

PROPOSED DUAL OCCUPANCY DEVELOPMENT

11 BROWNING STREET EAST HILLS 2213

GENERAL NOTES:

- 1. MAIN STORMWATER DRAINS ≥ 300mm DIAMETER SHALL FALL AS NOTED. HOWEVER, ALL OTHER BRANCH DRAINS SHALL HAVE A MINIMUM GRADE OF 1%.
- 2. STORMWATER DRAINS SHALL BE RUBBER RING JOINTED FRC (CLASS 2) OR RCP OF EQUIVALENT CLASS. PIPES OF SIZE LESS THAN 300mm SHALL BE DWV GRADE PVC WITH SOLVENT CEMENT JOINTS.
- 3. STORMWATER PIT LIDS LOCATED IN DRIVEWAY AREAS SHALL BE EQUAL TO CI & D CAST IRON GRATES AND FRAMES - CLASS D.
- 4. STORMWATER PIT LIDS TO LANDSCAPED AND PEDESTRIAN AREAS SHALL BE EQUAL TO CI & D CAST IRON GRATES AND FRAMES - CLASS A.
- 5. ALL WORKS SHALL BE CARRIED OUT TO THE REQUIREMENTS OF THE RELEVANT COUNCIL / AUTHORITY, AS 3500.3, AS 2032, AS 3996 AND AS 3725.
- 6. AT THE COMPLETION OF THE WORKS PROVIDE A "WORK AS EXECUTED" PLAN OF THE STORMWATER DRAINAGE AND DETENTION SYSTEM. THE PLAN SHALL BE PREPARED AND CERTIFIED BY THE REGISTERED SURVEYOR AND SHOW ALL PIPE SIZES, INVERTS, PIT COVER AND BASE LEVELS AND ALL DETENTION TANK DIMENSIONS, SURFACE LEVELS AND THE ORIFICE PLATE SIZE (IF APPLICABLE).
- 7. PITS SHALL BE CI & D PRECAST CONCRETE OR APPROVED EQUAL WITH EXTENSION RISERS AS REQUIRED. PITS SHALL BE BEDDED ON A 50mm LAYER OF 4:1 CEMENT MORTAR AND BACKFILLED WITH EXCAVATED MATERIAL IN 200mm THICK COMPACTED LAYERS TO FINISHED SURFACE LEVEL.
- 8. COVERS TO PITS LOCATED WITHIN PAVED AREAS SHALL BE CAST IN WITH THE CONCRETE POUR. ALL OTHER PIT COVERS SHALL BE PROVIDED WITH A 150mm CONCRETE SURROUND.
- 9. PROVIDE TO EACH STORMWATER PIT A 1m LONG SECTION OF SUB-SOIL DRAINAGE, Ø75mm WITH GEOTEXTILE, LAID WITHIN THE UPSTREAM TRENCH.
- 10. PROVIDE 25mm DIAMETER GALVANIZED STEP-IRONS AT INTERVALS OF 300mm WHERE THE INTERNAL DEPTH OF THE PIT EXCEEDS 1000mm, TO AS 4108.
- 11. RETENTION TANK TO BE CLEANED & ALL SLUDGE REMOVED ON AN ANNUAL INSPECTION.
- 12. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE THE POSITION & LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
- 13. LOCATION OF DOWNPIPES & FLOOR WASTES ARE INDICATIVE ONLY. DOWNPIPE & FLOOR WASTE SIZE, LOCATION & QUANTITY TO BE DETERMINED BY BUILDER & IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- 14. THE GRATES (HEAVY DUTY IN THE DRIVEWAYS) SHALL BE HINGED AND LOCKABLE.
- 15. THE PLANS SHALL INDICATE THAT DRIVEWAYS AND LAYBACKS MUST BE CONSTRUCTED AT LEAST 1-METRE CLEAR OF STORMWATER PITS/LINTELS, TREES, TELSTRA PITS AND EXISTING POWER POLES.
- 16. REFER TO ENGINEER ANY SERVICES THAT INTERFERE WITH THE REQUIREMENTS OF THESE PLANS.

SITEWORKS NOTES:

- 1. DATUM A.H.D.
- 2. ORIGIN OF LEVELS. REFER TO BENCH OR STATE SURVEY MARKS WHERE SHOWN ON PLAN.
- 3. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- 4. ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE DIRECTIONS OF THE SUPERINTENDENT.
- 5. EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- 6. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS ACHIEVED.
- 7. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- 8. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATION IS TO BE UNDERTAKEN OVER TELSTRA OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- 9. CONTRACTOR TO OBTAIN AUTHORITY APPROVALS WHERE APPLICABLE.
- 10. MAKE SMOOTH TRANSITION NEW TO EXISTING SURFACES AND MAKE GOOD AS APPLICABLE.
- 11. THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED LANDSCAPE, ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT AT THE SITE BY THE SUPERINTENDENT.
- 12. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MINIMUM OF 50mm IN BITUMINOUS PAVING.
- 13. ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN 80Ø uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.
- 14. GRADES TO PAVEMENTS TO BE AS INDICATED ON PLAN. GRADE EVENLY BETWEEN NOMINATED RL'S. AREAS EXHIBITING PONDING GREATER THAN 5mm DEPTH WILL NOT BE ACCEPTED UNLESS IN A DESIGNATED SAG DRAINAGE LOCATION.
- 15. ALL COVERS AND GRATES ETC. TO EXISTING SERVICE UTILITIES ARE TO BE ADJUSTED TO SUIT NEW FINISHED SURFACE LEVELS WHERE APPLICABLE TO AUTHORITY REQUIREMENTS.

