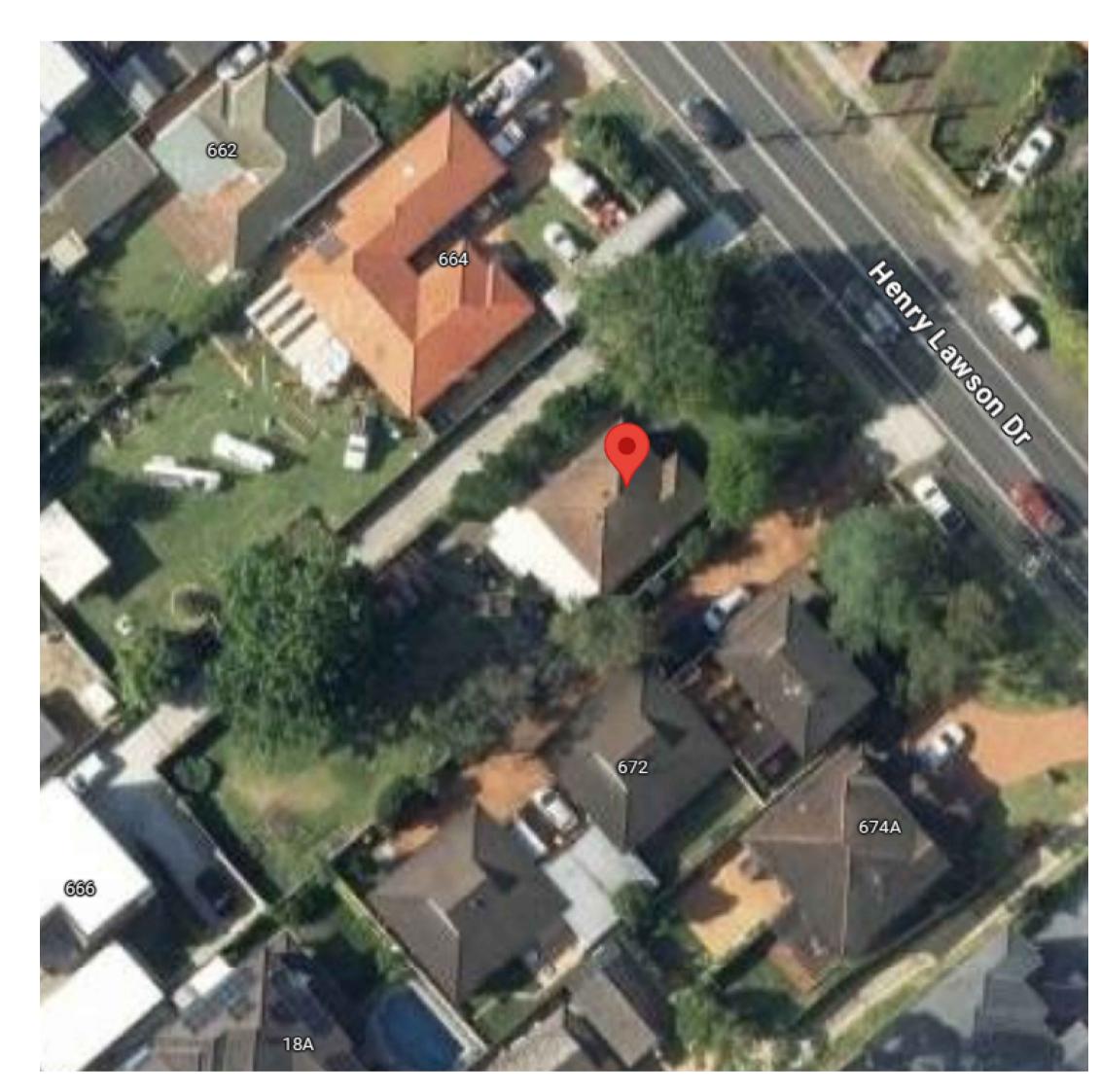
668 Henry Lawson Drive, East Hills Stormwater



