Ref: 24ADL-0980

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ADL | MEL | PER

25 March 2025

Team Leader Statutory Planning
Adelaide Hills Council

Dear

Proposed Single Storey Detached Dwelling, Swimming Pool, Alfresco, Rainwater Tanks and Outbuilding at 10 Piccadilly Crescent, Piccadilly

Introduction

URPS has been engaged by the applicant Contech Pty Ltd to provide planning advice for the proposed development at 10 Piccadilly Crescent, Piccadilly.

This statement has been prepared following my assessment of:

- The subject land and locality.
- Architectural Plans prepared by Contech. (**Appendix A**).
- Stormwater Calculations and Wastewater Disposal Report prepared by Gama Consulting (**Appendix B**).
- Native Vegetation Clearance Data Report prepared by Aenigma Natives (**Appendix C**).
- Bushfire Attack Level Assessment Report prepared by SA Bushfire Solutions (**Appendix D**).
- The Planning and Design Code (version 2025.5, 13 March 2025).

Background

from our office met with you on 14 January 2025 to discuss the proposal. He sought confirmation from you that the Council would be comfortable with the proposed land use given the Zone anticipates dwellings where they are associated with primary production. You confirmed that you were satisfied with a residential use on the site.

Subject Land and Locality

The subject land is 10 Piccadilly Crescent, Piccadilly as identified in CT 5453/922.

The site is just over 6 hectares in area with a frontage to Piccadilly Crescent of 145.81 metres. The site is relatively untouched, other than an existing vehicle track which runs along some of the edges and through the centre of the site, and an area where previous landowners established a campsite. The land is entirely covered with remnant vegetation, featuring several tall trees of different species.

The gradient of the site rises towards the northwest of the site with a relatively flat hilltop. The remainder of the property slopes downward into a gully which runs along the northern boundary of the allotment. There are no watercourses or dams on the land.

Figure 1: Subject land and locality map

SHAPING GREAT COMMUNITIES

As shown in Figure 2 below, the site and locality are within the Productive Rural Landscape Zone in the Planning and Design Code (the Code). The locality is more rural living in nature. This is mainly due to the allotment sizes and vegetation coverage not being suited to primary production land uses.

The allotments are typically of similar size or larger than the subject land, with some of the larger ones also featuring hobby farms that include small areas for grazing or horticulture.

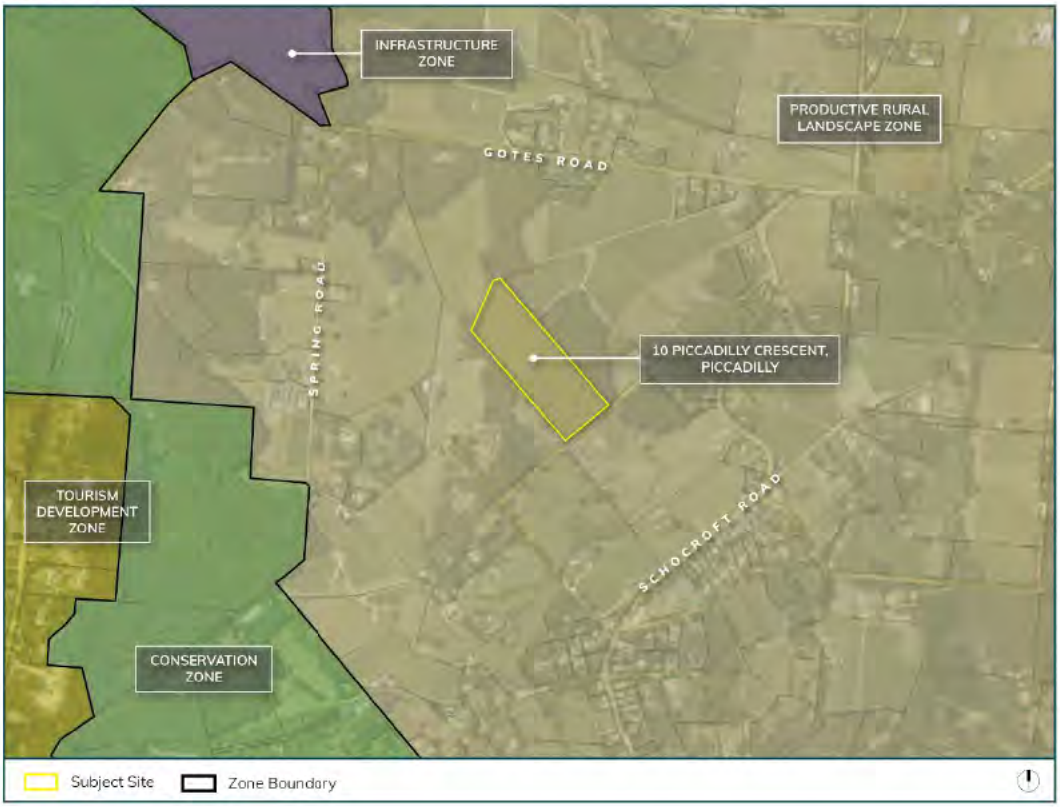


Figure 2: Zoning Map

The Proposal

The proposed development seeks the following:

- Single storey detached dwelling positioned centrally on the site, utilising the existing access track, camping site and flat topography.
- Modification of existing access track to satisfy CFS requirements and retain an appropriate amount of vegetation.
- Swimming pool and alfresco.
- Two underground rainwater tanks each with capacity of 100KL.

SHAPING GREAT COMMUNITIES

Figure 3: Site plan extract

The dwelling is single storey and split into three wings. The west wing includes 4 bedrooms, 2 bathrooms, rumpus, study, sauna and a home theatre.

The east wing comprises an open plan kitchen with a butler's pantry, dining room and lounge area. The master bedroom with an ensuite and WIR is also in this section of the house.

The south wing comprises a four car garage, guest bedroom, bathroom, retreat/study, laundry and gym.

A swimming pool and alfresco is to the north of the dwelling. This includes an outdoor dining area comprising an external fireplace and chimney.

Two underground rainwater tanks with a total of 200KL capacity is located towards the east of the dwelling.

SHAPING GREAT COMMUNITIES

Figure 4: Northern elevation perspective

Zoning and Overlays

The subject land is in the Productive Rural Landscape Zone of the Planning & Design Code (the Code) as of 13 March 2025.

The following Overlays are relevant to this site and application:

- Environment and Food Production Areas.
- Hazards (Bushfire - High Risk).
- Hazards (Flooding – Evidence Required).
- Heritage Adjacency.
- Mounty Lofty Ranges Water Supply catchment (Area 2).
- Native Vegetation.
- Water Resources.

Assessment Pathway, Relevant Authority and Referrals

The development application is subject to the performance assessed process as identified in the Productive Rural Landscape Zone.

The relevant Authority is the Adelaide Hills Council. The application will require referrals to the Native Vegetation Council and South Australian County Fire Service.

Public Notification

Table 5 – Procedural Matters of the Zone excludes a deck, dwelling, outbuilding, retaining wall, swimming pool, veranda and water tank from public notification.

Approach to Assessment

Part 1 – Rules of Interpretation of the Code provides clarity on how to interpret the policies in the Code.

In relation to DPF's, the Rules of Interpretation state that:

"A DPF provides a guide to a relevant authority as to what is generally considered to satisfy the corresponding performance outcome but does not need to necessarily be satisfied to meet the performance outcome, and does not derogate from the discretion to determine that the outcome is met in another way, or from the need to assess development on its merits against all relevant policies. (my emphasis)

Performance Outcomes (PO's) on the other hand, are:

"Policies designed to facilitate assessment according to specified factors, including land use, site dimensions and land division, built form, character and hazard risk minimisation" (my emphasis)

Recent judgements of the ERD Court have also expanded upon this. In summary:

- Designated Performance Features (DPFs) simply represent one way to satisfy the corresponding Performance Outcome (PO), but not the only way.
- A DPF is its own thing and is "advisory", it is one way to satisfy a PO. "If a DPF was the only way a PO was to be satisfied, the PO has no work to do".
- A departure from a DPF is, in itself, not a reason to refuse a development.
- The proposal will ultimately succeed or fail depending on how it is assessed against the relevant Performance Outcomes.

It is with the above approach in mind we have assessed this proposal.

Planning Assessment

The key planning considerations with the proposed development are:

- Land Use.
- Native Vegetation.
- Bushfire Risk.
- Access.
- Siting and Design.

- Built Form and Character.
- Wastewater and Stormwater Management.
- Heritage Adjacency.

The proposal's merits in these areas with reference to the most relevant provisions of the Code is considered in more detail below.

In this section Performance Outcomes and Designated Performance Features are abbreviated as POs and DPFs respectively.

Land Use

The Productive Rural Landscape Zone includes the following provisions relating to land use:

DO 1 ***A diverse range of land uses at an appropriate scale and intensity that capitalise on the region's proximity to the metropolitan area and the tourist and lifestyle opportunities this presents while also conserving the natural and rural character, identity, biodiversity and sensitive environmental areas and scenic qualities of the landscape.***

PO 1.1 ***The productive value of rural land for a range of primary production and horticultural activities and associated value adding of primary produce (such as beverage production), retailing and tourism is supported, protected and maintained. The proliferation of land uses that may be sensitive to those activities is avoided. (Underlining added)***

DPF 1.1 ***Development comprises one or more of the following:***

(h) Dwelling

(p) Outbuilding (Underlining added)

PO 5 .1 ***Dwellings provide a convenient base for landowners to conduct and manage commercial scale primary production and related value adding activities without compromising the use of the allotment, adjacent land or long term purpose of the zone for primary production or related tourism values due to a proliferation of dwellings. (Underlining added)***

DPF 5.1 ***Dwellings:***

(a) are located on an allotment with an area not less than:
(b) are located on an allotment used for and is ancillary to primary production and/or primary production related value-adding activities
(c) will not result in more than one dwelling on an allotment.

(Underlining added)

Dwellings are anticipated in DPF 1.1 of the Zone.

As noted above, the site and locality are more suited to rural living rather than primary production, given the allotment sizes, gradients and vegetation coverage.

While it is acknowledged the Zone anticipates dwellings where they are associated with primary production, this is not possible on this site because of the extent of native

vegetation that would need to be removed to enable commercial scale primary production. Initial discussions with you confirmed that you share this view.

Importantly, the siting and design of the dwelling allows for retention and enhancement of the scenic qualities of the landscape. Vegetation clearance is minimised to allow for a reasonable dwelling on the land, which has been sited to avoid impacts from any other land uses.

It is in all of the above circumstances that the proposed residential use of the land is appropriate for the site.

Native Vegetation

The Native Vegetation Overlay includes the following provisions relating to Native Vegetation:

PO 1.1 ***Development avoids, or where it cannot be practically avoided, minimises the clearance of native vegetation taking into account the siting of buildings, access points, bushfire protection measures and building maintenance.***

(Underlining added)

DPF 1.1 An application is accompanied by:...

- ***(a) a declaration stating that the proposal will not, or would not, involve clearance of native vegetation under the Native Vegetation Act 1991, including any clearance that may occur:***
  - ***(i) in connection with a relevant access point and / or driveway***
  - ***(ii) within 10m of a building (other than a residential building or tourist accommodation)***
  - ***(iii) within 20m of a dwelling or addition to an existing dwelling for fire prevention and control***
  - ***(iv) within 50m of residential or tourist accommodation in connection with a requirement under a relevant overlay to establish an asset protection zone in a bushfire prone area***
- ***(b) a report prepared in accordance with Regulations 18(2)(a) of the Native Vegetation Regulations 2017 that establishes that the clearance is categorised as 'Level 1 Clearance'.***

PO 1.2 ***Native vegetation clearance in association with development avoids the following:***

- ***(a) significant wildlife habitat and movement corridors***
- ***(b) rare, vulnerable or endangered plants specie***
- ***(c) native vegetation that is significant because it is located in an area which has been extensively cleared***
- ***(d) native vegetation that is growing in, or in association with, a wetland environment.***

PO 1.4 ***Development restores and enhances biodiversity and habitat values through revegetation using locally indigenous plant species. (Underlining added)***

The land is entirely scattered with native vegetation, primarily consisting of Stringybark Woodlands. This native vegetation is protected under the Native Vegetation Act 1991.

Clearance of any of this native vegetation requires approval from the Native Vegetation Council (NVC).

Since we've determined the residential use of the site is suitable, it is reasonable to anticipate that some of the densely vegetated area will need to be cleared to make space for the dwelling.

The proponent has been working with Michelle Haby, an accredited native vegetation consultant, on the proposed development. Collaborating with Michelle has helped shape the siting and design of the project.

The proposed development satisfies the above provisions in the following ways:

- The development has been positioned within an area of vegetation that has been previously disturbed, aiding in minimising the impact of the proposed development on local fauna.
- The clearance area has a largely open understory and does not contain critical habitat for threatened fauna species.
- The clearance will be carried out thoughtfully to avoid disturbing the root zones of the surrounding vegetation.
- The development utilises the existing access track to minimise the clearance of remnant vegetation. The "T" shaped turn around bay for firefighting vehicles will double as a hardstand to further minimise clearance.
- Revegetation using locally sourced plants is planned to stabilise the soil and integrate the development with the surrounding remnant vegetation.
- Impacts of native vegetation clearance will be offset by the achievement of a Significant Environmental Benefit (SEB) that outweighs the impact. The clearance area of 0.48ha, assessed as Level 3 clearance requires a SEB offset payment of $34,469.50.

A referral to the NVC is required for development where a report, as per Regulation 18(2)(a) of the Native Vegetation Regulations 2017, classifies the clearance as 'Level 3' or 'Level 4'. Since the Native Vegetation Clearance Data Report classifies the clearance of the vegetation as Level 3, a referral is required.

Bushfire Risk

The Hazards (Bushfire – High Risk) Overlay includes the following provisions relating to bushfire risk:

PO 1.1 ***Development that significantly increases the potential for fire outbreak as a result of the spontaneous combustion of materials, spark generation or through the magnification and reflection of light is not located in areas of unacceptable bushfire risk.***

PO 2.1 *Buildings and structures are located away from areas that pose an unacceptable bushfire risk as a result of vegetation cover and type, and terrain.*

PO 4.1 *To minimise the threat, impact and potential exposure to bushfires on life and property, residential and tourist accommodation and habitable buildings for vulnerable communities (including boarding houses, hostels, dormitory style accommodation, student accommodation and) is sited on the flatter portion of allotments away from steep slopes.*

PO 4.2 *Residential and tourist accommodation and habitable buildings for vulnerable communities (including boarding houses, hostels, dormitory style accommodation, student accommodation and) is sited away from vegetated areas that pose an unacceptable bushfire risk.*

DPF 4.2 *Residential and tourist accommodation and habitable buildings for vulnerable communities are provided with asset protection zone(s) in accordance with (a) and (b):*

- *(a) the asset protection zone has a minimum width of at least:*
  - *(i) 50 metres to unmanaged grasslands*
  - *(ii) 100 metres to hazardous bushland vegetation*

PO 6.2 *Access to habitable buildings is designed and constructed to facilitate the safe and effective:*

- *(a) use, operation and evacuation of firefighting and emergency personnel*
- *(b) evacuation of residents, occupants and visitors.*

DPF 6.2 *Access is in accordance with (a) or (b):*

driveways:

- *(i) do not exceed 600m in length*
- *(ii) are constructed with a formed, all-weather surface*
- *(iii) are connected to a formed, all-weather public road with the transition area between the road and driveway having a gradient of not more than 7 degrees (1-in-8)*
- *(iv) have a gradient of not more than 16 degrees (1-in-3.5) at any point along the driveway*
- *(v) have a crossfall of not more than 6 degrees (1-in-9.5) at any point along the driveway*
- *(vi) have a minimum formed width of 3m (4m where the gradient of the driveway is steeper than 12 degrees (1-in-4.5)) plus 0.5 metres clearance either side of the driveway from overhanging branches or other obstructions, including buildings and/or structures (Figure 1)*
- *(vii) incorporate passing bays with a minimum width of 6m and length of 17m every 200m (Figure 5)*
- *(viii) provide overhead clearance of not less than 4.0m between the driveway surface and overhanging branches or other obstructions, including buildings and/or structures (Figure 1)*
- *(ix) allow fire-fighting services (personnel and vehicles) to travel in a continuous forward movement around driveway curves by constructing the curves with a minimum external radius of 12.5m (Figure 2)*

(x) allow fire-fighting vehicles to safely enter and exit an allotment in a forward direction by using a 'U' shaped drive through design or by incorporating at the end of the driveway either:

(xi) a loop road around the building
or

(xii) a turning area with a minimum radius of 12.5m (Figure 3)
or

(xiii) a 'T' or 'Y' shaped turning area with a minimum formed length of 11m and minimum internal radii of 9.5m (Figure 4)

(xiv) incorporate solid, all-weather crossings over any watercourse that support fire-fighting vehicles with a gross vehicle mass (GVM) of 21 tonnes.(Underlining added)

The risk of bushfire has been carefully assessed during the design process in consultation with SA Bushfire Solutions. The proposed development mitigates bushfire risk in the following ways

- The modification of the existing driveway ensures safe and effective use for firefighting and emergency personnel, and evacuation of residents, occupants and visitors if necessary.
- The development provides water supply that complies with the Ministerial Building Standard MBS 008, details of which will be confirmed in the assessment for Building Consent.
- Fire fighting vehicles can readily enter and exit the site via an access track that facilitates safe and effective access, operation and evacuation of fire-fighting vehicles and emergency personnel.
- The development is located away from hazardous vegetation.
- The development has been designed with low combustible material such as axon cladding, masonry walls and low reflective sheet metal roofing.

A referral to the CFS is required to provide expert assessment and direction to the relevant authority on the potential impacts of bushfire on the development.

Access

The Productive Rural Landscape Zone includes the following provisions relating to access:

PO 2.1 Development is provided with <u>suitable vehicle access.</u>

DPF 2.1 Development is serviced by an <u>all-weather trafficable public road</u>. (underlining added)

Piccadilly Crescent is a public road and is sealed up to the adjoining allotment to the east at 8 Piccadilly Crescent. Beyond the eastern corner of this site, the road becomes an unmade, undulating surface as pictured below.

SHAPING GREAT COMMUNITIES

Figure 5: View of unmade section of Piccadilly Crescent

From our initial discussions with you regarding the project, we understand that the proponent will need to upgrade the unmade road to a standard that meets the approval of the CFS and the Council's engineers.

The proponent is willing to negotiate with the Council on any necessary upgrade required for this section of road between the existing sealed section and the driveway entry, noting that it will need to be to the satisfaction of the CFS.

Siting and Design

The Productive Rural Landscape Zone includes the following provisions relating to siting and design:

PO 2.2 ***Buildings are generally located on flat land to minimise cut and fill and the associated visual impacts.***

DPF 2.2 ***Do not result excavation and/or filling of land that is greater than 1.5m from natural ground level.***

PO 5.2 ***Dwellings are sited, designed and of a scale that maintains a pleasant natural and rural character and amenity.***

DPF 5.2 ***Dwellings:***

- ***(a) Are setback from all allotment boundaries by at least 40m.***
- ***(b) Do not exceed 2 building levels and 9m measured from the top of the footings.***
- ***(c) Have a wall height no greater than 6m.***

PO 11.1 ***Large buildings designed and sited to reduce impacts on scenic and rural vistas by:***

- ***(a) having substantial setbacks from boundaries and adjacent public roads***

(b) *using low reflective materials and finishes that blend with the surrounding landscape*

(c) *being located below ridgelines. (Underlining added)*

The proposed development satisfies the above provisions in the following ways:

- The buildings are located on the flat hilltop of the site to minimise the need for cut and fill.
- The dwelling is single storey with a building height of less than 9m.
- The dwelling is sited on the previously cleared areas of the site to minimise cut and fill and visual impact.
- The siting of the dwelling enables the best solar access reducing operational carbon loads for heating in the cooler months.
- Trees will be retained around the site to screen the dwelling from adjoining allotments. This will maintain the pleasant natural and rural character of the area.
- The built form is well setback from boundaries to maintain a pleasant natural character.
- The dwelling is composed of neutral colours, materials and finishes that are sensitive to the area. The dark, natural colours blend with the landscape.

Outbuilding

The Productive Rural Landscape Zone includes the following provisions relating to outbuildings:

PO 14.1 ***Outbuildings are sited, designed and of a scale that maintain a pleasant natural and rural character and amenity.***

DPF 14.1 ***Outbuildings:***

a) *have a primary street setback that is at least as far back as the building to which it is ancillary*

b) *have a combined total floor area that does not exceed 100m²*

c) *do not exceed 5m in wall height measured from natural ground level (not including a gable end)*

d) *have a total roof height that does not exceed 6m measured from natural ground level*

e) *if clad in sheet metal, it is pre-colour treated or painted in a non-reflective colour*

f) *will not result in more than 2 outbuildings on the same allotment. (Underlining added)*

The outbuilding satisfies the above provisions because:

- It is modest in floor area commensurate to the development site and dwelling.
- It will not be visible from Piccadilly Crescent or neighbouring allotments.

- It is of a scale that is not detrimental to the rural character and amenity of the area.
- It is cladded in non-reflective materials that are sensitive to the natural and rural character and amenity.

Wastewater and Stormwater Management

The Water Resources Overlay includes the following provisions relating to wastewater and stormwater management:

DO 1 ***Development minimises the need to modify landscapes and natural features***

DO 2 ***Maintain the conveyance function and natural flow paths of watercourses to assist in the management of flood waters and stormwater runoff.***

PO 1.5 ***Development that increases surface water run-off includes a suitably sized strip of vegetated land on each side of a watercourse to filter runoff to:***

(a) reduce the impacts on native aquatic ecosystems

(b) minimise soil loss eroding into the watercourse.

DPF 1.5 ***A strip of land 20m or more wide measured from the top of existing banks on each side of the watercourse is free from development, livestock use and revegetated with locally indigenous vegetation.***

The development satisfies the Water Resources Overlay for the following reasons:

- It is located more than 100m away from any watercourse.
- It does not modify the conveyance and natural flow path of watercourses.
- Cut and fill is minimised such that the development will integrate with the natural contours of site.

The Mount Lofty Ranges Water Supply Catchment includes the following provisions relating to Wastewater and Stormwater Management:

PO 2.1 ***Development that generates human wastewater, including alterations and additions, are established at an intensity and in a manner to minimise potential adverse impact on water quality within secondary reservoir and weir catchment areas.***

DPF 2. ***Development including alterations and additions, in combination with existing built form and activities within an allotment...***

(a) will be connected to the same on-site wastewater system that is compliant with relevant South Australian standards

PO 2.4 ***Wastewater management systems result in a neutral or beneficial effect on the quality of water draining from the site.***

DPF 2.4 ***Development results in:***

(b) an existing on-site wastewater system being decommissioned and wastewater being disposed of to a sewer or community wastewater management system that complies with relevant South Australian standards.

PO 2.5 ***Surface and groundwater protected from wastewater discharge pollution.***

DPF 2.5 ***All components of an effluent disposal area are:***

(a) setback 50 metres or more from a watercourse

(b) setback 100 metres of more from a public water supply reservoir

(c) located on land with a slope no greater than 1-in-5 (20%)

(d) located on land with 1.2m or more depth to bedrock or a seasonal or permanent water table

(e) above the 10% AEP flood level. (Underlining added)

The development will use an onsite wastewater management system that is compliant with the South Australian standards.

