

DOCUMENT REGISTER / TRANSMITTAL

JOB No.:	2025H0041
PROJECT NAME:	44 BOWER ST MANLY
DISCIPLINE:	Stormwater
DOCUMENT No.:	DT 002
SHEET No.: 1 of	1

[illegible][illegible][illegible]



Alterations and Additions

44 Bower Street

Manly, NSW 2095

Wes + Emma Maas

DRAWING LIST	
No.	TITLE
SWDA 1.1	COVER SHEET & DRAWINGS LIST
SWDA 1.2	STORMWATER MANAGEMENT PLAN & GENERAL NOTES
SWDA 1.3	EROSION & SEDIMENT CONTROL PLAN AND DETAILS
SWDA 1.4	EXISTING & PROPOSED SITE PLAN AND IMPERVIOUS AREAS
SWDA 1.5	BASEMENT AND GROUND FLOOR LAYOUTS
SWDA 1.6	FIRST FLOOR AND ROOF LAYOUTS
SWDA 1.7	DETAILS SHEET

ISSUED FOR DA		F.Y.	A.H.	08.05.25
P1	PRELIMINARY ISSUE	F.Y.	A.H.	02.05.25
Rev.	Issue / Amendment	By	App.	Date
 partridge.com.au partridge@partridge.com.au Partridge Hydraulic Pty Ltd ABN 71 124 297 883 Copyright: The design and details shown on this drawing are specific to this project only and may not be reproduced in whole or in part or be used for any other project or purpose without the written consent of Partridge Hydraulic Pty Ltd.				
Client WES + EMMA MAAS				
Architect UTZ-SANBY ARCHITECTS SUITE 103, 506 MILLER ST. CAMMERAY, NSW 2062 TEL. 02 9904 2515				
Project ALTERATIONS AND ADDITIONS 44 BOWER STREET MANLY, NSW 2095				
Title COVER SHEET & DRAWING LIST				
DO NOT SCALE: USE FIGURED DIMENSIONS				
The presence of this signature signifies that this is the certified drawing issued for construction.		Designed	Drawn	
		F.Y.	F.S.	
		Job No.	Scale at A1	
		2025H0041	N/A	
Start Date	Drawing No.		Revision	
MAY 2025	SWDA 1.1		P1	
NOT FOR CONSTRUCTION				

STORMWATER MANAGEMENT PLAN

PARTRIDGE HYDRAULIC SERVICES WERE ENGAGED TO CARRY OUT A STORMWATER MANAGEMENT PLAN FOR THE PROPOSED SITE 44 BOWER STREET, MANLY NSW 2095. THE BELOW ADDRESSES THE MANAGEMENT OF STORMWATER WITHIN THE PROPOSED SITE BOUNDARIES.

EXISTING SITE DETAILS

THE SUBJECT SITE IS AN EXISTING SINGLE DWELLING DEVELOPMENT. THE OVERALL SITE HAS APPROXIMATELY AN AREA OF 697m². THE LOT IS CURRENTLY DEVELOPED AND COMPRISES: A THREE STOREY HOUSE WITH ATTACHED GARAGE AND SWIMMING POOL.

THE SITE SLOPES AWAY FROM BOWER TOWARDS THE REAR.

VEHICLE AND PEDESTRIAN ACCESS TO THE SITE IS CURRENTLY FROM BOWER STREET.

PRE-DEVELOPMENT SITE CATCHMENT AREAS:

- IMPERMEABLE AREA: 319m²
- PERMEABLE AREA: 378m²

PROPOSED NEW DEVELOPMENT

IT IS PROPOSED TO DEMOLISH SOME OF THE EXISTING MAIN DWELLING & POOL AND PROVIDE ALTERATIONS AND ADDITIONS.

POST-DEVELOPMENT SITE CATCHMENT AREAS:

- IMPERMEABLE AREA: 331m²
- PERMEABLE AREA: 366m²

VEHICLE AND PEDESTRIAN ACCESS TO THE SITE IS TO REMAIN FROM BOWER STREET.

EXISTING STORMWATER NETWORK AND DISCHARGE

THE SUBJECT SITE IS CURRENTLY FULLY DEVELOPED WITH AN EXISTING ON-SITE DRAINAGE NETWORK. THE SUBJECT SITE IS A LOW-LEVEL PROPERTY AND STORMWATER DISCHARGES DIRECTLY TO CABBAGE TREE BAY THROUGH AN OUTLET IN THE SEA WALL ON MARINE PARADE.

THERE IS NO EVIDENCE OF OSD OR STORMWATER TREATMENT DEVICES AT PRESENT.

TOTAL EXISTING DISCHARGE VOLUME (FOR 20-YEAR, 5 MIN STORM DURATION MIN):

$$Q = 31.7 \text{ L/s}$$

FLOODING

WITH REFERENCE TO NORTHERN BEACHES COUNCIL ONLINE FLOOD HAZARD MAP, THE SITE IS NOT SITUATED IN THE FLOOD PLANNING AREA.

PROPOSED STORMWATER NETWORK CONCEPT AND DISCHARGE VOLUMES

IT IS PROPOSED TO CONNECT TO THE EXISTING STORMWATER DRAINAGE SYSTEM BASED ON THE FOLLOWING PRINCIPLES:

- EXISTING ROOF DOWNPIPES TO BE RE-DIRECTED TO A NEW 15KL RAINWATER TANK (TO REPLACE EXISTING). RE-USE AS PER BASIX AND POSITIVE COVENANT REQUIREMENTS.
- OSD IS NOT REQUIRED AS THE DEVELOPMENT IS LOCATED IN REGION 3 ZONE 3 (DRAINS TO A NATURAL WATERWAY).
- WITH REFERENCE TO SECTION 2 OF NORTHERN BEACHES COUNCIL WSUD & MUSIC MODELLING GUIDELINES, WSUD ELEMENTS ARE NOT REQUIRED FOR THE PROPOSED DEVELOPMENT.

STORMWATER QUANTITY MANAGEMENT

AS PER THE ABOVE, ON-SITE DETENTION IS NOT REQUIRED FOR THE SUBJECT DEVELOPMENT.

TOTAL SITE AREA: 697m²

POST-DEVELOPMENT SITE CATCHMENT AREAS:

- IMPERMEABLE AREA: 331m²
- PERMEABLE AREA: 366m²

POST-DEVELOPMENT DISCHARGE VOLUME:

Q = 32.0 L/s (FOR 20-YEAR, 5 MIN STORM DURATION MIN)

OVERLAND FLOW PATHS

THERE IS AN EXISTING OVERLAND FLOW PATH TO MARINE PARADE AND CABBAGE TREE BAY AT THE REAR OF THE SITE.

