WLPP No.	Item No.3
DA No.	DA-2019/1356
Proposal	Residential - Eight storey residential flat building comprising 14 residential units over two levels of basement carparking.
Property	9-11 Park Street, Wollongong
Applicant	PRD Architects
Responsible Team	Development Assessment and Certification - City Centre Team (MJ)

ADDENDUM REPORT

1. REASON FOR CONSIDERATION BY LOCAL PLANNING PANEL

The proposal was originally referred to Local Planning Panel for determination on the 1 September 2020 pursuant to clause 2.19(1)(a) of the Environmental Planning and Assessment Act 1979.

Under Schedule 2 of the Local Planning Panels Direction of 1 March 2018, the proposal classified as sensitive development in accordance with Part 4 (b) as it is development to which SEPP 65 Design Quality of Residential Flat Buildings applies and is 4 or more storeys in height. The proposal is also classified as a contentious development under Part 2 (b) as it is the subject of 10 or more unique submissions by way of objection.

2. MAIN ISSUES AND COUNCIL RECOMMENDATION

The council report provided to the Wollongong Local Planning Panel (WLPP) on 1 September 2020 recommended the application be refused, the main issues included;

- Impacts on solar access to neighbouring property to south,
- Lack of detail regarding potential substations and augmented service requirements,
- Building Separation encroachments on the southern and eastern boundaries on levels 5, 6 and 7,
- Apartment mix and room dimensions,
- Privacy and glare impacts associated full width glass balustrades on north east and west elevations,
- The proposal is unsatisfactory with regard to the objectives of the R1 General Residential Zone,
- The design exceeded the maximum allowable floor space ratio,
- Several matters raised by the Design Review Panel had not been resolved, therefore the development did not exhibit design excellence,
- Creation of an isolated lot,
- Setback encroachment and scale of feature entry awning into front setback,
- Excessive width of vehicle footpath crossing, and
- Visual impact of basement podium on north western corner.

3. PANEL CONSIDERATION AND DECISION

The Panel resolved to defer the determination of the matter to seek further information and plans. The deferral was subject to the application being returned to the Panel on 3 November 2020. Assessment of the Panels reason for deferral are at Section 7 below.

The full Panel's Determination and Statement of Reasons is provided at Attachment 7.

4. INFORMATION REQUEST

Additional information was requested on 3 September 2020. The applicant submitted the requested information on 2 October 2020, satisfying the deadline established by the Panel.

The applicant submitted revised architectural plans, demolition plan, landscape plan, arboricultural report, accessibility certification, stormwater plans, shadow diagrams and perspective plans.

The applicant also submitted the valuation, negotiation correspondence and dual occupancy concept plan, seeking to address lot isolation of 7 Park Street.

5. AMENDED PROPOSAL

A summary of the amendments to the proposal are provided below (refer to architectural plans for full extent of changes):

i. **Exterior treatment:**

   a. Colour palette revised to lighten appearance.
   b. Reduction in expanse of cladding and screening.
   c. Minor changes to design and application of screening (Aluminium – Timber Grain) across all elevations.

   Refer to architectural plans for full extent of amendments.

ii. **Building Floorplate - Levels 4 – 8**: Building envelope altered from generally rectangular to trapezium type shape. Eastern edge angled, southern elevation length reduced, and northern elevation length increased.

iii. **Basement levels** – No notable amendments.

iv. Level 1 (Ground):

   a. Booster valve enclosure feature.
   b. Proposed substation within front setback (northern section).
   c. Driveway width reduced.
   d. Change to RL of northern retaining wall and pathway grade, terracing will reduce height of wall. This will affect Unit 1 POS.
   e. Retain existing mature trees to integrate with landscape plan.
   f. Unit 1: Reduced POS, new feature awning, and increased planter landscaping.

v. Level 2:

   a. Unit 3: Changes to general layout, modification to study area confirm use.
   b. Unit 4: Extend POS along eastern elevation

vi. Level 3:

   a. Reduced feature entry awning.
   b. Removal of Zen Garden.
   c. Unit 5: Changes to general layout, modification to study area confirm use.
   d. Unit 6: Extend POS along eastern elevation

vii. Level 4:

   a. Removal of Zen Garden.
   b. Unit 8: All rooms with eastern exterior wall will be trapezium shape.
   c. Unit 8: Reduced laundry and minor reduction in POS.

viii. Levels 5 - 6:

   a. Removal of Zen Garden.
   b. Unit 10 & 12: All rooms with eastern exterior wall will be trapezium shape.

c. Units 10 & 12: Reduced laundry, minor reduction in POS balcony area, to achieve 9m setback from eastern boundary.

ix. Level 7:

a. Removal of Zen Garden.
b. Unit 14: All rooms with eastern exterior wall will be trapezium shape.
c. Units 14: Reduced laundry, minor reduction in POS balcony area, to achieve 9m setback from eastern boundary.

x. Level 8:

a. Roof feature (Aluminium – Timber Grain) reduced in width.
b. Unit 14: Minor reduction in in balcony POS.

6. CONSULTATION

Public Exhibition

Following the submission of additional information, the proposal was renotified to those parties notified during the original development application, the notification period was from 15 October to 26 October 2020.

The amended proposal received 9 further individual submissions during this period, and the main issues raised were:

CONCERN	COMMENT
1. Building height and scale is not compatible with surroundings.	~27m building height is below maximum 32m permitted by WLEP 2009. The redevelopment of this site to the scale expected by permitted heights and floor space ratio is likely to have some visual impact on streetscape and surrounding properties.
2. Local traffic and parking will be adversely affected.	Sufficient car parking has been provided in accordance with WDCP 2009 requirements. Two (2) excess spaces have also been provided.
3. Front Setback should be consistent with building located at 15 Park St and prevailing Park Street setback of 6 – 7.8m. Resultant impacts on view corridors. Feature awning still impedes views.	The proposed 4m setback complies with that required under WDCP 2009. Minor projections (awnings etc.) are permitted to encroach within this setback. Future redevelopment along Park Street will be subject to these front setback requirements. WDCP 2009 does not identify views along Park Street specifically as being retained, beyond enforcement of front setback controls. The encroachment of the feature awning has been significantly reduced.
4. Solar Access impacts on 13 Park Street. Shadow diagrams are insufficient to enable assessment.	Aspects of the building have been reduced and redesigned to improve solar access to the south. Solar access has been considered under ADG requirements and the relevant Planning

	Principle, being *The Benevolent Society v Waverly Council* [2010] NSWLEC 1082. Hourly Shadow Diagrams, as both layout and oblique perspective have been provided. See further assessment under Section 7 of this report.
5. Request to revisit matter of 13 Park Street becoming an isolated Lot.	At the WLPP meeting of 1 September 2020, the panel did not consider that 13 Park Street would become an isolated lot, did not warrant a reason for refusal or require further information in this respect.
6. WLPP assessment did not give full consideration to original Council report and recommendation.	The Determination and Statement of Reasons is attached to this report, which outlines their Consideration and Reasons for the decision.
7. Basement Car Parking out of character and may have impacts on 13 Park Street.	Chapter D13 of WDCP 2009 requires that in the Wollongong City Centre, on-site parking is to be accommodated underground, or otherwise integrated into the design of the building. There are several examples of basement car parking in close proximity to the site. The proposal has been considered by Council's Traffic Engineer with regard to safe operation and was found to be compliant and satisfactory subject to conditions.
8. Southern Setback encroachments.	The proposed setback encroachments are not supported, and it is recommended these be made to comply, should the proposal be approved by the panel.
9. View impacts toward the escarpment.	View impacts toward the escarpment were addressed in the report to the WLPP on 1 September 2020 and were found to be acceptable. The amended built form has not been significantly altered so that it would change view impacts to the west.
10. Social impacts attributes to Entry Lobby design	The proposal has been assessed against CPTED principles and is acceptable.
11. New extended N/E corner balcony on level 3 will result in overlooking of development to the south.	It is recommended that this balcony be redesigned to reduce privacy and solar access impacts, should the proposal be approved by the panel.
12. Street tree to be preserved.	The tree is not proposed to be removed. Tree protection is addressed via a condition of consent.

Internal Consultation

Landscape Architect

Council's Landscape Architect reviewed the amended Landscape Plan and Arboricultural Impact Assessment by Allied Tree Consultancy and report September 2020 and found it to be satisfactory subject to conditions.

Council's Landscape Architect advised that the retention of Tree 5 (*Araucaria columnaris*) is not supported due to the major encroachment of 35% extending into the structural root zone. With a view to future growth of this tree and implications for redesign of basement, this was found to be acceptable subject to suitable compensatory planting.

7. ASSESSMENT

This report should be read in conjunction with the report to the WLPP of 1 September 2020:

1. **Details to establish that 7 Park Street is not isolated having regard to the relevant Planning principle. The fact that No's 5 and 7 Park Street are in the same ownership does not, in the view of the Panel, necessarily result in No 7 not being isolated.**

In the case of 193 *Liverpool Road Pty Ltd v Inner West Council* [2017] NSWLEC 13, Justice Moore affirmed the planning principle set out in *Karavellas v Sutherland Shire Council* [2004] NSWLEC 251 in relation to the issue of site isolation as a result of redevelopment of adjacent sites.

Further, His Honour noted that the earlier decisions on site isolation, namely *Melissa Grech v Auburn Council* [2004] NSWLEC 40 and *Cornerstone Property Group Pty Ltd v Warringah Council* [2004] NSWLEC 189 had been subsumed into the decision of Karavellas, which case now covered the field.

The Planning Principle states the general questions to be answered when dealing with amalgamation of sites or when a site is to be isolated through redevelopment are:

- *Firstly, is amalgamation of the sites feasible?*
- *Secondly, can orderly and economic use and development of the separate sites be achieved if amalgamation is not feasible?*

The principles to be applied in determining the answer to the first question are set out by Brown C in *Melissa Grech v Auburn Council* [2004] NSWLEC 40. The Commissioner said:-

- *"Firstly, where a property will be isolated by a proposed development and that property cannot satisfy the minimum lot requirements then negotiations between the owners of the properties should commence at an early stage and prior to the lodgement of the development application.*

  Secondly, and where no satisfactory result is achieved from the negotiations, the development application should include details of the negotiations between the owners of the properties. These details should include offers to the owner of the isolated property. A reasonable offer, for the purposes of determining the development application and addressing the planning implications of an isolated lot, is to be based on at least one recent independent valuation and may include other reasonable expenses likely to be incurred by the owner of the isolated property in the sale of the property.

  Thirdly, the level of negotiation and any offers made for the isolated site are matters that can be given weight in the consideration of the development application. The amount of weight will depend on the level of negotiation, whether any offers are deemed reasonable or unreasonable, any relevant planning requirements and the provisions of s 79C of the Environmental Planning and Assessment Act 1979."

An independent Residential Kerbside Valuation of 7 Park Street was undertaken by 'WBP.Group Property Valuers' (dated 8 September 2020 Ref. 1509). The indicative Market Value Range was $1,650,000 - $1,725,000.

A single letter of offer was presented to the owner of 7 Park Street on 15 September 2020. The value of the offer was $1,725,000. Given the value of this offer is at the upper extent of the market valuation, the offer is considered reasonable.

This written offer was declined in writing on 29 September 2020. The response letter did not suggest the owner wished to enter into further negotiations. The applicant also indicated a verbal offer was made, which was also declined. The level of negotiation is sufficient to satisfy the planning principle.

It is noted that both 7 and 5 Park Street are under the same ownership. 5 Park Street contains a residential flat building, which is not strata subdivided. Whilst ownership of adjoining properties is not a specific consideration under the planning principle, it is worth noting for the context surrounding the negotiations.

Considering a reasonable offer has been made and sufficient negotiation undertaken, the answer to the first question, is that the amalgamation of the sites is not feasible.

To deal with the second question In the decision *Cornerstone Property Group Pty Ltd v Warringah Council* [2004] NSWLEC 189, the principles of Brown C were extended as follows:-

- *The key principle is whether both sites can achieve a development that is consistent with the planning controls. If variations to the planning controls would be required, such as non compliance with a minimum allotment size, will both sites be able to achieve a development of appropriate urban form and with acceptable level of amenity.*

  To assist in this assessment, an envelope for the isolated site may be prepared which indicates height, setbacks, resultant site coverage (both building and basement). This should be schematic but of sufficient detail to understand the relationship between the subject application and the isolated site and the likely impacts the developments will have on each other, particularly solar access and privacy impacts for residential development and the traffic impacts of separate driveways if the development is on a main road.

  The subject application may need to be amended, such as by a further setback than the minimum in the planning controls, or the development potential of both sites reduced to enable reasonable development of the isolated site to occur while maintaining the amenity of both developments.

The subject lot, 7 Park Street, has dimensions of 15.285m (width) x 45.11m (length) and an approximate area of 689.5m². The site width dictates that development for the purposes of multi dwelling housing or residential flat building would require a variation to the minimum site width development standard (Clause 7.14 of the WLEP 2009).

The applicant has provided a concept plan (envelope) for the development of 7 Park Street for the purposes of a four-storey dual occupancy development with basement parking and approximate floor space ratio of 0.95:1. The anticipated height is likely to be between 11 - 14m.

The concept layout is oriented to the north, away from the proposed RFB, minimising privacy impacts on the concept dual occupancy. Furthermore, the concept development is located to the north of the development site, therefore solar access will not be compromised. In summary, the amenity of the concept dual occupancy will not be compromised by the proposed RFB.

A review of the relevant WLEP 2009 and WDCP 2009 controls suggests any substantive development of 7 Park Street will require some variation to WDCP 2009 setback controls. Otherwise, the concept plan appears to be generally compliant.

Whilst the concept plan would result in a development that does not achieve the extent of height or floor space ratio permitted by WLEP 2009 development standards, the land use and built form would

be consistent with the scale and variety of development in the locality. Furthermore, it is noted the zone objectives and land use table for the subject R1 General Residential zone do encourage a variety of housing types and densities. This form of development is generally consistent with the planning controls.

It has been demonstrated that reasonable development of 7 Park Street may be achieved.

2. **Reduction in the GFA to comply with the maximum permissible FSR. In the Panels view, the 'zen gardens' do constitute GFA.**

The 'zen gardens' have been removed and the area has now been adapted to contain services with a 1.1m high translucent balustrade. Minor layout changes have also been made across levels 4 – 8, reducing GFA. The amended design is compliant with the required 1.5:1 FSR.

3. **Review the design to remove elements which add to the extent of overshadowing of 13 Park Street. This may involve removal of elements fronting Park Street and increasing the rear setback. It may also involve increasing height but reducing the footprint to improve the solar access to the south.**

The building envelope has been altered from generally rectangular to a trapezium type shape on levels 4 - 8. Eastern edge angled and southern elevation shorter than northern elevation. Several balconies have also been reduced on the eastern elevation. A balcony has been extended along the eastern elevation of level 3, the balustrade (and potentially required privacy screen) would have additional overshadowing impacts to the south.

The roof feature and entry awning have both been reduced, increasing solar access.

With the exception of the level 3 balcony, the amendments have enabled somewhat increased solar access to the adjoining property to the south.

Revised shadow diagrams have been provided demonstrating solar access provided to windows of living or POS areas of 13 Park Street, as follows:

- Unit 1: 2 hours 1pm – 3pm (and beyond 3pm)
- Unit 2: 2 hours 8am - 9am and 3pm – 4pm (and beyond 4pm)
- Unit 3: 3 hours 8am – 11am
- Unit 4: 3 hours 9am – 12pm

The Design Criteria and Objectives 3B-2 & 4A-1 of the ADG requires that Solar access to living rooms, balconies and private open spaces of neighbours should be considered, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter and a maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.

75% (3 of 4) of the dwellings located at 13 Park Street will receive at least 2 hours solar access between 9am and 3pm on the winter solstice.

One unit (Unit 3) or 25% of total units, will only receive solar access before 9am and after 4pm.

As part of assessing overshadowing impact, the relevant Planning Principle on solar access is *The Benevolent Society v Waverly Council* [2010] NSWLEC 1082. The Principles includes the following:

- *The ease with which sunlight access can be protected is inversely proportional to the density of development. At low densities, there is a reasonable expectation that a dwelling and some of its open space will retain its existing sunlight. (However, even at low densities there are sites and buildings that are highly vulnerable to being overshadowed.) At higher densities sunlight is harder to protect and the claim to retain it is not as strong.*

The WLEP 2009 permits a building height of 32m and an FSR of 1.5:1. Having regard to development potential provided by the permitted land uses and development standards, this anticipated scale of

development would result in a significant increase in density to that which is existing at the subject site, with commensurate impact on solar access.

- *The amount of sunlight lost should be taken into account, as well as the amount of sunlight retained. Overshadowing arising out of poor design is not acceptable, even if it satisfies numerical guidelines. The poor quality of a proposal's design may be demonstrated by a more sensitive design that achieves the same amenity without substantial additional cost, while reducing the impact on neighbours*

A reduced scale of development on this site would likely have a similar overshadowing impact to the adjoining properties due the east / west orientation of the site.

There is a significant degree of sunlight lost as a result of this development. However, this is not directly a result of poor design as the development is situated over 2 parcels of land and complies with required setback distances (subject to minor amendment). Modulating the building further with increased setbacks at upper levels would not significantly reduce the amount of overshadowing impact to the neighbouring development.

- *For a window, door or glass wall to be assessed as being in sunlight, regard should be had not only to the proportion of the glazed area in sunlight but also to the size of the glazed area itself. Strict mathematical formulae are not always an appropriate measure of solar amenity. For larger glazed areas, adequate solar amenity in the built space behind may be achieved by the sun falling on comparatively modest portions of the glazed area.*

Hourly shadow diagrams have been submitted with the application showing the impact on the north facing windows and POS areas of the adjoining property to the south. Which is adequate to consider the impact on solar access.

- *For private open space to be assessed as receiving adequate sunlight, regard should be had of the size of the open space and the amount of it receiving sunlight. Self-evidently, the smaller the open space, the greater the proportion of it requiring sunlight for it to have adequate solar amenity. A useable strip adjoining the living area in sunlight usually provides better solar amenity, depending on the size of the space. The amount of sunlight on private open space should ordinarily be measured at ground level but regard should be had to the size of the space as, in a smaller private open space, sunlight falling on seated residents may be adequate.*

The affected units contain substantial terrace areas supplemented by balconies, all of which are partially, or fully impacted during parts of the day (winter solstice).

- *Overshadowing by fences, roof overhangs and changes in level should be taken into consideration. Overshadowing by vegetation should be ignored, except that vegetation may be taken into account in a qualitative way, in particular dense hedges that appear like a solid fence.*

There is some overshadowing impact by fences, roof overhangs or vegetation. However, overshadowing will be substantially due to the proposed development.

- *In areas undergoing change, the impact on what is likely to be built on adjoining sites should be considered as well as the existing development.*

The site is situated in an expansive R1 General Residential zone with the surrounding locale benefitting from similar height and FSR controls. Similar scale development has occurred throughout the area and is to be expected in the future, with similar solar access impacts.

<u>Conclusion:</u>

It is recommended the extended balcony on eastern elevation of level 3 be redesigned so that no increase in overshadowing will result. It is noted that due to privacy impacts to the south, a privacy screen would be required on the edge of the balcony, which would in turn increase overshadowing.

Subject to this redesign, considering the amendments made to the building design to increase solar access, ADG requirements and direction from the Planning Principle, the proposal has satisfied the requirement from the Panel.

4. Retain the trees in the rear and integrate them into the landscaped design.

The existing trees to the rear of the site are proposed be retained and integrated into the landscape design.

Council's Landscape Architect advised that the retention of tree 5 (*Araucaria columnaris*) is not supported due to the major encroachment of 35% extending into the structural root zone. Council's Landscape Architect advised that suitable compensatory planting would achieve a better long-term outcome and the removal was found to be acceptable.

In order to achieve a level of encroachment that would accommodate the current and future root zone of the tree a redesign of the basement level would be required. Should a redesign be pursued, it is noted that given that 2 excess parking spaces are proposed and the basement area impacting the root zone is storage area.

5. Address the outstanding matters raised by the design excellence panel.

The outstanding issues raised by the Design Review Panel from their meeting dated 22 January 2020 are listed below:

i. Ground interface and expression of first two levels. Setting back and unifying the two lower levels, might allow a more generous engagement with streetscape, entry and front garden. Propose a material that is more consistent with the existing streetscape (masonry or render for example) and is less likely to be "value managed" down to an inferior product.

The feature awning that previously extended into the front setback has been significantly reduced.

Materials have been amended to be more consistent with the streetscape (e.g. render) and natural wood elements have been replaced with engineered components of similar aesthetic value.

ii. Northern basement levels and retaining walls along the northern elevation and interface with northern boundary. Adjacent levels are no higher than absolutely necessary, as well as to maximise the functionality of the communal open space.

North western edge of podium has been terraced and now complies with ADG and WDCP 2009 requirements. Communal open space (COS) functionality is not compromised by change in levels.

iii. Southern building Setbacks and Separation above four storeys, bedrooms encroach into required setback need to comply.

The amended proposal still includes setback encroachments at levels 5, 6 and 7, affecting the southern elevation and relationship with development to south.

The encroaching elements include bathrooms and bedrooms, encroaching up to 2m (7m setback). The bathrooms include high sill windows on this elevation.

It is recommended that design changes are implemented to resolve ADG setback encroachments.

iv. Excessive glazing and associated impacts to north and east. Introduce solid spandrels to elevations.

Impact of glazing has been somewhat reduced by incorporation of operable louvers on northern elevation.

Glass Balustrades are a combination of opaque glass or translucent privacy glass, addressing the privacy impacts somewhat.

The elevations incorporate a variety of quality materials including solid elements.

v. Sensitively incorporate boosters, substation and other required services.

A booster valve enclosure feature has been provided. There is a proposed substation within front setback (northern section), which does not appear to be screened or treated sensitively. It is recommended that the satisfactory treatment of the proposed substation is achieved.

6. Reconsider the materiality and aesthetics of the design to create a softer "residential" feel. The large expanse of dark cladding should be reduced (up to Level 6) so that the upper levels are lighter elements and the cladding broken up.

Building exteriors have been revised to reduce, redistribute and lighten cladding. Colour scheme has been lightened generally.

7. The large expanse of full height, centrally located privacy screens along the northern elevation should be reduced in number and offset and broken up to reduce the visual dominance of this element.

Large sections of privacy screens on the northern elevation has been removed, reducing the visual dominance of this element.

8. Compliance with ADG separation distances.

The amended proposal still includes setback encroachments at levels 5, 6 and 7, affecting the southern elevation and relationship with development to south.

The encroaching elements include bathrooms and bedrooms, encroaching up to 2m (7m setback). The bathrooms include high sill windows on this elevation.

The northern elevation includes minor (1m) encroachments at levels 5, 6 and 7. However, these are of a lesser area.

It is recommended that design changes are implemented to resolve ADG setback encroachments.

8. CONCLUSION

The amended application has been assessed as satisfactory having regard to Section 4.15(1) of the Environmental Planning and Assessment Act 1979, the provisions of Wollongong Local Environmental Plan 2009 and all relevant Council DCPs, Codes and Policies.

Potential lot isolation has been adequately addressed through correspondence offering to purchase the adjoining site and a property valuation. The applicant has submitted plans showing potential future development options on the adjoining site. The considerations under established legal precedent have been explored and are satisfactory.

Public submissions have been considered and form part of Council's assessment and referrals are satisfactory. The recommendations of the Design Review Panel have generally been adopted in the revised plans and matters raised by the Panel can be satisfactorily resolved.

9. RECOMMENDATION

It is recommended that; the amended application be approved subject to the following:

i. Amended design to remove ADG setback encroachments,

ii. Amended design to reduce overshadowing and privacy impacts attributed to extended balcony on eastern elevation of level 3,

iii. Amended landscape plan to satisfactory treat the proposed substation, and

iv. An updated BASIX certificate is provided for the amended design.

10. ATTACHMENTS

1 Aerial photograph & WLEP 2009 Zoning map

2 Plans

3 Arboricultural Report

4 Applicant Response to matters raised by WLPP

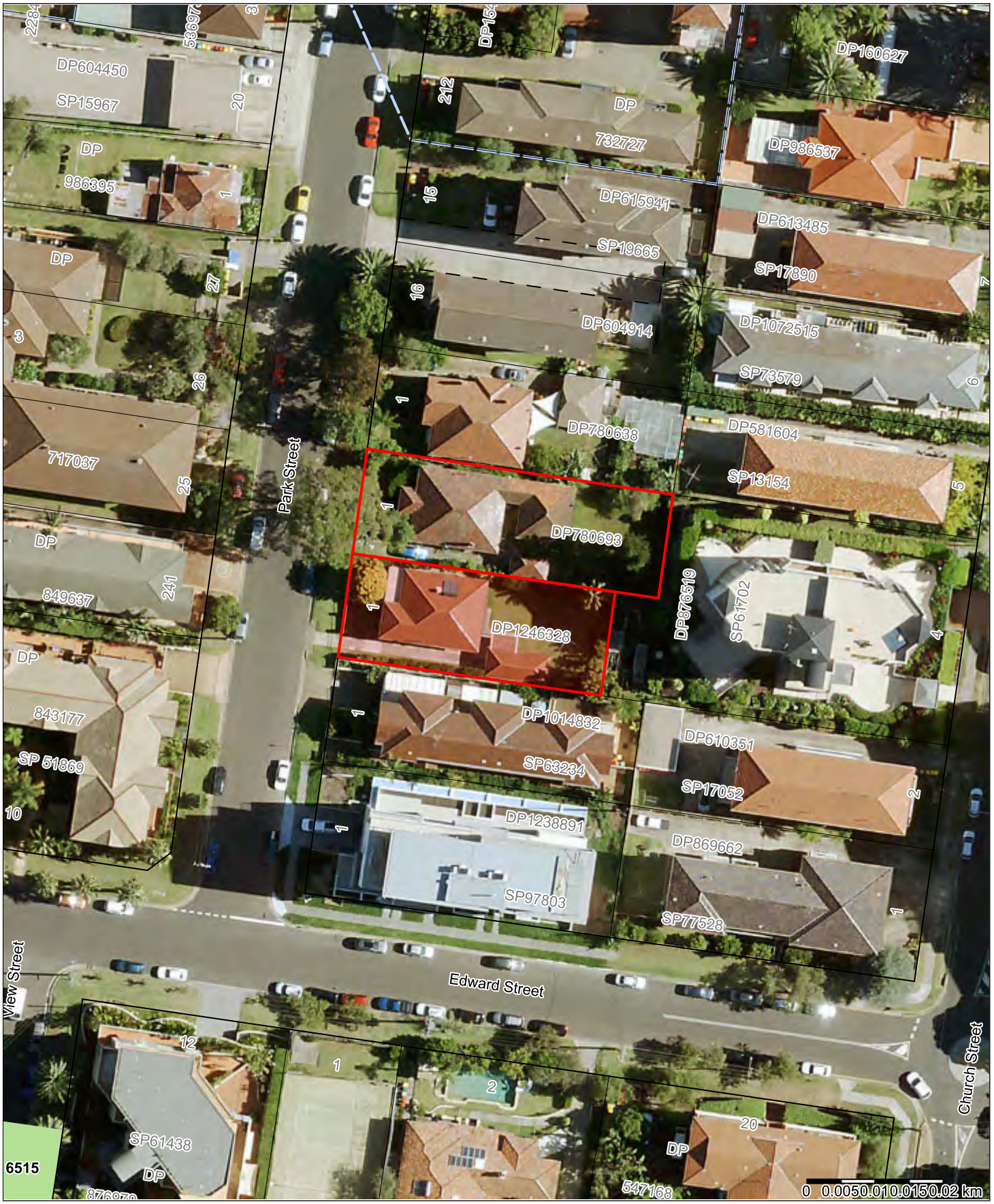
5 Design Review Panel meeting notes

6 Council report to WLPP of 1 September 2020 (Link to previous report)

7 WLPP determination and statement of reasons dated 1 September 2020

8 Draft conditions of consent

Click on line above for link to previous report



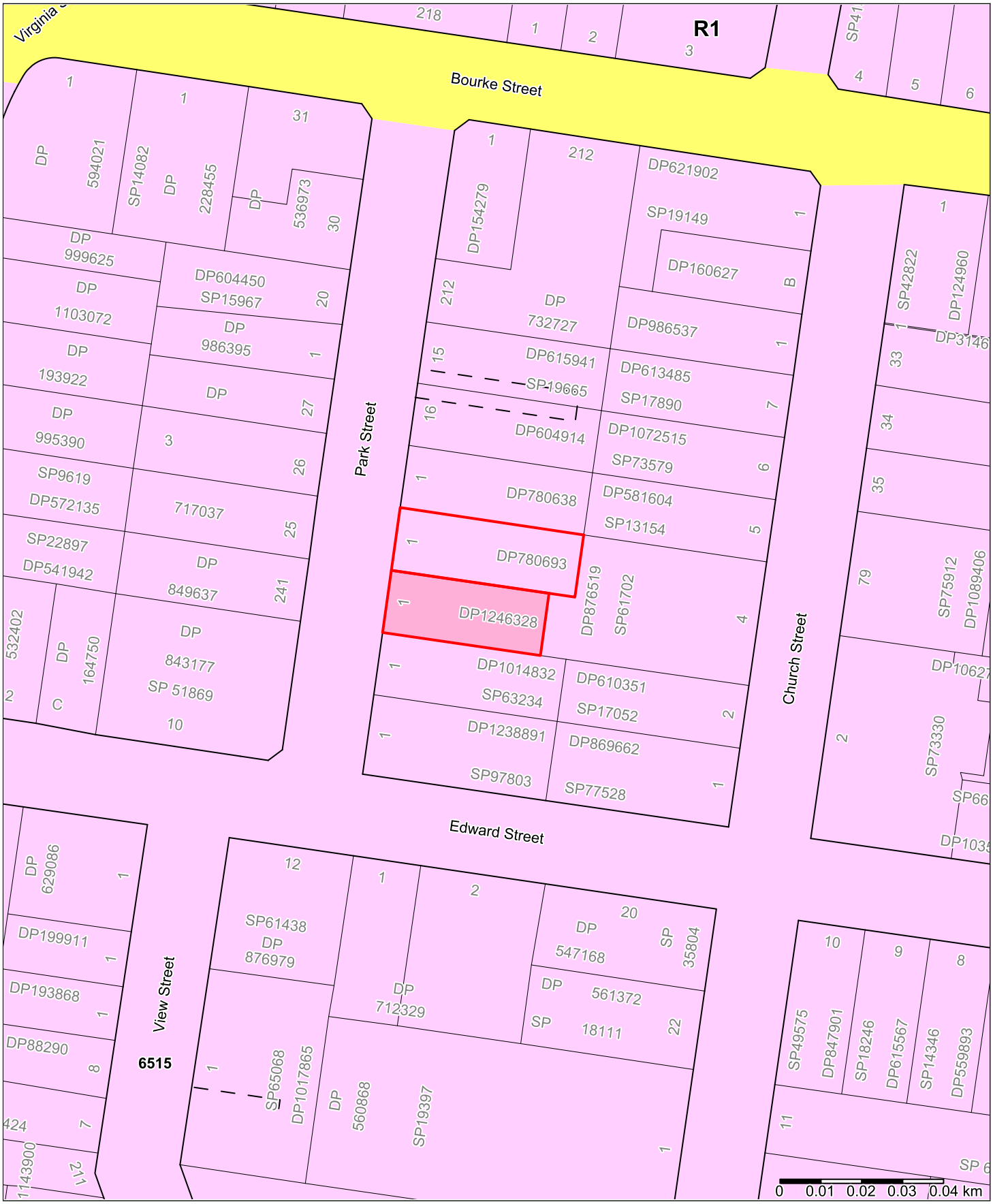
wollongong
city of innovation

Aerial Photograph

N

Original Sheet Size A4

FOR INTERNAL USE ONLY
Printed: 26/10/2020
Printed By: Martin Jameson
This automated map was produced using TechnologyOne's IntraMaps.



Wollongong LEP 2009 Zone Map

wollongong
city of innovation

N

Original Sheet
Size A4

FOR INTERNAL USE ONLY

Printed: 26/10/2020

Printed By: Martin Jameson

This automated map was produced using TechnologyOne's IntraMaps.

Drawing List					
Sheet Number	Current Revision	Sheet Name	Prepared By	Revsion Date	Approved
DA-00	G	TITLE SHEET	DC	29.09.2020	PR
DA-01	E	SURVEY DEMOLITION PLAN	DC	29.09.2020	PR
DA-02	E	SITE ANALYSIS	DC	29.09.2020	PR
DA-03	F	SITE PLAN	DC	29.09.2020	PR
DA-04	D	BASEMENT B2	DC	23.06.2020	PR
DA-05	E	BASEMENT B1	DC	29.09.2020	PR
DA-06	F	LEVEL 1 FLOOR PLAN	DC	29.09.2020	PR
DA-07	E	LEVEL 2 FLOOR PLAN	DC	29.09.2020	PR
DA-08	E	LEVEL 3 FLOOR PLAN	DC	29.09.2020	PR
DA-09	E	LEVEL 4 FLOOR PLAN	DC	29.09.2020	PR
DA-09a	A	LEVEL 5-6 FLOOR PLAN	DC	29.09.2020	PR
DA-10	E	LEVEL 7 FLOOR PLAN	DC	29.09.2020	PR
DA-11	E	LEVEL 8 FLOOR PLAN	DC	29.09.2020	PR
DA-12	E	WEST ELEVATION	DC	29.09.2020	PR
DA-12a	A	NORTH ELEVATION	DC	29.09.2020	PR
DA-13	E	EAST ELEVATION	DC	29.09.2020	PR
DA-13a	A	SOUTH ELEVATION	DC	29.09.2020	PR
DA-14	E	SECTION	DC	29.09.2020	PR
DA-15	D	SECTION	DC	29.09.2020	PR
DA-16	E	STREET CONTEXT SECTION	DC	29.09.2020	PR
DA-17	E	3D PERSPECTIVES	DC	29.09.2020	PR
DA-18	E	3D PERSPECTIVES	DC	29.09.2020	PR
DA-19	F	SHADOW DIAGRAMS- WINTER SOLSTICE	DC	29.09.2020	PR
DA-20	G	SHADOW DIAGRAMS- WINTER SOLSTICE	DC	29.09.2020	PR
DA-21	G	SHADOW DIAGRAMS- SUMMER SOLSTICE	DC	29.09.2020	PR
DA-22	G	WINTER SOLSTICE SHADOWS TO 13 PARK STREET	DC	29.09.2020	PR
DA-25	E	AERIAL 3D PERSPECTIVES	DC	29.09.2020	PR
DA-26	D	PERSPECTIVES	DC	29.09.2020	PR
DA-27	E	FSR. CALCULATION	DC	29.09.2020	PR
DA-28	A	CONCEPT PLAN - 7 PARK STREET	DC	29.09.2020	PR
DA-29	A	CONCEPT PLAN - 7 PARK STREET	DC	29.09.2020	PR
DA-30	A	CONCEPT PLAN - 7 PARK STREET	DC	29.09.2020	PR

Thermal Comfort Specifications	
Glazing Doors/windows	Aluminium framed, single clear glazing **A** – awning windows + hinged glazed doors U-Value: 6.7 (equal to or lower than) SHGC: 0.57(±10%) **B** – sliding doors/windows + fixed glazing + louvres windows U-Value: 6.7 (equal to or lower than) SHGC: 0.70 (±10%) Aluminium framed, performance glazing to units 13 and 14. **A** – awning windows + hinged glazed doors U-Value: 4.50 (equal to or lower than) SHGC: 0.51 (±10%) **B** – sliding doors/windows + fixed glazing + louvres windows U-Value: 4.8 (equal to or lower than) SHGC: 0.57 (±10%) Given values are AFRC, total window system values (glass and frame)
Roof	Concrete roof – no insulation required **External colour** Medium colour (0.475<SA<0.7)
Ceiling	Plasterboard ceiling R2.5 insulation (insulation only value) Note: All ceiling penetrations have been modelled in accordance with NatHERS protocols, all downlights are assume non-ventilated LED down lights IC abutted and covered.
External wall	**External walls:** Brick veneer with a minimum R2.0 insulation (insulation only value) Lightweight cladding with a minimum R2.0 insulation (insulation only value) Colour backed spandrel with a minimum R2.0 insulation (insulation only value) **External colour** Default colour modelled
Inter tenancy walls	Hebel power panels to walls between neighbours – no insulation required. Concrete to walls facing fire stairs and lift shafts – no insulation required Hebel power panels to walls facing hallways and lobbies– min. R1.2 required (insulation only value)
Walls with-in dwellings	Plasterboard on studs – no insulation required
Floors	Concrete between levels – no insulation required Suspended concrete with min R1.2 insulation to units above carpark or with open subfloor below
Floor coverings	Carpet to bedrooms and tiles elsewhere
BASIX Water Commitments	
Alternative Water	Rainwater tank with a minimum capacity of 3,000L, harvested from min. 200m² roof area and connected to at least one outdoor tap for irrigation of common landscaping. 242m2 native planting required.
BASIX Energy Commitments	
Hot Water System	Individual 6-stars gas instantaneous system to all units
Alternative Energy	Not required

9-11 PARK STREET
PROPOSED APARTMENT BUILDING

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	SITE INFORMATION UPDATED	07.07.2020	DC
F	BASIX SUMMARY UPDATE	20.08.2020	DC
G	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

Site Information

9-11 Park Street, Wollongong
Lot 1, DP 780693 &
Lot 1, DP 1246328

Zone R1
Site Area- 1268m
1.5 FSR (Compliant)
32m height limit (Compliant)

Max GFA 1902m²

Floor Areas

L1: 305.9m²
L2: 229.9m²
L3: 229.9m²
L4-6: 753.6m² (251.2m² x3)
L7: 233.5m²
L8: 111m²
Total: 1863.8m²

+2 Excess Car Parking Spaces (27.5m²)

Total :1891.3m²
(2 excess car parking spaces included)

UNIT FLOOR AREA:

UNIT 1 : 131.3m²
UNIT 2 : 145.5m²
UNIT 3 : 83.2m²(adaptable)
UNIT 4 : 131.3m²
UNIT 5 : 83.2m²(adaptable)
UNIT 6 : 131.3m²
UNIT 7 : 126m²
UNIT 8 : 116m²
UNIT 9 : 120m²
UNIT 10 : 116m²
UNIT 11 : 120m²
UNIT 12 : 116m²
UNIT 13 : 161.4m² (110m² + 51.4m²)
UNIT 14 : 157.5m² (108m² + 49.5m²)

Communal Open Space, Landscape Area & Deep Soil Zone - REFER TO LANDSCAPE PLAN

Refer to Traffic report & Landscape plan

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 5699 F: 4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

2/10/2020 9:24:49 AM

PROPOSED APARTMENT BUILDING
Project Address

MORETTI CONSTRUCTION 18-60

TITLE SHEET

DA-00 -G

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	DELETE PV SYSTEM REQUIREMENT	20.08.2020	DC
F	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

7 PARK STREET
BRINCK AND
WEATHERBOARD
RESIDENCE

DP780638

DP1246

STREET

SP61702

TPZ

SRZ

R 8800

R 2900

4m setback

6m setback

9m setback

EXIT PATH FROM BASEMENT

LEVEL 1 PLANTER

LEVEL 1
UNIT 1 POS

LEVEL 1
COMMUNAL OPEN
SPACE

LANDSCAPE DESIGN SEE
LANDSCAPE PLAN

LEVEL 3 BALCONY

LEVEL 8 PLANTER

LEVEL 8 TERRACE

PLANTER TO
LANDSCAPE
PLAN

LEVEL 4 BALC.

LEVEL 3 BALC.

DEEP SOIL ZONE
REFER TO LANDSCAPE PLAN

PONTENTIAL PV
SYSTEM LOCATION
IF REQUIRED

LIFT OVERRUN

CONCRETE ROOF TO
ENGINEERS FUTURE DETAIL

LEVEL 8 ROOF

LEVEL 8
FEATURE ROOF

LEVEL 8 PLANTER

LEVEL 4

LEVEL 3

LEVEL 6 ROOF

LEVEL 3 SERVICE
BALCONY

ENTRY PATH

BASEMENT ENTRY
RAMP

LEVEL 1 COMMUNAL
OPEN SPACE

LANDSCAPE

SETOUT POINT

SETBACK

9530

6910

1D225

1500

4125

SETBACK (Varies)

11725

SETBACK (VARIES) TO LEVEL 2 & 3 BALCONY

13125

SETBACK (VARIES) TO LEVEL 4 BALCONY

20745

(BUILING SEPARATION VARIES)

6130

98° 18'

7° Available

98° 18' 35"
6.2

7° 51' 10"
0.36

7° 51' 10"
15.24

14.875° Available

6° 40' 05"

Concrete Footpath

No. 09
W/Board

No.11
Brick
Cottage
Tile Roof

13 PARK STREET, 2
STOREY BRICK
APARTMENT
DEVELOPMENT

THE HORIZONS
14-16 CHURCH STREET
WOLLONGONG
6 STOREY APARTMENT
BUILDING

NOTE:
GENERAL AMENDMENT ACCORDING
TO DRP/ WLPP REQUIREMENTS.

1:100 @ A1 1:200 @ A3

2/10/2020 10:26:44 AM

PROPOSED APARTMENT BUILDING

Project Address

SITE PLAN

MORETTI CONSTRUCTION 18-60

DA-03 -F

PRD ARCHITECTS

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

5 PARK STREET
4 STOREY BRICK APARTMENTS

10 CHURCH STREET
3 STOREY RENDERED APARTMENTS

7 PARK STREET
SINGLE STOREY BRICK RESIDENCE

VIEW TO STUART PARK/ PUCKEYS ESTATE

NORTH-EAST BREEZES

12 CHURCH STREET
2 STOREY BRICK APARTMENTS

WINTER SUN PATH

VIEW TO ESCARPMENT

WINTER SUN PATH

VIEW TO NORTH WOLLONGONG BEACH

SUMMER SUN PATH

6-10 PARK STREET
3 STOREY BRICK APARTMENTS

Park Street

PROPOSED 9-11 PARK STREET APARTMENT BUILDING

VIEW TO MT KEIRA

14 CHURCH STREET
THE HORIZONS APARTMENTS
6 STOREY RENDERED BUILDING

LIVING AND BALCONIES ORIENTED NORTH AND NORTH-EAST

Church St

CHURCH STREET

SUMMER SUN PATH

Views South/West Past Proposed Building

BEDROOMS ON PLAN

12 PARK STREET
2 STOREY BRICK APARTMENTS

PARK STREET

PREVAILING WINTER WINDS

13 PARK STREET
2 STOREY RENDERED APARTMENTS

RL 29.518

18 CHURCH STREET
3 STOREY BRICK APARTMENTS

14 PARK STREET
3 STOREY BRICK APARTMENTS

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

15 PARK STREET
5 STOREY RENDERED APARTMENTS

20 CHURCH STREET
3 STOREY BRICK APARTMENTS

EDWARD STREET

Edward Street

Edward Street

BACKGROUND SATELLITE IMAGE APPROXIMATE ONLY AND DISTORTED BY IMAGE ANGLE

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

Suite 3
79 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:00:47 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

SITE ANALYSIS

DA-02 -E

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

SP73579

1
DP780638

1
DP780693
678m²
Available

1
DP1246
590m²

SP61702

SP632234

DP12463

STREE

WEATHERBOARD COTTAGE TO BE DEMOLISHED

BRICK COTTAGE TO BE DEMOLISHED

RETAIN EXISTING TREE

REMOVE EXISTING TREE

REMOVE EXISTING TREE

CONCRETE DRIVEWAYS AND PATHS TO BE DEMOLISHED

CONCRETE DRIVEWAYS AND PATHS TO BE DEMOLISHED

SHED TO BE DEMOLISHED

SHED TO BE DEMOLISHED

RETAIN EXISTING TREES TO INTEGRATE WITH LANDSCAPE DESIGN (REFER TO ARBORIST REPORT AND LANDSCAPE PLAN)

RETAIN EXISTING TREES TO INTEGRATE WITH LANDSCAPE DESIGN

NOTE: READ IN CONJUNCTION WITH LANDSACPE PLAN AND ARBORIST REPORT.

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

1 0.5 0 1 4

1:50 @ A1 1:100 @ A3

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

SURVEY DEMOLITION PLAN DA-01 -E

Suite 3
79 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

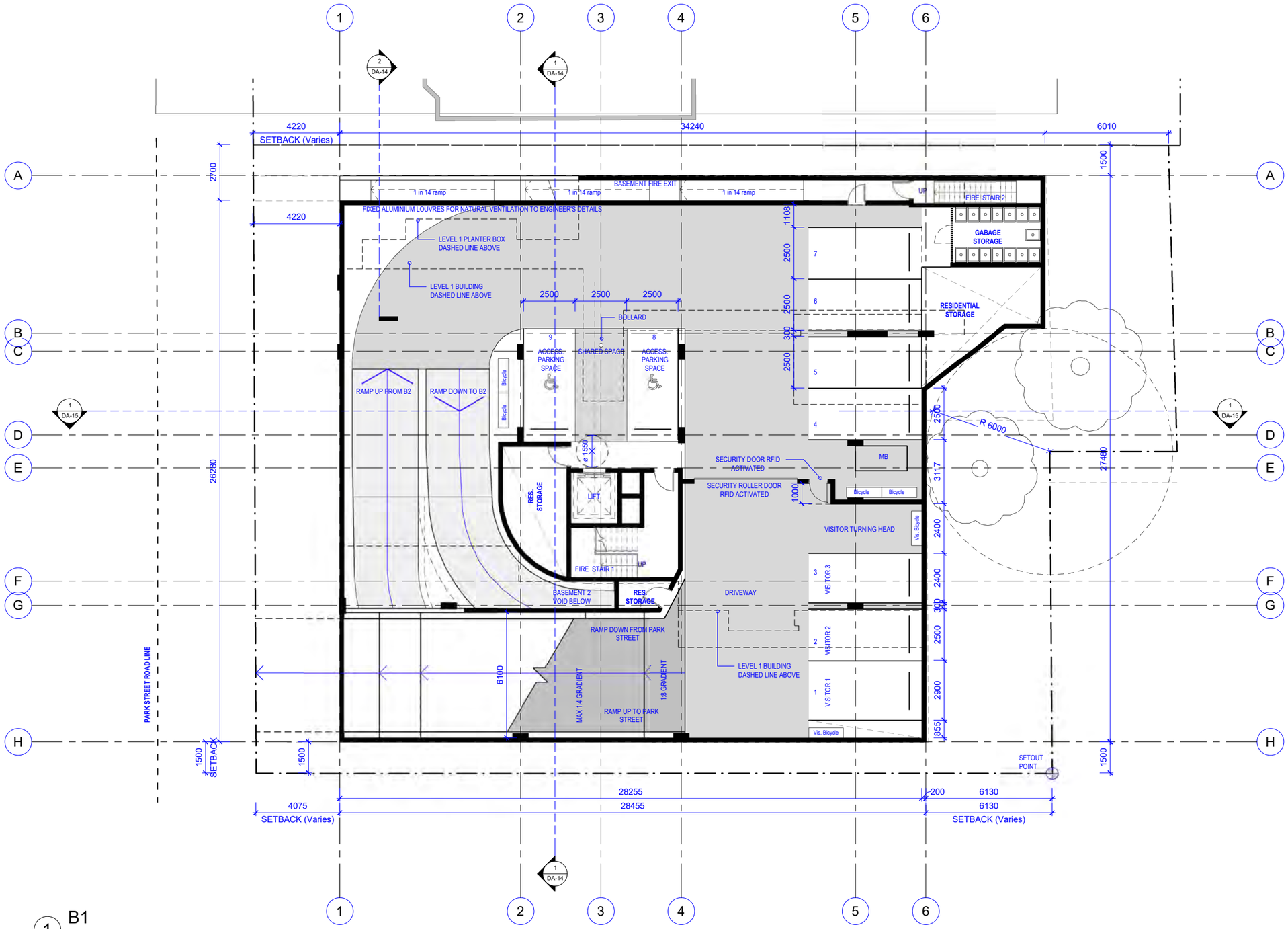
1/10/2020 2:00:35 PM

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



CAR PARK INFORMATION

Basement 1
Resident Car Spaces =9
(including 2 access parkings)
Resident Motorbike =1
Resident Bicyles =4
Visitors Bicyles =2

Basement 2
Resident Car Spaces =13 (including 2 excess parkings)
Resident Bicyles =1

Total parking spaces 22 (including 2 excess parkings)
Total Bicycles 7 (including 2 visitor bicycles)
Total Motorbike 1

Note:See Traffic Report

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

1 B1

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

BASEMENT B1

DA-05 -E

Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

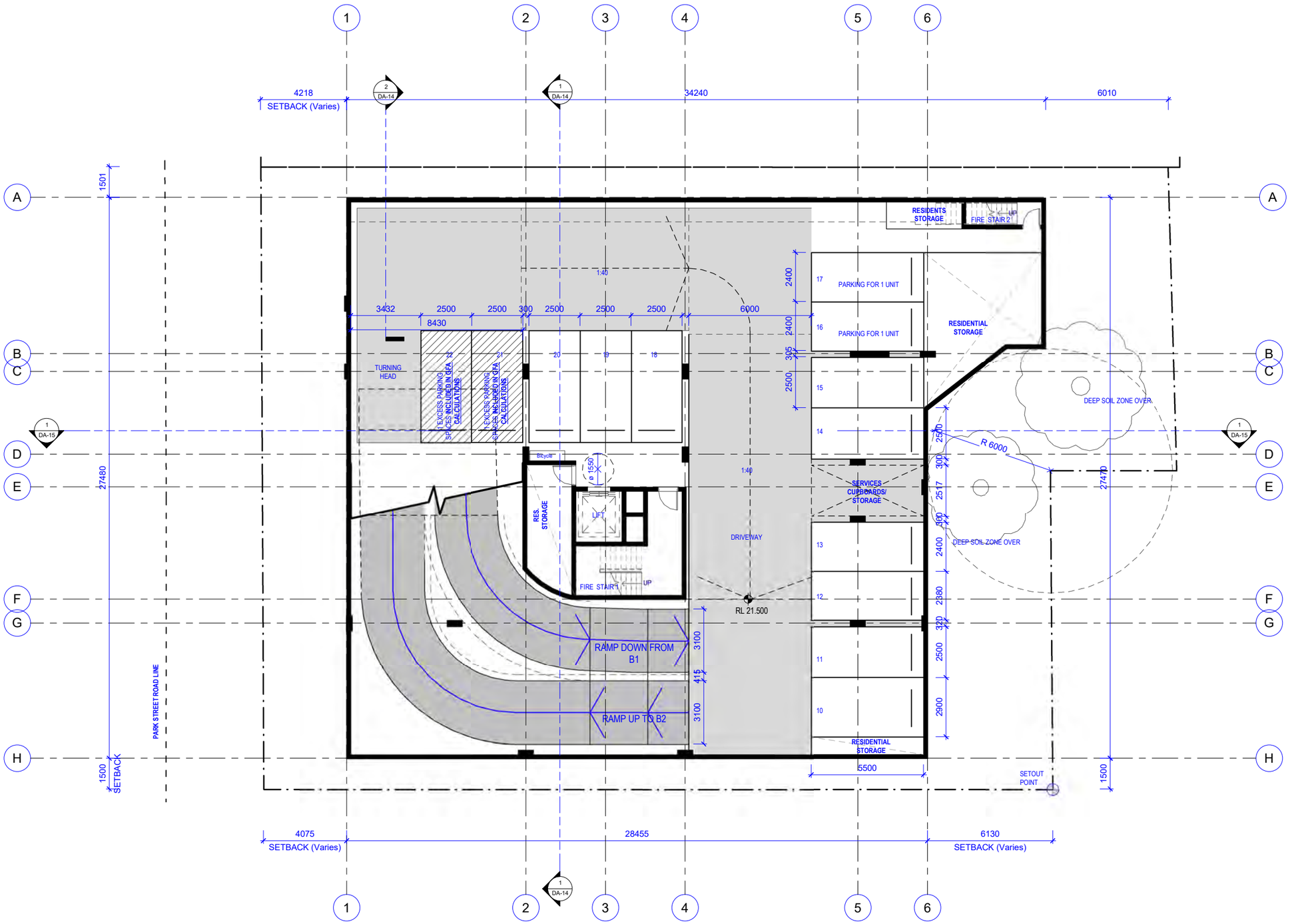
1/10/2020 2:01:16 PM

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC



CAR PARK INFORMATION

Basement 1
Resident Car Spaces =9
(including 2 access parkings)
Resident Motorbike =1
Resident Bicyles =4
Visitors Bicyles =2

Basement 2
Resident Car Spaces =13 (including 2 excess parkings)
Resident Bicyles =1

Total parking spaces 22 (including 2 excess parkings)
Total Bicycles 7 (including 2 visitor bicycles)
Total Motorbike 1

Note:See Traffic Report

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

1 B2

PROPOSED APARTMENT BUILDING

Project Address

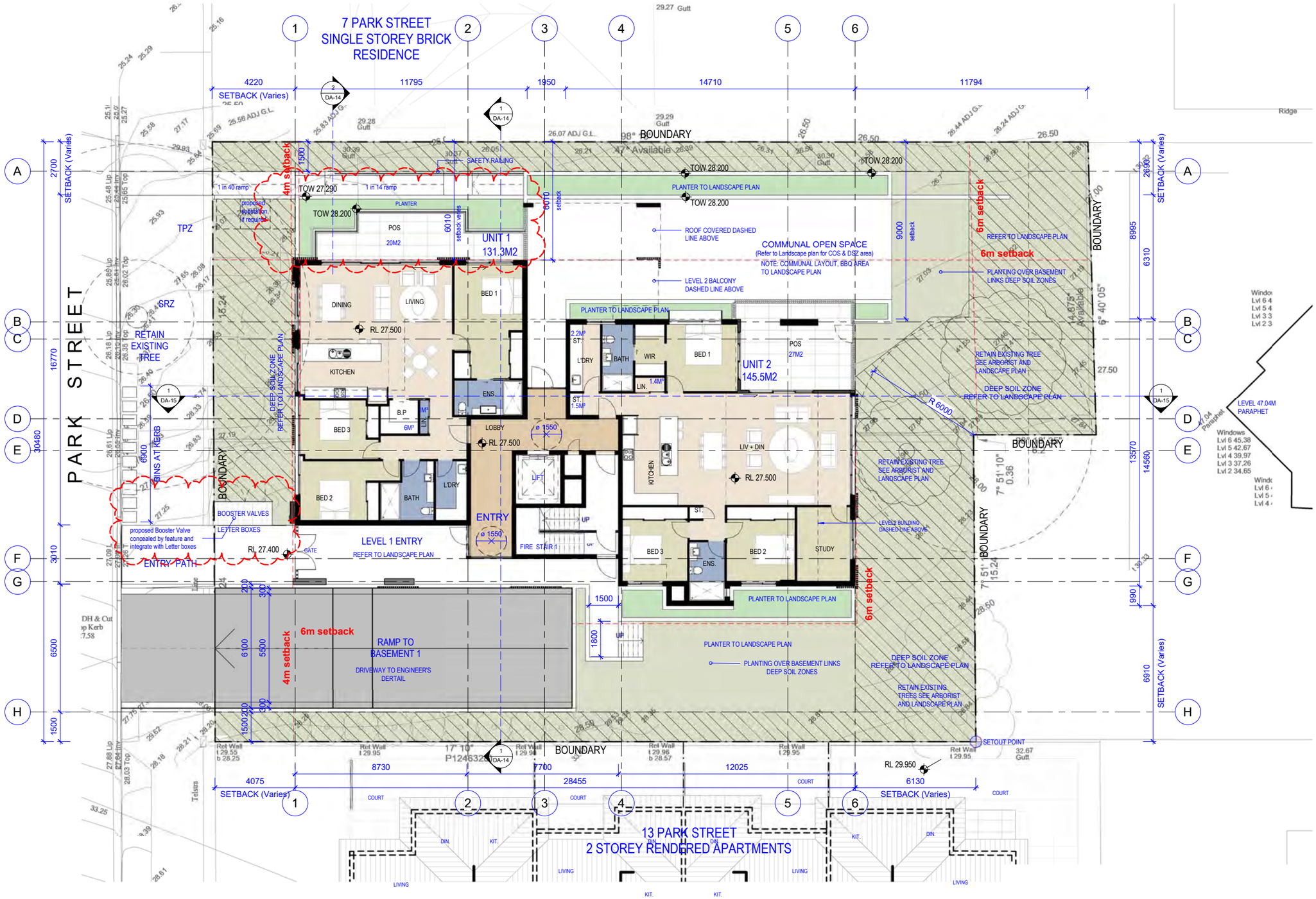
MORETTI CONSTRUCTION 18-60

BASEMENT B2

DA-04 -D

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:01:11 PM



1 L1
1 : 100

Do not scale drawing, figured dimensions only to be used. Dimensions to be verified on site before the fabrication of any building components. These designs & plans are copyright & are not to be used or reproduced wholly or in part without the written permission of P.R.D Architects.