Stormwater management will also be appropriately addressed in accordance with the advice referenced above.

The wastewater and stormwater management systems satisfy the Overlay in the following ways:

- The wastewater system will appropriately manage waste to ensure the discharge will not pollute existing water supply in the area.
- The stormwater system will appropriately manage the discharge of stormwater to ensure run off does not pollute existing water supply or divert to areas that could cause pollution.

A separate wastewater application will be lodged and if not approved by the time this development application is ready for Planning Consent, a reserved matter can be imposed pursuant to section 102(3)(c) of the Planning, Development and Infrastructure Act 2016.

Heritage Adjacency

The Heritage Adjacency Overlay include the following provisions:

DO 1 Development adjacent to State and Local Heritage Places maintains the heritage and cultural values of those place.

PO 1.1 Development adjacent to a State or Local Heritage Place does not dominate, encroach on or unduly impact on the setting of the Place.

The adjoining allotment at 7 Piccadilly Crescent is listed in Part 11 of the Code as a Local Heritage Place. Its description/extent of listed place is "Dwelling (ruin)".

The proposed development is located over 200m away from the ruin and will therefore have no impact on the setting of the Place.

Conclusion

In summary, the proposal:

- Transforms an unused allotment that is unsuitable for primary production into residential land for a family to enjoy a new home.
- Provides an architecturally designed dwelling with high-quality, durable materials compliant building heights and appropriate boundary setbacks.
- Is sited on the flattest part of the site in an area that has had previous disturbance, so as to limit its impact on native vegetation and the natural and rural landscape.
- Has been designed to minimise the threat and impact of bushfires through provision of suitable access, water supply, vegetation management and building design.
- Will upgrade an unmade road to provide safe and convenient access to the site.
- Ensures the appropriate management of stormwater and wastewater on the site.
- Will have no impact on the adjacent Local Heritage Place.

Please contact me at if you have any further questions.

Graduate Consultant

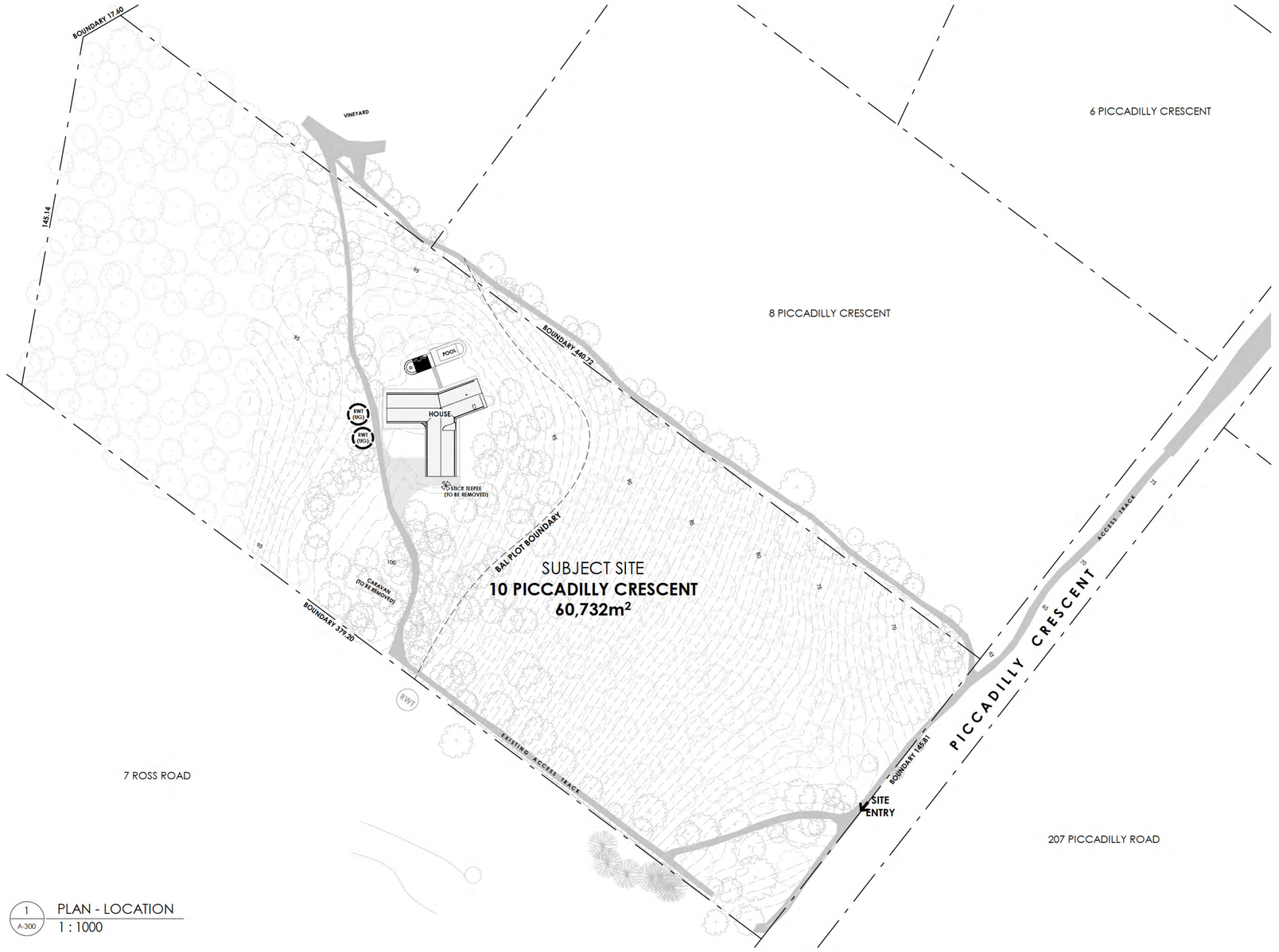
SHAPING GREAT COMMUNITIES

Appendix A

10 PICCADILLY CRESENT
PICCADILLY 5151

Drawing List

SHEET NO	SHEET NAME	REVISION
PL-001	SITE PLAN	
PL-002	SITE PLAN (CFS)	
PL-100	PLAN - GROUND FLOOR	
PL-101	PLAN - ROOF	
PL-102	PLAN - PLUMBING + WASTEWATER	
PL-103	PLAN - PERGOLA + POOL	
PL-200	ELEVATIONS	



1 A-300 PLAN - LOCATION
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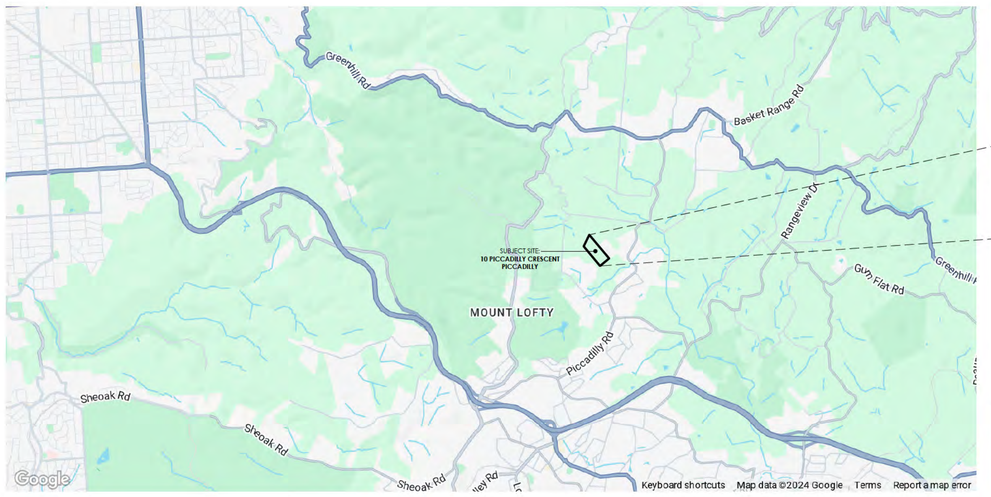

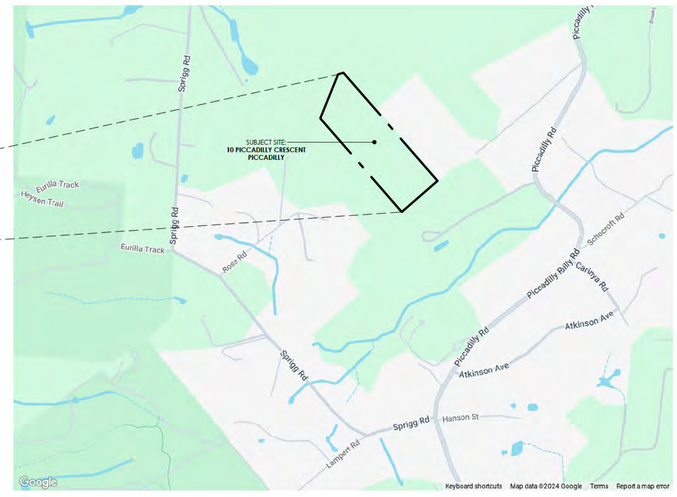

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REV	AMENDMENT	DATE	INITIAL

ISSUE:
TOWN PLANNING

Contech

BGK Contech Pty Ltd ACN 107 415 190
34/422 Pulteney Street, Adelaide SA, 5000

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N

PROJECT:
PICCADILLY RESIDENCE

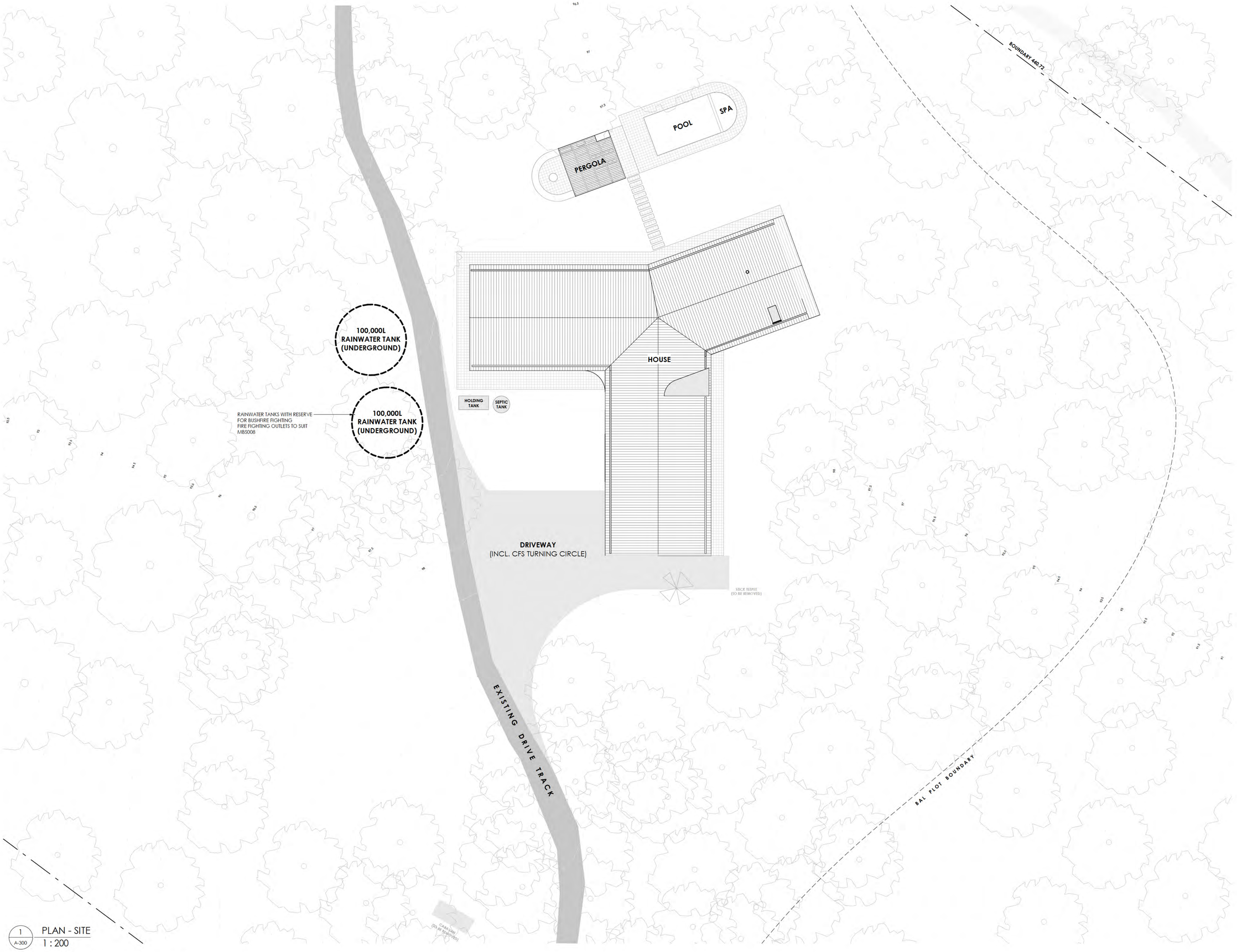
SITE ADDRESS:
10 PICCADILLY CRESCENT, PICCADILLY

DRAWING NAME:
LOCATION PLAN

DATE: 12/03/2025 10:46:36 AM
DRAWN BY: AL

PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 1000@A1

DRAWING NO: PL-000
REVISION



1 / A-300 PLAN - SITE
1 : 200

0 2 4 6 8 10 20m
1:200

REV	AMENDMENT	DATE	INITIAL

ISSUE:
TOWN PLANNING

Contech
BGK Contech Pty Ltd ACN 107 415 190
34/422 Pulteney Street, Adelaide SA, 5000

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N

PROJECT:
PICCADILLY RESIDENCE
SITE ADDRESS:
10 PICCADILLY CRESCENT, PICCADILLY

DRAWING NAME:
SITE PLAN

DATE: 12/03/2025 10:46:39 AM
DRAWN BY: AL
PROJECT NO: 730
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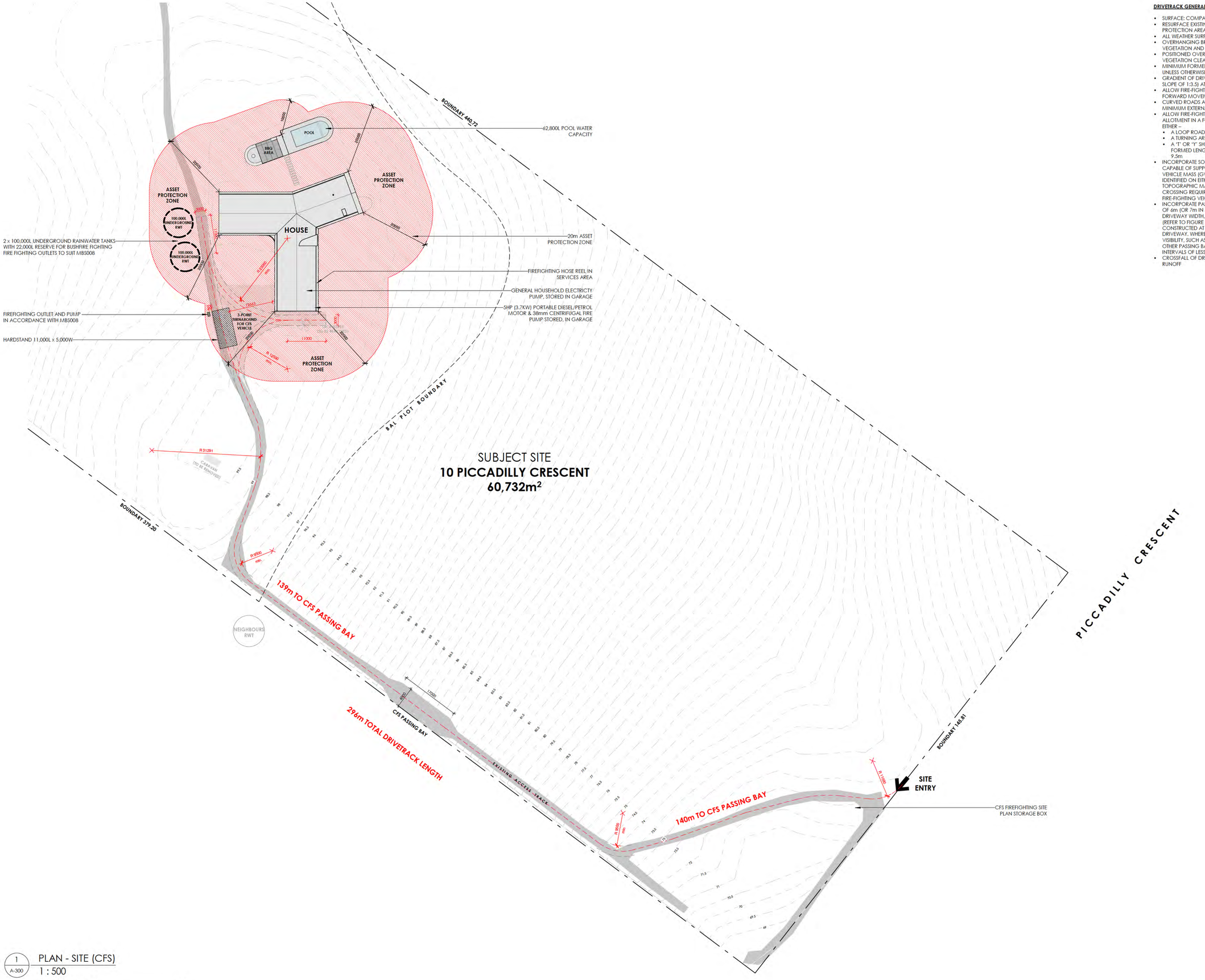
DRAWING NO: PL-001
REVISION



1 / A-300 PLAN - SITE (CFS)

1 : 500

0 5 10 15 20 25 50M

1 500

DRIVETRACK GENERAL NOTES

- SURFACE: COMPACT RUBBLE BASE
- RESURFACE EXISTING ACCESS TRACK TO MEET BUSHFIRE PROTECTION AREAS PRIVATE ACCESS ROAD REQUIREMENTS
- ALL WEATHER SURFACE
- OVERHANGING BRANCHES, CONTINUOUS COVER OF THICK VEGETATION AND OTHER HAZARDOUS VEGETATION REMOVED
- POSITIONED OVER EXISTING DRIVETRACK TO MINIMISE NATIVE VEGETATION CLEARANCE
- MINIMUM FORMED WIDTH OF 3m (OR 4m IN STEEPER TERRAIN) UNLESS OTHERWISE REQUIRED BY CLAUSE 2.3.4.1
- GRADIENT OF DRIVE TRACK NOT TO EXCEED 1:6 (i.e. A MAXIMUM SLOPE OF 1:3.5) AT ANY POINT ALONG THE ROAD OR DRIVEWAY
- ALLOW FIRE-FIGHTING VEHICLES TO TRAVEL IN A CONTINUOUS FORWARD MOVEMENT
- CURVED ROADS AND DRIVEWAYS WITH CURVES THAT HAVE A MINIMUM EXTERNAL RADIUS OF 12.5m
- ALLOW FIRE-FIGHTING VEHICLES TO SAFELY ENTER AND EXIT AN ALLOTMENT IN A FORWARD DIRECTION BY INCORPORATING EITHER –
  - A LOOP ROAD AROUND THE BUILDING
  - A TURNING AREA WITH A MINIMUM RADIUS OF 12.5m
  - A 'T' OR 'Y' SHAPED TURNING AREA WITH A MINIMUM FORMED LENGTH OF 11m AND MINIMUM INTERNAL RADII OF 9.5m
- INCORPORATE SOLID, ALL-WEATHER CROSSINGS THAT ARE CAPABLE OF SUPPORTING FIRE-FIGHTING VEHICLES WITH A GROSS VEHICLE MASS (GVM) OF 21 TONNES, OVER ANY WATERCOURSE IDENTIFIED ON EITHER A CURRENT STATE GOVERNMENT TOPOGRAPHIC MAP (1: 50 000) OR OTHERWISE IDENTIFIED AS A CROSSING REQUIRED TO PROVIDE APPROPRIATE ACCESS FOR FIRE-FIGHTING VEHICLES.
- INCORPORATE PASSING BAYS WITH A MINIMUM FORMED WIDTH OF 6m (OR 7m IN STEEPER TERRAIN), INCLUDING THE ROAD OR DRIVEWAY WIDTH, AND A MINIMUM FORMED LENGTH OF 17m (REFER TO FIGURE 5). THE PASSING BAYS SHOULD BE CONSTRUCTED AT 200m INTERVALS ALONG THE ROAD OR DRIVEWAY. WHERE IT IS NECESSARY TO PROVIDE ADEQUATE VISIBILITY, SUCH AS THE NEAREST POINT TO A PUBLIC ROAD OR OTHER PASSING BAY, PASSING BAYS MAY BE REQUIRED AT INTERVALS OF LESS THAN 200m.
- CROSSFALL OF DRIVEWAY 1:100 MAX. AND ALLOW FOR WATER RUNOFF

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PROJECT:
PICCADILLY RESIDENCE

SITE ADDRESS:
10 PICCADILLY CRESCENT, PICCADILLY

DRAWING NAME:
SITE PLAN (CFS)

DATE: 12/03/2025 10:46:43 AM
DRAWN BY: AL
PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 500@A1
DRAWING NO: PL-002
REVISION

1 PLAN - GROUND
AI-300
1 : 100

0 1 2 3 4 5 10m
1:100

REV	AMENDMENT	DATE	INITIAL

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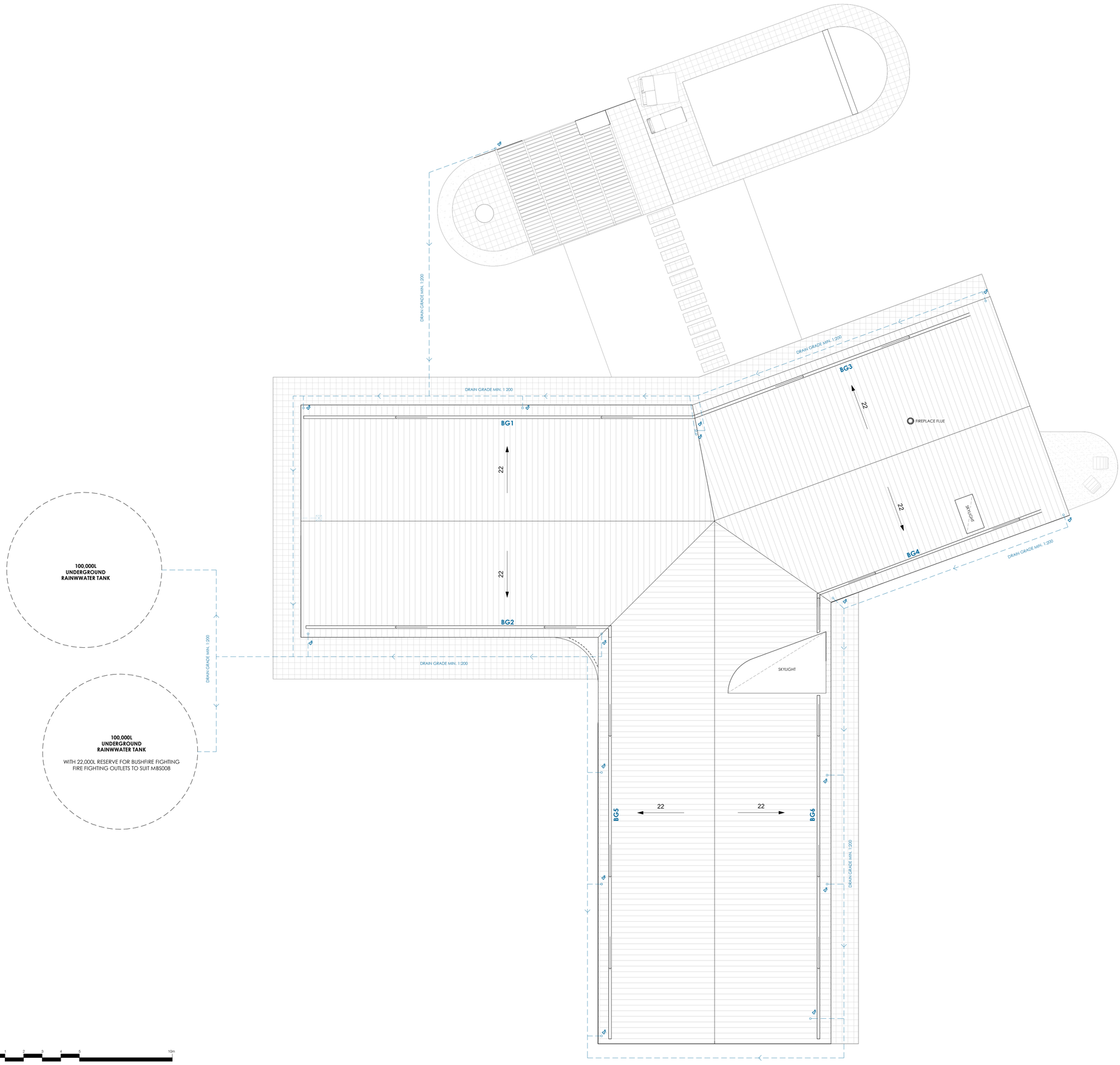
DRAWING NAME:
PLAN - GROUND FLOOR