COUNCIL DOCUMENTS REFERENCE

THE ABOVE ASSESSMENT HAS BEEN PREPARED AND BASED ON PUBLISHED TOPOGRAPHIC MAPS, PHYSICAL LAND SURVEY, HYDRAULIC AND HYDROLOGICAL CALCULATIONS, AVAILABLE AERIAL PHOTOGRAPHY OF THE SITE AND IN ACCORDANCE WITH RELEVANT AUSTRALIA STANDARDS AND COUNCIL DEVELOPMENT CONTROL PLANS BELOW:

- AS 3500.3 2021 PLUMBING AND DRAINAGE
- NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY

GENERAL NOTES

- THIS IS A STORMWATER DRAINAGE PLAN ONLY, REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT INFORMATION.
2. ALL STORMWATER RUNOFF FROM SURFACE, PITS, SUMPS AND UNDERGROUND PIPE NETWORK TO BE COLLECTED VIA ON-SITE DRAINAGE SYSTEM PRIOR TO DISCHARGE FROM THE SITE.
3. ALL PIPES ARE TO BE 100DIA UPVC LAID AT 1.0% MIN GRADE. UPVC PIPES TO BE SOLVENT WELDED JOINTS U.N.O
4. ALL PIPES ARE TO BE PROPRIETARY PRE-CAST ITEMS, COVER LEVELS TO MATCH U.N.O
5. ALL GRATED DRAINS TO HAVE BASE GRADED 1.0% MIN WITH HEAVY DUTY GRATES.
6. IT IS THE BUILDER'S RESPONSIBILITY TO LAY ALL PIPES IN ACCORDANCE WITH ALL RELEVANT AUTHORITY REQUIREMENTS (EG. COUNCIL, EPA, SYDNEY WATER).
7. THE CONTRACTOR SHALL LOCATE EXISTING SERVICES ON SITE PRIOR TO CONSTRUCTION AND SHALL TAKE EXTREME CAUTION DURING CONSTRUCTION.
8. ALL WORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE LOCAL AUTHORITY'S CIVIL SPECIFICATION AND STANDARDS TO THE SATISFACTION OF THE LOCAL AUTHORITY OR PRIVATE CERTIFYING AUTHORITY'S REPRESENTATIVE. ANY DISCREPANCY, VARIATION OR ADDITIONAL WORKS SHALL BE APPROVED BY THE BUILDER'S REPRESENTATIVE BEFORE COMMENCEMENT OF WORKS.
9. THE LOCAL AUTHORITY OR PRIVATE CERTIFYING AUTHORITY'S INSPECTION OF WORKS SHALL BE NOTIFIED AT LEAST 48 HOURS BEFORE INSPECTOR'S INSPECTION SCHEDULE REQUIREMENTS AND ENSURE THAT EACH IDENTIFIED STAGE OF WORKS IS ACCORDINGLY INSPECTED.
10. THESE DRAWINGS ARE DIAGRAMMATIC REPRESENTATION OF WORKS TO BE CARRIED OUT ONLY AND ARE NOT TO BE SCALED OFF.
11. ALL LEVELS SHALL BE OBTAINED FROM ESTABLISHED BENCH MARKS ONLY. DATUM USED ON THESE DRAWINGS IN AUSTRALIA HEIGHT DATUM (AHD) UNLESS NOTED OTHERWISE.
12. UTILITY INFORMATION SHOWN ON THE PLANS IS NOT INTENDED TO DEPICT MORE THAN THE PRESENCE OF ANY SERVICES. ACTUAL LOCATIONS SHOULD BE VERIFIED BY HAND EXCAVATION PRIOR TO CONSTRUCTION.
13. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED WHERE SHOWN ON THE DRAWINGS, IN ACCORDANCE WITH THE SPECIFICATION AND THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (IF APPLICABLE).

LEGEND

PIPEWORK		MISCELLANEOUS	
	RAINWATER DRAINAGE		SERVICE / SERVICE NUMBER
	RAINWATER CHARGED		PIPE SIZE
	STORMWATER DRAINAGE		FOR CONTINUATION REFER DRG No
	STORMWATER RISING MAIN		FOR SECTION VIEW
	SUBSOIL DRAINAGE		REFER TO DRAWING
	BARRIER FENCE	AHD	AUSTRALIAN HEIGHT DATUM
	EXISTING PIPE	AP	ACCESS PANEL
	EXISTING PIPE MADE REDUNDANT	BG	BOX GUTTER
	SEDIMENT FENCE LINE	DP	DOWNSPIPE
	PROPERTY BOUNDARY	e	EXISTING
	SWALE	FFL	FINISHED FLOOR LEVEL
	DROPPER	GIP	GRATED INLET PIT
	RISER	HED	HIGH EARLY DISCHARGE
	TURBIDITY BARRIER	HFB	HIGH FLOW BYPASS
	PIPE REDUCER	HL	HIGH LEVEL IN CEILING
	DIRECTION OF FALL OR FLOW	HP	HIGH POINT
	DOWN PIPE	IL	INVERT LEVEL
	ROOF DOWN PIPE	INT	INTERNAL
	PLANTER BOX OUTLET	KIP	KERB INLET PIT
	RAIN WATER OUTLET / BALCONY OUTLET	O/F	OVERFLOW
	STORMWATER PIT (GRATE)	OSD	ON SITE DETENTION
	STORMWATER PIT (RWO IN BASE)	RHS	RECTANGULAR HOLLOW SECTION
	SEALED PIT COVER	RL	RELATIVE LEVEL
	GULLY PIT	RWH	RAINWATER HEAD
	REFLUX VALVE	RWT	RAINWATER TANK
	PIPE CONNECTION POINT	SRL	SLAB RELATIVE LEVEL
	PUMP	SRZ	STRUCTURAL ROOT ZONE
	OVERLAND FLOW PATH	TBA	TO BE ADVISED
	CLEAR OUT	TKL	TOP KERB LEVEL
	TUNDISH	TRZ	TREE ROOT ZONE
	TRENCH GRATE	TWL	TOP WATER LEVEL
	DOWNSPIPE SPREADER	UNO	UNLESS NOTED OTHERWISE

1	ISSUED FOR DA	F.Y.	A.H.	08.05.25
P1	PRELIMINARY ISSUE	F.Y.	A.H.	02.05.25
Rev.	Issue / Amendment	By	App.	Date



partridge.com.au
partridge@partridge.com.au
Partridge Hydraulic Pty Ltd
ABN 71 124 297 883

