

PIPEWORK

- STW STORMWATER
- SS SUBSOIL
- DP DOWNPIPE
- RD ROOF DRAINAGE
- EXISTING SERVICE
- EXISTING SERVICE TO BE DISCONNECTED AND REMOVED

PIPEWORK SYMBOLS

- R RISER
- D DROPPER
- COF CAPPED OFF
- HP HORIZONTAL PENETRATION
- DOF DIRECTION OF FLOW
- NC NEW CONNECTION
- C CONTINUATION
- MH MAN HOLE
- IO INSPECTION OPENING
- STWKIP STORMWATER KERB INLET PIT
- STWIP STORMWATER INLET PIT
- GRD GRATED DRAIN
- SO SAFETY OVERFLOW
- SP SPREADER
- RWO RAINWATER OUTLET
- BRWO BALCONY RAINWATER OUTLET
- PRWO PLANTER RAINWATER OUTLET
- SRWO SPOON DRAIN RAINWATER OUTLET

ABBREVIATIONS

- FFL FINISH FLOOR LEVEL
- IL INVERT LEVEL
- RL REDUCED LEVEL
- UPVC UNPLASTICIZED POLYVINYL CHLORIDE
- NTS NOT TO SCALE
- UNO UNLESS NOTED OTHERWISE
- SO SQUARE
- mm MILLIMETRES
- m METRES
- m² SQUARE METRES
- m³ CUBIC METRES
- /sec PER SECOND
- MIN MINIMUM
- MAX MAXIMUM
- APPR APPROXIMATELY
- DIA DIAMETER
- EX EXISTING
- AHD AUSTRALIAN HEIGHT DATUM

