

ACTIVITY DETERMINATION

Project No. BGXWW

In this matter: I have declared any possible conflict of interests (real, potential or perceived) to the Chief Executive Officer, Land & Housing Corporation. I do not consider I have any personal interests that would affect my professional judgement. I will inform the Chief Executive Officer, Land & Housing Corporation as soon as I become aware of a possible conflict of interest.

Name.....Robert Stark Dated....4 April 2023

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.	Street or property name
57 - 61	Bourke Street
Suburb, town or locality	Postcode
North Parramatta, NSW	2151
Local Government Area(s)	Real property description (Lot and DP)
Parramatta City Council	Lots 23, 24, 25 & 38 in DP 35290

ACTIVITY DESCRIPTION

Demolition of 3 existing dwellings and structures, removal of trees, and the construction of 12 independent living seniors housing units comprising 6 x one bedroom and 6 two bedroom units, with associated landscaping and fencing, at-grade parking for 9 cars, and consolidation into a single lot and creation of an easement to drain water.

^{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.

Signed......

Dated 4 April 2023

Emma Nicholson
Acting Head of Policy and Innovation
Land and Housing Corporation

SCHEDULE 1

Recommended Identified Requirements

PART A - Standard Identified Requirements

THE DEVELOPMENT

The following identified requirements are to ensure that the **seniors housing** 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 and as modified below by any of the undermentioned identified requirements:

Title / Name:	Drawing No. / Document Ref	Revision / Issue:	Date [dd.mm.yyyy]:	Prepared by:
Architectural				
Coversheet	A01	Rev E	28.11.2022	Barry Rush & Associates Pty
Site Analysis Plan	A02	Rev D	18.02.2022	Barry Rush & Associates Pty
Site Plan	A03	Rev F	28.11.2022	Barry Rush & Associates Pty
Ground floor plan	A04	Rev F	28.11.2022	Barry Rush & Associates Pty
First Floor plan	A05	Rev E	28.11.2022	Barry Rush & Associates Pty
Roof Plan	A06	Rev E	28.11.2022	Barry Rush & Associates Pty
Building Elevations	A07	Rev E	28.11.2022	Barry Rush & Associates Pty
Building elevations & sections	A08	Rev D	18.02.2022	Barry Rush & Associates Pty
Development Data & Finishes Schedule	A09	Rev D	18.02.2022	Barry Rush & Associates Pty
Demolition Plan	A10	Rev B	10.12.2021	Barry Rush & Associates Pty
Block Analysis Plan	A11	Rev B	10.12.2021	Barry Rush & Associates Pty
Shadow Diagrams	A12	Rev A	10.12.2021	Barry Rush & Associates Pty
Views from Sun Diagrams	A13	Rev B	17.01.2022	Barry Rush & Associates Pty

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			18.02.2022	
Cut & Fill Plan	A15	Rev D	28.11.2022	Barry Rush & Associates Pty
Cross Ventilation Diagram	A16	Rev A	20.11.2022	Barry Rush & Associates Pty
Landscape Plan	1 of 2	Rev F	29.11.2022	Greenland Design, landscape consultant
Landscape Details and specification	2 of 2	Rev F	29.11.2022	Greenland Design, landscape consultant
Stormwater Management			_	
Cover Sheet and Drawing Schedule	C1	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
Stormwater Management Plan	C2	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
Stormwater Management Plan – Sheet no 1	C3	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
OSD Calculation Sheet & Maintenance Schedule	C4	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
OSD Checklist Sheet 1 of 2	C5	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
OSD Checklist Sheet 2 of 2	C6	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
Erosion & Sediment Control Plan	C7	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
Erosion & Sediment Control Notes & Details	C8	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
Proposed Drainage Easement Alignment Plan	C9	Rev D	25.11.2022	ACOR Consultants, stormwater consultant
Hydraulic services	-	T		
Coversheet	HY-DA-000	Rev 2	22.02.2022	Marline, building services engineers
Site Services	HY-DA-100	Rev 2	22.02.2022	Marline, building services engineers
Electrical Services				
Coversheet	EL-DA-000	Rev 2	22.02.2022	Marline, building services engineers
Site Services	EL-DA-100	Rev 2	22.02.2022	Marline, building services engineers
Notification Plans –	N01	-	06.06.2022	Barry Rush and Associates
Appendix B	_			
Survey drawings – Appendix			T	
Detail and Contour Survey Sheet 1	Job No.210718	-	28.04.2021	RPS Group, consultant surveyors
Detail and Contour Survey Sheet 2	Job No.210718	-	28.04.2021	RPS Group, consultant surveyors
Longitudinal Sections Sheet 3	Job No.210718	-	28.04.2021	RPS Group, consultant surveyors
Detail and Contour Survey 10 Brown Street Sheet 1	Job No.210718	-	28.04.2021	RPS Group, consultant surveyors
BASIX & NatHERS Certificate	e - Appendix H	1		
BASIX Certificate	BASIX Certificate No 1267801M	-	21.02.2022	Building Sustainability Assessments – Gavin Chambers, Accreditation No DMN/13/1491

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NatHERS Certificate	NatHERS Certificate No 0005015680	-	14.07.2020	Building Sustainability Assessments – Gavin Chambers, Accreditation No DMN/13/1491
	NatHERS assessment BSA Reference 17792	-	21.02.2022	Building Sustainability Assessments – Gavin Chambers, Accreditation No DMN/13/1491
Specialist Reports				
Arborist's Impact Assessment and Tree Management Plan – Appendix F	-	-	2 December 2021	Creative Planning Solutions
Access Report - Appendix G	-	-	5 May 2022	Accessibility Solutions
BCA Design Compliance Assessment - Appendix I	-	-	11 March 2022	BCA Vision
Geotechnical Investigation and Acid Sulfate Soil Assessment - Appendix J	-	-	May 2021	STS Geotechnics Pty Ltd
Waste Management Plan – Appendix K	-	-	18 January 2022	Barry Rush and Associates
Traffic and Parking Impact Assessment- Appendix L	-	-	May 2022	APEX Engineers Pty Ltd

- 2. All building work is to be undertaken in accordance with the National Construction Code and referenced Australian Standards.
- All commitments listed in the BASIX certificate and stamped plans shall be implemented.
- 4. All construction documentation and building work are 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 the council for the area 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. Concrete vehicular crossings and layback (shall be provided at the entrances/exits to the property. The crossings and laybacks shall be constructed in accordance with the City of Parramatta Council's standard requirements for residential crossings. Council shall be provided with plans for the crossings and laybacks together with the payment of any council inspection fees.
- 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 laybacks/driveways shall be borne by the Land & Housing Corporation. Obsolete gutter laybacks shall be constructed as kerb in accordance with the council's standards.
 - Note: It is recommended that discussions 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 surface materials. The car parking 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 and 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 any 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, 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 be:
 - i. connected to a permanent 240V power supply; and
 - ii. 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 Plans and maintained for a period of 12 months by the building contractor. The City of Parramatta 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 Council and provide a copy 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 report 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 shall 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 building 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.

Service Authority Clearances

24. A compliance certificate, or other evidence, shall be obtained from the relevant water utility provider (e.g. the local council for the area, Hunter Water or 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.

- 25. 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.
- 26. 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.

27. Where the site is to be connected to reticulated gas, a certificate from an approved gas carrier certifying that satisfactory arrangements have been made for the provision of underground gas services, to the site and to each dwelling, shall be obtained prior to work commencing.

Utilities Service Provider Notification

28. The demolition / 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.

Disconnection of Services

- 29. 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.
- 30. All existing services within the boundary to remain live shall be identified, pegged and made safe.

Demolition

- 31. The builder shall notify the occupants of premises on either side, opposite and at the rear of the site a minimum of two days prior to demolition. Such notification shall be clearly written on an A4 size paper giving the date demolition will commence and be placed in the letterbox of every premise (including every unit in a multi-unit residential building or mixed use building). The demolition shall not commence prior to the date that is stated in the notice letter.
- 32. Prior to the demolition, a Work Plan shall be prepared by a competent person(s) in accordance with AS 2601 and shall be submitted to the Land & Housing Corporation. The Work Plan shall outline the identification of any hazardous materials (including surfaces coated with lead paint), method of demolition, the precautions to be employed to minimise any dust nuisance and the disposal methods for hazardous materials.
- 33. If buildings to be demolished are determined as, or suspected of, containing asbestos cement, a standard commercially manufactured sign containing the words 'DANGER ASBESTOS REMOVAL IN PROGRESS', and measuring not less than 400mm x 300mm, shall be erected in a prominent visible position on the site for the duration of the demolition works.

Note:

Any buildings constructed before 1987 is assumed to contain asbestos.

Stormwater Disposal

- 34. Detailed stormwater drainage plans, substantially in accordance with the approved concept stormwater drainage plans, 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 the City of Parramatta Council's drainage code.
- 35. 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.

Council Notification

36. The City of Parramatta Council shall be advised by the building contractor in writing, of the date it is intended to commence work, including demolition. A minimum period of 5 working days notification shall be given.

Landfill

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

Site Facilities

- 39. 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 shall be a standard flushing toilet and shall be connected to a public sewer. If connection to a public sewer is not practicable, to an accredited sewerage management facility provided by the council for the area or if this is also 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 be placed on any property other than that to which this activity relates.
- 40. Access to the site shall only be provided via an all weather driveway on the property and shall not be provided from any other site.

Site Safety

- 41. A sign shall be erected in a prominent position on the site:
 - (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 the telephone number on which that person may be contacted during and outside working hours, and
 - (c) stating that unauthorised entry to the 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.

42. 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 may 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.

43. Building and demolition materials must be stored wholly within the site and not on footpath or roadway.

Protection of Trees

44. 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 Tree Location & Protection Plan Specification provided in the Arboricultural Impact Assessment report.

Waste Management

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

DURING DEMOLITION / CONSTRUCTION

The following identified requirements are to be complied with whilst works are occurring on the site.

Heritage

- 46. 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 or Indigenous items have been uncovered, the Department of Planning and Environment must be contacted.
- 47. 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 of the Department of Planning and Environment.

Demolition

- 48. Any existing structures identified for demolition shall be demolished prior to commencement of the construction of the activity.
- 49. Demolition shall be carried out in accordance with the appropriate provisions of AS 2601.
- 50. Where materials containing asbestos are to be removed, demolition shall be carried out by a licensed contractor(s) that has a current SafeWork NSW accreditation in asbestos removal.
- 51. Removal of asbestos-based thermal, or acoustic insulation such as sprayed asbestos and asbestos-based lagging and including friable asbestos boards, shall be carried out in accordance with the National Occupational Health and Safety Commission's Code of Practice for the Safe Removal of Asbestos, 2nd Edition [NOHSC:2002 (2005)].
- 52. Hazardous and intractable waste, including all asbestos laden waste arising from the demolition process shall be removed and disposed of in accordance with the requirements of SafeWork NSW.
- 53. Documentary evidence, in the form of tip receipts from an approved Waste Management Facility, shall be obtained by the demolition contractor and submitted to the Land & Housing Corporation demonstrating the appropriate disposal of the asbestos waste.
- 54. Demolition procedures shall maximise the reuse and recycling of demolished materials in order to reduce the environmental impacts of waste disposal.

- 55. During demolition, the public footpath and the public road shall not be obstructed by any vehicles. The public road and footpath shall be swept (not hosed) clean of any material, including clay, soil and sand.
- 56. All vehicles leaving the site with demolition materials shall have their loads covered and vehicles shall not track soil and other material onto the public roads and footpaths. The footpath shall be suitably protected against damage when plant and vehicles access the site. All loading of vehicles with demolished materials shall occur on site.

Survey Reports

57. 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 Demolition / Construction / Civil Work

58. Demolition / construction / Demolition / construction / civil work shall only occur on the site between the hours of 7.00am to 5.00pm Monday to Saturday with no work permitted on Sundays or public holidays.

Excavation & Backfilling

59. All excavations and backfilling associated with the demolition or erection of buildings 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

- 60. Any noise generated during the carrying out of the activity shall not exceed the limits specified in the July 2009 Interim Construction Noise Guidelines published by the former Department of Environment and Climate Change.
- 61. No fires shall be lit, or waste materials burnt, on the site.
- 62. No washing of concrete forms or trucks shall occur on the site.
- 63. Any contamination / spills on the site during construction works shall be actively managed and reported immediately to the appropriate regulatory authorities to minimise any potential damage to the environment.
- 64. Dust generation during demolition / construction shall be controlled using regular control measures such as on site watering or damp cloth fences.
- 65. All vehicles transporting loose materials and travelling on public roads shall be secured (i.e. closed tail gate and covered) to minimise dust generation.
- 66. 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

- 67. The Land & Housing Corporation shall bear the cost of any necessary adjustments to utility mains and services.
- 68. 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.

PRIOR TO OCCUPATION OF THE DEVELOPMENT

The following identified requirements are to be complied with prior to the occupation of the development.

General

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

Termite Protection

70. 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; and
- (d) the need to maintain and inspect the system on a regular basis.

Council Infrastructure Damage

71. The cost of repairing any damage caused to the City of Parramatta Council's 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

- 72. 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 onsite 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 the City of Parramatta 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 the council for the area.

PART B - Additional Identified Requirements

Specific Requirements for Seniors Housing

73. The independent living units shall comply with the accessibility and useability standards referenced in section 85 and set out in Schedule 4 of State Environmental Planning Policy (Housing) 2021.

Note:

This requirement does not apply to the provisions set out under sections 2, 7-13 and 15-20 of Schedule 4 for an independent living unit, or part of such a unit, that is located above the ground floor.

- 74. Only the following kinds of people shall be accommodated in the approved development:
 - (a) seniors or people who have a disability; or
 - (b) people who live within the same household with seniors or people who have a disability; or
 - (c) staff employed to assist in the administration and provision of services to the seniors housing development.

Note:

It should be noted that 'seniors', as defined in the Housing SEPP, are any of the following:

- (a) people aged 60 or more years.
- (b) people who are resident at a facility at which residential care (within the meaning of the Aged Care Act 1997 of the Commonwealth) is provided, and
- (c) people who have been assessed as being eligible to occupy housing for aged persons provided by a social housing provider.

A restriction as to user shall be registered against the title of the property, prior to occupation, in accordance with Section 88E of the Conveyancing Act 1919 limiting the use of any accommodation to the kinds of people referred to above and that the dwellings cannot be subdivided.

- 75. Pathway lighting shall be designed to provide a minimum of 20 lux at ground level and be located to avoid glare for pedestrians and adjacent dwellings.
- 76. Access to, and within, the site shall be provided in accordance with AS 1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the activity.
- 77. A 1.5m wide concrete footpath across the site frontage, connecting to the existing footpath system along Bourke Street, shall be constructed in accordance with the City of Parramatta Council's specifications to provide an accessible pathway from the site to the nearest bus stops.

Note:

The responsible officer in the Council for the area shall be contacted regarding Council's specifications and any necessary approvals.

78. Entry doors to units shall to be provided with door viewers to enable residents to view approaches to their units without the need to open the door.

Site Specific Requirements

- 79. Convex mirrors at both ends of the central driveway together with suitable signage advising drivers to "give way to entering vehicles.
- 80. Excavation for the driveway and car parking area within the TPZ of Trees 14 & 17 must be undertaken in a root sensitive manner to minimise root disturbance and severance. Initial excavation should be undertaken using non-motorised hand tools under the supervision of a Project Arborist. Should significant roots be identified (>40mmØ) during construction, works

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are to cease, and direction sought from the Project Arborist with regards to root pruning, modification of construction methodology or design alteration.

Requirements Resulting from Council Comments

81. A minimum 1.5m footpath shall be constructed partly along the boundary to replace the existing footpath,

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 or by dialing 1100.



