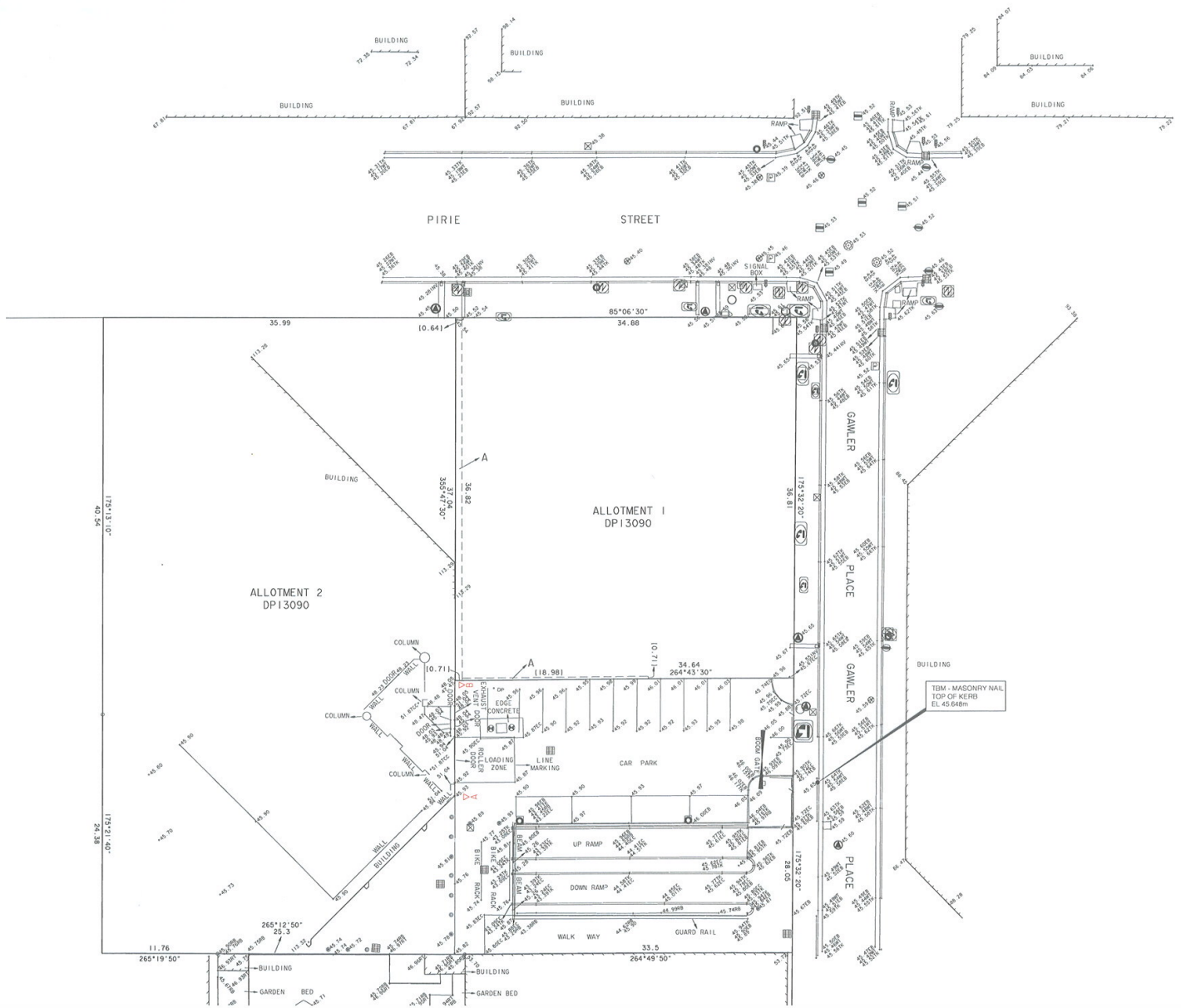
45.38EB INDICATES EDGE OF BITUMEN LEVEL
45.55TK INDICATES TOP OF KERB LEVEL
45.28INV INDICATES INVERT LEVEL
51.87CC INDICATES CONCRETE CEILING LEVEL
45.76RB INDICATES RETAINING WALL BOTTOM LEVEL
46.93RT INDICATES RETAINING WALL TOP LEVEL

The title boundaries shown hereon were not marked at the time of survey

BOUNDARY DATA CERTIFIED CORRECT

LICENSED SURVEYOR

DATE 17/8/2010



VIDE SHEET 2 FOR CONTINUATION

VIDE DETAIL AND LEVEL PLAN 19171T10 FOR BASEMENT DETAILS

ORIGINAL SIZE A1

LICENSED & ENGINEERING SURVEYORS
LAND & PROPERTY DEVELOPMENT
GEOGRAPHIC INFORMATION MANAGEMENT
PETROLEUM INFRASTRUCTURE SURVEY & DESIGN

FYFE Pty Ltd
A.C.N. 008 116 130
143 FULLARTON ROAD ROSE PARK SA 5067
PHONE (08) 8364 1000
FAX (08) 8364 0904
EMAIL info@fyfe.com.au
Brisbane (07) 3208 9600
Moombe (08) 8675 6665
Ballera (07) 4646 8377

PLAN DETAILS
COUNCIL : ADELAIDE CITY COUNCIL
MAP SHEET : 6628-42-J
CT REFS : 5292/63, 5227/807

0 5 10 15 20
SCALE 1: 200

LEVEL DATUM : AHD
LEVEL AUTHORITY : PSM 6628/42607 EL 45.556 (26 AUGUST 1999) INSTRUCTION : 19171-2-1
CO-ORD DATUM : ARBITRARY
DATA FILE/S : 19171-2-1-PLC.SDR

NO.	REVISION	STAFF	CHECK	DATE
0	ISSUED FOR INFORMATION	DXG	JJB	16/08/10
A	PRELIMINARY ISSUE	DXG	JJB	13/08/10

CHARTER HALL GROUP

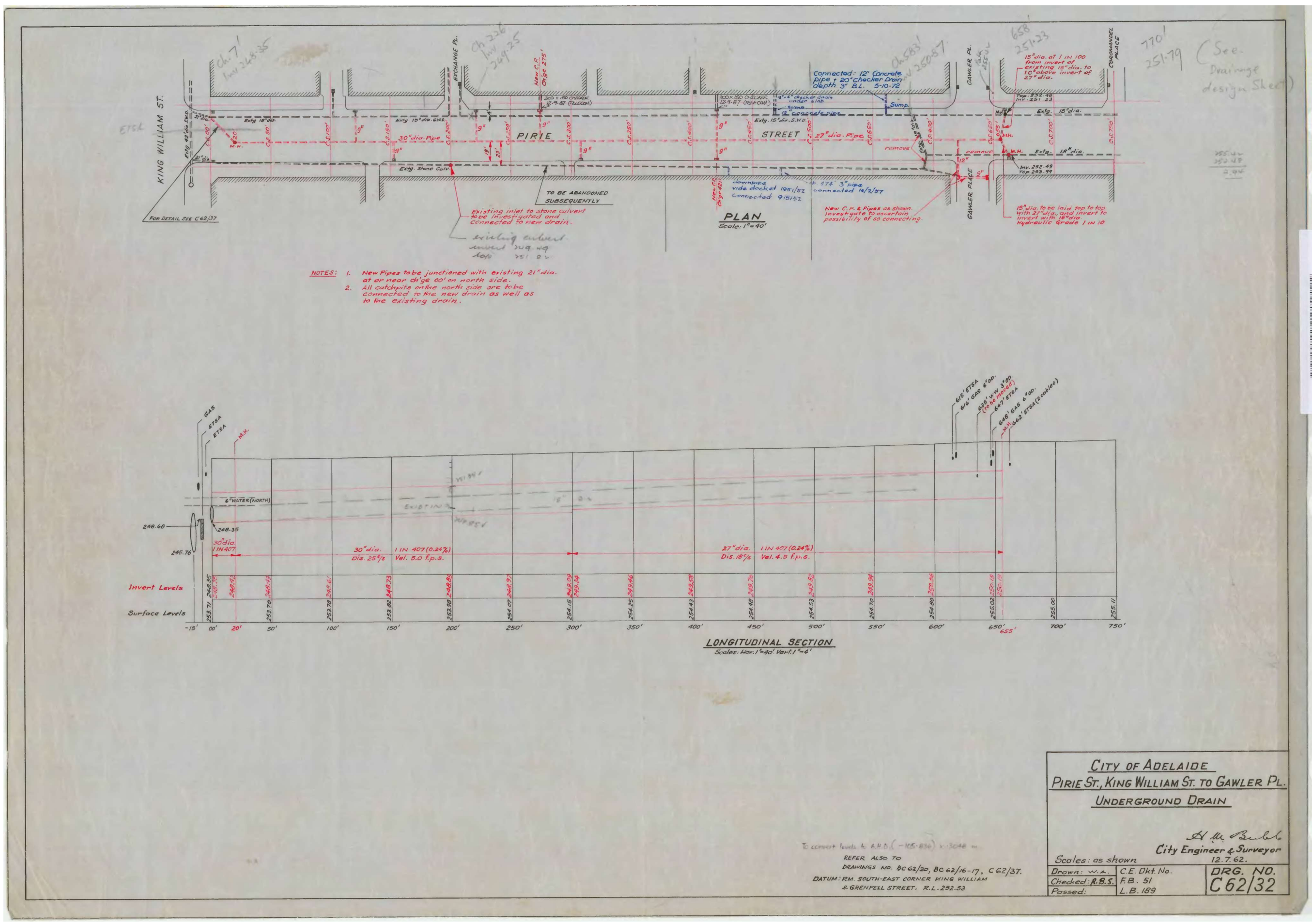
DETAIL AND LEVEL SURVEY - GROUND FLOOR STREET LEVEL
ALLOTMENT 1 AND 2 IN D13090
PIRIE STREET
HUNDRED OF ADELAIDE
ADELAIDE

