

| DRAINAGE REQUIREMENT TO W.C POLICY         |            |
|--|------------|
| SITE AREA                                  | = 307 m2   |
| SITE COVERAGE AREA                         | = 147 m2   |
| SITE COVERAGE                              | = 48 %     |
| ON-SITE DETENTION IS REQUIRED              |            |
| AREA ROUTED THROUGH OSD                    |            |
| IMPERVIOUS AREA                            | = 147 m2   |
| PERVIOUS AREA                              | = 73 m2    |
| AREA BYPASSING OSD                         |            |
| IMPERVIOUS AREA                            | = 0 m2     |
| PERVIOUS AREA                              | = 160 m2   |
| OSD VOLUME REQUIRED                        |            |
| RAINWATER TANK (PER BASIX)                 | = 10.0 m3  |
| OSD TANK VOLUME STORAGE                    | = 5.00 m3  |
| TOTAL VOLUME STORAGE                       | = 15.0 m3  |
| PRE-DEVELOPED DISCHARGE (S.O.N) = 14.0 L/s |            |
| PROPOSED ST. STEEL ORIFICE Ø               | = 60 mm    |
| LIMITED DISCHARGE THRU OSD                 | = 5.00 L/s |
| UNCONTROLLED FLOW                          | = 8.00 L/s |

OSD PARAMATERS DETERMINED WITH 'DRAINS'. FILE IS AVAILABLE FOR REVIEW. EMAIL REQUESTED TO: admin@alwdesign.com.au

RAINWATER TANK AS SHOWN ON PLAN

PROVIDE A RAINWATER TANK 5000L IN CAPACITY TO SUIT ALL BASIX REQUIREMENTS. TANK TO BE CONNECTED AS SPECIFIED IN BASIX REPORT. PROVIDE OVERFLOW TO PIT P1.

TURRET R.L. 19.00  
INLET I.L. 18.77  
OVERFLOW I.L. 18.77

ENSURE ALL CONNECTIONS WITHIN CHARGED SYSTEM ARE SOLVENT WELDED

ALL DOWNPIPES ARE TO BE ENTIRELY PVC. PIPES ARE TO BE SEALED UPTO U/S OF ROOF GUTTERS

ROOF GUTTERS I.L. 21.64  
TOP OF TANK I.L. 19.00  
HEAD PRESSURE - 2640mm

EASEMENTS REFUSAL LETTERS HAVE BEEN SIGNED AND RECEIVED FROM DOWNSTREAM NEIGHBOURING PROPERTIES. HENCE, A DETAILED ANALYSIS OF THE SITE HAS BEEN CONDUCTED TO MODEL THE SITE FLOWS TO BE LIMITED TO THE UNDEVELOPED STATE-OF-NATURE CONDITIONS. OUR DESIGN SHOWS THAT THE MAJORITY OF THE ROOF AREA IS DIRECTED TO A RAINWATER TANK SYSTEM CONTAINING STORAGE FOR RE-USE AND THE OVERFLOW IS DIRECTED TO AN ON SITE DETENTION SYSTEM ALONG WITH THE UPPER LEVEL SURFACE RUN-OFF. THE CONTROLLED DISCHARGE IS DIRECTED TO A LEVEL SPREADER LOCATED IN THE REAR YARD. THE DESIGN SOLUTION HAS BEEN PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF NORTHERN BEACHES COUNCIL'S WATER MANAGEMENT FOR DEVELOPMENT; SPECIFICALLY PART 5.5 STORMWATER DRAINAGE FROM LOW LEVEL PROPERTIES.

| PIPE SCHEDULE |         |          |         |                            |
|---------------|---------|----------|---------|----------------------------|
| TAG           | SIZE    | MATERIAL | GRADE   | DESCRIPTION                |
| 'A'           | 100 Ø   | P.V.C    | 1% MIN  | REGULAR GRAVITY PIPE       |
| 'B'           | 150 Ø   | P.V.C    | 1% MIN  | REGULAR GRAVITY PIPE       |
| 'X'           | 100 Ø   | P.V.C    | CHARGED | TO FEED RAINWATER TANK     |
| 'F'           | 100 Ø   | P.V.C    | 1% MIN  | FLUSHING LINE - CAPPED END |
| 'R'           | 150x100 | GALV RHS | 1% MIN  | DISCHARGE PIPE TO KERB     |

NOTE: ALL PIT & PIPELINE LOCATIONS SHOWN ON PLAN ARE INDICATIVE. BUILDER TO DETERMINE BEST POSITION FOR PLACEMENT WITHIN A 1m TOLERANCE OF WHAT IS SHOWN ON PLAN

