

PROPOSED RESIDENTIAL DEVELOPMENT
TYPE: ALTERATIONS AND ADDITIONS

ADDRESS: No. 81 RIVERVIEW ROAD, AVALON BEACH
TITLE: LOT 22/DP 18005
DRAWING SERIES: STORMWATER MANAGEMENT PLAN

DRAWINGS SERIES TO BE PRINTED IN COLOUR
DEVELOPMENT APPLICATION ISSUE NOT FOR CONSTRUCTION

GENERAL NOTES

GN1 ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

GN2 THE CONTRACTOR SHALL LOCATE AND DETERMINE LEVELS OF ALL EXISTING SERVICES PRIOR TO COMMENCING EXCAVATION WORK. ALL SERVICES SHOWN ON THIS DRAWING ARE INDICATIVE AND FOR GUIDANCE ONLY.

GN3 THIS DRAWING SERIES IS TO BE READ IN CONCURRENCE WITH RELEVANT DRAWINGS SERIES FROM OTHER CONSULTANTS, COUNCIL OR RELEVANT SPECIFICATIONS, WHERE DISCREPANCIES ARE DETECTED THE DESIGN ENGINEER IS TO BE CONTACTED IMMEDIATELY FOR VALIDATION/ RECTIFICATION.

GN4 BUILDER AND CONTRACTORS IS TO ENSURE THAT ALL COUNCIL DEVELOPMENT CONSENT CONDITIONS, CONSTRUCTION CERTIFICATE AND BASIX REQUIREMENTS ARE MET.

GN5 A STRUCTURAL ENGINEER IS TO DESIGN AND DETAIL SUBSOIL DRAINAGE. UNLESS APPROVED BY OUR OFFICE, SUBSOIL DRAINAGE IS NOT TO CONNECT INTO THE STORMWATER SYSTEM DISPLAYED WITHIN THIS DRAWING SERIES.

GN6 PLANS ISSUED FOR DEVELOPMENT APPLICATION, SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE.

GN7 PLANS ISSUED FOR DEVELOPMENT APPLICATION PURPOSES, SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.

RAINWATER RE-USE NOTES

RN1 THE RAINWATER TANK IS TO BE INSTALLED AND EMPLOYED AS PER BASIX, SYDNEY WATER, COUNCIL AND NSW HEALTH REQUIREMENTS FOR NON DRINKING USE ONLY.

RN2 ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE.

RN3 BUILDER AND PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK (HB 230- 2008).

RN4 DO NOT DIRECT CONNECT TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY.

RN5 THE RAINWATER TANK AND EVERY RAINWATER SUPPLY OUTLET POINT ARE TO BE LABELLED (RAINWATER) ON A METAL SIGN IN ACCORDANCE WITH AS1319.

RN6 SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEANING.

RN7 ROOF RUN-OFF ONLY IS BE DIRECTED TO THE RAINWATER TANK . SURFACE WATER SYSTEMS/INLETS ARE NOT TO BE CONNECTED.

RN8 ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE DEVICES TO PREVENT MOSQUITO AND VERMIN ENTRY TO THE SATISFACTION OF THE REGULATORY AUTHORITY.

RN9 PROVIDE APPROPRIATE FLOAT VALVES TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL

RN10 PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN

BEFORE YOU DIG AUSTRALIA

THE MOST UP TO DATE BEFORE YOU DIG AUSTRALIA (BYDA) PLANS MUST BE KEPT ON-SITE AT ALL TIMES. ANY PERSON ABOUT TO DIG OR EXCAVATE MUST READ BYDA PLANS PRIOR TO THE COMMENCEMENT OF WORK.

STORMWATER NOTES

SN1 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.

SN2 ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE AS/NZS3500 AND THE REQUIREMENTS OF THE LOCAL GOVERNMENT AREAS POLICIES, CODES AND SPECIFICATIONS. ENSURE INSPECTION OPENINGS ARE INSTALLED TO DRAINAGE LINES AT REQUIRED LOCATIONS.

SN3 STORMWATER PIPES UP TO DN150 SHALL BE LAID AT A MINIMUM 1% GRADE UNLESS OTHERWISE NOTED.

SN4 WHERE NECESSARY PUBLIC UTILITY SERVICES ARE TO BE ALTERED AND AMENDED AT THE CLIENT'S EXPENSE.

SN5 ALL NEW WORK MAKE SMOOTH TRANSITIONS AND CONNECTIONS WITH EXISTING WORK.