SENIORS HOUSING DEVELOPMENT

DA PLANS

57-61 BOURKE STREET & 10 BROWN ST (drainage easement only), NORTH PARRAMATTA

Lots 23, 24, 25 & 38 in DP 35290

LEGEND

ADJUSTABLE BENCH **BROOM CUPBOARD BRICK ON EDGE** DESK REFRIGERATOR LOCATION FENCE 1200mm HIGH METAL PICKET FENCE 1800mm HIGH COLORBOARD BOUNDARY I 1500/1800 HIGH SLATTED METAL FENCE FIXED ALUMINIUM LOUVERS **FACE BRICK WORK TYPE 1** FACE BRICK WORK TYPE 2 PAINTED FLUSH FINISH FIBRE CEMENT SHEET FINISHED CEILING LEVEL FINISHED FLOOR LEVEL FIXED GLASS HOT WATER UNIT GAS RECESSED IN WALL LETTERBOXES - RECESSED INTO WALL COLORBOND METAL WALL CLADDING PRIVATE OPEN SPACE PRIVACY SCREEN 1500mm HIGH METAL SLATS RELATIVE LEVEL WARDROBE RETAINING WALL STEEL METAL CLADDING

> STORMWATER PIT LAUNDRY TUB TOP OF WALL

WASHING MACHINE

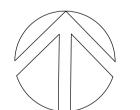
VANITY

TOILET SUITE

WALL OVEN



LOCATION DIAGRAM



NORTH

DRAWING SCHEDULE

ARCHITECTURAL

COVER SHEET	A01	(E)
SITE ANALYSIS PLAN	A02	<u> </u>
SITE PLAN (INCLUDING 10 BROWN ST SITE)	A03	(F)
SITE/ GROUND FLOOR PLAN	A04	∫F ⟨
FIRST FLOOR PLAN	A05	() E (
ROOF PLAN	A06	(E)
ELEVATIONS	A07	{E}
ELEVATION & SECTIONS	A08	D
EXTERIOR COLOUR SCHEDULE	A09	D
DEMOLITION PLAN	A10	В
BLOCK ANALYSIS PLAN	A11	В
SHADOW DIAGRAMS MID WINTER	A12	Α
VIEWS FROM SUN	A13	В
PERSPECTIVE	A14	Α
AREAS OF EXCAVATION & FILL	A15	\bigcirc D
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COVER SHEET & NOTES	C1	D
STORMWATER MANAGEMENT PLAN	C2	(D)
STORMWATER MANAGEMENT DETAILS SHEET No1	C3	(D \
OSD CALCULATION SHEET & MAINTENANCE SCHEDULE	C4	(D)
OSD CHECKLIST SHEET 1 OF 2	C5	{ D {
OSD CHECKLIST SHEET 2 OF 2	C6	> D
EROSION AND SEDIMENT CONTROL PLAN	C7	(D)
EROSION & SEDIMENT CONTROL NOTES & DETAILS	C8	\ D \
PROPOSED DRAINAGE EASEMENT ALIGNMENT PLAN	C9	D)
STORMWATER QUALITY REPORT SHEET 1 OF 2	C10 `	D

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DEVELOPMENT DATA

Job Reference	BGXWW
Locality / Suburb	North Parramatta
Street Address	57-61 BOURKE STREET & 10 BROWN ST (drainage easement only)
Lot & DP	Lots 23, 24, 25 & 38 in DP 35290
Site Area	1937.5 m² (excluding lot 38)
Existing Lots	3 (excluding lot 38)
Proposed GFA	968.5 m²
No. of Dwellings	6 x 1 Bed + 6 x 2 Bed = 12 Dwellings

	Control		Control Requirement	
HEIGHT	Parramatta Council-LEP Housing SEPP		9m 9m	7.8m to top of roof
FSR	Parramatta (Council-LEP	0.5:1	0.5:1
	Housing SEPP		0.5:1	0.5:1 (968.5m²)
PARKING	Housing	g SEPP	0.2 x (no dwellings) = 2.4	9 car spaces
	Housing SEPP	accessible site	0.4 x(no. 1 Beds) = 2.4 0.5 x (no. 2 Beds) = 3	9 car spaces
	Parramatta Council	Street	5-7m Consistent with prevaling setback on the street.	7.8 (6.5m to balcony)
SETBACK	DCP	Side	3m Except where dwlngs. primarily address side boundary then 4.5m	3m
		Rear	15% of the length of the site = 6	10.35m (8m to balcony)
LANDSCAPING	Housing SEPP		35 m² per Dwelling = 420 m²	722 m²
DEEP SOIL	Housing SEPP		15% = 290 m² 65% at rear = 188.5m²	432.4 m² 340.8 m²
SOLAR ACCESS	Housing SEPP		70% for 2hrs in Mid-Winter = 8.4	100% = 12

LAHC* - development data for LAHC new housing supply. For details refer to Current version of LAHC Design Requirements.

GFA* - gross floor area calculated as per relevant Planning Instrument AREA* - dwelling floor area includes internal walls but excludes external walls POS* - private open space

						SOLAR A	CCESS
DWELLINGS	Number	Type*	Beds	Area* (m²)	POS*	LIVING	POS
	1	Ground	2	79	55	6 hr	6 hr
	2	First	2	79	10	6 hr	6 hr
	3	Ground	1	56	28	6 hr	6 hr
	4	First	1	56	17	6 hr	6 hr
	5	Ground	1	60	76	2 hr	4 hr
	6	First	1	60	9	3 hr	3 hr
	7	Ground	2	76	44	6 hr	6 hr
	8	First	2	76	17	6 hr	6 hr
	9	Ground	2	79	50	6 hr	6 hr
	10	First	2	79	10	6 hr	6 hr
	11	Ground	1	59	58	2 hr	3 hr
	12	First	1	59	9	2 hr	3 hr



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 $\triangle \bigcirc \bigcirc \bigcirc \bigcirc$ Barry Rush & Associates Pty Ltd Architects. Nominated Architect: Barry John Rush Suite 25A, 2 Beattie Street, Balmain, NSW Phone: (02) 9555 8028 Email: info@barryrush.com.au

STORMWATER QUALITY REPORT SHEET 2 OF 2 E 28/11/22 DA AMENDMENTS BARRY RUSH & ASSOCIATES P ACOR CONSULTANTS PTY LTD D 18/02/22 Revised DA PLAN ISSUE H (02) 9555 8028 C 17/01/22 DATA TABLE & DRAWINGS ISSUE UPDATED STRUCTURAL CONSULTANT B 10/12/21 DA PLAN ISSUE LAND & HOUSING CORPORATION PH (02) 8753 9000 A 14/10/21 SKETCH PLAN ISSUE EV DATE NOTATION/AMENDMENT LECTRICAL & HYDRAULIC CONSULTANT GREENLAND DESIGN PTY LTD MARLINE NEWCASTLE PTY LTD DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.

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REFERENCE No

SENIORS DEVELOPMENT 57-61 BOURKE STREET & 10 BROWN ST (drainage easement only) NORTH PARRAMATTA LOTS 23, 24, 25 & 38 in DP 35290

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GREENLAND DESIGN PTY LTD
PH 0403 164 198 ELECTRICAL & HYDRAULIC CONSULTANT
MARLINE NEWCASTLE PTY LTD
PH (02) 4925 9300 FAX (02) 4926 3811 57-61 BOURKE STREET &
10 BROWN ST (drainage easement only)
NORTH PARRAMATTA LOTS 23, 24, 25 & 38 in DP 35290

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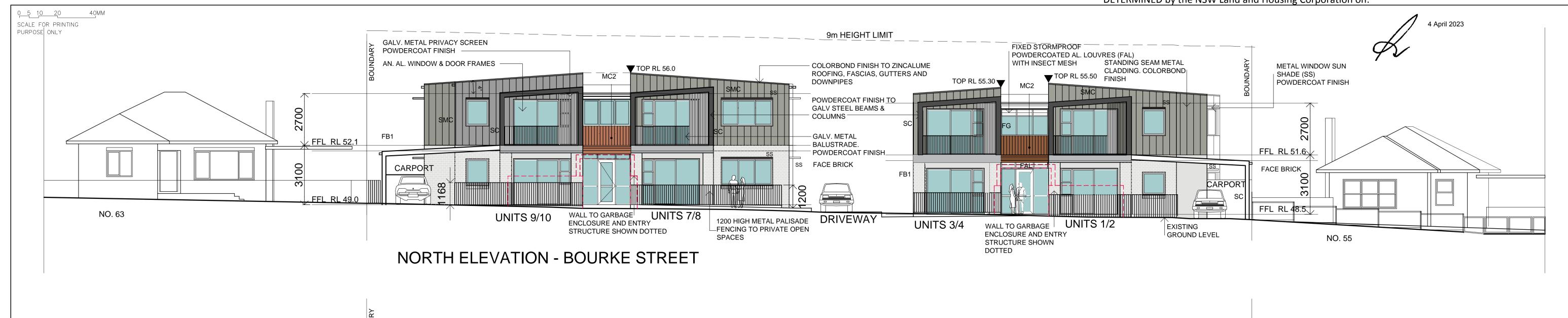




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ENTRY STRUCTURE

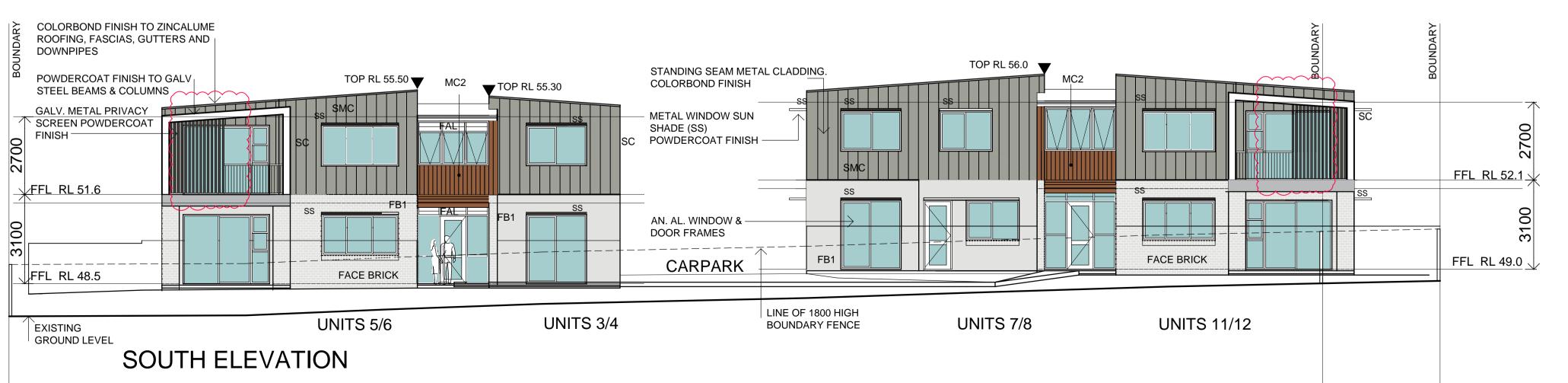




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ENTRY STRUCTURE





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FFL RL 49.0

	Е	28/11/22	DA AMENDMENTS	ARCHITECT	CIVIL CONSULTANT	BUSINESS PARTNER:
				PH (02) 9555 8028	BARRY RUSH & ASSOCIATES PTY LTD ACOR CONSULTANTS PTY LTD	
	С	17/01/22	CHANGES TO SUIT CLIENTS COMMENTS ON DA PLAN		PH (02) 4324 3499	
[DA PLAN ISSUE	PROJECT MANAGER LAND & HOUSING CORPORATION	STRUCTURAL CONSULTANT	
	Α	14/10/21	SKETCH PLAN ISSUE	PH (02) 8753 9000		
ĺ	REV	DATE	NOTATION/AMENDMENT	LANDSCAPE CONSULTANT	ELECTRICAL & HYDRAULIC CONSULTANT	
		DO NOT	SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.		MARLINE NEWCASTLE PTY LTD PH (02) 4925 9300 FAX (02) 4926 3811	

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57-61 BOURKE STREET &	
10 BROWN ST (drainage easement only)	
NORTH PARRAMATTA	FILE:
LOTS 23, 24, 25 & 38 in DP 35290	DA I Pla

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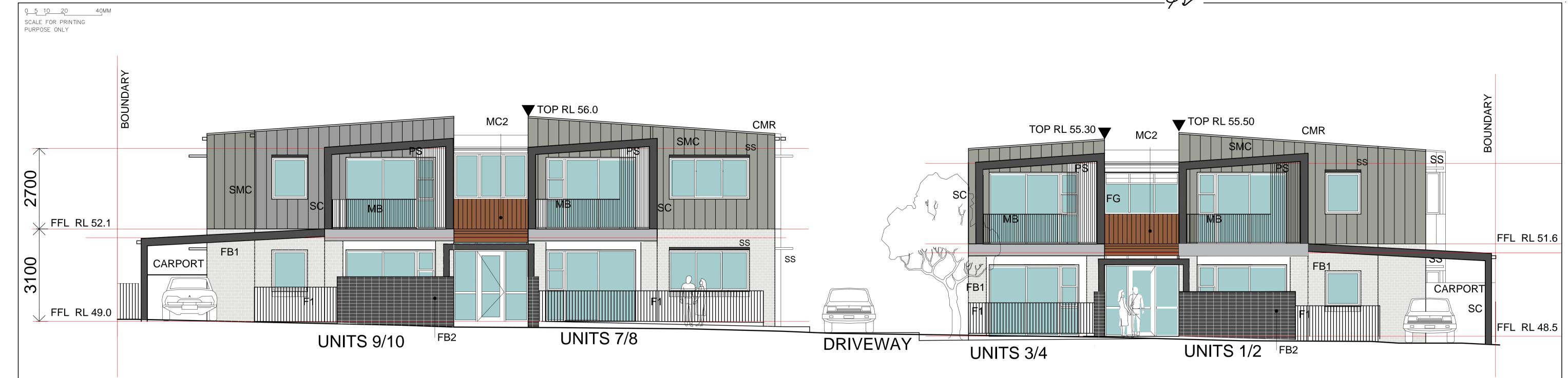
Architects. Nominated Architect: Barry John Rush ARB Registration No 3753 Suite 25A, 2 Beattie Street, Balmain, NSW Phone: (02) 9555 8028 Email: info@barryrush.com.au www.barryrush.com.au

LAND & HOUSING CORPORATION A 14/10/21 SKETCH PLAN ISSUE H (02) 8753 9000 REV DATE NOTATION/AMENDMENT ECTRICAL & HYDRAULIC CONSULTANT GREENLAND DESIGN PTY LTD MARLINE NEWCASTLE PTY LTD DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.
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10 BROWN ST (drainage easement only) NORTH PARRAMATTA LOTS 23, 24, 25 & 38 in DP 35290

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NORTH ELEVATION - BOURKE STREET

FINISHES SCHEDULE

CODE	LOCATION	DESCRIPTION	COLOUR
MDR	ROOFING	METAL DECK ROOFING	SURFMIST
	GUTTER/ DOWNPIPE/ FASCIA & BARGE	METAL	TO MATCH ADJACENT WALL COLOUR
FB1	BUILDING WALLS	FACE BRICK	BOWRAL CHILLINGHAM WHITE
FB2	FRONT WALLS - BIN STORES & LB WALLS	FACE BRICK	PGH BLACK BEAUTY
SMC	FIRST FLOOR WALLS	METAL WALL CLADDING STANDING SEAM	BASALT
SS	WINDOW/ DOORS AWNINGS	METAL POWDERCOATED	MONUMENT
SC	BALCONY/ COLUMNS STRUCTURE	METAL POWDERCOATED	MONUMENT
PR1	BALCONY'S SLAB	OFF-FORM CONCRETE SKIM COAT RENDER + GRANOSITE SMOOTH PAINT	NATURAL

CODE	LOCATION	DESCRIPTION	COLOUR
PS	PRIVACY SCREEN	METAL POWDERCOATED	MONUMENT
	WINDOWS & DOORS	METAL POWDERCOATED	MONUMENT
MB	BALCONY BALUSTRADE	METAL POWDERCOATED	SURFMIST
MC2	STAIRS WALLS & ENTRY AWNINGS	METAL WALL CLADDING STANDING SEAM	TERRAIN
FC1	BALCONY LINING & SOFFIT	PAINTED FIBER CEMENT SHEETING	WATTYL ASTOR WHITE
F1	FENCE	1200 HIGH METAL FENCING TO DETAIL	DULUX MONUMENT
F2	FENCE	1800 HIGH COLORBOND METAL FENCE	DULUX SHALE GREY
F3	FENCE	1500 HIGH SLATTED METAL FENCE	DULUX SHALE GREY