DRAWING 19171T02-R0
DATE 17/08/2010
SHEET 1 OF 2
REV. 0

DETAIL AND LEVEL SURVEY

APPENDIX D

EXISTING COUNCIL STORMWATER DRAINAGE


KING WILLIAM ST.
EXCHANGE PL.
PIRIE
STREET
GAWLER PL.
GAWLER PLACE
Extg. Stone Culv.
30" dia. Pipe
27" dia. Pipe
TO BE ABANDONED SUBSEQUENTLY
Existing inlet to stone culvert to be investigated and connected to new drain.
existing culvert invert 249.49 top 251.82
PLAN
Scale: 1" = 40'
NOTES: 1. New Pipes to be junctioned with existing 21" dia. at or near ch'ge 00' on north side.
2. All catchpits on the north side are to be connected to the new drain as well as to the existing drain.
Invert Levels
Surface Levels
LONGITUDINAL SECTION
To convert levels to A.H.D. (−105.836) x .3048 m
REFER ALSO TO
DRAWINGS NO. BC 62/20, BC 62/16-17, C 62/37.
DATUM: P.M. SOUTH-EAST CORNER KING WILLIAM & GRENFELL STREET. R.L. 252.53
CITY OF ADELAIDE
PIRIE ST., KING WILLIAM ST. TO GAWLER PL.
UNDERGROUND DRAIN
City Engineer & Surveyor
12.7.62.
Scales: as shown
Drawn: W.A.
Checked: R.B.S.
Passed:
C.E. Dkt. No.
F.B. 51
L.B. 189
DRG. NO.
C 62/32

APPENDIX E

CALCULATIONS

WGA

WALLBRIDGE GILBERT AZTEC

Job Number 150093
Designer CH
Date 8/7/20
Page Number 1

51 Pirie St - Stormwater Drainage

- Council require the post-development 1 in 100yr peak flow rate from the site to be limited to the pre-development 1 in 20 yr peak flow rate as the roof drainage will be siphonic, rather than "traditional".

- Catchment area = 1,150 m^2
  Runoff coeff, C = 0.90
  t_c = 5 mins
  → I_{20} = 121 mm/hr

$$Q_{20} = 2.78 \times 0.9 \times 121 \times 0.115$$
$$= 35 \text{ l/s}$$

∴ Detention storage = 8 m^3 (refer attached spreadsheet)

Wallbridge and Gilbert
60 Wyatt Street
Adelaide SA 5000

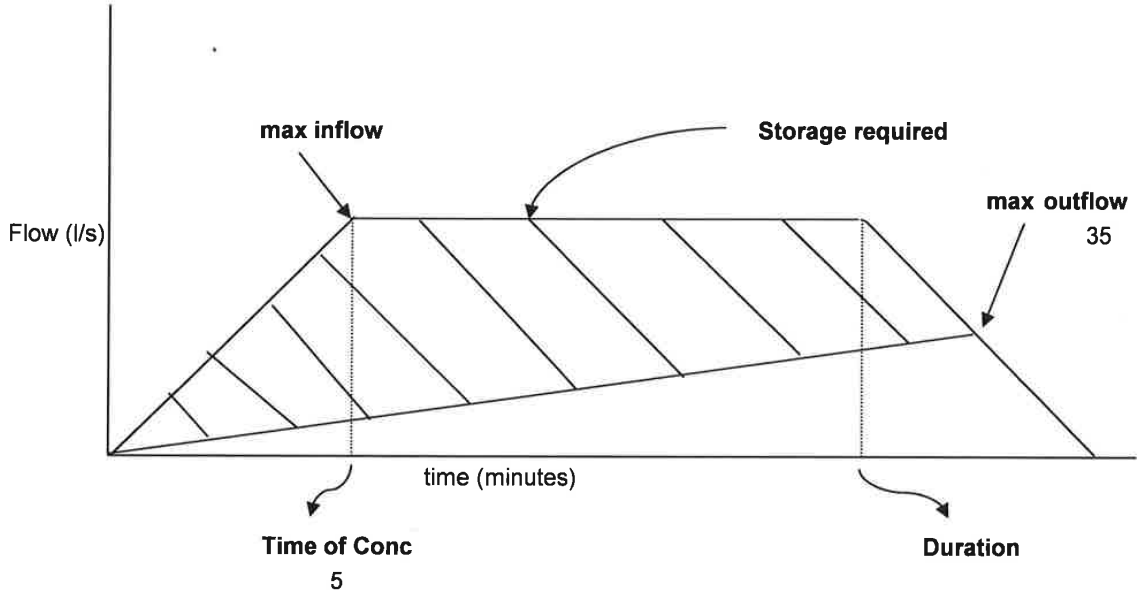
Basic Stormwater Detention Assessment

Title: 51 Pirie St

Date: 08/07/20
Job No: 150093

Area	1150	m²
Coeff Permeability	0.9	
Time of conc.	5	min
ARI Storm	100 Year	
Max Outflow Qp	35	l/sec

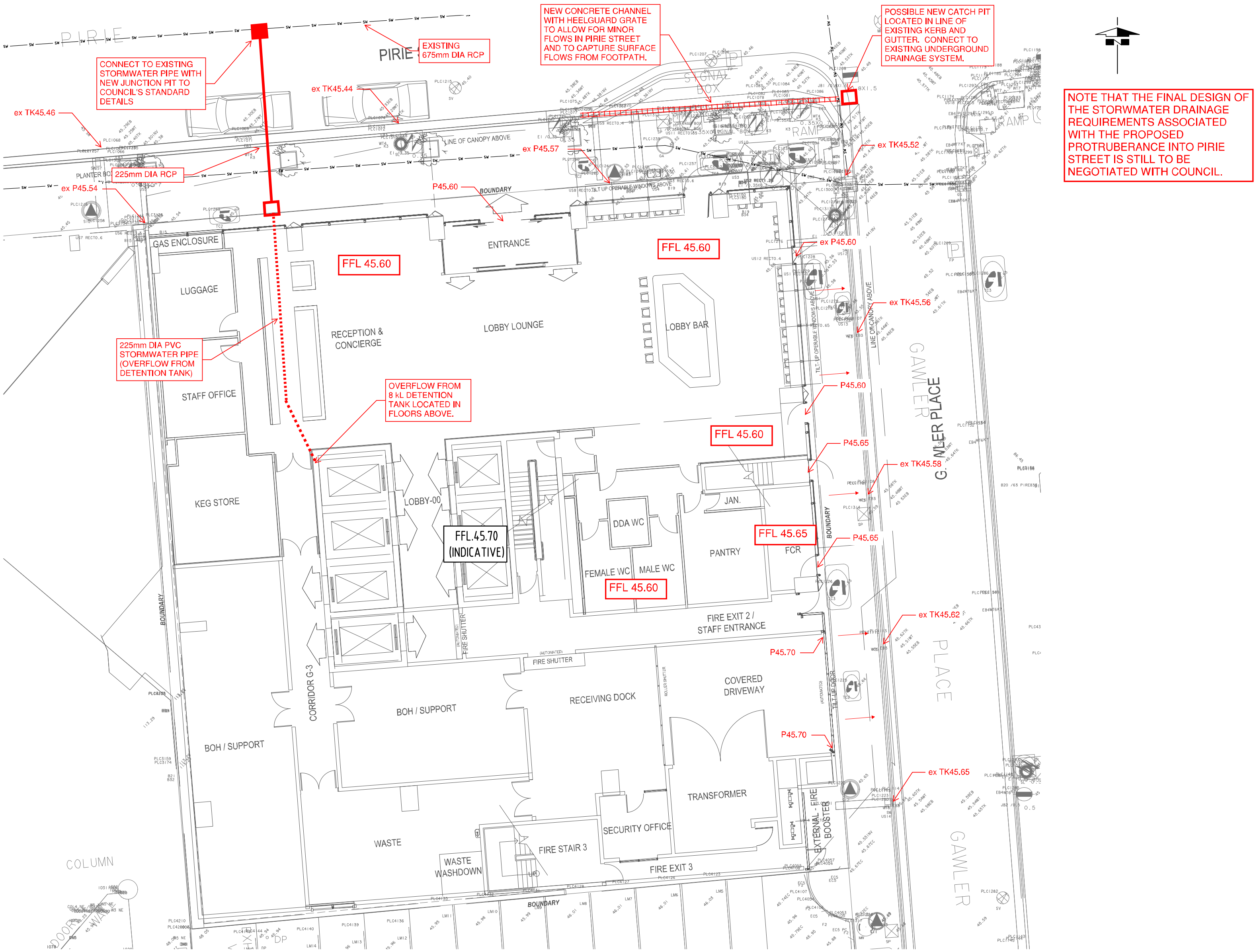
Duration min	Intensity mm/hr	Inflow rate Ip l/sec	Inflow Vol Vi m3	Max Storage Smax m3
5	186	53.5	16.04	5.54
6	172	49.5	17.80	6.25
8	152	43.7	20.98	7.33
10	136	39.1	23.46	7.71
15	110	31.6	28.46	7.46
20	94	27.0	32.43	6.18
25	82	23.6	35.36	3.86
30	74	21.3	38.30	1.55



Print Date : 8/07/2020

APPENDIX F

STORMWATER MANAGEMENT PLAN



When sheet printed full size, the scale bar is 100mm.