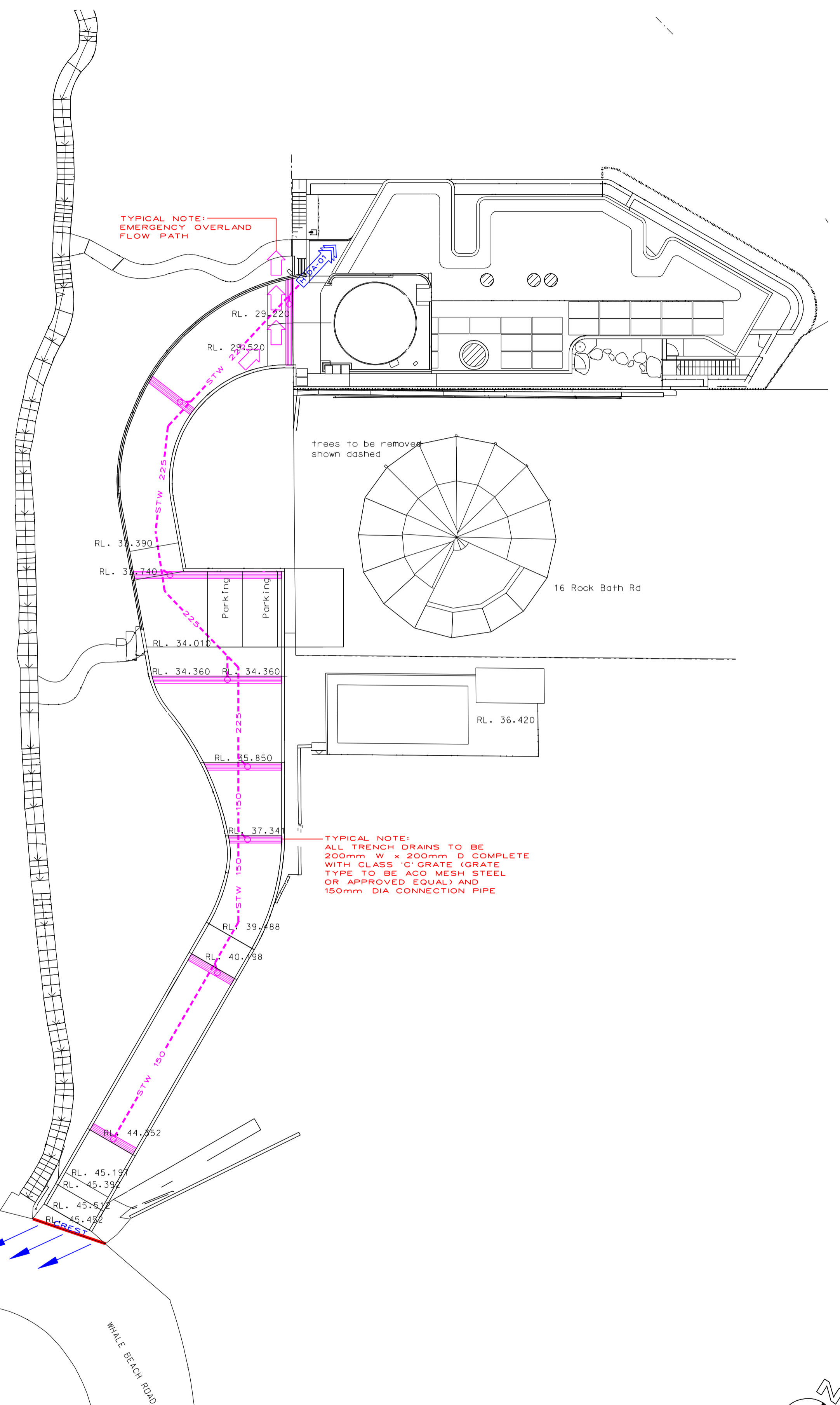
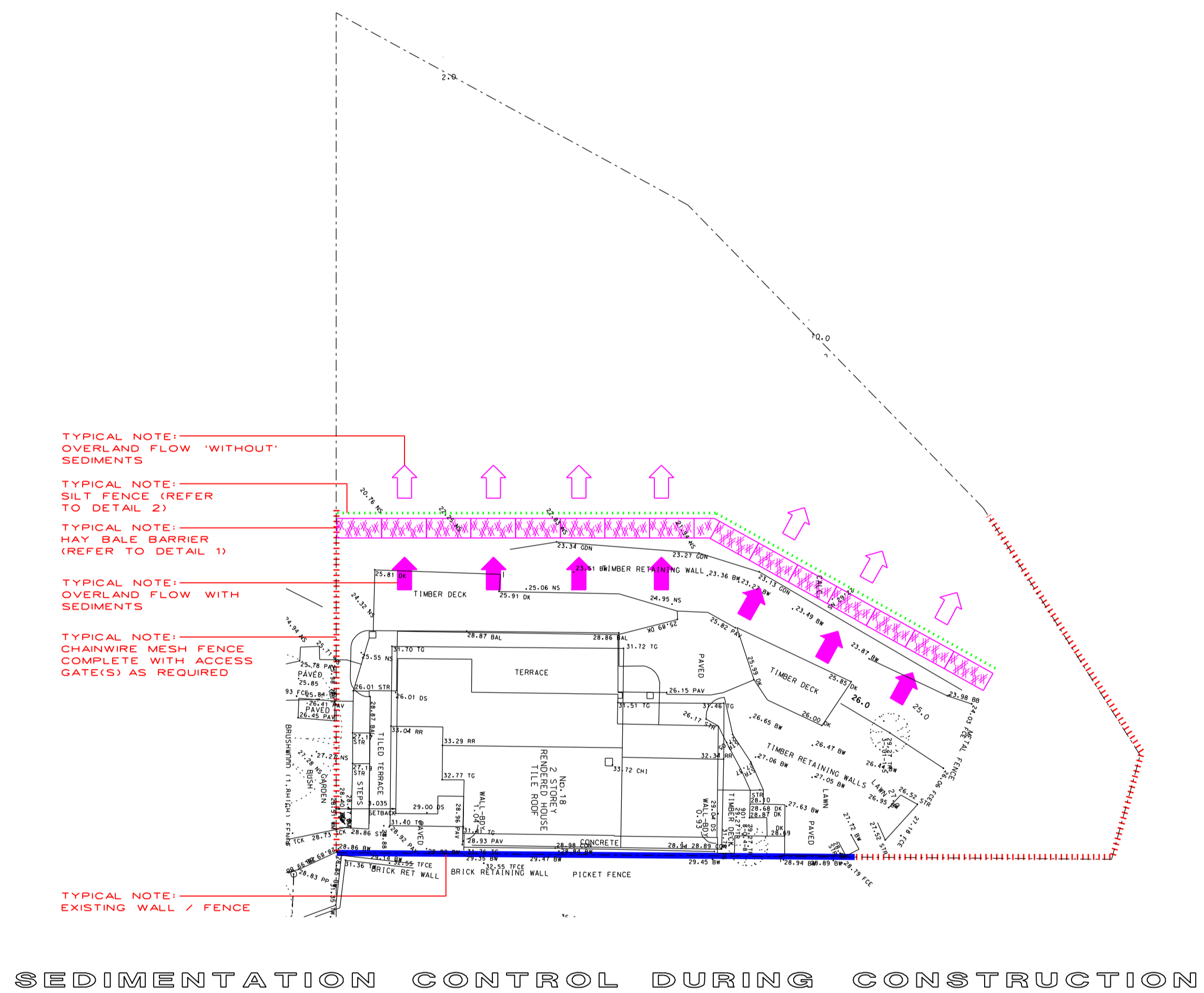
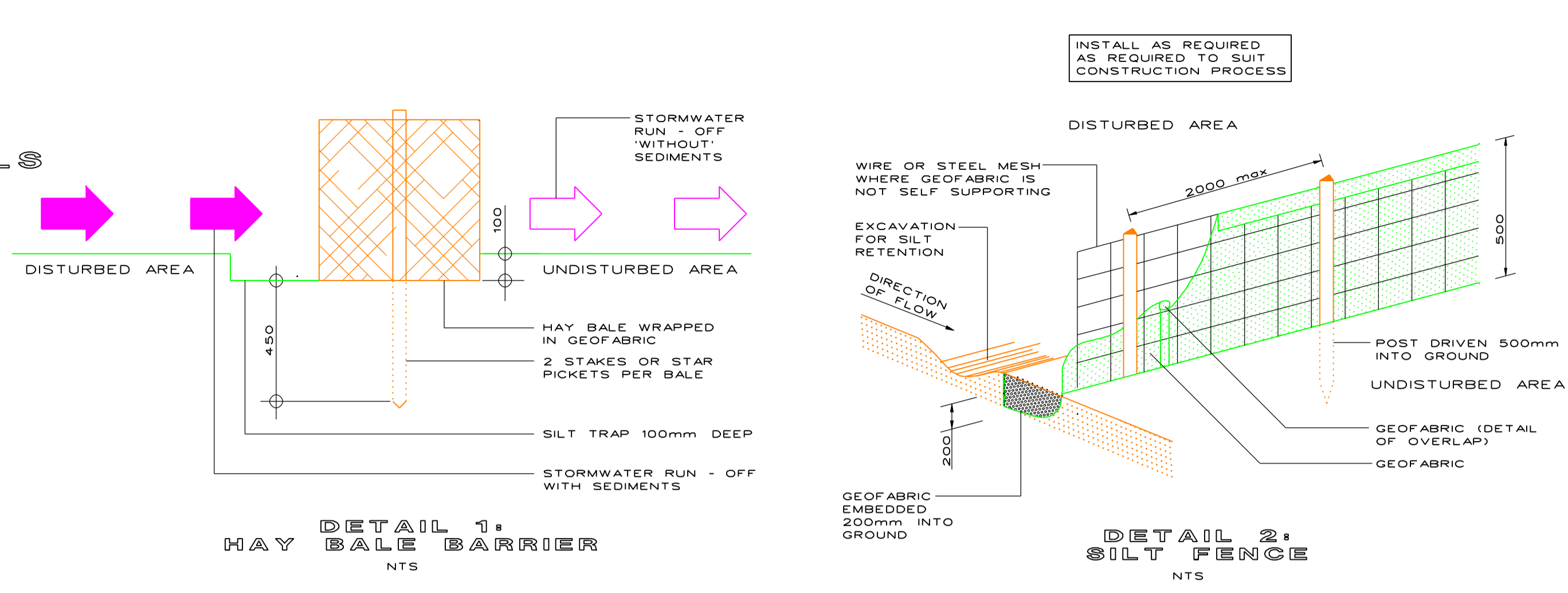
STORMWATER GENERAL NOTES
ALL IN ACCORDANCE WITH COUNCIL'S STORMWATER REQUIREMENTS