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	SITE INFORMATION UPDATED	07.07.2020	DC
F	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

Site Information

9-11 Park Street, Wollongong
Lot 1, DP 780693 &
Lot 1, DP 1246328

Zone R1
Site Area- 1268m
1.5 FSR (Compliant)
32m height limit (Compliant)

Max GFA 1902m²

Floor Areas

L1: 305.9m²
L2: 229.9m²
L3: 229.9m²
L4-6: 753.6m² (251.2m² x3)
L7: 233.5m²
L8: 111m²
Total :1863.8m²

+2 Excess Car Parking Spaces (27.5m²)

Total :1891.3m²
(2 excess car parking spaces included)

UNIT FLOOR AREA:

UNIT 1 : 131.3m²
UNIT 2 : 145.5m²
UNIT 3 : 83.2m²(adaptable)
UNIT 4 : 131.3m²
UNIT 5 :83.2m²(adaptable)
UNIT 6 :131.3m²
UNIT 7 :120m²
UNIT 8 :116m²
UNIT 9 :120m²
UNIT 10 :116m²
UNIT 11 :120m²
UNIT 12 :116m²
UNIT 13 : 161.4m² (110m² + 51.4m²)
UNIT 14 : 157.5m² (108m² + 49.5m²)

Communal Open Space, Landscape Area & Deep Soil Zone - REFER TO LANDSCAPE PLAN

Refer to Traffic report & Landscape plan

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

2/10/2020 10:27:16 AM

PROPOSED APARTMENT BUILDING
Project Address

MORETTI CONSTRUCTION 18-60

LEVEL 1 FLOOR PLAN

DA-06 -F

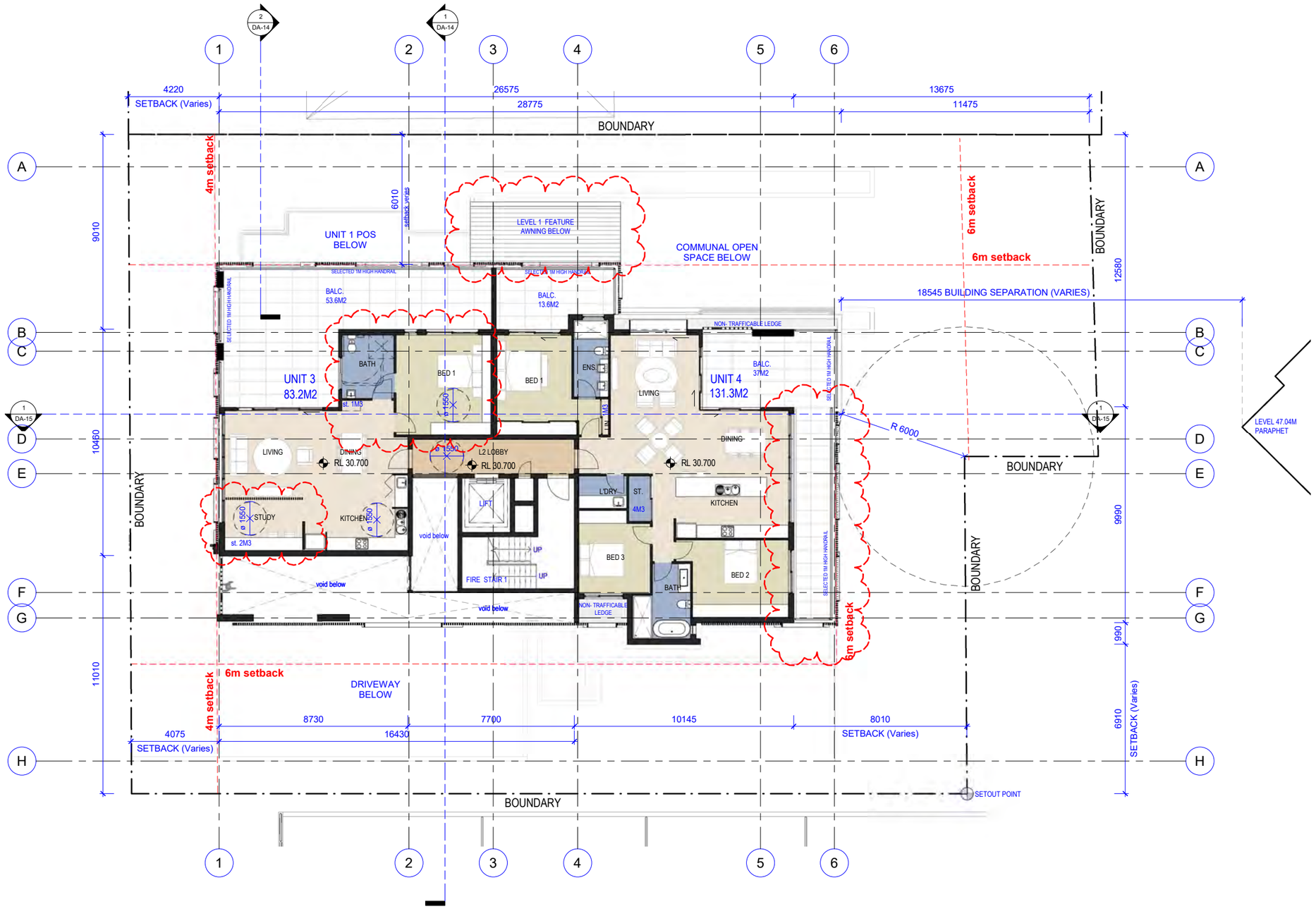
PRD ARCHITECTS
Suite 3
75 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

1 L2

1:100 @ A1 1:200 @ A3

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

LEVEL 2 FLOOR PLAN

DA-07 -E

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

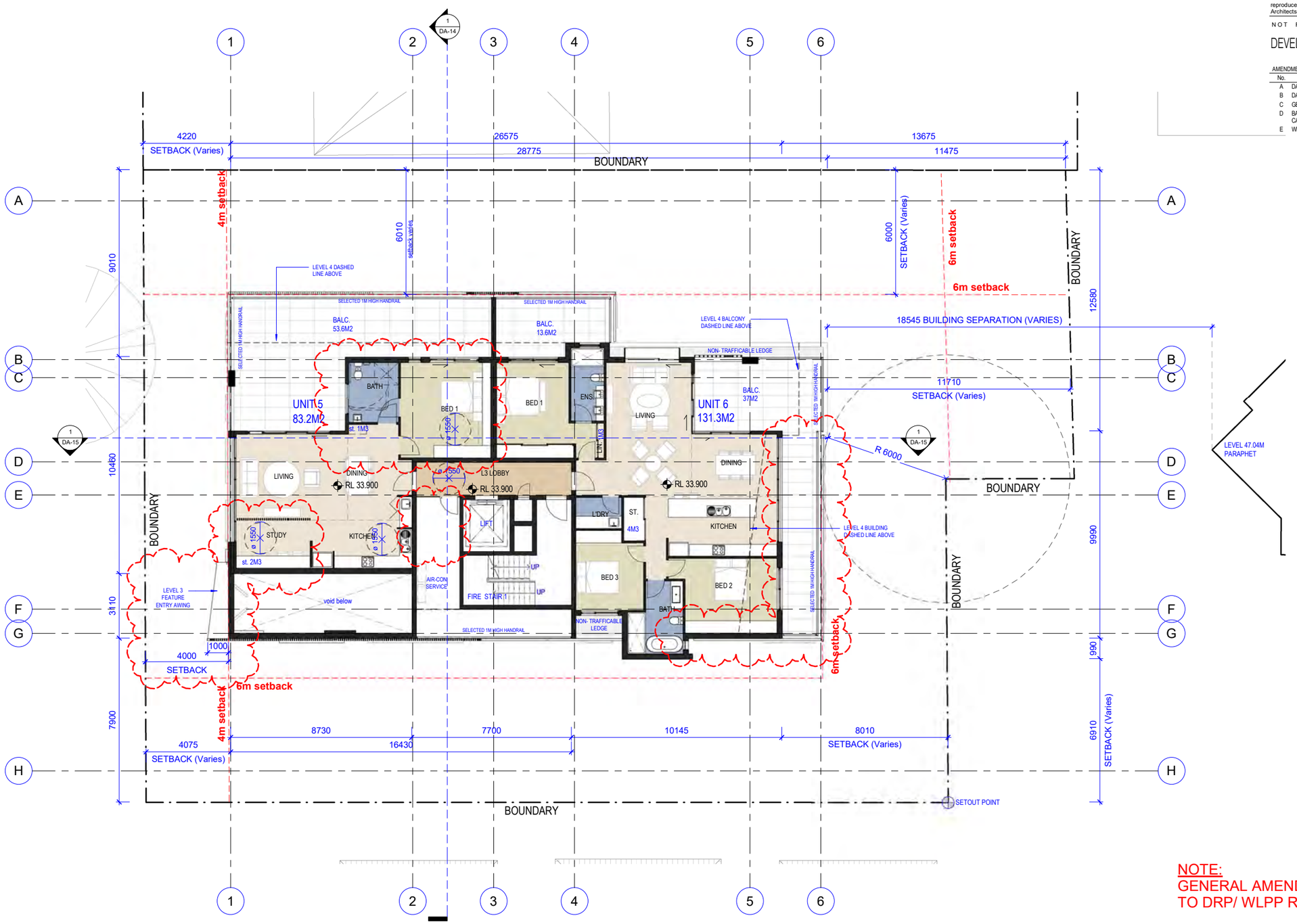
1/10/2020 2:02:07 PM

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

1 L3

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

1/10/2020 2:02:37 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

LEVEL 3 FLOOR PLAN

DA-08 -E

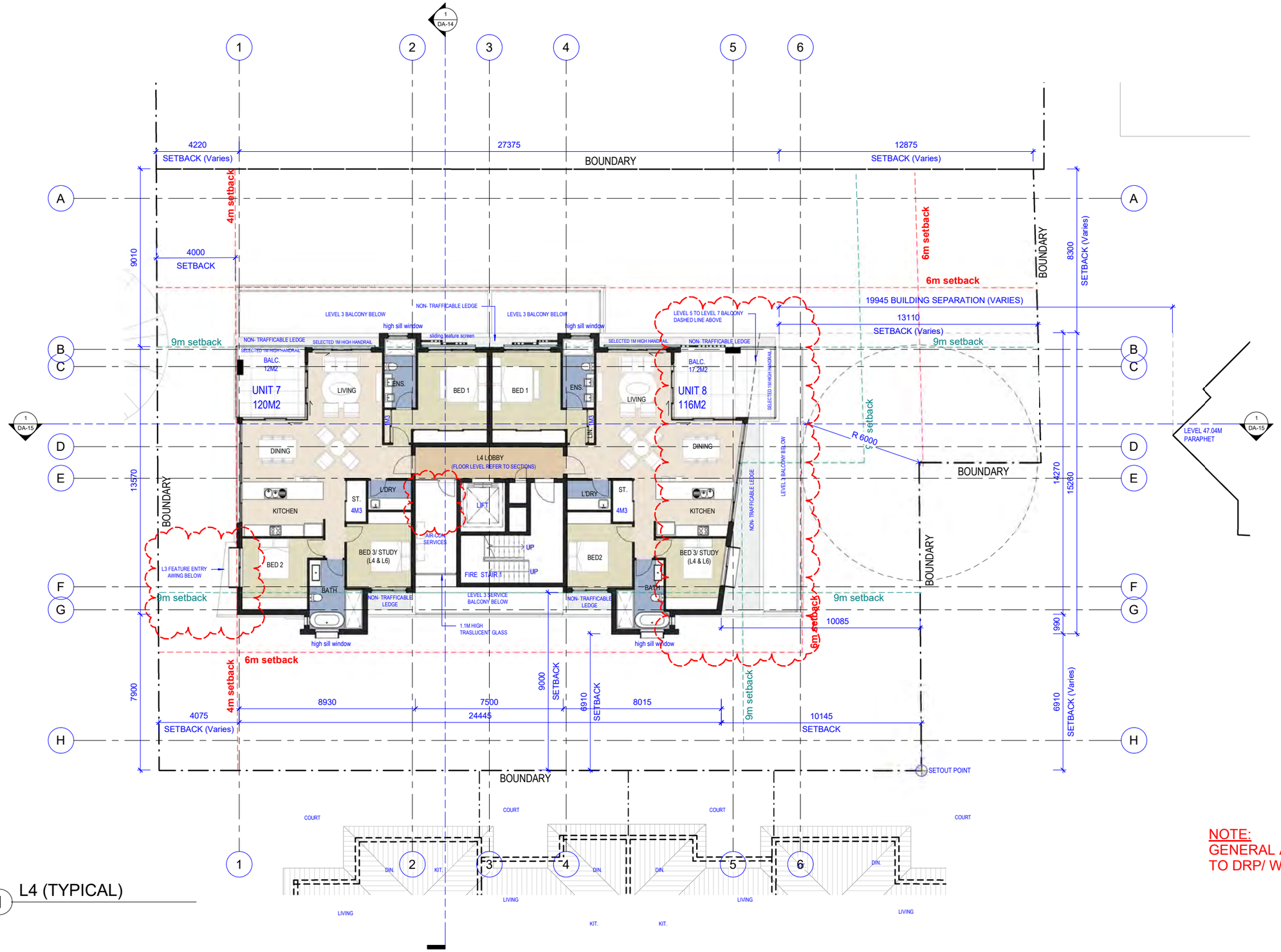
Suite 3
75 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



1 L4 (TYPICAL)

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

1/10/2020 2:03:02 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

LEVEL 4 FLOOR PLAN

DA-09 -E

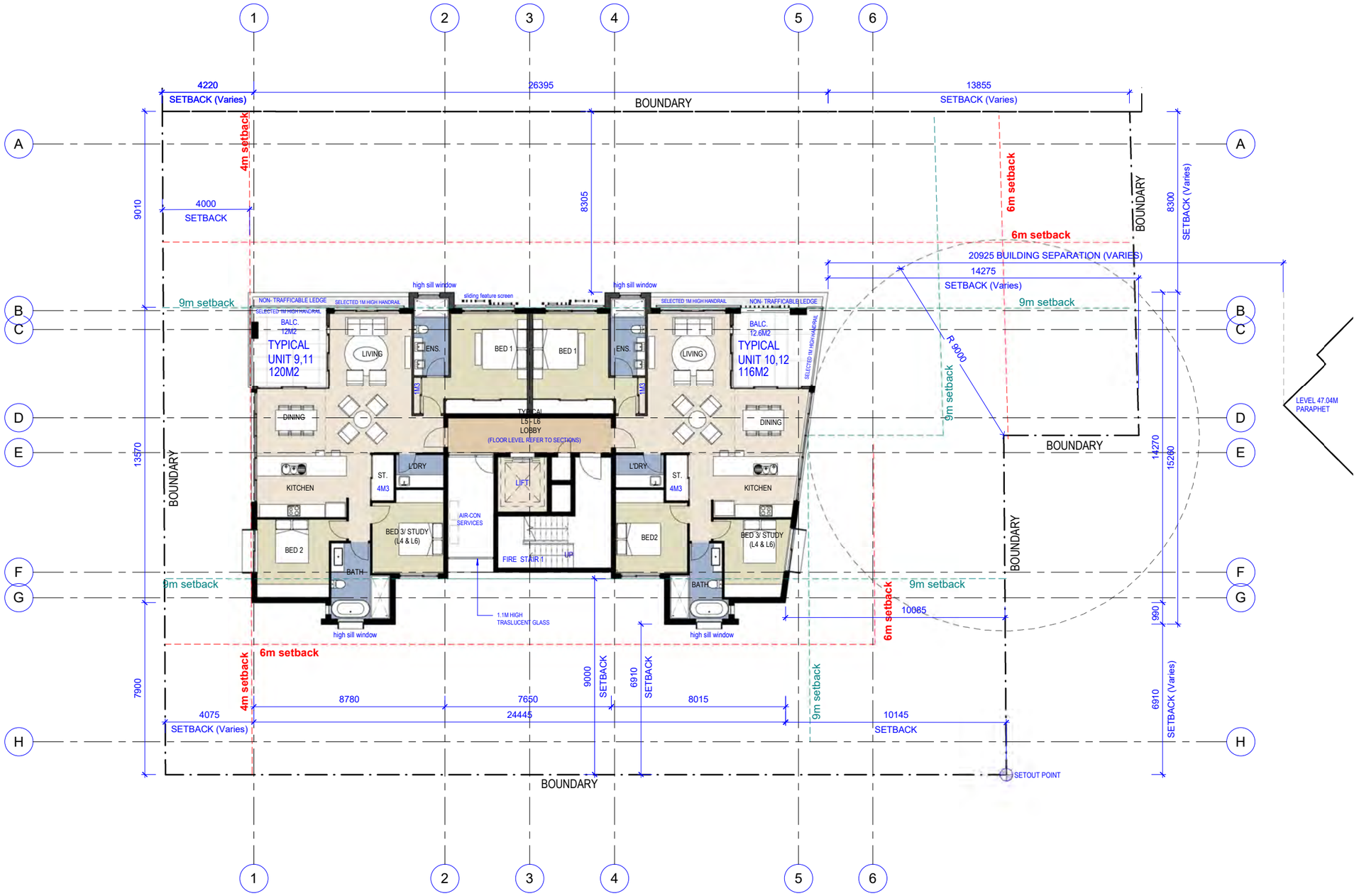
Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



1 L5 - L6 (TYPICAL)

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

1/10/2020 2:03:09 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

LEVEL 5-6 FLOOR PLAN

DA-09a-A

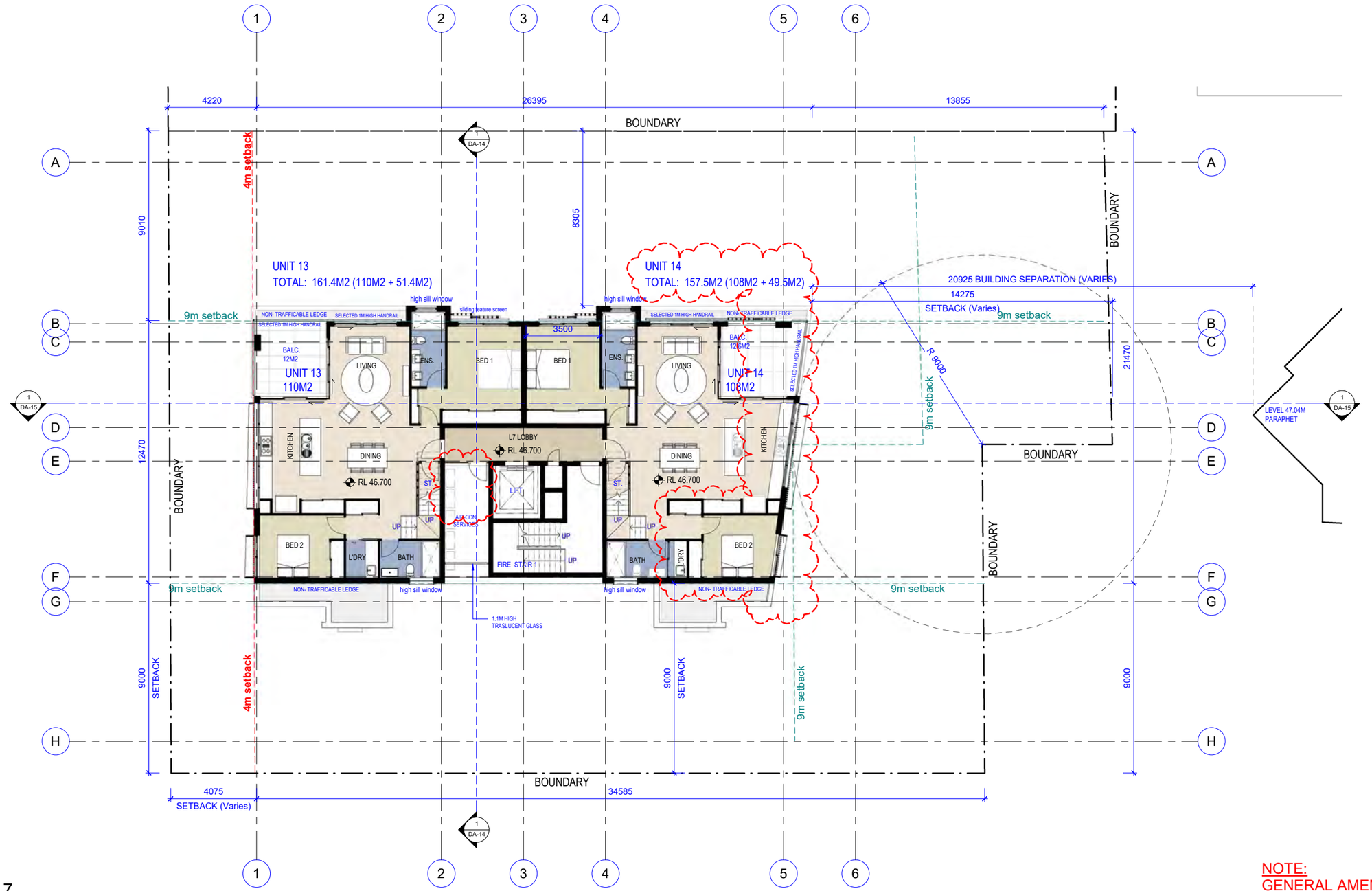
Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1143
E: office@prdarchitects.com
PRD ARCHITECTS

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



1 L7

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

LEVEL 7 FLOOR PLAN

DA-10 -E

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

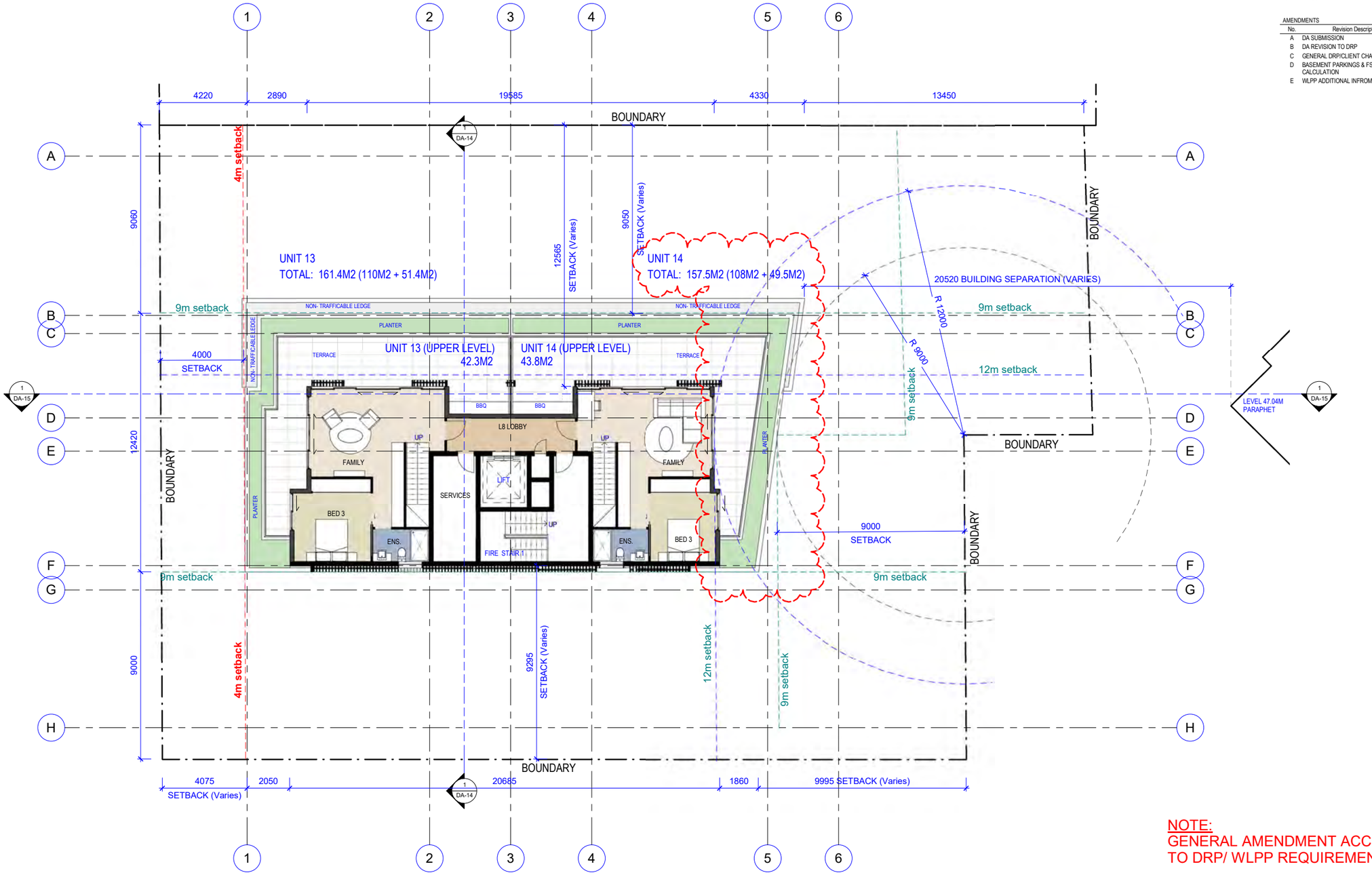
1/10/2020 2:03:22 PM

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

1 L8
1 : 100

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

PROPOSED APARTMENT BUILDING

Project Address

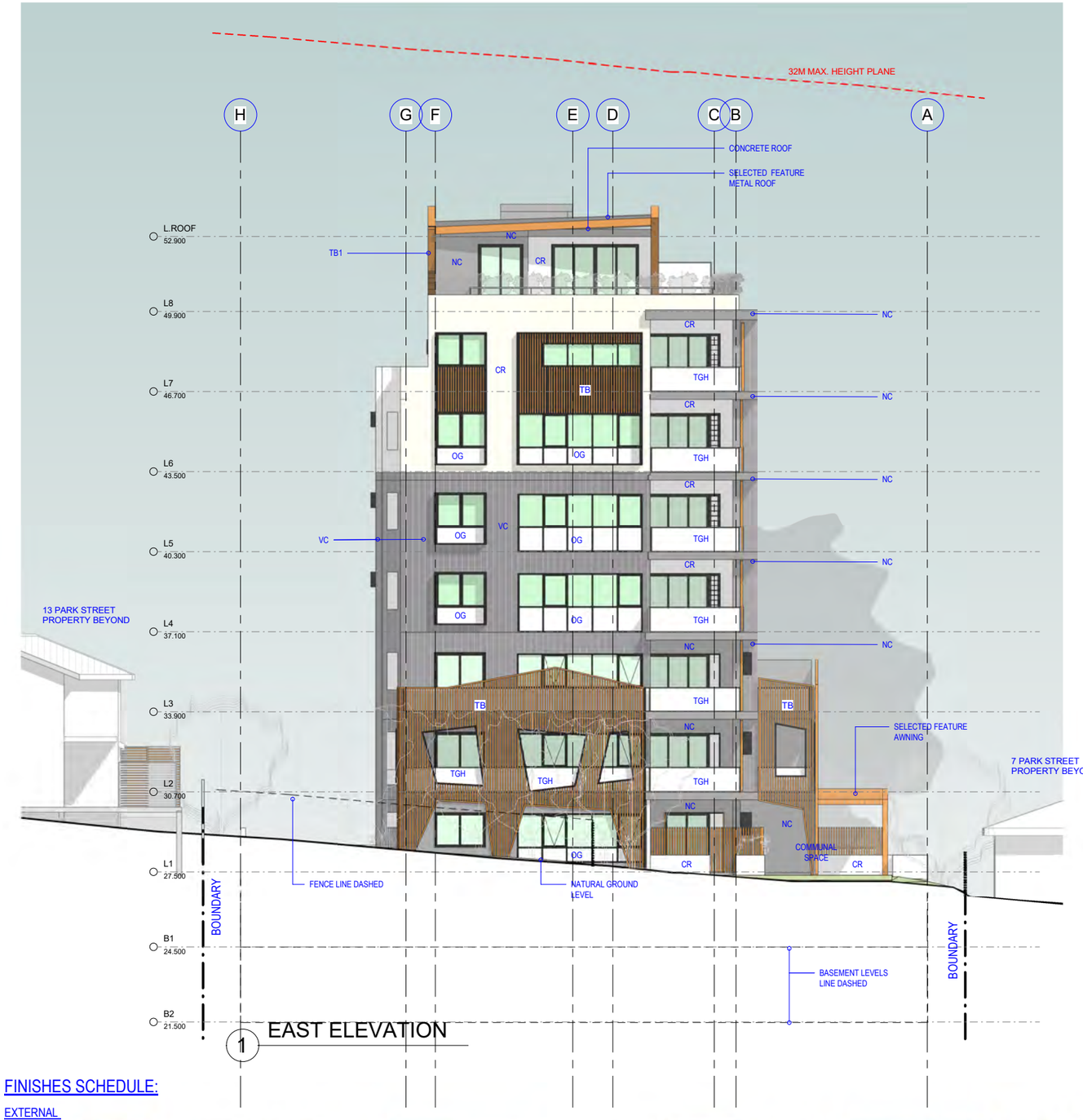
MORETTI CONSTRUCTION 18-60

LEVEL 8 FLOOR PLAN

DA-11 -E

Suite 3
79 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:03:49 PM

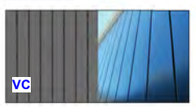


1 EAST ELEVATION

RENDER IMAGE
NOT TO SCALE

FINISHES SCHEDULE:

EXTERNAL



Colorbond "BASALT" - "LYSAGHT Dominion" vertical wall cladding or similar

Natural Concrete Render Finish

Aluminium (Timber Grain- Black butt) Batten Screen or similar
TB - With 'Colorbond Monument" Aluminium Frame
TB1 - With same colour Aluminium Frame

Render Finish- Painted Dulux 'White Dune Half'

Feature Aluminium Timber Panelling (Timber Grain- Black butt) or similar

Aluminium Window Framing (Colorbond Monument)

Transluent Glass Balustrade/ Privacy/

Garage security door or similar

OG - OPAQUE GLASS (COLOUR TO MATCH GLASS)

NOTE: ALL MATERIALS SUBJECT TO SUBSTITUTON WITH SIMILAR FINISHES.
BATH/SHOWER WINDOW GLASS TO BE TRANSLUCENT.

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

Suite 1
75 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:04:43 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

EAST ELEVATION

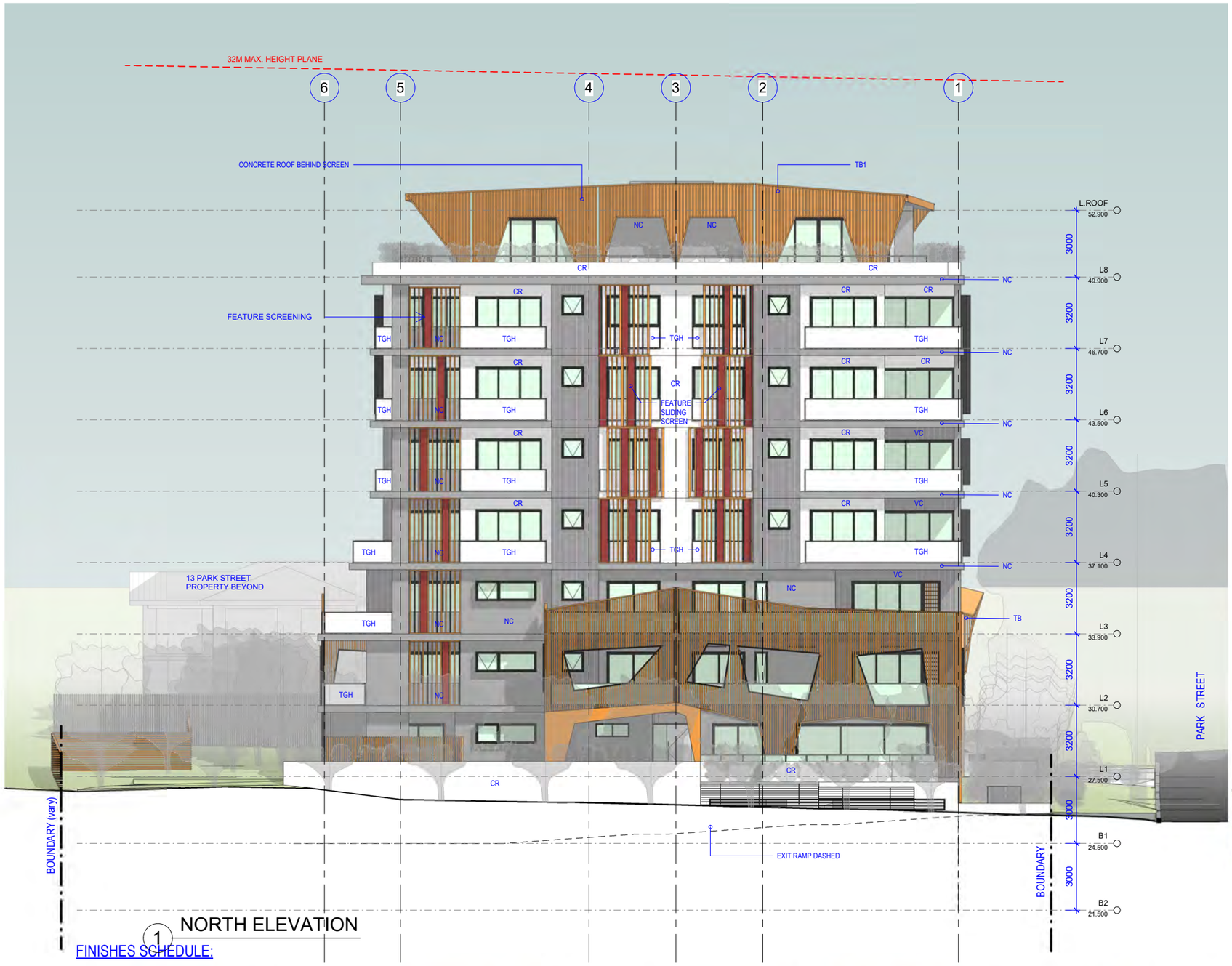
DA-13 -E

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



1 NORTH ELEVATION

RENDER IMAGE
NOT TO SCALE

FINISHES SCHEDULE:

EXTERNAL

Colorbond "BASALT" - "LYSAGHT Dominion" vertical wall cladding or similar

Natural Concrete Render Finish

Aluminium (Timber Grain- Black butt) Batten Screen or similar
TB - With 'Colorbond Monument" Aluminium Frame
TB1 - With same colour Aluminium Frame

Render Finish- Painted Dulux 'White Dune Half'

Feature Aluminium Timber Panelling (Timber Grain- Black butt) or similar

Aluminium Window Framing (Colorbond Monument)

Transluent Glass Balustrade/ Privacy/

Garage security door or similar

OG - OPAQUE GLASS (COLOUR TO MATCH GLASS)

NOTE: ALL MATERIALS SUBJECT TO SUBSTITUTON WITH SIMILAR FINISHES.
BATH/SHOWER WINDOW GLASS TO BE TRANSLUCENT.

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

Suite 3
79 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1143
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:04:27 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

NORTH ELEVATION

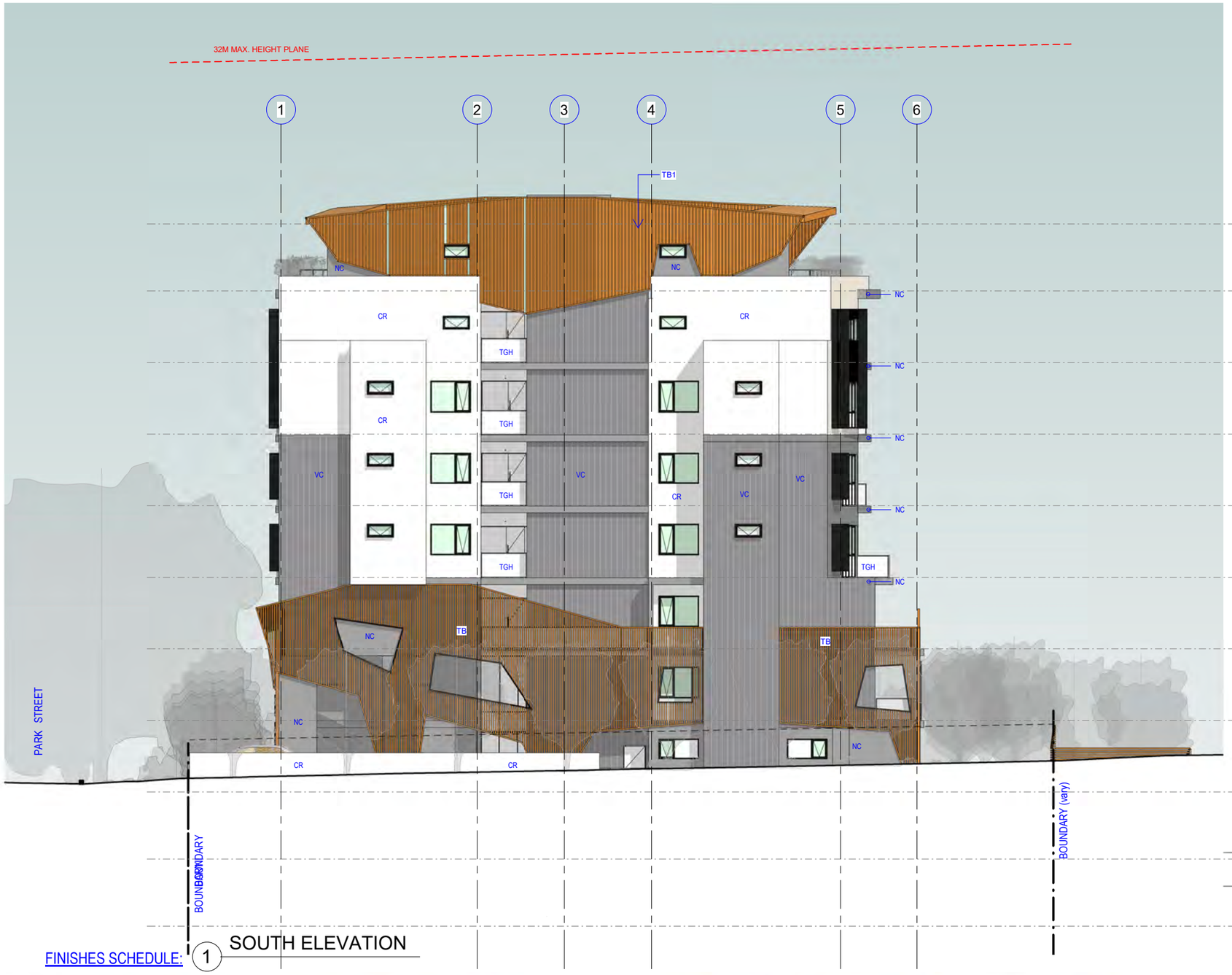
DA-12a-A

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



1 SOUTH ELEVATION

RENDER IMAGE
NOT TO SCALE

FINISHES SCHEDULE:

EXTERNAL

Colorbond "BASALT" - "LYSAGHT Dominion" vertical wall cladding or similar

Natural Concrete Render Finish

Aluminium (Timber Grain- Black butt) Batten Screen or similar
TB - With 'Colorbond Monument" Aluminium Frame
TB1 - With same colour Aluminium Frame

Render Finish- Painted Dulux 'White Dune Half'

Feature Aluminium Timber Panelling (Timber Grain- Black butt) or similar

Aluminium Window Framing (Colorbond Monument)

Transluent Glass Balustrade/ Privacy/

Garage security door or similar

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

OG - OPAQUE GLASS (COLOUR TO MATCH GLASS)

NOTE: ALL MATERIALS SUBJECT TO SUBSTITUTON WITH SIMILAR FINISHES.
BATH/SHOWER WINDOW GLASS TO BE TRANSLUCENT.

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

1/10/2020 2:05:00 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

SOUTH ELEVATION

DA-13a-A

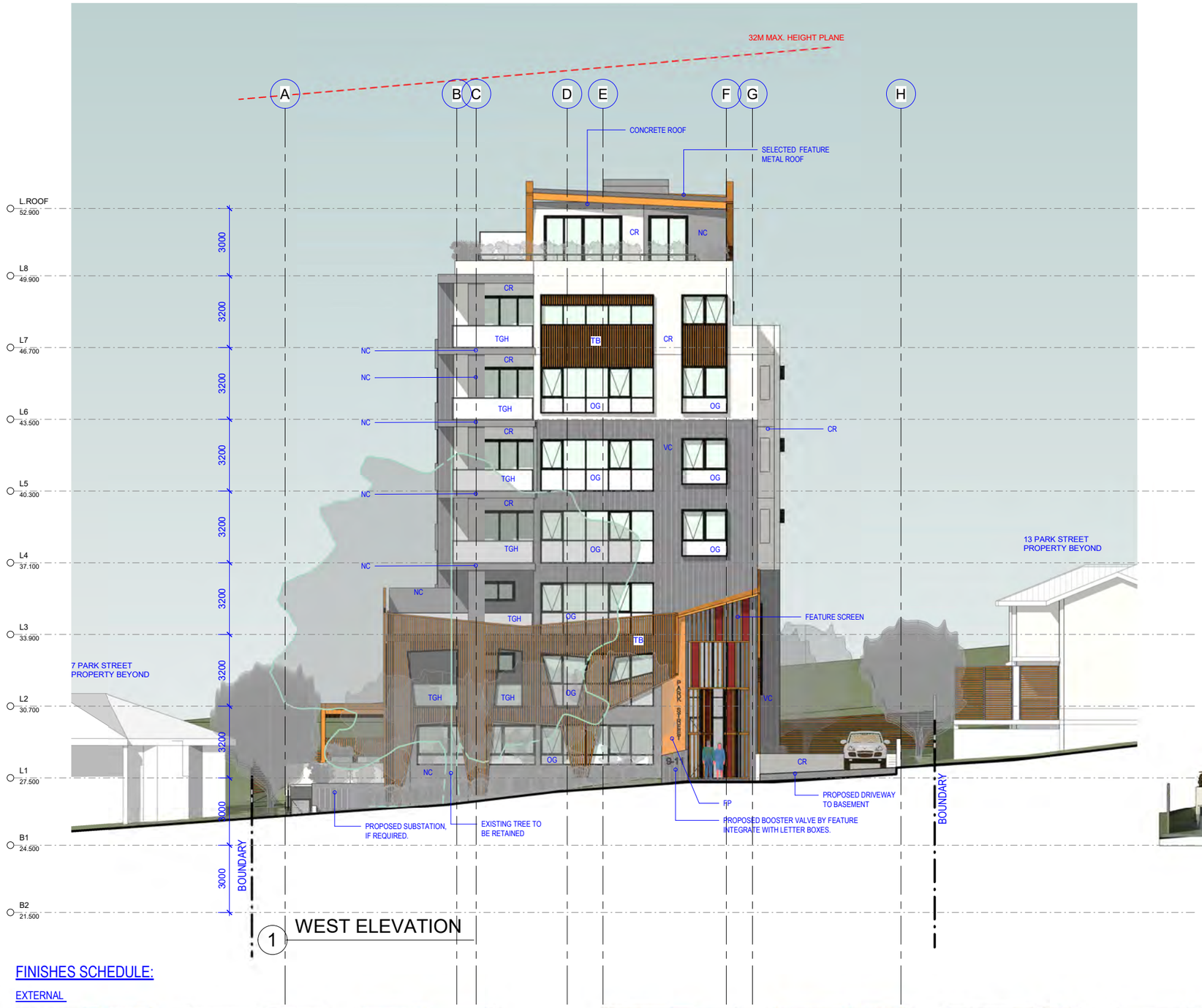
Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F: 4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



1 WEST ELEVATION

RENDER IMAGE
NOT TO SCALE

FINISHES SCHEDULE:

EXTERNAL

Colorbond "BASALT" - "LYSAGHT Dominion" vertical wall cladding or similar

Natural Concrete Render Finish

Aluminium (Timber Grain- Black butt) Batten Screen or similar
TB - With 'Colorbond Monument" Aluminium Frame
TB1 - With same colour Aluminium Frame

Render Finish- Painted Dulux 'White Dune Half'

Feature Aluminium Timber Panelling (Timber Grain- Black butt) or similar

Aluminium Window Framing (Colorbond Monument)

Transluent Glass Balustrade/ Privacy/

Garage security door or similar

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

OG - OPAQUE GLASS (COLOUR TO MATCH GLASS)

NOTE: ALL MATERIALS SUBJECT TO SUBSTITUTON WITH SIMILAR FINISHES.
BATH/SHOWER WINDOW GLASS TO BE TRANSLUCENT.