DCP

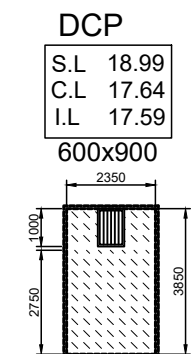
S.L 18.99  
C.L 17.64  
I.L 17.59  
600x900

BELOW GROUND DETENTION TANK

SHOWN HATCHED

MAX POOL RL = 18.69  
VOLUME STORED = 11.7 m3  
VOLUME REQUIRED = 11.1 m3

LENGTH = 3850mm  
WIDTH = 2350mm  
AVERAGE DEPTH = 1105mm  
VOLUME STORED = 10.0 m3



## SITE STORMWATER MANAGEMENT LAYOUT

SCALE 1:200/A3

### STORMWATER LAYOUT NOTES

- PITS DEEPER THAN 600mm TO BE 600 X 900 W, ELSE 375 SQ U.N.O.
- ALL PIPES TO HAVE 1% MIN. GRADE U.N.O.
- ALL DOWNPIPES TO BE 100 X 50 BOX OR 90 Ø.
- PIPES TO BE U.P.V.C. OR STORMWATER PIPE TO A.S.1254.
- PITS TO BE STANDARD PRECAST CONCRETE PITS OR BRICK RENDERED WITH CONCRETE HEAVY DUTY GRATES SIZED AS PITS PER PLAN.
- NO SEWER VENTS, GULLY PITS OR SIMILAR TO BE LOCATED BELOW THE MAXIMUM WATER SURFACE LEVEL IN DETENTION BASINS.
- PERSONS UTILISING THIS PLAN FOR ANY PURPOSES SHALL VERIFY THE DATUM & RESPECTIVE LEVELS PRIOR TO COMMENCING ANY WORKS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- DRIVEWAY LEVELS PROVIDED FOR DRAINAGE DESIGN PURPOSES ONLY. LEVELS MAY BE ADJUSTED TO SUIT FINAL HOUSE CUT/FILL CONDITIONS BUT NEED TO MAINTAIN INTENT OF DRAINAGE SYSTEM. ENGINEER TO BE CONSULTED PRIOR TO CONSTRUCTION TO ENSURE INTENT MAINTAINED.
- END OF EXISTING DRAINAGE LINE TO BE EXPOSED & LEVELS CONFIRMED BY BUILDER PRIOR TO COMMENCEMENT OF WORKS.
- BUILDERS TO ENSURE SERVICES CONNECTIONS TO HOUSE DO NOT CONFLICT WITH DRAINAGE DESIGN REQUIREMENTS.
- ALL WORKS TO BE CONSTRUCTED TO GOOD BUILDING PRACTICE & MATERIALS TO MEET ACCEPTED SPECIFICATIONS.