0 50 100mm

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHKD
A	01.02.19	PRELIMINARY ISSUE	ASF	C. HILL	
B	24.04.20	PRELIMINARY ISSUE	ASF	C. HILL	
C	19.05.20	PRELIMINARY ISSUE	ASF	C. HILL	
D	05.07.20	PRELIMINARY ISSUE	ASF	C.HILL	

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PIRIE ST, GAWLER PLACE
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STORMWATER MANAGEMENT PLAN

A1

DRAWING NUMBER

Design ASF | Drawn ASF

WAD150093-SK- CC-0001 D

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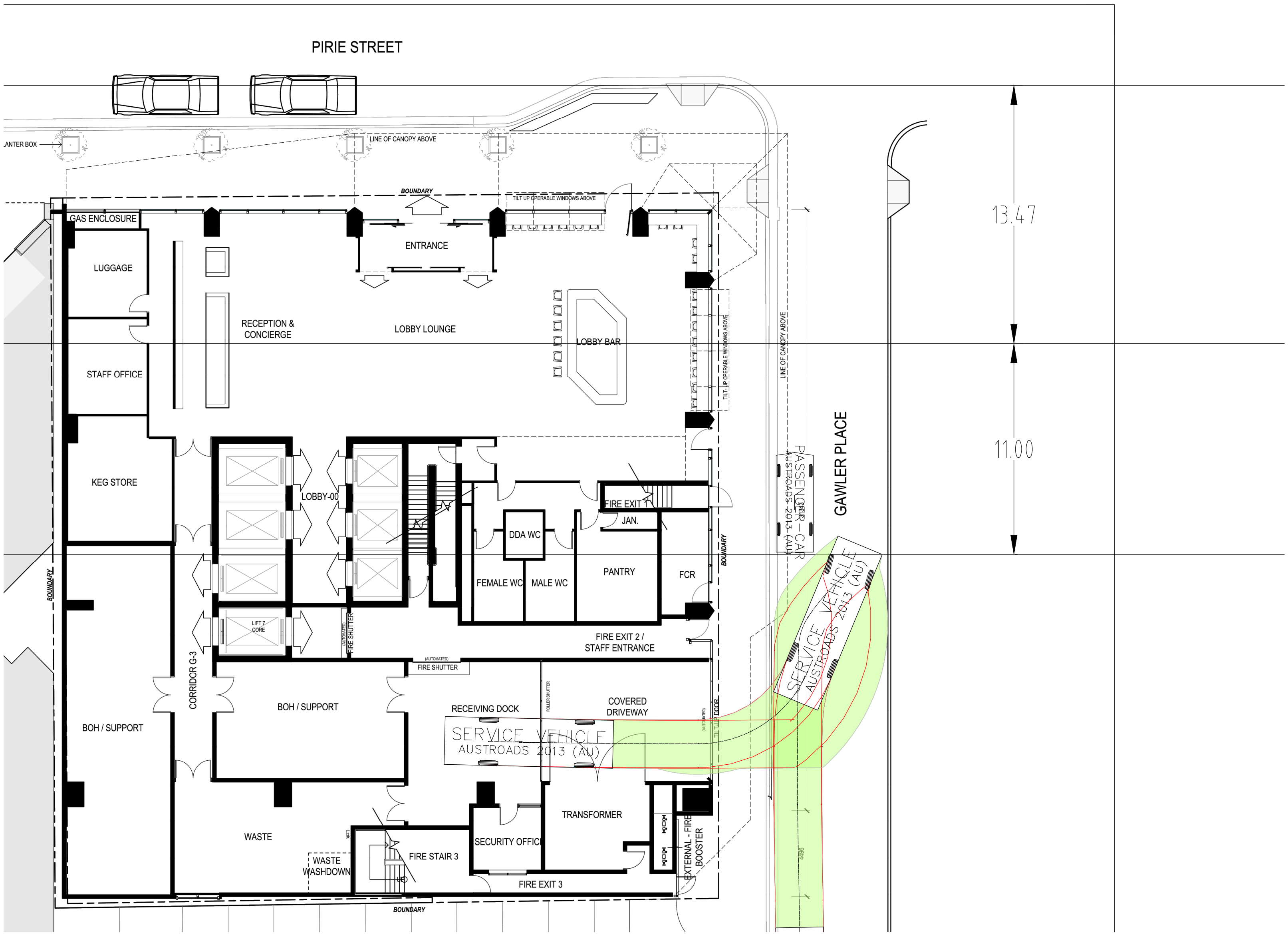

When sheet printed full size, the scale bar is 100mm.

0 50 100mm

REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHKD

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51 PIRIE STREET

TURNPATHS

A1

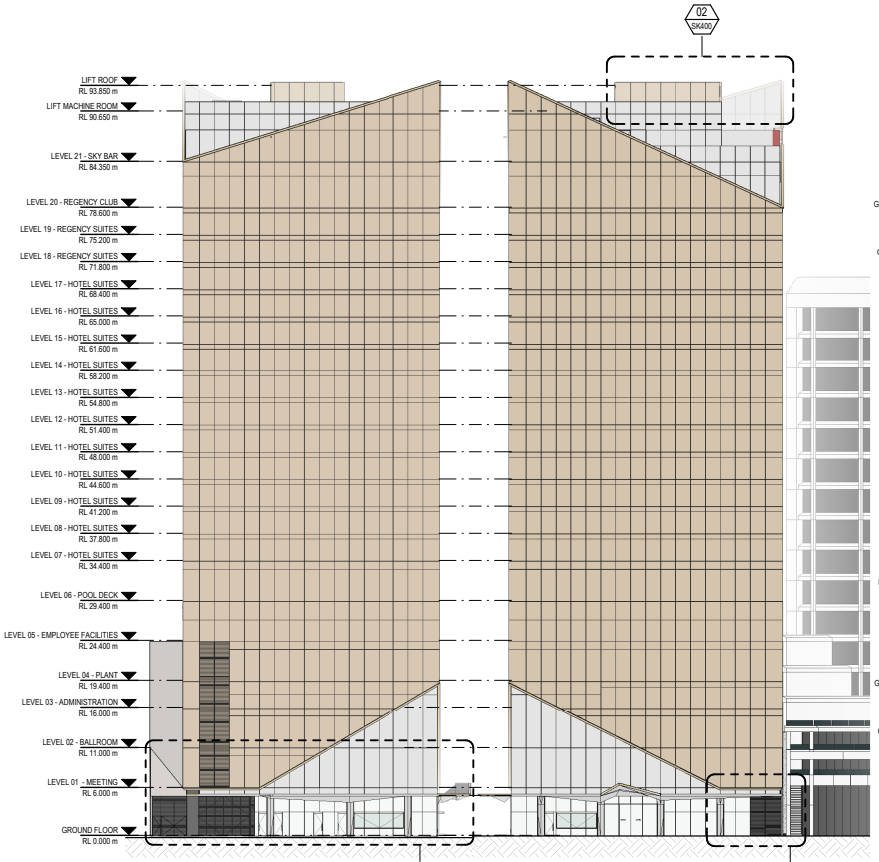
DOCUMENT NUMBER

Design Drawn Project Number Sheet No. Rev.

ADL150093 SK35 B

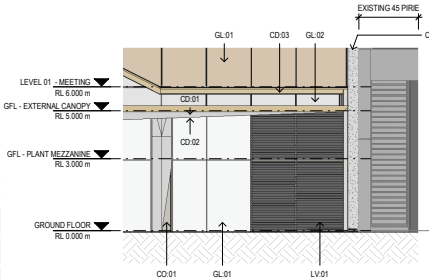
EXTERNAL FINISHES - MATERIAL SCHEDULE		
GL:01	GLASS TYPE 1 - TOWER	COLOUR: "CHAMPAGNE"
GL:02	GLASS TYPE 2 - "PEEL BACK" BUILDING BASE AND ROOF	COLOUR: "NEUTRAL"
GL:03	GLASS TYPE 3 - GROUND FLOOR STREET FRONTAGE	COLOUR: "CLEAR"
CD:01	CANOPY - FASCIA	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
CD:02	CANOPY - SOFFIT	ALUMINIUM, FINISH: "WARM GREY" METALLIC (SEMI REFLECTIVE)
CD:03	REVEAL CAPPING - "PEEL BACK" BUILDING BASE AND ROOF	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
CD:04	LIFT OVER RUN - CLADDING	ALUMINIUM, FINISH: "MEDIUM BRONZE" METALLIC
PA:01	WINDOW FRAME 1 - TOWER (CURTAIN WALL)	BLIND MULLIONS & TRANSOMS, FINISH:"PEWTER" POWDERCOAT
PA:02	WINDOW FRAME 2 - GROUND	BLIND MULLIONS & TRANSOMS, FINISH: POLISHED TINTED CHROME
CO:01	COLUMNS - EXTERNAL	POLISHED PRECAST COLOUR: "WHITE"; COLUMN CAPITAL: FINISH TO MATCH CANOPY SOFFIT
CO:02	PRECAST CONCRETE - SOUTH & EAST WALL	VERTICAL PATTERNED PRECAST CONCRETE, ACID ETCHED & POLISHED. COLOUR: "WHITE
CO:03	PRECAST CONCRETE - EAST WALL (GROUND LEVEL)	POLISHED PRECAST CONCRETE. ADMIXTURE COLOUR: TO MATCH WINDOW FRAME 1 (& ADJACENT LOUVRES)
LV:01	LOUVRES - TOWER	FINISH: POWDERCOAT TO MATCH GLASS TYPE 1
LV:02	LOUVRES - GROUND FLOOR	FINISH: MATCH WINDOW FRAME 1

NOTE:
DRAWING COLOUR INDICATIVE ONLY, REFER TO FINISHES BOARD FOR ACCURATE REPRESENTATION.

