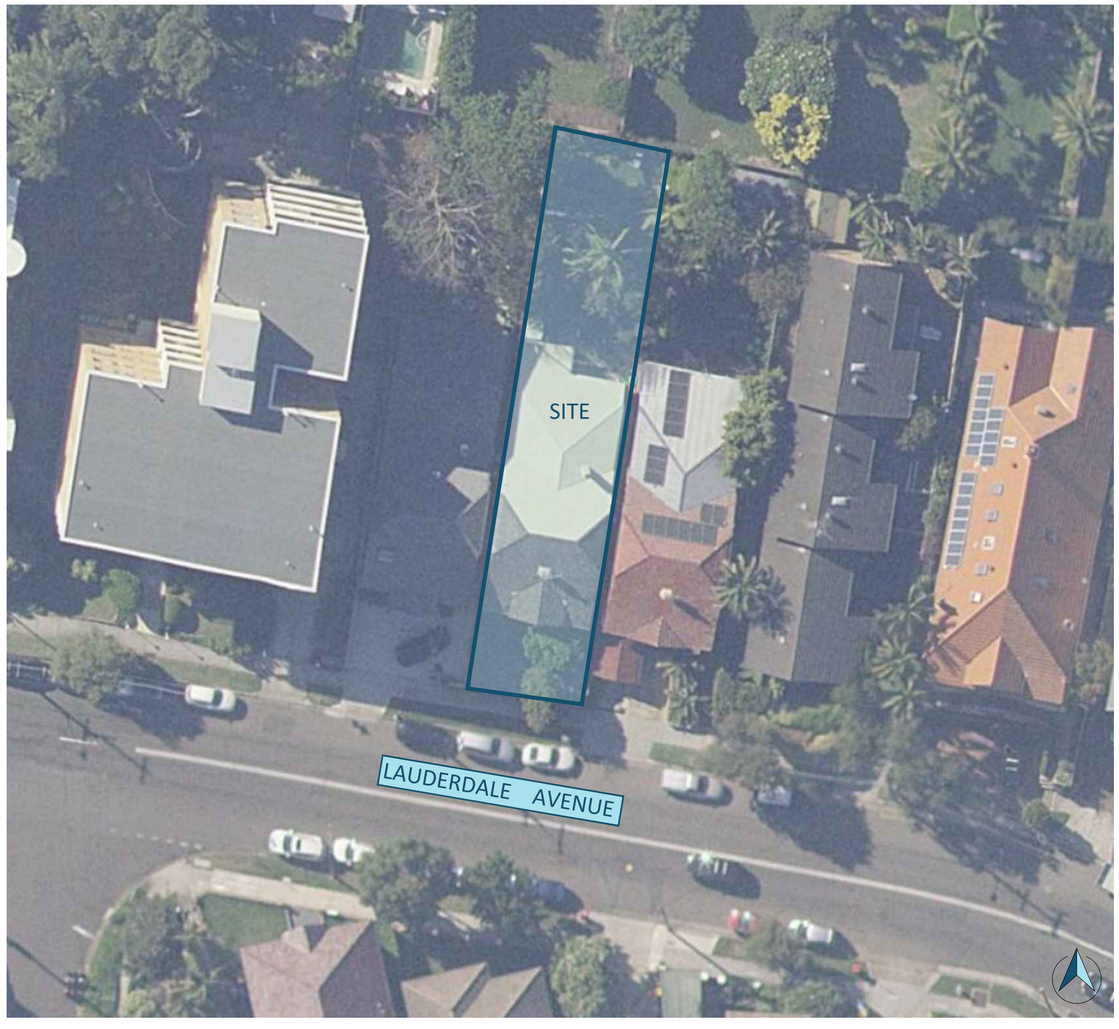
# CIVIL ENGINEERING WORKS

## DEVELOPMENT APPLICATION




SITE LOCATION PLAN
SCALE 1:250

| SHEET LIST | |
|---|---|
| SHEET NUMBER | SHEET TITLE |
| C-001 | COVER SHEET |
| C-050 | SEDIMENT & EROSION CONTROL PLAN |
| C-100 | STORMWATER MANAGEMENT PLAN |
| C-110 | STORMWATER MANAGEMENT DETAILS |

