**SYMBOLS**

F.F.L.	FINISHED FLOOR LEVEL
F.G.L.	FINISHED GARAGE LEVEL
T.K.	TOP OF KERB
*11.0	FINISHED LEVEL
+11.0	EXISTING LEVEL
S.L.	SURFACE LEVEL
I.L.	INVERT LEVEL
20 R	ROOF CATCHMENT AREA (m2)
20 I	IMPERVIOUS CATCHMENT AREA (m2)
20 L	LANDSCAPED CATCHMENT AREA (m2)
• DP	Ø100 DOWN PIPE OR EQUIVALENT
• SP	SPREADER
• VD	VERTICAL DROP
• VR	VERTICAL RISER
— OF	SAFETY OVERFLOW
⊗	RAIN WATER HEAD & DOWN PIPE
⊗	CLEAN OUT POINT
⊗ SUMP	Ø150 SUMP
■	CONCRETE COVER JUNCTION PIT
■	GRATED INLET PIT 450x450
▨	200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
—	STORMWATER PIPE
- - -	SUSPENDED STORMWATER PIPE
- - -	STORMWATER PIPE TO RWIT
- - -	PUMP LINE
- - -	Ø100 SUBSOIL PIPE
- - -	SILT FENCE
←	OVERLAND FLOW
→	FALLS

EROSION CONTROL NOTES

- 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.
- 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.
- INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADEN WATER, TO COUNCIL'S STANDARDS.
- 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.
- ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

NOTES

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ROOF DRAINAGE PLAN

SCALE 1:100

NOTE:

- MINIMUM ROOF FALL 1% TO OUTLETS
- WATERPROOF ALL CONCRETE ROOFS
- PROVIDE SAFETY OVERFLOW TO ALL ROOFS
- ALL DOWNPIPES CHARGED TO THE RAINWATER TANK ARE TO BE SEALED UP TO GUTTER LEVEL & BE PRESSURE TESTED AND CERTIFIED.
- ALL DOWNPIPES TO BE CONSTRUCTED OF ONE MATERIAL FOR AESTHETICS REASONS AND PAINTED TO PROTECT THEM AGAINST ULTRA-VIOLET LIGHT DAMAGE.

REFER TO DRAWING No. SW04 &
SW05 FOR ALL DRAINAGE DETAILS

ISSUE FOR DA ONLY

Revision		
Rev	Date	Description
A	05.12.2024	ISSUE FOR DA
B	02.05.2025	ISSUE FOR DA (SW REDESIGN)
C	15.05.2025	ISSUE FOR DA (AMENDED ARCH)
D	12.06.2025	ISSUE FOR DA (AMENDED ARCH)

PROJECT:
PROPOSED NEW RESIDENCE
2 PRINCE EDWARD ROAD,
SEAFORTH

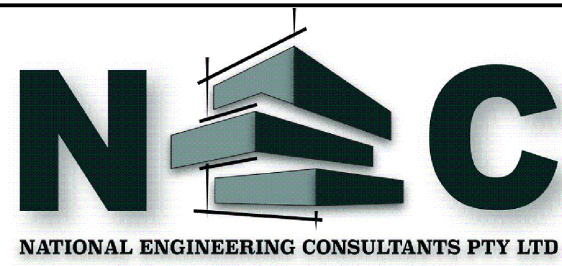
COUNCIL:
NORTHERN BEACHES

CLIENT:
SOPHIA & STUART NAYLOR

BUILDER:
-

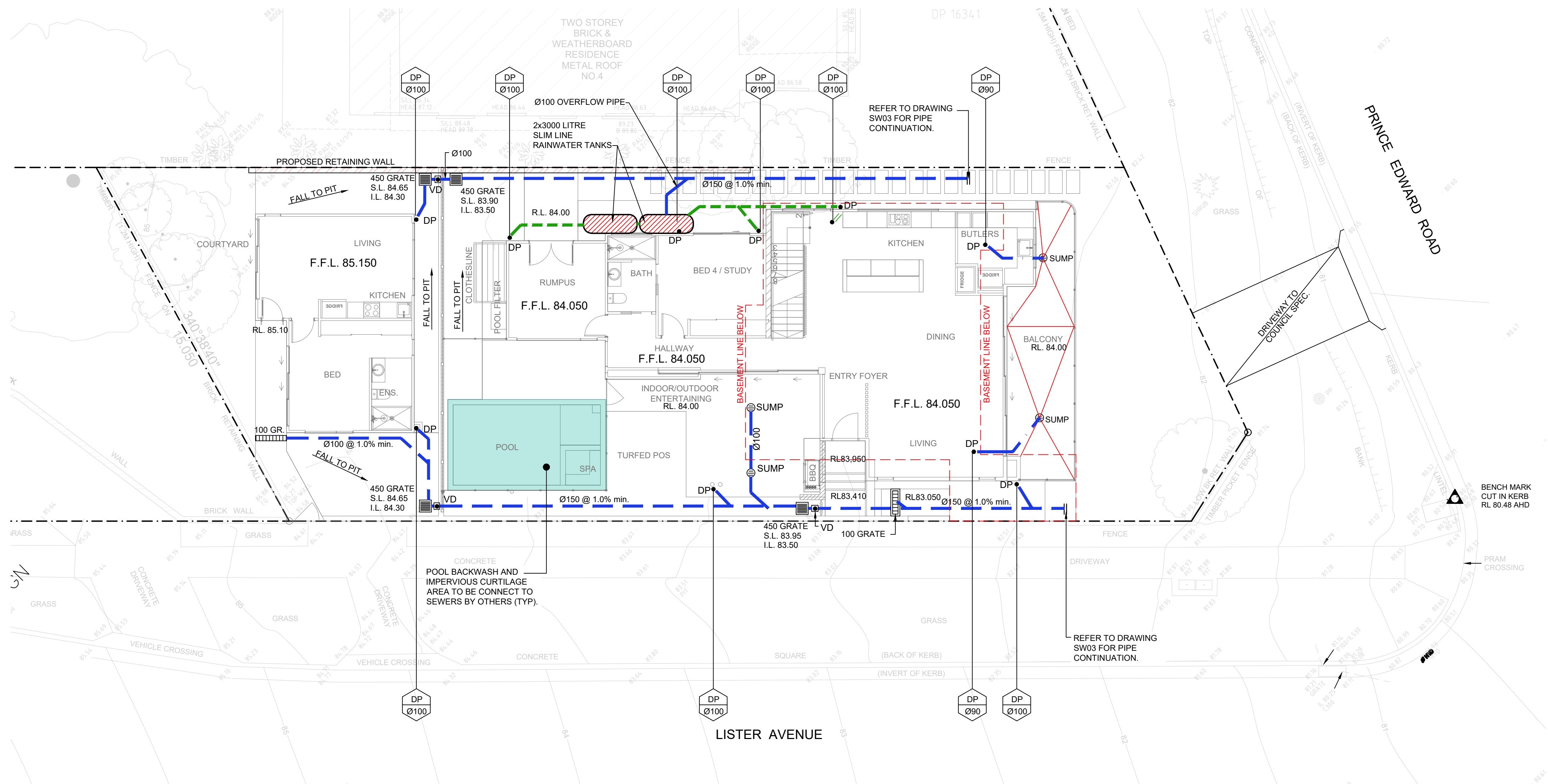
ARCHITECT:
NEW PARADIGM DESIGN PTY LTD

DRAWING TITLE:
ROOF DRAINAGE PLAN



3110 Childs Road,
Chipping Norton, NSW 2170
e: info@necconsultants.com.au
ABN:97 672 826 345
ACN: 672 826 345

NORTH: 	DESIGNED: J.T.	DRAWN: V.S.	CHECKED: J.T.
	APPROVED: JOSEPH SAAD TANNOUS Being Printed, NSW Aus. CP Eng	SIZE: A1	REVISION: D
JOB No: 24-1086	REVISION: D	DRAWING No: SW01	