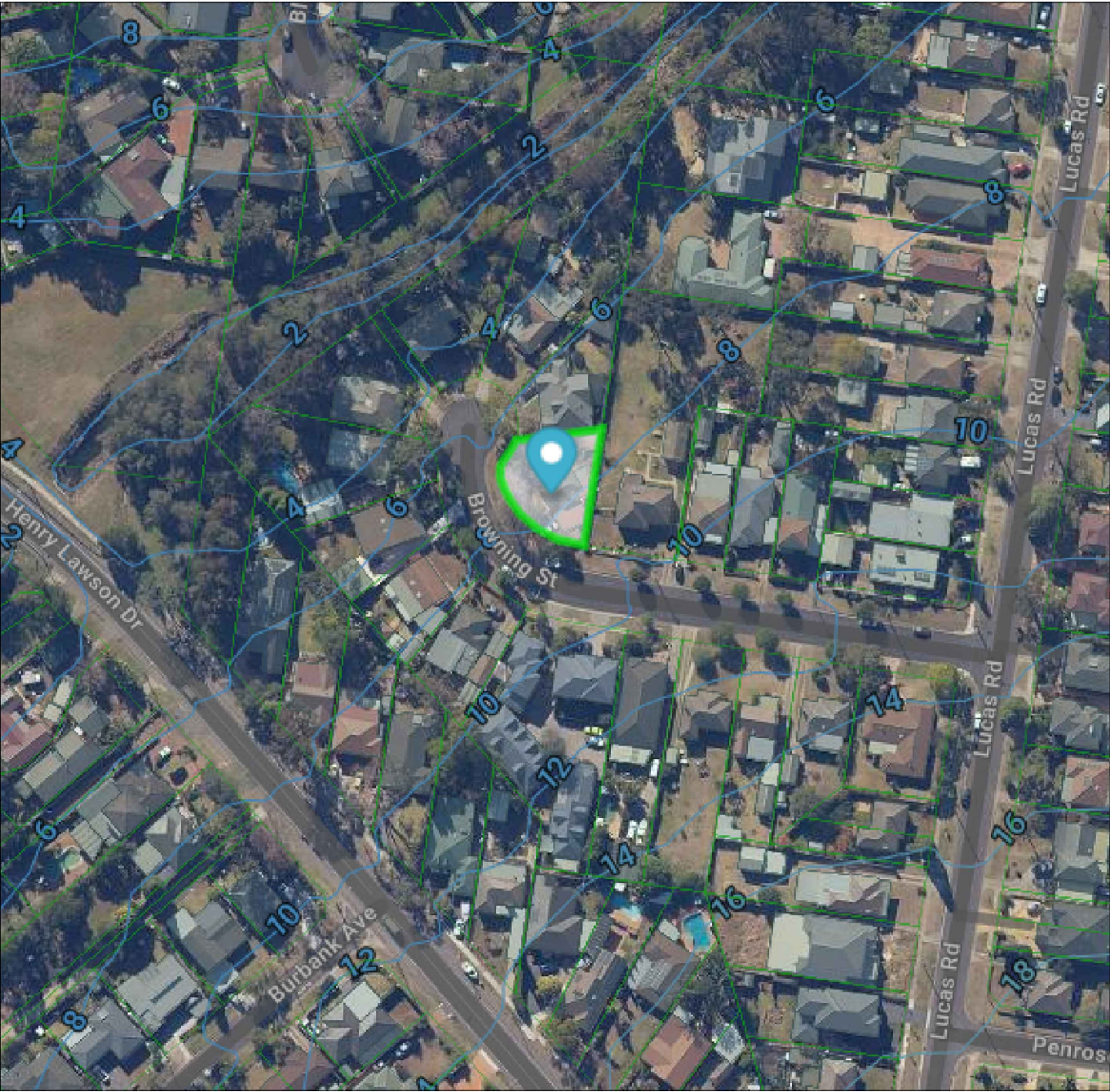
EROSION CONTROL NOTES:

- 1. ALL EROSION & SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH 'MANAGING URBAN STORMWATER, 4th EDITION PRODUCED BY LANDCOM.
- 2. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
- 3. ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC.
- 4. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADEN WATER.
- 5. NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH THE REQUIREMENTS OF THE CLEAN WATERS ACT. DISCHARGE TURBIDITY NOT TO EXCEED 50mg/L

CHARGED PIPE SYSTEMS

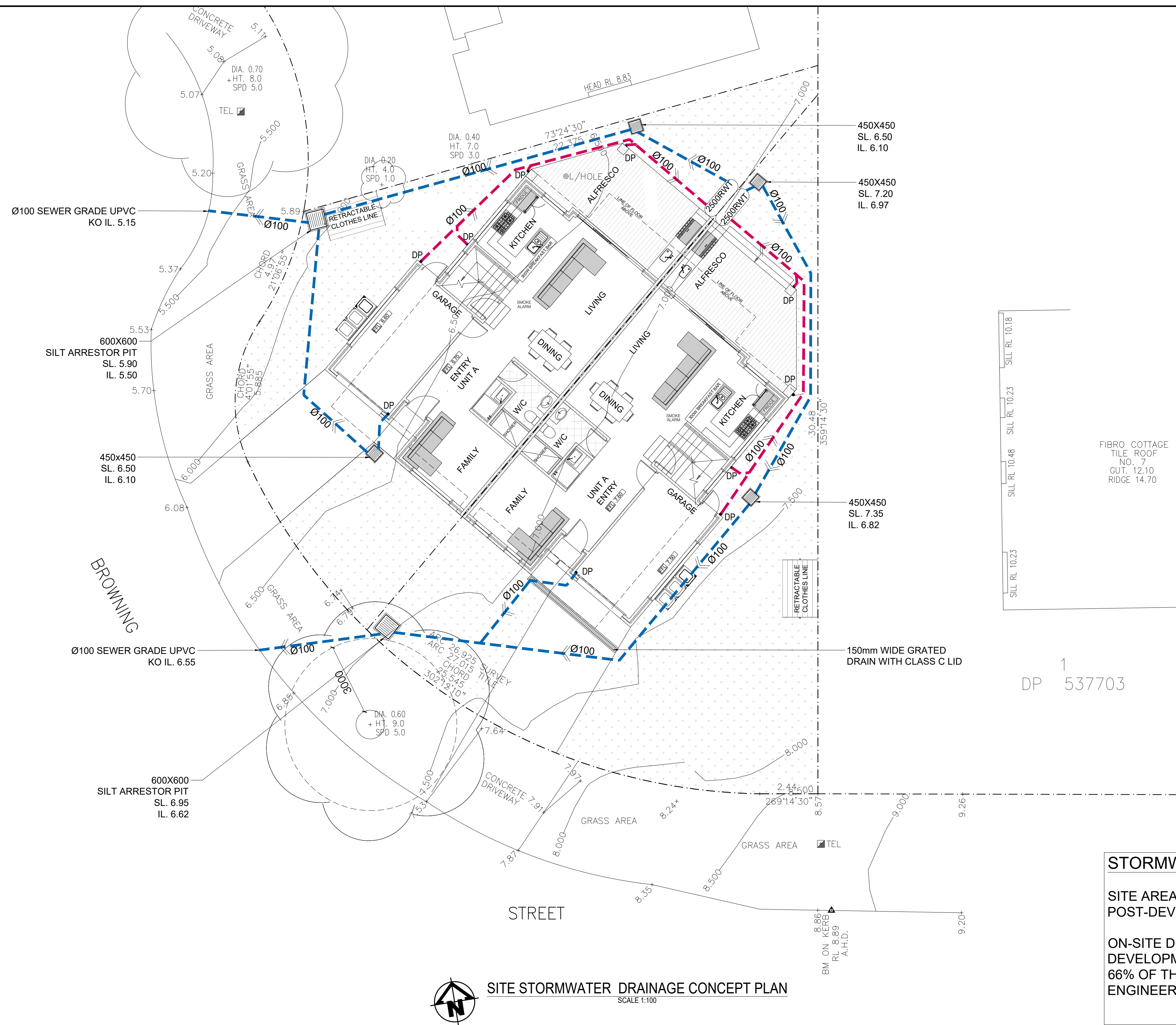
- 1. GENERAL REQUIREMENTS FOR CHARGED PIPE SYSTEMS:
 - (A) WHERE THE BOUNDARY LEVEL IS ABOVE ANY KERB WITHIN 15m OF THE SITE OR A COUNCIL PIPE IS AVAILABLE, THE ROOF WATER IS TO DRAIN BY GRAVITY FROM THE BOUNDARY TO THE COUNCIL SYSTEM VIA A SILT/LITTER ARRESTOR PIT. WHERE A GRAVITY DISCHARGE TO THE COUNCIL SYSTEM IS NOT VIABLE THE CHARGED PIPE MAY CONNECT DIRECTLY TO THE KERB.
 - (B) FLAP (REFLUX) VALVES ARE TO BE INSTALLED ON THE OUTLET PIPES FROM THE CHARGED SYSTEM THAT DISCHARGE TO THE SILT/LITTER ARRESTOR PIT TO MINIMISE MOSQUITO NUISANCE.
 - (C) THE LOWEST LEVEL OF THE CHARGED SYSTEM SHALL DRAIN BY GRAVITY TO A SMALL INSPECTION PIT (600mm x 600mm MIN.) WITH SUMP FOR CLEANING. There shall be a minimum of ONE METRE OF PIPE FROM THE LAST DOWNPIPE TO THE INSPECTION PIT. THE CONNECTION TO THE PIT IS TO HAVE A SEALED SCREW CAP TO ALLOW FOR PERIODIC CLEANING AND REMOVAL OF RUBBISH. THE CAP IS TO HAVE A 5mm DRIBBLE HOLE TO ALLOW TRAPPED WATER TO DISCHARGE SLOWLY. REFER TO CHARGED PIPE CLEAN-OUT PIT DETAIL.
 - (D) ONLY SEWER GRADE PVC OR PRESSURE PIPES ARE TO BE USED TO CONVEY CHARGED FLOWS.
 - (E) ALL PIPES AND DOWNPIPES ARE TO BE SEALED TO A MINIMUM OF 0.5m ABOVE THE MAXIMUM WATER LEVEL IN THE SYSTEM. THE SYSTEM SHALL BE PRESSURE TESTED PRIOR TO BACKFILLING. THE USE OF EXPOSED PIPELINE SHALL BE MINIMISED.
 - (F) ALL GUTTERS MUST HAVE LEAF GUTTER GUARDS INSTALLED AND UNDERTAKE REGULARLY CLEANING OF THE DOWNPIPES TO ENSURE EFFECTIVENESS OF THE SYSTEM.
- 2. REQUIREMENTS FOR CHARGED PIPE SYSTEMS FOR ROOF SYSTEMS:

- (A) THE EAVE GUTTER LEVEL SHALL BE A MINIMUM OF 0.6m AN PREFERABLY 1.6m ABOVE THE HIGHER OF THE TOP OF THE KERB OUTLET OR THE TOP STORAGE LEVEL (E.G. RAINWATER TANK). WHERE THE HEIGHT IS BETWEEN 0.5m AND 1.5m AN ANALYSIS OF HEAD LOSSES SHALL BE PROVIDED.
- 3. REQUIREMENTS FOR CHARGED PIPE SYSTEMS FOR ABOVEGROUND RAINWATER TANKS:
 - (A) THE OVERFLOW FROM THE RAINWATER TANK IS TO BE A MINIMUM OF 0.5m AND PREFERABLY 1.5m ABOVE THE TOP OF THE KERB OUTLET. WHERE THE HEIGHT IS BETWEEN 0.5m AND 1.5m AN ANALYSIS OF HEAD LOSSES SHALL BE PROVIDED.
 - (B) THE INLET PIPES FROM THE ROOF SYSTEM TO THE RAINWATER TANK MAY ENTER DIRECTLY, OR THROUGH A CHARGE SYSTEM, WHERE A CHARGE SYSTEM IS USED EACH LINE WILL HAVE A CLEAN-OUT PIT.
 - (C) FLAP VALVES ARE TO BE INSTALLED ON THE INLET PIPES TO THE RAINWATER TANK FROM THE CHARGED SYSTEM TO MINIMISE MOSQUITO NUISANCE.
 - (D) THE DESIGN AND INSTALLATION SHALL COMPLY WITH HB 230 - RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK.



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															CHECKED DY	APPROVED DY	SCALE NOT TO SCALE			
															TITLE GENERAL NOTES & LOCALITY PLAN			DRAWING NUMBER 22106 C1.00		REVISION 1
1			ISSUED FOR D.A. SUBMISSION						HW			DY			19/04/2022					
REVISION			AMENDMENT						DRAWN			DESIGNED			DATE					



- LEGEND
- PROPOSED BOUNDARY
 - PROPOSED SILT FENCE
 - PROPOSED SPOT LEVEL
 - PROPOSED SURFACE INLET PIT
 - Ø100 DOWNPIPE
 - CHARGED PIPE SIZE AS NOMINATED
 - UPVC PIPE @1% MIN SIZE AS NOTED
 - PROPOSED OSD
 - PLANTER OUTLET
 - FLOOR WASTE
 - 150mm CLASS B GRATED DRAIN

STORMWATER DRAINAGE NOTES

SITE AREA: 594.4m²
POST-DEV IMPERVIOUS AREA: 279.5m² - 47.0%

ON-SITE DETENTION IS NOT REQUIRED FOR DUAL OCCUPANCY DEVELOPMENTS WITH AN IMPERVIOUS AREA OF NO MORE THAN 66% OF THE SITE AREA AS PER BANKSTOWN CITY COUNCIL ENGINEERING AND DRAINAGE STANDARDS 2009 PART 10.1.2.

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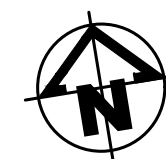
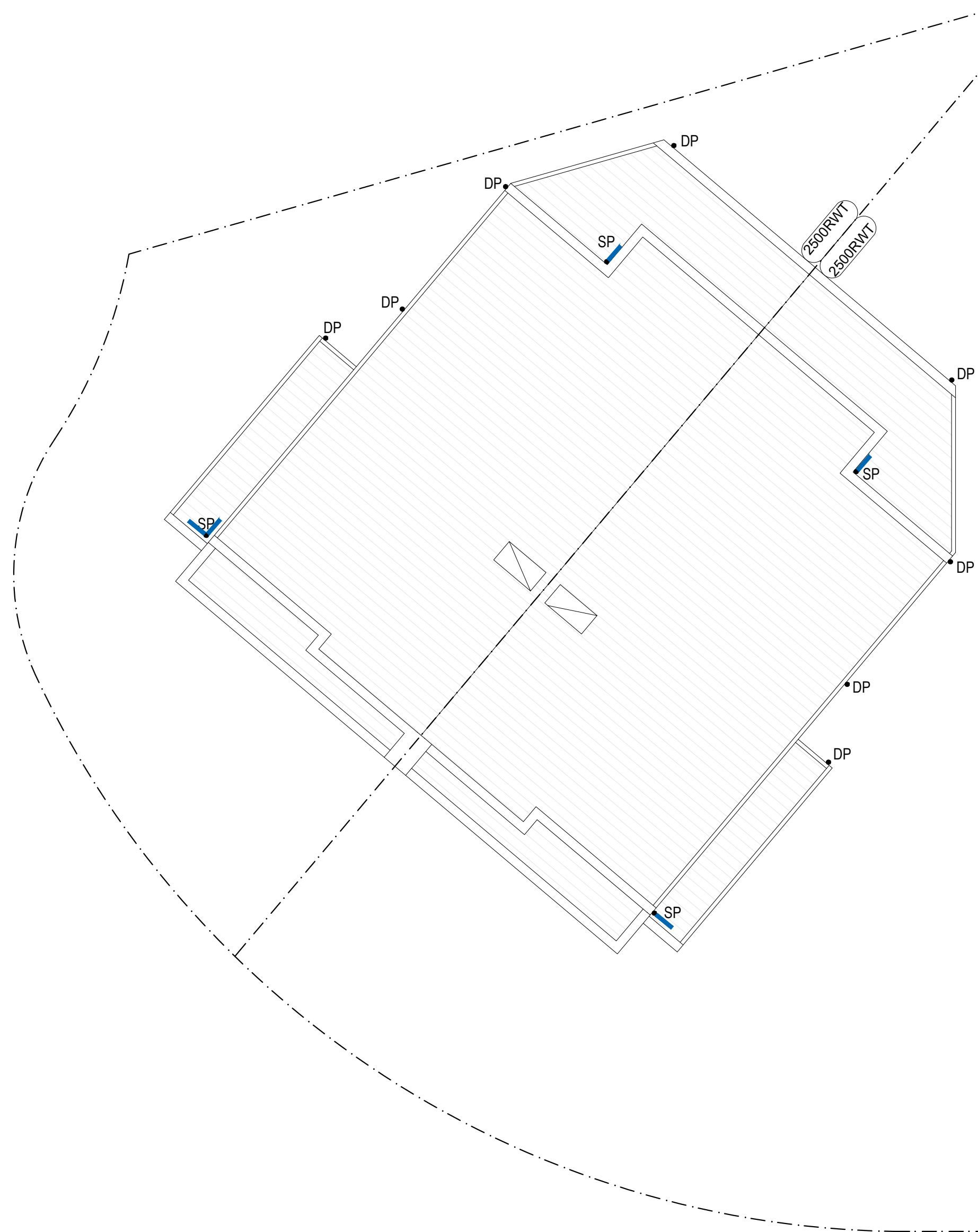
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PROJECT	PROPOSED DUAL OCCUPANCY DEVELOPMENT 11 BROWNING STREET EAST HILLS 2213
TITLE	SITE STORMWATER DRAINAGE CONCEPT PLAN