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			ARCHITECT	CIVIL CONSULTANT	
D	18/02/22	Revised DA PLAN ISSUE	BARRY RUSH & ASSOCIATES PTY LTD		
С	17/01/22 CHANGES TO SUIT CLIENTS COMMENTS ON DA PLAN\$-		PH (02) 9555 8028	PH (02) 4324 3499	
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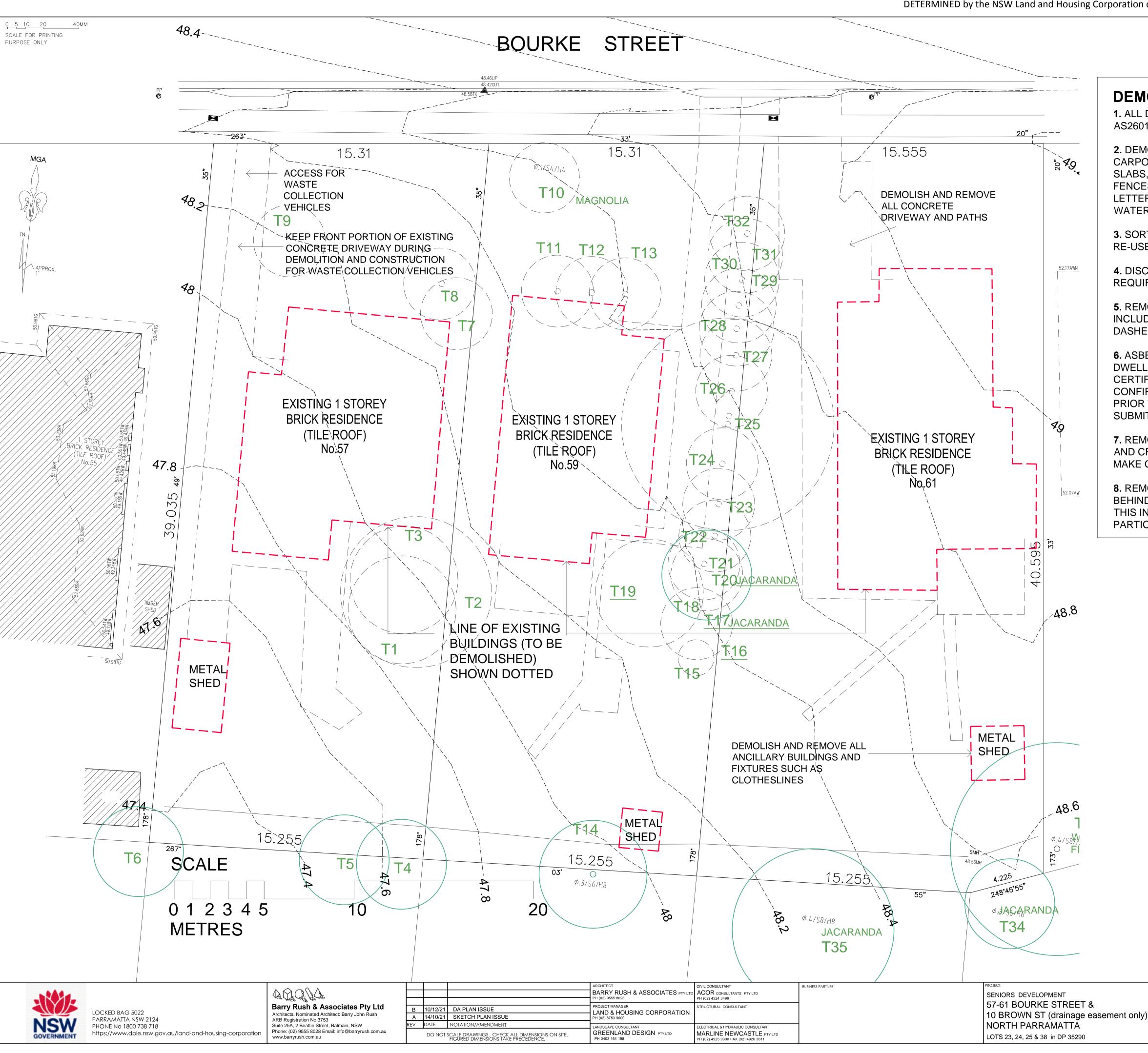
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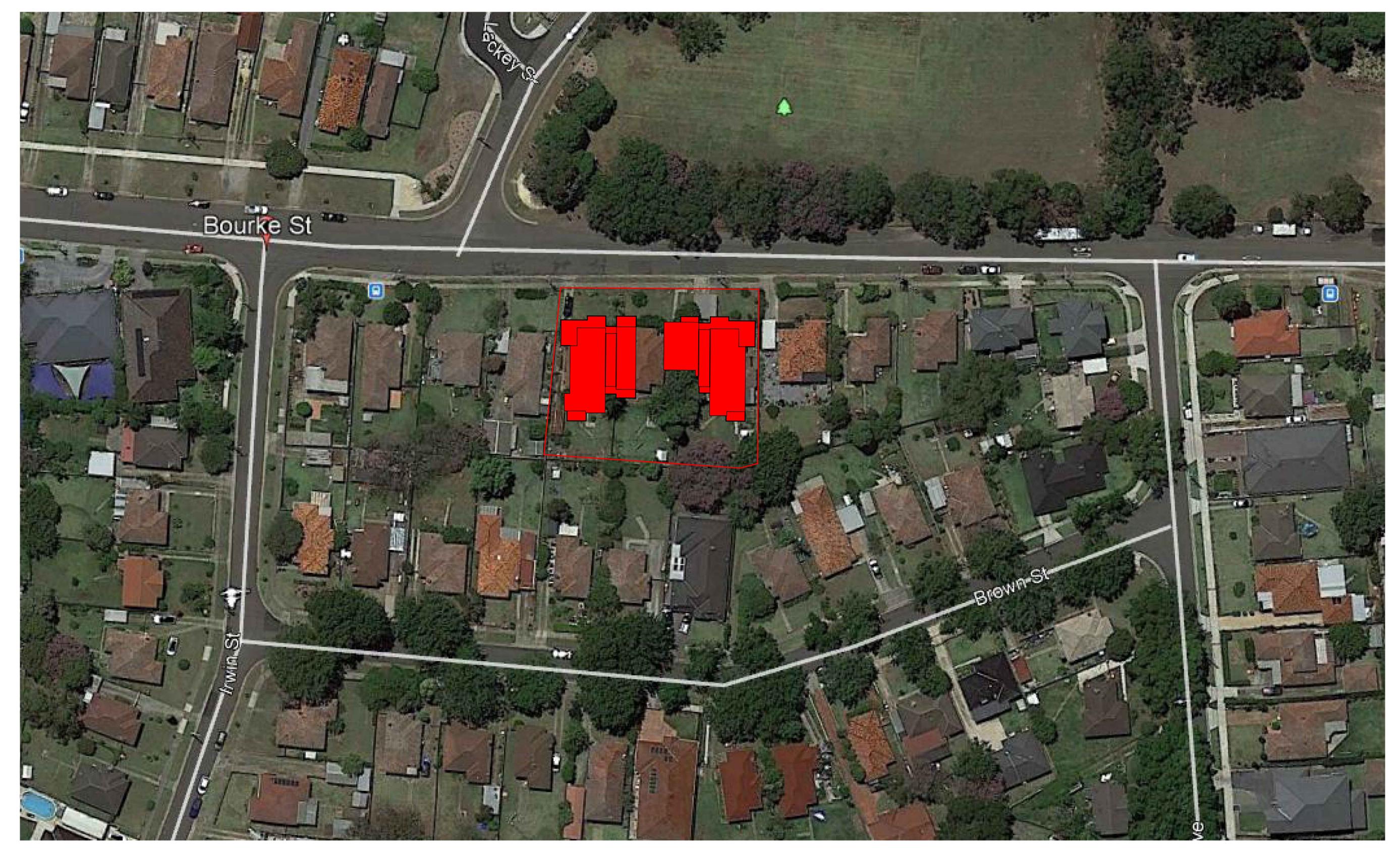
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			BARRY RUSH & ASSOCIATES PTY LTD	CIVIL CONSULTANT ACOR CONSULTANTS PTY LTD PH (02) 4324 3499	BUSIN
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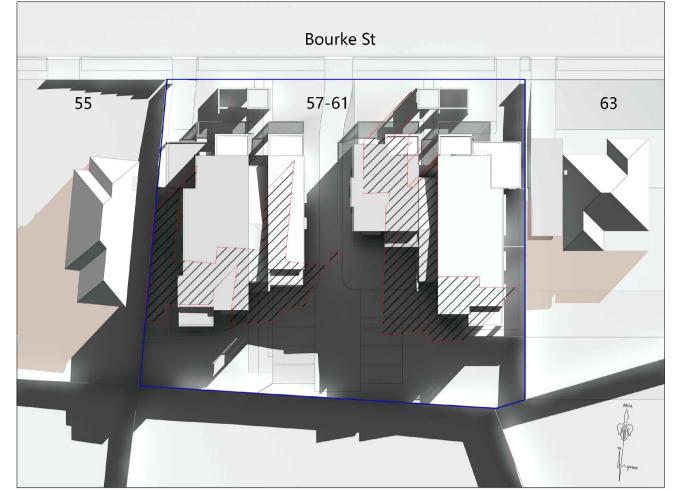
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57-61 BOURKE STREET &
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NORTH PARRAMATTA
LOTS 23, 24, 25 & 38 in DP 35290

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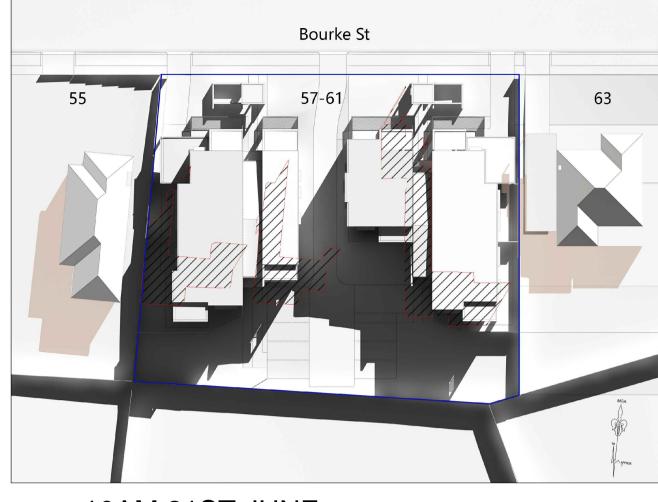


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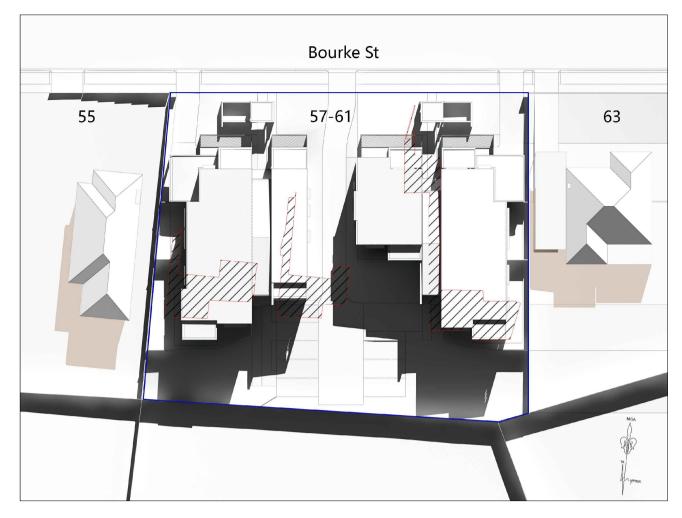




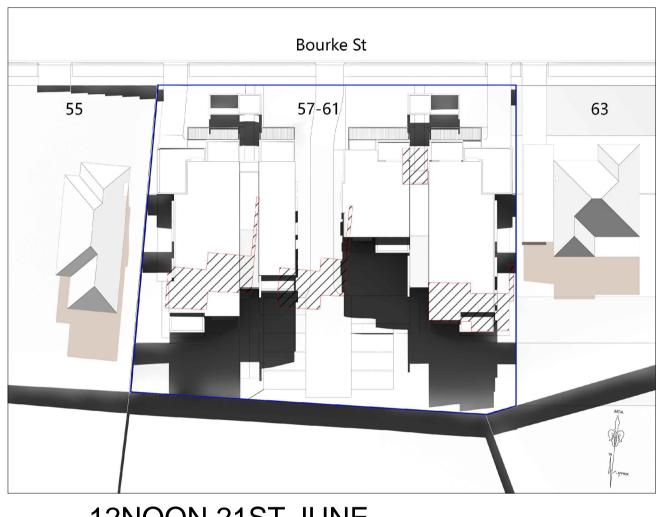
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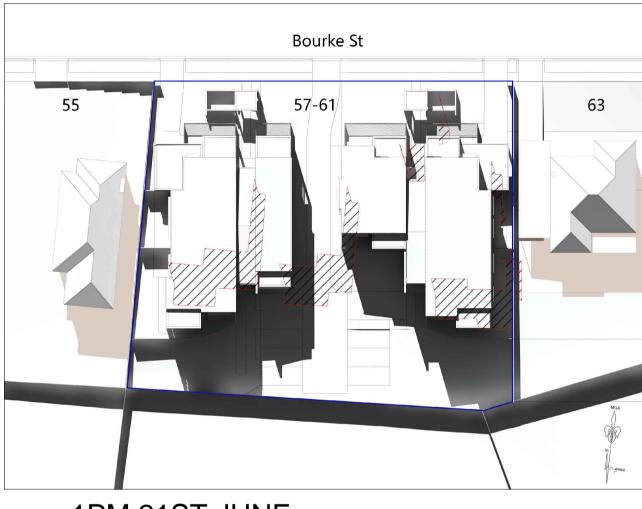
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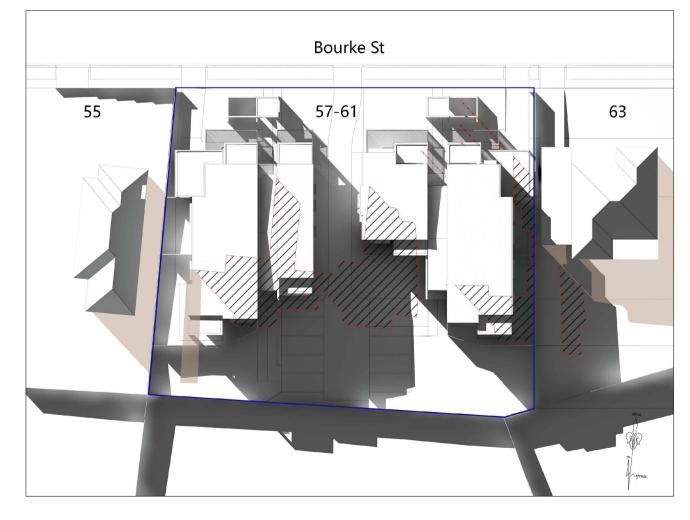
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n	Phone: (02) 9555 8028 Email: info@barryrush.com.au www.barryrush.com.au

			ARCHITECT BARRY RUSH & ASSOCIATES PTY LTD PH (02) 9555 8028	CIVIL CONSULTANT ACOR CONSULTANTS PTY LTD PH (02) 4324 3499	BUSINESS PART
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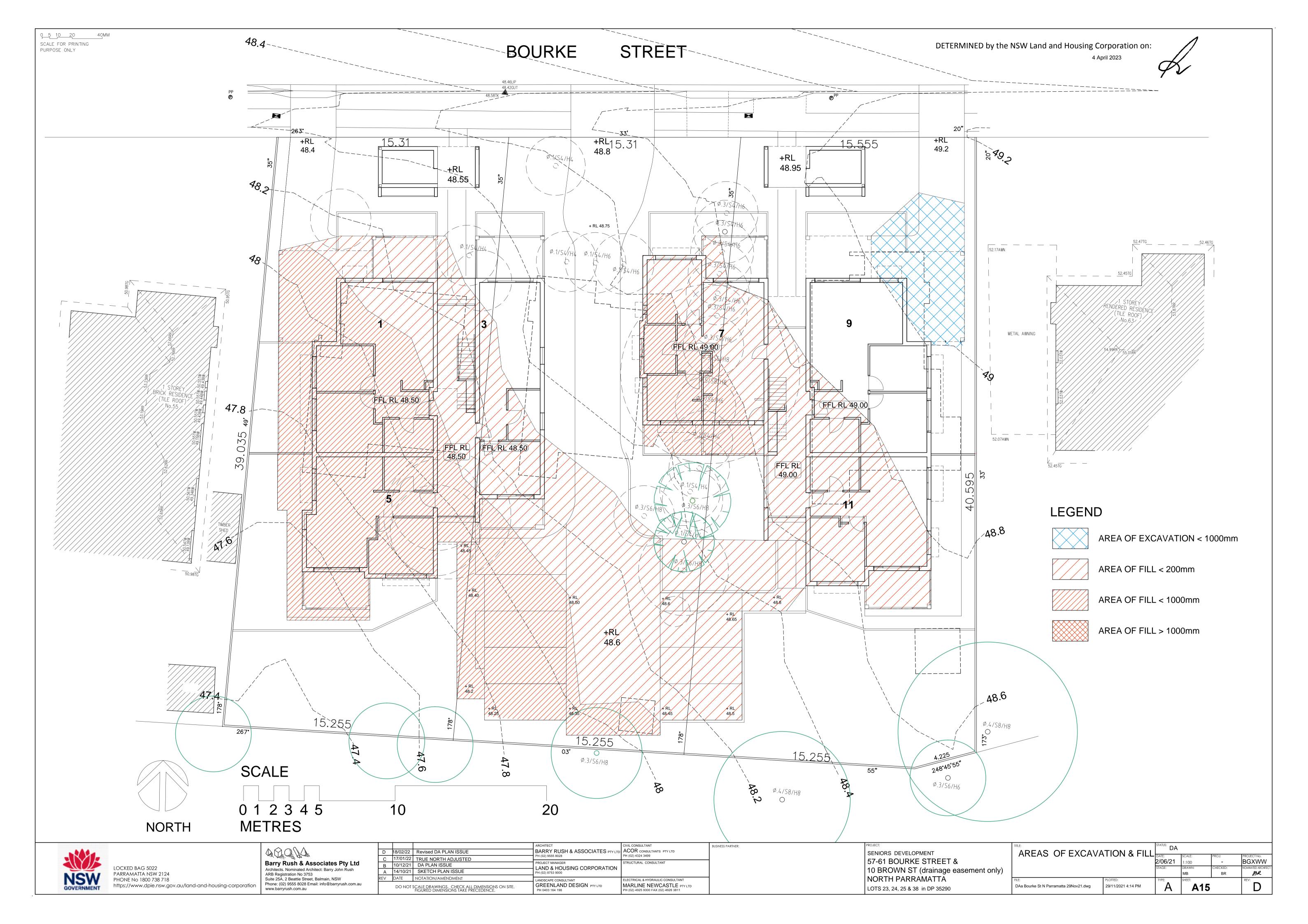
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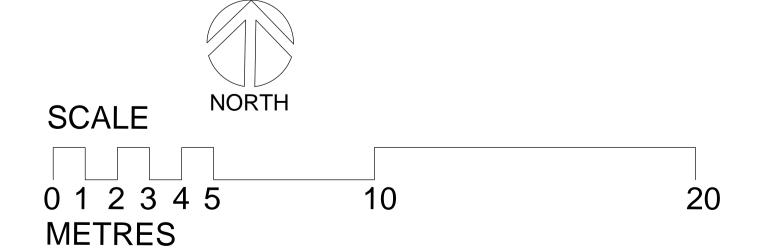
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	DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.		GREENLAND DESIGN PTY LTD PH 0403 164 198	MARLINE NEWCASTLE PTY LTD PH (02) 4925 9300 FAX (02) 4926 3811

