

DEVELOPMENT APPLICATION DRAWING LIST

SHEET NUMBER	SHEET NAME
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DA 000	COVER PAGE & DRAWING REGISTER
DA 001	EXISTING SITE PLAN & SITE ANALYSIS PLAN
DA 002	PROPOSED SITE PLAN
DA 003	PROPOSED GARAGE FLOOR PLAN
DA 004	PROPOSED GROUND FLOOR PLAN
DA 005	PROPOSED FIRST FLOOR PLAN
DA 006	PROPOSED ROOF PLAN
DA 007	ELEVATION - NORTH-WEST
DA 008	ELEVATION - NORTH-EAST
DA 009	ELEVATION - SOUTH-EAST
DA 010	ELEVATION - SOUTH-WEST
DA 011	SECTION A - MAIN HOUSE
DA 012	SECTION B - POOL, HOME OFFICE & GARAGE
DA 013	SECTION C - GARAGE AND LIVING
DA 014	SHADOW DIAGRAMS - 9AM WINTER
DA 015	SHADOW DIAGRAMS - 12PM WINTER
DA 016	SHADOW DIAGRAMS - 3PM WINTER
DA 017	NO.9 ELEVATIONAL SHADOW DIAGRAMS
DA 018	EROSION CONTROL & WASTE MANAGEMENT
DA 019	EXCAVATION AND FILL PLAN
DA 020	EXTERNAL FINISHES & MATERIALS
DA 021	LEP MAX 8.5M HEIGHT DIAGRAM
DA 022	VIEW FROM NO.5 FRONT TERRACE & BALCONY
DA 023	VIEW FROM NO.9 FRONT ROOM & BALCONY



LOCATION PLAN
1:1000

VIEW FROM BOWER STREET



THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT CONSENT

62 IVY STREET DARLINGTON, SYDNEY, NSW 2008
P: +61 2 9690 2211 **DA2020/0921**
E: info@cplusc.com.au
W: www.cplusc.com

PROJECT
19-030 SPANGL MUNDSPERGER RESIDENCE

PROJECT ADDRESS
7 BOWER STREET
MANLY, 2095

CLIENT
JURGEN SPANGL & KARIN MUNDSPERGER

PROJECT CONTACT
RYAN NG (PROJECT ARCHITECT)
E: ryan@cplusc.com.au
P: +61 2 9690 2211

DOCUMENTS BY OTHER CONSULTANTS

- SURVEY PLAN BY C.M.S. SURVEYORS
- BASIX CERTIFICATE BY CERTIFIED ENERGY
- STATEMENT OF ENVIRONMENTAL EFFECTS BY WILLANA URBAN
- LANDSCAPE PLAN BY DUNCAN GIBBS
- STORMWATER MANAGEMENT PLANS BY STELLEN CONSULTING
- GEOTECHNICAL REPORT BY WITT CONSULTING
- BUSHFIRE REPORT BY BUSHFIRE PLANNING SERVICES
- ECOLOGICAL IMPACT STATEMENT BY ACS ENVIRONMENTAL

FOR DEVELOPMENT APPLICATION

DRAWING TITLE
COVER PAGE & DRAWING REGISTER

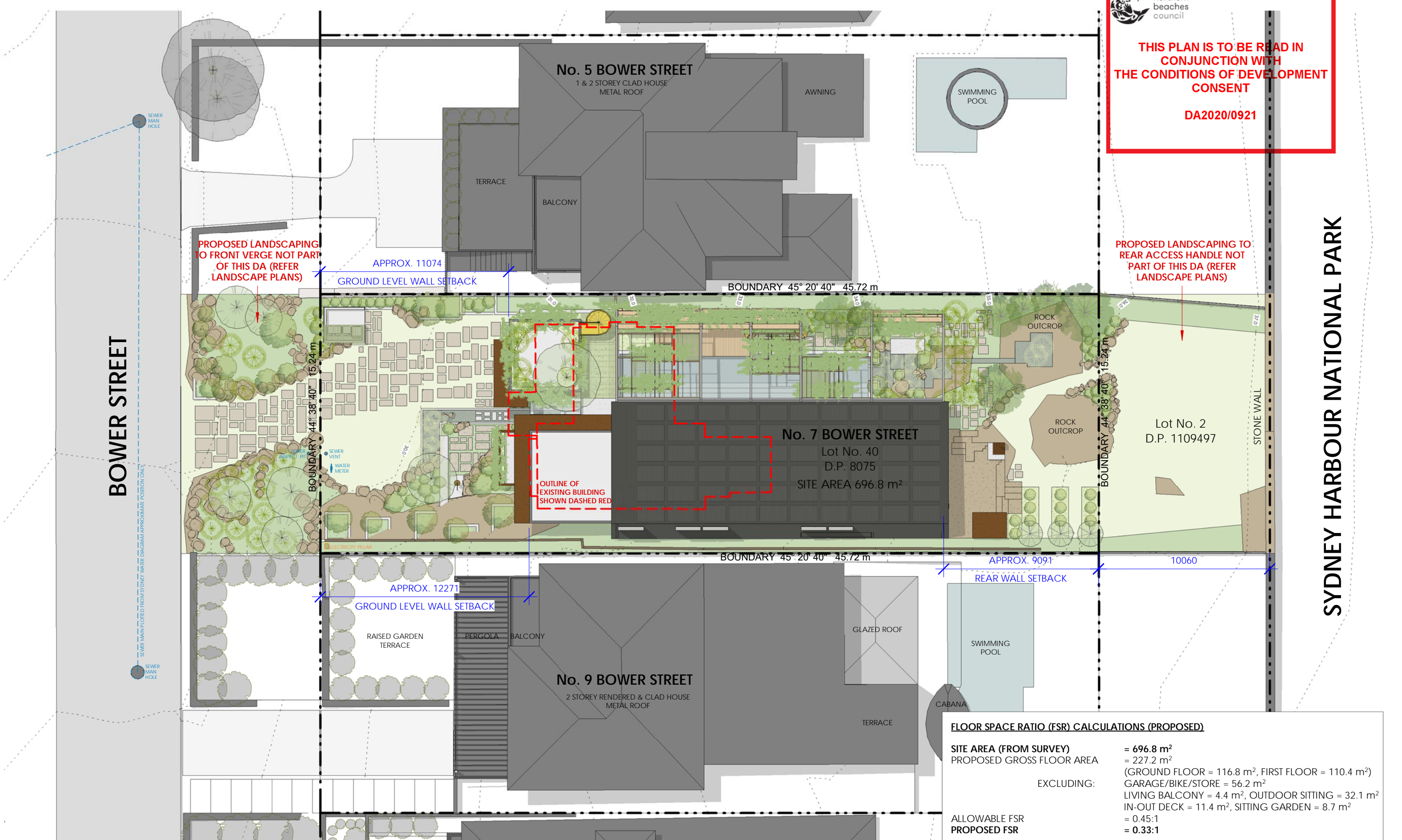
REVISION DATE	REVISION	DRAWING NUMBER
23/07/2020	1	DA 000



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FLOOR SPACE RATIO (FSR) CALCULATIONS (PROPOSED)	
SITE AREA (FROM SURVEY)	= 696.8 m²
PROPOSED GROSS FLOOR AREA	= 227.2 m²
EXCLUDING:	
(GROUND FLOOR = 116.8 m², FIRST FLOOR = 110.4 m²)	
GARAGE/BIKE/STORE = 56.2 m²	
LIVING BALCONY = 4.4 m², OUTDOOR SITTING = 32.1 m²	
IN-OUT DECK = 11.4 m², SITTING GARDEN = 8.7 m²	
ALLOWABLE FSR	= 0.45:1
PROPOSED FSR	= 0.33:1

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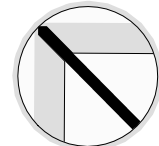
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19-030 SPANGL MUNDSPERGER RESIDENCE

PROJECT ADDRESS
7 BOWER STREET
MANLY, 2095

CLIENT
JURGEN SPANGL & KARIN
MUNDSPERGER

SCALE
1 : 200 @ A3

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RN/CAR

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CC

DRAWING TITLE
PROPOSED SITE PLAN

REVISION DATE
23/07/2020

REVISION
1

DRAWING NUMBER
DA 002

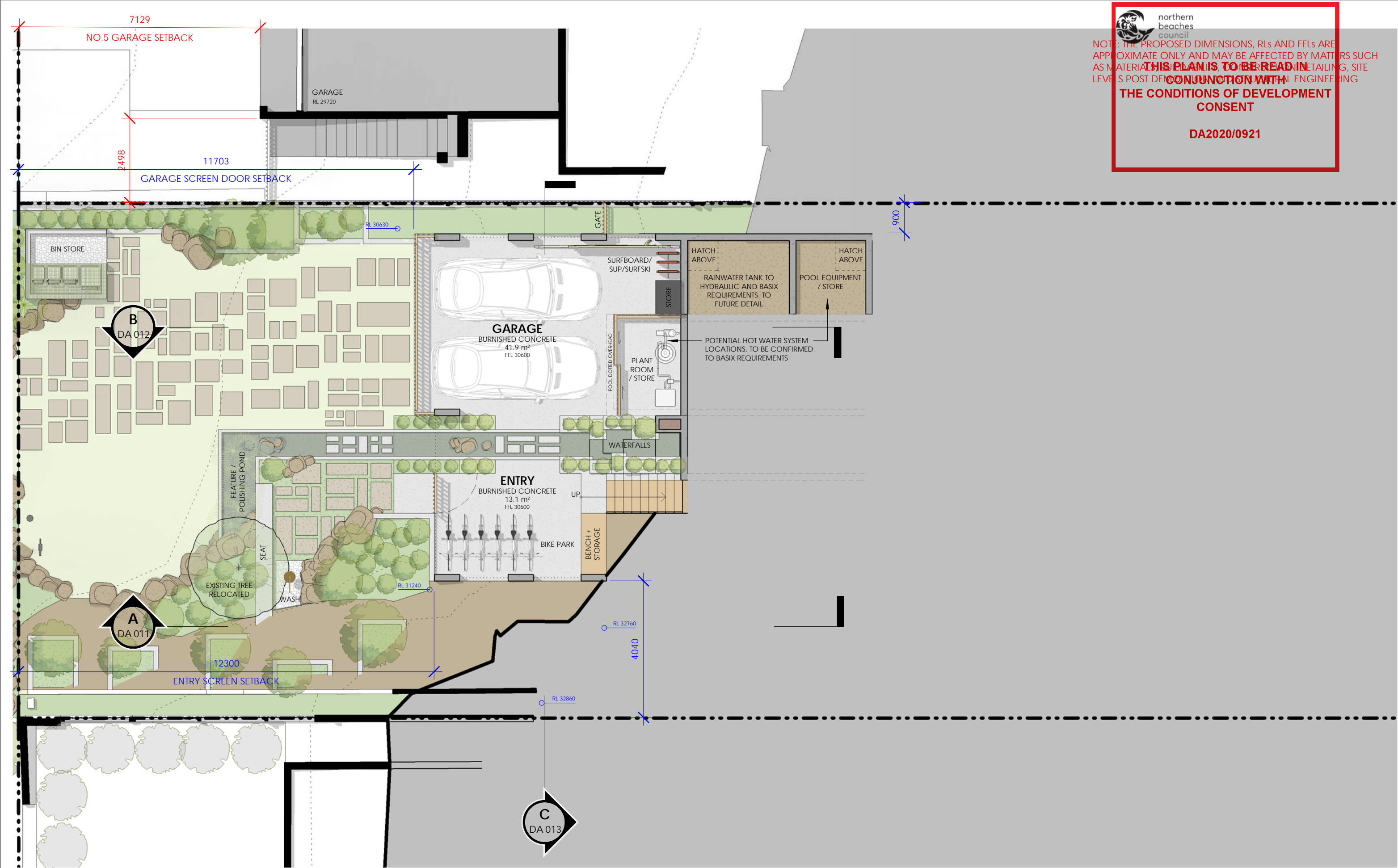
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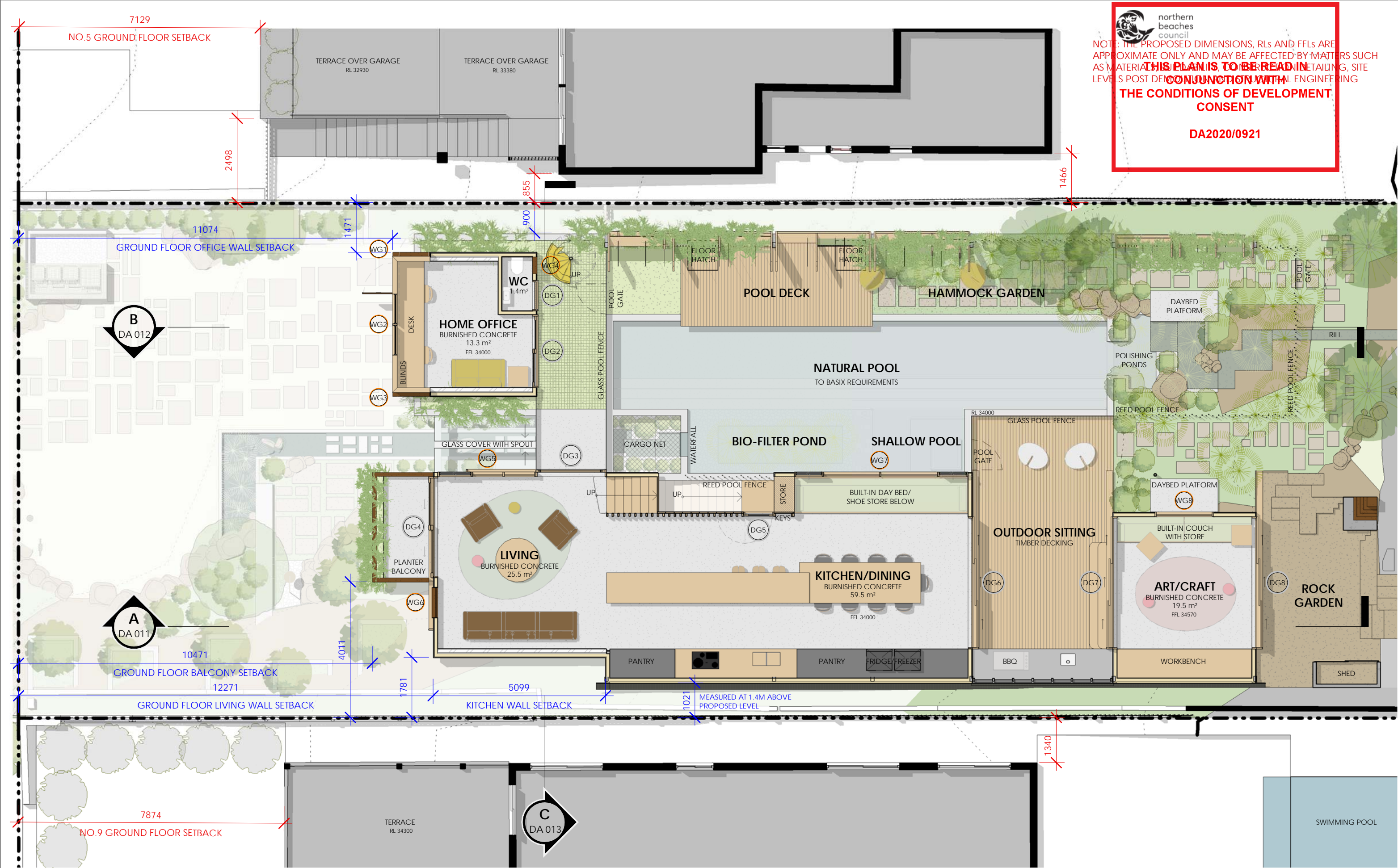
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				PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 003