Client
WES + EMMA MAAS

Architect
UTZ-SANBY ARCHITECTS
SUITE 103, 506 MILLER ST. CAMMERAY, NSW 2062
TEL 02 9904 2515

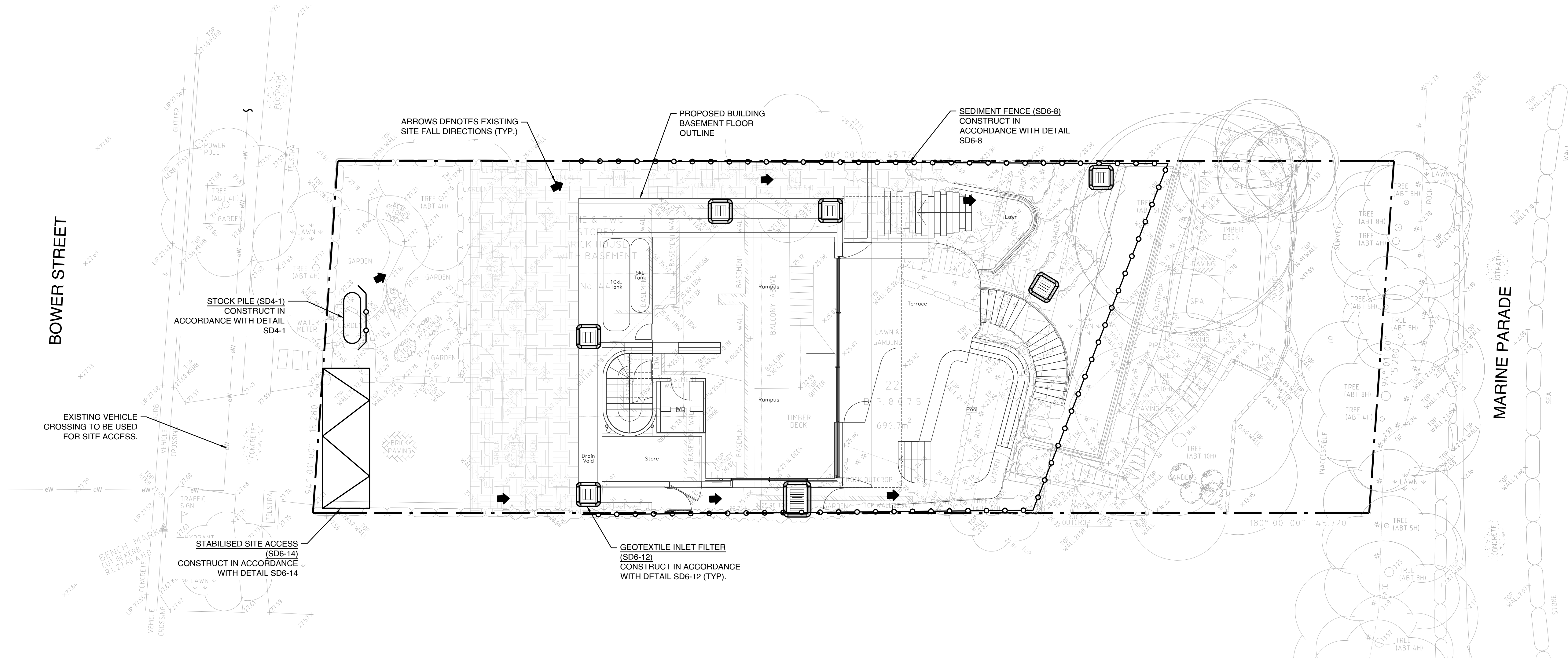
Project
ALTERATIONS AND ADDITIONS
44 BOWER STREET
MANLY, NSW 2095

Title
**STORMWATER MANAGEMENT PLAN
& GENERAL NOTES**

DO NOT SCALE: USE FIGURED DIMENSIONS

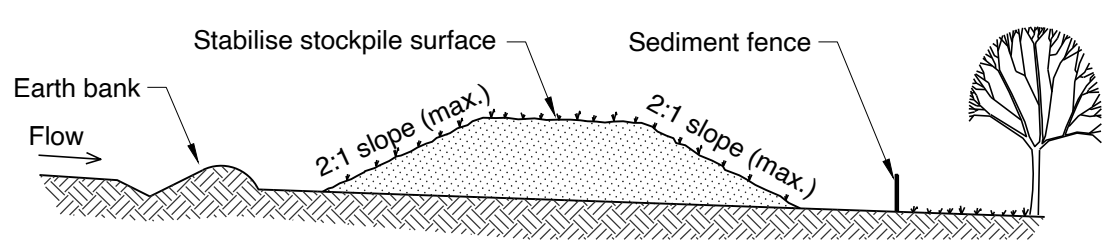
The presence of this signature signifies that this is the certified drawing issued for construction.	Designed F.Y.	Drawn F.S.
	Job No. 2025H0041	Scale at A1 N/A
Start Date MAY 2025	Drawing No. SWDA 1.2	Revision P1

NOT FOR CONSTRUCTION



EROSION AND SEDIMENT CONTROL PLAN

- MEASURES PROVIDED WILL BE TO THE SATISFACTION OF THE PRINCIPAL'S REPRESENTATIVE IN ACCORDANCE WITH THE LOCAL AND STATUTORY REQUIREMENTS UNLESS NOTED OTHERWISE. ALL WORKS SHALL BE ERECTED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE 'BLUE BOOK'- MANAGING URBAN STORMWATER (MUS); SOILS AND CONSTRUCTION, LANDCOM (VOL. 1) AND DECCW (VOL. 2) AND COUNCIL'S DEVELOPMENT CONTROL PLAN (DCP).
- ALL EXCAVATION WORKS ARE TO BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, IF AVAILABLE, AND THE STRUCTURAL ENGINEER'S DRAWINGS.
- INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.
- MESH AND GRAVEL INLET FILTERS (SD 6-12) TO BE INSTALLED UPSTREAM OF PROPOSED STORMWATER PITS AS WELL AS EXISTING STORMWATER PITS DOWNSTREAM OF DISTURBED AREAS.
- TOP SOIL WILL BE STRIPPED AND STOCKPILED (SD 4-1) FOR LATER USE IN LANDSCAPING.
- ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
- TOP SOIL WILL BE RE SPREAD AND ALL DISTURBED AREAS WILL BE REHABILITATED WITHIN 20 WORKING DAYS OF THE COMPLETION OF WORKS.
- ALL SEDIMENT TO BE STORED AND COLLECTED BY A LIQUID WASTE COMPANY FOR DISPOSAL AT A LICENSED TREATMENT FACILITY.
- ROADS AND FOOTWAYS TO BE SWEEPED AT THE END OF THE DAY.
- ALL EROSION AND SEDIMENT CONTROLS WILL BE CHECKED AT LEAST WEEKLY AND AFTER RAINFALL EVENTS TO MAKE SURE THEY ARE MAINTAINED TO A FULLY FUNCTIONAL CONDITION.