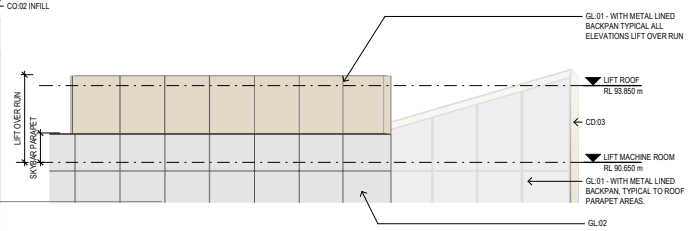


EAST ELEVATION (GAWLER PLACE)
SCALE 1 : 300

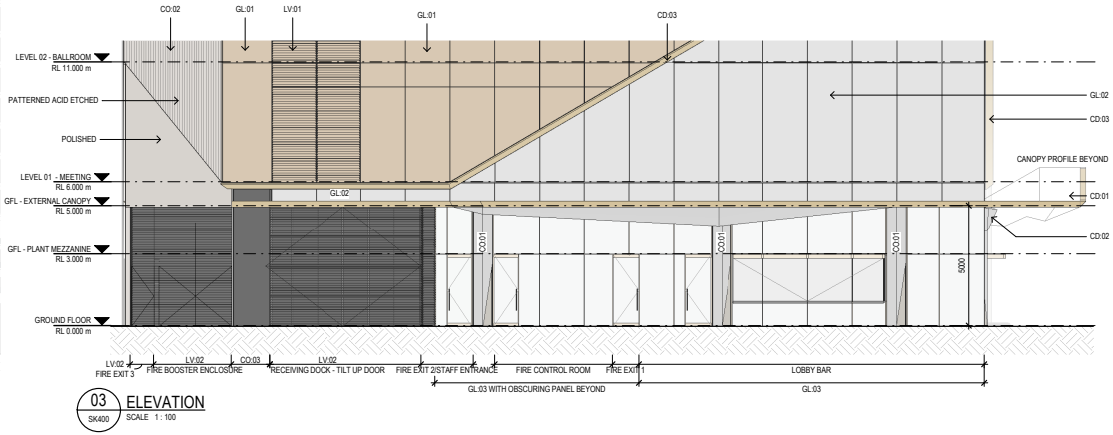
NORTH ELEVATION (PIRIE STREET)
SCALE 1 : 300



01 SK400 ELEVATION
SCALE 1 : 100

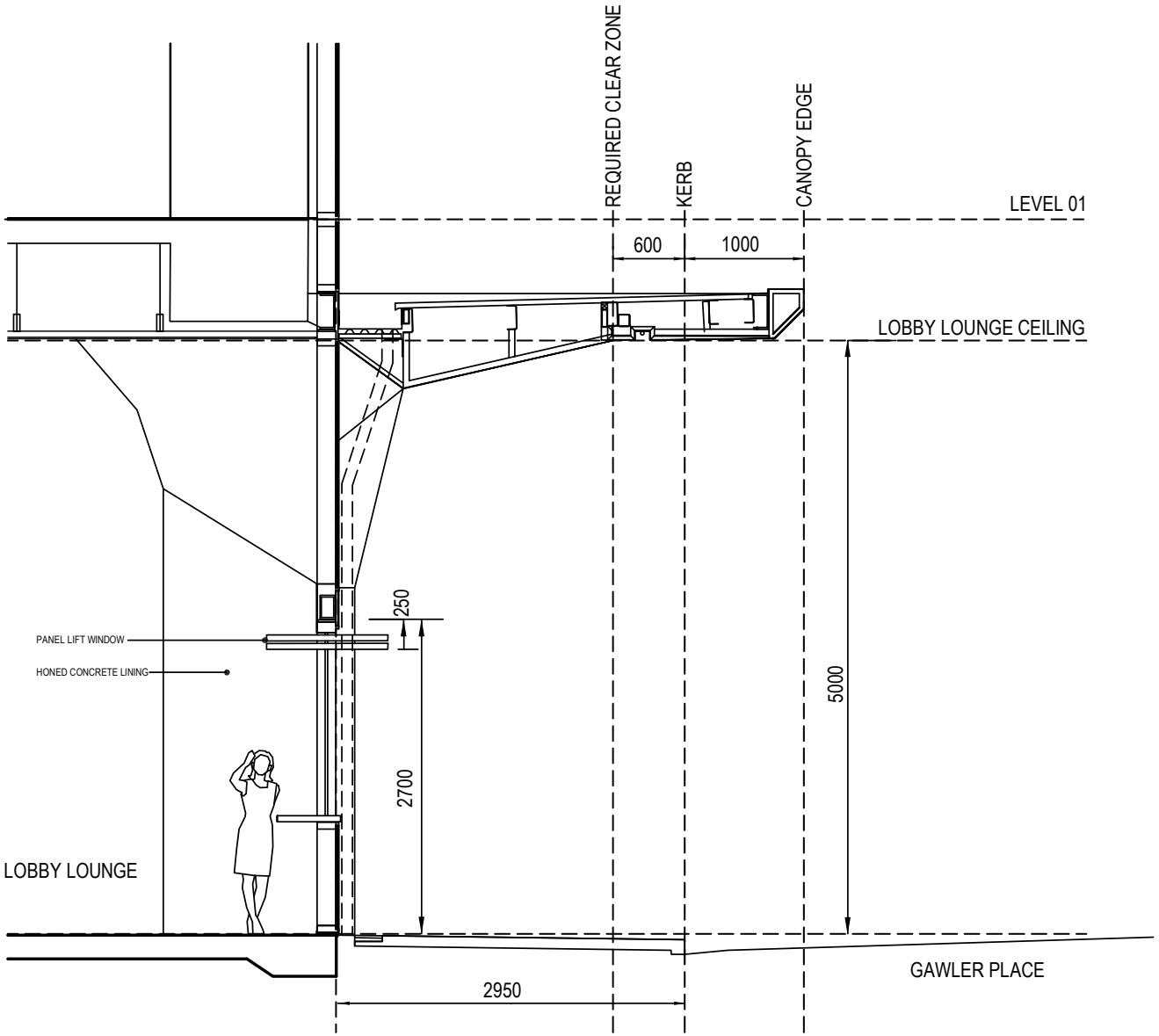


02 SK400 ELEVATION
SCALE 1 : 100



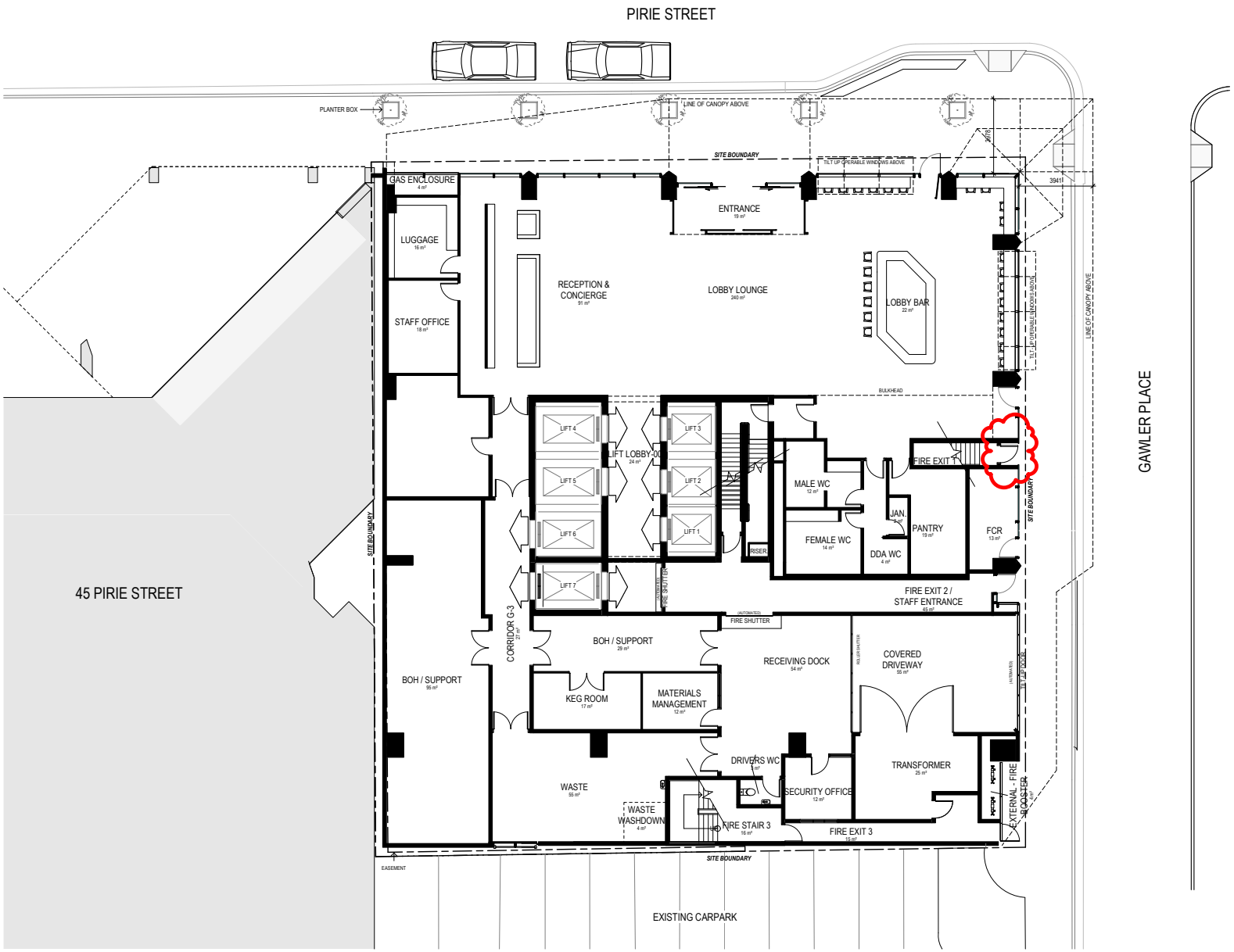
03 SK400 ELEVATION
SCALE 1 : 100

RESPONSE TO COA RFI - 08/07/2020



CANOPY SECTION THROUGH GAWLER PLACE 1:50 @ A4

RESPONSE TO COA RFI - 08/07/2020



RESPONSE TO COA RFI - 08/07/2020

Gormly, Will (DPTI)

From: Chris Vounasis <chris@futureurban.com.au>
Sent: Monday, 13 July 2020 10:39 AM
To: Gormly, Will (DPTI); Cattonar, Jason (DPTI)
Subject: RE: 51 Pirie Street, Adelaide - GA referral response

Importance: High

Hi Will/Jason

Thank you for sending this through.