### PROJECT SUMMARY

| | |
|---|---|
| SITE ADDRESS: | 24 LAUDERDALE AVENUE, FAIRLIGHT, NSW 2094 |
| LEGAL DESCRIPTION: | LOT 1 DP959013 |
| LOCAL GOVERNMENT AREA: | NORTHERN BEACHES COUNCIL |
| SITE AREA: | 461.6m² |
| DEVELOPMENT DESCRIPTION: | EXTENSION TO SINGLE STOREY RESIDENTIAL DEVELOPMENT & REAR YARD POOL |

KATHRYN TURNER
CLIENT

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PROJECT

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PROJECT No

001
DRAWING No

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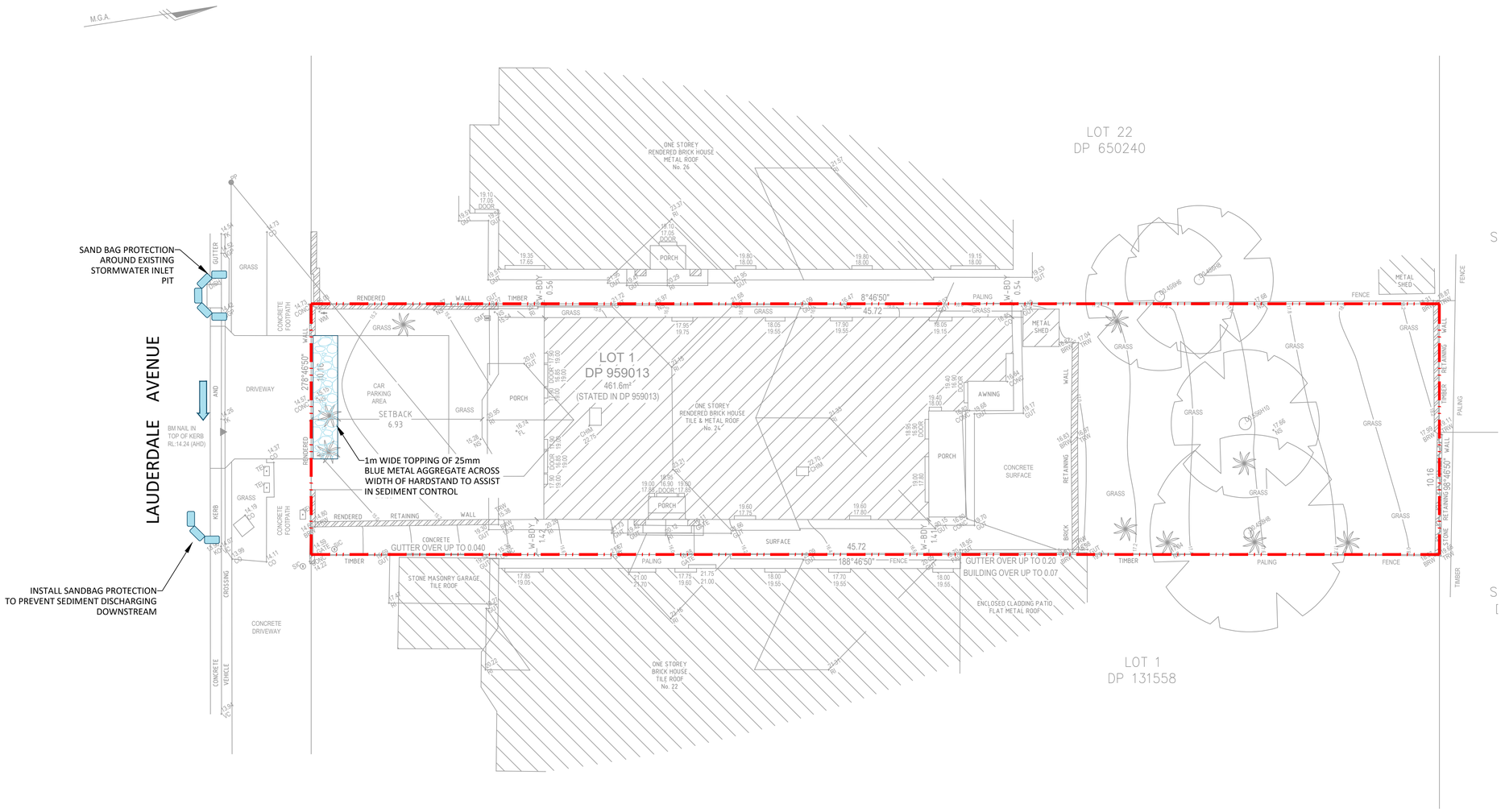