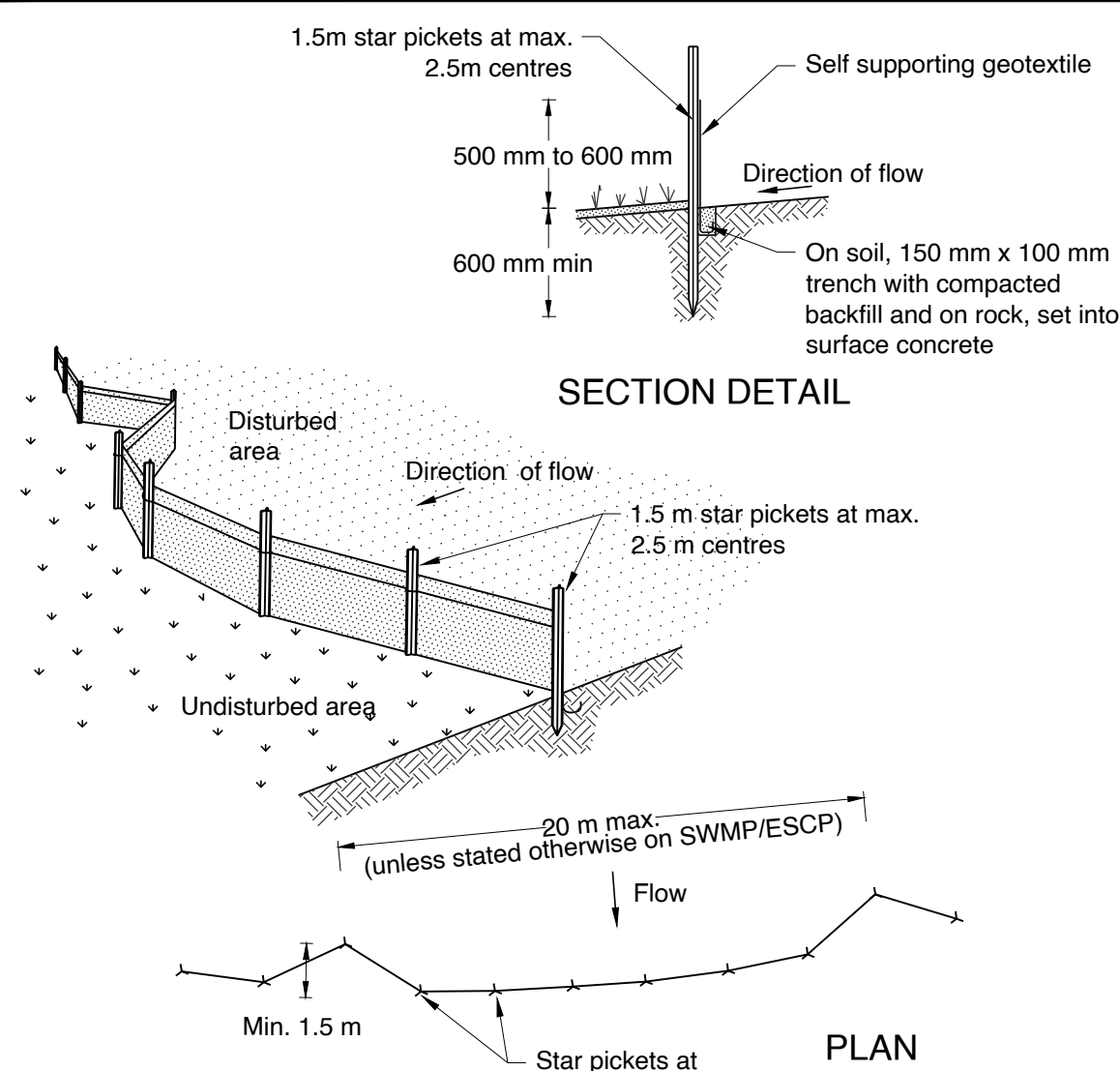


Construction Notes

- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds.
- Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1