The key comment raised by the GA is as follows:

"Development of this scale in this part of the city has a responsibility to deliver a high benchmark for good design, particularly in terms of the public realm contribution. In my view, the removal of the Local heritage facade must also be justified by achieving a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome".

In my opinion, it is extremely difficult to argue against the proposal's public realm contribution (as the proponent will be completely upgrading the adjacent footpaths, substantially improving amenity and comfort at their cost). It is also important to note that this is a separate council process which the proponent has already committed to. In addition, it is extremely difficult to argue against the proposals high level of activation when the majority of the frontages are activated….and will be so for 24 hours a day. These two factors provide a very generous contribution to the streetscape.

The GA makes the following comment:

"However I am not yet convinced that the design presented is sufficiently resolved to warrant removal of the Local heritage facade. I recommend further review of the design of the building base and canopy, informed by the design principles, context, internal program, technical requirements and the public realm interface".

The GA also goes on to say:

"My support for the removal of the heritage facade is contingent on the new proposition providing a significant contribution to the streetscape and achieving a high quality design and material outcome, which in my view has not yet been demonstrated".

In consideration of the above, if it is accepted that the proposal provides a positive contribution to the public realm and a generous contribution to the streetscape we are left with two remaining issues relating to design quality and the material outcome.

We do not disagree with the GA's comments in relation to design and material resolution particularly as it relates to the base. The following comment from the GA supports the overall approach:

"In principle, I support the concept for the tower form and angular reveals that go some way to referencing the late modernist context and the hotel use".

The GA also raises some concern with the glazing sample(s). A matter that has been extremely difficult to resolve during COVID-19 and obtaining the glazed samples from overseas. This in my opinion, is an issue that can be addressed via a condition/reserved matter.

I also note the conclusion of the GA comments:

"To ensure the most successful design outcome is achieved the State Commission Assessment Panel may like to consider particular aspects of the project, which would benefit from protection as part of the planning permission, such as:

- *Further review of the neutral glass selection to the angled reveals to increase visual permeability and strengthen the visual contrast with the champagne tinted façade;*
- *Further resolution of the development's overall lighting strategy including effective integration of lighting with the built form and internal spaces and colour temperature to ensure lighting enhances the hotel amenity and the building's appearance;*
- *Further review of the building base and canopy expression to achieve a high level of activation, high quality public realm outcome, generous contribution to the streetscape and a high quality design and material outcome".*

In my opinion, all the above matters are detailed design in nature. There is clearly no opposition to the overall design intent and/or approach. The above should form the basis of conditions (particularly in relation to the first two dot points) and a reserved matter for the last dot point – however only in relation to the ensuring a high quality design and material outcome. The public realm and streetscape contribution have clearly been achieved.

There is no issue from the proponents perspective to accept the above and to continue to engage with the GA during the detailed design process. These matters can only be 'sufficiently resolved' during the detailed design process and when particular samples can be more readily available and accessible. The proponent should not necessarily be punished or delayed because a global event that it has no control over.

Accordingly, we so no reason why DPTI could not exercise its COVID-19 delegations, which give power to the administration to determine this application under delegation. This determination can also refer to the fact that the application has significant merit in assisting the local economy and business during this time being shovel ready. The project should not be unnecessarily delayed because of issues that are out of its control and the fact that details that require resolution can be appropriately addressed during detailed design in consultation with the GA.

As DPTI has been previously advised, there is a program to commence construction in the first quarter of 2021. This was on the basis of a SCAP decision being achieved no later than 23 July 2020.

To reiterate, there is strong political support for this project. This will provide further confidence, job opportunities and investment to the local economy.

I look forward to your reply and thank you again for your ongoing support and cooperation.

Kind Regards

CHRIS VOUNASIS
Managing Director

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CAPITAL CITY ZONE

Introduction

The Desired Character, Objectives and Principles of Development Control that follow apply in the whole of the Capital City Zone shown on Maps Adel/17 to 20, 23 to 26 and 29 to 31. They are additional to those expressed for the whole of the Council area and in cases of apparent conflict, take precedence over the more general provisions. In the assessment of development, the greatest weight is to be applied to satisfying the Desired Character for the Zone.

DESIRED CHARACTER

This Zone is the economic and cultural focus of the State and includes a range of employment, community, educational, tourism and entertainment facilities. It is anticipated that an increased population within the Zone will complement the range of opportunities and experiences provided in the City and increase its vibrancy.

The Zone will be active during the day, evening and late night. Licensed entertainment premises, nightclubs and bars are encouraged throughout the Zone, particularly where they are located above or below ground floor level to maintain street level activation during the day and evening.

High-scale development is envisaged in the Zone with high street walls that frame the streets. However an interesting pedestrian environment and human scale will be created at ground floor levels through careful building articulation and fenestration, frequent openings in building façades, verandahs, balconies, awnings and other features that provide weather protection.

In important pedestrian areas, buildings will be set back at higher levels above the street wall to provide views to the sky and create a comfortable pedestrian environment. In narrow streets and laneways the street setback above the street wall may be relatively shallow or non-existent to create intimate spaces through a greater sense of enclosure. In the Central Business Policy Areas, upper level setbacks are not envisaged.

Non-residential land uses at ground floor level that generate high levels of pedestrian activity such as shops, cafés and restaurants will occur throughout the Zone. Within the Central Business Policy Area, residential land uses at ground level are discouraged. At ground level, development will continue to provide visual interest after hours by being well lit and having no external shutters. Non-residential and / or residential land uses will face the street at the first floor level to contribute to street vibrancy.

New development will achieve high design quality by being:

(a) **Contextual** – so that it responds to its surroundings, recognises and carefully considers the adjacent built form, and positively contributes to the character of the immediate area.

(b) **Durable** – by being fit for purpose, adaptable and long lasting, and carefully considers the existing development around it.

(c) **Inclusive** – by integrating landscape design to optimize pedestrian and cyclist usability, privacy, and equitable access, and also promote the provision of quality spaces integrated with the public realm that can be used for access and recreation and help optimize security and safety both internally and into the public realm, for occupants and visitors alike.

(d) **Sustainable** – by integrating sustainable systems into new buildings and the surrounding landscape design to improve environmental performance and minimise energy consumption.

(e) **Amenable** – by providing natural light and ventilation to habitable spaces.

Contemporary juxtapositions will provide new settings for heritage places. Innovative design is expected in areas of identified street character with an emphasis on contemporary architecture that responds to site context and broader streetscape, while supporting optimal site development. The addition of height, bulk and massing of new form should be given due consideration in the wider context of the proposed development.

There will also be a rich display of art that is accessible to the public and contextually relevant.

Adelaide's pattern of streets and squares

The distinctive grid pattern of Adelaide will be reinforced through the creation of a series of attractive boulevards as shown on Concept Plan Figures CC/1 and 2. These boulevards will provide a clear sense of arrival into the City and be characterised by buildings that are aligned to the street pattern, particularly at ground level.

Views to important civic landmarks, the Park Lands and the Adelaide Hills will be retained as an important part of the City's charm and character.

The City's boulevards, terraces and Squares will be developed as follows:

(a) North Terrace will be reinforced as an important pedestrian promenade and cultural boulevard that provides an important northern edge to the City square mile.

(b) King William Street will be enhanced as the City's principal north-south boulevard and will be reinforced as the City's commercial spine.

(c) Grote Street-Wakefield Street will be enhanced as the City's principal east-west boulevard and will be developed to provide a strong frame that presents a sense of enclosure to the street.

(d) East Terrace will be characterised by buildings that maximise views through to the Park Lands and provide a distinct City edge.

(e) West Terrace will be reinforced as the western 'gateway' to the City centre and will form an imposing frontage to the western City edge. Buildings will be constructed to the front and side boundaries, and designed to maximise views through to the Park Lands. Corner sites at the junctions of West Terrace and the major east-west streets will be developed as strongly defined visual gateways to the City. This will provide an imposing frontage to the western edge of the City, which comprises a mixture of commercial, showroom and residential development.

(f) Pulteney and Morphett streets are key north-south boulevards. A sense of activation and enclosure of these streets will be enhanced through mixed use development with a strong built form edge. Pulteney Street will include residential, office and institutional uses, and retail activities. These boulevards will become important tree-lined commercial corridors.

(g) Currie, Grenfell, Franklin and Flinders streets, as wider east-west boulevards provide important entry points to the City. Currie and Grenfell streets will become a key focus for pedestrians, cycling and public transport. These streets also provide long views to the hills as their closing vistas and these view corridors should remain uncluttered.

(h) Victoria, Hindmarsh and Light Squares will have a continuous edge of medium to high-scale development that frames the Squares and increases ground level activity.

The Zone also includes a number of Main Street areas, encompassing Rundle Mall, Rundle Street, Hindley Street and Gouger Street, which are envisaged to have a wide range of retail, commercial and community uses that generate high levels of activity. These areas will have an intimately scaled built form with narrow and frequent building frontages. These areas are shown on Concept Plan Figures CC/1 and 2.