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DRAWING NUMBER	22106 C2.00	REVISION 1



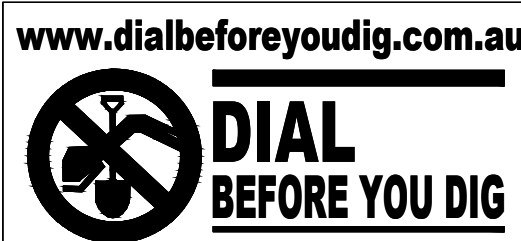
FIRST FLOOR STORMWATER DRAINAGE CONCEPT PLAN
SCALE 1:100



ROOF STORMWATER DRAINAGE CONCEPT PLAN
SCALE 1:100

- LEGEND
- PROPOSED BOUNDARY
 - PROPOSED SILT FENCE
 - 25.90
X
PROPOSED SPOT LEVEL
 - PROPOSED SURFACE INLET PIT
 - DP
Ø100 DOWNPIPE
 - CHARGED PIPE SIZE AS NOMINATED
 - Ø150
UPVC PIPE @1% MIN SIZE AS NOTED
 - PROPOSED OSD
 - PO
PLANTER OUTLET
 - FW
FLOOR WASTE
 - 150mm CLASS B GRATED DRAIN

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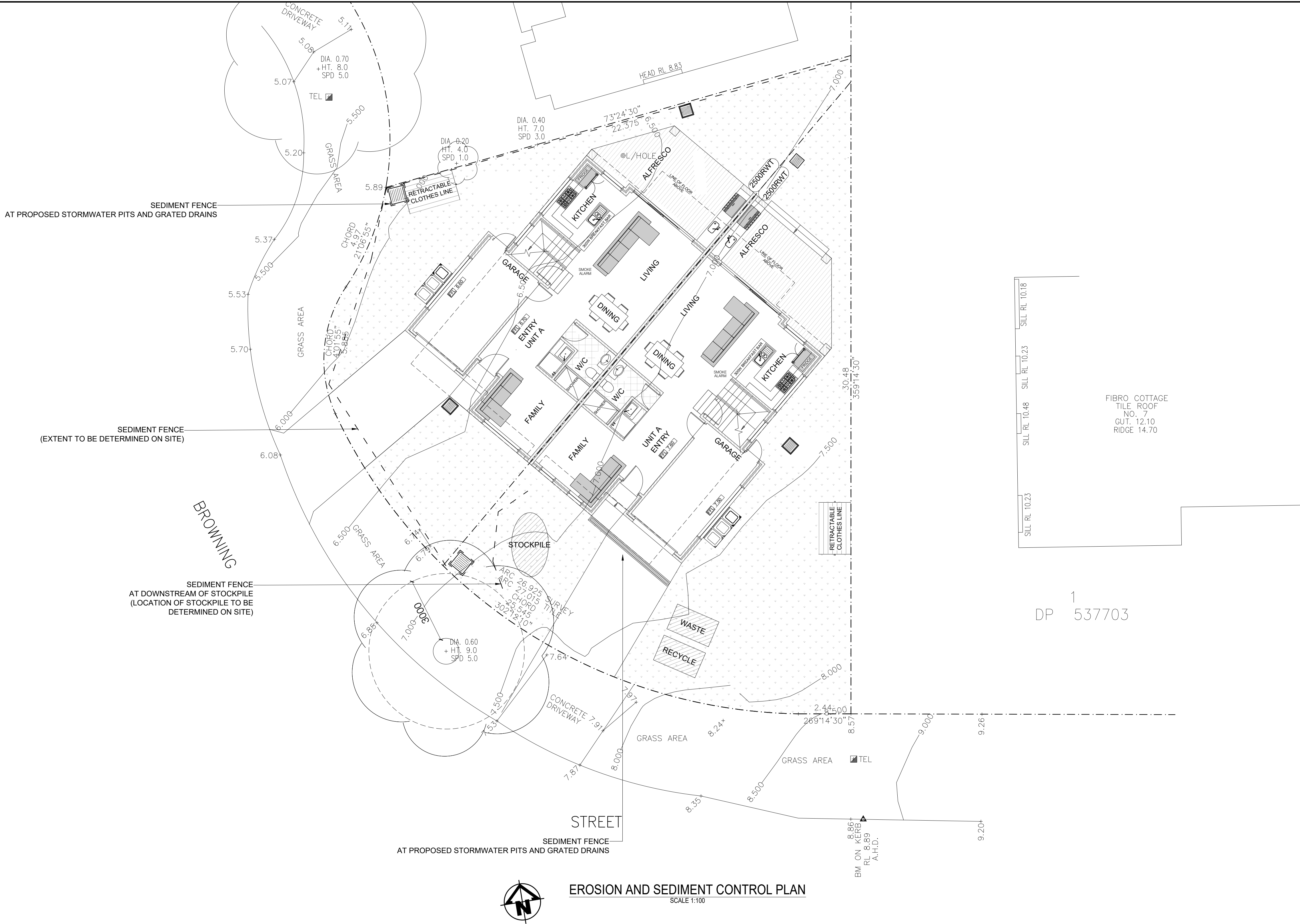
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PROJECT PROPOSED DUAL OCCUPANCY DEVELOPMENT 11 BROWNING STREET EAST HILLS 2213
TITLE UPPER LEVEL STORMWATER CONCEPT PLAN