PIPEWORK DESIGN
ALL PIPEWORK IS SIZED AND DESIGNED TO HANDLE A 1:100 YEAR EVENT RAINFALL

PIPEWORK
ALL PIPEWORK TO BE 100mm @ 1% FALL (UNO)

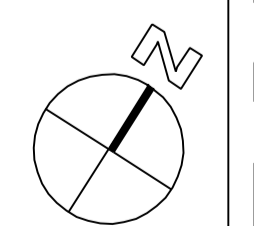
STORMWATER PIT SIZES

DEPTH TO BASE OF CHAMBER	RECTANGULAR		CIRCULAR	LADDER / STEP IRON
	WIDTH	LENGTH		
SMALLER THAN 500	450	450	600	NO
601 TO 900	600	600	900	NO
901 TO 1200	600	900	1050	NO
GREATER THAN 1200	900	900	1050	YES



SITE - STORMWATER DRAINAGE

APPROVAL

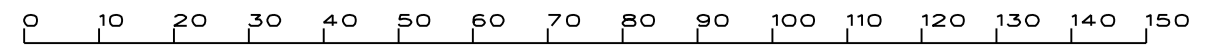


REV	DESCRIPTION	DATE
B	RE - ISSUED FOR DA	23.06.23
A	ISSUED FOR DA	14.06.23
REV	DESCRIPTION	DATE

CLIENTS	ARCHITECT	PROJECT	DRAWING TITLE
DREW & BRIDGET HALL	RICHARD COLE ARCHITECTURE	18 ROCK BATH ROAD PALM BEACH	LEGEND, SED. CONTROL & SITE STORMWATER

itmdesign
consulting hydraulic engineers
unit 6 / 3 apollo st, warriewood nsw 2102
po box 1438 mono vale nsw 1660
tel (02) 9997 1566 fax (02) 9997 3266
email: markus@itmdesign.com.au