SYMBOLS

F.F.L.	FINISHED FLOOR LEVEL
F.G.L.	FINISHED GARAGE LEVEL
T.K.	TOP OF KERB
+11.0	FINISHED LEVEL
+11.0	EXISTING LEVEL
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I.L.	INVERT LEVEL
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GROUND FLOOR DRAINAGE PLAN

SCALE 1:100

NOTE:

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PROPOSED NEW RESIDENCE
2 PRINCE EDWARD ROAD,
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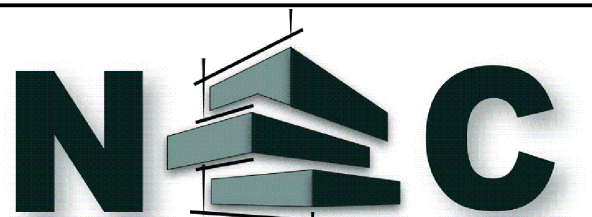
COUNCIL:
NORTHERN BEACHES

CLIENT:
SOPHIA & STUART NAYLOR

BUILDER:
-

ARCHITECT:
NEW PARADIGM DESIGN PTY LTD

DRAWING TITLE:
GROUND FLOOR DRAINAGE PLAN



NATIONAL ENGINEERING CONSULTANTS PTY LTD

3110 Childs Road,
Chipping Norton, NSW 2170
e: info@necconsultants.com.au
ABN:97 672 826 345
ACN: 672 826 345

NORTH:	DESIGNED: J.T.	DRAWN: V.S.	CHECKED: J.T.
	APPROVED: JOSEPH SAAD TANNOUS Being Printed, NSW Aus. CP Eng		SIZE: A1
	JOB No: 24-1086	REVISION: D	DRAWING No: SW02



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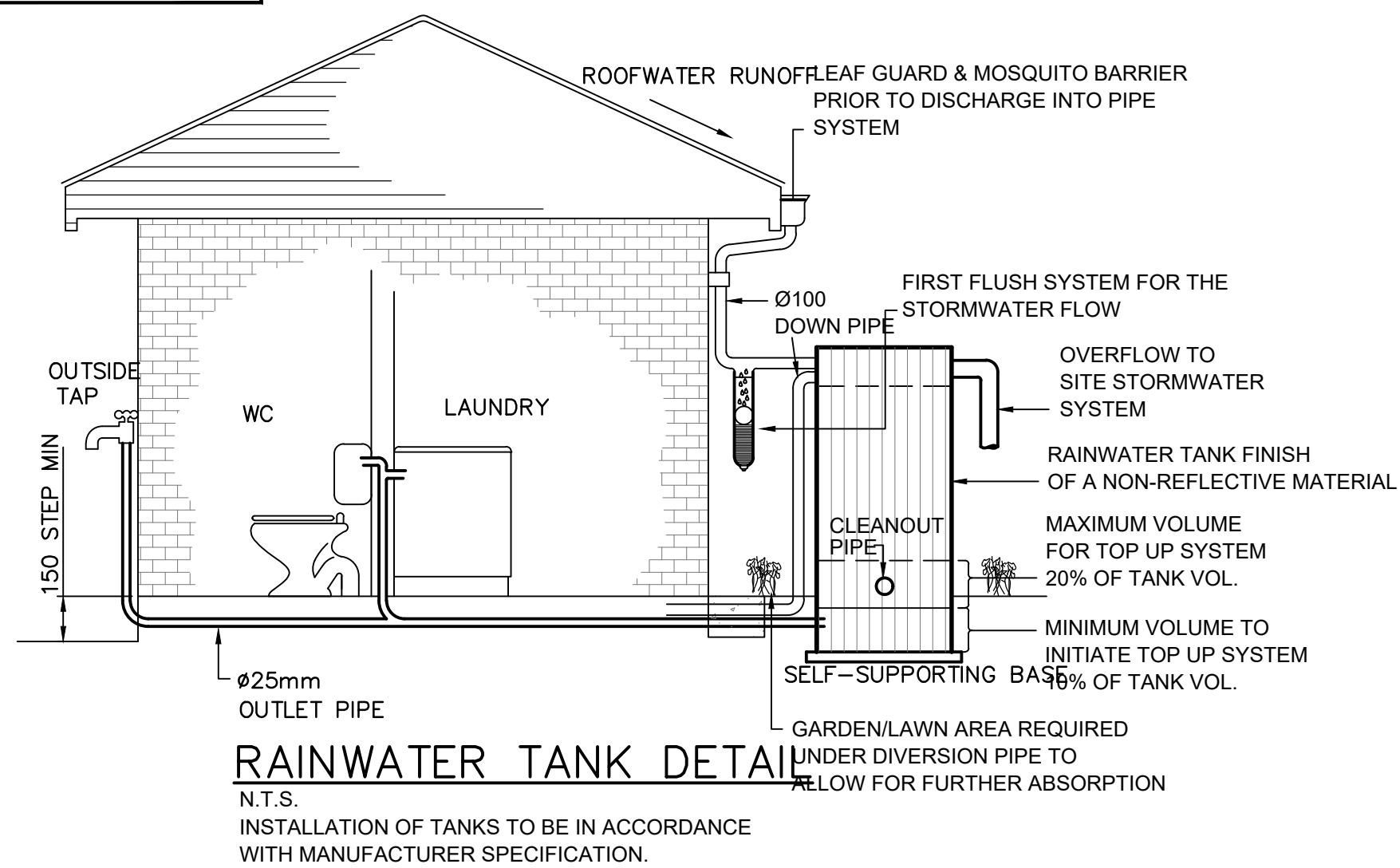
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SCALE 1:100
NOTE:
1. ENGINEER TO INSPECT D.C.P.1 DURING CONSTRUCTION
2. MINIMUM ROOF FALL 1% TO OUTLETS
3. WATERPROOF ALL CONCRETE ROOFS
4. PROVIDE SAFETY OVERFLOW TO ALL ROOFS
5. ALL BALCONIES TO HAVE FLOOR WASTE AND 1% FALL WITH SAFETY OVERFLOW
6. ALL DOWNPIPES CHARGED TO THE RAINWATER TANK ARE TO BE SEALED UP TO GUTTER
LEVEL & BE PRESSURE TESTED AND CERTIFIED
7. ALL DOWNPIPES TO BE CONSTRUCTED OF ONE MATERIAL FOR AESTHETICS REASONS
AND PAINTED TO PROTECT THEM AGAINST ULTRA-VIOLET LIGHT DAMAGE.

