PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT

PLANSET: CONCEPT STORMWATER MANAGEMENT PLAN

CLIENT: MACKENZIE ARCHITECTS INTERNATIONAL

DRAWING LIST		
DWG NO.	REV	DWG TITLE
GENERAL		
PS01-A000	C	COVER SHEET
CONSTRUCTION MANAGEMENT WORKS		
PS01-B300	A	GROUND FLOOR SEDIMENT & EROSION CONTROL PLAN
PS01-B310	A	SEDIMENT & EROSION CONTROL DETAILS
DRAINAGE		
PS01-E100	B	BASEMENT DRAINAGE PLAN
PS01-E101	C	LOWER GROUND FLOOR DRAINAGE PLAN

LOCALITY PLAN
NOT TO SCALE

LGA: NORTHERN BEACHES COUNCIL

3 GONDOLA STREET, NORTH NARRABEEN, NSW

GENERAL NOTES:
1. THIS PLAN IS FOR DEVELOPMENT APPLICATION PURPOSE AND NOT FOR CONSTRUCTION. DESIGN TO BE REVIEWED AND UPDATED FOR CONSTRUCTION CERTIFICATE.
2. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH, AND THESE NOTES ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT AUSTRALIAN STANDARDS, COUNCIL SPECIFICATIONS, AND ALL PROJECT CONSULTANT'S PLANS AND REPORTS.
3. INTERNAL SURVEY INFORMATION AND EXTERNAL SITE BOUNDARY SHOWN BASED ON SURVEY INFORMATION PROVIDED BY TRUE NORTH SURVEY GROUP 06/04/2022.
4. ARCHITECTURAL INFORMATION SHOWN BASED ON DESIGN BY MACKENZIE ARCHITECTS INTERNATIONAL 08/04/2022.
5. LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
6. FINAL SURFACE CONTOURS ARE BASED ON DESIGN AND EXISTING SURVEY AND LIDAR SURFACES.

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	ARCHITECTURAL LAYOUTS UPDATED	20/05/2022	NN	TW	SL	SL
B	LOWER GROUND FLOOR ARCHITECTURAL LAYOUT UPDATED	12/05/2022	RK	TW	SL	SL
A	INITIAL RELEASE	06/05/2022	NN/JS	TW	AVG/SL	SL

SCALE

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A1 / A3 LANDSCAPE (A1LC_v02.0.01)

GRID: ---
DATUM: ---
PROJECT MANAGER: SL

CLIENT: MACKENZIE ARCHITECTS INTERNATIONAL

PROJECT NAME/PLANSET TITLE
PROPOSED RESIDENTIAL DEVELOPMENT
CONCEPT STORMWATER MANAGEMENT PLAN
3 GONDOLA STREET, NORTH NARRABEEN, NSW