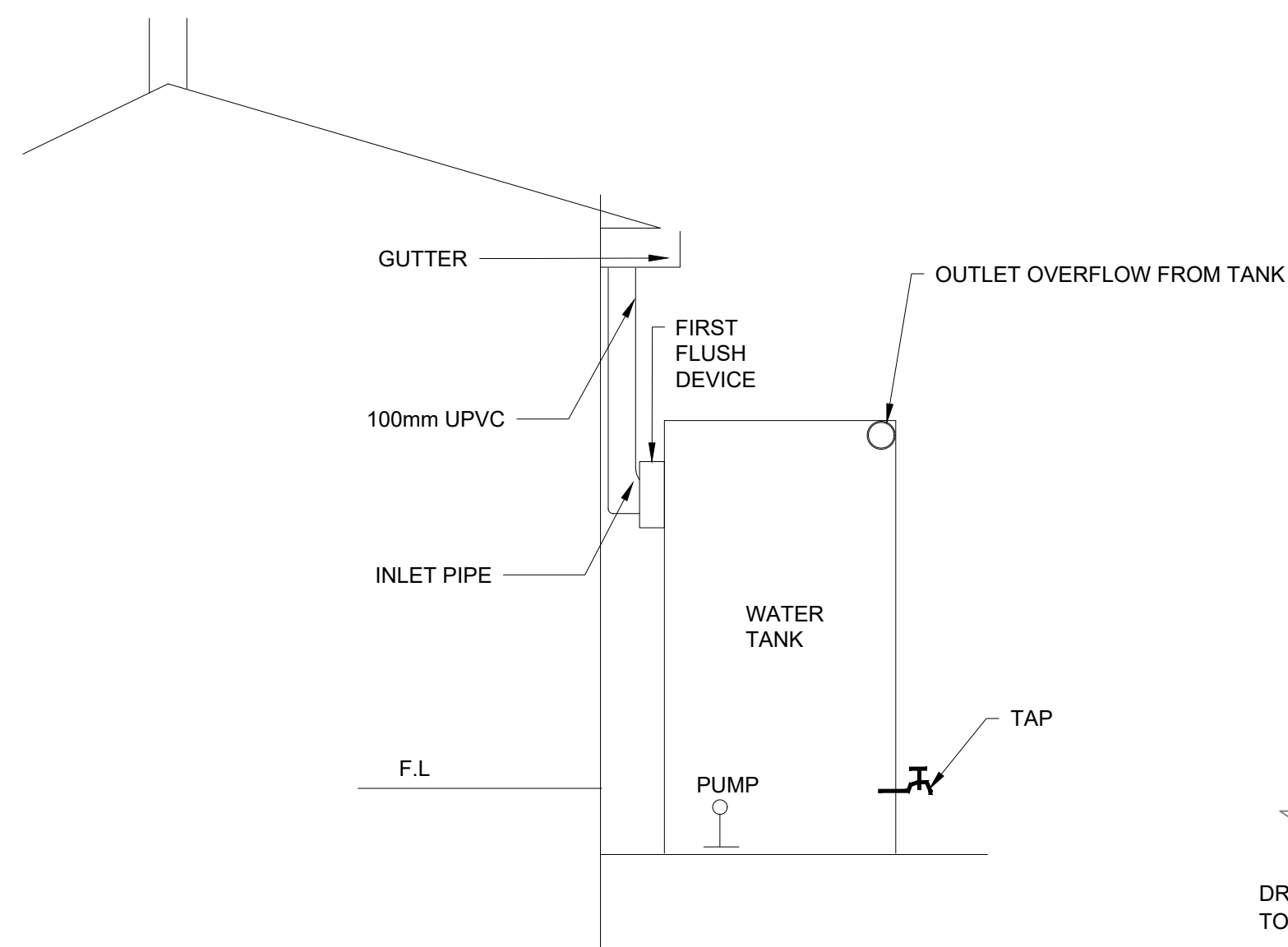
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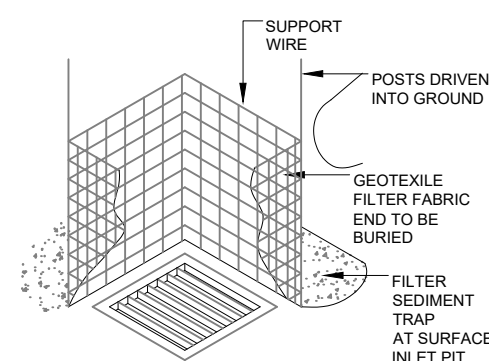
- LEGEND
- PROPOSED BOUNDARY
 - PROPOSED SILT FENCE
 - PROPOSED SPOT LEVEL
 - PROPOSED SURFACE INLET PIT
 - Ø100 DOWNPIPE
 - CHARGED PIPE SIZE AS NOMINATED
 - UPVC PIPE @1% MIN SIZE AS NOTED
 - PROPOSED OSD
 - PLANTER OUTLET
 - FLOOR WASTE
 - 150mm CLASS B GRATED DRAIN

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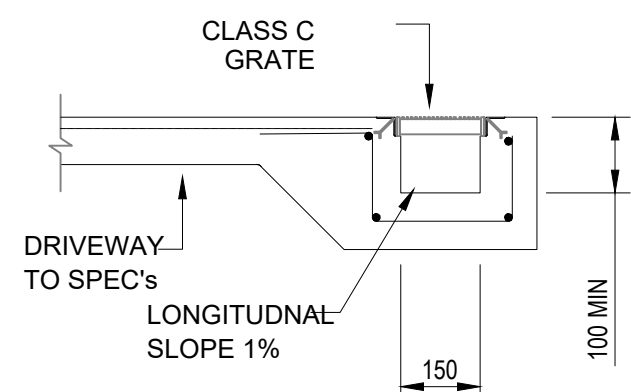
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 DIAL BEFORE YOU DIG										ARCHITECT FEMME BUILD		Address: 30 Nambour Road, Engadine New South Wales 2233, Australia		CHECKED DY		APPROVED DY SCALE 1:100			
1		ISSUED FOR D.A. SUBMISSION				HW		DY		19/04/2022		Telephone: (02) 8501 4689		TITLE EROSION AND SEDIMENT CONTROL PLAN		DRAWING NUMBER 22106 C3.00		REVISION 1	
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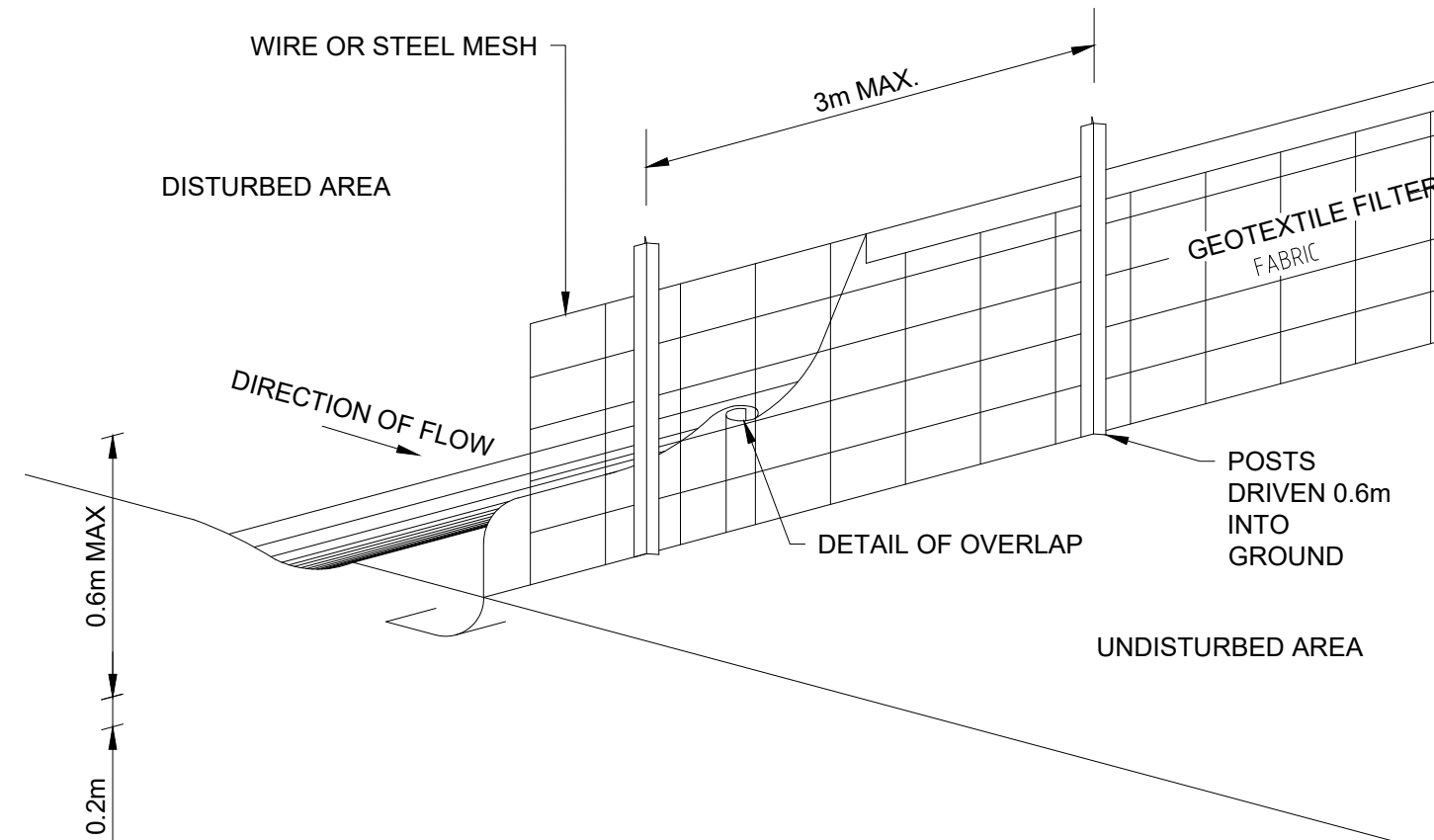
TYPICAL WATER TANK SECTION WITH FIRST FLUSH DEVICE
NOT TO SCALE