2 1 0 2 4 6 8
1:100 @ A1 1:200 @ A3

Suite 3
75 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:04:06 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

WEST ELEVATION

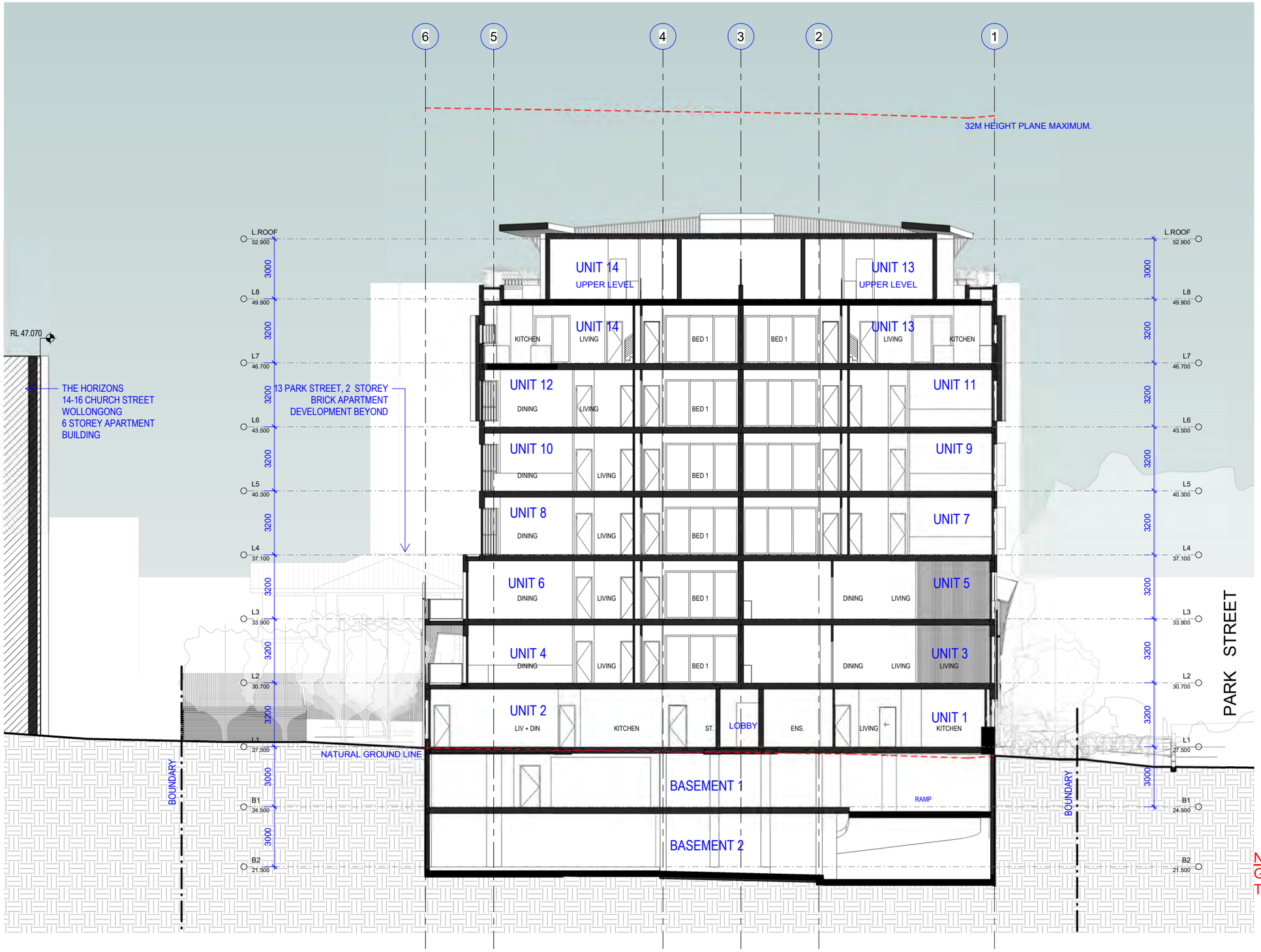
DA-12 -E

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	ADDITIONAL INFORMATION UPDATED	30.07.2020	DC
D	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

1/10/2020 2:05:16 PM

PROPOSED APARTMENT BUILDING

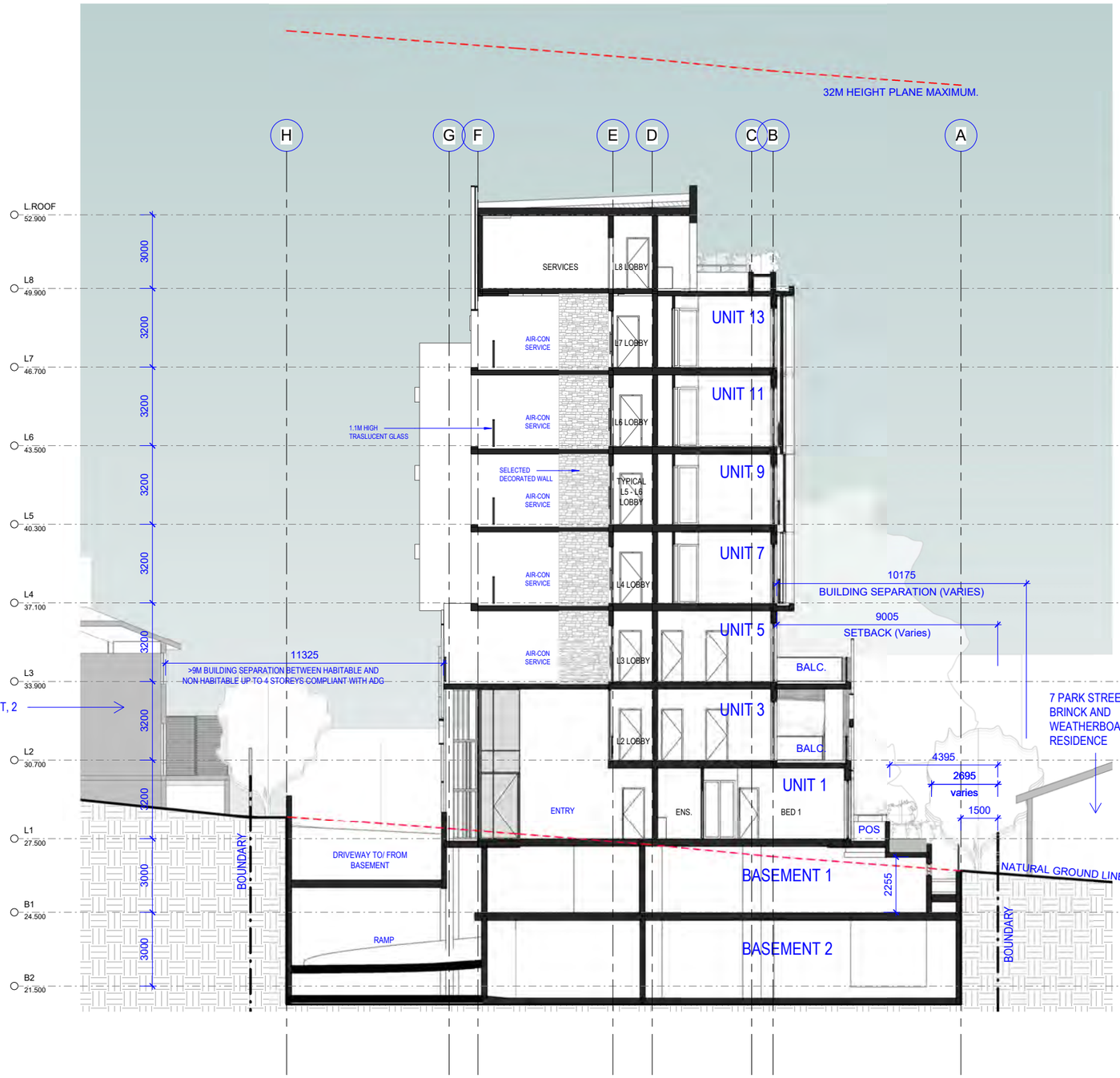
Project Address

SECTION

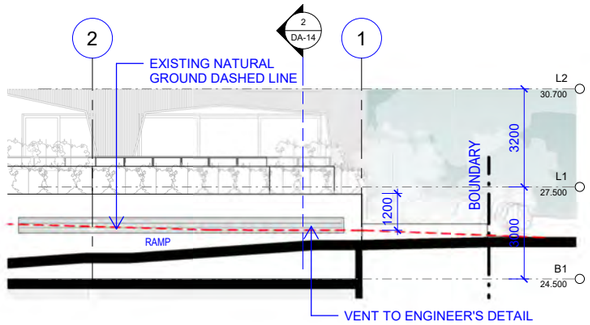
MORETTI CONSTRUCTION 18-60

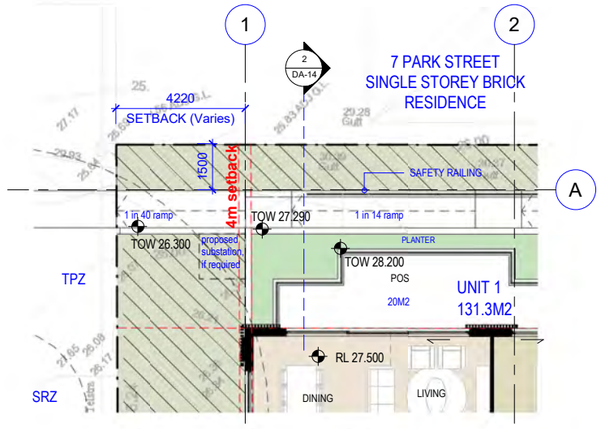
DA-15 -D

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

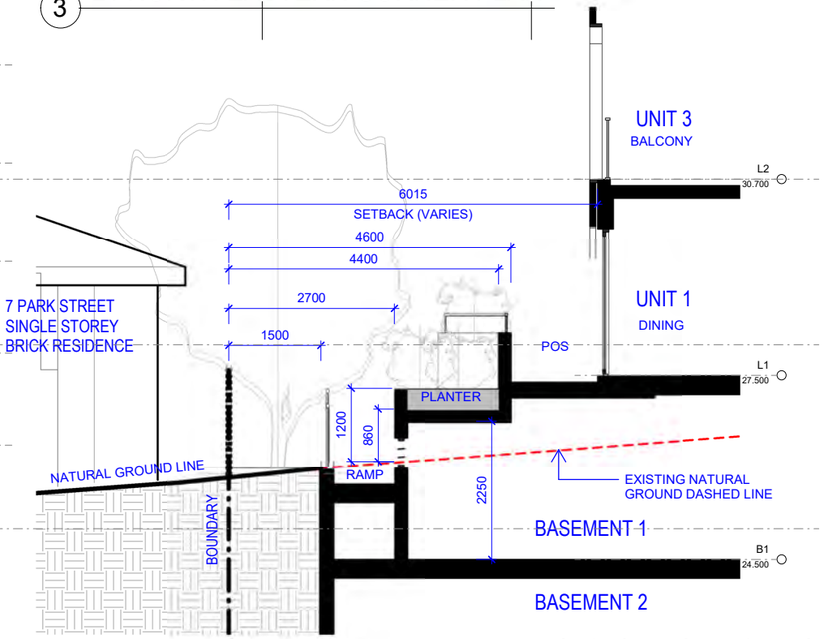


4 NORTH ELEVATION - EASTERN CORNER





3 L1 NORTH EASTERN CORNER PLAN



2 UNIT 1 SECTION

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

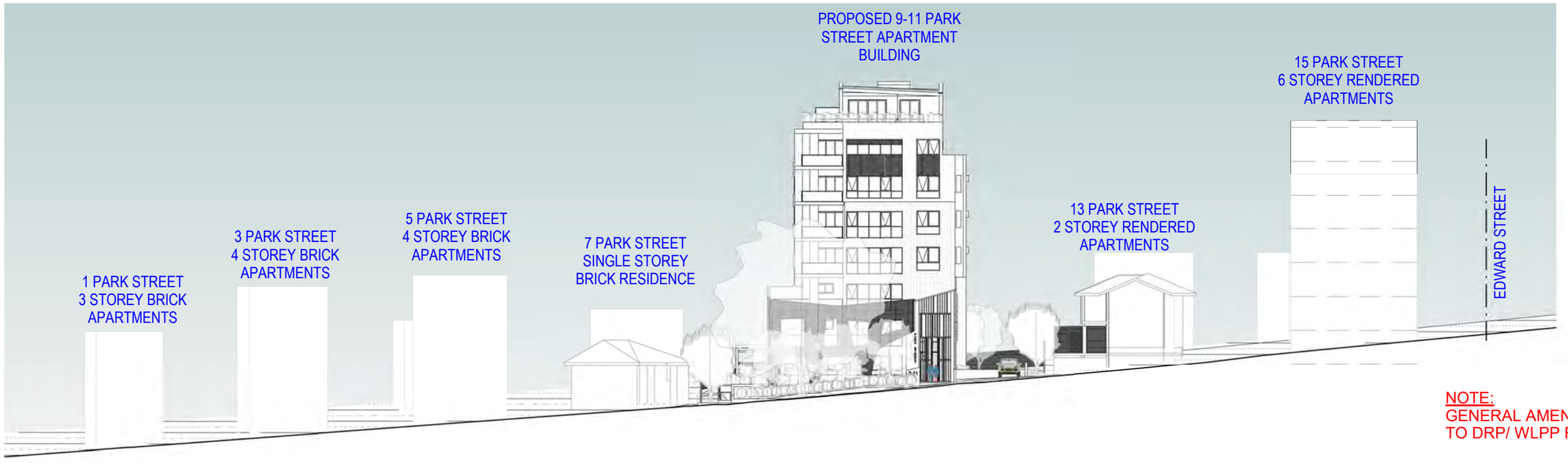
SECTION

DA-14 -E

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:05:07 PM

2 BLOCK CROSS SECTION



1 PARK STREET SECTION

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

4 0 4 8 12 16

1:200 @ A1 1:400 @ A3

Suite 3
75 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:05:26 PM

PROPOSED APARTMENT BUILDING
Project Address

MORETTI CONSTRUCTION 18-60

STREET CONTEXT SECTION

DA-16 -E

VIEW FROM NORTH EAST

VIEW FROM SOUTH EAST

NOTE:
GENERAL AMENDMENT ACCORDING
TO DRP/ WLPP REQUIREMENTS.

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

3D PERSPECTIVES

DA-18 -E

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:05:46 PM

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

VIEW FROM INFRONT OF 7 PARK STREET

VIEW FROM ENTRY POINT

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

3D PERSPECTIVES

DA-17 -E

Suite 3
75 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:05:34 PM

TREES TURNED OFF FOR CLARIFY

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

NOTE:
3D MODEL COLOUR STUDY AS SHOWN WILL BE VARIED TO THE ACTUAL COLOUR SELECTION. PLEASE REFER TO COLOUR FINISHES SCHESULDE.

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA REVISION TO DRP	05.05.2020	DC
B	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
C	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
D	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

PROPOSED APARTMENT BUILDING

Project Address

PERSPECTIVES

MORETTI CONSTRUCTION 18-60

DA-26 -D

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:11:06 PM

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	GENERAL	22.01.2020	SH
B	DA REVISION TO DRP	05.05.2020	DC
C	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
D	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

1 AERIAL PERSPECTIVE 01 - SOUTH WEST ASPECT

2 AERIAL PERSPECTIVE 02 - SOUTH EAST ASPECT

NOTE:
3D MODEL COLOUR STUDY AS SHOWN WILL BE VARIED TO THE ACTUAL COLOUR SELECTION. PLEASE REFER TO COLOUR FINISHES SCHESULDE.

3 AERIAL PERSPECTIVE 03 - NORTH EAST ASPECT

4 AERIAL PERSPECTIVE 04 - NORTH WEST ASPECT

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

PROPOSED APARTMENT BUILDING

Project Address

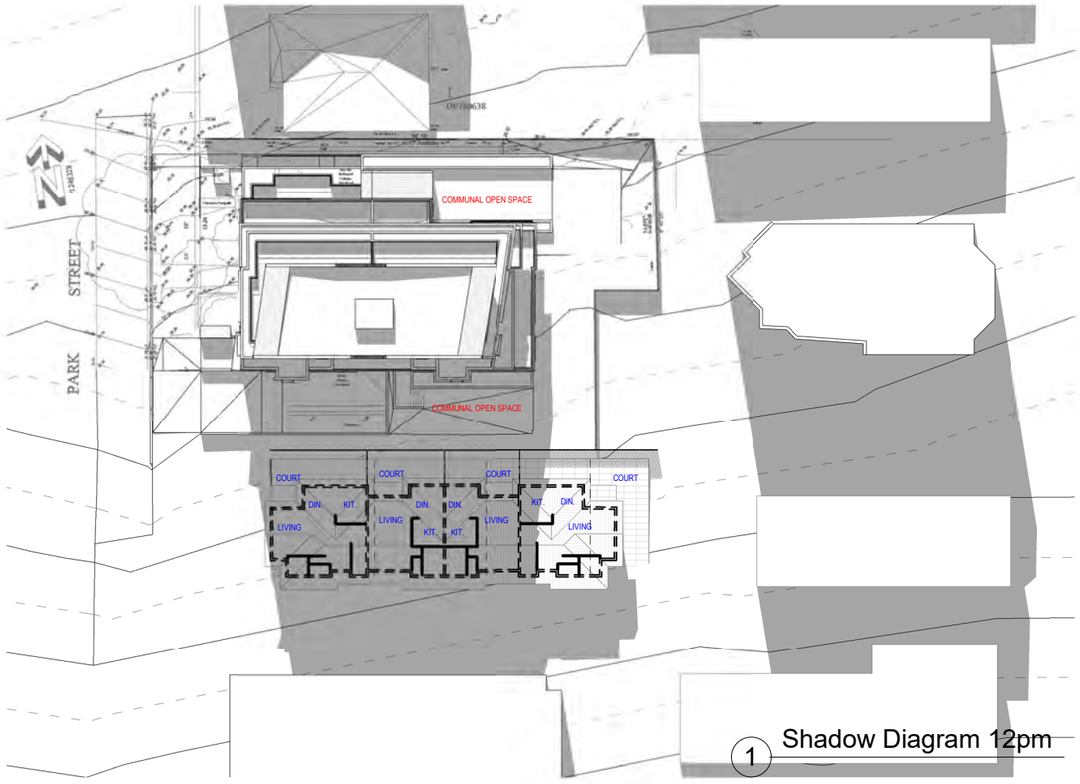
MORETTI CONSTRUCTION 18-60

AERIAL 3D PERSPECTIVES

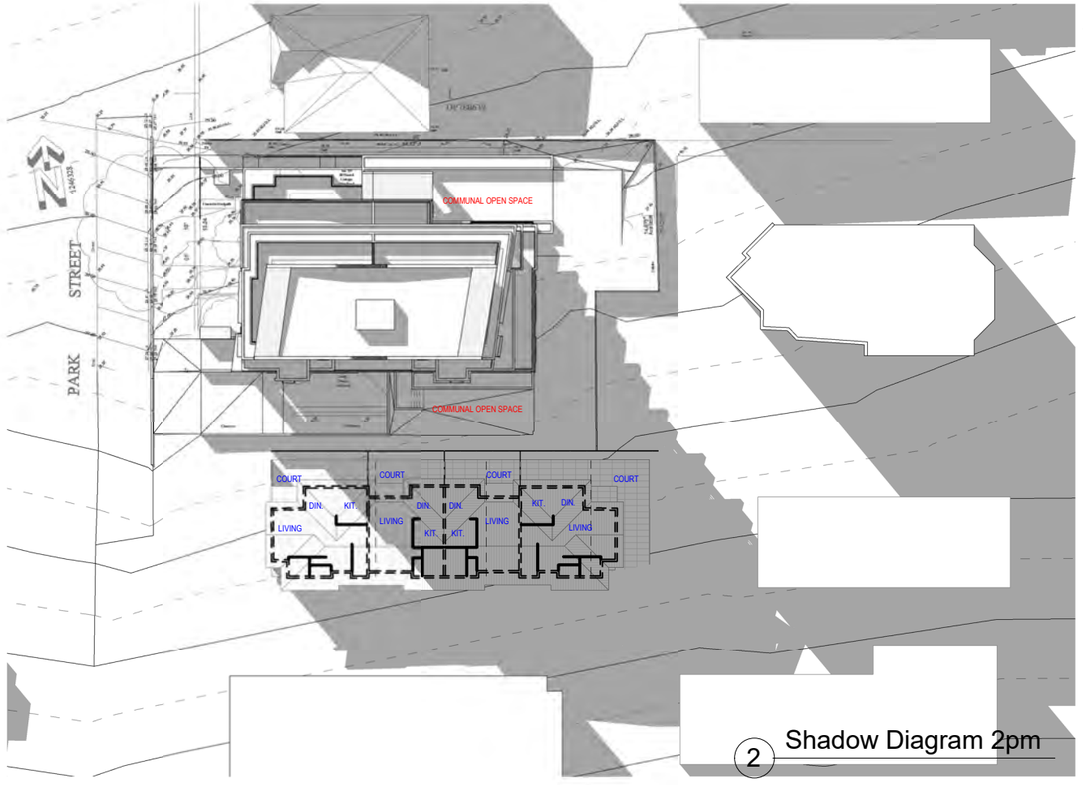
DA-25 -E

Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

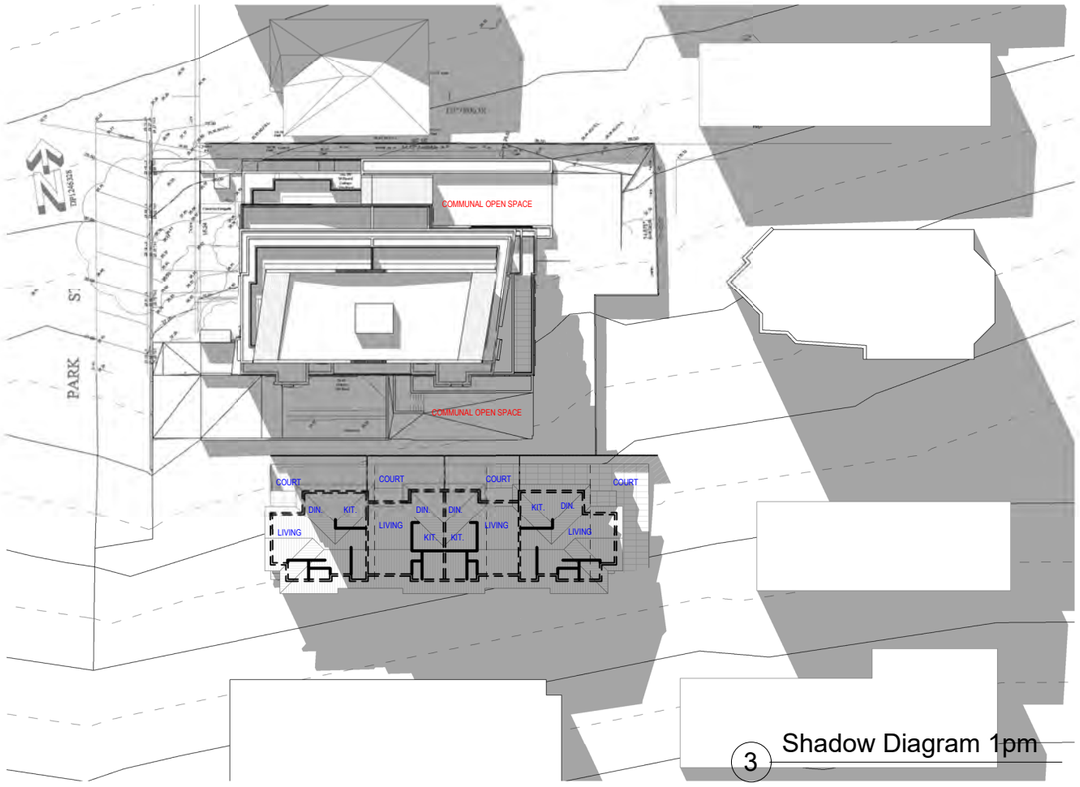
1/10/2020 2:08:52 PM



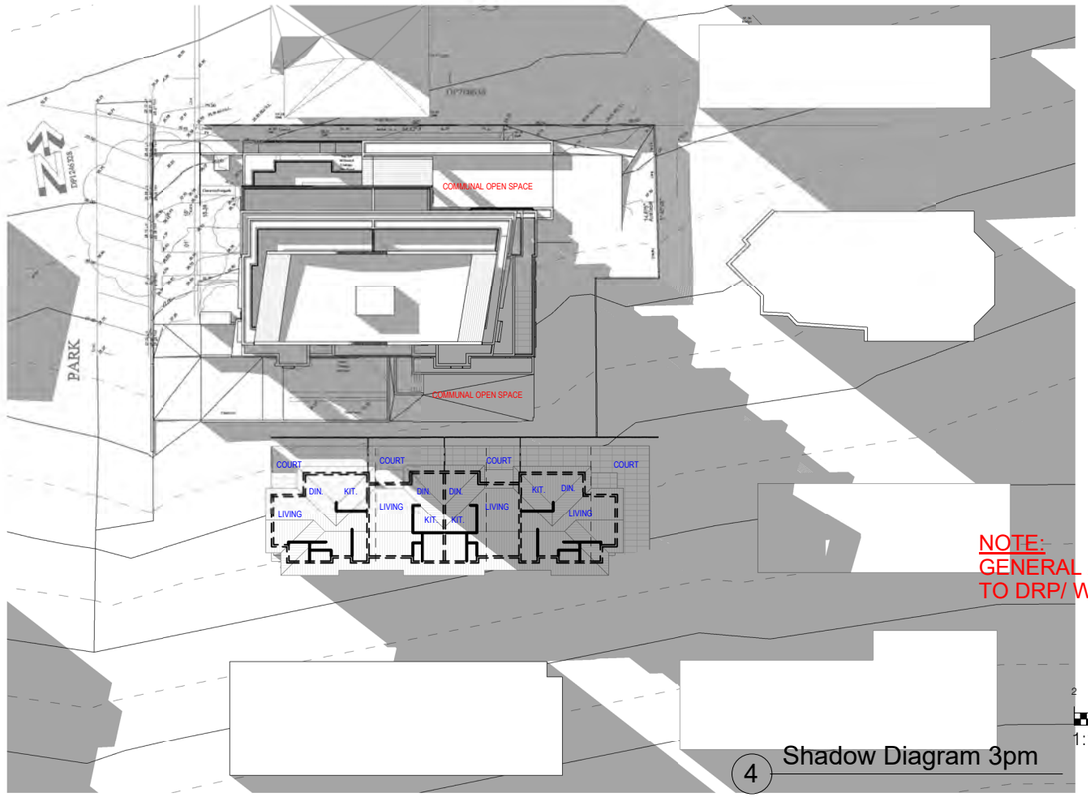
1 Shadow Diagram 12pm



2 Shadow Diagram 2pm



3 Shadow Diagram 1pm



4 Shadow Diagram 3pm

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	AMENDMENT TO TEXT COLOUR ON SHADOW DIAGRAMS	21.01.2020	SH
C	GENERAL	22.01.2020	SH
D	DA REVISION TO DRP	05.05.2020	DC
E	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
F	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
G	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

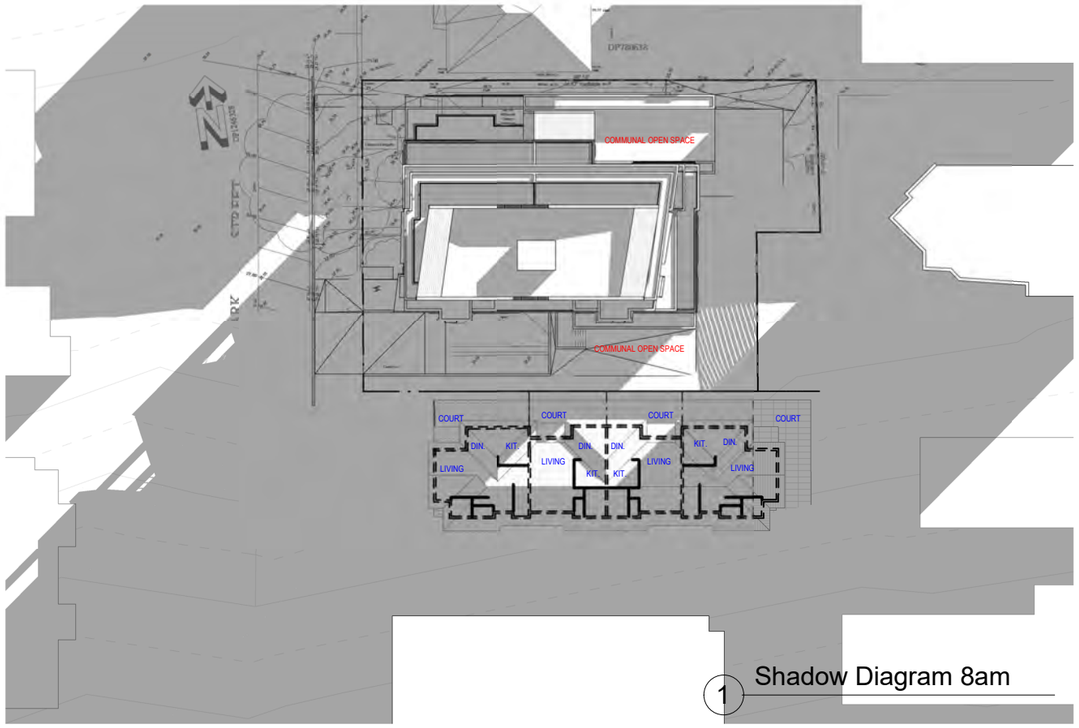
1/10/2020 2:06:53 PM

PROPOSED APARTMENT BUILDING

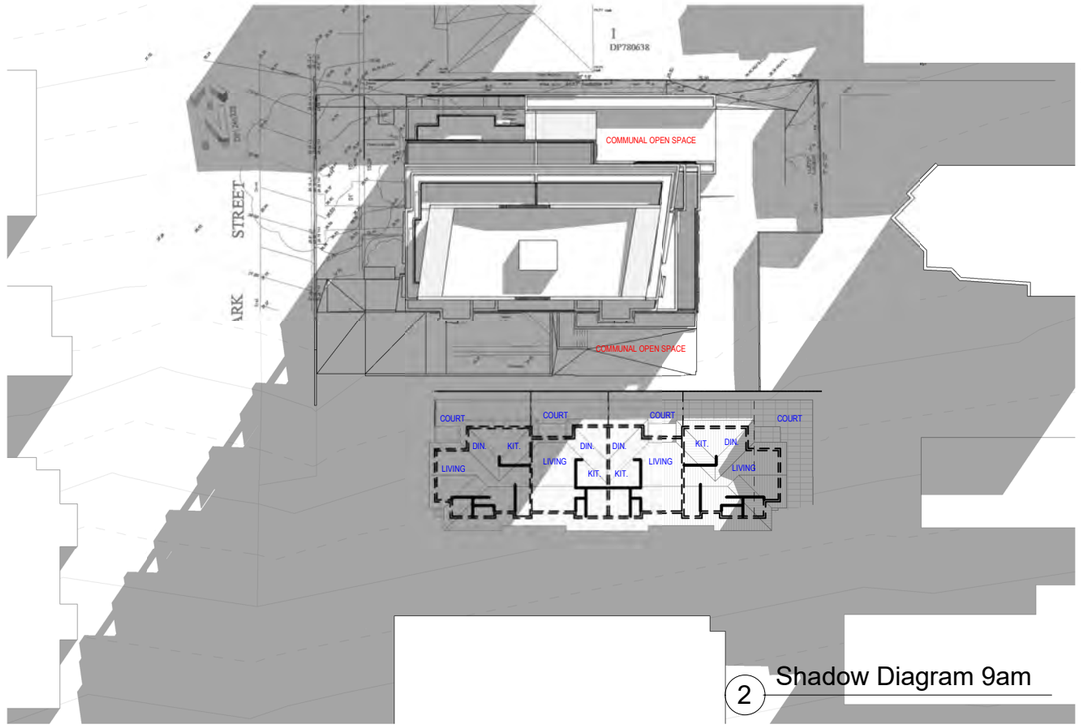
Project Address

MORETTI CONSTRUCTION 18-60

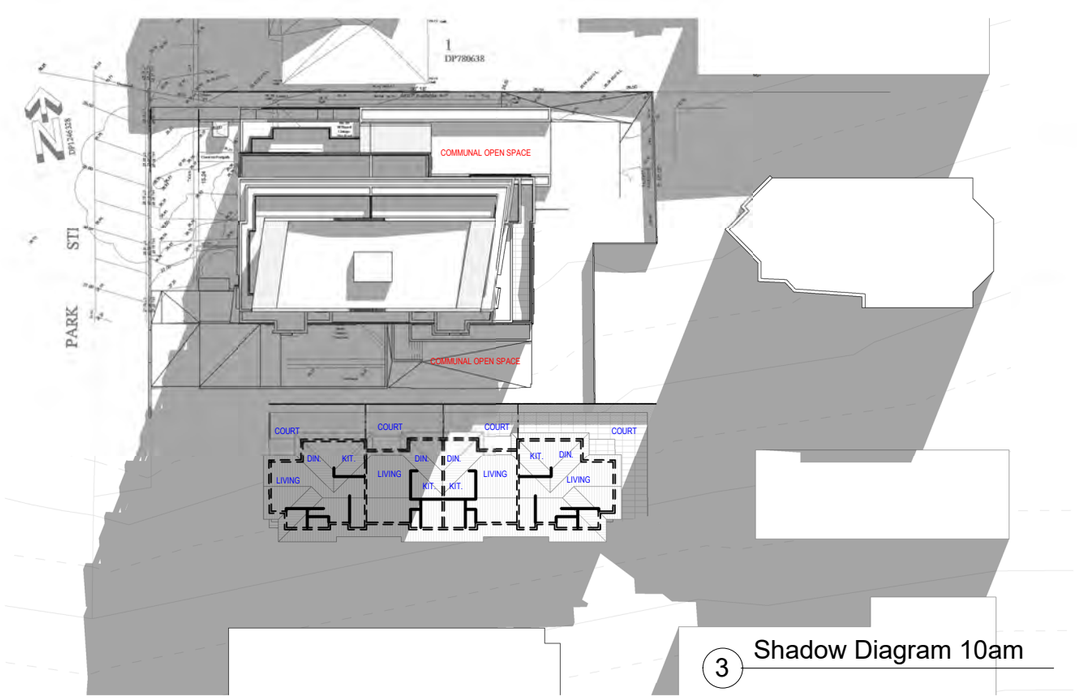
SHADOW DIAGRAMS- WINTER SOLSTICE DA-20 -G



1 Shadow Diagram 8am



2 Shadow Diagram 9am



3 Shadow Diagram 10am

4 Shadow Diagram 11am

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	AMENDMENT TO TEXT COLOUR ON SHADOW DIAGRAMS	21.01.2020	SH
C	DA REVISION TO DRP	05.05.2020	DC
D	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
E	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
F	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

PROPOSED APARTMENT BUILDING

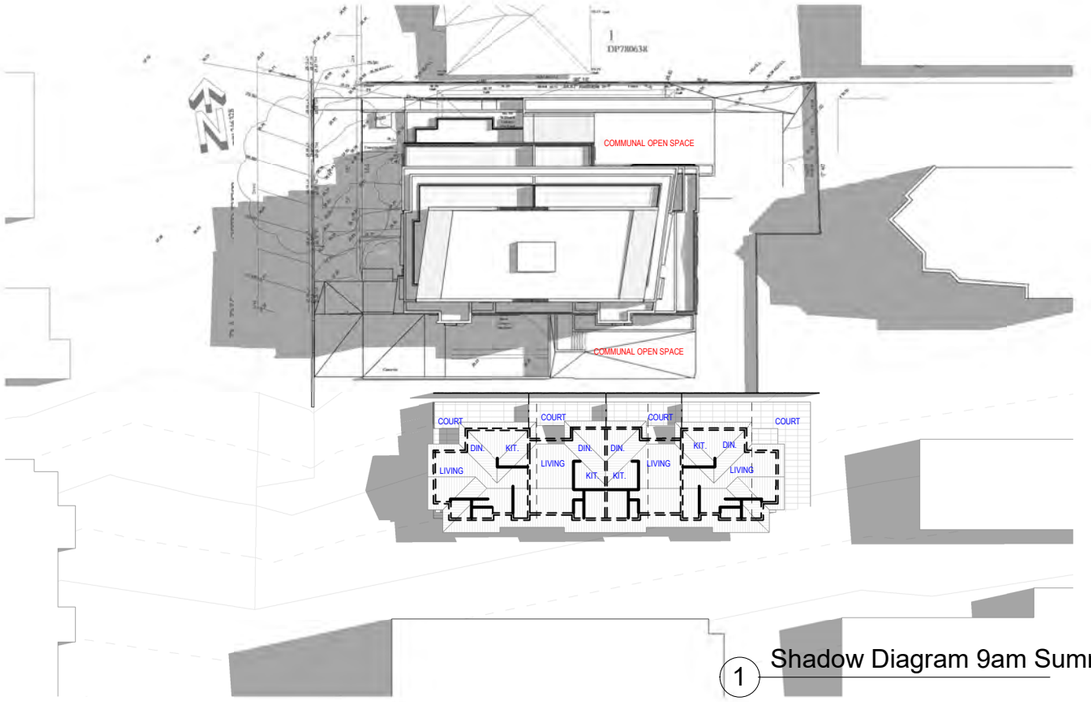
Project Address

MORETTI CONSTRUCTION 18-60

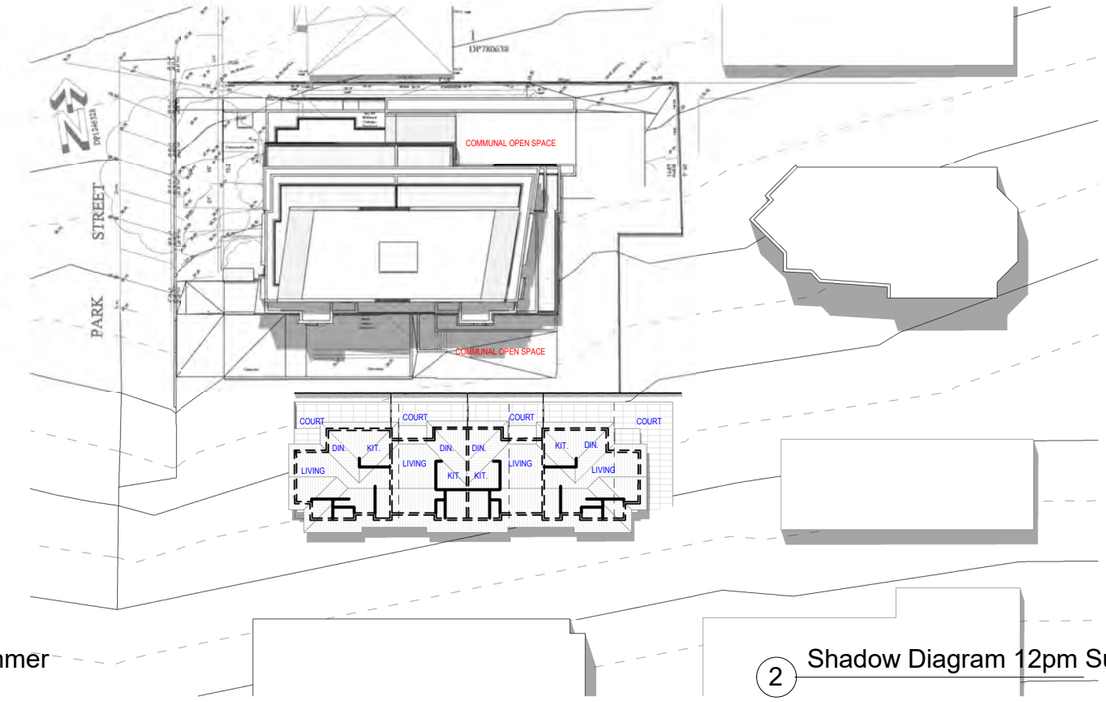
SHADOW DIAGRAMS- WINTER SOLSTICE DA-19 -F

Suite 3
79 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

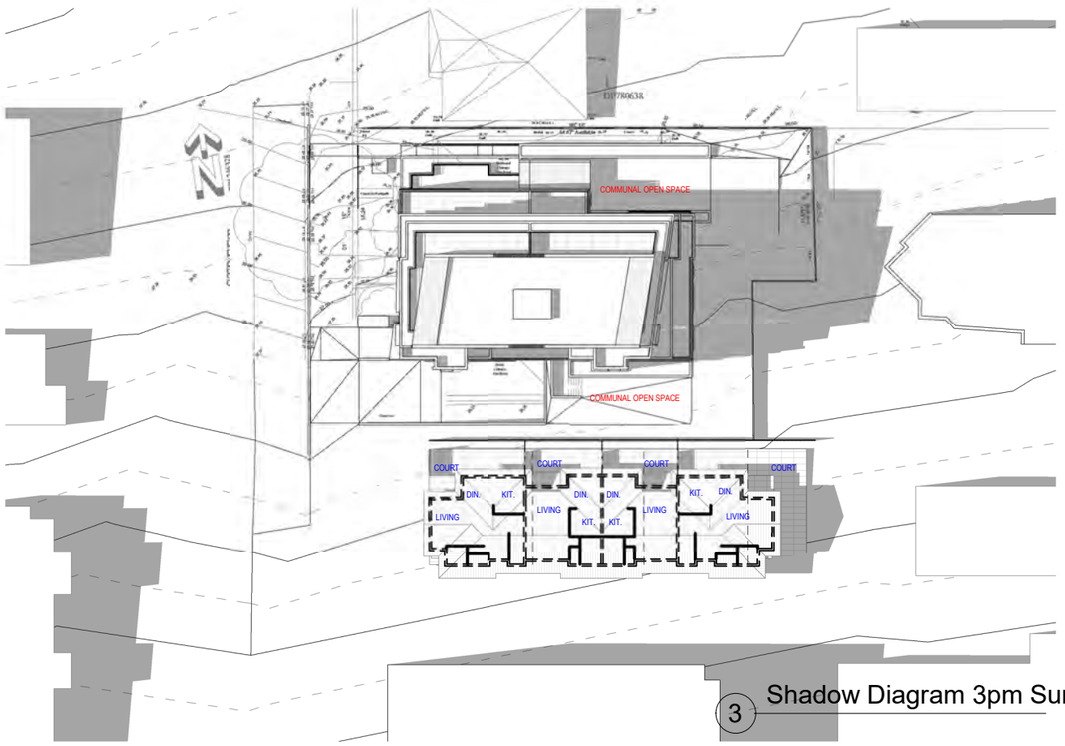
1/10/2020 2:06:17 PM



1 Shadow Diagram 9am Summer



2 Shadow Diagram 12pm Summer



3 Shadow Diagram 3pm Summer

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	AMENDMENT TO TEXT COLOUR ON SHADOW DIAGRAMS	21.01.2020	SH
C	GENERAL	22.01.2020	SH
D	DA REVISION TO DRP	05.05.2020	DC
E	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
F	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
G	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

PROPOSED APARTMENT BUILDING

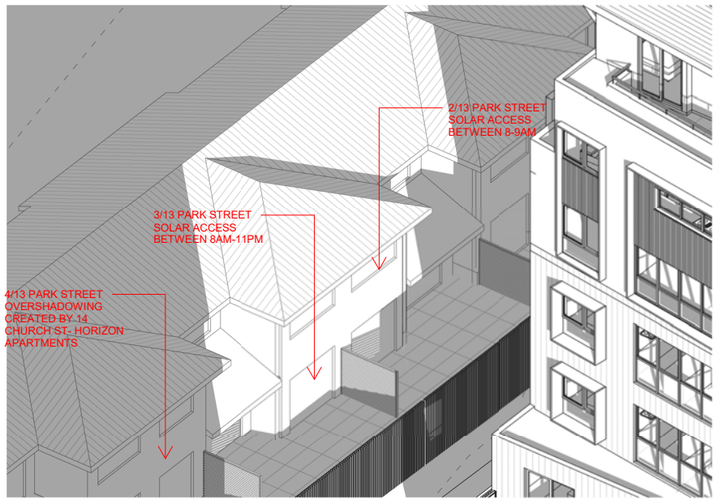
Project Address

MORETTI CONSTRUCTION 18-60

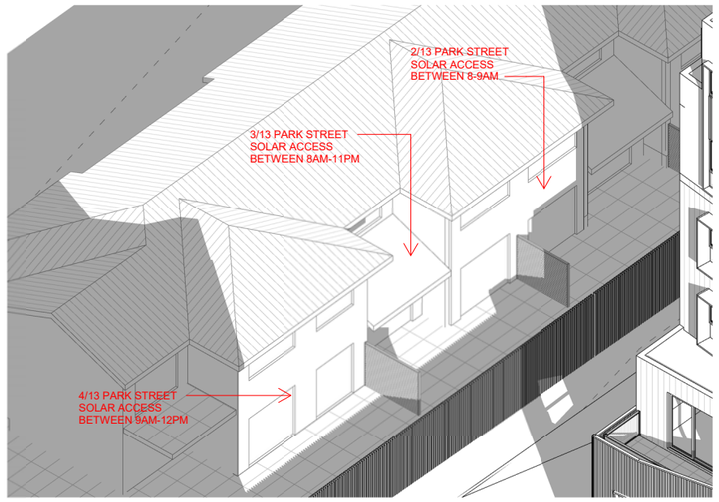
SHADOW DIAGRAMS- SUMMER SOLSTICE DA-21 -G

Suite 3
77 Market Street
Wollongong NSW 2500
P: 4228 3699 F: 4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

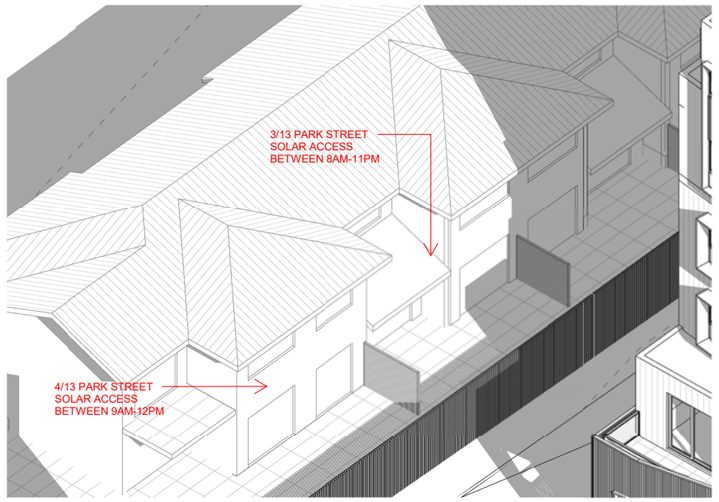
1/10/2020 2:07:09 PM



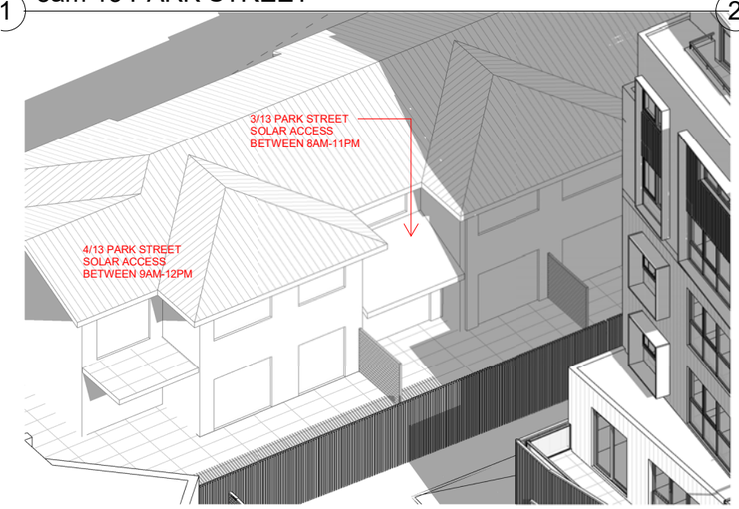
8am 13 PARK STREET



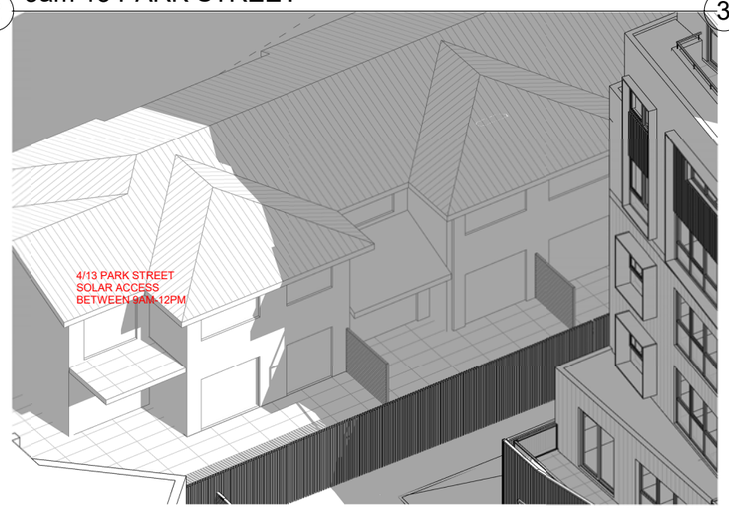
9am 13 PARK STREET



10am 13 PARK STREET

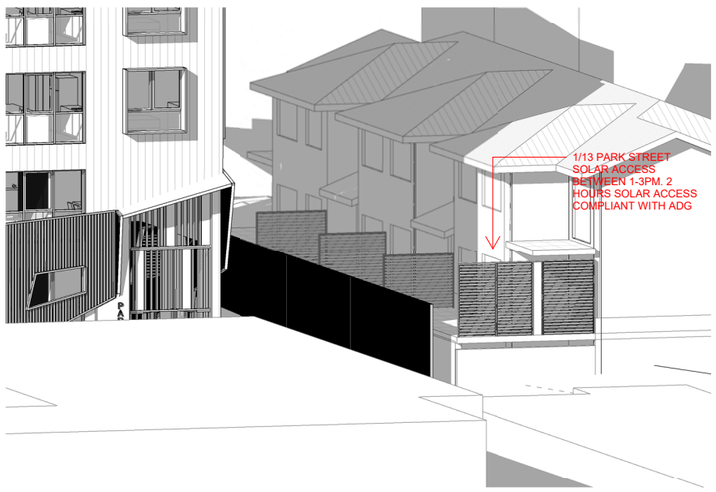


11am 13 PARK STREET

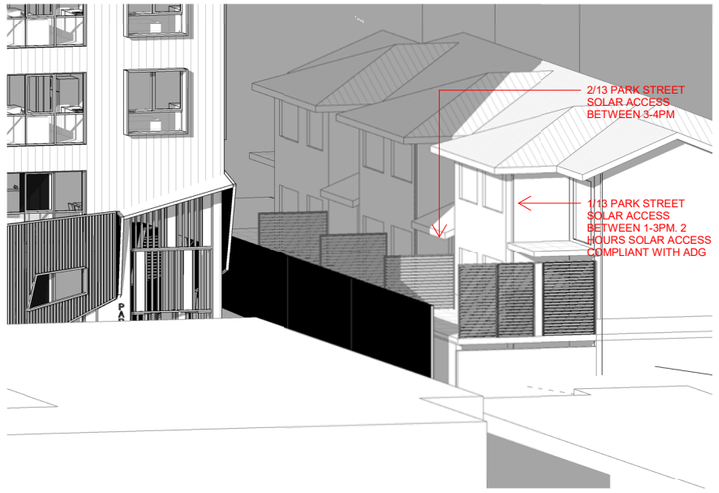


12pm 13 PARK STREET

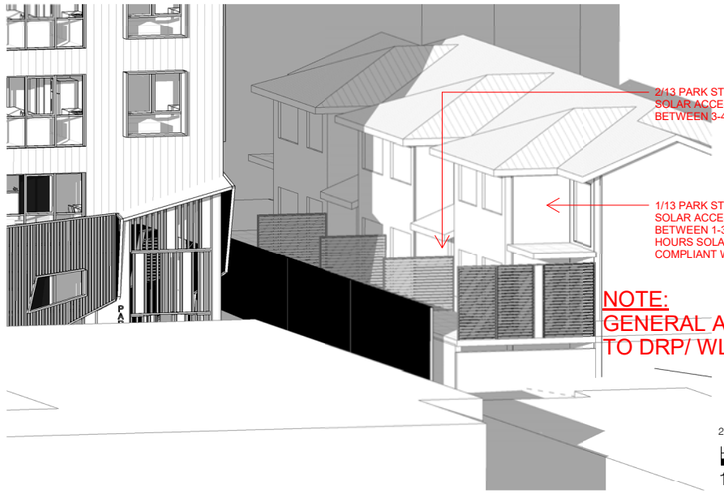
1pm 13 PARK STREET



2pm 13 PARK STREET



3pm 13 PARK STREET



4pm 13 PARK STREET

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA SUBMISSION	2019.11	SH
B	AMENDMENT TO TEXT COLOUR ON SHADOW DIAGRAMS	21.01.2020	SH
C	GENERAL	22.01.2020	SH
D	DA REVISION TO DRP	05.05.2020	DC
E	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
F	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
G	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1143
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:08:35 PM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

WINTER SOLSTICE SHADOWS TO 13 PARK STREET

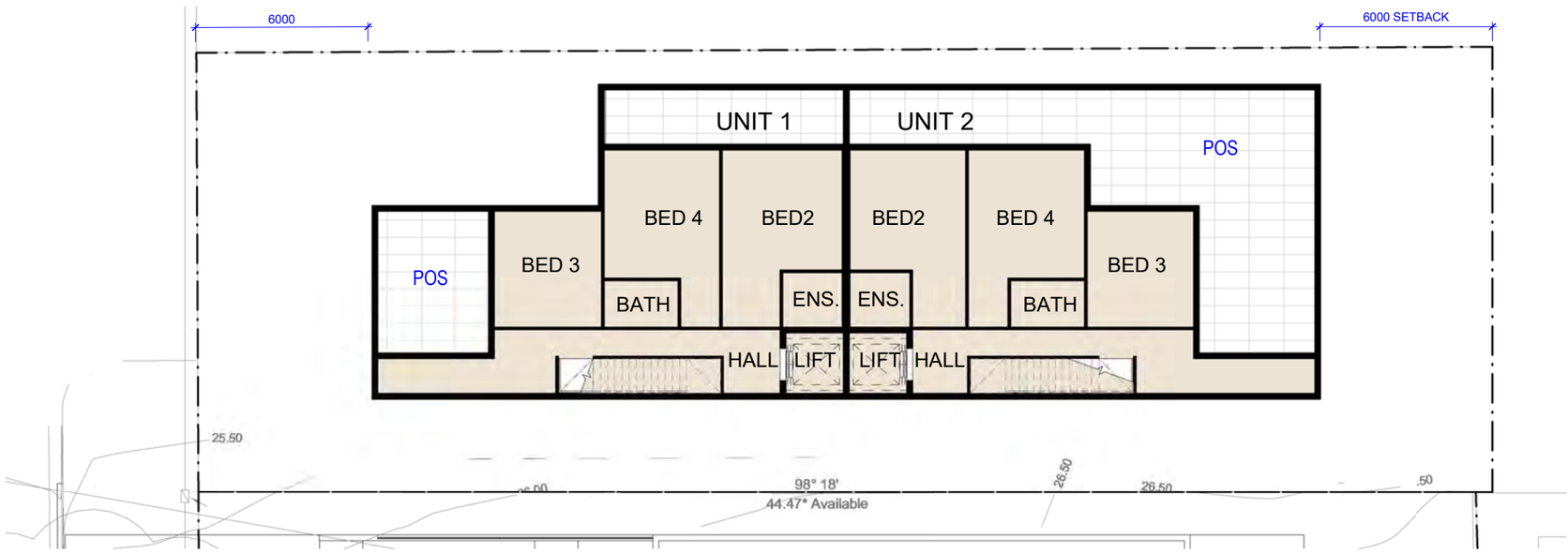
DA-22 -G

NOT FOR CONSTRUCTION

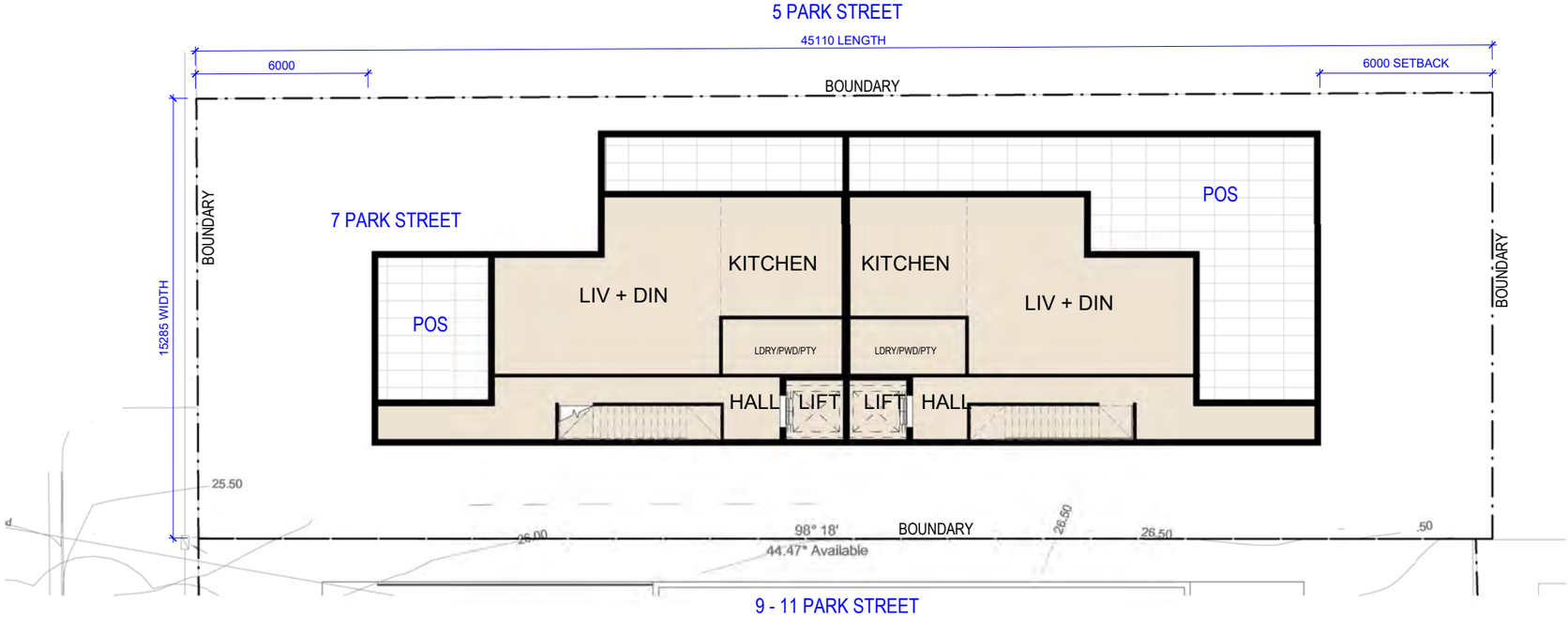
DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



