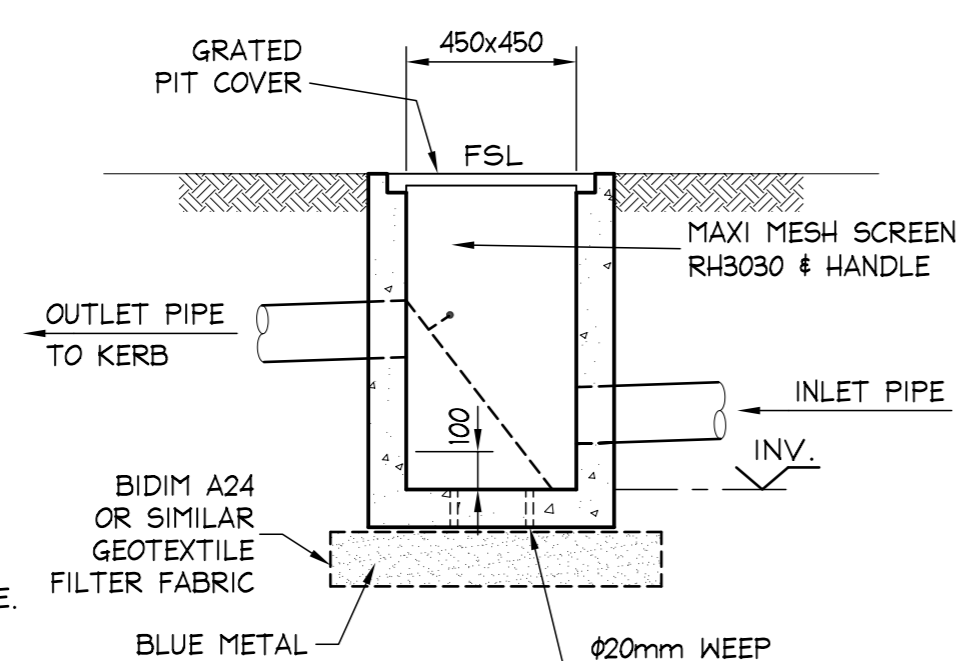


**CONCEPT STORMWATER MANAGEMENT PLAN**

SCALE = 1 : 100

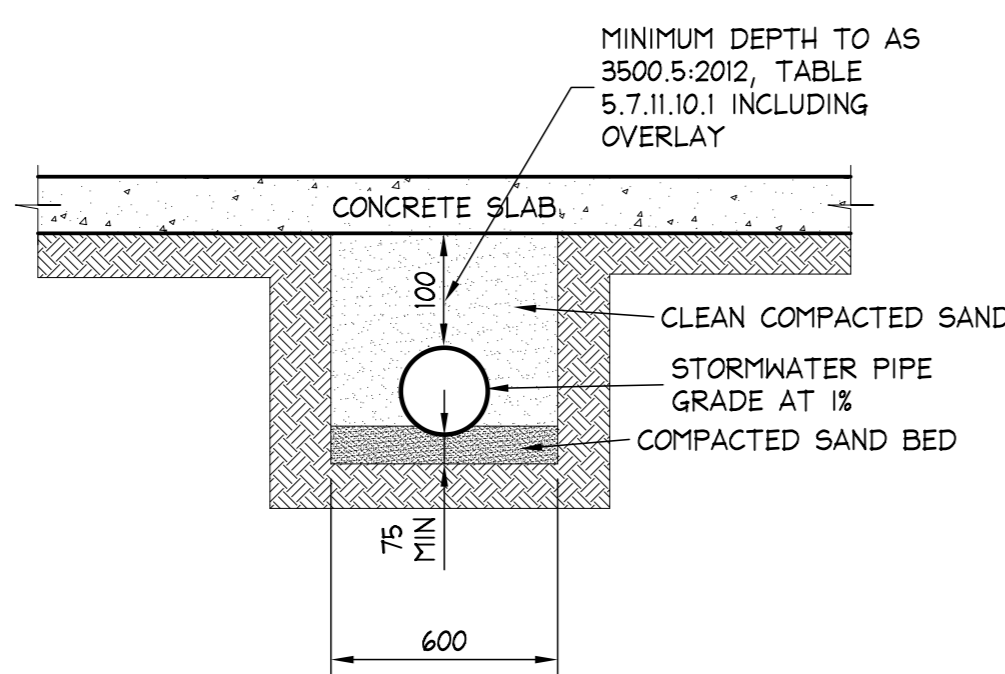
LEVELS TAKEN FROM SURVEY BY ALTITUDE SURVEYS P/L, REF:24020, DATED 27-03-2024  
ALL DRAINAGE LOCATIONS ARE INDICATIVE ONLY. LOCATION MAY VARY TO SUIT SITE CONSTRAINTS.