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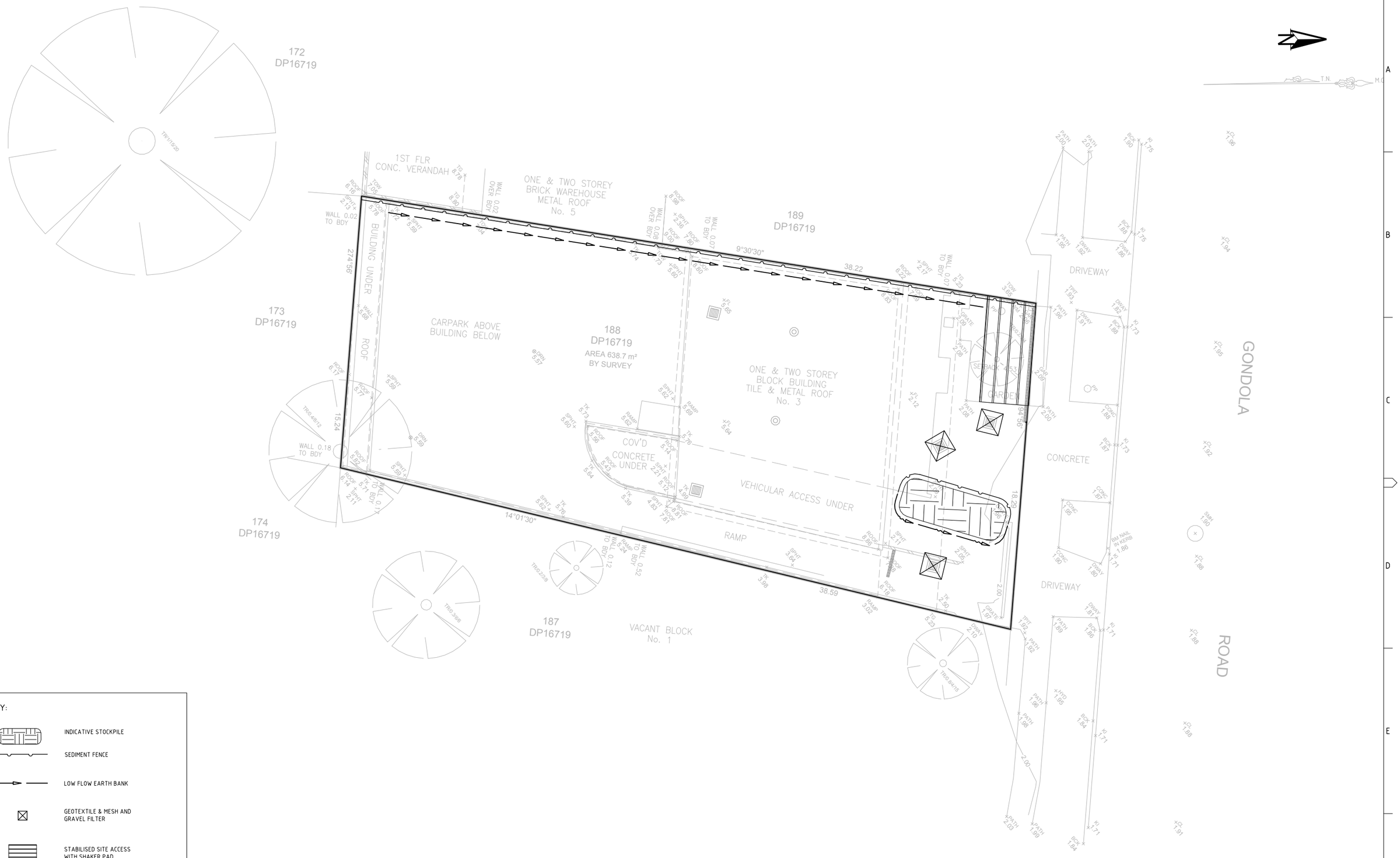
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE: COVER SHEET

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2108694	PS01	R03	PS01-A000	C

DRAWING ID: P2108694-PS01-R03-A000



KEY:

- INDICATIVE STOCKPILE
- SEDIMENT FENCE
- LOW FLOW EARTH BANK
- GEOTEXTILE & MESH AND GRAVEL FILTER
- STABILISED SITE ACCESS WITH SHAKER PAD

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	06/05/2022	NN/JS	TW	AVG/SL	SL

SCALE: A1 (A3) 1:100 (1:200) — 0 1 2 3 4 5 6 7 8 9 10 METRES

GRID	DATUM	PROJECT MANAGER
MGA	mAHD	SL

CLIENT: MACKENZIE ARCHITECTS INTERNATIONAL

PROJECT NAME/PLANSET TITLE: PROPOSED RESIDENTIAL DEVELOPMENT
CONCEPT STORMWATER MANAGEMENT PLAN
3 GONDOLA STREET, NORTH NARRABEEN, NSW

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DRAWING TITLE: GROUND FLOOR SEDIMENT AND EROSION CONTROL PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2108694	PS01	R03	PS01-B300	A