2 7 PARK STREET - 2ND FLOOR PLAN



1 7 PARK STREET - 1ST FLOOR PLAN

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

CONCEPT PLAN - 7 PARK STREET DA-29 -A

Suite 1
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

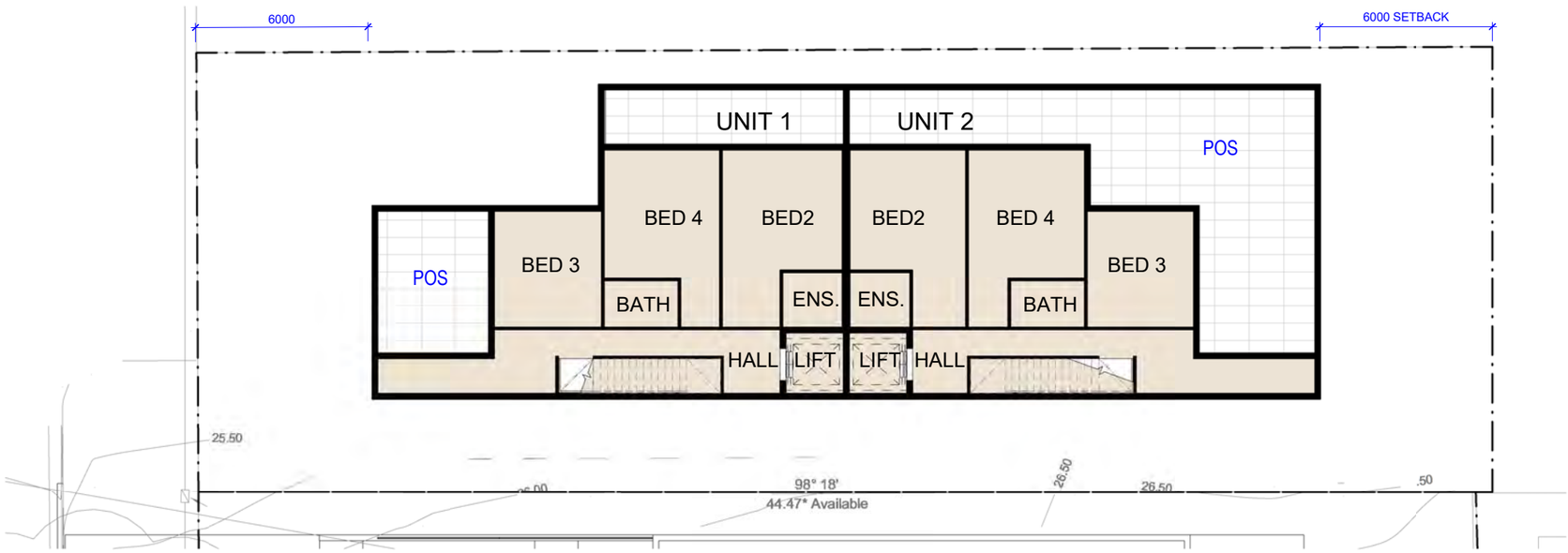
2/10/2020 9:37:55 AM

NOT FOR CONSTRUCTION

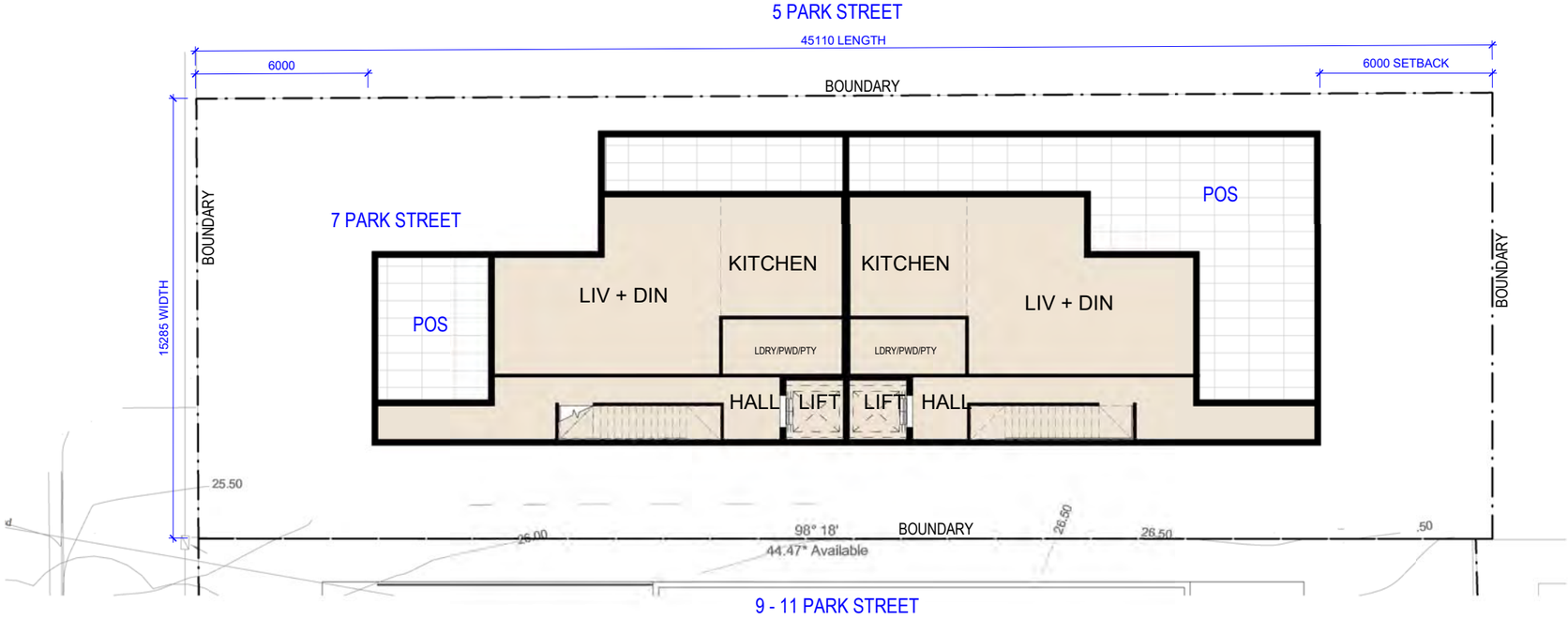
DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



2 7 PARK STREET - 2ND FLOOR PLAN



1 7 PARK STREET - 1ST FLOOR PLAN

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

PROPOSED APARTMENT BUILDING

Project Address

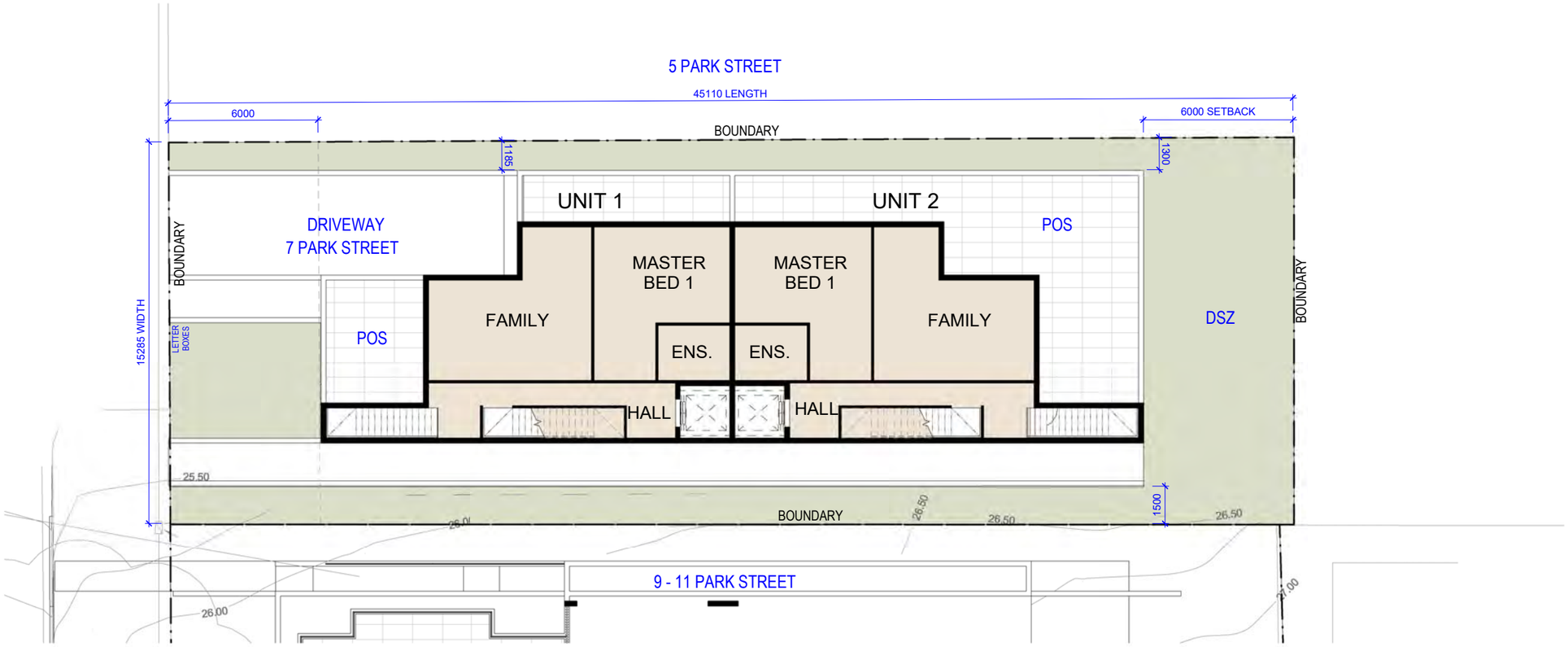
MORETTI CONSTRUCTION 18-60

CONCEPT PLAN - 7 PARK STREET

DA-29 -A

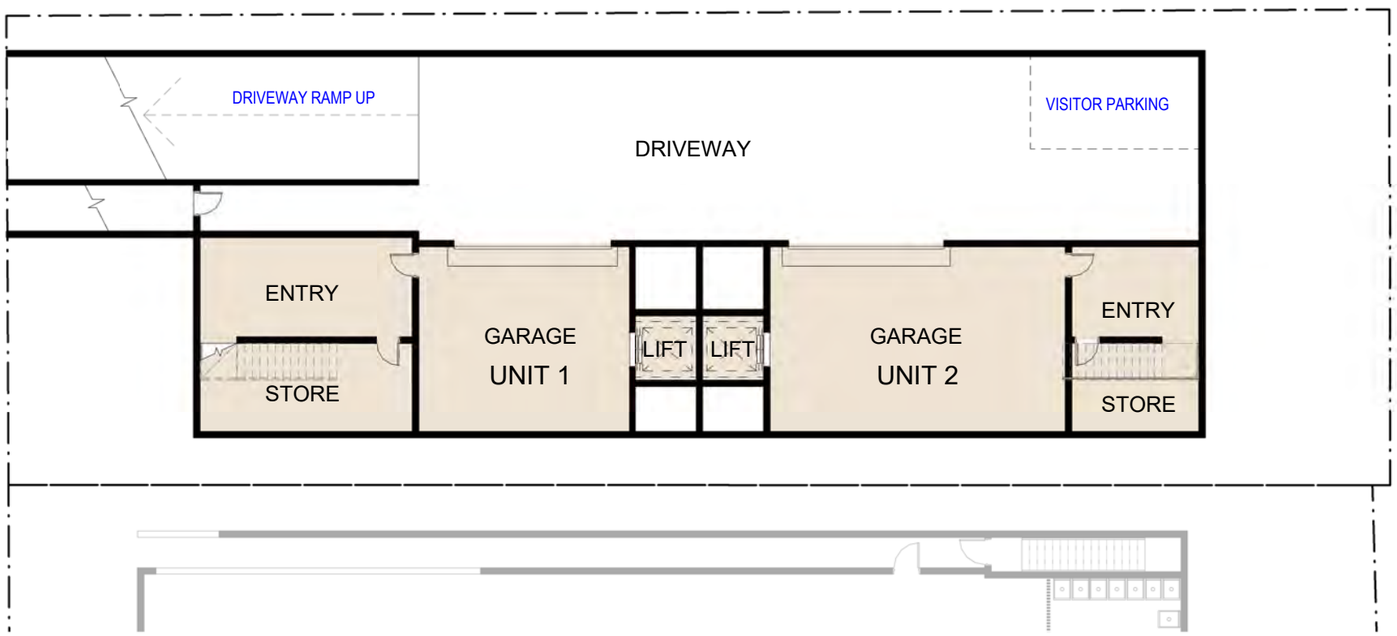
Suite 1
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

2/10/2020 9:37:39 AM



7 PARK STREET - GROUND FLOOR PLAN

2



7 PARK STREET - BASEMENT FLOOR PLAN

1

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	WLPP ADDITIONAL INFROMATION	29.09.2020	DC

2 1 0 2 4 6 8

1:100 @ A1 1:200 @ A3

2/10/2020 9:35:02 AM

PROPOSED APARTMENT BUILDING

Project Address

MORETTI CONSTRUCTION 18-60

CONCEPT PLAN - 7 PARK STREET DA-28 -A

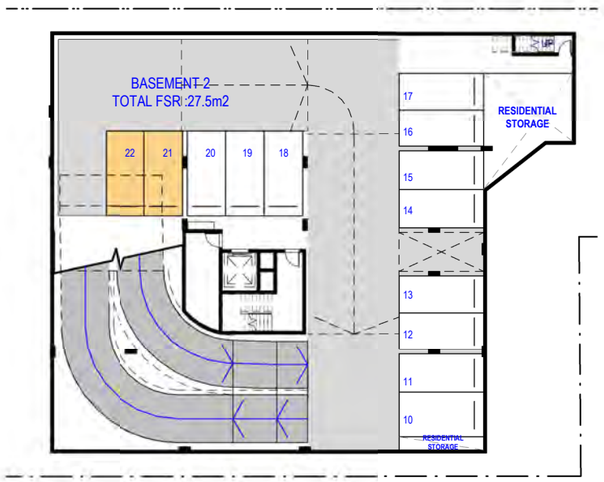
Suite 3
75 Market Street
Wollongong NSW 2500
P: 4228 5699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

NOT FOR CONSTRUCTION

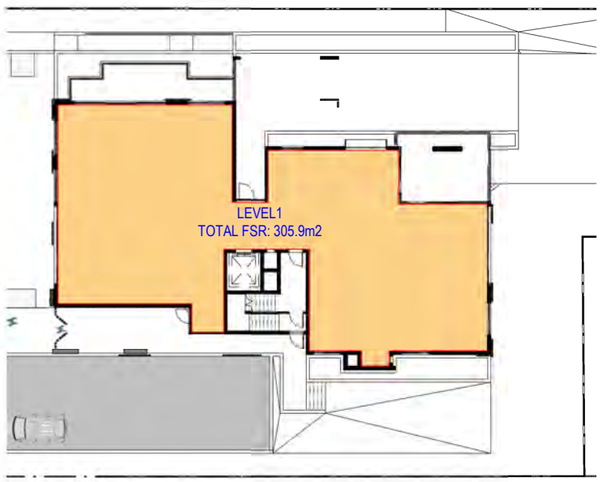
DEVELOPMENT APPLICATION

AMENDMENTS

No.	Revision Description	Date	BY:
A	DA REVISION TO DRP	05.05.2020	DC
B	GENERAL DRP/CLIENT CHANGES	09.06.2020	DC
C	BASEMENT PARKINGS & FSR CALCULATION	23.06.2020	DC
D	SITE INFORMATION UPDATED	07.07.2020	DC
E	WLPP ADDITIONAL INFROMATION	29.09.2020	DC



7 B2 FSR



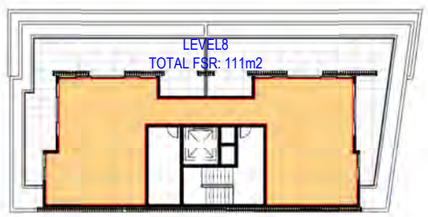
1 L1 FSR.

2 L2 FSR.

3 L3 FSR.

4 L4 - L6 FSR.

5 L7 FSR.



6 L8 FSR.

Site Information

9-11 Park Street, Wollongong
Lot 1, DP 780693 &
Lot 1, DP 1246328

Zone R1
Site Area- 1268m
1.5 FSR (Compliant)
32m height limit (Compliant)

Max GFA 1902m²

Floor Areas

L1: 305.9m²
L2: 229.9m²
L3: 229.9m²
L4-6: 753.6m² (251.2m² x3)
L7: 233.5m²
L8: 111m²
Total :1863.8m²

+2 Excess Car Parking Spaces (27.5m²)

Total :1891.3m²
(2 excess car parking spaces included)

UNIT FLOOR AREA:

UNIT 1 : 131.3m²
UNIT 2 : 145.5m²
UNIT 3 : 83.2m²(adaptable)
UNIT 4 : 131.3m²
UNIT 5 :83.2m²(adaptable)
UNIT 6 :131.3m²
UNIT 7 :120m²
UNIT 8 :116m²
UNIT 9 :120m²
UNIT 10 :116m²
UNIT 11 : 120m²
UNIT 12 :116m²
UNIT 13 : 161.4m² (110m² + 51.4m²)
UNIT 14 : 157.5m² (108m² + 49.5m²)

Communal Open Space, Landscape Area & Deep Soil Zone - REFER TO LANDSCAPE PLAN

Refer to Traffic report & Landscape plan

NOTE:
GENERAL AMENDMENT ACCORDING TO DRP/ WLPP REQUIREMENTS.

PROPOSED APARTMENT BUILDING
Project Address

MORETTI CONSTRUCTION 18-60

FSR. CALCULATION

DA-27 -E

Suite 3
73 Market Street
Wollongong NSW 2500
P: 4228 3699 F:4229 1145
E: office@prdarchitects.com
PRD ARCHITECTS

1/10/2020 2:11:18 PM

GENERAL

G1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CURRENT SAA CODES AND THE BYLAWS, ORDINANCE OR OTHER REQUIREMENTS OF THE RELEVANT BUILDING AUTHORITIES.

G2. DO NOT OBTAIN DIMENSIONS BY SCALING THESE DRAWINGS. ONLY PRINCIPAL STRUCTURAL DIMENSIONS ARE SHOWN. ALL DIMENSIONS ARE IN MILLIMETERS.

G3 READ THESE DRAWINGS IN CONJUNCTION WITH THE ALL OTHER CONTRACT DOCUMENTS AND THE REQUIREMENTS OF THE RELEVANT BUILDING AUTHORITIES.

G4. BEFORE PROCEEDING WITH WORK CLARIFY ANY DISCREPANCIES, VERIFY ALL SETTING OUT DIMENSIONS. CONSTRUCTION FROM THESE DRAWINGS AND ASSOCIATED CONSULTANTS' DRAWINGS

G5. SHALL NOT COMMENCE UNTIL APPROVED BY THE LOCAL AUTHORITIES.

G6.DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION. DO NOT EXCEED THE DESIGN LIVE LOADS SHOWN OR CAUSE ANY ELEMENT TO BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.

G7. THE BUILDER SHALL GIVE 48 HOURS NOTICE FOR ALL ENGINEERING INSPECTIONS.

G8. ALL SITE RE-GRADING AREAS SHALL BE FINALLY GRADED TO THE SATISFACTION OF THE ENGINEER.

G9 SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED OR REMOVED FROM SITE.

G10. ALL DRAINAGE LINES THROUGH ADJACENT LOTS SHALL BE CONTAINED WITHIN EASEMENTS CONFORMING TO COUNCIL'S STANDARDS.

G11. THE METHOD OF CONSTRUCTION AND THE MAINTENANCE OF SAFETY DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE BUILDER. IF ANY STRUCTURAL ELEMENT PRESENTS DIFFICULTY IN RESPECT OF CONSTRUCTIBILITY OR SAFETY, THE MATTER SHALL BE REFERRED TO THE STRUCTURAL ENGINEER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

G12. IF THERE IS A DISCREPANCY IN MEMBER SIZES FOR ANY COMPONENT, ASSUME FOR PRICING PURPOSES ONLY THAT THE LARGER OR MORE EXPENSIVE SIZE IS CORRECT. REFER TO STRUCTURAL/CIVIL ENGINEER FOR DECISION BEFORE DETAILING OR CONSTRUCTION

SITE PREPARATION

SP1. STRIP OFF ALL VEGETATION, RUBBISH AND TOPSOIL SP1 CONTAINING ORGANIC OR ROOT MATTER FROM THE AREA OF THE CONSTRUCTION.

SP2 PROVIDE SUITABLE SURFACE AND/OR SUBSOIL DRAINAGE IN CONJUNCTION WITH, OR SUBSEQUENT TO BULK EARTHWORKS AS REQUIRED ON SITE, TO MINIMIZE INGRESS OF MOISTURE ADJACENT TO, OR BENEATH THE BUILDING.

SP3 FILL SHALL CONSIST OF MATERIAL COMPACTED TO 98% MAX. STD DRY DENSITY UNLESS NOTED OTHERWISE IN LAYERS BY REPEATED ROLLING WITH PROPRIETARY COMPACTION PLANT. ALL FILLING IS TO BE LAID IN 150mm MAXIMUM LAYERS.

SP4. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH THE SOIL GEOTECHNICAL REPORT BY THE GEOTECHNICAL ENGINEER IS TO APPROVE THE MATERIAL USED FOR FILLING AND IS TO SUPERVISE PLACING OF COMPACTED FILL. FILLING IS TO BE FREE OF RUBBISH, PLASTIC CLAY OR LARGE PIECES OF ROCK/BOULDER WHICH WOULD INHIBIT COMPACTION.

SP5. FOR ON-GROUND CONCRETE SLABS - BLIND WITH SAND UNDER VAPOUR-PROOF MEMBRANE BARRIER. VAPOUR BARRIER SHALL BE POLYETHYLENE SHEETING OF MIN. 0.2mm THICKNESS . LAPPING SHALL BE NOT LESS THAN 200mm AT JOINTS . PENETRATIONS BY PIPES SHALL BE TAPED.

SP6. BACKFILLING AND COMPACTION OF FILL SHALL BE CARRIED OUT SIMULTANEOUSLY ON EACH SIDE OF WALLS.

SP7. ALL FINISHED SURFACE LEVELS OF EARTHWORKS ARE TO GRADE AWAY FROM THE BUILDING & DIVERT RUNOFF INTO THE STORMWATER DRAINAGE SYSTEM IN ACCORDANCE WITH THE RELEVANT CONTRACT DRAWINGS.

SP8. ALL PAD FOOTING EXCAVATIONS ARE TO BE BACKFILLED UP TO FINISHED SURFACE LEVEL.

ENVIRONMENT

THE BUILDERS ATTENTION IS CALLED TO OBSERVE ANY COUNCIL, E1 EPA, OTHER AUTHORITY'S OR CONTRACT CONDITIONS IN COMPLYING WITH MANAGEMENT OF EXCAVATION, SOIL MOVEMENT, SEDIMENT CONTROL AND DUST SUPPRESSION.

STORMWATER DRAINAGE GENERAL:

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT AND ENGINEER FOR DECISION BEFORE PROCEEDING WITH THE WORK.
2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THESE DRAWINGS. REFER TO ARCHITECT'S FINAL DRAWINGS.
3. THE BUILDER SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING AND NEW SERVICES, AND SHALL BE RESPONSIBLE FOR DAMAGE TO SAME.
4. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SAA CODES, AND THE BY-LAWS AND ORDINANCES OF THE FOLLOWING:- SHELLHARBOUR CITY COUNCIL EPA and WORK COVER AS 3500 PARTS 2 & 3
5. PREPARE PROGRESSIVELY AND FURNISH TO THE ENGINEER WORK AS EXECUTED DRAWINGS OF THE SAME SIZE AND QUALITY AS THIS DRAWING BUT ACCORDANCE WITH DA CONDITIONS & CC REQUIREMENTS
6. GIVE SUFFICIENT NOTICE SO THAT INSPECTION MAY BE CARRIED OUT AT THE FOLLOWING STAGES: WORK READY FOR SPECIFIED TESTING WORK READY TO BE COVERED OR CONCEALED
7. OBTAIN APPROVAL BEFORE INTERRUPTING AN EXISTING SERVICE. KEEP THE NUMBER OF INTERRUPTIONS TO A MINIMUM
8. LAY PIPES TO THE LEVELS SHOWN ON THE DRAWINGS AND IN ANY CASE NOT LESS THAN THE FOLLOWING: 100∅ @ 1.0% , 150∅ @ 1.0%, 225∅ @ 0.5%, 300∅ @ 0.5%
9. ENDS OF PIPES AND STUB CONNECTIONS TO BE SEALED WITH AN APPROVED SEALED DISC.
10. MILD STEEL STAR PICKET 1200mm LONG WITH 300mm PAINTED GREEN EXTENDED ABOVE GROUND LEVEL TO BE PLACED AT EACH INTERLOTMNET DRAINAGE CONNECTION POINT.
11. GEOTEXTILE FABRIC TO BE PLACED UNDER RIP RAP SCOUR PROTECTION.

PAVEMENT GENERAL

1. ALL WORK TO BE IN ACCORDANCE WITH THE DEVELOPMENT CONSTRUCTION SPECIFICATION OF THE SHELLHARBOUR CITY COUNCIL.
2. MAKE SMOOTH CONNECTION TO ALL EXISTING ENGINEERING WORK.
3. ALL EXISTING SERVICES TO BE LOCATED AND LEVELED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL SERVICES AFFECTED BY NEW WORK, TO BE ADJUSTED TO SUIT IN N4. THE FIELD, TO THE SATISFACTION OF THE RELEVANT SERVICE AUTHORITY.
5. WHILE WORKING ON COUNCIL ROADS OR ROAD RESERVES, CONTRACTOR TO PROVIDE A TRAFFIC CONTROL PLAN WHICH COMPLIES WITH A.S. 1742.3-1996. A COPY OF THE PLAN SHOWING LAYOUT OF PROPOSED TRAFFIC CONTROL FOR THE COMMENCEMENT OF WORK AND CERTIFIED BY A SUITABLY QUALIFIED PERSON, IS TO BE SUBMITTED TO COUNCIL PRIOR TO THE COMMENCEMENT OF ANY WORK. FURTHER PLANS ARE TO BE SUBMITTED IF WORK SITE ALTERS.
6. ANY ROAD RESTORATION REQUIRED SHALL BE IN 300mm LAYERS OF DGS 40 FROM THE BOTTOM OF TRENCH OR TOP OF SAND OVERLAY OVER ANY PIPES, COMPACTED TO A MINIMUM OF 100% STANDARD COMPACTION, WITH THE FINAL LAYER OF 100mm DGB 20 COMPACTED TO A MINIMUM OF 100% STANDARD COMPACTION AND FINISHED LEVEL WITH EXISTING ROAD SURFACE.
7. ALL DISTURBED SURFACES ARE TO BE REINSTATED TO AS NEARLY AS POSSIBLE TO THE PRE CONSTRUCTION CONDITION.

STORMWATER DRAINAGE CERTIFICATION:

1. PROVIDE CERTIFICATION THAT THE WHOLE INSTALLATION MEETS THE STANDARDS REFERRED TO IN THESE SPECIFICATIONS AND THE REQUIREMENTS OF AUTHORITIES AS WELL AS THE SUPPLY UTILITY.
2. ON COMPLETION OF DRAINAGE WORKS THE CONTRACTOR TO SUPPLY TO THE ENGINEER WORK AS EXECUTED DRAWINGS CERTIFIED BY A REGISTERED SURVEYOR.

STORMWATER DRAINAGE NOTES:

1. CONTRACTOR IS TO VERIFY THE LEVEL AND LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF EXCAVATION
2. THE CONTRACTOR IS TO VERIFY ANY CONFLICT OF SERVICES IN THE ROAD RESERVE OR SUBJECT PROPERTY AND THE ENGINEER IS TO BE NOTIFIED AT THE EARLIEST POSSIBLE CONVENIENCE.
3. THE CONTRACTOR IS TO VERIFY INVERT LEVELS AT POINT OF CONNECTION TO EXISTING STORMWATER SYSTEM AND REPORT ANY CONFLICT OF LEVELS.
4. ALL BUILDINGS HAVE BEEN RAISED SO THERE IS AT LEAST 150mm STEP UP INTO THE BUILDING TO ALLOW SUFFICIENT FREEBOARD FOR OVERLAND FLOWS IN THE CASE OF PIPE BLOCKAGE.
5. DOWNPIPE & PIT LOCATIONS & LEVELS MAY BE VARIED TO SUIT SITE CONDITIONS, AFTER ENGINEERS APPROVAL.
6. DOWNPIPES SHOWN ARE INDICATIVE ONLY. ALL ROOF GUTTERING AND DOWNPIPES TO THE CURRENT AUSTRALIAN STANDARDS.
7. DRAINAGE PIPES TO BE CONCRETE ENCASED WHERE LOCATED UNDER DRIVEWAY OR BUILDING.
8. ALL PIPES TO BE FULLY HOUSED INTO PIT WALLS AND JOINED/SEAL IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
9. GRADE ALL PAVED AND GRASSED AREAS AWAY FROM BUILDING.
10. TOP OF GRATE TO BE POSITIONED TO CATCH ALL UPSTREAM SURFACE FLOWS AS INDICATED BY PLANS.
11. ALL PIPES WITHIN THE PROPERTY TO BE MIN. OF 150 DIA. PVC @ 1% MIN. GRADE, UNO.
12. ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULHEADS AT ALL JOINTS
13. ALL PITS WITH THE PROPERTY AREA TO BE FITTED WITH WELDOK OR APPROVED EQUIVALENT GRATES TO AS 3996:
    - LIGHT DUTY FOR LANDSCAPED AREAS
    - HEAVY DUTY WHERE SUBJECTED TO VEHICULAR CROSSING
14. ANY PIPES BENEATH RELEVANT LOCAL AUTHORITY ROAD TO BE RUBBER RING JOINTED RCP, uno.
15. ALL PITS IN ROADWAYS ARE TO BE FITTED WITH HEAVY DUTY GRATES WITH LOCKING BOLTS AND CONTINUOUS HINGE.
16. ALL COURTYARD & LANDSCAPE PITS TO BE 400 SQUARE UNO
17. ALL PLANTER BOXES AND BALCONIES TO BE CONNECTED TO THE PROPOSED STORMWATER DRAINAGE LINE.
18. PROVIDE STEP IRONS TO STORMWATER PITS GREATER THAN 1200 IN DEPTH.
19. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS TO BE MIN. 25MPa
20. PROVIDE CONCRETE BENCHING ACROSS PIT TO SUIT INLET & OUTLET PIPES AS DETAILED.
21. 100∅ SUBSOIL DRAINAGE PIPE 3.0M LONG WRAPPED IN FABRIC SOCK TO BE PLACED ADJACENT TO INLET PIPES ON BOTH SIDES AND 100 MM MIN. ABOVE PIT FLOOR
22. SUB-SOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM, UNO.
23. SELECTED GRANULAR BACKFILL IS TO BE PLACED AGAINST THE FULL HEIGHT OF THE PIT VERTICAL FACES AND FOR A HORIZONTAL DISTANCE EQUAL TO ONE-THIRD THE HEIGHT OF THE STRUCTURE.
24. MORTAR BASES TO BE SHAPED TO GIVE MIN. 20mm FALL ACROSS PITS
25. MORTAR BASES TO BE DISHED TO SUIT ADJOINING PIPE SIZES TO GIVE SELF CLEANSING PITS.
26. WHERE PIT DEPTH EXCEEDS STANDARD DEPTH, CONCRETE SHALL BE USED AS PIT BASE, AND ALSO TO GAIN REQUIRED INLET/OUTLET LEVELS.
27. THE INLET PIPE OBVERT IS TO BE HIGHER THAN THE OUTLET PIPE OBVERT.
28. ALL SWALES SHALL HAVE A TURFED INVERT EXTENDING 0.5m UP THE SIDE SLOPES.
29. HAND EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS
30. FOOTPATH CROSSING LEVELS SHOWN ARE TO BE ADJUSTED TO FINAL COUNCIL'S ISSUED LEVELS
31. ALL FENCES MUST BE RAISED 150mm FROM FINISHED GROUND LEVELS SO THAT OVERLAND FLOWS FROM UPSTREAM PROPERTIES ARE NOT RESTRICTED OR BLOCKED.

SURVEY DRAWINGS

SD1. BOUNDARIES IF SHOWN MAY NOT YET HAVE BEEN DEFINED OR MARKED. ALL BEARING AND DISTANCES ARE SUBJECT TO FINAL SURVEY. ONLY VISIBLE SERVICES HAVE BEEN LOCATED. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION, RELEVANT AUTHORITIES SHOULD BE CONTACTED FOR DETAILED LOCATION OF ALL SERVICES AND POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES.
ALL WORK IS TO BE SET OUT BY A COMPETENT SURVEYOR APPROVED BY COUNCIL.

EARTHWORKS

1. ALL EARTHWORKS ARE TO BE PERFORMED TO LEVEL 1 CLASSIFICATION IN ACCORDANCE WITH AS 3798 - "GUIDELINES ON EARTHWORKS FOR COMMERCIAL, RESIDENTIAL DEVELOPMENTS".
2. ALL WORKS TO BE CONDUCTED TO THE REQUIREMENTS OF THE SHELLHARBOUR CITY COUNCIL SUBDIVISION POLICY.
3. EXCAVATIONS GREATER THAT 1.5m IN DEPTH SHALL BE BENCHED AT 1.5m INTERVALS IN HEIGHT & PROTECTED BY SAFETY FENCE ABOVE.
4. NO SITE RE-GARDING WORKS ARE TO BE UNDERTAKEN UNTIL EROSION & SEDIMENT CONTROL DEVICES HAVE BEEN ERECTED OR CONSTRUCTED TO THE SATISFACTION OF THE SUPERINTENDENT.
5. PROVIDE PROTECTION BARRIERS TO PROTECTED/SENSITIVE AREAS PRIOR TO ANY BULK EXCAVATION
6. OVER FULL AREA OF EARTHWORKS, CLEAR VEGETATION, RUBBISH, SLABS ETC, AND STRIP TOP SOIL.AVERAGE 200mm THICK. REMOVE FROM SITE, EXCEPT TOP SOIL FOR RE-USE.
7. STRIP AVERAGE 500mm EXISTING UNCONTROLLED FILL IN BUILDING AREAS. STRIP AVERAGE 1000mm UNCONTROLLED FILL UNDER ROADS & SLABS ON GRADE.
8. CUT & FILL OVER THE SITE TO LEVELS REQUIRED. BENCH AS NECESSARY.
9. ALL DISTURBED AREAS INCLUDING BATTERS TABLE DRAINS AND FOOTPATH AREAS ARE TO BE TOP SOILED FERTILIZED AND SEEDED TO THE SATISFACTION OF COUNCIL'S SUBDIVISION AND DEVELOPMENT ENGINEER.
10.
11. STOCKPILE EXCAVATION MATERIAL FOR RE-USE. GEOTECHNICAL ENGINEER TO APPROVE.
12. PRIOR TO ANY FILLING IN AREAS OF CUT OR EXISTING GROUND, PROOF ROLL THE EXPOSED SURFACE WITH A ROLLER OF MIN. WEIGHT OF 5 TONES WITH A MIN. OF 10 PASSES
13. EXCAVATE & REMOVE ANY SOFT SPOTS ENCOUNTERED DURING PROOF ROLLING & REPLACE WITH APPROVED FILL COMPACTED IN LAYERS.THE WHOLE OF THE EXPOSED SUB-GRADE & FILL SHALL BE COMPACTED TO 98% STANDARD MAX. DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2%.
14. FOR ON SITE FILLING AREAS, THE CONTRACTOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL & PRIOR TO COMMENCING OPERATIONS.
15. WHERE HARD ROCK IS EXPOSED IN SUB-GRADE, THIS WILL BE INSPECTED AND A DECISION MADE ON THE LEVEL TO WHICH EXCAVATION IS TAKEN.
16. FILL IN 200mm MAX. (LOOSE THICKNESS) LAYERS TO UNDERSIDE OF BASE COURSE USING THE EXCAVATION MATERIAL & COMPACTED TO REQUIRED STANDARD (AS 1289 5.1.1). MAX. DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2% SHOULD THERE BE INSUFFICIENT MATERIAL FROM SITE EXCAVATIONS. IMPORT NECESSARY CLEAN GRANULAR FILL TO GEOTECH ENGINEER APPROVAL
17. USE EXCAVATION MATERIAL IN LOWER LEVELS & UNDER BUILDINGS. USE IMPORTED MATERIAL IN UPPER LEVELS & UNDER ROAD & CAR PARK AREAS.
18. FOR COMPACTION REQUIREMENTS REFER TO ATTACHED DRAWINGS.
19. ALL TESTING WORKS SHALL BE UNDERTAKEN & CERTIFIED BY A NATA REGISTERED LABORATORY. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE SUPERINTENDENT.
20. BATTERS TO BE AS SHOWN OR MAX 1 VERT: 4 HORIZ ALL CONDUITS & MAINS SHALL BE LAID PRIOR TO LAYING FINAL PAVEMENT.
21. ALL BATTERS & FOOTPATHS ADJACENT TO ROADS SHALL BE TOP SOILED WITH 150mm APPROVED LOAM & SEEDED UNLESS OTHERWISE SPECIFIED.
22. REFER TO GEOTECHNICAL ENGINEERS REPORT TO ASSESS ALL CUTTING & FILLING ONSITE.

SERVICES CONFLICT: IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK FOR ANY CONFLICT OF SERVICES IN THE FOOTPATH & VERIFY LEVELS OF THE EXISTING STORM WATER CONNECTION BEFORE ANY COMMENCEMENT OF WORK

ATB CONSULTING ENGINEERS TAKES NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES OR LOSSES INCURRED TO ANY PERSONS OR PROPERTY (INCLUDING THE DEVELOPMENT SITE) AS A RESULT OF MISINTERPRETATION OF THE RESULTS AND UNFORESEEN CIRCUMSTANCES SUCH AS POOR CONSTRUCTION, LACK OF MAINTENANCE AFTER CONSTRUCTION, ALTERATIONS TO GROUND LEVELS UPSTREAM, DOWNSTREAM OR ADJACENT TO THE DEVELOPMENT.

SYMBOLS & NOTATIONS

100∅ uPVC @ 1.0% MIN.	PIPE SIZE, TYPE AND GRADE
20.71	EXISTING LEVELS
x 22.80	PROPOSED LEVELS
	STORMWATER PIT
	CONCRETE COVERED PIT
KIP 1	KERB INLET PIT 1
	1200 SQ. GRATED PUMP OUT PIT WITH TWIN PUMPS
● DP	DOWN PIPE
RWT	RAINWATER TANK
	STORMWATER PIPE
AGG	AGG. PIPE
	SPOON/SWALE DRAIN
	GRATED DRAIN
	DIRECTION OF FLOW
O/F	DIRECTION OF OVERLAND FLOW
	PROPOSED RETAINING WALLS
	100∅ PVC SPREADER PIPE, 600 LG
BO ∅	BALCONY OUTLET
PO ∅	PLANTER OUTLET
OF	OVERFLOW SLOTS
	PIPE SUSPENDED BELOW SLAB
H1	CONTINUED OH H1
DP 100	DIRECTION OF FLOW SERVICE SIZE

LEGEND

AHD	AUSTRALIAN HIGH DATUM
AG	AGG PIPE
ARI	AVERAGE RECURRENCE INTERVAL
BG	BOX GUTTER
BP	BASEMENT PIT.
BWT	BOTTOM WATER LEVEL
CL	COVER LEVEL
CO	CLEAN OUT INSPECTION OPENNING
DP	DOWNPIPE.
EDP	EXISTING DOWN PIPE
EG	EAVES GUTTER
EP	EXISTING PIT.
FFL	FINISHED FLOOR LEVEL
GI	GALVANISED IRON GRATE.
GP	GROUND PIT.
HDG	HEAVY DUTY CAST IRON GRATE.
IL	INVERT LEVEL
IO	INSPECTION OPENING
JP	JUNCTION PIT.
K	KERB.
KIP	KERB INLET PIT.
LDG	LIGHT DUTY CAST IRON GRATE.
MDG	MEDIUM DUTY CAST IRON GRATE.
NTS	NOT TO SCALE
O/F	OVER FLOW
OSD	ONSITE DETENTION
PE	EASEMENT PIT.
PD	PARKING DRAIN
PSD	PERMISSIBLE SITE DISCHARGE
RCP	REINFORCED CONCRETE PIPE
RHS	RECTANGULAR HOLLOW SECTION
RL	REDUCED LEVEL
RRJ	RUBBER RING JOINTED
RWT	RAINWATER TANK
RWO	RIANWATER OUTLET
RWH	RAIN WATER HEAD
SFL	SLAB FINISHED LEVEL
SP	SPREADER.
SS	STAINLESS STEEL
SU	BOX GUTTER SUMP
SWP	STORMWATER PIT
TOK	TOP OF KERB
TW	TOP OF WALL
TWL	TOP WATER LEVEL
U/S	UNDER SIDE OF SLAB
VG	VALLY GUTTER
UNO	UNLESS NOTED OTHERWISE

ISSUE	AMENDMENT	DATE
1	ISSUE FOR COORDINATION	22/10/19
A	ISSUE FOR DA APPLICATION	07/11/19

PLANS 0 1000 2000 3000 4000 5000

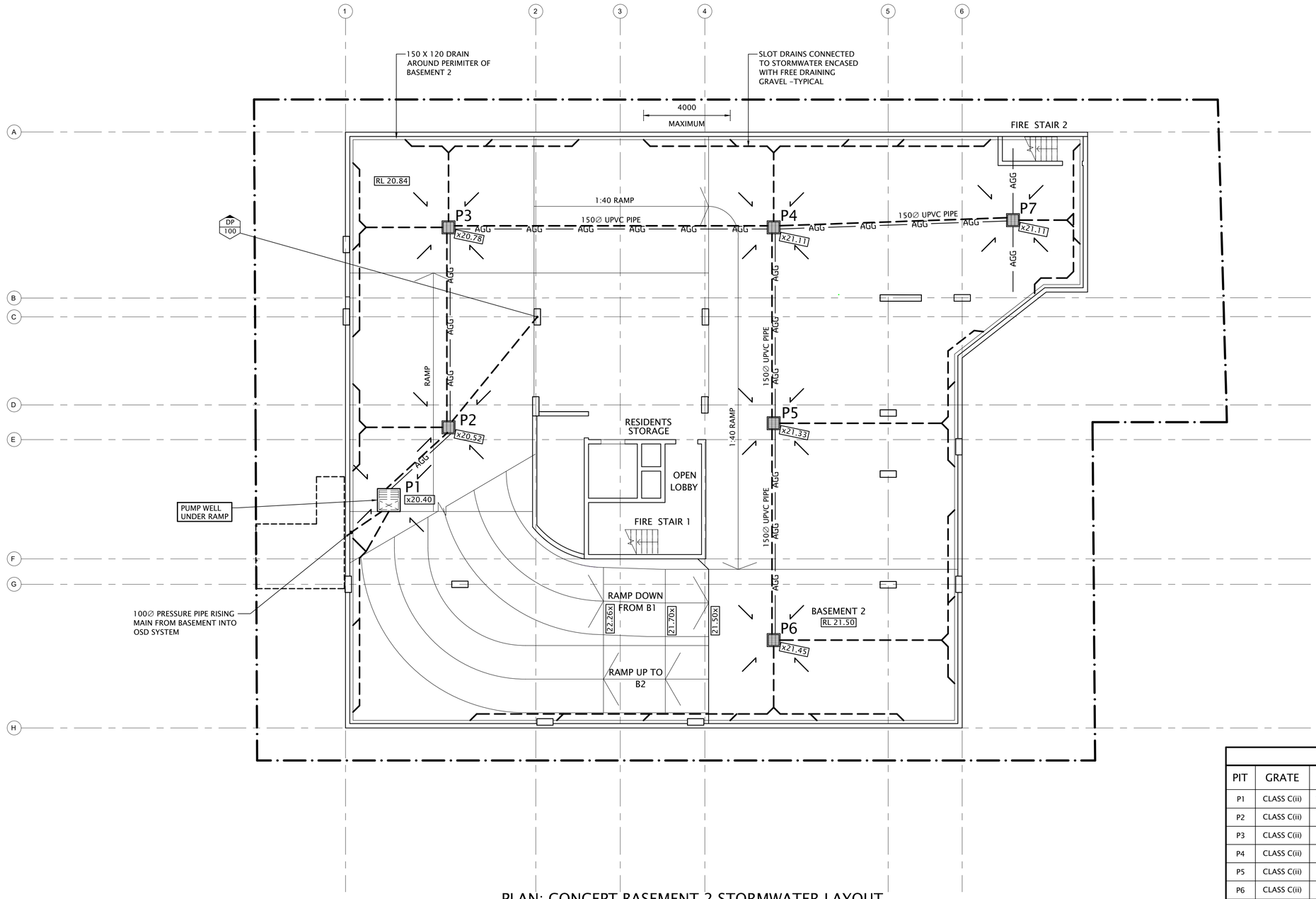
DO NOT SCALE IF IN DOUBT ASK A1

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS

ATB CONSULTING ENGINEERS CIVIL & STRUCTURAL
11 VICTORIA STREET WOLLONGONG NSW 2500
TELEPHONE: 02 42 266 646
Email: info@atbconsulting.com.au
ACEA The Association of Consulting Engineers Australia

Title	STORMWATER NOTES AND LEGENDS
Project	PROPOSED APARTMENT DWELLING
At	9-11 PARK STREET WOLLONGONG, NSW
Client	MORETTI CONSTRUCTION

SCALES	AS SHOWN
DRAWN	D.K.
DESIGNED	G.U.
CHECKED	G.U.
DATE PLOTTED	13/05/19
DATUM	A.H.D.
DATE CHK'D	__/05/19
PROJECT No	19044
DWG	SW1
REVISION	A



NOTE: MINIMUM GRADIENT
THE MINIMUM GRADIENT SHALL BE 1 IN 200 (0.5%), FOR BASEMENT TO ALL STW PITS.

PIT SCHEDULE

PIT	GRATE	SIZE	RL	IL	COMMENT
P1	CLASS C(ii)	1200x1200	20.40	-	PUMP WELL
P2	CLASS C(ii)	600 x 600	20.52	19.92	SURFACE PIT
P3	CLASS C(ii)	600 x 600	20.78	20.18	SURFACE PIT
P4	CLASS C(ii)	600 x 600	21.11	20.41	SURFACE PIT
P5	CLASS C(ii)	600 x 600	21.33	20.73	SURFACE PIT
P6	CLASS C(ii)	600 x 600	21.45	20.85	SURFACE PIT
P7	CLASS C(ii)	600 x 600	21.11	20.51	SURFACE PIT

CLASS OF GRATE AS3996.2006

A - 10kN PEDESTRIAN
B - 80kN LIGHT VEHICLES
C(i) - 150kN LIGHT TRUCK
C(ii) - 150kN SLOW TRUCK
D - 210kN HIGHWAY VEHICLES

PLAN: CONCEPT BASEMENT 2 STORMWATER LAYOUT

(SCALE 1:100 @ A1, 1:200 @ A3)

1.ALL PIPES SHOWN 100∅ SEWER GRADE WITH 1% FALL UNLESS OTHERWISE SPECIFIED.
2. EXACT LOCATION OF DOWNPIPES TO BE CONFIRMED BY ARCHITECT PRIOR TO DETAILED LOCATION.
3. GRADE ALL PERVIOUS AREAS AWAY FROM BUILDINGS.
4. PROVIDE OVERFLOW PATHS THRU LANDSCAPING BEDS AS REQUIRED OR AS DIRECTED BY ENGINEER ON SITE.
5. GEOFABRIC MATERIAL TO BE FITTED TO ALL OUTLET PIPES FOR ALL PITS. THIS IS REQUIRED TO STOP SEDIMENT FROM EXITING THE PROPERTY.
6.DOWNPIPES CONNECTED TO THE RAINWATER TANKS SHOULD BE VIA A CHARGED SYSTEM ∅100mm SEWER GRADE AND CLEANOUT RISER AT OPPOSITE SIDE OF RAINWATER TANK(S)

CONCEPT DESIGN
NOT TO BE USED FOR CONSTRUCTION PURPOSES

ISSUE	AMENDMENT	DATE
1	ISSUE FOR COORDINATION	22/10/19
A	ISSUE FOR DA APPLICATION	07/11/19
B	MINOR AMENDMENTS	24/06/20

PLANS 0 1000 2000 3000 4000 5000

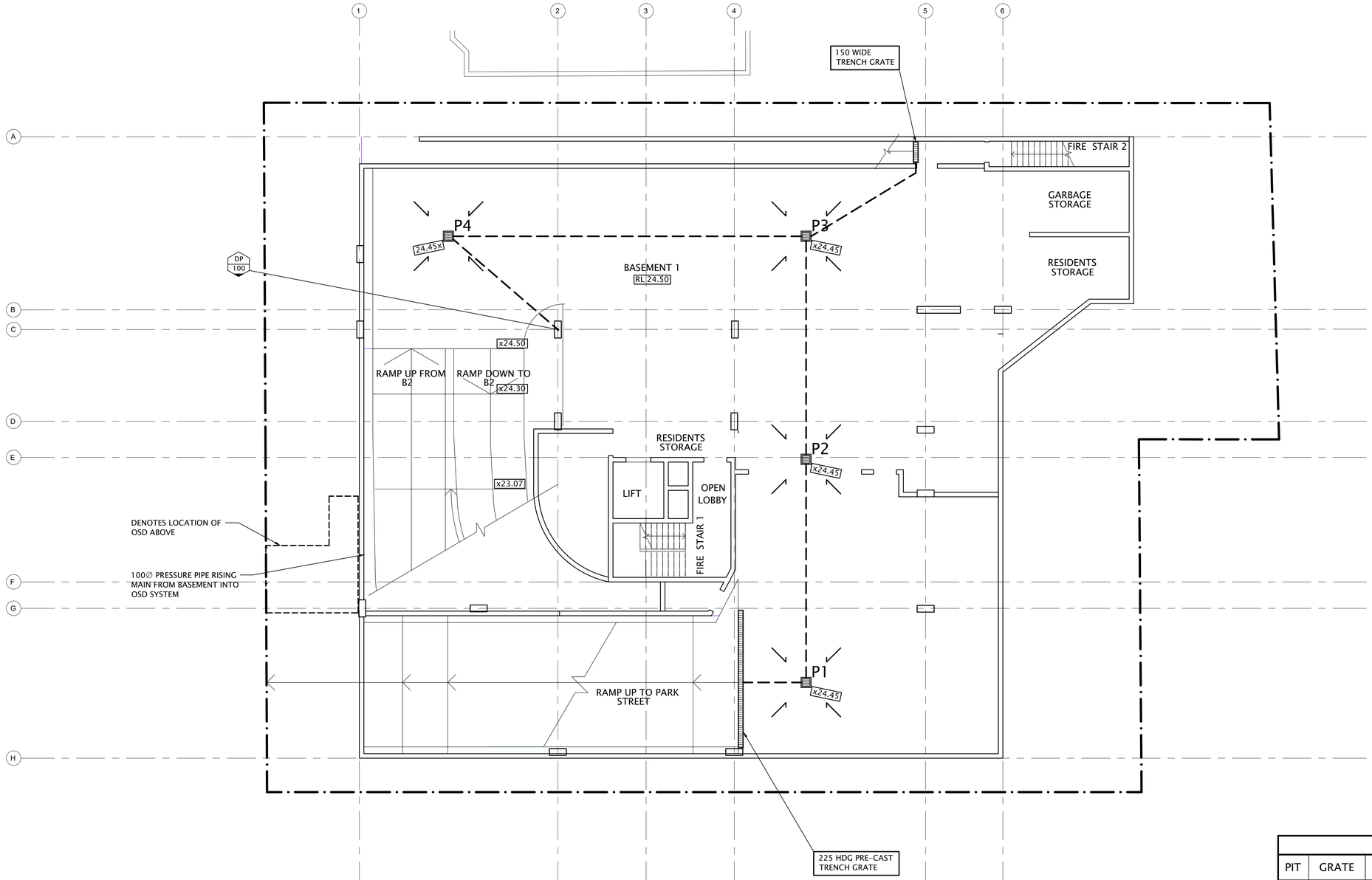
DO NOT SCALE IF IN DOUBT ASK A1

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS

ATB CONSULTING ENGINEERS CIVIL & STRUCTURAL
11 VICTORIA STREET WOLLONGONG NSW 2500
TELEPHONE: 02 42 266 646
Email: info@atbconsulting.com.au
ACEA The Association of Consulting Engineers Australia

Title	PLAN: CONCEPT BASEMENT 2 STORMWATER LAYOUT
Project	PROPOSED APARTMENT DWELLING
At	9-11 PARK STREET WOLLONGONG, NSW
Client	MORETTI CONSTRUCTION

SCALES	AS SHOWN	DATE PLOTTED	13/05/19
DRAWN	D.K.		
DESIGNED	G.U.	DATUM	A.H.D.
CHECKED	G.U.	DATE CHK'D	__/05/19
PROJECT No	19044	DWG	SW2
REVISION	B		



PLAN: CONCEPT BASEMENT 1 STORMWATER LAYOUT

(SCALE 1:100 @ A1, 1:200 @ A3)

NOTE: MINIMUM GRADIENT
THE MINIMUM GRADIENT SHALL BE 1 IN 200 (0.5%), FOR BASEMENT TO ALL STW PITS.