SN6 LOCAL GOVERNMENT AREAS TREE PRESERVATION AND MANAGEMENT ORDERS TO BE ABIDED BY. A PERMIT IS REQUIRED BEFORE TREE/S CAN BE REMOVED .

SN7 ALL PITTS TO BE STREAMLINED AND BENCHED IN ACCORDANCE WITH LOCAL GOVERNMENTS AREAS SPECIFICATIONS.

SN8 STEP IRONS ARE TO BE PROVIDED FOR ALL PITTS OVER 1.2m DEEP IN ACCORDANCE WITH AS/NZS3500 AND LOCAL GOVERNMENT AREAS CODES AND POLICES.

SN9 DOWNPIPES, RAINWATER LINES AND STORMWATER LINES TO BE FULLY SEALED UNLESS OTHERWISE NOTED.

SN10 ALL GRATE AND INVERT LEVELS PROVIDED ON THIS DRAWING ARE EXTRACTED FROM SURVEY AND REDUCED TO AHD. FOLLOWING EARTHWORKS, PIT INSTALLATION AND BENCHING THE LEVELS ARE TO BE VERIFIED OR ADJUSTED TO MEET THE DESIGN INTENT. IF EVER IN DOUBT CONTACT DESIGN ENGINEER.

SN11 ALL SUSPENDED DRAINAGE PIPES ARE TO STRAPPED IN ACCORDANCE WITH AS/NZ 2032.

SN12 LOW POINTS OF CHARGED DRAINAGE SYSTEMS REQUIRE DEVICES FOR FLUSHING AND MAINTENANCE.

SN13 THE NUMBER AND LOCATION OF DOWNPIPES, ON THIS DRAWING SERIES, ARE SHOWN INDICATIVELY AND ARE TO BE CONFIRMED ON-SITE BY BUILDER PRIOR TO CONSTRUCTION. ROOF DRAINAGE, BY OTHERS, AND TO BE INSTALLED IN ACCORDANCE WITH AS/NZs 3500 SERIES.

SN14 NEW WORKS SHALL NOT CREATE ANY TRAPPED SURFACE AREAS. IN SUCH CASES WHERE TRAPPED AREAS EXIST, A DRAINAGE NETWORK WITH ADEQUATE CAPACITY SHALL BE REQUIRED TO DRAIN STORMWATER TO AN APPROVED DISCHARGE POINT. A PUMP-OUT SYSTEM MAY BE REQUIRED IF THE TRAPPED AREA IS BELOW THE NATURAL SURFACE LEVEL. IN EACH INSTANCE, THE DESIGN ENGINEER MUST BE CONTACTED FOR DESIGN DETAILS (AS REQUIRED) BEFORE CONSTRUCTION.

SN15 WHEN SURFACES FALL TOWARDS A BUILDING, INCLUDING LAND OUTSIDE OF THE SITE, GROUND SURFACE LEVELS ADJACENT TO THE BUILDING ARE TO BE RE-GRADED SUCH THAT THE FIRST METER HAS A MINIMUM 50MM FALL AWAY FROM THE BUILDING AS PER THE NATIONAL CONSTRUCTION CODE.

SN16 BALCONY DRAINAGE AND WATERPROOFING TO BE INSTALLED IN STRICT ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARD AND NATIONAL CONSTRUCTION CODE, DESIGN IS TO BE BY OTHERS.

DRAWING LEGEND

DP

e.DP

I.O.

RWO

PBO

EG1

OR

SW

SW

ILXX.XXX

RW

SW

e.SW

s.SW

w.RM

DN150 RW

DN150 SW

DN150 e.SW

DN150 s.SW

PAGE S??

DP-RW 100

INDICATES INDICATIVE EXTENT OF EXISTING DWELLING

INDICATES INDICATIVE EXTENT OF PROPOSED EXTENSION

INDICATES INDICATIVE EXTENT OF PROPOSED DRIVEWAY

INDICATES ON-SITE DETENTION TANK

INDICATES RAINWATER TANK

INDICATES ABSORPTION SYSTEM

INDICATES PROPOSED DOWNPIPE/RISER

INDICATES EXISTING DOWNPIPE/RISER

INDICATES INSPECTION OPENING WITH SCREW DOWN LID

INDICATES RAINWATER OUTLET

INDICATES PLANTER BOX OUTLET

INDICATES EAVE OPENING

INDICATES PIPE DROPPER

BOX GUTTER SUMP/RAINWATER HEAD SUMP

INDICATES EAVE TYPE AND DIRECTION

INDICATES DOWNPIPE SPREADER

INDICATES GRATED BOX DRAIN WITH OUTLET

INDICATES DRAINAGE PIT GRATED OPENING

INDICATES DRAINAGE PIT SEALED COVER

INDICATES STORMWATER PIPE INVERT LEVELS. UNLESS OTHERWISE NOTED PIT BASE IS TO EQUAL PIPE BASE

INDICATES DN100 RAINWATER PIPE.