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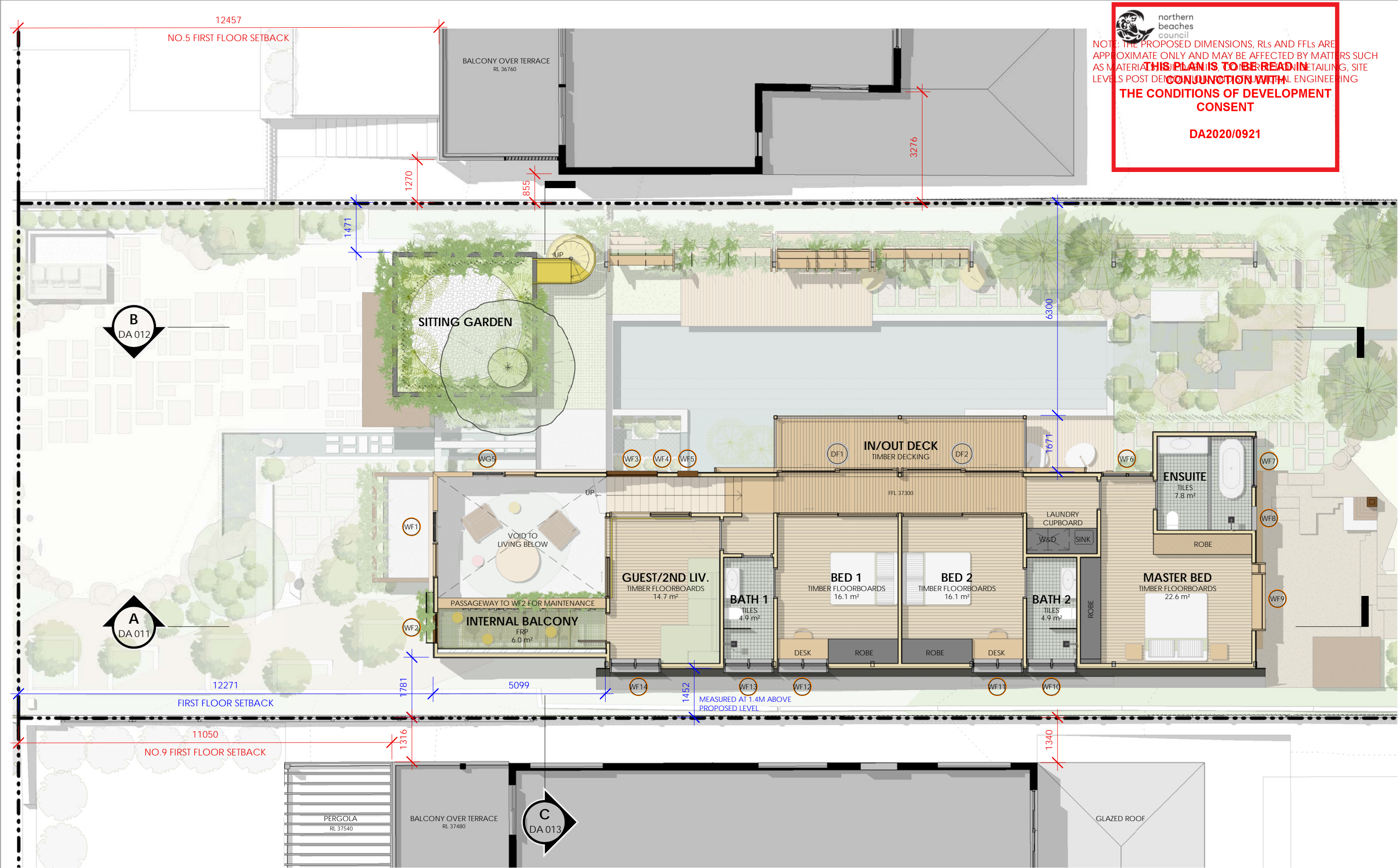
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			PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 004


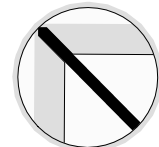


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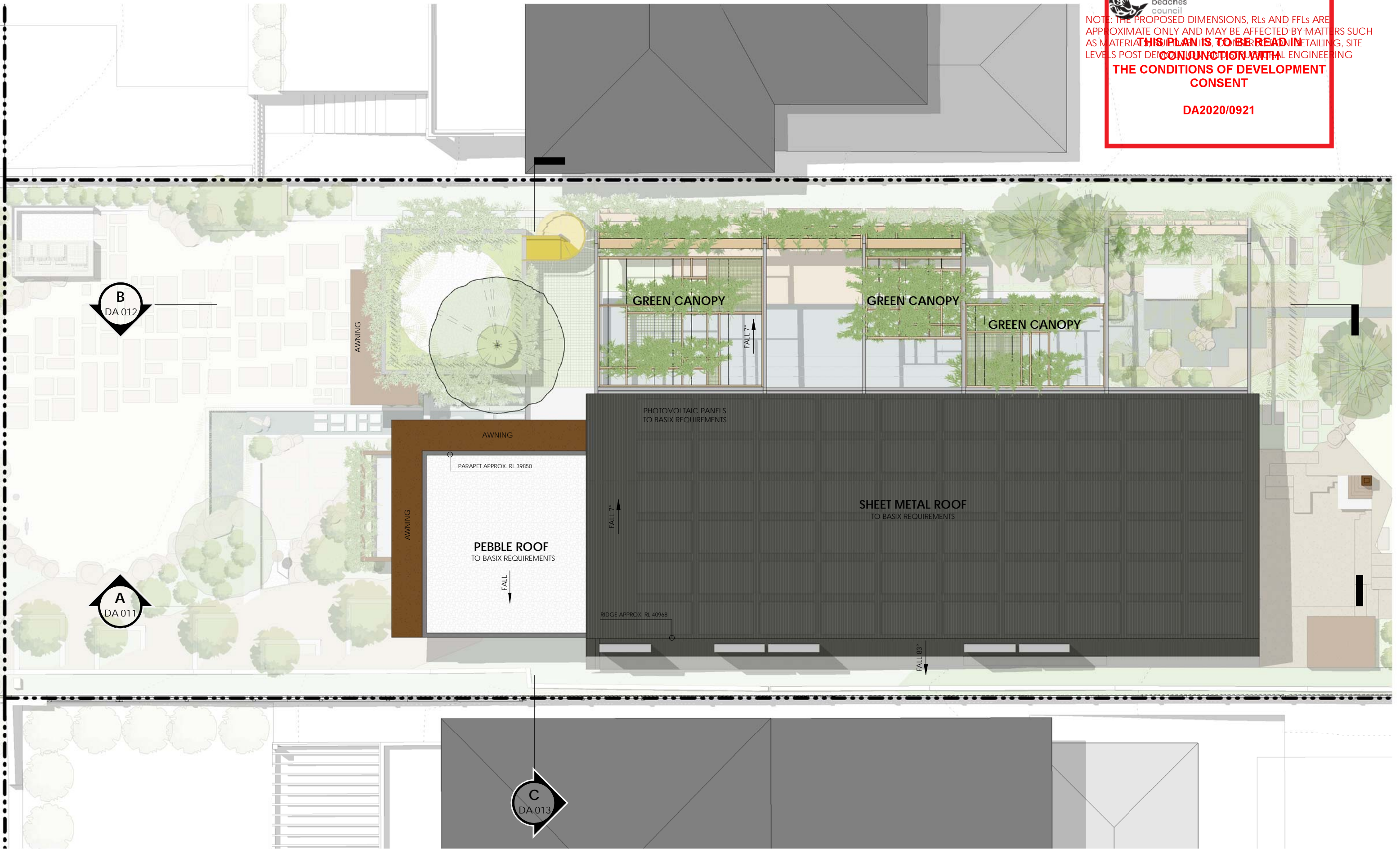
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PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 005



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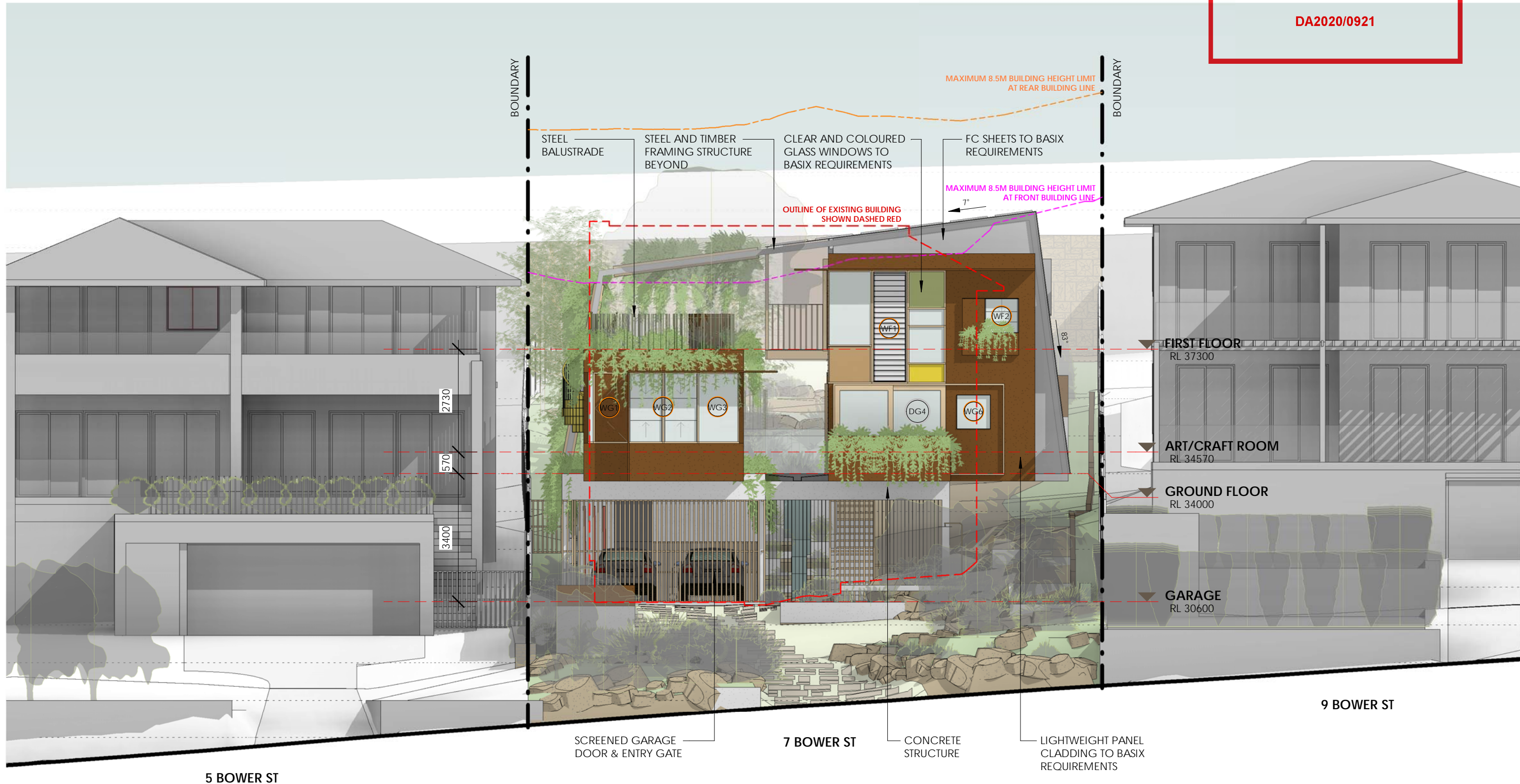
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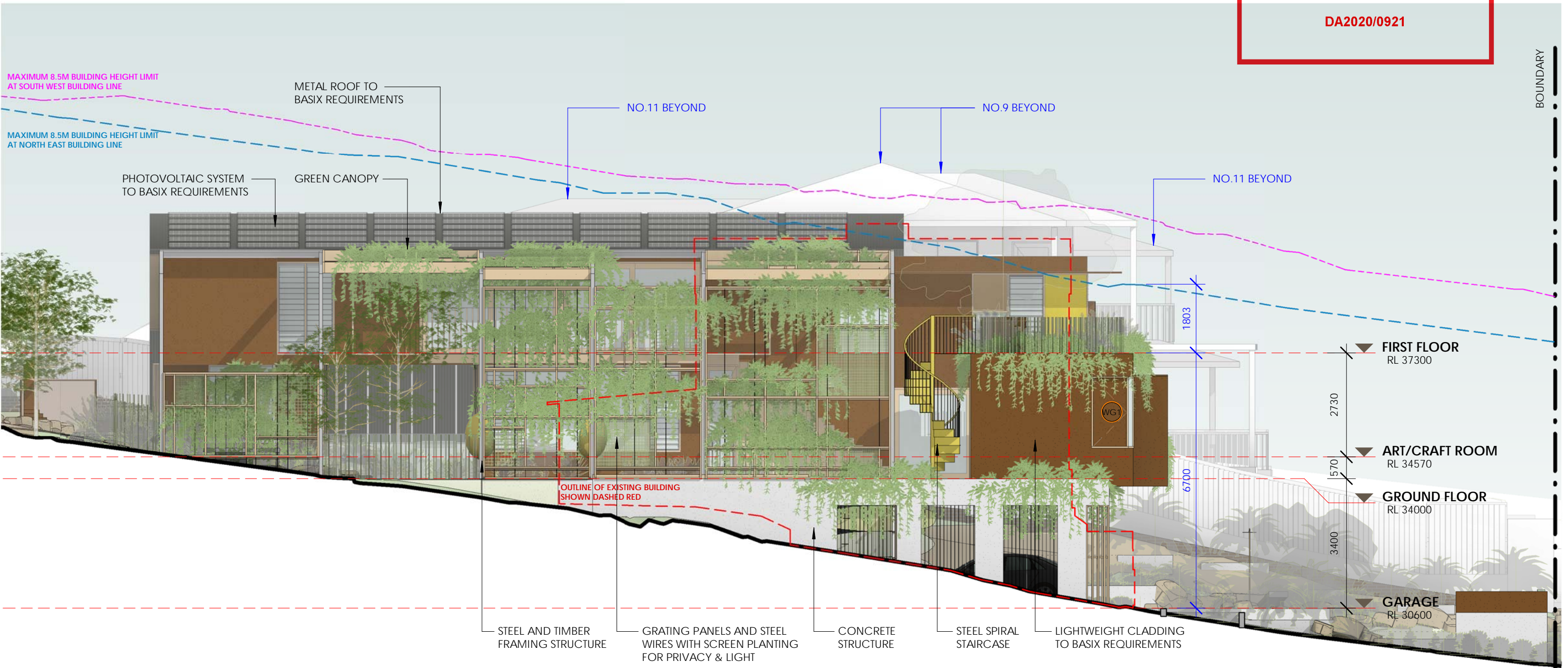
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	PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 007	