REFER TO DRAWING No. SW04 &
SW05 FOR ALL DRAINAGE DETAILS

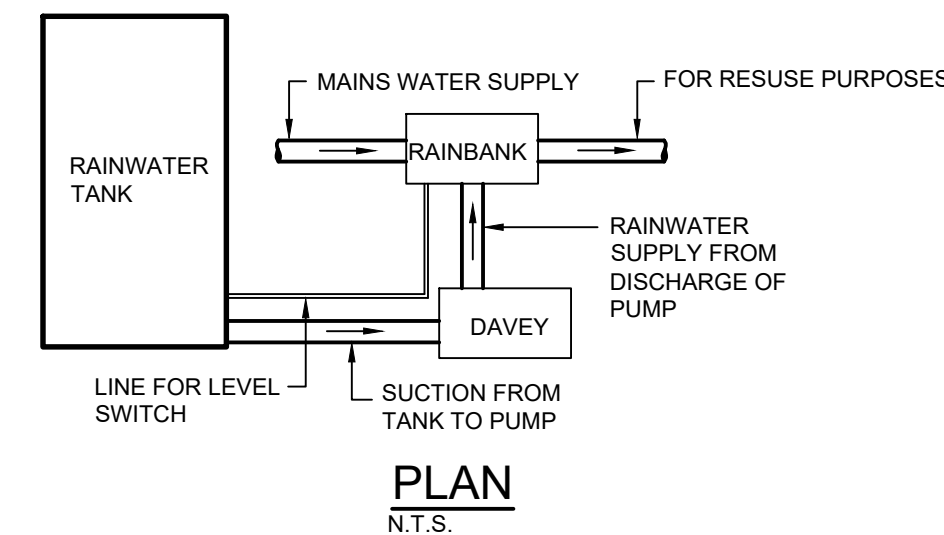
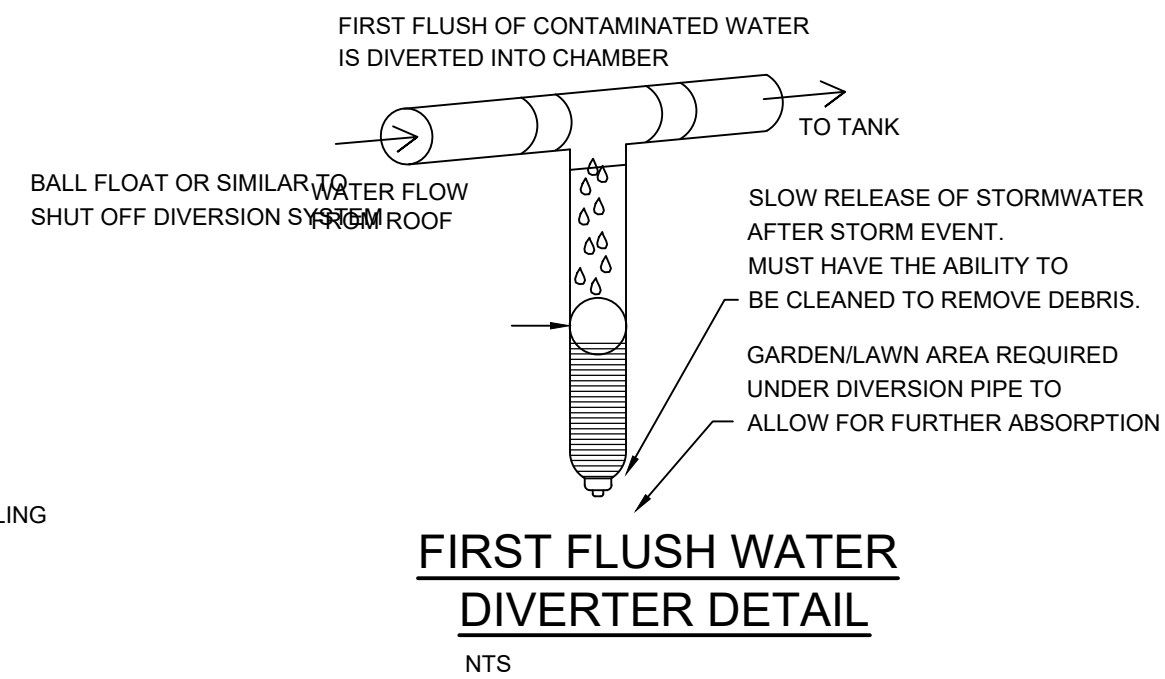
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PROJECT: PROPOSED NEW RESIDENCE 2 PRINCE EDWARD ROAD, SEAFORTH		
COUNCIL: NORTHERN BEACHES		
CLIENT: SOPHIA & STUART NAYLOR		
BUILDER:		
-		
ARCHITECT: NEW PARADIGM DESIGN PTY LTD		
DRAWING TITLE: BASEMENT DRAINAGE PLAN		
<div> NATIONAL ENGINEERING CONSULTANTS PTY LTD</div>		
3/10 Childs Road, Chipping Norton, NSW 2170 e- info@neiconsultants.com.au ABN 57 672 826 345 ACN: 672 826 345		
NORTH: 	DESIGNED: J.T.	DRAWN: V.S.
APPROVED: JOSEPH SAAD TANNOUS Eng (Pres), MEQAL OFFG	REVISION: D	SIZED: A1
JOB NO: 24-1086	DRAWING No: SW03	



RAINWATER TANK TO COMPLY WITH BASIX CERTIFICATE

STORAGE TANK NOTES

1. TANK WATER TAPS SHALL BE MARKED "RAINWATER NOT TO BE USED FOR HUMAN CONSUMPTION"
2. MINIMUM TANK SIZE 6000 LITRES (2x3000 LITRE RAINWATER TANKS PROVIDED)
3. RAINWATER TANKS SHALL BE CONNECTED TO MAINS WATER SUPPLY AS BACKUP
4. THE PUMPS ARE TO BE INSULATED IN ACCORDANCE WITH COUNCIL POLICY
5. PUMPS SHALL PROVIDE MINIMUM 150 kPa PRESSURE
6. TANK TO BE CONNECTED TO AN OUTDOOR TAP FOR IRRIGATION USE
7. TANK TO BE CONNECTED TO ALL TOILETS FOR TOILET FLUSHING
8. RAINWATER TANKS TO BE CLEANED OUT EVERY 6 MONTHS
9. WATER TANK AND ASSOCIATED STRUCTURE TO BE THE SAME COLOUR, OR A COLOUR COMPLEMENTARY TO THE DWELLING
10. TOP OF TANK TO BE BELOW TOP OF NEAREST FENCE, OR 1.8 METRES, WHICHEVER IS LESSER.
11. THE WATER TANK SHOULD BE LOCATED AT LEAST 900mm FROM ANY PROPERTY BOUNDARY
12. PLUMBING FROM THE WATER TANK IS TO BE KEPT SEPARATE FROM THE RETICULATED WATER SUPPLY SYSTEM
13. TANK TO BUILT ON SELF-SUPPORTING BASE
14. PROVIDE BACK-FLOW PREVENTION DEVICE AT MAINS WATER METER
15. ROOF DRAINING TO TANK MUST NOT CONTAIN LEAD, TAR BASED PAINTS OR ASBESTOS
16. WATER TO BE DRAWN FROM ANAEROBIC ZONE OF TANK