PIT SCHEDULE

PIT	GRATE	SIZE	RL	IL	COMMENT
P1	CLASS C(ii)	450 x 450	24.45	-	SURFACE PIT
P2	CLASS C(ii)	450 x 450	24.45	-	SURFACE PIT
P3	CLASS C(ii)	450 x 450	24.45	-	SURFACE PIT
P4	CLASS C(ii)	450 x 450	24.45	-	SURFACE PIT

CLASS OF GRATE AS3996.2006

A - 10kN PEDESTRIAN
B - 80kN LIGHT VEHICLES
C(i) - 150kN LIGHT TRUCK
C(ii) - 150kN SLOW TRUCK
D - 210kN HIGHWAY VEHICLES

CONCEPT DESIGN
NOT TO BE USED FOR CONSTRUCTION PURPOSES

ISSUE	AMENDMENT	DATE
1	ISSUE FOR COORDINATION	22/10/19
A	ISSUE FOR DA APPLICATION	07/11/19
B	MINOR AMENDMENTS	08/05/20
C	MINOR AMENDMENTS	24/06/20

PLANS 0 1000 2000 3000 4000 5000

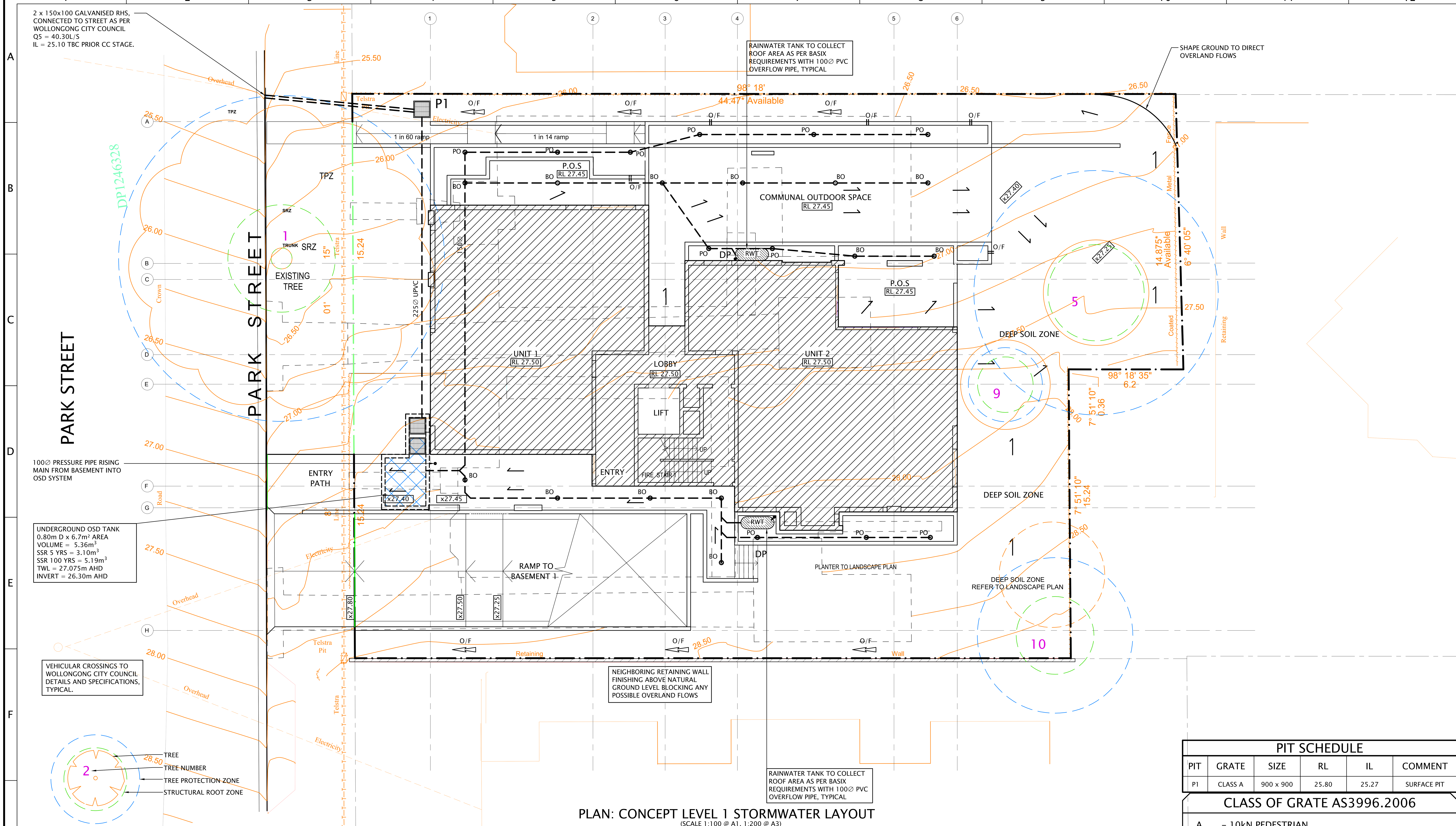
DO NOT SCALE IF IN DOUBT ASK A1

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS

ATB CONSULTING ENGINEERS CIVIL & STRUCTURAL
11 VICTORIA STREET
WOLLONGONG NSW 2500
TELEPHONE: 02 42 266 646
Email: info@atbconsulting.com.au
ACEA The Association of Consulting Engineers Australia

Title	PLAN: CONCEPT BASEMENT 1 STORMWATER LAYOUT
Project	PROPOSED APARTMENT DWELLING
At	9-11 PARK STREET WOLLONGONG, NSW
Client	MORETTI CONSTRUCTION

SCALES AS SHOWN		DATE PLOTTED 13/05/19
DRAWN D.K.		DATUM A.H.D.
DESIGNED G.U.		
CHECKED G.U.	DATE CHK'D __/05/19	
	PROJECT No 19044 / DWG SW3	REVISION C



TREE PROTECTION ZONE LEGEND

REFER TO ARBORICULTURAL IMPACT ASSESSMENT REPORT BY ALLIED TREE CONSULTANCY REFERENCE NO. D3913 DATED OCTOBER 2019

PLAN: CONCEPT LEVEL 1 STORMWATER LAYOUT

(SCALE 1:100 @ A1, 1:200 @ A3)

PIT SCHEDULE

PIT	GRATE	SIZE	RL	IL	COMMENT
P1	CLASS A	900 x 900	25.80	25.27	SURFACE PIT

CLASS OF GRATE AS3996.2006

- A – 10kN PEDESTRIAN
- B – 80kN LIGHT VEHICLES
- C(i) – 150kN LIGHT TRUCK
- C(ii) – 150kN SLOW TRUCK
- D – 210kN HIGHWAY VEHICLES

CONCEPT DESIGN

NOT TO BE USED FOR CONSTRUCTION PURPOSES

ISSUE	AMENDMENT	DATE
1	ISSUE FOR COORDINATION	22/10/19
A	ISSUE FOR DA APPLICATION	07/11/19
B	MINOR AMENDMENTS	08/05/20
C	MINOR AMENDMENTS	24/06/20
D	MINOR AMENDMENTS	30/09/20

PLANS 0 1000 2000 3000 4000 5000

DO NOT SCALE IF IN DOUBT ASK — A1

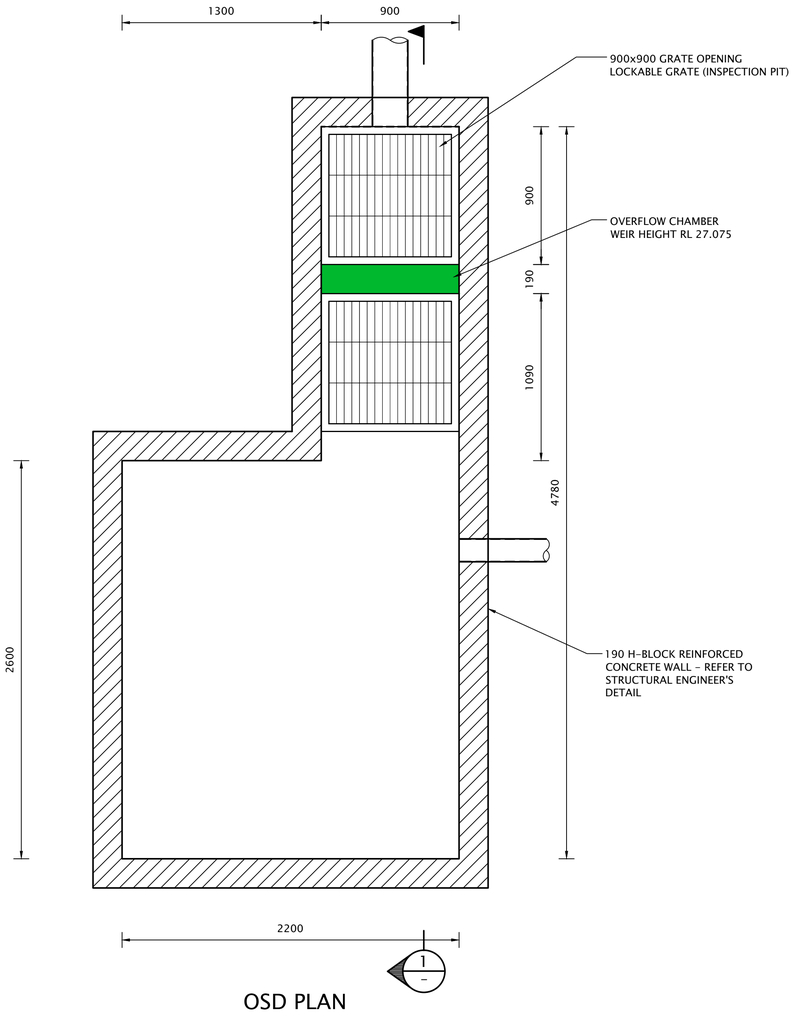
THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS

ATB CONSULTING ENGINEERS CIVIL & STRUCTURAL
11 VICTORIA STREET WOLLONGONG NSW 2500
TELEPHONE: 02 42 266 646
Email: info@atbconsulting.com.au

ACEA The Association of Consulting Engineers Australia

Title: PLAN: CONCEPT LEVEL 1 STORMWATER LAYOUT
Project: PROPOSED APARTMENT DWELLING
At: 9-11 PARK STREET WOLLONGONG, NSW
Client: MORETTI CONSTRUCTION

SCALES: AS SHOWN | DRAWN: D.K. | DESIGNED: G.U. | CHECKED: G.U.
DATE PLOTTED: 13/05/19 | DATUM A.H.D.
DATE CHK'D: __/05/19
PROJECT No: 19044 | DWG: SW4 | REVISION: D



OSD PLAN
(SCALE 1:20)

OSD Calculator

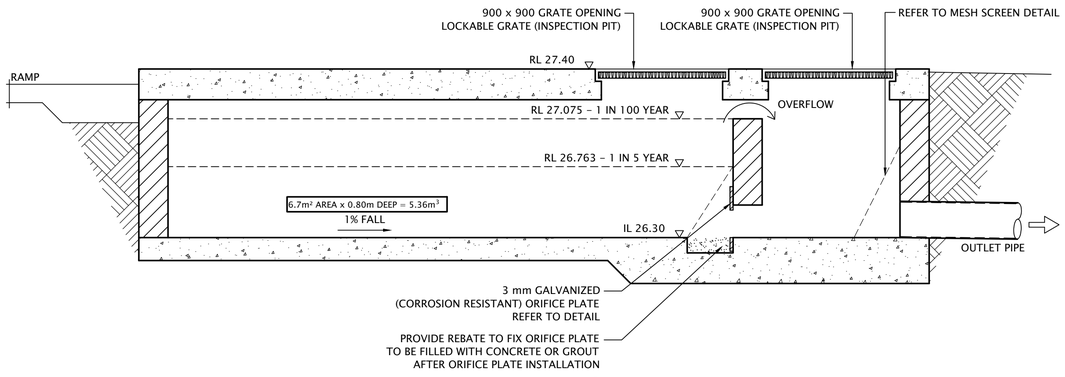
Job Description: 9-11 PARK STREET WOLLONGONG

Tributary Area (m^2)	% IMP Existing Conditions	% IMP Developed Conditions	$I_{1hr,50yr}$ (mm/hr) read from fig =>
1266	43.0	70.0	94.5
	Natural	Existing	Post Development
F1 - 5yr	1.00	1.14	1.19
F1 - 100yr	1.00	1.12	1.18
F2	1.11		
F3		0.11	0.16
F4		0.60	0.60
PSD 5yr (l/s/ha)	280	318	334
PSD 100yr (l/s/ha)	490	547	576
SSR 5yr (m^3/ha)		37	62
SSR 100yr (m^3/ha)		66	106

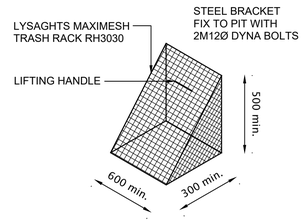
OSD Requirements	
Flow 5yr (l/s)	40.3
Flow 100yr (l/s)	69.3
Volume 5yr (m^3)	3.10
Volume 100yr (m^3)	5.19

Orifice Discharge Calculations

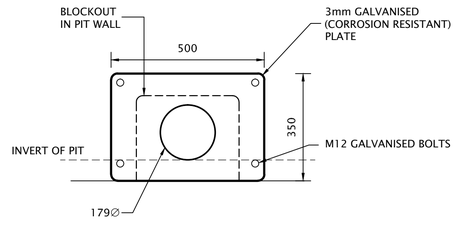
Engineer:	GU		
Job Address:	9-11 Park Street	**Job No.:**	19044
	WOLLONGONG		
Equation:	$Q = CA(2gh)^{0.5}$		
	Discharge, Q_5	0.0403	m^3/s
	Coefficient of Discharge, C	0.61	
	Acceleration to gravity, g	9.81	m^2/s
	Depth of Water, h5	0.35	m
	Orifice area, A	**0.02521**	m^2
Orifice Size:	Diameter of Orifice	**179**	mm



SECTION 1/-
(SCALE 1:20)



MESH SCREEN DETAIL
NOT TO SCALE
GALVANISED LYSAGHT RH3030MAXI
MESH SCREEN IN GALVANISED STEEL
FRAME WITH LIFTING HANDLES



OSD ORIFICE PLATE DETAIL
(NOT TO SCALE)

CONCEPT DESIGN
NOT TO BE USED FOR CONSTRUCTION PURPOSES

ISSUE	AMENDMENT	DATE
1	ISSUE FOR COORDINATION	22/10/19
A	ISSUE FOR DA APPLICATION	07/11/19

PLANS 0 1000 2000 3000 4000 5000

DO NOT SCALE IF IN DOUBT ASK A1

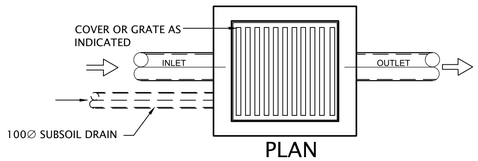
THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS

ATB CONSULTING ENGINEERS CIVIL & STRUCTURAL
11 VICTORIA STREET
WOLLONGONG NSW 2500
TELEPHONE: 02 42 266 646
Email: info@atbconsulting.com.au
ACEA The Association of Consulting Engineers Australia

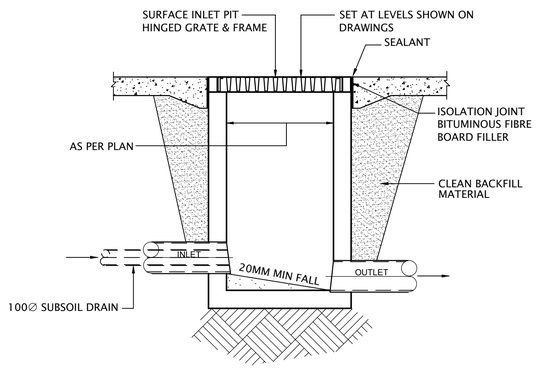
Title	OSD DETAILS
Project	PROPOSED APARTMENT DWELLING
At	9-11 PARK STREET WOLLONGONG, NSW
Client	MORETTI CONSTRUCTION

SCALES	AS SHOWN	DATE PLOTTED	13/05/19
DRAWN	D.K.	DATUM	A.H.D.
DESIGNED	G.U.		
CHECKED	G.U.	DATE CHK'D	__/05/19

PROJECT No	DWG	REVISION
19044	SW5	A

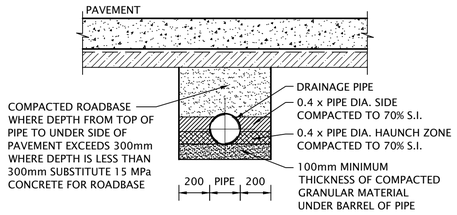


PLAN
(NOT TO SCALE)
PIPE SIZES AND LEVELS AS SHOWN ON DRAWINGS

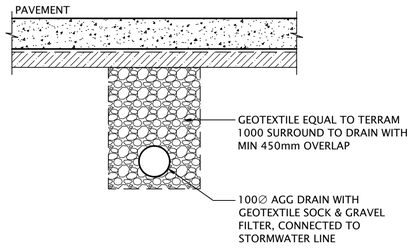


SECTION THROUGH
SURFACE STORMWATER PIT (TYPICAL)
(NOT TO SCALE)

1. ALL PITS TO BE CONSTRUCTED WITH 25MPa CONCRETE AND REINFORCED WITH SL72 MESH CENTRALLY PLACED. MINIMUM COVER TO REINFORCEMENT AT PIPE PENETRATIONS TO BE 50mm.
2. GRATE & FRAME TO BE CLASS 'D' HOT DIP GALVANIZED MILD STEEL - WELDLOK GG50D OR SIMILAR EQUIVALENT.
3. ALL FRAMES TO BE EMBEDDED INTO SURROUNDING CONCRETE AND FINISHED FLUSH WITH THE FINISH FLOOR LEVELS.
4. STEP IRONS TO BE USED WHERE DEPTH TO INVERT IS GREATER THEN 1.2m.
5. ALL EXPOSED EDGES TO BE ROUNDED TO 10mm RADIUS.
6. N12 'L' BARS (MIN. 400x400mm) TO BE PLACED AT 400 CENTRES ON ALL CORNERS (i.e WALLS AND BASE).

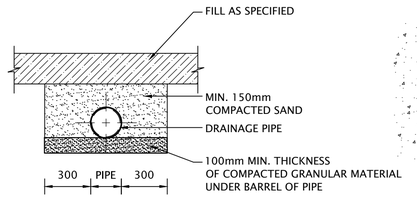


SECTION THROUGH STORMWATER
DRAIN UNDER PAVEMENT
(NOT TO SCALE)



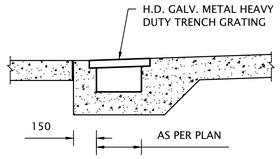
AGG DRAIN DETAIL
(NOT TO SCALE)

REFER TO STRUCTURAL DRAWINGS FOR DETAILS BEHIND RETAINING WALLS.

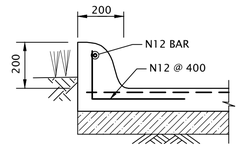


SECTION THROUGH STORMWATER
DRAIN UNDER GROUND
(NOT TO SCALE)

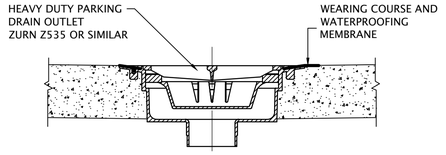
DETAIL
(NOT TO SCALE)
100mm BALCONY OUTLET DETAIL



TRENCH GRATE DETAIL
(TYPICAL)
(NOT TO SCALE)

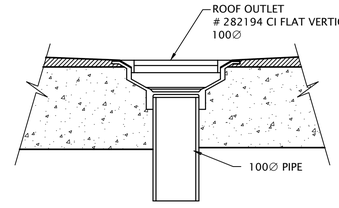


200 HIGH UPTURNED KERB DETAIL
(NOT TO SCALE)

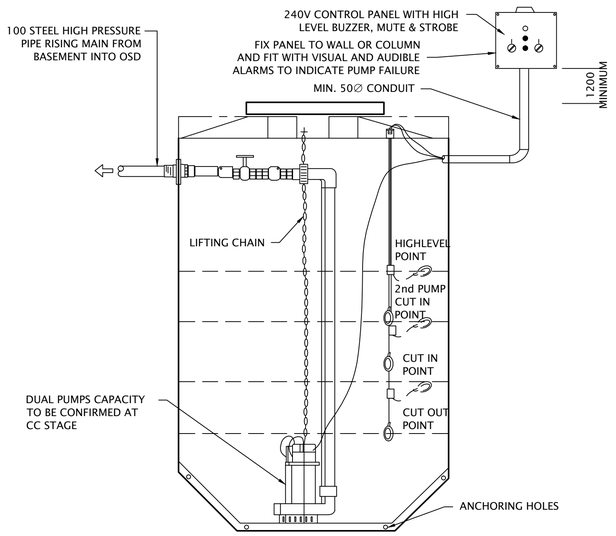


450∅ PARKING DRAIN OUTLET DETAIL
(NOT TO SCALE)

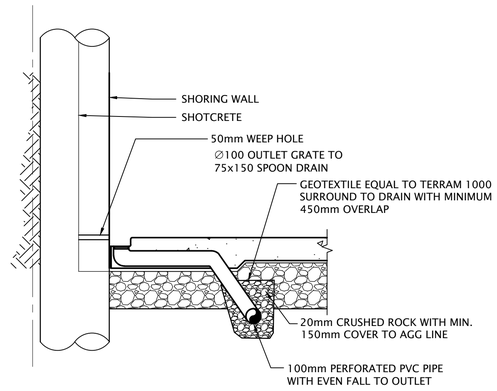
ALL STORMWATER DRAINS ARE TO BE VERIFIED BEFORE COMMENCEMENT AND ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS AND RECOMMENDATIONS



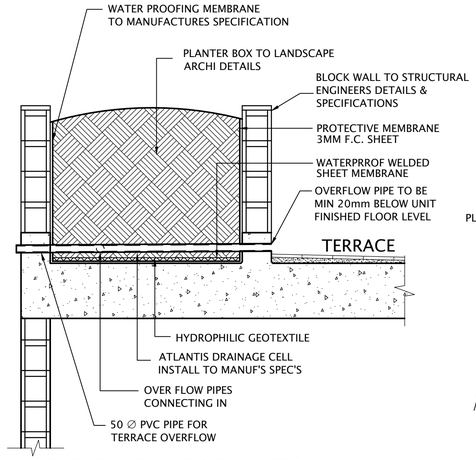
SECTION THROUGH BALCONY OUTLET



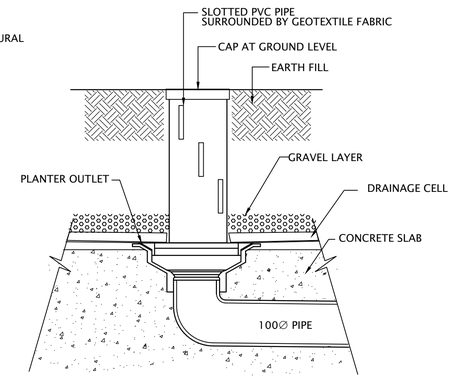
SECTION THROUGH PUMP WELL
(NOT TO SCALE)



AGG. DRAIN
(SCALE 1:20)



TYPICAL RAISED PLANTER BOX
SCALE 1:10



100∅ PLANTER OUTLET
(NOT TO SCALE)

CONCEPT DESIGN
NOT TO BE USED FOR CONSTRUCTION PURPOSES

ISSUE	AMENDMENT	DATE
1	ISSUE FOR COORDINATION	22/10/19
A	ISSUE FOR DA APPLICATION	07/11/19

PLANS 0 1000 2000 3000 4000 5000

DO NOT SCALE IF IN DOUBT ASK A1

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS

ATB
CONSULTING ENGINEERS
CIVIL & STRUCTURAL
11 VICTORIA STREET
WOLLONGONG NSW 2500
TELEPHONE: 02 42 266 646
Email: info@atbconsulting.com.au
ACEA The Association of Consulting Engineers Australia

Title	STORMWATER DETAILS
Project	PROPOSED APARTMENT DWELLING
At	9-11 PARK STREET WOLLONGONG, NSW
Client	MORETTI CONSTRUCTION

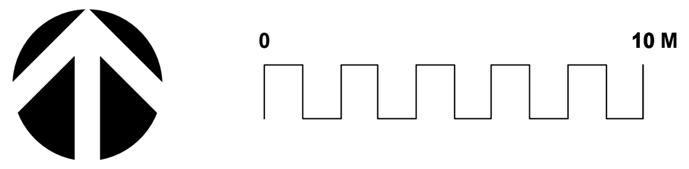
SCALES	AS SHOWN		DATE PLOTTED 13/05/19
DRAWN	D.K.		DATUM A.H.D.
DESIGNED	G.U.		
CHECKED	G.U.	DATE CHK'D __/05/19	
PROJECT No	DWG	REVISION	
19044	SW6	A	

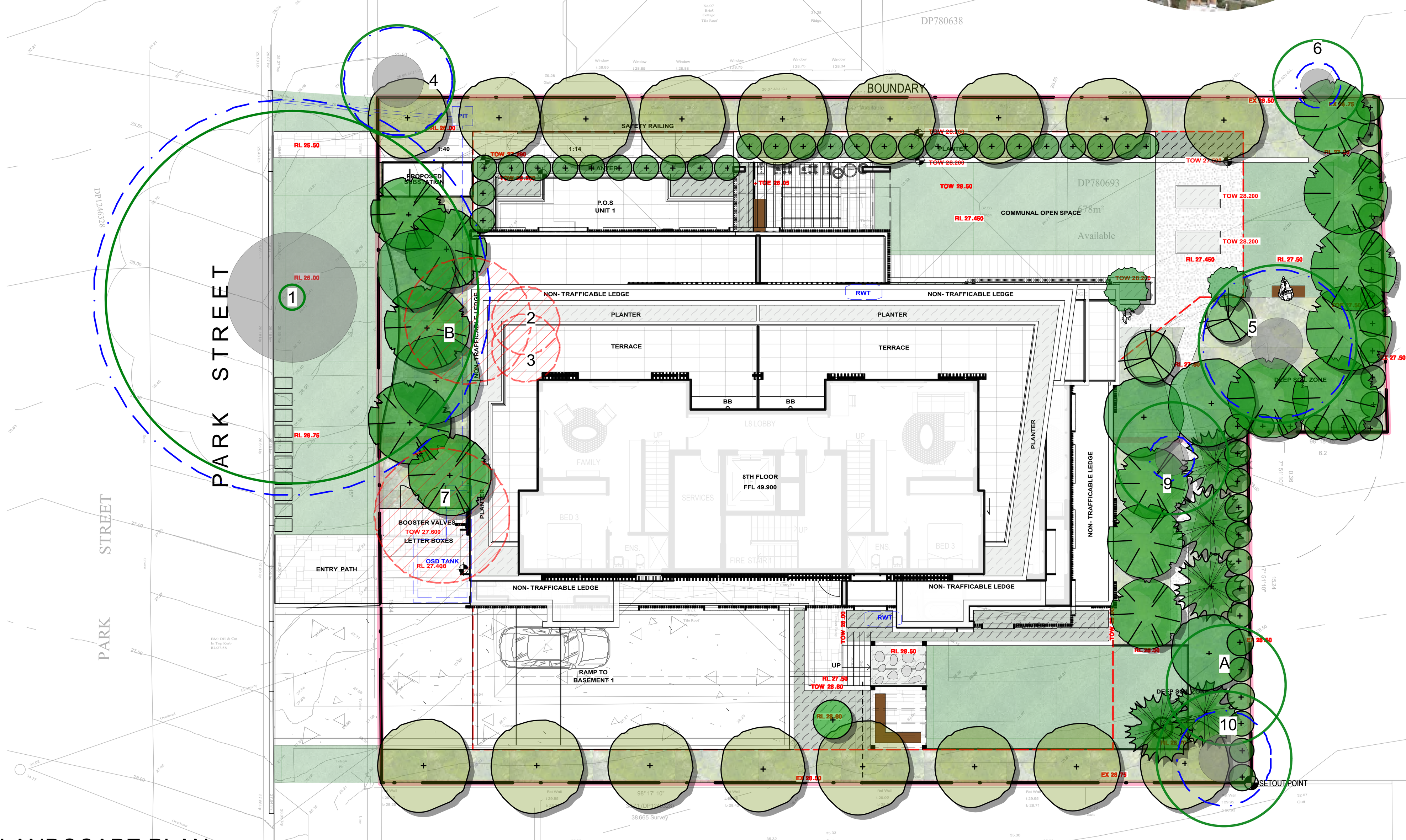
LANDSCAPE DA

9-11 PARK STREET, WOLLONGONG

Drawing List

Sheet No.	Sheet Name	Sheet Size	Rev. No.	Rev. Date	Project No.
L-01	SITE PLAN & LANDSCAPE DETAILS	A1	D	1/10/20	
L-02	GROUND FLOOR LANDSCAPE PLAN	A1	D	1/10/20	
L-03	ROOFTOP LANDSCAPE PLAN	A1	D	1/10/20	





LANDSCAPE PLAN
SCALE 1:200

EXISTING TREE LEGEND

- EXISTING TREES TO BE RETAINED
- TREES TO BE REMOVED
- TPZ - OF TREES RETAINED
- SRZ - OF TREES RETAINED

LEGEND

- DRIVEWAY
- TURF AREAS
- PODIUM GARDENS
- DEEP SOIL GARDENS
- PROPOSED BUILDING
- PAVED TYPE 1 — SELECTED TILE OR PAVER ON CONCRETE
- PAVED TYPE 2 — SELECTED STONE ON SLAB
- PAVED TYPE 3 — COBBLE ON CONCRETE OR SIMILAR
- DECKED AREAS

LANDSCAPE WORK SPECIFICATION

PRELIMINARIES

1.01 GENERAL

The following general conditions should be considered prior to the commencement of landscape works:

The landscape plans should be read in conjunction with the architectural plans, hydraulic plans, service plans and survey prepared for the proposed development.

All services including existing drainage should be accurately located prior to the commencement of landscape installation. Any proposed tree planting which falls close to services will be relocated on site under the instruction of the landscape architect.

Installation of conduit for required irrigation, electrical and other services shall be completed prior to the commencement of hardscape works and hardstand pours.

All outdoor lighting specified by architect or client to be installed by qualified electrician

Anomalies that occur in these plans should be brought to our immediate attention.

Where an Australian Standard applies for any landscape material testing or installation technique, that standard shall be followed.

1.02 PROTECTION OF ADJACENT FINISHES

The Contractor shall take all precautions to prevent damage to all or any adjacent finishes by providing adequate protection to these areas / surfaces prior to the commencement of the Works

1.03 PROTECTION OF EXISTING TREES

Existing trees identified to be retained shall be done so in accordance with NATSPEC Guide 2 "A Guide to Assessing Tree Quality". Where general works are occurring around such trees, or pruning is required, a qualified Arborist shall be engaged to oversee such works and manage tree health.

Existing trees designated on the drawing for retention shall be protected at all times during the construction period. Any soil within the drip-line of existing trees shall be excavated and removed by hand only. No stockpiling shall occur within the root zone of existing trees to be retained.

Any roots larger in diameter than 50mm shall only be severed under instruction by a qualified arborist. Roots smaller than 50mm diameter shall be cut cleanly with a saw.

Temporary fencing shall be installed around the base of all trees to be retained prior to the commencement of landscape works. Where possible this fencing will be located around the drip line of these trees, or a minimum of 3m from the trunk. The fencing shall be maintained for the full construction period.

1.04 EROSION & POLLUTION CONTROL

The Contractor shall take all proper precautions to prevent the erosion of soil from the subject site. The contractor shall install erosion & sediment control barriers and as required by council, and maintain these barriers throughout the construction period. Note that the sediment control measures adopted should reflect the soil type and erosion characteristics of the site.

Erosion & pollution control measures shall incorporate the following:

- Construction of a sediment trap at the vehicle access point to the subject site.
- Sediment fencing using a geotextile filter fabric in the location indicated on the erosion control plan or as instructed on site by the landscape architect.
- Earth banks to prevent scour of stockpiles
- Sandbag kerb sediment traps
- Straw bale & geotextile sediment filter.
- Exposed banks shall be pegged with an approved Jute matting in preparation for mass planting

Refer to "Sitewise Reference Kit" as prepared by DLWC & WSROC (1997) for construction techniques

SOIL WORKS

2.01 MATERIALS

Specified Soil Conditioner (Generally to improve site soil)

The specified soil conditioner for site top-soil improvement shall be an organic mix, equal to "Botany Humus", as supplied by ANL. Note that for sites where soil testing indicates toxins or extremes in pH, or soils that are extremely poor, allow to excavate and supply 300mm of imported soil mix.

New gardens & proposed Planting

New garden and planting areas shall consist of a 50/50 mix of clean site soil (refer d) below) and imported "Organic Garden Mix" as supplied by ANL or approved equal. All mixes are to comply with AS 4419 Soils for landscaping & garden use, & AS 4454 Composts, Soil conditioners & mulches.

Specified Soil Mix - Turf

The specified soil mix for all turf areas shall be a min 75mm layer of imported soil mix consisting of 80% washed river sand (reasonably coarse), and 20% composted organic matter equivalent to mushroom compost or soil conditioner, or other approved lawn top dress.

Site Topsoil

Site topsoil is to be clean and free of unwanted matter such as gravel, cXXlay lumps, grass, weeds, tree roots, sticks, rubbish and plastics, and any deleterious materials and materials toxic to plants. The topsoil must have a pH of between 5.5 and 7. Use 100% imported soil mix when site when site topsoil runs out.

2.02 INSTALLATION

a) Establishing Subgrade Levels

Subgrade levels are defined as the finished base levels prior to the placement of the specified material (i.e. soil conditioner). The following subgrade levels shall apply:

Mass Planting Beds - 300mm below existing levels with specified imported soil mix.

Turf areas - 100mm below finished surface level.

Note that all subgrades shall consist of a relatively free draining natural material, consisting of site topsoil placed previously by the Civil Contractor. No builders waste material shall be acceptable.

b) Subgrade Cultivation

Cultivate all subgrades to a minimum depth of 100mm in all planting beds and all turf areas, ensuring a thorough breakup of the subgrade into a reasonably coarse tilth. Grade subgrades to provide falls to surface and subsurface drains, prior to the placement of the final specified soil mix.

c) Drainage Works

Install surface and subsurface drainage where required and as detailed on the drawing. Drain subsurface drains to outlets provided, with a minimum fall of 1:100 to outlets and / or service pits.

d) Placement and Preparation of Specified Soil Conditioner & Mixes.

Trees in turf & beds - Holes shall be twice as wide as root ball and minimum 100mm deeper - backfill hole with 50/50 mix of clean site soil and imported "Organic Garden Mix" as supplied by ANL or approved equal.

Mass Planting Beds - Install specified soil conditioner to a compacted depth of 100mm

Place the specified soil conditioner to the required compacted depth and use a rotary hoe to thoroughly mix the conditioner into the top 300mm of garden bed soil. Ensure thorough mixing and the preparation of a reasonably fine tilth and good growing medium in preparation for planting.

Turf Areas - Install specified soil mix to a minimum compacted depth of 75mm.

Place the specified soil mix to the required compacted depth and grade to required finished soil levels, in preparation for planting and turfing.

PLANTING

3.01 MATERIALS

a) Quality and Size of Plant Material

All trees supplied above a 25L container size must be grown and planted in accordance with *Clarke, R 1996 Purchasing Landscape Trees: A guide to assessing tree quality. Natspec Guide No. 2.* Certification that trees have been grown to Natspec guidelines is to be provided upon request of Council's Tree Management Officer.

Above - Ground Assessment:

The following plant quality assessment criteria should be followed:

Plant true to type, Good vigour and health, free from pest & disease, free from injury, self-supporting, good stem taper, has been pruned correctly, is apically dominant, has even crown symmetry, free from included bark & stem junctions, even trunk position in pot, good stem structure

Below - Ground Assessment:

Good root division & direction, rootball occupancy, rootball depth, height of crown, non-suckering For further explanation and description of these assessment criteria, refer to Ross Clark's book.

All Plant material shall be to the type and size specified. No substitutions of plant material shall be permitted without written prior approval by the Landscape Architect. No plant shall be accepted which does not conform to the standards listed above.

b) Stakes and Ties

Provide min. 2 No. Stakes and ties to all plants identified as trees in the plant schedule. Stakes shall be sound, unpainted, straight hardwood, free of knots and pointed at one end. They shall be 2200mm x 50mm x 50mm Hardwood, or approved alternative. Ties shall be 50mm wide hessian webbing material.

c) Fertilisers

Fertilisers shall be approved slow release fertilisers suitable for the proposed planting types. Note that for native plants, specifically Proteaceae family plants including Grevillea species, low phosphorus fertilizers shall be used.

d) Mulch

Mulch shall be an approved equal to "Forest Blend" as supplied by ANL. Mulch shall be completely free from any soil, weeds, rubbish or other debris.

e) Turf

Turf shall be "Sir Walter" Buffalo or equivalent (unless stated otherwise), free from any weeds and other grasses, and be in a healthy growing condition.

3.02 INSTALLATION

a) Setting Out

All planting set out shall be in strict accordance with the drawings, or as directed. Note that proposed tree planting located near services should be adjusted at this stage. Notify Landscape Architect for inspection for approval prior to planting.

b) Planting

All plant material shall be planted as soon after delivery as possible. Planting holes for trees shall be excavated as detailed and specified. Plant containers shall be removed and discarded, and the outer roots gently teased from the soil mass. Immediately set plant in hole and backfill with specified soil mix, incorporating the approved quantity of fertiliser for each plant type. Ensure that plants are set plumb vertically and root balls set to the consolidated finished grades detailed on the drawings. Compact the backfilled soil and saturate by hand watering to expel any remaining air pockets immediately after planting.

c) Staking and Tying

Staking and tying shall be in strict accordance with the drawings and shall occur immediately following plant placement and soil backfilling. All plants identified as "Trees" on the planting schedule shall be staked with a min. 3 stakes.

d) Mulching

Mulch should be spread so that a compacted thickness of 75mm is achieved after settlement in all planting beds and around each individual plant. Apply immediately following planting and watering in, ensuring that a 50mm radius is maintained around the trunk of each plant . There shall be no mixing of soil and mulch material.

e) Turfing

Moisten soil prior to the turf being laid. Turf shall be neatly butt jointed and true to grade to finish flush with adjacent surfaces. Incorporate a lawn fertilizer and thoroughly water in. Keep turf moist until roots have taken and sods/rolls cannot be lifted. Keep all traffic off turf until this has occurred. Allow for top dressing of all turf areas. All turf shall be rolled immediately following installation.

f) Steel Garden Edging

The Contractor shall install stone edging as shown on the drawings, to all mass planting beds adjoining turf or gravel mulched areas, and where required. The resultant edge shall be true to line and flush with adjacent surfaces.

HARDSCAPE WORKS

4.01 GENERAL

The Contractor shall undertake the installation of all hardscape works as detailed on the drawing, or where not detailed, by manufacturers specification.

Paving - refer to typical details provided, and applicable Australian Standards. *Permeable paving may be used as a suitable means of satisfying Council permeable surface requirements, while providing a useable, hardwearing, practical surface.* In most instances, the client shall nominate the appropriate paving material to be used.

Australian Standards shall be adhered to in relation to all concrete, masonry & metal work. Some details are typical and may vary on site. All hardscape works shall be setout as per the drawings, and inspected and approved by the Landscape Architect prior to installation. All workmanship shall be of the highest standard. Any queries or problems that arise from hardscape variations should be bought to the attention of the Landscape Architect.

Your attention is directed to any obligations or responsibilities under the Dividing Fences Act, 1991 in respect of adjoining property owner/s which may arise from this application. Any enquiries in this regard may be made to the Crown Lands Division on (02) 8836 5332

IRRIGATION WORKS

5.01 GENERAL (PERFORMANCE SPECIFICATION)

An automated drip-irrigation system is to be installed to all gardens, planters and lawn areas in accordance with the approved Irrigation Design.

This system shall be designed and installed by a qualified and licensed irrigation specialist, to the highest industry standards and to maximise the efficient usage of water.

The Installer is required to obtain all approvals necessary for the completion of works in accordance with the Laws of Australia, Laws of the State of NSW, Council By-Laws and Ordinances.

Drawings:

- The Landscape Contractor nominated Licensed Irrigation Specialist shall provide irrigation drawings for approval upon engagement.

Design Requirements:

- The irrigation system shall be installed prior to all planting works. It shall incorporate a commercially available irrigation system, with sub-surface dripper lines to irrigate all gardens, planters and lawn areas.
- It shall incorporate a suitable back flow prevention device for the scale of works, an in-line filter, check valves, and suitable high and low density poly hose fittings and PVC piping to achieve flow rates suitable for specified planting.
- The irrigation application rate shall not exceed the infiltration rate of the soil or creates run-off.
- The landscape contractor shall check the existing pressure available from the ring mains and size irrigation piping to suit. Supply shall be from local hose cock where available.
- All piping and fittings shall be buried 50mm below the finished soil levels in garden and lawn areas, and secured in position at 500mm centres with galv wire pins.
- Size of pipes shall be selected to ensure the working pressure at the end of the line does not decrease by more than 5%.

Services Co-ordination:

- Co-ordination required by Landscape Contractor or Project Manager to provide required conduit, pipe work and penetration through slabs and planter walls for water and power provisions.
- The Landscape Contractor shall be engaged with the Irrigation Specialist to co-ordinate with the Project Manager to identify the preferred service and conduit locations.
- Project Manager and Landscape Contractor to establish area suitable for irrigation control system with required area, power provision and water supply.

Testing & Defects:

Upon completion of installation, the system shall be tested, including:

- Main Line Pressure Test: The main line is pressurised to test for leaks. All valves are shut and the pressure is taken over a determined length of time.
- Dripper Pressure Test: Measurement at flushing valves are taken and the pressure gauged to make sure it conforms to the manufacturer recommendations. The inlet pressure is then tested under the same conditions to check it does not exceed 300Kpa.
- All components are to be satisfactorily functional and operational prior to approval. Should any defect develop, or the capacity or efficiency of the system decline during the agreed maintenance system, then these faults shall be immediately rectified.

Warranty :

- A full 12 month warranty shall be included to cover labour and all parts.

Further Documentation:

- On request, a detailed irrigation performance specification report can be issued.

12 MONTH MAINTENANCE

6.01 GENERAL

The consolidation and maintenance period shall be 12 months beginning from the approved completion of the specified construction work (Practical Completion). A qualified landscape maintenance contractor shall undertake the required landscape maintenance works. Consolidation and maintenance shall mean the care and maintenance of Contracted works by accepted landscaping or horticultural practices, ensuring that all plants are in optimum growing conditions and appearance at all times, as well as rectifying any defects that become apparent in the contracted works.

This shall include, but not be limited to, the following items where and as required: Watering all planting and lawn areas / irrigation maintenance.

Clearing litter and other debris from landscaped areas.

Removing weeds, pruning and general plant maintenance.

Replacement of damaged, stolen or unhealthy plants. Make good areas of soil subsidence or erosion.

Topping up of mulched areas.

Spray / treatment for Insect and disease control.

Fertilizing with approved fertilizers at correct rates.

Mowing lawns & trimming edges each 14 days in summer or 18 days in winter Adjusting ties to Stakes

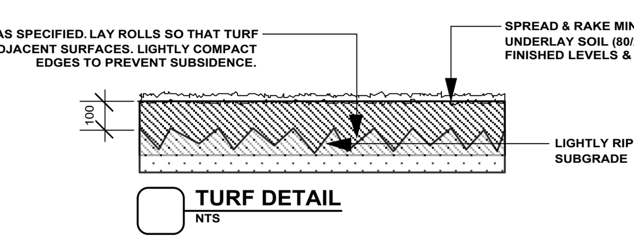
Maintenance of all paving, retaining and hardscape elements.

On the completion of the maintenance period, the landscape works shall be inspected and at the satisfaction of the superintendent or landscape architect, the responsibility will be signed over to the client.**xx**

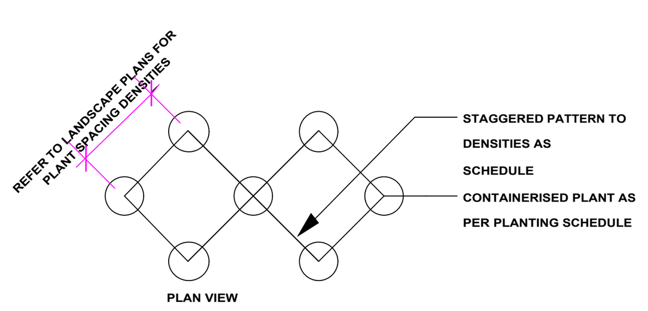
LANDSCAPE MAINTENANCE NOTES

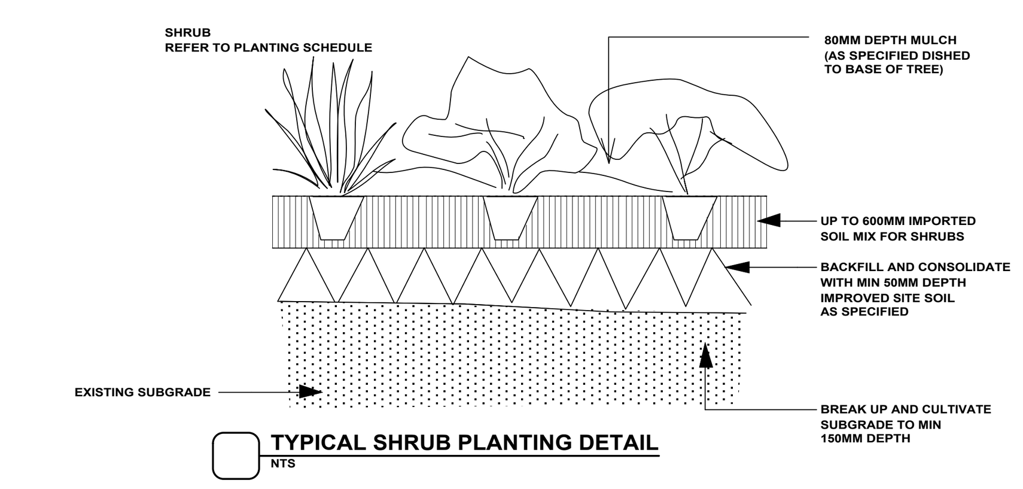
MONTH	MOWING EDGING BLOWING	FERTILISING (SEASOL)	CHECK IRRIGATION	HAND WEED REMOVAL	PRUNING	WEED SPRAYING	WATERING/ IRRIGATION	PLANT REPLACEMENT IF REQUIRED
DEC	W	M	M	W	F	M	D	W
JAN	W	M	M	W	F	M	D	W
FEB	W	M	M	W	F	M	D	W
MAR	F	M	M	F	M	M	D	W
APR	F	N/A	M	F	M	M	D	W
MAY	F	N/A	M	M	M	M	D	W
JUNE	M	N/A	M	M	N/A	N/A	2ND D	W
JULY	M	N/A	M	M	N/A	N/A	2ND D	W
AUG	M	N/A	M	M	N/A	N/A	2ND D	W
SEP	M	M	M	M	N/A	N/A	2ND D	W
OCT	F	F	M	F	M	M	D	W
NOV	F	F	M	F	M	M	D	W

PLANTING ESTABLISHMENT PERIOD - 12 MONTHS
LANDSCAPE MATERIAL ESTABLISHMENT - 12 MONTHS
KEY D-DAILY, W-WEEKLY, F-FORTNIGHT, M-MONTHLY, 2ND DAY.