Development fronting North Terrace, King William Street, Wakefield Street, Grote Street, the Squares, and in the Main Street Policy Area, will reflect their importance though highly contextual design that reflects and responds to their setting and role.

Minor streets and laneways will have a sense of enclosure (a tall street wall compared to street width) and an intimate, welcoming and comfortable pedestrian environment with buildings sited and composed in a way that responds to the buildings' context. There will be a strong emphasis on ground level activation through frequent window openings, land uses that spill out onto the footpath, and control of wind impacts.

Development in minor streets and laneways with a high value character will respond to important character elements and provide a comfortable pedestrian environment, particularly in the following streets: Gray, Leigh, Union, Chesser, Coromandel, Tucker, Cardwell, Kenton, Market, Ruthven, Cannon, Tatham, Benthem streets, Murrays Lane and Wright Court.

A comprehensive, safe and convenient movement network throughout the City will develop, focusing on the provision of linkages on both public and private land between important destinations and public transport. A high quality system of bicycle or shared pedestrian and bicycle routes will be established within the Zone.

OBJECTIVES

General

Objective 1: The principal focus for the economic, social and political life of metropolitan Adelaide and the State.

Objective 2: A vibrant mix of commercial, retail, professional services, hospitality, entertainment, educational facilities, and medium and high density living.

Objective 3: Design and management of City living to ensure the compatibility of residential amenity with the essential commercial and leisure functions of the Zone.

Objective 4: City streets that provide a comfortable pedestrian environment.

Objective 5: Innovative design approaches and contemporary architecture that respond to a building's context.

Objective 6: Buildings that reinforce the gridded layout of Adelaide's streets and respond to the underlying built-form framework of the City.

Objective 7: Large sites developed to their full potential while ensuring a cohesive scale of development and responding to a building's context.

Objective 8: Development that contributes to the Desired Character of the Zone.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following types of development, or combinations thereof, are envisaged:

Affordable housing
Aged persons accommodation
Community centre
Consulting room
Convention centre
Dwelling
Educational establishment
Emergency services facility
Hospital
Hotel
Indoor recreation centre
Licensed entertainment premises
Library
Motel
Office
Pre-school
Personal service establishment
Place of worship
Serviced apartment
Restaurant

Residential flat building
Student accommodation
Shop or group of shops
Tourist accommodation

2 Land uses that are typically closed during the day should be designed to maximise daytime and evening activation at street level and be compatible with surrounding land uses, in particular residential development.

3 Low impact industries should be located outside the Central Business Policy Area and have minimal off-site impacts with respect to noise, air, water and waste emissions, traffic generation and movement.

4 Development listed as non-complying is generally inappropriate.

Form and Character

5 Development should be consistent with the Desired Character for the Zone.

Design and Appearance

6 Development should be of a high standard of architectural design and finish which is appropriate to the City's role and image as the capital of the State.

7 Buildings should achieve a high standard of external appearance by:

(a) the use of high quality materials and finishes. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level;

(b) providing a high degree of visual interest though articulation, avoiding any large blank facades, and incorporating design features within blank walls on side boundaries which have the potential to be built out;

(c) ensuring lower levels are well integrated with, and contribute to a vibrant public realm; and

(d) ensuring any ground and first floor level car parking elements are sleeved by residential or non-residential land uses (such as shops, offices and consulting rooms) to ensure an activated street frontage.

8 Buildings should present an attractive pedestrian-oriented frontage that adds interest and vitality to City streets and laneways.

9 The finished ground floor level of buildings should be at grade and/or level with the footpath to provide direct pedestrian access and street level activation.

10 Providing footpath widths and street tree growth permit, development should contribute to the comfort of pedestrians through the incorporation of verandahs, balconies, awnings and/or canopies that provide pedestrian shelter.

11 Buildings should be positioned regularly on the site and built to the street frontage, except where a setback is required to accommodate outdoor dining or provide a contextual response to a heritage place.

12 Buildings should be designed to include a podium/street wall height and upper level setback (in the order of 3-6 metres) that:

(a) relates to the scale and context of adjoining built form;

(b) provides a human scale at street level;

(c) creates a well-defined and continuity of frontage;

(d) gives emphasis and definition to street corners to clearly define the street grid;

(e) contributes to the interest, vitality and security of the pedestrian environment;

(f) maintains a sense of openness to the sky for pedestrians and brings daylight to the street; and

(g) achieves pedestrian comfort by minimising micro climatic impacts (particularly shade/shelter, wind tunnelling and downward drafts);

other than (h) or (i):

(h) in the Central Business Policy Area;

(i) where a lesser (or zero) upper level setback and/or podium height is warranted to correspond with and complement the form of adjacent development, in which case alternative design solutions should be included to achieve a cohesive streetscape, provided parts (b) to (g) are still achieved.

13 Buildings north of Rundle Mall, Rundle Street, Hindley Street and Gouger Street should have a built form that incorporates slender tower elements, spaces between buildings or other design techniques that enable sunlight access to the southern footpath.

14 Buildings, advertisements, site landscaping, street planting and paving should have an integrated, coordinated appearance and should enhance the urban environment.

15 Building façades should be strongly modelled, incorporate a vertical composition which reflects the proportions of existing frontages, and ensure that architectural detailing is consistent around corners and along minor streets and laneways.

16 Development that exceeds the maximum building height shown in Concept Plan Figures CC/1 and 2, and meets the relevant quantitative provisions should demonstrate a significantly higher standard of design outcome in relation to qualitative policy provisions including site configuration that acknowledges and responds to the desired future character of an area but that also responds to adjacent conditions (including any special qualities of a locality), pedestrian and cyclist amenity, activation, sustainability, and public realm and streetscape contribution.

The Squares (Victoria, Hindmarsh and Light)

17 Outdoor eating and drinking facilities associated with cafés and restaurants are appropriate ground floor uses and should contribute to the vitality of the Squares and create a focus for leisure.

18 Buildings fronting the Squares should:

(a) provide a comfortable pedestrian and recreation environment by enabling direct sunlight to a minimum of 75 percent of the landscaped part of each Square at the September equinox; and

(b) reinforce the enclosure of the Squares with a continuous built-form with no upper level set-backs.

The Terraces (North, East and West)

19 Development along the terraces should contribute to a continuous built form to frame the City edge and activate the Park Lands.

20 Development along North Terrace should reinforce the predominant scale and ‘City wall’ character of the Terrace frontage.

Building Height

21 Development should not exceed the maximum building height shown in Concept Plan Figures CC/1 and 2 unless;

(a) it is demonstrated that the development reinforces the anticipated city form in Concept Plan Figures CC/1 and 2, and

(b) only if:

(i) at least four of the following are provided:

(1) the development provides an orderly transition up to an existing taller building or prescribed maximum building height in an adjacent Zone, or Policy Area or building height area on Concept Plan Figures CC/1 and 2;

(2) high quality open space that is universally accessible and is directly connected to, and well integrated with, public realm areas of the street;

(3) high quality, safe and secure, universally accessible pedestrian linkages that connect through the development site to the surrounding pedestrian network

(4) higher amenity through provision of private open space in excess of minimum requirements by 25 percent for at least 50 percent of dwellings

(5) no on-site carparking;

(6) active frontages are located on at least 75 percent of the ground floor street fronts of the building

(7) the building has frontage to a public road that abuts the Adelaide Park Lands;

(8) at least 15 percent of dwellings are affordable housing;

(9) the impact on adjacent properties is no greater than a building of the maximum height on Concept Plan Figures CC/1 and 2 in relation to sunlight access and overlooking; and

(ii) the building is designed to provide measures that provides for a substantial additional gain in sustainability.

22 Development should have optimal height and floor space yields to take advantage of the premium City location and should have a building height no less than half the maximum shown on Concept Plan Figures CC/1 and 2, or 28 metres in the Central Business Policy Area, except where one or more of the following applies:

(a) a lower building height is necessary to achieve compliance with the Commonwealth Airports (Protection of Airspace) Regulations;

(b) the site is adjacent to the City Living Zone or the Adelaide Historic (Conservation) Zone and a lesser building height is required to manage the interface with low-rise residential development;

(c) the site is adjacent to a heritage place, or includes a heritage place;

(d) the development includes the construction of a building in the same, or substantially the same, position as a building which was demolished, as a result of significant damage caused by an event, within the previous 3 years where the new building has the same, or substantially the same, layout and external appearance as the previous building.

Interface

23 Development should manage the interface with the City Living Zone or the Adelaide Historic (Conservation) Zone in relation to building height, overshadowing, massing, building proportions and traffic impacts and should avoid land uses, or intensity of land uses, that adversely affect residential amenity.

24 Development on all sites on the southern side of Gouger Street - Angas Street and adjacent to a northern boundary of the City Living Zone or the Adelaide Historic (Conservation) Zone should not exceed 22 metres in building height unless the Council Wide overshadowing Principles of Development Control are met.

25 Parts of a development that exceed the prescribed maximum building height shown on Concept Plan Figures CC/1 and 2 that are directly adjacent to the City Living, Main Street (Adelaide) and Adelaide Historic (Conservation) Zone boundaries should be designed to minimise visual impacts on sensitive uses in the adjoining zones and to maintain the established or desired future character of the area. This may be achieved through a number of techniques such as additional setback, avoiding tall sheer walls, centrally locating taller elements, providing variation of light and shadow through articulation to provide a sense of depth and create visual interest, and the like.

Movement

26 Pedestrian movement should be based on a network of pedestrian malls, arcades and lanes, linking the surrounding Zones and giving a variety of north-south and east-west links.