SCALE	JOB No	
1:200 @ A1 / 1:400 @ A3	22/187	
DISCIPLINE	DRAWING No	REVISION
HYD	H-DA-00	



S T W D A D R A W I N G

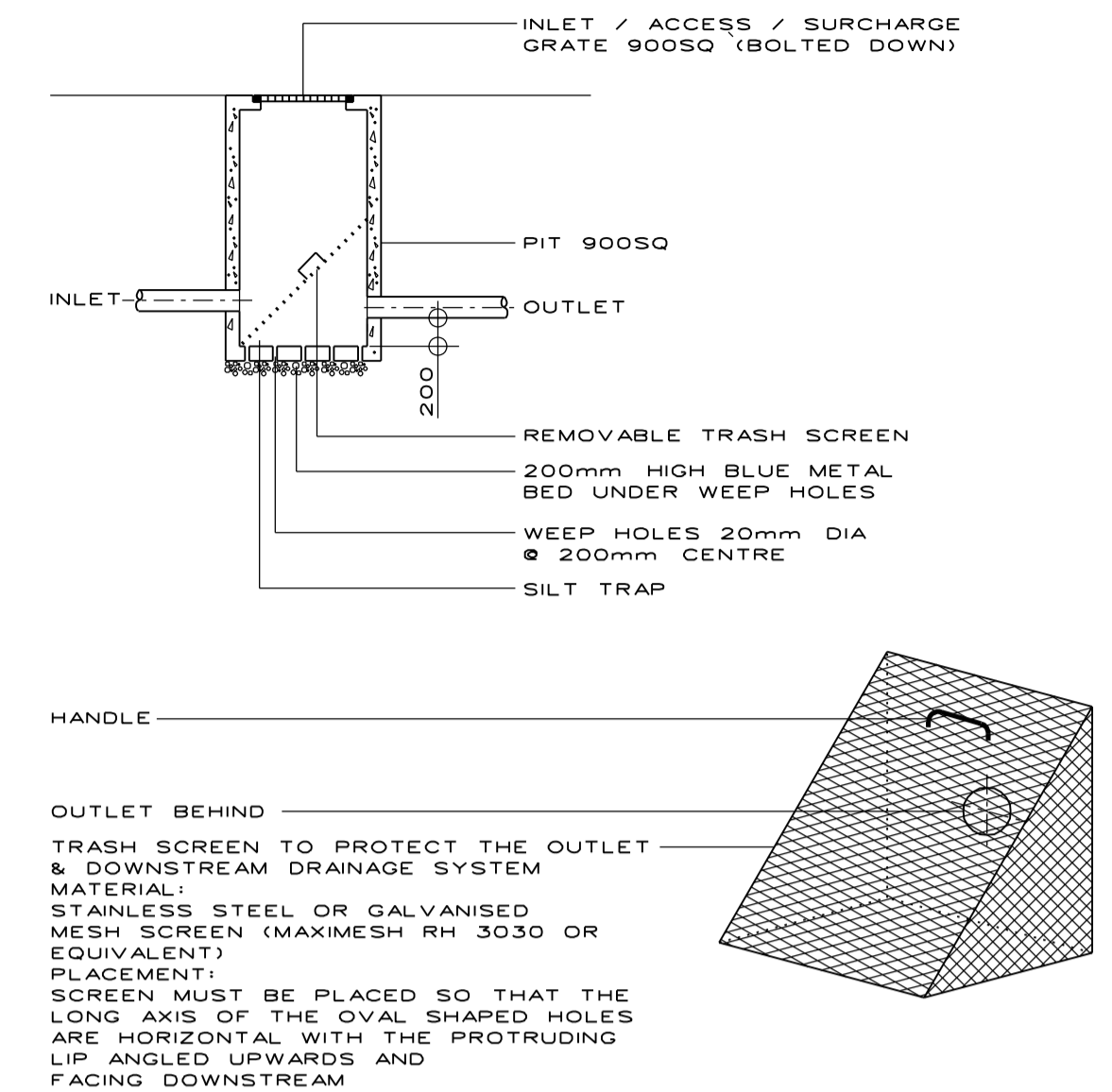
**STORMWATER DA
DRAWING ONLY**

- NOT FOR CONSTRUCTION
- FINAL LOCATION OF ALL DOWNPIPES, PITS, RAINWATER OUTLETS AND SUBSOIL PIPES TO BE CONFIRMED DURING CONSTRUCTION CERTIFICATE STAGE OF THE PROPOSED DEVELOPMENT

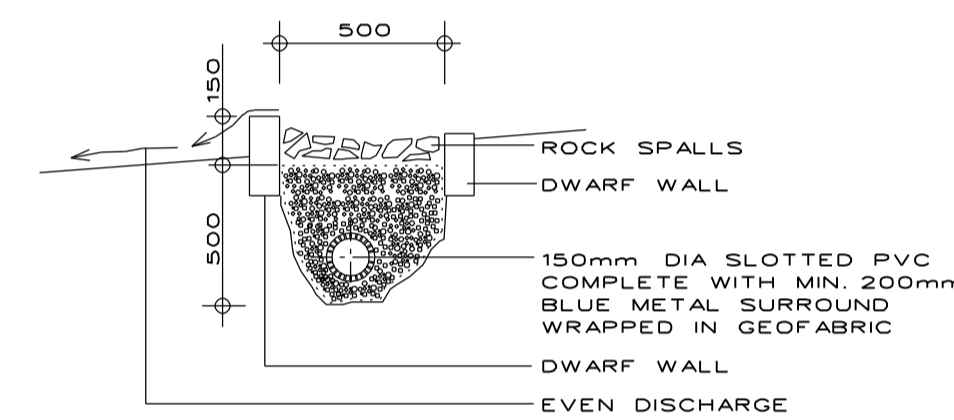
LANDSCAPING DRAINAGE

ALL LANDSCAPED AREAS LOCATED ABOVE CONCRETE SLABS TO BE EQUIPPED WITH WATERPROOFING MEMBRANE, DRAINAGE CELL AND GEOFABRIC

