



## ACTIVITY DETERMINATION

Project No. BGWYR

### Conflict of Interest<sup>1</sup>

In this matter:

1. I have declared any possible conflict of interests (real, potential or perceived) to the Acting Head of Housing Portfolio, Homes NSW.
2. I do not consider I have any personal interests that would affect my professional judgement.
3. I will inform the Acting Head of Housing Portfolio, Homes NSW as soon as I become aware of a possible conflict of interest.

Signed.....

Dated..... **22.04.24**

Yolanda Gil  
Acting Executive Director, Portfolio Strategy and Origination  
Housing Portfolio  
Homes NSW

Having regard to the Determination Recommendation Report, the Statement of Compliance and the Review of Environmental Factors for this project addressing matters under Part 5 of the *Environmental Planning and Assessment Act 1979*, I determine that the activity proceed as described below and subject to the identified requirements set out in **Schedule 1**.

### SITE IDENTIFICATION

#### STREET ADDRESS

Unit/Street No

70 - 72

Street or property name

Gordon Avenue

Suburb, town or locality

South Granville

Postcode

2142

Local Government Area(s)

Cumberland

Real property description (Lot and DP)

Lot/s 43 & 44 DP 36280

1. Conflict of interest includes actual and potential. A conflict of interest includes pecuniary i.e. financial interests to you or a related party or non-pecuniary i.e. benefits to relatives, friends, business associates and personal causes, etc. This includes "related persons" as defined in the Property, Stock and Business Agency Act 2002.

## ACTIVITY DESCRIPTION

Provide a description of the activity

Removal of trees, and the construction of a multi-dwelling housing development comprising 6 x 2-bedroom townhouses and 2 x 3-bedroom townhouses, surface parking for 5 cars (including 1 accessible space), associated landscaping and fencing, and consolidation of 2 existing lots into a single allotment.

Signed.....

Dated..... 22.04.24

Yolanda Gil  
Acting Executive Director, Portfolio Strategy and Origination  
Housing Portfolio  
Homes NSW

## SCHEDULE 1

### IDENTIFIED REQUIREMENTS

#### PART A – Standard Identified Requirements

#### THE DEVELOPMENT

*The following identified requirements are to ensure that the residential activity is carried out in accordance with the plans / documents and any amendments arising from the Review of Environmental Factors under Part 5 of the Environmental Planning & Assessment Act 1979, Section 171 of the Environmental Planning and Assessment Regulation 2021 and the requirements of State Environmental Planning Policy (Housing) 2021.*

1. The development shall be carried out substantially in accordance with the following plans / documents as modified below and by any of the undermentioned identified requirements:

Title / Name	Drawing No / Document Ref	Revision / Issue	Date [dd/mm/yyyy]	Prepared by
<b>Architectural</b>				
Coversheet & Location	DA00	03	19/02/2024	Stanton Dahl Architects
Site & Block Analysis	DA01	03	19/02/2024	Stanton Dahl Architects
Cut & Fill Plan	DA03	03	19/02/2024	Stanton Dahl Architects
Site & External Works Plan – Ground Floor	DA04	03	19/02/2024	Stanton Dahl Architects



Title / Name	Drawing No / Document Ref	Revision / Issue	Date [dd/mm/yyyy]	Prepared by
<b>Architectural</b>				
Site & External Works Plan – First Floor	DA05	03	19/02/2024	Stanton Dahl Architects
Landscape & Deep Soil Diagrams	DA06	03	19/02/2024	Stanton Dahl Architects
Floor & Roof Plans (Block A)	DA07	03	19/02/2024	Stanton Dahl Architects
Ground Floor Plans (Block B)	DA08	03	19/02/2024	Stanton Dahl Architects
First Floor Plan (Block B)	DA09	03	19/02/2024	Stanton Dahl Architects
Roof Plan (Block B)	DA10	03	19/02/2024	Stanton Dahl Architects
Elevations	DA11	03	19/02/2024	Stanton Dahl Architects
Elevations	DA12	03	19/02/2024	Stanton Dahl Architects
Sections	DA13	03	19/02/2024	Stanton Dahl Architects
Sections	DA14	03	19/02/2024	Stanton Dahl Architects
Shadow Diagrams (Sht 1)	DA15	03	19/02/2024	Stanton Dahl Architects
Shadow Diagrams (Sht 2)	DA16	03	19/02/2024	Stanton Dahl Architects
External Colour Selection	DA17	03	18/12/2023	Stanton Dahl Architects
<b>Civil/ Stormwater</b>				
Notes & Legend	C01	9	01/11/2023	Greenview Consulting
Ground Floor Drainage Plan	C02	11	06/02/2024	Greenview Consulting
Site Stormwater Details Sheet	C03	10	06/02/2024	Greenview Consulting
OSD Catchment Plan	C04	9	01/11/2023	Greenview Consulting
Roof Drainage Plan	C06	8	01/11/2023	Greenview Consulting
Ground Floor Turning Paths Sheet 1	C10	2	29/09/2023	Greenview Consulting
Ground Floor Turning Paths Sheet 2	C11	2	29/09/2023	Greenview Consulting
Ground Floor Turning Paths Sheet 3	C12	2	29/09/2023	Greenview Consulting
Ground Floor Turning Paths Sheet 4	C13	2	29/09/2023	Greenview Consulting
Notes & Legends	ESM1	1	18/10/2023	Greenview Consulting
Environmental Site Management Plan	ESM2	1	18/10/2023	Greenview Consulting
<b>Landscape</b>				
Landscape Plan	L01	3	16/10/2023	Stanton Dahl Architects
Landscape Details	L02	3	16/10/2023	Stanton Dahl Architects
<b>Survey</b>				
Detail and Level Survey	1 of 2	A	02/03/2021	Norton Survey Partners
<b>BASIX</b>				
NatHERS Certificate	0008183840		16/02/2024	Greenview Consulting
BASIX Certificate	1182754M_10		16/02/2024	Greenview Consulting

Title / Name	Drawing No / Document Ref	Revision / Issue	Date [dd/mm/yyyy]	Prepared by
<b>Architectural Reports</b>				
Traffic and Parking Impact Assessment	230291	J	29/09/2023	Greenview Consulting
Arboricultural Impact Assessment and Tree Management Plan	5845.4		03/11/2023	Redgum Horticultural
Waste Management Plan	2873.23		September 2023	Stanton Dahl Architects
Access Report	21384	F	27/09/2023	Vista Access Architects
Geotechnical Investigation Report	20/3757		October 2020	STS Geotechnics Pty Ltd
BCA Design Compliance Assessment	23-220009	R06	05/10/2023	Philip Chun
Acoustic Design Report	20201164.5/0 211A/R2/RF	2	02/11/2022	Acoustic Logic

2. All building work is to be undertaken in accordance with the National Construction Code and referenced Australian Standards.
3. All commitments listed in the BASIX certificate and stamped plans shall be implemented.
4. All construction documentation and building work is to be certified in accordance with Section 6.28 of the Environmental Planning and Assessment Act 1979.
5. The land the subject of this determination shall be consolidated into a single lot. The plan of consolidation shall be lodged at the NSW Land Registry Services and shall be registered prior to the occupation of the development. A copy of the registered plan shall be provided to the Land & Housing Corporation.

## OPERATIONAL MATTERS

*The following Identified Requirements relate to the use of the site and are to ensure that the activity and its operation do not interfere with the amenity of the surrounding area.*

### Stormwater Run-off

6. Stormwater shall be collected within the site and conveyed in a pipeline to the appropriate gutter or drain under the control of Cumberland City Council substantially in accordance with the approved concept stormwater drainage plans.
7. Alterations to the natural surface contours or surface absorption characteristics of the site shall not impede, increase, or divert natural surface water runoff so as to cause a nuisance to adjoining property owners.
8. All driveways shall be graded in such a manner as to provide continuous surface drainage flow paths to the appropriate points of discharge.
9. To prevent water from entering buildings, surface waters shall be collected and diverted clear of the buildings by a sub-surface / surface drainage system.

## Vehicular Access & Parking

10. A concrete vehicular crossing and layback shall be provided at the entrance / exit to the property. The crossing and layback shall be constructed in accordance with Cumberland City Council standard requirements for residential crossings. Council shall be provided with plans for the crossing and layback together with the payment of any council inspection fees prior to work commencing. The contractor shall arrange for necessary inspections by Council whilst the work is in progress or after completion of the works.

The plans shall be:

- Prepared and submitted in electronic format, undertaken by a consulting civil engineer.
  - Upon completion of the works, the contractor is to provide Council two copies of 'work as executed plans'. The plans are to show relevant dimensions and finished levels and are to be certified by a registered surveyor. The contractor is also to provide Council details of all public infrastructure created as part of the works, including certification that the design meets all relevant Australian Standards and Council specifications from an engineer with relevant industry experience.
11. Particular care shall be taken in the location of vehicular crossings and/or laybacks to avoid poles, pits etc. The cost of any necessary adjustments to utility mains and services associated with the construction of the layback / driveway shall be borne by the Land & Housing Corporation. Obsolete gutter laybacks shall be constructed as kerb in accordance with Cumberland City Council standards.

**Note:**

*It is recommended that discussion be held with the relevant authorities before construction works commence.*

12. Car parking spaces and driveways shall be constructed of concrete or other approved hard surfaced materials. The spaces must be clear of obstructions and columns, permanently line marked and provided with adequate manoeuvring facilities. The design of these spaces must comply with AS 2890.1.

## Site Works

13. All soil erosion and sediment control measures required to be put in place prior to the commencement of demolition / construction works shall be maintained during the entire period of the works until all the disturbed areas are restored by turfing, paving or revegetation. Soil erosion and sediment control measures shall be designed in accordance with the guidelines set-out in the Blue Book *Managing Urban Stormwater: Soils and Construction* (4th edition, Landcom, 2004).
14. An appropriately qualified person shall design retaining walls or other methods necessary to prevent the movement of excavated or filled ground, including associated stormwater drainage measures.

## Building Siting

15. All buildings shall be sited well clear of any easements affecting the site. The builder shall ascertain if any easements do exist and, if they do, obtain full details of such prior to construction commencing.

### **Smoke Detection System(s)**

16. Smoke detection systems shall be installed throughout the building(s) in accordance with requirements of Clause E2.2a of the Building Code of Australia. Detectors and alarms shall comply with AS 3786 and AS 1670 and must:
- i. be connected to a permanent 240V power supply; and
  - ii. be provided with a battery backup to activate the alarm unit in the event of failure of the permanent power supply.

### **Site Soil Contamination**

17. If the site is identified as being potentially affected by soil contamination, it shall be inspected by a suitably qualified person to identify any contaminated or hazardous material present. A proposal for remediation shall be prepared, which may include preparation of a Remedial Action Plan, and remediation shall be carried out in accordance with the proposal. A Validation Report, prepared in accordance with Environment Protection Authority requirements, shall be obtained from a qualified expert on completion of the remediation work to verify that the site is suitable for the intended residential use. A copy of the Validation Report shall be provided to the Land & Housing Corporation on completion of the remediation works.

### **Landscaping**

18. Landscaping shall be carried out substantially in accordance with the approved landscape plan and maintained for a period of 12 months by the building contractor. Cumberland City Council shall be consulted in relation to the planting of any street trees.
19. All scheduled plant stock shall be pre-ordered, prior to commencement of construction or 3 months prior to the commencement of landscape construction works, whichever occurs sooner, for the supply to the site on time for installation. The builder shall provide written confirmation of the order to the Land & Housing Corporation.

### **Tree Removal**

20. Removal of trees within the boundaries of the site is to be carried out in accordance with the trees shown for removal on the approved landscape plan and Arboricultural Impact Assessment and Tree Management Plan and no other trees shall be removed without further approval(s).

### **Fencing**

21. All front fencing and gates shall be constructed wholly within the boundaries of the site. Any gates associated with the fencing shall swing inwards towards the site.

### **Provision of Letterbox Facilities**

22. Suitable letterbox facilities are to be provided in accordance with Australia Post specifications.

## Public Liability Insurance

23. A valid public liability insurance policy of at least \$10M shall be maintained throughout the demolition / construction works by the contractor.

## PRIOR TO ANY WORK COMMENCING ON THE SITE

*The following Identified Requirements are to be complied with prior to any work commencing on the site.*

## Disconnection of Services

24. All services that are required to be disconnected shall be appropriately disconnected and made safe prior to commencement of the demolition / construction works. The various service authorities shall be consulted regarding their requirements for the disconnection of services.
25. All existing services within the boundary to remain live shall be identified, pegged and made safe.

## Utilities Service Provider Notification

26. The construction plans shall be submitted to the appropriate water utility's office (e.g. Sydney Water office) to determine whether or not the development will affect the utility's sewer and water mains, stormwater drains and any easements.

**Note:**

*If the development complies with water utility's requirements, the plans will be stamped indicating that no further requirements are necessary.*

## Council Notification

27. Cumberland City Council shall be advised in writing, of the date it is intended to commence work, including demolition. A minimum period of 5 working days notification shall be given.

## Site Safety

28. A sign shall be erected in a prominent position on any site on which demolition or building work is being carried out:
- (a) showing the name, address and telephone number of the responsible Land & Housing Corporation officer for the work, and
  - (b) showing the name of the principal contractor (if any) and a telephone number on which that person may be contacted outside working hours, and
  - (c) stating that unauthorised entry to the work site is prohibited.

The sign shall be maintained while the work is being carried out but shall be removed when the work has been completed.

**Note:**

*This requirement does not apply in relation to building work that is carried out inside an existing building that does not affect the external walls of the building.*

29. A minimum 1.8m high security fence or Class A / Class B (overhead) hoarding must be erected between the work site and any public place prior to demolition / construction.

Access to the site shall be restricted to authorised persons only and the site shall be secured against unauthorised entry when demolition / construction work is not in progress or the site is otherwise unoccupied.

**Note:**

*Approval from the relevant roads authority will be required under Section 138 of the Roads Act 1993 where a Class A or B hoarding encroaches onto the footpath of / or a public thoroughfare within a classified road.*

30. No building or demolition materials are to be stored on the footpath or roadway.

**Site Facilities**

31. The following facilities shall be installed on the site:
- (a) Toilet facilities shall be provided at the rate of 1 toilet for every 20 persons or part thereof employed at the site. Each toilet provided shall be a standard flushing toilet and shall be connected to a public sewer or if connection to a public sewer is not practicable, to an accredited sewerage management facility provided by Cumberland City Council or if this is not practicable to some other council approved management facility.
  - (b) Adequate refuse disposal methods and builders storage facilities. Builders' wastes, materials or sheds shall not to be placed on any property other than that which this approval relates to.
32. Access to the site shall only be provided via an all-weather driveway on the property and is not to be provided from any other site.

**Protection of Trees**

33. Trees and other vegetation that are to be retained on site shall be protected prior to the commencement of works and for the duration of the construction period in accordance with the details provided in the Arboricultural Impact Assessment and Tree Management Plan.

**Waste Management**

34. A final Waste Management Plan shall be prepared and submitted to the Land & Housing Corporation by the building contractor prior to the commencement of construction. The plan shall detail the amount of waste material and the destination of all materials, recyclable and non-recyclable.

**PRIOR TO ANY CONSTRUCTION WORK COMMENCING ON SITE**

*The following Identified Requirements are to be complied with prior to any construction works occurring on the site.*

**Service Authority Clearances**

35. A compliance certificate, or other evidence, shall be obtained from Sydney Water, confirming service availability prior to work commencing.

**Note:**

*Payment of water and/or sewer service charges and/or a notice of requirements for works to be carried out during construction / prior to occupation may be applicable prior to issue of the compliance certificate.*

36. A written clearance from an electricity supply authority stating that electrical services are available to the site, or that arrangements have been entered into for the provision of services to the site, shall be obtained prior to work commencing.
37. A certificate from an approved telecommunications carrier certifying that satisfactory arrangements have been made for the provision of underground telephone services, to the site and to each dwelling, shall be obtained prior to work commencing.
38. Where the site is to be connected to reticulated gas, a certificate from an approved gas carrier to certify that satisfactory arrangements have been made to ensure the provision of underground gas services to each dwelling in the development shall be obtained prior to work commencing.

### **Stormwater Disposal**

39. A detailed stormwater drainage plan(s), substantially in accordance with the approved concept stormwater drainage plan(s), shall be prepared and submitted to the Land & Housing Corporation. Any on-site detention system shall be designed in accordance with the relevant catchment authority's requirements (e.g. the Upper Parramatta River Catchment Trust On-site Detention Handbook) and/or Cumberland City Council's drainage code.
40. Where a drainage easement is required, proof of lodgement of the plan of the drainage easement at the NSW Land Registry Services shall be submitted to the Land & Housing Corporation prior to commencement of works. Registration of the plan of easement shall be completed prior to occupation of the development and a copy of the registered plan shall be provided to the Land & Housing Corporation.

### **DURING CONSTRUCTION WORKS**

*The following Identified Requirements are to be complied with whilst demolition and construction works are occurring on the site.*

#### **Landfill**

41. Where site filling is necessary, a minimum of 95% standard compacting shall be achieved and certified by a NATA registered Soils Lab.
42. Land fill materials must satisfy the following requirements:
  - i. be Virgin Excavated Natural Matter (VENM);
  - ii. be free of slag, hazardous, contaminated, putrescible, toxic or radio-active matter; and
  - iii. be free of industrial waste and building debris.

#### **Heritage**

43. Historic and indigenous archaeological sites and relics are protected under the *Heritage Act 1977* and *National Parks and Wildlife Act 1974*, respectively. Should any relics be uncovered during the course of the approved works, work must cease

immediately in the affected area. Subsequently, in cases where historical items have been uncovered, the Department of Climate Change, Energy, the Environment and Water must be contacted.

44. All workers / contractors on the site shall be informed of their obligations, under the Heritage Act and *National Parks and Wildlife Act 1974*, that it is illegal to disturb, damage or destroy a relic without the prior approval.

#### **Survey Reports**

45. Survey reports shall be submitted by the building contractor to the Land & Housing Corporation prior to the placement of the footings / slab and on completion of the dwellings to verify the correct position of the structures in relation to the allotment boundaries.

#### **Hours of Construction / Civil Work**

46. Construction / civil work shall only occur on the site between the hours of 7am to 5pm Monday to Saturday with no work permitted on Sundays or public holidays.

#### **Excavation & Backfilling**

47. All excavations and backfilling associated with the demolition or erection of building(s) shall be executed safely and in accordance with appropriate professional standards. All such work shall be guarded and protected to prevent it from being dangerous to life or property.

#### **Pollution Control**

48. Any noise generated during the construction of the development shall not exceed the limits specified in the July 2009 Interim Construction Noise Guidelines, published by the former Department of Environment and Climate Change.
49. No fires shall be lit or waste materials burnt on the site.
50. No washing of concrete forms or trucks shall occur on the site.
51. Any contamination / spills on the site during construction works shall be actively managed and reported immediately to appropriate regulatory authorities to minimise any potential damage to the environment.
52. Dust generation during demolition / construction shall be controlled using regular control measures such as on site watering or damp cloth fences.
53. All vehicles transporting loose materials and travelling on public roads shall be secured (ie closed tail gate and covered) to minimise dust generation.
54. Non-recyclable waste and containers shall be regularly collected and disposed of at a licensed landfill or other disposal site in accordance with details set out in the final Waste Management Plan.

#### **Impact of Construction Works**

55. The Land & Housing Corporation shall bear the cost of any necessary adjustments to utility mains and services.



56. Care shall be taken to prevent any damage to adjoining properties. The building contractor shall be liable to pay compensation to any adjoining owner if, due to demolition/construction works, damage is caused to such adjoining property.

### **Termite Protection**

57. To protect buildings from subterranean termite, termite barriers installed in accordance with AS 3660.1, shall be placed on the underside and in penetrations of the concrete slab floor.

In addition, a durable notice must be permanently fixed inside the meter box indicating:

- (a) the method of protection.
- (b) the date of installation of the system.
- (c) where a chemical barrier is used, its life expectancy as listed on the National Registration Authority label.
- (d) the need to maintain and inspect the system on a regular basis.

### **PRIOR TO OCCUPATION OF THE DEVELOPMENT**

*The following Identified Requirements are to be complied with prior to the occupation of the development.*

#### **General**

58. The use or occupation of the development shall not commence until all the identified requirements of this determination have been complied with.

#### **Council Infrastructure Damage**

59. The cost of repairing any damage caused to Cumberland City Council assets in the vicinity of the site as a result of demolition / construction works shall be met in full by the building contractor.

#### **Stormwater Drainage**

60. Prior to occupation, a Work As Executed Plan shall be prepared by the building contractor clearly showing all aspects of the constructed stormwater drainage system, including any on-site detention system. The plan shall demonstrate general compliance with the approved concept stormwater drainage plan(s) and shall include:
- sufficient levels and dimensions to verify the constructed storage volumes; and
  - location and surface levels of all pits; and
  - invert levels of the internal drainage lines, orifice plates fitted and levels within the outlet control pits; and
  - finished floor levels of all structures; and
  - verification that any required trash screens have been installed; and
  - locations and levels of any overland flow paths; and
  - verification that any drainage lines are located wholly within easements, where applicable.

The Work-As-Executed Plan information shall be shown on the final civil works drawings.

A positive covenant and restriction-as-to-user shall be placed over the onsite detention system in accordance with Cumberland City Council's on-site detention policy to ensure that the system will be adequately maintained. The positive covenant and restriction-as-to-user shall be registered at NSW Land Registry Services prior to occupation. A copy of the registered restriction-as-to-user shall be provided to the Land & Housing Corporation and Cumberland City Council.

## **PART B – Additional Identified Requirements**

### **Site Specific Requirements**

61. Buildings will be constructed to comply with the deemed-to-comply provisions of the Building Code of Australia and EPA criteria with respect to noise transmission as identified in the Acoustic Report.
62. The adjoining landowner at 74 Gordon Avenue must be consulted with prior to the ordering of any new fencing proposed for the southern boundary of the subject site.
63. In accordance with the recommendations of the Traffic Impact Assessment prepared by Greenview Consulting dated 29 September 2023, "10km/hr SHARED ZONE" signs must be installed along the internal driveway.

### **Requirements Resulting from Council Comments**

64. All soft and hard landscaping works to be undertaken on the site are to be carried out by a minimum AQF3 landscaper. The final inspection of works should be signed off by an individual other than the person carrying out the works.
65. Detailed footpath levels shall be obtained from Council before finalisation of the footpath and driveway design by lodging an 'Application for Property Boundary Line Levels'. Any required adjustments shall be included in the construction documentation. Unless an alternative specific design is submitted and approved by Council, the footpath levels adjoining the site shall generally be as follows:
  - a) The internal driveway levels shall be designed to meet Council's footpath verge levels such that a maximum cross fall of 2.5% is achieved where the footpath meets the driveway.
  - b) The level of the boundary line as it crosses the driveway shall incorporate a cross fall equivalent to the general longitudinal grade of the street.
  - c) Any required adjustments shall be included in the plans and submitted for approval prior to the release of the crown construction certificate.

## **ADVISORY NOTES**

- i. Approval of this development activity does not imply or infer compliance with Section 23 of the *Disability Discrimination Act 1992*. Refer to AS 1428.1 and the Building Code of Australia for detailed guidance.
- ii. Information regarding the location of underground services may be obtained from Dial Before You Dig at [www.1100.com.au](http://www.1100.com.au) or by dialing 1100.

# DECISION STATEMENT

Project No. BGWYR

## SITE IDENTIFICATION

### STREET ADDRESS

Unit/Street No

70 - 72

Street or property name

Gordon Avenue

Suburb, town or locality

South Granville

Postcode

2142

Local Government Area(s)

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Real property description (Lot and DP)

Lot/s 43 & 44 DP 36280

## ACTIVITY DESCRIPTION

Provide a description of the activity

Removal of trees, and the construction of a multi-dwelling housing development comprising 6 x 2-bedroom townhouses and 2 x 3-bedroom townhouses, surface parking for 5 cars (including 1 accessible space), associated landscaping and fencing, and consolidation of 2 existing lots into a single allotment.

The Land & Housing Corporation (LAHC) has proposed the above activity under the provisions of *State Environmental Planning Policy (Housing) 2021* (Housing SEPP) which requires determination under Part 5 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). This Decision Statement relates to the Review of Environmental Factors (REF) for the above activity prepared under Part 5 of the EP&A Act and the *Environmental Planning and Assessment Regulation 2021*.

Based on the REF document and supporting documentation, including advice from Cumberland City Council a decision to proceed with the proposed activity has been made. This decision included consideration of the following:

### Significant Impact on the Environment

- The proposed activity is not likely to have a significant impact on the environment and therefore an EIS is not required.
- The proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a SIS and/or BDAR is not required.

### Reasons for the Decision

- Following an assessment of the proposed activity and associated environmental impacts within the REF document it was decided that the proposed development will have economic and social benefits and any minor short-term impacts on the environment or surrounding properties can be appropriately mitigated.

- The proposed development will assist in the provision of much needed social and affordable housing and assist in addressing the existing and growing demand for housing in the local government area.

Mitigation Measures

- Mitigation measures are required to minimise or manage environmental impacts and are detailed throughout the REF and specifically within Section 8. All mitigation measures are detailed as Identified Requirements within the Activity Determination. Additional mitigation measures, detailed in the Activity Determination have been imposed to minimise the impact on the surrounding environment, ensure appropriate site safety and to ensure legislative compliance.



Signed.....

**22.04.24**  
Dated.....

**Yolanda Gil**  
**Acting Executive Director, Portfolio Strategy and Origination**  
**Homes NSW**



## LAHC, Multi Dwelling Housing Development (8 Townhouses) 70-72 Gordon Avenue, Granville, NSW Part 5 Activity Submission 19/2/24

### Architectural

2873.23	DA00	Cover Sheet & Location Plan
2873.23	DA01	Site & Block Analysis Plan
2873.23	DA02	Demolition Plan
2873.23	DA03	Cut & Fill Plan
2873.23	DA04	Site & External Works Plan - Ground Floor
2873.23	DA05	Site & External Works Plan - First Floor
2873.23	DA06	Landscape & Deep Soil Diagrams
2873.23	DA07	Floor & Roof Plans (Block A)
2873.23	DA08	Ground Floor Plan (Block B)
2873.23	DA09	First Floor Plan (Block B)
2873.23	DA10	Roof Plan (Block B)
2873.23	DA11	Elevations
2873.23	DA12	Elevations
2873.23	DA13	Sections
2873.23	DA14	Sections
2873.23	DA15	Shadow Diagrams (Sht 1)
2873.23	DA16	Shadow Diagrams (Sht 2)
2873.23	DA17	External Colour Selection

### Civil Drawing Schedule

230291	C01	Notes & legends
230291	C02	Ground Floor Drainage Plan
230291	C03	Site Stormwater Details Sheet
230291	C04	OSD Catchment Plan
230291	C05	Lower Roof Drainage Plan
230291	C06	Roof Drainage Plan

### Landscape Drawing Schedule

2873.23	L01	Landscape Plan
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### Survey Drawing Schedule

51013	Detail & Level Survey
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23168 – 70-72 Gordon Ave, Granville, NSW

**Adaptable units** to comply with AS4299 and the requirements noted in Access report 23168 by Vista Access Architects

- Where internal layout of the bathroom changes, pre-plumbing and capping of services is required at pre-adaptation to the post-adaptation location of fixtures.
- Wall reinforcements are to be provided at pre-adaptation.
- Main entry doorway, doorways to adaptable bathroom and main adaptable bedroom to be as per AS1428.1 with 850mm clear opening.
- One accessible or 3.8M wide parking space is to be allocated to each of the adaptable units.

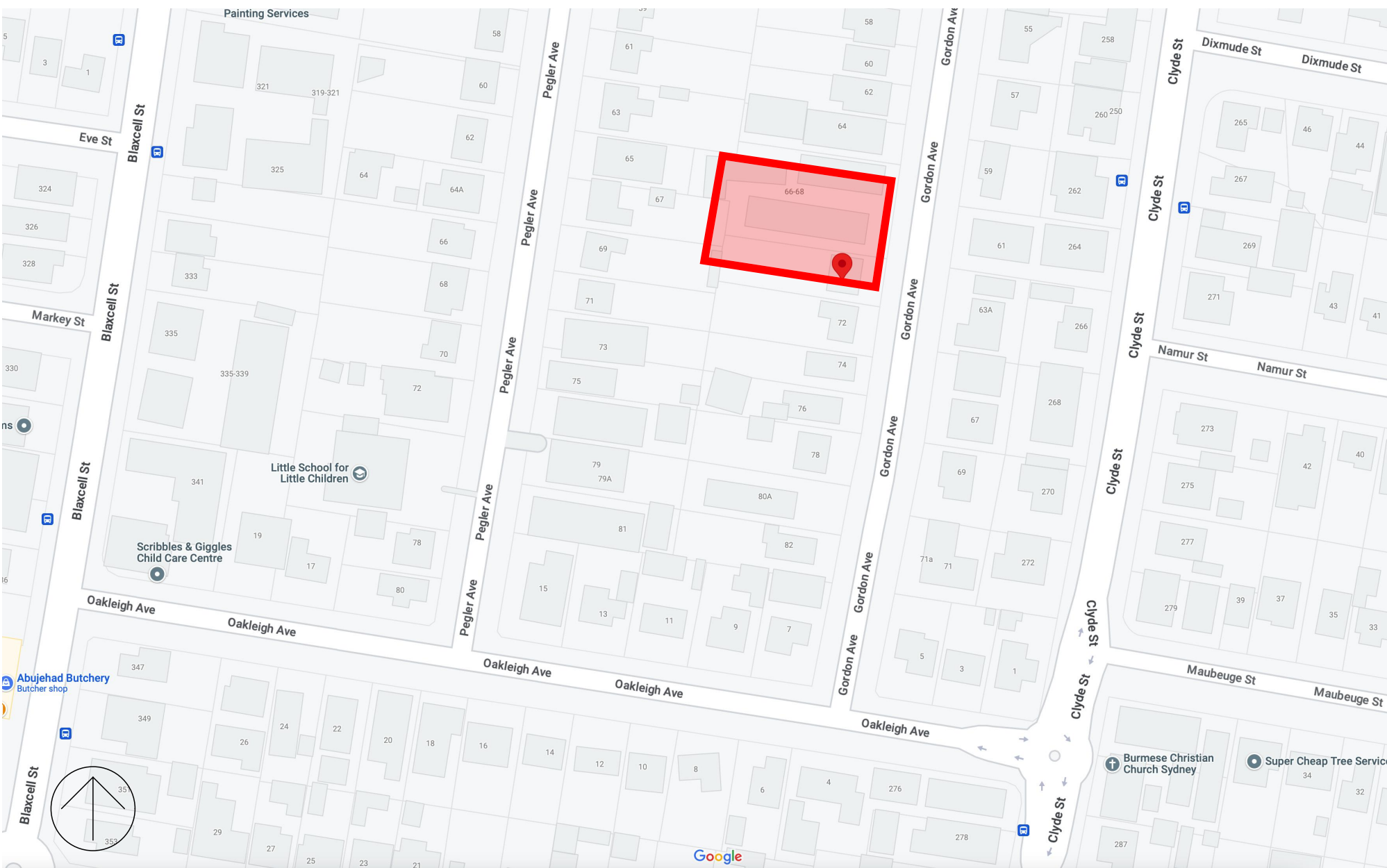
#### Specifications for LHA Silver Livable units

##### External works

- Pathway linking the site boundary to the main entry doorway to be step free, have min clear width of 1000mm, an even, firm, slip resistant surface and a crossfall of not more than 1:40.
- If a ramp is required to the access pathway, then a maximum pathway slope to be 1:14, with landings provided at no greater than 9m for a 1:14 ramp and no greater than 15m for ramps steeper than 1:20. Landings should be not less than 1200mm in length.
- If the height is 190mm or less, a step ramp may be provided at an entrance doorway with a max gradient of 1:10 and a minimum clear width of 1000mm.
- Level landings to be no less than 1200mm in length, exclusive of the swing of the door or gate (if provided) that opens onto them, must be provided at the head and foot of the ramp.
- A level landing area of 1200mm x 1200mm should be provided at the level (step-free) entrance door with roof over.
- Where the threshold at the entrance / garage door exceeds 5mm and is less than 56mm, a 1:8 grade ramped threshold is to be provided within 20mm of the door leaf.

##### Internal works

- All doorways to the entry level to have a minimum clear opening width of 820mm. If the entry level does not have a shower then the door to bathroom on upper floor level with shower is also required to have a minimum clear opening width of 820mm. Provision of bath-tub is not mandatory but where provided, the bathroom with the bathtub is also required to have a minimum clear opening width of 820mm.
- A level (step-free) transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or bevelled) is to be provided to all areas on the ground floor/ entry level. This means that all wet areas are to be recessed in the floor for flush transition to door thresholds.
- Internal corridors/passageways to the doorways to entry level should provide a minimum clear width of 1000mm when measured from skirting to skirting or skirting to benchtop or benchtop to benchtop.
- 1 WC pan on entry level to have slip resistant flooring and to have a minimum clear space of 900mm (width) x 1200mm (forward of pan) clear of door swing or any fixtures including hand basins.
- Min 600mm wall forward of the WC pan is required to have noggings and to be clear of the door frame or any window openings.
- One bathroom should feature a slip resistant, hobless (step-free) shower recess in the corner of the room. Shower screens are permitted provided they can be removed at a later date.
- Wall reinforcements for the toilet on the ground floor and 1 corner shower and to bathtub (if any) are required to be as shown in the Livable Housing Guidelines ie 25mm nogging or 12mm sheeting.
- Internal Stairway where provided is required to provide a continuous handrail on one side. If winders are provided to the mid landings then the continuous handrail is to be on the outside. (not on the side where the steps merge)



01 Location Plan  
not to scale

#### Electronic Documentation

The electronic copies of Architectural drawings, provided at the Builders request for assistance in the production of shop drawings are subject to the following conditions:

- \* these drawings are not contract documents
- \* the recipient is responsible for any inaccuracies or omissions resulting from faulty electronic transfer of the information
- \* it remains the Builder's responsibility to provide to sub-contractors all the information they need to carry out the work based on the contract documents including any notices to tenderers, site instructions etc. No responsibility will be accepted by the Architect nor will a variation to the contract be approved for any incomplete or deficient information provided by the Builder to a sub-contractor
- \* the electronic copies are to be used strictly for the purpose for which they are provided. All the information contained in them remains the copyright of the Architects

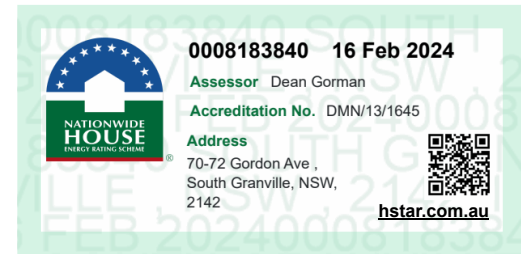
This is an electronic copy of the drawing provided for information only. The contract documents are the hard copy and no guarantee can be provided that the electronic copies as transferred are identical.

#### General Notes

1. refer to the architectural drawings and specification in conjunction with consultants documentation for the full scope of works.
2. for all structural elements including steel or reinforced columns, floor slabs, stairs, retaining walls, and roof framing refer to structural engineers drawing and details, u.n.o.
3. the site boundaries and levels have been established from the survey prepared by ..... dated .....
4. building setback and boundary clearance to be verified by a registered surveyor before construction begins and any discrepancies referred to the architect.
5. all levels based on assumed datum, u.n.o.
6. all construction work to be carried out to comply with the requirements of authorities having jurisdiction over the works, including the conditions of approval issued for the project by the local council and relevant statutory authorities.
7. figured dimensions to be taken in preference to scaling from drawings, drawings not to be scaled without approval of the architect.
8. any discrepancies or contradictions on or between the drawing or with the specification shall be referred to the architect for clarifications before construction.
9. all building works must be carried out in accordance with the building code of australia including relevant state based variations and additions.
10. the building is designed to be type ..... construction in accordance with the BCA
11. the BCA is interpreted to require a building of class ..... with a rise of ..... storeys.
12. refer to services consultants documents for all relevant services details.
13. all works to comply with AS1428.1 & AS1428.4 - Design for access and mobility.
14. clear dimensions of required exits including stairs, fire passages and landing and paths of travel to an exit shall be minimum 1 metre wide and minimum 2 metres high.