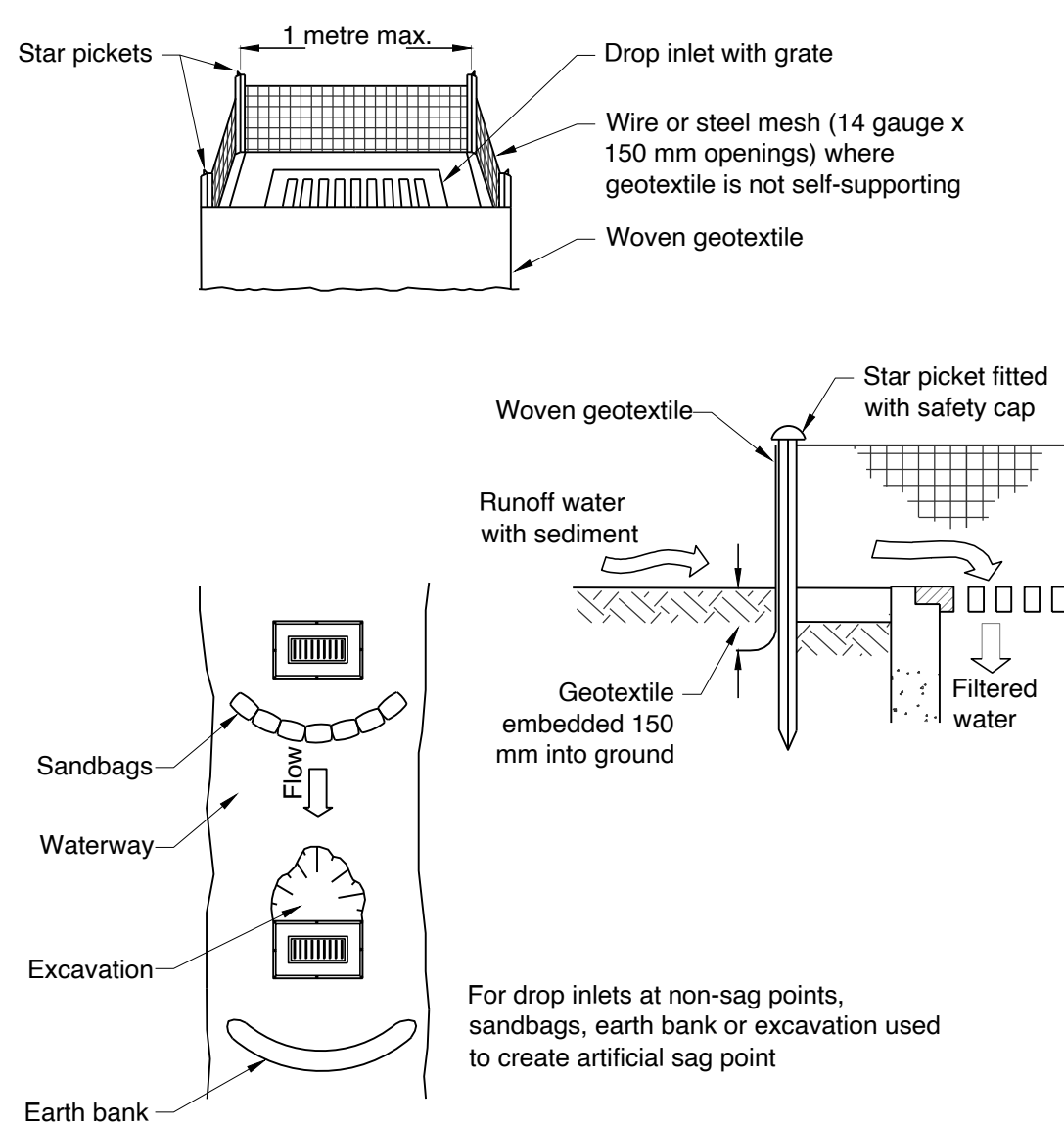


Construction Notes

- Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
- Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
- Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
- Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
- Join sections of fabric at a support post with a 150-mm overlap.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE

SD 6-8

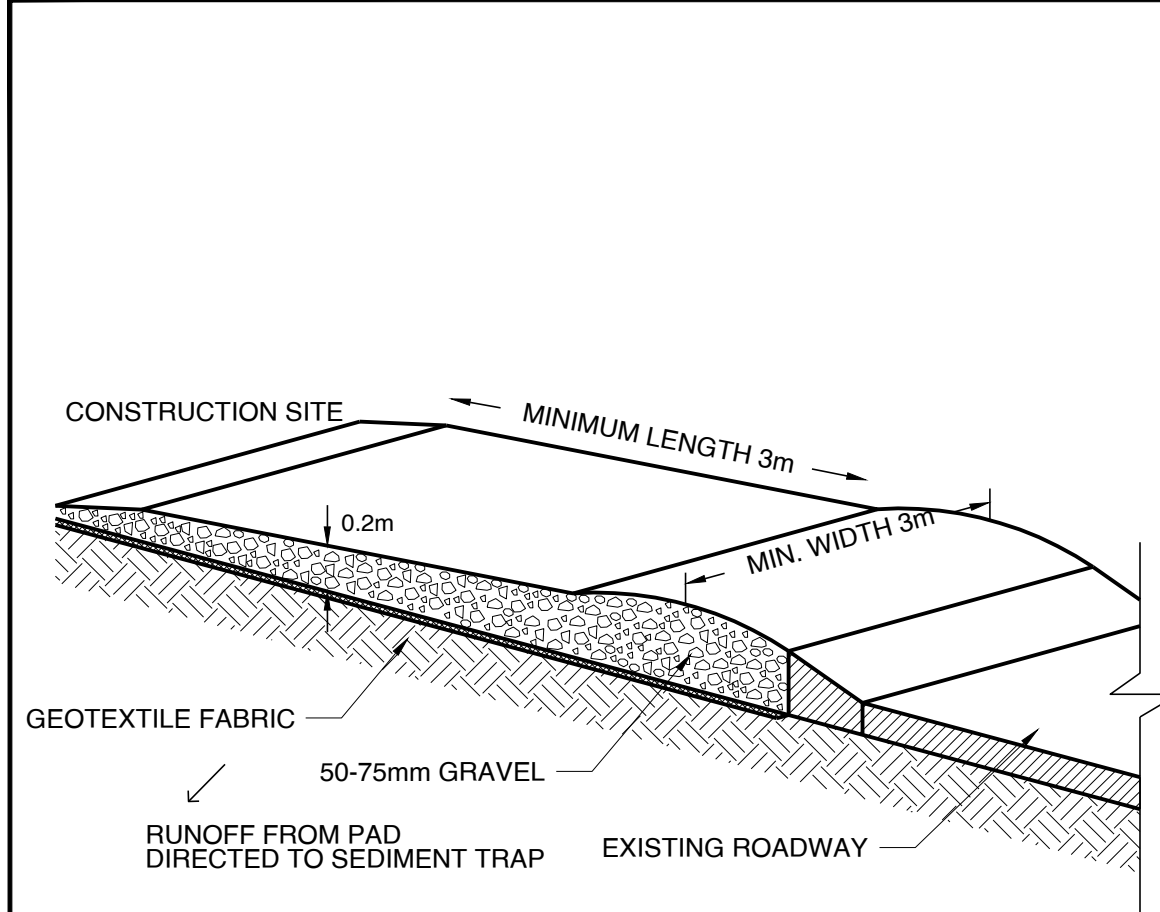


Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
- In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
- Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER

SD 6-12



Construction Notes

- Strip the topsoil, level the site and compact the subgrade.
- Cover the area with needle-punched geotextile.
- Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
- Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
- Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence.

STABILISED SITE ACCESS

SD 6-14

1	ISSUED FOR DA	F.Y.	A.H.	08.05.25
P1	PRELIMINARY ISSUE	F.Y.	A.H.	02.05.25

Rev.	Issue / Amendment	By	App.	Date
------	-------------------	----	------	------



partridge.com.au
partridge@partridge.com.au
Partridge Hydraulic Pty Ltd
ABN 71 124 297 883

Copyright: The design and details shown on this drawing are specific to this project only and may not be reproduced in whole or in part or be used for any other project or purpose without the written consent of Partridge Hydraulic Pty Ltd.