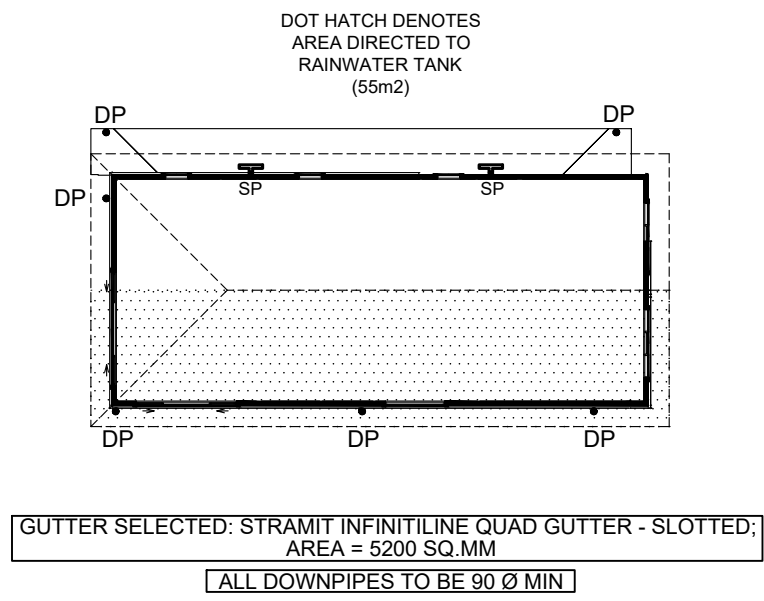
### LEGEND

|        |  |              |                        |
|--------|--|--------------|------------------------|
| P1     | PIT LABEL                                      | G.F.L.       | GARAGE FLOOR LEVEL     |
|        | SUMP PIT - PIT SIZE REFERS TO GRATE DIMENSIONS | • 0.00       | EXISTING REDUCED LEVEL |
|        | 300x300 FLOOR GULLY                            | • R.L 157.00 | PROPOSED REDUCED LEVEL |
|        | 100/150 Ø GARDEN GULLY                         | ■ DP         | DOWNPIPE               |
|        | DRAINAGE PIPE                                  | └ SP         | SPITTER/SPREADER       |
|        | AERIAL PIPE                                    | ⊙            | CLEANING EYE           |
| S.L.   | SURFACE LEVEL                                  |              | SEDIMENT FENCE         |
| I.L.   | INVERT LEVEL                                   | — — — — —    | AG LINE                |
| F.F.L. | FINISHED FLOOR LEVEL                           | ⇒            | OVERLAND FLOW          |

**alwdesign**  
CIVIL ENGINEERING CONSULTANTS

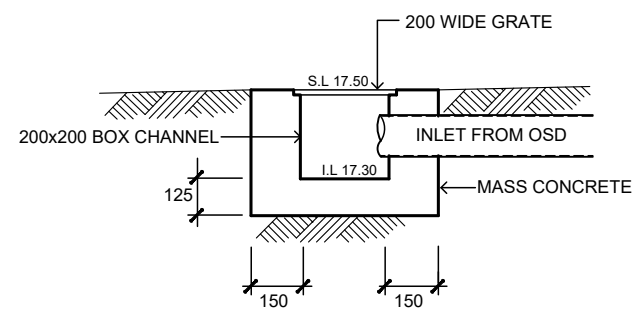
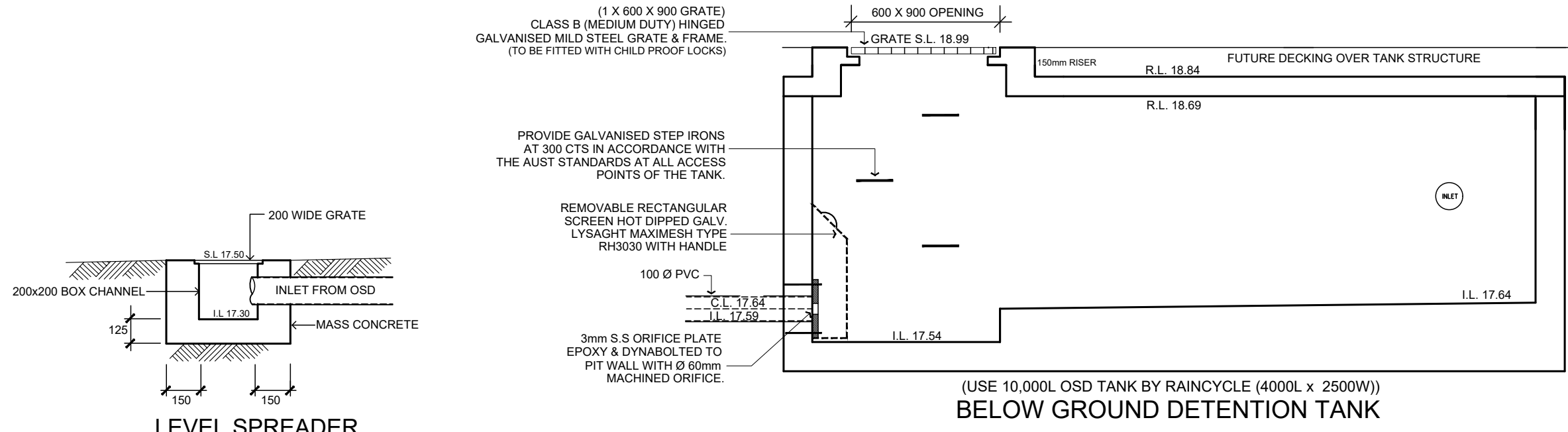
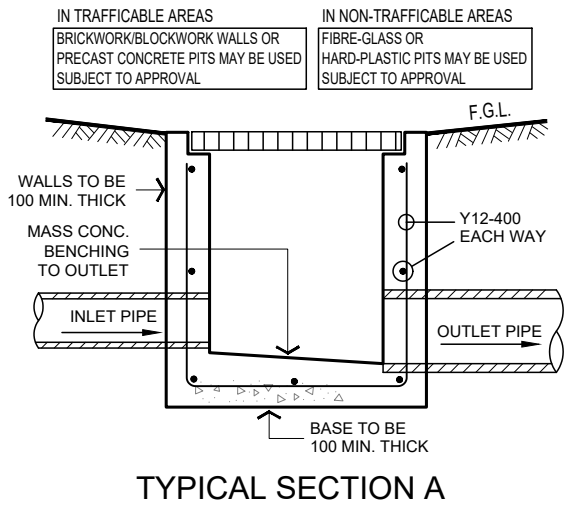
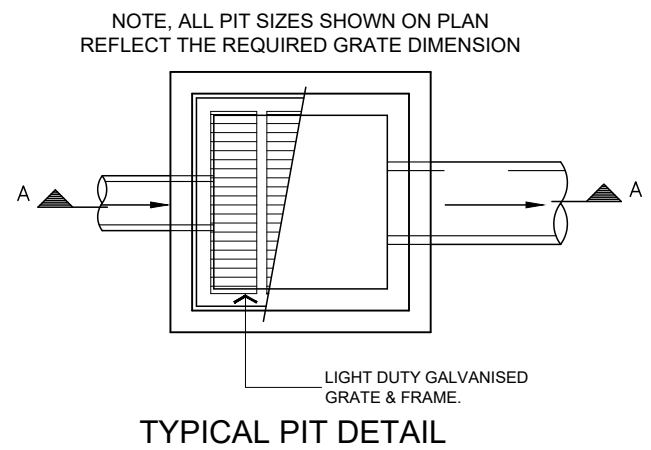
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|   |   |                                    |  |
|---|---|------------------------------------|--|
| JOB NUMBER:<br>SW24311<br>DRAWING NUMBER:<br>SW24311 - S1 | PROJECT: PROPOSED RESIDENTIAL DWELLING AT LOT 1, # 36 DALLEY STREET, QUEENSLIFF NSW |                                    |  |
|   | DRAWING: SITE STORMWATER MANAGEMENT LAYOUT  |                                    |  |
|   | DESIGNED  | DRAWN                              | CHECKED: ANDREW L WAHBE - BE (CIVIL) MIEAUST PENG                            |
|   | A.W   | N.W                                | DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY DESIGNING ENGINEER |
| C   |   | ISSUED FOR DEVELOPMENT APPLICATION |  |
| ISSUE   |   | REVISION DESCRIPTION               |  |
|   |   | APPR. DATE                         |  |