## LEGEND

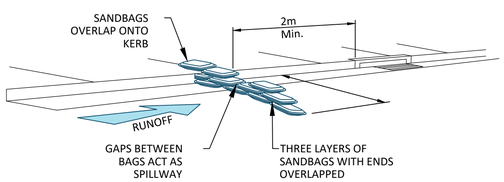
- SITE BOUNDARY
- BLUE METAL SEDIMENT CONTROL MAT
- PROPOSED SANDBAG PROTECTION

## EROSION AND SEDIMENT CONTROL NOTES

1. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH:
   - LOCAL AUTHORITY REQUIREMENTS,
   - EPA - POLLUTION CONTROL MANUAL FOR URBAN STORMWATER,
   - DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT MANUAL- "URBAN EROSION & SEDIMENT CONTROL".
2. EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES ARE PROVIDED FOR THE WHOLE OF THE WORKS. SHOULD THE CONTRACTOR STAGE THESE WORKS THEN THE DESIGN MAY REQUIRE TO BE MODIFIED. VARIATION TO THESE DETAILS MAY REQUIRE TO BE APPROVED BY THE RELEVANT AUTHORITIES. THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE IMPLEMENTED AND ADOPTED TO MEET THE VARYING SITUATIONS AS WORK ON SITE PROGRESSES.
3. MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED PREVENT SITE RUNOFF ENTERING THE PITS UNLESS SILT FENCES ARE ERECTED AROUND PITS.
5. MINIMISE THE AREA OF SITE BEING DISTURBED AT ANY ONE TIME.
6. PROTECT ALL STOCKPILES OF MATERIALS FROM SCOUR AND EROSION. DO NOT STOCKPILE LOOSE MATERIAL IN ROADWAYS, NEAR DRAINAGE PITS OR IN WATERCOURSES.
7. ALL SOIL AND WATER CONTROL MEASURES ARE TO BE PUT BACK IN PLACE AT THE END OF EACH WORKING DAY, AND MODIFIED TO BEST SUIT SITE CONDITIONS.
8. CONTROL WATER FROM UPSTREAM OF THE SITE SUCH THAT IT DOES NOT ENTER THE DISTURBED SITE.
9. ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE VIA THE APPROVED CONSTRUCTION ENTRY/EXIT ROUTE.
10. ALL VEHICLES LEAVING THE SITE SHALL BE CLEANED AND INSPECTED BEFORE LEAVING.
11. MAINTAIN ALL STORMWATER PIPES AND PITS CLEAR OF DEBRIS AND SEDIMENT. INSPECT STORMWATER SYSTEM AND CLEAN OUT AFTER EACH STORM EVENT.
12. CLEAN OUT ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH STORM EVENT.
13. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS HAVE BEEN COMPLETED.

## SEQUENCE OF WORKS

1. PRIOR TO COMMENCEMENT OF EXCAVATION THE FOLLOWING SOIL MANAGEMENT DEVICES MUST BE INSTALLED:
   - CONSTRUCT SILT CONTROL DEVICES BELOW THE SITE AND ACROSS ALL POTENTIAL RUNOFF SITES.
   - CO-ORDINATE CONSTRUCTION ENTRY/EXIT ROUTES WITH PROJECT MANAGER. ARRANGE SUITABLE LOCATION FOR THE INSPECTION OF TRUCKS PRIOR TO LEAVING SITE AND DIVERT RUNOFF TO SUITABLE CONTROL SYSTEM.
   - PROVIDE SANDBAG SEDIMENT TRAPS UPSTREAM OF EXISTING PITS.
2. DISTURBED AREAS ARE TO BE REGULARLY WATERED TO REDUCE DUST POLLUTION.
3. CONSTRUCT GEOTEXTILE FILTER PIT SURROUND AROUND ALL PROPOSED PITS AS THEY ARE CONSTRUCTED.
4. ON COMPLETION OF PAVEMENT PROVIDE SAND BAG KERB INLET SEDIMENT TRAPS AROUND PITS.
5. PROVIDE AND MAINTAIN A STRIP OF TURF ON BOTH SIDES OF ALL ROADS AFTER THE CONSTRUCTION OF KERBS.