27 Development should provide pedestrian linkages for safe and convenient movement with arcades and lanes clearly designated and well-lit to encourage pedestrian access to public transport and areas of activity. Blank surfaces, shutters and solid infills lining such routes should be avoided.

28 Development should ensure existing through-site and on-street pedestrian links are maintained and new pedestrian links are developed in accordance with Map Adel/1 (Overlay 2A).

29 Car parking should be provided in accordance with Table Adel/7.

30 Multi-level car parks should locate vehicle access points away from the primary street frontage wherever possible and should not be located:

(a) within any of the following areas:

(i) the Core Pedestrian Area identified in Map Adel/1 (Overlays 2, 2A and 3)

(ii) on frontages to North Terrace, East Terrace, Rundle Street, Hindley Street, Currie Street, Waymouth Street (east of Light Square), Victoria Square or King William Street;

(b) where they conflict with existing or projected pedestrian movement and/or activity;

(c) where they would cause undue disruption to traffic flow; and

(d) where it involves creating new crossovers in North Terrace, Rundle Street, Hindley Street, Currie Street and Waymouth Street (east of Light Square), Grenfell Street and Pirie Street (west of Pulteney Street), Victoria Square, Light Square, Hindmarsh Square, Gawler Place and King William Street or access across primary City access and secondary City access roads identified in Map Adel/1 (Overlay 1).

31 Multi-level, non-ancillary car parks are inappropriate within the Core Pedestrian Area as shown on Map Adel/1 (Overlays 2, 2A and 3).

32 Vehicle parking spaces and multi-level vehicle parking structures within buildings should:

(a) enhance active street frontages by providing land uses such as commercial, retail or other non-car park uses along ground floor street frontages;

(b) complement the surrounding built form in terms of height, massing and scale; and

(c) incorporate façade treatments along major street frontages that are sufficiently enclosed and detailed to complement neighbouring buildings consistent with the Desired Character of the locality.

PROCEDURAL MATTERS

Complying Development

38 Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are assigned as **complying**:

(a) Other than in relation to a State heritage place, Local heritage place (City Significance), or Local heritage place, work undertaken within a building which does not involve a change of use or affect the external appearance of the building;

(b) Temporary depot for Council for a period of no more than 3 months where it can be demonstrated that appropriate provision has been made for:

(i) dust control;

(ii) screening, including landscaping;

(iii) containment of litter and water; and

(iv) securing of the site.

(c) Change in the use of land from a non-residential use to an office, shop or consulting room (excluding any retail showroom, adult entertainment premises, adult products and services premises or licensed premises).

Non-complying Development

39 The following kinds of development are **non-complying**:

A change in use of land to any of the following:

Amusement machine centre

Advertisements involving any of the following:

(a) third party advertising except on Hindley Street, Rundle Mall or on allotments at the intersection of Rundle Street and Pulteney Street, or temporary advertisements on construction sites;

(b) advertisements located at roof level where the sky or another building forms the background when viewed from ground level;

(c) advertisements in the area bounded by West Terrace, Grote Street, Franklin Street and Gray Street;

(d) animation of advertisements along and adjacent to the North Terrace, King William Street and Victoria Square frontages.

Total demolition of a State Heritage Place (as identified in Table Adel/1).

Vehicle parking except:

(a) where it is ancillary to an approved or existing use;

(b) it is a multi-level car park located outside the Core Pedestrian Area as indicated on Map Adel/1 (Overlay 2, 2A and 3); or

(c) it is within an existing building located outside the Core Pedestrian Area as indicated on Map Adel/1 (Overlay 2, 2A and 3).

Public Notification

40 Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

In addition, the following forms of development, or any combination of (except where the development is non-complying), are assigned:

(a) **Category 1**, public notification not required:

All forms of development other than where it is assigned Category 2.

(b) **Category 2**, public notification required. Third parties do not have any appeal rights.

Any development where the site of the development is adjacent land to land in the City Living Zone or Adelaide Historic (Conservation) Zone and it exceeds 22 metres in building height.

Note: For Category 3 development, public notification is required. Third parties may make written representations, appear before the relevant authority on the matter, and may appeal against a development consent. This includes any development not classified as either Category 1 or Category 2.

Central Business Policy Area 13

Introduction

The Objectives and Principles of Development Control that follow apply to the Policy Area as shown on Maps Adel/49, 50, 55 and 56. They are additional to those expressed for the Zone and, in cases of apparent conflict, take precedence over the Zone provisions. In the assessment of development, the greatest weight is to be applied to satisfying the Desired Character for the Policy Area.

DESIRED CHARACTER

The Central Business Policy Area is the pre-eminent economic, governance and cultural hub for the State. This role will be supported by educational, hospitality and entertainment activities and increased opportunities for residential, student and tourist accommodation.

Buildings will exhibit innovative design approaches and produce stylish and evocative architecture, including tall and imposing buildings that provide a hard edge to the street and are of the highest design quality. A wide variety of design outcomes of enduring appeal are expected. Complementary and harmonious buildings in individual streets will create localised character and legible differences between streets, founded on the existing activity focus, building and settlement patterns, and street widths.

OBJECTIVES

Objective 1: A concentration of employment, governance, entertainment and residential land uses that form the heart of the City and central place for the State.

Objective 2: Development of a high standard of design and external appearance that integrates with the public realm.

Objective 3: Development that contributes to the Desired Character of the Policy Area.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 Development should contribute to the area's role and function as the State's premier business district, having the highest concentration of office, retail, mixed business, cultural, public administration, hospitality, educational and tourist activities.

2 Buildings should be of a height that ensures airport operational safety is not adversely affected.

3 To enable an activated street level, residential development or similar should be located above ground floor level.

Environmental

Crime Prevention Through Urban Design

OBJECTIVES

Objective 24: A safe and secure, crime resistant environment that:

(a) ensures that land uses are integrated and designed to facilitate natural surveillance;

(b) promotes building and site security; and

(c) promotes visibility through the incorporation of clear lines of sight and appropriate lighting.

PRINCIPLES OF DEVELOPMENT CONTROL

82 Development should promote the safety and security of the community in the public realm and within development. Development should:

(a) promote natural surveillance of the public realm, including open space, car parks, pedestrian routes, service lanes, public transport stops and residential areas, through the design and location of physical features, electrical and mechanical devices, activities and people to maximise visibility by:

(i) orientating windows, doors and building entrances towards the street**,** open spaces, car parks, pedestrian routes and public transport stops;

(ii) avoiding high walls, blank facades, carports and landscaping that obscures direct views to public areas;

(iii) arranging living areas, windows, pedestrian paths and balconies to overlook recreation areas, entrances and car parks;

(iv) positioning recreational and public space areas so they are bound by roads on at least two road frontages or overlooked by development;

(v) creating a complementary mix of day and night-time activities, such as residential, commercial, recreational and community uses, that extend the duration and level of intensity of public activity;

(vi) locating public toilets, telephones and other public facilities with direct access and good visibility from well-trafficked public spaces;

(vii) ensuring that rear service areas and access lanes are either secured or exposed to surveillance; and

(viii) ensuring the surveillance of isolated locations through the use of audio monitors, emergency telephones or alarms, video cameras or staff eg by surveillance of lift and toilet areas within car parks.

(b) provide access control by facilitating communication, escape and path finding within development through legible design by:

(i) incorporating clear directional devices;

(ii) avoiding opportunities for concealment near well travelled routes;

(iii) closing off or locking areas during off-peak hours, such as stairwells, to concentrate access/exit points to a particular route;

(iv) use of devices such as stainless steel mirrors where a passage has a bend;

(v) locating main entrances and exits at the front of a site and in view of a street;

(vi) providing open space and pedestrian routes which are clearly defined and have clear and direct sightlines for the users; and

(vii) locating elevators and stairwells where they can be viewed by a maximum number of people, near the edge of buildings where there is a glass wall at the entrance.

(c) promote territoriality or sense of ownership through physical features that express ownership and control over the environment and provide a clear delineation of public and private space by:

(i) clear delineation of boundaries marking public, private and semi-private space, such as by paving, lighting, walls and planting;

(ii) dividing large development sites into territorial zones to create a sense of ownership of common space by smaller groups of dwellings; and

(iii) locating main entrances and exits at the front of a site and in view of a street.

(d) provide awareness through design of what is around and what is ahead so that legitimate users and observers can make an accurate assessment of the safety of a locality and site and plan their behaviour accordingly by:

(i) avoiding blind sharp corners, pillars, tall solid fences and a sudden change in grade of pathways, stairs or corridors so that movement can be predicted;

(ii) using devices such as convex security mirrors or reflective surfaces where lines of sight are impeded;

(iii) ensuring barriers along pathways such as landscaping, fencing and walls are permeable;

(iv) planting shrubs that have a mature height less than one metre and trees with a canopy that begins at two metres;

(v) adequate and consistent lighting of open spaces, building entrances, parking and pedestrian areas to avoid the creation of shadowed areas; and

(vi) use of robust and durable design features to discourage vandalism.

Waste Management

OBJECTIVE

Objective 28: Development which supports high local environmental quality, promotes waste minimisation, re-use and recycling, encourages waste water, grey water and stormwater re-use and does not generate unacceptable levels of air, liquid or solid pollution.

PRINCIPLES OF DEVELOPMENT CONTROL

101 A dedicated area for on-site collection and sorting of recyclable materials and refuse should be provided within all new development.

102 A dedicated area for the collection and sorting of construction waste and the recycling of building materials during construction as appropriate to the size and nature of the development should be provided and screened from public view.

103 Development greater than 2 000 square metres of total floor area should manage waste by:

(a) containing a dedicated area for the collection and sorting of construction waste and recyclable building materials;

(b) on-site storage and management of waste;

(c) disposal of non-recyclable waste; and

(d) incorporating waste water and stormwater re-use including the treatment and re-use of grey water.