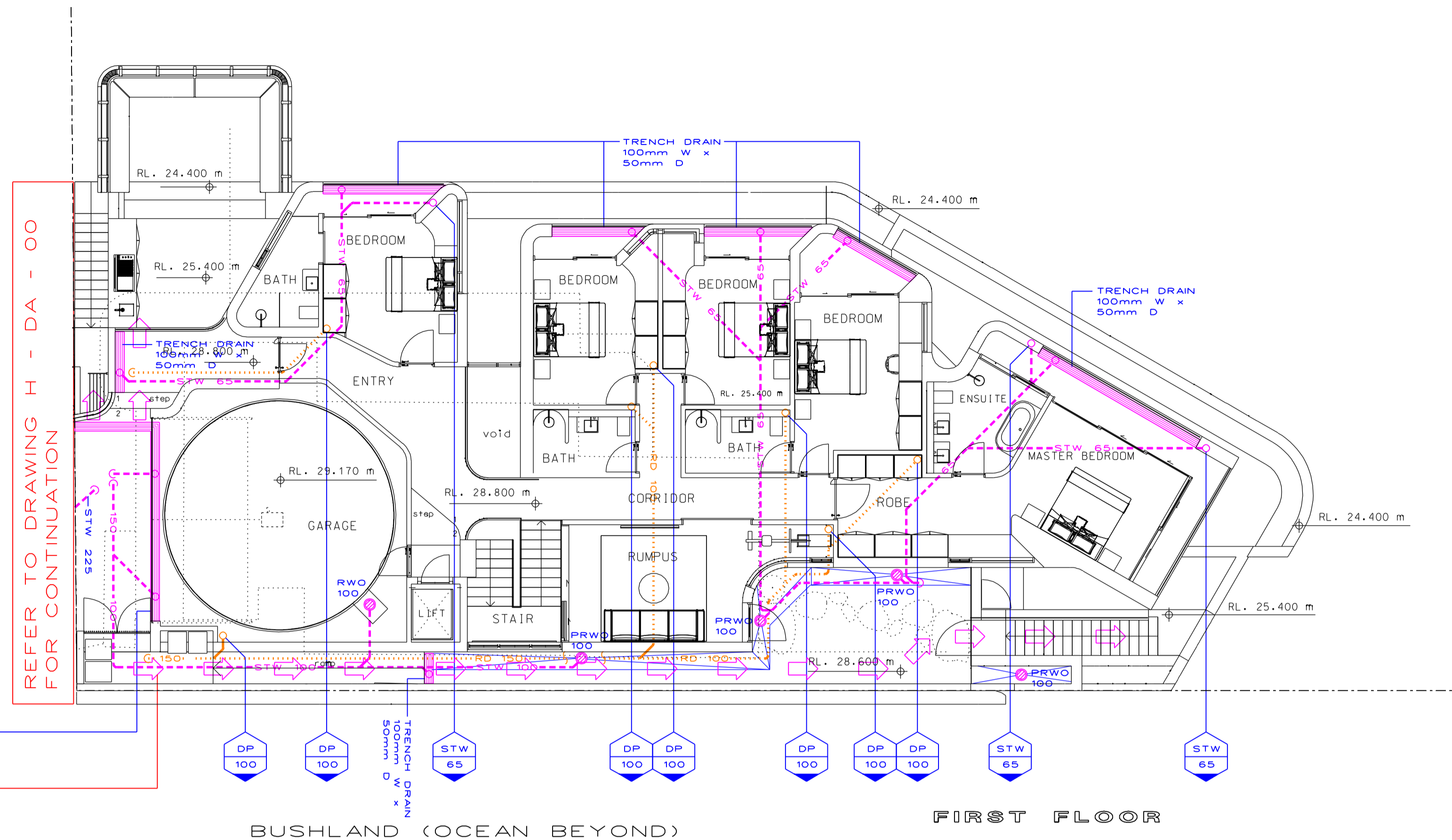
NOTES
FOR GENERAL NOTES AND LEGEND REFER TO DRAWING H - DA - 00



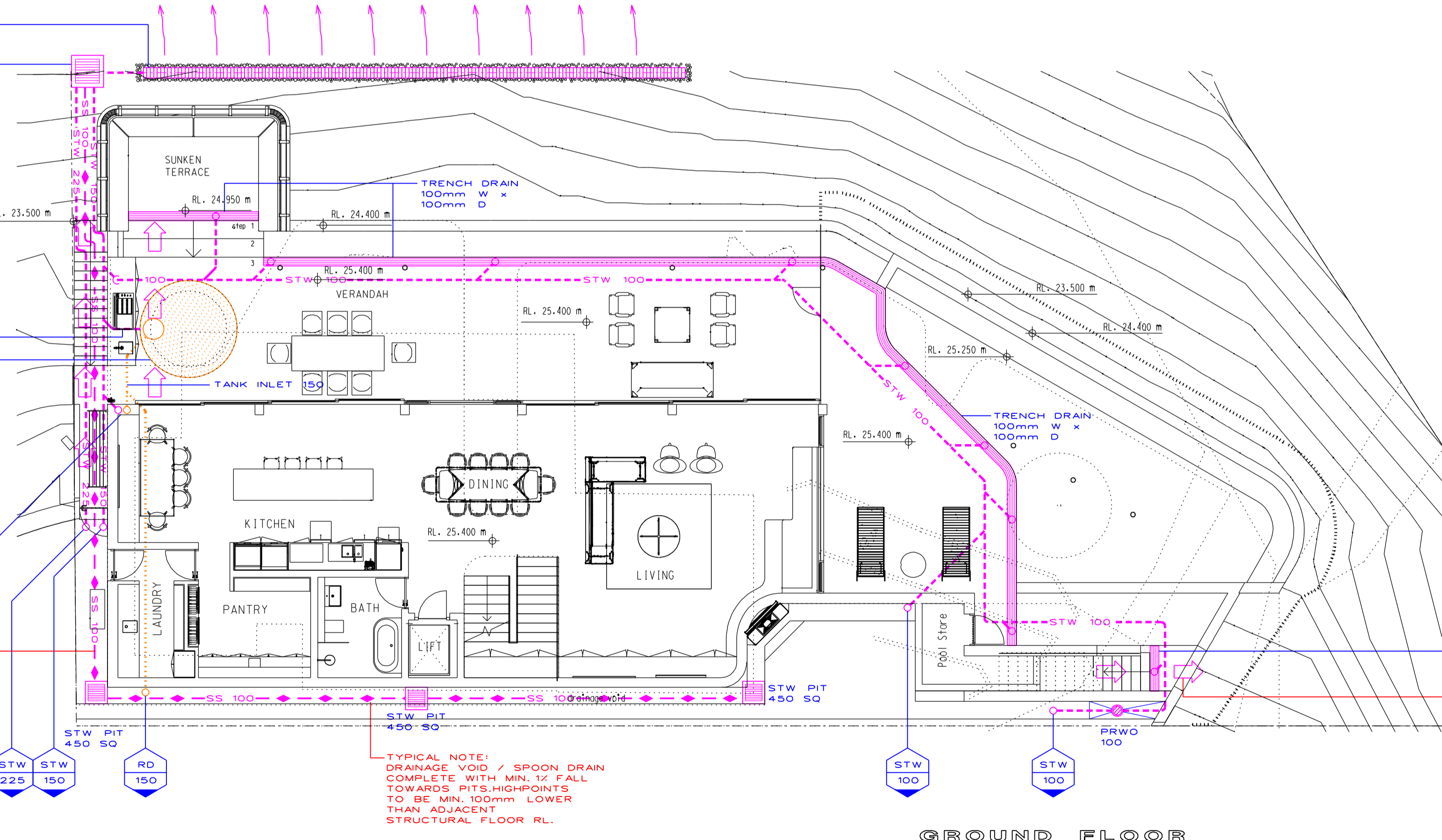
**DETAIL 1:
SILT ARRESTOR PIT
& TRASH SCREEN**
NTS



**DETAIL 2:
STORMWATER
DISPERSMENT
TRENCH**
NTS



FIRST FLOOR



GROUND FLOOR

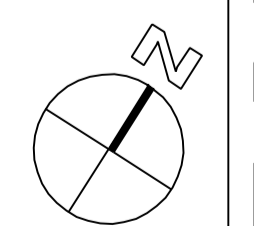
TRENCH DRAIN 200mm W x 200mm D COMPLETE WITH CLASS 'C' GRATE (GRATE TYPE TO BE ACO MESH STEEL OR APPROVED EQUAL)
TYPICAL NOTE - EMERGENCY OVERLAND FLOW PATH

DISPERSMENT SYSTEM (REFER TO DETAIL 2)
900SQ SILT ARRESTOR PIT COMPLETE WITH:
- TRASH SCREEN
- SILT TRAP (REFER TO DETAIL 1)

HIGH LEVEL TANK OVERFLOW 150
RAINWATER COLLECTION TANK BELOW COMPLETE WITH:
- FIRST FLUSH SYSTEM
- ACCESS LID
- SWITCH OVER SYSTEM
- RE - USE PUMP AND CONTROLS
- BACKWASH FILTER
MIN. TOTAL CAPACITY: 4000 ltrs (IN ACCORDANCE WITH THE BASIX REPORT)
SUGGESTED: GRAF LT Lilo 5 000 ltrs (OR APPROVED EQUAL)
2.89m L x 2.3m W x 1.32m H
www.osctanks.com.au

TYPICAL NOTE:
ALL SUBSOIL DRAINAGE PIPES TO BE 100mm DIA COMPLETE WITH 200mm BLUE METAL SURROUND WRAPPED IN GEOFABRIC USE PVC PIPES WITH TOP HALF SLOTTED AND NOT COILS. FINAL LOCATION AND EXTENT TO BE CO - ORDINATED WITH:
- STRUCTURAL ENGINEER
- GEOTECHNICAL ENGINEER
- LANDSCAPING CONSULTANT / CONTRACTOR
- SOIL CONDITIONS

APPROVAL



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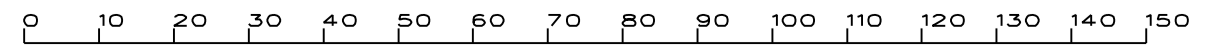
ARCHITECT
RICHARD COLE
ARCHITECTURE