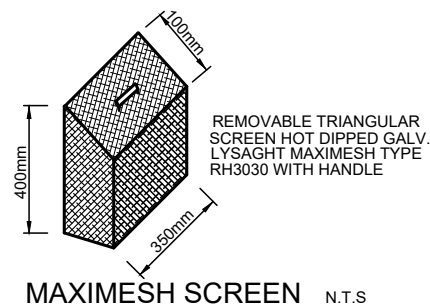
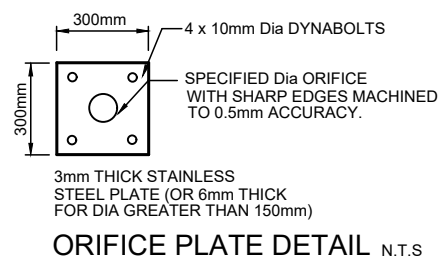
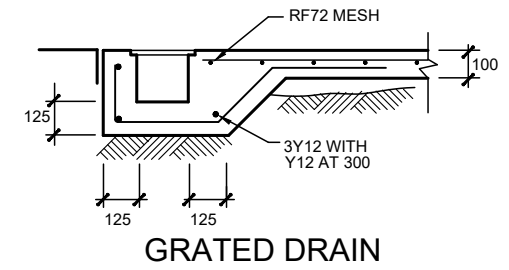


ROOF & FIRST FLOOR LAYOUT  
SCALE 1:200/A3

- ENSURE ALL CONNECTIONS  
WITHIN CHARGED SYSTEM  
ARE SOLVENT WELDED
- ALL DOWNPIPES ARE TO BE  
ENTIRELY PVC. PIPES ARE TO  
BE SEALED UPTO U/S OF  
ROOF GUTTERS
- ROOF GUTTERS I.L. 21.64  
TOP OF TANK I.L. 19.00  
HEAD PRESSURE - 2640mm



LEVEL SPREADER



**DANGER**

CONFINED SPACE  
NO ENTRY WITHOUT  
CONFINED SPACE  
TRAINING

TO BE PLACED AT ALL  
TANK ACCESS GRATES