DATE: 12/03/2025 10:46:48 AM
DRAWN BY: AL
PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 100@A1
DRAWING NO: PL-100
REVISION



0 1 2 3 4 5 10m
1:100

DETERMINE MINIMUM NUMBER OF DOWNPIPES (BG1)

MIN NUMBER DOWNPIPES =

ROOF CATCHMENT / ALLOWABLE MAX CATCHMENT PER DOWNPIPE

= 135 / 60 (100mm DP)

= **2.25** ROUND UP TO NEAREST NUMBER)

THEREFORE 3 DOWNPIPES ARE NEEDED MINIMUM FOR THIS ROOF (BG1)

BG1 - BOX GUTTER CALCULATIONS

TOTAL ROOF CATCHMENT AREA PER DOWNPIPE = 45m2/3

CROSS SECTIONAL AREA OF GUTTER (mm2)
Required to drain into 3 downpipe

Required:
184mm/hr for 135m2 Roof Area = 24840mm2

Actual Achieved:
1000 x 300W Box Gutter = 30000mm2

Result: COMPLIANT

DESIGN FLOW(L/s) FORMULA
Catchment Area (m2) x Rainfall Intensity (mm/hr) / 3600(sec)

Adelaide (Once in 100 Years): 184mm/hr

135 x 184 / 3600 = 6.9Ls

MINIMUM RAINHEAD REQUIREMENT (SA HB 39: 2015 – 5 4 1 Sumps)
WIDTH (W): 400mm
LENGTH (L): 200mm
DEPTH (H): 150mm = 0.012m3

Actual Achieved:
250mm W x 450mm L x 150mm H = 0.017m3

Result: COMPLIANT

MINIMUM DOWNPIPE REQUIRED
90mm Dia

Actual Used:
100mm Dia

Result: COMPLIANT

DETERMINE MINIMUM NUMBER OF DOWNPIPES (BG2)

MIN NUMBER DOWNPIPES =

ROOF CATCHMENT / ALLOWABLE MAX CATCHMENT PER DOWNPIPE

= 110 / 60 (90mm DP)

= **1.83** (ROUND UP TO NEAREST NUMBER)

THEREFORE 2 DOWNPIPES ARE NEEDED MINIMUM FOR THIS ROOF (BG2)

BG2 - BOX GUTTER CALCULATIONS

TOTAL ROOF CATCHMENT AREA PER DOWNPIPE = 55m2/3

CROSS SECTIONAL AREA OF GUTTER (mm2)
Required to drain into 2 downpipe

Required:
184mm/hr for 110m2 Roof Area = 20240mm2

Actual Achieved:
1000 x 300W Box Gutter = 30000mm2

Result: COMPLIANT

DESIGN FLOW L/s) FORMULA
Catchment Area (m2) x Rainfall Intensity (mm/hr) / 3600(sec)

Adelaide (Once in 100 Years): 184mm/hr

110 x 184 / 3600 = 5.62L/s

MINIMUM RAINHEAD REQUIREMENT (SA HB 39: 2015 – 5 4 1 Sumps)
WIDTH (W): 400mm
LENGTH (L): 200mm
DEPTH (H): 150mm = 0.012m3

Actual Achieved:
250mm W x 450mm L x 150mm H = 0.017m3

Result: COMPLIANT

MINIMUM DOWNPIPE REQUIRED
90mm Dia

Actual Used:
100mm Dia

Result: COMPLIANT

DETERMINE MINIMUM NUMBER OF DOWNPIPES (BG3)

MIN NUMBER DOWNPIPES =

ROOF CATCHMENT / ALLOWABLE MAX CATCHMENT PER DOWNPIPE

= 110 / 60 (100mm DP)

= **1.83** (ROUND UP TO NEAREST NUMBER)

THEREFORE 2 DOWNPIPES ARE NEEDED MINIMUM FOR THIS ROOF (BG3)

BG3 - BOX GUTTER CALCULATIONS

TOTAL ROOF CATCHMENT AREA PER DOWNPIPE = 55m2/3

CROSS SECTIONAL AREA OF GUTTER (mm2)
Required to drain into 2 downpipe

Required:
184mm/hr for 110m2 Roof Area = 20240mm2

Actual Achieved:
1000 x 300W Box Gutter = 30000mm2

Result: COMPLIANT

DESIGN FLOW(L/s) FORMULA
Catchment Area (m2) x Rainfall Intensity (mm/hr) / 3600(sec)

Adelaide (Once in 100 Years): 184mm/hr

80 x 184 / 3600 = 5 62L/s

MINIMUM RAINHEAD REQUIREMENT (SA HB 39: 2015 – 5 4 1 Sumps)
WIDTH (W): 400mm
LENGTH (L): 200mm
DEPTH: H): 150mm = 0.012m3

Actual Achieved:
250mm W x 450mm L x 150mm H = 0.017m3

Result: COMPLIANT

MINIMUM DOWNPIPE REQUIRED
90mm Dia

Actual Used:
100mm Dia

Result: COMPLIANT

DETERMINE MINIMUM NUMBER OF DOWNPIPES (BG4)

MIN NUMBER DOWNPIPES =

ROOF CATCHMENT / ALLOWABLE MAX CATCHMENT PER DOWNPIPE

= 100 / 60 (100mm DP)

= **1.67** (ROUND UP TO NEAREST NUMBER)

THEREFORE 2 DOWNPIPES ARE NEEDED MINIMUM FOR THIS ROOF (BG4)

BG4 - BOX GUTTER CALCULATIONS

TOTAL ROOF CATCHMENT AREA PER DOWNPIPE = 50m2/3

CROSS SECTIONAL AREA OF GUTTER (mm2)
Required to drain into 2 downpipe

Required:
184mm/hr for 100m2 Roof Area = 18400mm2

Actual Achieved:
1000 x 300W Box Gutter = 30000mm2

Result: COMPLIANT

DESIGN FLOW L/s) FORMULA
Catchment Area (m2) x Rainfall Intensity (mm/hr) / 3600(sec)

Adelaide (Once in 100 Years): 184mm/hr

100 x 184 / 3600 = 5 11L/s

MINIMUM RAINHEAD REQUIREMENT (SA HB 39: 2015 – 5 4 1 Sumps)
WIDTH (W): 400mm
LENGTH (L): 200mm
DEPTH (H): 150mm = 0.012m3

Actual Achieved:
250mm W x 450mm L x 150mm H = 0.017m3

Result: COMPLIANT

MINIMUM DOWNPIPE REQUIRED
90mm Dia

Actual Used:
100mm Dia

Result: COMPLIANT

DETERMINE MINIMUM NUMBER OF DOWNPIPES (BG5)

MIN NUMBER DOWNPIPES =

ROOF CATCHMENT / ALLOWABLE MAX CATCHMENT PER DOWNPIPE

= 156 / 60 (100mm DP)

= **2.6** (ROUND UP TO NEAREST NUMBER)

THEREFORE 3 DOWNPIPES ARE NEEDED MINIMUM FOR THIS ROOF (BG5)

BG5 - BOX GUTTER CALCULATIONS

TOTAL ROOF CATCHMENT AREA PER DOWNPIPE = 52m2/3

CROSS SECTIONAL AREA OF GUTTER (mm2)
Required to drain into 3 downpipe

Required:
184mm/hr for 156m2 Roof Area = 28704mm2

Actual Achieved:
1000 x 300W Box Gutter = 30000mm2

Result: COMPLIANT

DESIGN FLOW(L/s) FORMULA
Catchment Area (m2) x Rainfall Intensity (mm/hr) / 3600(sec)

Adelaide (Once in 100 Years): 184mm/hr

156 x 184 / 3600 = 7 97L/s

MINIMUM RAINHEAD REQUIREMENT (SA HB 39: 2015 – 5 4 1 Sumps)
WIDTH (W): 400mm
LENGTH (L): 200mm
DEPTH H): 150mm = 0.012m3

Actual Achieved:
250mm W x 450mm L x 150mm H = 0.017m3

Result: COMPLIANT

MINIMUM DOWNPIPE REQUIRED
90mm Dia

Actual Used:
100mm Dia

Result: COMPLIANT

DETERMINE MINIMUM NUMBER OF DOWNPIPES (BG6)

MIN NUMBER DOWNPIPES =

ROOF CATCHMENT / ALLOWABLE MAX CATCHMENT PER DOWNPIPE

= 162 / 60 (100mm DP)

= **2.70** (ROUND UP TO NEAREST NUMBER)

THEREFORE 3 DOWNPIPES ARE NEEDED MINIMUM FOR THIS ROOF (BG6)

BG6 - BOX GUTTER CALCULATIONS

TOTAL ROOF CATCHMENT AREA PER DOWNPIPE = 54m2/3

CROSS SECTIONAL AREA OF GUTTER (mm2)
Required to drain into 3 downpipe

Required:
184mm/hr for 162m2 Roof Area = 29808mm2

Actual Achieved:
1000 x 300W Box Gutter = 30000mm2

Result: COMPLIANT

DESIGN FLOW L/s) FORMULA
Catchment Area (m2) x Rainfall Intensity (mm/hr) / 3600(sec)

Adelaide (Once in 100 Years): 184mm/hr

162 x 184 / 3600 = 8 28L/s

MINIMUM RAINHEAD REQUIREMENT (SA HB 39: 2015 – 5 4 1 Sumps)
WIDTH (W): 400mm
LENGTH (L): 200mm
DEPTH (H): 150mm = 0.012m3

Actual Achieved:
250mm W x 450mm L x 150mm H = 0.017m3

Result: COMPLIANT

MINIMUM DOWNPIPE REQUIRED
90mm Dia

Actual Used:
100mm Dia

Result: COMPLIANT

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PROJECT:

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SITE ADDRESS:
10 PICCADILLY CRESCENT, PICCADILLY

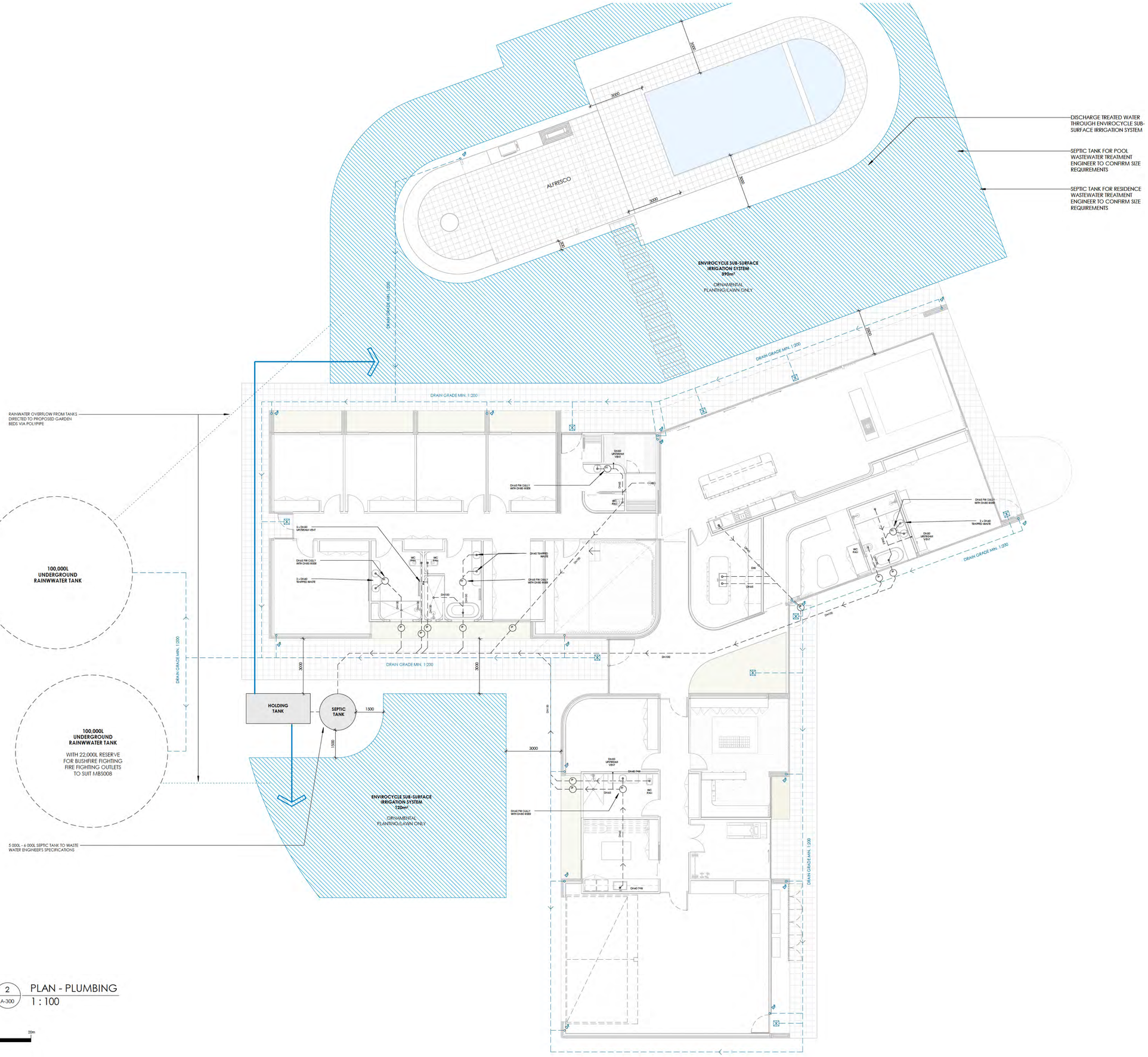
DRAWING NAME:

PLAN - ROOF

DATE: 12/03/2025 10:46:50 AM
DRAWN BY: AL

PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 100@A1

DRAWING NO: PL-101
REVISION



2 A-300 PLAN - PLUMBING
1 : 100

0 2 4 6 8 10 20m
1:200

LEGEND	
ITEM	DETAILS
	SEWER DRAIN
	STORMWATER DRAIN
	GAS
IP	INSPECTION POINT
FT	FLOOR TRAP
	VENT
	OVERFLOW RELIEF GULLY
	GARDEN TAP
	STACK
	GAS OUTLET
	STORM WATER COLLECTION BOX
	RISER
	GAS CYLINDER
	UNDERFLOOR HEATING MANIFOLD
	UNDERFLOOR HEATING CONTROLLER

*ALL ITEMS MAY NOT APPEAR ON DRAWING

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PROJECT:
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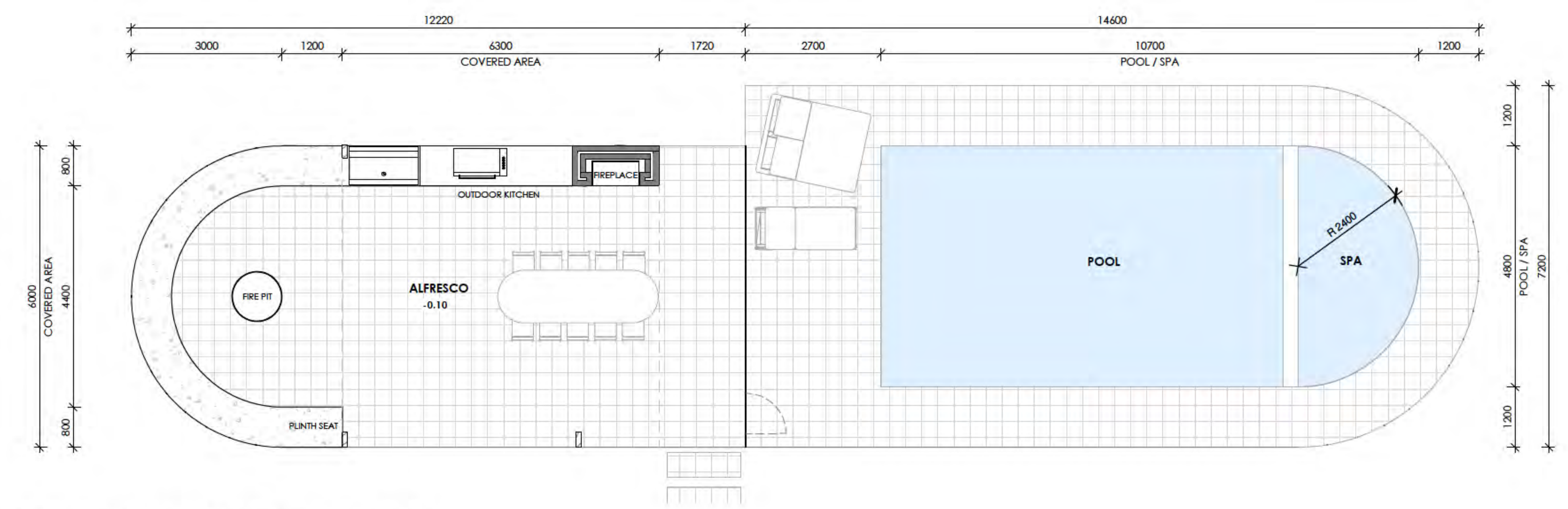
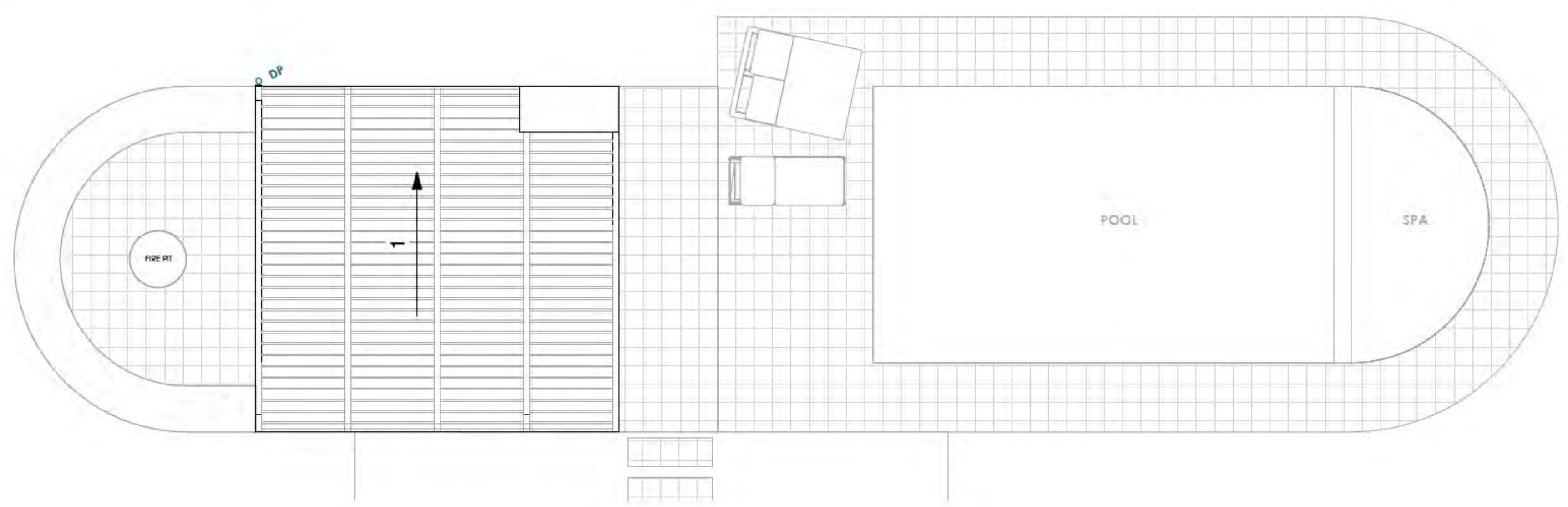
10 PICCADILLY CRESCENT, PICCADILLY

DRAWING NAME:
PLAN - PLUMBING + WASTEWATER

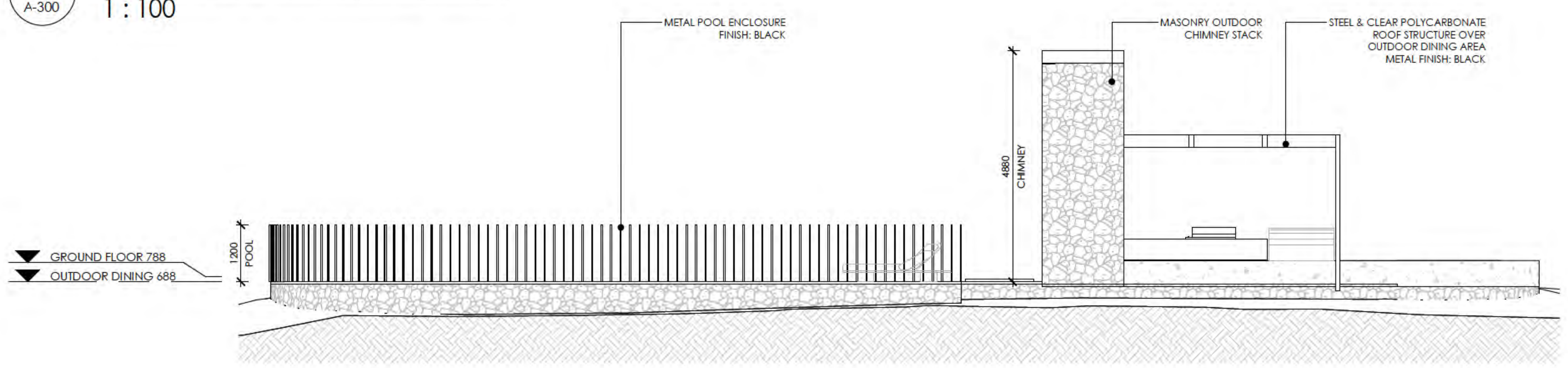
DATE: 12/03/2025 10:46:52 AM
DRAWN BY: AL
PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 100@A1
DRAWING NO: PL-102
REVISION