KEY:  
DP - DOWNPIPE  
SP - SPREADER DOWNPIPE  
DP/RWH - DOWNPIPE RAINWATER HEAD  
SPT - SPITTER OVERFLOW



PRECAST OR HDPE PIT REFER STORMWATER NOTES  
**450x450 BOUNDARY PIT DETAIL**

SCALE = 1 : 20



**TYPICAL TRENCHING DETAIL**

SCALE = 1 : 20

**STORMWATER NOTES:**

- ALL PIPES TO BE 100mm Ø SEWER GRADE uPVC UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE LAID AT 1% MINIMUM GRADE UNLESS NOTED OTHERWISE.
- ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.  
( NO COMPACTION REQUIRED BELOW LANDSCAPING )  
COVER TO SURFACE FROM TOP OF PIPE TO BE AS PER AS3500. BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT WITH WORK.
- PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- ALL PITS TO BE PRECAST, PREFORMED OR HDPE, IN ACCORDANCE WITH LOCAL COUNCIL SPECIFICATIONS.
- ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- ALL LEVELS SHOWN ARE TO AHD
- ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
- ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2015 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE. AND ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2012 NATIONAL PLUMBING DRAINAGE CODE PART 5 - HOUSING INSTALLATIONS.

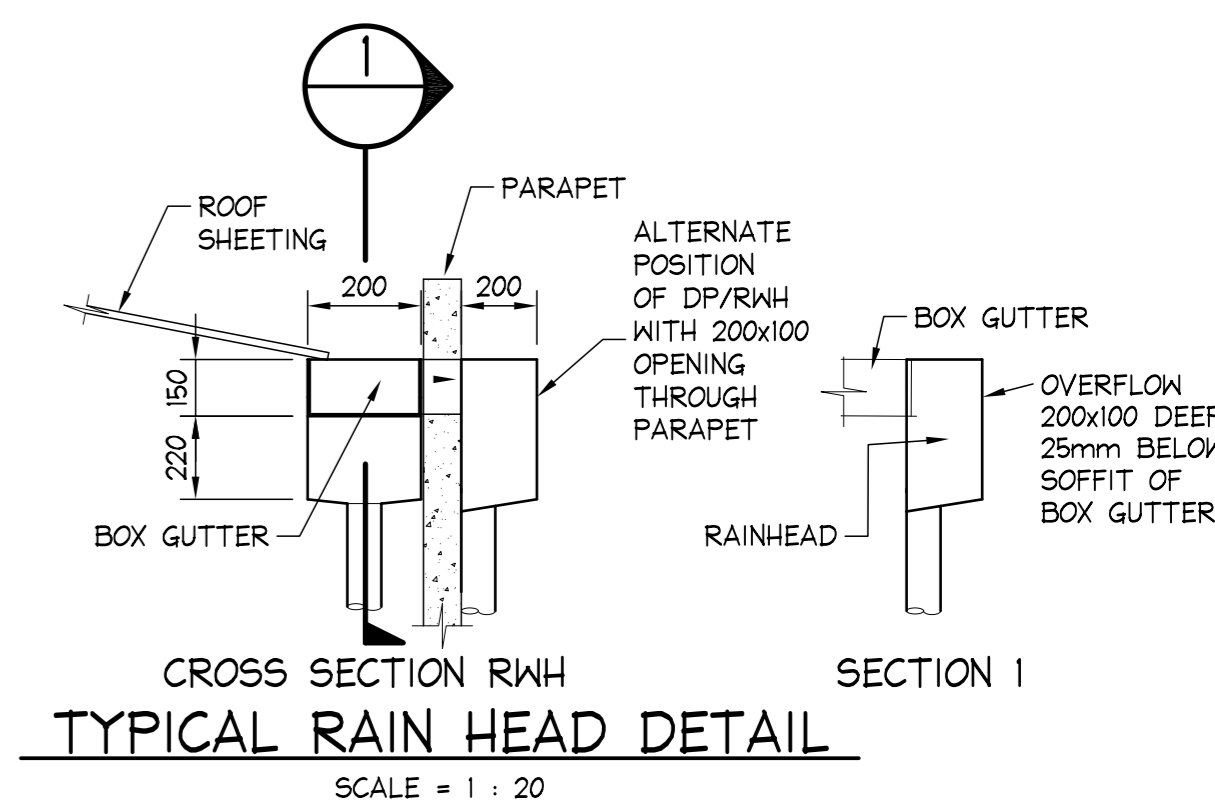
**DRAINAGE DISPOSAL - SUMMARY NOTES  
NORTHERN BEACHES COUNCIL**

STORMWATER CONTROL ZONE	ZONE 1
RESIDENTIAL DENSITY SUB-ZONE	ZONE 3
TOTAL SITE AREA	223.2 m <sup>2</sup>
PRE DEVELOPMENT IMPERVIOUS AREA	152.8 m <sup>2</sup> 68.5%
POST DEVELOPMENT IMPERVIOUS AREA	154.2 m <sup>2</sup> 70.0%
INCREASE IN IMPERVIOUS AREA	1.4 m <sup>2</sup>

IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL "WATER MANAGEMENT FOR DEVELOPMENT POLICY" 2021.

PROPERTY IS IN REGION 3 - SECTION 9.3.3.2 & SECTION 5.1 APPLIES.