SENIORS DEVELOPMENT 57-61 BOURKE STREET &
10 BROWN ST (drainage easement only)
NORTH PARRAMATTA LOTS 23, 24, 25 & 38 in DP 35290

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10 BROWN ST (drainage easement only)
NORTH PARRAMATTA
LOTS 23, 24, 25 & 38 in DP 35290

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4 April 2023



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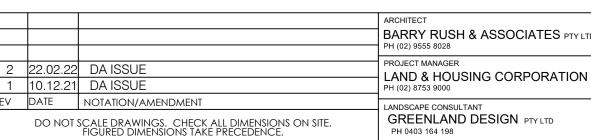
57-61 BOURKE STREET, NORTH PARRAMATTA NSW 2151

DRAWING SCHEDULE

EL-DA-000 COVER SHEET EL-DA-100 SITE SERVICES

Barry Rush & Associates Pty Ltd
Architects. Nominated Architect: Barry John Rush
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Suite 25A, 2 Beattie Street, Balmain, NSW
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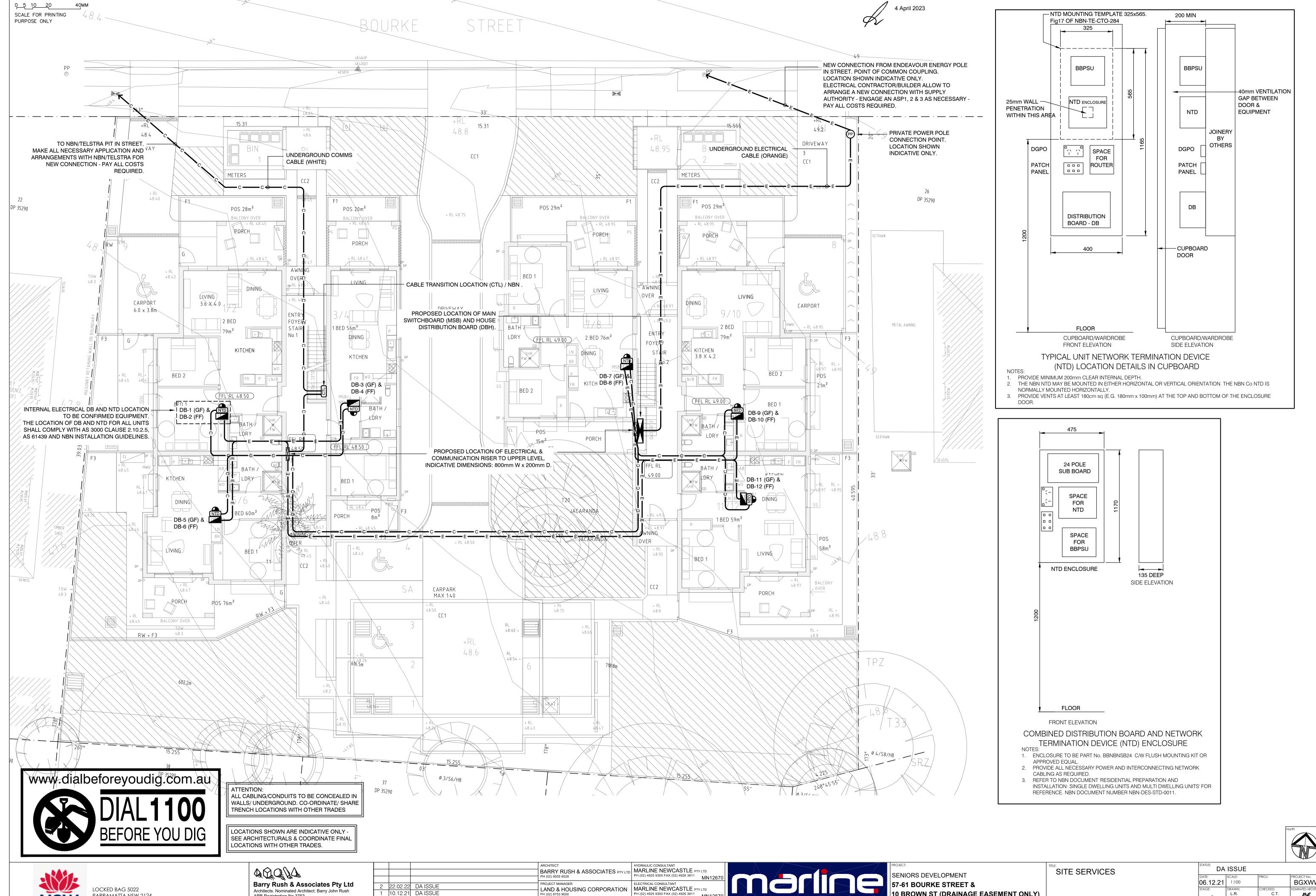






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/	57-61 BOURKE STREET &	
	10 BROWN ST (DRAINAGE EASEMENT ONLY)	
	NORTH PARRAMATTA, NSW 2151	F
	LOTS 23, 24, 25 & 38 in DP 35290	

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ARB Registration No 3753 Suite 25A, 2 Beattie Street, Balmain, NSW Phone: (02) 9555 8028 Email: info@barryrush.com.au www.barryrush.com.au

EV DATE NOTATION/AMENDMENT DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.

LANDSCAPE CONSULTANT GREENLAND DESIGN PTY LTD PH 0403 164 198

ELECTRICAL CONSULTANT

MARLINE NEWCASTLE PTY LTD

PH (02) 4925 9300 FAX (02) 4926 3811 MN126 MECHANICAL . ELECTRICAL . HYDRAULIC . FIRE . ENERGY MARLINE NEWCASTLE PTY LTD

10 BROWN ST (DRAINAGE EASEMENT ONLY) NORTH PARRAMATTA, NSW 2151 LOTS 23, 24, 25 & 38 in DP 35290

						
SITE SERVICES	STATUS: DA ISSUE					
		DATE: 06.12.21	SCALE: 1:100	PROJ:	PROJECT No.	W
		STAGE:	DRAWN: L.R.	CHECKED: C.T.	NOMINATED ARCH	ITECT:
GXWW-EL-DA-100.dwg	PLOTTED: 22/02/2022 4:00 PM	TYPE:	EL-D	A-100	REV: 2	

HYDRAULIC SERVICES

FOR

57-61 BOURKE STREET, NORTH PARRAMATTA NSW 2151

DRAWING SCHEDULE

HY-DA-000 COVER SHEET HY-DA-100 SITE SERVICES



Barry Rush & Associates Pty Ltd Architects. Nominated Architect: Barry John Rush ARB Registration No 3753 Suite 25A, 2 Beattie Street, Balmain, NSW Phone: (02) 9555 8028 Email: info@barryrush.com.au https://www.dpie.nsw.gov.au/land-and-housing-corporation

www.barryrush.com.au

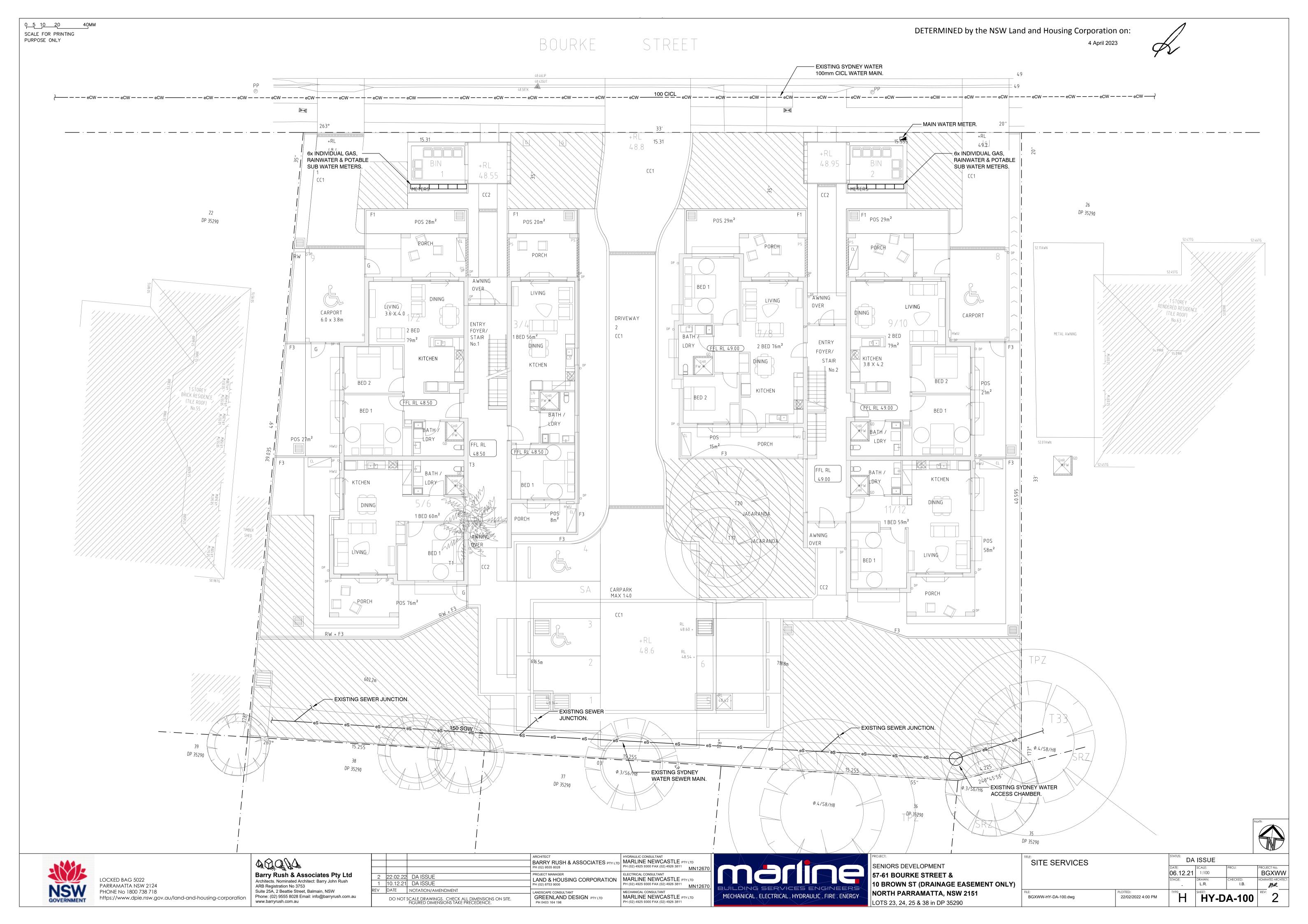






SENIORS DEVELOPMENT **57-61 BOURKE STREET &** 10 BROWN ST (DRAINAGE EASEMENT ONLY) NORTH PARRAMATTA, NSW 2151 LOTS 23, 24, 25 & 38 in DP 35290

OVERSHEET		STATUS: DA ISSUE			
		DATE: 06.12.21	SCALE: N.T.S	PROJ:	PROJECT No. BGXWV
		STAGE:	DRAWN: L.R.	CHECKED: I.B.	NOMINATED ARCHITE
(WW-HY-DA-000.dwg	PLOTTED: 22/02/2022 4:00 PM	TYPE:	SHEET: HY-D	A-000	REV: 2



PROPOSED DEVELOPMENT (No.57-61) BOURKE STREET, NORTH PARRAMATTA



4 April 2023

STORMWATER MANAGEMENT PLANS

LEGEND DENOTES ON-SITE DETENTION TANK DENOTES ON-SITE RETENTION TANK DENOTES DWELLING FOOTPRINT DENOTES 100mm DIA STORMWATER/SURFACE WATER SYSTEM PIPE AT 1% MIN. GRADE U.N.O. DENOTES 100mm DIA. FULLY SEALED 150 DENOTES RAINWATER PIPE AND DIA WHEN PIPE EXCEEDS 100mm DIA DENOTES STORMWATER/SURFACE WATER PIPE AND DIA. WHEN PIPE EXCEEDS 100mm DIA DENOTES RISING MAIN AND PIPE DIA. U.N.O. 100 DENOTES SUBSOIL DRAINAGE LINE AND DIA. WRAPPED IN GEOFABRIC U.N.O. DENOTES DOWNPIPE DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISHED SURFACE LEVEL FOR SYSTEM FLUSHING PURPOSES STORMWATER PIT - SOLID COVER STORMWATER PIT - GRATED INLET DENOTES GRATED DRAIN DENOTES ABSORPTION TRENCH NON RETURN VALVE 凶 STOP VALVE (ISOLATION VALVE) 240v REQUIRED DENOTES LEVEL OF INLET /OUTLET OF STORMWATER PIPE. IL23.31 NOTE: UNLESS NOTED OTHERWISE. THE BASE OF THE PIT IS THE SAME AS THE PIPE INLET/OUTLET.

DIAL BEFORE YOU DIG



IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL

GENERAL NOTES

- 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 ACOR CONSULTANTS (CC) MUST BE CONTACTED IMMEDIATELY FOR
- WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION
- SUBSOIL DRAINAGE SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL ENGINEER. SUBSOIL DRAINAGE SHALL NOT BE CONNECTED INTO THE STORMWATER SYSTEM IDENTIFIED ON THESE PLANS UNLESS APPROVED BY ACOR CONSULTANTS (CC)

STORMWATER CONSTRUCTION NOTES

- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500 (CURRENT EDITION) AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES
- THE MINIMUM SIZES OF THE STORMWATER DRAINS SHALL NOT BE LESS THAN DN90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY THE REGULATORY
- THE MINIMUM GRADIENT OF STORMWATER DRAINS SHALL BE 1%,
- COUNCIL'S TREE PRESERVATION ORDER IS TO BE STRICTLY ADHERED TO. NO TREES SHALL BE REMOVED UNTIL PERMIT IS
- PUBLIC UTILITY SERVICES ARE TO BE ADJUSTED AS NECESSARY AT THE CLIENT'S EXPENSE
- ALL PITS TO BE BENCHED AND STREAMLINED. PROVIDE STEP IRONS FOR ALL PITS OVER 1.2m DEEP
- MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK
- VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION
- SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE NOR CORRECT. IT IS THE CLIENT & CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL PRIOR TO CONSTRUCTION
- ANY VARIATION TO THE WORKS AS SHOWN ON THE APPROVED DRAWINGS ARE TO BE CONFIRMED BY ACOR CONSULTANTS (CC) PRIOR TO THEIR COMMENCEMENT

RAINWATER RE-USE SYSTEM NOTES

- RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
- TOWN WATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF THE REGULATORY AUTHORITY. THIS MAY REQUIRE PROVISION OF
 - PERMANENT AIR GAR
- BACKFLOW PREVENTION DEVICE
- NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE
- AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT
- PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL
- ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING
- PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY
- ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK SURFACE WATER INLETS ARE NOT TO BE CONNECTED
- PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS/NZS3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED AS 'RAINWATER'. THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE
- 10. EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELED 'RAINWATER' ON A METALLIC SIGN IN ACCORDANCE WITH AS1319
- ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND

PARRAMATTA COUNCIL REQUIREMENTS

- SITE AREA (m²)
- ON-SITE DETENTION REFER TO SHEET C4 FOR THE UPPER PARRAMATTA RIVER CATCHMENT TRUST ON-SITE DETENTION DRAINAGE CALCULATIONS
- PROVIDE RAINWATER REUSE TANK AS REQUIRED BY BASIX. RAINWATER REUSE VOLUME PROVIDED = 27m³
- 4 x SPEL FILTERS PROVIDED TO SATISFY WATER QUALITY MEASURES, REFER TO SHEETS C10 & C11 STORMWATER QUALITY
- SITE DISCHARGE TO PROPOSED EASEMENT AT REAR OF SITE. REFER TO SHEET C2.
- DESIGN HAS BEEN PREPARED IN ACCORDANCE WITH PARRAMATTA COUNCIL DESIGN & DEVELOPMENT GUIDELINES, UPPER PARRAMATTA RIVER CATCHMENT TRUST, AR&R AND AS/ANZS 3500

SHEET INDEX	
COVER SHEET & NOTES	SHEET C1
STORMWATER MANAGEMENT PLAN	SHEET C2
STORMWATER MANAGEMENT DETAILS SHEET No.1	SHEET C3
OSD CALCULATION SHEET & MAINTENANCE SCHEDULE	SHEET C4
ON-SITE DETENTION CHECKLIST SHEET 1 OF 2	SHEET C5
ON-SITE DETENTION CHECKLIST SHEET 2 OF 2	SHEET C6
EROSION & SEDIMENT CONTROL PLAN	SHEET C7
EROSION & SEDIMENT CONTROL NOTES & DETAIL SHEET	SHEET C8
EASEMENT DRAINAGE ALIGNMENT PLAN	SHEET C9
STORMWATER QUALITY REPORT SHEET 1 OF 2	SHEET C10
STORMWATER QUALITY REPORT SHEET 2 OF 2	SHEET C11