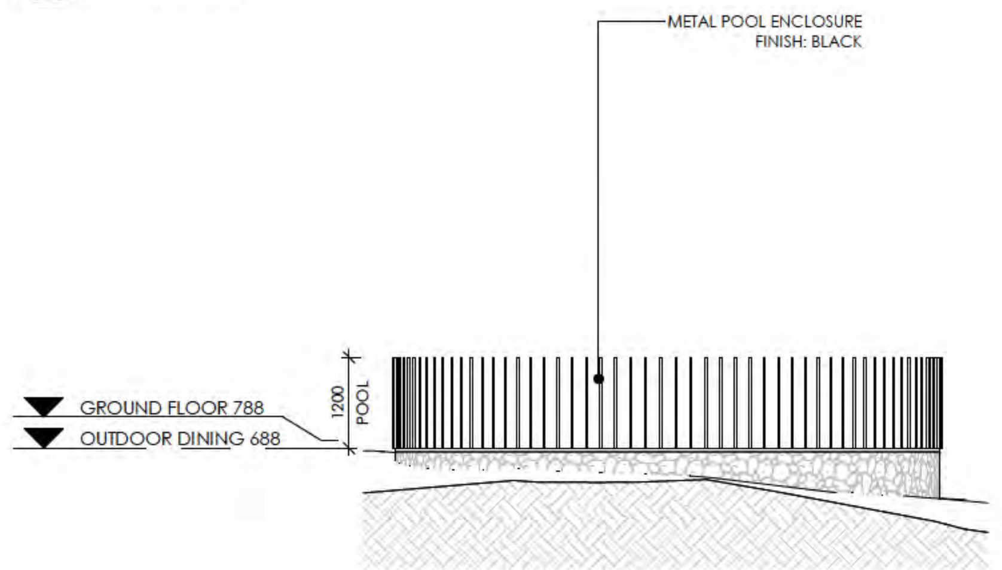
10 A-300 PLAN - PERGOLA + POOL
1 : 100



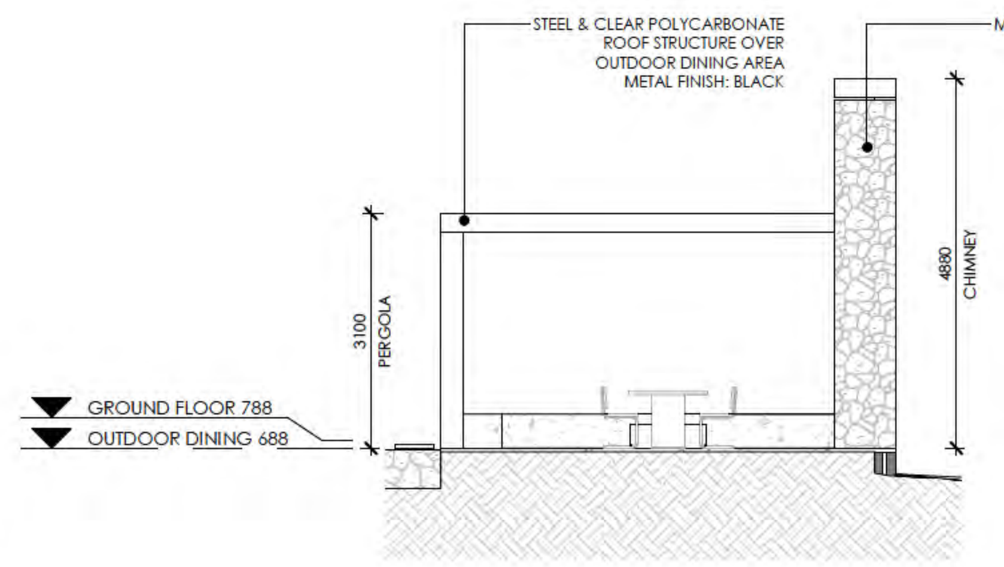
11 A-300 PLAN - PERGOLA + POOL ROOF
1 : 100



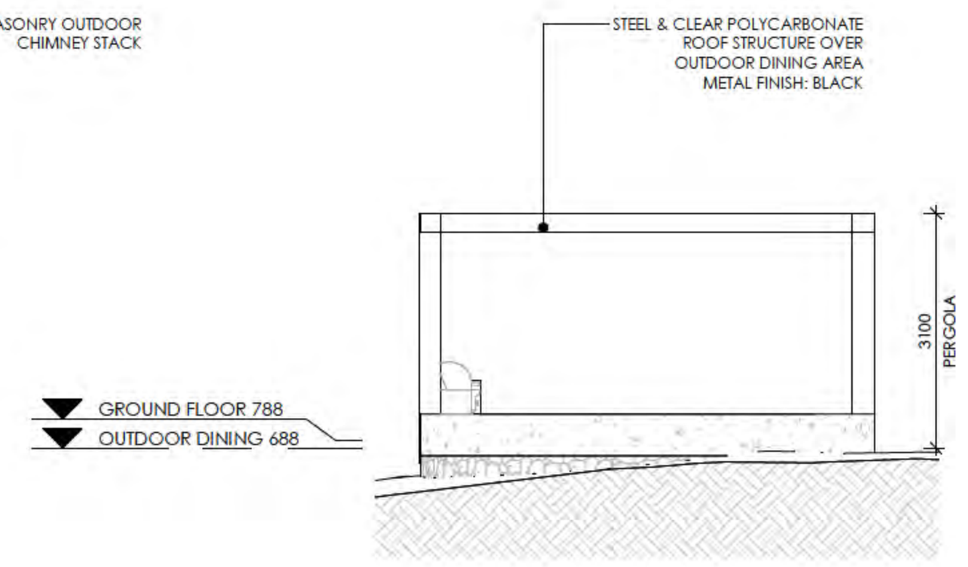
12 PERGOLA + POOL ELEVATION - NORTH
1 : 100



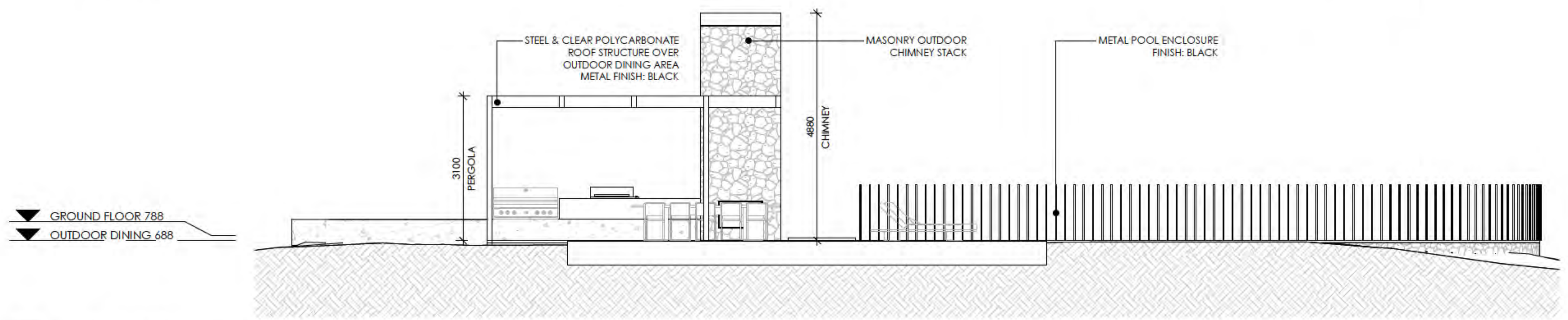
13 POOL ELEVATION - EAST
1 : 100



14 PERGOLA ELEVATION - EAST
1 : 100



15 PERGOLA ELEVATION - WEST
1 : 100



16 PERGOLA + POOL ELEVATION - SOUTH
1 : 100

0 1 2 3 4 5 10m
1:100

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PROJECT:
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SITE ADDRESS:
10 PICCADILLY CRESCENT, PICCADILLY

DRAWING NAME:
PLAN - PERGOLA + POOL

DATE: 12/03/2025 10:47:01 AM
DRAWN BY: AL
PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 100@A1
DRAWING NO: PL-103
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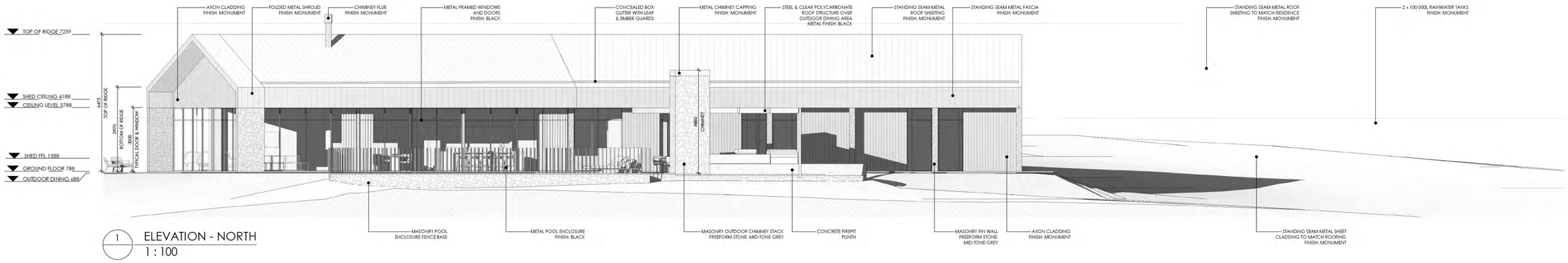
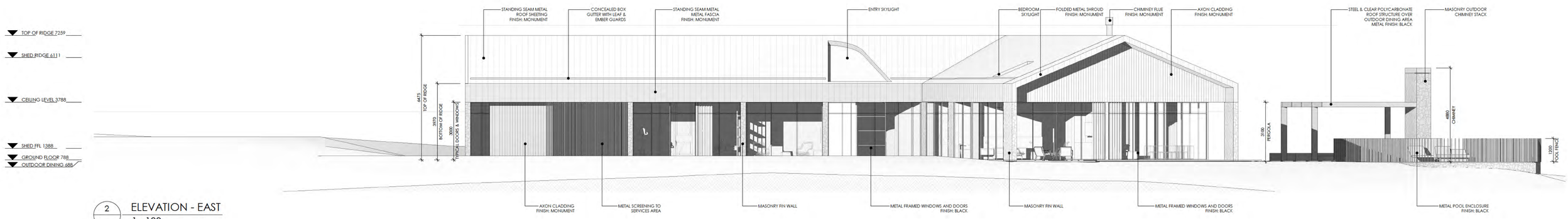
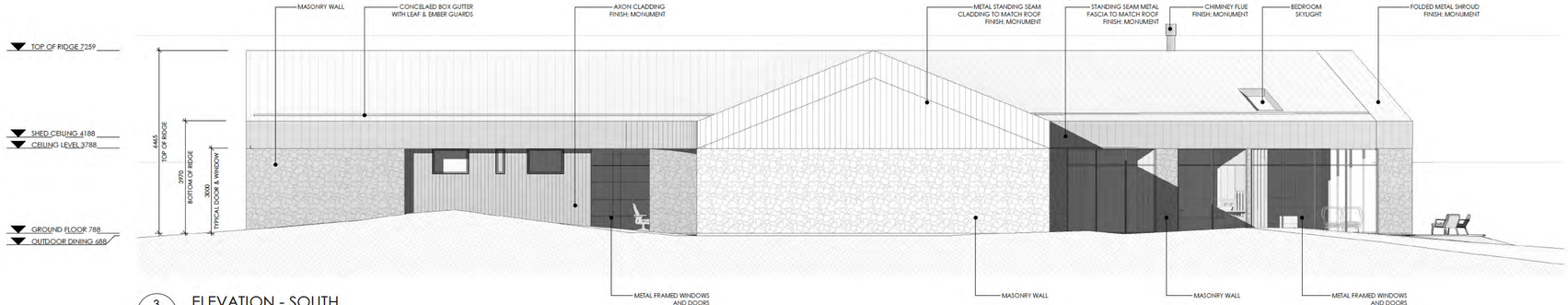


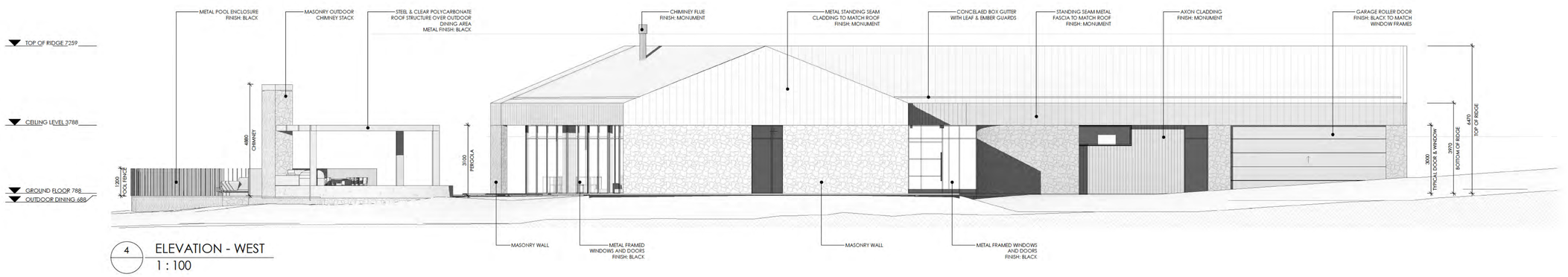
1 ELEVATION - NORTH
1 : 100



2 ELEVATION - EAST
1 : 100



3 ELEVATION - SOUTH
1 : 100



4 ELEVATION - WEST
1 : 100

0 1 2 3 4 5 10m
1:100

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PROJECT:
PICCADILLY RESIDENCE

SITE ADDRESS:
10 PICCADILLY CRESCENT, PICCADILLY

DRAWING NAME:
ELEVATIONS

DATE: 12/03/2025 10:47:36 AM
DRAWN BY: AL
PROJECT NO: 730
SCALE / SHEET SIZE: 1 : 100@A1
DRAWING NO: PL-200
REVISION

Appendix B

gama consulting
Suite 3, 83 Fullarton Road,
Kent Town SA 5067

ABN: 83 607 495796

WASTEWATER DISPOSAL REPOPT – REVISION 1

DATE: 13 March 2025

CLIENT: Contech Architecture + Construction

SITE: 10 Piccadilly Crescent, Piccadilly, SA 5151

PREPARED BY: L. Chai

ENCLOSURES

gama consulting pty. ltd.
Suite 3/83 Fullarton Road,
Kent Town SA 5067

ABN 83 607 495 796

LAND APPLICATION SYSTEM ASSESSMENT FOR DOMESTIC WASTEWATER DISPOSAL

Site Address:	10 Piccadilly Crescent, Piccadilly, SA 5151
Council:	Adelaide Hills Council
Project:	Proposed Residence

The assessment shall be read in conjunction with the techniques and principals outlined in SA Health - Wastewater System Code 2013, Soil Borehole Log Report, architectural drawings, Council requirements.

1 Site Assessment

Disposal Field Natural Slope:	Approximately 1:16
Direction	North to south
Depth to Water Table:	Not encountered.
Depth to Bedrock:	Not encountered.
Water Supply to Premises:	On-site roof water tank supply
Climate Characteristics:	March Monthly rainfall in Piccadilly ≈ 25-50mm March Monthly evaporation in Piccadilly ≈ 175-200mm The percolation test results were not affected by rainfall, as the evaporation in the month of the soil permeability test exceeded the monthly rainfall and there was no significant rainfall in 10 days prior to the test.
Watercourses or Water Bodies and Water Bores:	Disposal area at greater than 100m from watercourses, water bodies and bores. Based on Location SA Viewer mapping and Water Connect database.

2 Soil Percolation Test Assessment

For the land application of wastewater in accordance with SA Health - Wastewater System Code 2013 Section 8, Table 8-2, the calculation sheets for soil permeability have been provided to assess the soil characteristics at the test hole locations, including the depth of test holes, Ksat value and soil type as references.

2.1 Soil Description

The soil type at the location of Test Hole 1 is described as Clayey SAND with Gravel and at Test Hole 3 as Clayey SAND. Refer Soil Permeability Calculation Sheets attached.

2.2 Disposal System Type and EPR Determination

It is recommended that a subsurface drip irrigation system be adopted and the design EPR value for the wastewater surface disposal system shall be taken as 4.5mm/day, as per Section 8 of SA Health - Wastewater System Code 2013.

gama consulting pty. ltd.
Suite 3/83 Fullarton Road,
Kent Town SA 5067

ABN 83 607 495 796

3 Wastewater System Assessment

3.1 System Selection

Treatment unit system: Secondary treatment unit. Refer SA Health - Wastewater System Code 2013 Section 4 and manufacture specifications for operation and maintenance guidelines.
Land application system: Subsurface drip irrigation system. Refer SA Health - Wastewater System Code 2013 Section 4 for operation and maintenance guidelines.

3.2 Treatment System Sizing

Aerobic System Sizing	Value
P1/P2 – 2 per Bedroom:	12
DF – Daily Flow:	150 L/day/person
Organic Loading Rate:	50 g/p/d
Design Hydraulic Capacity:	1800 L/day
Design Organic Capacity:	600 g/day
Adopted Hydraulic Capacity:	2000 L/day
Adopted Organic Capacity:	700 g/day

3.3 Disposal System Assessment

Disposal System Sizing	Value
Design Daily Flow:	1800 L/day
Design Loading Rate (EPR):	4.5 mm/day
Spa Baths/ Food Waste Units:	Nil
Land Application Area Required:	400 m^2
Proposed Land Application Area:	403 m^2 (3 of, refer drawing WW01)

The parameters related to Aerobic System and Disposal System Sizing shall be read in conjunction with SA Health - Wastewater System Code 2013, refer Section 8 and Appendix E.

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Suite 3/83 Fullarton Road,
Kent Town SA 5067

ABN 83 607 495 796

4 General Recommendations

- Water saving devices should be adopted to reduce flow rates to the land application system.
- Establish vigorous vegetation and where feasible, plant trees and shrubs nearby and preferably downslope to encourage evapo-transpiration. Planting should be carried out with-in 3 months of the system installation.
- Provide regular monitoring to ensure soil does not become waterlogged.
- Surface ground water is to be directed away from the drip system.

5 General Notes

- On site construction of the land application system shall not commence until this assessment is approved by the relevant authority / authorities
- The distance that a wastewater system or land application system location is currently situated a minimum 50m from any watercourse, body of water. Some factors may affect the design of the land application system and must be referred to this office for further assessment.
- Septic tanks and land application systems shall be installed in strict accordance with AS/NZS 1547:2012 and the SA Health On-site Wastewater System Code-2013.The codes provide crucial information on the management of wastewater systems and guidelines on limitations due to site, soil and climatic factors.
- No roof or surface drainage waters to enter the land application area. All downpipes and swales to be directed away from dedicated land application area or reserve areas. Refer drawings for detail of any specific diversion requirements.
- Available area: Adequate area is available for the land application area.
- Site limitations: No limitations have been identified provided the dispersal network is installed within the proposed area and the wastewater system is operated and managed in accordance with the DHA Code, this design report and any product manufacturers operational conditions.

Designed by:

WEP02A Licence to Design Domestic On-site Waste Water Disposal Areas – TAFE QLD

Approved by:

on behalf of Gama Consulting Pty Ltd

Water Source Location Plan

Site Address : 10 Piccadilly Crescent, Piccadilly, SA 5151

LAB+Field
CONSTRUCTION MATERIAL TESTING
30 Hudson Road, Mawson Lakes S.A. 5095
T: +61 8 8258 5594 F: +61 8 8258 9919

Project No.: LF250090
Date: 18-Feb-25

SOIL PERMEABILITY CALCULATION SHEET (AS/NZ 1547:2012)

Client:	GAMA Consulting
Project:	10 Piccadilly Crescent Piccadilly
Test No. / Location:	BH1

depth auger hole (D):	80 cm	average radius of auger hole (r):	4.5 cm
depth of water in auger hole (H):	6 cm	depth to any impermeable layer (S):	N/A

Vegetation at test site:	Grass,Trees and Shrubs
Time elapsed between first filling and start of measurement:	
Was soil wet, moist or dry at time of excavation	Dry
General comment about the site (indications of seasonal waterlogging, soil structure, biological pores etc.):	Clayey Sand with trace of Gravel

PERMEAMETER AND TIME READINGS
(indicate whether time is read in minutes or seconds)

Test Number 1

Time (min)	Time (sec)	Time interval (min)	Time Interval (sec)	Tube Reading (mm)	drop in water (mm)
0.00			0	310	
10.00	600	10.00	600	390	80
20.00	1200	10.00	600	446	56
30.00	1800	10.00	600	494	48
40.00	2400	10.00	600	524	30
50 00	3000	10 00	600	562	38
60.00	3600	10.00	600	600	38
70.00	4200	10.00	600	638	38
80.00	4800	10.00	600	676	38

Permeability

Time increment	10.00	min
Average drop in Water	38	mm
Internal Diameter of inlet tube	32	mm
Flow Rate (Q) =	3.056141	cm^3/min

$$K_{sat} = \frac{4.4Q\left[0.5sinh^{-1}\left(\frac{H}{2r}\right) - \sqrt{\left\{\left(\frac{r}{2H}\right)^2 + 0.25\right\}} + \frac{r}{H}\right]}{2\pi H^2}$$

Ksat =	**0.009582254**	cm/min
Ksat =	**1.60E-06**	m/sec
Ksat =	**1.38E-01**	m/day

LAB+Field
CONSTRUCTION MATERIAL TESTING
30 Hudson Road, Mawson Lakes S.A. 5095
T: +61 8 8258 5594 F: +61 8 8258 9919

Project No.: LF250090
Date: 18-Feb-25

SOIL PERMEABILITY CALCULATION SHEET (AS/NZ 1547:2012)

Client:	GAMA Consulting
Project:	10 Piccadilly Crescent Piccadilly
Test No. / Location:	BH3

depth auger hole (D):	80 cm	average radius of auger hole (r):	4.5 cm
depth of water in auger hole (H):	6 cm	depth to any impermeable layer (S):	N/A

Vegetation at test site:	Grass,Trees and Shrubs
Time elapsed between first filling and start of measurement:	
Was soil wet, moist or dry at time of excavation	Dry
General comment about the site (indications of seasonal waterlogging, soil structure, biological pores etc.):	Clayey Sand with trace of Gravel

PERMEAMETER AND TIME READINGS
(indicate whether time is read in minutes or seconds)

Test Number 1

Time (min)	Time (sec)	Time interval (min)	Time Interval (sec)	Tube Reading (mm)	drop in water (mm)
0.00			0	200	
10.00	600	10.00	600	236	36
20.00	1200	10.00	600	278	42
30.00	1800	10.00	600	318	40
40.00	2400	10.00	600	358	40
50 00	3000	10 00	600	398	40
60.00	3600	10.00	600	438	40
70.00	4200	10.00	600	478	40
80.00	4800	10.00	600	518	40