Client
WES + EMMA MAAS

Architect
UTZ-SANBY ARCHITECTS
SUITE 103, 506 MILLER ST. CAMMERAY, NSW 2062
TEL 02 9904 2515

Project
ALTERATIONS AND ADDITIONS
44 BOWER STREET
MANLY, NSW 2095

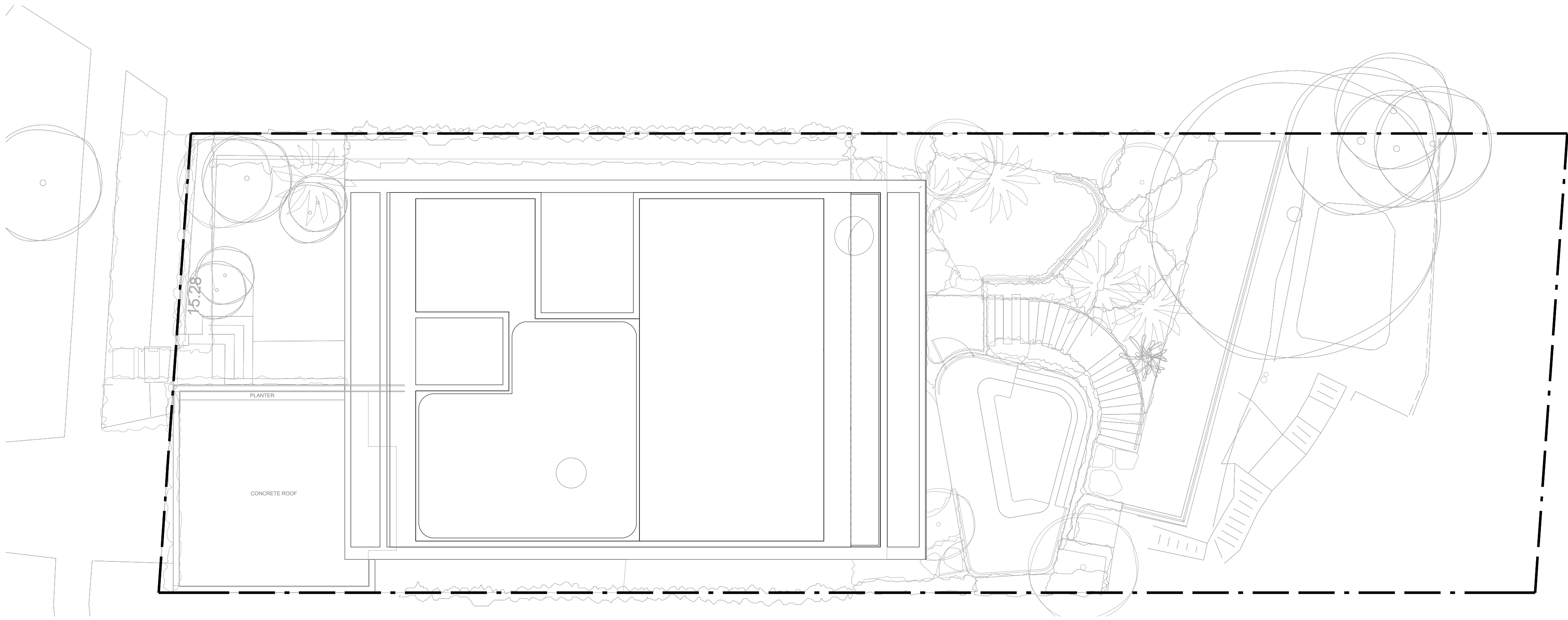
Title
EROSION & SEDIMENT CONTROL
PLAN AND DETAILS

DO NOT SCALE: USE FIGURED DIMENSIONS

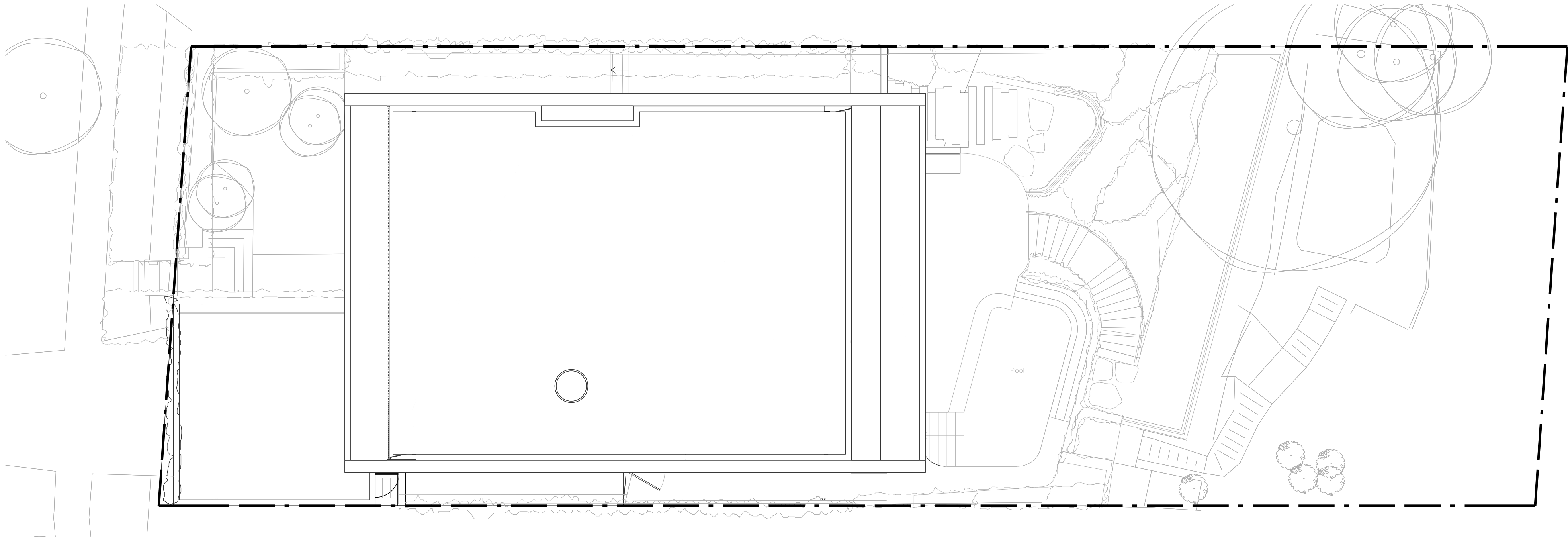
The presence of this signature signifies that this is the certified drawing issued for construction.	Designed F.Y.	Drawn F.S.
	Job No. 2025H0041	Scale at A1 NTS

Start Date MAY 2025	Drawing No. SWDA 1.3	Revision P1
-------------------------------	--------------------------------	-----------------------