DRAWING ID: P2108694-PS01-R03-B300

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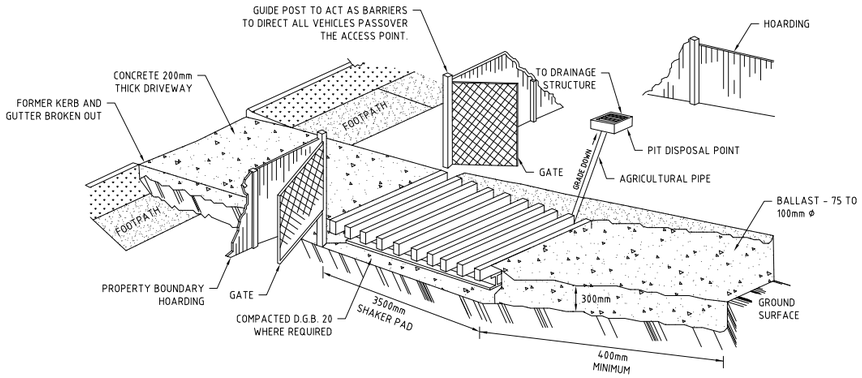
STABILISED ACCESS POINT

TYPE II SAP

THE TYPE II SAP DESIGN IS MORE DEFINED IN THAT IT REQUIRES AN AREA OF BALLAST WITHIN THE SITE COMBINED WITH A SHAKER PAD; ADJACENT THE SHAKER PAD AND IN THE PUBLIC WAY IS A TEMPORARY (CONCRETE) VEHICULAR CROSSING. (SEE DIAGRAM)

STABILISED ACCESS POINT - TYPE 2



IN BOTH TYPE I AND TYPE II SAP'S, THE TEMPORARY VEHICULAR CROSSING MUST:

- CONNECT TO AN EXISTING GUTTER LAYBACK (WHERE THE KERB AND GUTTER EXIST) . IF A GUTTER LAYBACK DOES NOT EXIST THEN THE CONNECTION MUST BE MADE TO THE GUTTER BY REMOVING THE ADJCENT KERB SECTION ONLY.
- CONNECT TO A DISH CROSSING (WHERE KERB AND GUTTER DOES NOT EXIST). IF A DISH CROSSING DOES NOT EXIST, THEN IT MUST BE CONSTRUCTED IN ACCORDANCE WITH DETAILS CONTAINED IN COUNCIL'S ISSUED FOOTPATH CROSSING LEVELS.

IT SHOULD BE NOTED THAT THESE TYPES OF SAPS ARE CONSIDERED TO BE APPLICABLE FOR THE MAJORITY OF ACTIVITIES HOWEVER SOME SITES MAY REQUIRE SPECIAL CONSIDERATION.

SHAKER PAD (CATTLE GRID)

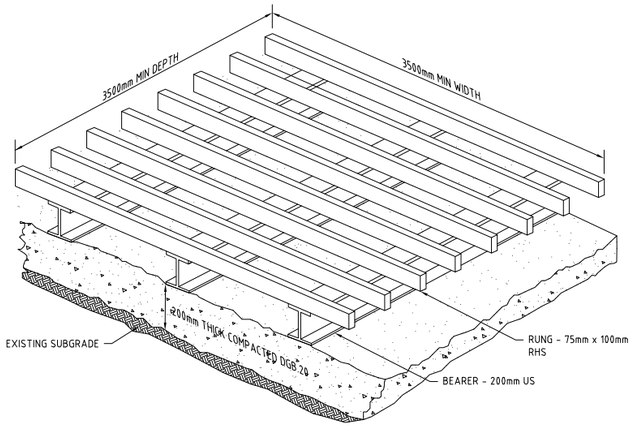
A CORRECTLY DESIGNED AND INSTALLED SHAKER PAD WILL ASSIST IN PREVENTING SEDIMENT TRANSFERE FROM A SITE. ANY STABILISED ACCESS POINT (SAP) CAN BE DESIGNED WITH A SHAKER PAD (COMPULSOPRY IN TYPE II SAP'S)

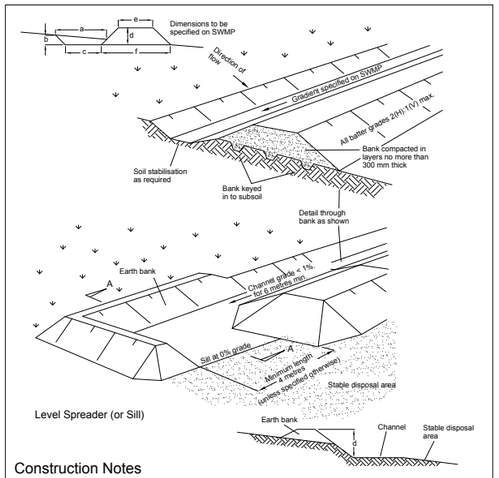
SHAKER PADS CAN BE DESIGNED AND CONSTRUCTED TO ENABLE RE-USE ON FUTURE PROJECTS.