Permeability

Time increment 10.00 min

Average drop in Water 40 mm

Internal Diameter of inlet tube 32 mm

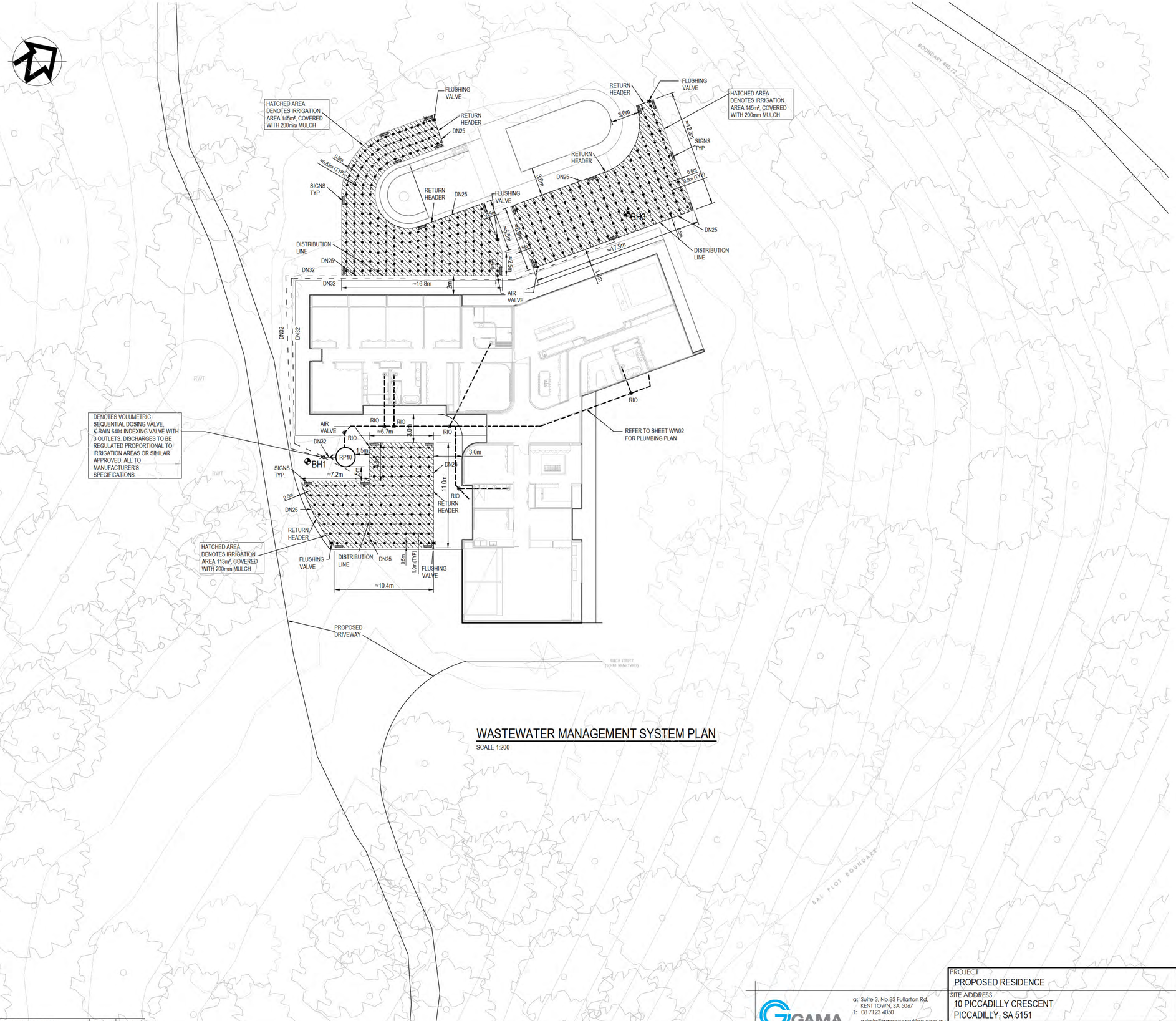
Flow Rate (Q) = 3.216991 cm^3/min

$$K_{sat} = \frac{4.4Q\left[0.5sinh^{-1}\left(\frac{H}{2r}\right) - \sqrt{\left\{\left(\frac{r}{2H}\right)^2 + 0.25\right\}} + \frac{r}{H}\right]}{2\pi H^2}$$

Ksat = **0.010086583** cm/min

Ksat = **1.68E-06** m/sec

Ksat = **1.45E-01** m/day



WASTEWATER MANAGEMENT SYSTEM PLAN

SCALE 1:200

GENERAL NOTES

1. STORM WATER RUNOFF TO BE DIVERTED AWAY FROM THE WASTE WATER LAND APPLICATION SYSTEM AT ALL TIMES.
2. INCORPORATE ALL CONTROLS, PUMPS, SIGNAGE, ETC. TO SUIT THE CHOSEN SYSTEM IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE REQUIREMENTS OF ALL RELEVANT CODES AND AUTHORITIES
3. THE FLUSH VALVE OUTLET SHALL BE INSTALLED TO SAFELY DIRECT THE DISCHARGE INTO THE TRENCH MEDIA DURING FLUSHING.
4. REFER TO ENGINEERS REPORT AND/OR AS2870-2011 FOR FLEXIBLE JOINT REQUIREMENTS TO SEWER PIPES.
5. THIS IS AN ENGINEERING SURVEY PLAN, AND SHOULD NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. BOUNDARY DATA SHOWN IS TO BE TAKEN AS A GUIDE ONLY.
6. SURVEYED BY OTHERS
7. ALL DETAILS MUST BE CHECKED AND APPROVED BY THE OWNER/BUILDER PRIOR TO COMMENCEMENT OF ANY WORK.
8. INSTALLATION OF WASTEWATER DISPOSALSYSTEMS TO COMPLY WITH AS3500.3 'NATIONAL PLUMBING AND DRAINAGE CODE' AS1547: ON-SITE DOMESTIC WASTEWATER MANAGEMENT CODE & THE SA HEALTH ON-SITE WASTEWATER SYSTEMS CODE.

LEGEND

- Ø100 — SEWER PIPE Ø100 AT 1.65% MIN GRADE (UNO)
- DRIPPER LINE WITH EMITTERS. (RAIN BIRD: PC XFA LILAC DRIPPER LINE OR SIMILAR)
- RP10 — OZZI KLEEN RP10 - WASTEWATER TREATMENT SYSTEM, OR SIMILAR APPROVED BY https://www.sahealth.sa.gov.au. PROVIDE LOWARA DIWA 7 PUMP, OR SIMILAR. THE COMPLETE SYSTEM SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURE SPECIFICATIONS.
- RIO● — INSPECTION POINT
- X — REMOVE EXISTING FEEDER LINE SHOWN (TBC ON SITE)
- BH1 — APPROX. LOCATIONS OF BOREHOLES

WARNING SIGNS STATING "RECYCLED WATER - AVOID CONTACT/CONSUMPTION" TO BE POSITIONED IN APPROPRIATE LOCATIONS IN ACCORDANCE WITH ON-SITE WASTEWATER SYSTEMS CODE REQUIREMENTS.

REV	REVISION DESCRIPTION	DATE	CHK
B	SHED DELETED AND RWT LOCATION UPDATED	13/03/2025	HB
A	ISSUED FOR PLANNING APPROVAL	05/03/2025	HB

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PROJECT	PROPOSED RESIDENCE
SITE ADDRESS	10 PICCADILLY CRESCENT PICCADILLY, SA 5151
CLIENT	CONTECH ARCHITECTURE + CONSTRUCTION
DESCRIPTION	WASTE WATER MANAGEMENT SYSTEM PLAN
COUNCIL	ADELAIDE HILLS COUNCIL

APPROVAL

DRAWN LC	DESIGNED LC
DRAFT CHK LC	DESIGN CHK HB
DRAWING No. 241298 WW-01	REV. B

SHEET SIZE: A1

T:\2024\241298\1 CAD\2 CIV\241298-WW01(B).DWG

PLUMBING PLAN

SCALE 1:200

GENERAL NOTES

1. INSTALLATION OF WASTEWATER DISPOSALSYSTEMS TO COMPLY WITH AS3500.3 'NATIONAL PLUMBING AND DRAINAGE CODE' AS1547: ON-SITE DOMESTIC WASTEWATER MANAGEMENT CODE & THE SA HEALTH ON-SITE WASTEWATER SYSTEMS CODE.
2. INCORPORATE ALL CONTROLS, PUMPS, SIGNAGE, ETC. TO SUIT THE CHOSEN SYSTEM IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE REQUIREMENTS OF ALL RELEVANT CODES AND AUTHORITIES
3. REFER TO ENGINEERS REPORT AND/OR AS2870-2011 FOR FLEXIBLE JOINT REQUIREMENTS TO SEWER PIPES.
4. ALL DETAILS MUST BE CHECKED AND APPROVED BY THE OWNER/BUILDER PRIOR TO COMMENCEMENT OF ANY WORK.
5. INSTALLATION OF PLUMBING TO COMPLY WITH AS3500.2 'SANITARY PLUMBING AND DRAINAGE REQUIREMENTS' & THE SA HEALTH ON-SITE WASTEWATER SYSTEMS CODE.
6. INSTALLATION OF PLUMBING DISPOSAL SYSTEM TO COMPLY WITH AS3500.2 'SANITARY PLUMBING' AND DRAINAGE REQUIREMENTS' & THE SA HEALTH ON-SITE PLUMBING SYSTEMS CODE.

LEGEND

----	SEWER PIPE Ø100 AT 1.65% MIN GRADE (UNO)
— —	SEWER PIPE Ø65 AT 1.65% MIN GRADE (UNO)
⊗ ORG	OVER FLOW RELIEF GULLY
o HV	HEAD VENT
RIO ◎	INSPECTION POINT

PLUMBING KEY

FIXTURE	TRAP SIZE (mm)	WASTE SIZE (mm)
FLOOR WASTE GULLIES (FWG)	80x65	65
TOILET (WC)	100	100
KITCHEN SINK (KS)	50	65
BATH (BT)	UNTRAPPED	40
SHOWER (SHR)	50	50
BASIN (BN)	40	40
WASHING MACHINE (WM)	UNTRAPPED	40
LAUNDRY TROUGH (LT)	UNTRAPPED	40
OVER FLOW RELIEF GULLY (ORG)		100
RAISED INSPECTION OPENING (IP)		100
HEAD VENT (HV)		50

NOTE: LOCATIONS SHOWN ARE INDICATIVE, BUILDER TO CONFIRM LOCATION OF ALL TRAPS/HOLES.

REV	REVISION DESCRIPTION	DATE	CHK
B	SHED DELETED AND RWT LOCATION UPDATED	13/03/2025	HB
A	ISSUED FOR PLANNING APPROVAL	05/03/2024	HB

T:\2024\2412\241298\1. CAD\2. CIV\241298-WW0

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PROJECT: PROPSED RESIDENCE
SITE ADDRESS: 10 PICCADILLY CRESCENT PICCADILLY, SA 5151
CLIENT: CONTECH ARCHITECTURE + CONSTRUCTION
DESCRIPTION: PLUMBING PLAN
COUNCIL: ADELAIDE HILLS COUNCIL

APPROVAL

DRAWN	DESIGNED
IB	LC
DRAFT CHK	DESIGN CHK
LC	HB

DRAWING No.: 2109106 WW-02 REV.: B

SHEET SIZE: A1

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ABN: 83 607 495796

JOB NO:	241298	SHEET:	1
DATE:	4/03/2025	ENG:	LC

IRRIGATION AREA COMPUTATIONS

SYSTEM CAPACITY:

Number of persons using the system:	P1,P2 =	12	p
Daily flow per persons per day:	DF =	150	L/p/day
Minimum effective capacity:	Q =	1800	L/day

IRRIGATION AREA: (As per On-site Wastewater Systems Code 2013, Clause 8.4.2)

$$A = \frac{Q}{DIR}$$

Design Irrigation Rate:	DIR =	4.5	$L/m^2/day$
Area:	A =	400	m^2

ORGANIC LOAD CAPACITY: (As per On-site Wastewater Systems Code 2013, Clause 5.3)

Organic Loading Rate:	BOD_5 =	50	g/p/d	(After primary treatment)
Number of persons using the system:	P2 =	12	p	

$$DESIGN\ ORGANIC\ CAPACITY\ \left(\frac{g}{day}\right) = P2 \times BOD_5$$

Design Organic Capacity = 600 g/d

ADOPTED SYSTEM:

Tank = Ozzi Kleen RP10 (or approved equivalent)

Hydraulic Capacity =	2000	L/day	≥	1800
Organic Capacity =	700	g/day	≥	600

Appendix C

Native Vegetation Clearance

10 Piccadilly Cres., Piccadilly

Data Report

Clearance under the *Native Vegetation Regulations 2017*

14th March, 2025

Prepared by Michelle Haby

Table of contents

1. Application information

Application Details

Applicant:			
Key contact:	; **Mb:** ; **E:**		
Landowner:			
Site Address:	10 Piccadilly Crescent, Piccadilly SA 5151		
Local Government Area:	Adelaide Hills	Hundred:	Onkaparinga
Title ID:	CT/5453/922	Parcel ID	F129237 A83

Summary of proposed clearance

Purpose of clearance	Clearance required for the construction of a house and ancillary structures including a pool and rainwater tanks
Native Vegetation Regulation	Regulation 12, Schedule 1; clause 33, House or Buildings
Description of the vegetation under application	Size, type and general condition – 5.78 ha of Stringybark (*Eucalyptus obliqua*) Woodlands in good relatively weed free condition
Total proposed clearance - area (ha) and number of trees	0.48 ha are proposed to be cleared.
Level of clearance	Level 3
Overlay (Planning and Design Code)	Native Vegetation Overlay
Map of proposed clearance area	
Mitigation hierarchy	The existing access track has been incorporated into the design to minimise clearance. The tanks are being installed underground and positioned within the dwellings APZ to further minimise clearance.
SEB Offset proposal	Payment of $34,469.50 into the Fund

2. Purpose of clearance

2.1 Description

Clearance is required for the construction of a dwelling and ancillary structures including a pool and rainwater tanks. Further clearance may be required to create an Asset Protection Zone around the dwelling.

2.2 Background

The Piccadilly Valley was settled in the late 1800's and by the early 1900's much of the valley floor and lowlands had been cleared for market gardens, orchards and later vineyards. Areas with less fertile soils or steep terrain were left largely vegetated except for the removal of good structural timber for construction projects.

10 Piccadilly Crescent has had little past disturbance. A historic vehicle track runs along the western boundary and then traverses across the property to the eastern boundary. Previous landholders camped on the property in a caravan, which remains there still. The current landholders wish to develop the property with a residence and associated infrastructure.

2.3 General location map

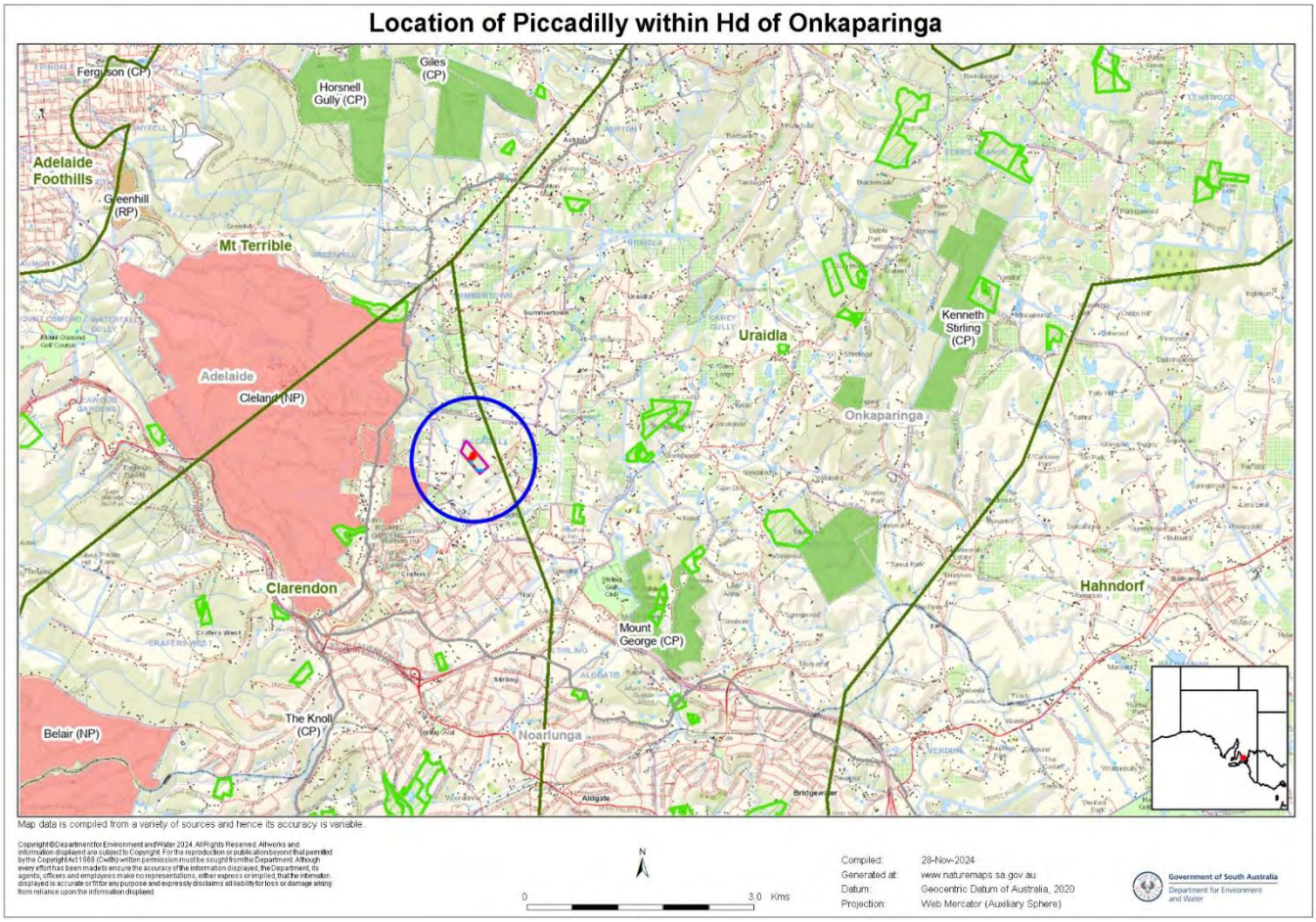


Figure 1. Location of the township of Piccadilly within the Hundred of Onkaparinga (Scale 1:72,224)

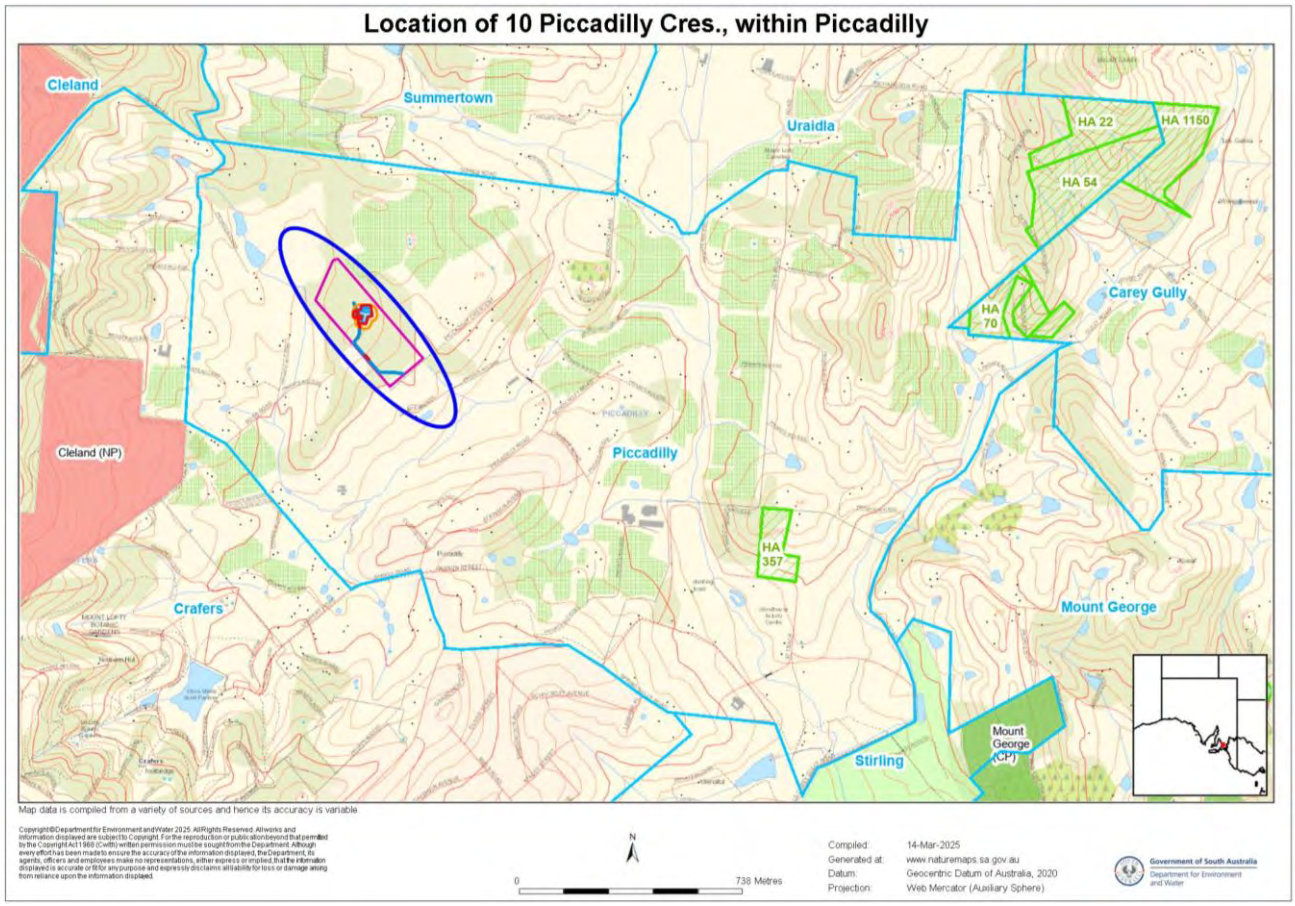


Figure 2. Location of 10 Piccadilly Crescent within Piccadilly (Scale 1:18,056)

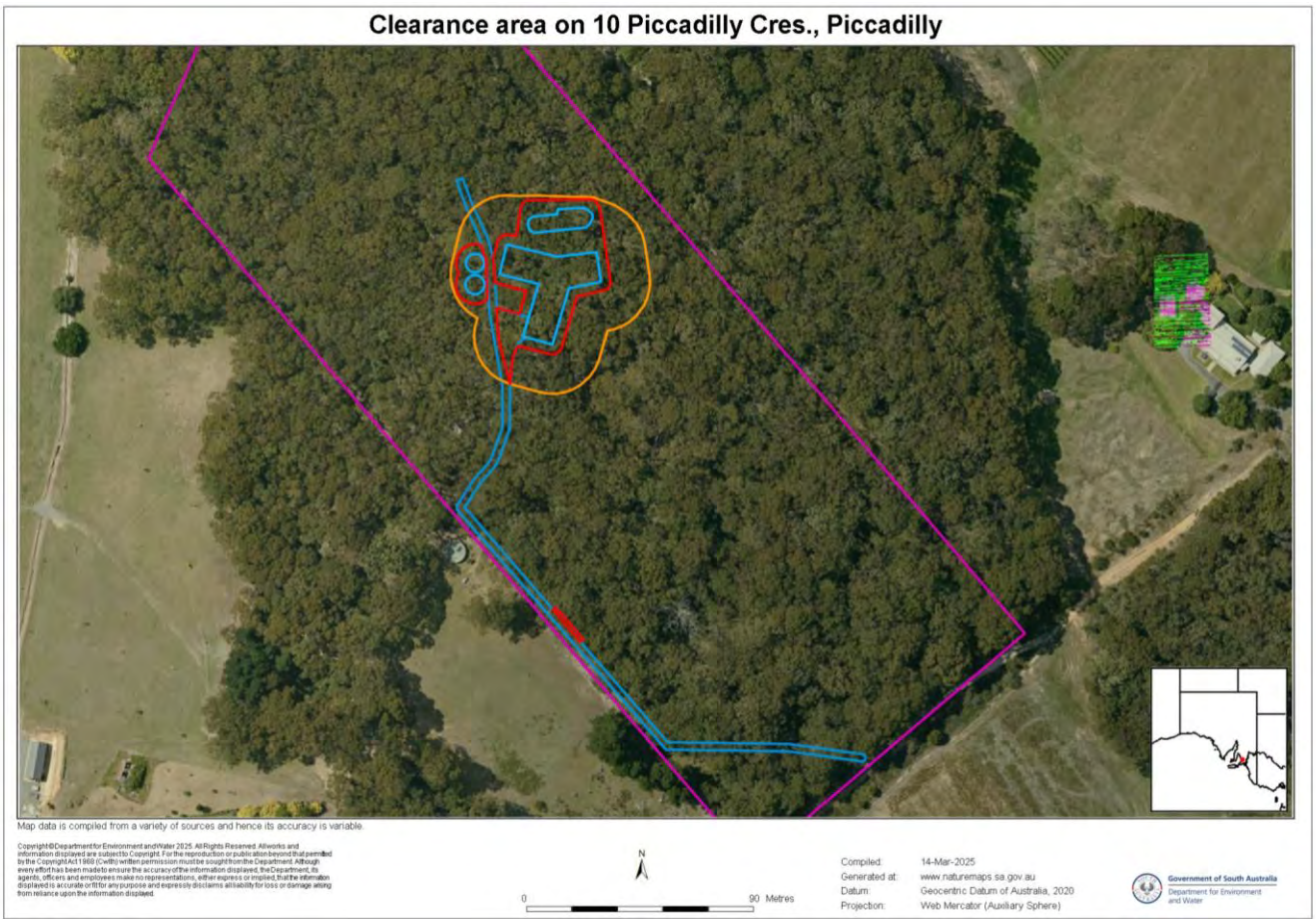


Figure 3. Location of the clearance area on 10 Piccadilly Crescent, Piccadilly (Scale 1:2,257)

2.4 Details of the proposal

The topography on 10 Piccadilly Crescent rises steeply towards the north-northwest from Piccadilly Cres. culminating in a relatively flat hilltop within the central portion of the property. The remainder of the property then slopes downward into a gully that runs along the northern boundary of the allotment. Previous landholders took advantage of this flat ground to create a low-key campsite with a permanent caravan and picnic table.