DEVELOPMENT DATA - TOWNHOUSES				
ADDRESS	70-72 Gordon Avenue, South Granville			
SITE AREA	1599.8m2			
NUMBER OF EXISTING LOTS	Lots 43 & 44 DP 36280			
GFA	Land Zoning: R3			
	Ground Floor	393.21	m2	
	First Floor	305.30	m2	
	TOTAL	698.51	m2	
	GFA* measured to inner face of external enclosing wall, excluding garages.			
NUMBER OF DWELLINGS	8 Apartments - 6 x 2 Bed, 2 x 3 Bed			
DWELLING AREAS	Number	Type*	Beds	Area* (m²)
	1	General	3	109.68
	2	General	2	84.85
	3	General	2	79.93
	4	General	2	79.93
	5	General	2	79.93
	6	General	2	79.93
	7	General	2	79.93
	8	General	3	104.32
*area = measured to internal face of external wall including internal walls.				
BUILDING HEIGHT	Control		Requirement	Proposed
	Housing SEPP		9m	8.3m (2 Storeys)
FSR	SLUDG (note FSR is measured from the internal face of the external wall under the Housing SEPP).		0.5:1	0.43 : 1 (698.51 m2)
	Cumberland LEP		0.6:1	
PARKING	SEPP (Housing)		0.5 space per 2 bed = 3	5 spaces
			1 space per 3 bed = 2	
			total spaces required = 5	
SETBACKS	Cumberland LEP (Part B2) / Low Rise Housing Diversity Design Guide for Development Applications	Front Setback	3.5m	TH01: 5.29m; TH02: 4.07m
		Side Setback	1.5m*	*expect where development is 10m behind the front building line and >4.5m above EGL. In this instance, a min, setback equal to the building height at that point minus 3m, required
		Rear Setback	6m	3m
LANDSCAPE	SLUDG		30% of site are = 479.94m2	641.15m2 (40% of site area)
	Cumberland DCP		20% of site are or 30m2 per dwelling	
DEEP SOIL	SLUDG		15% of lot area, min 3m = 239.97m2	418.44m2 (26% of site area)
SOLAR ACCESS	SLUDG		70% of dwellings & POS must have 3hrs of direct sunlight between 9am to 3pm 21 June	Living - 7/8 = 87.5% POS - 7/8 = 87.5%

Stanton Dahl Architects



### LAHC

Multi Dwelling Housing Development (8 Townhouses)  
70-72 Gordon Avenue, Granville, NSW

Drawn; DD  
Checked; DD  
Plot date; 19/2/24

Scale; as noted @ A1

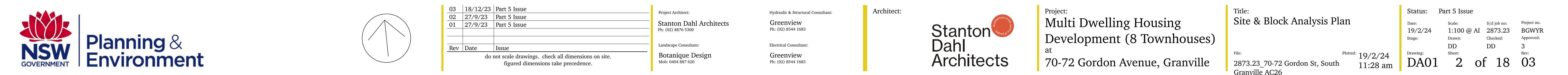
Project No;  
BGWYR

Drawing No;  
DA00

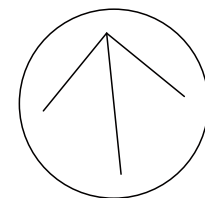
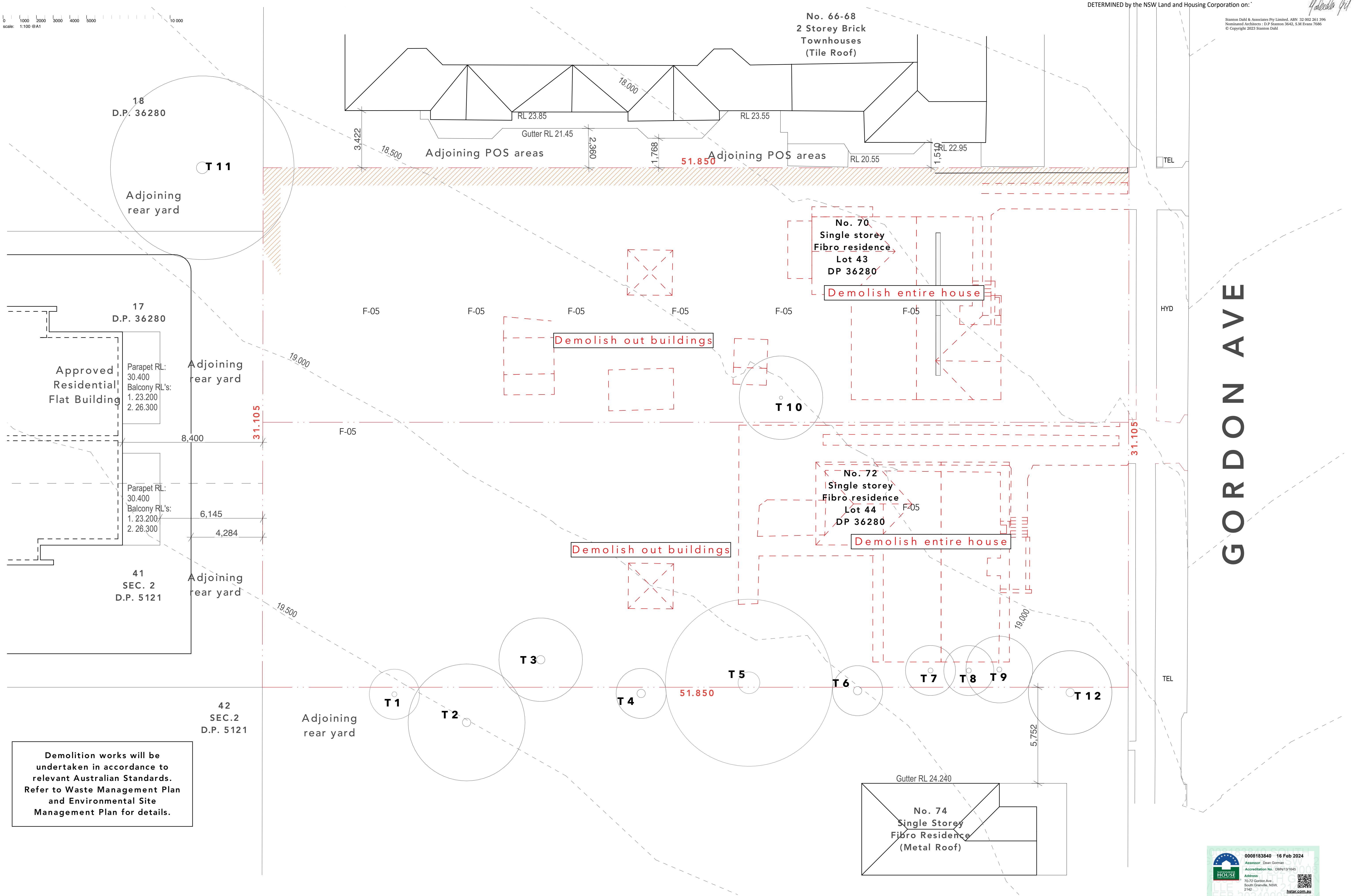
Revision#;  
03

Cover Sheet &  
Location Plan









03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue
Rev	Date	Issue

do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
**Stanton Dahl Architects**  
Ph: (02) 8544 1683

Landscape Consultant:  
**Botanique Design**  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
**Greenview**  
Ph: (02) 8544 1683

Electrical Consultant:  
**Greenview**  
Ph: (02) 8544 1683

Architect:

Project:  
**Multi Dwelling Housing Development (8 Townhouses)**  
at  
**70-72 Gordon Avenue, Granville**

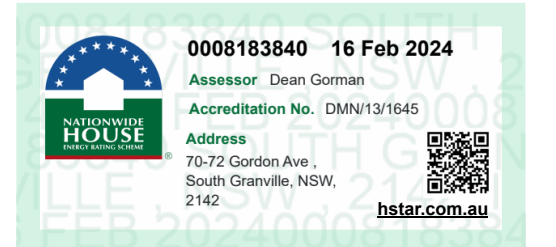
Title:  
**Demolition Plan**

File:  
2873.23 70-72 Gordon St, South Granville AC26

Plotted: 19/2/24 11:28 am

Status: **Part 5 Issue**

Date:	19/2/24	Scale:	1:100 @ A1	S'16 job no:	2873.23	Project no:	BGWYR
Stage:	DD	Drawn:	DD	Checked:	DD	Approved:	3
Drawing:	DA02	Sheet:	3	of	18	Rev:	03

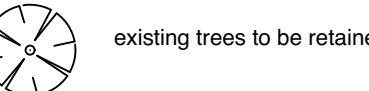


0 1000 2000 3000 4000 5000 10 000  
scale: 1:100 @A1

DETERMINED by the NSW Land and Housing Corporation on: "

Stanton Dahl & Associates Pty Limited. ABN 32 002 261 396  
Nominated Architects : D.P Stanton 3642, S.M Evans 7686  
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Legend cut & fill plan  
note: drawing may not contain all items listed below



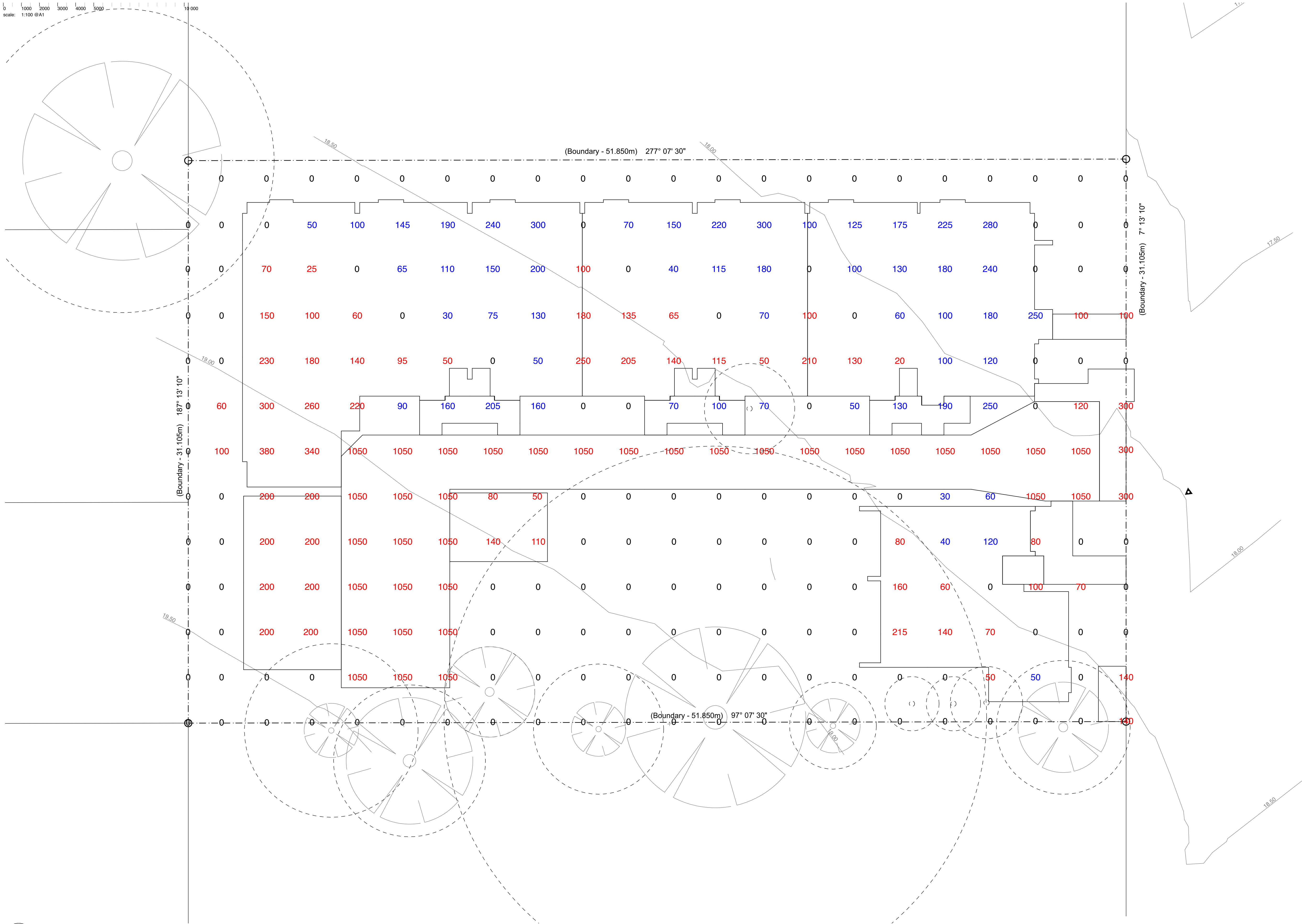
outline of new buildings

site boundaries

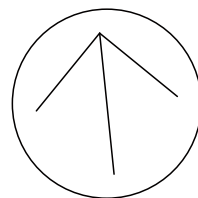
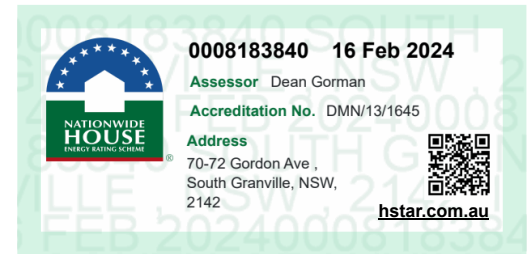
approx. location of existing contours

approx. depth of cut in millimetres

approx. depth of fill in millimetres



01 Cut & Fill Plan  
1:100



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue
Rev	Date	Issue

do not scale drawings. check all dimensions on site.  
figured dimensions take precedence.

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 1683

Landscape Consultant:  
Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683

Electrical Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:



Project:  
Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Cut & Fill Plan

File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted: 19/2/24  
11:28 am

Status: Part 5 Issue

Date:	Scale:	S/d job no:	Project no:
19/2/24	1:100 @ A1	2873.23	BGWR
Stage:	Drawn:	Checked:	Approved:
	DD	DD	3
	Sheet:		Rev:

DA03 4 of 18 03

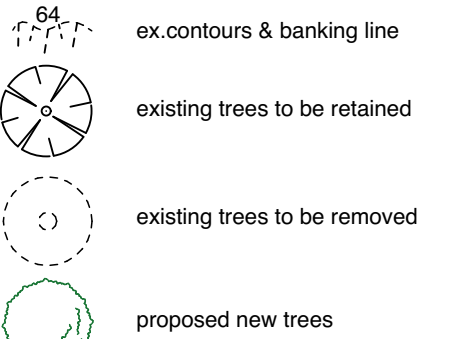


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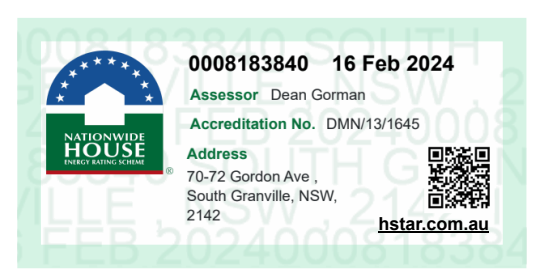
DETERMINED by the NSW Land and Housing Corporation on: 19/02/24

Stanton Dahl & Associates Pty Limited, ABN 32 002 261 396  
Nominated Architects: D.P. Stanton 3642, S.M. Evans 7686  
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Legend (external work / site plan)  
note: drawing may not contain all items listed below

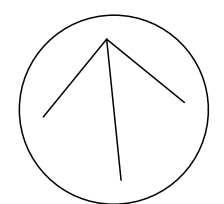


note:  
1. Where Grates are used in the accessible path of travel. Circular openings maximum of 13mm in diameter. Slotted openings maximum of 13mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel.



# 01 Site & External Works Plan - Ground Floor

1:100



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue

Rev	Date	Issue
do not scale drawings, check all dimensions on site, figured dimensions take precedence.		

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 5200  
Landscape Consultant:  
Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683  
Electrical Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:



Project:  
Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Site & External Works Plan -  
Ground Floor

File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted:  
19/2/24  
11:28 am

Status: Part 5 Issue  
Date: 18/12/23  
Stage: 02  
Drawing: DA04  
Scale: 1:100 @ A1  
Drawn: DD  
Sheet: 5  
S/D job no: S18 job no: 2873.23  
Checked: DD  
Approved: 3  
Rev: 03  
Project no: BGWYR  
Approved: 03



**Legend** (external work / site plan)  
note: drawing may not contain all items listed below

- ex contours & banking line  
existing trees to be retained  
existing trees to be removed  
proposed new trees

ex.RL00.00 → existing levels  
RL00.00 → proposed levels

+39.000 proposed spot levels (Rf)  
1m easement to drain water

ac air conditioner condenser  
acc accessible  
adhc ageing, disability & home care  
ap access panel  
bal(1) balustrade (type)  
bfc broom finished concrete  
boe brick on edge  
bol bollard  
cc(1) coloured concrete (type)  
cft(1) ceramic floor tile (type)  
cl clothes line  
col column  
dp downpipe  
drp doorpost  
ex existing  
fb(1) facebrick work (type)  
fll finished floor level  
fll(1) fence (type)  
gb garbage bin  
gt gate  
gtd grated drain  
hr(1) handrail (type)  
ht hose tap  
hwu hot water unit  
hyd hydrant  
kr kerb ramp  
lb letter box  
ofc off form concrete  
pos private open space  
pmp permeable paving  
pp power pole  
rw(1) retaining wall (type)  
rwo rainwater outlet  
rwt rainwater tank  
sfc steel float concrete  
sfl structural floor level  
swp storm water pit  
tfc trowel finished concrete  
tgsi tactile ground surface indicator  
tow top of wall  
wlc wood float concrete  
ws wheel stop

note:  
1. Where Grates are used in the accessible path of travel. Circular openings maximum of 13mm in diameter. Slotted openings maximum of 13mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel.

01 Site & External Works Plan - First Floor  
1:100

02 18/12/23 Part 5 Issue  
02 27/9/23 Part 5 Issue  
01 27/9/23 Part 5 Issue

Rev Date Issue  
do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 1683

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:  
Stanton Dahl Architects

Project:  
Multi Dwelling Housing Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Site & External Works Plan - First Floor

Status: Part 5 Issue  
Date: 19/2/24  
Stage: DD  
Drawing: DA05  
Scale: 1:100 @ AI  
Draws: DD  
Sheet: 6 of 18  
S/d job no: 2873.23  
Checked: DD  
Rev: 3  
Project no: BGWYR  
Approved: 03

File: 2873.23\_70-72 Gordon St, South Granville AC26  
Plotted: 19/2/24 11:28 am

0008163840 16 Feb 2024  
Assessor: Owen Gorman  
Accreditation No. (CAN)131645  
Address: 70-72 Gordon Ave., South Granville, NSW, 2142.  
bstar.com.au

0 1000 2000 3000 4000 5000 10 000  
scale: 1:100 @A1

01 Site & External Works Plan - First Floor  
1:100

02 18/12/23 Part 5 Issue  
02 27/9/23 Part 5 Issue  
01 27/9/23 Part 5 Issue

Rev Date Issue  
do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
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Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:  
Stanton Dahl Architects

Project:  
Multi Dwelling Housing Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Site & External Works Plan - First Floor

Status: Part 5 Issue  
Date: 19/2/24  
Stage: DD  
Drawing: DA05  
Scale: 1:100 @ AI  
Draws: DD  
Sheet: 6 of 18  
S/d job no: 2873.23  
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01 Site & External Works Plan - First Floor  
1:100

02 18/12/23 Part 5 Issue  
02 27/9/23 Part 5 Issue  
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Rev Date Issue  
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Multi Dwelling Housing Development (8 Townhouses)  
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Title:  
Site & External Works Plan - First Floor

Status: Part 5 Issue  
Date: 19/2/24  
Stage: DD  
Drawing: DA05  
Scale: 1:100 @ AI  
Draws: DD  
Sheet: 6 of 18  
S/d job no: 2873.23  
Checked: DD  
Rev: 3  
Project no: BGWYR  
Approved: 03

File: 2873.23\_70-72 Gordon St, South Granville AC26  
Plotted: 19/2/24 11:28 am

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01 Site & External Works Plan - First Floor  
1:100

02 18/12/23 Part 5 Issue  
02 27/9/23 Part 5 Issue  
01 27/9/23 Part 5 Issue

Rev Date Issue  
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Project Architect:  
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Ph: (02) 8544 1683

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:  
Stanton Dahl Architects

Project:  
Multi Dwelling Housing Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Site & External Works Plan - First Floor

Status: Part 5 Issue  
Date: 19/2/24  
Stage: DD  
Drawing: DA05  
Scale: 1:100 @ AI  
Draws: DD  
Sheet: 6 of 18  
S/d job no: 2873.23  
Checked: DD  
Rev: 3  
Project no: BGWYR  
Approved: 03

File: 2873.23\_70-72 Gordon St, South Granville AC26  
Plotted: 19/2/24 11:28 am

0008163840 16 Feb 2024  
Assessor: Owen Gorman  
Accreditation No. (CAN)131645  
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01 Site & External Works Plan - First Floor  
1:100

02 18/12/23 Part 5 Issue  
02 27/9/23 Part 5 Issue  
01 27/9/23 Part 5 Issue

Rev Date Issue  
do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 1683

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:  
Stanton Dahl Architects

Project:  
Multi Dwelling Housing Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Site & External Works Plan - First Floor

Status: Part 5 Issue  
Date: 19/2/24  
Stage: DD  
Drawing: DA05  
Scale: 1:100 @ AI  
Draws: DD  
Sheet: 6 of 18  
S/d job no: 2873.23  
Checked: DD  
Rev: 3  
Project no: BGWYR  
Approved: 03

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Plotted: 19/2/24 11:28 am

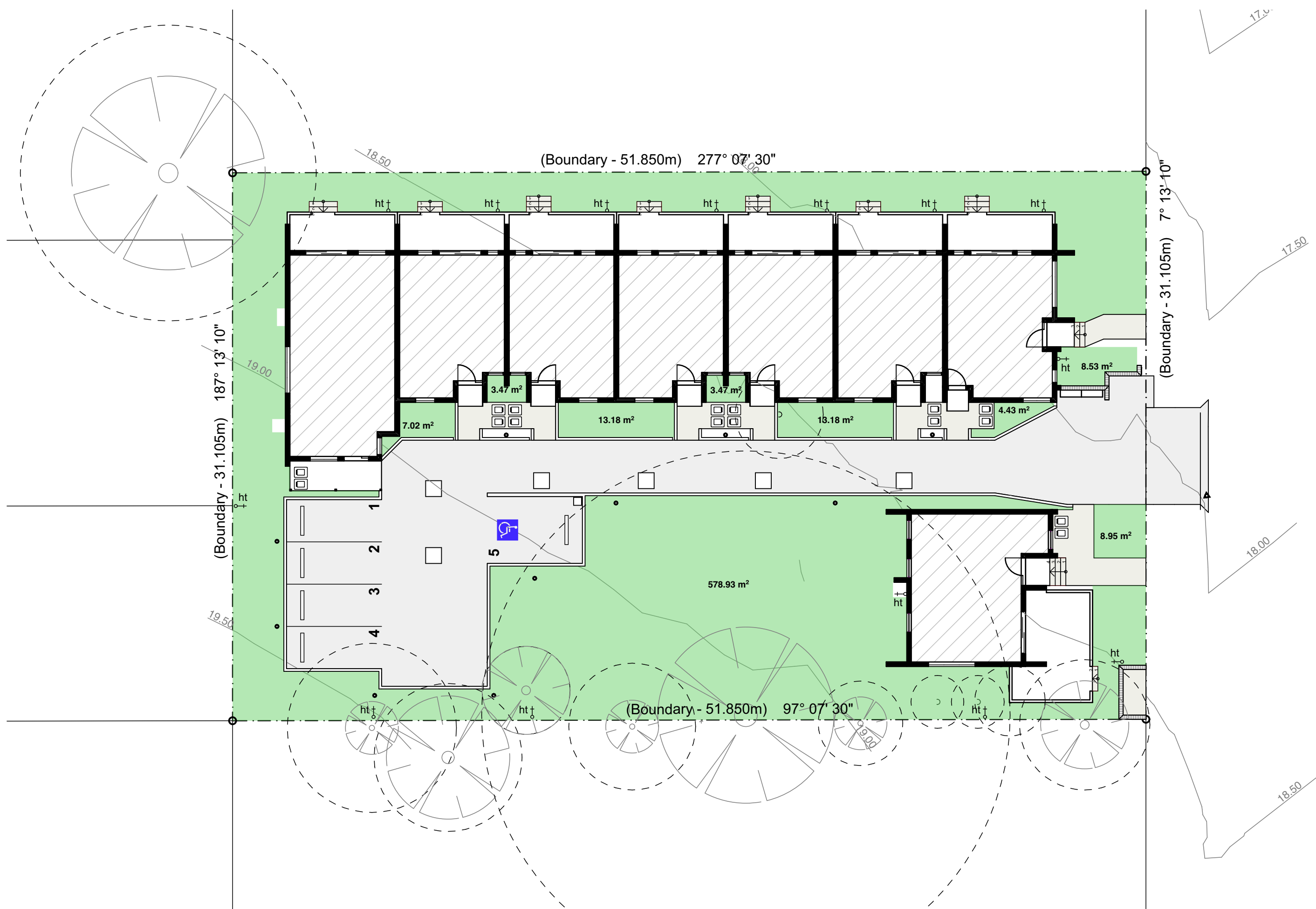
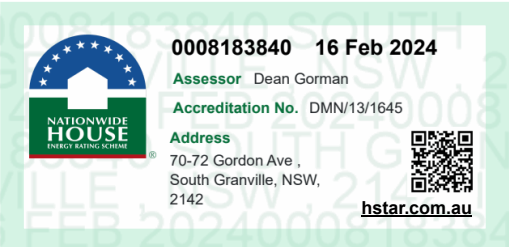
0008163840 16 Feb 2024  
Assessor: Owen Gorman  
Accreditation No. (CAN)131645  
Address: 70-72 Gordon Ave., South Granville, NSW, 2142.  
bstar.com.au

Legend

note: drawing may not contain all items listed below

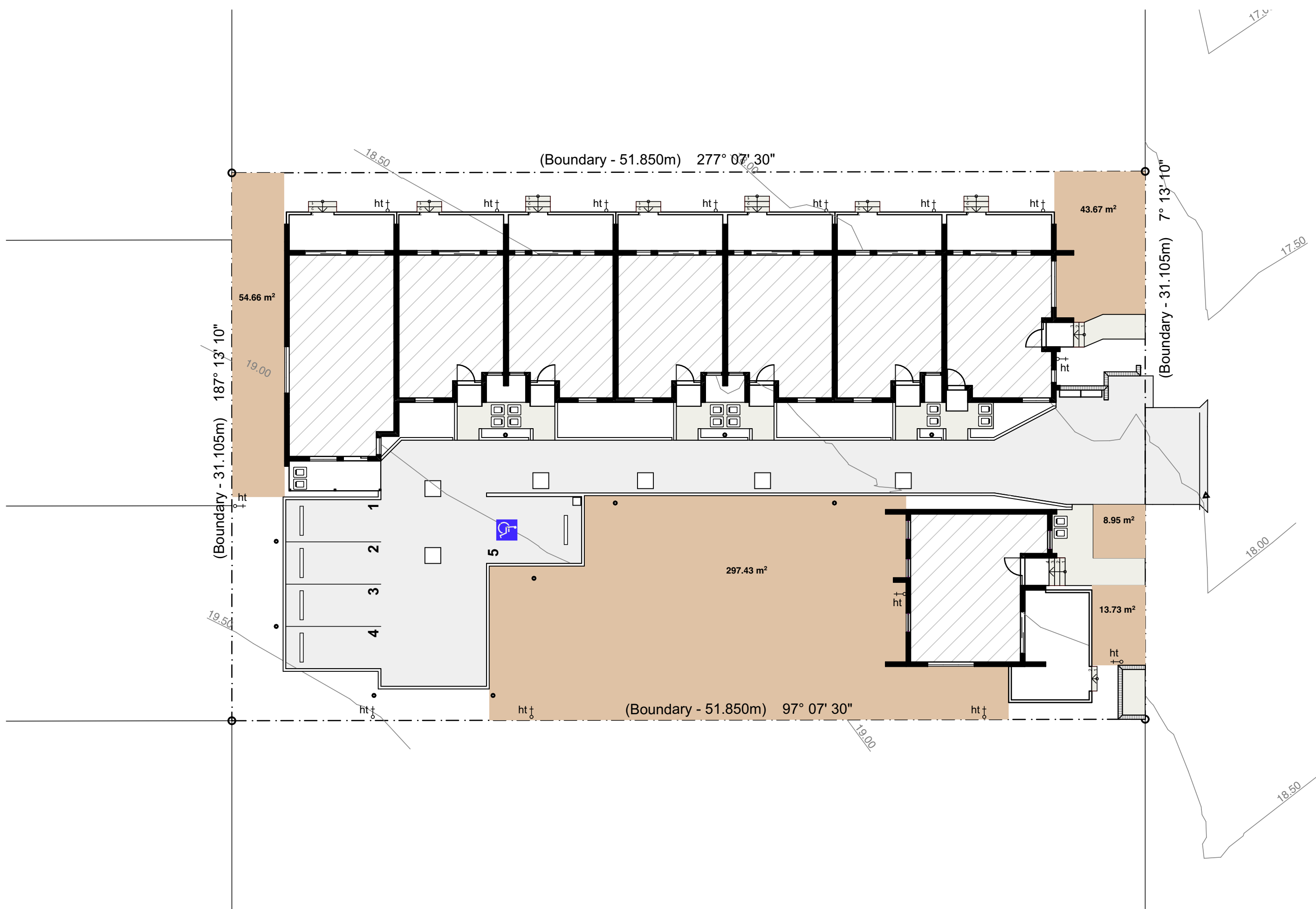
note:  
Green area indicates  
landscape area  
Total: 641.15m2

note:  
Brown area indicates deep soil  
zone (min. dim 3x3m)  
Total: 418.44m2



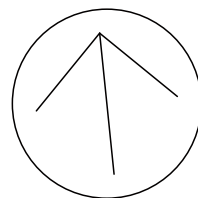
01

Landscape Diagram  
1:200



02

Deep Soil Diagram  
1:200



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue

Rev	Date	Issue
do not scale drawings, check all dimensions on site, figured dimensions take precedence.		

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 5300

Landscape Consultant:  
Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:

Greenview  
Ph: (02) 8544 1683

Electrical Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:

Stanton  
Dahl  
Architects

Project:

Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:

Landscape & Deep Soil Diagrams

File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted: 19/2/24  
11:28 am

Status: Part 5 Issue

Date: 19/2/24  
Stage: DD  
Drawing: DA06

Scale: 1:100 @ A1  
Drawn: DD  
Checked: DD  
Sheet: 7 of 18

S/d job no: BGWVR  
Approved: 3  
Rev: 03



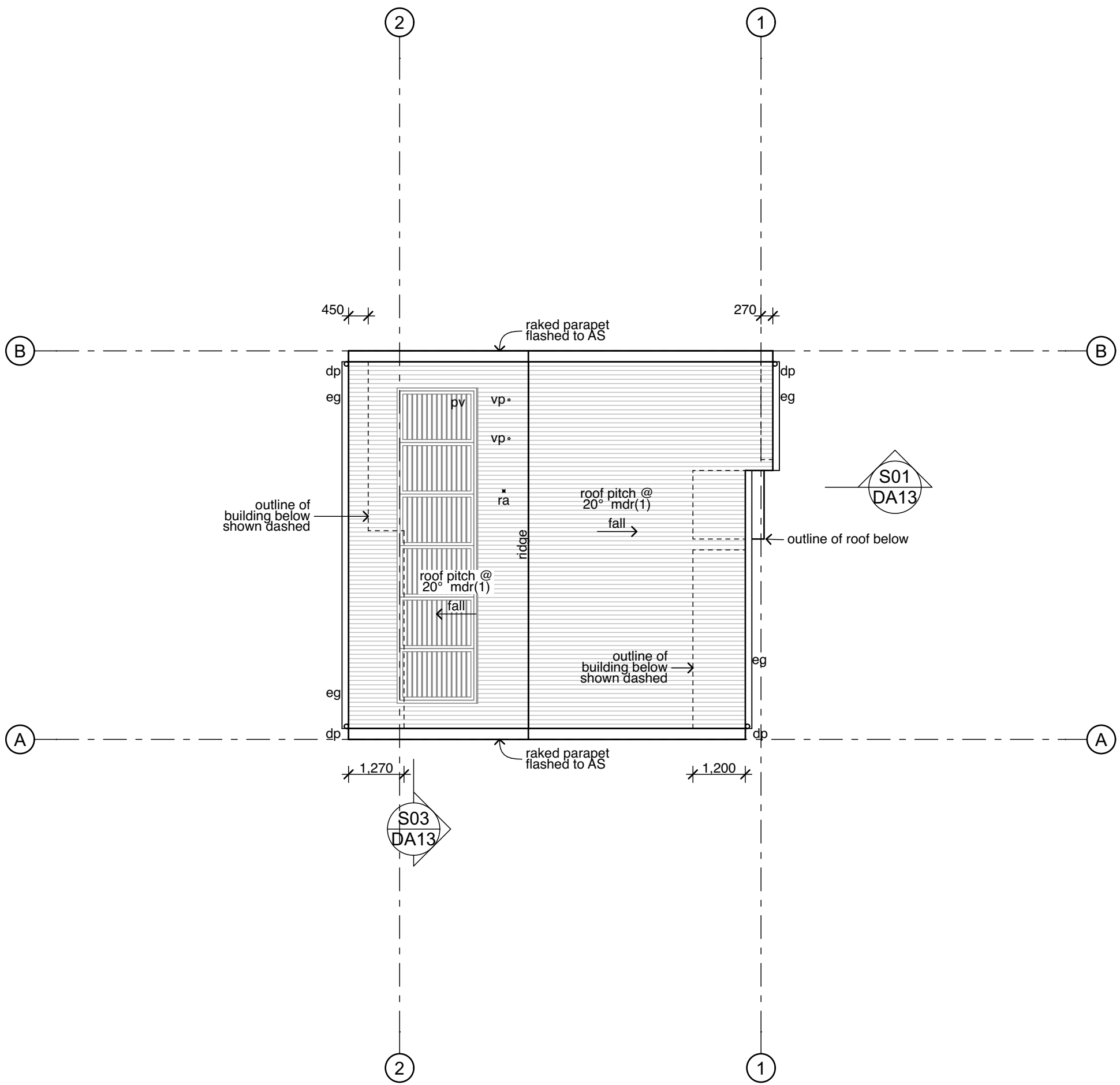
Legend	(floor plans)
note: drawing may not contain all items listed below	
(DO)	door numbers (as scheduled) (prefix ex. for existing door)
(WV)	window numbers (as scheduled) (prefix ex. for existing window)
(a) →	wall type (as scheduled)
ac	air conditioner condenser
acc	accessible
adhc	ageing, disability & home care
amb	ambulant
ap	access panel
bal(1)	balustrade (type)
bfc	broom finish concrete
bol	bollard
bcm	broom cupboard
bsn	basin
ctf(1)	ceramic floor tile (type)
cj	control joint
cl	clothes line
col	column
comms	communication cabinet
cpt(1)	carpet (type)
ct	cooktop
dp	downpipe
drp	doorpost
edb	electrical distribution box
ex	existing
fb(1)	face brickwork (type)
fhr	fire hose reel
fm	floor mat
fp	feature panel
fs	fridge space
fw	floor waste
gbw	garbage bin
gt	gate
gtd	grated drain
hr(1)	handrail (type)
ht	hose tap
hwu	hot water unit
hyd	hydrant
kr	kerb ramp
lb	letter box
lin	linen cupboard
mw	microwave
ofc	off form concrete
pmp	permeable paving
ps	privacy screen
ply	pantry
robe	wardrobe
rw(1)	retaining wall (type)
rwt	rainwater tank
snk	sink
sc	steel column
sfc	steel float concrete
shr	shower
sk	skylight/skytube
sl	sliding door
st	store
stp	stack pipe
sv(1)	sheet vinyl (type)
swp	storm water pit
td	timber deck
tgsl	tactile ground surface indicators
vp	vent pipe
wfc	wood float concrete
wrn	washing machine space
wo	wall oven
ws	wheel stop
wcs	window casing

(window & door schedule)

note:

- dimensions are typically to wall openings unless noted otherwise.
- all door/window openings are to be site measured prior to any fabrication of frames.
- check measure against structural layout.
- please read in combination with all other documentation and schedules. plans take priority on door swings.
- refer any discrepancies to the architect for further information.
- flyscreens to all operable windows unless specified.
- door sills and window sub sill as specified, and detailed in sections.
- all 870 door leaf or greater doors are to be supplied and installed to comply with AS1428.1 disabled access standard.
- door grilles have not been shown for clarity - refer to mechanical engineer's details.
- refer to specification for basis/ section) details of all external windows & doors.
- all existing doors nominated as undercut to be coordinated with mechanical engineer's documentation.
- colorbond preformed cover plate to all columns engaged to the glazing systems where necessary.
- refer to external finishes schedule for metal cladding.
- Operable windows: flyscreens and childproof key locks. Capable of being locked in closed position and provide safe ventilation locking points 100mm from closed position

- Legend (roof plans)  
note: drawing may not contain all items listed below
- ap access panel
  - bc barge capping
  - dp downpipe
  - eg eaves gutter
  - ex existing
  - fg flashing
  - gu gutter
  - mdr metal deck roof sheeting
  - of overflow
  - pc parapet capping
  - pv photovoltaic cells
  - ra roof anchor
  - rrc roof ridge capping
  - rwh rainwater head
  - sk skylight/skytube
  - tf tray flashing
  - vg valley gutter
  - vof vertical overflow
  - vp vent pipe
- note:
- provide flashings and cappings to all roof penetrations in accordance with roof manufacturers details
  - gutter on brackets as specified.
  - roof safety system to be designed by a suitable qualified professional and installed, refer to specification
  - provide gutter-guards to all guttering throughout refer to reference specification for group homes' construction adhc august 2012
  - metal roof sheeting to comply with AS1562.1
  - gutters, downpipes and flashing must comply with AS/NZ 2179.1 and AS1273 and not contain any lead for potable water supplies. The roof water is not proposed to be used for potable water supply.
  - down pipe sizes are required to satisfy the requirements of BCA 3.5.2.5
  - the fire hazard properties of materials used must comply with the following:  
(a) gasketing-type materials used in the roof must have a flammability index not greater than 5.  
(b) flexible ductwork used for the transfer of products initiating from a heat source that contains a flame must comply with the fire hazard properties set out in AS4254.