PROJECT
18 ROCK BATH
ROAD
PALM BEACH

DRAWING TITLE
GROUND FLOOR &
FIRST FLOOR
STORMWATER

SCALE	JOB No
1:100 @ A1 / 1:200 @ A3	22/187
DISCIPLINE	DRAWING No
HYD	H-DA-01
	REVISION

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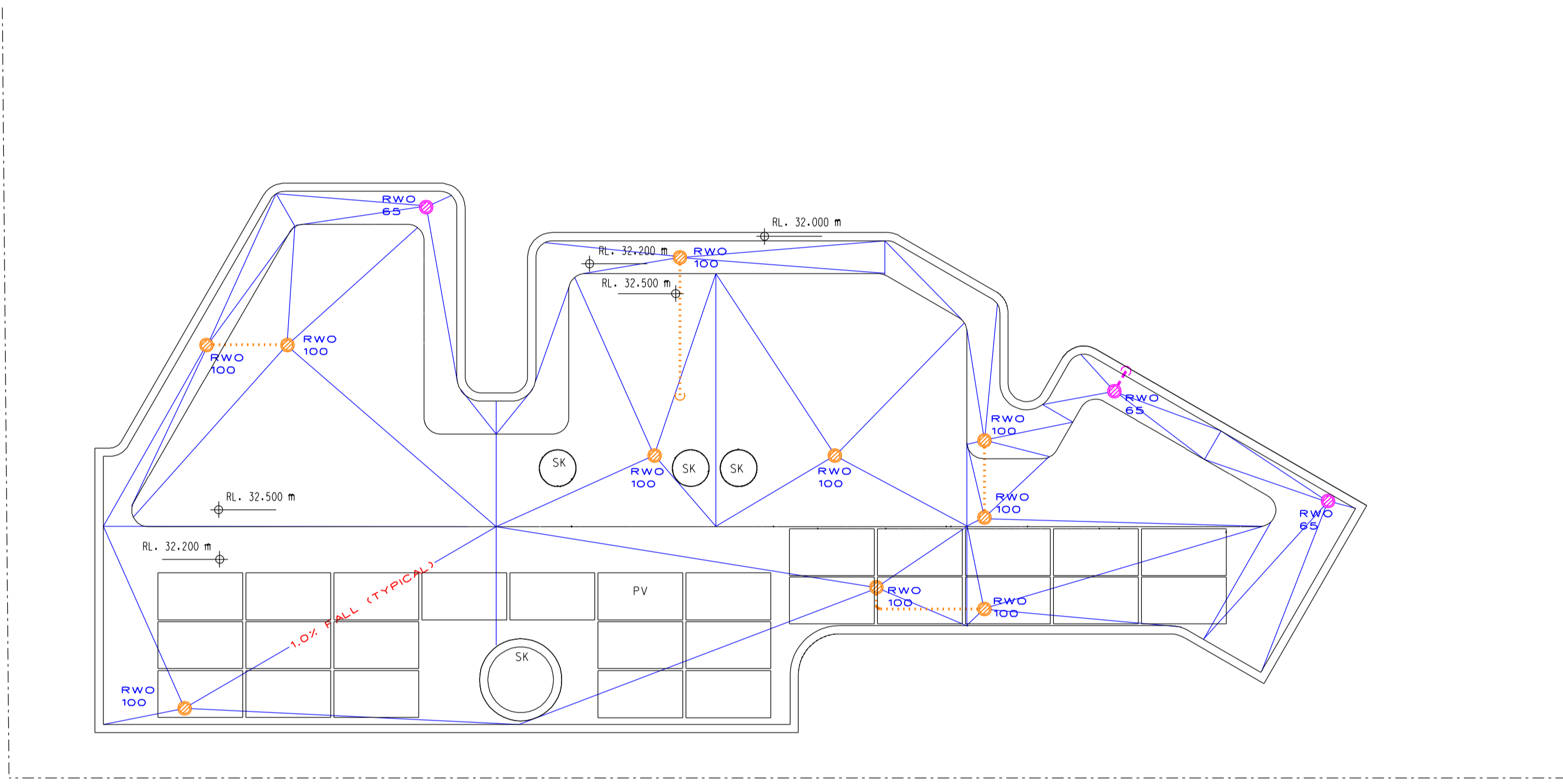


STW DA DRA WING

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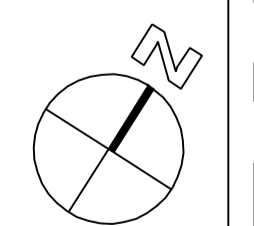
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NOTES
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STW DA DRAWING

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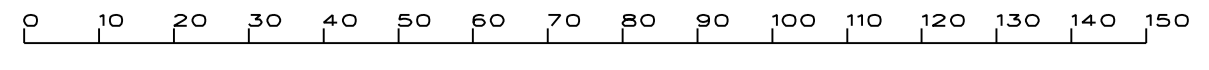
ARCHITECT
 RICHARD COLE
 ARCHITECTURE

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 consulting hydraulic engineers
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PROJECT
 18 ROCK BATH
 ROAD
 PALM BEACH

DRAWING TITLE
 ROOF
 STORMWATER

SCALE 1:100 @ A1 / 1:200 @ A3	JOB No 22/187
DISCIPLINE HYD	DRAWING No H-DA-02
	REVISION B



Appendix 16 – On-site Detention Checklist

This checklist is to be used to determine the on-site stormwater disposal requirement for developments and must be completed and included with the submission of any development application for these works. Please read this form carefully for its notes, guidelines, definition and relevant policies.

For assistance and support, please contact Council’s Development Engineering and Certification team on 1300 434 434.

