

STORMWATER MANAGEMENT PLAN (FOR DA)

PROPOSED MIXED USE DEVELOPMENT

Lot 101, No.21-25 WOODRUFF STREET, PENRITH

GENERAL NOTES

1. FINAL LOCATION OF NEW DOWNSPIES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION
2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANT'S DRAWINGS. ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH WORK
3. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS/NZS 1500.3:2003 STORMWATER DRAINAGE. BCA AND LOCAL COUNCIL POLICY/CONSISTENT REQUIREMENTS
4. ALL DIMENSIONS AND LEVELS TO BE VERIFIED BY BUILDER ON-SITE PRIOR TO COMMENCEMENT OF WORKS. THESE DIMENSIONS ARE NOT TO BE SCALED FOR DIMENSIONS NOT TO BE USED FOR SET-OUT PURPOSES
5. ALL SURVEY INFORMATION AND PROPOSED BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS
6. ALL STORMWATER DRAINAGE PIPES ARE TO BE UPVC AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE
7. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS
8. ALL PITS WITHIN DRIVEWAYS TO BE 150mm THICK CONCRETE OR EQUAL
9. THIS PLAN IS THE PROPERTY OF DONOVAN ASSOCIATES AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM DONOVAN ASSOCIATES

PLAN SPECIFIC NOTES

1. **ROOF DRAINAGE NOTE:** AS 3500.3:2003 DRAINAGE REQUIRES EAVES GUTTERS TO BE SIZED FOR 20 YEAR 5 MIN. STORM - 2% SLOPE. IF FOR TYPICAL STANDARD QUAD GUTTER WITH 45 x 100mm AND PER 30m² ROOF AREA AND STEEPER THIS REQUIRES ONE DOWNSPIE
2. **TREE PRESERVATION:** IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF THOSE WORKS
3. ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3:2003 AND SECTIONS 3.5.3, 3.7.3 AND APPENDIX G OF AS 3500.3:2003
4. THIS DRAWING IS NOT TO BE USED FOR SET-OUT PURPOSES - REFER TO ARCHITECTURAL DRAWINGS
5. LOCATION OF SURFACE STORMWATER GRATED INLET PITS MAY BE VARIED OR NEW PITS INSTALLED AT THE CONSTRUCTION STAGE PROVIDED DESIGN INTENT OF THIS DRAWING IS MAINTAINED

SURFACE INLET PIT

SURFACE INLET PIT

ACCESS GRATE

450 SQUARE INTERVAL

GRATE LEVEL = 75.50

INVERT LEVEL = RL 75.20

PROPOSED DOWNSPIE

NATURAL GROUND FINISHED DESIGN LEVEL

GRATED TRENCH DRAIN

ABSORPTION TRENCH

PROPOSED ROOF GUTTER FALL

PROPOSED DOWNSPIE SPREADER

STORMWATER PIPE 100mm DIA. MIN. UNO

SUBSOIL PIPE

EXISTING STORMWATER PIPE

INSPECTION RISER

RAINWATER HEAD

DRAINAGE NOTES

PIPE SIZE:
THE MINIMUM PIPE SIZE SHALL BE

- 90mm DIA WHERE THE LINE ONLY RECEIVES ROOFWATER RUNOFF OR
- 100mm DIA WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS ON THE PROPERTY

THE MINIMUM PIPE VELOCITY SHOULD BE 0.6 m/s AND A MAXIMUM PIPE VELOCITY OF 6.0 m/s DURING THE DESIGN STORM.