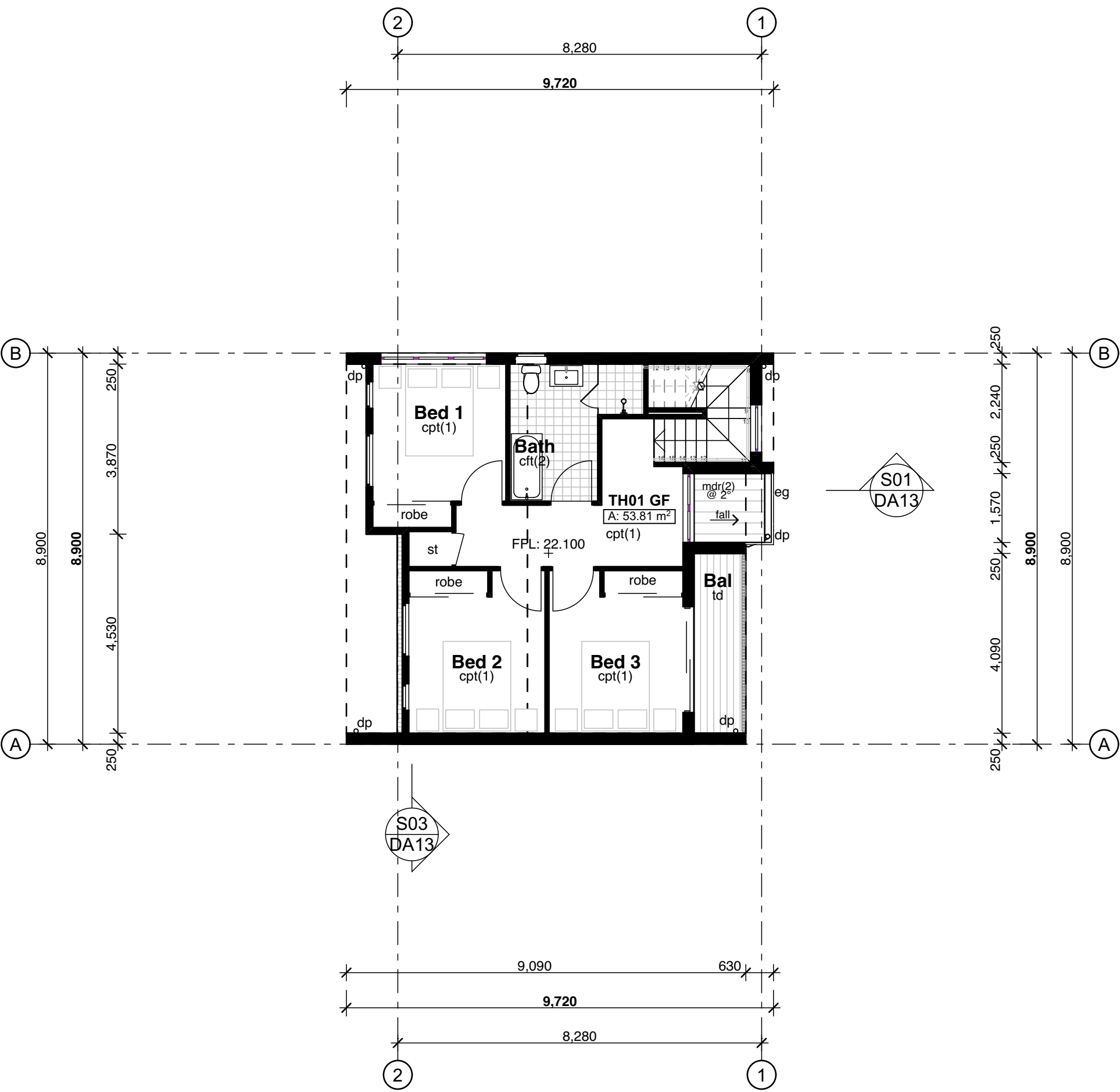
03 Roof Plan (Block A)  
1:100

GFA	Area
Ground	58.87
First Floor	53.81
	109.68m <sup>2</sup>

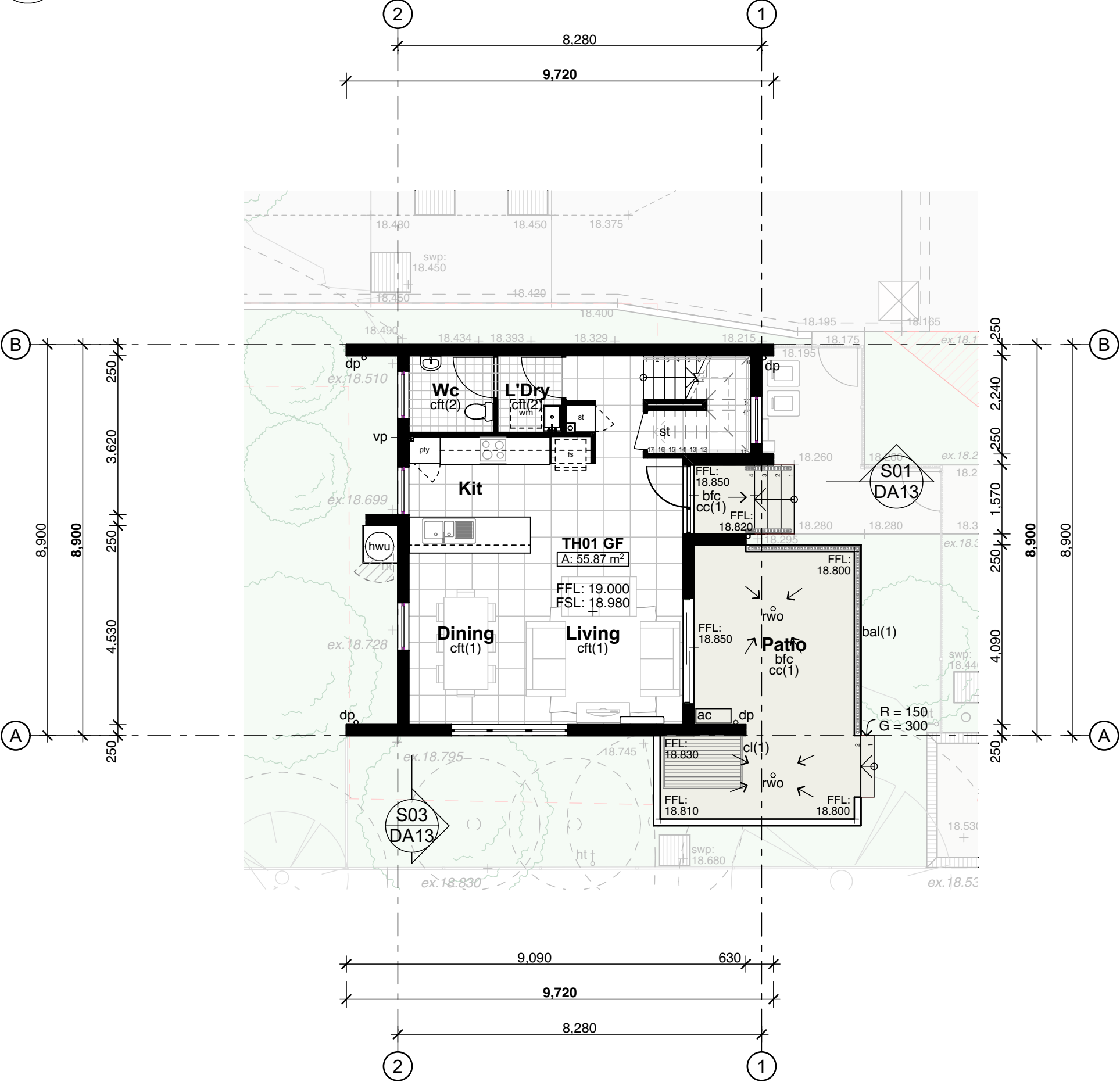
DWELLING AREAS	Number	Type*	Beds	Area* (m <sup>2</sup> )	POS (m2)
	1	General	3	109.68	80.41
	2	General	2	84.85	74.55
	3	General	2	79.93	27.72
	4	General	2	79.93	27.72
	5	General	2	79.93	27.72
	6	General	2	79.93	27.72
	7	General	2	79.93	27.72
	8	General	3	104.32	77.58

\*area = measured to internal face of external wall including internal walls.

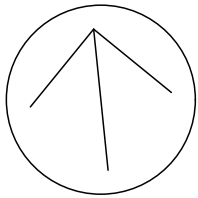
\*area = measured to internal face of external wall including internal walls.



02 First Floor Plan (Block A)  
1:100



01 Ground Floor Plan (Block A)  
1:100



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue
Rev	Date	Issue
do not scale drawings. check all dimensions on site. figured dimensions take precedence.		

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 5300

Landscape Consultant:  
Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1083

Electrical Consultant:  
Greenview  
Ph: (02) 8544 1083

Architect:

Project:  
Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

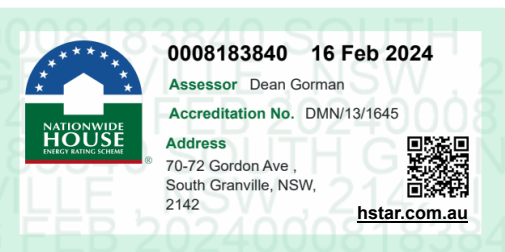
Title:  
Floor & Roof Plans (Block A)

File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted:  
19/2/24  
11:28 am

Status: Part 5 Issue

Date:	19/2/24	Scale:	1:100 @ A1	S1/d job no:	2873.23	Project no:	BGWVR
Stage:	DD	Draws:	DD	Checked:	3	Approved:	
Drawing:	DA07	Sheet:	8	Rev:	03		





*Valerda JPL*

Stanton Dahl & Associates Pty Limited, ABN 32 002 261 396  
Nominated Architects : D.P Stanton 3642, S.M Evans 7686  
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Legend (floor plans)

note: drawing may not contain all items listed below

DO1 door numbers (as scheduled)  
(prefix ex. for existing door)

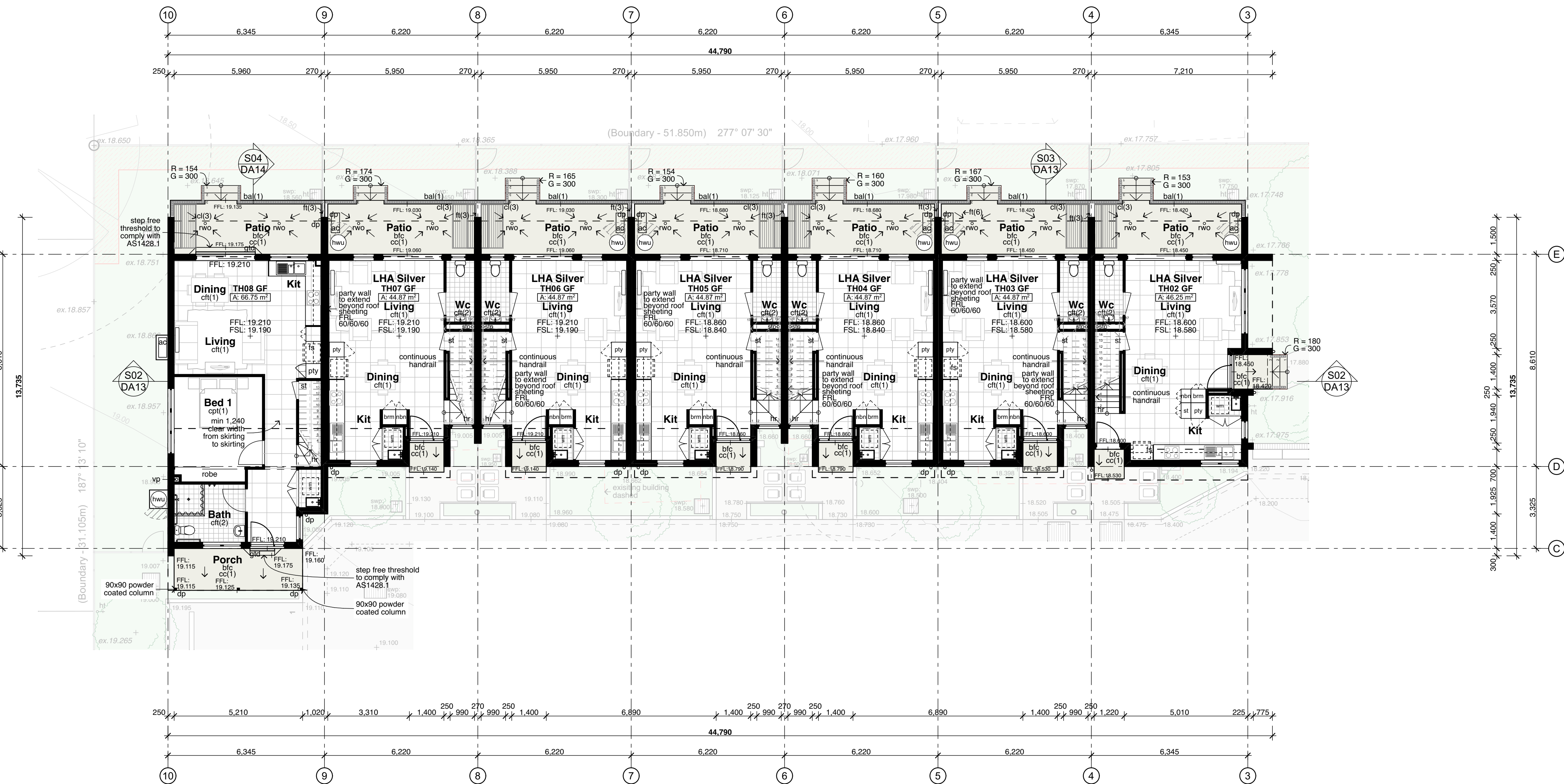
WO1 window numbers (as scheduled)  
(prefix ex. for existing window)

(a) → wall type (as scheduled)

ac air conditioner condenser  
acc accessible  
adhc ageing, disability & home care  
amb ambulant  
ap access panel  
bal(1) balustrade (type)  
bfc broom finish concrete  
bol bollard  
brn broom cupboard  
bsn basin  
cft(1) ceramic floor tile (type)  
cj control joint  
cl clothes line  
col column  
comms communication cabinet  
cpt(1) carpet (type)  
ct cooktop  
dp downpipe  
dpp doopost  
esb electrical distribution box  
ex existing  
fb(1) face brickwork (type)  
fhr fire hose reel  
fm floor mat  
fp feature panel  
fs fridge space  
fw floor waste  
gbw garbage bin  
gt gate  
gtd grated drain  
hrl(1) handrail (type)  
ht hose tap  
hwt hot water unit  
hyd hydrant  
kr kerb ramp  
lb letter box  
lin linen cupboard  
mw microwave  
ofc off form concrete  
pmp permeable paving  
ps privacy screen  
ply pantry  
robe wardrobe  
rw(1) retaining wall (type)  
rwt rainwater tank  
snk sink  
sc steel column  
sfc steel float concrete  
shr shower  
sk skylight/skytube  
sl sliding door  
st store  
stp stack pipe  
sv(1) sheet vinyl (type)  
swp storm water pit  
td timber deck  
tgsi tactile ground surface indicators  
vp vent pipe  
wfc wood float concrete  
wm washing machine space  
wo wall oven  
ws wheel stop  
wcs window casing

note: (window & door schedule)

- dimensions are typically to wall openings unless noted otherwise.
- all door/window openings are to be site measured prior to any fabrication of frames.
- check measure against structural layout.
- please read in combination with all other documentation and schedules. plans take priority on door swings.
- refer any discrepancies to the architect for further information.
- flyscreens to all operable windows unless specified.
- door sills and window sub sill as specified, and detailed in sections.
- all 870 door leaf or greater doors are to be supplied and installed to comply with AS1428.1 disabled access standard.
- door grilles have not been shown for clarity - refer to mechanical engineer's details.
- refer to specification for basis/ section j details of all external windows & doors.
- all existing doors nominated as undercut to be coordinated with mechanical engineer's documentation.
- colorbond preformed cover plate to all columns engaged to the glazing systems where necessary.
- refer to external finishes schedule for metal cladding.
- Operable windows: flyscreens and childproof key locks. Capable of being locked in closed position and provide safe ventilation locking points 100mm from closed position

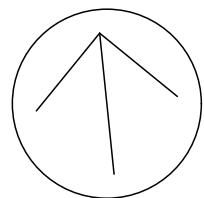


01 Ground Floor Plan (Block B)  
1:100

GFA	Area
Ground	337.34
First Floor	251.49
	588.83m <sup>2</sup>

DWELLING AREAS	Number	Type*	Beds	Area* (m <sup>2</sup> )	POS (m <sup>2</sup> )
	1	General	3	109.68	80.41
	2	General	2	84.85	74.55
	3	General	2	79.93	27.72
	4	General	2	79.93	27.72
	5	General	2	79.93	27.72
	6	General	2	79.93	27.72
	7	General	2	79.93	27.72
	8	General	3	104.32	77.58

\*area = measured to internal face of external wall including internal walls.



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue

Rev	Date	Issue
		do not scale drawings. check all dimensions on site. figured dimensions take precedence.

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 1683  
  
Landscape Consultant:  
Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683  
  
Electrical Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:

Stanton Dahl Architects

Project:  
Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Ground Floor Plan (Block B)

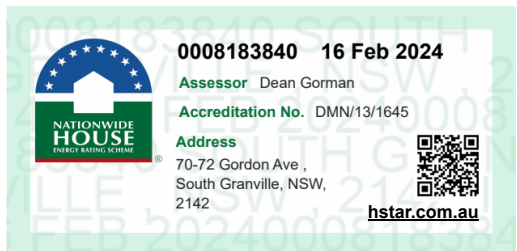
File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted: 19/2/24  
11:28 am

Status: Part 5 Issue

Date	Scale	S/D job no.	Project no.
19/2/24	1:100 @ A1	2873.23	BGWR
Stage	Drawn	Checked	Approved
DD	DD	3	
Sheet	Sheet	Rev:	

DA08 9 of 18 03





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Nominated Architects : D.P Stanton 3642, S.M Evans 7686  
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Legend (floor plans)

note: drawing may not contain all items listed below

(DO) door numbers (as scheduled)  
(prefix ex. for existing door)

(WO) window numbers (as scheduled)  
(prefix ex. for existing window)

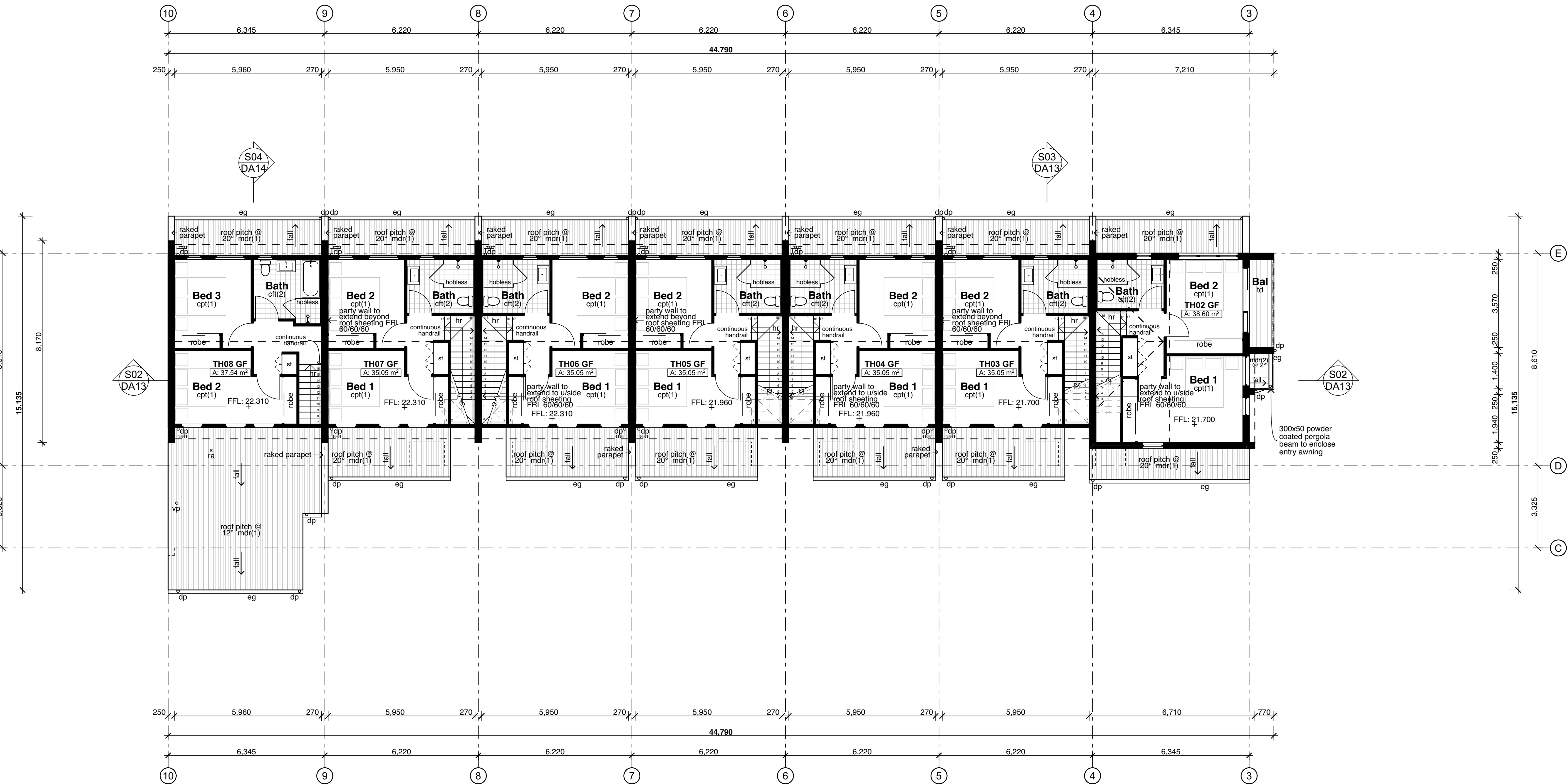
(a) → wall type (as scheduled)

ac air conditioner condenser  
acc accessible  
adhc ageing, disability & home care  
amb ambulant  
ap access panel  
bal(1) balustrade (type)  
bfc broom finish concrete  
bol bollard  
brn broom cupboard  
bsn basin  
cft(1) ceramic floor tile (type)  
cj control joint  
cl clothes line  
col column  
comms communication cabinet  
cpt(1) carpet (type)  
ct cooktop  
dp downpipe  
dpp doorpost  
edb electrical distribution box  
ex existing  
fb(1) face brickwork (type)  
fhr fire hose reel  
fm floor mat  
fp feature panel  
fs fridge space  
fw floor waste  
gb garbage bin  
gt gate  
gtd grated drain  
hr(1) handrail (type)  
ht hose tap  
hwt hot water unit  
hydr hydrant  
kr kerb ramp  
lb letter box  
lin linen cupboard  
mw microwave  
ofc off form concrete  
pmp permeable paving  
ps privacy screen  
ply pantry  
robe wardrobe  
rw(1) retaining wall (type)  
rwt rainwater tank  
snk sink  
sc steel column  
sfc steel float concrete  
shr shower  
sk skylight/skytube  
sl sliding door  
st store  
stp stack pipe  
sv(1) sheet vinyl (type)  
swp storm water pit  
td timber deck  
tgsi tactile ground surface indicators  
vp vent pipe  
wfc wood float concrete  
wm washing machine space  
wo wall oven  
ws wheel stop  
wcs window casing

(window & door schedule)

note:

- dimensions are typically to wall openings unless noted otherwise.
- all door/window openings are to be site measured prior to any fabrication of frames.
- check measure against structural layout.
- please read in combination with all other documentation and schedules. plans take priority on door swings.
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- door grilles have not been shown for clarity - refer to mechanical engineer's details.
- refer to specification for basis/ section j details of all external windows & doors.
- all existing doors nominated as undercut to be coordinated with mechanical engineer's documentation.
- colorbond preformed cover plate to all columns engaged to the glazing systems where necessary.
- refer to external finishes schedule for metal cladding.
- Operable windows: flyscreens and childproof key locks. Capable of being locked in closed position and provide safe ventilation locking points 100mm from closed position

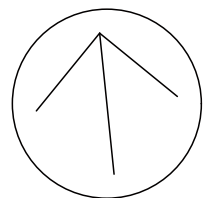


01 First Floor Plan (Block B)  
1:100

GFA	Area
Ground	337.34
First Floor	251.49
	588.83m2

DWELLING AREAS	Number	Type*	Beds	Area* (m <sup>2</sup> )	POS (m2)
	2	General	3	109.68	80.41
	2	General	2	84.85	74.55
	3	General	2	79.93	27.72
	4	General	2	79.93	27.72
	5	General	2	79.93	27.72
	6	General	2	79.93	27.72
	7	General	2	79.93	27.72
	8	General	3	104.32	77.58

\*area = measured to internal face of external wall including internal walls.



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue

Rev	Date	Issue
		do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 5200

Landscape Consultant:  
Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:

Greenview  
Ph: (02) 8544 1683

Electrical Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:

Stanton Dahl Architects

Project:

Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:

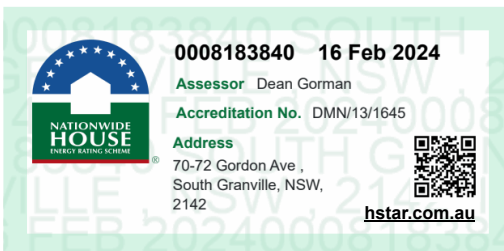
First Floor Plan (Block B)

File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted: 19/2/24  
11:28 am

Status: Part 5 Issue

Date	Scale	S/d job no.	Project no.
19/2/24	1:100 @ AI	2873.23	BGWR
Stage:	Drawn:	Checked:	Approved:
DD	DD	3	
Drawing:	Sheet:	Rev:	
DA09	10	of 18	03



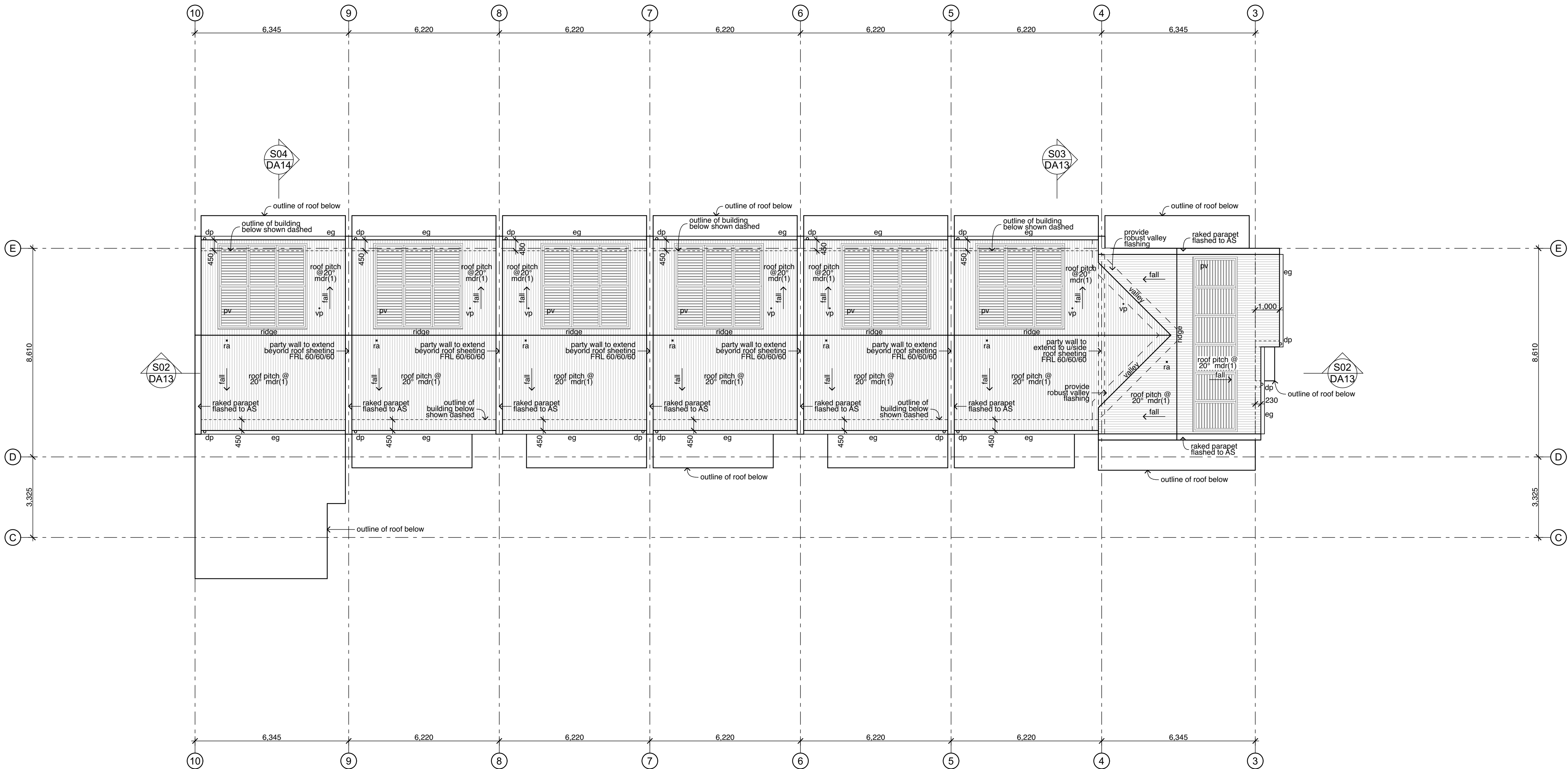
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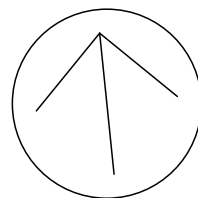
Stanton Dahl & Associates Pty Limited, ABN 32 002 261 396  
Nominated Architects : D.P Stanton 3642, S.M Evans 7686  
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**Legend** (roof plans)  
note: drawing may not contain all items listed below  
ap access panel  
bc barge capping  
dp downpipe  
eg eaves gutter  
ex existing  
fg flashing  
gu gutter  
mdr metal deck roof sheeting  
of overflow  
pc parapet capping  
pv photovoltaic cells  
ra roof anchor  
rrc roof ridge capping  
rwh rainwater head  
sk skylight/skytube  
tf tray flashing  
vg valley gutter  
vof vertical overflow  
vp vent pipe

note:  
1. provide flashings and cappings to all roof penetrations in accordance with roof manufacturers details  
2. gutter on brackets as specified.  
3. roof safety system to be designed by a suitable qualified professional and installed, refer to specification  
4. provide gutter-guards to all guttering throughout, refer to reference specification for 'group homes' construction adhc august 2012  
5. metal roof sheeting to comply with AS1562.1  
6. gutters, downpipes and flashing must comply with AS/NZ 2179.1 and AS1273 and not contain any lead for potable water supplies. The roof water is not proposed to be used for potable water supply.  
7. down pipe sizes are required to satisfy the requirements of BCA 5.5.2.5  
8. the fire hazard properties of materials used must comply with the following:  
(a) sacking-type materials used in the roof must have a flammability index not greater than 5.  
(b) flexible ductwork used for the transfer of products initiating from a heat source that contains a flame must comply with the fire hazard properties set out in AS4254.



**01 Roof Plan (Block B)**  
1:100



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue
Rev	Date	Issue

do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
**Stanton Dahl Architects**  
Ph: (02) 8544 5200  
  
Landscape Consultant:  
**Botanique Design**  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
**Greenview**  
Ph: (02) 8544 1683  
  
Electrical Consultant:  
**Greenview**  
Ph: (02) 8544 1683

Architect:

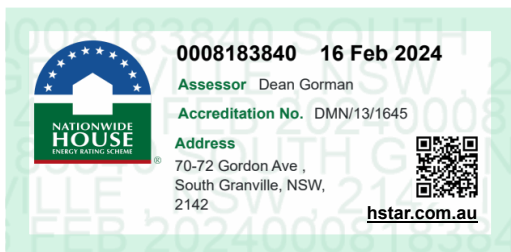
**Stanton Dahl Architects**

Project:  
**Multi Dwelling Housing Development (8 Townhouses)**  
at  
**70-72 Gordon Avenue, Granville**

Title:  
**Roof Plan (Block B)**  
  
File:  
2873.23 70-72 Gordon St, South Granville AC26

Plotted: 19/2/24 11:28 am

Status: **Part 5 Issue**  
Date: 19/2/24  
Stage: DD  
Drawing: DA10  
Scale: 1:100 @ A1  
Draws: DD  
Sheet: 11  
S/d job no: 2873.23  
Checked: DD  
Rev: 3  
Project no: BGWVR  
Approved: 11 of 18  
Rev: 03





- Legend** (elevation & sections)  
note: drawing may not contain all items listed below
- ac air conditioner condenser
  - ag ag pipe
  - alw aluminium framed window
  - bal(1) balustrade (type)
  - bc barge capping
  - bg box gutter
  - bhc brick header course
  - boe brick on edge
  - bws brickwork sill
  - cc compressed fibre cement
  - cj control joint
  - conc. concrete
  - cs coved skirting
  - dp downpipe
  - drh door head
  - eg eaves gutter
  - egl existing ground line
  - ex. existing
  - f fixed sash window
  - fb(1) face brickwork (type)
  - fc(1) finished ceiling level
  - ffi finished floor level
  - fp feature panel
  - gl ground line
  - gt gate
  - hr(1) handrail (type)
  - hvu hot water unit
  - ip insulated panel
  - lv(f) fixed louvres
  - lv(o) operable louvres
  - mc(1) metal cladding (type)
  - mdr metal deck roof
  - otc off form concrete
  - p(1) paint (type)
  - pap(1) perforated acoustic panel (type)
  - pbd plasterboard
  - ps privacy screen
  - pv photovoltaic cells
  - rc rendered concrete
  - rms raked metal soffit
  - rp(1) render & paint finish (type)
  - rs roller shutter
  - rw retaining wall
  - rwh rainwater head
  - s sliding sash window
  - sc steel column
  - sk skylight/skytube
  - sl sliding door
  - ss(1) sun shade (type)
  - ts timber skirting
  - wcs window casing

- note:  
1. all handrails, balustrades & louvres shown  
indicatively only. refer to detail drawings for  
clarity.  
2. refer to engineer's drawings for final co-  
ordination.  
3. acoustic panel edges at all major joints (solid  
line) & all exposed edges including top  
(adjoining s/s sill) & bottom (adjoining skirting)  
are to include 12x12mm aluminium angle.