INDICATES DN100 STORMWATER PIPE.

INDICATES EXISTING STORMWATER PIPE.

INDICATES DN100 SEWER GRADE CHARGED STORMWATER PIPE.

INDICATES INDICITIVE LOCATION OF RISING MAIN BY OTHERS.

INDICATES SIZE AND DIRECTION OF RAINWATER PIPE GREATER THAN DN100.

INDICATES SIZE AND DIRECTION OF STORMWATER PIPE GREATER THAN DN100.

INDICATES SIZE AND DIRECTION OF EXISTING STORMWATER PIPE GREATER THAN DN100.

INDICATES SIZE AND DIRECTION OF SEWER GRADE CHARGED STORMWATER PIPE.

INDICATES SITE BOUNDARY

INDICATES EASEMENT WITHIN SITE, REFER TO DETAILED SURVEY

INDICATES INDICATIVE ROOF OUTLINE

PIPE LINE CONTINUES TO REFERENCED PAGE

PENETRATION DIRECTION

SERVICE TYPE

SIZE

PENETRATION DIRECTION

SITE SUMMARY OF COUNCIL SPECIFICATION

1. COUNCIL: NORTHERN BEACHES COUNCIL

2. RELEVANT DOCUMENTS:

2.1. NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY (FEB 2021)

2.2. AS/NZS 3500.3

3. ENGINEERING COMMENTS:

• STORMWATER DISCHARGE

THE DEVELOPMENT IS LOW LYING AND PROPOSES CONNECTION AND DISCHARGE TO THE EXISTING STORMWATER SYSTEM. WE NOTE COUNCIL'S TRUNK DRAINAGE SYSTEM (DN450 PIPE) IS LOCATED ADJACENT TO THE SITE AND FREELY DISCHARGES TO AN EXISTING DRAINAGE CHANNEL THAT DRAINS THROUGH THE SITE (REFER TO PAGE S2 & S3). WE ALSO NOTE THAT THE EXISTING DRAINAGE EASEMENT WITHIN THE SITE IS BELIEVED TO NOT BE IN USE (TO BE VERIFIED PRIOR TO CONSTRUCTION).

• ON- SITE DETENTION (OSD)

THE DEVELOPMENT PROPOSES ALTERATIONS AND ADDITIONS AND AN INCREASE IN IMPERVIOUS AREA OF ≈50m<sup>2</sup> CONSEQUENTLY OSD IS NOT RECOMMENDED IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY (FEB 2021) CLAUSE 9.3.1

WE RECOMMEND THIS DESIGN AND A SAFE AND PRACTICAL SOLUTION TO SUPPORT THE DEVELOPMENT. THIS DRAWING SERIES HAS BEEN PREPARED IN GENERAL ACCORDANCE WITH THE ABOVE DOCUMENTS.