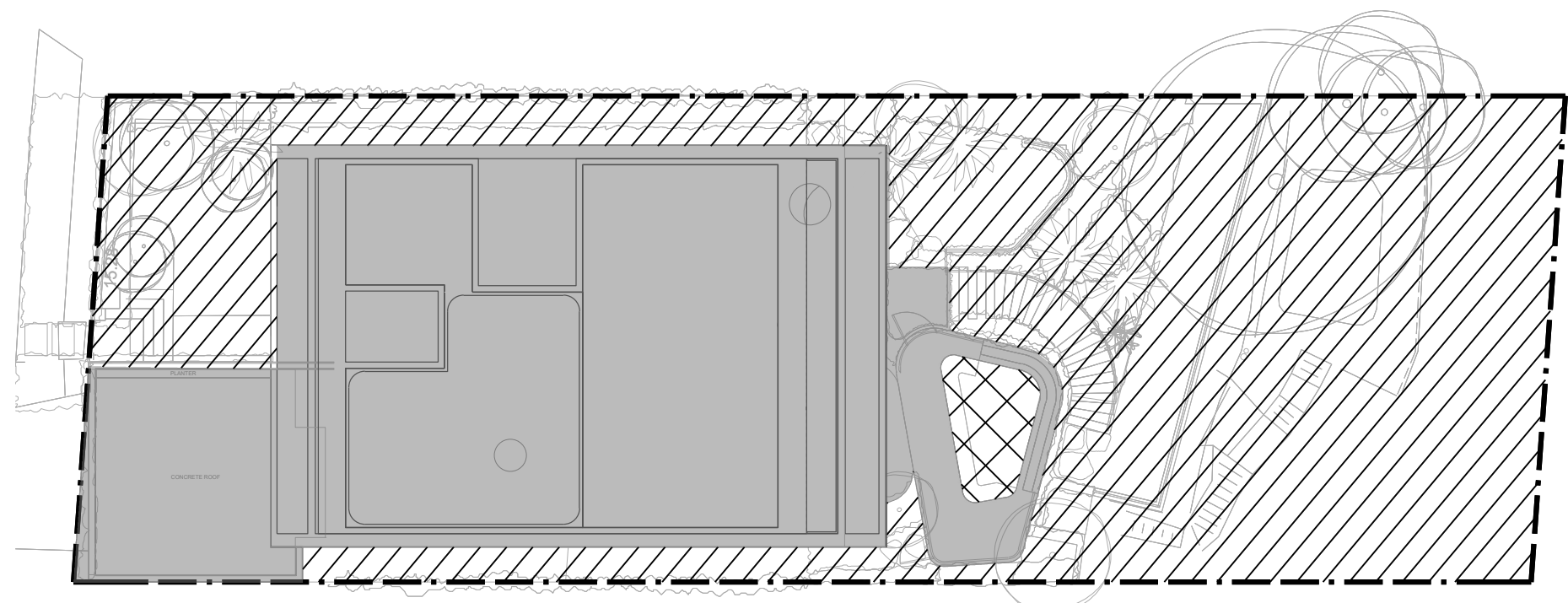
NOT FOR CONSTRUCTION



EXISTING SITE PLAN

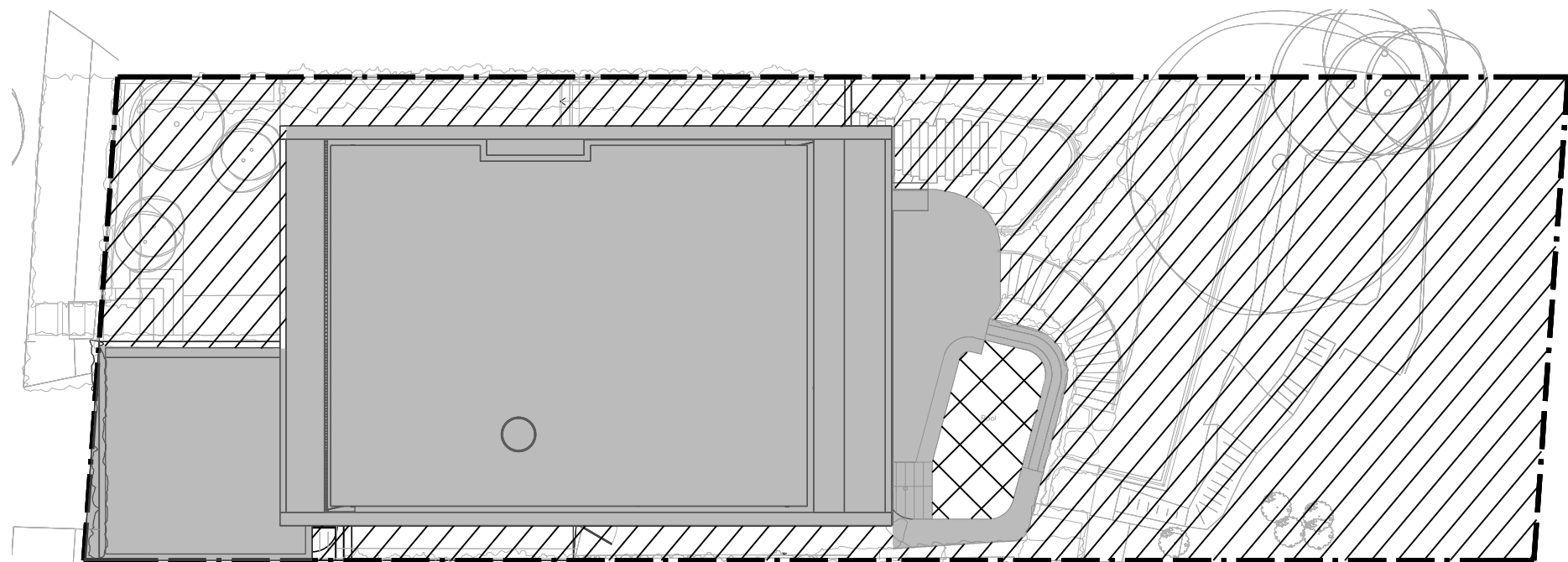


PROPOSED SITE PLAN



EXISTING SITE PERMEABILITY PLAN

LEGEND	EXISTING	PROPOSED
IMPERVIOUS AREA	309 m²	316 m²
PERVIOUS AREA	378 m²	366 m²
POOL AREA (TO SEWER)	10 m²	15 m²



PROPOSED SITE PERMEABILITY PLAN

1ISSUED FOR DA

P1PRELIMINARY ISSUE

F.Y.

F.Y.

A.H.

A.H.

08.05.25

02.05.25

Rev.

Issue / Amendment

By

App.

Date

PARTRIDGE

partridge.com.au

partridge@partridge.com.au

Partridge Hydraulic Pty Ltd

ABN 71 124 297 883

Copyright: The design and details shown on this drawing are specific to this project only and may not be reproduced in whole or in part or be used for any other project or purpose without the written consent of Partridge Hydraulic Pty Ltd.

Client

WES + EMMA MAAS

Architect

UTZ-SANBY ARCHITECTS

SUITE 103, 506 MILLER ST. CAMMERAY, NSW 2062

TEL: 02 9904 2515

Project

ALTERATIONS AND ADDITIONS

44 BOWER STREET

MANLY, NSW 2095

Title

EXISTING & PROPOSED SITE PLAN

AND IMPERVIOUS AREAS

DO NOT SCALE: USE FIGURED DIMENSIONS

The presence of this signature signifies that this is the certified drawing issued for construction.

Designed

Drawn

F.Y.

F.S.

Job No.

Scale at A1

2025H0041

NTS

Start Date

Drawing No.