Face Brick - fb(1)  
Light Brick



Face Brick - fb(2)  
Light Brick



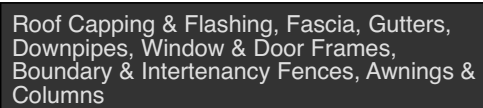
Fibre Cement Sheet - fc(1)  
Light Grey



Metal Deck Roofing - mdr(1)  
Dark Grey



Metal Deck Roofing - mdr(2)  
Dark Grey



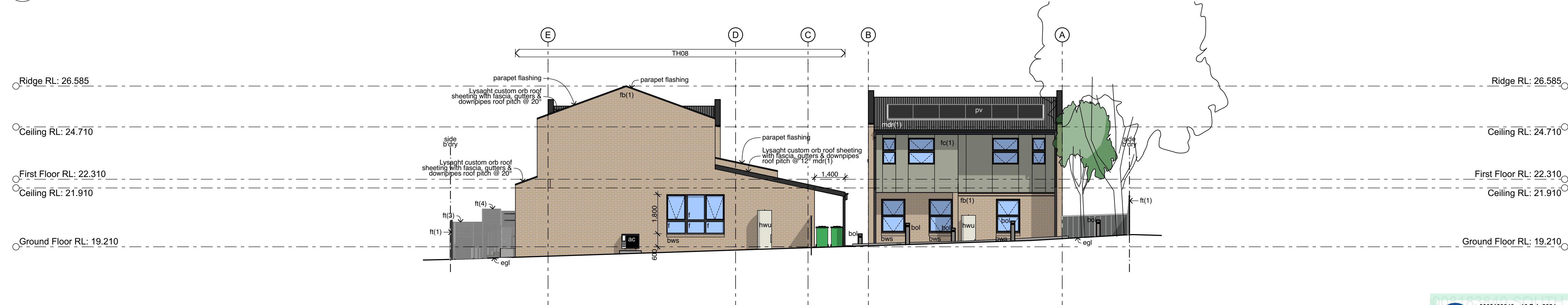
Dark Grey



**E01 East Elevation (Gordon Avenue)**  
1:100



**E02 South Elevation**  
1:100



**E03 West Elevation**  
1:100



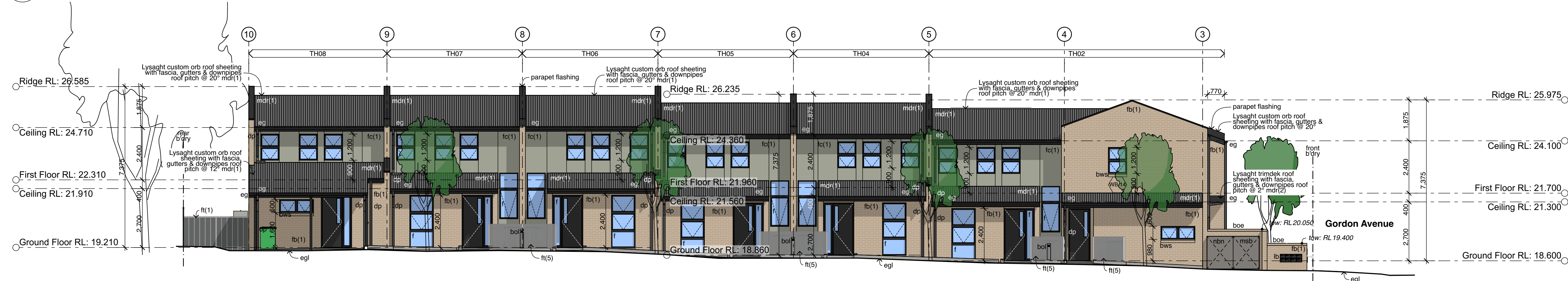
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scale: 1:100 @A1

Stanton Dahl & Associates Pty Limited, ABN 32 002 261 396  
Nominated Architects : D.P Stanton 3642, S.M Evans 7686  
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- Legend** (elevation & sections)  
note: drawing may not contain all items listed below
- ac air conditioner condenser
  - ag pipe
  - alw aluminium framed window
  - bal(1) balustrade (type)
  - bc barge capping
  - bg box gutter
  - bhc brick header course
  - boe brick on edge
  - bws brickwork sill
  - cfc compressed fibre cement
  - cj control joint
  - conc. concrete
  - cs coved skirting
  - dp downpipe
  - drh door head
  - eg eaves gutter
  - egl existing ground line
  - ex. existing
  - f fixed sash window
  - fb(1) face brickwork (type)
  - fc(1) finished ceiling level
  - ffi finished floor level
  - fp feature panel
  - gl ground line
  - gt gate
  - hr(1) handrail (type)
  - hwu hot water unit
  - ip insulated panel
  - lv(f) fixed louvres
  - lv(o) operable louvres
  - mc(1) metal cladding (type)
  - mdr metal deck roof
  - otc off form concrete
  - p(1) paint (type)
  - pap(1) perforated acoustic panel (type)
  - pbd plasterboard
  - ps privacy screen
  - pv photovoltaic cells
  - rc rendered concrete
  - rms raked metal soffit
  - rp(1) render & paint finish (type)
  - rs roller shutter
  - rw retaining wall
  - rwh rainwater head
  - s sliding sash window
  - sc steel column
  - sk skylight/skytube
  - sl sliding door
  - ss(1) sun shade (type)
  - ts timber skirting
  - wcs window casing
- note:  
1. all handrails, balustrades & louvres shown indicatively only, refer to detail drawings for clarity.  
2. refer to engineer's drawings for final co-ordination.  
3. acoustic panel edges at all major joints (solid line) & all exposed edges including top (adjoining s/s sill) & bottom (adjoining skirting) are to include 12x12mm aluminium angle.

**E04 North Elevation**  
1:100



**E05 South Elevation (Block B)**  
1:100



**E06 North Elevation (Block A)**  
1:100



Face Brick - fb(1)  
Light Brick



Face Brick - fb(2)  
Light Brick



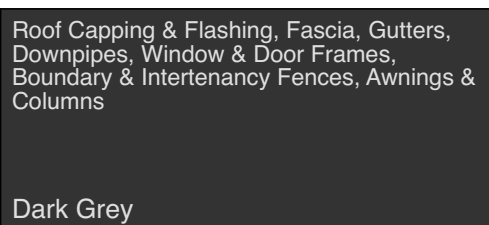
Fibre Cement Sheet - fc(1)  
Light Grey



Metal Deck Roofing - mdr(1)  
Dark Grey



Metal Deck Roofing - mdr(2)  
Dark Grey



Dark Grey



- Legend** (elevation & sections)  
note: drawing may not contain all items listed below
- ac air conditioner condenser
  - ag pipe
  - alw aluminium framed window
  - bal(1) balustrade (type)
  - bc barge capping
  - bg box gutter
  - bhc brick header course
  - boe brick on edge
  - bws brickwork sill
  - cc compressed fibre cement
  - cj control joint
  - conc. concrete
  - cs coved skirting
  - dp downpipe
  - drh door head
  - eg eaves gutter
  - egl existing ground line
  - ex. existing
  - f fixed sash window
  - fb(1) face brickwork (type)
  - fc(1) finished ceiling level
  - ffl finished floor level
  - fp feature panel
  - gl ground line
  - gt gate
  - hr(1) handrail (type)
  - hvu hot water unit
  - ip insulated panel
  - lv(f) fixed louvers
  - lv(o) operable louvers
  - mc(1) metal cladding (type)
  - mdr metal deck roof
  - otc off form concrete
  - p(1) paint (type)
  - pap(1) perforated acoustic panel (type)
  - pbd plasterboard
  - ps privacy screen
  - pv photovoltaic cells
  - rc rendered concrete
  - rms raked metal soffit
  - rp(1) render & paint finish (type)
  - rs roller shutter
  - rw retaining wall
  - rwh rainwater head
  - s sliding sash window
  - sc steel column
  - sk skylight/skytube
  - sl sliding door
  - ss(1) sun shade (type)
  - ts timber skirting
  - wcs window casing

- note:  
1. all handrails, balustrades & louvers shown  
indicatively only, refer to detail drawings for  
clarity.  
2. refer to engineer's drawings for final co-  
ordination.  
3. acoustic panel edges at all major joints (solid  
line) & all exposed edges including top  
(adjoining s/s sill) & bottom (adjoining skirting)  
are to include 12x12mm aluminium angle.



Face Brick - fb(1)  
Light Brick



Face Brick - fb(2)  
Light Brick



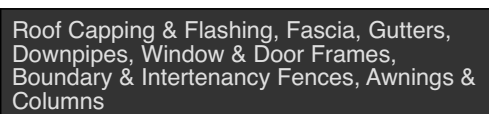
Fibre Cement Sheet - fc(1)  
Light Grey



Metal Deck Roofing - mdr(1)  
Dark Grey



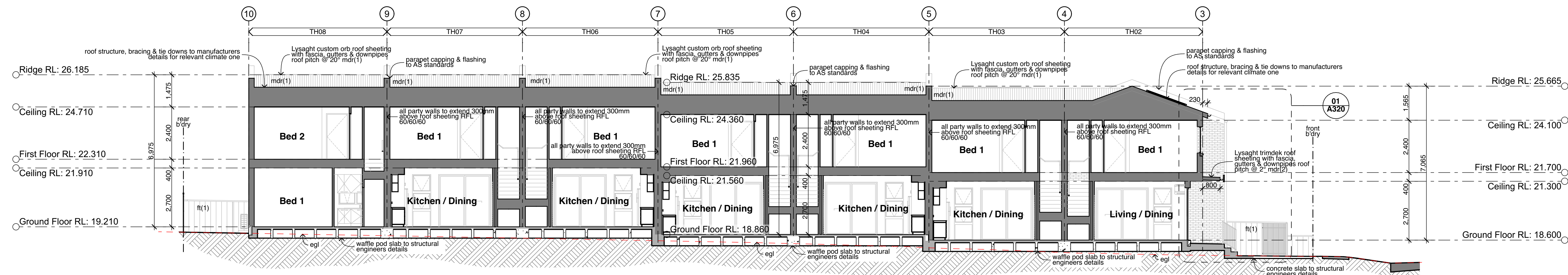
Metal Deck Roofing - mdr(2)  
Dark Grey



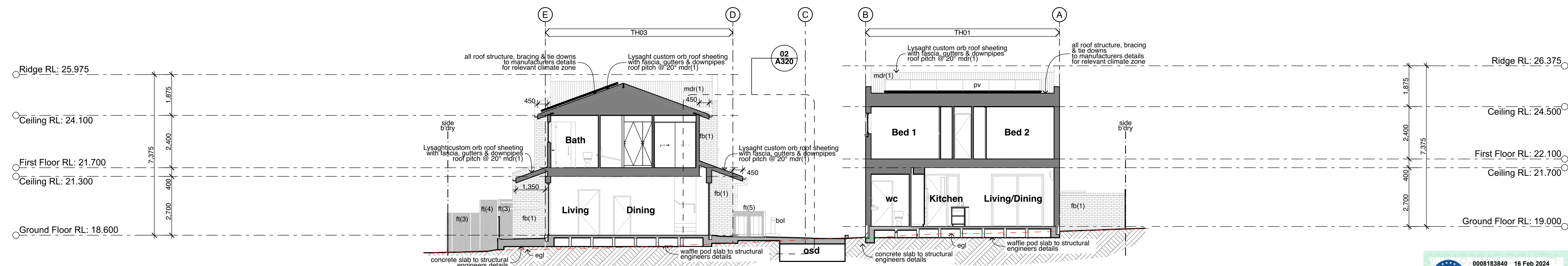
Dark Grey



**S01 Block A Section (East - West)**  
1:100

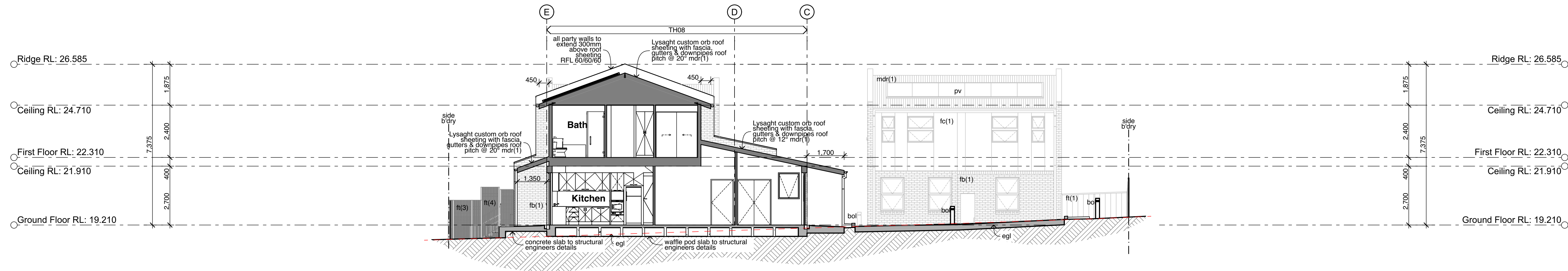


**S02 Block B Section (East - West)**  
1:100



**S03 Block A & B Section (North - South)**  
1:100





**S04 Block B Section (North - South)**  
1:100

- Legend** (elevation & sections)  
note: drawing may not contain all items listed below
- ac air conditioner condenser
  - ag pipe
  - alw aluminium framed window
  - bal(1) balustrade (type)
  - bc barge capping
  - bg box gutter
  - bhc brick header course
  - boe brick on edge
  - bws brickwork sill
  - cfc compressed fibre cement
  - cj control joint
  - conc. concrete
  - cs coved skirting
  - dp downpipe
  - drh door head
  - eg eaves gutter
  - egl existing ground line
  - ex. existing
  - f fixed sash window
  - fb(1) face brickwork (type)
  - fc(1) finished ceiling level
  - ffi finished floor level
  - fp feature panel
  - gl ground line
  - gt gate
  - hr(1) handrail (type)
  - hwu hot water unit
  - ip insulated panel
  - lv(f) fixed louvres
  - lv(o) operable louvres
  - mc(1) metal cladding (type)
  - mdr metal deck roof
  - otc off form concrete
  - p(1) paint (type)
  - pap(1) perforated acoustic panel (type)
  - pbd plasterboard
  - ps privacy screen
  - pv photovoltaic cells
  - rc rendered concrete
  - rms raked metal soffit
  - rp(1) render & paint finish (type)
  - rs roller shutter
  - rw retaining wall
  - rwh rainwater head
  - s sliding sash window
  - sc steel column
  - sk skylight/skytube
  - sl sliding door
  - ss(1) sun shade (type)
  - ts timber skirting
  - wcs window casing

- note:
1. all handrails, balustrades & louvres shown indicatively only. refer to detail drawings for clarity.
  2. refer to engineer's drawings for final co-ordination.
  3. acoustic panel edges at all major joints (solid line) & all exposed edges including top (adjoining s/s sill) & bottom (adjoining skirting) are to include 12x12mm aluminium angle.



Face Brick - fb(1)  
Light Brick



Face Brick - fb(2)  
Light Brick



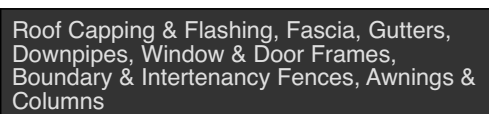
Fibre Cement Sheet - fc(1)  
Light Grey



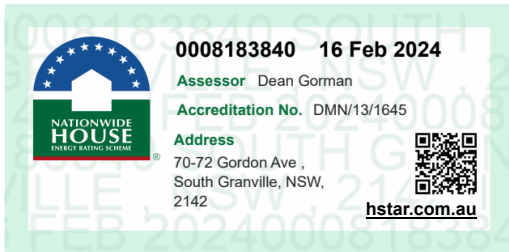
Metal Deck Roofing - mdr(1)  
Dark Grey



Metal Deck Roofing - mdr(2)  
Dark Grey



Dark Grey



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue
Rev	Date	Issue
do not scale drawings. check all dimensions on site. figured dimensions take precedence.		

Project Architect:  
**Stanton Dahl Architects**  
Ph: (02) 8544 1683

Landscape Consultant:  
**Botanique Design**  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
**Greenview**  
Ph: (02) 8544 1683

Electrical Consultant:  
**Greenview**  
Ph: (02) 8544 1683

Architect:

**Stanton Dahl Architects**

Project:  
**Multi Dwelling Housing Development (8 Townhouses)**  
at  
**70-72 Gordon Avenue, Granville**

Title:  
**Sections**

File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted: 19/2/24  
11:29 am

Status: **Part 5 Issue**

Date:	Scale:	S/D job no:	Project no:
19/2/24	1:100 @ A1	2873.23	BGWR
Stage:	Drawn:	Checked:	Approved:
	DD	DD	3
Drawing:	Sheet:		Rev:
<b>DA14</b>	<b>15</b>	<b>of 18</b>	<b>03</b>

**Legend** shadow diagrams  
note: drawing may not contain all items listed below

**note:**  
shadows cast: proposed buildings

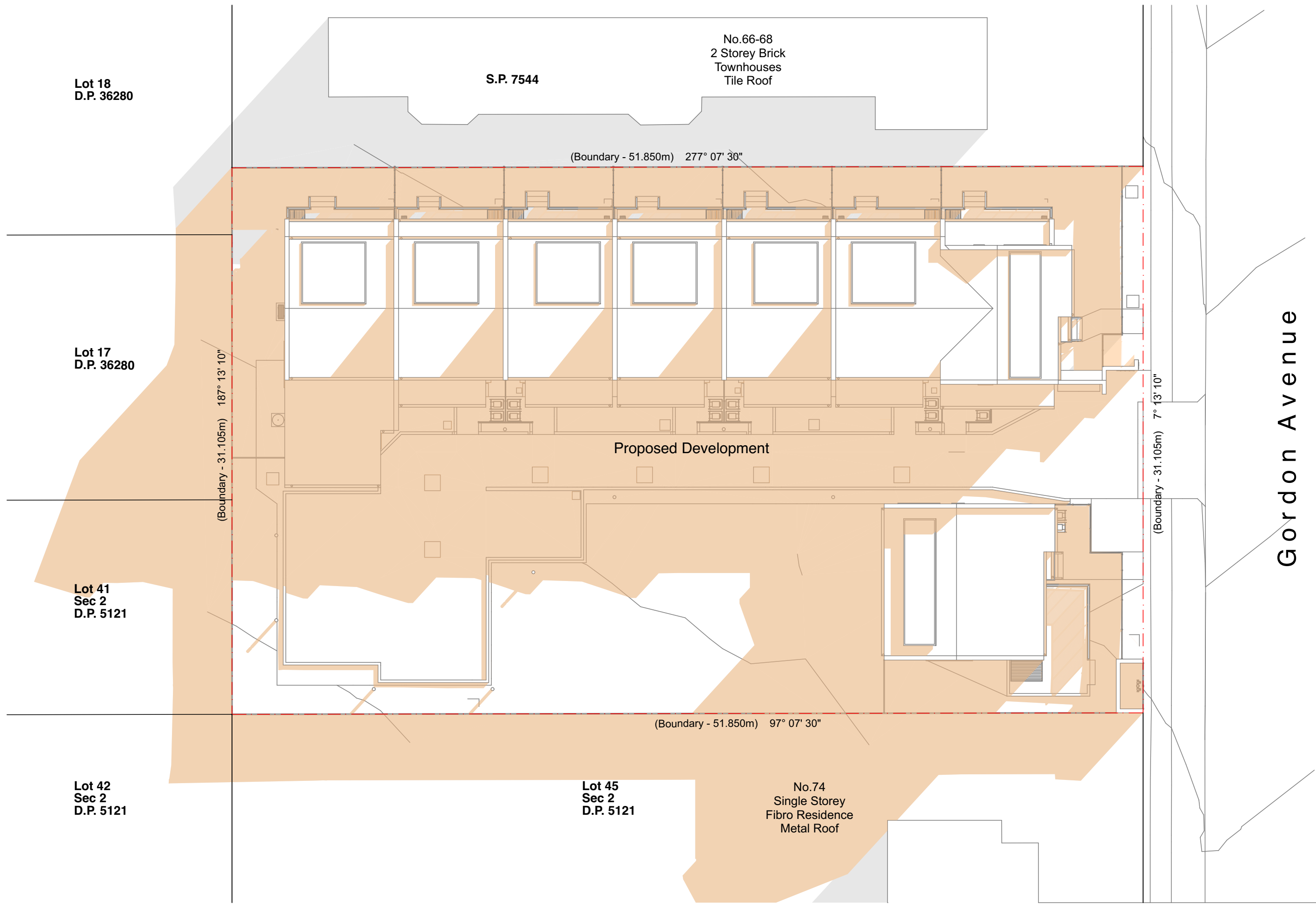
**note:**  
shadows cast: existing neighbour buildings

site boundaries

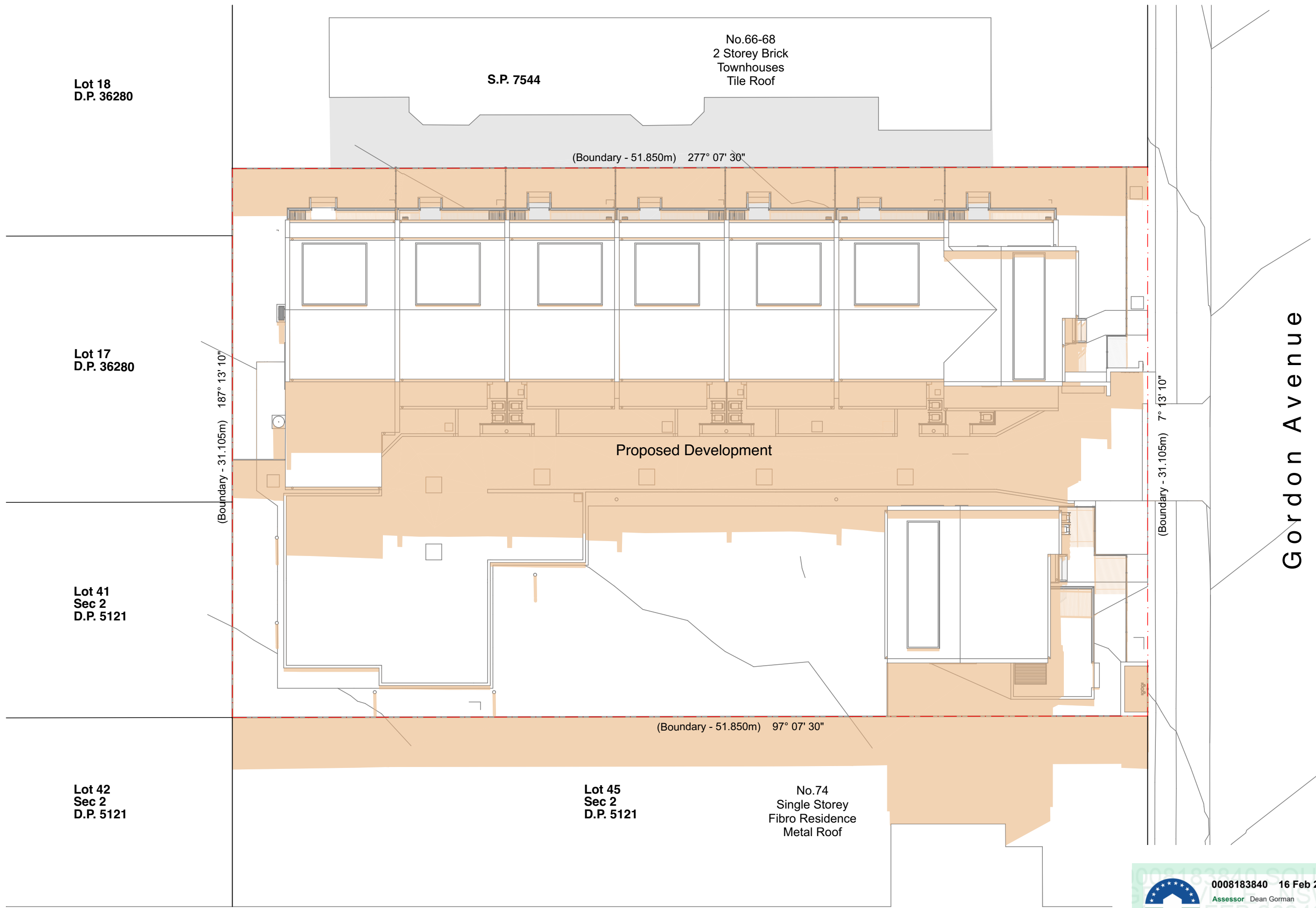
No. of Apt	Floor Level (Living)	Unique Apt ID	Room Name	9.00		9.30		10.00		10.30		11.00		11.30		12.00		12.30		1.00		1.30		2.00		2.30		3.00	Total Hours	≥ 3 hours sun to LIVING & P.O.S
1		TH1	LIVING	Y	0.5	Y	0.5	Y	0	N	0	N	0	N	0	N	0	N	0	N	0	N	0	N	0	N	0	N	1	
			P.O.S	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	0	N	0	N	0	N	0	N	0	N	0	N	2.5	
2		TH2	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	5.5	
3		TH3	LIVING	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	Y
			P.O.S	N	0	N	0	N	0	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	4.5	
4		TH4	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	Y	0	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	4.5	
5		TH5	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	Y	0	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5	
6		TH6	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	
7		TH7	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	
8		TH8	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	Y

Total No. of Apts  
8

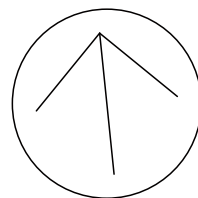
≥ 3 hours sunlight  
7  
87.5%



01 Shadows Diagram June 21 9am  
1:200



02 Shadows Diagram June 21 12noon  
1:200





**Legend** shadow diagrams  
note: drawing may not contain all items listed below

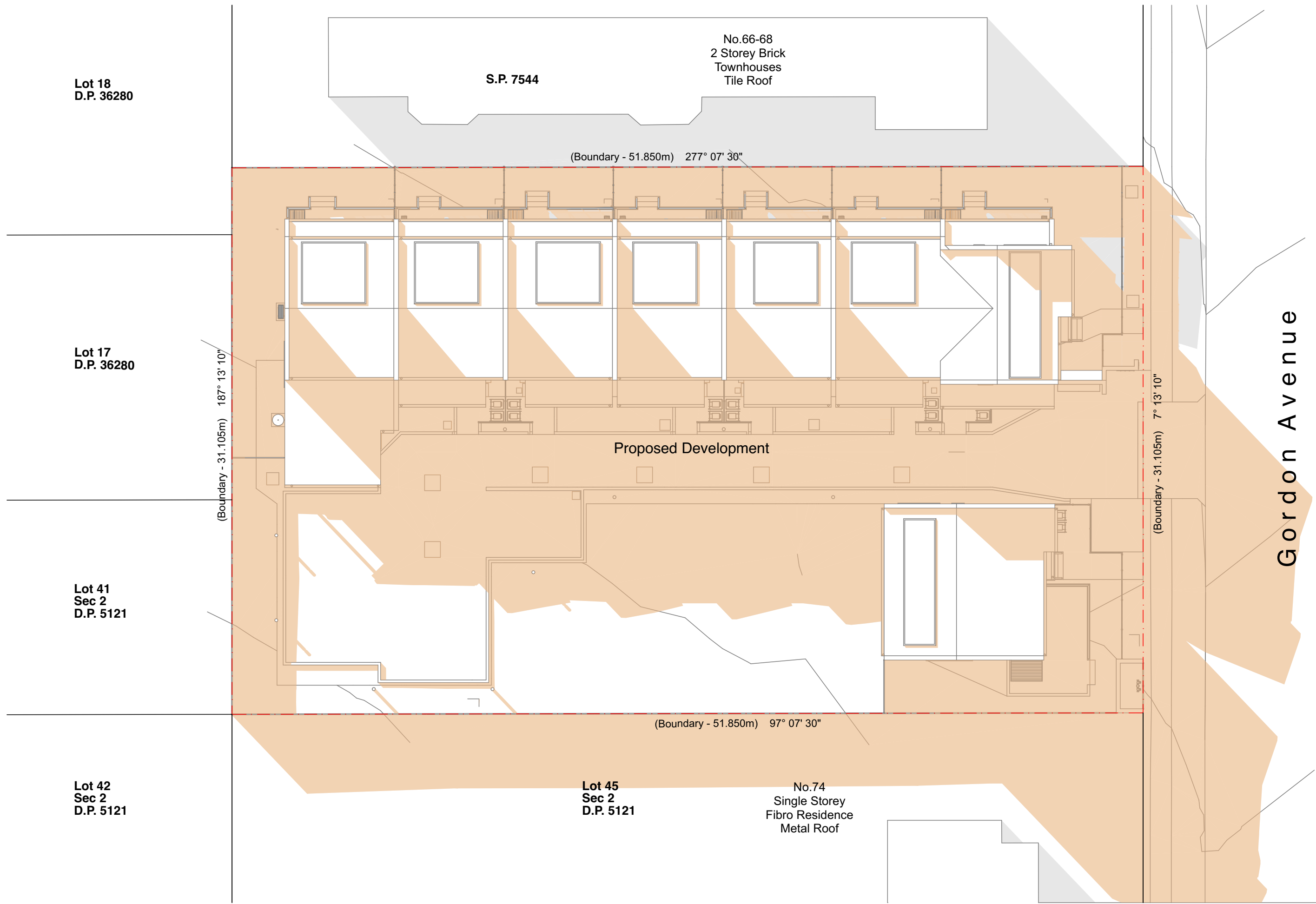
**note:**  
shadows cast: proposed buildings

**note:**  
shadows cast: existing neighbour buildings

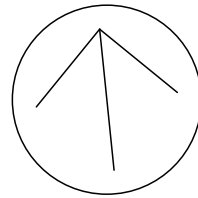
No. of Apt	Floor Level (Living)	Unique Apt ID	Room Name	9:00		9:30		10:00		10:30		11:00		11:30		12:00		12:30		1:00		1:30		2:00		2:30		3:00	Total Hours	≥ 3 hours sun to LIVING & P.O.S
1		TH1	LIVING	Y	0.5	Y	0.5	Y	0	N	0	N	0	N	0	N	0	N	0	N	0	N	0	N	0	N	0	N	1	
			P.O.S	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	0	N	0	N	0	N	0	N	0	N	0	N	2.5	
2		TH2	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	5.5	
3		TH3	LIVING	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	Y
			P.O.S	N	0	N	0	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	4.5	
4		TH4	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	Y	0	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0	N	4.5	
5		TH5	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	Y	0	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5	
6		TH6	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	
7		TH7	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	
8		TH8	LIVING	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	6	Y
			P.O.S	N	0	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	0.5	Y	5.5	Y

Total No. of Apts
8

≥ 3 hours sunlight
7
87.5%



01 Shadows Diagram June 21 3pm  
1:200



03	18/12/23	Part 5 Issue
02	27/9/23	Part 5 Issue
01	27/9/23	Part 5 Issue
Rev	Date	Issue

do not scale drawings, check all dimensions on site, figured dimensions take precedence.

Project Architect:  
Stanton Dahl Architects  
Ph: (02) 8544 1683

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Botanique Design  
Mob: 0404 887 620

Hydraulic & Structural Consultant:  
Greenview  
Ph: (02) 8544 1683

Electrical Consultant:  
Greenview  
Ph: (02) 8544 1683

Architect:

Project:  
Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Shadow Diagrams (Sht 2)

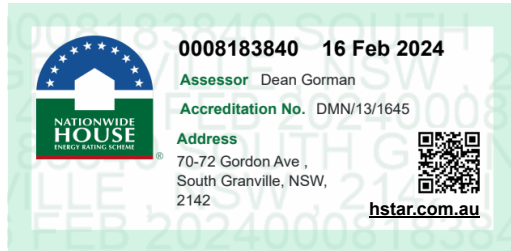
File:  
2873.23 70-72 Gordon St, South  
Granville AC26

Plotted: 19/2/24  
11:29 am

Status: Part 5 Issue

Date: 19/2/24  
Scale: 1:200 @ A1  
Stage: DD  
Drawing: DA16 17 of 18 03

S/d job no: 2873.23  
Draws: DD  
Checked: DD  
Rev: 3  
Project no: BGWYR  
Approved: 03





External Colour Selection

70-72 Gordon Avenue, Granville, NSW



Face Brick - fb(1)  
Light Brick



Face Brick - fb(2)  
Light Brick



Fibre Cement Sheet - fc(1)  
Light Grey



Metal Deck Roofing - mdr(1)  
Dark Grey



Metal Deck Roofing - mdr(2)  
Dark Grey



Roof Capping & Flashing,  
Fascia, Gutters, Downpipes,  
Window & Door Frames,  
Boundary & Intertenancy  
Fences, Awnings & Columns  
Dark Grey

Part 5

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All dimensions to be verified on site and any discrepancies referred to architect for determination. figured dimensions to take precedence over scaled dimensions.