The current landholders wish to create an environmentally sensitive development on the allotment. To this end Bushfire and Native Vegetation consultants were engaged early in the design phase of the development as the landholders recognised the dangers of living within a patch of remnant vegetation, however wished to strike a balance between safety and vegetation preservation. Due to the steeply sloping and more heavily vegetated nature of the southern portion of the allotment, it was found that the relatively flat and more sparsely vegetated central ridgetop posed the least fire risk and vegetation clearance. Utilising the flatter ground also enables simpler, less invasive construction methods that minimise earthworks to be employed.

A 6-bedroom dwelling was positioned on this flat ground taking advantage of the existing access track (Figure 4). This location also enables the construction of an environmentally sensitive development that incorporates passive designs to achieve a minimum NatHERS score.

Figure 4. Design drawing for the development on 10 Piccadilly Crescent, Piccadilly

A "T" shape design has been utilised for the dwelling with the main living/sleeping areas oriented towards the north to capture maximum winter solar radiation to minimise heating requirements. Stone has been extensively incorporated into the design, which not only aids in giving the home a natural feel, but will also act as a thermal bank

for heat retention during the winter months. Solar panels will be installed on the north facing roof surfaces to reduce the reliance of the dwelling on mains power and to improve the environmental sustainability of the development. As the hilltop is relatively narrow, the two rainwater tanks have been positioned on the western side of the access track. These tanks will be installed underground to negate the need for Asset Protection Zones to be created around them.

As 10 Piccadilly Crescent is located within a High Bushfire Risk area the design includes a dedicated water retentive rainwater tank for CFS use. The access driveway will be upgraded and re-sheeted to create an all-weather track that also includes a passing bay for emergency service vehicles. A "T" shaped turnaround area will be constructed adjacent to the dwelling that will also double as a hardstand for fire fighting vehicles.

Post construction the area will be landscaped with local provenance plants to aid in soil stabilisation and to seamlessly blend the development into the surrounding natural environment. No further developments that require the removal of native vegetation are proposed for the property.

2.5 Approvals <u>required</u> *or* <u>obtained</u>

Planning, Development and Infrastructure Act 2016

Development Approval will be sought from the Adelaide Hills Council

Any other required approvals will be sought from the relevant authorities.

2.6 Native Vegetation Regulation

This proposal falls under Regulation 12(33) as it is for the construction of new dwellings and associated infrastructure.

Regulation 12(33) – New dwelling or building
To allow clearance of vegetation for a new dwelling or building approved under the Development Act 1993. This also includes clearance for associated structures (that have development approval).

2.7 Development Application information (if applicable)

10 Piccadilly Crescent, Piccadilly is Zoned Productive Rural Landscape. The High Bushfire Risk and Native Vegetation Overlays apply to this development.

3. Method

3.1 Flora assessment

The Native Vegetation proposed to be cleared for the construction of new dwellings and associated infrastructure at 10 Piccadilly Crescent, Piccadilly, Hundred of Onkaparinga was assessed on 11 November 2024. The flora was assessed using standard assessment techniques consisting of-

- One native vegetation community was identified;
- A Bushland Assessment Site was established in the vegetation community;
- A complete species list of all native and introduced plant species was produced for the identified vegetation community;
- Nationally Threatened, State Listed or Regionally Significant plant species populations were identified and their location recorded with a hand-held GPS to an accuracy of <5m;
- Proclaimed introduced plant species populations were identified and their location recorded with a hand-held GPS to an accuracy of <5m; and
- Survey data relating to records of Nationally Threatened, State Listed or Regionally Significant plant species was recorded, following BDBSA Minimum Data Standards, and provided to BDBSA for uploading.

Appendix 3 contains the flora list for the site.

3.2 Fauna assessment

The potential fauna to occur on 10 Piccadilly Crescent, Piccadilly Hundred of Onkaparinga was determined utilising the following-

- Fauna recorded within 5km of the site;
- Observations of fauna including, tracks and traces, while undertaking the flora assessment.

The comprehensive list from above was then added to the Bushland Assessment Spreadsheet, Appendix 1.

The vegetation contained within the allotment is in good condition and would be providing habitat for a wide range of fauna species. Whilst the patch is semi-isolated within the landscape it is loosely connected to Cleland National Park.

The development has been positioned within the sparsest vegetation on the property and within the vicinity of previous disturbance. This aids in minimising the impact of the proposed development on the local populations of fauna species. As it was felt that this development will not have a negative impact on fauna species, a targeted survey was not undertaken.

Several threatened fauna species have been recorded within 5km of the clearance area, however most of these species preferred habitat contains a dense understory layer. As the clearance area has a largely open understory, it does not contain critical habitat for these species.

4. Assessment Outcomes

4.1 Vegetation Assessment

General description of the vegetation, the site and matters of significance

The soils within Piccadilly are mostly composed of acidic sandy loam over rock with the loam becoming dominant along creek lines. The clearance area is contained entirely within the former, however does contain areas of exposed sandstone rock. Undulating hills occur throughout the area, many of which are dissected by creek lines that flow into the Onkaparinga River via Cox Creek. 10 Piccadilly Crescent encompasses the central portion of one such hill. The Piccadilly Valley cuts across the locality and is composed of highly fertile alluvial loam soils.

As there is little variation in the soils throughout the area, the vegetation is relatively homogenous. The higher rainfall and sandy loam soils support *Eucalyptus obliqua* woodland over moisture loving shrubs including *Hakea rostrata* and *Pultenaea daphnoides* and *Pteridium esculentum ssp. esculentum* ferns (SM 0101). Many of the remnant patches of vegetation are isolated within the landscape due to historic clearance for agricultural purposes. This isolation increases the risk of invasion of smaller patches by exotic agricultural species and garden escapees. The larger remnants within the area are in relatively good health.

Most of the remnant vegetation within the area was burnt during the Ash Wednesday Bushfire in 1983. There have been no recoded bushfires since then.

As there has been little past disturbance on 10 Piccadilly Crescent the remnant vegetation is in good health with relatively low levels of weeds. Gorse (*Ulex europaeus*) and Montpellier Broom (*Genista monspessulana*) are growing along the southern and western boundaries of the property, however these weeds have not invaded the internal areas of the allotment. Few weeds have invaded the central portion of the property with the exception of several exotic pasture grasses, however these are also at low levels. Despite the relative intactness of the remnant, little natural regeneration is occurring. Whilst species diversity is high, this lack of regeneration is leading to low structural diversity within the patch.

The vegetation contained within 10 Piccadilly Crescent is contiguous with the remnant vegetation on the surrounding properties. This large remnant is semi-connected to Cleland National Park to the North-west. Several Heritage Agreement Areas are located c. 2km to the east. All of these protected areas contain similar vegetation to that found within the clearance area.

Details of the vegetation association proposed to be impacted

Vegetation Association	SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides*, *+/-Hakea rostrata* tall shrubs over *Lepidosperma semiteres, Pteridium esculentum, Platylobium obtusangulum, Acrotriche serrulata*, *+/-Xanthorrhoea semiplana ssp. semiplana* mid shrubs

Direction: 47° **Latitude:** 34° 58′ 33.82″ S **Longitude:** 138° 43′ 24.74″ E. **Photo 5:** Typical habitat

General description	*Eucalyptus obliqua* mid woodland over *Exocarpos cupressiformis, Leptospermum myrsinoides* and *Hibbertia crinita* shrubs over *Austrostipa muelleri* grasses				
Threatened species or community	No Threatened Ecological Communities were observed during the site assessment No threatened fauna species were observed during the site assessment There are records of Chestnut-rumped Heathwren, SA Bassian Thrush, Southern Brown Bandicoot (*EPBC Act* Endangered), Grey-headed Flying-fox (*EPBC Act* Vulnerable), Square-tailed Kite, Agile Antichinus, Cunningham's Skink (*NPW SA Act* Endangered), White-throated Needletail, Yellow-tailed Black Cockatoo, Yellow-footed Antechinus and Heath Goanna (*NPW SA Act* Vulnerable) within 5km of the clearance area No threatened flora species were observed during the site assessment There are no records of Endangered or Vulnerable flora species within 1km of the clearance area				
Landscape context score	1.16	Vegetation Condition Score	57.19	Conservation significance score	1.10
Unit biodiversity Score	72.97	Area (ha)	0.48	Total biodiversity Score	34.95

<u>Site map</u> showing areas of proposed impact

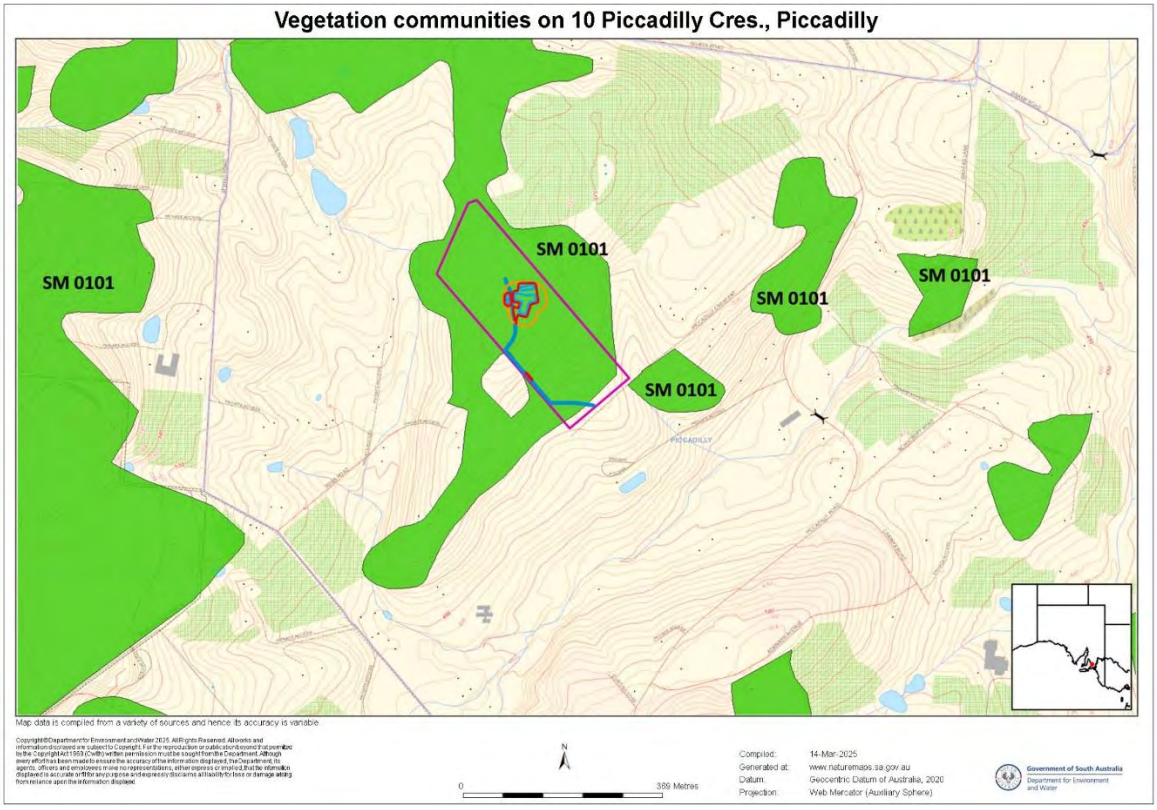


Figure 5. Vegetation communities on and around 10 Piccadilly Crescent, Piccadilly (Scale 1:9,028)

Photo log

Photo 1. **Direction:** 88° **Latitude:** 34° 58′ 33.03″ S **Longitude:** 138° 43′ 24.63″ E. Western side of dwelling

Photo 2. **Direction:** 212° **Latitude:** 34° 58′ 32.82″ S **Longitude:** 138° 43′ 25.97″ E. Eastern side of dwelling

Photo 3. **Direction:** 118° **Latitude:** 34° 58′ 32.46″ S **Longitude:** 138° 43′ 24.93″ E. Northern side of dwelling

Photo 4. **Direction:** 171° **Latitude:** 34° 58′ 32.71″ S **Longitude:** 138° 43′ 24.46″ E. Existing vehicle track

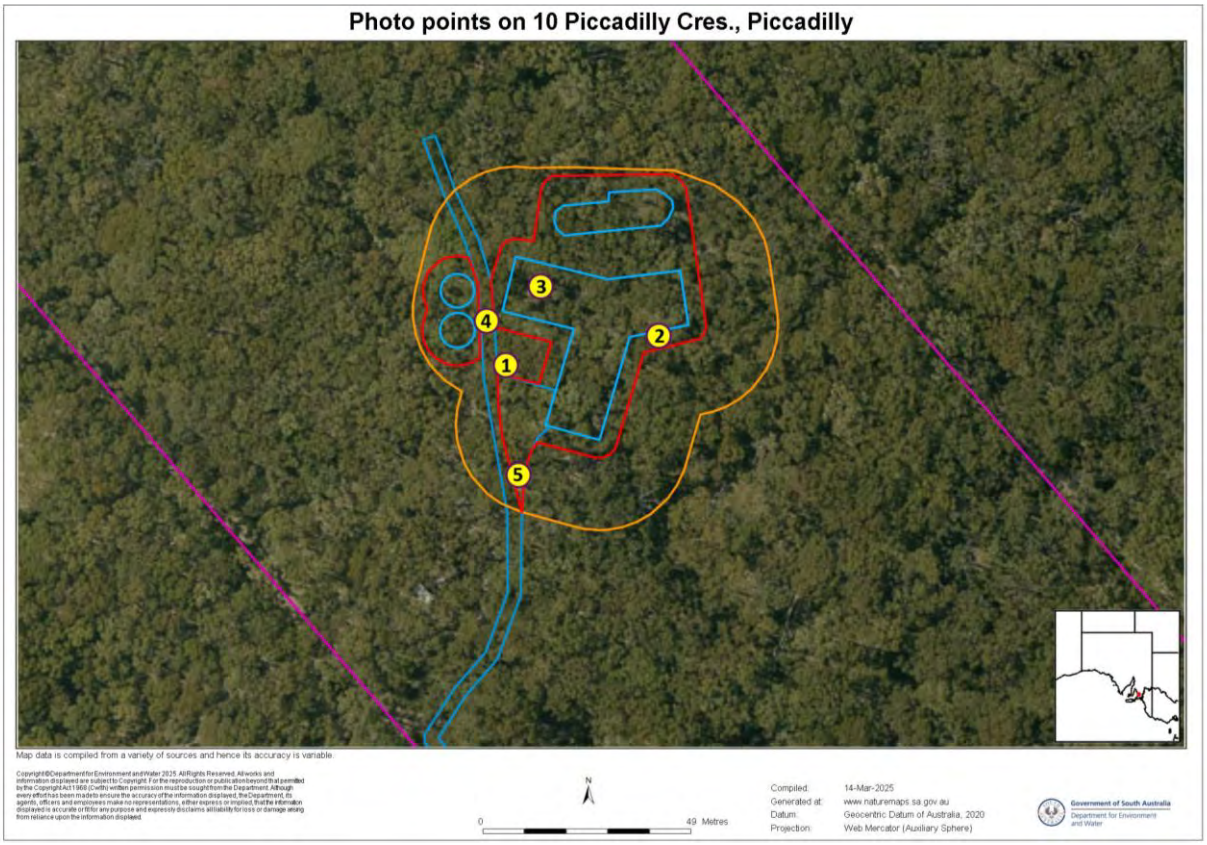


Figure 6. Location of photo points on 10 Piccadilly Crescent, Piccadilly. (Scale 1:1,128)

4.2 Threatened Species assessment

Species observed on site, or recorded within 5 km (50 km in the arid zone) of the application area since 1995, or the vegetation is considered to provide suitable habitat

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Climacteris affinis (White-browed Treecreeper)	R		3	2021	Arid to semi-arid woodlands with Acacia, Allocasuarina or Callitris midstory	Unlikely – no suitable habitat present
Falco peregrinus macropus (Peregrine Falcon)	R		3	2006	Farmland remnant vegetation mosaics; coastal areas	Likely – some suitable habitat present
Falcunculus frontatus frontatus (Eastern Shriketit)	R		3	2006	Eucalypt woodlands	Likely – suitable habitat present
Hirundapus caudacutus caudacutus (White-throated Needletail)	V		3	2023	Mostly arboreal species	Possible – limited habitat present
Hylacola pyrrhopygia parkeri (Chestnut-rumped Heathwren)	E	EN	3	2020	Forest and Woodland with dense shrub layer	Unlikely – no suitable habitat present
Lophoictinia isura (Square-tailed Kite)	E		3	2019	Forest and woodland associations	Likely – suitable habitat present
Petroica boodang boodang (Scarlet Robin)	R		3	2024	Open forest and woodland	Likely – suitable habitat present
Turnix varius varius (Painted Buttonquail)	R		3	2018	Forest and mallee with dense leaf-litter layer	Possible – limited suitable habitat present
Zanda funerea whiteae (Yellow-tailed Black Cockatoo)	V		3	2024	Stringybark woodland over Banksia shrubs	Possible – limited suitable habitat present
Zoothera lunulata halmaturina (SA Bassian Thrush)		EN	3	2024	Riparian forest with dense shrub layer	Unlikely – no suitable habitat
Antechinus agilis (Agile Antechinus)	E		3	2021	Damp Forest, woodland and mallee	Likely – suitable habitat present
Antechinus flavipes (Yellow-footed Antechinus)	V		3	2022	Forest, woodland and mallee	Likely – suitable habitat present
Isoodon obesulus obesulus (Southern Brown Bandicoot0	V	EN	3	2024	Forest, woodland and mallee with heathy understory	Unlikely – no suitable habitat present
Pteropus poliocephalus (Grey-headed Flying-fox)	R	VU	3	2020	Forest and woodland	Likely – suitable habitat present

Trichosurus vulpecula (Common Brushtail Possum)	R		3	2024	Forest, woodland and mallee	Likely – suitable habitat present
Egernia cunninghami (Cunningham's Skink)	E		3	2023	Forest and woodland with rocky outcrops	Unlikely – no suitable habitat present
Varanus rosenbergi (Heath Goanna)	V		3	2006	Forest, woodland, mallee	Likely – suitable habitat present
Varanus varius (Lace Monitor)	R		3	2013	Forest and woodland	Likely – suitable habitat present
Dianella longifolia var. grandis (Pale Flax-lily)	R		3	2018	Grassy woodland	Possible – suitable habitat present
Blechnum nudum (Fishbone Water-fern)	R		3	2023	Creek and stream margins	Unlikely – no suitable habitat
Schoenus lepidosperma ssp. lepidosperma (Slender Bog-rush)	R		3	2023	Mid to lower slope in damp gullies	Unlikely – no suitable habitat
Gleichenia microphylla (Coral Fern)	R		3	2023	Creek and stream margins	Unlikely – no suitable habitat
Deyeuxia densa (Heath Bent-grass)	R		3	2023	Open heath and sedgelands	Unlikely – no suitable habitat
Rytidosperma laeve (Smooth Wallaby-grass)	R		3	2017	Heavy moist loam soils with low fertility	Unlikely – no suitable habitat present
Rytidosperma tenuius (Short-awn Wallaby-grass)	R		3	2024	Eucalypt woodland	Possible – some suitable habitat
Source; 1- BDBSA, 2 - AoLA, 3 – NatueMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others NP&W Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable						

Criteria for the likelihood of occurrence of species within the Study area.

Likelihood	**Criteria**
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provide limited habitat or feeding resources for the species. Recorded within 20 -40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provide no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20 -40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

4.3 Cumulative impact

When exercising a power or making a decision under Division 5 of the Regulations, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

Clearance is required for the construction of a dwelling and associated infrastructure such as a pool and rainwater tanks. Further clearance may be required post construction to create an Asset Protection Zone around the dwelling. This clearance will be undertaken in a considered manner so as not to disturb the root zones of the surrounding vegetation.

As the site is relatively flat, minimal excavation works are required to create a flat pad on which to construct the dwelling. Where possible, services will be laid in a common trench to further reduce excavation requirements. Any material that is removed will be stockpiled within the construction zone to ensure that the surrounding vegetation is not smothered by it. Soil that is not required for backfilling or landscaping will be removed from the site and deposited at an approved disposal site.