TYPICAL SEDIMENT TRAP AT SURFACE INLET PIT
NTS

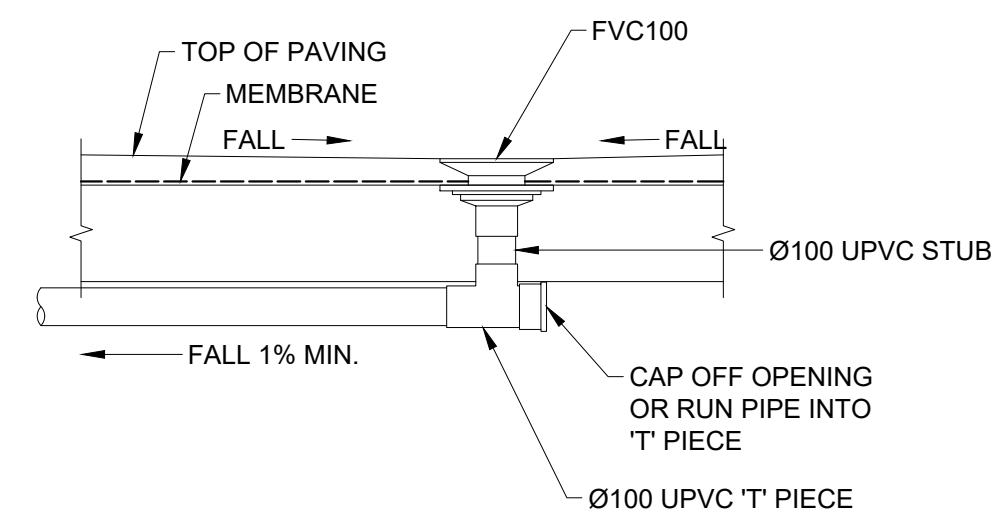


TYPICAL GRATED DRAIN DETAIL
NTS

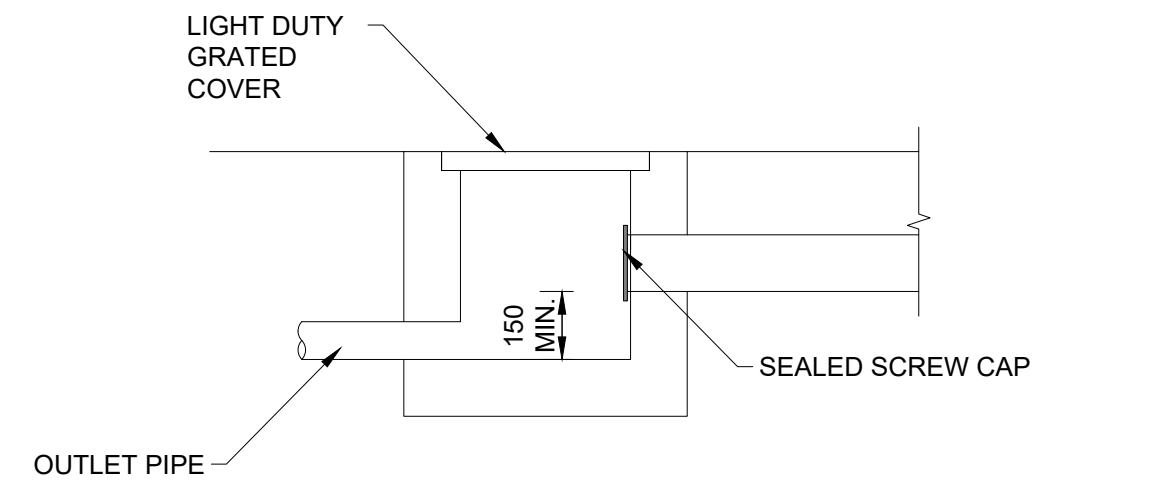


SEDIMENT FENCE
NOT TO SCALE

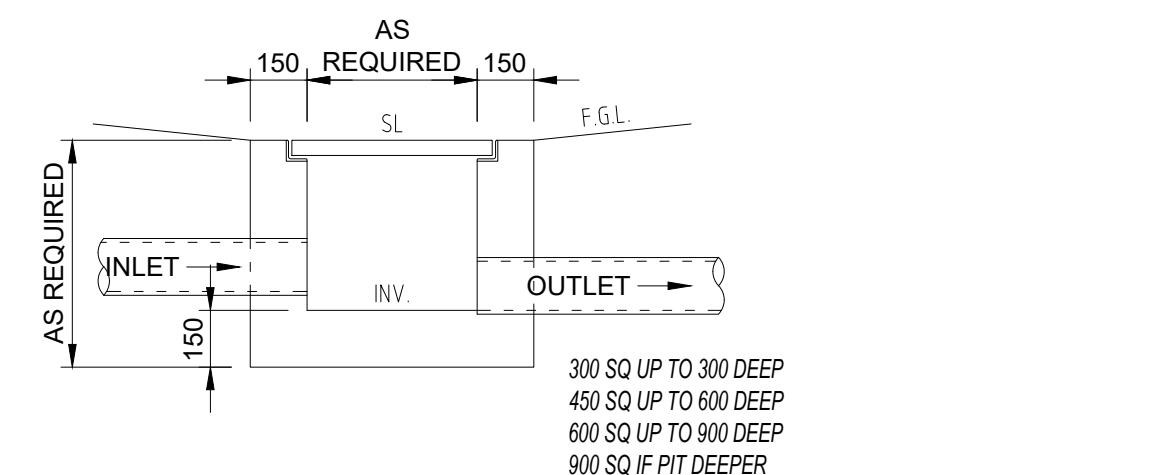
NOTE: DRAINAGE AREA 0.4Ha MAX. SLOPE GRADIENT 1:2 MAX. SLOPE LENGTH 60m MAX.