Part 1 Location of the Property			
House Number	18	Legal Property Description	
Street	Rock Bath Road	Lot	292
Suburb	Palm Beach	Section	
Postcode	2108	DP	16362

Part 2 Site Details			
Northern Beaches Stormwater Regions (refer to Map 2 of Northern Beaches Council’s Water Management for Development policy)		Total Site Area Region 1	1147.5m ²
Pre-Development Impervious Area		Post-Development Impervious Area	
Is the site of the development located within an established Flood Prone Land as referred to Council’s Local Environmental Plans? If yes, On-site stormwater Detention system (OSD) is not required and please proceed to part 5 of this checklist If no, please proceed to part 3 of this checklist.			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Part 3: Northern Beaches Stormwater Regions (refer to Map 2 of Northern Beaches Council’s Water Management for Development policy)
If the site of the development located within Region 1, please proceed to the part 4.1 of this checklist
If the site of the development located within Region 2, please proceed to the part 4.2 of this checklist
If the site of the development located within Region 3, please proceed to the part 4.3 of this checklist
If the site of the development located within Region 4, please refer to Council’s Warriewood Valley Water Management Specification.

Part 4 Determination of OSD Requirements	The subject property is located adjacent to the Ocean. Proposed method of discharge: Via dispersment system at the back of the property
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Part 4.1 Northern Beaches Stormwater Region 1	
Is the additional impervious area of the development more than 50 m ² on a cumulative basis since February 1996?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, OSD is required and please refer to section 9.3.1 of Council's Water Management for Development Policy If no, OSD is not required and please proceed to the part 5 of this checklist	

Part 4.2 Northern Beaches Stormwater Region 2	
Part 4.2.1 Description of Work	
Residential flat building, commercial, industrial, multiple occupancy development and subdivisions resulting in the creation of three lots or more, will require OSD in all case. Please provide a design in accordance with the section 9.3.2 of Council's Water Management for Development Policy. Any single residential building development, please proceed to part 4.2.2 of this checklist.	
Part 4.2.2 Exemption	
Is the site area less than 450m ² ?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the site of the development drain directly to the ocean without the need to pass through a drainage control structure such as pipe, bridge, culvert, kerb and gutter or natural drainage system?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is it an alternation and addition development to the existing dwellings?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes to any of the above questions, OSD is not required. If no to all the above questions, proceed to part 4.2.3	
Part 4.2.3 Determination of OSD Requirements	
Calculation	a) Site area m ² x 0.40 (40%) = m ² b) Post- development impervious area = m ² OSD will not be required when (a) is greater than (b) Is OSD required for this development (tick one only) Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, provide a design in accordance with the section 9.3.2 of Council's Water Management for Development Policy. If no, OSD is not required and please proceed to part 5 of this checklist.

Part 4.3 Northern Beaches Stormwater Region 3	
Part 4.3.1 Stormwater Zone	
In the region, the method of stormwater control to be applied shall depend on the location of the site. Please refer to Map 3 of Northern Beaches Council's Water Management for Development policy.	
If the site of the development located within stormwater zone 1, please proceed to the part 4.3.2 of this checklist	
If the site of the development located within stormwater zone 2, please provide a design in accordance with the section 9.3.3.3 of Council's Water Management for Development Policy.	
If the site of the development located within stormwater zone 3, please provide a design in accordance with the section 9.3.3.4 of Council's Water Management for Development Policy.	
If the site of the development located within stormwater zone 4, please provide a design in accordance with the section 9.3.3.5 of Council's Water Management for Development Policy.	
Part 4.3.2 Determination of OSD requirements in Stormwater Zone 1	
Part 4.3.2.1 For A New Building	
1) Exemption	<p>a) Is the site area less than 400? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>b) Is the post-development impervious area less than 190 m²? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If yes to both questions, OSD is not required. If no to any of the above questions, please process to calculation</p>
2) Calculation	<p>a) Site area _____ m² x 0.35 = _____ m² + 50 = _____ m²</p> <p>b) Post- development impervious area _____ m²</p> <p>OSD will not be required when (b) is less than 250 m² and (a) is greater than (b) Is OSD required for this development? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>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.</p>
Part 4.3.2.2 For Alterations and Additions	
If the current impervious area of the site is more than 60% of the site area, OSD will be required. Alternatively, please proceed to the next calculation section.	
1) Calculation	<p>Is the post development impervious area increased by less than 50 m²? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is the post development impervious area less than 60% of the site area? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If yes to both questions, OSD is not required. If no to any of the above questions, provide a design in accordance with section 9.3.3.2 of Council's Water Management for Development Policy</p>

Part 5 Disposal of Stormwater

Does the site fall naturally towards the street? Yes No

If yes, provide a design in accordance with section 5.1 of Council's Water Management for Development Policy.

If no, provide a design in accordance with section 5.5 of Council's Water Management for Development Policy.

Definitions

Designed to help you fill out this application

Site area: This refers to the area of the land bounded by its existing or proposed boundaries.

Impervious area: This refers to driveways, parking spaces, pathways, paved areas, hardstand areas, roofed areas, garages and outbuildings.

Pre Development Impervious area: This refers all impervious areas of the site before the development.

Post Development Impervious areas: This refers all the impervious areas within the site after the development is completed.