104 Development should not result in emission of atmospheric, liquid or other pollutants, or cause unacceptable levels of smell and odour which would detrimentally affect the amenity of adjacent properties or its locality. Land uses such as restaurants, shops, cafés or other uses that generate smell and odour should:

(a) ensure extraction flues, ventilation and plant equipment are located in appropriate locations that will not detrimentally affect the amenity of adjacent occupiers in terms of noise, odours and the appearance of the equipment;

(b) ensure ventilation and extraction equipment and ducting have the capacity to clean and filter the air before being released into the atmosphere; and

(c) ensure the size of the ventilation and extraction equipment is suitable and has the capacity to adequately cater for the demand generated by the potential number of patrons.

Micro-climate and Sunlight

OBJECTIVES

Objective 33: Buildings which are designed and sited to be energy efficient and to minimise micro-climatic and solar access impacts on land or other buildings.

Objective 34: Protection from rain, wind and sun without causing detriment to heritage places, street trees or the integrity of the streetscape.

PRINCIPLES OF DEVELOPMENT CONTROL

119 Development should be designed and sited to minimise micro-climatic and solar access impact on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow.

120 Development should be designed and sited to ensure an adequate level of daylight, minimise overshadowing of buildings, and public and private outdoor spaces, particularly during the lunch time hours.

121 Development should not significantly reduce daylight to private open space, communal open space, where such communal open space provides the primary private open space, and habitable rooms in adjacent City Living Zone, Adelaide Historic (Conservation) Zone and North Adelaide Historic (Conservation) Zone.

122 Glazing on building facades should not result in glare which produces discomfort or danger to pedestrians, occupants of adjacent buildings and users of vehicles.

123 Buildings within the Core and Primary Pedestrian Areas identified in Map Adel/1 (Overlays 2, 2A and 3), unless specified otherwise within the relevant Zone or Policy Area, should be designed to provide weather protection for pedestrians against rain, wind and sun. The design of canopies, verandahs and awnings should be compatible with the style and character of the building and adjoining buildings, as well as the desired character, both in scale and detail.

124 Weather protection should not be introduced where it would interfere with the integrity or heritage value of heritage places or unduly affect street trees.

125 Development that is over 21 metres in building height and is to be built at or on the street frontage should minimise wind tunnel effect.

Heritage and Conservation

OBJECTIVES

Objective 42: Acknowledge the diversity of Adelaide's cultural heritage from pre-European occupation to current time through the conservation of heritage places and retention of their heritage value.

Objective 43: Development that retains the heritage value and setting of a heritage place and its built form contribution to the locality.

Objective 44: Continued use or adaptive reuse of the land, buildings and structures comprising a heritage place.

PRINCIPLES OF DEVELOPMENT CONTROL

General

16 Development of a heritage place should conserve the elements of heritage value as identified in the relevant Tables.

2 Development affecting a State heritage place (Table Adel/1), Local heritage place (Table Adel/2), Local heritage place (Townscape) (Table Adel/3) or Local heritage place (City Significance) (Table Adel/4), including:

(a) adaptation to a new use;

(b) additional construction;

(c) part demolition;

(d) alterations; or

(e) conservation works;

should facilitate its continued or adaptive use, and utilise materials, finishes, setbacks, scale and other built form qualities that are complementary to the heritage place.

3 A local heritage place (as identified in Tables Adel/2, 3 or 4) or the Elements of Heritage Value (as identified in Table Adel/2) should not be demolished unless it can be demonstrated that the place, or those Elements of Heritage Value that are proposed to be demolished, have become so distressed in condition or diminished in integrity that the remaining fabric is no longer capable of adequately representing its heritage value as a local heritage place.

139 Development of Local Heritage Places (Townscape) should occur behind retention depths (as established from the street facade of the heritage place) of 6 metres in non-residential Zones and Policy Areas, and 4 metres in the City Living Zone or the Adelaide Historic (Conservation) Zone or as otherwise indicated in the heritage Tables in respect of frontages and side wall returns.

Built Form and Townscape

OBJECTIVES

Objective 46: Reinforcement of the city's grid pattern of streets through:

(a) high rise development framing city boulevards, the Squares and Park Lands

(b) vibrant main streets of a more intimate scale that help bring the city to life

(c) unique and interesting laneways that provide a sense of enclosure and intimacy.

Objective 47: Buildings should be designed to:

(a) reinforce the desired character of the area as contemplated by the minimum and maximum building heights in the Zone and Policy Area provisions;

(b) maintain a sense of openness to the sky and daylight to public spaces, open space areas and existing buildings;

(c) contribute to pedestrian safety and comfort; and

(d) provide for a transition of building heights between Zone and Policy Areas where building height guidelines differ.

Objective 48: Development which incorporates a high level of design excellence in terms of scale, bulk, massing, materials, finishes, colours and architectural treatment.

Height, Bulk and Scale

PRINCIPLES OF DEVELOPMENT CONTROL

48 Development should be of a high standard of design and should reinforce the grid layout and distinctive urban character of the City by maintaining a clear distinction between the following:

(a) the intense urban development and built-form of the town acres in the Capital City, Main Street, Mixed Use, City Frame and City Living Zones;

(b) the less intense and more informal groupings of buildings set within the landscaped environment of the Institutional Zones;

(c) the historic character of the Adelaide and North Adelaide Historic (Conservation) Zones and groups of historic housing within the City Living Zone; and

(d) the open landscape of the Park Lands Zone.

5 The height and scale of development and the type of land use should reflect and respond to the role of the street it fronts as illustrated on Map Adel/1 (Overlay 1).

6 The height, scale and massing of buildings should reinforce:

(a) the desired character, built form, public environment and scale of the streetscape as contemplated within the Zone and Policy Area, and have regard to:

(i) maintaining consistent parapet lines, floor levels, height and massing with existing buildings consistent with the areas desired character;

(ii) reflecting the prevailing pattern of visual sub-division of neighbouring building frontages where frontages display a character pattern of vertical and horizontal sub-divisions; and

(iii) avoiding massive unbroken facades.

(b) a comfortable proportion of human scale at street level by:

(i) building ground level to the street frontage where zero set-backs prevail;

(ii) breaking up the building facade into distinct elements;

(iii) incorporating art work and wall and window detailing; and

(iv) including attractive planting, seating and pedestrian shelter.

Active Street Frontages

OBJECTIVES

Objective 50: Development that enhances the public environment and, where appropriate provides activity and interest at street level, reinforcing a locality's desired character.

Objective 51: Development designed to promote pedestrian activity and provide a high quality experience for City residents, workers and visitors by:

(a) enlivening building edges;

(b) creating welcoming, safe and vibrant spaces;

(c) improving perceptions of public safety through passive surveillance; and

(d) creating interesting and lively pedestrian environments.

PRINCIPLES OF DEVELOPMENT CONTROL

76 Development should be designed to create active street frontages that provide activity and interest to passing pedestrians and contribute to the liveliness, vitality and security of the public realm.

197 Retail frontages should be designed to provide interest to passing pedestrians at street level and relief to building mass.

198 Commercial buildings should be designed to ensure that ground floor facades are rich in detail so they are exciting to walk by, interesting to look at and to stand beside.

Transport and Access

Access and Movement

OBJECTIVE

Objective 60: Access to and movement within the City that is easy, safe, comfortable and convenient with priority given to pedestrian and cyclist safety and access.

PRINCIPLES OF DEVELOPMENT CONTROL

84 Development should provide safe, convenient and comfortable access and movement.

9 Development should provide and maintain pedestrian shelter, access and through-site links in accordance with the walking routes identified within Map Adel/1 (Overlays 2, 2A and 3) and the provisions of the Zone or Policy Area in which it is located. Such facilities should be appropriately designed and detailed to enhance the pedestrian environment, have regard to the mobility needs of people with disabilities, and be safe, suitable and accessible.

10 Corner buildings in the Central Business Policy Area of the Capital City Zone, buildings adjacent to street intersections and buildings along a high concentration public transport route or along public transport pedestrian routes identified within Map Adel/1 (Overlay 4) should provide weather protection for pedestrians in the form of verandahs, awnings or canopies. Where verandahs or awnings are provided which block street lighting, they should include additional lighting beneath the canopy.

Traffic and Vehicle Access

OBJECTIVES

Objective 68: Development that supports a shift toward active and sustainable transport modes (i.e. public transport, cycling and walking).

Objective 69: An enhanced City environment and the maintenance of an appropriate hierarchy of roads to distribute traffic into the City to serve development in preference to through traffic.

Objective 70: Adequate off-street facilities for loading and unloading of courier, delivery and service vehicles and access for emergency vehicles.

PRINCIPLES OF DEVELOPMENT CONTROL

11 Development should be designed so that vehicle access points for parking, servicing or deliveries, and pedestrian access to a site, are located to minimise traffic hazards and vehicle queuing on public roads. Access should be safe, convenient and suitable for the development on the site, and should be obtained from minor streets and lanes unless otherwise stated in the provisions for the relevant Zone or Policy Area and provided residential amenity is not unreasonably affected.

12 Facilities for the loading and unloading of courier, delivery and service vehicles and access for emergency vehicles should be provided on-site as appropriate to the size and nature of the development. Such facilities should be screened from public view and designed, where possible, so that vehicles may enter and leave in a forward direction.

13 Where practicable, development sites should contain sufficient space for the location of construction equipment during the course of building construction, so that development does not rely on the use of Council road reserves to locate such equipment**.**

14 Vehicular access to development located within the Core and Primary Pedestrian Areas identified in Map Adel/1 (Overlay 2A) should be limited and designed to minimise interruption to street frontages.