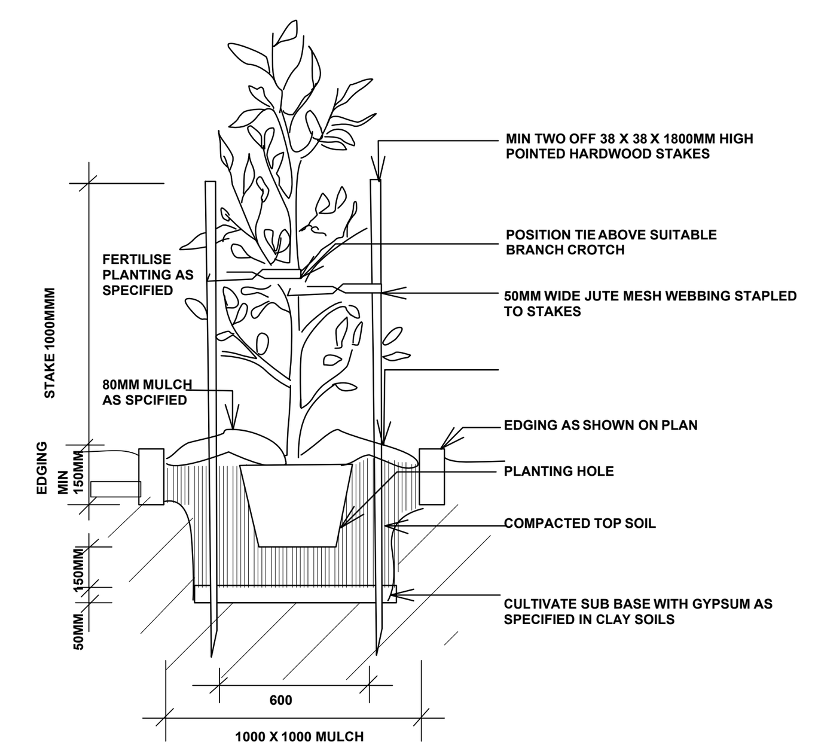


TURF DETAIL
NTS





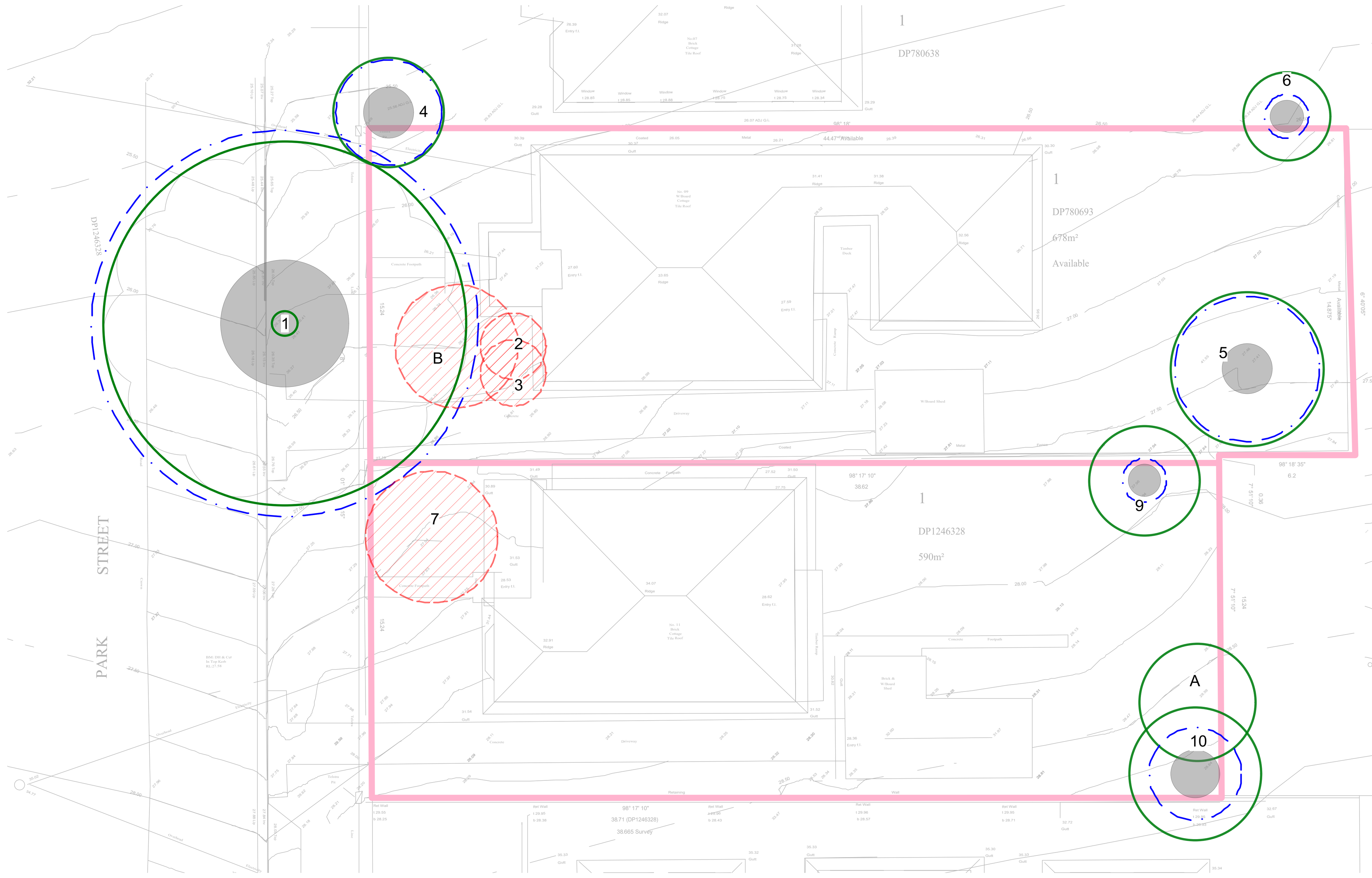
TYPICAL SHRUB PLANTING DETAIL
NTS



TYPICAL TREE PLANTING DETAIL
NTS

Plant List

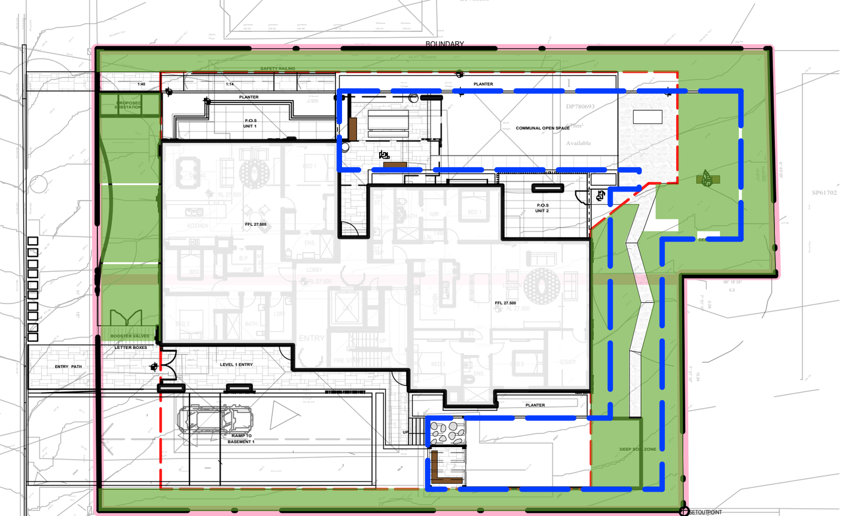
ID	Botanical Name	Common Name	Scheduled Size	Mature Height	Mature Spread
Trees					
cit-x sin'-1	Citrus × sinensis	Orange tree	45L	5 - 10m	3.5 - 6m
CAna	Cupaniopsis anacardioides	Tuckeroo	45L	10 - 15m	3.5 - 6m
dra-dra	Dracaena draco	Red edged dragon tree	45L	3 - 5m	1.2 - 2.0m
Lag-bi'is'	Lagerstroemia 'Indian Summer' biloxi	Crepe Myrtle	45L	4m	3m
LAust	Livistona australis	Cabbage-tree Palm	45L	10m	3m
ML	Melaleuca lineariifolia	Flax-leaved Paperbark	45L	5 - 10m	6 - 10m
TLaur-lus	Tristaniopsis laurina 'luscious'	Kanooka, Water Gum	45L	5 - 10m	3.5 - 6m
Shrubs					
Acm-smi	Acmena smithii 'Minor'	Lillypilly	200mm	2-3m	2m
Bux-bal	Buxus balls	Littleleaf Boxwood, English Boxwood	200mm	0.7m	0.7m
Leu x sup-1	Leptospermum 'Fore shore'		150mm	0.5m	0.5m
Leu-bro'SN'	Leucophyta brownii nana 'Silver Nugget'	Silver Cushion Bush	200mm	0.3 m	0.3 m
Mel-nes-ln	Melaleuca nesophila 'Little Nessie'	Little Nessie	200mm	0.9 - 1.5m	0.9 - 1.2m
MFiji	Metrosideros collina 'Fiji Fire'	Fiji fire	300mm	2-4m	1-2m
Phi-xan	Philodendron 'Xanadu'	Winterborn Philodendron	200mm	0.9 - 1.5m	0.9 - 1.2m
Pit-tob-mm	Pittosporum tobira 'Miss Muffet'		200mm	0.6-1.2m	1.2 - 2.0m
Rap-ind-op	Raphiolepis indica 'oriental pearl'	Indian Hawthorn	300mm	0.45 - 0.6m	1.2 - 2.0m
Str-reg-jun	Strelitzia juncea	Narrow-leafed Bird of Paradise	200mm	0.9 - 1.5m	0.9 - 1.2m
wes-gb	Westringia 'Grey Box'	Grey Box' Westringia	200mm	0.9m	0.6m
Ground Covers					
Alp-nut	Alpinia nutans	False Cardemon	150mm	0.9 - 1.5m	1-2.5m
Car-gla	Carpobrotus glaucescens	Coastal Moonflower, Pigface, Iceplant	150mm	0.0 - 0.3m	1.2 - 2.0m
cas'ci'	Casuarina "Cousin It'	Casuarina "Cousin It'	150mm	0.0 - 0.3m	1.2 - 2.0m
Cra bl 'jp'-1	Crassula 'Blue Bird'	mini jade	150mm	0.0 - 0.3m	0.3 - 0.6m
Cra-mc	Crasula "Max Cook'		150mm	0.0 - 0.3m	0.3 - 0.6m
dic-sf	Dichondra 'Silver Falls'	Silver falls kidney weed	150mm	1.2m	0.5m
Ro-off'Pro	Rosmarinus officinalis 'Prostratus'	Trailing rosemary;Creeping Rosemary	200mm	0.5 m	1.2 - 2.0m
San-tri-1	Sansevieriatrifasciata 'Silver Queen'	mother in low tongue	150mm	0.45 - 0.6m	0.0 - 0.3m
zam-fu	Zamia furfuracea	Cardboard Plant	150mm	0.5m	0.6 m
Zoy-ten	Zoysia tenuifolia	Petting Grass	150mm	0.0 - 0.3m	0.3 - 0.6m
Grasses					
Dia-cae	Dianella caerulea	Blue Flax-lily	150mm	0.4m	0.6m
Dor-exc	Doryanthes excelsa	Gymea Lily	300mm	1-2m	2-4m
Fes-gla	Festuca glauca	Blue Fescue	150mm	0.0 - 0.3m	0.0 - 0.3m
imp-cyl	Imperata cylindrica	Blady Grass	150mm	0.3 - 0.45m	0.0 - 0.3m
lom-ta	Lomandra 'Tanika'	Fine-leaved mat rush	150mm	0.5m	0.6m
lom 'SB'	Lomandra filiformis 'SAVANNA BLUE'	Dwarf matt Rush	150mm	0.5m	0.5m
Pen-alo-naf	---	Purple Fountain Grass	150mm	0.6 - 0.75m	0.3 - 0.6m
poa-la'Es'	Poa labillardieri 'Eskdale'	tussock grass	150mm	0.8m	0.5m
Climbers					
Aquatic Plants					
Perennials					
Ferns					



EXISTING TREE PLAN
SCALE 1:200

EXEMPT TREE REMOVAL

Any declared noxious plant. The applicant is to ensure that all noxious plants are properly identified and controlled/removed.
iv) Any tree species exempted by the Sutherland Shire Local Environmental Plan 2015.



SITE AREA - 1268m2

DEEP SOIL AREA (%) - 363m2(28.62%)

COMMUNAL OPEN SPACE (%) - 305m2 (24.05%)

LANDSCAPE CALCULATION PLAN
SCALE 1:500

PLAN NOTES

This plan should be read in conjunction with the architectural and hydraulics plans. Work specific to these plans should be prepared in accordance to these plans, including specification and details prior to the installation of landscaping, and should not be altered or compromised during landscape construction.

Retaining wall details to engineers design.

Elements such as drainage swales may be incorporated in garden bed areas (using non-floatable mulch) without compromising the capacity or form.

The Design & location of new letter boxes shall be in accordance with Australia Post's "Requirements for Delivery of Mail to Residential Premises" published Feb '97. All noxious weeds listed in Councils weed lists & located on the site shall be continually removed & suppressed. Reinstate all boundary fencing in poor condition with Council approved 1.8m fencing to rear of building line, rake to 1m forward of BL. Pollution, sediment & erosion control devices as specified shall be in place, and maintained for the duration of the construction period. Proposed excavation near existing established trees to be supervised by arborist.

This plan has been prepared for DA approval only, not for construction.

Planting proposed using commercially available plant species selected from local planting lists and the BASIX local plant list

D.A approved landscape plan's are required to be constructed as approved to obtain occupancy certificate.

ISSUE	DATE	COMMENT
D	1/10/20	FOR DA

AMENDMENTS

GENERAL NOTES

All work to be carried out in accordance with the Building Code of Australia, all Local and State Government Ordinances, relevant Australian Standards, Local Authorities Regulations and all other relevant Authorities concerned.

All structural work and site drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, r.c. and steel beams & columns, wind bracing to AS 1170 and AS4055, anchor rods or bolts, tie downs, fixings etc., driveway slabs and drainage to Council's satisfaction. All timbers to be in accordance with SAA Timber Structure Code AS1720 and SAA Timber Framing Code AS 1684. All work to be carried out in a professional and workman- shiplike manner according to the plans and specification.

NOTE

Do not scale off the drawings unless otherwise stated and use figured dimensions in preference.

All dimensions are to be checked and verified on site before the commencement of any work, all dimensions and levels are subject to final survey and set-out

No responsibility will be accepted by Sitedesign for any variations in design, builder's method of construction or materials used, deviation from specification without permission or accepted work practices resulting in inferior construction. Locate and protect all services prior to construction.

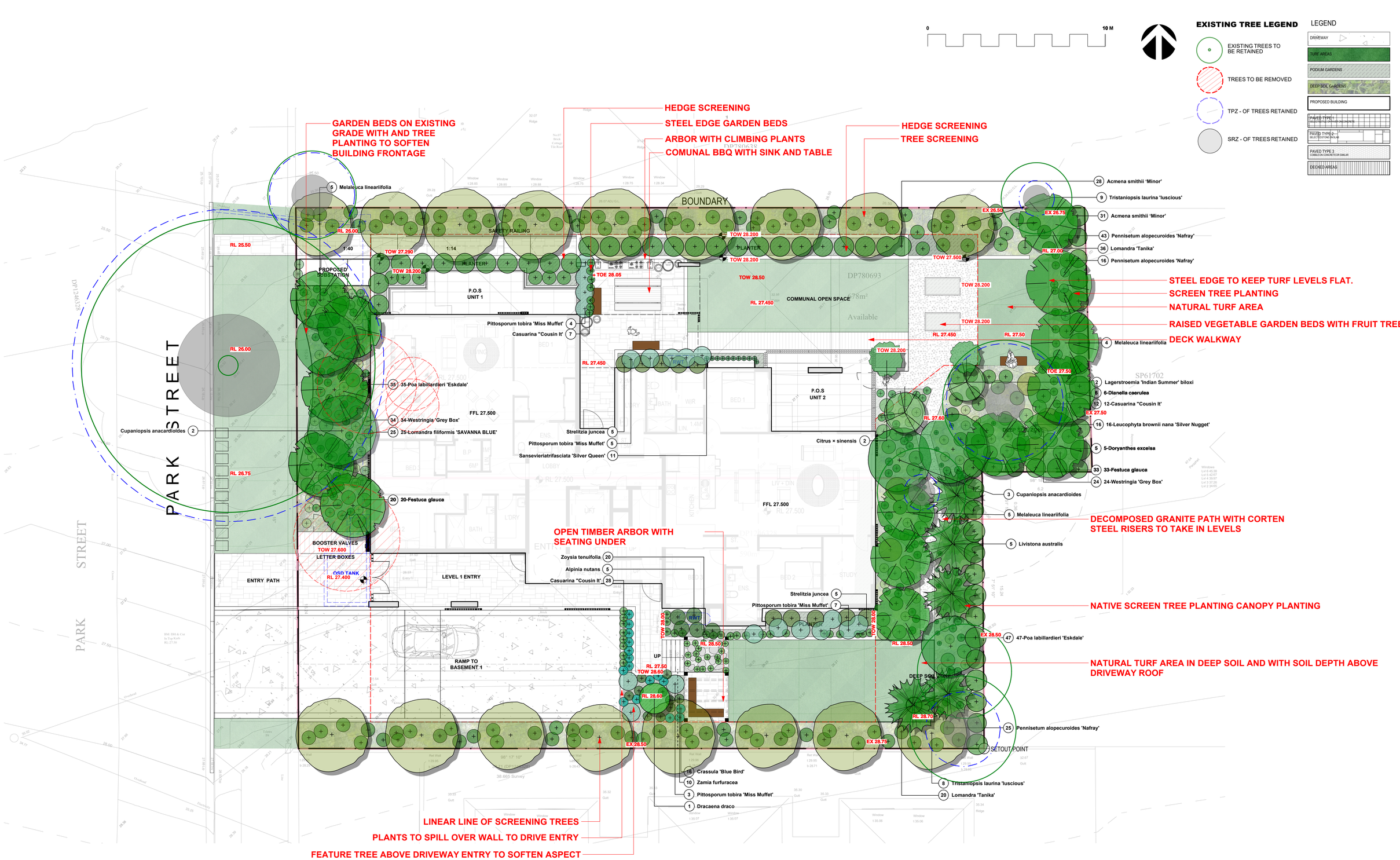
SITEDESIGN +STUDIOS

creating places to live in and enjoy

SOUTH SYDNEY STUDIO
PO BOX 978
CRONULLA 2230
p 1300 22 44 55
info@sdstudios.com.au
www.sdstudios.com.au

Project	PROPOSED APARTMENT BUILDING
Address	9-11 PARK STREET, WOLLONGONG
Drawing Title	SITE PLAN & LANDSCAPE DETAILS — Scale 1:200@A1
Client	MORETTI CONSTRUCTION — Drawing No.

Page
L-01 D



LANDSCAPE PLAN GROUND FLOOR

SCALE 1:100

ISSUE	DATE	COMMENT
D	1/10/20	FOR DA

AMENDMENTS

GENERAL NOTES

All work to be carried out in accordance with the Building Code of Australia, all Local and State Government Ordinances, relevant Australian Standards, Local Authorities Regulations and all other relevant Authorities concerned.
All structural work and site drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, r.c. and steel beams & columns, wind bracing to AS 1170
and AS4055, anchor rods or bolts, tie downs, fixings etc., driveway slabs and drainage to Council's satisfaction. All timbers to be in accordance with SAA Timber Structure Code AS1720 and SAA Timber Framing Code AS 1684. All work to be carried out in a professional and workman- shiplike manner according to the plans and specification.
NOTE
Do not scale off the drawings unless otherwise stated and use figured dimensions in preference.
All dimensions are to be checked and verified on site before the commencement of any work, all dimensions and levels are subject to final survey and set-out
No responsibility will be accepted by Sitedesign for any variations in design, builder's method of construction or materials used, deviation from specification without permission or accepted work practices resulting in inferior construction. Locate and protect all services prior to construction.

SITEDESIGN +STUDIOS
creating places to live in and enjoy

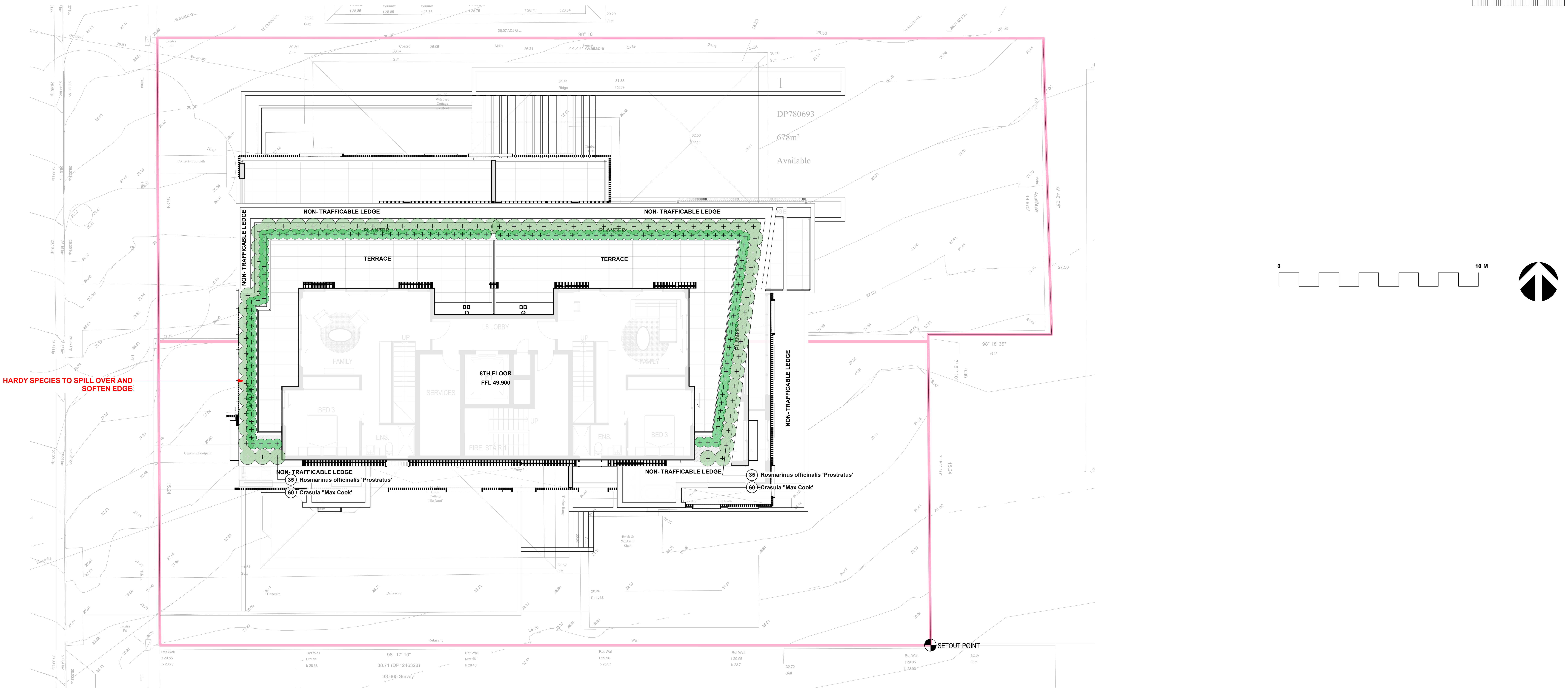
SOUTH SYDNEY STUDIO
PO BOX 978
CRONULLA 2230
p 1300 22 44 55
info@sdstudios.com.au
www.sdstudios.com.au

Project	PROPOSED APARTMENT BUILDING
Address	9-11 PARK STREET, WOLLONGONG
Drawing Title	GROUND FLOOR LANDSCAPE PLAN
Scale	1:100@A1
Client	MORETTI CONSTRUCTION
Drawing No.	

Page
L-02 D

LEGEND

- DRIVEWAY
- TURF AREAS
- PODIUM GARDENS
- DEEP SOIL GARDENS
- PROPOSED BUILDING
- PAVED TYPE 1 — SELECTED TILE OR PAVER ON CONCRETE
- PAVED TYPE 2 — SELECTED STONE ON SLAB
- PAVED TYPE 3 — COBBLE ON CONCRETE OR SIMILAR
- DECKED AREAS



D 1/10/20 FOR DA

ISSUE	DATE	COMMENT
D	1/10/20	FOR DA

AMENDMENTS

GENERAL NOTES
All work to be carried out in accordance with the Building Code of Australia, all Local and State Government Ordinances, relevant Australian Standards, Local Authorities Regulations and all other relevant Authorities concerned.
All structural work and site drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, r.c. and steel beams & columns, wind bracing to AS 1170
and AS4055, anchor rods or bolts, tie downs, fixings etc., driveway slabs and drainage to Council's satisfaction. All timbers to be in accordance with SAA Timber Structure Code AS1720 and SAA Timber Framing Code AS 1684. All work to be carried out in a professional and workman- shiplike manner according to the plans and specification.
NOTE
Do not scale off the drawings unless otherwise stated and use figured dimensions in preference.
All dimensions are to be checked and verified on site before the commencement of any work, all dimensions and levels are subject to final survey and set-out
No responsibility will be accepted by Sitedesign for any variations in design, builder's method of construction or materials used, deviation from specification without permission or accepted work practices resulting in inferior construction. Locate and protect all services prior to construction.

SITEDESIGN +STUDIOS
creating places to live in and enjoy

SOUTH SYDNEY STUDIO
PO BOX 978
CRONULLA 2230
p 1300 22 44 55
info@sdstudios.com.au
www.sdstudios.com.au

Project **PROPOSED APARTMENT BUILDING**
Address **9-11 PARK STREET, WOLLONGONG**
Drawing Title **ROOFTOP LANDSCAPE PLAN** Scale **1:100@A1**
Client **MORETTI CONSTRUCTION** Drawing No.

Page
L-03 D

Attachment 3

ALLIED TREE CONSULTANCY

Level 5 and 8 Arboriculturist

Arboricultural Impact Assessment Report

For the site address

LOT 1 (D.P. 780693) and
LOT 1 (D.P. 1246328),
No. 9-11 Park Street, WOLLONGONG, NSW

Prepared for

Moretti Constructions

AUTHOR

Warwick Varley and Geoff Beisler

STATUS

Draft	October 2019
Final	October 2019
Amended	September 2020

REFERENCE D3913.1

OFFICE

A PO Box 456, WOLLONGONG NSW 2520
P 1300 767 414
E admin@alliedtrees.com.au
W www.alliedtrees.com.au

TABLE OF CONTENTS

THE USE OF THIS REPORT IS RESTRICTED FOR THOSE TREES MENTIONED WITHIN FOR WHICH THE REPORT WAS ISSUED.

COPYRIGHT

1.0 Introduction

1.1 The following Arborist report has been requested by the *PRD Architects* for the development proposal at No. 9-11 Park Street Wollongong. This development includes the construction of a multi-unit, residential dwelling development. This report includes eleven trees located on and adjacent to the lot and discusses the viability of these trees based on the proposed works.

1.2 The amended report has been based on an amended design being a response to the letter requesting additional information from Wollongong City Council[1], and specifically Point 4, being *Retain the trees in the rear and integrate them into the landscaped design.*

1.3 This report will address for these trees, the:

- species' identification, location, dimensions, and condition;
- SULE (Safe Useful Life Expectancy) and STARS (Significance of a Tree Assessment Rating System) rating;
- discussion and impact of the proposed works on each tree;
- recommendations for the removal, retention and/or pruning;
- tree protection zones and protection specifications for trees recommended for retention.

1.4 The subject site resides within Wollongong; for this reason, Wollongong City Council is the consenting authority for any tree works recommended in this report.

2.0 Standards

2.1 Allied Tree Consultancy provides an ethical and unbiased approach to all assignments, possessing no association with private utility arboriculture or organisations that may reflect a conflict of interest.

2.2 This report must be made available to all contractors during the tendering process so that any cost associated with the required works for the protection of trees can be accommodated.

2.3 It is the responsibility of the project manager to provide the requirements outlined in this report relative to the Protection Zones, Measures (Section 7.0) and Specifications (Section 8.0) to all contractors associated with the project before the initiation of work.

[1] See Section 4.4.5

2.4 All tree-related work outlined in this report is to be conducted in accordance with the:

- Australian Standard – AS4373; Pruning of Amenity Trees.
- Guide to Managing Risks of Tree Trimming and Removal Work[2].
- All tree works must be carried out at a tertiary level (minimum Certificate-level 3) qualified and experienced (minimum of five years) arboriculturist.
- For any works in the vicinity of electrical lines, the arboriculturist must possess the ISSC26 endorsement (Interim guide for operating cranes and plant in proximity to overhead powerlines).

2.5 As a minimum requirement, all trees recommended for retention in this report must have removed all dead, diseased, and crossing limbs and branch stubs to be pruned to the branch collar. This work must comply with the local government tree policy (Wollongong City Council) and Section 2.4.

2.6 Any tree stock subject to conditions for works carried out in this report must be supplied by a registered Nursery that adheres to the AS 2303; 2015[3].

- All tree stock must be of at least 'Advanced' size (minimum 75lt) unless otherwise requested.
- All tree stock requested must be planted with adequate protection. This may include tree guards (protect stem and crown) and, if planted in a lawn area, a suitable barrier (planter ring) of an area, at least, $1m^2$ to prevent grass from growing within the area adjacent to the stem.

3.0 Disclosure Statement

Trees are living organisms and, for this reason, possess natural variability. This cannot be controlled. However, risks associated with trees can be managed. An arborist cannot guarantee that a tree will be safe under all circumstances, nor predict the time when a tree will fail. To live or work near a tree involves some degree of risk, and this evaluation does not preclude all the possibilities of failure.

4.0 Methodology

4.1 The following tree assessment was undertaken using criteria based on the guidelines laid down by the International Society of Arboriculture.

4.2 The format of the report is summarised below;

[2] Safe Work Australia; July 2016; Guide to Managing Risks of Tree Trimming and Removal Work, Australia
[3] Australian Standard; 2015, AS2303, Tree stock for landscape use, Australia

4.2.1 **Plan 1;** Tree Location Relative to Site: This is an unscaled plan reproduced from the Survey Plan, as referenced in Section 4.4.1, depicting the area of assessment.

4.2.2 **Table 1;** This table compiles the tree species, dimensions**,** brief assessment (history, structure, pest, disease or any other variables subject to the tree), significance, allocation of the zones of protection (i.e., Tree Protection Zone[4] ;TPZ and Structural Root Zone; SRZ) for each tree illustrated in Plan 1, Section 5.0. All measurements are in meters. An 'Action' is included and provides the nomination for retention/removal based on the tree location relative to the proposed design (drawing set, Section 4.4.2).

4.2.3 Discussion relating to the site assessment and proposed works regarding the trees.

4.2.4 **Protection Specification**; This Section (Section 8.0) details the requirements for that area designated as the Tree Protection Zone (TPZ) for those trees recommended for retention.

4.3 The opinions expressed in this report, and the material, upon which they are based, were obtained from the following process and data supplied:

4.3.1 Site assessment on the 12th of May 2019 using the method of the Visual Tree Assessment[5]. This has included a Level 2 risk assessment, being a *Basic Assessment*[6]. The assessment has been conducted by Geoff Beisler[7] on behalf of *Allied Tree Consultancy*.

4.3.2 The amended design has been in response to Point 4 from the document referenced in Section 4.4.5, and refers to *Retain the trees in the rear and integrate them into the landscaped design.* This has been interpreted to refer to the trees No. 5, 9, 10 and 11.

4.3.3 Trees included in this report are those that conform to the description of a prescribed tree by the local government policy.

4.3.4 All measurements, unless specified otherwise are taken from the tree centre.

[4] Australian Standard, 4970; 2009 – Protection of Trees on Development Sites, Australia
[5] Mattheck, C. Breloer, H.,1994, The Body Language of Trees – A handbook for failure analysis The Stationary Office, London
[6] Dunster J.A., 2013, Tree Risk Assessment Manual, International Society of Arboriculture, 2013, USA
[7] Consulting Arborist, Diploma of Arboriculture (level 5)

4.3.5 Raw data from the preliminary assessment, including the specimen's dimensions was compiled by the use of a diameter tape, height clinometer, angle finder, compass, steel probes, Teflon hammer, binoculars and recording instruments.

4.4 Documentation provided

The following documentation has been provided to Allied Tree Consultancy and utilised within the report.

4.4.1 Surveyor

Drawn by *Masters Surveying*
Date: 31 January 2019
Reference: (Masters job No.) W18210
Drawing No: Sheet 2 of 2
Note 1: See Section 4.5.1

4.4.2 Design

Drawn by *PRD Architects*
Date: 23 October 2019 2019
Reference: 18-60
Drawing No: DA-04 (D), DA-05 (E) DA-06 (F), DA-15 (D)

4.4.3 Engineering (Stormwater)

Drawn by *ATB*
Date: 22 October 2019
Reference: (Project No.) 19044
Drawing No: SW4 (Revision D)

4.4.4 Document

Traffic generation and On-site Parking Assessment
Author: *ATB Consultant Engineers*
Date: 10 October 2019
Reference: 19-044
11 pages

4.4.5 Document

Letter requesting Additional Information Required
Author: *Wollongong City Council*
Date: 1 September 2020
Reference: DA-2019/1356
4 Pages

4.5 Limitations of the assessment/discussion process

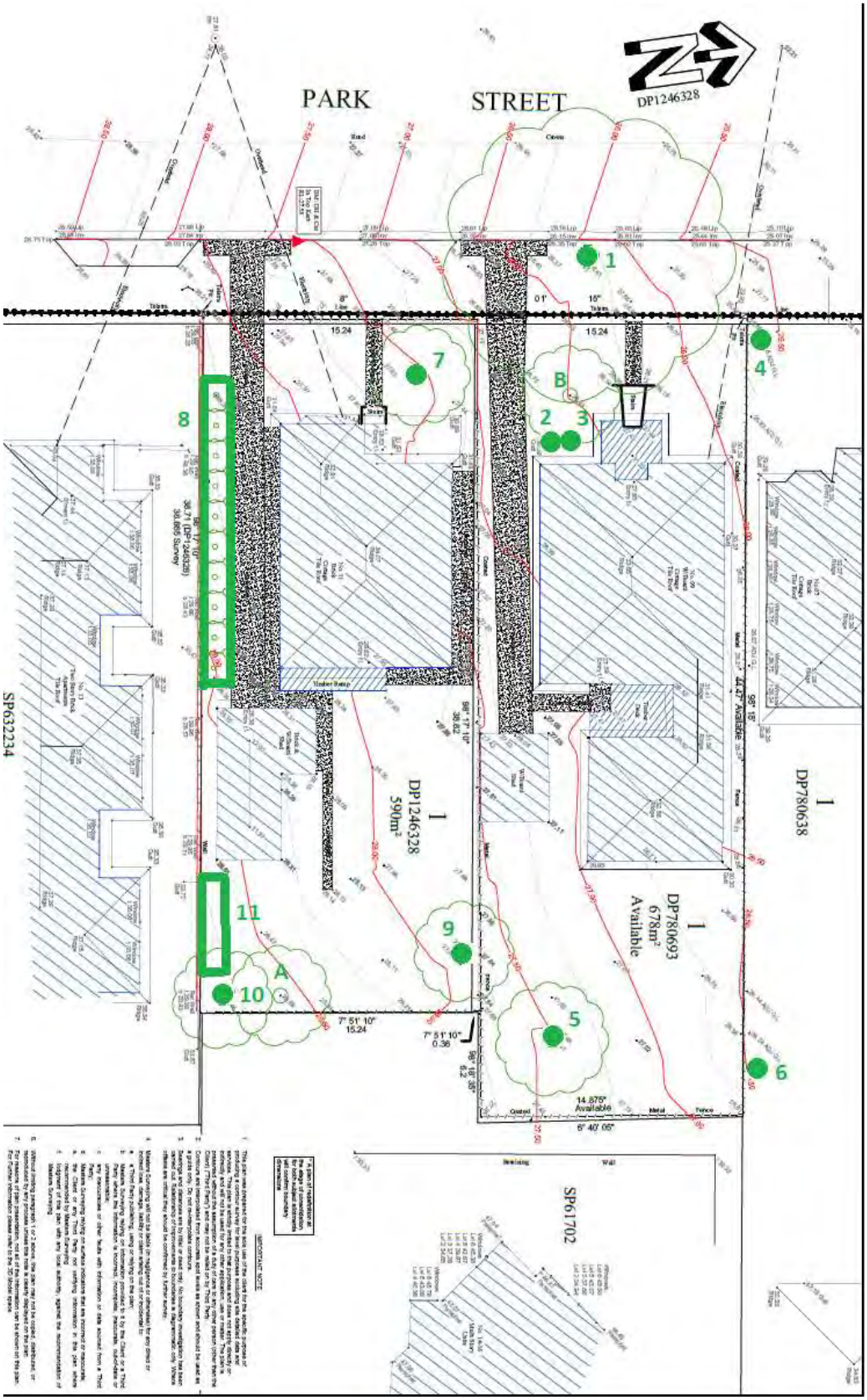
4.5.1 Trees No. 2, 3, 4, 6, and 11 have been omitted from the plans provided; however, are required for inclusion because they conform to the definition of a prescribed tree within the local government tree policy. The tree location has been plotted onto the Plan 1 by *Allied Tree Consultancy*. The tree location was established by measuring from known points and scaling onto the drawing. *Allied Tree Consultancy* is not a registered surveyor and, however, the accuracy of the survey is attempted; the true position of the trees may marginally deviate. Any such deviation provides the potential for changing the actual impact (encroachment) provided to a tree.

4.5.2 The assessment has considered only those target zones that are apparent to the author and the visually apparent tree conditions during the time of assessment.

4.5.3 Any tree, regardless of apparent defects would fail if the forces applied to exceed the strength of the tree or its parts, for example, extreme storm conditions.

4.5.4 The assessment has been limited to that part of the tree, which is visible, existing from the ground level to the crown. Root decay can exist and in some circumstances provide no symptoms of the presence. This assessment responds to all the symptoms provided by a tree; however, cannot provide a conclusive recommendation regarding any tree that may have extensive root decay that leads to windthrow without the appropriate symptoms.

5.0 Plan 1; Area of assessment illustrating tree location



Not to scale
Tree labelled A is an exempt species, tree labelled B was absent. See Section 7.0.
Source: Adapted from *Masters Surveying,* see Section 4.4.1

6.0 Table 1 – Tree Species Data

Terminology/references provided in Appendix A.

Tree No.	Botanical Name Common Name	Height (m)	DBH (m)	Crown Spread (m)	Age	Crown Class	Crown Aspect	Vitality	SULE Rating	STARS Rating	TPZ	SRZ
1	*Eucalyptus botryoides x saligna* Wollongong Woollybutt	16	0.53 0.50	12 x 12	M	D	Sym.	A	**A1**	**HIGH**	**8.8**	**2.9**
Assessment		This street tree is typical of the species. Pruning wounds at 4m, southeast side are occluding. A surface root, eastern side presents minor damage.									See Section 7.1.4	
2	*Pittosporum undulatum* Sweet Pittosporum	6	0.17	3 x 5	M	S	South	B	**A3**	**LOW**	**2.0**	**1.5**
Assessment		The stem of this tree is in contact with the stem of tree No. 3. Suppressed, the crown is slightly sparse, and minor twiggy die back presents in the mid crown. Stub cuts in the lower crown have associated epicormic growth.									See Section 7.1.2 and 7.1.3	
3	*Melaleuca viminalis* Weeping Red Bottlebrush	6	0.18 [B]	3 x 4	M	S	North	A	**D2**	**MEDIUM**	**2.1**	**1.6**
Assessment		Syn. *Callistemon* This tree presents as typical for the species. Previously co-dominant, the northern stem has been lopped at 1.4m									See Section 7.1.3	
4	*Schinus molle* Peppercorn tree	7	0.40 [CB]	3 x 5 [C]	M	S	North	A	**D2**	**MEDIUM**	**4.8**	**2.3**
Assessment		This neighbouring tree has had the southern repeatedly lopped for service line clearance- multiple stubs and open wounds. Limited assessment due to lack of access. Located within the lot of No. 7 Park Street, this tree is located 1000mm from the shared boundary with No. 9 Park Street, and 400mm from the front boundary. There is no crown ingress due to the repeated service line trimming.									See Section 7.1.5	
5	*Araucaria columnaris* Cook Pine	14	0.55	7 x 6	M	D	Sym.	A	**B1** [E]	**HIGH**	**6.6**	**2.6**
Assessment		This tree presents a secondary stem emerging at approximately 9m. Small areas of chlorotic and necrotic foliage occur randomly throughout the crown. Much exudate presents on the stem, from the base to the point where vision is obscured by branches. Limited assessment (ground-									See Section 7.1.5 and 7.1.6	

Tree No.	Botanical Name Common Name	Height (m)	DBH (m)	Crown Spread (m)	Age	Crown Class	Crown Aspect	Vitality	SULE Rating	STARS Rating	TPZ	SRZ
		based assessment)										
6	*Persea spp.* *Avocado*	5	0.14 [C,B]	4 x 5 [C]	M	D	North	A	**A2**	**LOW**	**2.0**	**1.5**
	Assessment	This neighbouring tree presents as typical of the species, however, has been previously lopped at 2m. Limited assessment due to lack of access. Located within the lot of No. 7 Park Street, this tree is located 1000mm from the shared boundary with No. 9 Park Street and 2200mm from the rear boundary.									See Section 7.1.1	
7	*Cupressus sp.* Cypress Pine	7	0.40 [B]	6 x 6	M	D	Sym.	A	**A2**	**MEDIUM**	**4.8**	**2.3**
	Assessment	Presents as typical for the species.									See Section 7.1.3	
8	*Syzygium paniculatum* Magenta Lilly Pilly	5 average	0.12 average	2 x 2 average	M	C	Sym.	B	**A3**	**LOW**	**2.0**	**1.5**
	Assessment	This is a hedge planting of ten trees. Almost all show sparse crowns. Several present delaminating bark and apparent borer holes. All show evidence of damage at the base, apparently the result of lawn maintenance.									See Section 7.1.2 and 7.1.3	
9	*Howea forsteriana* Kentia Palm	8	0.13	5 x 5	M	D	Sym.	A	**A2**	**HIGH**	**2.0**	**1.5**
	Assessment	This palm presents as typical of the species.									See Section 7.1.4 and 7.1.6	
10	*Syzygium smithii* Lilly Pilly	8	0.35	6 x 6	M	D	Sym.	A-B	**A2**	**HIGH**	**4.2**	**2.1**
	Assessment	This tree is typical of the species; however the crown presents partial density. The lowest branches (north western side) have been lopped, apparently by the neighbouring property, at the boundary line.									See Section 7.1.1 and 7.1.6	
11	*Syzygium paniculatum* Magenta Lilly Pilly	5	0.22 [BC]	2 x 7	M	C	Sym.	A	**A2**	**MEDIUM**	**2.6**	**1.8**
	Assessment	This is a hedge planting of two *Syzygium*, pruned into a rectangular form. The centre of both trees are approximately 700mm from the boundary line.									See Section 7.1.4 and 7.1.6	

Tree No.	Botanical Name Common Name	Height (m)	DBH (m)	Crown Spread (m)	Age	Crown Class	Crown Aspect	Vitality	SULE Rating	STARS Rating	TPZ	SRZ

A. Incomplete identification of species due to insufficiently available plant material
B. Diameter taken below 1.4m due to low stem bifurcation
C. estimate due to the overgrown area and/or limited access
D. deciduous species, void of foliage at the time of assessment
E. Level 3 assessment required to determine the accurate rating

7.0 Site Assessment

The area of assessment comprises two rectangular blocks, both presenting a slight gradient with a northerly aspect. The dwelling at No. 11 Park Street is a single-story brick structure, the concrete driveway servicing the detached, single garage passes on the southern side of the dwelling. The open, lawned areas front and back contain deliberate plantings on the curtilage. The dwelling at No. 9 Park Street is a single-story weatherboard residence- it appears to have had an addition to the rear, this being a 'granny flat' type structure. Deliberate plantings present around the curtilage and in garden beds at the front of the residence. High-density housing (apartments and/ or holiday lettings) surround the south, east, and west. A private dwelling is located to the north of No. 9.

The trees labeled as A that have been included on the survey drawing (Plan 1), however, excluded from this report because of the failure to conform to the description of a prescribed tree based on the Wollongong Councils Development Control Plan.

Tree A: trees that occur on the lot proposed for development and are exempt species[8].

Tree B: trees located on the survey, however, were absent.

7.1 Proposed development

The proposed development consists of tree removal, the demolition of existing site structures, and construction of a multi-unit, residential dwelling development, basement parking, drive access, and drainage infrastructure.

The calculations included in the following discussion have not considered;

- subsurface utilities that have not been included in the design,
- Work methods related to subsurface utilities, for example, concrete encasing or replacement of existing lines
- or work methods related to construction (stockpiling, site sheds, scaffolding) unless otherwise specified.

These may also increase the encroachment and tree impact and, therefore the opportunity for tree retention.

Assumption 1: The excavation required for this basement will need to be outside of the basement wall footprint to allow for construction of the wall, waterproofing, and drainage, therefore, the actual cut has been assumed within this report to be up to 600mm outside of the line indicating the location of the basement wall. All calculations for the encroachment of any zone of protection (TPZ, SRZ) have been based on this assumption.

[8] Wollongong City Council, Wollongong Development Control Plan, 2009, Chapter E17; Preservation & Management of Trees and Vegetation, Appendix 1: Exempt Tree Species List, page 20

This report discusses the impact of the proposed design on the trees. Eleven (11) trees have been listed within this report based upon the vicinity of the proposed works. This has included street and neighbouring trees where any part of the zones of protection (TPZ, SRZ) to encroach into the lot. Recommendations based on the tree significance and condition, together with the impact on these trees, regarding the development of this lot follow.

The document (Section 4.4.5) requesting additional information and an amendment to the design is specific to trees No. 5, 9, 10, and 11 (see Section 4.3.2). As part of the initial design submitted, the following impacts occurred to these trees.

- Trees No. 10 (*Syzygium smithii)* and 11 (*Syzygium paniculatum)*; No conflict, able to be retained
- Tree No. 5 (*Araucaria columnaris)*; Subject to a major encroachment (35%) and unable to be retained
- Tree No. 9 (*Howea forsteriana)* : Subject to an encroachment and unable to be retained within current location, however able to be transplanted and retained elsewhere on site.

7.1.1 Trees and zones of protection (TPZ/SRZ) outside of the proposed design

Trees No. 6 and 10

None of the proposed works conflict with the location of these trees or respective zones of protection. These trees can be retained without impact by the proposed design.

7.1.2 Trees providing a limited useful life expectancy

Trees No. 2 and 8

These trees provide low significance based on the species, habit, and rating and could be removed due to the low amenity value and limited useful life expectancy.

7.1.3 Trees directly conflicting with the design

Trees No. 2, 3, 7 and 8

These trees are located in the footprint of the proposed design and would require removal based on this premise alone. The conflict is summarised as follows;

Trees No. 2, 3, 7, and 8; within the footprint of the proposed development/ excavation for the basement cut.

7.1.4 Trees subject to a minor encroachment

Trees No. 1, 9 and 11

These trees are not directly located in the footprint of the proposed design, however, are subject to a *minor encroachment*. That is, the proportion (<10%) of encroachment provided by design will not adversely impact on these trees. These trees could be retained relative to the design. Although the calculated encroachment is limited to the tree location plotted by Allied Tree Consultancy, see Section 4.5.1.

7.1.5 Trees subject to a major encroachment

Tree No. 4 and 5

These trees are not directly located in the footprint of the proposed design, however, located close and adjacent to the design footprint and subject to a *major encroachment*, that is, in excess of 10% of the TPZ. The extent and type of encroachment for each tree are discussed and the relative implications.

Tree No. 4

Encroachment: 24%; based on drawing SW-4 (D). The encroachment consists of excavation for the stormwater pipes exiting to the kerb on Park Street. Although an encroachment, the proportion of encroachment will be limited to the depth and diameter of these pipes and allow for retention of underlying roots deeper than the minimum excavation required. The design also allows for sufficient room for root regrowth. Accounting for the tenacity of the species and types of works required, this tree is considered to be capable for retention with minimal impact. Although conditions for the excavation adjacent to this tree are required.

Tree No. 5

Encroachment: 17%; based on drawing DA-05 (E) and allowing for the overcut, see Assumption 1. The encroachment consists of excavation for the basement cut. This will extend into the SRZ, although the proportion of encroachment is seven percentage points in excess of a minor encroachment. Discounting the overcut, the corner of the basement is on the tangent of the SRZ and the overall encroachment significantly less, therefore reducing the impact more so. Although accounting for the two-story basement, the necessity for the overcut (assumed as 600mm) will likely be required and could exceed this assumed proportion of excavation. The tenacity assigned to this species and semi-mature age could allow for tree retention, and the proportion of encroachment supports this, with some impact to the vitality in the short term. That is, this tree can be retained based on the design, although the construction methodology required for the basement, being the overcut required for construction should be conformed to allow for an accurate impact.

7.1.6 Encroachment by Stormwater layout

Trees No. 5, 9, 10 and 11

These trees identified for retention (see Section 4.3.2) other than the impacts discussed in prior Sections are subject to potential further works within the Stormwater layout and illustrated in Drawing SW4 (D), Section 4.4.3. This indicates 'shaped ground to direct overland flows', which may require further grading of this area containing the trees and respective TPZ's for an unknown depth of excavation. The potential for grading works throughout this area are unknown, and pending the depth may contribute to additional encroachments on these trees.

7.2 Sub-surface utilities

No drawings have been provided for the proposed route of sub-surface utilities other than stormwater. Any trenching, other than what has been allowed for should be avoided within the area of the TPZ's for any tree nominated for retention. Any proposed route shall be re-routed outside of the TPZ. Under boring may be required if a limitation for the route of a service is restricted to an area that falls within the TPZ from any tree. Any excavation in the area of a TPZ must be authorised and conditioned by the project arborist.

7.3 Protection measures

The following protection measures are required to be implemented for the following trees before initiation of site works (including demolition/excavation) and retained until the landscaping works are required unless otherwise specified.

7.3.1 Protective fence: Tree No. 1, 4, 5, 6, 9, 10 and 11

A protective fence is required to be installed to protect the TPZ from all site-related work and are recommended to be located in accordance with the requirements of the AS 4970, listed in Appendix B. The fence is required to be secured to the ground with pegs to avoid movement during construction. This must be installed prior to the commencement of any demolition, excavation or construction works and shall be maintained throughout the entire construction phase of the development, and until landscaping works is required.

7.3.2 Conditions for compliance

The following conditions are required before any works proceed on site.

Site induction; All workers related to the construction process and before entering the site must be briefed about the requirements/conditions outlined in this report relative to the zone of protection, measures, and specifications before the initiation of work. This is required as part of the site induction process.

Project Arborist; A project arborist who conforms to the requirements of the AS 4970 is required to be nominated immediately after a *Notice of Determination* is issued, and they are to be provided with all related site documents.

7.4 Compliance Documentation

The following stages will require assessment and documentation (report, letter, certification) by the project arborist or person responsible for the specific work type, and the related documentation is to be issued to the principal certifying agent.

7.4.1 Table 2; Assessment/Certification stages

Stage	Work type	Document required
Pre-demolition	Installation of the protection measures, Section 7.4	Certificate
Construction	Excavation works adjacent to trees No. 4 and 5, Project arborist required to be present at time of works	Certificate
During construction	Any further works required within the area of the TPZ, or decline related to the trees that have not been covered by this report.	Report Brief
During construction	Any crown modification including pruning or root disturbance.	Report Brief

Construction refers to the time between the initiation of demolition and until an occupation certificate is issued.

Project Arborist person nominated as responsible for the provision of the tree assessment, arborist report, consultation with stakeholders, and certification for the development project. This person will be adequately experienced and qualified with a minimum of a level 5 (AQF); Diploma in Horticulture (Arboriculture)[9].

8.0 Protection Specification

The retention and protection of these trees requires the remaining Tree Protection Zone (TPZ) not subject to encroachment to conform to the conditions outlined below. These conditions provide the limitations of work permitted within the area of the Tree Protection Zone (TPZ) and must be adhered to unless otherwise stated.

[9] Based upon the definition of a 'consulting arborist' from the AS 4970; Protection of trees on development sites; 2009, Section 1.4.4, p 6.

1. Crown pruning can be accommodated, however, must conform to the AS 4373; *Pruning of Amenity Trees*, and not misshape the crown nor remove in excess of 10-15% of the existing crown, pending on the species, and vitality. The opportunity for, type and proportion of pruning will be required to be nominated by the project arborist.

2. Soil levels within the TPZ must remain the same. Any excavation within the TPZ must have been previously specified and allowed for by the project arborist:

   a) So it does not alter the drainage to the tree.

   b) Under specified circumstances,

   - Added fill soil does not exceed 100mm in depth over the natural grade. Construction methodologies exist that can allow grade increases in excess of 100mm, via the use of an impervious cover, an approved permeable material or permanent aeration system or other approved methods.

   - Excavation cannot exceed a depth of more than 50mm within the area of the TPZ, not including the SRZ. The grade within the SRZ cannot be reduced without the consent from a project arborist.

3. No form of material or structure, solid or liquid, is to be stored or disposed of within the TPZ.

4. No lighting of fires is permitted within the TPZ.

5. All drainage runoff, sediment, concrete, mortar slurry, paints, washings, toilet effluent, petroleum products, and any other toxic wastes must be prevented from entering the TPZ.

6. No activity that will cause excessive soil compaction is permitted within the TPZ. That is, machinery, excavators, etc. must refrain from entering the area of the TPZ unless measures have been taken, and with consultation with the project, arborist to protect the root zone.

7. No site sheds, amenities or similar site structures are permitted to be located or extend into the area of the TPZ unless the project arborist provides prior consent.

8. No form of construction work or related activity such as the mixing of concrete, cutting, grinding, generator storage or cleaning of tools is permitted within the TPZ.

9. No part of any tree may be used as an anchorage point, nor should any noticeboard, telephone cable, rope, guy, framework, etc. be attached to any part of a tree.

12. (a) All excavation work within the TPZ will utilise methods to preserve root systems intact and undamaged. Examples of methods permitted are by hand tools, hydraulic, or pneumatic air excavation technology.

(b) Any root unearthed which is less than 50mm in diameter must be cleanly cut and dusted with a fungicide, and not allowed to dry out, with minimum exposure to the air as possible.

(c) Any root unearthed which is greater than 50mm in diameter must be located regarding their directional spread and potential impact. A project arborist will be required to assess the situation and determine future action regarding retaining the tree in a healthy state.

9.0 Summary of tree impact

Based on the design supplied, the following summary provides the impacts imposed on the trees included in this report.

9.1 Trees No. 1, 4, 6, 9, 10 and 11

These trees are not adversely impacted by the design, that is, they conform to a minor encroachment or less and the nominated zones of protection (TPZ, SRZ) based on the requirements of the Protection Specification, Section 8.0. The proposed design does not adversely affect these trees.

9.2 Trees No. 2, 3, 7 and 8

The proposed design will impact adversely on these trees and are unable to be retained based on the design.

9.3 Tree No. 5

The proposed design provides a major encroachment, which, although on the lesser proportion of encroachment, therefore allowing for tree retention, is limited to the construction methodology required for the basement. That is, the overcut required for the basement excavation should be confirmed to allow for an accurate impact.

9.4 Encroachment by Stormwater layout

Trees No. 5, 9, 10 and 11

These trees identified for retention (see Section 4.3.2) other than the impacts discussed in prior Sections are subject to potential further works within the Stormwater layout and illustrated in Drawing SW4 (D), Section 4.4.3. This indicates 'shaped ground to direct overland flows', which may require further grading of this area containing the trees and respective TPZ's for an unknown depth of excavation. The potential for grading works throughout this area are unknown, and pending the depth may contribute to additional encroachments on these trees.

9.5 Sub-surface utilities

No drawings have been provided for the proposed route of sub-surface utilities other than stormwater. Any trenching, other than what has been allowed for should be avoided within the area of the TPZ's for any tree nominated for retention. Any proposed route shall be re-routed outside of the TPZ. Under boring may be required if a limitation for the route of a service is restricted to an area that falls within the TPZ from any tree. Any excavation in the area of a TPZ must be authorised and conditioned by the project arborist.

9.6 Protection measures

Protection measures (outlined in Section 7.3 and 7.4) are required to be implemented for the trees nominated for retention (referenced in Section 9.1) and installed before initiation of site works (including demolition/excavation) and retained until the landscaping works are required unless otherwise specified.

All workers related to the construction process and before entering the site must be briefed about the requirements/conditions outlined in this report relative to the zone of protection, measures, and specifications before the initiation of work.

A project arborist is required to be nominated, and the stages and related certification or similar documentation is to be issued to the principal certifying agent.

The opinions expressed in this report by the author have been provided within the capacity of a Consulting Arborist. Any further explanation or details can be provided by contacting the author.

Assessed and Prepared by Geoff Beisler
Consulting Arborist
Level 5 Arborist
ISA Tree Risk Assessment Qualification

Prepared and checked by Warwick Varley
Consulting Arborist; Principal
Level 5 and 8; Arborist
ISA Tree Risk Assessment Qualification
IACA and ISA Member

10.0 Appendix A- Terminology Defined

Height
Is a measure of the vertical distance from the average ground level around the root crown to the top surface of the crown, and on palms - to the apical growth point.