SYMBOLS

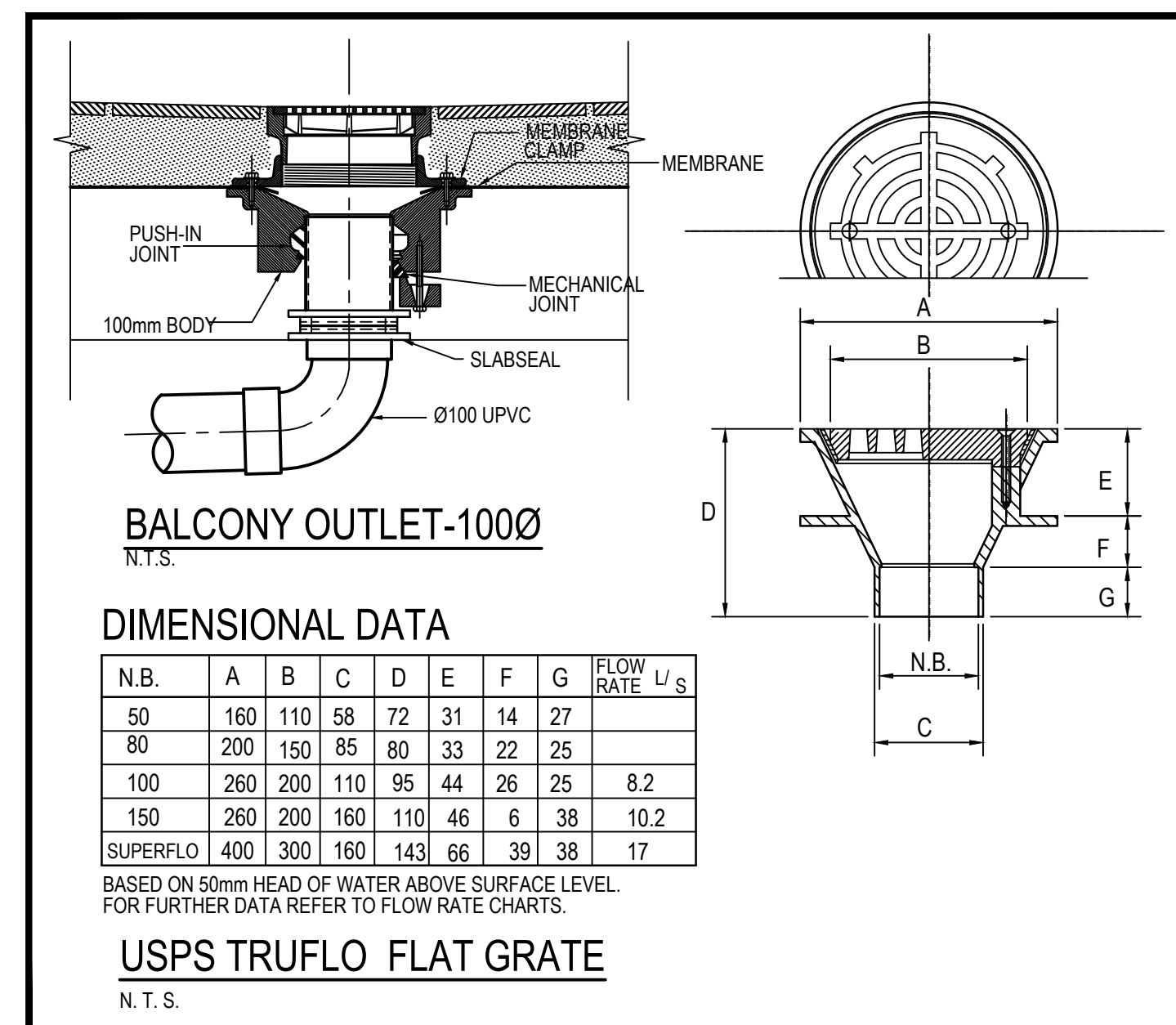
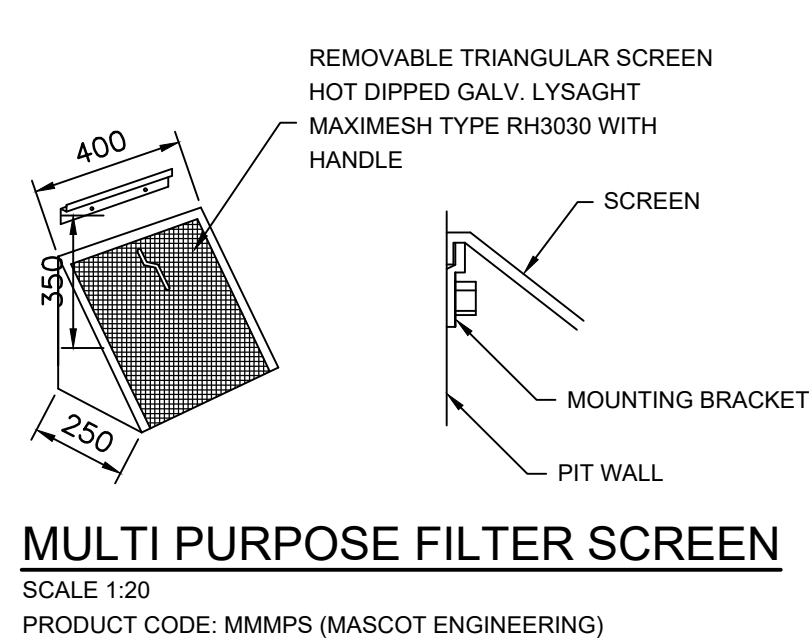
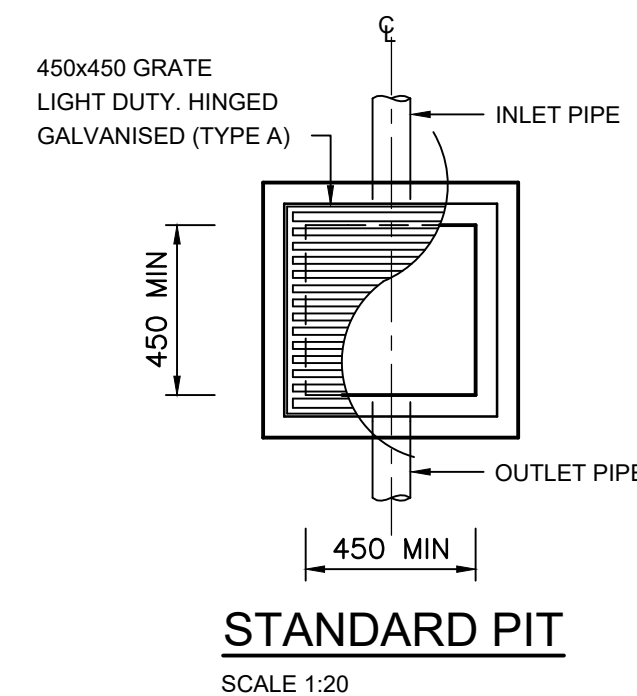
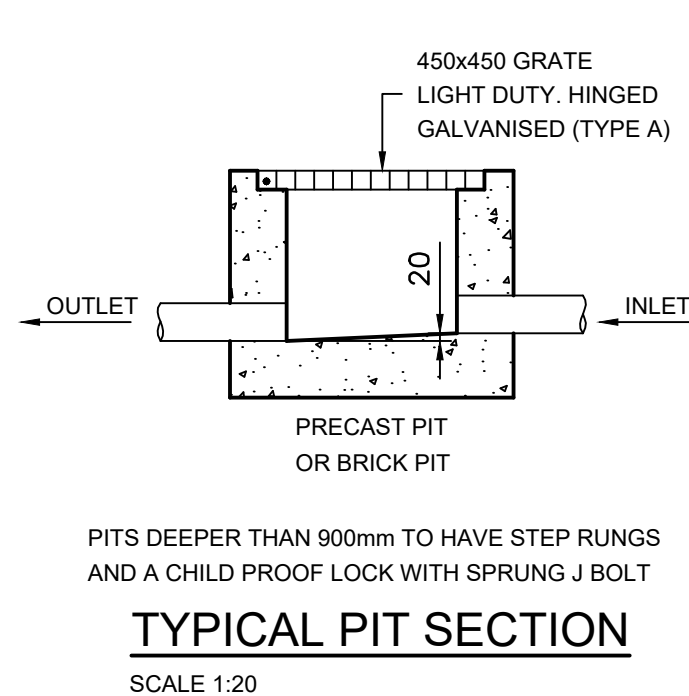
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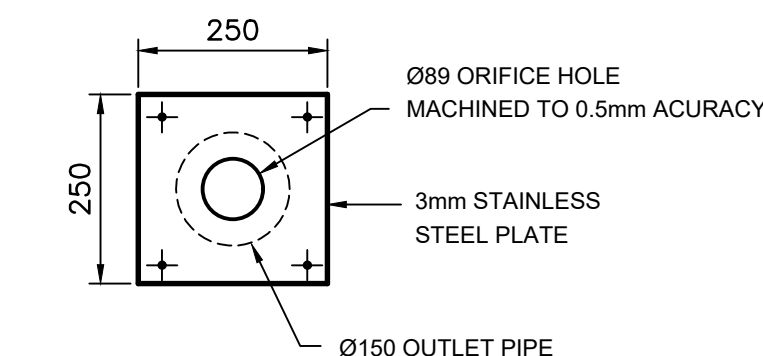
DIMENSIONAL DATA