PAGE DIRECTORY

TITLE PAGE & NOTES

PAGE S1

MANAGEMENT OF STORMWATER PLAN - GROUND FLOOR 1

PAGE S2

MANAGEMENT OF STORMWATER PLAN - GROUND FLOOR 2

PAGE S3

MANAGEMENT OF STORMWATER PLAN - ROOF

PAGE S4

MANAGEMENT OF STORMWATER CALCULATIONS

PAGE S5

AMUNA CIVIL ENGINEERING

Revision Drawn Date Description Checked Approved North Architect

2 SSD 12.05.25 ISSUED FOR CLIENT REVIEW

1 SSD 18.12.24 ISSUED FOR CLIENT REVIEW

SC SSD

SC SSD

Client: BESSEY

ABN:31 658 411 299

PROPOSED ALT'S & ADD'S

No. 81 RIVERVIEW ROAD AVALON BEACH

TITLE PAGE & NOTES

Project No. ACE24089

Scale: A1 AS NOTED

Page No. S1

Revision 2

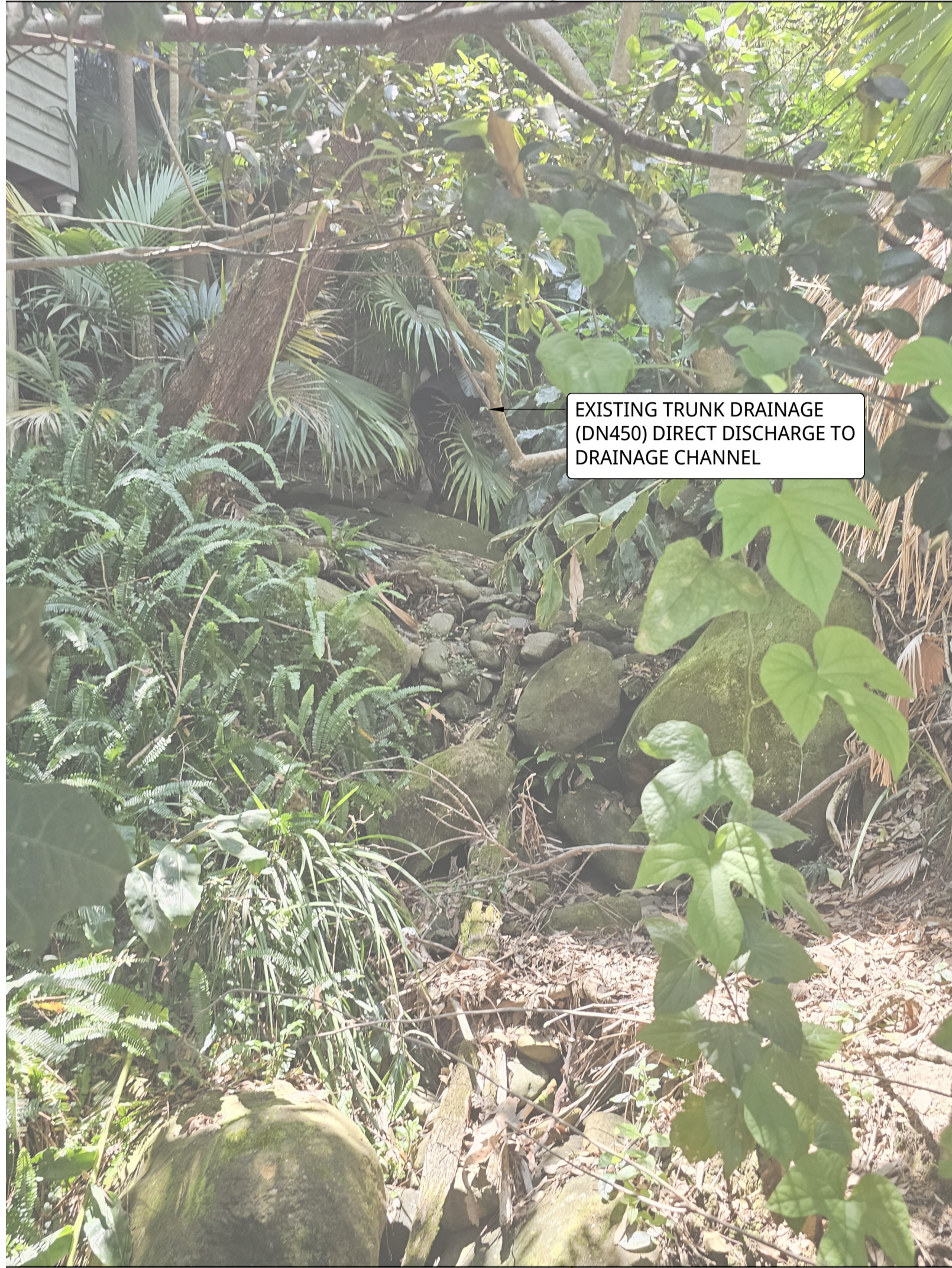


IMAGE 2 - EXISTING TRUNK DRAINAGE AND DRAINAGE CHANNEL

EXISTING TRUNK DRAINAGE (DN450) DIRECT DISCHARGE TO DRAINAGE CHANNEL

No. 23  
PARADISE  
AVENUE

TITLE INDICATES THAT LOT 22 IN D.P.18005 IS SUBJECT TO:

- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- C691991 COVENANT (NOT INVESTIGATED)
- (A) - C468453 EASEMENT FOR DRAINAGE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN VOL 4987 FOL 78
- (B) - C691991 RIGHT OF WAY APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE LAND SHOWN SO BURDENED IN VOL 4987 FOL 78

MANAGEMENT OF STORMWATER  
PLAN - GROUND FLOOR PAGE 1

SCALE - 1:50/A1, 1:100/A3

0 1m 2m 3m 4m 5m

DRAWING CONTINUES REFER PAGE S3

DRAWING CONTINUES REFER PAGE S2

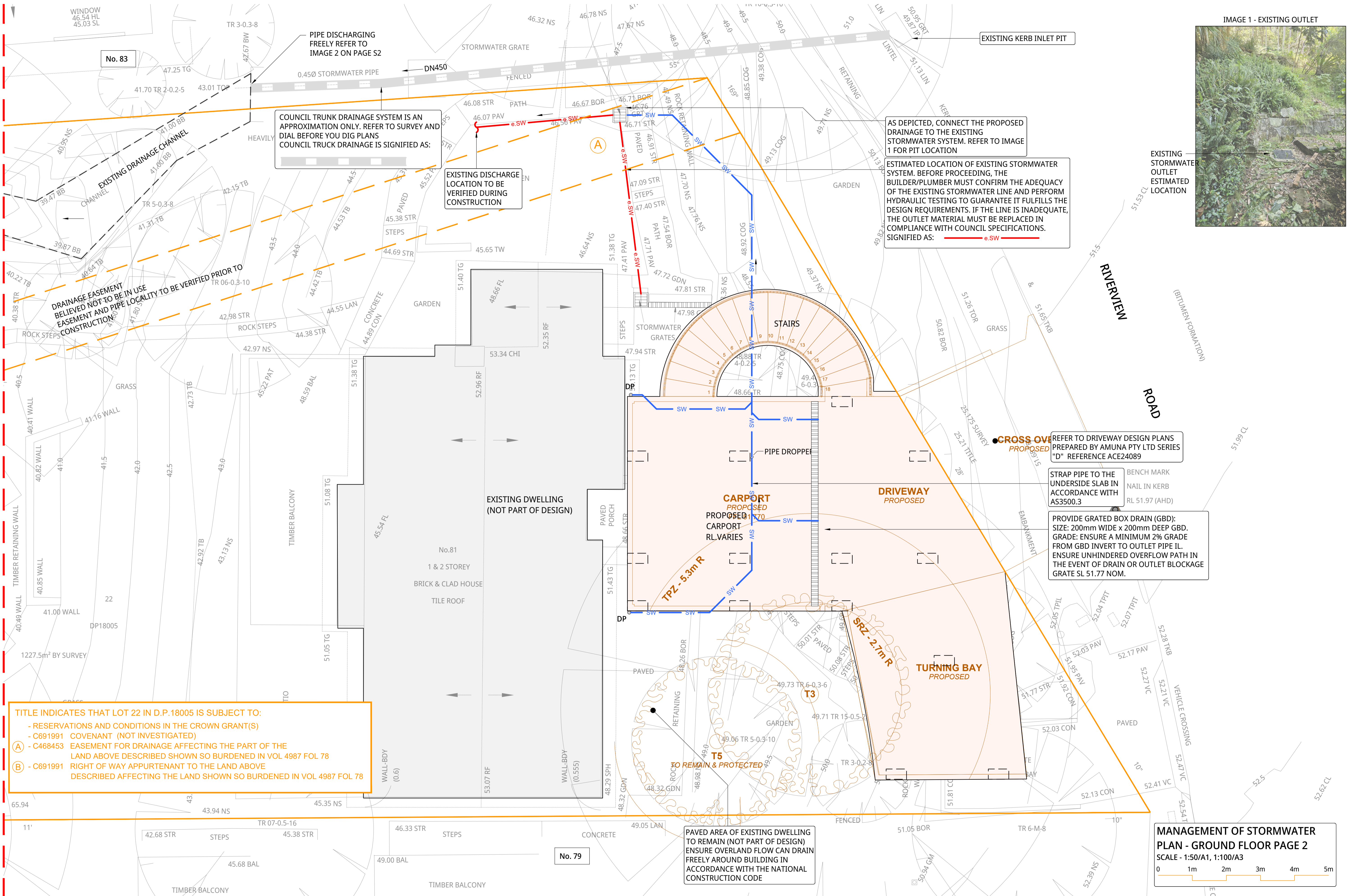


IMAGE 1 - EXISTING OUTLET



EXISTING STORMWATER OUTLET  
ESTIMATED LOCATION

EXISTING KERB INLET PIT

AS DEPICTED, CONNECT THE PROPOSED DRAINAGE TO THE EXISTING STORMWATER SYSTEM. REFER TO IMAGE 1 FOR PIT LOCATION

ESTIMATED LOCATION OF EXISTING STORMWATER SYSTEM. BEFORE PROCEEDING, THE BUILDER/PLUMBER MUST CONFIRM THE ADEQUACY OF THE EXISTING STORMWATER LINE AND PERFORM HYDRAULIC TESTING TO GUARANTEE IT FULFILLS THE DESIGN REQUIREMENTS. IF THE LINE IS INADEQUATE, THE OUTLET MATERIAL MUST BE REPLACED IN COMPLIANCE WITH COUNCIL SPECIFICATIONS. SIGNIFIED AS: **e.SW**

REFER TO DRIVEWAY DESIGN PLANS PREPARED BY AMUNA PTY LTD SERIES "D" REFERENCE ACE24089

STRAP PIPE TO THE UNDERSIDE SLAB IN ACCORDANCE WITH AS3500.3

BENCH MARK  
NAIL IN KERB  
RL 51.97 (AHD)

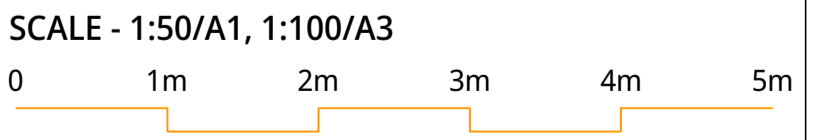
PROVIDE GRATED BOX DRAIN (GBD):  
SIZE: 200mm WIDE x 200mm DEEP GBD.  
GRADE: ENSURE A MINIMUM 2% GRADE FROM GBD INVERT TO OUTLET PIPE IL.  
ENSURE UNHINDERED OVERFLOW PATH IN THE EVENT OF DRAIN OR OUTLET BLOCKAGE  
GRATE SL 51.77 NOM.

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PAVED AREA OF EXISTING DWELLING TO REMAIN (NOT PART OF DESIGN)  