PIPE GRADE:
THE MINIMUM PIPE GRADE SHALL BE

- 1.0% FOR PIPES LESS THAN 25mm DIA (UNO)
- 0.5% FOR ALL LARGER PIPES (UNO)

PIPES WITH A GRADIENT GREATER THAN 20% WILL REQUIRE ANCHOR BLOCKS AT THE TOP AND BOTTOM OF THE INCLINED SECTION, AND AT INTERVALS NOT EXCEEDING 3.0m

ANCHOR BLOCKS ARE DESIGNED ACCORDING TO CLAUSE 3.5.3 OF AS3500.3:1990

DEPTH OF COVER FOR PVC PIPES:
MINIMUM PIPE COVER SHALL BE AS FOLLOWS

LOCATION	MINIMUM COVER
NOT SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTIAL 300mm ALL OTHER DEVELOPMENTS
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	800mm
PAVED DRIVEWAY	750mm
	100mm PLUS DEPTH OF CONCRETE

PIT SIZES AND DESIGN:

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 450mm	450 x 450
450mm TO 600mm	600 x 600
600mm TO 900mm	600 x 900
900mm TO 1500mm	900 x 900 (WITH STEP ACTION)
1500mm TO 2000mm	1200 x 1200 (WITH STEP ACTION)

ALL PIPES SHOULD BE CUT FLUSH WITH THE WALL OF THE PIT

PTS GREATER THAN 600mm DEEP SHALL HAVE A MINIMUM ACCESS OPENING OF 600 x 600mm

THE GRATED COVERS OF PITS LARGER THAN 600 x 600mm ARE TO BE HINGED TO PREVENT THE GRATE FROM FALLING INTO THE PIT.

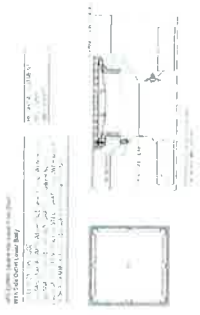
THE BASE OF THE DRAINAGE PITS SHOULD BE AT THE SAME LEVEL AS THE INVERT OF THE OUTLET PIPE. RAINWATER SHOULD NOT BE PERMITTED TO POND WITHIN THE STORMWATER SYSTEM

- **TRENCH DRAINS:**
CONTINUOUS TRENCH DRAINS ARE TO BE OF WIDTH NOT LESS THAN 150mm AND DEPTH NOT LESS THAN 100mm. THE BARS OF THE GRATING ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW
- **STEP IRONS:**
PITS BETWEEN 1.2m AND 5m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS1657 FOR PITS GREATER THAN 5m. OTHER MEANS OF ACCESS MUST BE PROVIDED
- **PVC PITS:**
PVC PITS WILL ONLY BE PERMITTED IF THEY ARE NOT A GREATER SIZE THAN 450 x 450mm (MAXIMUM DEPTH 450mm) AND ARE HEAVY DUTY
- **IN-SITU PITS:**
IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 4.6.3 OF AS3500.4:1990. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE
- **GRATES:**
GRATES ARE TO BE GALVANISED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING

CONNECTIONS TO STORMWATER DRAINS UNDER BUILDINGS:
SHALL BE CARRIED OUT IN ACCORDANCE WITH SECTION 3.7.0 OF AS3500.3:1990

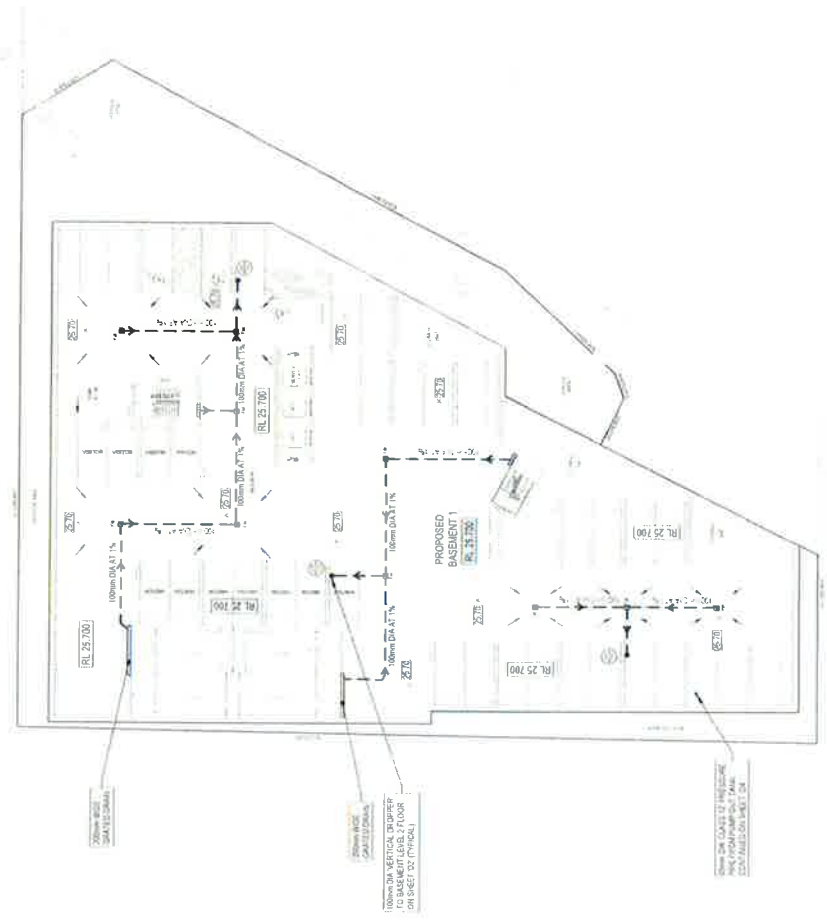
CONNECTIONS TO COUNCIL SYSTEM:
IF PROPOSED DOWNSPIES ARE DESIGNED TO CONNECT TO COUNCIL'S DRAINAGE SYSTEM, IT IS ADVISED THAT A WORKS PERMIT IS OBTAINED FROM THE RESPECTIVE COUNCIL PRIOR TO COMMENCEMENT OF WORKS

ABOVE GROUND PREWORKS:
SHALL BE CARRIED OUT IN ACCORDANCE WITH SECTION 6 OF AS3500.3:1990



FLOOR WASTE (SF) - FW (TYPICAL)
NS

NOTE: ALL PROPOSED GRADED DRAINS ON BASEMENT LEVEL TO BE MINIMUM 100mm WIDE (UNLESS NOTED OTHERWISE)



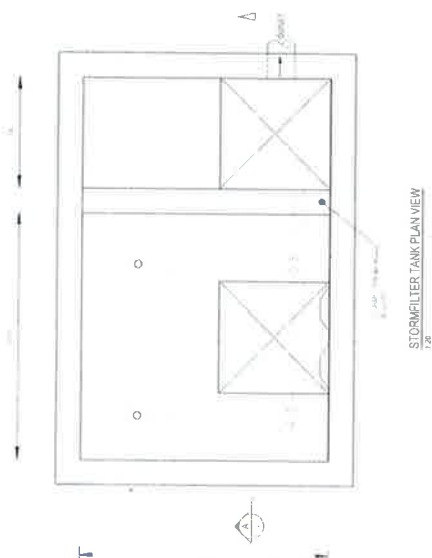
BASEMENT LEVEL 1 FLOOR PLAN

NOTE: THESE PLANS ARE FOR CONCEPT ONLY
NOT FOR CONSTRUCTION



ASTINA GROUP PTY LTD
DONOVAN
STORMWATER MANAGEMENT
BASEMENT LEVEL 1 FLOOR PLAN
PROPOSED MIXED USE DEVELOPMENT
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PENRITH
E286341 01



STORMFILTER TANK PLAN VIEW
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PARAMETER	SOURCES	RECEIVED LOAD	% REDUCTION
TOTAL SUSPENDED SOLIDS (ppm)	187	19.6	89.3
TOTAL PHOSPHORUS (ppm)	0.45	0.1	70.9
TOTAL NITROGEN (ppm)	2.68	1.27	52.4
GROSS POLLUTANTS (ppm)	72.5	0	100