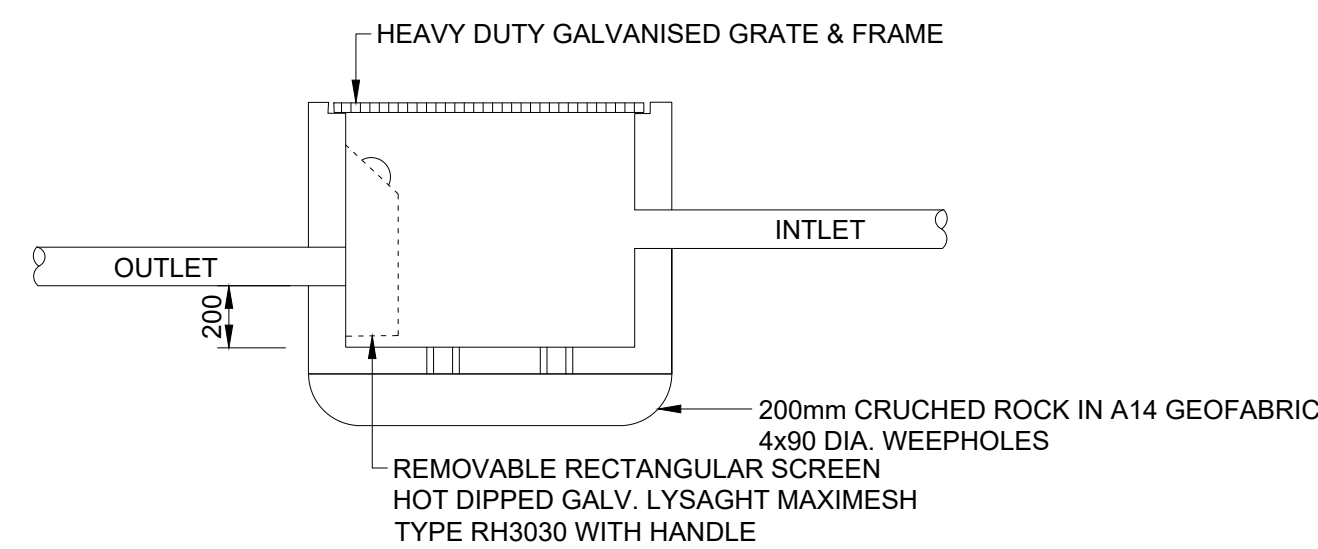
TYPICAL BALCONY FLOOR DRAIN DETAIL
SCALE 1:20



CHARGED PIPE CLEAN-OUT PIT DETAILS (WITH OUTLET)
SCALE 1:20



TYPICAL PIT DETAIL
SCALE 1:20



600x600SILT ARRESTOR PIT DETAIL
N.T.S.

TRENCH NOTES:

1. WINGWALLS: FILL/BACKFILL MATERIAL SHALL BE PLACED 300 WIDE BEHIND WINGWALLS FOR THE LENGTH AND HEIGHT OF THE WALLS.
2. OVERLAY MATERIAL: MATERIAL PROPERTIES AND COMPACTION SHALL BE AS FOR THE SIDE ZONE.
3. SIDE SUPPORT COMPACTION: THE TRENCH WALLS SHALL HAVE A DENSITY AND STIFFNESS NOT LESS THAN THOSE OF THE ADJACENT COMPACTED FILL FOR A MINIMUM WIDTH 2500 EACH SIDE OF THE TRENCH AND TO A MINIMUM HEIGHT OF 700 ABOVE THE BOTTOM OF THE PIPE.
4. WORKING LOADS ARE THOSE DUE TO FILL MATERIAL AND STANDARD HIGHWAY VEHICLES AS PER AS 3725. CONSTRUCTION LOADS HAVE NOT BEEN ALLOWED FOR.
5. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
6. ALL BEDDING, HAUNCH, SIDE ZONE & OVERLAY ZONE SHALL CONSIST OF COURSE GRADED SAND.
7. BACKFILL SHALL CONSIST OF GRANULAR OR SANDY FILL WHERE UNDER THE ZONE OF INFLUENCE OF PAVEMENTS OR STRUCTURES OR GENERAL FILL COMPACTED TO 95% SMDD WHERE UNDER LANDSCAPED AREAS.

REFERENCED DOCUMENTS:

1. AUSTRALIAN STANDARDS AS 3725-1989 LOADS ON BURIED CONCRETE PIPES
2. RTA QA MODEL SPECIFICATION PART R11 STORMWATER DRAINAGE.

TRENCH PROFILE:

ALL TRENCH BEDDING BACKFILL MUST BE NON COHESIVE & COMPLY WITH THE FOLLOWING GRADING TABLES:

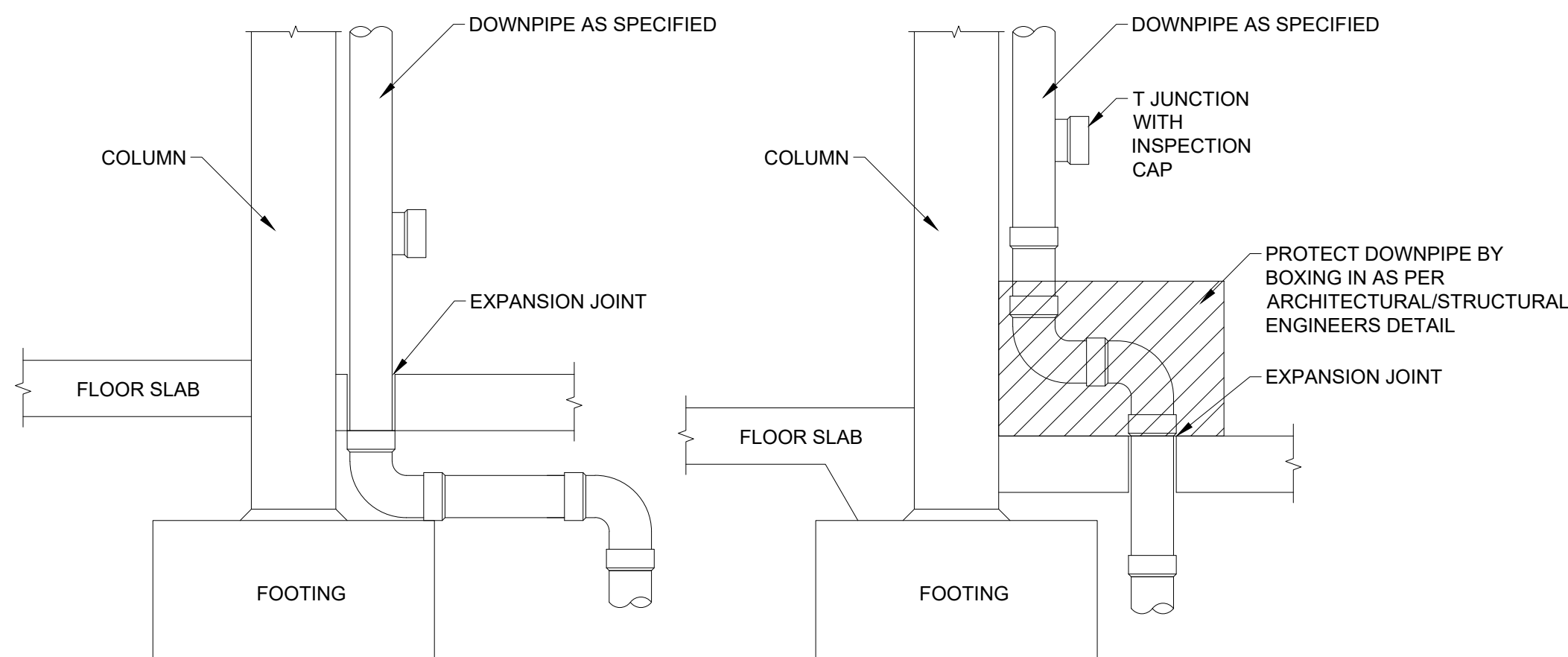
(A) BEDDING & HAUNCH ZONE

SIEVE SIZE (mm)	19	2.36	0.6	0.3	0.15	0.075
% MASS PASSING	100	100-50	90-20	60-10	25-0	10-0

(B) OVERLAY ZONE & BACKFILL UP TO SUBGRADE LEVEL IN CARRIAGEWAYS & UNDER KERB & GUTTER

SIEVE SIZE (mm)	75	9.5	2.36	0.6	0.15
% MASS PASSING	100	100-50	100-30	50-15	0

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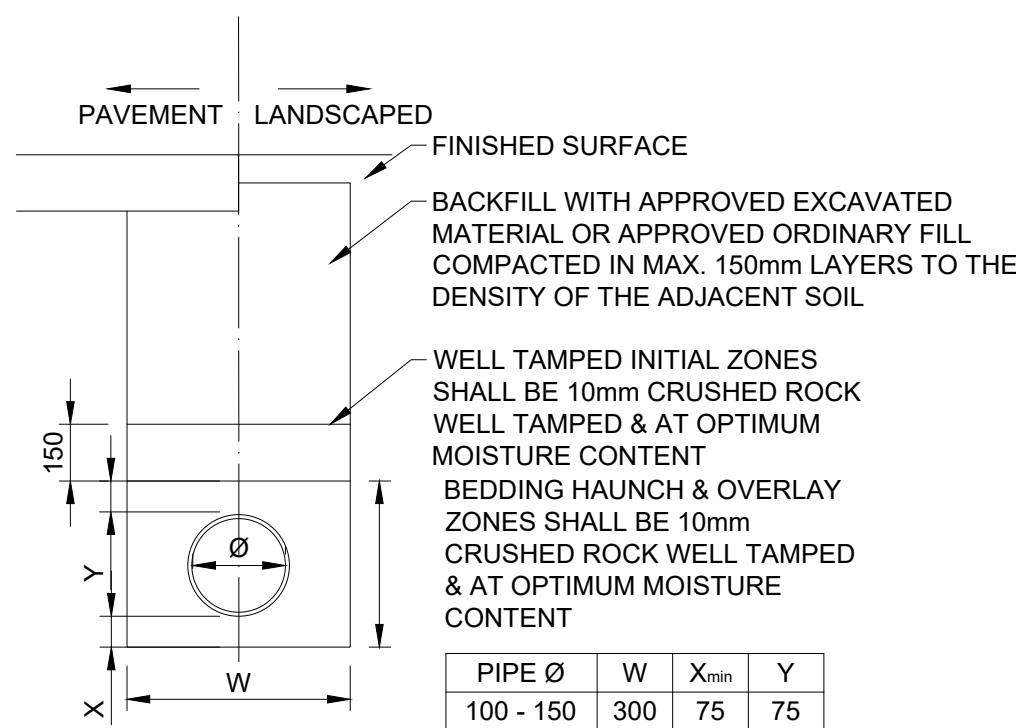


SUFFICIENT CLEARANCE FROM TOP OF COLUMN FOOTING TO PAVEMENT SLAB

TOP OF COLUMN FOOTING AT SHALLOW PATH

DOWNPIPE ADJACENT TO COLUMN - TYPICAL DETAIL

SCALE 1:20

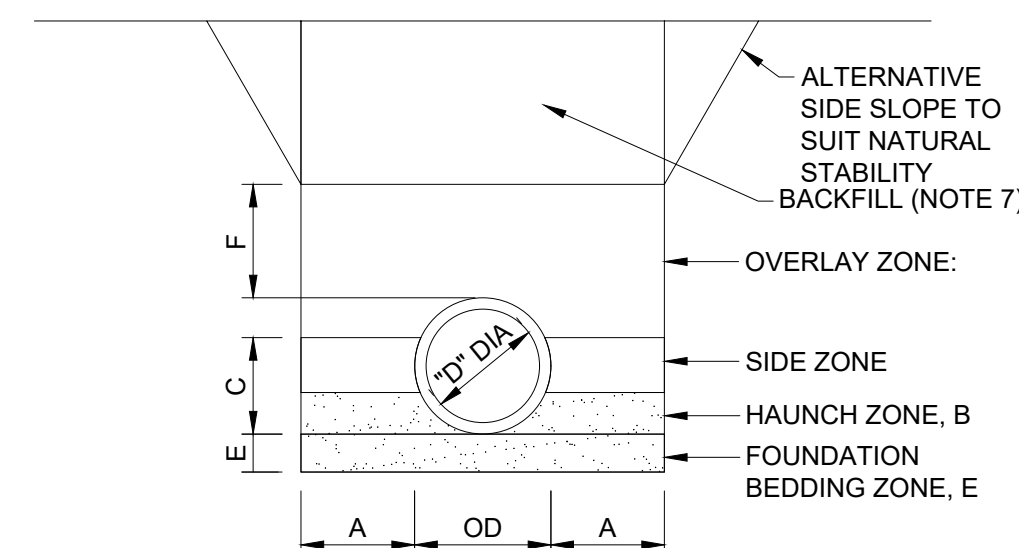


NOTES:

1. BACKFILL CRUSHED ROCK WETMIX. PLACED & COMPACTED IN MAX. 150mm LAYERS TO 95% MODIFIED MAX. DRY DENSITY.
2. REFER TO PIPE LAYING SPECIFICATIONS FOR DETAILS

TYPICAL PIPE LAYING DETAILS

N.T.S.



TRENCH INSTALLATION - SINGLE PIPE

TYPE HS3 SUPPORT FOR STORMWATER PVC PIPES

SCALE 1:20

NOMINAL INTERNAL DIAMETER D	NOMINAL EXTERNAL DIAMETER OD	MINIMUM WIDTH A	HAUNCH DEPTH, B	SIDE PLUS HAUNCH DEPTH, C	FOUNDATION BEDDING E	SPACING BETWEEN CULVERTS S
150	170	150			75	150
225	250	150			75	150
300	362	300	110	255	100	300
375	445	300	135	310	100	300

OVERLAY ZONE F = 300mm MINIMUM

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ARCHITECT
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TITLE
DRAINAGE DETAILS

DRAWN
HW
CHECKED
DY
DESIGNED
DY
APPROVED
DY
DATE
APRIL 2022
SCALE
AS SHOWN

DRAWING NUMBER
22106 C4.00

REVISION
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