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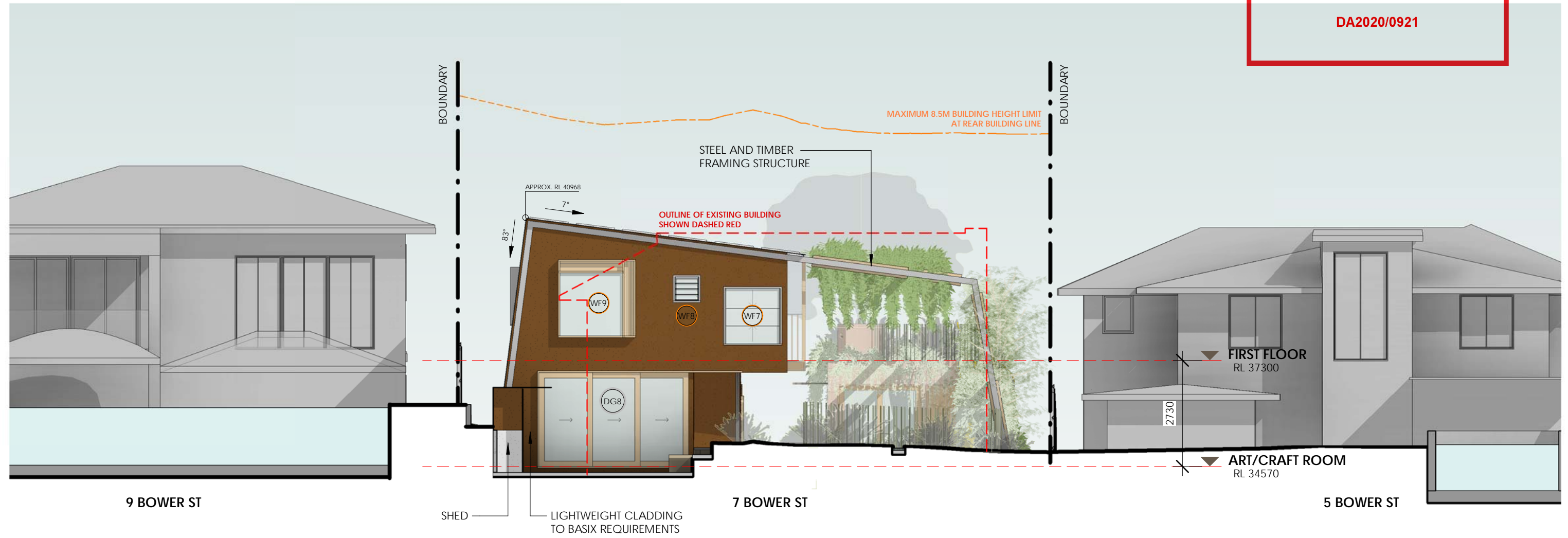
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			PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 008



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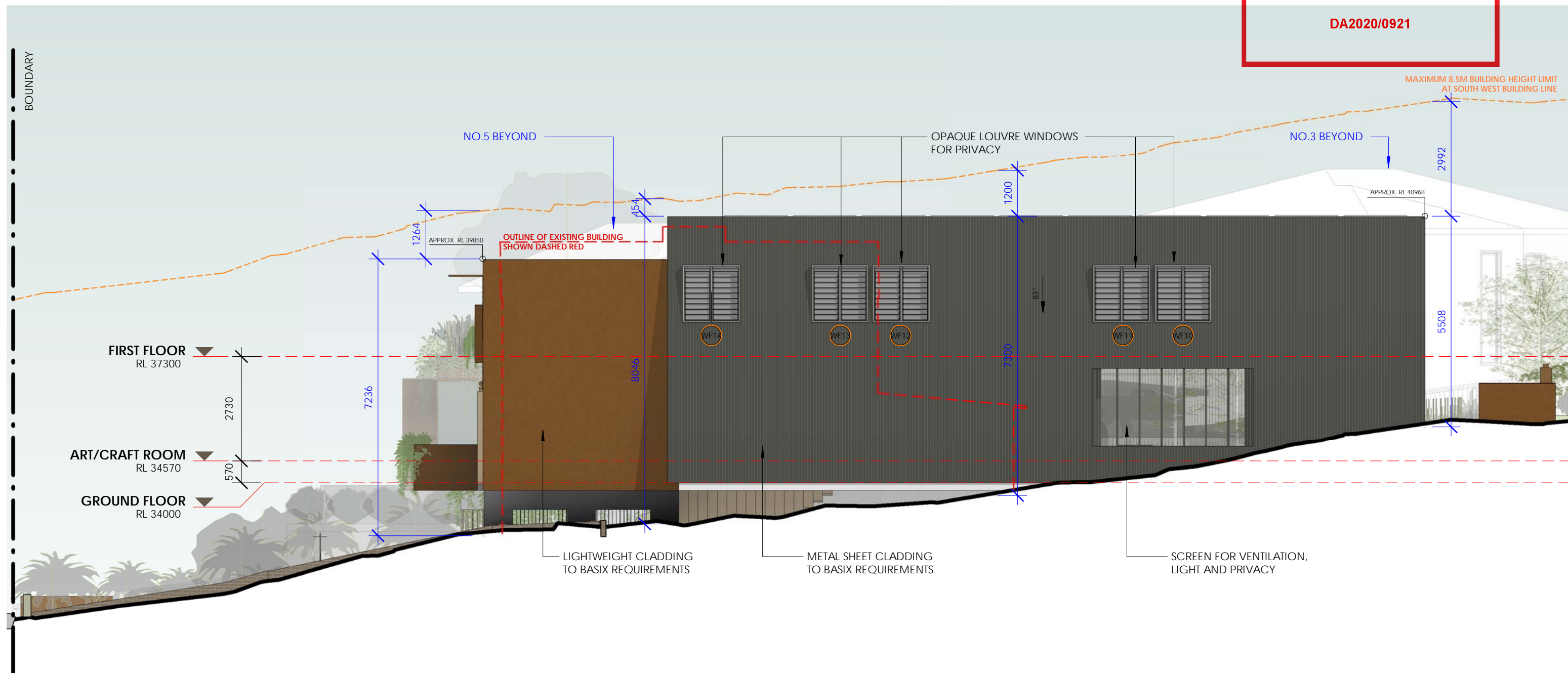
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			PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 009

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PROJECT 19-030 SPANGL MUNDSPERGER RESIDENCE

PROJECT ADDRESS
7 BOWER STREET
MANLY, 2095

CLIENT
JURGEN SPANGL & KARIN
MUNDSPERGER

SCALE
1 : 100 @ A3

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DRAWING TITLE
ELEVATION - SOUTH-WEST

REVISION DATE
23/07/2020

REVISION

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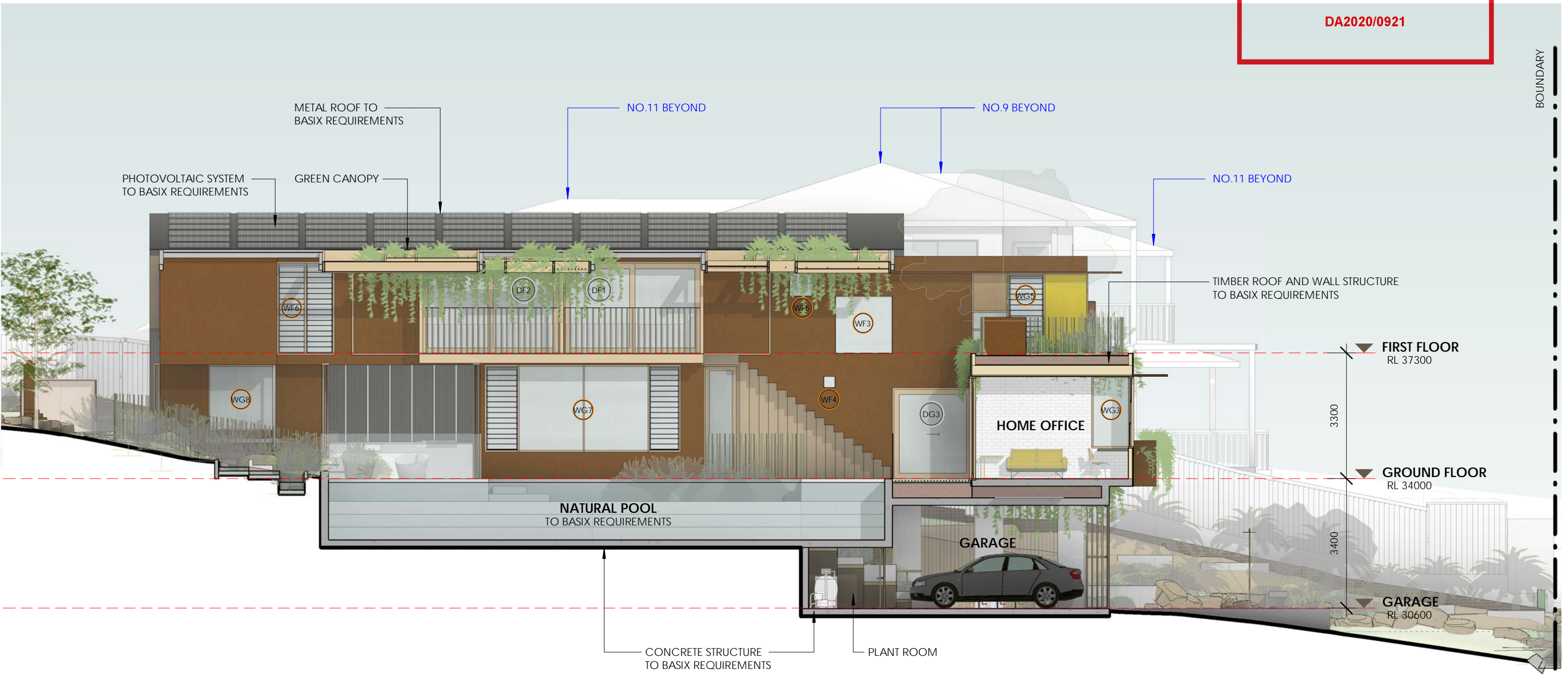
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	PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 011	