N.B.	A	B	C	D	E	F	G	FLOW RATE U/S
50	160	110	58	72	31	14	27	
80	200	150	85	80	33	22	25	
100	260	200	110	95	44	26	25	8.2
150	260	200	160	110	46	6	38	10.2
SUPERFLO	400	300	160	143	66	39	38	17

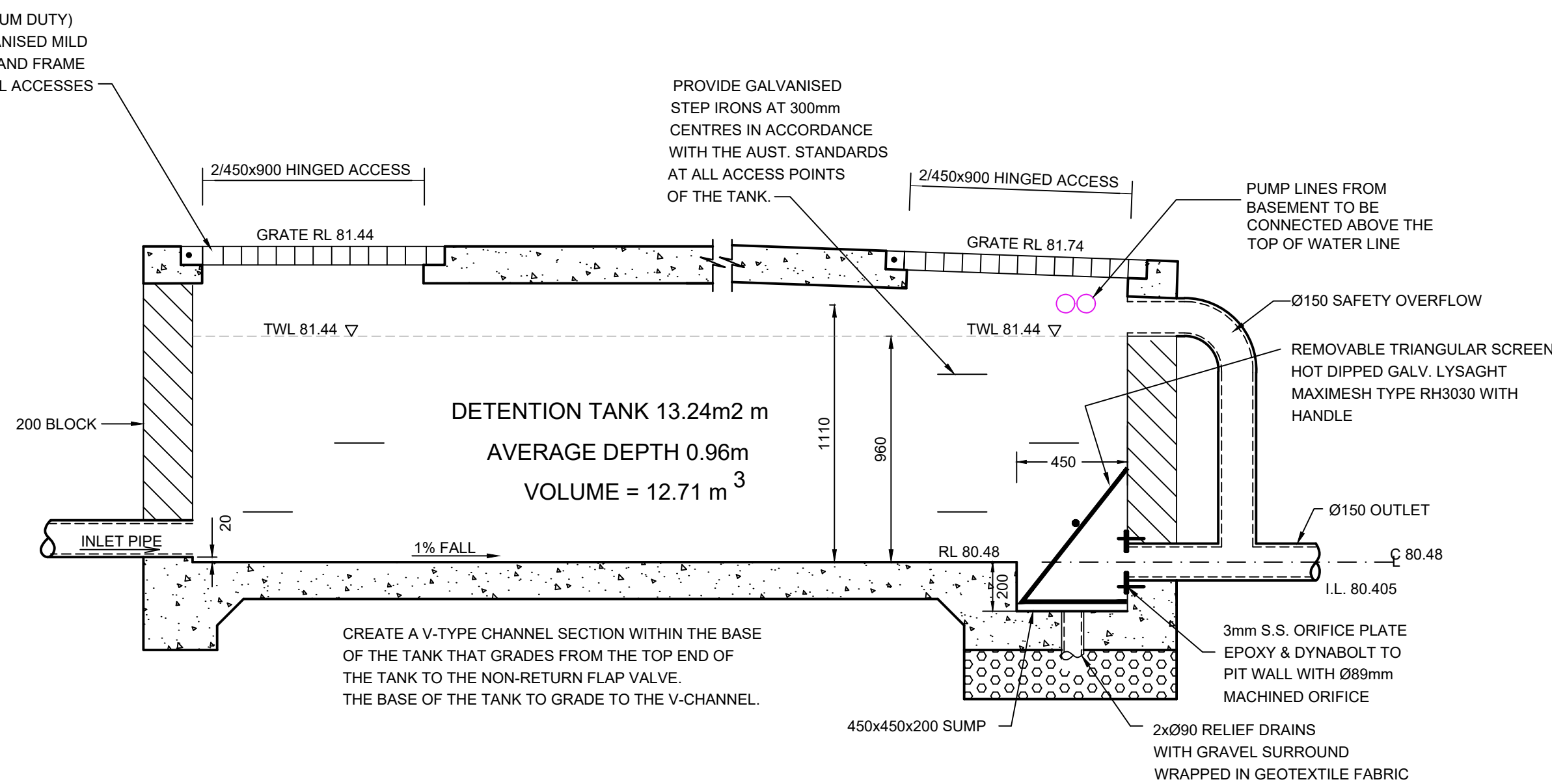
BASED ON 50mm HEAD OF WATER ABOVE SURFACE LEVEL.
FOR FURTHER DATA REFER TO FLOW RATE CHARTS.

USPS TRUFLO FLAT GRATE

N. T. S.



CONFINED SPACE WARNING SIGN



SECTION THROUGH DETENTION TANK D.C.P.1

SCALE 1:20

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COUNCIL:
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-

ARCHITECT:
NEW PARADIGM DESIGN PTY LTD

DRAWING TITLE:
DRAINAGE DETAILS

NAC
NATIONAL ENGINEERING CONSULTANTS PTY LTD

3110 Childs Road,
Chipping Norton, NSW 2170
e: info@necconsultants.com.au
ABN:97 672 826 345
ACN: 672 826 345

DESIGNED: J.T. DRAWN: V.S. CHECKED: J.T.
APPROVED: JOSEPH SAAD TANNOUS
Being Printed, M&Aust. Office
JOB No: 24-1086 REVISION: D DRAWING No: SW04

**COMPONENTS**

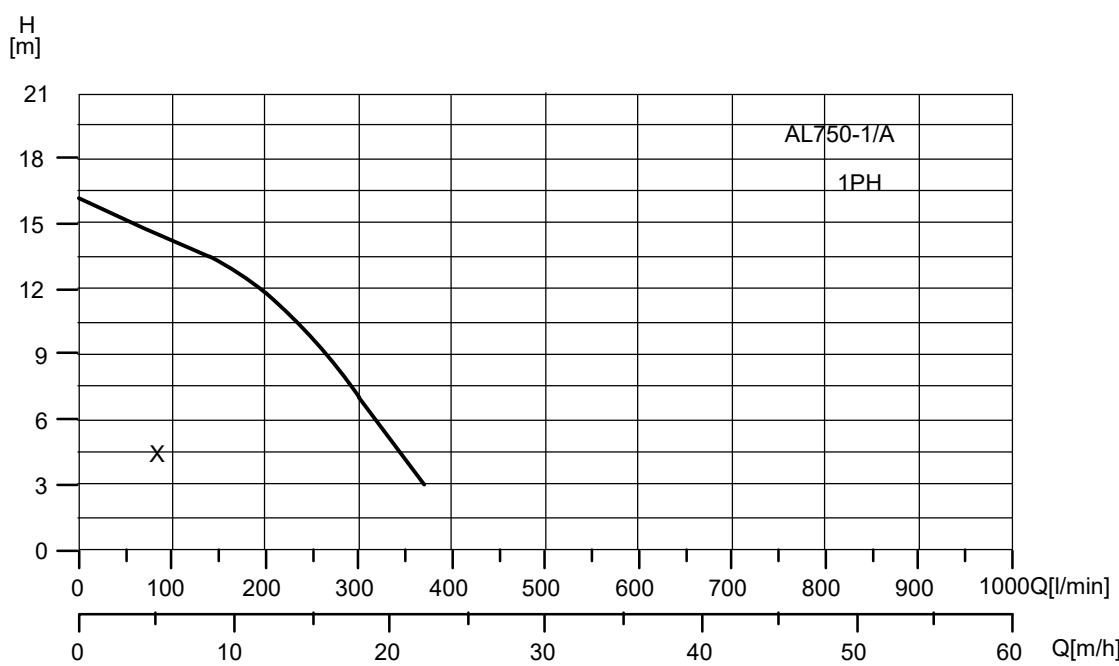
- 2 x ALINE, MODEL AL750-1, 0.75kW, 240 VOLT SUBMERSIBLE PUMPS
- 2x ALINE DIFFERENTIAL FLOAT SWITCHES MODEL 9006 COMPLETE WITH 20m CABLES.
- 1x DUAL DOL CONTROL PANEL WITH:
MAIN ISOLATING SWITCH
AUTOMATIC ALTERNATION
MANUAL/OFF/AUTO SWITCH FOR EACH PUMP
CIRCUIT BREAKERS FOR EACH MOTOR AND CONTROL CIRCUIT.
LIGHTS, CODED DATA OUTPUT FOR BMS CONNECTION
AUDIBLE ALARM WITH MUTE BUTTON
- SET OF VALVES AND FITTINGS TO SUIT
- INSTRUCTION AND MAINTENANCE MANUAL
- NOTE: CONDUIT FROM PIT TO WALL SHOULD BE MINIMUM 50mm (OR 2x32 mm) WITH LONG RADIUS BENDS