SANDBAG KERB INLET SEDIMENT TRAP

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| B | ISSUED FOR DA APPROVAL | IAH | IAH | 09.09.21 |
| A | ISSUED FOR DA APPROVAL | IAH | IAH | 06.09.21 |

KATHRYN TURNER

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24 LAUDERDALE AVENUE
FAIRLIGHT
NSW 2094

PROJECT

SEDIMENT & EROSION CONTROL

TITLE

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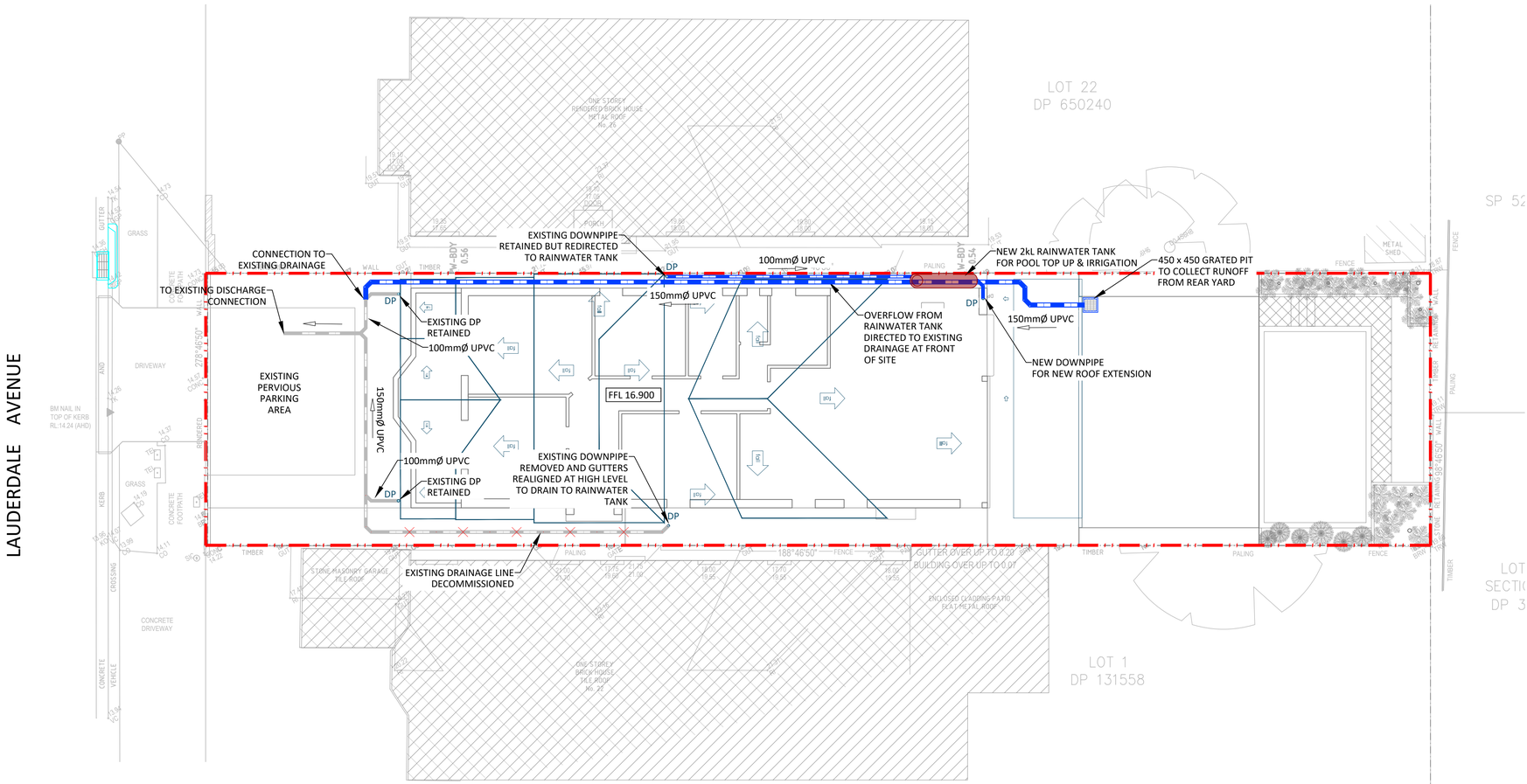