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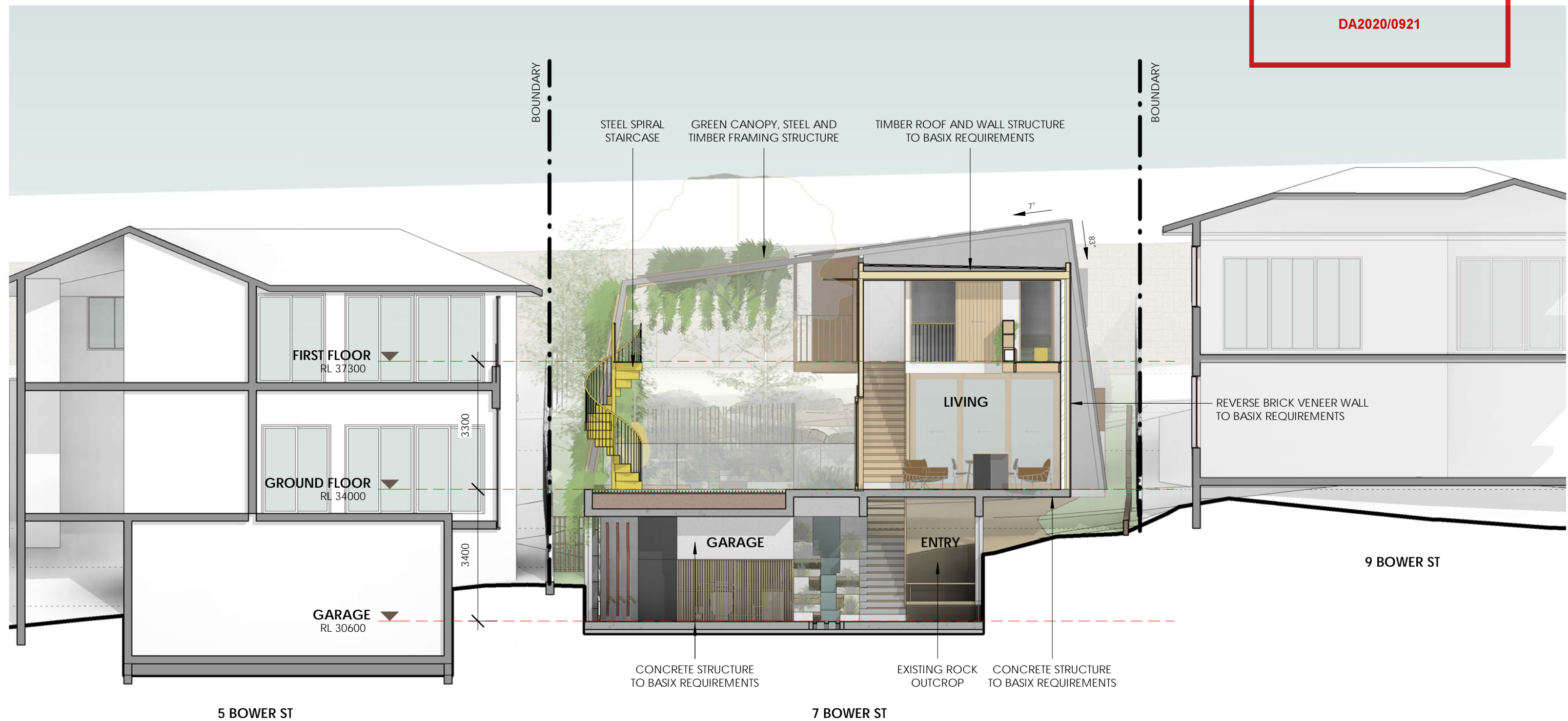
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			PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER		REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 012

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19-030 SPANGL MUNDSPERGER RESIDENCE

PROJECT ADDRESS
7 BOWER STREET
MANLY, 2095

CLIENT
JURGEN SPANGL & KARIN
MUNDSPERGER

SCALE
1 : 100 @ A3

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DRAWING TITLE

SECTION C - GARAGE AND LIVING

REVISION DATE	
23/07/2020	

REVISION	DRAWING NUMBER
1	DA 013

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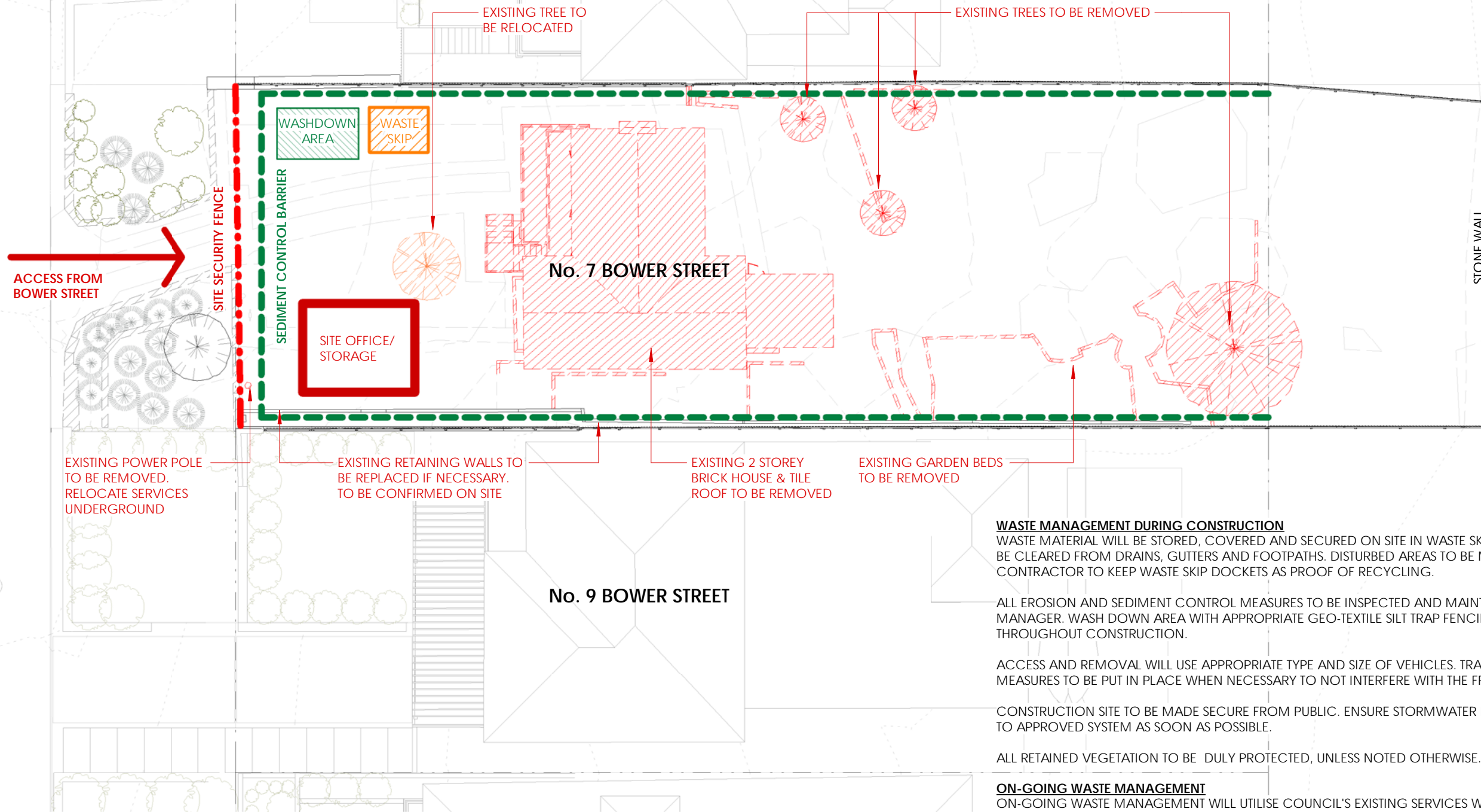


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BOWER STREET



SYDNEY HARBOUR NATIONAL PARK

WASTE MANAGEMENT DURING CONSTRUCTION
WASTE MATERIAL WILL BE STORED, COVERED AND SECURED ON SITE IN WASTE SKIPS. ALL STOCKPILES TO BE CLEARED FROM DRAINS, GUTTERS AND FOOTPATHS. DISTURBED AREAS TO BE MINIMISED. CONTRACTOR TO KEEP WASTE SKIP DOCKETS AS PROOF OF RECYCLING.

ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER. WASH DOWN AREA WITH APPROPRIATE GEO-TEXTILE SILT TRAP FENCING TO BE INSTALLED THROUGHOUT CONSTRUCTION.


ACCESS AND REMOVAL WILL USE APPROPRIATE TYPE AND SIZE OF VEHICLES. TRAFFIC CONTROL MEASURES TO BE PUT IN PLACE WHEN NECESSARY TO NOT INTERFERE WITH THE FREE FLOW OF TRAFFIC.

CONSTRUCTION SITE TO BE MADE SECURE FROM PUBLIC. ENSURE STORMWATER LINES TO BE CONNECTED TO APPROVED SYSTEM AS SOON AS POSSIBLE.

ALL RETAINED VEGETATION TO BE DULY PROTECTED, UNLESS NOTED OTHERWISE.

ON-GOING WASTE MANAGEMENT
ON-GOING WASTE MANAGEMENT WILL UTILISE COUNCIL'S EXISTING SERVICES WITH PROVISION FOR COUNCIL BINS IN ALIGNMENT WITH NORTHERN BEACHES COUNCIL WASTE MANAGEMENT GUIDELINES

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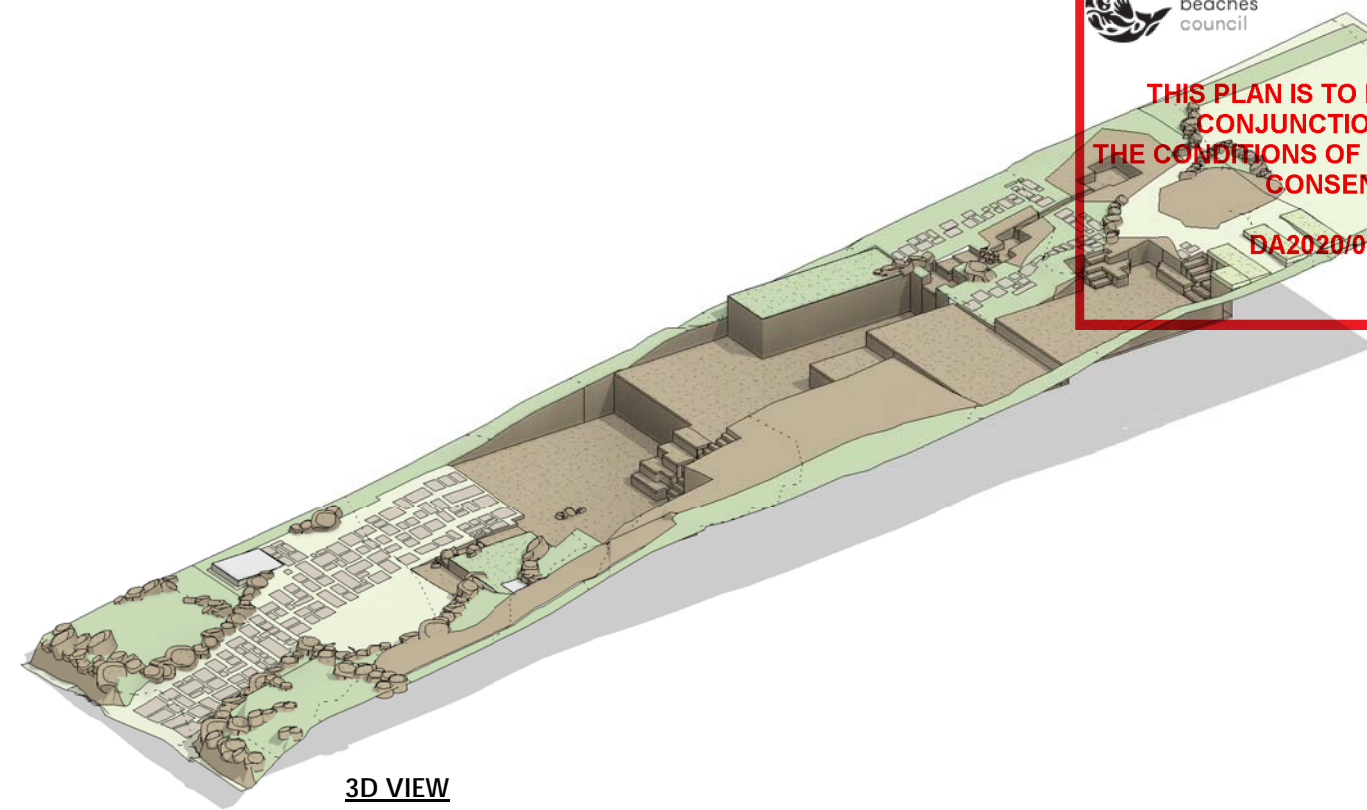
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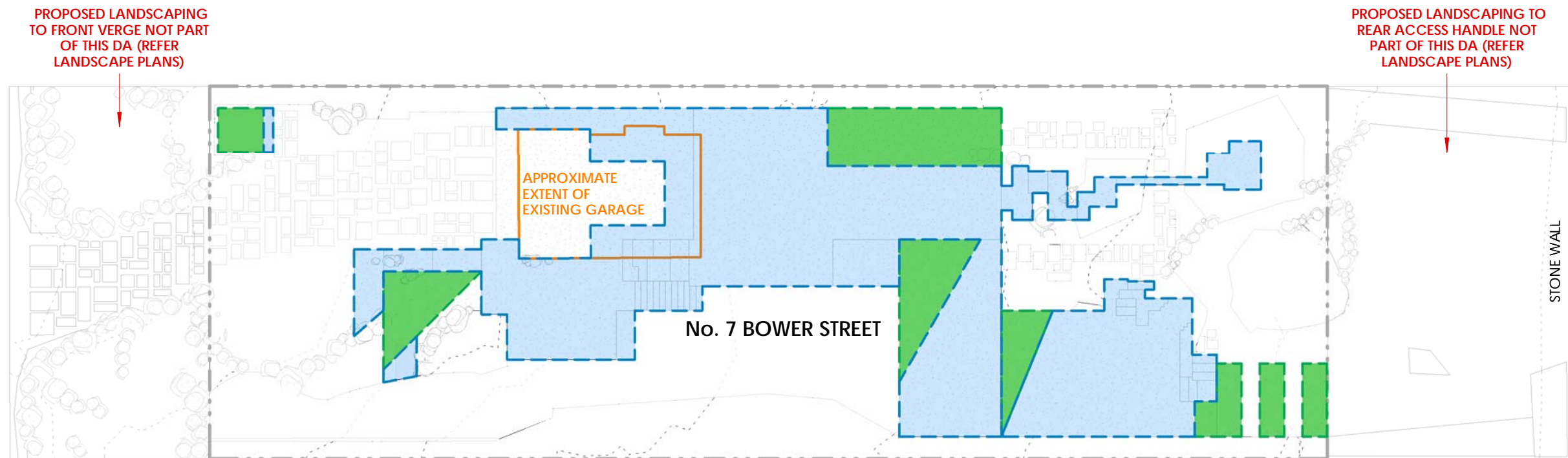
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DA2020/0921



3D VIEW



PLAN VIEW

NOTE: THE PROPOSED EXCAVATION AND FILL AREAS ARE APPROXIMATE ONLY
AND ARE SUBJECT TO THE ACTUAL SITE CONDITION DURING CONSTRUCTION



EXCAVATION AND FILL PLAN (PROPOSED)



SURFACE AREA: 204m² (APPROX.)
SURFACE AREA: 54m² (APPROX.)