LAHC,  
Multi Dwelling Housing  
Development (8  
Townhouses)  
70-72 Gordon Avenue,  
Granville, NSW

External Colour  
Selection

Project No;  
BGWYR

Drawing No;      Revision#;  
DA17                03

Scale; as noted @ A3

Drawn; DD


Plot date; 27/9/23

Stanton Dahl Architects  
PO Box 833, Epping, NSW 1710  
Tel +61 2 8876 5300  
www.stantondahl.com.au

Stanton Dahl & Associates Pty Limited, ABN 32 002 261 396  
Nominated Architects : D.P Stanton 3642, S.M Evans 7686  
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- metal roof sheeting - mdr(1)
- metal roof sheeting - mdr(1)
- face brick - fb(2)
- face brick - fb(1)
- face brick - fb(2)
- fibre cement sheet - fc(1)
- face brick - fb(2)
- face brick - fb(1)






0008183840    16 Feb 2024

Assessor    Dean Gorman

Accreditation No.    DMN/13/1645

Address

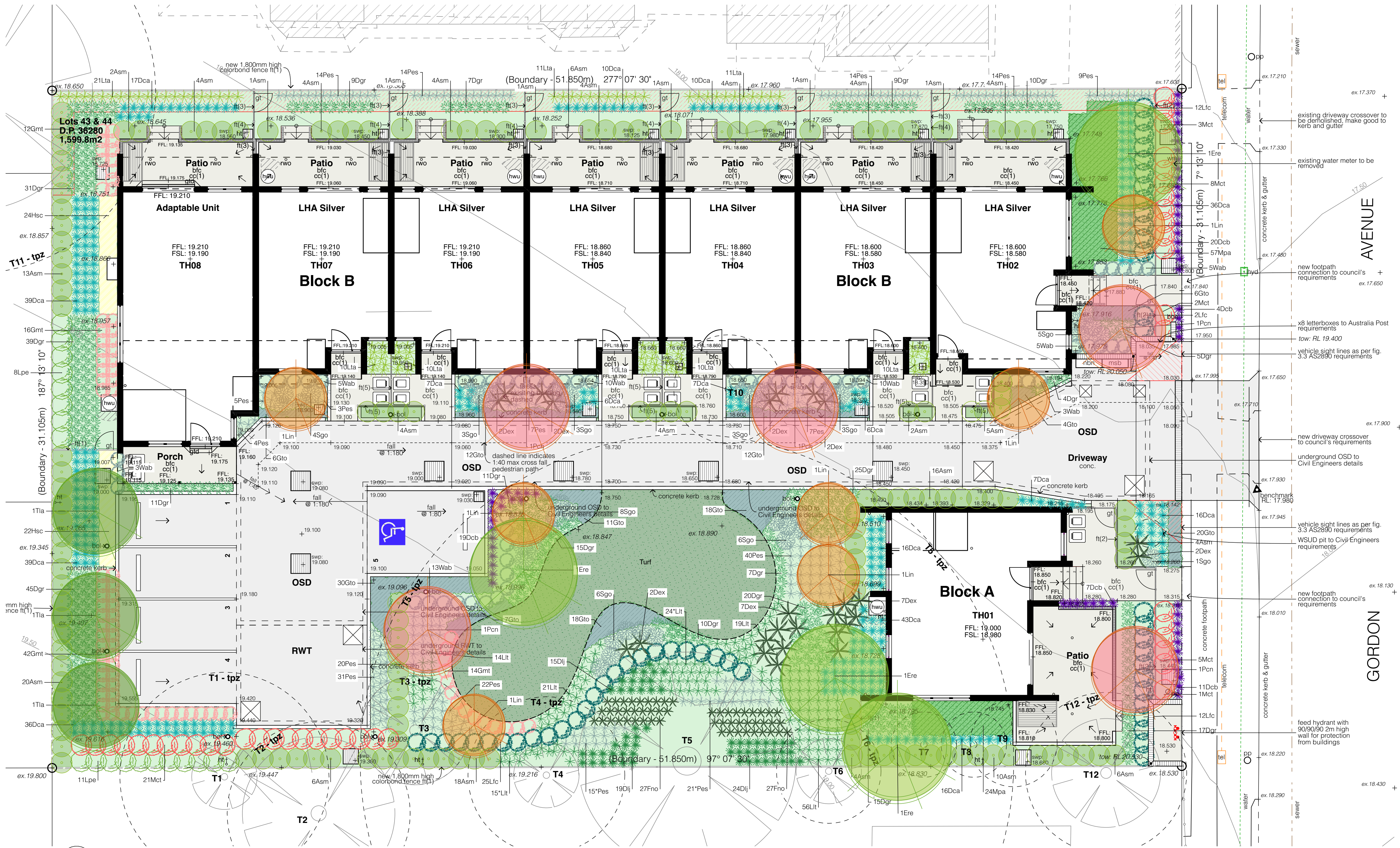
70-72 Gordon Ave ,  
South Granville, NSW,  
2142

  
hstar.com.au

Rev	Issue	Date
01	Part 5 Issue	27/9/23
02	Part 5 Issue	27/9/23
03	Part 5 Issue	18/12/23



0 1000 2000 3000 4000 5000 10 000  
scale: 1:100 @A1



- Legend** (external work / site plan)  
note: drawing may not contain all items listed below
- ex contours & banking line
  - existing trees to be retained
  - existing trees to be removed
  - proposed new trees
  - ex RL00.00 → existing levels
  - RL00.00 → proposed levels
  - 39.000 proposed spot levels (ft)
  - ac air conditioner condenser
  - acc accessible
  - adch ageing, disability & home care
  - ap access panel
  - bal(1) balustrade (type)
  - bfc broom finished concrete
  - boe brick on edge
  - bol bollard
  - cc(1) coloured concrete (type)
  - ctf(1) ceramic floor tile (type)
  - cl clothes line
  - col column
  - dp downpipe
  - drp doormat
  - ex existing
  - fb(1) facebrick work (type)
  - fl finished floor level
  - ft(1) fence (type)
  - gdb garbage bin
  - gt gate
  - gtd grated drain
  - hrl(1) handrail (type)
  - ht hose tap
  - hwu hot water unit
  - hyd hydrant
  - kr kerb ramp
  - lb letter box
  - ofc off form concrete
  - pos private open space
  - pmp permeable paving
  - pp power pole
  - rwl(1) retaining wall (type)
  - rwo rainwater outlet
  - rwt rainwater tank
  - sfc steel float concrete
  - stl structural floor level
  - swp storm water pit
  - trf trowel finished concrete
  - tgsl tactile ground surface indicator
  - tow top of wall
  - wfc wood float concrete
  - ws wheel stop

01 Landscape Plan  
1:100

PLANT SCHEDULE

Code	Botanical Name	Common Name	Height	Quantity	Pot Size	Stake
<b>TREES</b>						
Ere	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	12 x 5m	4	75L	Y
Lin	<i>Lagerstroemia indica</i> 'Natchez'	Crepe Myrtle	4 x 3m	7	75L	Y
Pcn	<i>Prunus cerasifera</i> 'Nigra'	Black Cherry Plum	5 x 4m	5	75L	Y
Tla	<i>Tristanopsis laurina</i>	Kanooka Gum	8 x 5m	3	75L	Y
<b>SHRUBS</b>						
Asm	<i>Acmena smithii</i> 'Minor'	Lilly-pilly	3 x 2m	154	300mm	N
Dex	<i>Doryanthes excelsa</i>	Gymea Lily	2 x 2m	26	300mm	N
Lfc	<i>Leptospermum flavescens</i> 'Cardwell'	Tea Tree	1.5 x 1.5m	51	300mm	N
Lpe	<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree	3 x 2m	19	300mm	N
Mct	<i>Melaleuca</i> 'Claret Tops'	Honey Myrtle	1 x 1m	40	300mm	N
Sgo	<i>Strobilanthus gossypinus</i>	Pewter Plant	1.2 x 1.5m	42	300mm	N
Wab	<i>Westringia fruticosa</i> 'Aussie Box'	Coastal Rosemary	0.7 x 0.7m	54	300mm	N

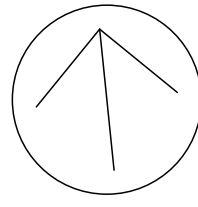
PLANT SCHEDULE

Code	Botanical Name	Common Name	Height	Quantity	Pot Size	Stake
<b>GROUNDCOVERS &amp; CLIMBERS</b>						
Dca	<i>Dianella caerulea</i>	Paroo Lily	0.7 x 0.7m	311	140mm	N
Dcb	<i>Dianella</i> 'Cassa Blue'	Paroo Lily	0.7 x 0.7m	61	140mm	N
Dlj	<i>Dianella</i> 'Little Jess'	Paroo Lily	0.5 x 0.5m	58	Tubestock	N
Dgr	<i>Diets grandiflora</i>	African Iris	1.2 x 1.2m	290	140mm	N
Gmt	<i>Grevillea</i> 'Mt Tamboritha'	Grevillea	0.4 x 1.5m	84	140mm	N
Gto	<i>Gazania tomentosa</i>	African Daisy	0.5 x 0.5m	144	140mm	N
Fno	<i>Ficinia nodosa</i>	Knotted Club Rush	0.5 x 0.5m	54	Tubestock	N
Hsc	<i>Hibbertia scandens</i>	Guinea Flower	0.2 x 1.5m	46	140mm	N
Lit	<i>Lomandra</i> 'Lime Tuft'	Lime Tuft	0.5 x 0.5m	110	140mm	N
Llt	<i>Lomandra</i> 'Lime Tuft'	Lime Tuft	0.5 x 0.5m	39	Tubestock	N
Lta	<i>Lomandra</i> 'Tanika'	Tanika	0.7 x 1.0m	93	140mm	N
Mpa	<i>Myoporum parvifolium</i>	Creeping Boobialla	0.2 x 1.5m	81	140mm	N
Pes	<i>Poa</i> 'Eskdale'	Tussock Grass	0.5 x 0.5m	204	140mm	N
*Pes	<i>Poa</i> 'Eskdale'	Tussock Grass	0.5 x 0.5m	36	Tubestock	N

NOTE: \* Plant quantities on planting plan take precedence over quantities identified in this schedule.



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<https://www.dpie.nsw.gov.au/land-and-housing-corporation>



Rev	Date	Issue
3	16.10.23	Part 5 Issue
2	27.09.23	Part 5 Issue
1	04.06.23	Tender Issue

do not scale drawings, check all dimensions on site.  
figured dimensions take precedence.

Project Architect:  
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Botanique Design  
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Hydraulic & Structural Consultant:  
Electrical Consultant:

Architect:  
Stanton Dahl Architects

Project:  
Multi Dwelling Housing  
Development (8 Townhouses)  
at  
70-72 Gordon Avenue, Granville

Title:  
Landscape Plan  
File:  
231016 70-72 Gordon Ave, South  
Granville (DA).pln

Status: Part 5 Issue  
Date: 16/10/2023  
Scale: 1:100  
Stage: MM  
Drawing: L01  
S/D job no: #8888  
Checked: #8888  
Project no: BGWT6  
Approved: #8888  
Rev: #8888  
1 of 2 3  
16/10/2023 11:37 am



ONGOING MAINTENANCE SCHEDULE OF PLANTING AND TURF AREAS

OCCUPATIONAL HEALTH AND SAFETY (OHS)  
Services are to be provided safely and in accordance with relevant OHS regulations and with continual regard for the safety of the public and developer employees.

- MOWING**
- All grassed areas shall be maintained in a weed free state. Weed growth with grass areas must not exceed 10% of the total grass area.
  - Grass clippings shall be distributed evenly over the surface and at no time shall the layer of clippings be at such a depth that it will affect or damage the lawn area.
  - Ensure one does not mow over any litter or debris. Prior to mowing, all areas shall be inspected and are to be cleared of litter and debris, including but not limited to paper, plastic, glass, rocks, branches, garden refuse, timber, spoil, etc. Such material shall be disposed of off-site. The contractor must take an environmentally responsible approach to the collection, sorting and recycling (where appropriate) of materials collected in the interests of waste minimisation. Green waste recycling is encouraged.
  - Sharps are to be collected by the developer and disposed of appropriately. The contractor should be fully aware of the associated problems of needle stick injury and therefore handle sharps accordingly.
  - Grass height shall be kept between 40 mm - 70mm in height.
  - All turf is to be cut evenly and sharply across the surface to a height of 40mm. The method of measurement of the mowing height shall be the average height from the ground to the uppermost extent of the blades when held up vertically. No more than one-third (1/3) of the grass length should be removed in any one mowing.
  - Wherever possible, grass shall be cut in parallel lines so that all grassed areas are left with a neat and tidy appearance. On successive cuts the grass must be mowed in the opposite direction or at variable directions, to avoid windrows developing and to prevent grass seed stalks lying in one direction and remaining uncut. After mowing, all hard surfaces such as footpaths and roads shall be cleared of cut material.
  - The needs of the public must be considered before mowing commences. At all times, the contractor must be courteous and respectful of the needs of these users.
  - All nature strips abutting reserves or Council-managed facilities shall be mown and maintained to the same standard as the facilities.
  - The contractor should use discretion in the selection of appropriate machinery suited to the task and must take into consideration ambient site conditions. Ground surface damage as a result of the use of machinery inappropriate to the conditions will be the responsibility of the contractor to reinstate.

**Monthly:**

- Weeding - Weed garden areas manually or with approved herbicide. Prior approval required for Herbicide use. Approved herbicide use to be in accordance with regulation rates and manufacturer's recommendation. Protect plants from overspray and avoid if rain is likely within 12 hour period. Prevent reproduction of weeds by removal of seedlings and established weeds before seed set. This work should be carried out regularly at least once a month so that the planted and mulched areas are weed free when observed at monthly intervals.
- Leaf Litter Removal - Do not remove leaf litter from planted areas unless depth of litter is impacting on plant growth. Remove leaf litter from pathways.
- Pest & Disease Control - Check for incidence of fungal and insect attack. Avoid use of chemical sprays. Apply appropriate treatment for fungal and insect attack if necessary subject to approval.
- Plant Removal and Replacement - Inspect for failed or dying plants requiring replacement and record probable cause. Replant after dead or failed plant removal.
- Mulch - Ensure mulch is kept clear of plant stems at all times. Drainage pits are to be cleared of mulch and other material regularly so that all pits are cleared when observed at monthly intervals or after significant storm events. Check irrigation system is operating correctly.

**Spring:**

- Mulching - Reapply mulch to maintain to a depth of 75mm.
- Plant Fertiliser - Fertilise all plants at specified rates based on soil testing results. Prior approval required for fertiliser use. Slow release fertiliser N:P:K ratio- 18:3:10 at manufacturer's recommended rate per plant. Initial fertilising at planting based on soil testing results.
- Pruning & Trimming - Shrubs & groundcover - Tip prune to encourage density. Length removed depending on vigour of previous plant growth. Pruning should reflect the natural growth, flowering and regrowth habit of the individual species. Generally prune after flowering. Prune hedges in late Spring.
- Turf Fertiliser - Apply fertiliser at rates as recommended by manufacturer.
- Turf Mowing - Every 3 weeks in spring & autumn Do not mow under wet conditions. Mow at heights of between 40 to 60mm & remove no more than 1/3 of the leaf blade at any one time. Do not use nylon line type edge trimmers around base of trees.
- Turf Decompaction & Aeration - Inspect for compaction and thatching. Carry out aeration treatment if required. Carry out with dethatching or verticutting equipment.

**Summer:**

- Pruning & Trimming - Climbers - Prune long leaders which cannot be reattached to climbing frame. Train leaders onto wires.
- Turf Mowing - Every 2 weeks in summer. Do not mow under wet conditions. Mow at heights of between 40 to 60mm & remove no more than 1/3 of the leaf blade at any one time. Do not use nylon line type edge trimmers around base of trees.

**Autumn:**

- Turf Fertiliser - Apply fertiliser at rates as recommended by manufacturer.
- Turf Mowing - Every 3 weeks in spring & autumn Do not mow under wet conditions. Mow at heights of between 40 to 60mm & remove no more than 1/3 of the leaf blade at any one time. Do not use nylon line type edge trimmers around base of trees.
- **Winter:**
- Pruning & Trimming - Shrubs & groundcover - Tip prune to encourage density. Length removed depending on vigour of previous plant growth. Tip pruning involving the removal of the top 25mm or growing tip of each branch, should be used with shrubs and groundcover to encourage development of new shoots during the active growing season. Be careful not to remove the buds before the flowering season in those plants that have terminal flowers. Prune hedges.
- Turf Mowing - Every month in winter. Do not mow under wet conditions. Mow at heights of between 40 to 60mm & remove no more than 1/3 of the leaf blade at any one time. Do not use nylon line type edge trimmers around base of trees.
- Turf Replacement - Inspect for failed turf requiring replacement and record probable cause.

**As Required -**

- Pest & Disease Control - Check for incidence of fungal and insect attack. Avoid use of chemical sprays. Apply appropriate treatment for fungal and insect attack if necessary subject to approval. If chemical control is considered necessary, these should be mixed and applied in strict accordance with manufacturer's directions. Do not spray in windy or extreme weather.
- Plant Removal and Replacement - Replant after dead or failed plant removal. All plants that have died or failed (lost more than 50% of their normal foliage cover) shall be replaced with the same species and commercially available size as the plant to be replaced. Generally plant material shall be uniformly high quality stock equal to best available for 'retail sale'. The root systems shall be balanced in relation to the size of the plant. Plants shall be healthy well grown, hardened off specimens of good shape and free from pests and diseases and in accordance with 'Specifying Trees: a guide to assessment of tree quality' (Clark 2006).
- Pruning & Trimming - Remove deadwood from trees if required. Pruning should reflect the natural growth, flowering and regrowth habit of the individual species. Generally prune after flowering. Pruning will be directed at the maintenance of the dense foliage or miscellaneous pruning and beneficial to the condition of the plants to improve plant shape and form or to clear footpaths and driveways. Any damaged growth shall be pruned. All pruned material shall be removed from the site. Train leaders of climber onto wires.
- Weed Control in Turf - Remove weeds from turf areas manually or with approved herbicide in accordance with manufacturer's recommendation.
- Turf Replacement - Remove failed turf, prepare surface & lay new turf in accordance with original turf specified.
- Watering - Grass, trees and garden areas shall be watered regularly so as to ensure continuous healthy growth. The minimum acceptable watering required is equal to 25mm of natural rainfall or its equivalent applied during each period of one (1) week, around individual plants, maintain a completely weed and grass free watering saucer of a minimum diameter of one (1) metre.
- Stakes and Ties - Replace or adjust plant stakes, and tree guards as necessary. Adjust ties to give adequate support to the plants, replace broken or damaged ties as necessary and straighten stakes. Remove stakes and ties after one year.
- Mulch - Ensure mulch is kept clear of plant stems at all times. Drainage pits are to be cleared of mulch and other material regularly so that all pits are cleared when observed at monthly intervals or after significant storm events. The overflow area is to be cleared of weeds on a regular basis and particularly after significant storm events. Check irrigation system is operating correctly.
- Check paved areas and clear of slippery with a high pressure hose. Check retaining walls and planter boxes for signs of failure. Check seats and tables for signs of wear and tear and ensure all fastenings are secure. Maintain BBQ s per manufacturer's details (if required).

LANDSCAPE MAINTENANCE

The Landscape Contractor shall rectify defects during installation and that become apparent in the works under normal use for the duration of the contract Defects Liability Period. The Landscape Contractor shall maintain the contract areas by the implementation of industry accepted horticultural practices for 52 weeks. The landscape maintenance works shall include, but not be limited to, the following:

- Replacing failed plants;
- Pruning;
- Insect and pest control;
- Fertilising;
- Stakes and ties;
- Weeding and mulch;
- Mowing and top dressing;
- Irrigation and watering;
- Erosion control; and
- Weeding and rubbish removal.

Maintenance Log Book

Implement and keep a maintenance log book recording when and what maintenance work has been undertaken and what materials, actions and decisions have been used, implemented and concluded to keep the landscape always looking its best.

Maintenance Activities

- Schedule the following activities to occur on a timely basis.
- **Plant replacement** - Replace plants that have failed to mature, die or are damaged. Replacement plants shall be in a similar size and quality and identical species or variety to the plant that has failed. Replacement of plants shall be at the cost of the landscape contractor unless advised otherwise. If the cause of the failure is due to a controllable situation then correct the situation prior to replacing plants.
- **Pruning** - Prune dead wood, broken limbs, dead or infected foliage and as needed to develop strong, healthy plants to achieve the shape and form expected of the plant type.
- **Insect and pest control** - Avoid spraying:
  - if ever possible;
  - in wet weather or if wet weather is imminent; if target plants are still wet after rain; in windy weather; and
  - if non-target species are too close.Immediately report to the Project Manager any evidence of intensive weed infestation, insect attack or disease amongst plant material. Submit all proposals to apply chemicals and obtain approval before starting this work. When approved, spray with herbicide, insecticide, fungicide as appropriate in accordance with the manufacturers' recommendations. Record in the logbook all relevant details of spraying activities including:
  - Product brand / manufacturer's name;
  - Chemical / product name;
  - Chemical contents;
  - Application quantity and rate;
  - Date of application and location.Results of application and Use approval authority.
- **Fertilising** - Fertilise gardens with a proprietary slow release fertiliser applied in accordance with the manufacturer's directions and recommendations. Record in the logbook all relevant details of fertilising including:
  - Product brand / manufacturer's name;
  - Fertiliser / product name;
  - Application quantity and rate, and Date of application and location.
- **Stakes and ties** - Adjust and replace as required to ensure plants remain correctly staked. Remove these not required at the end of the planting establishment period (Defects Liability Period).
- **Maintaining mulch** - Maintain the surface in a clean, tidy and weed free condition and reinstate the mulch as necessary to ensure correct depth as specified.
- **Mowing and top dressing** - Mow the turf to maintain a grass height of between 30-50mm. Do not remove more than one third of the grass height at any one time. Remove grass clippings from the site after each mowing. Top dress to a maximum of 10mm to fill depressions and hollows in the surface.
- **Irrigation and watering** - Maintain the irrigation system to sure that each individual plant receives the required amount of water to maintain healthy and vigorous growth, adjust and rectify as required. Provide additional watering if necessary.
- **Erosion control** - Where necessary, maintain the erosion control devices in a tidy and weed free condition and reinstate as necessary to ensure control measures are effective where deemed necessary.
- **Weeding and rubbish removal** - During the plant establishment period remove by hand, rubbish and weed growth that may occur or re-occur throughout all planted, mulched and paved areas. The contractor shall target weeds that are capable of producing a major infestation of unwanted plants by seed distribution. Whenever possible, time weed removal to precede flowering and seed set.

LANDSCAPE MAINTENANCE PROGRAMME

Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice as rectifying any defects that become apparent in the landscape works under normal use. This shall include, but shall not be limited to, watering, mowing, fertilising, re-seeding, re-turfing, weeding, pest and disease control, staking and tying, replanting, cultivation, pruning, aerating, renovating, topdressing, maintaining the site in a neat and tidy condition as follows:-

1.0 GENERAL

The landscape contractor shall maintain the landscape works for the term of the maintenance (or Plant establishment) period to the satisfaction of the council. The landscape contractor shall attend to the site on a weekly basis. The maintenance period shall commence at handover and continue for a period of 52 weeks maintenance for the Post- Completion Period which also includes a 3 Month Maintenance period for minor building matters.

2.0 WATERING.

Grass, trees and garden areas shall be watered regularly so as to ensure continuous healthy growth. The minimum acceptable watering required is equal to 25mm of natural rainfall or its applied equivalent during each period of one (1) week, around individual plants, maintain a completely weed and grass free watering saucer of a minimum diameter of one (1) metre.

3.0 RUBBISH REMOVAL

During the term of the maintenance period the landscape contractor shall remove rubbish that may occur and reoccur throughout the maintenance period. This work shall be carried out regularly so that at weekly intervals the area may be observed in a completely clean and tidy condition.

4.0 REPLACEMENTS

The landscape contractor shall replace all plants that are missing, unhealthy or dead at the Landscape Contractor's cost during the maintenance period. Replacements shall be of the same size, quality and species as the plant that has failed unless otherwise directed by the Landscape Architect. Replacements shall be made on a continuing basis not exceeding two (2) weeks after the plant has died or is seen to be missing.

5.0 STAKES AND TIES

The landscape contractor shall replace or adjust plant stakes, and tree guards as necessary or as directed by the Landscape Architect. Adjust ties to give adequate support to the plants, replace broken or damaged ties as necessary and straighten stakes. Remove stakes and ties at the end of the maintenance period if so directed.

6.0 PRUNING

Trees and shrubs shall be pruned as directed by the Landscape Architect. Pruning will be directed at the maintenance of the dense foliage or miscellaneous pruning and beneficial to the condition of the plants to improve plant shape and form or to clear footpaths and driveways. Any damaged growth shall be pruned. All pruned material shall be removed from the site.

7.0 MULCHED SURFACES

All mulched surfaces shall be maintained in a clean and tidy condition and be reinstated if necessary to ensure that a depth of 75mm is maintained. Ensure mulch is kept clear of plant stems at all times.

8.0 PEST AND DISEASE CONTROL

Control pathological diseases or insect pests by physical removal. Where physical removal is not possible use registered non-toxic sprays, applied in accordance with manufacturer's instructions.

9.0 WEED ERADICATION

Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide (eg. 'Roundup') in any of its registered formulae, at the recommended maximum rate. Regularly remove by hand, weed growth that may occur or recur throughout grassed, planted and mulched areas. Remove weed growth from an area 750mm diameter around the base of trees in grassed areas. Continue eradication throughout the course of the works and during the maintenance period.

10.0 FERTILISING

Apply follow up concentrated organic fertiliser to all turfed areas once during the maintenance period 10 weeks after completion.

11.0 LAWNS

Mow at max 10-day intervals, trimming all edges, remove all weed growth or grass around base of all plants in turf or by hand in grass areas within the isolated planting area edging and within one (1) metre diameter area in grass, do not use nylon line type edge trimmers around base of trees - replace or repair failed turf and bare patches.

12.0 SOIL SUBSIDENCE

Any soil subsidence or erosion which may occur after the soil filling and preparation operations shall be made good by the landscape contractor at no cost to the client.

GENERAL NOTES

References

All plans and details included in the project documents shall be read in conjunction with this specification. All structural and civil works components of the landscape design shall be referenced to engineers' details and specifications. Read this specification in conjunction with the plant and materials schedule on this drawing. If in doubt about any detail or if conflicts are found in the documents, seek advice

Workmanship and Materials

The whole of the landscape works shall be carried out by a competent, trained and qualified landscape contractor who is experienced in horticultural practices, landscape construction and planting techniques. The landscape contractor shall hold a current Building Contractors License and/or be a financial member of LNA Landscape Association SW & ACT or equivalent organisations in other states.

EXISTING TREES

Trees to be Retained and Protected

Identify and mark trees and shrubs to be retained using a suitable non-injurious, easily visible and removable means of identification. Protect from damage the trees and shrubs to be retained, including those beyond the site area, both above and below the ground. If a tree becomes damaged during the works or it is proposed to perform work on a tree, give written notice immediately and obtain instructions.

Work near Trees

Keep the area of the drip-line free from construction material and debris. Do not place bulk materials and harmful materials under or near trees. Do not place spoil from excavations against tree trunks. Prevent wind-blown materials such as cement from harming trees and plants. Do not remove topsoil from, or add topsoil to, the area within the drip-line of trees.

EARTHWORKS

Excavation, Trimming and Filling

Except as otherwise note in the contract, bulk excavation is excluded from the landscape works. Trim and fill the excavated ground surfaces to achieve design levels to accommodate finish materials as detailed. Compact the finished surface as required for the finished ground treatment.

Sub-soil Drainage

Keep the excavated works drained and free of standing water. Allow to supply and install sub-soil drainage pipes as required for the new works to ensure that all gardens are well drained. Connect the sub-soil drainage pipes to the nearest downstream stormwater pits. Include pipe filter socks.

HARDWORKS

Garden Walls, Fences, Steps, TGSI and Edging

Construct garden walls as shown on plan, as detailed and of the material scheduled. Provide footings, step nosings, tactile surfaces to comply with standards and applicable legislation.

Soil Testing

Undertake at least two (2) soil tests, in locations as advised by Project Manager, and provide results and recommendations for the improvement of plant growth and to adjust the soil to achieve appropriate planting medium (including pit levels) for successful plant growth.

Subsoil

Excavate all garden beds to bring the subsoil to at least 300mm below finished design levels. Shape the subsoil to fall to subsoil drains where applicable. Do not excavate within the drip line of trees to be retained. Excavate all turf areas to bring the subsoil to at least 100mm below finished design levels. Shape the subsoil to fall to subsoil drains where applicable. Do not excavate within the drip line of trees to be retained. Cultivate the subsoil to a further depth of 100mm. Remove stones exceeding 25mm, clods of earth exceeding 50mm, and weeds, rubbish or other deleterious material brought to the surface during cultivation. Do not disturb services or tree roots, if necessary cultivate these areas by hand. During cultivation, thoroughly mix materials required to be incorporated into the subsoil, as recommended in the soil testing results and to manufacturer's recommendations. Trim the surface to design levels after cultivation.

Topsoil

Import topsoil for the garden and turf areas, unless the topsoil can be provided from material recovered from the site, as recommended in the soil testing results. Spread the topsoil on the prepared subsoil and grade evenly, compact lightly and uniformly in 150mm layers. Avoid differential subsidence and excess compaction and produce a finished topsoil surface which has the following characteristics:

- Finished to design levels, allowing for mulch or turf, which is to finish flush with adjoining hard surfaces such as paths and edge;
- Smooth and free from stones or lumps of soil;
- Graded to drain freely, without ponding, to catchment points;
- Graded evenly to adjoining surfaces; and
- Ready for planting.

Compost

Provide, in accordance with AS 4454, well rotted vegetative material or animal manure, free from harmful chemicals, grass and weed growth.

Fertiliser

Provide proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses and application rates.

Plants

Supply plants in accordance with the landscape drawings and schedules, which have the following characteristics:

- Large healthy root systems, with no evidence of root rot, restriction or damage;
- Vigorous, well established, free from disease and pests, of good form consistent with the species or variety;
- Hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site, and in particular shade conditions;
- Grown in final containers for not less than twelve weeks;
- Trees, unless required to be multi-stemmed, shall have a single leading shoot; and
- Containers shall be free from weeds and of appropriate size in relation to their container.

Plant Installation

Following excavation of the planting hole place and spread 15gms of wetting agent pre-mixed with one (1) litre of water. Place the plant correctly orientated to north or for best presentation. Backfill the planting holes with specified topsoil mixture. Lightly tamp and water to eliminate air pockets. Ensure the topsoil is not placed over the top of the rootball. Keep the plant stem at the same height above the ground as it was above the soil in the container. Apply fertiliser, as recommended in the soil testing results or in accordance with the manufacturer's recommendations around the plants in the soil at the time of planting.

Embankment Stabilisation

Where necessary to prevent soil erosion or soil movement, stabilise embankments. As a minimum this should be on slopes >1:3. Stabilise embankments using biodegradable fibre reinforced with heavy weight polymer mesh. Lay mesh from top to bottom of slope. Install in accordance with manufacturer's specification, including 300 x 300 mm anchor trenches at top and bottom, backfilled with soil over the mesh and composted, and U-shaped galvanised steel pegs at 1000 mm centres and 250ml centres at edge overlaps. Plant after matting is installed.

Root Barrier

Supply and install root control barriers to all new tree plantings adjacent to walls, paths and all trunk service trenches, where their proximity poses a threat to the stability of the infrastructure. Install in accordance with manufacturer's recommendations.

Mulch

Mulch shall be approved recycled wood fibre or pine bark mulch. Place mulch in all garden beds to a depth of 75mm, after all specified plants are installed. Keep mulch clear of all plant stems and rake to an even surface flush with the surrounding surfaces evenly graded between design surface levels. Over fill to allow mulch to settle to the specified depth.

Stakes and Ties

Stakes shall be durable hardwood, straight, free of knots and twists, pointed at one end, in the following quantities and sizes for each of the various plant pot sizes:

- Plants (>25 lt): 1 off 38 x 38 x 1200mm;
- Semi-advanced plants (>75 lt): 2 off 50x50x 1800mm;
- Advanced (>100 lt): 3 off 50 x 50 x 2400mm.

IRRIGATION

All proposed landscape areas shall be irrigated. The irrigation system shall be an automatic fixed drip system, with an irrigation controller self operated via a soil moisture sensor. The system shall be compatible to the type of plant material and rates of water required. Where appropriate adjustable and fully serviceable. The layout of the entire irrigation is to ensure that each individual plant receives the required amount of water to maintain healthy and vigorous growth. The irrigation system shall be such that, component theft, vandalism, over-spray and wetting of paths shall be reduced to a minimum or completely eliminated by the use of drip, pop-up sprinklers and judiciously placed fixed spray emitters. Do not use fine mist type emitters that provide a drifting mist that may wet paths and the buildings.

Tree watering 1: 1st initial watering at the time of planting. Quantity of water will be adequate to saturate the root ball to its core.  
Tree watering 2, post planting, provide a minimum of 15 litres of water (for tree in a 45 litre pot) to the newly planted tree per 7 days. Water at a slow rate not to displace mulch. For trees in pot size larger than 45 litres, provide quantity of water on third of that pot size.

Note: it is the responsibility of the contractor to confirm the location of all underground services prior to commencement of any excavation or staking works.  
Strong central leading trunk to be evident at time of planting

All trees supplied must meet the criteria of AS2303-2018: tree stock for landscape use & be healthy specimens free of pests and diseases. Trees to be well watered of a maximum of 24 hours prior to planting

Set 2 of 50x50x2400mm hardwood stakes vertically (or depending on pot size refer to specification for number and size) and clear of root ball and canopy at 900mm spacing, offset a min. 200mm from underground services to ensure no damage is caused to services. Stakes must be positioned so as to prevent damage to structural branches and prevent rubbing on branches.

50mm wide hessian ties of good quality wrapped around the trunk and nailed or stapled to the stake. Tree tie is to be positioned as high as possible, looped around the trunk and not the branches, and be loose, however still be tight enough to prevent excessive movement

Position tree in hole with the top of the rootball at the same height as the surrounding ground and backfill with 50/50 blend of site soil and imported organic topsoil. Imported organic topsoil must be as per AS-4419 2003: soils for landscape & gardens. At the time of planting, if the roots are matted, slice the bottom 50mm off and apply the spade to the bottom in each quadrant.

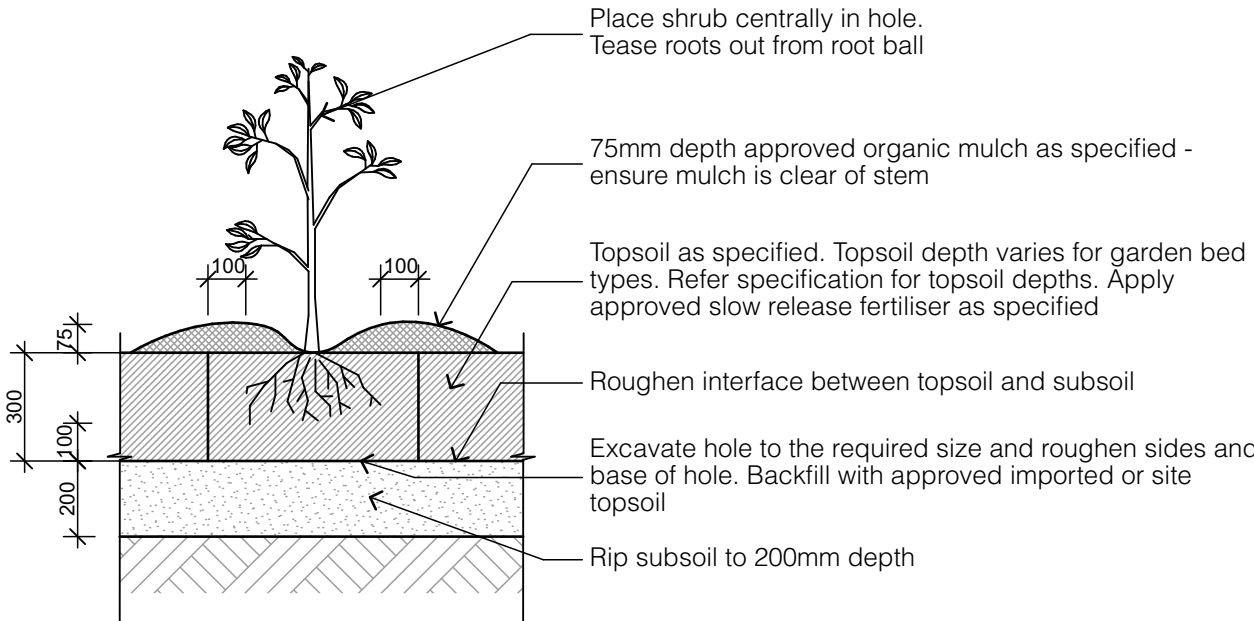
Apply and spread mulch (as per AS4454-2012) to a depth of 100mm and 1200mm diameter from tree. No mulch is to be touching the tree.

Apply 500gms of gypsum to the planting site at a radius of a minimum 1200mm diameter from centre of hole. Apply 500gms of gypsum to inside of hole. Lightly compact soil at the base to prevent settling.

Excavate a planting hole with sloping sides 3 times the width of the rootball. Break up sides and base. If digging in soil of low permeability, the hole should be wider and deeper. In this instance backfill will be required at base of hole. Augers are not to be used for excavation of the planting hole. Planting hole is to be watered prior to planting. No tree is to be planted into naturally waterlogged soil. If soil is waterlogged, planting must be rescheduled to allow sufficient time for the soil to dry out.