DBH
Diameter at Breast Height – being the stem diameter in meters, measured at 1.4m from ground level, including the thickness of the bark.; Mult. refers to multiple stems, that is in excess of 4 stems.

Crown Spread
A two-dimension linear measurement (in metres) of the crown plan. The first figure is the north-south span, the second being the east-west measurement.

Age
Is the estimate of the specimen's age based upon the expected lifespan of the species. This is divided into three stages.

Young (Y)	Trees less than 20% of life expectancy.
Mature (M)	Trees aged between 20% to 80% life expectancy.
Over-mature (O)	Trees aged over 80% of life expectancy with probable symptoms of senescence.

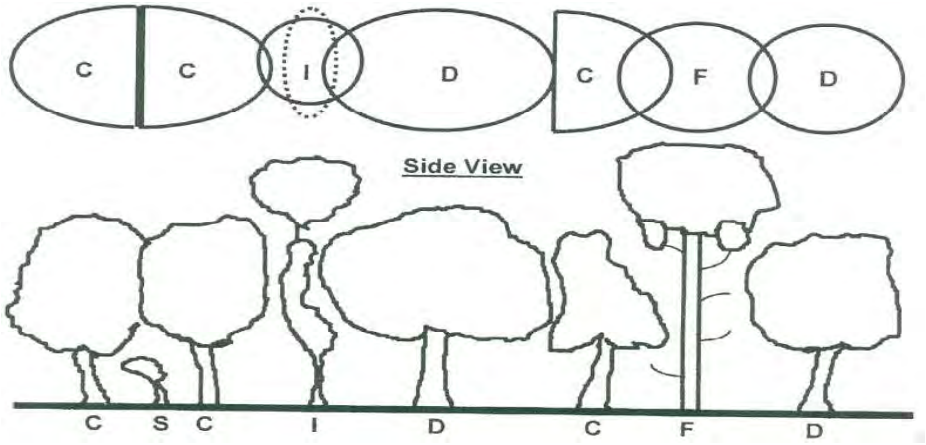
Crown Aspect
In relation to the root crown, this refers to the aspect the majority of the crown resides in. This will be either termed Symmetrical (Sym.) where the centre of the crown resides over the root crown or the cardinal direction the centre of the crown is biased towards, being either North (N), South (S), East (E) or West (W).

Vitality Rating
Is a rating of the health of the tree, irrespective and independent of the structural integrity, and defined by the 'ability for a tree to sustain its life processes' ((Draper, Richards, 2009). This is divided between three variables, and based on the assessment of symptoms including, but not limited to; leaf size, colour, crown density, woundwood development, adaptive growth formation, and epicormic growth.
A: Normal vitality, typical for the species
B: Below average vitality, possibly temporary loss of health, partial symptoms.
C: Poor vitality; obvious decline, potentially irreversible

Crown Class
Is the differing crown habits as influenced by the external variables within the surrounding environment. They are:

D	– *Dominant*	Crown is receiving uninterrupted light from above and sides, also known as emergent.
C	– *Codominant*	Crown is receiving light from above and one side of the crown.
I	– *Intermediate*	Crown is receiving light from above but not the sides of the crown.
S	– *Suppressed*	Crown has been shadowed by the surrounding elements and receives no light from above or sides.
F	– *Forest*	Characterised by an erect, straight stem (usually excurrent) with little stem taper and virtually no branching over the majority of the stem except for the top of the tree which has a small concentrated branch structure making up the crown.

Top View



D C, I & S, and side view, after (Matheny, N. & Clark, J. R. 1998, Trees Development, Published by International Society of Arboriculture, P.O. Box 3129, Champaign IL 61826-3129 USA, p.20, adapted from the Hazard Tree Assessment Program, Recreation and Park Department, City of San Francisco, California).

Levels of assessment

Level 1: Limited visual: a visual tree assessment to manage large populations of trees within a limited period and in order to identify obvious faults which would be considered imminent.

Level 2: Basic assessment: a standard performed assessment providing for a detailed visual assessment including all parts of the tree and surrounding environment and via the use of simple tools.

Level 3: Advanced assessment: specific type assessments conducted by either arborist who specialise with specific areas of assessment or via the use of specialised equipment. For example, aerial assessment by use of an EWP or rope/harness, or decay detection equipment.

TPZ; Tree Protection Zone

Is an area of protection required for maintaining the trees vitality and long-term viability. Measured in meters as a radius from the trees centre. The requirements of this zone are outlined within the Protection Specification, Section 8.0, and are to be adhered to unless otherwise stated.

The size of the Tree Protection Zone (TPZ) has been calculated from the *Australian Standard, 4970; 2009* – Protection of Trees on Development Sites

The TPZ does not provide the limit of root extension, however, offers an area of the root zone that requires predominate protection from development works. The allocated TPZ can be modified by some circumstances; however will require compensation equivalent to the area loss, elsewhere and adjacent to the TPZ.

SRZ; Structural Root Zone

Is the area around the tree containing the woody roots necessary for stability. Measured in meters as a radius from the trees centre. The requirements of this zone are outlined within the Protection Specification, Section 8.0, and are to be adhered to unless otherwise stated.

Protection Measures

These are required for the protection of trees during demolition/construction activities.
Protective barriers are required to be installed before the initiation of demolition and/or construction and are to be maintained up to the time of landscaping. Samples of the recommended protection measures are illustrated in Appendix B.

All other definitions are referenced from;

Draper D.B., Richards P.A., 2009, Dictionary for Managing Trees in Urban Environments
CSIRO Pub., Australia

Significance Rating, Significance of a Tree Assessment Rating System (S.T.A.R.S), IACA, 2010[10]

Tree Significance – Assessment Criteria

1. High Significance in landscape

- The tree is in good condition and good vitality;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ – tree is appropriate to the site conditions.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vitality;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vitality;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences,

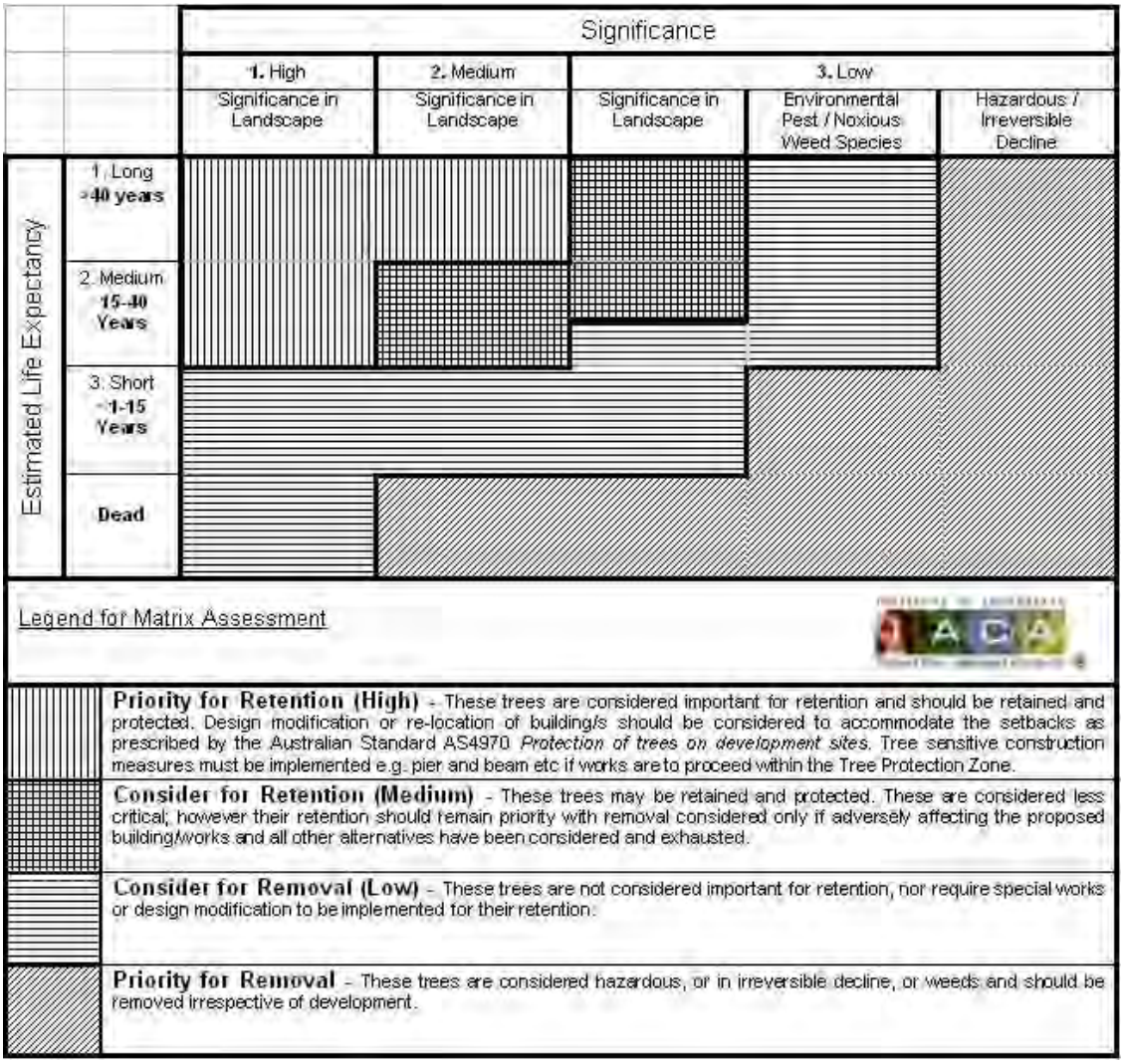
[10] IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.
Environmental Pest / Noxious Weed Species
- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.
Hazardous/Irreversible Decline
- The tree is structurally unsound and/or unstable and is considered potentially dangerous, - The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short-term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g.

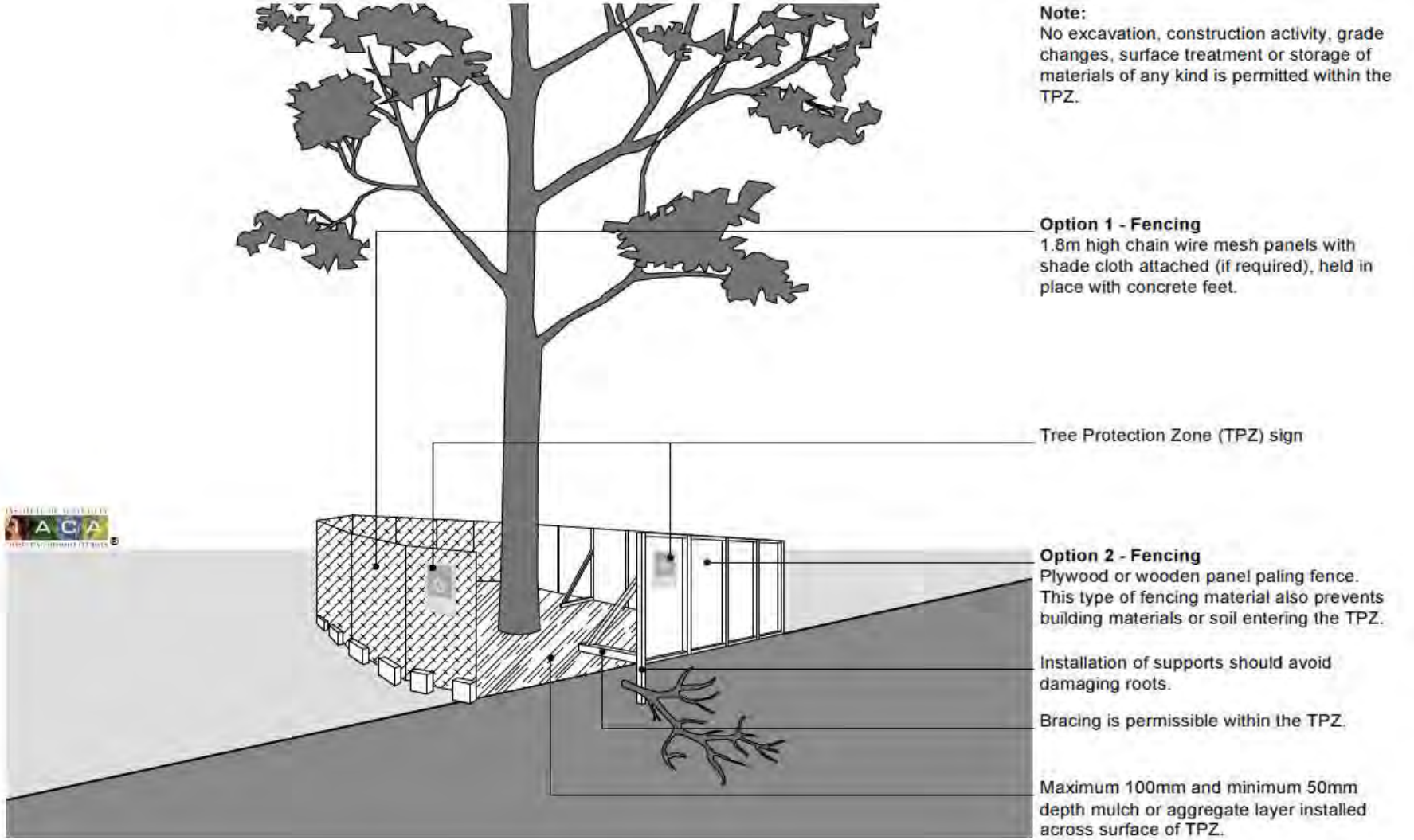
Table 3; Tree Retention Value – Priority Matrix.



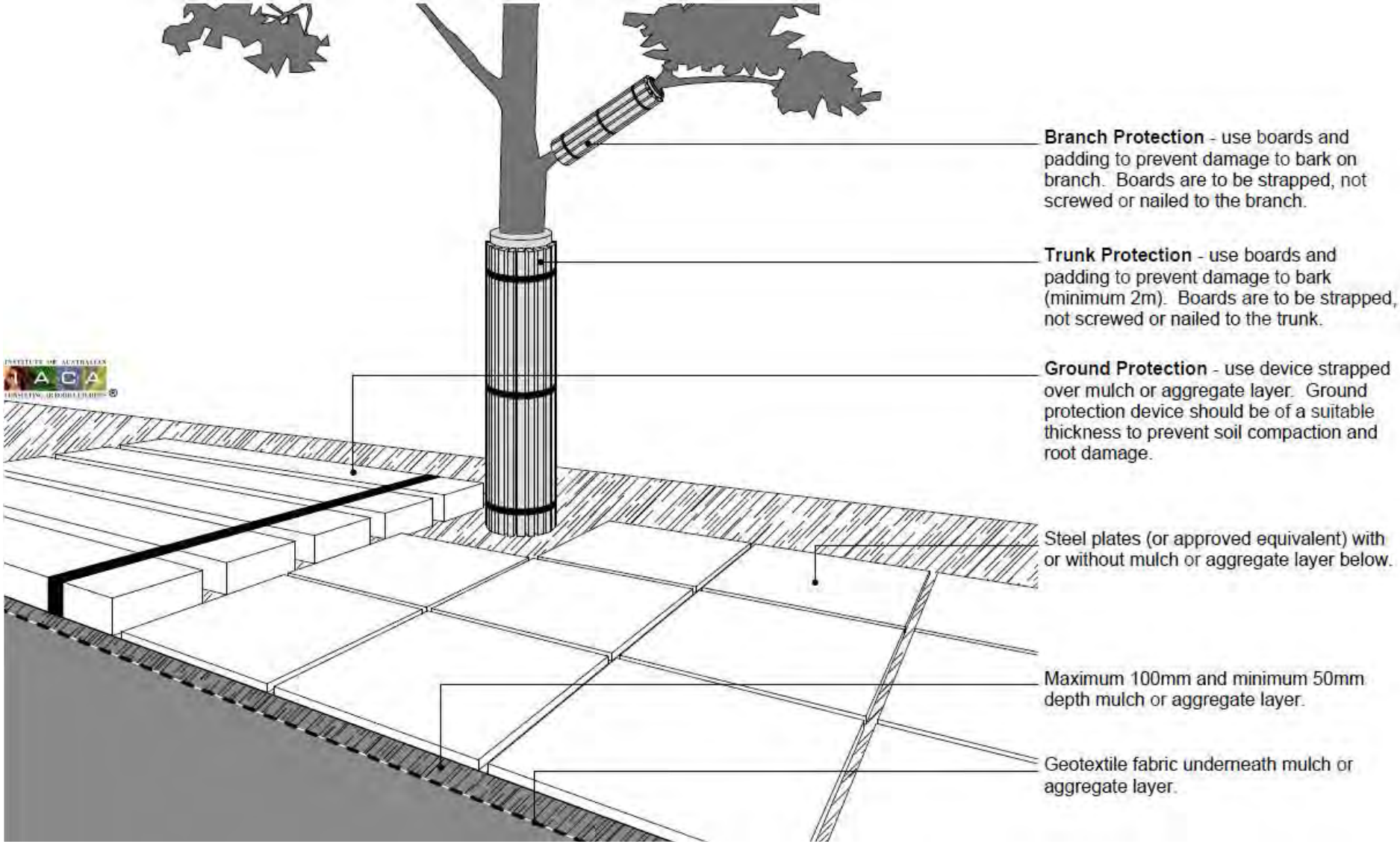
Safe Useful Life Expectancy – S.U.L.E (Barell 1995)

	1. Long	2. Medium	3. Short	4. Removal	5. Moved or Replaced
	Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	Trees that appeared to be retainable at the time of assessment for 15 – 40 years with an acceptable level of risk.	Trees that appeared to be retainable at the time of assessment for 5 – 15 years with an acceptable level of risk.	Trees that should be removed within the next 5 years.	Trees which can be reliably moved or replaced.
A	Structurally sound trees located in positions that can accommodate future growth.	Trees that may only live between 15 and 40 years.	Trees that may only live between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Small trees less than 5m in height.
B	Trees that could be made suitable for retention in the long term by remedial tree care.	Trees that may live for more than 40 years but would be removed for safety or nuisance reasons.	Trees that may live for more than 15 years but would be removed for safety or nuisance reasons.	Dangerous trees through instability on recent loss of adjacent trees.	Young trees less than 15 years old but over 5m in heights
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	Trees that may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Damaged trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been pruned to artificially control growth.
D		Trees that could be made suitable for retention in the medium term by remedial tree care.	Trees that require substantial remedial tree care and are only suitable for retention in the short term.	Damaged trees that are clearly not safe to retain.	
E				Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new plantings.	
F				Trees that are damaging or may cause damage to existing structures within 5 years.	
G				Trees that will become dangerous after removal of other trees for reasons given in (A) to (F).	

Appendix B- Protection measures;
Protective fence



Stem and Ground protection



Attachment 4

SURVEYING | ENGINEERING | TOWN PLANNING

DIRECTORS
S.H. APPERLEY RFD, B.SURV, M.I.S.NSW, MSSSI.
A.A.RIEPSAMEN B.E. (Civil)(Hons), B.SURV. (Hons), M.I.E Aust.
D.CANNON M.Env.Eng.Sc, GradDip.Bushfire Protection, B.Env.Sc.Adv (Hons 1), BPAD-Level 3, M.P.I.A

SET consultants

SET CONSULTANTS PTY LTD
51 Graham Street Nowra
PO Box 495 Nowra NSW 2541
p 02 4421 4500
Kiama 02 4233 2006
mail@setconsultants.com.au
www.setconsultants.com.au
ABN 54 682 364 037

2 October 2020

Council Reference: DA2019/1356
Our Ref: L103754

Development Project Planner
Wollongong City Council
41 Burelli Street
WOLLONGONG NSW 2500

Attention: Martin Jameson

Dear Mr Jameson,

DA-2019/1356 - Development Application - Eight storey residential flat building comprising 14 Residential units over two levels of basement car parking. At Lot 1 DP 780693 & Lot 1 DP 1246328 No. 9-11 Park Street, Wollongong

We refer to Wollongong Local Planning Panel (WLPP) meeting and correspondence letter dated the 1st September 2020. The WLPP determined via a public meeting to defer the determination of DA-2019/1356, the proposed RFB at Lot 1 DP 780693 & Lot 1 DP 1246328 No. 9-11 Park Street, Wollongong.

The panel consisting of Sue Francis (Chair), Larissa Ozog, Robert Montgomery, Trish McBride (Community Representative), resolved to defer their determination of the matter to seek further information and plans to support the application.

This letter has been prepared on behalf of the applicant to support the Development Application, and respond to each of the points raised by the panel. Provided below is a list of the issues requiring additional information, with a response under each heading being provided for the panel to consider.

1. Details to establish that 7 Park Street is not isolated having regard to the relevant Planning principle.

> The fact that No's 5 and 7 Park Street are in the same ownership does not, in the view of the Panel, necessarily result in No 7 not being isolated.

The adjoining site to the north known as No. 7 Park Street contains a single storey dwelling house and has a frontage of 15m to Park Street. Located upon No. 5 Park Street is a 3-storey residential flat building that has not yet been strata subdivided. The development of 9-11 Park Street may result in No. 7 Park Street effectively becoming an isolated site as consolidation with either the northern or southern adjoining properties would be required to achieve a 24m site width to enable residential flat building development.

The Land and Environment Court has established a Planning Principle for redevelopment involving issues of site isolation. The Planning Principle refers to *Karavellas v Sutherland Shire Council [2004] NSW LEC 251*. The Principle states that:-

> *The general questions to be answered when dealing with amalgamation of sites or when a site is to be isolated through redevelopment are:*
>
> - *Firstly, is amalgamation of the sites feasible?*
> - *Secondly, can orderly and economic use and development of the separate sites be achieved if amalgamation is not feasible?*

To address the first question "is amalgamation of the sites feasible", the Planning Principle goes on to refer to *Melissa Grech v Auburn Council [2004] NSWLEC 40* where the Commissioner said:-

> *"Firstly, where a property will be isolated by a proposed development and that property cannot satisfy the minimum lot requirements then negotiations between the owners of the properties should commence at an early stage and prior to the lodgement of the development application.*
>
> *Secondly, and where no satisfactory result is achieved from the negotiations, the development application should include details of the negotiations between the owners of the properties. These details should include offers to the owner of the isolated property. A reasonable offer, for the purposes of determining the development application and addressing the planning implications of an isolated lot, is to be based on at least one recent independent valuation and may include other reasonable expenses likely to be incurred by the owner of the isolated property in the sale of the property.*
>
> *Thirdly, the level of negotiation and any offers made for the isolated site are matters that can be given weight in the consideration of the development application. The amount of weight will depend on the level of negotiation, whether any offers are deemed reasonable or unreasonable, any relevant planning requirements and the provisions of s 79C of the Environmental Planning and Assessment Act 1979."*

Whilst the residential flat development at No.5 Park Street has not yet been strata subdivided amalgamation may be considered feasible given both No. 5 and 7 Park Street are in the ownership. However, No. 7 Park Street will become essentially isolated through the development of No. 9-11 Park Street.

In this regard, an independent property evaluation dated 8 September 2020 prepared by WBP Group has been submitted which determines the Market Value range at $1,650,000 to $1,725,000. Both verbal and written offers were made to the owners of No. 7 Park Street. The first written offer was made on 15 September 2020 for $1,725,000. This was declined on 26 September 2020. As such amalgamation is not considered feasible in this instance and the answer to the first question posed by the Planning Principle is 'No'.

To address the Second question "can orderly and economic use and development of the separate sites be achieved if amalgamation is not feasible", the Planning Principle refers to *Cornerstone Property Group Pty Ltd v Warringah Council [2004] NSWLEC 189* where Brown C stated that:-

> *The key principle is whether both sites can achieve a development that is consistent with the planning controls. If variations to the planning controls would be required, such as non compliance with a minimum allotment size, will both sites be able to achieve a development of appropriate urban form and with acceptable level of amenity.*
>
> *To assist in this assessment, an envelope for the isolated site may be prepared which indicates height, setbacks, resultant site coverage (both building and basement). This should be schematic but of sufficient detail to understand the relationship between the subject application and the isolated site and the likely impacts the developments will have on each other, particularly solar access and privacy impacts for residential development and the traffic impacts of separate driveways if the development is on a main road.*
>
> *The subject application may need to be amended, such as by a further setback than the minimum in the planning controls, or the development potential of both sites reduced to enable reasonable development of the isolated site to occur while maintaining the amenity of both developments.*

Notwithstanding the above, the northern adjoining property (No. 5 Park Street) is still in one and the same ownership and given the age of the existing development it is reasonable to consider that this site may be redeveloped in the future and may include No. 7 Park Street. However, should No. 7 Park Street be sold it may be developed in isolation. Specifically, dual occupancy is a permissible form of residential development in the R1 General Residential.

PRD Architects has developed a potential design for No. 7 Park Street reference in plans no. DA28-30. The site could contain a significantly sized dual occupancy being three storeys with a basement parking. An extract of the development potential can be seen below.

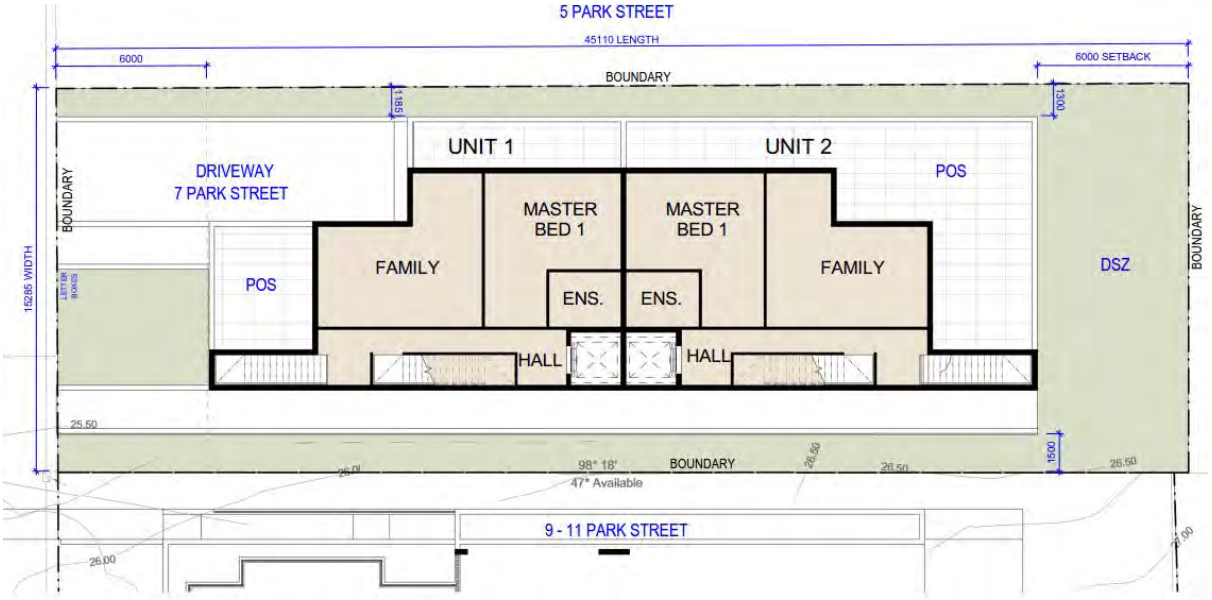


Figure 1 Extract of Ground Plan for No 7 Park Street

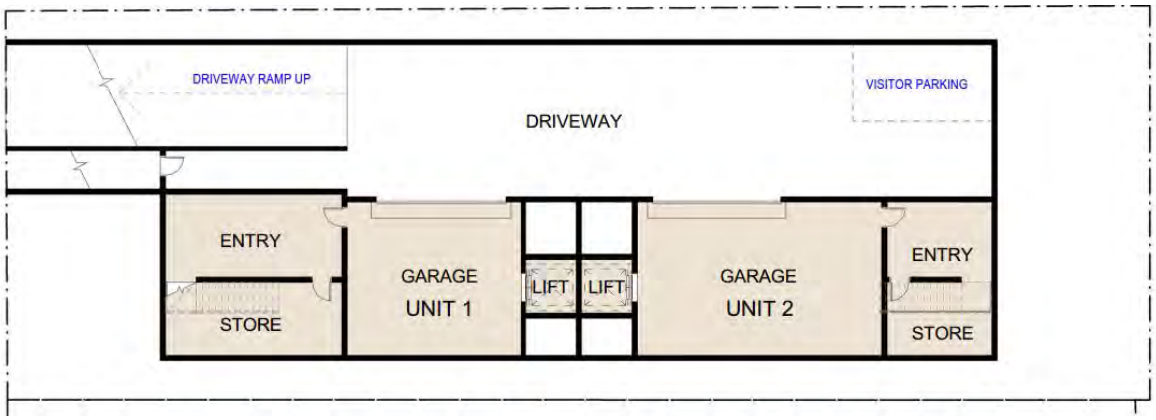


Figure 2 Extract of Basement Plan for No 7 Park Street

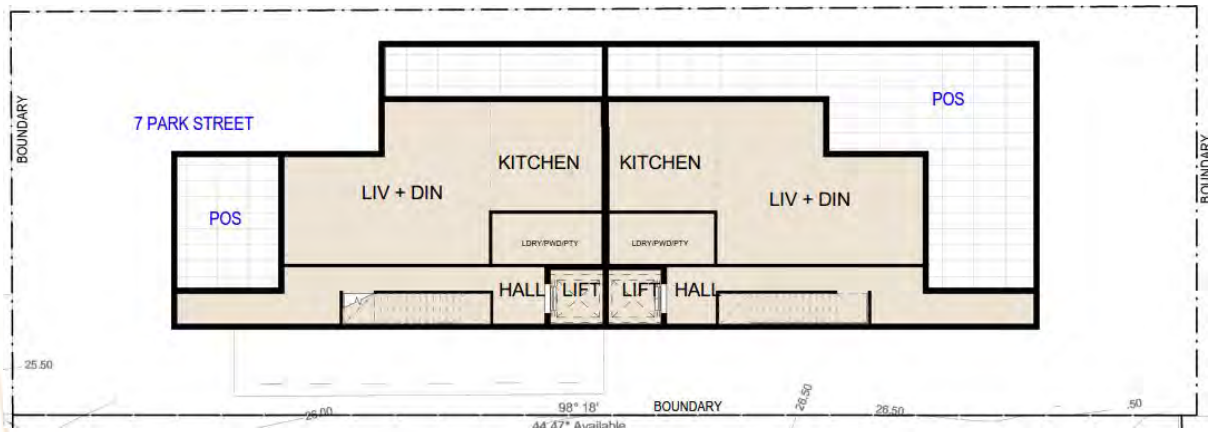


Figure 2 Extract of First floor plan

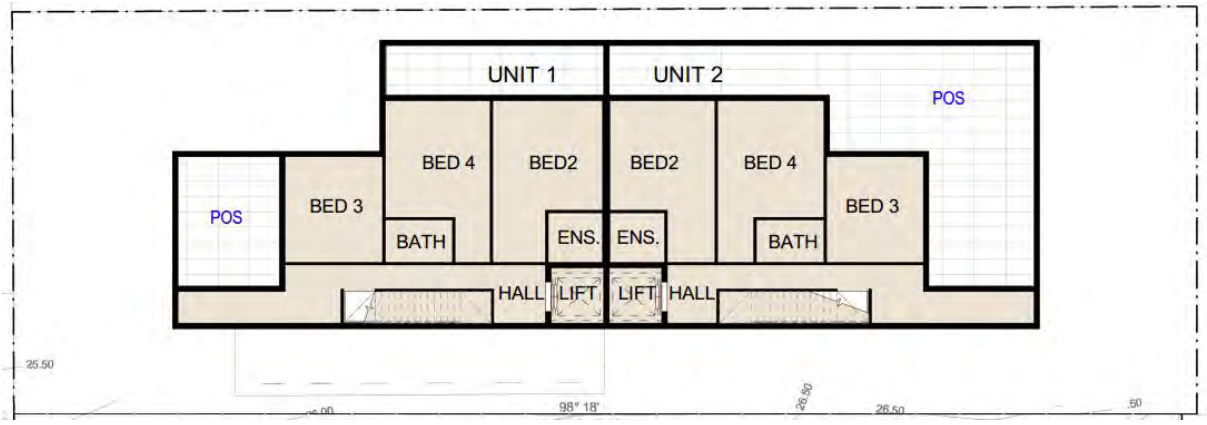


Figure 4 Extract of root top plan

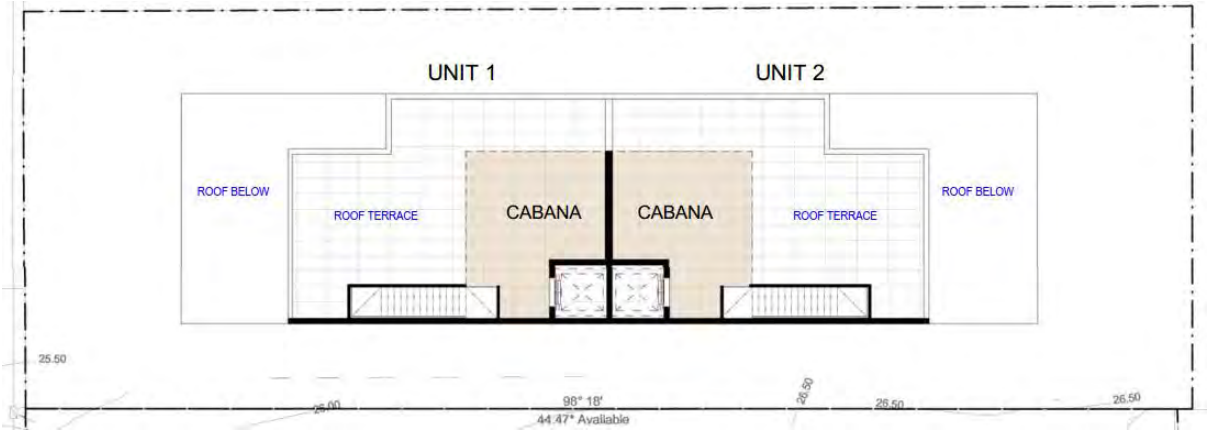


Figure 5 Extract of root top plan

The proposed development for No. 7 Park Street demonstrates that the subject site can be developed and remain consistent with the objectives of the relevant planning controls. The proposed dual occupancy has been orientated to the north with no openings creating privacy concerns on the southern elevation. The GFA of the proposed dual occupancy and the height of the proposed development are below the FSR and Building Height Controls applicable to the site. This reduced development outcome is accepted in response to the smaller site width and infeasibility of site amalgamation. However, the design is responsive to the residential flat building character of the area and responses orderly economic use of this well located site.

In summary the proposed development represents orderly economic development of an isolated lot without unreasonable impact on the development potential of adjoining sites.

2. Reduction in the GFA to comply with the maximum permissible FSR. In the Panels view, the 'zen gardens' do constitute GFA.

The GFA of the development has been reduced, with the development compliant with the 1.5:1 FSR. Refer to the amended Architectural Plans prepared by *PRD Architects.*

3. Review the design to remove elements which add to the extent of overshadowing of 13 Park Street.

4. This may involve removal of elements fronting Park Street and increasing the rear setback. It may also involve increasing height but reducing the footprint to improve the solar access to the south.

The proposed building has been amended to improve the solar access to the property to the south. Refer to the amended Architectural Plans prepared by *PRD Architects.* Included is a set of Shadow Diagrams which demonstrate solar access to the site and surrounding area.

5. Retain the trees in the rear and integrate them into the landscaped design.

The existing trees to the rear of the site will be retained and integrated into the landscape design. Refer to the amended Architectural Plans prepared by *PRD Architects,* and Landscape Plans prepared by *Site Design +Studios.*

6. Address the outstanding matters raised by the design excellence panel.

It is believed that all outstanding matters have been addressed as part of these amended plans. Please refer to the amended Architectural Plans prepared by *PRD Architects.*

7. Reconsider the materiality and aesthetics of the design to create a softer "residential" feel. The large expanse of dark cladding should be reduced (up to Level 6) so that the upper levels are lighter elements and the cladding broken up.
8. The large expanse of full height, centrally located privacy screens along the northern elevation should be reduced in number and offset and broken up to reduce the visual dominance of this element.

Refer to the amended Architectural Plans prepared by *PRD Architects.* The design, colour and materials have been reconsidered, now providing lighter colours and with reduced expanses of cladding and screening. The proposed screening has been broken up to reduce the visual dominance Provided below is a comparison of the previous northern elevation (left) to the proposed amended design (right).

Previous Northern Elevation

Proposed Northern Elevation

9. Compliance with ADG separation distances.

The amended plans provide clouding on the plans highlighting the proposed changes. It is believed that the development is compliant with the ADG. Please refer to the amended Architectural Plans prepared by *PRD Architects.*

We trust the above addresses your concerns. We would be pleased for Council to give consideration to these amendments and continue the assessment of the application as soon as possible.

Yours faithfully
SET CONSULTANTS PTY LIMITED

Rachel Harrison
Principal Town Planner

Wollongong Design Review Panel
Meeting minutes and recommendations

Date	22 January 2020
Meeting location	Wollongong City Council Administration Offices
Panel members	Brendan Randles
	Carlo Di Giulio
	Sue Hobley
Apologies	Pier Panozzo – City Centre & Major Development Manager Rachel Harrison - SET Consultants
Council staff	Mark Riordan – Manager City Planning Martin Jameson – Development Project Officer
Guests/ representatives of the applicant	Scott Millican – PRD Architect Diego Quinones – PRD Architects
Declarations of Interest	Nil
Item number	1
DA number	DA-2019/1356
Determination pathway	Wollongong Local Planning Panel
Reasons for consideration by DRP	Clause 28 SEPP 65, Clause 7.18 WLEP 2009
Property address	9-11 Park Street, Wollongong NSW 2500
Proposal	Eight storey residential flat building comprising 15 residential units over two levels of basement carparking.
Applicant or applicant's representative address to the design review panel	
Background	The site previously seen by the Panel on 30 August 2019 under DE-2019/90. The Panel inspected the site at that time. Notes from the previous Panel Report are shown below in italics,
Design quality principals SEPP 65	
Context and Neighbourhood Character	*The subject site is located on the east side of a sloping north south street in an evolving context in North Wollongong, While Park Street is lined with a mixture of single storey detached houses and three storey walk up units, a seven/eight storey building on the corner of Edward Street provides an indication of the scale currently proposed on the subject site. Located close to North Beach and adjacent parklands, with outstanding views to the Escarpment, the context is ideally located for high quality residential development.* *To the north of the subject site is a single storey cottage, while to the south are relatively recently built townhouses. The townhouses raise a number of issues for the proposal. Due to the massing and scale proposed, the townhouses are liable to be heavily impacted, exacerbated by the slope - which falls to the north. Although the townhouse site is strata titled, the potential for increased development at a similar height currently proposed, could indicate that it is "isolated" by the current proposal.* *The context is not well described in the drawing package. No site or context analysis has been provided; nor was any "opportunities and constraints" analysis undertaken or any other documents provided to explain how the proposal has responded to its contextual challenges. This is not acceptable for a proposal at this scale.* *To properly assess the proposal, all plans, sections and elevations MUST include adjoining properties, existing and likely future built form, trees and landscape features, public domain and all elements that contribute to context and streetscape qualities.* Contextual elevations have now been provided, which are very

	helpful. Aside from that however, the site analysis provides basic information only; slope, for example – which to a large part drives the proposal - is not indicated on the site analysis at all. Plans, elevations and sections do not extend beyond the boundaries of the site – which is again noted as unacceptable. The adjacent properties and public domain MUST be included on the final DA plans, elevations and sections.
Built Form and Scale	*The built form proposal comprises two to three units/ floor within an eight storey rectangular form, considerably lower than the site's height limit. The basement layout provides ample setbacks for deep soil and large trees at the front and rear of the site.* *With a four metre street setback and rear and side setbacks exceeding six metres, the proposal would appear to meet the setback requirements of the DCP. However, the proposal does not meet the building separation requirements of the ADG, which require a nine metre setback from all internal and external habitable space. To improve amenity, minimise impacts on streetscape and adjacent properties (especially to the south) and achieve compliance, the Panel recommends the following modifications :* - *increase the southern setback above four storeys to nine metres (minimum)* The southern setback generally has been increased; however two master bedrooms protrude into the setback, which increases apparent bulk and visual impacts on the adjacent property. As this property is the recipient of the proposal's major impacts, it is recommended that both these bedrooms are realigned to comply with the ADG's building separation requirements. - *to address the weak ground interface (the building appears to be driven into the ground), provide a double level expression with double height entry and continuous two storey expression* This comment identified the uncomfortable outcome caused by the significant slope impacting on the entry and base of building. It was suggested that setting back and unifying the two lower levels, might allow a more generous engagement with streetscape, entry and front garden. This recommendation has been misinterpreted by the applicant. Now presented is a two storey timber like skin applied directly to the face of otherwise standard balconies and façade elements. Some odd outcomes include the doubling up of the entry awning, odd voids at levels two and walls that appear to serve no purpose except to "appear like" a two storey base. The response to this recommendation needs to be fully resolved to better integrate with the built form. It may be better to propose a material that is more consistent with the existing streetscape (masonry or render for example) and is less likely to be "value managed" down to an inferior product. - *to improve neighbouring amenity along the northern boundary, relate the finished levels better to the existing levels on the adjoining site so as to minimize the need for high retaining walls* More clarity is required along the northern elevation to ensure that proposed retaining walls and planting are completely resolved. Basement depth should be maximized to ensure that adjacent levels are no higher than absolutely necessary, as well as to maximise the functionality of the communal open space. That is,

	COS throughout multiple small and narrow terraces is not ideal and would not be useful to residents. See Landscape below. - *remove the discrete waste enclosure and relocate waste room into the building envelope* The waste room still protrudes from the building envelope. It should be set back into the built form as previously recommended and the increased area of open space used to create a better resolved garden – see Landscape below. - *increased to improve street activation and surveillance, rotate Unit 1 living room to face the street* Unit 1 living room has been rotated as required. The front garden still requires clarification of species and retaining wall to ensure that the streetscape achieves an excellent visual and physical amenity - *provide clear spatial continuity between upper and lower private living spaces and private pool deck* This has been achieved – but only by removing the communal open space (COS) from roof level. The Panel prefer that COS is retained at this level and that spatial and functional separation is achieved – as discussed at meeting. See Landscape below. - *provide stronger circulation The following links between the different communal open spaces and deep soil plantings of the rear landscapes to the north, east and south at ground level* As discussed, the ground level open spaces need to be completely reviewed in order to align with existing and proposed levels, as well as to maximise use by the proposal's residents; achieve higher amenity generally; allow for coherent circulation; and ensure that adjacent units and open spaces are amenable and do not suffer adverse privacy impacts by COS. See Landscape below. - *create a discrete, accessible and amenable communal roof terrace, unimpeded by adjacent private spaces* See notes above and below in Landscape. Other Built Form issues include : - Despite complying with ADG separation requirements, excessive glazing will adversely impact on adjoining properties (especially to the north and east) and unnecessarily increase heat loads. It is recommended that glazing is substantially reduced and solid spandrels introduced along the western elevation. - minor movements in and out on all facades are liable to weaken the expression and create unnecessary junction details - due to changes in layout from one level to the next, wet rooms appear over living and sleeping spaces – this is a poor design outcome and risks severe issues in the future.
Density	*Acceptable; however, the Panel does not support any breach of density requirements for the site* As advised by Council officers, the density has significantly increased since the late DRP meeting, mainly due to excessive car spaces and additional private circulation. It is now approximately 100sqm over the allowable GFA. As stated above, no breach of the density requirements for the site will be supported.

Sustainability	*With a small footprint and openness to north sun, the proposal provides high levels of solar access and natural ventilation. With ample basement setbacks, the proposal also provides high potential for substantial boundary planting and large trees to the front and rear of the site.* *Although sustainability was not discussed at the meeting, a raft of well integrated sustainability measures should be developed during the next design stage including water sensitive design, solar panels, plantings for biodiversity and so on.* Solar panels and water collection re use for public open areas is proposed, which is highly commended.
Landscape	The amended proposal includes a Landscape Plan but the recommended changes to the architectural scheme will require changes to the landscape design. In relation to the issues previously raised and identified in the latest scheme, the amended Landscape Plan will need to better address the following: - *The Panel strongly supports the retention of the large street tree to the front of the property and would oppose any design that required its removal.* This is proposed. - *The proposal should work with the sloping topography and minimise the need for extensive retaining walls of visually intrusive heights.* The latest scheme is an improvement but more work needs to be done, particularly in relation to level changes in the COS that affect accessibility, reduce functionality and unnecessarily complicate the relationships between various spaces (both interior and exterior). Once the lowering of the basement levels is resolved, the landscape architect should work with the architect to ensure the landscape levels support simple and easy access and circulation within the landscape and between the interior and exterior of the building. The proposal to provide steps in the northern side setback is considered a poor approach to the slope of a heavily planted garden bed. If possible, the retaining wall along this elevation should be wholly or partially deleted. The steps in the southern setback limit accessibility and spatial amenity. - *The front garden should be planted to soften the built form, maximise environmental benefits (eg provide shade from summer western sun), provide excellent streetscape amenity, and support an attractive and clear entry experience to the building's users.* Additional work is required once the basement levels are resolved. Whilst it is accepted that it may be desirable to use plantings to conceal above-ground points in the carpark, it is considered that a much lighter approach to the streetscape is required to achieve a more open, 'front garden' character to the landscape. The scheme should consider the significant role of the existing tree in the nature strip and develop a planting plan and species list that complements/incorporates the tree into a coherent outcome. If permissible, the letterboxes should be located under cover in the front entry area. - *The threshold entry to the building should be more*

generous and take advantage of the amenity benefits of the "Zen Garden", noting that the relocation of the garbage enclosure will greatly improve the latter.

The garbage enclosure remains a significant feature of this space, severely reducing its amenity. Once the enclosure is relocated and the driveway lowered, the space should be developed in consultation with the landscape architect to create a functional, accessible and delightful communal space that provides high amenity to the entry lobby. This space should be linked to the deep soil zone (COS) along the eastern boundary and the COS in the northern setback.

- *Plantings within the northern and southern boundary setbacks, as proposed, are promoted by the Panel on the basis that they should provide screening and amenity between adjoining properties and reduce the unsightliness of features such as driveway access without adversely impacting on neighbouring solar access or outlook. As noted previously, the interface between the site and the property to the north needs to be reconsidered in terms of walling and screening of level changes, and it is anticipated that the boundary plantings will play a role in this without being the sole solution.*

The planting plan must better address the solar access issues along the northern boundary. A dense line of large trees along the boundary will affect the viability of vegetable gardens and lawn, and the amenity of the area during cooler periods. Access through these plantings for landscape maintenance will be problematic. A more sensitive approach to screening and horticultural management is recommended.

- *The proposed communal open space (COS) at ground level will be acceptable provided that it is designed to support socialising and recreational activities (including communal gardening where appropriate) by the building's future residents.*

The design of the COS needs further development to address levels, circulation, functionality of spaces, plantings and amenity. The Panel does not support the proposal to extend private open space of unit 2 into the deep soil zone. The use of decomposed granite is not recommended.

- *The role of the "Deep Soil Zone" and its relationship to the COS needs to be clarified. It has the potential to support the functionality of the COS. It also links the COS to the Zen Garden and space that will be created by the relocation of the garbage enclosure and this should be incorporated into the design without compromising the safety and security of the residents.*
- *Steps to deal with level changes should be kept to a minimum.*

This needs to be addressed. It should be dedicated as COS but designed and planted to support its role as a particular space in the whole landscape and as the link between the northern and southern COS. The Arborist's Report recommends retention of tree 10 (and possibly tree11); this has not been addressed.

- *The Panel does not support the dedication of the roof to the penthouse unit but accepts that it may be feasible to provide both a discrete COS and private terrace for the upper unit. Achieving this will require that roof level open*

	are better resolved in terms both of clear separation of the private space from the COS and of level changes. The relationships between functional spaces for each need to be further considered in relation to environmental amenity, access and circulation, and privacy. This has not been achieved and remains an issue. The landscape architect should consult with the architect to ensure a COS is provided on the rooftop and that it offers particular function(s) that are not available elsewhere. It should have (as a minimum) kitchen and toilet facilities. Shade and shelter should be provided through careful design. - *The Panel strongly promotes the predominant use of locally indigenous plant species to support biodiversity and other environmental benefits.* This needs to be better addressed. Aside from selecting local species, the plantings should be more diverse. Vegetable/food gardens and lawns are acceptable, provided it is clear that they will serve the expected demographic of the residents. The Landscape Plan will need to address the impacts on amenity from locations of sub-station, fire hydrants, etc.
Amenity	*The following amenity issues need to be addressed :* - *overshadowing and privacy impacts on the southern property need to be minimised through increased setbacks, screening, modelling of built form and potential reduction in the number and/or size of north facing balconies.* As noted above, there is still excessive glazing and balconies facing north and east. - provide *a double height entry* While a double height entry has been introduced, the modeling and materiality of this volume is highly unresolved - *relocate waste room within the building envelope* As noted above, the waste room still needs to be pushed back into the building envelope - rotate Unit 1 living *room to face the street* This has been achieved. - *provide defined entry spaces to Unit 1* The Panel acknowledges that without a front fence, direct entry to Unit 1 will not be achievable. - remove south facing balconies While south facing balconies have been removed, protruding bedrooms fail to meet the ADG's separation requirements and will create adverse visual impacts on the adjacent property to the south. These rooms should be pushed back into building envelope. - *modify east facing balconies to contain privacy impacts* East facing glazed balconies include obscure glazing. With excessive east facing glazing generally, the resultant façade composition will struggle with two much glass. Further, this amount of glazing is liable to be adversely impacts on adjacent properties. Therefore the Panel recommends that glazing is substantially reduced and solid balcony spandrels are investigated. - *resolve penthouse level as noted above in Built Form and Landscaping*

	Unresolved. See notes above in Scale and Built Form and Landscape. - *Consideration of proposed RLs, particularly along the northern edge of the top of the basement so as to minimise the extent to which it extends above ground level, thereby improving the relationship with the adjoining northern property and the street.* As discussed at the meeting, this still requires resolution. See notes above in Scale and Built Form and Landscape.
Safety	*It is not clear where gates are located either to the entry or vehicular ramp.* An entry gate has been shown on plan but not on perspective views. It is still not clear where the basement gate is located or how it operates. It is noted that the fire stairs are accessed via 2 doors and that a better option is feasible.
Housing Diversity and Social Interaction	*Acceptable* No change.
Aesthetics	*While the proposal is at a preliminary stage only, it will benefit from the following :* - *provide a two storey expression to ground and first levels with a distinctive finish – such as stone facing* Unresolved as yet – see notes above in Scale and Built Form. - *provide a double height entry* Provided but unresolved. See notes above in Scale and Built Form. - *provide a consistent expression above level 1, perhaps incorporating rendered solid street facing spandrels with generous landscaped planter boxes* Discussed but not implemented. See notes above in Scale and Scale and Built Form. - *extend the spandrel expression with horizontal fenestration* Discussed but not implemented. See notes above in Scale and Scale and Built Form. - *complement built form with large existing and new trees* See Landscape above - *sensitively incorporate boosters, substation and other required services* Not shown as yet. - *incorporate a high quality landscape that contributes to the environmental amenity of the development within the locality and within the site* Still to be provided. See notes above in Landscape. It was discussed at the DRP meeting that too many materials are currently proposed, leading to compositional and detail issues. It is recommended that the materials proposed are greatly reduced in quantity and more informed by the windy, seaside context.

Design Excellence WLEP2009	
Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved	Still to be resolved.
Whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain,	Yes – provided that material, composition and landscape are resolved.
Whether the proposed development detrimentally impacts on view corridors,	No
Whether the proposed development detrimentally overshadows an area shown distinctively coloured and numbered on the Sun Plane Protection Map,	No
How the development addresses the following:	
the suitability of the land for development,	Yes
existing and proposed uses and use mix	Yes
heritage issues and streetscape constraints,	Streetscape would benefit from a more refined palette of materials, less glazing and simpler expression generally. The landscape treatment needs to relate better to the existing street tree and the neighbourhood.
the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,	Yes – provided that side bedrooms are set back within building envelope.
bulk, massing and modulation of buildings	Still to be resolved.
street frontage heights	Base of building still to be resolved.
environmental impacts such as sustainable design, overshadowing, wind and reflectivity	Solar panels and water collection and reuse for public areas is commendable.
the achievement of the principles of ecologically sustainable development	Yes
pedestrian, cycle, vehicular and service access,	Excessive car spaces currently proposed

circulation and requirements	
impact on, and any proposed improvements to, the public domain	Base of building, height of ground level above street, retaining walls and perimeter landscaping still to be resolved.
Recommendations	Integrate above recommendations into a revised proposal and proceed to Council.

Attachment 7

DETERMINATION AND STATEMENT OF REASONS

WOLLONGONG CITY COUNCIL – WOLLONGONG LOCAL PLANNING PANEL (WLPP)

DATE OF DETERMINATION	1 September 2020
PANEL MEMBERS	Sue Francis (Chair), Larissa Ozog, Robert Montgomery, Trish McBride (Community Representative)

Public meeting held at Wollongong City Council, Level 9 Function Room, 41 Burelli Street, Wollongong on 1 September 2020 opened at 5:00pm and closed at 7:15pm.