## LEGEND

- SITE BOUNDARY
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE
- PROPOSED GRATED PIT
- RAINWATER TANK
- 150Ø UPVC — PROPOSED PIPE SIZE AND FLOW DIRECTION
- DP — PROPOSED DOWNPIPE
- OVERLAND FLOW

## STORMWATER MANAGEMENT NOTES

SITE INFORMATION

| | |
|---|---|
| ADDRESS: | 24 LAUDERDALE AVENUE, FAIRLIGHT, NSW 2094 |
| LOCAL GOVERNMENT AREA: | NORTHERN BEACHES COUNCIL |
| DEVELOPMENT REGION: | REGION 3, ZONE 1 |
| SITE AREA: | 461.6m² |
| PROPOSED INCREASE IN IMPERMEABLE AREA: | 31m² |
| POST DEVELOPMENT IMPERMEABLE AREA: | 276m² |
| POST DEVELOPMENT IMPERMEABLE AREA PERCENTAGE: | 60% |

DEVELOPMENT CONTROL REQUIREMENTS

| | |
|---|---|
| GOVERNING DOCUMENT: | WATER MANAGEMENT FOR DEVELOPMENT POLICY, DATED 26 FEBRUARY 2021 |
| DESIGN STORMS: | MINOR = 20% AEP<br>MAJOR = 1% AEP |

DISCHARGE ATTENUATION REQUIREMENT:

- FOR A DEVELOPMENT WHERE THE INCREASE IN IMPERMEABLE AREA PROPOSED IS < 50m² AND THE TOTAL POST DEVELOPMENT IMPERMEABLE AREA < 60% OF TOTAL SITE AREA, NO OSD IS REQUIRED.