DEVELOPMENT APPLICATION ISSUE NOT FOR CONSTRUCTION

DRAWINGS MUST BE PRINTED IN COLOUR

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D	RE-ISSUED FOR DEVELOPMENT APPROVAL	25.11.22	RH	BK
С	RE-ISSUED FOR DEVELOPMENT APPROVAL & UPDATED TO SUIT CLIENTS COMMENTS	21.02.22	RH	BK
В	ISSUED FOR DEVELOPMENT APPROVAL	14.01.22	RH	BK
Α	ISSUED FOR CLIENT REVIEW & COMMENT	23.11.21	RH	BK
Issue	Description	Date	Drawn	Approved



BARRY RUSH & & ASSOCIATES







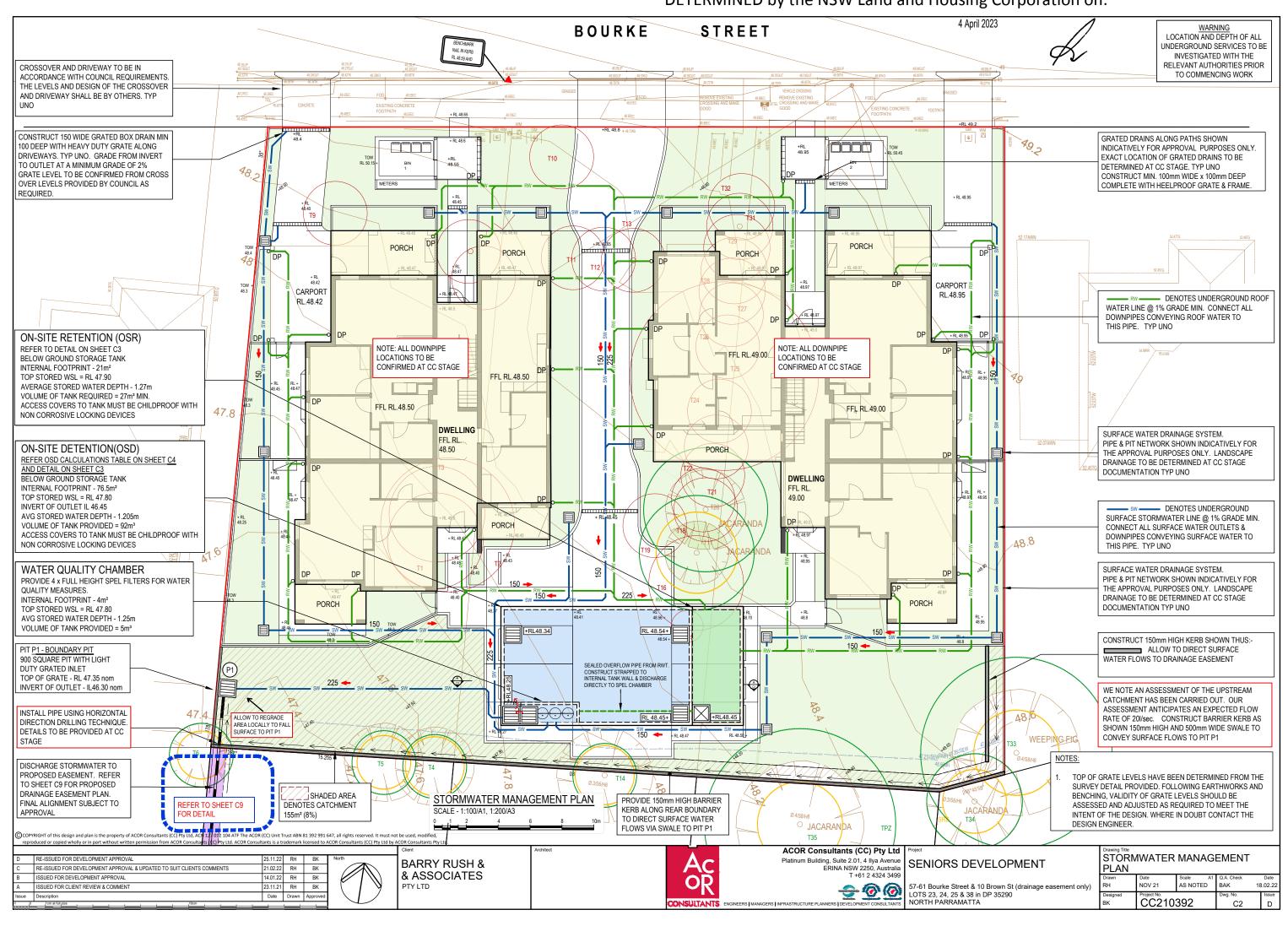
SENIORS DEVELOPMENT

NORTH PARRAMATTA

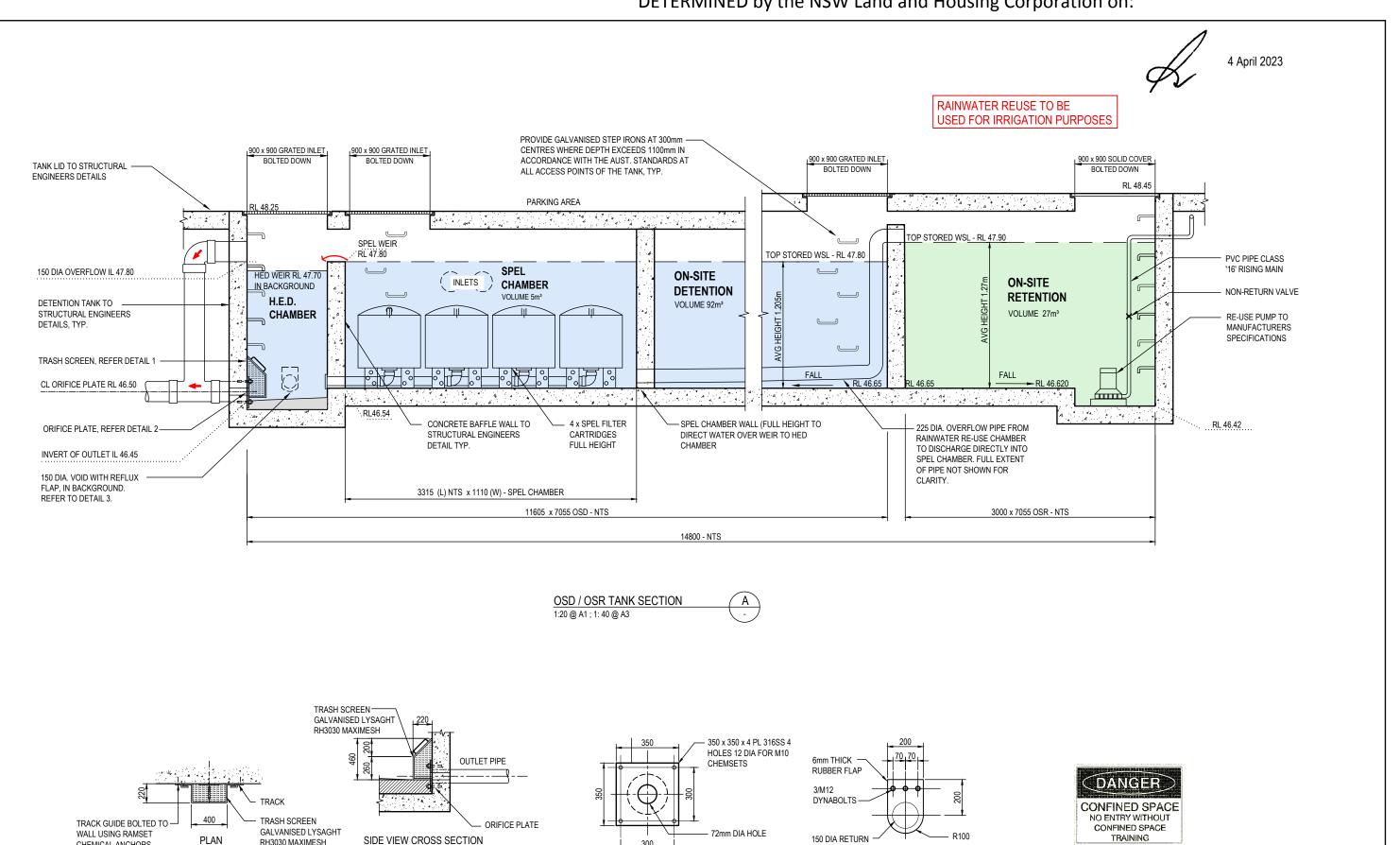
ı	Drawing Title
I	COVER SHEET & NOTES
ı	

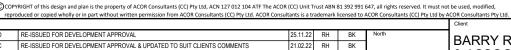
)	Drawn RH	NOV 21	Scale A1 AS NOTED	Q.A. Check BAK 18	Date 3.02.22
	Designed BK	Project No.	392	Dwg. No.	Issue D

DETERMINED by the NSW Land and Housing Corporation on:



DETERMINED by the NSW Land and Housing Corporation on:





PLAN

CHEMICAL ANCHORS

ISSUED FOR DEVELOPMENT APPROVAL

RH3030 MAXIMESH

14.01.22 RH BK

DETAIL 1 - TRASH SCREEN





DETAIL 2 - ORIFICE PLATE

ACOR Consultants (CC) Pty Ltd Platinum Building, Suite 2.01, 4 Ilya Avenue ERINA NSW 2250, Australia T +61 2 4324 3499

DETAIL 3 - REFLUX FLAP

CC210392 LOTS 23, 24, 25 & 38 in DP 35290

PROVIDE CONFINED SPACE SIGNAGE

AT ENTRY POINTS INTO TANK.

	-	WATER S SHEE	_	EMENT
	Drawn	Date	Scale A1	Q.A. Check
61 Bourke Street & 10 Brown St (drainage easement only)	RH	NOV 21	AS NOTED	BAK
ΡΤΗ ΡΔΡΡΔΜΔΤΤΔ	Designed	Project No		Dwg No

-H

4 April 2023

This page last updated June 2004

B.1-1

On-Site Stormwater Detention Handbook

Form B1 ¹ DRAINAGE DESIGN SUMMARY SUB/DA No.										
Project:	CC210392		Location:	- 57	-61 BOUI	RKE STREET, NT	ΉР	ARRAMAT	ГА	
Designed By:	RH		Company:	ACOR C	ONSULT	ANTS (CC) Pty. L	.td	Phone:	(02) 432	24 3499
SITE AREA	0.19	37	_ha *See S	ection 3.	4.3 for c	lual occupancy	,			[A]
Upstream cat See Section 4				NA/C			=_	0	_ha	[AA]
Basic storage		Sillelit Oi	470 x [A]	0.19	37		=_	91.04	m³	[B]
Basic Dischar	ge =0.0	(A) x 8	0.1937				=_	0.0155	m³/s	[C]
Area of site d (Must be as n the total site	nuch as possi	ble and n			of		=_	0.1782	ha	[D]
[D]/[A] + [0.1782]/[0.1937] x 100			=_	92	%	[E]
Storage per h	a. Of contrib	uting area	a = [B]/[D]				=_	510.88	_	[F]
Enter <i>volume,</i> Read new PSI				sing [F], a	and		=_	72.01	_l/s/ha	[G]
Determine PS	SD = [G] x [D]		72.01	x	0.178	2	=_	12.83	I/s	[H]
Maximum he	ad to orifice						=_	1.3	m	[K]
Weir flow to	storage	QWeir	=CL(H ^{Weir})	1.5	ΑН	Weir	=_	0.15	m	[1]
Select orifice	diameter:	d=(0.464	$1\times Q/\sqrt{h}$)0.	⁵ =(0.464	ı×[H]/√	[K]) ^{0.5}	=_	0.072	m	[J]
Maximum dis	scharge						=_	12.83	l/s	[L]
Head for high	early discha	rge					=_	1.2	m	[M]
High early dis	charge	$\{[L] \times \sqrt{[N]}$	<u>/]/[K]</u> }	(min	75% of [L])	=_	12.33	l/s	[N]
Approximate	mean discha	rge = ([L]	+ [N])/2				=_	12.58	l/s	[P]
Average disch	narge/ha = [P]/[D] =	= 12.58	/ 0.1	782		=_	70.60	l/s/ha	[Q]

Enter volume/PSD adjustment chart (Fig 5.1) using [Q] And read off final storage volume per hectare

Primary storage proportion =

Check [T] + [U] + [V] = [S]

Secondary storage proportion =

Tertiary storage proportion =

Determine final SSR = [R] x [D] = 518.33 x 0.1782

Upper Parramatta River Catchment Trust

OSD STORMWATER MAINTENANCE SCHEDULE

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE
Drainage Control Pit (DCP)			
Inspect and remove any blockage of orifice	Six monthly	Owner	Remove grate and screen to inspect orifice. See plan for location of DCP
Check attachment of orifice plate to wall of pit (gaps less than 5mm)	Annually	Maintenance Contractor	Remove grate and screen. Ensure plate mounted securely, tighten fixings if required. Seal gaps as required.
Check orifice diameter correct and retains sharp edge	Five yearly	Maintenance Contractor	Compare diameter to design (see Work-As- Executed) and ensure edge is not pitted or damage
Inspect screen and clean	Six monthly	Owner	Remove grate and screen if required to clean it.
Check attachment of screen to wall of pit	Annually	Maintenance Contractor	Remove grate and screen. Ensure screen fixings secure. Repair as required
Check screen for corrosion	Annually	Maintenance Contractor	Remove grate and examine screen for rust or corrosion, especially at corners or welds.
Inspect flap valve and remove any blockage	Six monthly	Owner	Remove grate. Ensure flap valve moves freely and remove any blockages or debris.
Check attachment of flap valve to wall of pit	Annually	Maintenance Contractor	Remove grate. Ensure fixings of valve are secure
Check flap valve seals against wall of pit	Annually	Maintenance Contractor	Remove grate. Fill pit with water and check that flat seals against side of pit with minimal leakage.
Inspect overflow weir and remove any blockage	Six monthly	Maintenance Contractor	Remove grate and open cover to ventilate underground storage if present. Ensure weir clear blockages.
Inspect DCP walls (internal and external, if appropriate) for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect DCP sump and remove any sediment / sludge	Six monthly	Owner	Remove grate and screen. Remove sediment / sludge build-up and check orifice and flap valve clear.
Inspect grate for damage or blockage	Six monthly	Owner	Check both sides of grate for corrosion (especially corners and welds) damage or blockage.
Inspect return pipe from storage and remove any blockage	Six monthly	Maintenance Contractor	Remove grate and screen. Ventilate underground storage if present. Check orifice and remove any blockages in outlet pipe. Flush outlet pipe to confi it drains freely. Check for sludge / debris on upstream side of return line.
Storage			
Inspect pit and remove any sediment / sludge in pit	Six monthly	Maintenance Contractor	Remove grate and screen. Remove sediment / sludge build-up.
Inspect internal tank walls (and external, if appropriate) for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect and remove any debris / litter / mulch etc. blocking grates	Six monthly	After storm event	Remove blockages from grate and check if pit blocked.
Inspect tank storage are and remove debris / mulch / litter etc. likely to block screens / grates.	Six monthly	Maintenance Contractor	Remove debris and floatable material likely to be carried to grates.
Compare storage volume to volume approved (Rectify if loss > 5%)	Annually	Maintenance Contractor	Compare actual storage available with Work-as- Executed plans. If volume loss is greater than 5% arrange for reconstruction to replace the volume lo Council to be notified of the proposal.
Inspect storages for subsidence near pits.	Annually	Maintenance Contractor	Check along drainage lines and at pits for subsidence likely to indicate leakages.