POWER REQUIREMENTS:

240 VOLTS, 0.75 KW & 6 AMPS EACH PUMP

TYPE	HP	KW	CONTINUOUS AMP RATING	OPERATING TEMPERATURE	VOLTAGE	AUTO/ MANUAL/ Automatic	DISCHARGE (MM)	CABLE LENGTH
Open Channel	1.0	0.75	6	0°C to 40°C	240V	Manual/ Automatic	50	10M

OUTLET		MAX FLOW (LPM)	FLOW AT M HEAD (LPM)					MAX HEAD (M)	DIMENSIONS L X W X H (MM)	WEIGHT (KG)
MM	INCH		3M	6M	9M	12M	15M			
50	2"	380	370	320	270	190	50	13	525 x 250 x 280	27

PUMP SPECIFICATIONS**PUMP PERFORMANCE CURVE**

SCALE 1:20

SYMBOLS

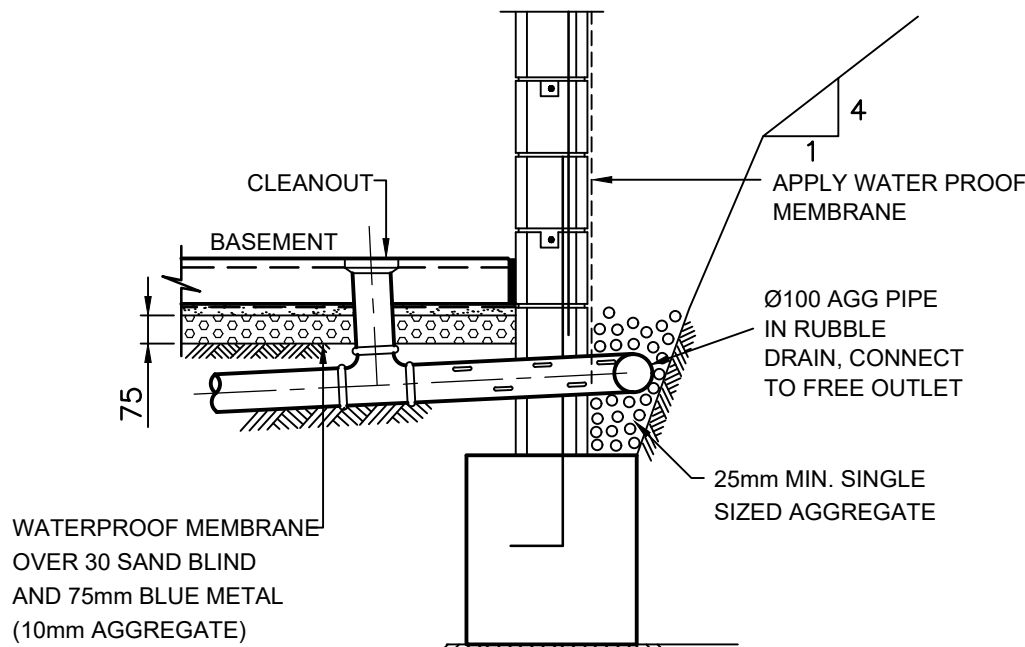
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• G	GRATED INLET PIT 450x450
• D	200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
• S	STORMWATER PIPE
• S	SUSPENDED STORMWATER PIPE
• S	STORMWATER PIPE TO RW/T
• S	PUMP LINE
• S	Ø100 SUBSOIL PIPE
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• S	OVERLAND FLOW
• S	FALLS

EROSION CONTROL NOTES

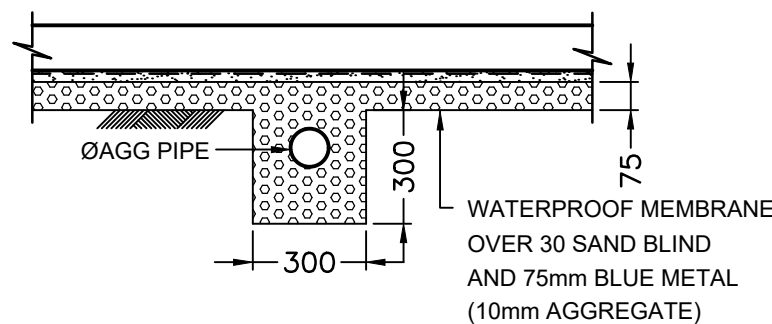
- ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
- ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC.
- INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADEN WATER, TO COUNCIL'S STANDARDS.
- 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.
- ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

NOTES

- ALL LINES ARE TO BE Ø100 U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.
- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
- ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
- PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
- PITS DEEPER THAN 900 MUST BE 900x900 AND HAVE STEP RUNGS AT 300 CENTRES.
- ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
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- ALL DP'S TO HAVE LEAF GUARDS
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- ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
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- EXISTING STORMWATER PIPE LOCATIONS HAVE BEEN ASSUMED. PLUMBER TO INSPECT PRIOR TO WORKS AND UPGRADE PIPES AS NECESSARY.

**SECTION 2**

SCALE 1:20 SW03

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PUMP WELL DETAILS

SUMP SIZE AND PUMP SIZE BASE ON 100 YEAR 2 HOUR STORM INTENSITY IS 62.3 mm/hr, AREA DRAINING TOWARDS SUMP IS 48m2
 $Q = CIA/3600 = 1.0 \times 62.3 \times 48 / 3600 = 0.83$ l/s
VOLUME REQUIRED IS $0.83 \times (2 \times 60 \times 60) = 5,976$ litres
STORAGE PROVIDED $2300 \times 2300 \times 1200 = 6,348$ litres
THEREFORE ADEQUATE STROAGE PROVIDED

USE DUAL AL750-1A OR SIMILAR

TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE PUMPS TO ACT ALTERNATIVELY AT 3.53m HEAD