VOLUME: 90-110m³ (APPROX.)
VOLUME: 20-30m³ (APPROX.)

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 <div>62 IVY STREET DARLINGTON NSW 2008 P: +61 2 9690 2211 E: info@cplusc.com.au W: www.cplusc.com NOMINATED ARCHITECT 8688</div>	<p>© COPYRIGHT, ALL RIGHTS RESERVED</p> <p>REPRODUCTION OF THIS DRAWING IN PART OR ON WHOLE IS STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CPLUSC ARCHITECTURAL WORKSHOP.</p> <p>THERE IS NO IMPLIED OR WRITTEN LICENCE TO USE THESE PLANS UNLESS OTHERWISE AGREED IN WRITING BY CPLUSC ARCHITECTURAL WORKSHOP.</p>		PROJECT 19-030 SPANGL MUNDSPERGER RESIDENCE		SCALE 1 : 200 @ A3	DRAWING TITLE EXCAVATION AND FILL PLAN		
			PROJECT ADDRESS 7 BOWER STREET MANLY, 2095	CLIENT JURGEN SPANGL & KARIN MUNDSPERGER	DRAWN BY RN/CAR REVIEWED BY CC	REVISION DATE 23/07/2020	REVISION 1	DRAWING NUMBER DA 019

THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT

DA2020/0921



1 STEEL AND TIMBER FRAME
STRUCTURE



2 GRATING PANELS AND
STEEL WIRES WITH
SCREEN PLANTING



3 LIGHTWEIGHT CLADDING



4 CONCRETE STRUCTURE



5 METAL ROOFING



6 TIMBER FRAMED DOORS
& WINDOWS



7 TIMBER BATTENS AND STEEL CABLE WIRES



8 INTEGRATED STONE PAVERS



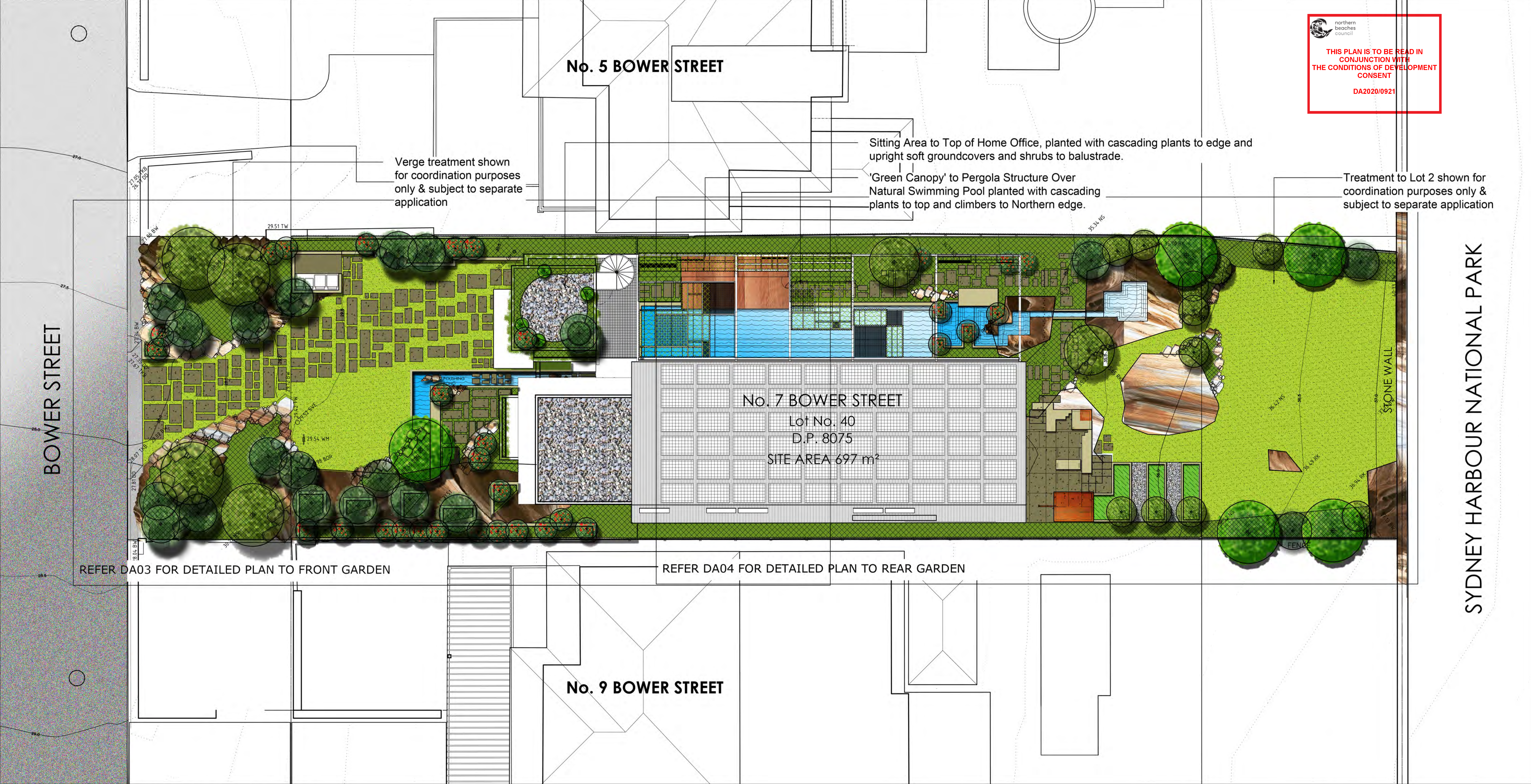
9 CREEPING AND
CASCADING PLANTS



10 STEEL BALUSTRADE



11 EXISTING ROCK OUTCROP



CONCEPT LANDSCAPE PLAN (SITE PLAN): Scale 1:100

GENERAL STATEMENT OF LANDSCAPE INTENT

The landscape design is figured to build upon the spatial parti & organising aesthetic principles of the proposed house design by C+C Architectural Workshop, by providing opportunities for the landscape and architecture to intermingle via the various structures and spaces, as well as celebrate the flora indigenous to the Manly Coastline & be ecologically connected to North Head section of Sydney Harbour National Park.

Overall the scheme proposes to make as few changes to the natural levels other than those spaces that directly adjoin the front & back of the house where re-grading is required to join into the proposed finished floor levels, or the smaller 'incisions' to accommodate the series of polishing ponds upstream and downstream of the proposed natural swimming pool. The existing sandstone outcrops will be retained and allowed to abut the house, or be carefully carved into to symbolically mimic the sandstone lined gullies of the Sydney Harbour and coastline.

Recycling as much of the existing house for use in the landscape will form an element in the landscape construction process, from bricks, to roof tiles, and old house timbers to both add character & reduce the embodied energy required in the construction. Any sandstone boulders that are excavated intact during construction these will also be stockpiled for reuse in the gardens where rockwork is indicated.

LONG-NOSED BANDICOOTS

The proposed garden is designed as both human and fauna friendly habitat. Lawns are to be maintained on as much natural surface as possible, whilst providing a strong reintroduction of indigenous species that occur in the nearby North Head section of Sydney Harbour National Park. Two significant links are formed either side of the house, between the front & back of the lot provide corridors for Bandicoots and other fauna to move as feeling as possible. Pool fencing is to be kept clear of these paths & side security gates will have a reasonable space under them for the unimpeded passage of fauna.

Overall the quality of the habitat for native wildlife and foraging areas within the garden will be greatly improved.

BUSHFIRE MANAGEMENT

Whilst the Bushfire Risk Assessment notes that the whole property is to be managed as an Asset Protection Zone (APZ) this should not be seen as incompatible with the aims of provision of cover, habitat and foraging areas for Long-nosed Bandicoots. The majority of planting about the garden & nearer to the building is to be managed as low groundcovers, consisting indigenous species that require little water with non-contiguous sections of shrub and smaller tree plantings throughout so that the requirement of the APZ are maintained (30% tree & 20% shrub canopy).

Due to the complex geology of the site that contains extensive rock outcrops and probable shallow soils in many locations the full extent of where shrubs and trees can be located are indicative only & will be determined on site during construction. Bushfire resistant species will be located in proposed plantings close to the house. A Storz valve is proposed for a location adjacent to the bin enclosure, supplied by a 100mm pipe from the proposed natural pool.

PLANTING:

Indigenous species to the North Head/Manly coastal environment are to be used almost exclusively as shown in the Indicative Planting Schedule, maximising the opportunity to showcase this wonderful & much under-utilised planting palette, as well as tell the story of the ecosystems of the salt & windswept Manly Coastline: Dunes, wetlands, grasslands, heaths, and littoral rainforest, within the palette of plants that will withstand this exposed location. The only exception will be the stockpiling and replanting of the existing Frangipani in the Front Garden, the minimal use of variegated native species, like Dichodra 'Silver Falls' to reliably add to cascade plantings and the inclusion of vegetables and fruit trees to the Vegetable Garden Beds in the Rear Garden.

The proposed scheme has three main landscape spaces & two adjoining spaces:

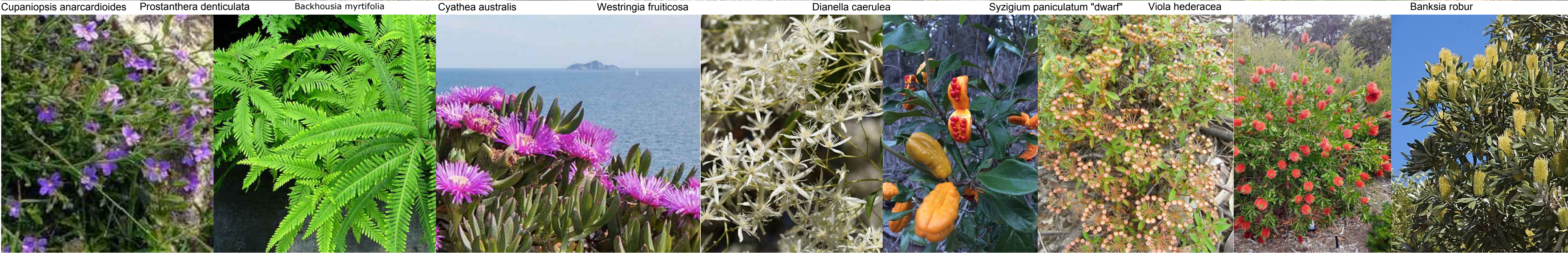
1. THE FRONT GARDEN: The design for the front yard is two-fold: As an entry space it has to function to provide the normal ability to drive cars in and out, maintain views to the Pacific Ocean, and provide for a degree of passive surveillance of the street from the house. It also must increase the connectivity for Long-nosed Bandicoots via the provision of low ground covers, natural boulders with small planted 'pathways' set between to enable the free passage of fauna. A bin enclosure, a long bench, & a smaller pond associated with the Natural Pool in the Rear Garden are the only structures proposed for this Garden.
2. THE REAR GARDEN: This area is dominated by a series of natural sandstone rock outcrops that are to be maintained in their natural state aside from the terrace area outside the Art Room where the rock will be left exposed where practicable, both as a garden wall & as paving, & the two outcrops nearer to the boundary with Number 5 which will remain largely intact aside from having polishing ponds carved into them for the natural pool. All ponds (in both front & rear gardens) are proposed to be stepped to allow easy egress for any wildlife that uses the ponds to swim in. Refer to DA04 for a more detailed explanation of the proposed Fireplace & Garden Shed.
3. SITTING AREA AND GREEN CANOPY: These two spaces, one above the study at the front & the other over the pool suspended from a steel framed pergola are to be planted with indigenous & native variegated species that will cascade down softening the overall form of the proposed house.
4. VERGE AND LOT 2, DP110497: Although not forming part of this application these adjoining areas are shown to demonstrate a holistic approach to the proposed development, particularly with regard to maintaining and improving Bandicoot access, habitat & foraging areas.