The earthworks that are required for this development are likely to create low levels of dust. The surrounding vegetation can withstand moderate levels of smothering from dust, so is unlikely to be negatively impacted by it. Should dust creation become excessive, mitigating actions such as wetting down the soil with water, will be implemented to reduce dust creation to an acceptable level

Sandy-loam soils are prone to water erosion once disturbed, particularly in steep terrain. If required, mitigating measures such as drains/culverts will be constructed to prevent water erosion from occurring. This will ensure that the root zones of the surrounding vegetation are not detrimentally exposed.

Landscaping with local provenance plants will occur post construction to aid in soil stabilisation and to seamlessly blend the development into the surrounding remnant vegetation.

There are no creeks or drainage lines within the area that could be impacted by this development. As the topography of the site will remain largely unchanged, the hydrology of the area will remain unaffected.

No further developments that require the removal of native vegetation are proposed for the allotment.

4.4 Address the Mitigation Hierarchy

When exercising a power or making a decision under Division 5 of the Regulations, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimise, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NP&W Act.

a) Avoidance – outline measures taken to avoid clearance of native vegetation

Avoidance is not possible as the allotment is fully vegetated. Whilst designing the development consideration of the natural environment was taken into account. The dwelling and associated infrastructure have been positioned within an area where the understory is relatively sparse to avoid the clearance of the denser vegetation.

b) Minimisation – if clearance cannot be avoided, outline measures taken to minimise the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

The existing access track has been incorporated into the development to minimise the clearance of the remnant vegetation. The "T" shaped turn around bay for firefighting vehicles will double as a hardstand and the tanks will be installed underground to further minimise clearance.

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimised, such as allowing for the re-establishment of the vegetation.

No rehabilitation or restoration will occur, however landscaping with local provenance plants will occur post construction to aid in soil stabilisation and to seamlessly blend the development into the surrounding environment.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimised should be offset by the achievement of a significant environmental benefit that outweighs that impact.

The NVC will only consider an offset once avoidance, minimisation and restoration have been documented and fulfilled. The SEB Policy explains the biodiversity offsetting principles that must be met.

The Significant Environmental Benefit offset will be met via payment into the SEB Fund.

4.5 Principles of Clearance (Schedule 1, *Native Vegetation Act 1991*)

The NVC will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations. The NVC will consider all the Principles of clearance of the Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act 2016*.

Principle of clearance	Considerations
Principle 1a - it comprises a high level of diversity of plant species	Relevant information SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges Native: 42; Introduced: 8 **Bushland Plant Diversity Score – 30**
	Assessment against the principles **Seriously at Variance** - SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges
	Moderating factors that may be considered by the NVC The clearance area represents less than 0.25% (0.015%) of the remnant vegetation within 5km of the allotment. The clearance of this vegetation will not have a detrimental impact on the long-term viability of the local populations of any of the flora species growing on the property.
Principle 1b - significance as a habitat for wildlife	Relevant information No threatened fauna species were observed during the site assessment. There are records of Grey-headed Flying-fox (*EPBC Act* Vulnerable), Square-tailed Kite, Agile Antichinus, White-throated Needletail, Yellow-tailed Black Cockatoo, Yellow-footed Antechinus, Heath Goanna (*NPW SA Act* Vulnerable), Peregrine Falcon, Eastern Shriketit, Scarlet Robin, Painted Buttonquail, Common Brushtail Possum and Lace Monitor (*NPW SA Act* Rare) within 5km of the clearance area The remnant vegetation on 10 Piccadilly Cres. is in good, relatively weed free condition and part of a larger patch that is more or less contiguous with Cleland National Park. As there has been no ecological disturbance for 40+ years, the structural diversity within the patch is gradually reducing. It would, however, still be supporting a wide range of fauna species. **Threatened Fauna Score – 0.1** **Unit biodiversity Score – 72.97**

	Assessment against the principles **Seriously at Variance** - SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges
	Moderating factors that may be considered by the NVC The clearance area does not contain critical habitat for the survival of any fauna species. The clearance of this vegetation will not have a negative impact on the health or long-term survival of the local population of any fauna species.
Principle 1c - plants of a rare, vulnerable or endangered species	Relevant information No threatened flora species were observed during the site assessment. There are records of *Rytidosperma tenuius* (*NPW SA Act* Rare) within 1km of the clearance area. *R. tenuius* prefers heavier and damper soils than that found within the clearance area, however it is possible that it could be growing on the property in low numbers. As the allotment does not contain the preferred habitat for this species any clearance is unlikely to negatively impact upon the long-term survival of *R. tenuius* within the region. **Threatened Flora Score – 0**
	Assessment against the principles **Not at Variance** - SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges
	Moderating factors that may be considered by the NVC
***Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered*:**	Relevant information No Threatened Ecological Communities were observed during the site assessment. **Threatened Community Score – 1**
	Assessment against the principles **Not at Variance** - SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges
	Moderating factors that may be considered by the NVC
Principle 1e - it is significant as a remnant of	Relevant information IBRA Association: Clarendon, 34% remnancy IBRA subregion: Mount Lofty Ranges, 15% remnancy

vegetation in an area which has been extensively cleared.	The larger patches of remnant vegetation within the greater Piccadilly area are mostly in good condition. They will likely remain in a similar state for some time to come provided that they are actively managed. **Total Biodiversity Score – 34.95**
	Assessment against the principles **Not at Variance** - SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges
	Moderating factors that may be considered by the NVC
Principle 1f - it is growing in, or in association with, a wetland environment.	Relevant information The vegetation on 10 Piccadilly Crescent is not growing within or in association with a wetland.
	Assessment against the principles **Not at Variance** - SM 0101 *Eucalyptus obliqua* mid woodland over *Pultenaea daphnoides* tall shrubs and *Lepidosperma semiteres* sedges
	Moderating factors that may be considered by the NVC
Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.	Relevant information The clearance area will not be visible from Piccadilly Crescent and there will be limited visibility from the surrounding properties. The allotment is surrounded by residential dwellings, so this development is not out of character for the area. There are no known cultural or heritage values attached to the property.
	N/A
	Moderating factors that may be considered by the NVC

Principles of Clearance (h-m) will be considered by comments provided by the local NRM Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	Several
	Area (ha)	0.48
	Total biodiversity Score	34.95
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 3

4.7 NVC Guidelines

Provide any other information that demonstrates that the clearance complies with any relevant NVC guidelines related to the activity.

All relevant information has been discussed above.

5. Clearance summary

Clearance Area(s) Summary table

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	1	30	1	0	0.1	73.0	.24	17.80	1	0	0	19.58	$32,672.51	$1,796.99
						Total	**.24**	**17.80**				**19.58**	**$32,672.51**	**$1,796.99**

Totals summary table

Economies of Scale Factor	0.5
Rainfall (mm) Factor	1011
SEB Points of Gain/ha Factor	7.5

SEB Uplift Factor	1.10
Management Cost ($/ha)	$24,764.00

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	17.80	19.58	$32,672.51	$1,796.99	$34,469.50

6. Significant Environmental Benefit

A Significant Environmental Benefit (SEB) is required for approval to clear under Division 5 of the Regulations. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that a SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING A SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

☐ Establish a new SEB Area on land owned by the proponent.

☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____

☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.

☐ Apply to have a SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.

☒ Pay into the Native Vegetation Fund.

PAYMENT SEB

The SEB Policy states that if a SEB is required as a result of an approved activity undertaken under the Regulations, the applicant has a choice of either providing an on-ground SEB or a Payment SEB. However, if a proposed clearance will have an offset obligation of greater than 150 SEB Points Required, the NVC will first request that a reasonable attempt be made to identify an on-ground SEB before a payment will be accepted.

The required SEB points are 19.58. The landholders have limited ability to offset on their own property and no suitable Third Part Credit is available within the area.

If a proponent proposes to achieve the SEB by paying into the Native Vegetation Fund, summary information must be provided on the amount required to be paid and the manner of payment:

- Payment amount of $34,469.50 is required (including admin. fee)
- Full payment will be made prior to any clearance being undertaken

7. Appendices

Appendix 1. Fauna Species List (desktop)

Threatened or Introduced Animal Species Recorded or Observed (Native and Introduced)		Threatened Species				Introduced Species
Species Name	**Common Name**	**EPBC**	**SA**	**Past Record**	**Observed**	
Acanthiza lineata clelandi	Striated Thornbill (MLR, SE)			Yes		
Acanthiza nana	Yellow Thornbill			Yes		
Acanthiza pusilla samueli	Brown Thornbill (MLR)			Yes		
Acanthiza reguloides australis	Buff-rumped Thornbill			Yes		
Acanthorhynchus tenuirostris halmaturinu	Eastern Spinebill (KI, MLR,			Yes		
Accipiter cirrocephalus cirrocephalus	Collared Sparrowhawk			Yes		
Accipiter fasciatus fasciatus	Brown Goshawk			Yes		
Aegotheles cristatus cristatus	Australian Owlet-nightjar			Yes		
Anthochaera carunculata woodwardi	Red Wattlebird (MLR, AP, Y			Yes		
Aquila audax audax	Wedge-tailed Eagle			Yes		
Artamus cyanopterus	Dusky Woodswallow			Yes		
Artamus superciliosus	White-browed Woodswallov			Yes		
Cacatua galerita	Sulphur-crested Cockatoo			Yes		
Cacatua sanguinea gymnopis	Little Corella			Yes		
Cacatua tenuirostris	Long-billed Corella			Yes		
Cacomantis flabelliformis flabelliformis	Fan-tailed Cuckoo			Yes		
Caligavis chrysops samueli	Yellow-faced Honeyeater (M			Yes		
Chalcites basalis	Horsfield's Bronze Cuckoo			Yes		
Chalcites lucidus plagosus	Shining Bronze Cuckoo			Yes		
Climacteris affinis	White-browed Treecreeper		R	Yes		
Climacteris picumnus picumnus	Brown Treecreeper			Yes		
Colluricincla harmonica harmonica	Grey Shrikethrush (eastern			Yes		
Coracina novaehollandiae	Black-faced Cuckooshrike			Yes		
Corcorax melanorhamphos whiteae	White-winged Chough (Gaw		R	Yes		
Cormobates leucophaea grisescens	White-throated Treecreeper			Yes		
Corvus mellori	Little Raven			Yes		
Dacelo novaeguineae novaeguineae	Laughing Kookaburra			Yes	Yes	
Daphoenositta chrysoptera pileata	Black-capped Sittella			Yes		
Dicaeum hirundinaceum hirundinaceum	Mistletoebird			Yes		
Elanus axillaris	Black-shouldered Kite			Yes		
Eolophus roseicapilla albiceps	Galah (most of SA)			Yes		
Falco peregrinus macropus	Peregrine Falcon		R	Yes		
Falcunculus frontatus frontatus	Eastern Shriketit		R	Yes		
Gavicalis virescens	Singing Honeyeater			Yes		
Glossopsitta concinna	Musk Lorikeet			Yes		
Grallina cyanoleuca cyanoleuca	Magpielark			Yes		
Gymnorhina tibicen	Australian Magpie			Yes		
Hirundo neoxena neoxena	Welcome Swallow			Yes		
Hylacola pyrrhopygia parkeri	Chestnut-rumped Heathwre	EN	E	Yes		
Lophoictinia isura	Square-tailed Kite		E	Yes		
Malurus cyaneus leggei	Superb Fairywren (Mainlanc			Yes		
Manorina melanocephala	Noisy Miner			Yes		
Melithreptus brevirostris	Brown-headed Honeyeater			Yes		
Melithreptus lunatus	White-naped Honeyeater			Yes		
Melopsittacus undulatus	Budgerigar			Yes		
Merops ornatus	Rainbow Bee-eater			Yes		
Neochmia temporalis temporalis	Red-browed Finch			Yes		
Ninox boobook boobook	Australian Boobook (eastern			Yes		
Ocyphaps lophotes lophotes	Crested Pigeon			Yes		
Pachycephala fuliginosa fuliginosa	Western Whistler			Yes		
Pachycephala rufiventris rufiventris	Rufous Whistler			Yes		

OFFICIAL

Pardalotus punctatus	Spotted Pardalote			Yes		
Pardalotus striatus striatus	Striated Pardalote (uncomm			Yes		
Parvipsitta porphyrocephala	Purple-crowned Lorikeet			Yes		
Petrochelidon nigricans neglecta	Tree Martin (all of SA)			Yes		
Petroica boodang boodang	Scarlet Robin		R	Yes		
Petroica rosea	Rose Robin			Yes		
Phaps chalcoptera	Common Bronzewing			Yes		
Phaps elegans elegans	Brush Bronzewing			Yes		
Phylidonyris novaehollandiae novaehollа	New Holland Honeyeater (m			Yes		
Phylidonyris pyrrhopterus halmaturinus	Crescent Honeyeater (Kl an			Yes		
Platycercus elegans fleurieuensis	Adelaide Rosella (southern			Yes		
Podargus strigoides brachypterus	Tawny Frogmouth (SA exce			Yes		
Rhipidura albiscapa alisteri	Grey Fantail (southern SA)			Yes		
Rhipidura leucophrys leucophrys	Willie Wagtail			Yes		
Sericornis frontalis rosinae	White-browed Scrubwren (M			Yes		
Smicrornis brevirostris occidentalis	Weebill (Yellabinna, Gawler			Yes		
Strepera versicolor melanoptera	Black-winged Currawong (M			Yes		
Todiramphus sanctus sanctus	Sacred Kingfisher			Yes		
Trichoglossus moluccanus moluccanus	Rainbow Lorikeet			Yes		
Turnix varius varius	Painted Buttonquail		R	Yes		
Vanellus miles	Masked Lapwing			Yes		
Vanellus miles novaehollandiae	Spur-winged Plover			Yes		
Zanda funerea whiteae	Yellow-tailed Black Cockato		V	Yes		
Zoothera lunulata halmaturina	South Australian Bassian Th	EN	R	Yes		
Zosterops lateralis	Silvereye			Yes		
Antechinus agilis	Agile Antechinus		E	Yes		
Antechinus flavipes	Yellow-footed Antechinus		V	Yes		
Austronomus australis	White-striped Free-tailed Ba			Yes		
Chalinolobus gouldii	Gould's Wattled Bat			Yes		
Hydromys chrysogaster	Water Rat			Yes		
Isoodon obesulus obesulus	Southern Brown Bandicoot (	EN	V	Yes		
Macropus (Notamacropus) rufogriseus	Red-necked Wallaby			Yes		
Macropus fuliginosus	Western Grey Kangaroo			Yes		
Mormopterus planiceps	Southern Free-tailed Bat			Yes		
Phascolarctos cinereus	Koala			Yes		
Pseudocheirus peregrinus	Common Ringtail Possum			Yes		
Pteropus poliocephalus	Grey-headed Flying-fox	VU	R	Yes		
Rattus fuscipes	Bush Rat			Yes		
Tachyglossus aculeatus	Short-beaked Echidna			Yes		
Trichosurus vulpecula	Common Brushtail Possum		R	Yes		
Vespadelus darlingtoni	Large Forest Bat			Yes		
Wallabia bicolor	Swamp Wallaby			Yes		
Austrelaps labialis	Pygmy Copperhead			Yes		
Chelodina longicollis	Eastern Long-necked Turtle			Yes		
Christinus marmoratus	Marbled Gecko			Yes		
Ctenophorus decresii (revised)	Tawny Rock Dragon			Yes		
Egernia cunninghami	Cunningham's Skink		E	Yes		
Hemiergis decresiensis	Three-toed Earless Skink			Yes		
Lampropholis guichenoti	Garden Skink			Yes		
Lerista bougainvillii	Bougainville's Skink			Yes		
Suta flagellum	Little Whip Snake			Yes		
Tiliqua rugosa	Sleepy Lizard			Yes		
Tiliqua scincoides	Eastern Bluetongue			Yes		
Varanus rosenbergi	Heath Goanna		V	Yes		
Varanus varius	Lace Monitor		R	Yes		

Appendix 2. Bushland Assessment Scoresheet associated with the proposed clearance

Vegetation Condition Scores

SITE:	Dwelling
VEGETATION ASSOCIATION DESCRIPTION	Eucalyptus obliqua forest over Pultenaea daphnoides shrubs
SIZE OF SITE (Ha)	0.244

Native Plant species diversity	
Score the diversity of species present in the site as a proportion to what would be expected in a vegetation of that community in very good condition (approaching a pre-European state)	
<5% (3 Points)	☐
5-10% (6 Points)	☐
11 - 20% (9 Points)	☐
21 - 30% (12 Points)	☐
31 - 40 % (15 Points)	☐
41 - 50% (18 Points)	☐
51 - 60% (21 Points)	☐
61 - 70% (24 Points)	☐
71 - 80% (27 Points)	☐
>80% (30 Points)	☑
Native Plant species diversity score (max score of 30)	30

Weed Scores	
Does the site contain plant species declared under the *Landscape SA Act 2019* (1.5 points)	☑
Cover rating for all declared weeds (max of 6)	2
Does the site contain environmental weeds (introduced plants with the capacity to invade and exclude native species from bushland. This typically includes species with a BCM weed threat rating of 3, 4 or 5). (1 Point)	☑
Cover rating for all environmental weeds (max of 6)	2
Weed Score (max score of 15)	10

Is the community naturally treeless?	☐
Mature Tree Score (max 8)	**8**
Fallen timber/debris (max 5)	**4**
Hollow-bearing trees Score (max 5)	**0**
Tree Canopy Cover Score (max 5)	**5**

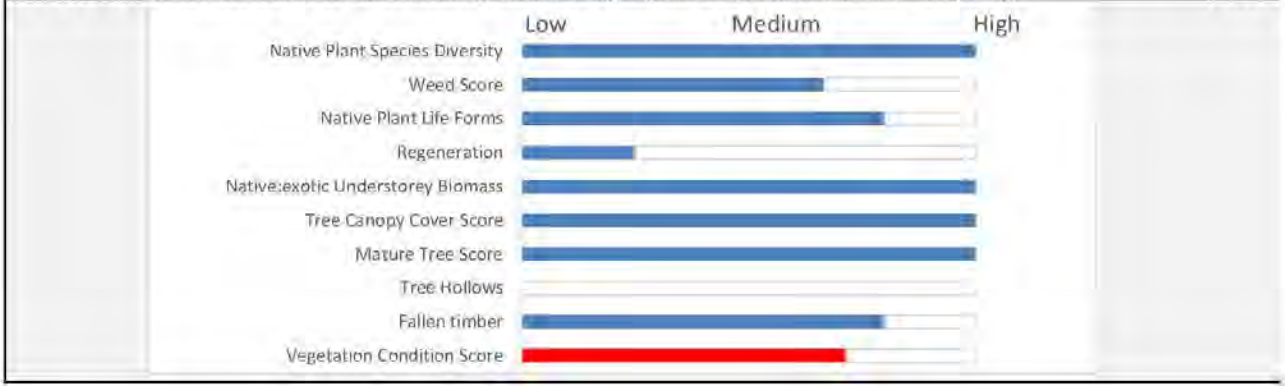
Native:exotic Understorey biomass score (max 5)	**5**

Regeneration	
No regeneration present (0 Points)	☐
Very low regeneration, consisting of highly scattered juvenile plants of a limited number of species (3 points)	☑
Regeneration present, consisting of multiple individual juvinile plants but a limited number of species (6 points)	☐
Multiple species regenerating, but low numbers of juvenile plants (9 points)	☐
Multiple species regenerating with multiple individual juviniles present with varying age classes (12 points)	☐
Regeneration Score (Max 12)	3

Native Plant life form	
All strata of vegetation heavily impacted and native vegetation represented by only scattered plants (4 points)	☐
All strata of vegetation impacted with limited structural diversity, largely uniform age classes and reduced vegetation cover (8 points)	☐
At least one strata of vegetation has been impacted, with reduced structural diversity, elements may be missing (such as plant species that provide specific structural features e.g. sedges or mid layer shrubs) and reduce vegetation cover (12 points)	☐
Limited impacts on native vegetation, with a diversity of structural features and a varied age class, with only a minor loss in structurally diversity, vegetation cover or structural elements (16 points)	☑
All strata of vegetation present, little or no sign of disturbance. A variety of life forms and associated age classes present. Vegetation cover near complete (20 points)	☐
Native Plant life form score (max 20)	16

Vegetation Condition Score calculation

Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms + Mature Trees + Fallen timber/debris + Hollow-bearing trees *If the community is naturally treeless this score is multiplied by 1.24*	61.00
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)	5.00
VEGETATION CONDITION SCORE (Positive veg attributes x ((Negative vegetation attributes + 60) / 80))	**57.19**



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
State (Provisional List of Threatened Ecosystems of SA) **Rare** community (0.1 pt)	☐
State (Provisional List of Threatened Ecosystems of SA) **Vulnerable** community (0.2 pts)	☐
State (Provisional List of Threatened Ecosystems of SA) **Endangered** community (0.3 pts)	☐
Nationally (EPBC Act) **Vulnerable** community (0.35 pts)	☐
Contains a Nationally (EPBC Act) **Endangered** or **Critically Endangered** community (0.4 pts)	☐
Note; all sites will score a minimum Conservation Significance Score of 1 **Threatened CommuntiyScore**	1

Number of Threatened Flora Species recorded for the site (within the site)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species recorded (1 pt each)	0
State **Vulnerable** species recorded (2.5 pt each)	0
State **Endangered** recorded (5 pts each)	0
Nationally **Vulnerable** species recorded (10 pts each)	0
Nationally **Endangered** or **Critically endangered** species recorded (20 pts each)	0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16pts; 20 or > = 0.2 pts	**0**
Threatened Flora Score	0

Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species observed or locally recorded (1 pt each)	8
State **Vulnerable** species observed or locally recorded (2.5 pt each)	3
State **Endangered** species observed or locally recorded (5 pt each)	3
Nationally **Vulnerable** species observed or locally recorded (10 pts each)	1
Nationally **Endangered** or **Critically endangered** species observed or locally recorded (20 pts each)	3
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts	**100.5**
Threatened Fauna Score	**0.1**

CONSERVATION SIGNIFICANCE SCORE	1.1

Total Scores for the Site

	Score
LANDSCAPE CONTEXT SCORE	1.16
VEGETATION CONDITION SCORE	57.19
CONSERVATION SIGNIFICANCE SCORE	1.10

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	**72.97**
Total Biodiversity Score (Biodiversity Score x hectares)	17.80

Photo Point and Vegetation Survey Location

Direction of the Photo

47 degrees

GPS Reference

Datum	WGS84
Zone (52, 53 or 54)	54
Easting (6 digits)	292190
Northing (7 digits)	6127244

Description

Eucalyptus obliqua forest over Exocarpos cupressiformis trees and Pultenaea daphnoides and Hibbertia crinita shrubs in good relatively weed free condition

Vegetation Condition Scores

SITE:	APZ
VEGETATION ASSOCIATION DESCRIPTION	Eucalyptus obliqua forest over Pultenaea daphnoides shrubs
SIZE OF SITE (Ha)	0.235