ENSURE OVERLAND FLOW CAN DRAIN FREELY AROUND BUILDING IN ACCORDANCE WITH THE NATIONAL CONSTRUCTION CODE

MANAGEMENT OF STORMWATER  
PLAN - GROUND FLOOR PAGE 2



ROOF LEGEND:

○

INDICATIVE EAVES GUTTER ORIFICE LOCATION

○

PIPE RISER

○

PIPE DROPPER

○

DOWNPIPE SPREADER

□

BOX GUTTER/RAINWATER HEAD SUMP LOCATIONS

RWO

RAINWATER OUTLET

HP

GUTTER HIGH POINT

→

DIRECTION OF FLOW

DP-RW

100

←

SERVICE TYPE

←

SIZE

←

DIRECTION OF FLOW

ROOF NOTES:

1.

ROOFER,PLUMBER, BUILDER, TO INSTALL EAVES GUTTERS TO MANUFACTURES SPECIFICATION AND ENSURE EAVE GUTTER OVERFLOWS MECHANISM ARE INSTALLED AS PER AS3500.3 AND NATIONAL CONSTRUCTION CODE.

2.

EAVES GUTTER TO BE DESIGNED TO ARCHITECTURAL SPECIFICATION PROVIDED IT COMPLIES WITH THE MINIMUM CSA REQUIREMENTS AND MANUFACTURES SPECIFICATIONS.

EG1:

CROSS SECTIONAL AREA (CSA) OF EAVES GUTTER TO BE A MINIMUM 6600mm<sup>2</sup>. EAVES STYLE TO BE SIMILAR TO EXISTING AND MUST MET THE ABOVE CSA REQUIREMENT.

e.EG

EXISTING EAVE GUTTER

e.DP

EXISTING DOWNPIPE

The diagram illustrates a roof plan with the following features:

- Existing Roof Area:** Shaded in light grey.
- Proposed Roof Area:** Shaded in light yellow.
- Drainage Connection:** A callout box indicates a connection between the existing house and the proposed suspended carport, to be confirmed at the construction stage.
- Downpipes:** Labeled as DP-SW 90, with arrows indicating the direction of flow.
- Eaves Gutter:** Labeled as EG1, with arrows indicating the direction of flow.
- Slope:** A 2° slope is indicated on the proposed roof area.
- Roof Notes:** A list of notes providing additional information about the roof design and construction requirements.