STANDARD PUMP OUT DESIGN NOTES

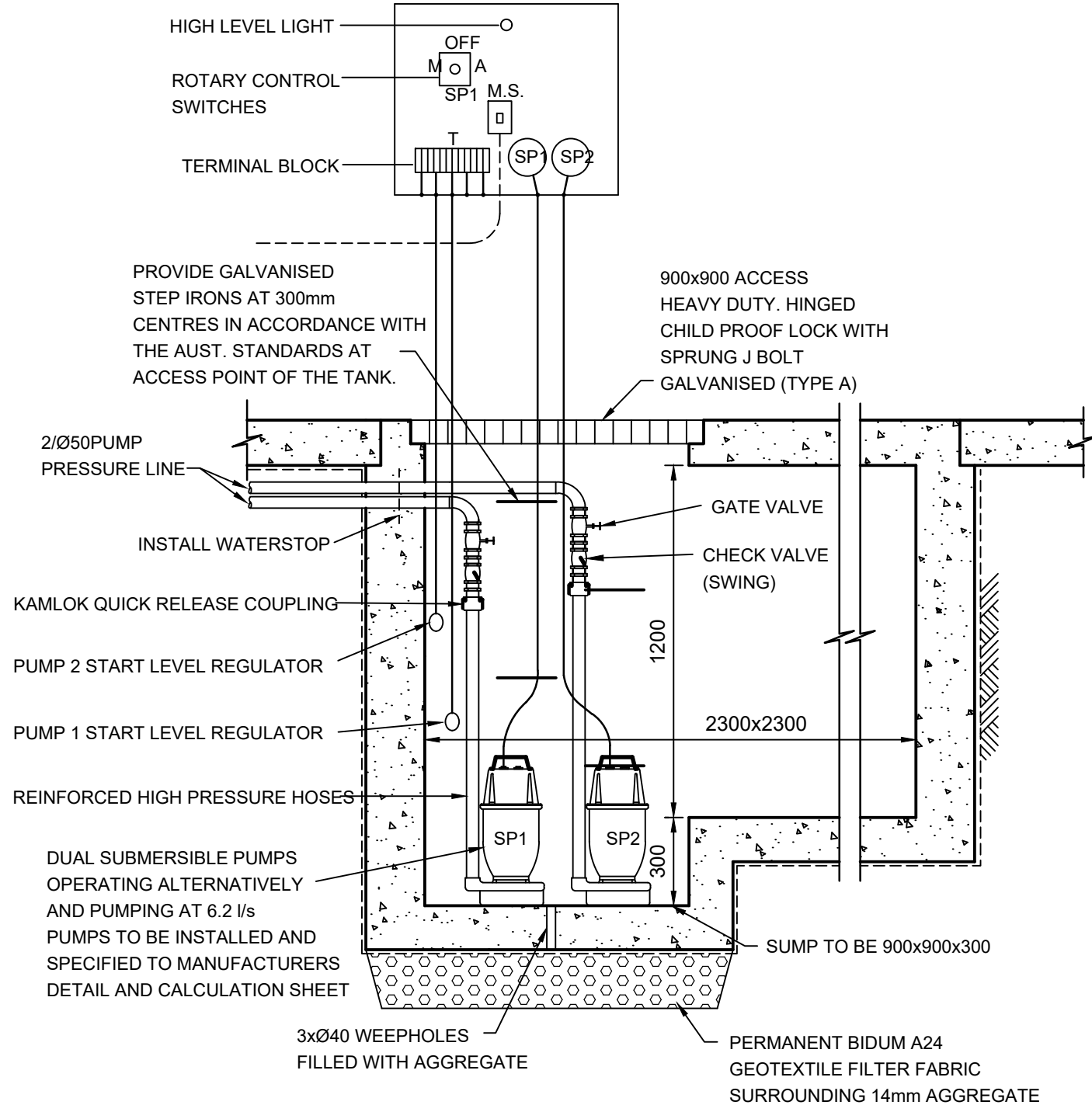
THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW LEVEL FLOAT.

A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AN A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

**SECTION THROUGH PUMP WELL**

SCALE 1:20

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A	05.12.2024	ISSUE FOR DA
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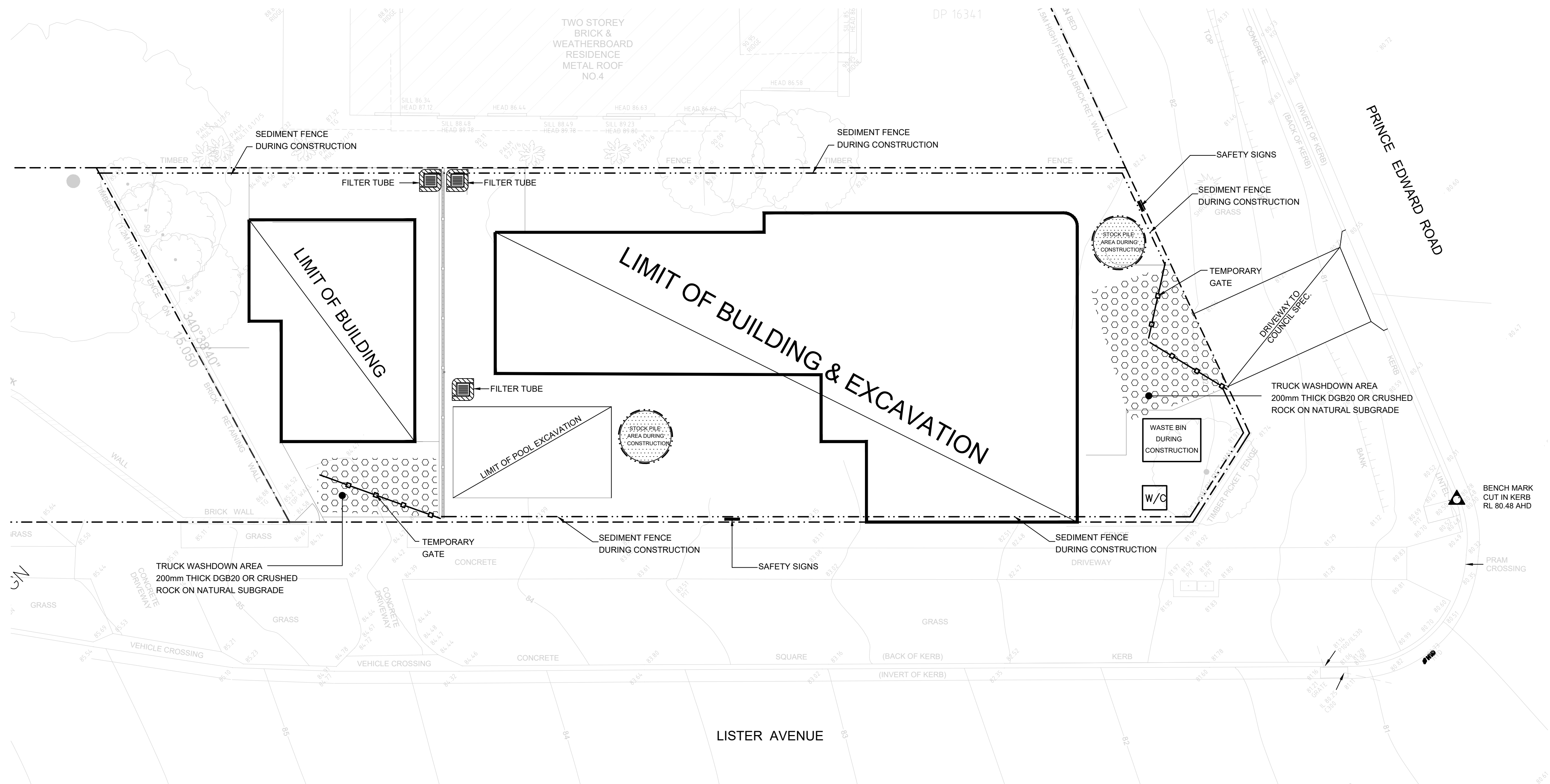
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REVISION: D