THE SHAKER PAD:

- MUST BE DESIGNED AND CERTIFIED BY A PRACTICING STRUCTURAL ENGINEER. THE CERTIFIED DESIGN SHOULD BE SUBMITTED WITH THE RELEVENT APPLICATION.
- CAN BE CONSTRUCTED FROM ANY SUITABLE MATERIAL.
- MUST BE LOCATED ON A SUITABLY PREPARED AND COMPACTED SUB-GRADE/BASE MATERIAL.
- MUST BE SITUATED SUCH THAT THE RUNGS OF THE SHAKER PAD ARE LEVEL WITH THE ADJOINING NATURAL SURFACE.
- MUST BE A MINIMUM OF 3.5m IN LENGTH.
- MUST BE A MINIMUN OF 3.5m IN WIDTH.
- MUST HAVE CLEAR SPACING BETWEEN RUNGS OF 200 - 250mm.
- RUNGS MUST HAVE A MAXIMUM WIDTH (BEARING AREA) OF 75mm.
- MUST HAVE A MINIMUM CLEAR DEPTH OF 300mm IE FORM THE ROP OF THE RUNG TO THE FINISHED SUB-GRADE/BASE LEVEL.

THE SHAKER PAD MUST BE PROVIDED WITH SUITABLE BARRIERS AT THE SIDES TO ENSURE THAT ALL TYERS OF VEHICLES LEAVING THE SITE TRAVERSE THE DEVICE.





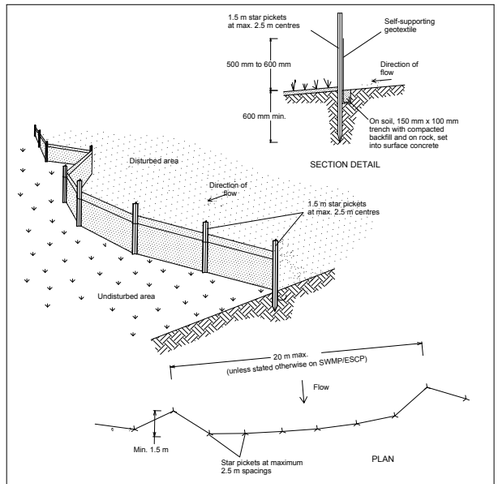
Level Spreader (or Sill)

Section AA

Construction Notes

1. Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
7. Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

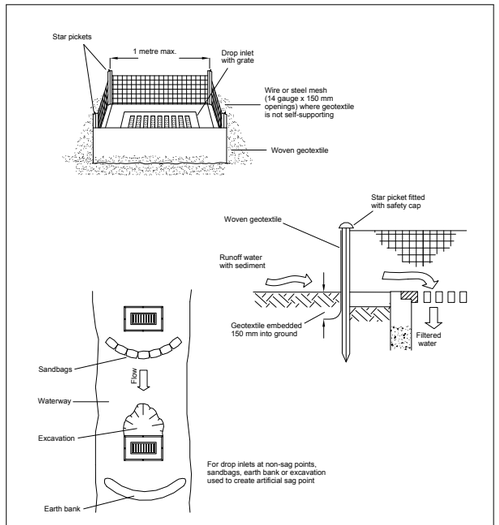
EARTH BANK (HIGH FLOWS) SD 5-6



Construction Notes

1. 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.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. 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.
4. 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.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

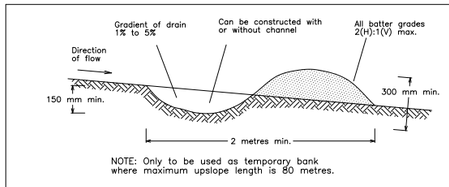
SEDIMENT FENCE SD 6-8



Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. 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.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. 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