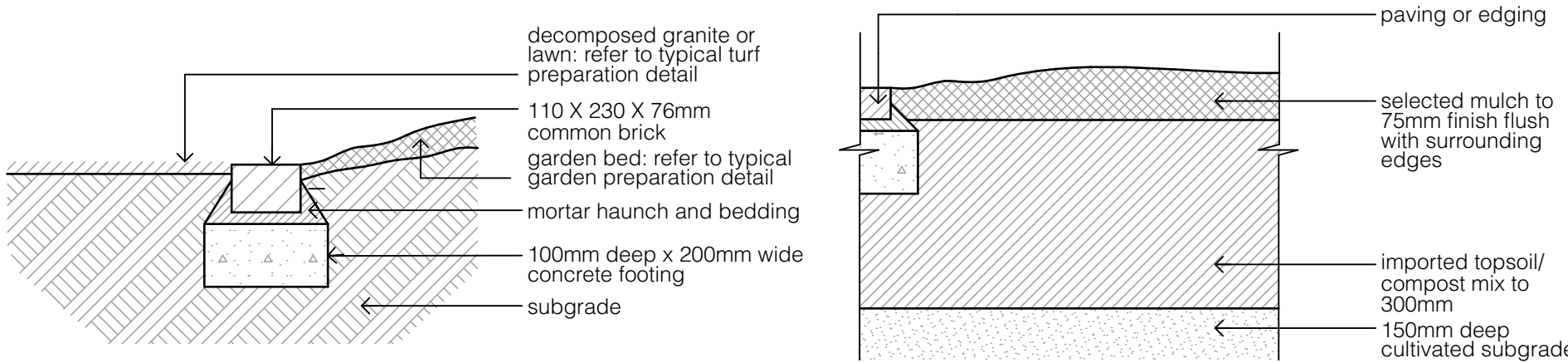
6 Tree Planting Detail

1:20



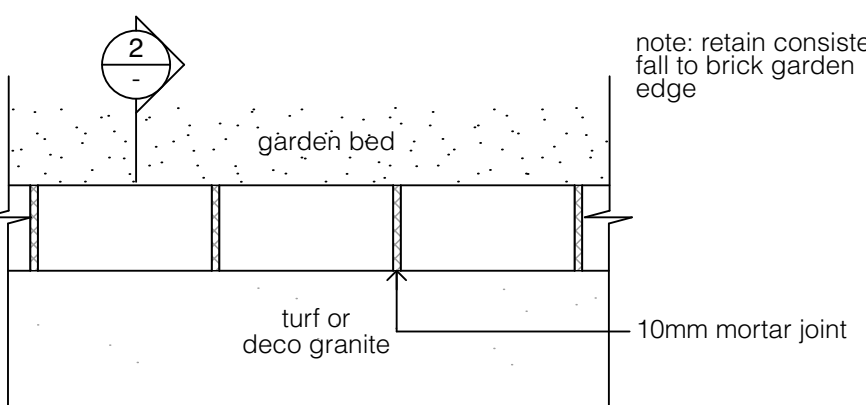
5 Planting Detail

1:20



2 Brick Garden Edge Section

1:10

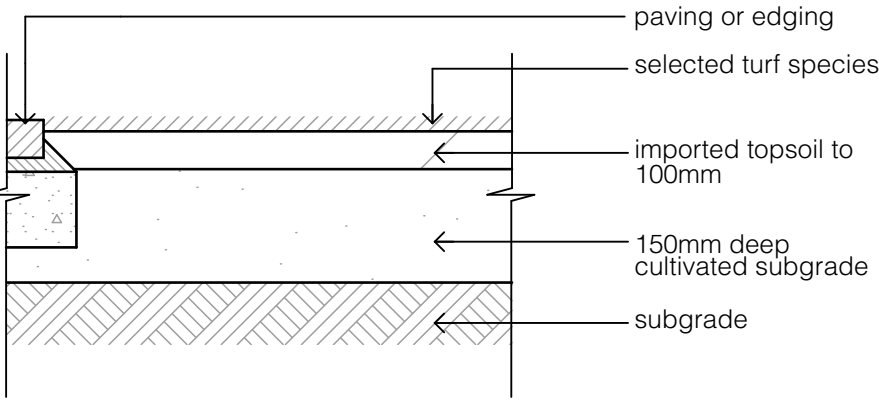


1 Brick Garden Edge Plan

1:10

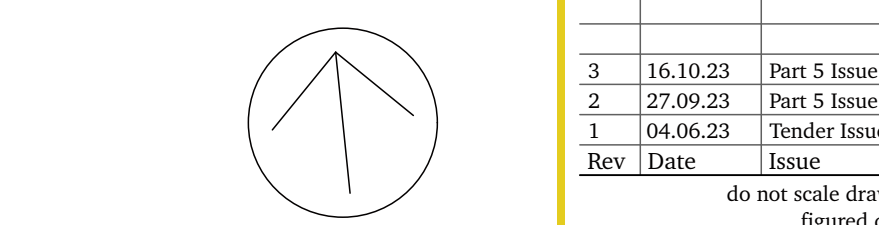
4 Garden Bed Preparation Detail

1:10



3 Turf Preparation Detail

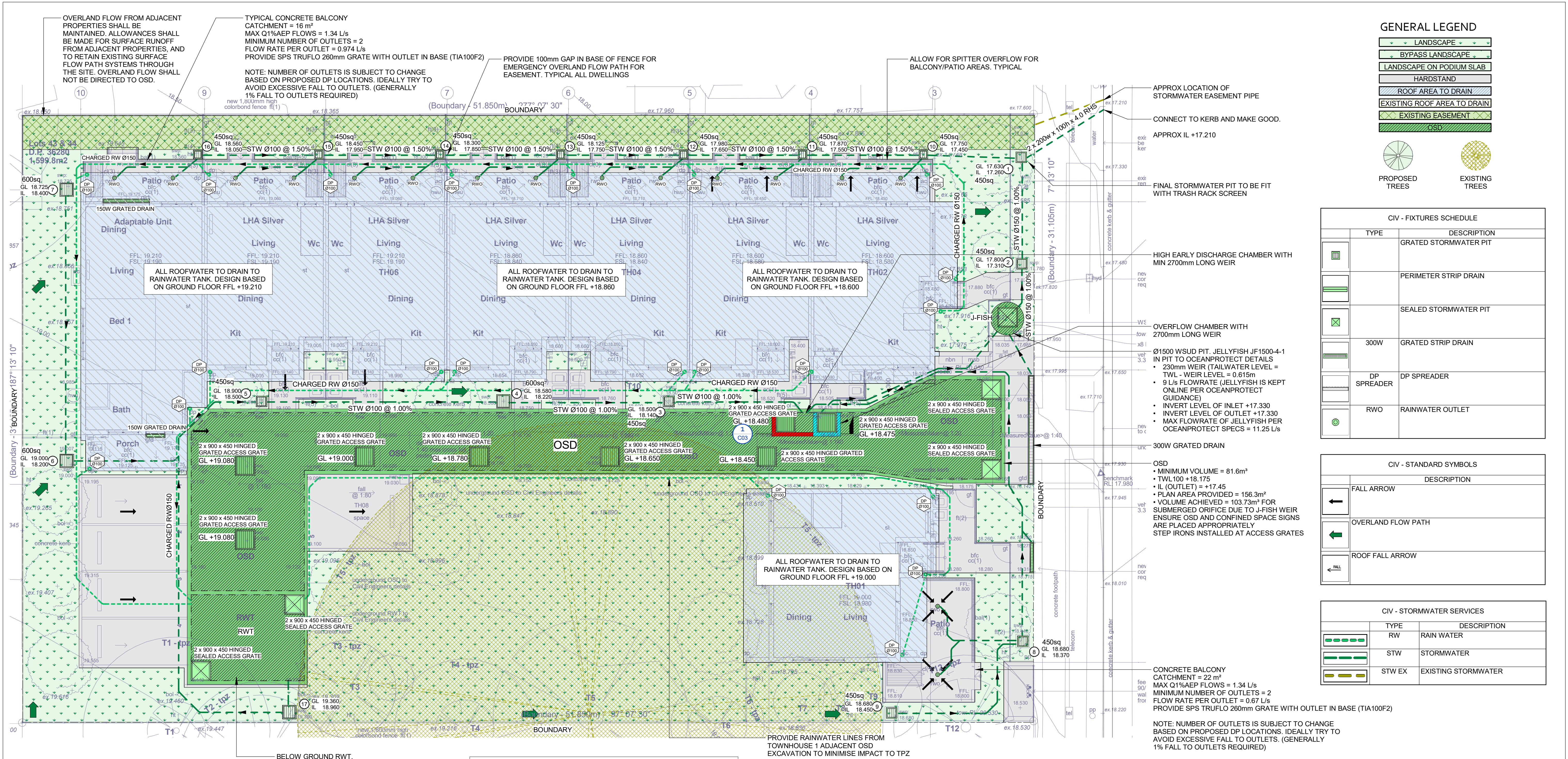
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C	C01
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## GENERAL LEGEND

LANDSCAPE
BYPASS LANDSCAPE
LANDSCAPE ON PODIUM SLAB
HARDSTAND
ROOF AREA TO DRAIN
EXISTING ROOF AREA TO DRAIN
EXISTING EASEMENT
OSD



CIV - FIXTURES SCHEDULE		
	TYPE	DESCRIPTION
		GRATED STORMWATER PIT
		PERIMETER STRIP DRAIN
		SEALED STORMWATER PIT
	300W	GRATED STRIP DRAIN
	DP SPREADER	DP SPREADER
	RWO	RAINWATER OUTLET

CIV - STANDARD SYMBOLS	
	DESCRIPTION
	FALL ARROW
	OVERLAND FLOW PATH
	ROOF FALL ARROW

CIV - STORMWATER SERVICES		
	TYPE	DESCRIPTION
	RW	RAIN WATER
	STW	STORMWATER
	STW EX	EXISTING STORMWATER

## GROUND FLOOR DRAINAGE PLAN

Scale: 1 : 100

- ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING.
- THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES PRIOR TO COMMENCING ANY WORKS ON THE SITE. THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITE STORMWATER SYSTEM CONNECTION INTO COUNCIL'S KERB/DRAINAGE SYSTEM MATCH THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
- ALL STORMWATER DRAINAGE WORK TO AVOID TREE ROOTS. WHERE NOT POSSIBLE, ALL EXCAVATIONS IN VICINITY OF TREE ROOTS ARE TO BE HAND DUG.
- ALL BASES OF PITS TO BE BENCHED (TO HALF PIPE DEPTH) TO THE INVERT OF THE OUTLET PIPE WITH ALL PIPES CUT FLUSH WITH SIDE OF PIT, TO ALLOW SMOOTH FLOW OF STORMWATER.
- PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATE WHERE IN TRAFFICABLE AREAS.
- PROVIDE 100mm GAP IN BASE OF FENCE FOR EMERGENCY OVERFLOW.
- PROVIDE SUBSOIL DRAINAGE AND OUTLETS TO ALL ON PODIUM PLANTER BOXES. OUTLET PIPES NOT SHOWN FOR CLARITY OF DOCUMENTATION.
- ALL DOWNPIPES ARE TO BE PIPE CONNECTED INTO THE FORMAL RAINWATER OR STORMWATER LINE UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OTHERWISE.
- ALL PIPES TO BE 100mmØ @ 1% MINIMUM UNLESS NOTED OTHERWISE.
- ALL BASES OF PITS TO BE BENCHED TO THE INVERT OF THE OUTLET PIPE WITH ALL PIPES CUT FLUSH WITH SIDE OF PIT, TO ALLOW SMOOTH FLOW OF STORMWATER.
- PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATES IN TRAFFICABLE AREAS.

## OSD CALCULATIONS:

SITE AREA: 0.16 ha (A)  
 UPSTREAM CATCHMENT THROUGH SITE: 0 ha (AA)  
 BASIC STORAGE [470'A]: 75.2 m<sup>3</sup> (B)  
 BASIC Q [0.08A]: 0.013 m<sup>3</sup>/s (C)  
 AREA OF SITE TO OSD: 0.136 ha (D)  
 PERCENTAGE OF SITE AREA DRAINED: 85% (E)  
 STORAGE PER HA OF CONTRIBUTING AREA: 552.9 m<sup>3</sup>/ha (F)  
 ADJUSTED PSD FROM FIG 5.1: 64.6 L/s/ha (G)  
 PSD\*: 8.78 L/s (H)  
 MAX. HEAD TO ORIFICE [TWL - ORIFICE CL]: 0.725 m (K)

ORIFICE DIAMETER: 0.069 m (J)  
 MAX. Q = 8.79 L/s (L)  
 HEAD FOR HED [WEIR RL - ORIFICE CL]: 0.625 m (M)  
 HED FLOW: 8.16 L/s (N)  
 APPROX. MEAN DISCHARGE: 8.47 L/s (P)  
 AVE. Q PER HECTARE: 62.3 L/s/ha (Q)  
 FINAL SSR PER HECTARE: 567.9 m<sup>3</sup>/ha (R)  
 FINAL SSR: 77.2 m<sup>3</sup> (S)

SUBMERGED CHECKS  
 [TWL - JELLYFISH WEIR RL] 0.615m  
 [TWL - JELLYFISH WEIR RL] 0.515m  
 MAX. Q: 8.074 L/s  
 HED FLOW 7.39 L/s  
 APPROX MEAN DISCHARGE Q: 7.73 L/s  
 AVE. Q PER ha: 56.8 L/s/ha  
 FINAL SSR PER ha: 607.3 m<sup>3</sup>/ha  
 FINAL SSR: 82.6m<sup>3</sup>

## WSUD CALCULATIONS

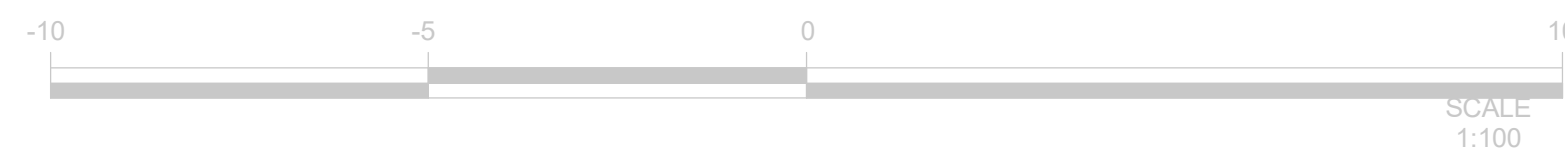
WE MODELLED WITH THE FOLLOWING PARAMETERS:  
 • MUSIC VERSION 6.3.1  
 • RAINFALL STATION 66124 PARRAMATTA, 6 MINUTE TIME STEP FROM 1984 TO 2007.  
 • SYDNEY METRO CMA SOURCE NODE INPUTS UTILIZING MODIFIED % IMPERVIOUS AREA, RAINFALL THRESHOLD, SOIL PROPERTIES & POLLUTANT CONCENTRATION  
 • NO DRAINAGE ROUTING BETWEEN NODES.  
 • CUMBERLAND COUNCIL DCP WATER QUALITY OBJECTIVES:  
 80% TOTAL SUSPENDED SOLIDS REDUCTION  
 45% TOTAL PHOSPHORUS REDUCTION  
 45% TOTAL NITROGEN REDUCTION  
 90% GROSS POLLUTANT REDUCTION

**NOTE: ALL PITS TO BE FIT WITH OCEANPROTECT OCEANGUARD IN SURFACE FLOW CONFIGURATION**

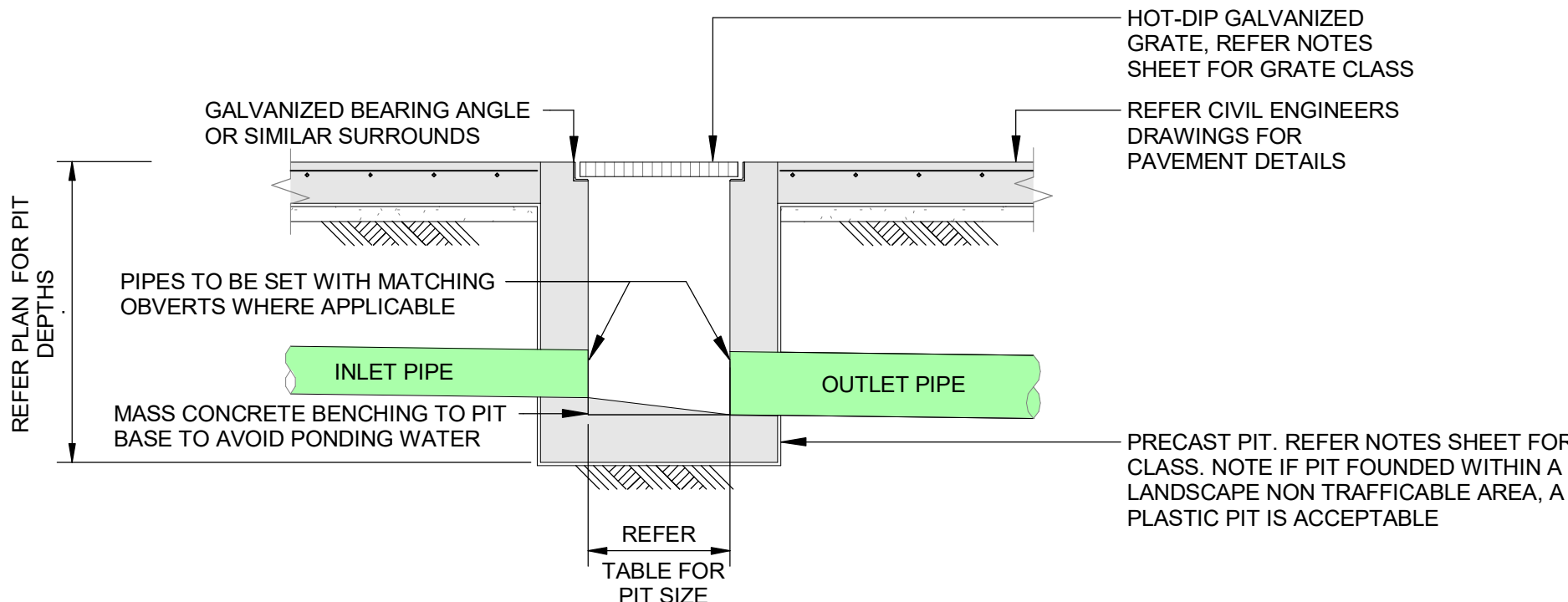
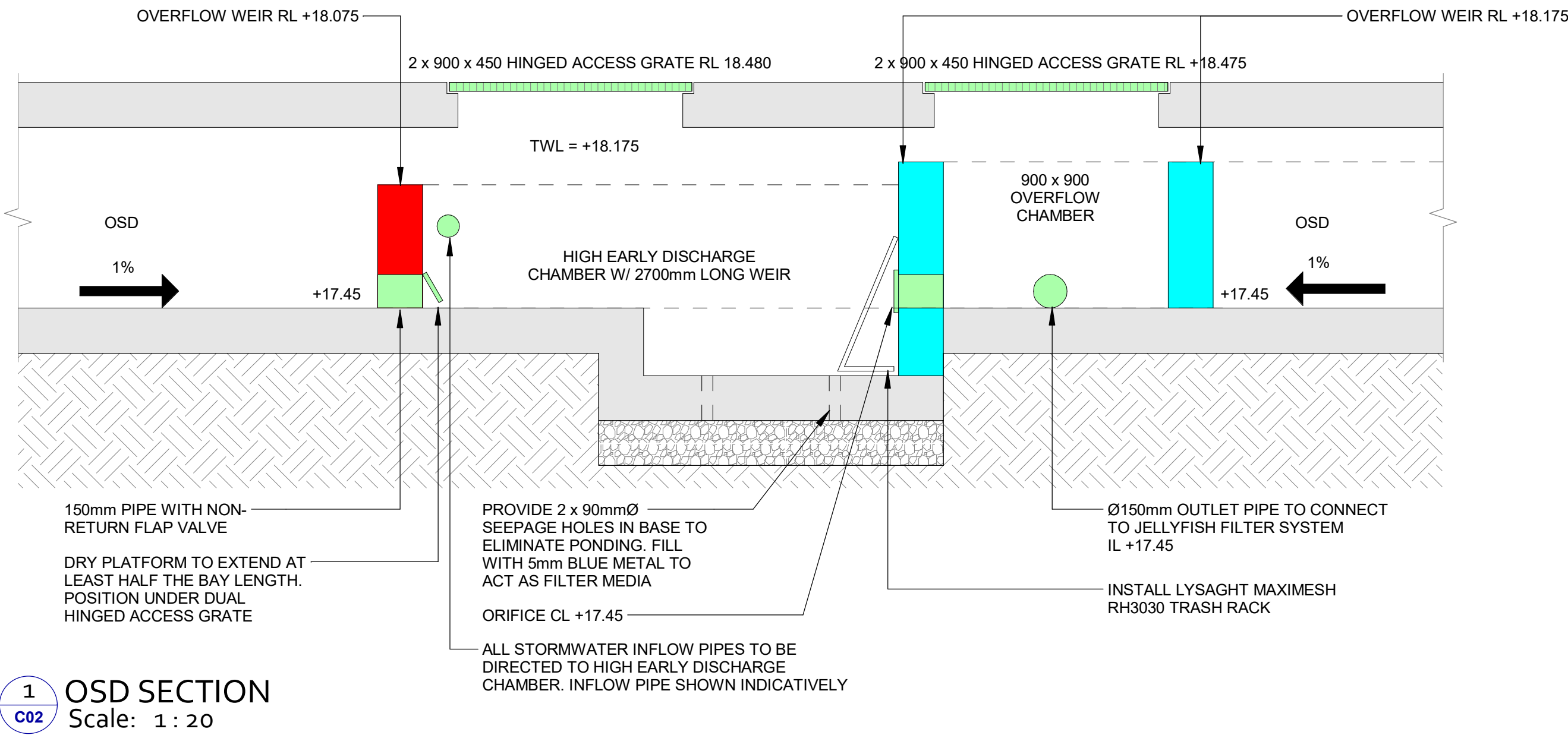
## CONCRETE BALCONY DRAINAGE CALCULATIONS

EXPOSED HARDSTAND AREAS ARE TO DRAIN IN ACCORDANCE WITH AS3500.3 (2019)  
 DESIGN BASED ON 2016 IFD DATA FOR SOUTH GRANVILLE  
 1% AEP 5min STORM INTENSITY = 203 mm/hr  
 C100 (100% IMPERVIOUS) = 1.08  
 UNIT FLOWRATE = 1 X C100 x (0.0001 / 0.36) = 0.0609 L/s/m<sup>2</sup>  
 GRATES NOTED ON PLAN DESIGNED ACCORDING TO ROOF CATCHMENT AREA AND HEAD OVER OUTLET.  
 ROOF CATCHMENT AREA MEASUREMENTS ARE BASED OFF SCALED ARCHITECTURAL DRAWINGS. NOTIFY ENGINEER IF DISCREPANCIES ARE NOTED.  
 MINIMUM PIPE SIZE TO BE Ø 100mm U.N.O.

GRATE NOTES:  
 SPS FLOW RATES CERTIFIED BY ASSOCIATION OF HYDRAULIC SERVICES CONSULTANTS AUSTRALIA DATED 16th NOVEMBER 2016.  
 MAXIMUM FLOW BEFORE ENTERING TRANSITION FLOW REGION IS NOTED BELOW WITH 50% BLOCKAGE FACTOR APPLIED FOR EXPOSED ROOFS TO ACCOUNT FOR LEAVES / DEBRIS:  
 TIA100/90F: SPS TRUFLO 260mm GRATE WITH Ø90mm or Ø100mm OUTLET CAST INTO SLAB  
 Q = 3.0 L/s (15mm HEAD / PONDING).  
 Q(50% BLOCKED) = 1.5 L/s



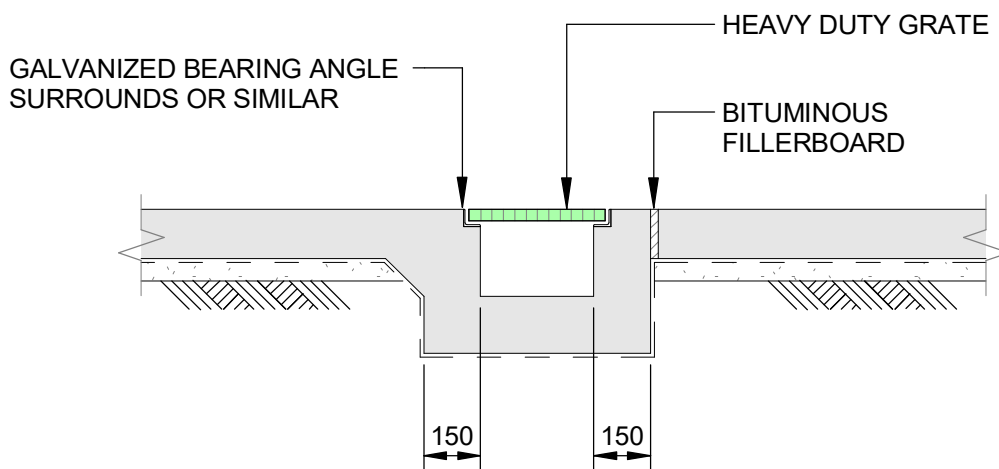
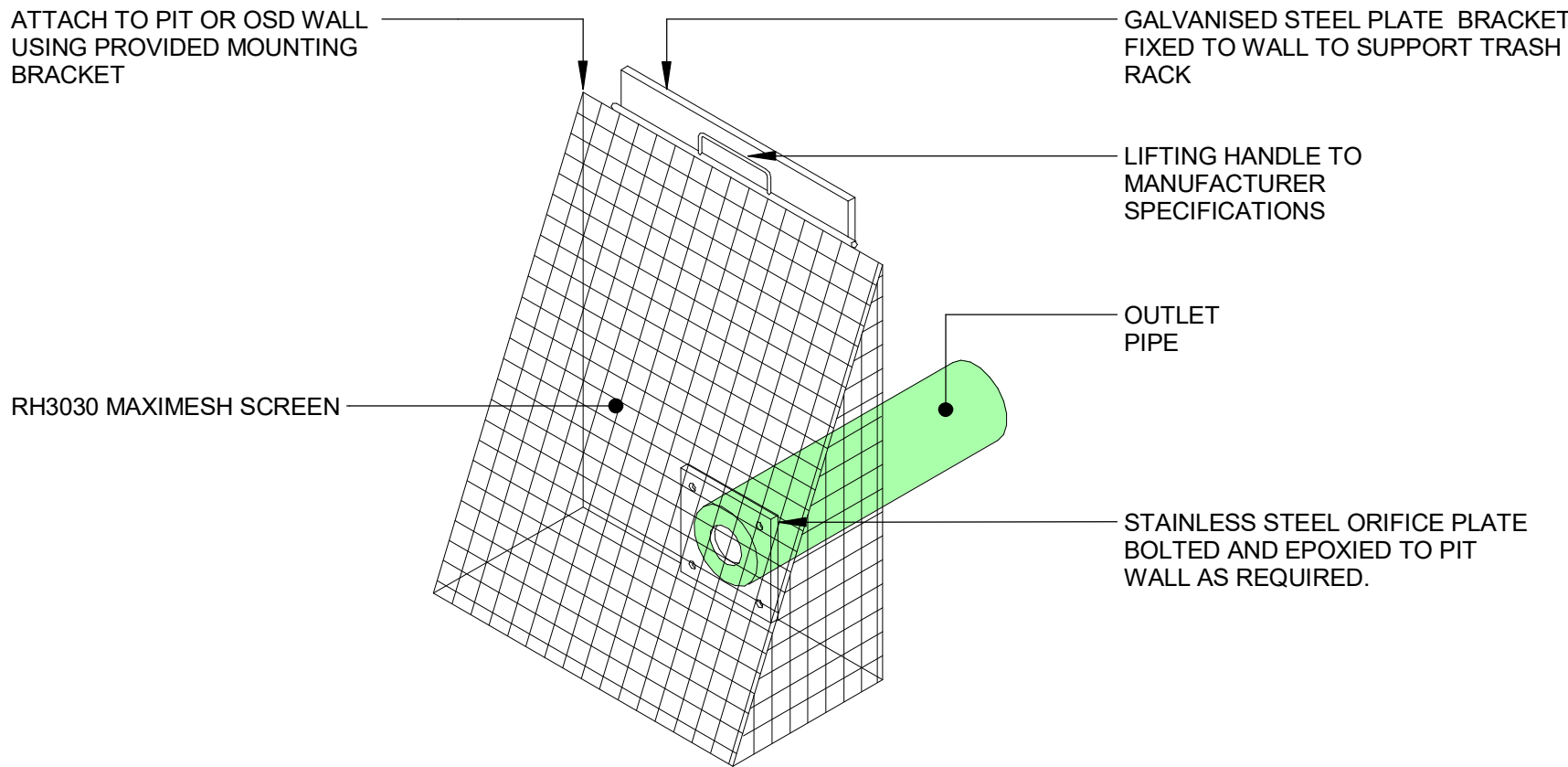




1. ENSURE CLIMB IRONS ARE PROVIDED UNDER LID AT 300 CTS TO COUNCIL'S SPECIFICATIONS WHERE PIT DEPTH IS DEEPER THAN 1000.
2. GREENVIEW RECOMMENDS THE PLUMBER PROVIDES 90Dia x 3000 LONG SUBSOIL DRAINAGE STUB PIPE SURROUNDED WITH 100mm THICKNESS OF NOMINAL 20mm COARSE FILTER MATERIAL WRAPPED IN GEOTEXTILE FILTER FABRIC. (BIDUM A24 OR APPROVED SIMILAR). TO BE PARALLEL TO UPSTREAM SIDE OF EACH INLET PIPE.

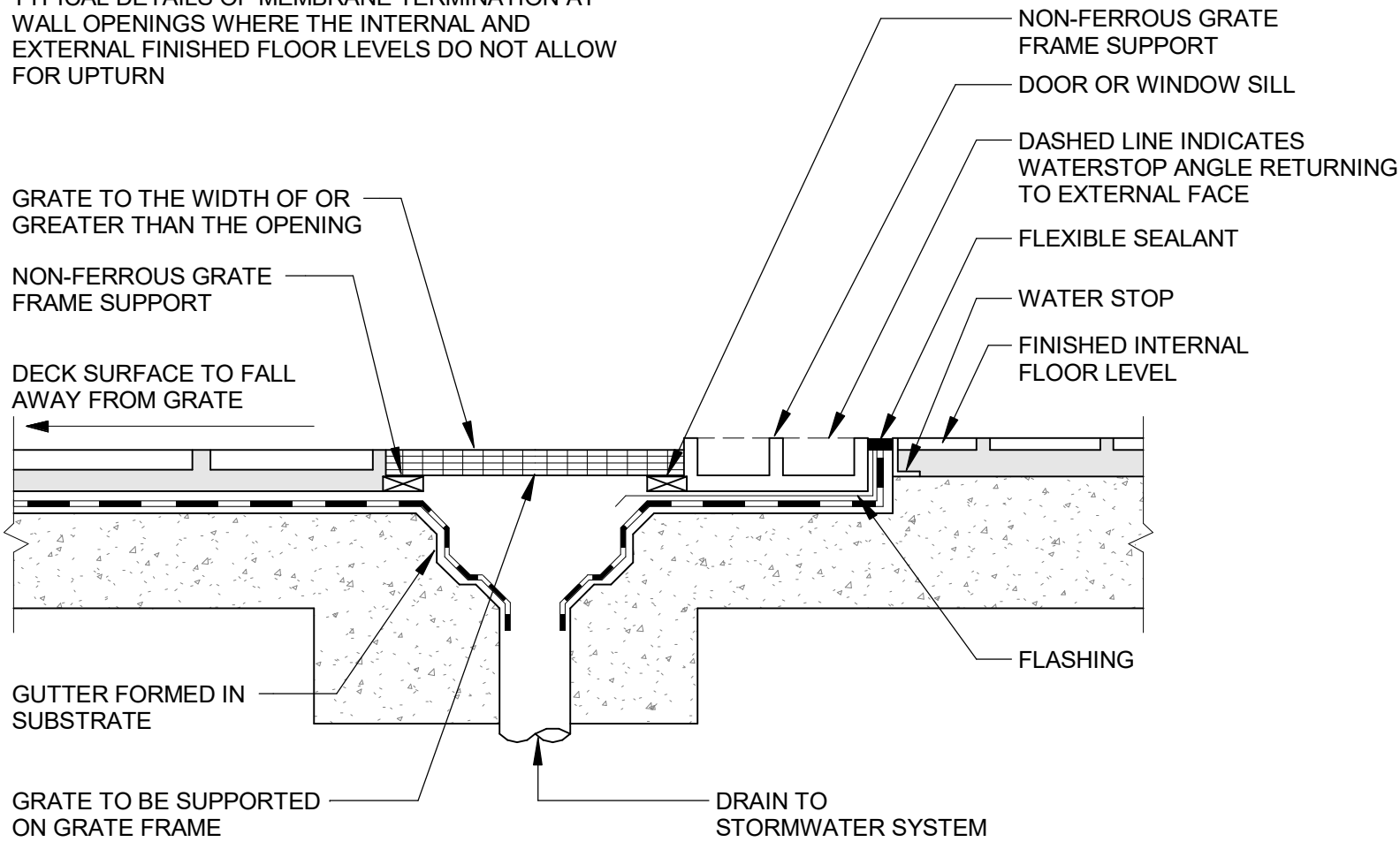
PIT SIZE	
DEPTH	PIT DIMENSION
0 - 600	450 mm x 450 mm
600 - 900	600 mm x 600 mm
900 - 1200	600 mm x 900 mm
1200 +	900 mm x 900 mm

TYPICAL CONCRETE INLET PIT - CONCRETE SURFACE  
Scale: 1 : 20

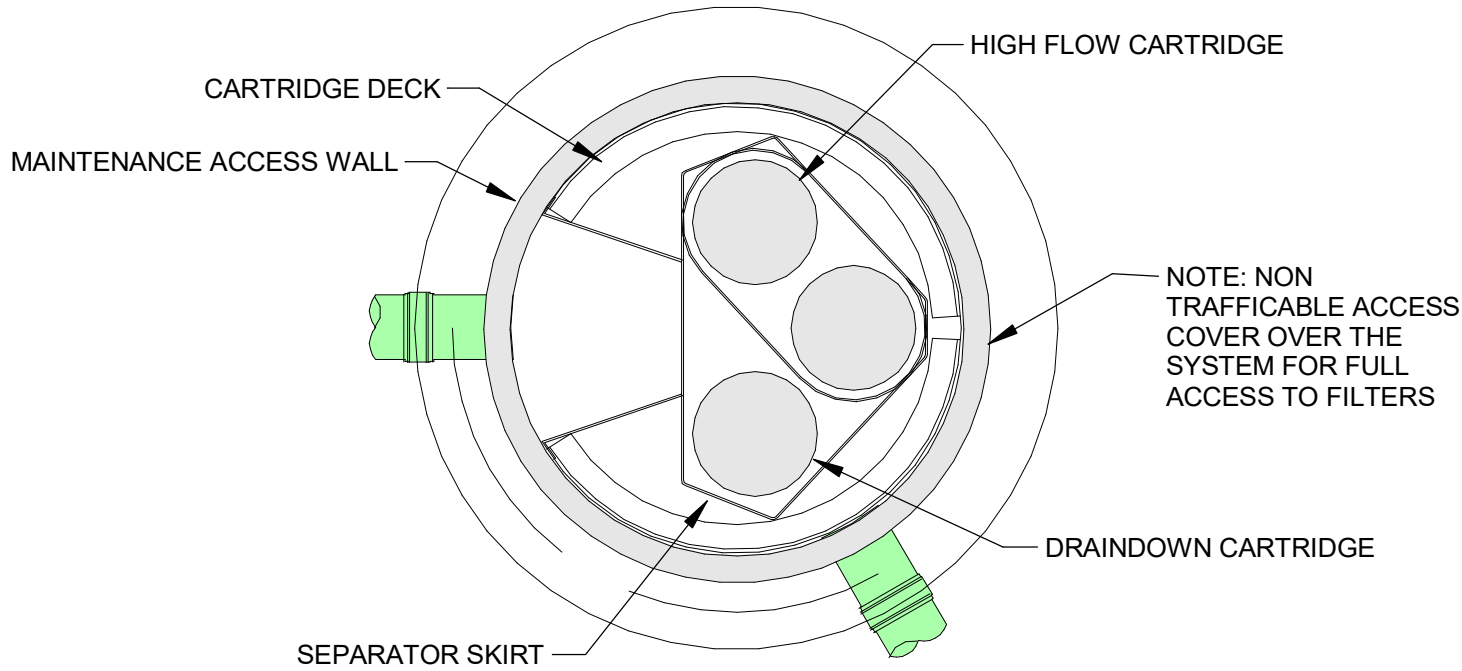


TYPICAL TRASH SCREEN DETAIL  
Scale: 1 : 10

NOTE:  
TYPICAL DETAILS OF MEMBRANE TERMINATION AT WALL OPENINGS WHERE THE INTERNAL AND EXTERNAL FINISHED FLOOR LEVELS DO NOT ALLOW FOR UPTURN

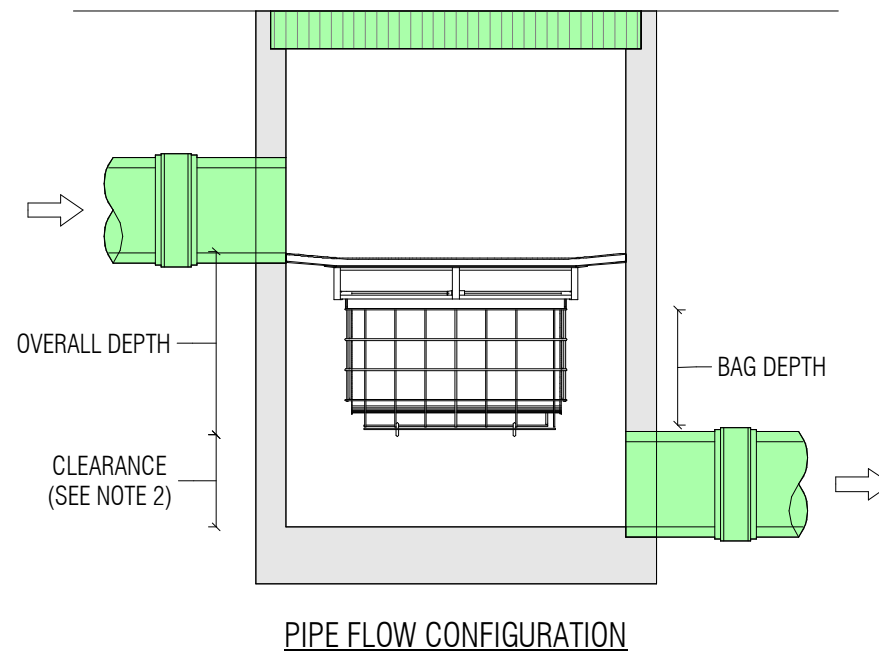
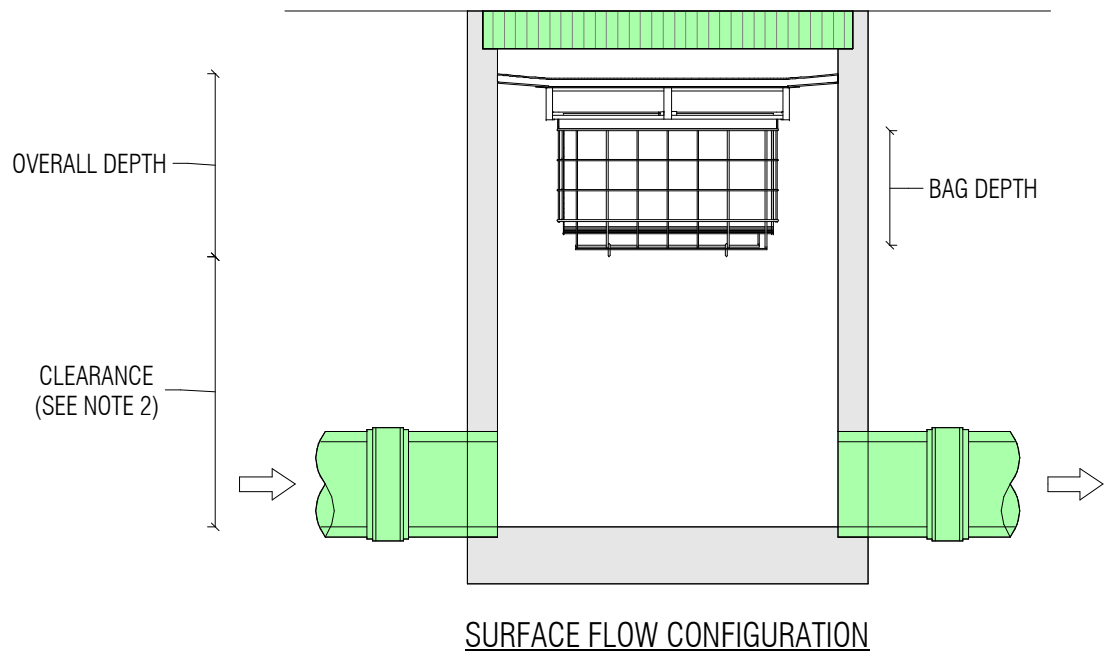