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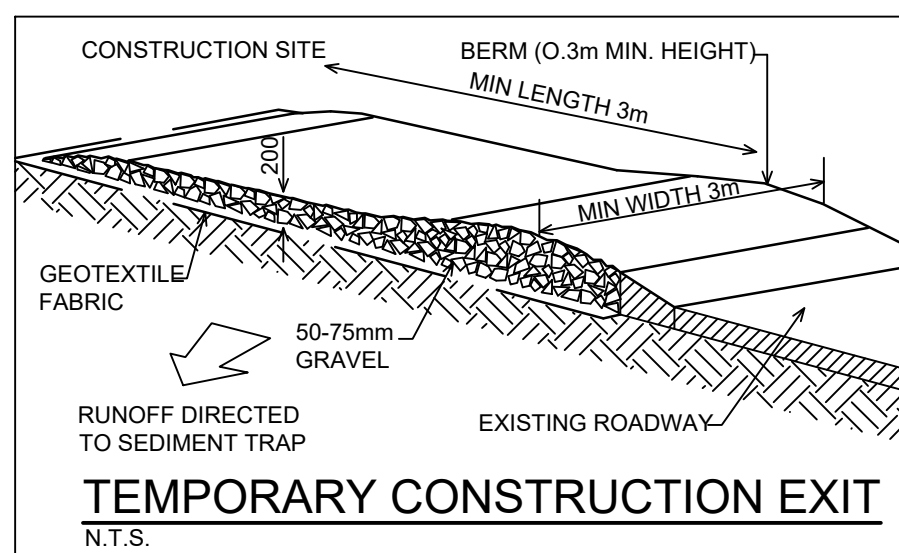
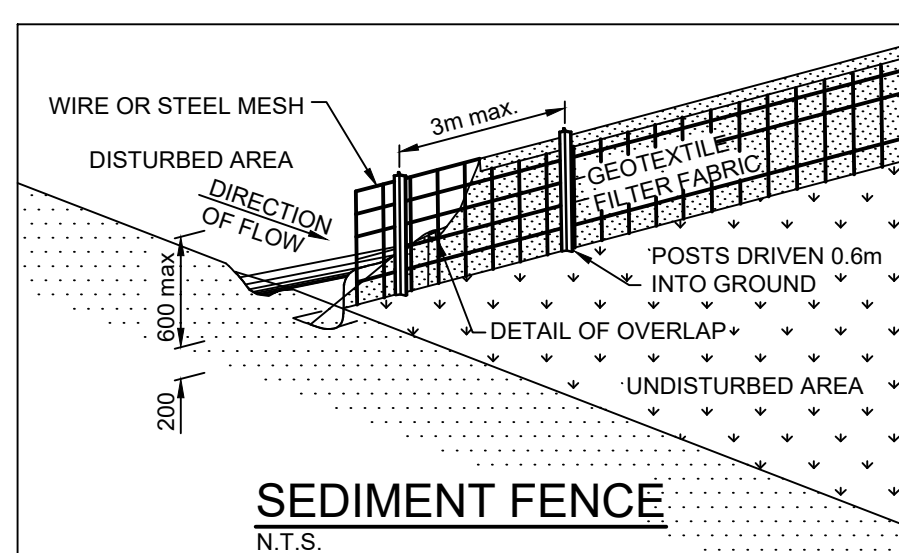
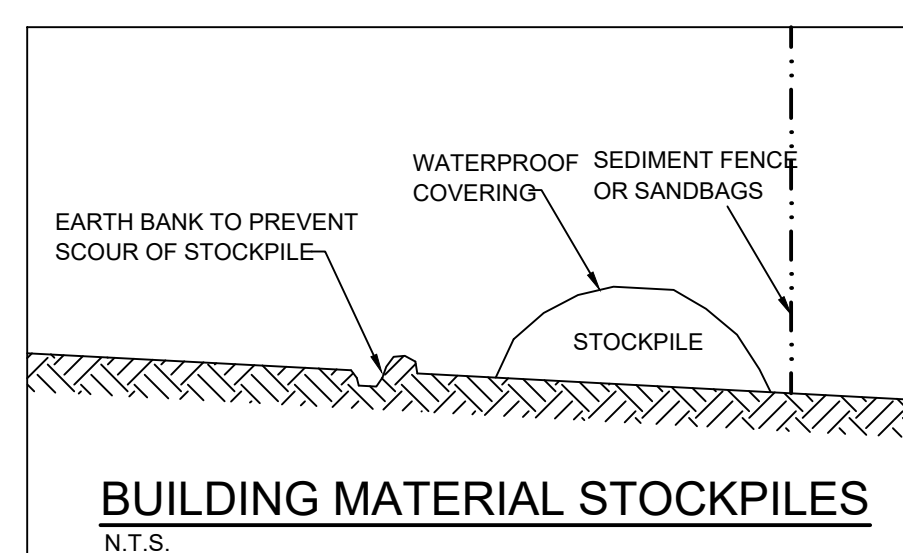
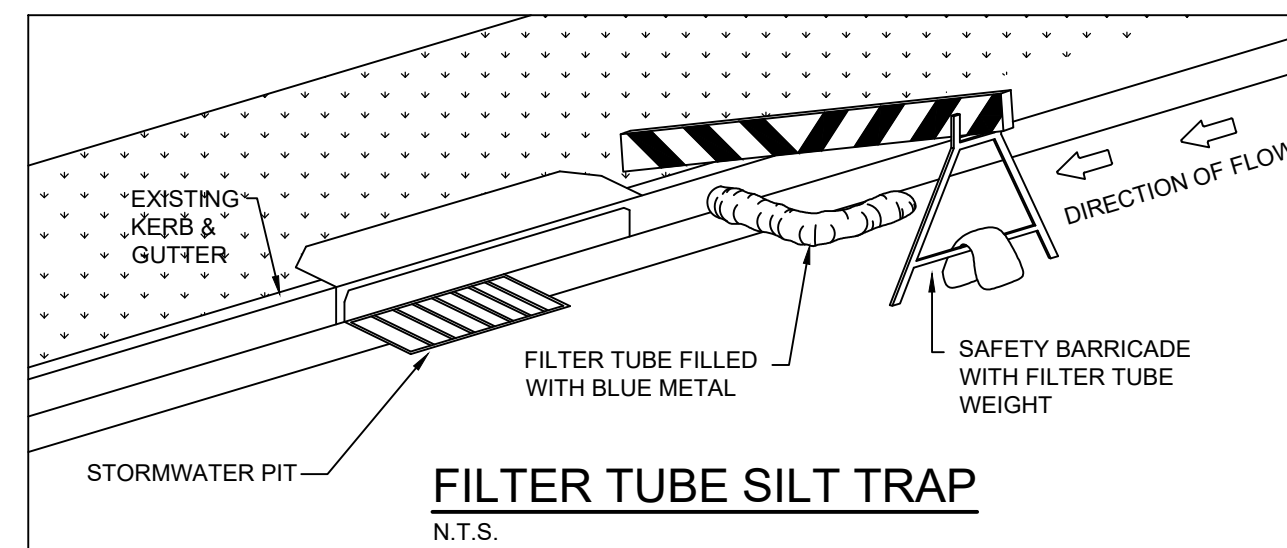
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TEMPORARY CONSTRUCTION EXIT
N.T.S.SEDIMENT FENCE
N.T.S.BUILDING MATERIAL STOCKPILES
N.T.S.FILTER TUBE SILT TRAP
N.T.S.

SEDIMENT CONTROL NOTES

- ALL EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL, SHALL BE IMPLEMENTED TO THE STANDARDS OF SOIL CONSERVATION N.S.W.
- ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILIZED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
- SEDIMENT TRAPS SHALL BE CONSTRUCTED AROUND ALL INLET PITS, CONSISTING OF 300mm WIDE x 300mm DEEP TRENCH.
- ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MINIMUM OF 60% FULL OF SOIL MATERIALS, INCLUDING DURING THE MAINTENANCE PERIOD.
- ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
- SOIL AND STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
- FILTER SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR APPROVED EQUIVALENT BETWEEN POST AT 3.0M CENTERS. FABRIC SHALL BE BURIED 150 mm ALONG ITS LOWER EDGE.
- CONTROL SURFACE WATER FLOW IN A MANNER THAT:
 - DIVERTS RUN-OFF AROUND DISTURBED AREAS
 - MINIMISES SLOPE AND FLOW DISTANCE WITHIN DISTURBED AREAS
 - ENSURES SURFACE RUN-OFF OCCURS AT NON-ERODABLE VELOCITIES
 - ENSURES DISTURBED AREAS ARE PROMPTLY REHABILITATED

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