MUSIC RESULTS

THE NEW YORK PUBLIC LIBRARY
ASTOR LENOX TILDEN FOUNDATIONS
300 FIFTH AVENUE
NEW YORK 10017

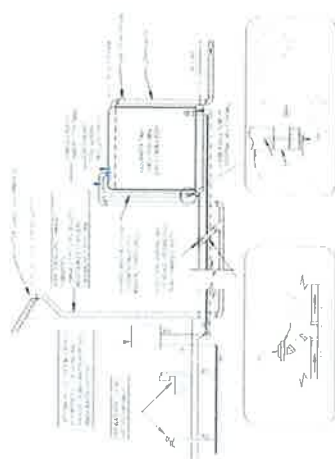
1. DOWRY SETTLEMENTS: DOWRY SETTLEMENTS ARE THE MOST COMMON TYPE OF SETTLEMENT IN THE UNITED STATES. THEY ARE USUALLY MADE BY A FATHER TO HIS SON OR DAUGHTER.

SHIP DETAIL WITH ENVIPOD
TYPICAL (UNO)

GRATED DRAIN
NTS

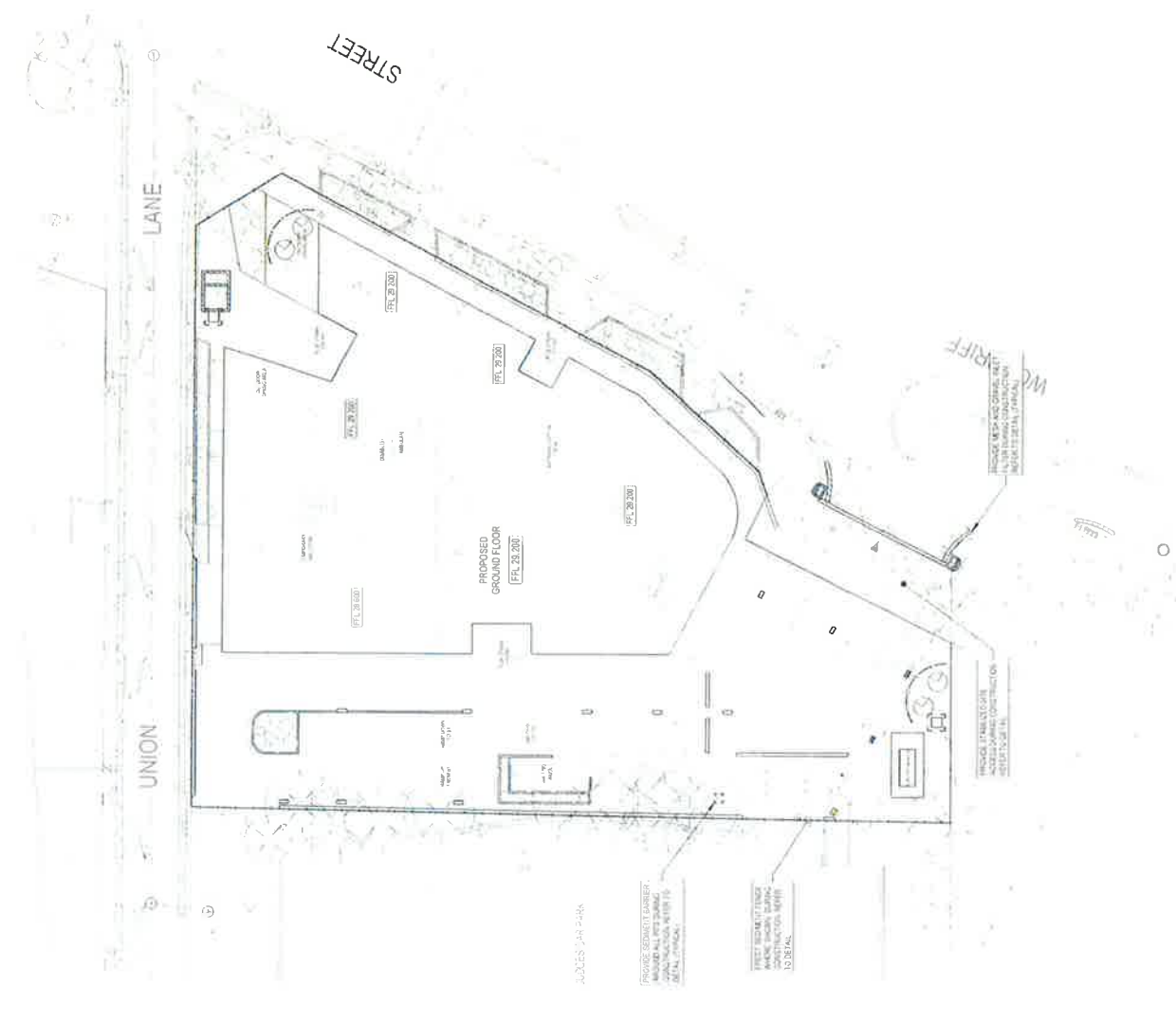


TYPICAL PIT (SIP)

SUB-SOIL DRAINAGE
ENTS

RAINWATER RE-USE TANK - ABOVE GROUND

- NOTES:**
1. NOTE: DURING EXCAVATION, DEMOLITION AND CONSTRUCTION, ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT DUST FROM AFFECTING THE ADJACENT OF THE NEIGHBORHOOD.
 2. THE FOLLOWING MEASURES MUST BE ADOPTED:
 3. ALL EXCAVATION SHALL BE DIRECTED TOWARD THE STREET. ALL EXCAVATION SHALL BE PLACED AT LEAST 10 FEET FROM THE STREET. ALL EXCAVATION SHALL BE PLACED AT LEAST 10 FEET FROM THE STREET.
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MESH AND GRAVEL INLET FILTER
NTS

CONSTRUCTION NOTES

1. Filter shall be constructed of 150mm diameter gravel and 100mm diameter mesh.
2. Filter shall be installed in the inlet of the sediment pit.
3. Filter shall be maintained and cleaned regularly.
4. Filter shall be replaced when the gravel is lost or the mesh is damaged.
5. Filter shall be installed in accordance with the manufacturer's instructions.



SEDIMENT FENCE DETAIL
NTS

CONSTRUCTION NOTES

1. Sediment fence shall be constructed of 150mm diameter gravel and 100mm diameter mesh.
2. Sediment fence shall be installed in the inlet of the sediment pit.