TYPICAL RAINWATER OUTLET DETAIL  
Scale: 1 : 20



JELLYFISH STORMFILTER PLAN

OCEANPROTECT JELLYFISH  
Scale: 1 : 20

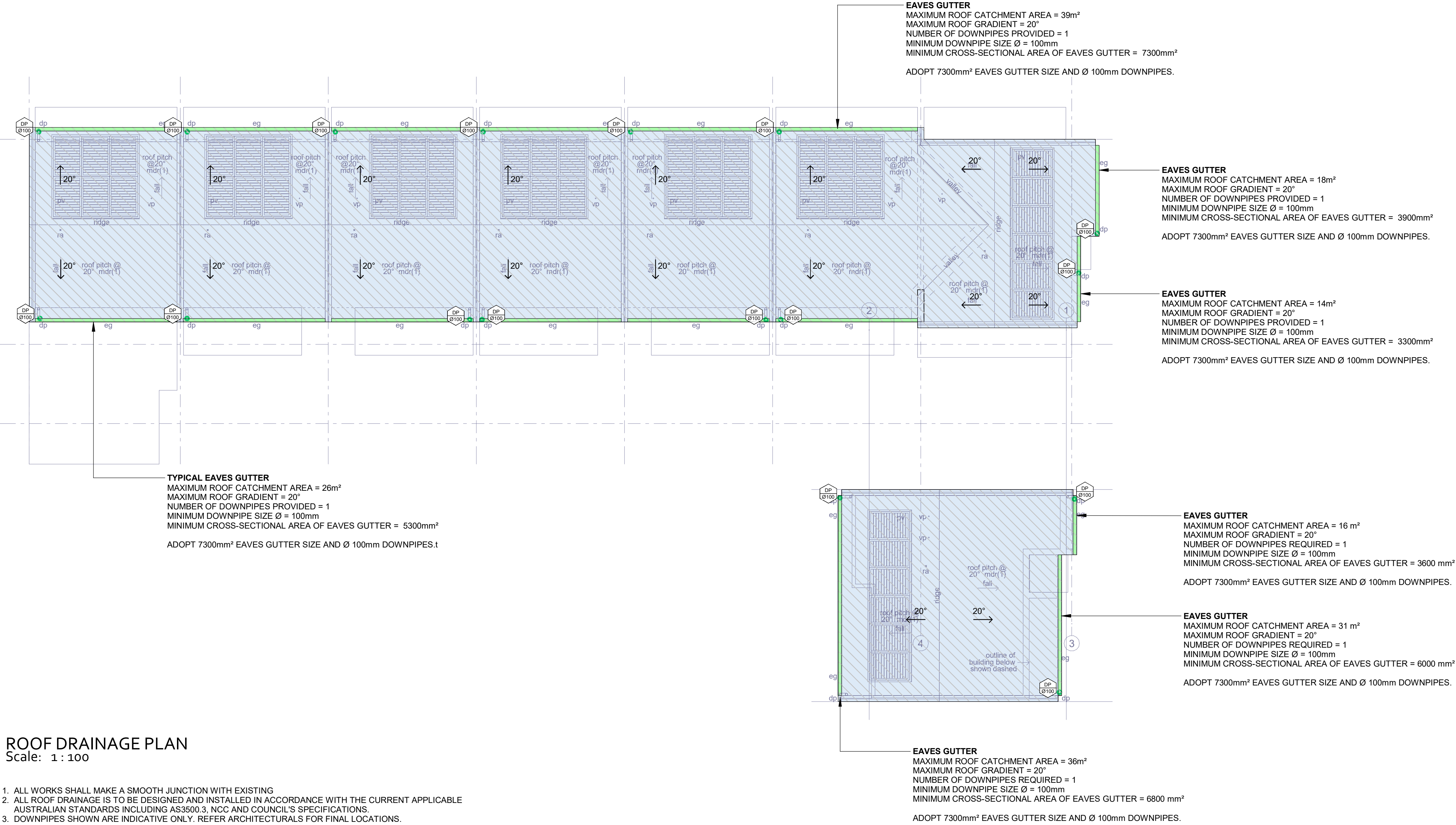


WSUD PIT BASKET DETAIL  
Scale: 1 : 20









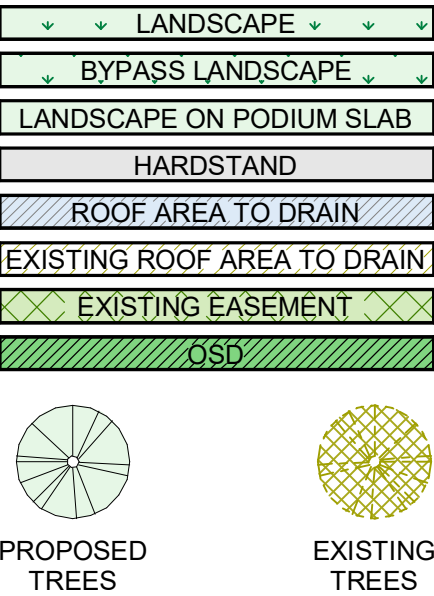
ROOF DRAINAGE PLAN  
Scale: 1 : 100




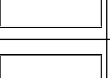


- ALL WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING
- ALL ROOF DRAINAGE IS TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CURRENT APPLICABLE AUSTRALIAN STANDARDS INCLUDING AS3500.3, NCC AND COUNCIL'S SPECIFICATIONS.
- DOWNPIPES SHOWN ARE INDICATIVE ONLY. REFER ARCHITECTURALS FOR FINAL LOCATIONS.
- ALL EAVES GUTTER OVERFLOWS ARE TO BE IN ACCORDANCE WITH AS3500.3 G3
- REFER C01 FOR FURTHER ROOF DRAINAGE NOTES
- GREENVIEW RECOMMENDS THAT THE BUILDER VERIFIES THAT ANY AND ALL BOX GUTTERS HAVE BEEN DESIGNED BY A QUALIFIED CIVIL ENGINEER PRIOR TO THE COMMENCEMENT OF WORKS
- GREENVIEW RECOMMENDS A SPECIFIC INSPECTION AND CERTIFICATION BY A QUALIFIED CIVIL ENGINEER OF ANY AND ALL BOX GUTTERS INSTALLED ON THE PROJECT PRIOR TO OCCUPATION CERTIFICATE.
- ALL DOWNPIPES ARE TO BE PIPE CONNECTED INTO THE FORMAL RAINWATER OR STORMWATER LINE UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OTHERWISE.



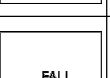
**ROOF DRAINAGE CALCULATIONS**  
ROOF DRAINAGE IS DESIGNED IN ACCORDANCE WITH AS3500.3 (2018)  
EAVES GUTTERS ARE TO BE DESIGNED FOR 20 YEAR ARI STORM EVENTS, NOTING 5% AEP IS EQUIVALENT TO 20 ARI (AS3500.3 TABLE 3.3.4 NOTE 2)  
DESIGN BASED ON 2016 IFD DATA FOR SOUTH GRANVILLE  
5% AEP 5min STORM INTENSITY 2015 = 160 mm/hr  
MINIMUM CROSS SECTIONAL AREA OF EAVES GUTTER TO BE 7300 mm² U.N.O  
MINIMUM DOWNPIPE SIZE TO BE Ø100mm U.N.O.

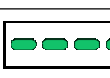


**ROOF DRAINAGE NOTES**  
ROOF CATCHMENT AREA MEASUREMENTS ARE BASED OFF SCALED ARCHITECTURAL DRAWINGS, NOTIFY ENGINEER IF DISCREPANCIES ARE NOTED.  
NO BOX GUTTERS NOMINATED ON ARCHITECTURAL PLANS. NOTIFY ENGINEER IF OTHERWISE.  
MINIMUM FALL OF EAVES GUTTERS TO BE NOT LESS THAN 1:500 UNLESS FIXED TO METAL FASCIAS (NCC 2019 VOL 2 CLAUSE 3.5.3.4.A.i)

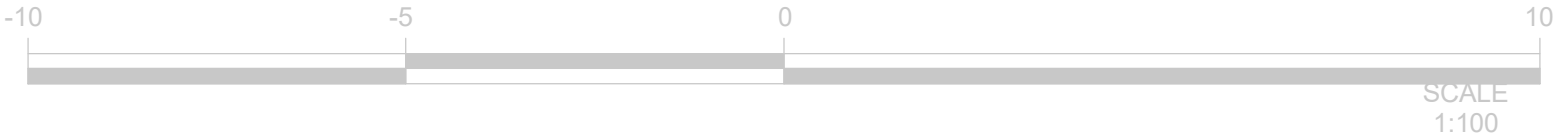
GENERAL LEGEND



CIV - FIXTURES SCHEDULE		
	TYPE	DESCRIPTION
		GRADED STORMWATER PIT
		PERIMETER STRIP DRAIN
		SEALED STORMWATER PIT
	300W	GRADED STRIP DRAIN
	DP SPREADER	DP SPREADER
	RWO	RAINWATER OUTLET

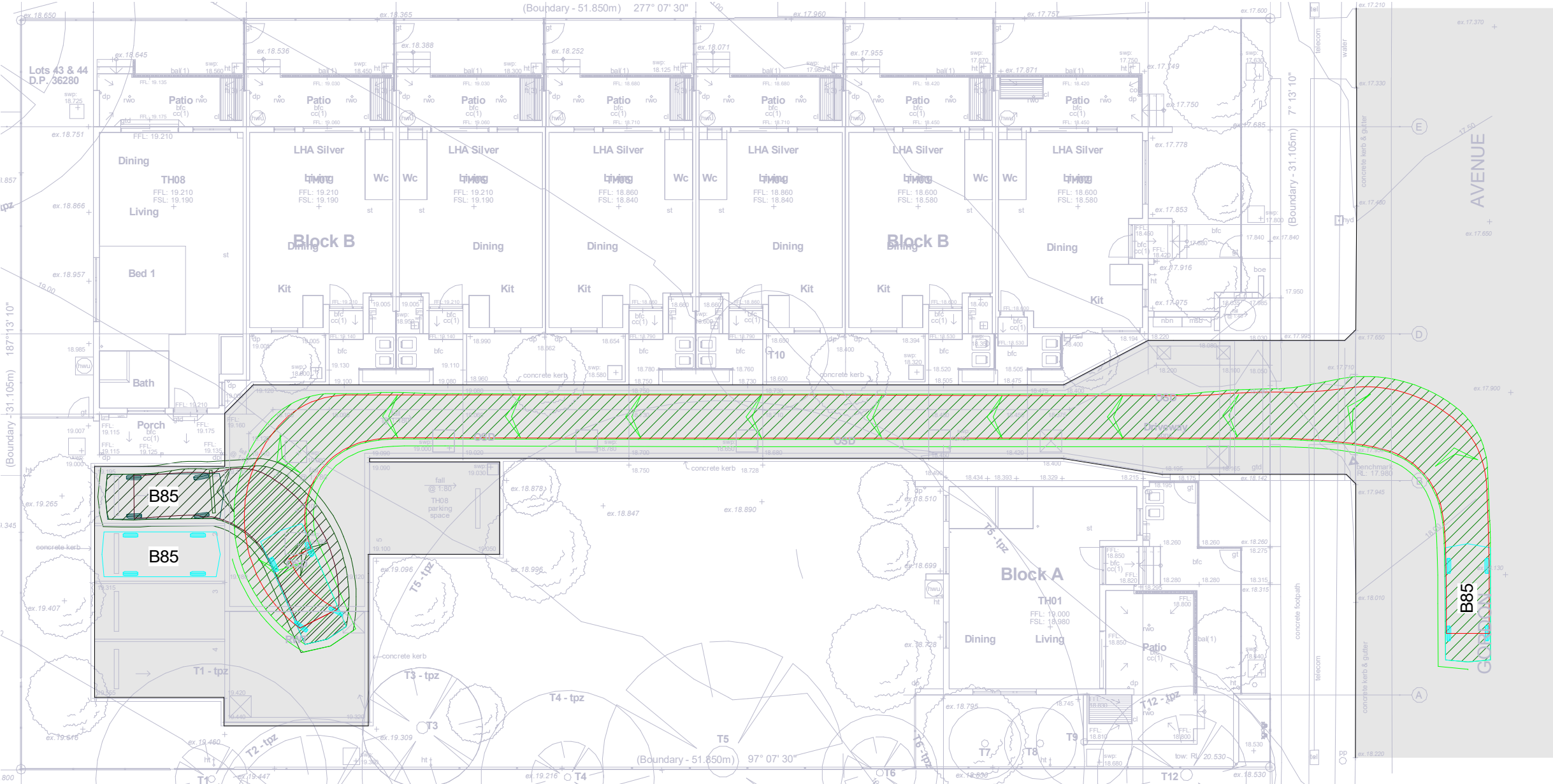
CIV - STANDARD SYMBOLS	
	DESCRIPTION
	FALL ARROW
	OVERLAND FLOW PATH
	ROOF FALL ARROW

CIV - STORMWATER SERVICES		
	TYPE	DESCRIPTION
	RW	RAIN WATER
	STW	STORMWATER
	STW EX	EXISTING STORMWATER



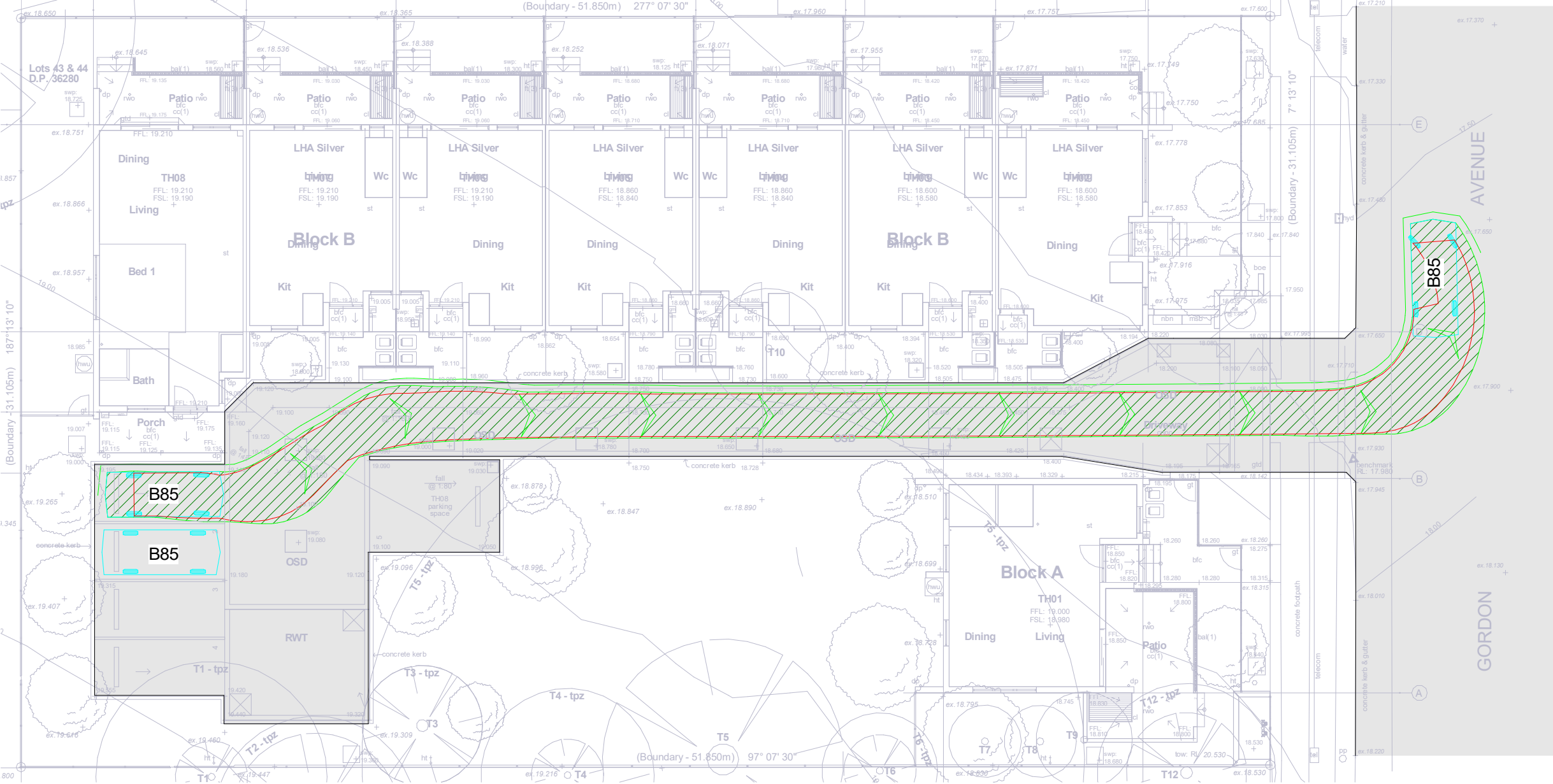


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GROUND FLOOR - B85 ENTRY 1

Scale: 1 : 200



GROUND FLOOR - B85 EXIT 1

Scale: 1 : 200



Family & Community Services  
Land & Housing Corporation

LOCKED BAG 4001  
ASHFIELD NSW BC1800  
PHONE No (02) 8753 8000  
FAX No (02) 8753 8888  
www.facs.nsw.gov.au



REV.	DATE	BY	DESCRIPTION
2	29.09.2023	JG	ISSUED FOR APPROVAL
1	22.09.2023	JPS	ISSUED FOR APPROVAL

ARCHITECT	STANTON DAHL
STRUCTURAL CONSULTANT	GREENVIEW CONSULTING Pty Ltd
HYDRAULIC CONSULTANT	GREENVIEW CONSULTING Pty Ltd
LANDSCAPE CONSULTANT	GREENVIEW CONSULTING Pty Ltd

PROJECT MANAGER	LAND & HOUSING CORPORATION
ELECTRICAL CONSULTANT	GREENVIEW CONSULTING Pty Ltd



Family & Community Services  
Land & Housing Corporation

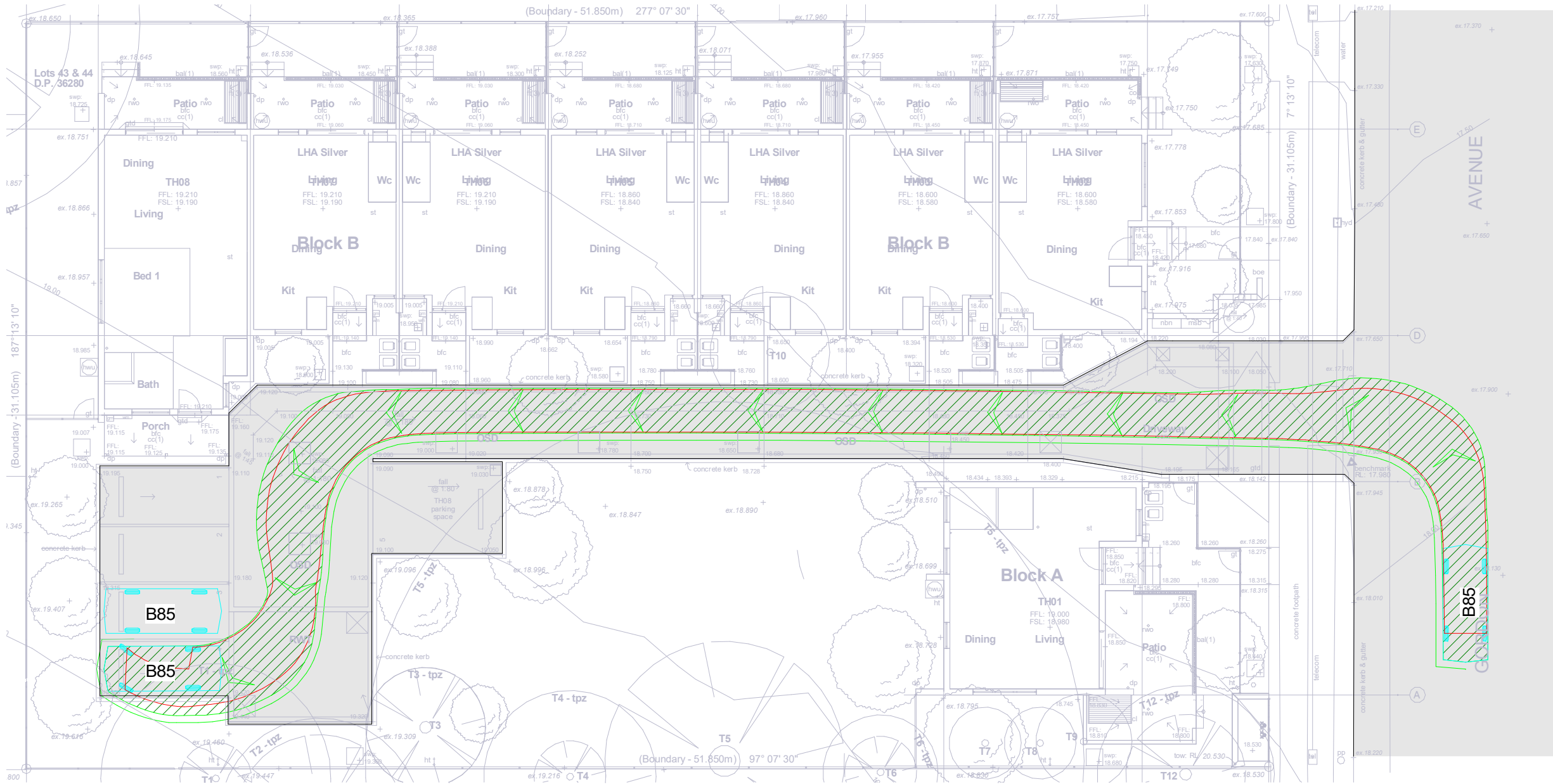
PROJECT:	PROPOSED DEVELOPMENT
AT	70-72 Gordon Street, South Granville, NSW

TITLE:	GROUND FLOOR TURNING PATHS SHEET 1
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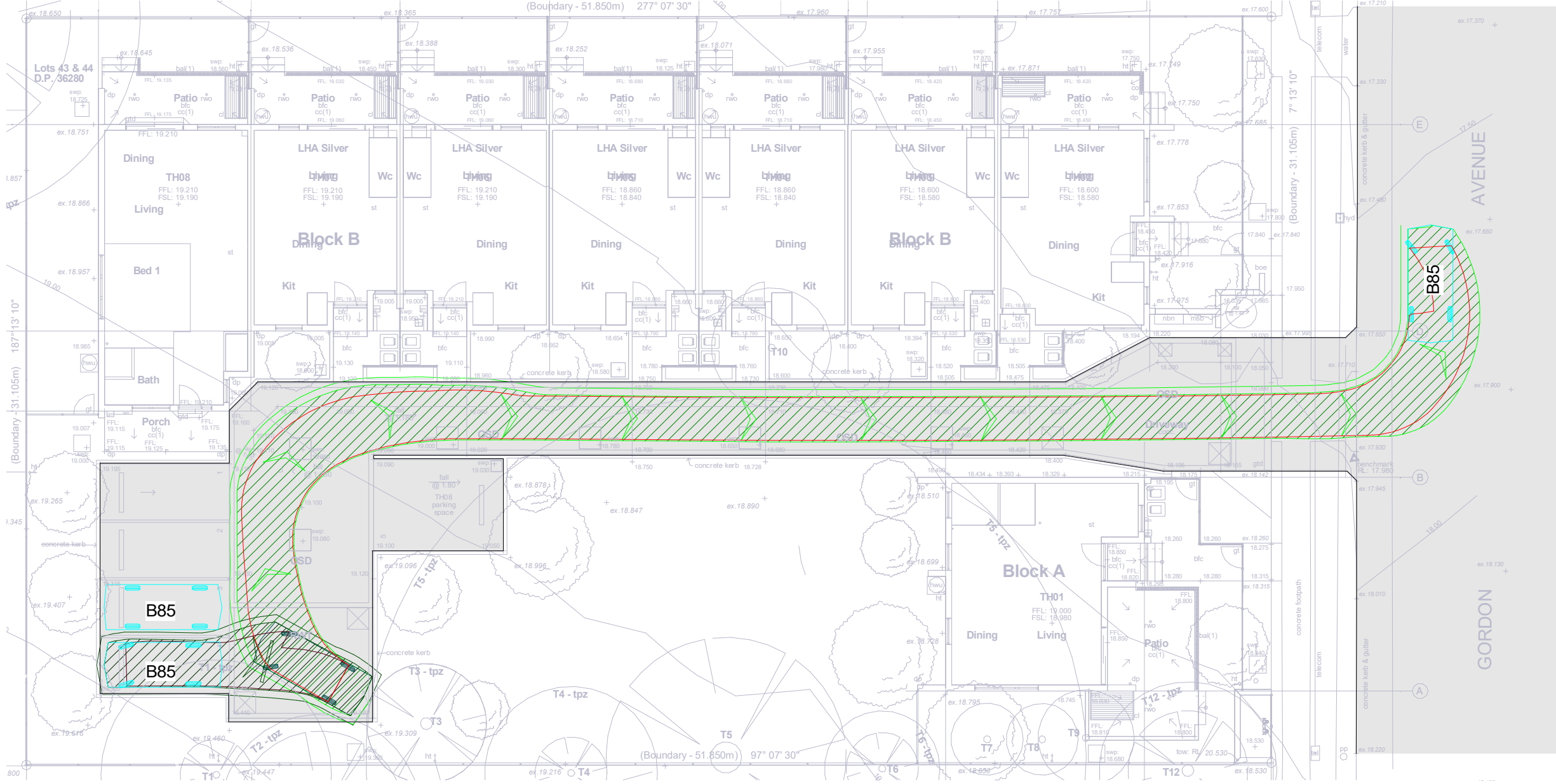
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DATE:	29.09.2023
SCALE:	200
PRJ:	230291
JOB:	230291
STAGE:	P
DRAWN:	DESIGN
CHECKED:	AMck
TYPE:	C
SHEET:	C10
REV:	2



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GROUND FLOOR - B85 ENTRY 2  
Scale: 1 : 200



GROUND FLOOR - B85 EXIT 2  
Scale: 1 : 200



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FAX No (02) 8753 8888  
www.facs.nsw.gov.au



REV.	DATE	BY	DESCRIPTION
2	29.09.2023	JG	ISSUED FOR APPROVAL
1	22.09.2023	JPS	ISSUED FOR APPROVAL

ARCHITECT  
STANTON DAHL  
PROJECT MANAGER  
LAND & HOUSING CORPORATION  
ELECTRICAL CONSULTANT  
GREENVIEW CONSULTING Pty Ltd

STRUCTURAL CONSULTANT  
GREENVIEW CONSULTING Pty Ltd  
HYDRAULIC CONSULTANT  
GREENVIEW CONSULTING Pty Ltd  
LANDSCAPE CONSULTANT



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Land & Housing Corporation

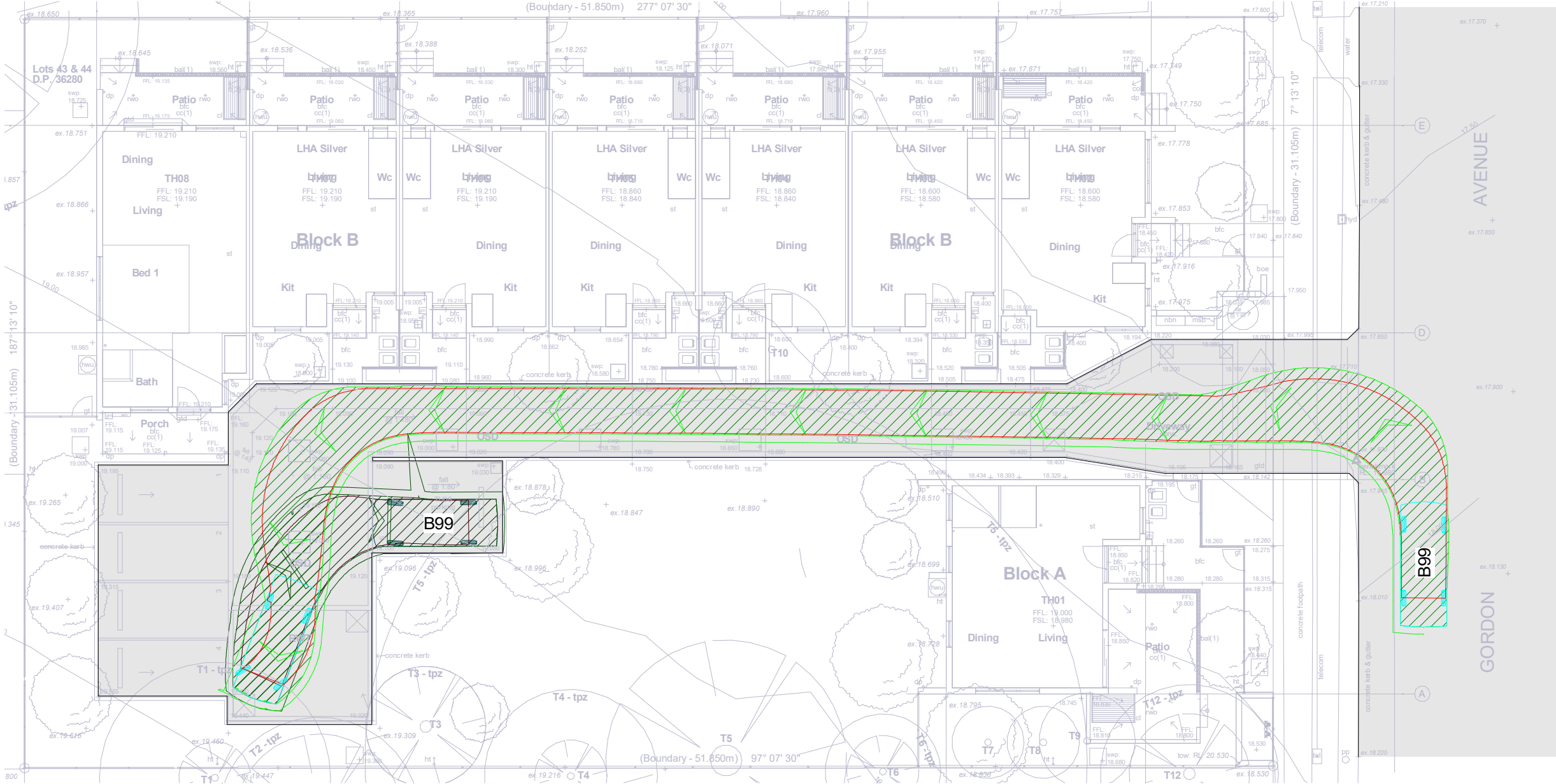
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PROPOSED DEVELOPMENT  
AT  
70-72 Gordon Street, South Granville, NSW

TITLE:  
GROUND FLOOR TURNING  
PATHS SHEET 2

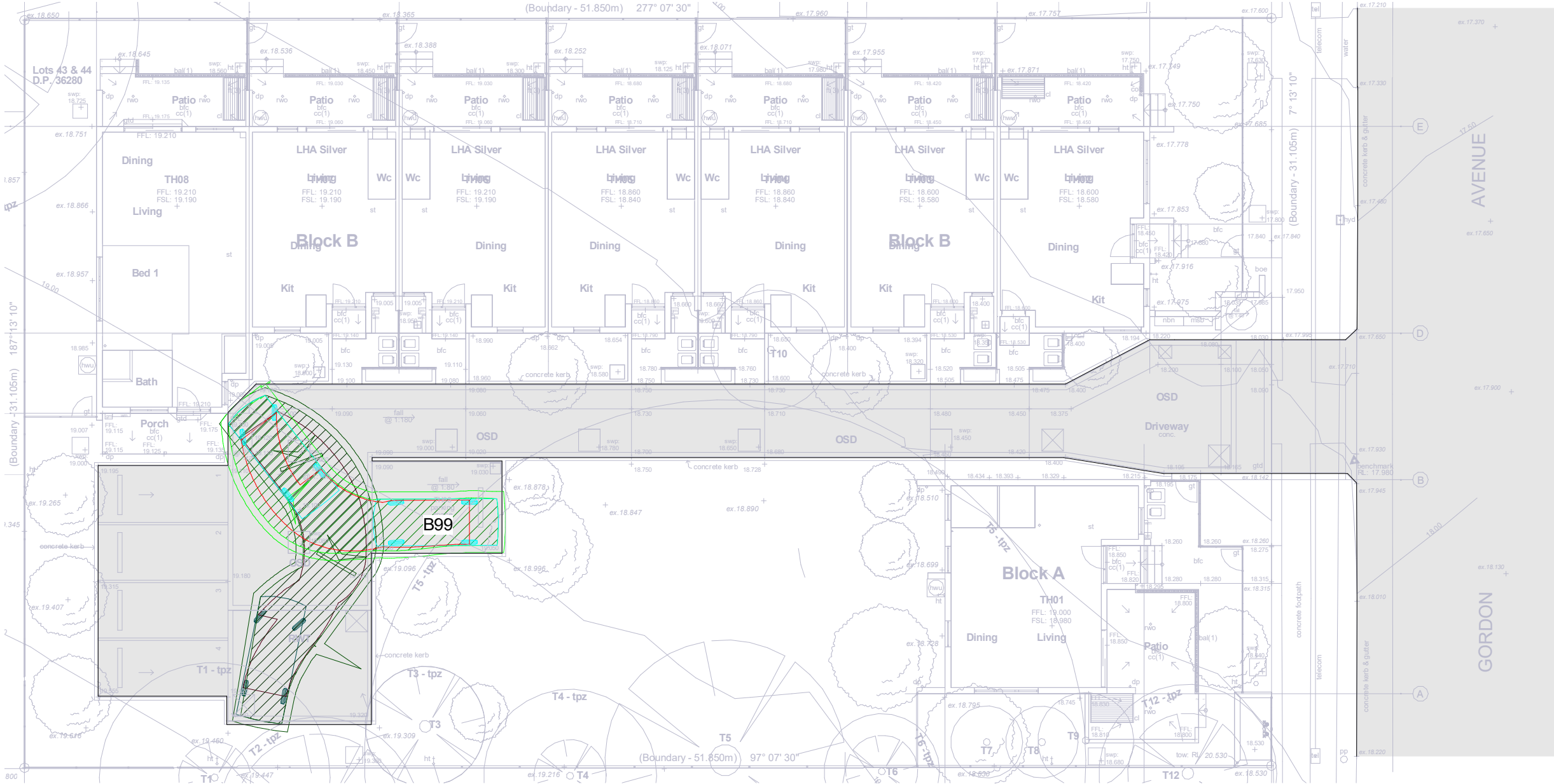
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DATE: 29.09.2023	SCALE: 200	PRJ: P	JOB: 230291
STAGE: P	DRAWN: P	DESIGN: P	CHECKED: AMck
TYPE: C	SHEET: C11	REV: 2	