MATTER DETERMINED

DA-2019/1356 – Lot 1 DP 780693, Lot 1 DP 1246328, 9-11 Park Street, Wollongong (as described in detail in schedule 1).

PUBLIC SUBMISSIONS

The Panel was addressed by eight submitters.

The Panel also heard from the applicant and representatives

PANEL CONSIDERATION AND DECISION

The Panel considered the matters listed at item 7, and the material presented at the meeting and the matters observed at site inspections listed at item 8 in Schedule 1.

The Panel determined to defer the development application as described in Schedule 1 pursuant to section 4.16 of the *Environmental Planning and Assessment Act 1979*.

The decision was unanimous

REASONS FOR THE DECISION

The Panel heard from local residents as to their concerns for parking, overshadowing, design, site isolation and general concern for the scale and form of the development.

In considering these matters the Panel notes that the site is orientated on an east/west block and that there will always be consequential impact to the south in such circumstances. The Panel is also aware that the proposal is permissible in the zone and that it is approximately two-three storeys lower than anticipated by the Council's controls. The Panel is also aware that the proposal complies with the parking requirements and actually exceeds the parking numbers to the detriment of the proposed FSR.

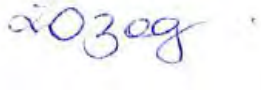
However, the Panel identified a concern as to the calculation of the GFA relating to the exclusion of the 'zen gardens' and was also concerned that there was no consideration of the isolation of 7 Park Street. The Panel accepts that 13 Park Street is not isolated having regard to the Planning Principle. Further, there are outstanding issues relating to design and its consequential impact on solar access to 13 Park Street that needs to be resolved.

Accordingly, the Panel resolved to defer the determination of the matter to seek further information and plans to address the following: -

1. Details to establish that 7 Park Street is not isolated having regard to the relevant Planning principle. The fact that No's 5 and 7 Park Street are in the same ownership does not, in the view of the Panel, necessarily result in No 7 not being isolated.
2. Reduction in the GFA to comply with the maximum permissible FSR. In the Panels view, the 'zen gardens' do constitute GFA.

3. Review the design to remove elements which add to the extent of overshadowing of 13 Park Street. This may involve removal of elements fronting Park Street and increasing the rear setback. It may also involve increasing height but reducing the footprint to improve the solar access to the south.
4. Retain the trees in the rear and integrate them into the landscaped design.
5. Address the outstanding matters raised by the design excellence panel.
6. Reconsider the materiality and aesthetics of the design to create a softer "residential" feel. The large expanse of dark cladding should be reduced (up to Level 6) so that the upper levels are lighter elements and the cladding broken up.
7. The large expanse of full height, centrally located privacy screens along the northern elevation should be reduced in number and offset and broken up to reduce the visual dominance of this element.
8. Compliance with ADG separation distances.

This amended information is to be received by the Council by 3 October 2020. Following receipt and assessment by Council a further report is to be provided to the Panel by 3 November 2020 for determination.

PANEL MEMBERS	
 Sue Francis (Chair)	 Larissa Ozog
 Robert Montgomery	 Trish McBride (Community Representative)

SCHEDULE 1		
1	DA NO.	DA-2019/1356
2	PROPOSED DEVELOPMENT	Residential - Eight storey residential flat building comprising 14 residential units over two levels of basement carparking.
3	STREET ADDRESS	9-11 Park Street, Wollongong
4	APPLICANT	Applicant - PRD Architects
5	REASON FOR REFERRAL	Under Schedule 2 of the Local Planning Panels Direction, the proposal classified as sensitive development in accordance with Part 4 (b) as it is development to which SEPP 65 Design Quality of Residential Flat Buildings applies and is 4 or more storeys in height. The proposal is also classified as a contentious development under Part 2 (b) as it is the subject of 10 or more unique submissions by way of objection.
6	RELEVANT MANDATORY CONSIDERATIONS	· Environmental planning instruments: o State Environmental Planning Policy (Infrastructure) 2007 o State Environmental Planning Policy No 55 – Remediation of Land o State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development o State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 o Wollongong Local Environment Plan 2009 · NSW Apartment Design Guide · Wollongong Section 94A Development Contributions Plan · Draft environmental planning instruments: NA · Development control plans: o Wollongong Development Control Plan 2009 · Provisions of the *Environmental Planning and Assessment Regulation 2000*: Clause 92 · The likely impacts of the development, including environmental impacts on the natural and built environment and social and economic impacts in the locality · The suitability of the site for the development · Any submissions made in accordance with the *Environmental Planning and Assessment Act 1979* or regulations · The public interest, including the principles of ecologically sustainable development
7	MATERIAL CONSIDERED BY THE PANEL	· Council assessment report dated 1 September 2020 · Written submissions during public exhibition: 20 · Verbal submissions at the public meeting: eight (8)
8	SITE INSPECTIONS BY THE PANEL	Site inspection 1 September 2020. Attendees: o Panel members: Sue Francis (Chair), Larissa Ozog, Robert Montgomery, Trish McBride (Community Representative) o Council assessment staff: Martin Jameson, Pier Panozzo / Rebecca Welsh
9	COUNCIL RECOMMENDATION	Refuse
10	DRAFT CONDITIONS	Attached to the council assessment report

DRAFT CONDITIONS FOR: DA-2019/1356

Approved Plans and Specifications

1 The development shall be implemented substantially in accordance with the details and specifications set out on:

Survey Demolition Plan DA-01-E dated 29 September 2020 prepared by PRD Architects
Site Analysis Plan DA-02-E dated 29 September 2020 prepared by PRD Architects
Site Plan DA-03-F dated 29 September 2020 prepared by PRD Architects
Basement B2 Plan DA-04-D dated 23 June 2020 prepared by PRD Architects
Basement B1 Plan DA-05-E dated 29 September 2020 prepared by PRD Architects
Level 1 Floor Plan DA-06-F dated 29 September 2020 prepared by PRD Architects
Level 2 Floor Plan DA-07-E dated 29 September 2020 prepared by PRD Architects
Level 3 Floor Plan DA-08-E dated 29 September 2020 prepared by PRD Architects
Level 4 Floor Plan DA-09-E dated 29 September 2020 prepared by PRD Architects
Level 5-6 Floor Plan DA-09a-A-A dated 29 September 2020 prepared by PRD Architects
Level 7 Floor Plan DA-10-E dated 29 September 2020 prepared by PRD Architects
Level 8 Floor Plan DA-11-E dated 29 September 2020 prepared by PRD Architects
North Elevation Plan DA-12a-A-A dated 29 September 2020 prepared by PRD Architects
West Elevation Plan DA-12-E-E dated 29 September 2020 prepared by PRD Architects
South Elevation Plan DA-13a-A-A dated 29 September 2020 prepared by PRD Architects
East Elevation Plan DA-13-E-E dated 29 September 2020 prepared by PRD Architects
Section Plan DA-14-E-E dated 29 September 2020 prepared by PRD Architects
Section Plan DA-15-D-D dated 29 September 2020 prepared by PRD Architects

and any details on the application form, and with any supporting information received, except as amended by the conditions specified and imposed hereunder.

General Matters

2 **Building Work - Compliance with the Building Code of Australia**
All building work must be carried out in compliance with the provisions of the Building Code of Australia.

3 **Construction Certificate**
A Construction Certificate must be obtained from Council or a Registered Certifier prior to work commencing.

A Construction Certificate certifies that the provisions of Clauses 139-147 of the Environmental Planning and Assessment Regulation 2000 have been satisfied, including compliance with all relevant conditions of Development Consent and the Building Code of Australia.

Note: The Certifier must cause notice of its determination to be given to the consent authority, and to the council, by forwarding to it, within two (2) days after the date of the determination, the plans and documentation referred to in clause 142 (2) of the Environmental Planning and Assessment Regulation 2000.

4 **Maintenance of Access to Adjoining Properties**
Access to all properties not the subject of this approval must be maintained at all times and any alteration to access to such properties, temporary or permanent, must not be commenced until such time as written evidence is submitted to Council or the Principal Certifier indicating agreement by the affected property owners.

5 **Occupation Certificate**

An Occupation Certificate must be issued by the Principal Certifier prior to occupation or use of the development. In issuing an Occupation Certificate, the Principal Certifier must be satisfied that the requirements of section 6.9 of the Environmental Planning and Assessment Act 1979, have been complied with as well as all of the conditions of the Development Consent.

6 **Tree Retention**

The developer shall retain the existing tree(s) indicated on the Landscape Plan, Site Design and Studio L_02_D and Arboricultural Impact Assessment Report Allied Tree Consultancy dated September 2020 consisting of tree(s) numbered 1, 9 and 10.

Any branch pruning, which has been given approval, must be carried out by a qualified arborist in accordance with Australian Standard AS4373-2007.

All tree protection measures are to be installed in accordance with Australian standard AS4970-2009 Protection of Trees on development Sites.

All recommendations in the Arboricultural Impact Assessment by Allied Tree Consultancy and report September 2020 page no.13 to 18 are to be implemented including and not restricted to: remedial tree pruning, dead wood removal, fencing and signage, sediment buffer, stem protection, establishing tree protection zones and watering and root hormone application if required.

7 **Demolition**

This consent permits the demolition of two (2) dwellings, concrete driveways and ancillary shed structures located on Lot 1 DP 1246328 and Lot 1 DP 780693, as shown on Survey Demolition Plan DA-01-E dated 29 September 2020 prepared by PRD Architects.

8 **Geotechnical**

The following Geotechnical requirements are to be complied with:

a An earthworks plan is to be developed by a geotechnical consultant prior to start of earthworks.
b All recommendations of the geotechnical consultant in their geotechnical report for Condition 1 are to be accommodated in the earthworks plan.
c The earthworks plan may require modification in light of any subsequent geotechnical reports commissioned to address unforeseen geotechnical conditions encountered during the earthworks.
d A dilapidation report is required for all structures located within the zone of influence of the proposed earthworks as determined by the geotechnical consultant.
e Retaining wall design is not to include anchors extending on to adjoining property without the written consent of the adjoining property owner.
f Hard bedrock where encountered will be difficult to excavate. Alternative excavation methods should be considered to minimise noise and vibration.
g There is to be no unsupported excavations with all cuts to be immediately supported by retaining wall construction.
h No disturbance of ground is to occur beyond site boundaries. A minimum buffer between site boundaries and the construction of retaining structures is to be recommended by the geotechnical consultant to ensure adjoining property is not adversely impacted upon by this development.
i All earthworks must be undertaken with geotechnical supervision as defined in Australian Standard AS3798 Guidelines for Earthworks for Commercial and Residential Developments.
j At the completion of the earthworks, the geotechnical consultant is to prepare a works-as-executed report detailing encountered geotechnical conditions and how the earthworks addressed these conditions so that the residual geotechnical constraints can be accommodated within the structural designs for the development. These structural designs are to be confirmed or amended by the structural engineer based on the works-as-executed geotechnical report.

Prior to the Issue of the Construction Certificate

9 **Flows from Adjoining Properties**

Flows from adjoining properties shall be accepted and catered for within the site. Finished ground and top of retaining wall levels on the boundary shall be no higher than the existing upslope adjacent ground levels.

Overland flow paths shall be provided around the perimeter of the building. Flow paths shall be designed to have adequate capacity to capture the upslope runoff from adjoining and convey the runoff to the street.

The above requirements must be clearly shown on construction certificate plans prior to the release of the construction certificate.

10 **Existing/Proposed Levels**

Existing and proposed levels to Australian Height Datum (AHD), including floor, ground, grate, pipe inverts and pavement levels shall be shown on the detailed drainage design. This requirement shall be reflected on the Construction Certificate plans and supporting documentation.

11 **Basement Waterproofing**

Full engineering details of the proposed wall around the basement car park must be submitted to the Principal Certifier prior to the issue of the Construction Certificate. These must include construction details indicating that no ingress of stormwater is possible into the basement levels. This applies to any proposed opening such as doors or ventilation louvres. The problem of backwater from the stormwater pipeline entering the basement car park level shall be addressed by a method such as a flap gate or one-way valve system.

12 **Basement Subsurface Drainage**

Subsurface drainage for the basement car park shall be wholly contained within the subject site. This requirement shall be reflected on the Construction Certificate plans and supporting documentation.

13 **Pump System**

A pump system must be provided in association with the detailed drainage design for the site to cater for stormwater from a prolonged/extreme storm event entering the basement. The pump system shall be designed by a suitably qualified and experienced civil engineer and reflected on the Construction Certificate plans and supporting documentation.

14 **Excavation and Retaining Structures adjacent to Public Roads**

The design of all permanent and temporary retaining structures within the zone of influence of any Council assets including the road pavement, stormwater pipes and pits, must be provided to Wollongong City Council and the Principal Certifier prior to the issue of the Construction Certificate. The design must be prepared in accordance with the RMS Technical direction GTD 2012/001, by a qualified Civil Engineer, NPER 3 accreditation with the Institute of Engineers Australia and experienced in structural design. The plan must clearly show that all components of the retaining structure and associated drainage is wholly located within the subject site. The design must be supported by:

a A geotechnical report prepared in accordance with the requirements of the RMS Technical direction GTD 2012/001.
b A dilapidation survey of the existing Council infrastructure.
c Details of the proposed monitoring program for the excavation and retaining structures, and relevant threshold actions prepared in accordance with RMS Technical direction GTD 2012/001.

15 **Ground Anchors**

Permanent ground anchors are not permitted within the road. Temporary ground anchors can only be used where the Road Authority has provided written confirmation to the applicant for their use. Temporary anchors must be designed in accordance with RMS Technical Direction GTD 2012/001.

16 Ramps for internal parking areas shall be designed in accordance with the current relevant Australian Standard AS2890.1 - Parking Facilities - Off Street Car Parking. This requirement shall be reflected on the Construction Certificate plans.

17 **Section 94 Contributions**

Pursuant to Section 4.17 of the Environmental Planning and Assessment Act 1979 and the Wollongong City-Wide Development Contributions Plan, a monetary contribution of $56,590.00 (subject to indexation) must be paid to Council towards the provision of public amenities and services, prior to the release of any associated Construction Certificate.

This amount has been calculated based on the estimated cost of development and the applicable percentage rate.

The contribution amount will be subject to indexation until the date of payment. The formula for indexing the contribution is:

Contribution at time of payment = $C x (CP2/CP1)

Where:

$C is the original contribution as set out in the Consent

CP1 is the Consumer Price Index; All Groups CPI; Sydney at the time the consent was issued

CP2 is the Consumer Price Index; All Groups CPI; Sydney at the time of payment

Details of CP1 and CP2 can be found in the Australian Bureau of Statistics website – Catalogue No. 6401.0 - Consumer Price Index, Australia.

The following payment methods are available:

METHOD	HOW	PAYMENT TYPE
Online	http://www.wollongong.nsw.gov.au/applicationpayments Your Payment Reference: 1182214	• Credit Card
In Person	Wollongong City Council Administration Building - Customer Service Centre Ground Floor 41 Burelli Street, WOLLONGONG	• Cash • Credit Card • Bank Cheque
PLEASE MAKE BANK CHEQUE PAYABLE TO: Wollongong City Council (Personal or company cheques are not accepted)		

A copy of the Wollongong City-Wide Development Contributions Plan and accompanying Fact Sheet may be inspected or obtained from the Wollongong City Council Administration Building, 41 Burelli Street, Wollongong during business hours or on Council's web site at www.wollongong.nsw.gov.au.

18 **Present Plans to Sydney Water**

Approved plans must be submitted online using Sydney Water Tap, available through www.sydneywater.com.au to determine whether the development will affect Sydney Water's sewer and water mains, stormwater drains and/or easements, and if further requirements need to be met.

The Principal Certifier must ensure that Sydney Water has issued an approval receipt prior to the issue of a Construction Certificate.

Visit www.sydneywater.com.au or telephone 13 20 92 for further information.

19 **Endeavour Energy Requirements**

The submission of documentary evidence from Endeavour Energy to the Principal Certifier is required confirming that satisfactory arrangements have been made with Endeavour Energy for the provision of electricity supplies to the development, prior to the release of the Construction Certificate.

Note: Applications should be made to Customer Connections – South Coast, Endeavour Energy PO Box 811 Seven Hills NSW 1730.

20 **Telecommunications**
The submission of documentary evidence from an approved telecommunications carrier to the Principal Certifier confirming that underground telecommunication services are available for this development is required prior to the issue of the Construction Certificate.

21 **Obscure Glazing for all Bathroom and WC Windows**
The bathroom and WC windows for each dwelling in the development shall be frosted or opaque glass. This requirement shall be reflected on the Construction Certificate plans.

22 **Schedule of External Building Materials/Finishes**
The final details of the proposed external treatment/appearance of the development, including a schedule of building materials and external finishes (including the type and colour of the finishes) together with a sample board and an A4 or A3 sized photograph of the sample board shall be submitted for the separate approval of the Principal Certifier, prior to the release of the Construction Certificate.

23 **Car Parking and Access**
The development shall make provision for a total of 23 car parking spaces (including 3 visitor car parking spaces and 2 car parking spaces capable of adaption for people with disabilities), 1 motorcycle parking space, 5 secure (Class B) residential bicycle spaces and 2 visitor bicycle spaces (Class C).This requirement shall be reflected on the Construction Certificate plans. Any change in above parking numbers shown on the approved DA plans shall be dealt with via a section 4.55 modification to the development. The approved car parking spaces shall be maintained to the satisfaction of Council, at all times.

24 The parking dimensions, internal circulation, aisle widths, kerb splay corners, head clearance heights, ramp widths and grades of the car parking areas are to be in conformity with the current relevant Australian Standard AS2890.1, except where amended by other conditions of this consent. Details of such compliance are to be reflected on the Construction Certificate plans.

25 The provision of suitable barriers, line-marking and painted signage delineating vehicular flow movements within the car parking areas. These details shall be reflected on the Construction Certificate plans.

26 **Security Roller Shutters for Basement Car Parking Areas**
The installation of any security roller shutter for the basement car parking area shall not restrict access to any designated visitor car parking space. In the event that the approved visitor car parking spaces are located behind any proposed security roller shutter, an intercom system is required to be installed to enable visitor access into the basement car parking area. This requirement is to be reflected on the Construction Certificate plans and any supporting documentation for the endorsement of the Principal Certifier prior to the release of the Construction Certificate.

27 A change in driveway paving is required at the entrance threshold within the property boundary to clearly show motorists they are crossing a pedestrian area. Between the property boundary and the kerb, the developer must construct the driveway pavement in accordance with the conditions, technical specifications and levels to be obtained from Council's Manager Works. This requirement shall be reflected on the Construction Certificate plans and any supporting documentation.

28 The depth and location of all services (ie gas, water, sewer, electricity, telephone, traffic lights, etc) must be ascertained and reflected on the Construction Certificate plans and supporting documentation.

29 The submission of a final Landscape Plan to the Principal Certifier, prior to the release of the Construction Certificate. The final Landscape Plan shall address the following requirements:

a a schedule of proposed planting, including botanic name, common name, expected mature height and staking requirements as well as number of plants and pot sizes;

b the location of all proposed and existing overhead and underground service lines. The location of such service lines shall be clear of the dripline of existing and proposed trees; and

c any proposed hard surface under the canopy of existing trees shall be permeable and must be laid such that the finished surface levels match the existing level. Permeable paving is to be installed in accordance with the manufacturer's recommendations.

The completion of the landscaping works as per the final approved Landscape Plan is required, prior to the issue of Occupation Certificate.

30 The submission of certification from a suitably qualified and experienced landscape designer and drainage consultant to the Principal Certifier prior to the release of the Construction Certificate, confirming that the landscape plan and the drainage plan are compatible.

31 The implementation of a landscape maintenance program in accordance with the approved Landscape Plan for a minimum period of 12 months to ensure that all landscape work becomes well established by regular maintenance. Details of the program must be submitted with the Landscape Plan to the Principal Certifier prior to release of the Construction Certificate.

32 **Tree Protection and Management**

The existing trees are to be retained upon the subject property and any trees on adjoining properties shall not be impacted upon during the excavation or construction phases of the development. This will require the installation and maintenance of appropriate tree protection measures, including (but not necessarily limited to) the following:

a Installation of Tree Protection Fencing - Protective fencing shall be 1.8 metre cyclone chainmesh fence, with posts and portable concrete footings. Details and location of protective fencing must be indicated on the architectural and engineering plans to be submitted to the Principal Certifier prior to release of the Construction Certificate.

b Mulch Tree Protection Zone: Areas within a Tree Protection Zone are to be mulched with minimum 75 mm thick 100% recycled hardwood chip/leaf litter mulch.

33 **Acid Sulfate Soils Management Strategy**

An Acid Sulfate Soils Management strategy (prepared by a suitably qualified and experienced environmental/geotechnical consultant) shall be submitted to the Principal Certifier, prior to the issue of the Construction Certificate. This strategy is required to recommend specific procedures and mitigation measures and shall include a site analysis from a NATA registered laboratory. This strategy shall address the following aspects:

a Specific mitigative measures to minimise the disturbance of acid sulfate soils as well as measures relating to acid generation and acid neutralisation of the soil;

b Management of the excavated material;

c Measures taken to neutralise the acidity; and

d Run-off control measures.

The recommendations of the strategy shall be completed, prior to the commencement of building works.

34 **Stormwater Connection to Kerb**

Connection across footways shall be by means of one or two (maximum), sewer grade UPVC pipe(s), 100mm diameter pipes with a continuous downslope gradient to the kerb. Connection to the kerb shall be made with a rectangular, hot dipped galvanised mild steel weephole(s) shaped to suit the kerb profile, with each weephole having the capacity equal to a 100mm diameter pipe. Alternatively, a maximum of two 150mm x 100mm hot dipped galvanised steel pipes may be used across footways, with the 150mm dimension being parallel to the road surface to suit the kerb profile.

35 Bicycle parking facilities must have adequate weather protection and provide the appropriate level of security as required by the current relevant Australian Standard AS2890.3 - Bicycle Parking Facilities. This requirement shall be reflected on the Construction Certificate plans.

36 **Property Addressing Policy Compliance**

Prior to the issue of any construction certificate, the developer must ensure that any site addressing complies with Council's **Property Addressing Policy** (as amended). Where appropriate, the developer must also lodge a written request to Council's **Infrastructure Systems & Support – Property Addressing (propertyaddressing@wollongong.nsw.gov.au),** for the site addressing prior to the issue of the construction certificate. Please allow up to 3-5 business days for a reply. Enquiries regarding property addressing may be made by calling 4227 8660.

37 **Footpath**

The developer is responsible for the construction of footpath path for the entire frontage of the development. The type of paving for this development shall be in accordance with the Wollongong City Council Public Domain Technical Manual. The portion of the footpath adjacent to the existing street tree must be a permeable surface such as asphalt. The alignment of the path should be positioned in consideration of the structural root zone.

A nominal two percent (2%) minimum one percent (1%), maximum two and a half percent (2.5%) cross fall to be provided from property line to back of kerb. Any changes of level, ramps or stairs and associated tactile markers and handrails are to be contained with the property boundary.

The driveway entry threshold from the property boundary line to the face of kerb is to match the footpath material and be designed to withstand predicted traffic loadings.

The driveway threshold finish within property boundary line is to contrast with driveway entry.

The footpath and driveway entry on the council property must be installed to the satisfaction of WCC Manager of Works.

A Landscape Plan is to be submitted to Council for approval prior to the issue of the Construction Certificate showing proposed path, existing street trees, footpath design, surface finishes and location of all services.

38 **Sizing of Drainage**

All roof gutters, downpipes, pits, and pipelines draining roof areas and other impervious surfaces with no deliberate overflow path to the on-site stormwater detention (OSD) facility, shall be designed to cater for a 1 in 100 year ARI storm event in accordance with AS 3500.3 – Plumbing and Drainage (Stormwater Drainage). Details of gutter/downpipe/pipeline sizes and locations shall be reflected on the Construction Certificate plans

39 **Stormwater Drainage Design**

A detailed drainage design for the development must be submitted to and approved by the Principal Certifier prior to the release of the Construction Certificate. The detailed drainage design must satisfy the following requirements:

a Be prepared by a suitably qualified civil engineer in accordance with Chapter E14 of Wollongong City Council's Development Control Plan 2009, Subdivision Policy, conditions listed under this consent, and generally in accordance with the concept plan/s lodged for development approval, prepared by ATB Consulting Engineers Drawing Numbers 19044 SW1 to SW6, issue D dated 30 September 2020.

b Include details of the method of stormwater disposal. Stormwater from the development must be piped to Council's existing stormwater drainage system.

c Engineering plans and supporting calculations for the stormwater drainage system are to be prepared by a suitably qualified engineer and be designed to ensure that stormwater runoff from upstream properties is conveyed through the site without adverse impact on the development or adjoining properties. The plan must indicate the method of disposal of all stormwater and must include rainwater tanks, existing ground levels, finished surface levels on all paved areas, estimated flow rates, invert levels and sizes of all pipelines.

d Overflow paths shall be provided to allow for flows of water in excess of the capacity of the pipe/drainage system draining the land, as well as from any detention storage on the land. Blocked pipe situations with 1 in 100 year ARI events shall be incorporated in the design.

Overflow paths shall also be provided in low points and depressions. Each overflow path shall be designed to ensure no entry of surface water flows into any building and no concentration of surface water flows onto any adjoining property. Details of each overflow path shall be shown on the detailed drainage design.

40 **On-Site Stormwater Detention (OSD) Design**

The developer must provide on-site stormwater detention (OSD) storage for stormwater runoff from the development. The design and details of the OSD system must be provided in conjunction with the detailed drainage design and approved by the Principal Certifier prior to the release of the Construction Certificate. The OSD design and details must satisfy the following requirements:

a Must be prepared by a suitable qualified engineer in accordance with Chapter E14 of the Wollongong DCP 2009.

b Must include details of the Site Storage Requirement (SSR) and Permissible Site Discharge (PSD) values for the site in accordance with Section 12.2.4 of Chapter E14 of the Wollongong DCP2009.

c The OSD facility must be designed to withstand the maximum loadings occurring from any combination of traffic (with consideration to residential and heavy vehicles), hydrostatic, earth, and buoyancy forces. Details must be provided demonstrating these requirements have been achieved.

d The OSD facility shall incorporate a minimum 900mm x 900mm square lockable grate for access and maintenance purposes, provision for safety, debris control screen, and a suitably graded invert to the outlet to prevent ponding.

e Must include discharge control calculations (i.e. orifice/weir calculations) generally in accordance with Section 12.2.6 and 12.5.4 of Chapter E14 of the Wollongong DCP2009.

f Details of the orifice plate including diameter of orifice and method of fixing shall be provided.

g Must include details of a corrosion resistant identification plaque for location on or close to the OSD facility. The plaque shall include the following information and shall be installed prior to the issue of the occupation certificate:

- The structure is an OSD facility, being part of the stormwater drainage network, and is not to be tampered with.
- Identification number DA-2019/1356.
- Any specialist maintenance requirements.

h Must include a maintenance schedule for the OSD system, generally in accordance with Chapter E14 of the Wollongong DCP2009.

41 **Council Footpath Reserve Works – Driveways and Crossings**

All redundant vehicular crossings and laybacks rendered unnecessary by this development must be reconstructed to normal kerb and gutter or existing edge of carriageway treatment to match the existing. The verge from the back of kerb to the boundary must be restored and the area appropriately graded, topsoiled and turfed in a manner that conforms with adjoining road reserve. The area forward of the front boundary must be kept smooth, even and free from any trip hazards. All alterations of public infrastructure where necessary are at the developer's expense.

All new driveway laybacks and driveway crossings must be designed in accordance with Wollongong City Council Standards. Any redundant linemarking such as 'marked parking bays' are adjusted/removed at the developer's expense by a Council recognised contractor with the relevant insurances. Details and locations are to be shown on the Construction Certificate Plans.

42 **Driveway Barriers**

Barriers shall be constructed to prevent vehicles from running over the edge of an elevated driveway or parking area. They are required wherever the drop from the edge of the platform exceeds 600mm. Barriers are to comply with Clause 2.4.5.3 of AS2890.1 and shall be designed structurally for the loading requirements of AS 1170.1. This requirement shall be reflected on the Construction Certificate plans.

43 **Park Street – Detailed Civil Engineering Design – Council Land**

A detailed civil engineering design shall be provided for the proposed footpath and drainage works within the road reserve and/or Council Land. The details must be submitted to and approved by Councils Development Engineering Manager. The detailed civil engineering design shall be prepared by a suitably qualified practicing civil engineer in accordance with the relevant Council engineering standards. The design plans shall be generally in accordance with the Civil Works Plans by ATB Consulting Engineers, 19044, Revision D dated 30 September 2020 dated and shall include:

a Levels and details of all existing and proposed infrastructure/services such as kerb and gutter, public utility, pits, poles, fencing, stormwater drainage, adjacent road carriageway crown, street signs (clearly identifying the type of sign) and footpath levels - and shall extend a minimum of 5 metres beyond the limit of works.

b Footpath longitudinal sections, and cross-sections at 10 metre intervals as well as including building entrance points and transitions to existing at the property boundary demonstrating compliance with the latest versions of AS 1428.1, AS/NZS 2890.1, the Disability Discrimination Act and the AUSTROAD road design standards.

c Engineering details of the proposed pit and pipe stormwater drainage system within Council's road reserve, including a hydraulic grade line analysis and longitudinal section of the proposed system showing calculated flows, velocity, pits, pipe size/class, grade, inverts and ground levels. Each proposed pit must be constructed generally in accordance with Wollongong City Council's Engineering Standard Drawings.

d Where any adjustments to public utilities are proposed the applicant shall submit documentary evidence that they have the consent of the owner of the public utility authority.

e All construction must be in accordance with the requirements of Council's Subdivision Code. Evidence that this requirement has been met must be detailed on the engineering drawings.

f Details are to be provided regarding the type of materials used for construction. They should conform to the adjacent road reserves. Pavement designs must be provided for road reconstruction works, the pavement must be designed by a suitably qualified engineer to the expected traffic loadings and type.

The detailed civil engineering design and supporting documentation shall be submitted to and approved by Wollongong City Council's Development Engineering Manager prior to the issue of a Construction Certificate.

44 **Drainage Works within Council Road Reserve**

A detailed design for the proposed drainage works within Council's road reserve and/or Council Land, including pit and pipeline connecting the inter-allotment drainage system to Council's existing underground drainage system, shall be prepared by a suitably qualified civil engineer in accordance with the relevant Council engineering standards. The design plans shall be generally in accordance with the ATB Consulting Engineers, 19044, Revision D dated 30 September 2020 and shall include the following:

a Levels and details of all existing and proposed infrastructure/services such as kerb and gutter, public utility, pits, poles, fencing, stormwater drainage, adjacent road carriageway and footpath levels, and shall extend a minimum of 5 metres beyond the limit of works.

b Engineering details of the proposed pit and pipe stormwater drainage system within Council's road reserve, including a hydraulic grade line analysis and longitudinal section of the proposed system showing calculated flows, velocity, pits, pipe size/class, grade, inverts and ground levels. Each proposed pit must be constructed generally in accordance with Wollongong City Council's Engineering Standard Drawings.

c All new drainage pits shall be in accordance with the current version of Wollongong City Council's Engineering Standard Drawings. The proposed pit in Council's road reserve must not conflict with any existing or proposed vehicular accessway.

d Where any adjustments to public utilities are proposed the applicant shall submit documentary evidence that they have the consent of the owner of the public utility authority.
e All construction must be in accordance with the requirements of Council's Subdivision Code.

Evidence that the above requirements have been met must be detailed on the engineering drawings. The detailed design and supporting documentation shall be submitted to and approved by Wollongong City Council's Development Engineering Manager prior to the issue of the Construction Certificate.

45 **Site Environmental Management Plan**
The submission of a detailed Site Environmental Management Plan which addresses the following issues:

a Environmental monitoring methods involving:
  i ground and surface waters;
  ii dust generation and mitigating measures;
  iii flora and fauna management (if relevant); and
  iv erosion and sedimentation controls and proposed soil erosion control measures;
b On-site materials management including soil conservation;
c Emergency/contingency plans; and
d Site rehabilitation works.

The Environmental Management Plan is to be submitted to the Principal Certifier for approval prior to the issue of the Construction Certificate.**Prior to the Commencement of Works**

46 **Appointment of Principal Certifier**
Prior to commencement of work, the person having the benefit of the Development Consent and a Construction Certificate must:

a Appoint a Principal Certifier (PC) and notify Council in writing of the appointment irrespective of whether Council or a Registered Certifier is appointed; and
b notify Council in writing of their intention to commence work (at least two days notice is required).

The Principal Certifier must determine when inspections and compliance certificates are required.

47 **Sign – Supervisor Contact Details**
Before commencement of any work, a sign must be erected in a prominent, visible position:

a stating that unauthorised entry to the work site is not permitted;
b showing the name, address and telephone number of the Principal Certifier for the work; and
c showing the name and address of the principal contractor in charge of the work site and a telephone number at which that person can be contacted at any time for business purposes.

This sign shall be maintained while the work is being carried out and removed upon the completion of the construction works.

48 **Temporary Toilet/Closet Facilities**
Toilet facilities are to be provided at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out at the rate of one toilet for every 20 persons or part of 20 persons employed at the site.

Each toilet provided must be:

a a standard flushing toilet; and
b connected to either:
  i the Sydney Water Corporation Ltd sewerage system or
  ii an accredited sewage management facility or

iii an approved chemical closet.

The toilet facilities shall be provided on-site, prior to the commencement of any works.

49 **Hoardings (within any Public Road Reserve)**
The site must be enclosed with a suitable hoarding (type A or B) or security fence of a type in accordance with the Works and Services Division Design Standard, and must satisfy the requirements of the Occupational Health and Safety Act, the Occupational Health and Safety Regulations and Australian Standard AS 2601. This application must be submitted to Council's Works and Services Division, and a permit obtained, before the erection of any such hoarding or fence.

50 **Enclosure of the Site**
The site must be enclosed with a suitable security fence to prohibit unauthorised access, to be approved by the Principal Certifier. No building work is to commence until the fence is erected.

51 **Demolition Works**
The demolition of the existing dwellings and ancillary structures shall be carried out in accordance with Australian Standard AS2601 (2001): The Demolition of Structures or any other subsequent relevant Australian Standard and the requirements of the SafeWork NSW.

No demolition materials shall be burnt or buried on-site. The person responsible for the demolition works shall ensure that all vehicles leaving the site carrying demolition materials have their loads covered and do not track soil or waste materials onto the road. Any unforeseen hazardous and/or intractable wastes shall be disposed of to the satisfaction of the Principal Certifier. In the event that the demolition works may involve the obstruction of any road reserve/footpath or other Council owned land, a separate application shall be made to Council to enclose the public place with a hoarding or fence over the footpath or other Council owned land.

52 **Notification to SafeWork NSW**
The demolition licence holder who proposes demolition of a structure or part of a structure that is loadbearing or otherwise related to the physical integrity of the structure that is at least six metres in height, involving load shifting machinery on a suspended floor, or involving the use of explosives must notify SafeWork NSW in writing at least five (5) calendar days before the work commences.

53 **Demolition Notification to Surrounding Residents**
Demolition must not commence unless at least two (2) days written notice has been given to adjoining residents of the date on which demolition works will commence.

54 **Hazardous Material Survey**
At least one week prior to demolition, the applicant must prepare a hazardous materials survey of the site and submit to Council a report of the results of the survey. **Hazardous materials** includes, but are not limited to, asbestos materials, synthetic mineral fibre, roof dust, PCB materials and lead based paint. The report must include at least the following information:

a The location of hazardous materials throughout the site;
b a description of the hazardous material;
c the form in which the hazardous material is found, eg AC sheeting, transformers, contaminated soil, roof dust;
d an estimation (where possible) of the quantity of each particular hazardous material by volume, number, surface area or weight;
e a brief description of the method for removal, handling, on-site storage and transportation of the hazardous materials, and where appropriate, reference to relevant legislation, standards and guidelines;
f identification of the disposal sites to which the hazardous materials will be taken.

55 **Asbestos Hazard Management Strategy**
An appropriate hazard management strategy shall be prepared by a suitably qualified and experienced licensed asbestos assessor pertaining to the removal of contaminated soil, encapsulation or enclosure of any asbestos material. This strategy shall ensure any such proposed

demolition works involving asbestos are carried out in accordance with SafeWork NSW requirements (<http://www.safework.nsw.gov.au>). The strategy shall be submitted to the Principal Certifier and Council (in the event that Council is not the Principal Certifier prior to the commencement of any works.

The approved strategy shall be implemented and a clearance report for the site shall be prepared by a licensed asbestos assessor and submitted to the Principal Certifier and Council (in the event that Council is not the Principal Certifier), prior to the issue of an Occupation Certificate or commencement of the development. The report shall confirm that the asbestos material has been removed or is appropriately encapsulated based on visual inspection plus sampling if required and/or air monitoring results and that the site is rendered suitable for the development.

56 **Consultation with SafeWork NSW – Prior to Asbestos Removal**
A licensed asbestos removalist must give written notice to SafeWork NSW at least five (5) days before licensed asbestos removal work is commenced.

57 **Waste Management**
The developer must provide an adequate receptacle to store all waste generated by the development pending disposal. The receptacle must be regularly emptied and waste must not be allowed to lie or accumulate on the property other than in the receptacle. Consideration should be given to the source separation of recyclable and reusable materials.

58 **Support for Neighbouring Buildings**
This consent requires the preservation and protection of neighbouring buildings from any damage and if necessary, requires the underpinning and support of any neighbouring building in an approved manner. The applicant or the contractor carrying out the work must at least seven days in advance of any excavation works below the level of the base of the footings of a building on an adjoining allotment, including a public road or place, give written notice of intention to carry out such works to the property owner of the affected adjoining building and furnish specific written details and supporting plans or other documentation of the proposed work.

The adjoining property owner of land is not liable for any part of the cost of work carried out for the purposes of this condition, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

59 **Supervising Arborist – Tree Inspection and Installation of Tree Protection Measures**
Prior to the commencement of any demolition, excavation or construction works, the supervising arborist must certify in writing that tree protection measures have been inspected and installed in accordance with the arborist's recommendations and relevant conditions of this consent.

60 **Certification from Arborist - Adequate Protection of Trees to be Retained**
A qualified arborist is required to be engaged for the supervision of all on-site excavation or land clearing works. The submission of appropriate certification from the appointed arborist to the Principal Certifier is required which confirms that all trees and other vegetation to be retained are protected by fencing and other measures, prior to the commencement of any such excavation or land clearing works.

61 The depth and location of all services (ie stormwater, gas, water, sewer, electricity, telephone, etc) must be ascertained and reflected on the plans and supporting documentation issued for construction.

62 **Works in Road Reserve - Minor Works**
Approval, under Section 138 of the Roads Act must be obtained from Wollongong City Council's Development Engineering Team prior to any works commencing or any proposed interruption to pedestrian and/or vehicular traffic within the road reserve caused by the construction of this development.

The application form for Works within the Road Reserve – Section 138 Roads Act can be found on Council's website. The form outlines the requirements to be submitted with the application, to give approval to commence works under the roads act. It is advised that all applications are

submitted and fees paid, five (5) days prior to the works within the road reserve are intended to commence. The Applicant is responsible for the restoration of all Council assets within the road reserve which are impacted by the works/occupation. Restoration must be in accordance with the following requirements:

a All restorations are at the cost of the Applicant and must be undertaken in accordance with Council's standard document, "Specification for work within Council's Road reserve".
b Any existing damage within the immediate work area or caused as a result of the work/occupation, must also be restored with the final works.

63 **Works in Road Reserve – Major Works**

Any occupation, use, disturbance or work on the footpath or road reserve for construction purposes, which is likely to cause an interruption to existing pedestrian and/or vehicular traffic flows requires Council consent under Section 138 of the Roads Act 1993.

The application form for Works within the Road Reserve – Section 138 Roads Act can be found on Council's website. The form outlines the requirements to be submitted with the application, to give approval to commence works under the roads act. It is advised that all applications are submitted and fees paid, five (5) days prior to the works within the road reserve are intended to commence. An application must be submitted must be obtained from Wollongong City Council's Development Engineering Team prior to any works commencing where it is proposed to carry out activities such as, but not limited to, the following:

a Digging or disruption to footpath/road reserve surface;
b Loading or unloading machinery/equipment/deliveries;
c Installation of a fence or hoarding;
d Stand mobile crane/plant/concrete pump/materials/waste storage containers;
e Pumping stormwater from the site to Council's stormwater drains;
f Installation of services, including water, sewer, gas, stormwater, telecommunications and power;
g Construction of new vehicular crossings or footpaths;
h Removal of street trees;
i Carrying out demolition works.

Restoration must be in accordance with the following requirements:

a All restorations are at the cost of the Applicant and must be undertaken in accordance with Council's standard document, "Specification for work within Council's Road reserve".
b Any existing damage within the immediate work area or caused as a result of the work/occupation, must also be restored with the final works.

64 **Tree Protection**

Prior to commencement of any work on the site, including any demolition, all trees not approved for removal as part of this consent that may be subjected to impacts of this approved development must be protected in accordance with Section 4 of the Australian Standard Protection of Trees on Development Sites (AS 4970-2009).

Tree protection zones must be established prior to the commencement of any work associated with this approved development.

No excavation, construction activity, grade changes, storage of materials stockpiling, siting of works sheds, preparation of mixes or cleaning of tools is permitted within Tree Protection Zones.

During Demolition, Excavation or Construction

65 **Supervision of Engineering Works**

All engineering works associated with the development are to be carried out under the supervision of a practicing engineer and/or registered surveyor.

66 **Piping of Stormwater to Existing Stormwater Drainage System**
Stormwater for the land must be piped to Council's existing stormwater drainage system/street kerb.

67 **No Adverse Run-off Impacts on Adjoining Properties**
The design and construction of the development shall ensure there are no adverse effects to adjoining properties, as a result of flood or stormwater run-off. Attention must be paid to ensure adequate protection for buildings against the ingress of surface run-off.

Allowance must be made for surface run-off from adjoining properties. Any redirection or treatment of that run-off must not adversely affect any other property.

68 **Copy of Consent to be in Possession of Person carrying out Tree Removal**
The Developer/Applicant must ensure that any person carrying out tree removal is in possession of this development consent and/or the approved landscape plan, in respect to the tree(s) which has/have been given approval to be removed in accordance with this consent.

69 **Restricted Hours of Construction Work**
The developer must not carry out any work, other than emergency procedures, to control dust or sediment laden runoff outside the normal working hours, namely, 7.00 am to 5.00 pm, Monday to Saturday, without the prior written consent of the Principal Certifier and Council. No work is permitted on public holidays or Sundays.

Any request to vary these hours shall be submitted to the **Council** in writing detailing:

a the variation in hours required (length of duration);
b the reason for that variation (scope of works);
c the type of work and machinery to be used;
d method of neighbour notification;
e supervisor contact number;
f any proposed measures required to mitigate the impacts of the works.

The construction works noise shall comply with the Australian Standard AS 2436-2010 "Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites" and any other requirements as specified by Council or the NSW Environment Protection Authority.

Note: The developer is advised that other legislation may control the activities for which Council has granted consent, including but not limited to, the Protection of the Environment Operations Act 1997.

70 Should during construction any waste material or construction material be accidentally or otherwise spilled, tracked or placed on the road or footpath area without the prior approval of Council's Works Division this shall be removed immediately. Evidence that any approval to place material on the road or road reserve shall be available for inspection by Council officers on site at any time.

71 Building operations such as brick cutting, the washing of tools or paint brushes, or other equipment and the mixing of mortar must not be carried out on the roadway or public footpath or any other locations which could lead to the discharge of materials into the stormwater drainage system or natural watercourse.

72 **Dust Suppression Measures**
Activities occurring during the construction phase of the development must be carried out in a manner that will minimise the generation of dust.

73 **Excavation/Filling/Retaining Wall Structures**
Any proposed filling on the site must not:

a encroach onto the adjoining properties, and
b adversely affect the adjoining properties with surface run-off.

74 If an excavation associated with the erection or demolition of a building extends below the level of the base of the footings of a building on adjoining allotment of land, the person causing the excavation to be made:

a must preserve and protect the adjoining building from damage; and
b if necessary, must underpin and support the building in an approved manner; and
c must, at least seven (7) days before excavation below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation.

75 **Asbestos – Removal, Handling and Disposal Measures/Requirements Asbestos Removal by a Licensed Asbestos Removalist**

The removal of any asbestos material must be carried out by a licensed asbestos removalist if over 10 square metres in area of non-friable asbestos, or if any type of friable asbestos in strict accordance with SafeWork NSW requirements (<http://www.safework.nsw.gov.au>).

76 **Asbestos Waste Collection, Transportation and Disposal**

Asbestos waste must be prepared, contained, transported and disposed of in accordance with SafeWork NSW and NSW Environment Protection Authority requirements. Asbestos waste must only be disposed of at a landfill site that can lawfully receive this this type of waste. A receipt must be retained and submitted to the Principal Certifier, and a copy submitted to Council (in the event that Council is not the Principal Certifier), prior to commencement of the construction works.

77 **Acid Sulfate Soils**

The Wollongong Local Environmental Plan 2009 Acid Sulfate Soils Map has identified that this property may be affected by classes 3, 4 or 5 Acid Sulfate Soils. Acid Sulfate Soils contain iron sulfides which, when exposed to air due to drainage or disturbance, may produce sulfuric acid and release toxic quantities of iron, aluminium and heavy metals. The Acid Sulfate Soils Map is an indication only and you are advised that you may encounter acid sulfate soils during the excavation for the proposed development.

Any spoil material extracted or excavated from the foundations must be neutralised as per acid sulfate soils management strategy. Depending on the class if soils are class 3, 4 or 5 with commercial lime (calcium bicarbonate) be the addition of 10 kilograms of lime per 1 cubic metre of spoil material before it is disposed of or re-used on-site. Lime is to be added by evenly distributing over all exposed surface areas, drilled piers and footing trenches on the site, prior to pouring concrete.

Council suggests the applicant refer to the Acid Sulfate Soils Assessment Guidelines contained in the Acid Sulfate Soils Manual, prepared by NSW Acid Sulfate Management Advisory Committee, August 1998 for further information.

78 **Provision of Waste Receptacle**

The developer must provide an adequate receptacle to store all waste generated by the development, pending disposal. The receptacle must be regularly emptied and waste must not be allowed to lie or accumulate on the property other than in the receptacle. Consideration should be given to the source separation of recyclable and re-usable materials.

79 **External Plant and Equipment**

External plant such as air conditioners, compressors and other machinery likely to emit noise shall be located so adjoining areas are not adversely affected.

80 **BASIX**

All the commitments listed in each relevant BASIX Certificate for the development must be fulfilled in accordance with Clause 97A(2) of the Environmental Planning & Assessment Regulation 2000.

A relevant BASIX Certificate means:

- A BASIX Certificate that was applicable to the development when this development consent was granted (or, if the development consent is modified under section 4.55 of the Environmental Planning & Assessment Act 1979, a BASIX Certificate that is applicable to the development when this development consent is modified); or
- if a replacement BASIX Certificate accompanies any subsequent application for a construction certificate, the replacement BASIX Certificate; and
- BASIX Certificate has the meaning given to that term in the Environmental Planning & Assessment Regulation 2000."

Prior to the Issue of the Occupation Certificate

81 **Completion report for excavation adjacent to a public road**
A report be provided to Wollongong City Council and Principal Certifier, prepared by a qualified Civil Engineer, NPER 3 accreditation with the Institute of Engineers Australia and experienced in structural design that:

a Certifies that all proposed retaining structures within the zone of influence of any Council assets including the road pavement, stormwater pipes and pits was constructed in accordance with the approved plans prepared in accordance to RMS Technical direction GTD 2012/001.
b Certifies that the monitoring of the site was carried out in accordance with the requirements of RMS Technical direction GTD 2012/001.
c Provides a post construction dilapidation survey.

82 **Lot Consolidation**
Prior to the issue of the occupation certificate, evidence that Lot 1 DP 1246328 and Lot 1 DP 780693 have been consolidated into a single allotment is to be provided to the Principal Certifier.

83 **Drainage**
The developer must obtain a certificate of Hydraulic Compliance (using Council's M19 form) from a suitably qualified civil engineer, to confirm that all stormwater drainage and on-site detention works have been constructed in accordance with the approved plans. In addition, full works-as-executed plans, prepared and signed by a Registered Surveyor must be submitted. These plans and certification must satisfy all the stormwater requirements stated in Chapter E14 of the Wollongong DCP2009. This information must be submitted to the Principal Certifier prior to the issue of the final Occupation Certificate.

84 **Restriction on Use – On-site Detention System**
The applicant must create a restriction on use under the Conveyancing Act 1919 over the on-site detention system. The following terms must be included in an appropriate instrument created under the Conveyancing Act 1919 for approval of Council:

"The registered proprietor of the lot burdened must not make or permit or suffer the making of any alterations to any on-site stormwater detention system on the lot(s) burdened without the prior consent in writing of the authority benefited. The expression 'on-site stormwater detention system' shall include all ancillary gutters, pipes, drains, walls, kerbs, pits, grates, tanks, chambers, basins and surfaces designed to temporarily detain stormwater as well as all surfaces graded to direct stormwater to those structures.

Name of the authority having the power to release, vary or modify the restriction referred to is Wollongong City Council."

The instrument, showing the restriction, must be submitted to the Principal Certifier for endorsement prior to the issue of the Occupation Certificate and the use of the development.

85 The developer must make compensatory provision for the trees required to be removed as a result of the development. In this regard, five (5) 200 litre container mature plant stock shall be placed in appropriate locations within the property boundary of the site. The suggested species are *Waterhousia floribunda.*

86 **BASIX**

An Occupation Certificate must not be issued unless accompanied by the BASIX Certificate applicable to the development. The Principal Certifier must not issue the final occupation certificate unless satisfied that selected commitments have been complied with as specified in the relevant BASIX Certificate. NOTE: Clause 154B of the Environmental Planning and Assessment Regulation 2000 provides for independent verification of compliance in relation to certain BASIX commitments.

87 **Positive Covenant – On-Site Detention Maintenance Schedule**

A positive covenant shall be created under the Conveyancing Act 1919, requiring the property owner(s) to undertake maintenance in accordance with the Construction Certificate approved On-Site Stormwater Detention System and Maintenance Schedule (application number to be referenced).

The instrument, showing the positive covenant must be submitted to the Principal Certifier for endorsement prior to the issue of the Occupation Certificate and the use of the development.

88 **On-Site Detention – Structural Certification**

The submission of a certificate from a suitably qualified practising civil and/or structural engineer to the Principal Certifier is required prior to the issue of the Occupation Certificate. This certification is required to verify the structural adequacy of the on-site detention facility and that the facility has been constructed in accordance with the approved Construction Certificate plans.

89 **Drainage WAE**

The developer shall obtain written verification from a suitably qualified civil engineer, stating that all stormwater drainage and related work has been constructed in accordance with the approved Construction Certificate plans. In addition, full works-as-executed plans, prepared and signed by a Registered Surveyor shall be submitted. These plans shall include levels and location for all drainage structures and works, buildings (including floor levels), and finished ground and pavement surface levels. This information shall be submitted to the Principal Certifier prior to the issue of the Occupation Certificate.

90 **Works-As-Executed Plans - Works within Council Land or Road Reserve**

The submission of a Works-As-Executed (WAE) plan for approved works in Council land and or road reserve must be submitted to and approved by Council's Development Engineering Manager, prior to the release of the Occupation Certificate. The Works-As-Executed plans shall be certified by a registered surveyor indicating that the survey is a true and accurate record of the works that have been constructed. The Works-As-Executed dimensions and levels must also be shown in red on a copy of the approved Construction Certificate plans. The Works-As-Executed (WAE) plans must include:

a Final locations and levels for all works associated with the development within Council land.
b The plan(s) must include, but not be limited to, the requirements stated in Chapter E14 of the Wollongong DCP 2009.

91 **CCTV of Works in Existing Road**

All stormwater pipes within road reserves intended to be dedicated to Council must be inspected by CCTV. A copy of the CCTV inspection must be submitted to Councils Development Engineering Manager for assessment prior to the issue of the Occupation Certificate. Below standard work must either be replaced or repaired to Councils satisfaction prior to the issuing of the Occupation Certificate.

92 **Completion of Engineering Works**

The completion of all engineering works within Council's road reserve or other Council owned or controlled land in accordance with the conditions of this consent and any necessary work to make the construction effective must be to the satisfaction of Council's Manager Development Engineering. The total cost of all engineering works shall be fully borne by the applicant/developer and any damage to Council's assets shall be restored in a satisfactory manner, prior to the issue of the Occupation Certificate.

93 **On-Site Detention – Certificate of Hydraulic Compliance**

The developer shall obtain a certificate of Hydraulic Compliance (using Council's M19 form) from a suitably qualified civil engineer, to confirm that all stormwater drainage and on-site detention works have been constructed in accordance with the approved plans. The certificate must satisfy the requirements of hydraulic compliance as stated in the On-Site Stormwater Detention Code. This information must be submitted with the full works-as-executed plans to the Principal Certifier prior to the issue of the Subdivision Certificate.