LEGEND

- Lawn
- Natural Rock Outcrops
- Paving & Proposed Boulder Edging and Retaining (Concrete or Stone Pavers and Excavated Site Stone)
- Spot Levels (Ref. Codes below)
- Proposed Mass Plantings of Indigenous Groundcovers
- Proposed Vegetable Beds
- Proposed Green Canopy to Pool Proposed Tree & Shrub Plantings (Indicative Only)
- SPOT LEVEL CODES:
 - BP: Bottom of Pond
 - BW: Bottom Wall
 - DD: Dish Drain
 - FFL: Floor Level
 - GM: Gas Meter
 - NS: Natural Surface
 - PP: Power Pole
 - RK: Rock
 - RL: Relative Level
 - SIP: Sewer Inspection Pit
 - SMH: Sewer Man Hole
 - SVE: Sewer Vent
 - TKB: Top of Kerb
 - TW: Top of Wall
 - WM: Water Meter
 - WL: Water Level

DATE	ITEMS
AMENDMENTS	
	duncan gibbs landscape architect
PROJECT	7 Bower St Manly: Concept Garden Design for Development Application
CLIENT	Jurgen Spangl and Karin Mundspurger
JOB NUMBER	J0819
DRAWING	Concept Landscape Plan for DA: Site Plan & Statement of Landscape Intent
DRAWING NUMBER	J0819-DA01
REVISION	A
DATE	10.07.20
SCALE	1:100 @ A1, 1:200@A3
DRAWN	dg
CHECKED	dg
14 Glencoe Road North Arm NSW 2484 T: 61 2 6672 7112 E: d.gibbs@bigpond.com ABN: 59 519 081 278 THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS AND DRAWINGS. COPYRIGHT OF THIS DRAWING IS VESTED IN DUNCAN GIBBS	

J0819 - 7 Bower St Manly		99.5% Indigenous Plants to Coastal Manly. Final selection based upon availability & detailed planting design				
INDICATIVE PLANT SCHEDULE				RT: Roof Top/ Green Canopy, F: Front Yard, B:Back Yard, CY: Courtyards, GC: Green Canopy, S: Screening		
Code	Botanical Name	Common Name	Prob. Max. Height	Situation	Pot Size	Spacing
TREES			NB: all likely smaller in planters depending on soil depth and width			
ALL	Allocausarina littoralis	Black She Oak	8m	RT, F, B	25L	As Shown
ACLO	Acacia longifolia	Sydney Golden Wattle	6m	RT	Super tube	As Shown
ACS	Acmena smithii	Broad-leaf Lillypillly	4m	S, RT, F, B	25L	As Shown
ALV	Allocausarina verticillata	Drooping She-oak	6m	RT, F, B	Super tube	As Shown
ANC	Anopophora costata	Smooth-barked Apple	15m	Feature, B, F	45L	As Shown
ANH	Anopophora hispida	Dwarf Apple	6m	Feature, F, B, RT, GC	Super tube	As Shown
BAM	Backhousia myrtifolia	Grey Myrtle	10m	S, RT, F, B	45L	As Shown
BAI	Banksia integrifolia	Coastal Banksia	10m	Feature, F, B, RT, GC	45L	As Shown
CEG	Ceratopetalum gummiiferum	NSW Christmas Bush	6m	Feature, F, B, RT	200mm	As Shown
CUA	Cupaniopsis anarcardioides	Tuckeroo	6m	RT, F, B, GC	45L	As Shown
ELR	Elaeocarpus reticulatus	Blueberry Ash	8m	RT, F, B, GC	45L	As Shown
ENS	Endiandra sieberi	Hard Corkwood	12m	RT, F, B, GC, RT	Super tube	As Shown
FIC	Ficus coronata	Creek Sandpaper Fig	8m	RT, F, B, GC	Super tube	As Shown
SCO	Schizomeria ovata	Crab Apple	6m	RT, F, B	150mm	As Shown
SYP	Syzgium paniculatum	Magenta Lilly Pilly	10m	RT, F, B	150mm	As Shown
PALMS						
LIA	Livistona australis	Cabbage Palm	15m	Feature, F, B	100L	As Shown
SHRUBS						
ACL	Acacia linifolia	Flax-Leaved Wattle	3m	RT, F, B	Super tube	As Shown
ACSU	Acacia suaveolens	Sweet-scented Wattle	2m	RT, F, B	Super tube	As Shown
ACT	Acacia terminalis	Sunshine Wattle	3m	RT, F, B	Super tube	As Shown
AOE	Aotus ericoides	Yellow Flowered Aotus	2m	RT, F, B	Super tube	As Shown
BAE	Banksia ericifolia	Heath Banksia	3m	RT, F, B	250mm	As Shown
BAO	Banksia oblongifolia	Fern Leaved Banksia	3m	RT, F, B	250mm	As Shown
BAR	Banksia robur	Swamp Banksia	2m	RT, F, B	250mm	As Shown
BAS	Banksia serrata	Saw toothed Banksia	3m	RT, F, B	25L	As Shown
BASP	Banksia spinulosa	Crimson Banksia	1m	RT, F, B	25L	1000mm
CAC	Callistemon citrinus	Hairpin Bottlebrush	4m	Feature, F, B, RT	150mm	As Shown
COR	Correa reflexa	Common Correa	1m	RT, F, B	150mm	600mm
CRS	Crocea saligna	Crowea	1m	RT, F, B	150mm	600mm
DIR	Dillwynia retorta	Eggs and Bacon	2m	RT, F, B	Super tube	1000mm
EPL	Epacris longiflora	Native Fuschia	1m	Mass Plant, Feature, F, B, RT	Super tube	500mm
EPH	Epacris microphylla	Coral Heath	1m	Mass Plant, Feature, F, B, RT	Super tube	500mm
GRB	Grevillea buxifolia	Pink spider flower	1.5m	Feature, F, B, RT	250mm	1000mm
GRL	Grevillea linearifolia	White spider flower	1m	Feature, F, B, RT	250mm	600mm
GRS	Grevillea sericea	Grey Spider flower	1.5m	Feature, F, B, RT	250mm	1000mm
GRSP	Grevillea speciosa	Red spider flower	1.5m	Feature, F, B, RT	250mm	1000mm
KUA	Kunzea ambigua	White Flowering Kunzea	2m	RT, F, B	Super tube	1000mm
LEL	Leptospermum laevigatum	Coastal Tea Tree	3m	RT, F, B	Super tube	As Shown
LEP	Leptospermum petersonii	Lemon Scented Tea-tree	3m	RT, F, B	Super tube	As Shown
LES	Leptospermum squamosum	Pink Tea-Tree	2m	RT, F, B	Super tube	As Shown
LET	Leptospermum trinerivum	Paper bark Tea-tree	2m	RT, F, B, CY	Super tube	As Shown
MEE	Melaleuca ericifolia	Swamp Paperbark	4m	RT, F, B	Super tube	As Shown
MEH	Melaleuca hypericifolia	Melaleuca	2m	RT, F, B	Super tube	As Shown
MEL	Melaleuca linifolia	Snow in Summer	3m	Feature, F, B, RT	Super tube	As Shown
OZD	Ozothamnus diosmifolius	Everlasting Daisy	1.5m	RT, F, B	Tube	800mm
PEL	Personia levis	Broad-Leaved Geebung	1.5m	RT, F, B	Tube	As Shown
PIL	Pimelea linifolia	Rice-flower	1m	Mass Plant, RT, F, B	Super tube	500mm
PIT	Pittosporum revolutum	Rough-fruit pittosporum	2m	RT, F, B	150mm	1000mm
PFF	Platylobium formosum ssp. formosum	Flat-pea	1m	RT, F, B	Super tube	500mm
POS	Polyscias sambucifolia	Elderberry Panex	3m	RT, F, B, CY	Super tube	1000mm
PRD	Prostanthera denticulata	Native Mint Bush	1m	Mass Plant, RT, F, B	Super tube	1000mm
PUE	Pultenaea elliptica	Elliptical Bush-pea	1m	RT, F, B	Super tube	500mm
PUF	Pultenaea flexilis	Graceful bush-pea	3m	RT, F, B	Super tube	As Shown
PUS	Pultenaea stipularis	Fine-leaf Bush-pea	2m	RT, F, B	Super tube	800mm
RIP	Ricinocarpus pinifolius	Wedding Bush	2m	RT, F, B	Super tube	1000mm
SPD	Syzgium paniculatum "dwarf"	Brush Cherry	3m	RT, F, B, CY, S	150mm	1000mm
TES	Telopea speciosissima	Waratah	3m	Feature, F, B, RT	25L	1500mm
VJD	Viminaria juncea	Native Broom	3m	RT, F, B	Super tube	800mm
WEF	Westringia fruticosa	Coast Westringia	2m	Mass Plant, RT, F, B	150mm	800mm
XAA	Xanthorrhoea australis	Grass Tree	2m	RT, F, B	25L	As Shown
GRASSES & GROUNDCOVERS						
ACH	Actinotus helianthii	Flannel Flower	1m	Mass Plant, RT, F, B	Tube	500mm
BOH	Bossiaea heterophylla	Variable Bossiaea	800mm	Mass Plant, RT, F, B	Tube	500mm
CAA	Carex appressa	Native Sedge	700mm	Mass Plant, RT, F, B	Tube	400mm
CAG	Carpobrotus glaucescens	Pig Face	150mm/Creeper	Mass Plant, RT, F, B	Tube	400mm
CAF	Caustis flexuosa	Curly wigs	1000mm	Mass Plant, RT, F, B	Tube	400mm
CYR	Cymbopogon refractus	Barbed-wire Grass	500mm	Mass Plant, RT, F, B	Tube	400mm
DAS	Danthonia species	Wallaby Grass	400mm	Mass Plant, RT, F, B	Tube	300mm
DIC	Dianella caerulea	Blue Flax Lily	400mm	Mass Plant, RT, F, B	Tube	300mm
DIR	Dichondra repens	Kidney weed	50mm	Mass Plant, RT, F, B	Tube	300mm
ECC	Echinopogon caespitosus	Tufted Echinidra Grass	1200mm	Mass Plant, RT, F, B	Tube	400mm
ERB	Eriostemon buxifolius	Box-leaf Wax Flower	500mm	Mass Plant, RT, F, B	Tube	300mm
FIN	Ficinia nodosa	Knobby Club Rush	500mm	Mass Plant, RT, F, B	Tube	300mm
ICM	Imperata cylindrica var. major	Imperata	500mm	Mass Plant, RT, F, B	Tube	800mm
KER	Kennedia rubicunda	Dusky Coral Pea	150mm/Creeper	Mass Plant, RT, F, B	Tube	1000mm
LOA	Lobelia alata	Lobelia	300mm/Creeper	Mass Plant, RT, F, B	Tube	500mm
LOM	Lomandra multiflora	Many Flowered Lomandra	500mm	Mass Plant, RT, F, B	Tube	300mm
LOO	Lomandra obliqua	Fish bones	200mm	Mass Plant, RT, F, B	Tube	300mm
LOL	Lomandra longifolia	Spiny-headed Mat-rush	1.5m	Mass Plant, RT, F, B	Tube	800mm
MET	Melaleuca thymifolia	Thyme Scented Melaleuca	1m	Mass Plant, RT, F, B	Super tube	1000mm
MSS	Microlaena stipoides var. stipoides	Weeping rice grass	400mm	Mass Plant, RT, F, B	Tube	300mm
MIS	Microlaena stipoides	Weeping Meadow Grass	400mm	Mass Plant, RT, F, B	Tube	300mm
PAS	Petersonia sericea	Silky Purple Flag	200mm	Mass Plant, RT, F, B	Tube	200mm
PEA	Pelargonium australe	Coastal Geranium	500mm	Mass Plant, RT, F, B	Super tube	400mm
POA	Poa affinis	Tussock Grass	500mm	Mass Plant, RT, F, B	Tube	500mm
POU	Pomax umbellata	Pomax	400mm	Mass Plant, RT, F, B	Tube	300mm
SCR	Scaevola ramosissima	Purple Fanflower	150mm/Creeper	Mass Plant, RT, F, B	Super tube	800mm
THA	Themeda australis	Kangaroo grass	500mm	Mass Plant, RT, F, B	Tube	300mm
XAP	Xanthosia pilosa	Woolly Xanthosia	500mm	Mass Plant, RT, F, B	Tube	300mm
VH	Viola hederacea	Native Violet	50mm	Mass Plant, RT, F, B	Tube	250mm
CLIMBERS & CASCADING PLANTS						
BIS	Billardiera scandens	Apple Berry	3m	Mass Plant, RT, F, B, GC	150mm	As Shown
CIA	Cissus antarctica	Water Vine	4-6m	RT, CY, GC (Shade/Semi Shade)	150mm	As Shown
CIH	Cissus hypoglauca	Native Grape	2-20m	RT, GC (vigorous climber)	Super tube	As Shown
CLA	Clematis aristata	Toothed Clematis	4-6m	RT, CY, GC (Shade/Semi Shade)	150mm	500
CLG	Clematis glycinoides	Headache Vine	2-15m	RT, CY, GC (Moist soils)	150mm	As Shown
DIR	Dichondra repens 'Silver Falls'	Dichondra Silver Falls	50mm	Mass Plant, RT, F, B	Tube	500mm
EUL	Eustrephus latifolius	Wombat Berry	2-6m	RT, GC	Super tube	As Shown
GLC	Glycine clandestina	Love Creeper	2m	RT, F, B, CY	Super tube	1000mm
HAV	Hardenbergia violacea	Pinkie Sarsaparilla	2m	RT, CY	Super tube	1000mm
HIS	Hibbertia scandens	Climbing Guinea Flower	2m	RT, F, B	Super tube	800mm
HOA	Hoya australis	Common waxflower	2m	RT, CY	200mm	800mm
MOR	Morinda jasminoides	Jasmine Morinda	2m	RT, CY, GC (Shade/Semi Shade)	Super tube	1000mm
POJ	Pandorea pandorana	Wonga-wonga vine	2-20m	RT, GC (vigorous climber)	Super tube	As Shown
PAP	Smilax glycyphylla	Native sarsaparilla	2m	Mass Plant, RT, F, B, GC	Super tube	1000mm
FERNS						
ADA	Adiantum aethiopicum	Common Maidenhair Fern	300mm	CY (shade)	150mm	200mm
ASN	Asplenium nidus	Nests Nest Fern	600mm	CY (shade)	200mm	400mm
BLC	Blechnum cartilagineum	Gristle Fern	500mm	CY (shade)	150mm	400mm
BLN	Blechnum nudum	Water Fern	500mm	CY (shade)	150mm	300mm
CAD	Calochlaena dubia	Soft Bracken	800mm	F, B, CY (Shade/Semi Shade)	Super tube	As Shown
CYA	Cyathea australis	Rough Tree Fern	5m	CY (shade)	250mm	1000mm
DOA	Doodia aspera	Rasp Fern	5m	CY (shade)	150mm	400mm
GLD	Gleichenia dicarpa	Pouched Coral Fern	2m (trailing)	F, B, CY, GC	Tube	500mm
STF	Sticherus flabellatus	Umbrella Fern	500mm/Creeper	CY (shade)	150mm	400mm
WETLAND PLANTS						
BAT	Balioskion tetraphyllum (Syn. Restio tetraphyllum)	Tassel Cord Rush	1m	Ponds/Reed Beds	Tube	350mm
BAA	Baumea articulata	Jointed Twig-rush	1.5m	Ponds/Reed Beds	Tube	500mm
BAJ	Baumea juncea	Bare Twigrush	1m	Ponds/Reed Beds	Tube	500mm
CAA	Carex appressa	Native Sedge	700mm	Mass Plant, RT, F, B, Wet areas	Tube	400mm
JUK	Juncus kraussii	Sea Rush	1m	Ponds/Reed Beds	Tube	500mm
JKA	Juncus kraussii subsp. australiensis	Sea Rush	1m	Ponds/Reed Beds	Tube	500mm
JUU	Juncus usitatus	Common Rush	1m	Ponds/Reed Beds	Tube	500mm