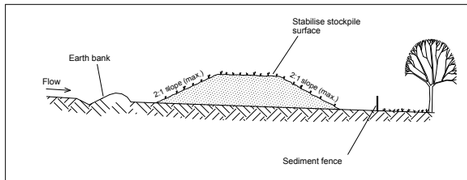


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW) SD 5-5



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. 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.
5. 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

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	06/05/2022	NN/JS	TW	AVG/SL	SL

SCALE

GRID	DATUM	PROJECT MANAGER
---	---	SL

CLIENT: MACKENZIE ARCHITECTS INTERNATIONAL

PROJECT NAME/PLANSET TITLE
PROPOSED RESIDENTIAL DEVELOPMENT
CONCEPT STORMWATER MANAGEMENT PLAN
3 GONDOLA STREET, NORTH NARRABEEN, NSW

martens & Associates Pty Ltd
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Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SEDIMENT AND EROSION CONTROL DETAILS

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2108694	PS01	R03	PS01-B310	A

DRAWING ID: P2108694-PS01-R03-B310

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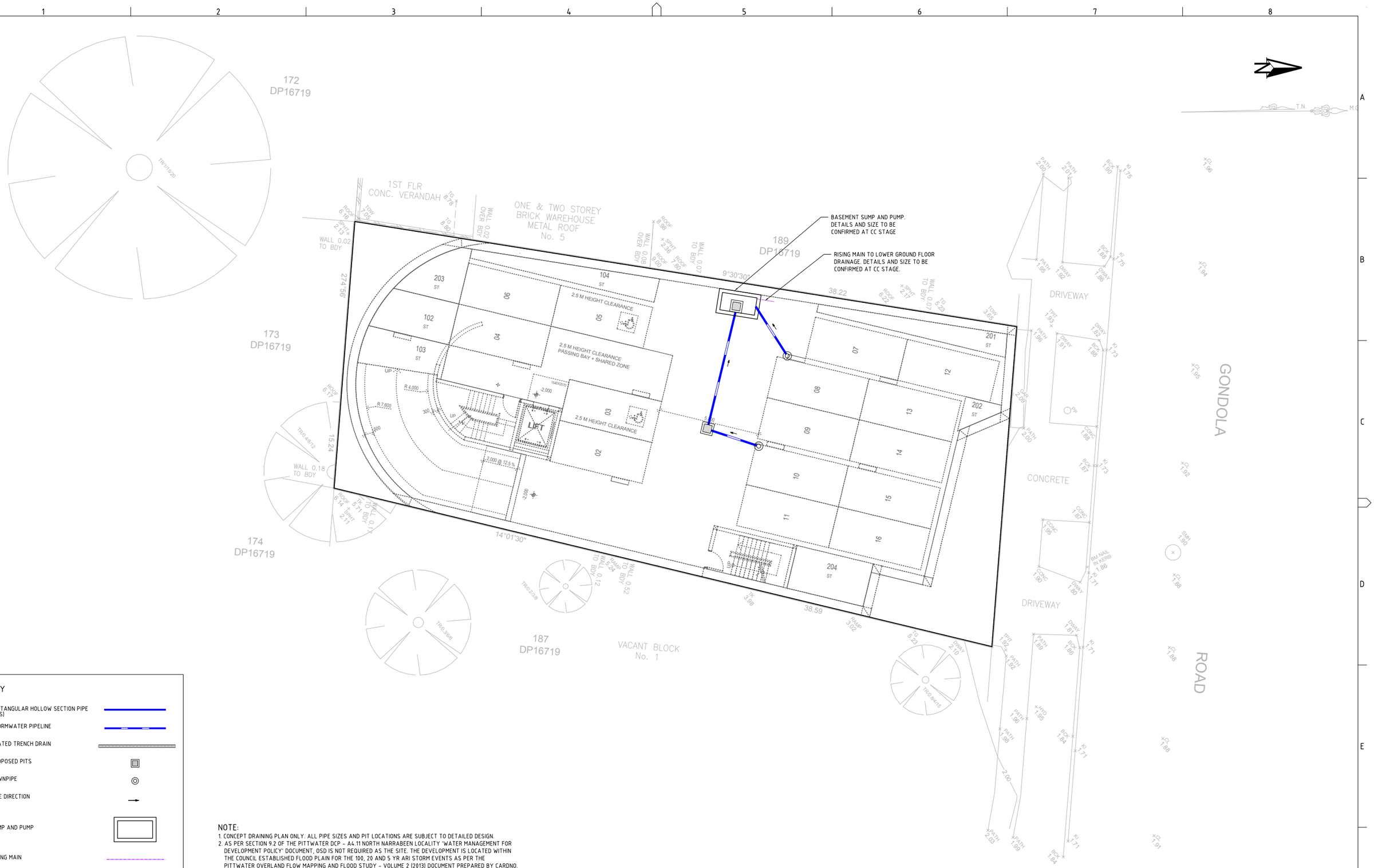