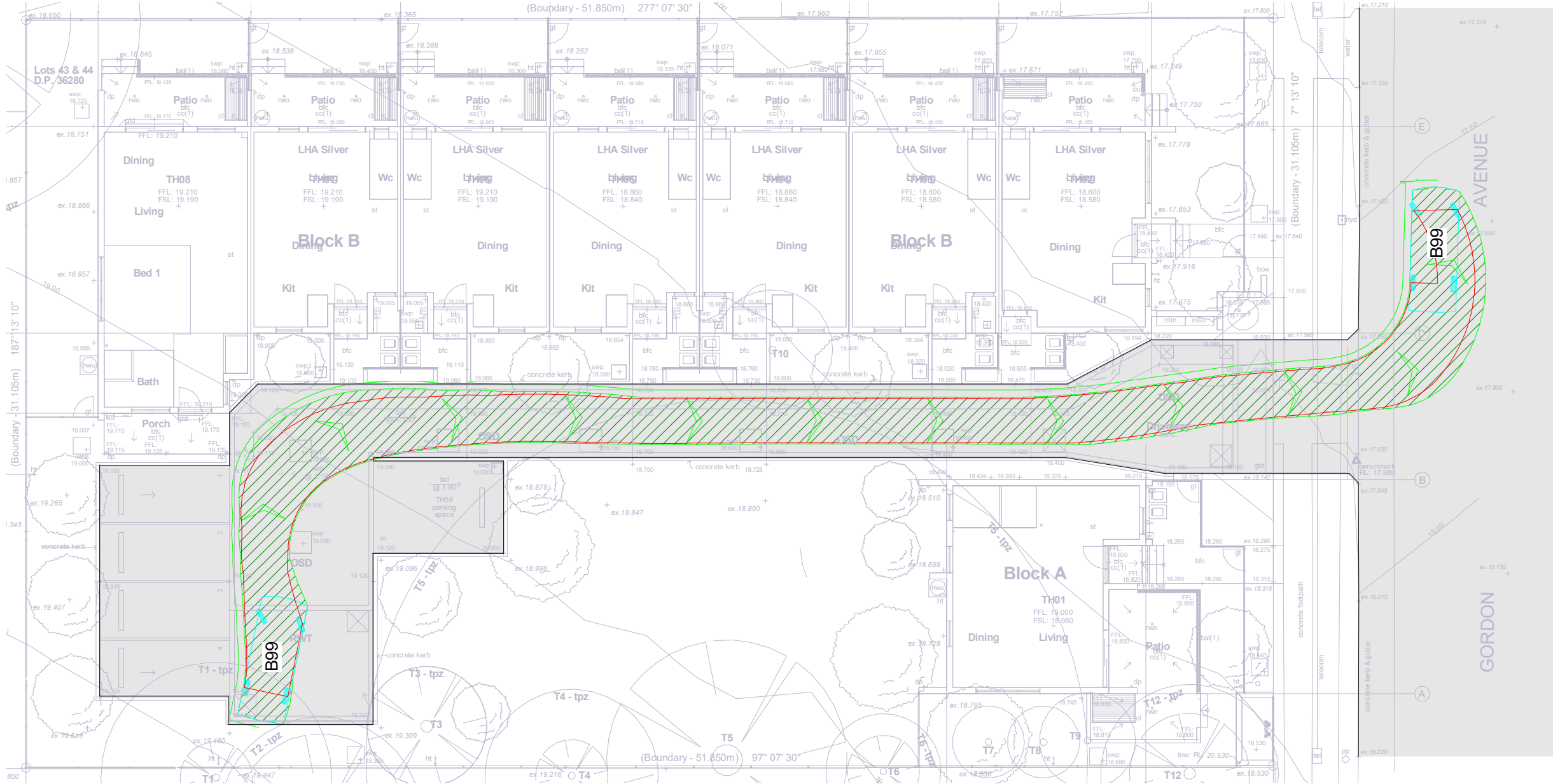
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GROUND FLOOR - B99 ENTRY 1  
Scale: 1 : 200



GROUND FLOOR - B99 EXIT 1a  
Scale: 1 : 200



GROUND FLOOR - B99 EXIT 1b  
Scale: 1 : 200



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PHONE No (02) 8753 8000  
FAX No (02) 8753 8888  
www.facs.nsw.gov.au



REV.	DATE	BY	DESCRIPTION
1	22.09.2023	JPS	ISSUED FOR APPROVAL
2	29.09.2023	JG	ISSUED FOR APPROVAL

ARCHITECT  
STANTON DAHL  
PROJECT MANAGER  
LAND & HOUSING CORPORATION  
ELECTRICAL CONSULTANT  
GREENVIEW CONSULTING Pty Ltd

STRUCTURAL CONSULTANT  
GREENVIEW CONSULTING Pty Ltd  
HYDRAULIC CONSULTANT  
GREENVIEW CONSULTING Pty Ltd  
LANDSCAPE CONSULTANT



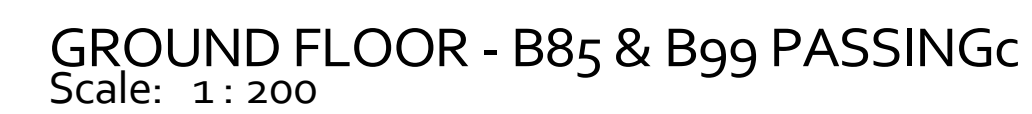
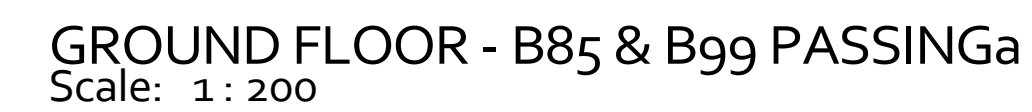
Family & Community Services  
Land & Housing Corporation

PROJECT:  
PROPOSED DEVELOPMENT  
AT  
70-72 Gordon Street, South Granville, NSW

TITLE:  
GROUND FLOOR TURNING  
PATHS SHEET 3

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29.09.2023	200		230291
STAGE:	DRAWN:	DESIGN:	CHECKED:
P			AMCK
TYPE:	SHEET:	REV:	
C	C12	2	







# PROPOSED DEVELOPMENT

70-72 Gordon Street, South Granville, NSW

greenview Job No: 230291

### GENERAL INSTRUCTIONS

- THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.
- CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE GUIDELINES OF "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION", DEPT OF HOUSING, 1998 (BLUE BOOK).
- ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN REDUCING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH OTHER RELEVANT CONSULTANTS' PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE REQUIREMENTS, WHERE DISCREPANCIES ARE FOUND NOTIFY ENGINEER IMMEDIATELY FOR VERIFICATION.
- WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES.

### LAND DISTURBANCE INSTRUCTIONS

- DISTURBANCE TO BE NO FURTHER THAN 5 (PREFERABLY 2) METRES FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON APPROVED PLANS. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
- ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METRES THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON-SITE. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
- ENTRY TO LANDS NOT REQUIRED FOR CONSTRUCTION OR ACCESS IS PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.
- WORKS ARE TO PROCEED IN THE FOLLOWING SEQUENCE:
  - INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
  - CONSTRUCT THE STABILISED SITE ACCESS.
  - CONSTRUCT DIVERSION DRAINS AS REQUIRED.
  - INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS.
  - INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON-SITE DROP INLET PITS.
  - CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON THE PLAN.
  - UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THE ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
  - GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
  - REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
  - ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING.
  - ON COMPLETION OF MAJOR WORKS LEAVE DISTURBED LANDS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL LATER.

### SITE MAINTENANCE INSTRUCTIONS

- THE SITE SUPERINTENDENT WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
  - ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS.
  - REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS.
  - REMOVE TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURE HAS BEEN EXCEEDED.
  - ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND NOT TO INITIATE UPGRADING OR REPAIR AS NECESSARY.
  - CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS ON THE WORK-SITE OR ELSEWHERE IN THE CATCHMENT.
  - MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.

THE SITE SUPERINTENDENT WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:

- THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS.
- THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS.
- THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE.
- THE NEED FOR DUST PREVENTION STRATEGIES.
- ANY REMEDIAL WORKS TO BE UNDERTAKEN.

THE LOGBOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS.

### SAFETY IN DESIGN NOTES

- THERE ARE INHERENT RISKS WITH CONSTRUCTING, MAINTAINING, OPERATING, DEMOLISHING, DISMANTLING AND DISPOSING. WE NOTE THIS DESIGN IS TYPICAL OF SIMILAR DESIGNS, AS FAR AS IS REASONABLY PRACTICABLE RISKS HAVE BEEN ELIMINATED OR MINIMISED THROUGH THE DESIGN PROCESS. HAZARD CONTROLS MUST STILL BE IMPLEMENTED BY THE CONTRACTOR, OWNER OR OPERATOR TO ENSURE THE SAFETY OF WORKERS. GREENVIEW ASSESSMENT DID NOT IDENTIFY ANY UNIQUE RISKS ASSOCIATED WITH THE DESIGN.

### SEDIMENT CONTROL INSTRUCTIONS

- SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE SUPERINTENDENT TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
- SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.8 METRES.
- SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
- STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METRES OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
- WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE.
- TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
- ACCESS TO SITES SHOULD BE STABILISED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

### SOIL EROSION CONTROL INSTRUCTIONS

- EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTED, THAN:
  - 2(H):1(V) WHERE SLOPE LENGTH LESS THAN 12 METRES.
  - 2.5(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 16 METRES.
  - 3(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 20 METRES.
  - 4(H):1(V) WHERE SLOPE LENGTH GREATER THAN 20 METRES.
- ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 1:20 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
- WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FLOW VELOCITIES ARE TO BE LIMITED TO THOSE SHOWN IN TABLE 5-1 OF "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION", DEPT OF HOUSING 1998 (BLUE BOOK). FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
- STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.1 (60% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
- ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
- FOR AREAS OF SHEET FLOW USE THE FOLLOWING GROUND COVER PLANT SPECIES FOR TEMPORARY COVER: JAPANESE MILLET 20 KG/HA AND OATS 20 KG/HA.
- PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.
- REVEGETATION SHOULD BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. NATURAL SURFACE SOILS SHOULD BE REPLACED AND NON-PERSISTANT ANNUAL COVER CROPS SHOULD BE USED.

### WASTE CONTROL INSTRUCTIONS

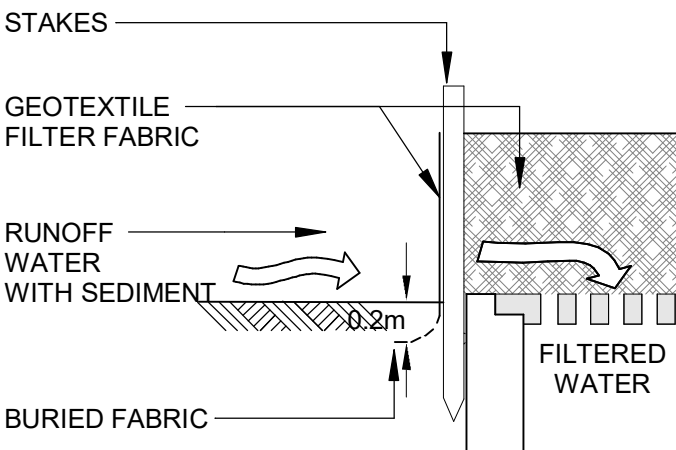
- ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.
- ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOOD PHONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
- ALL SITE STAFF AND SUB-CONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
- ANY DE-WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
- PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.

### PROCEDURE FOR DE-WATERING

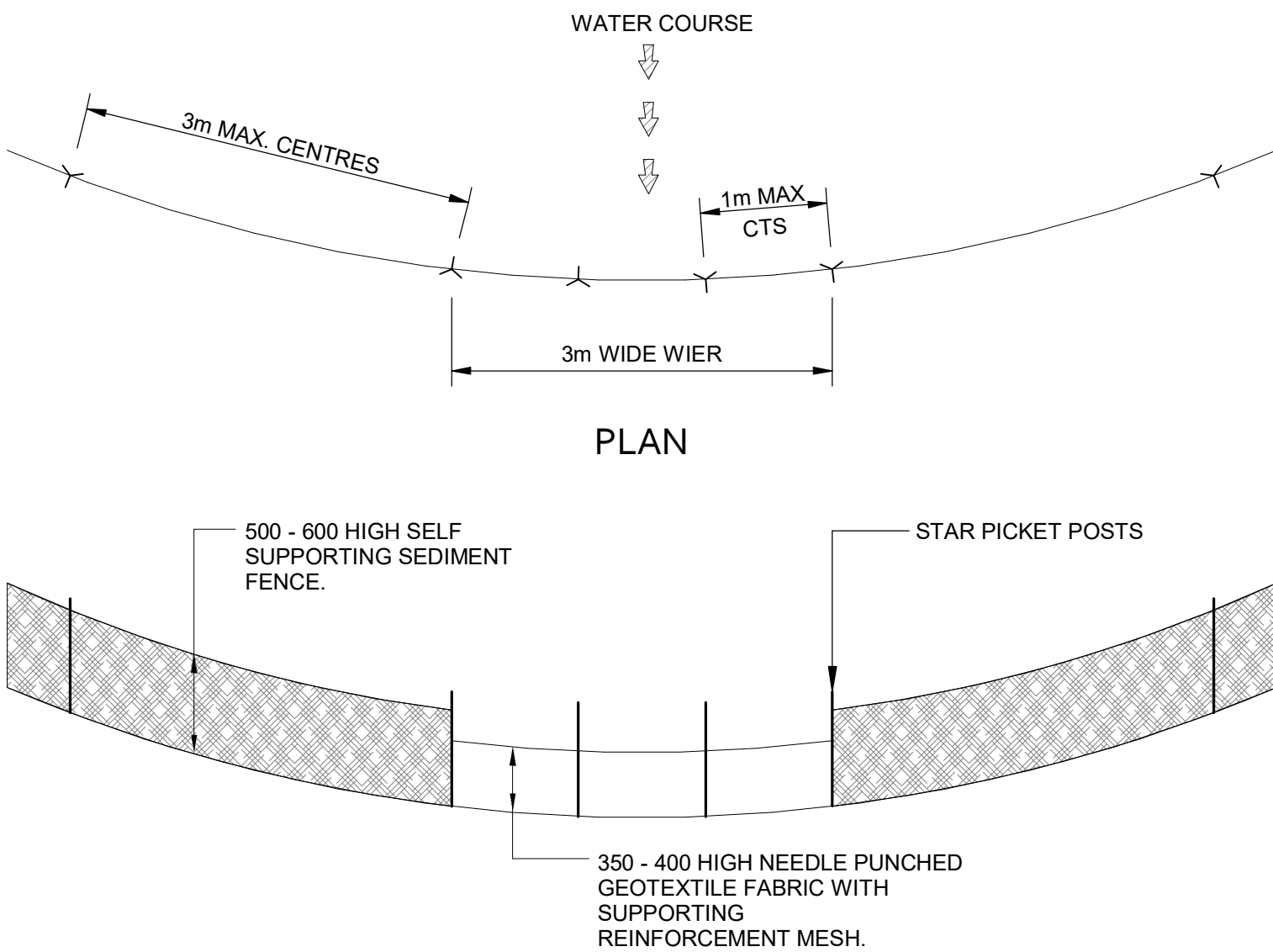
- ENSURE PERMISSION FOR DE-WATERING IS RECEIVED FROM AUTHORITIES BEFORE PUMPING OUT.
- AN ON-SITE TREATMENT PROCESS DISCHARGING TO THE STORMWATER SYSTEM WILL BE IMPLEMENTED. ALL SITE WATERS DURING CONSTRUCTION WILL BE CONTAINED ON SITE AND RELEASED ONLY WHEN pH IS BETWEEN 8.5 & 9.5. SUSPENDED SOLIDS ARE LESS THAN 50mg/L, TURBIDITY LESS THAN 100 NTUS, OIL AND GREASE LESS THAN 10mg/L AND BIOCHEMICAL OXYGEN DEMAND (BOD5) LESS THAN 30mg/L (FOR STORMS LESS THAN 1 IN 5 YEAR EVENTS).
- METHODS OF SAMPLING AND ANALYSIS OF WATER QUALITY WILL BE IN ACCORDANCE WITH THE APPLICABLE METHOD LISTED IN THE EPA PUBLISHED APPROVED METHODS FOR THE SAMPLING ANALYSIS OF WATER POLLUTANTS IN NEW SOUTH WALES.
- WHERE LABORATORY ANALYSIS IS REQUIRED AS INDICATED BY IN-SITU TESTING, APPROPRIATE SAMPLE BOTTLES AND PRESERVATIVES WILL BE USED AND GUIDANCE FOR THE SAMPLING METHOD OBTAINED FROM APPLICABLE PARTS OF AS5667.1 AND AS5667.6. ANALYSIS WILL BE UNDERTAKEN WHERE PRACTICAL BY A NATA REGISTERED LABORATORY CERTIFIED TO PERFORM THE APPLICABLE ANALYSIS.
- AS EXCAVATION TO TOP SOIL PROGRESSES, ANY WATER COLLECTED AT THE BOTTOM OF EXCAVATIONS WILL BE DIVERTED TO A TEMPORARY SEDIMENTATION BASIN OR SETTLEMENT TANK. IF THE WATER CONTAINS ONLY SEDIMENTS, IT WILL BE FILTERED AND PUMPED TO STORMWATER. BEFORE THIS CAN HAPPEN IT MUST CONTAIN LESS THAN 50mg/L TOTAL SUSPENDED SOLIDS.
- POLLUTED WATER MUST NOT ENTER THE STORMWATER SYSTEM. IN SOME CIRCUMSTANCES, A LIQUID WASTE COMPANY MAY BE REQUIRED TO COLLECT CONTAMINATED WATER FOR DISPOSAL AT A LICENSED TREATMENT FACILITY.

THE BUILDER AND EXCAVATION CONTRACTOR ARE TO ENSURE ANY WATER DISCHARGED INTO COUNCIL STORMWATER SYSTEM FROM THE EXCAVATED PORTIONS OF THE SITE COMPLY WITH THE RELEVANT ENVIRONMENTAL CRITERIA AND APPROPRIATE CONTROL METHODS SHALL BE ADOPTED. THE PROPOSED CONTROL METHODS ARE STRICTLY TO COMPLY WITH THE ANZECC 2000 GUIDELINES.

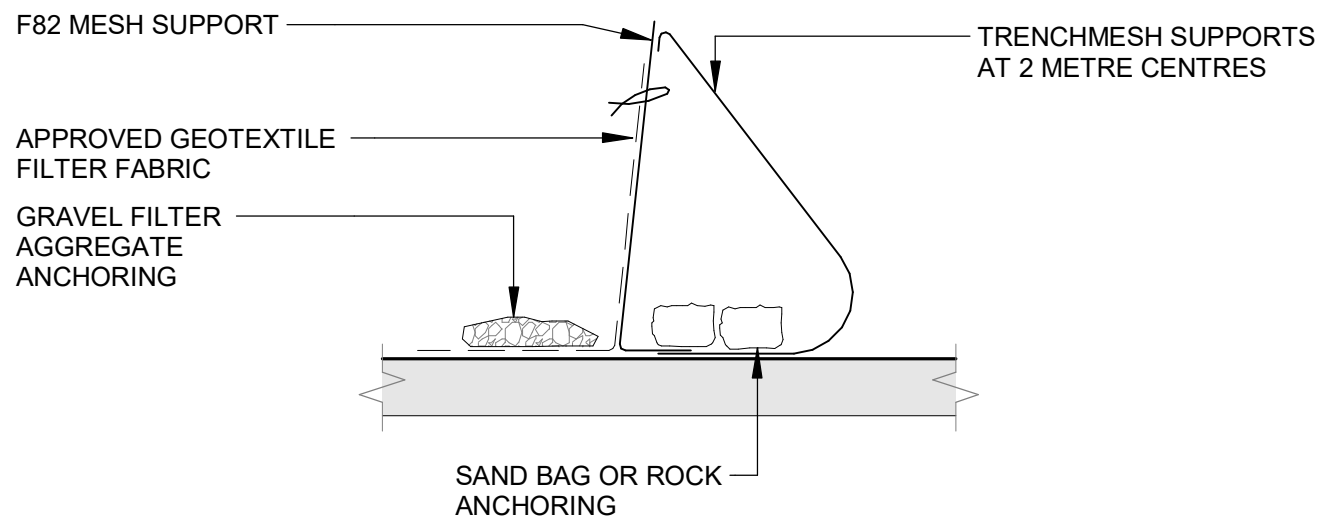
WHERE WORK INVOLVES EXCAVATION OR STOCKPILING OF RAW OR LOOSE MATERIALS, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROVIDED WHOLLY WITHIN THE SITE WHILST WORK IS BEING CARRIED OUT IN ORDER TO PREVENT SEDIMENT AND SILT FROM SITE WORKS BEING CONVEYED BY STORMWATER INTO COUNCIL'S STORMWATER SYSTEM, NATURAL WATER COURSES, BUSHLANDS, AND NEIGHBORING PROPERTIES. IN THIS REGARD, ALL STORMWATER DISCHARGE FROM THE SITE SHALL MEET THE REQUIREMENTS OF THE PROTECT OF ENVIRONMENT OPERATIONS ACT 1997 AND THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER GUIDELINES. THE CONTROL DEVICES ARE TO BE MAINTAINED IN A SERVICEABLE CONDITION AT ALL TIMES.



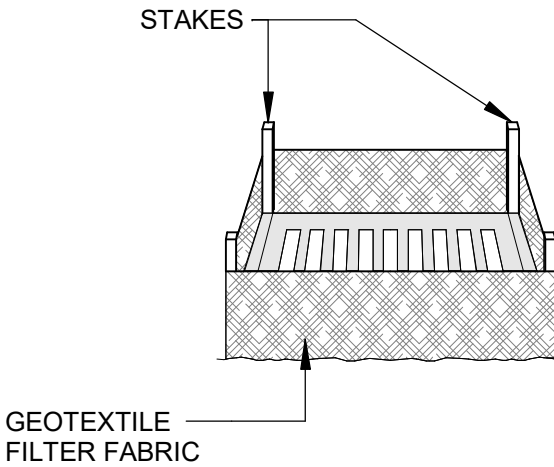
INLET SEDIMENT TRAP  
Scale: 1 : 20



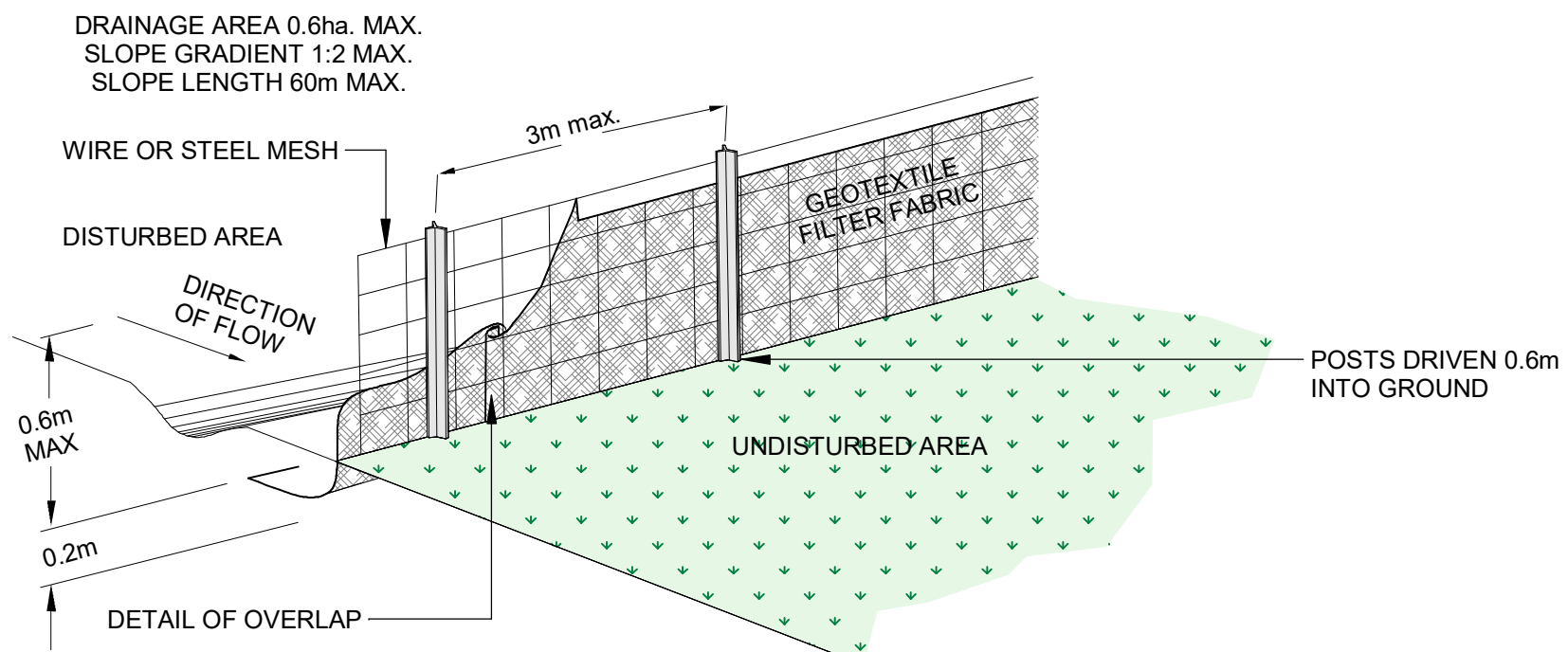
ESM SEDIMENT FENCE WEIR  
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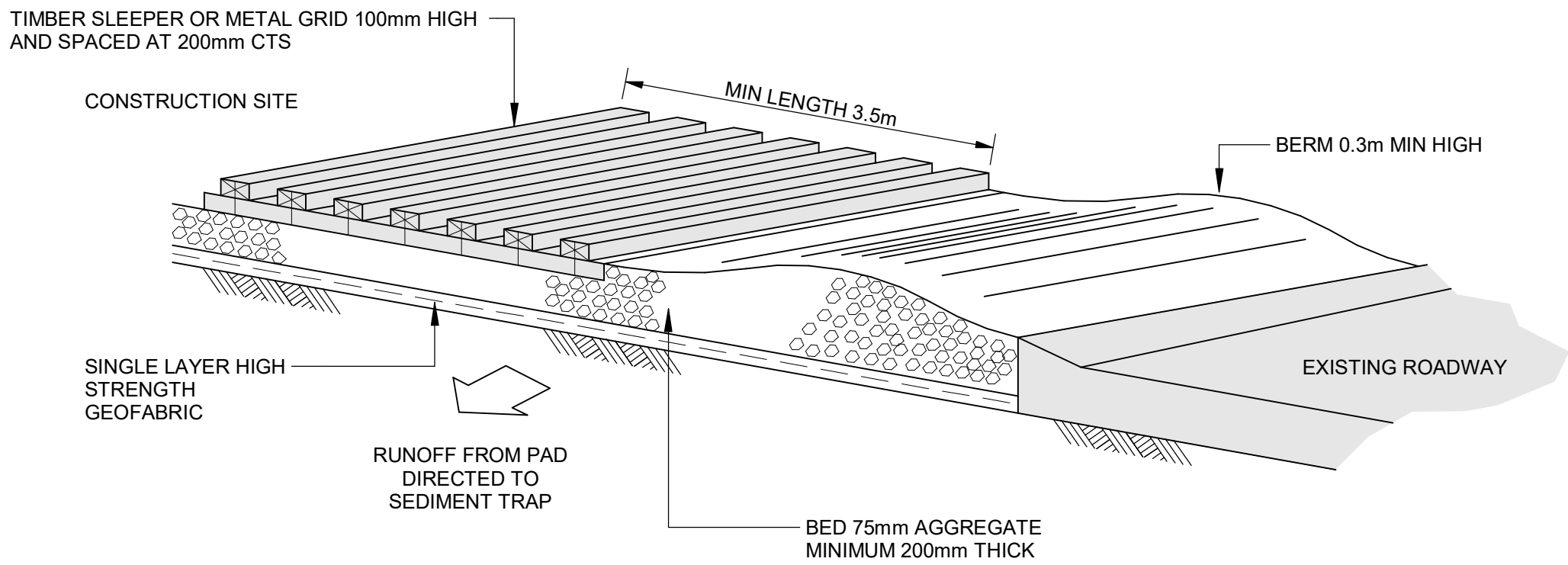
SILT FENCE BARRIER DETAIL  
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SANDBAG SEDIMENT TRAP  
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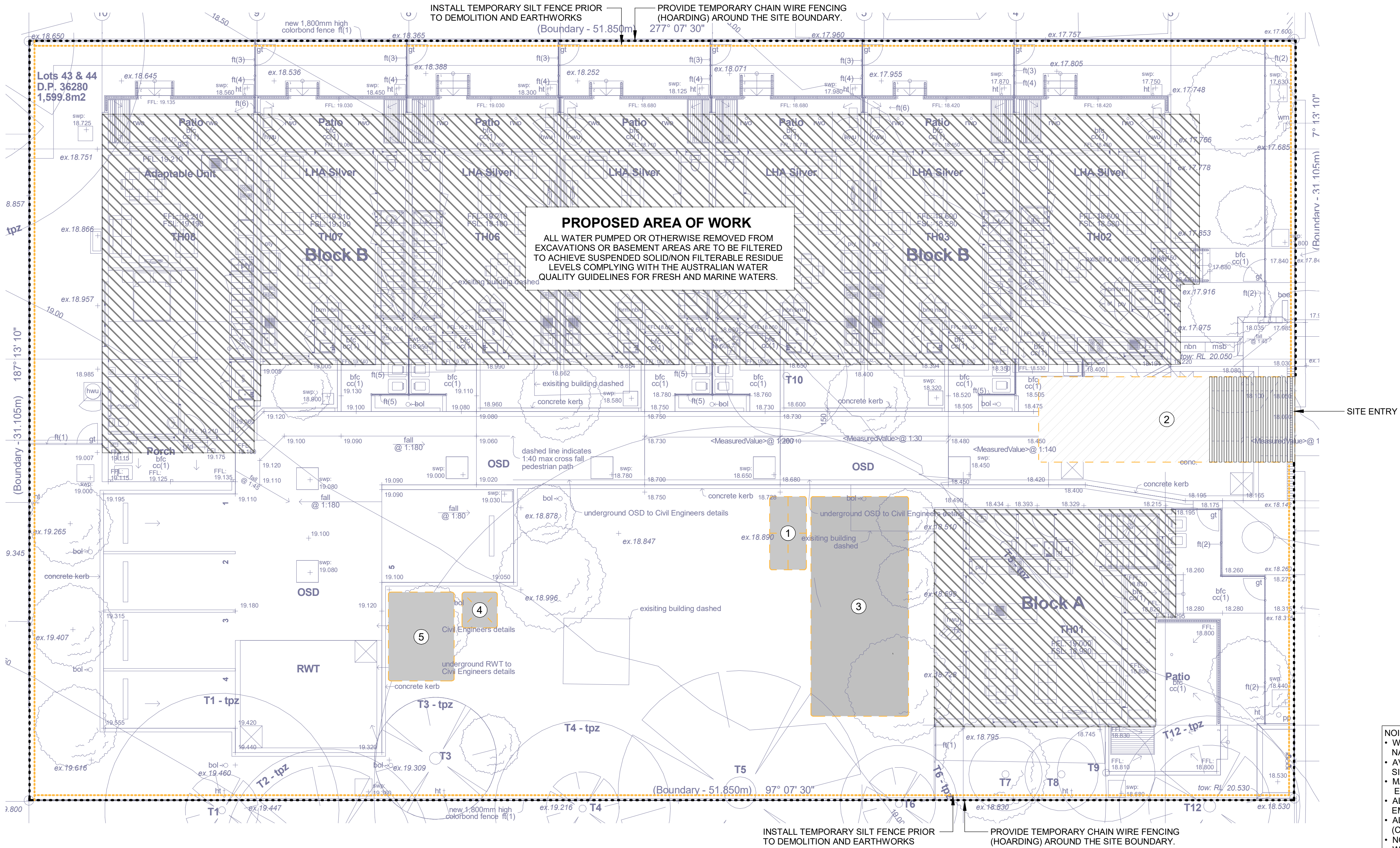


SEDIMENT SILT FENCE  
Scale: 1 : 20



TEMPORARY CONSTRUCTION EXIT  
Scale: 1 : 20





SITE MANAGEMENT LEGEND

- CHAIN WIRE FENCE
- SILT FENCE

ESM - SITE MANAGEMENT SCHEDULE

TYPE	DESCRIPTION
1	SKIP BIN (PROVIDE COVER)
2	SITE ACCESS GRATE
3	MATERIALS STOCKPILE (RELOCATE AS NECESSARY)
4	TOILET FACILITY
5	SITE SHED

- NOISE CONTROL**
- WHERE POSSIBLE, STRATEGICALLY PLACE NOISE-GENERATING PLANT / EQUIPMENT TO TAKE ADVANTAGE OF NATURAL SCREENING (E.G. BUILDINGS)
  - AVOID PLACING NOISE-GENERATING PLANT / EQUIPMENT CLOSE TOGETHER AND/OR OPERATE SIMULTANEOUSLY
  - MAINTAIN ALL PLANT & EQUIPMENT TO MINIMISE NOISE EMISSIONS (E.G. REPAIR BROKEN SILENCING EQUIPMENT, TIGHTEN RATTLING COMPONENTS ETC)
  - ALL PLANT & EQUIPMENT TO BE OPERATED IN THE CORRECT MANNER TO AVOID UNNECESSARY NOISE EMISSIONS
  - ALL DELIVERIES TO SITE TO BE IN ACCORD WITH THE RELEVANT CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP)
  - NO PUBLIC ADDRESS SYSTEMS TO BE USED EXCEPT IN THE CASE OF EMERGENCIES
  - WHERE NECESSARY, FIT PLANT WITH SILENCERS AND/OR OTHER NOISE ATTENUATION MEASURES
  - ENSURE CONSTRUCTION VEHICLES AND PLANT/EQUIPMENT ARE TURNED OFF WHEN NOT IN USE (I.E. AVOID IDLING)

- VIBRATION MANAGEMENT**
- USE LOW-VIBRATION EMITTING PLANT & EQUIPMENT WHERE POSSIBLE
  - WHERE PRACTICAL, USE NON-PERCUSSIVE PILING TECHNIQUES OR PROVIDE ACOUSTIC SHIELDING

- DUST CONTROL**
- WHERE POSSIBLE, STAGE ANY VEGETATION REMOVAL TO MINIMISE EXPOSED AREAS
  - AREAS EXPOSED (IN THE SHORT TERM) TO BE STABILISED USING WATERING AND/OR GEO-FABRICS AS APPROPRIATE TO MINIMISE DUST GENERATION
  - MODIFY / REDUCE CONSTRUCTION ACTIVITIES DURING HIGH WIND CONDITIONS IF INCREASED DUST GENERATION IS A POSSIBILITY
  - DUST CONTROL MEASURES TO BE IMPLEMENTED AS THE SITE SUPERVISOR DEEMS APPROPRIATE, INCLUDING WATER CARTS, SPRINKLERS, SPRAYS, DUST SCREENS, ETC
  - CHECK EROSION CONTROL MEASURE REGULARLY TO ENSURE CAPTURED SILT DOES NOT BECOME AIRBORNE

- ODOUR CONTROL**
- SEGREGATE AND COLLECT WASTE REGULARLY TO ENSURE ODOURS ARE MINIMISED
  - NO BURNING-OFF OF WASTE AT ANY TIME
  - REMOVE WASTE BINS FROM SITE REGULARLY

ENVIRONMENTAL SITE MANAGEMENT LAYOUT

Scale: 1 : 100

FOR NOISE CONTROL, VIBRATION MANAGEMENT, DUST CONTROL, ODOUR CONTROL REFER TO NOTES ON THIS DRAWING. FOR OTHER NOTES (LITTER/WASTE, STORMWATER) REFER ESM1

WHERE WORK INVOLVES EXCAVATION OR STOCKPILING OF RAW OR LOOSE MATERIALS, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROVIDED WHOLLY WITHIN THE SITE WHILE WORK IS BEING CARRIED OUT IN ORDER TO PREVENT SEDIMENT AND SILT FROM SITE WORKS BEING CONVEYED BY STORMWATER INTO COUNCIL'S STORMWATER SYSTEM, NATURAL WATER COURSES, BUSHLANDS, AND NEIGHBORING PROPERTIES. IN THIS REGARD, ALL STORMWATER DISCHARGE FROM THE SITE SHALL MEET THE REQUIREMENTS OF THE PROTECT OF ENVIRONMENT OPERATIONS ACT 1997 AND THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER GUIDELINES. THE CONTROL DEVICES ARE TO BE MAINTAINED IN A SERVICEABLE CONDITION AT ALL TIMES.

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