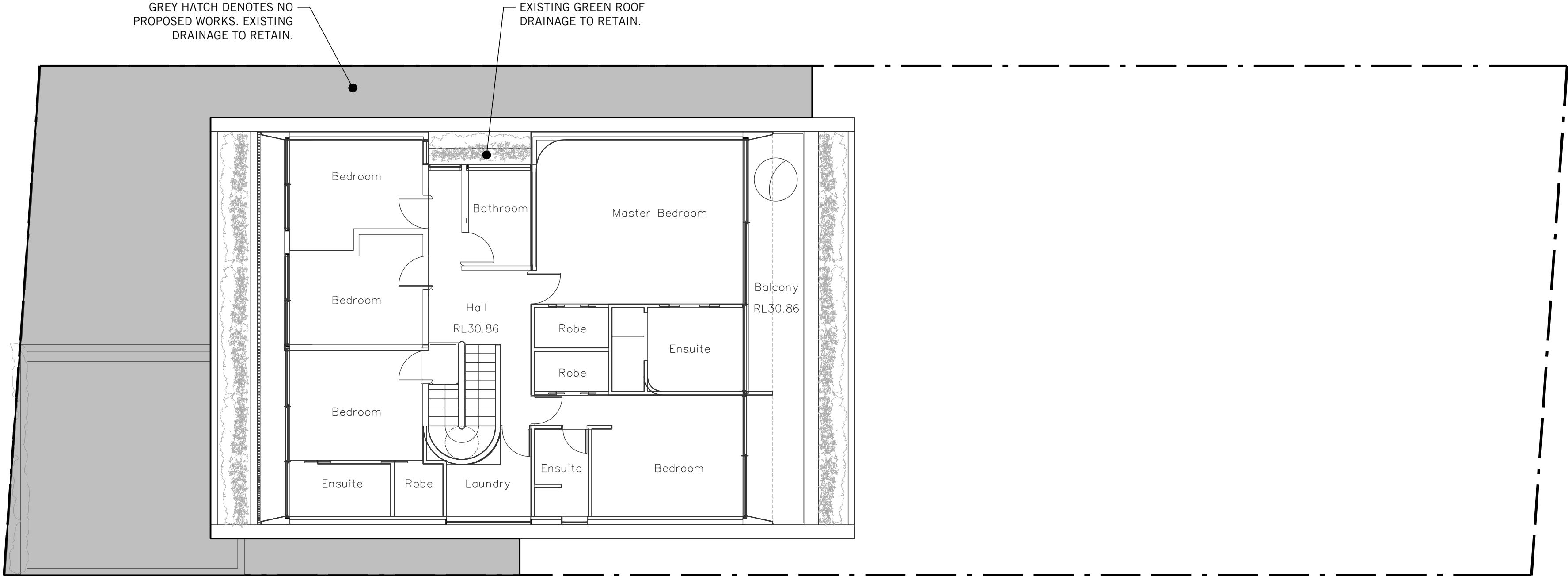
Revision

MAY 2025

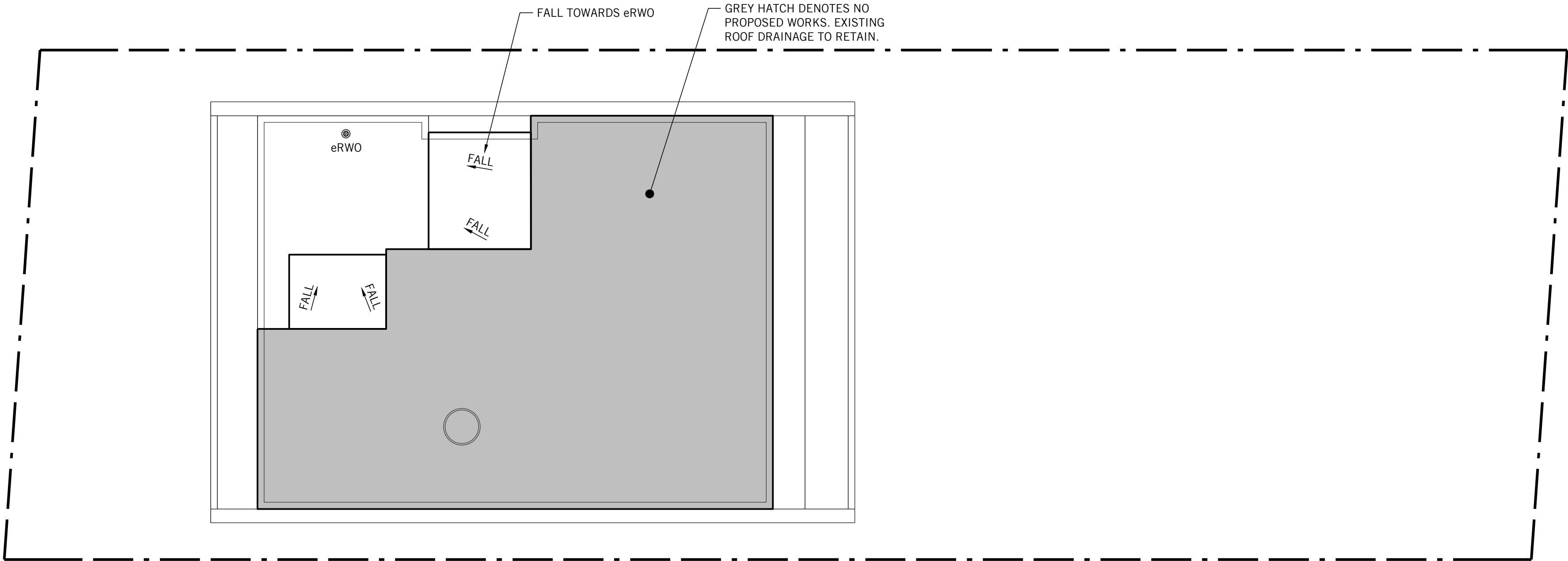
SWDA 1.4

P1

NOT FOR CONSTRUCTION



FIRST FLOOR LAYOUT



ROOF LAYOUT

1	ISSUED FOR DA	F.Y.	A.H.	08.05.25
P1	PRELIMINARY ISSUE	F.Y.	A.H.	02.05.25
Rev.	Issue / Amendment	By	App.	Date

partridge.com.au
partridge@partridge.com.au
Partridge Hydraulic Pty Ltd
ABN 71 124 297 883

Copyright: The design and details shown on this drawing are specific to this project only and may not be reproduced in whole or in part or be used for any other project or purpose without the written consent of Partridge Hydraulic Pty Ltd.

Client

WES + EMMA MAAS

Architect

UTZ-SANBY ARCHITECTS
SUITE 103, 506 MILLER ST. CAMMERAY, NSW 2062
TEL: 02 9904 2515

Project

ALTERATIONS AND ADDITIONS
44 BOWER STREET
MANLY, NSW 2095

Title

STORMWATER SERVICES
FIRST FLOOR AND ROOF LAYOUTS

DO NOT SCALE: USE FIGURED DIMENSIONS

The presence of this signature signifies that this is the certified drawing issued for construction.	Designed F.Y.	Drawn F.S.
	Job No. 2025H0041	Scale at A1 1:100
Start Date MAY 2025	Drawing No. SWDA 1.6	Revision P1