KEY

- RECTANGULAR HOLLOW SECTION PIPE (RHS)
- STORMWATER PIPELINE
- GRATED TRENCH DRAIN
- PROPOSED PITS
- DOWNPIPE
- PIPE DIRECTION
- SUMP AND PUMP
- RISING MAIN
- SITE BOUNDARY

NOTE:

1. CONCEPT DRAINING PLAN ONLY. ALL PIPE SIZES AND PIT LOCATIONS ARE SUBJECT TO DETAILED DESIGN.
2. AS PER SECTION 9.2 OF THE PITTWATER DCP – A4.11 NORTH NARRABEEN LOCALITY 'WATER MANAGEMENT FOR DEVELOPMENT POLICY' DOCUMENT, OSD IS NOT REQUIRED AS THE SITE. THE DEVELOPMENT IS LOCATED WITHIN THE COUNCIL ESTABLISHED FLOOD PLAIN FOR THE 100, 20 AND 5 YR ARI STORM EVENTS AS PER THE PITTWATER OVERLAND FLOW MAPPING AND FLOOD STUDY – VOLUME 2 (2013) DOCUMENT PREPARED BY CARDNO.
3. AS PER TABLE 1 OF THE PITTWATER DCP – A4.11 NORTH NARRABEEN LOCALITY 'WATER MANAGEMENT FOR DEVELOPMENT POLICY' DOCUMENT, STORMWATER QUALITY AND HYDROLOGY DESIGN IS NOT A PLANNING CONTROL FOR MULTI-RESIDENTIAL DWELLING DEVELOPMENTS WITH A SITE AREA LESS THAN 1000M².

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	ARCHITECTURAL LAYOUTS UPDATED	20/05/2022	NN	TW	SL	SL
A	INITIAL RELEASE	06/05/2022	NN/JS	TW	AVG/SL	SL

SCALE: A1 (A3) 1:100 (1:200) — METRES

GRID	DATUM	PROJECT MANAGER
MGA	mAHD	SL

CLIENT: MACKENZIE ARCHITECTS INTERNATIONAL

PROJECT NAME/PLANSET TITLE: PROPOSED RESIDENTIAL DEVELOPMENT
CONCEPT STORMWATER MANAGEMENT PLAN
3 GONDOLA STREET, NORTH NARRABEEN, NSW

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Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE: BASEMENT DRAINAGE PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2108694	PS01	R03	PS01-E100	B