3. Sediment fence shall be maintained and cleaned regularly.
4. Sediment fence shall be replaced when the gravel is lost or the mesh is damaged.
5. Sediment fence shall be installed in accordance with the manufacturer's instructions.



STOCKPILE
NTS

CONSTRUCTION NOTES

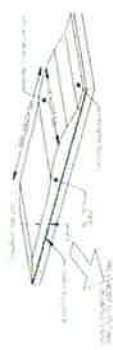
1. Stockpile shall be constructed of 150mm diameter gravel and 100mm diameter mesh.
2. Stockpile shall be installed in the inlet of the sediment pit.
3. Stockpile shall be maintained and cleaned regularly.
4. Stockpile shall be replaced when the gravel is lost or the mesh is damaged.
5. Stockpile shall be installed in accordance with the manufacturer's instructions.



SEDIMENT BARRIER AROUND PIT
NTS

CONSTRUCTION NOTES

1. Sediment barrier shall be constructed of 150mm diameter gravel and 100mm diameter mesh.
2. Sediment barrier shall be installed in the inlet of the sediment pit.
3. Sediment barrier shall be maintained and cleaned regularly.
4. Sediment barrier shall be replaced when the gravel is lost or the mesh is damaged.
5. Sediment barrier shall be installed in accordance with the manufacturer's instructions.



STABILIZED SITE ACCESS
NTS

CONSTRUCTION NOTES

1. Stabilized site access shall be constructed of 150mm diameter gravel and 100mm diameter mesh.
2. Stabilized site access shall be installed in the inlet of the sediment pit.
3. Stabilized site access shall be maintained and cleaned regularly.
4. Stabilized site access shall be replaced when the gravel is lost or the mesh is damaged.
5. Stabilized site access shall be installed in accordance with the manufacturer's instructions.