INDICATIVE PLANT PALETTE EXAMPLES




LANDSCAPE DESIGN THEMES AND INDICATIVE LANDSCAPE MATERIALS PALETTE



DATE

ITEMS

AMENDMENTS

 **duncan gibbs**
landscape architect

PROJECT

7 Bower St Manly: Concept Garden Design for Development Application

CLIENT

Jurgen Spangl and Karin Mundsparger

JOB NUMBER

J0819

DRAWING

Concept Landscape Plan for DA: Indicative Planting & Materials Palette

DRAWING NUMBER

J0819-DA05

REVISION

A

DATE

08.07.20

SCALE

NTS @ A1

DRAWN

dg

CHECKED

dg

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23 July 2020

Jurgen Spangl & Karin Mundspurger
7 Bower Street
Manly NSW 2095

c/o ryan@cplusc.com.au

Stormwater design in support of the proposed development at 7 Bower Street, Manly

Dear Jurgen and Karin

Please find attached the drawings describing the stormwater management plan for the proposed development at 7 Bower Street, Manly.

The stormwater management plan is described in the following Stellen Consulting drawings:

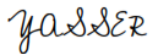
<i>DR-000</i>	<i>Revision 0</i>	<i>Legend</i>
<i>DR-001</i>	<i>Revision 0</i>	<i>Pipe Layout</i>
<i>DR-002</i>	<i>Revision 0</i>	<i>Details</i>
<i>DR-003</i>	<i>Revision 0</i>	<i>Site Areas</i>

The stormwater management plan conforms to the relevant requirements of the following:

- Australian Standard AS3500.3 (2018) – “*Plumbing and Drainage: Part 3 Stormwater Drainage*”
- Northern Beaches Council (Manly) – “*Specification for On-site Stormwater Management*” (as amended September 2004)

We recommend the stormwater design (as described in the drawings) as a safe and practical solution to support the development.

Kind regards,



Yasser Yahya Al-Ashmori
Engineer

Stellen Consulting
Level 1, 27 Belgrave, Manly, NSW 2095
T. +60137-065430
E. yasser.alashmori@stellenconsulting.com.au

Drawing List

Architectural Drawings by CplusC Architectural
Workshop from DA 000 to DA 020 all dated
23/07/2020.

THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT

DA2020/0921

7 BOWER STREET, MANLY

STORMWATER MANAGEMENT PLAN

DRAWING NUMBER	DRAWING TITLE
DR-000	LEGEND
DR-001	PIPE LAYOUT
DR-002	DETAILS
DR-003	SITE AREAS

NOTES:

1. ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

2. SITE LAYOUT BASED ON ARCHITECTURAL PLANS BY CPLUSC ARCHITECTURAL WORKSHOP (23/07/2020).

3. LOCATION OF ALL SERVICES MUST BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

4. ALL STORMWATER DRAINAGE PIPES AND ASSOCIATED DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE RELEVANT STANDARDS, THE BUILDING CODE OF AUSTRALIA, MANUFACTURER’S RECOMMENDATIONS, SYDNEY CATCHMENT AUTHORITY RECOMMENDED PRACTICE, AND LOCAL COUNCIL, AS APPLICABLE.

5. ALL INVERT LEVELS PROVIDED ON THIS DRAWING ARE REDUCED TO AHD AND BASED ON INTERPOLATED SURFACE LEVELS AND SYSTEM REQUIREMENTS
6. WHERE POSSIBLE, PIPEWORK SHALL BE LOCATED EXTERNAL TO THE BUILDING.

7. DOWNPIPES AND STORMWATER LINES TO BE SEALED DN100 uPVC UNLESS OTHERWISE NOTED.


8. STORMWATER PIPES TO BE GRADED AT A MINIMUM 1% UNLESS NOTED OTHERWISE.


9. ALTERNATIVE GUTTER AND DOWNPIPE CONFIGURATION MAY BE INSTALLED PROVIDED IT COMPLIES WITH AS3500.


10. ALL PIPE AND CONDUITS TO BE MARKED IN ACCORDANCE WITH AS1345 – 1995.


11. TRENCHES AND SERVICE SEPARATIONS IN ACCORDANCE WITH AS/NZS 5601, AS/NZS 3500, AND AS/CA S009.

LEGEND:

- 


DOWNPIPE
- 

SW STORMWATER PIPE
- 

RW RAINWATER PIPE
- 

DRAINAGE PIT

NOT FOR CONSTRUCTION

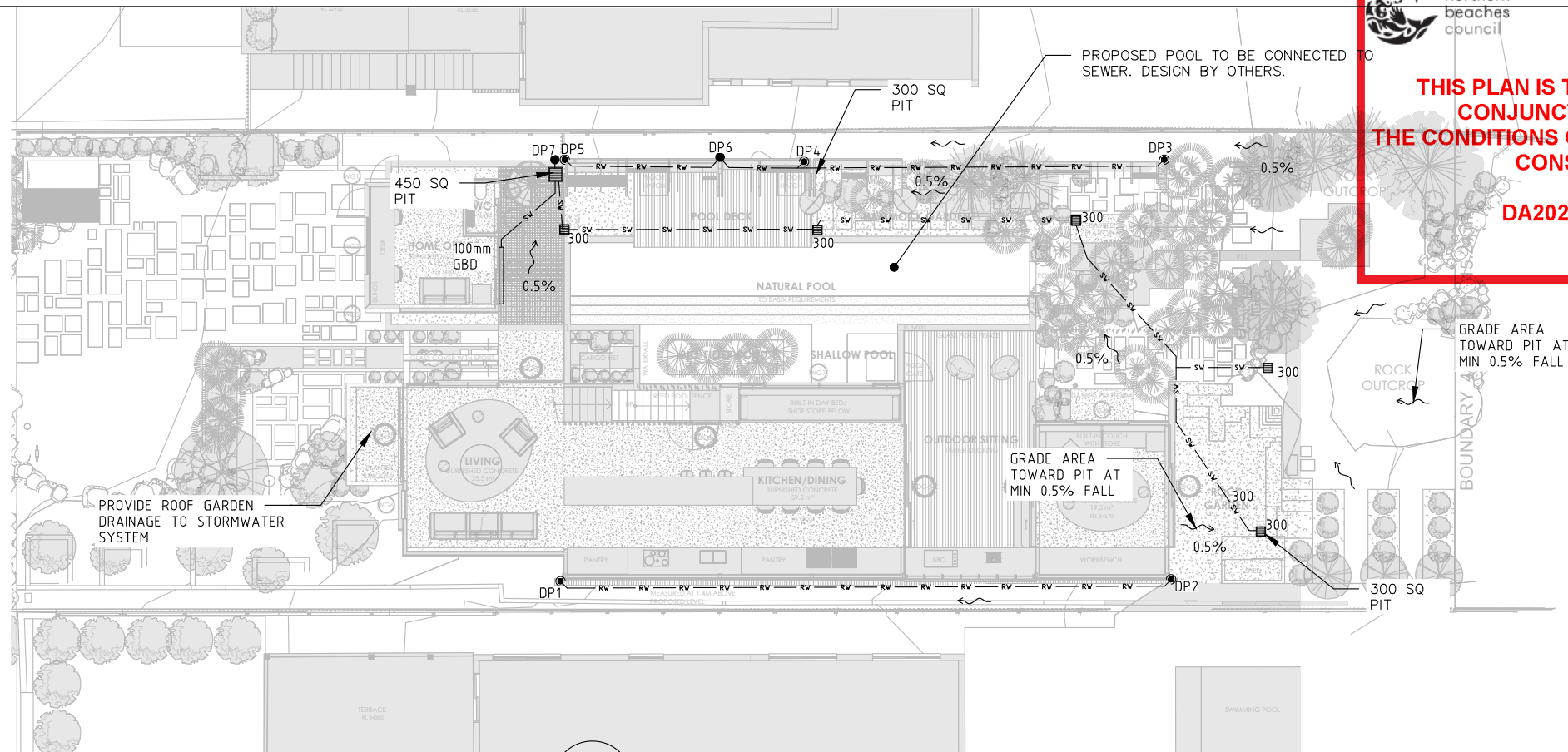
This drawing is confidential and shall only be used for the purposes of this project.						Scale NA DO NOT SCALE. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED	THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE STELLEN QUALITY ASSURANCE SYSTEM				 Stellen Consulting ABN 61 149 095 189	This design complies with: AS3500.3:2018	7 BOWER STREET, MANLY			
REVISIONS							DESIGNED	YYA	CHECKED	LES			LEGEND			
							DRAWN	YYA	CHECKED	LES						
	0	YYA	23/07/2020	APPROVED FOR DA SUBMISSION	LES		APPROVED									
	A	YYA	10/07/2020	APPROVED FOR CLIENT REVIEW	LES											
	No.	BY	DATE	DESCRIPTION	APPD								Size A3		Status APPROVED FOR DA SUBMISSION	Drwg No. DR-000



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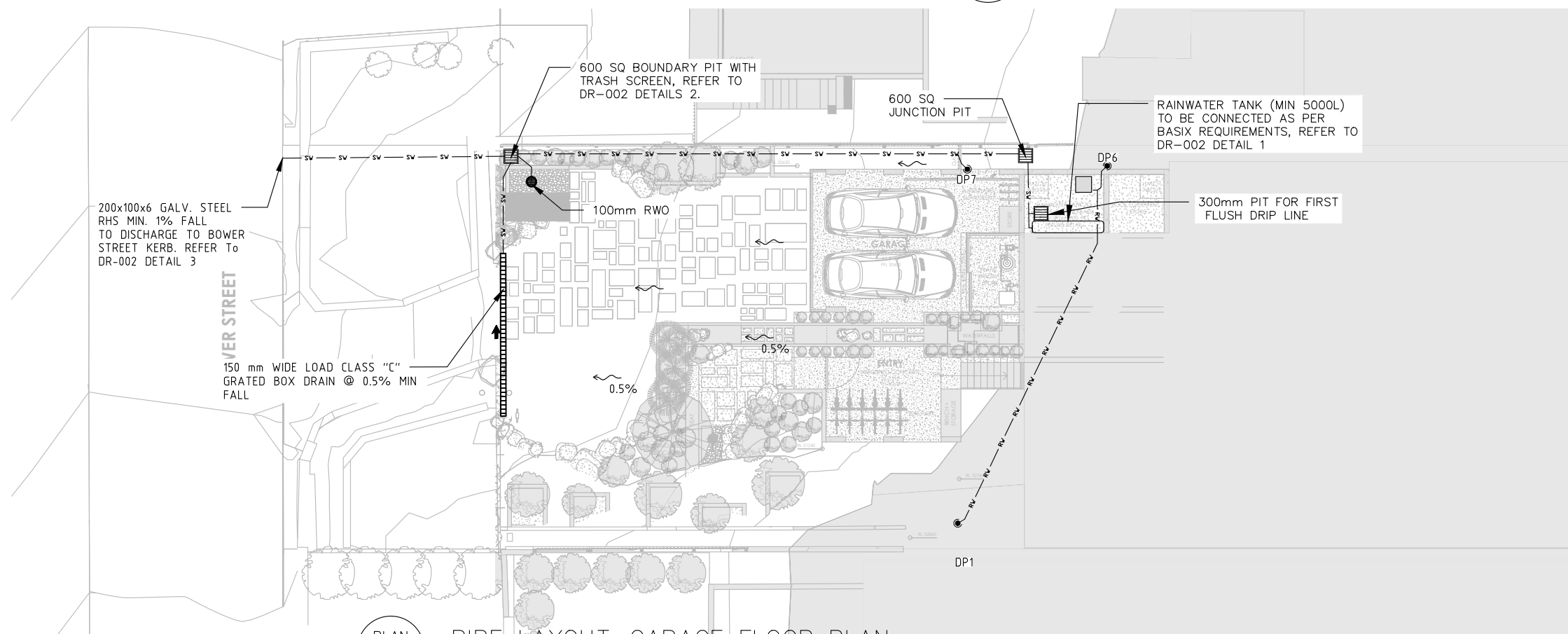
THIS PLAN IS TO BE READ IN
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THE CONDITIONS OF DEVELOPMENT
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DA2020/0921