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D	RE-ISSUED FOR DEVELOPMENT APPROVAL	25.11.22	RH	BK	N
С	RE-ISSUED FOR DEVELOPMENT APPROVAL & UPDATED TO SUIT CLIENTS COMMENTS	21.02.22	RH	BK	l
В	ISSUED FOR DEVELOPMENT APPROVAL	14.01.22	RH	BK	
Α	ISSUED FOR CLIENT REVIEW & COMMENT	23.11.21	RH	BK	
Issue	Description	Date	Drawn	Approved	
1 ,0	1cm at full size 10cm				1

BARRY RUSH & & ASSOCIATES PTY LTD

= 518.33 m³/ha [R]

[S]

[T] [U]

[V]



ACOR Consultants (CC) Pty Ltd
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T +61 2 4324 3499



SENIORS DEVELOPMENT

57-61 Bourke Street & 10 Brown St (drainage easement only)
NORTH PARRAMATTA
LOTS 23, 24, 25 & 38 in DP 35290

OSD CALCULATION SHEET &
MAINTENANCE SCHEDULE
Drawn Date Scale A1 Q.A. Check
RH NOV 21 AS NOTED BAK

18.02.22

¹ Revised for third edition to include flow from upstream and revised by pass flows

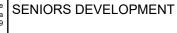


ON-SITE DETENTION CHECKLIST - SHEET 1 OF 2

This page last updated December 1999 B.9-1 On-site Stormwater Detention Hand	dbook		This page last updated December 1999 B.9-2 On-site Stormwater	Detention	Handboo	ok
B9. OSD DETAILED DESIGN SUBMISSION			OSD DETAILED DESIGN CHECKLIST			
This form is to be completed by the stormwater designer and submitted to Councitogether with the design plan/s and any necessary attachments.	ŠÍÍ		TEM	DESI	GNER	T
PROJECT ADDRESS:			A CONTRACTOR OF THE CONTRACTOR	YES	NO	1
		B	(refer Section 4.1)			-
PROJECT APPLICANT: OSD DESIGNER DETAILS:	- 100 - 100 - 1000		The site (whole or partly) is defined as floodprone in a 100 year event If YES, see Plan No			1
Company Name: ACOR CONSULTANTS (CC) PTY LTD			2(a) Has any floodplain storage been lost?	N/A		A Park
			2(b) Has the floodorone area been excluded from the OSD calculations?	NI/A	1 44 19200-04	Sales
Address: SUITE 2.01, 4 ILYA AVENUE, ERINA NSW 2250	and the second		2(c) Is the OSD system performance adversely affected by the 100 year flood level?	To the contract of the contrac	Total India	1
Telephone No.: (02) 43243499 Fax No:	ر ما پر استان کار		3. Is there an external catchment draining into the site?	I (NY IONE)		
Accreditation organisation:			If YES, see Plan No and calculations of 100 year ARI flow in Attachment B			•
	= 1=7		4. The location and extent of any floodway/flowpath has been determined, (refer Sections 4.1.3 & 4.2.2)	A Stormwater Concept Plan (SCP) has been approved previously section 4.1) The site (whole or partly) is defined as floodprone in a 100 year event if YES, see Plan No		•
Name and signature of designer: BRUCE KENNY (Print Name)	<u> </u>		If YES, see Plan Noand accompanying 100 year event hydraulic calculations in Attachment B. Buildings are not inundated (and have the required freeboard) nor are flows concentrated on an		on ca(20 a)	
(Print Name) Date: 23.11.21	117		5. The detailed design submission is consistent with the approved SCP		SIGNER ES NO	
(Signature) Items submitted: **			6. Are there any conditions on the development approval that may affect the drainage design (for example, trees to be retained)?			
OSD Design Plan/s	Yes)/ No		7. The detailed design submission addresses the drainage-related			
OSD Detailed Design Checklist Attachment A: Flood Affectation Information	Yes / No Yes / No		8. A site layout plan with accompanying ground levels/contours which	THE POLOME		
Attachment B: External Catchment Assessment Attachment C: On line System Calculations	Yes / No		extend into adjoining properties is submitted If YES, see Plan No. C2	Service Company		•
 Attachment C: On-line System Calculations Attachment D: Overflow and Surcharge Pathway Calculations 	Yes / No Yes / No		9. Have other constraints, e.g. easements, services, been defined?	PANCE III	ACCRECATE NO.	,
Attachment E: Site Drainage Calculations	Yes / No				April 201 - 152	•
Attachment F: Outlet Hydraulic Assessment Attachment C: City Statement Patrille	Yes / No					į
 Attachment G: Site Storage Details Attachment H: Drainage Design Summary Sheet 	Yes / No Yes / No				a7.27 renues (000 4)	
COUNCIL REVIEW DETAILS:	**** Out - 182		12. State the type of discharge control device (i.e. orifice) or? Where the device is not an orifice, has specific Trust approval been obtained?	MELLICON Gram.		
Council Review Officer's Name:	eps wing		13. The area of the site to be drained by each OSD storage has been determined, (refer Section 4.2.2)	/		-
Review officer's comments:			If YES, see Plan No <mark>C2</mark>			
A LIGHT - NORTH WINDS AND A TOTAL OF THE PROPERTY OF THE PROPE			If YES, the uncommanded site percentage is	es es		
	201 7 (2044 s		14. The plan/s identify the maximum water levels, and the levels and locations of each storage's discharge point (refer Section 4.2.2)	DESIGNE YES N N/A N/A N/A N/A N/A N/A N/A N/A N/A N		
STATE OF THE STATE OF THE STATE AND STATE OF THE STATE OF			If YES, see Plan No C2 & C3	eric verbræss		
	<u>531 F. j</u>		determined, (refer Sections 4.2.2 & 4.2.9)	/	N/A N/A	
Affirm and areas of Branchista States and a second	althemany)			B		
Signature of Review Officer: Date:				/		
** The above items are to be submitted in a single bound form — a 'loose leaf' format is unacceptable.			16. The drainage plans have been checked for consistency against the Architectural and landscaping plans	/		
			17. A maintenance schedule has been prepared (ref Section 4.2.10)	V		
Upper Parramatta River Catchment Trust			Upper Parramatta River Catchment Trust			
		T _{ac}				

						Client
)	RE-ISSUED FOR DEVELOPMENT APPROVAL	25.11.22	RH	BK	North	BARRY RUSH &
0	RE-ISSUED FOR DEVELOPMENT APPROVAL & UPDATED TO SUIT CLIENTS COMMENTS	21.02.22	RH	BK		
3	ISSUED FOR DEVELOPMENT APPROVAL	14.01.22	RH	BK		& ASSOCIATES
4	NIL ISSUE	-	-	-		PTY LTD
ssue	Description	Date	Drawn	Approved		
0	1cm at full give					i

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ERINA NSW 2250, Australia
T +61 2 4324 3499



OSD CHECKLIST SHEET 1 OF 2			
Drawn	Date		Q.A
RH	NOV 21	AS NOTED	BAI

57-61 Bourke Street & 10 Brown St (drainage easement only)
NORTH PARRAMATTA
LOTS 23, 24, 25 & 38 in DP 35290

	51111	T OF Z			
ı	Drawn	Date	Scale A1	Q.A. Check	Date
	RH	NOV 21	AS NOTED	BAK 1	8.02.2
ı	Designed	Project No.		Dwg. No.	Issue
	BK	CC210	392	C5	D

4 April 2023

ON-SITE DETENTION CHECKLIST - SHEET 2 OF 2

This page last updated December 1999

B 9-3

On-site Stormwater Detention Handbook

Where there is more than one OSD system, Questions 18 to 26 are to be answered separately for each OSD storage system.

OSD Storage system identifier.....

ITEM	DESIGNER			NCIL IEW
: Bord Park Car Tanger Tengan Tengan Performent Park Performent Tengan Perfor	YES	NO	YES	NO
18. The design explicitly shows how all the drained area grades to the storage, including roof gutter overflows (refer Section 6.2)	/			
If YES, see Plan No 🔐	Lyone via		- 45,943 - ,58	27-1
If NO, see calculations in Attachment E showing how all drainage system components (including all roof gutters, downpipes, collecting pits and pipe systems, etc) have 100 year ARI capacities with 50% blockage factor				
 The invert level of storage is not less than ground level (or top of kerb) at point of connection to external stormwater system 	/			
If YES, see Plan No. C2. &. C3				LOSCOLONA MENEROLO
If NO, see explanatory notes in Attachment F	(w_1) (blee - b)			
 The discharge control pit design is consistent with the principles shown in Figures 4.3, 7.10 and/or 7.11 	/	- 0		y =
20(a) The DCP has an open grating type lid (for ease of inspection)	\checkmark	LEAT DALK	-	- NL 1 m
20(b) The DCP minimum dimensions are consistent with Section 4.2.3	Sept more to	a arrector	o- 380 (40)	J40 J-75
20(c) The floor of the DCP has a localised sump adjacent to the orifice with level at least 150 mm below the return pipe, (refer Section 4.2.8)	/	1 Tower C. C. C.		
20(d) The return pipe from the storage is at least 150 mm in diameter (refer Section 4.2.8)	/		27.58.76.51. 1.18	er accessed
20(e) The return pipe flap valve is consistent with Figure 4.3		-040008944-1-490-7	1810 1018 1019	BD2***-701VP-18
20(f) If an orifice control is specified, is it consistent with the requirements set out in Section 4.2.3?		160		
If YES, see: Plan No for stainless steel plate specification, thickness and fixing to pit wall		*		
20(g) The overflow weir is fitted with a basket (refer Section 6.3). There is a surface grate above the basket to facilitate inspection and maintenance		0.74 ca mino 1.0 . mino 1		
20(h) The high early discharge (HED) characteristics are consistent with the requirements set out in Section 4.2.3	/			
If YES, see: Plan No. C2.8.C3 for height of discharge to storage relative to permissible site discharge (PSD)				
Accompanying weir calculations in Attachment E		2000 - 200 -		
Plan No				
20(i) The screen design is consistent with Section 4.2.5	/		3634	
If YES, see: Plan No. C2. & C3. for screen type, area and orientation	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Curvey March 1997	. 10.77.01.12.10.12.10	berouge voca-
Plan No. <mark>C2.&.C3.</mark> for fabrication note re aperture orientation		1		
Plan No C2 & C3. for fixing and handle details		8		
Plan NoC2.8.C3. showing how all inflows to the DCP are on the upstream side of the screen protecting the orifice				
20(j) The outlet pipe from the DCP has a capacity at least twice the PSD (refer Section 4.2.4)	✓			
If YES, see calculations in Attachment E			0	- 1/20013

Upper Parramatta River Catchment Trust

This page last updated December 1999

B.9-4

On-site Stormwater Detention Handbook

ITEM		DESIGNER		COUNCIL	
	YES	NO	YES	NC	
21. If an above ground/landscaped storage is specified, answer Q21(a) to Q21(g), otherwise move to Q22.				274 LT C-0	
21(a) The first 10%-20% of storage is provided in an area able to tolerate frequent inundation(refer Section 4.2.7)					
21(b) Where the depth of ponding exceeds 600 mm, consideration has been given to whether there are steep drops, and/or a need for steps or 'walk-in' 'walk-out' batters, etc. when deciding if fencing and/or warning signs are required (Refer Sections 4.2.7 & 6.2)					
21(c) The landscaping treatment within the storage area is such that it does not limit storage volumes or provide a significant source of debris loading					
21(d) The minimum surface slope is consistent with Section 4.2.7				o	
21(e) Subsoil drainage is provided in areas subject to frequent ponding and around the outlet (refer Section 4.2.7)	- an			V . W. 174.77	
21(f) If the design includes a retaining wall, has it been structurally checked?			TD 885 . Vs		
21(g) Does the system have the correct storage?		And the A	T-V-F0 14 51,00 H	SEUCE.	
If YES, see stage-storage calculations in Attachment G			or a promption report		
22. If a driveway/car-park storage is specified, answer Q22(a) to Q22(c), otherwise move to Q23	Continue Reserve				
22(a) The maximum depth is less than or equal to 200mm (refer Section 4.2.7)	la suna seni	27.5 68-51.0	5		
22(b) The minimum transverse slope is 0.7% (refer Section 4.2.7)					
22(c) The system has the correct storage	Supera a company	STERRE AND PLAN	STIG TOPO		
If YES, see stage-storage calculations in Attachment G	E	W FIDES O			
23. If a structural/underground storage is specified, answer Q 23(a) to Q 23(f), otherwise move to Q24					
23(a) The dimensions of openings are consistent with Section 4.2.8	V ,		ACCO-DMCR.75		
23(b) The storage floor has a minimum slope of 0.7% (refer Section 4.2.8)		- 10 10 10 10 10 10 10 10 10 10 10 10 10		Barrier I	
23(c) There are sufficient access points for flushing purposes (refer Section 4.2.8)	>	SAME DE MOSC	A Server of	er wert so	
23(d) There are sufficient grated openings for ventilation purposes (refer Section 4.2.8)	>	ANXWEST SOLE		0	
23(e) All access points have light weight covers					
23(f) The system has the correct storage					
If YES, see stage-storage calculations in Attachment G					
24. The distribution of storage minimises inconvenience (refer Section 5.1.4)		P.580-1		4.0-0-70-	
The Drainage Design Summary sheet has been completed (refer Appendix B1)					
If YES, see completed sheet in Attachment H		ARTON - ALTON	Parameter of	9006000000	
26. The Drainage Design Summary sheet details are consistent with the	100 000 000 000 000	1712 000 1110	A 1007 (**)	414111	

Upper Parramatta River Catchment Trust

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D	RE-ISSUED FOR DEVELOPMENT APPROVAL	25.11.22	RH	BK	Nor
С	RE-ISSUED FOR DEVELOPMENT APPROVAL & UPDATED TO SUIT CLIENTS COMMENTS			BK	l
В	ISSUED FOR DEVELOPMENT APPROVAL			BK	l
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BARRY RUSH & & ASSOCIATES PTY LTD



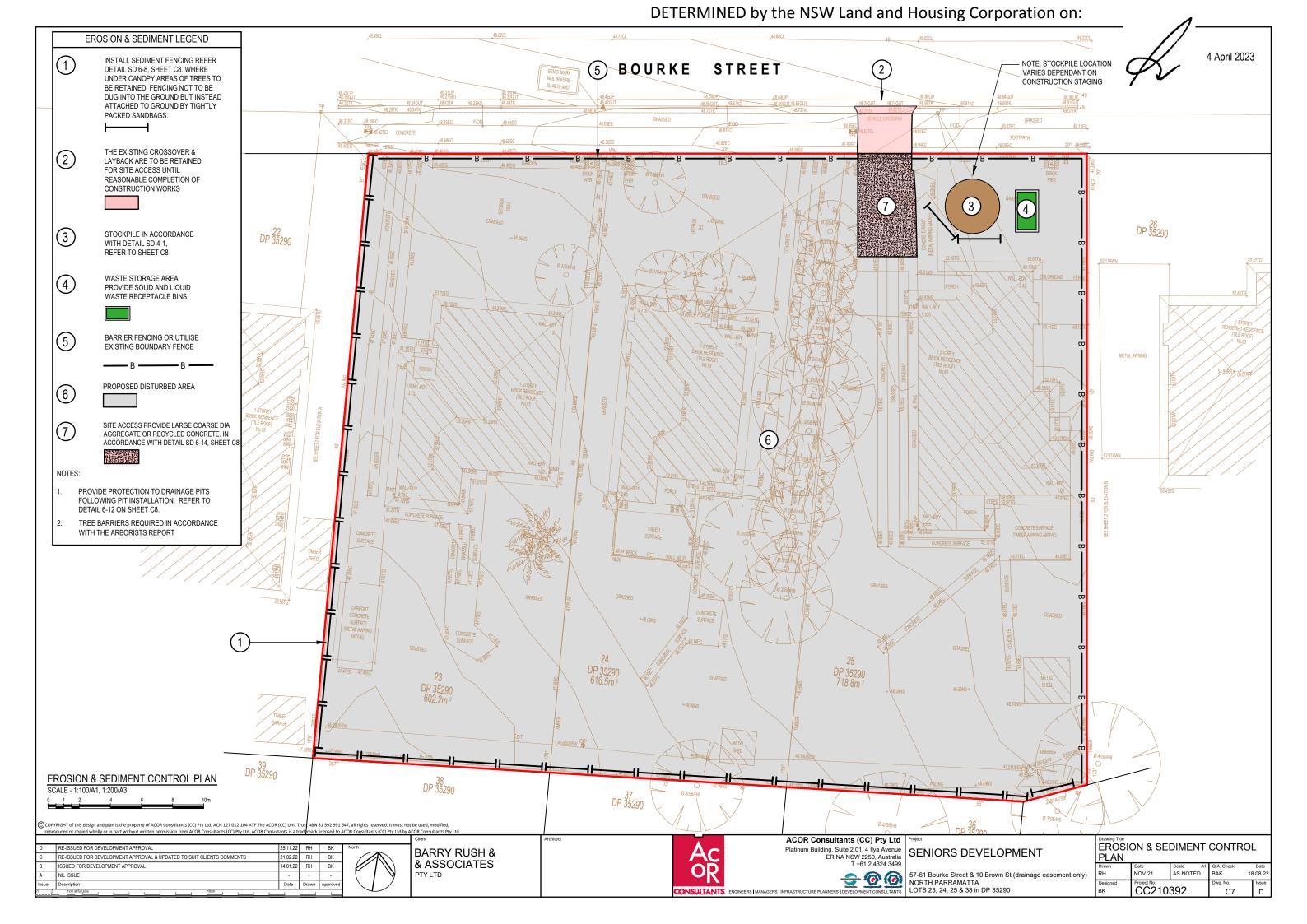
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Platinum Building, Suite 2.01, 4 llya Avenue
ERINA NSW 2250, Australia
T +61 2 4324 3499



SENIORS DEVELOPMENT

57-61 Bourke Street & 10 Brown St (drainage easement only
NORTH PARRAMATTA
LOTS 23, 24, 25 & 38 in DP 35290

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rawn	Date	Scale A1	Q.A. CI
H	NOV 21	AS NOTED	BAK
esigned	Project No.		Dwg. N
K	CC210		



EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ 7. 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.

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 KERR 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 THAT 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
- ON COMPLETION OF MAJOR WORKS LEAVE DISTURBED LANDS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL

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 TO INITIATE UPGRADING OR REPAIR AS
 - 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 FARTHWORK 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.