## STORMWATER DRAINAGE NOTES

1. ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.
2. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED.
5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
6. PIPES TO BE INSTALLED TO TYPE HS3 (ROAD) HS2 (LOTS) SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (2006) AND AS/NZS 3500 3.2 (2010).
8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY THE CIVIL ENGINEER
9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
13. ALL INTERNAL PIT DIMENSIONS TO CONFORM TO AS3500.3 TABLE 7.5.2.1
14. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
15. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.
16. THE CONTRACTOR IS TO ORGANISE AND STAGE CONSTRUCTION WORK AND UNDERTAKE ANY DIVERSION WORKS TO ENSURE THE EXISTING DRAINAGE IS ABLE TO CONVEY ALL STORMWATER FLOWS THAT MAY OCCUR DURING THE PERIOD OF THE CONSTRUCTION WORKS.
17. ANY DAMAGE TO THE WORKS DUE TO STORMWATER FLOWS OR FLOODING DURING THE CONSTRUCTION PERIOD IS AT THE CONTRACTOR'S RISK.
18. SETOUT POINTS FOR STORMWATER STRUCTURES ARE AS INDICATED IN THE DRAWINGS UNLESS OTHERWISE NOTED
19. ALL PAVED SURFACE LEVELS AND GRADES TO BE COORDINATED WITH GULLY PIT LEVELS TO ENSURE NO UNDRAINED AREAS OCCUR.
20. THE SIDES OF ALL PIPE TRENCH EXCAVATIONS DEEPER THAN 1.0m SHALL BE FULLY SUPPORTED AT ALL TIMES AND HAVE APPROPRIATE EDGE PROTECTION.
21. ALL NEW PIPES TO BE LAID IN AN UPSTREAM DIRECTION. THE LINE, LEVEL AND LOCATION OF EXISTING SERVICES CROSSING THE LINE OF THE PROPOSED STORMWATER PIPE SHALL BE DETERMINED BY EXCAVATION PRIOR TO THE LAYING OF THE PIPE. IF CONFLICT IS APPARENT, THE ENGINEER SHALL BE NOTIFIED AND INSTRUCTIONS AS TO WHETHER THE EXISTING SERVICE IS TO BE ADJUSTED OR THE PROPOSED PIPE INVERT ALTERED WILL BE ISSUED.
22. PIPE BEDDING, HAUNCH AND BACKFILL TO BE AS SHOWN ON THE CIVIL DETAILS DRAWINGS AND THE CIVIL SPECIFICATION.
23. SUBSOIL DRAINAGE PIPES TO BE SLOTTED PIPE AND FILTER SOCK CLASS 1000 TO AS2439 PART 1 LAID AT PREFERABLE MINIMUM GRADE 1 IN 100 OR ABSOLUTE MINIMUM 1 IN 200 WHERE LIMITED BY OUTFALL LEVELS.
24. STORMWATER STRUCTURES ARE TO BE CONSTRUCTED PERPENDICULAR TO THE INCOMING PIPEWORK UNLESS OTHERWISE NOTED.
25. PRECAST COMPONENTS SHALL BE CONNECTED BY MEANS OF EPOXY OR CHEMICAL GROUTED BARS OF THE SAME DIAMETER AND SPACING AS THE SMALLER BARS IN THE RESPECTIVE COMPONENTS.
26. PRE-CAST PITS MUST HAVE LIFTING ANCHORS.
27. WORKING LOADS ARE THOSE DUE TO FILL MATERIAL AND STANDARD HIGHWAY VEHICLES AS PER AS3725. CONSTRUCTION LOADS HAVE NOT BEEN ALLOWED FOR.
28. ALL EXPOSED EDGES ON STORMWATER PITS TO BE ROUNDED TO 5mm RAD. UNO.

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24 LAUDERDALE AVENUE FAIRLIGHT NSW 2094
PROJECT

STORMWATER MANAGEMENT PLAN
TITLE

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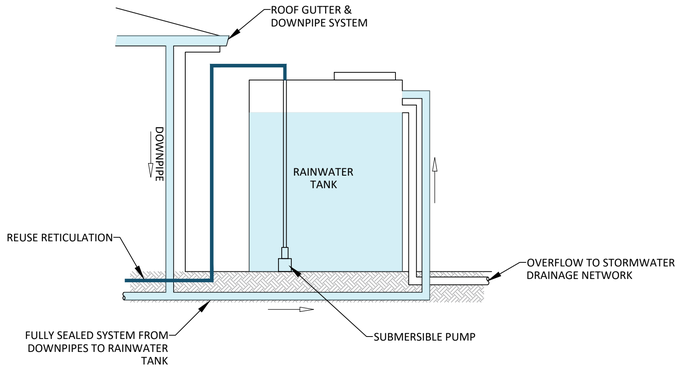


RAINWATER TANK
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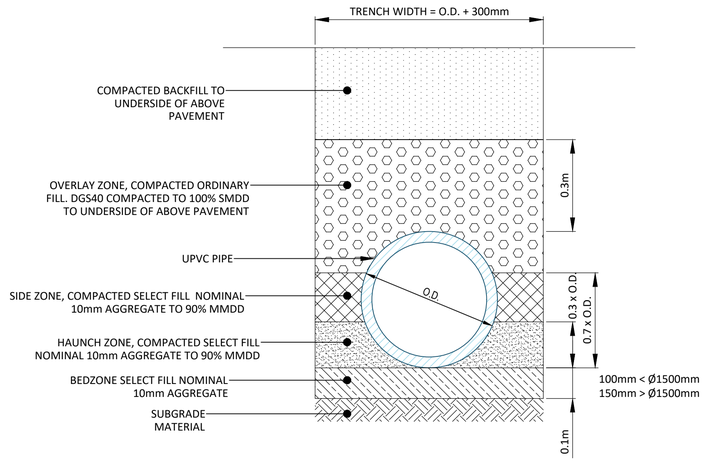


TYPICAL PIPE TRENCH DETAIL
SCALE 1:10

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