SIGNIFIES EXTENT OF EXISTING ROOF AREA (NOT PART OF DESIGN)

SIGNIFIES EXTENT OF PROPOSED ROOF AREA

MANAGEMENT OF STORMWATER  
PLAN - ROOF

SCALE - 1:50/A1, 1:100/A3

0

1m

2m

3m

4m

5m

AMUNA

CIVIL ENGINEERING

Revision	Drawn	Date	Description	Checked	Approved	North	Architect
2	SSD	12.05.25	ISSUED FOR CLIENT REVIEW	SC	SSD		Client: BESSEY
1	SSD	18.12.24	ISSUED FOR CLIENT REVIEW	SC	SSD		

Project

PROPOSED  
ALT'S & ADD'S

No. 81 RIVERVIEW ROAD  
AVALON BEACH

Drawing Title

MANAGEMENT OF STORMWATER  
PLAN - ROOF

Project No.  
ACE24089

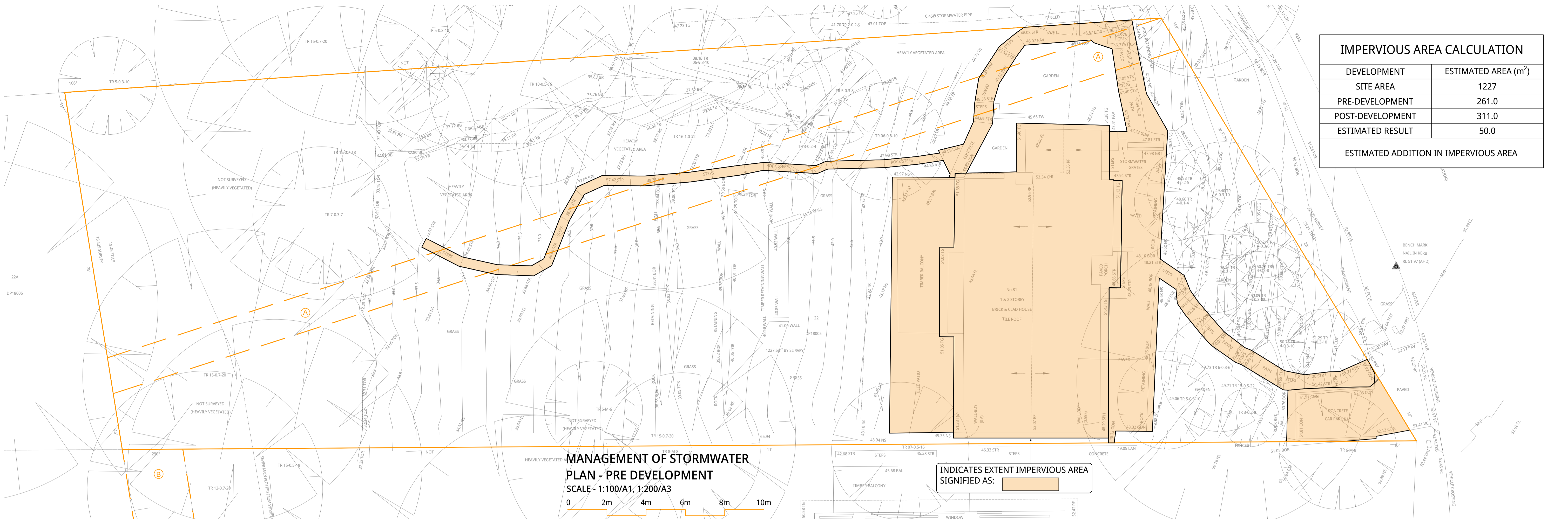
Scale: A1  
AS NOTED

Page No.  
S4

Revision  
2

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IMPERVIOUS AREA CALCULATION	
DEVELOPMENT	ESTIMATED AREA (m <sup>2</sup> )
SITE AREA	1227
PRE-DEVELOPMENT	261.0
POST-DEVELOPMENT	311.0
ESTIMATED RESULT	50.0
ESTIMATED ADDITION IN IMPERVIOUS AREA	