PLAN
1

PIPE LAYOUT-GROUND FLOOR PLAN
1:200



PLAN
2

PIPE LAYOUT-GARAGE FLOOR PLAN
1:200

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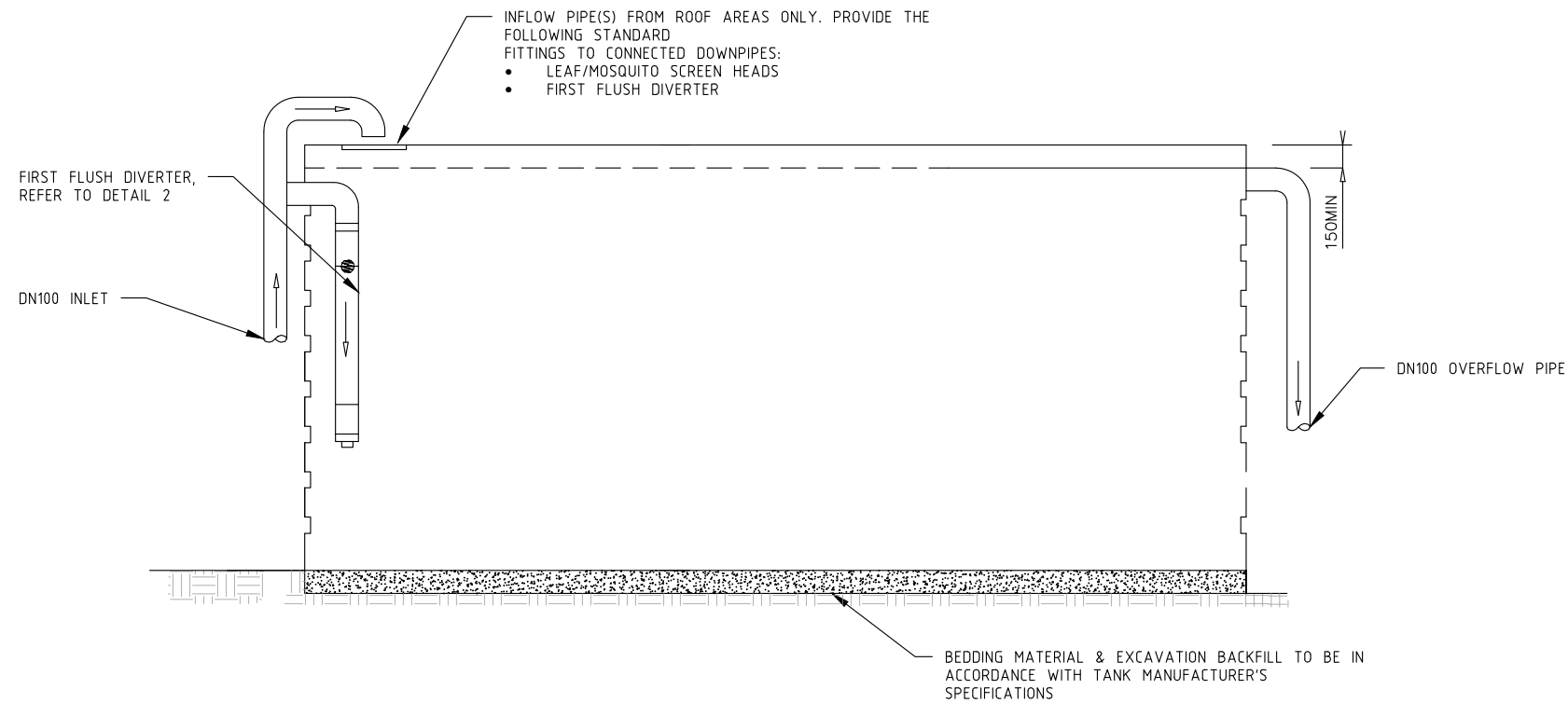
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	PIPE LAYOUT			
	Size A3	Status APPROVED FOR DA SUBMISSION	Drw No. DR-001	Rev. 0

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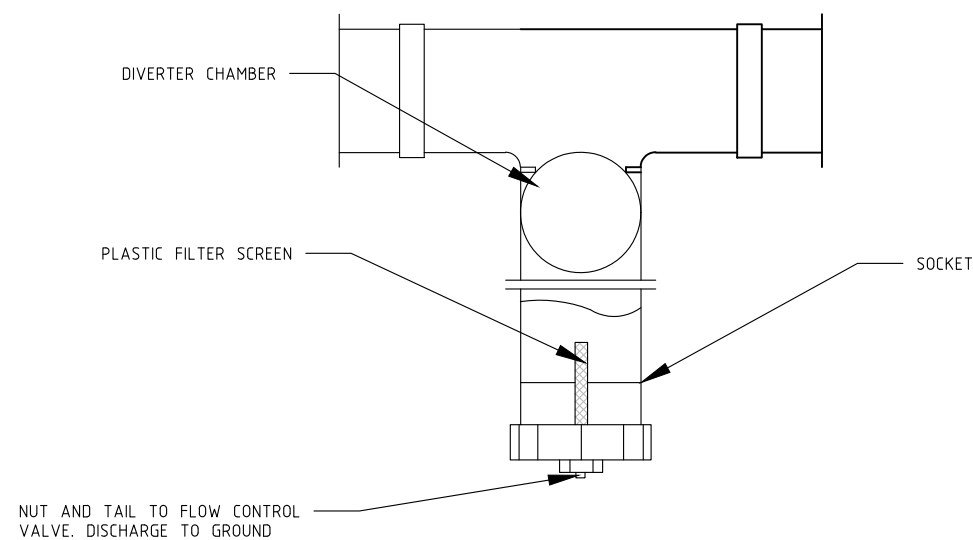
DETAIL
1

TYPICAL RAINWATER REUSE TANK ELEVATION

NOT TO SCALE

NOTES:

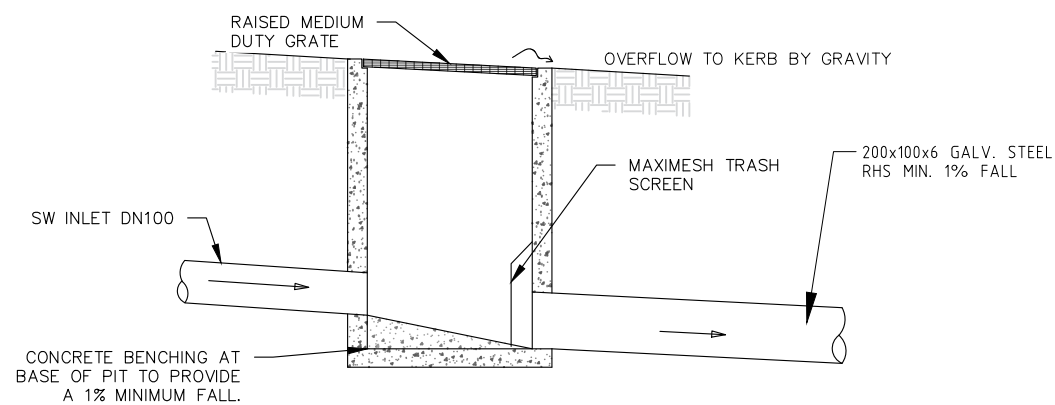
1. RAINWATER TANK TO BE AT LEAST 5000 LITRES.
2. RAINWATER TANK MUST MEET, AND BE INSTALLED IN ACCORDANCE WITH, THE REQUIREMENTS OF ALL APPLICABLE REGULATORY AUTHORITIES.
3. THE APPLICANT MUST CONFIGURE THE RAINWATER TANK TO COLLECT RAINWATER RUNOFF FROM AT LEAST 40 SQUARE METRES OF ROOF AREA.



DETAIL
A

FIRST FLUSH DIVERTER

NOT TO SCALE



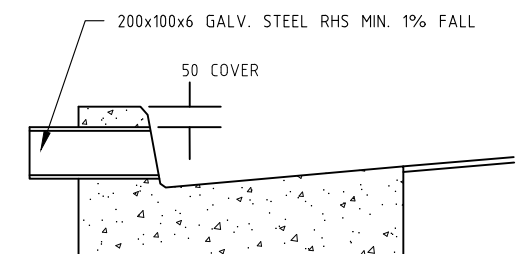
DETAIL
2

600 SQUARE MEDIUM DUTY PIT

NOT TO SCALE

NOTES:

1. 'LYSAGHT' MAXIMESH RH3030 (HOT DIPPED GALVANISED) OR EQUIVALENT.
2. MAXI MESH SCREENS MUST BE PLACED SUCH THAT THE LONG AXIS OF THE OVAL SHAPED HOLES ARE ORIENTATED HORIZONTALLY WITH THE PROTRUDING LIP ANGLED UPWARDS AND FACING TOWARDS THE OUTLET.



DETAIL
3

TYPICAL KERB CONNECTION

NOT TO SCALE

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Scale
NA
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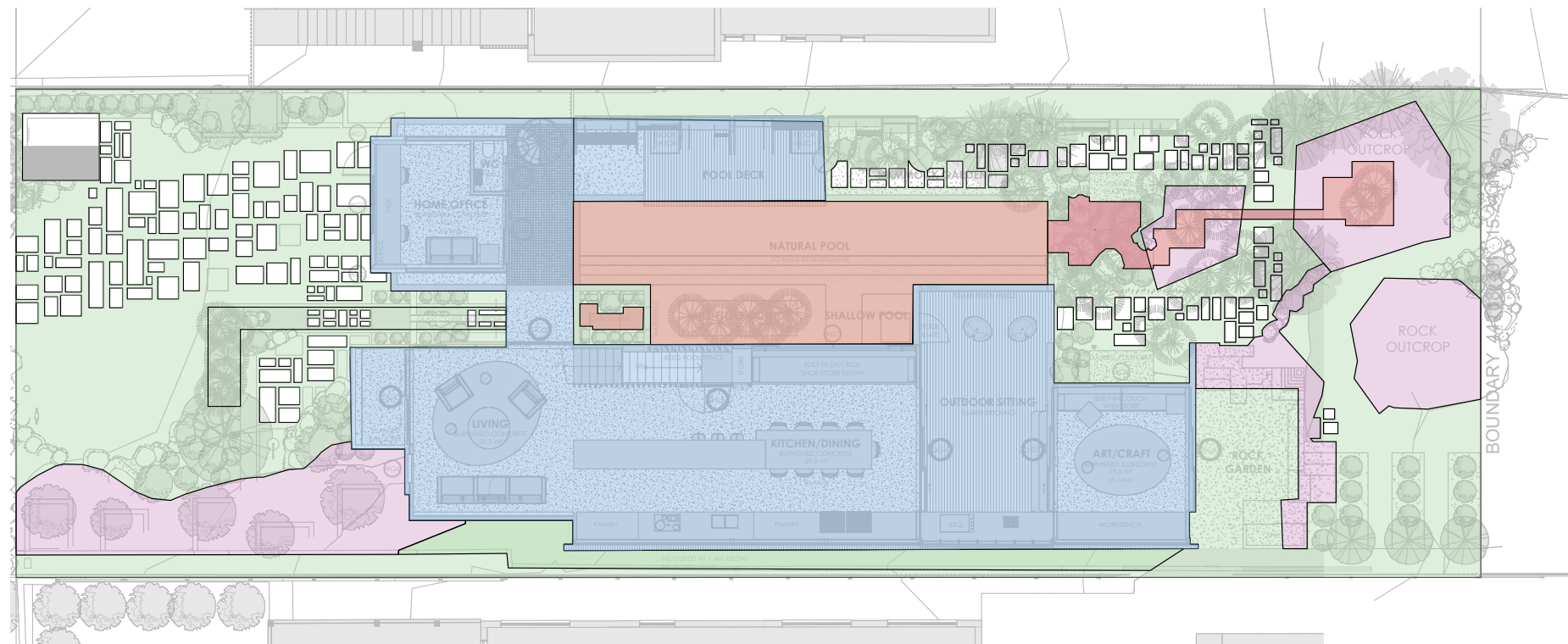
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APPROVED	LES	DATE	23/07/2020



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DETAILS			
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PLAN 3 SITE AREAS – EXISTING 1:200



PLAN 4 SITE AREAS – PROPOSED 1:200

EXISTING

SITE AREA: 696.8 m²
PERVIOUS: 371.7 m²
IMPERVIOUS (BUILDINGS AND PAVING): 166.0 m²
IMPERVIOUS (NATURAL ROCK): 167.8 m²

LEGEND

PERVIOUS
IMPERVIOUS
NATURAL ROCK
POOL


PROPOSED

SITE AREA: 696.8 m²
PERVIOUS: 419.9 m²
IMPERVIOUS (BUILDING AREA): 218.8 m²
IMPERVIOUS (NATURAL ROCK): 58.1 m²

Part 4.3.2 Determination of OSD requirements in Stormwater Zone 1			
Part 4.3.2.1 For A New Building			
1) Exemption	a) Is the site area less than 400?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes to both questions, OSD is not required. If no to any of the above questions, please proceed to calculation
	b) Is the post-development impervious area less than 190 m ² ?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2) Calculation	a) Site area 696.8 m ² x 0.35 = 243.9m ² + 50 = 293.9m ²		
	b) Post-development impervious area 218.8m ²		
	OSD will not be required when (b) is less than 250 m ² and (a) is greater than (b). Is OSD required for this development? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
If yes, provide a design in accordance with the section 9.3.3.2 of Council's Water Management for Development Policy. If no, OSD is not required and please proceed to part 5.			

- NOTES
- OSD NOT REQUIRED IN ACCORDANCE WITH PART 4.3.2 TOTAL IMPERVIOUS FRACTION < 35% AND < 250m2
 - OSD IMPERVIOUS CALCULATION BASED ON DEVELOPED IMPERVIOUS AREA AND EXCLUDES NATURAL ROCK

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REVISIONS							1:200		DESIGNED YYA CHECKED LES				SITE AREAS								
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