SEDIMENT CONTROL INSTRUCTIONS

- SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE WASTE CONTROL INSTRUCTIONS 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 0.6 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

- 16. 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 16
 - 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 GROUNDCOVER 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.
- 21 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
- 22. 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

- 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.
- 25. ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOOD PRONE 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-CONTACTORS 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**
- 28. PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS

1.5m STAR PICKETS AT MAX 3m CENTRES SOURCE: MANAGING URBAN STORMWATER SELF-SUPPORTING SOILS AND CONSTRUCTION THIRD EDITION, AUGUST 1998 GEOTEXTILE PRODUCED BY THE DEPARTMENT -ON SOIL 150mm X 100mn TRENCH WITH COMPACTE SECTION DETAIL STAR PICKETS AT UNLESS STATED OTHERWISE ON SWMP/ESCP) MAXIMUM 3m SPACINGS CONSTRUCTION NOTES **PLAN**

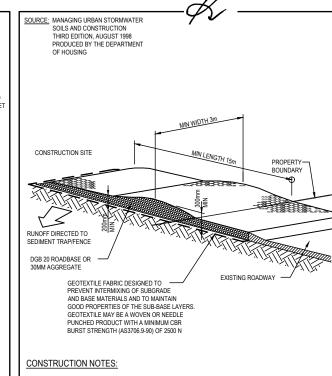
CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE

- CONSTRUCT SECTION TEMPERAS CLOSE AS PROSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.

 DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND, 3 METRES APART.

 DIG A 150 MM DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE
- ENTIREMENT OF A SECOND FABRIC.
 FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150 MM OVERLAP.

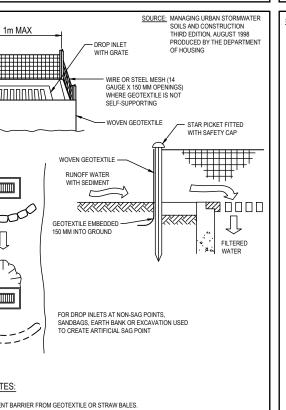
SEDIMENT FENCE SD 6-8

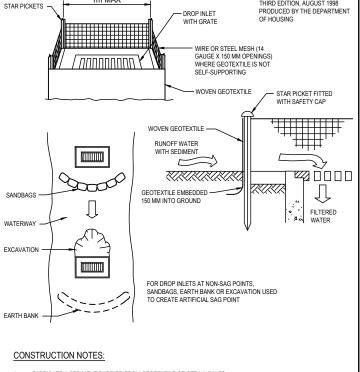


- STRIP TOPSOIL AND LEVEL SITE.
- COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE
- CONSTRUCT 200MM THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30MM AGREGATE.
- MINIMUM LENGTH 15M OR TO BUILDING ALIGNMENT, MINIMUM WIDTH 3 METRES.

 CONSTRUCT HUMP IMMEDIATELY WITHIN BUUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP.

STABILISED SITE ACCESS SD 6-14





- FABRICATE A SEDIMENT BARRIER FROM GEOTEXTILE OR STRAW BALES SUPPORT GEOTEXTILE WITH MESH TIED TO POSTS AT 1 METRE CENTRES
- DO NOT COVER INLET WITH GEOTEXTILE
- CONSTRUCTION DETAILS ARE SIMILAR TO TYPICAL SEDIMENT FENCING DETAIL

GEOTEXTILE INLET FILTER SD 6-12

SOURCE: MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION THIRD EDITION AUGUST 1998 PRODUCED BY THE DEPARTMENT 1. LOCATE STOCKPILE AT LEAST 5 METRES FROM EXISTING VEGETATION. CONCENTRATED WATER LOWIS, KUMUS ANU HAZARD AREAS.
CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METERS IN HEIGHT.

- REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
 CONSTRUCT EARTH BANK (STANDARD DRAWING 5-2) ON THE UPSLOPE SIDE TO DIVERT RUN OFF
 AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-7) 1 TO 2 METRES

STOCKPILES

SD 4-1

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В	B ISSUED FOR DEVELOPMENT APPROVAL			BK	
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BARRY RUSH & & ASSOCIATES



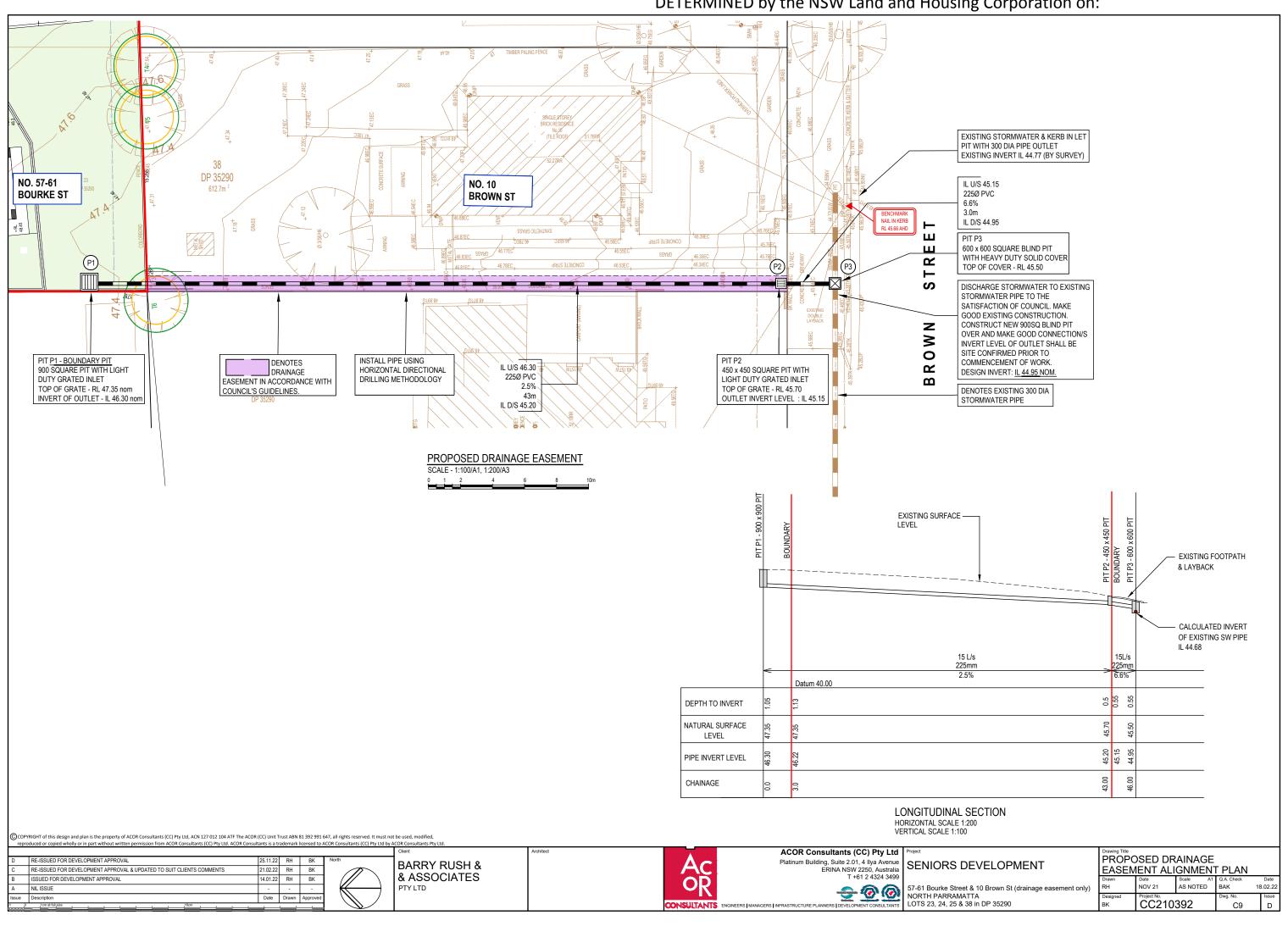
ACOR Consultants (CC) Pty Ltd Platinum Building, Suite 2.01, 4 Ilya Avenu



NORTH PARRAMATTA

EROSION & SEDIMENT CONTROL NOTES & DETAILS AS NOTED NOV 21 18.02.22 CC210392

DETERMINED by the NSW Land and Housing Corporation on:



STORMWATER QUALITY REPORT

1 INTRODUCTION

A CATCHMENT BASED WATER QUALITY MODEL WAS DEVELOPED TO ASSESS THE STORMWATER RUNOFF QUALITY IN ACCORDANCE WITH THE WATER SENSITIVE URBAN DESIGN (WSUD) REQUIREMENTS OF PARRAMATTA DEVELOPMENT CONTROL PLAN PART 3.3.6 AND APPENDIX 7. IN THIS REGARD WE REFER TO THE PRESCRIBED TARGETS TABLED FOLLOWING:

TABLE 1 - STORMWATER POLLUTANT REDUCTION TARGETS

STORMWATER POLLUTANT	REDUCTION TARGETS
GROSS POLLUTANT	90%
TOTAL SUSPENDED SOLIDS (TSS)	85%
TOTAL PHOSPHORUS (TP)	60%
TOTAL NITROGEN (TN)	45%

2 STUDY METHODOLOGY

THE OBJECTIVES OF THIS REPORT ARE TO:

- ASSESS THE RUNOFF QUALITY FOR THE UNTREATED POST DEVELOPED SCENARIO AND IDENTIFY STORMWATER QUALITY CONTROLS LIKELY TO IMPACT ON RUNOFF QUALITY.
- ASSESS THE STORMWATER QUALITY FOR THE POST DEVELOPED SCENARIO INCLUDING THE MEASURES
 PROPOSED TO MEET THE POLLUTANT REMOVAL TARGETS

THE REPORT IS BASED ON THE APPLICATION OF MUSIC SOFTWARE (MODEL FOR URBAN STORMWATER IMPROVEMENT CONCEPTUALISATION). IN THIS REGARD THE MODEL IS DEFINED AS FOLLOWS:

- A STORMWATER QUALITY MODEL TO CONVERT RAINFALL AND EVAPOTRANSPIRATION INTO RUNOFF.
- ESTIMATION OF STORMWATER FLOW AND POLLUTION
 GENERATION BY SIMULATING THE PERFORMANCE OF
 STORMWATER TREATMENT DEVICES INDIVIDUALLY AND AS
 PART OF A TREATMENT TRAIN.

THE MODEL DEFINES WATER QUALITY PROFILES FOR BOTH TREATED AND UNTREATED POST DEVELOPED SCENARIOS. THE TREATED POST DEVELOPED MODEL INCLUDES PARAMETERS WHICH REPRESENT THE WATER QUALITY MEASURES.

3 STORMWATER QUALITY MODELLING

3.1 GENERAL

THE FOLLOWING PARAMETERS WERE ASSESSED FOR THE HYDROLOGICAL MODELLING ASSOCIATED WITH THE CATCHMENT.

- RAINFALL/RUNOFF AND EVAPOTRANSPIRATION.
- SUB CATCHMENT DIVERSIONS.
- LAND USE (PERVIOUS AND IMPERVIOUS)

3.2 RAINFALL/RUNOFF AND EVAPOTRANSPIRATION

THE MUSIC MODEL WAS FORCED WITH 6 MINUTE RAINFALL DATA FROM THE PARRAMATTA NORTH (MASONS DRIVE) GAUGE (ID 066124) FOR THE PERIOD 25 DECEMBER 1984 TO 30 DECEMBER 2007.

DAILY AVERAGE PET VALUES WERE NOT AVAILABLE FOR STATION ID 066124

AND WERE SOURCED FROM THE BUREAU OF METEOROLOGY FOR THE

NEIGHBOURING PROSPECT RESERVOIR GAUGE (ID 067019).

THE DETAILS ARE SUMMARISED IN TABLE 3.1 AND 3.2

	TABLE 3.1 - DETAILS OF	DAILY RAINFALL DATA	
STATION	NAME	PERIOD	TIMESTEP
066124	PARRAMATTA NORTH (MASONS DRIVE)	25/12/1984-30/12/2007	6 min

TABLE 3.2	2 - SUMMA		ENTIAL EV/ ET)	APOTRANS	PIRATION
JAN	FEB	MAR	APR	MAY	JUN
170.5	131.6	120.9	87	62	48
JUL	AUG	SEP	OCT	NOV	DEC
51	77.5	108	136.4	155	173.6

3.3 CATCHMENT DEFINITION

THE POST DEVELOPED CATCHMENT CHARACTERISTICS ARE IDENTIFIED IN TABLE 3.3.

TABLE 3.3 - POST	DEVELOPMENT	SUB CATCHMEN	T DETAILS
SUB CATCHMENT ID	SUB CATCHMENT AREA (ha)	% IMPERVIOUS AREA	% PERVIOUS AREA
ROOF TO RWT	0.072	100	0
AREA TO OSD	0.122	47	53

4 MUSIC MODEL

THE MUSIC MODEL IS BASED ON A 6 min RAINFALL-RUNOFF MODEL IN CONJUNCTION WITH REPRESENTATIVE BASEFLOW AND STORMFLOW EVENT MEAN CONCENTRATIONS (EMCs).

4.1 WATER QUALITY PARAMETERS

THE ADOPTED VALUES OF VARIOUS MUSIC RAINFALL AND RUNOFF PARAMETERS IN ACCORDANCE WITH NSW MUSIC MODELLING GUIDELINES 2015 FOR MEDIUM CLAY ARE SUMMARISED IN TABLE 4.1.

TABLE 4.1 - ADOPTED MUSIC RAINFALL/RUN	IOFF PARAMETERS
PARAMETER	VALUE
IMPERVIOUS AREA PROPER	ΓΙΕ <u>S</u>
RAINFALL THRESHOLD (mm/DAY)	1.5 (0.3 ROOFS)
PERVIOUS AREA PROPERT	<u>ES</u>
SOIL STORAGE CAPACITY (mm)	94
SOIL INITIAL STORAGE (% OF CAPACITY)	25
FIELD CAPACITY (mm)	70
INFILTRATION CAPACITY COEFFICIENT - a	135
INFILTRATION CAPACITY EXPONENT - b	4
GROUNDWATER PROPERTI	ES
INITIAL DEPTH (mm)	10
DAILY RECHARGE RATE (%)	10
DAILY BASEFLOW RATE (%)	10
DAILY DEEP SEEPAGE RATE (%)	0

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					Client
RE-ISSUED FOR DEVELOPMENT APPROVAL	25.11.22	RH	BK	North	BARR'
NIL ISSUE	-	-	-		DAKK
NIL ISSUE	-	-	-		& ASS
NIL ISSUE	-	-	-		PTY LTD
Description	Date	Drawn	Approved		
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BARRY RUSH & & ASSOCIATES PTY LTD







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nue	SENIORS DEVELOPMENT

ı	
	57-61 Bourke Street & 10 Brown St (drainage easement only)
	NORTH PARRAMATTA
ı	LOTE 22 24 25 8 20 in DD 25200

Drawing Title STORMWATER QUALITY REPORT SHEET 1 OF 2											
SHEEL	1 OF 2										
Drawn	Date	Scale A1	Q.A. Check	Da							
RH	NOV 21	AS NOTED	BAK	18.02							

CC210392

4.1 WATER QUALITY PARAMETERS CONT.

STORMWATER QUALITY IS CHARACTERISED USING EVENT MEAN CONCENTRATION (EMCs) UNDER STORM AND BASE FLOW CONDITIONS. THE VALUE OF WATER QUALITY PARAMETERS ADOPTED IN THIS STUDY IS SUMMARISED IN TABLE 4.2

TABLE 4.2 - ADOPTED MUSIC WATER QUALITY PARAMETERS											
LAND-USE CATEGORY		Log₀TSS	(mg/L)	Log₁₁TP	(mg/L)	Log₁₀TN (mg/L)					
		STORM FLOW			STORM FLOW	BASE FLOW					
550155115141	MEAN	2.15	1.20	-0.60	-0.85	0.30	0.11				
	STD DEV	0.32	0.17	0.25	0.19	0.19	0.12				
GENERAL	MEAN	2.20	1.10	-0.45	-0.82	0.42	0.32				
URBAN STD DEV		0.32	0.17	0.25	0.19	0.19	0.12				
	MEAN	1.30	1.10	-0.89	-0.82	0.30	0.32				
ROOFS	STD DEV	0.32	0.17	0.25	0.19	0.19	0.12				

4.2 STORMWATER TREATMENT MEASURES

THE PROPOSED STORMWATER TREATMENT MEASURES INCLUDED IN THE POST DEVELOPED MODEL ARE AS FOLLOWS:

- 27,000 LITRE RAINWATER TANK (REUSED FOR IRRIGATION)
- 4 x SPELFILTERS (FULL HEIGHT)

THE SCHEMATIC LAYOUT FOR THE POST DEVELOPED MUSIC

MODEL IS DEPICTED IN FOLLOWING FIGURE 1

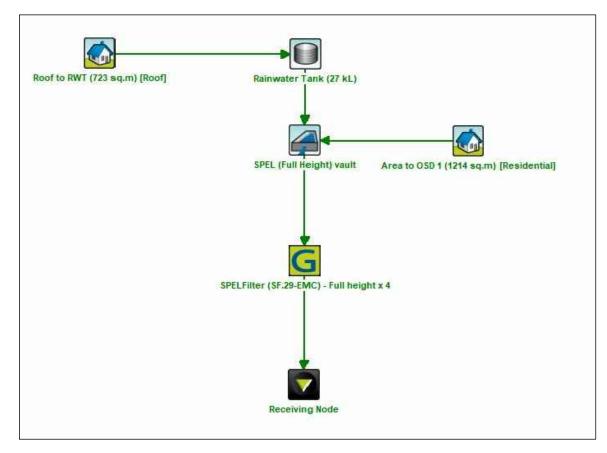
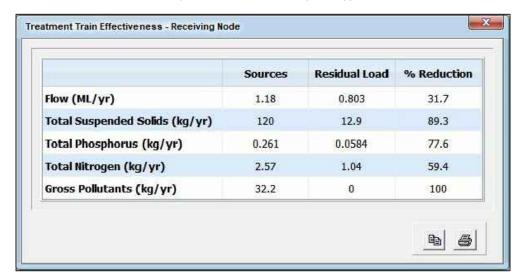


FIGURE 1 - MUSIC MODEL SCHEMATIC

5 RESULTS & CONCLUSION

BASED ON THE FOREGOING AND THE RESULTS DEPICTED IN TABLE 5.1, THE PROPOSED STORMWATER QUALITY TREATMENT MEASURES MEET THE REQUIRED TARGETS OF THE CITY OF PARRAMATTA. REFER TO CC210392_20221123.SQZ AS PREPARED BY ACOR CONSULTANTS (CC) PTY LTD FOR FURTHER INFORMATION.