THE SITE IS VIRTUALLY FLAT. WE PROPOSE TO MAKE THE SITE FALL TOWARDS THE STREET BY REMOVING/FILLING THE LOW POINT IN THE REAR YARD AND PROVIDING PERMEABLE PAVING. ALL ROOF WATER WILL BE CONVEYED TO THE STREET. THE DRIVEWAY & FRONT SETBACK AREA PRESENTLY FLOWS TO THE STREET. OSD IS NOT REQUIRED AS PER SECTION 9.3.3.2 AS THE SITE IS IN A FLOOD ZONE, FROM MANLY LAGOON. REFER TO COUNCIL'S FLOOD HAZARD MAP.



CROSS SECTION RWH SECTION I  
**TYPICAL RAIN HEAD DETAIL**

SCALE = 1 : 20

Gutter Calculations -20 yr ARI Storm							
Northern Beaches Council							
Alterations & Additions at							
12 Pacific Parade Manly							
to AS 3500 - 2015.3-2021 & AS 3500.5 - 2012 & NCC 2022							
	Horizontal	Slope	Area A <sub>c</sub>	Gutter	From	Downpipe	
Eaves	Area A <sub>n</sub>	Factor		Slope	from	From	
Gutters		From		steeper	Appendix 12	gutter	
		Fig 5.6.3.2		than	Page 79	area reqd	
	m <sup>2</sup>		m <sup>2</sup>	1 in	mm/hr	mm	
				500	207	6000	
				207	207	5800	
				500	207	5800	
				207	207	5800	
				200	207	NA	
	total					100x50 or 90 dia	
	113.6					100x50 or 90 dia	
Eaves Gutters - 115mm Quad -Area						6000	mm

**GUTTER CALCULATIONS**

**NOTES:**

- ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
- FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.



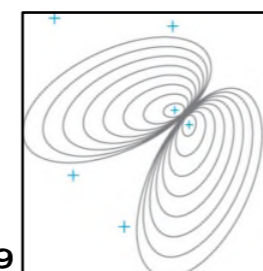
**DOCUMENT CERTIFICATION**

Date : DECEMBER 2024  
Bruce Lewis  
(Principal : Peninsula Consulting Engineers)  
BE(Civil), CPEng, MIEAust., NPER  
Institute of Engineers Membership No. 879131

10-12-2024	A	FOR COUNCIL SUBMISSION
21-11-2024	PI	DRAFT
Date:	Rev:	Amendment:

**Peninsula Consulting Engineers**

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Project:

**PROPOSED WORKS**  
at: 12 PACIFIC PARADE,  
MANLY  
for: CALCAGNO & BURRIDGE

Drawing Title:

**STORMWATER MANAGEMENT PLAN & DETAILS**

Job No:

**24-0921**

Drawing No:

**H01**

Rev:

**A**