DRAWING ID: P2108694-PS01-R03-E100

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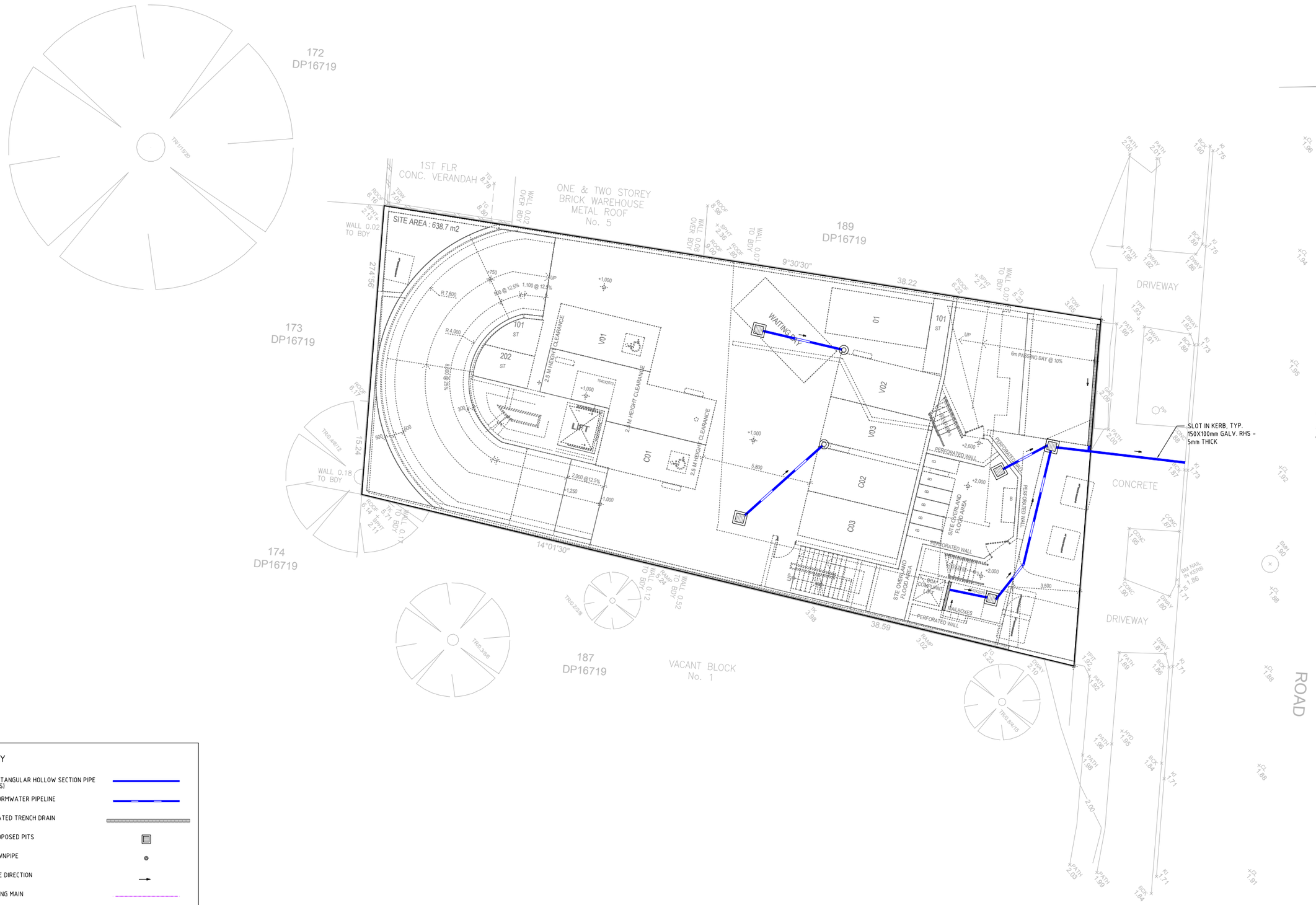

KEY

- RECTANGULAR HOLLOW SECTION PIPE (RHS)
- STORMWATER PIPELINE
- GRATED TRENCH DRAIN
- PROPOSED PITS
- DOWNPIPE
- PIPE DIRECTION
- RISING MAIN
- SITE BOUNDARY

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	**ARCHITECTURAL LAYOUTS UPDATED**	**20/05/2022**	**NN**	**TW**	**SL**	**SL**
B	LOWER GROUND FLOOR ARCHITECTURAL LAYOUT UPDATED	12/05/2022	RK	TW	SL	SL
A	INITIAL RELEASE	06/05/2022	NN/JS	TW	AVG/SL	SL

SCALE: A1 (A3) 1:100 (1:200) — 0 1 2 3 4 5 6 7 8 9 10 METRES

GRID	DATUM	PROJECT MANAGER
MGA	mAHD	SL

CLIENT: MACKENZIE ARCHITECTS INTERNATIONAL

PROJECT NAME/PLANSET TITLE: PROPOSED RESIDENTIAL DEVELOPMENT
CONCEPT STORMWATER MANAGEMENT PLAN
3 GONDOLA STREET, NORTH NARRABEEN, NSW

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DRAWING TITLE: LOWER GROUND FLOOR DRAINAGE PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P2108694	PS01	R03	PS01-E101	C

DRAWING ID: P2108694-PS01-R03-E101

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