TABLE 5.1 - TREATMENT TRAIN EFFECTIVENESS



D	RE-ISSUED FOR DEVELOPMENT APPROVAL	25.11.22	RH	BK	North
С	NIL ISSUE	-	-	-	
В	NIL ISSUE	-	-	-	
Α	NIL ISSUE	-	-		
Issue	Description	Date	Drawn	Approved	
1 0	1cm at full size 10cm				

BARRY RUSH & & ASSOCIATES



ACOR Consultants (CC) Pty Ltd Platinum Building, Suite 2.01, 4 Ilya Avenu ERINA NSW 2250, Australi



SENIORS DEVELOPMENT

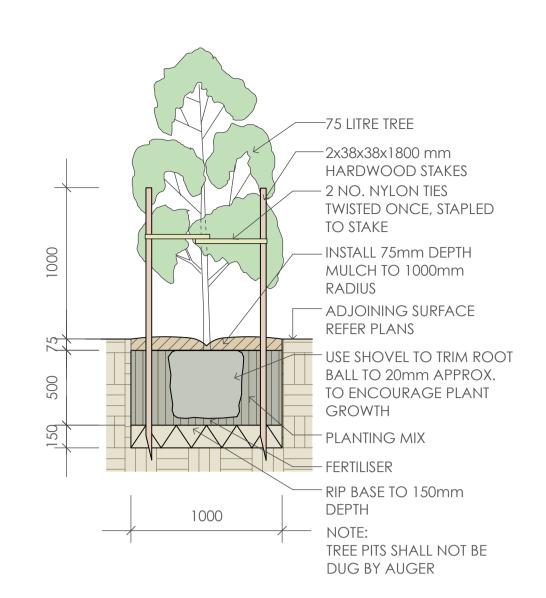
STORMWATER QUALITY REPORT SHEET 2 OF 2 AS NOTED NOV 21

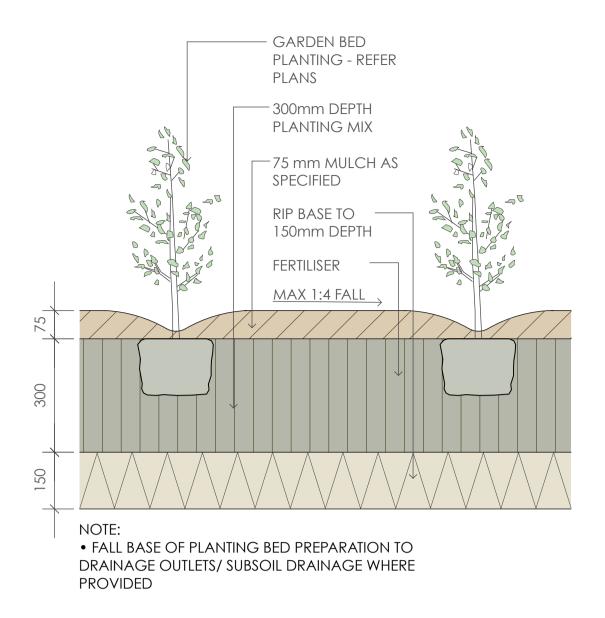
CC210392

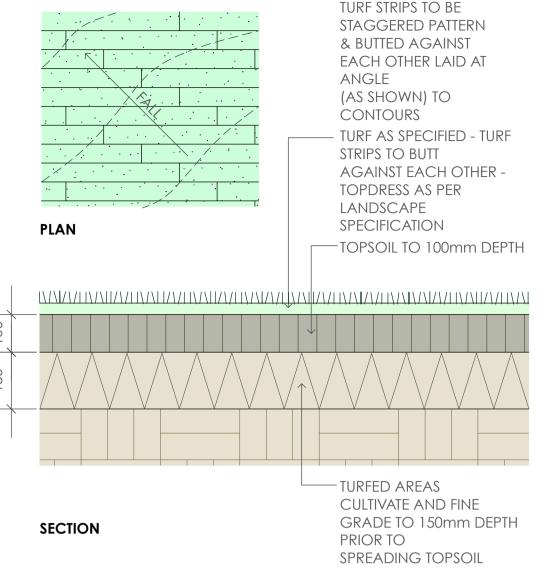
18.02.22

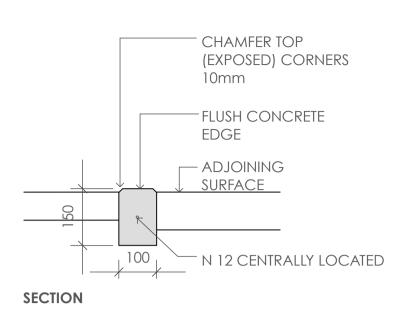
C11

57-61 Bourke Street & 10 Brown St (drainage easement only) NORTH PARRAMATTA









75 Litre Tree Planting scale 1:25

Planting Bed Detail

3 Turfing scale as shown

Concrete Edge

Plant Schedule ID | Qty | Common Name **Botanical Name** Mature Height | Mature Spread | Native (N) 4 Weeping Bottlebrush 2.0 - 3.5m Ν Callistemon viminalis 3 - 5m 75Litre 6 - 9m 3.5 - 6m CupAna 4 Tuckeroo Ν Cupaniopsis anacardioides 5 Firewheel Tree 75Litre 15 - 20m 5 - 10m Ν Stenocarpus sinuatus 6 Pinnacle Lilly Pilly 75Litre 6 - 10m 1.4 - 1.6m SyzPin Syzygium 'Pinnacle' Ν WatGre 6 Green Avenue 75Litre 13 - 15m 6 - 10m Ν Waterhousia 'Green Avenue' Shrubs 1.0 - 1.5m 0.8 - 1.0m AcaGree 10 Green Mist 200mm Ν |Acacia cognata 'Green Mist' AcmChe 20 Forest Flame 200mm 3.0 - 5.0m 1.2 - 1.5m Ν Acmena 'Cherry Surprise' AlpCae | 64 | Native Ginger 0.9 - 1.2m Ν 200mm 0.9 - 1.5m Alpinia caerulea 200mm 2.0 - 3.0m 1.5 - 2.0m Ν BanSpi | 28 |Hairpin Banksia Banksia spinulosa 3 - 5m 2.0 - 3.5m 29 | Scarlet Bottlebrush 200mm Callistemon citrinus 'Endevour' 18 Little John Callistemon "Little John" 200mm 0.9 - 1.5m 0.9 - 1.2m Ν CalRed 8 Red Alert Bottle Brush 1.0 - 1.5 m2.0 - 3.0 mCorAlb | 15 | White Correa 200mm 0.9 - 1.5m 0.9 - 1.2m Correa alba Ν CosEve 9 Evening Glow Mirror Plant 200mm 1.2 - 1.5m 0.9 - 1.2m Ν Coprosma 'Evening Glow' CriPed 51 Swamp Lily Crinum pedunculatum 200mm 1.5 - 2m 1.2 - 2.0m Ν 45 Purple Hopseed Bush 200mm 2 - 4m 2.0 - 3.5m Ν DodPur Dodonaea viscosa 'Purpurea' Dorvanthes excelsa DorExc | 20 | Gymea Lily 200mm 1.5 - 2m 1.2 - 2.0m Ν 3.0 - 4.0m 2.0 - 3.0m GreHon 7 Honey Gem Grevillea Grevillea 'Honey Gem' 200mm Ν GreMoo | 18 | Grevillea 4.0 - 5.0m 2.0 - 4.0m Grevillea 'Moonlight' 200mm Ν LepGree 38 Green Screen Leptospermum Leptospermum 'Green Screen' 200mm 1.2 - 1.5m 1.2 - 1.5m Ν SyzCas | 28 | Cascade Lilly Pilly Syzygium 'Cascade' 200mm 2 - 3m 1.5 - 2.0m Ν SyzRes 27 Resilience Lilly Pilly Syzyaium 'Resilience' 200mm 2 - 3m 1.2 - 2.0m Ν WesFru | 38 | Jervis Gem 0.8 - 1.2m 0.8 - 1.2m Westringia fruticosa 'Jervis Gem' 200mm Ν **Ground Covers** 0.45 - 0.55m 0.5 - 0.6m LomSha | 351 | Shara Mat Rush Lomandra longifolia 'Shara' 150mm Ν DiaTas 137 Flax Lily 150mm 0.4 - 0.5m 0.4 - 0.5m Ν Dianella tasmanica 'Tasred' HypGol | 179 | Gold Nuget 0.10 - 0.15m 0.8 - 1.0m Hymenosporum flavum 'Gold Nuget' 150mm Ν 66 Nyalla Mat-Rush Lomandra longifolia 'Nyalla' 150mm 0.75 - 0.9m 0.9 - 1.2m Ν LomNya 0.8 - 1.0m MyoYar | 121 | Carpet Spreading Myoporum | Myoporum parvifolium 'Yareena' 150mm 0.05 - 0.1m Ν ScaMau | 109 | Fan Flower 150mm 0.05 - 0.1m 0.8 - 1.0m Ν Scaevola albida 'Mauve Carpet' LomTan | 156 | Spiny-headed mat rush omandra longifolia 'Tanika' 150mm 0.45 - 0.6m 0.6 - 0.9m Ν BanBir | 101 | Birthday Candle Banksia spinulosa 'Birthday Candle' 150mm 0.45 - 0.6m 0.9 - 1.2m Ν

GREENLAND DESIGN												
TWELVE MONTHS MAINTENANCE SCHEDULE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plant Care												
Monitoring												
Pruning as required												
Deadhead /tip pruning												
Slow release fertilise												
Rapid suluble fertilise as required												
Cut back perenials and grasses												
Watering as required												
Garden Bed												
Edging												
Remove weeds and herbicide spraying as required												
Top up mulch as required												
Dead foliage removal												
Pest Management												
Monitoring and herbicide spraying as required												
Turfed Area												
Fertilise												
Make good turf as required												
Winter clean up												
Remove dead foliage and pruning as required												

SPECIFICATION NOTES PLANTING MATERIALS Planting Mix:

Planting mix for tree pit backfill shall be "Organic Garden Mix" consisting of 50% Black Soil

20% Coarse Sand

approved equivalent.

30% Organic Material

as available from Australian Native Landscapes, Phone: [02] 9450 1444, or approved equivalent. Samples shall be provided to the Superintendent prior to ordering or delivery to site. Any material delivered to site, that is rejected by the Superintendent, shall be removed by the contractor at his own expense. Minimum depths of mix to all planting bed areas is as specified on details.

Mulch:

Mulch to garden bed:
Mulch shall mean hardwood mulch (25mm grade), free from material derived from
Privet, Willow, Poplar, Coral trees, or other noxious weeds. Any mulch exceeding the
25mm grade shall be rejected / removed from the site. Graded hardwood mulch to
be supplied by Australian Native Landscapes Pty Ltd Phone (02) 9450 1444, or

Spread mulch so that after settling, it is:smooth and evenly graded between design surface levels;

flush with adjacent finished levels;

of the required depths (75mm); and
sloped towards the base of plant stems in plantation beds, but not in contact with the stem (not closer than 50mm in the case of gravel mulches).

Place after the preparation of the planting bed, planting and all other work.

Plant Material:

All plant material must be true to the species. No substitutes will be allowed.

All plant material must be true to the species. No substitutes will be allowed. All plants shall be free of fungus and insect damage. All plants shall be healthy, well shaped, not soft or force grown and not root bound.

Plants are available from **Andreasens Green** wholesale nursery, contact Darren (02) 8777 4713, email darren@andreasensgreen.com.au or approved equivalent. **Tured areas:**

All new turfed areas are to be selected weed free Soft Leaf Buffalo. Turf shall be laid neatly butted with staggered joins, flush with adjacent surfaces and have even running falls to all drainage points.

All new turfed area shall have a minimum 150mm depth of weed free top soil, placed and levelled prior to turfing.

PREPARATION AND HARDWORKS

Excavating for Spot Planting

To planting areas, excavate a hole for each plant large enough to provide not less than twice the depth and twice the diameter than the root ball of species to be planted.

takina

Use durable hardwood, straight, free from knots or twists, pointed at one end. Drive stakes into the ground a minimum one third of their length, avoiding damage to the root system.

• 75 Litre trees in 2 x 38x38x1800mm Hardwood Stake with double Nylon tie TIES: Provide a 50mm wide Nylon webbing tie per stake, fixed securely to the stakes, one tie at half the height of the main stem and the other as necessary to stabilise the plant.

Concrete Edge

MATERIALS: Concrete to be off white colour.

INSTALLATION: Supply and install 150 x 100mm (width) reinforced flush concrete kerb to locations as approved on site by the Superintendent. Provide flexible joints at maximum 3 metre intervals in colour to match concrete. Lightly expose aggregate through rinsing / sponging. Tool finish exposed edges with 10mm pencil round to prevent chipping.

MAINTENANCE / PLANT ESTABLISHMENT

Maintenance shall apply to all hard and soft landscape materials installed prior to the "handover" and acceptance by Principles Representative and the Site Superintendent. The maintenance period shall convenience at the granting of practical completion and shall extend for 12 months.

Maintenance shall consist of the following works:

Follow a daily watering programme to be approved by Superintendent. Water all plants individually, twice per week or when necessary to ensure constant plant growth. Water all turf and native grassed areas, twice per week.
Apply appropriate weed control sprays and hand weed as required to maintain

turf free of weed or rogue grass growth.

- Regularly tidy and top up mulch and trim edges to prevent spill over onto paved /

planting areas, native grassing bed areas, turfed areas, paved areas, and tree pits in

grassed areas.
- Spray to control pests and diseases.

- Replace plants, which fail with plants of a similar size and quality as originally specified to approval of Superintendent. Costs of replacement shall be the responsibility of the Contractor. Replacement planting will be undertaken within 2 weeks of identification of dead material or instruction be the Superintendent.

- Report any incidence of plants stolen or destroyed by vandalism.

- Adjust stakes and ties to plants as necessary. Ensure that strangulation of plants

- Adjust stakes and ties to plants as necessary. Ensure that strangulation of plants does not occur.

does not occur. Prune and shape plants as directed or where necessary

Prune and shape plants as directed or where necessary.Make good any defects or faults arising out of defective workmanship or materials.

- Fertilise lawn areas to maintain healthy growth.

- Make good any erosion or soil subsidence, which may occur including soft areas in pathways.

Mow lawn to maintain neat healthy growth.

- A final inspection shall be made by the Superintendent before handover. Any items requiring rectification shall be repaired before the works are finally approved, and retention moneys released.

NOTE:

- All finished levels are to be verified by Contractor on site.

- All landscape works be in strict accordance with Council's landscape code and auidelines

guidelines

- This plan to be used in conjunction with all other submitted architectural, hydraulics and engineering drawing where applicable.

NSW GOVERNMENT

LOCKED BAG 5022
PARRAMATTA NSW 2124
PHONE No 1800 738 718
https://www.dpie.nsw.gov.au/land-and-housing-corporation

F 29/11/2022 DA AMENDMENTS NOMINATED ARCHITECT: BARRY RUSH & ASSOCIATES PTV ACOR CONSULTANTS PTY LTD E 23/02/2022 DA UPDATES PH (02) 9555 8028 D 17/02/2022 DA UPDATES Barry Rush & Associates Pty Ltd C 18/01/2022 DA UPDATES LAND & HOUSING CORPORATION MARLINE NEWCASTLE PTY LTD 08/12/2021 DA PH (02) 4925 9300 FAX (02) 4926 381 Suite 25A, 2 Beattie Street, Balmain, NSW, 2041 NOTATION/AMENDMENT Phone: (612) 9555 8028 Fax: (612) 9810 0161 LANDSCAPE CONSULTAN Email: info@barryrush.com.au DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE FIGURED DIMENSIONS TAKE PRECEDENCE. MARLINE NEWCASTLE PTY LTD GREENLAND DESIGN PTY LTD www.barryrush.com.au PH (02) 4925 9300 FAX (02) 4926 381

SENIORS DEVELOPMENT
57-61 BOURKE STREET &
10 BROWN STREET (drainage easement only)
NORTH PARRAMATTA
LOTS 23,24 & 25 IN DP35290

LANDSCAPE DETAILS AND SPECIFICATION

FILE: 2461