Native Plant species diversity	
Score the diversity of species present in the site as a proportion to what would be expected in a vegetation of that community in very good condition (approaching a pre-European state)	
<5% (3 Points)	☐
5-10% (6 Points)	☐
11 - 20% (9 Points)	☐
21 - 30% (12 Points)	☐
31 - 40 % (15 Points)	☐
41 - 50% (18 Points)	☐
51 - 60% (21 Points)	☐
61 - 70% (24 Points)	☐
71 - 80% (27 Points)	☐
>80% (30 Points)	☑
Native Plant species diversity score (max score of 30)	**30**

Weed Scores	
Does the site contain plant species declared under the *Landscape SA Act 2019* (1.5 points)	☑
Cover rating for all declared weeds (max of 6)	2
Does the site contain environmental weeds (introduced plants with the capacity to invade and exclude native species from bushland. This typically includes species with a BCM weed threat rating of 3, 4 or 5). (1 Point)	☑
Cover rating for all environmental weeds (max of 6)	2
Weed Score (max score of 15)	10

Is the community naturally treeless?	☐
Mature Tree Score (max 8)	**8**
Fallen timber/debris (max 5)	**4**
Hollow-bearing trees Score (max 5)	**0**
Tree Canopy Cover Score (max 5)	**5**

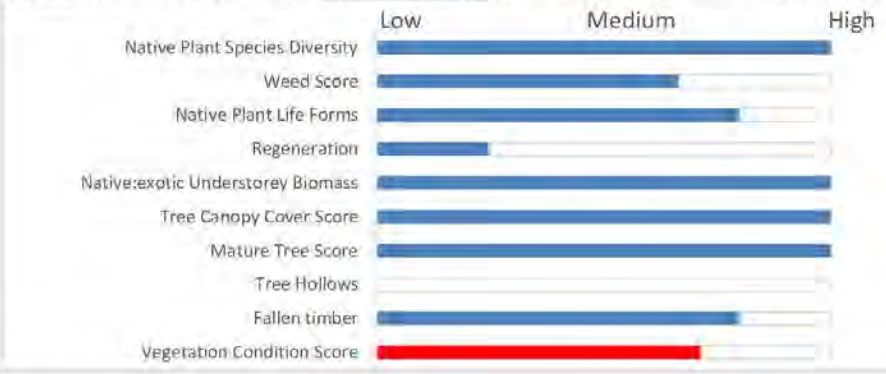
Native:exotic Understorey biomass score (max 5)	**5**

Regeneration	
No regeneration present (0 Points)	☐
Very low regeneration, consisting of highly scattered juvenile plants of a limited number of species (3 points)	☑
Regeneration present, consisting of multiple individual juvinile plants but a limited number of species (6 points)	☐
Multiple species regenerating, but low numbers of juvenile plants (9 points)	☐
Multiple species regenerating with multiple individual juviniles present with varying age classes (12 points)	☐
Regeneration Score (Max 12)	3

Native Plant life form	
All strata of vegetation heavily impacted and native vegetation represented by only scattered plants (4 points)	☐
All strata of vegetation impacted with limited structural diversity, largely uniform age classes and reduced vegetation cover (8 points)	☐
At least one strata of vegetation has been impacted, with reduced structural diversity, elements may be missing (such as plant species that provide specific structural features e.g. sedges or mid layer shrubs) and reduce vegetation cover (12 points)	☐
Limited impacts on native vegetation, with a diversity of structural features and a varied age class, with only a minor loss in structurally diversity, vegetation cover or structural elements (16 points)	☑
All strata of vegetation present, little or no sign of disturbance. A variety of life forms and associated age classes present. Vegetation cover near complete (20 points)	☐
Native Plant life form score (max 20)	16

Vegetation Condition Score calculation

Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms + Mature Trees + Fallen timber/debris + Hollow-bearing trees *If the community is naturally treeless this score is multiplied by 1.24*	61.00
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)	5.00
VEGETATION CONDITION SCORE (Positive veg attributes x ((Negative vegetation attributes + 60) / 80))	**57.19**



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
State (Provisional List of Threatened Ecosystems of SA) **Rare** community (0.1 pt)	☐
State (Provisional List of Threatened Ecosystems of SA) **Vulnerable** community (0.2 pts)	☐
State (Provisional List of Threatened Ecosystems of SA) **Endangered** community (0.3 pts)	☐
Nationally (EPBC Act) **Vulnerable** community (0.35 pts)	☐
Contains a Nationally (EPBC Act) **Endangered** or **Critically Endangered** community (0.4 pts)	☐
Note; all sites will score a minimum Conservation Significance Score of 1 **Threatened CommuntiyScore**	1

Number of Threatened Flora Species recorded for the site (within the site)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species recorded (1 pt each)	0
State **Vulnerable** species recorded (2.5 pt each)	0
State **Endangered** recorded (5 pts each)	0
Nationally **Vulnerable** species recorded (10 pts each)	0
Nationally **Endangered** or **Critically endangered** species recorded (20 pts each)	0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16pts; 20 or > = 0.2 pts	**0**
Threatened Flora Score	0

Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species observed or locally recorded (1 pt each)	8
State **Vulnerable** species observed or locally recorded (2.5 pt each)	3
State **Endangered** species observed or locally recorded (5 pt each)	3
Nationally **Vulnerable** species observed or locally recorded (10 pts each)	1
Nationally **Endangered** or **Critically endangered** species observed or locally recorded (20 pts each)	3
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts	**100.5**
Threatened Fauna Score	**0.1**

CONSERVATION SIGNIFICANCE SCORE	1.1

Total Scores for the Site

	Score
LANDSCAPE CONTEXT SCORE	1.16
VEGETATION CONDITION SCORE	57.19
CONSERVATION SIGNIFICANCE SCORE	1.10

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	**72.97**
Total Biodiversity Score (Biodiversity Score x hectares)	17.15

Photo Point and Vegetation Survey Location

Direction of the Photo

47 degrees

GPS Reference

Datum	WGS84
Zone (52, 53 or 54)	54
Easting (6 digits)	292190
Northing (7 digits)	6127244

Description

Eucalyptus obliqua forest over Exocarpos cupressiformis trees and Pultenaea daphnoides and Hibbertia crinita shrubs in good relatively weed free condition

Appendix 3. Flora Species List

Plant Species Recorded (Native and Introduced)		Threatened Sp.		
Species	Common Name	EPBC	SA	Introduced Species
Eucalyptus obliqua	Messmate Stringybark			
Exocarpos cupressiformis	Native Cherry			
Leptospermum myrsinoides	Heath Tea-tree			
Hibbertia crinita	Velvet-leaf Guinea-flower			
Pimelea humilis	Low Riceflower			
Wahlenbergia sp.	Native Bluebell			
Ixodia achillaeoides ssp. alata	Hills Daisy			
Microlaena stipoides var. stipoides	Weeping Rice-grass			
Thelymitra sp.	Sun-orchid			
Platylobium obtusangulum	Holly Flat-pea			
Rytidosperma clelandii	Cleland's Wallaby-grass			
Senecio sp.	Groundsel			
Acrotriche affinis	Ridged Ground-berry			
Gonocarpus tetragynus	Small-leaf Raspwort			
Stylidium armeria ssp. armeria	Grass Trigger-plant			
Dianella revoluta var.				
Leucopogon virgatus var. virgatus	Common Beard-heath			
Acrotriche fasciculiflora	Mount Lofty Ground-berry			
Lomandra micrantha ssp.	Small-flower Mat-rush			
Austrostipa sp.	Spear-grass			
Poa crassicaudex	Thick-stem Tussock-grass			
Thysanotus patersonii	Twining Fringe-lily			
Tetratheca pilosa	Hairy Pink-bells			
Craspedia variabilis	Billy-buttons			
Beyeria lechenaultii	Pale Turpentine Bush			
Laxmannia orientalis	Dwarf Wire-lily			
Lepidosperma semiteres	Wire Rapier-sedge			
Drosera peltata s.str.	Swamp Sundew			
Grevillea lavandulacea ssp. lavandulacea	Spider-flower			
Pultenaea daphnoides	Large-leaf Bush Pea			
Xanthorrhoea semiplana ssp. semiplana	Yacca			
Scaevola albida	Pale Fanflower			
Stackhousia aspericocca ssp. Cylindrical	Bushy Candles			
Hakea rostrata	Beaked Hakea			
Pteridium esculentum ssp. esculentum	Bracken Fern			
Burchardia umbellata	Milkmaids			
Daviesia leptophylla	Narrow-leaf Bitter-pea			
Pimelea linifolia ssp. linifolia	Slender Riceflower			
Coronidium scorpioides	Button Everlasting			
Epacris impressa	Common Heath			
Marianthus bignoniaceus	Orange Bell-climber			
Austrostipa muelleri	Tangled Spear-grass			
Briza maxima	Large Quaking-grass			*
Aira sp.	Hair-grass			*
Anthoxanthum odoratum	Sweet Vernal Grass			*
Hypochaeris glabra	Smooth Cat's Ear			*
Plantago lanceolata var.	Ribwort			*
Pinus radiata	Radiata Pine			*
Ulex europaeus	Gorse			*
Genista monspessulana	Montpellier Broom			*

Appendix 4. Site selection factors

General site selection guidance

- Least dense (understory) vegetation coverage
- No additional clearing for vehicular access – utilises existing access track
- Minimal clearing for Asset Protection Zone – BAL 40 achieved with 10.5m setback as opposed to 37m if constructed closer to Piccadilly Crescent.
- Solar access – maximises access to sunlight, reduces the operational carbon of the residence

Additional perspectives

- Flattest portion of the site is along the ridge – simpler, less invasive construction and earthworks minimisation
- Cellular reception – bushfire safety
- Compliance with Productive Rural Landscape Zone – least visibility from surrounding neighbours ("*have substantial setbacks from boundaries and public roads and use low reflective materials and finishes that blend with the surrounding landscape"*)

Appendix D

SA BUSHFIRE SOLUTIONS

AS 3959-2018 Construction of Buildings in Bushfire Prone Areas.
"INDICATIVE" BUSHFIRE ATTACK LEVEL (BAL)
ASSESSMENT REPORT

Customer Details	
Applicants Name	
Email	
Phone	

Property Detail	
Address	10 Piccadilly Avenue, PICCADILLY, S.A, 5151
Parcel ID	F129237AL83
Municipality	Adelaide Hills Council
Bushfire Protection Area	High Bushfire Risk

Report Details	
Report / Job Number	BAL 369
Report Version	1
Assessment Date	6 February 2024
Report Date	16 February 2024
Assessors Name	
Assessor Phone	

BAL Assessment Report Comments

The BAL assessment has been undertaken for the proposed construction of a new dwelling.

The relevant BAL for the site has been determined using the Detailed method (refer *AS 3959-2018 Construction of Buildings in Bushfire Prone Areas)* per section 2.2 (b) and 2.3 (c) of the *Ministerial Building Standard 008 Designated bushfire prone areas – additional requirements*. The determined BAL has used an FDI of 80, which is the recommended prescription for SA.

We have classified the current vegetation condition and arrangement using Table 2.3 *"Classification of Vegetation"* in AS 3959:2018, this includes an onsite visit and Fuel Hazard assessments of all vegetation within 100m of the site on the property.

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Assessment of the vegetation within 100m in all directions.

Vegetation classification	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6
Group A Forest			✔	✔		
Group B Woodland		✔				
Group C Shrub-land						
Group D Scrub						
Group E Mallee/Mulga						
Group F Rainforest						
Group G Grassland	✔					
Exclusions (where applicable)	Circle relevant paragraph descriptor from clause 2.2.3.2.					
	(b) (c) (d) (e) (f)	(b) (c) (d) (e) (f)	(b) (c) (d) (e) (f)	(b) (c) (d) (e) (f)	(b) (c) (d) (e) (f)	b) (c) (d) (e) (f)
Distance of the site from classified vegetation (see clause 2.2.4)						
Distance to classified vegetation	Show distances in meters					
	10m	**20m**	**2m**	**10m**		
Determine the effective slope of land under the classified vegetation						
Effective slope	Upslope					
	Upslope/0°	Upslope/0°	Upslope/0° ✔	Upslope/0°	Upslope/0°	Upslope/0°
Slope under the classified vegetation	Downslope					
	>0 to 5	>0 to 5	>0 to 5	>0 to 5	>0 to 5	>0 to 5
	>5 to 10 ✔	>5 to 10 ✔	>5 to 10	>5 to 10	>5 to 10	>5 to 10
	>10 to 15	>10 to 15	>10 to 15	>10 to 15	>10 to 15	>5 to 10
	>15 to 20	>15 to 20	>15 to 20	>15 to 20 ✔	>15 to 20	>15 to 20
	>20	>20	>20	>20	>20	>20
BAL rating	**40**	**29**	**FZ**	**FZ**		

Current BAL Summary

Plot	Vegetation Classification	Effective Slope	Separation Distance (m)	BAL
1	Class G Grassland	8 Degree Downslope	10m	40
2	Class B Woodland	5 Degree Downslope	20m	29
3	Class A Forest	10 Degree Upslope	2m	FZ
4	Class A Forest	15 Degree Downslope	10m	FZ

Determined Bushfire Attack Level (BAL)

The determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018.

Current BAL - FZ

Disclaimer Statement:

This report does not refer to matters specifically referred to in Section 5 (Deemed to satisfy provisions) of the *Ministerial Building Standard 008 Designated bushfire prone areas – additional requirements* as these considerations are likely to be addressed in the development application following an inspection from Country Fire Service (CFS) or advice from local Council.

It must be noted that extreme fire weather conditions may create unpredictable fire behaviour and therefore it is impossible to remove all potential impacts from bushfires and guarantee that a building will survive any bushfire event.

The current fuel loads and vegetation management cannot be guaranteed not to change in the future.

I have taken all reasonable steps to ensure that the information provided in this assessment is accurate and reflects the conditions on and around the site and allotment on the assessment date. I cannot guarantee the bushfire risks will not change on neighbouring properties.

Signed:

16 February 2024

"INDICATIVE" BAL rating

We completed the inspection to provide the client with a building envelope indicative of setback distances required to achieve a nominal BAL. This assessment provides the client with the opportunity to consider the potential BAL subject to the implementation of appropriate vegetation management zones.

Vegetation Management Zone

A requirement for attaining an indicated BAL is that a vegetation management zone around the perimeter of the building is established.

This will require the clearing/thinning of some of the trees, shrubs, and grassland on the property to reduce fuels and allow the vegetation management zone to be maintained in minimal fuel conditions and lower bushfire risk.

The objective of the vegetation management zone is to have an area of reduced overall fuel hazard adjacent that will minimise the likelihood of ember ignition, decrease the likelihood of flame contact and minimise the forward rate of spread of bushfires.

It is proposed the vegetation management zone is defined by two zones – Inner and Outer.

Inner Vegetation Management Zone

The inner zone will be the area within 2m of the dwelling and the proposed vegetation management is;

- all vegetation within 2m removed (litter, surface, near surface, elevated and bark hazard)
- any elevated fuels that may overhang the roof should be trimmed or removed.
- no vegetation regeneration, mulching, or combustible materials to be incorporated into this zone.

Outer Vegetation Management Zone

The outer zone will be the area from the inner zone out to the distances depicted in Tables 1-4 below. The outer proposed vegetation management consists of.

- all grassland is always maintained to less than 100mm.
- a maintained reduction of all elevated fuels to ensure maximum coverage is not greater than 30% in this zone.
- careful selection of clearing to ensure areas of non-continuous vegetation and tree canopy.
- no revegetation is to be undertaken in this zone.
- maintenance includes the removal of any dry/dead vegetation and continued garden irrigation.
- individual or sporadic large trees to be retained as part of landscaping or cultivated garden are to be 'lifted' where no fuel is available around the base up to 2m.

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Comparison BAL ratings

There is potential to increase or decrease the BAL with changed vegetation setback distances for existing vegetation. We have calculated these setback distances for the individual plots.

Refer to Tables 1-4 below for a comparison of BAL ratings for individual plots.

Table 1 – Comparative BAL ratings with adjusted setback distances for **Plot 1**

Vegetation classification (see clause 2.2.3)	AS3959-2009 Surface Fuel load (t/ha)	AS3959-2009 Overall Fuel load (t/ha)	Setback distance	Current BAL	Changed Setback Distance	Revised BAL
Class G Grassland	4.5	4.5	10m	40	10m	29
					15.5m	19
					22.5m	12.5

Table 2 – Comparative BAL ratings with adjusted setback distances for **Plot 2**

Vegetation classification (see clause 2.2.3)	AS3959-2009 Surface Fuel load (t/ha)	AS3959-2009 Overall Fuel load (t/ha)	Setback distance	Current BAL	Changed Setback Distance	Revised BAL
Class B Woodland	15	25	20m	29	26m	19
					36m	12.5

Table 3 – Comparative BAL ratings with adjusted setback distances for **Plot 3**

Vegetation classification (see clause 2.2.3)	AS3959-2009 Surface Fuel load (t/ha)	AS3959-2009 Overall Fuel load (t/ha)	Setback distance	Current BAL	Changed Setback Distance	Revised BAL
Class A Forest	25	35	2m	FZ	10.5m	40
					14m	29
					20m	19
					28.5m	12.5

Table 4 – Comparative BAL ratings with adjusted set back distances for **Plot 4**

Vegetation classification (see clause 2.2.3)	AS3959-2009 Surface Fuel load (t/ha)	AS3959-2009 Overall Fuel load (t/ha)	Setback distance	Current BAL	Changed Setback Distance	Revised BAL
Class A Forest	25	35	10m	FZ	37m	40
					46.5m	29
					60.5m	19
					77.5m	12.5

The block of land is large enough to encompass these vegetation management zones outlined in the Planning and Design Code.

- Part 3 Overlays, Hazards, assessment provisions
  - Performance Outcome 4.2
  - Deemed to satisfy/designated Performance feature 4.2 (b)

Furthermore, we believe that with appropriate management of this vegetation, some areas could be excluded from assessment as per the *Exclusions – Low threat vegetation and non-vegetated areas* clause 2.2.3.2 (f) of AS 3959:2018.

Figure 1 - Proposed Site Location Plan (Showing Property Boundaries)

Figure 2 – Proposed Plan Location.

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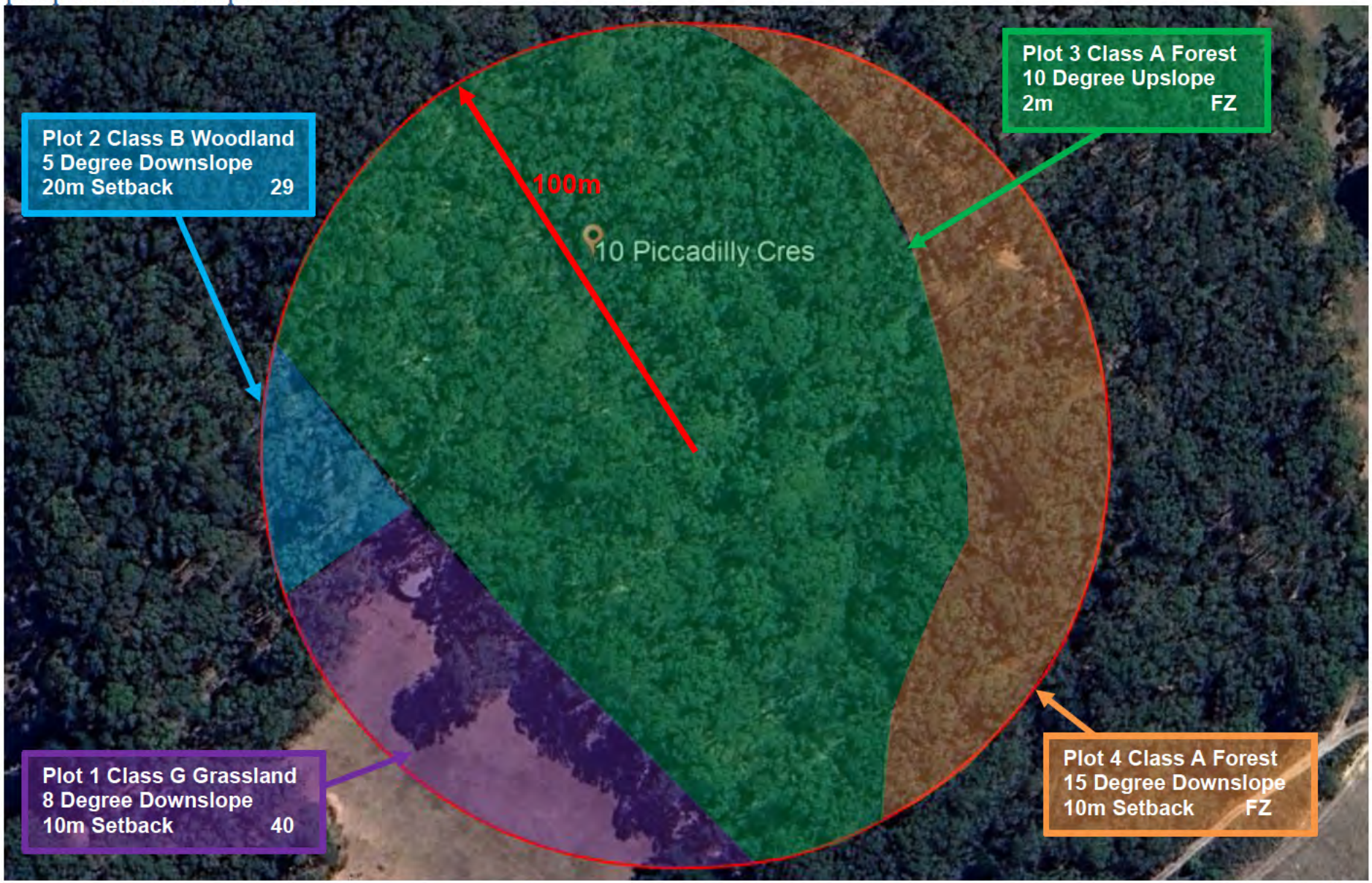
Figure 3 - Site Assessment showing the Classified vegetation plots within a 100m radius of the proposed development.



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Photos of Classified Vegetation

Plot	1	Classification or Exclusion Clause	Class G Grassland

Photo ID: 1

Photo ID: 2

Comments: The grassland impacting the dwelling's building envelope is not within the client's boundary. It appears to be largely managed by grazing or slashing.

Plot	2	Classification or Exclusion Clause	Class B Woodland

Photo ID: 3

Photo ID: 4

Comments: The vegetation identified to the west of the building envelope adjoins the grassland from Plot 1, its structure is primarily medium to tall immature trees, accompanied by significant elevated fuels. Short heath, weed growth and bracken dominate the understory. This vegetation extends further to the southwest, wrapping around other properties.

Plot	3	Classification or Exclusion Clause	Class A Forest

Photo ID: 5

Photo ID: 6

Comments: The primary vegetation identified within this site that will impact the building envelope is dominated by very tall trees and dense understory in a closed woodland structure. This vegetation is characterised by the size and density of the tree canopy, with management of the overall fuel structure and planned landscaping, this plot could be reduced to woodland classification or excluded.

Plot	4	Classification or Exclusion Clause	Class A Forest

Photo ID: 7

Photo ID: 8

Comments: Similarly, to plot three the vegetation is dominated by very tall trees and dense understory in a closed woodland structure. This vegetation exists beyond the ridgeline and is highly affected by its slope

SA BUSHFIRE SOLUTIONS

Appendix 1 Property Location and highlighted High bushfire risk areas (pink) adjacent to Medium bushfire risk areas (blue) & Urban Interface areas (grey).