SITE MAP

						ADDRESS: Lev
						PHONE: 9635
						WEBSITE: www
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DRAWING LIST

DRAWING NO.	DRAWING TITLE
SW-000	COVER SHEETS
SW-001	NOTES AND LEGENDS
SW-100	SITE PLAN
SW-202	ROOF PLAN
SW-300	DETAIL SHEET 1
SW-301	DETAIL SHEET 2

evel 2, 96 Phillip Street, Parramatta NSW 2150 35 9890

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7.01.25	ADDRESS	668 Henry Lawson	Drive, Eas	st Hills		
7.01.25	SHEET TITLE	STORMWATE		/ICES		
NTS		COVER SHEE	T			
ENGINEERS PTY. LTD. NO USED WITHOUT PRIOR	PROJECT NO.	24209	DRAWING NO.	SW-000	REVISION	0

GENERAL NOTES

- G1 ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS. BUILDING CODE OF AUSTRALIA, NSW CODE OF PRACTICE AND THE TO THE RELEVANT SERVICE CODES.
- G2 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- G3 ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE IN MILLIMETERS IU.N.O.). DIMENSIONS SHALL NOT BE OBTAINED BY SCALING OF THESE DRAWINGS. USE FIGURED DIMENSIONS ONLY.
- G4 BENCHMARKS HAVE BEEN ESTABLISHED WHERE INDICATED IN THE DRAWINGS. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (A.H.D.). THE CONTRACTOR SHALL UNDERTAKE ALL NECESSARY SURVEY WORK TO ENSURE THAT THE WORKS ARE CONSTRUCTED TO DESIGN LINE AND
- G5 SETTING OUT DIMENSIONS AND LEVELS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.
- G6 ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT AUSTRALIAN CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES.
- G7 IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SAFETY FENCES, WARNING SIGNS, TRAFFIC DIVERSIONS AND THE LIKE DURING CONSTRUCTION. ALL WORKS TO COMPLY WITH WORK HEALTH AND SAFETY REQUIREMENTS AND OTHER RELEVANT AUTHORITY SAFETY REQUIREMENTS.
- G8 NO TREES SHALL BE REMOVED. CUTBACK OR RELOCATED WITHOUT THE WRITTEN INSTRUCTION FROM THE SUPERINTENDENT/COUNCIL. G9 WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINEO
- G10 ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND THESE SPECIFICATIONS.
- G11 DESIGN LEVELS GIVEN ARE TO FINISHED SURFACE LEVEL AND INCLUSIVE OF TOPSOIL. !TOPSOIL DEPTH VARIES!
- G12 THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A N.A.T.A. REGISTERED SURVEYOR.
- G13 CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOMMUNICATIONS OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS
- G14 THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM DIAGRAMS PROVIDED BY SER VICE AUTHORITIES THIS INFORMATION HAS BEEN PREPARED SOLELY FOR THE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
- G15 THE POSITION OF SER VICES AS RECORDED BY THE AUTHORITY AT THE TIME OF INSTALLATION MAY NOT REFLECT CHANGES IN THE PHYSICAL ENVIRONMENT SUBSEQUENT TO INSTALLATION.
- G16 HORIZON ENGINEERS DOES NOT GUARANTEE THAT THE SER VICES INFORMATION SHOWN ON THE DRAWING SHOWS MORE THAN THE PRESENCE OR ABSENCE OF SERVICES. AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SER VICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
- G17 IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN FROM THE UTILITY SERVICES AUTHORITIES A CURRENT COPY OF UNDERGROUND SERVICES SEARCH FOR THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORK AND NOTIFY ANY CONFLICT WITH THE DRAWINGS IMMEDIATELY. CLEARANCE SHALL BE OBTAINED FROM THE RELEVANT REGULATORY AUTHORITY. CONTRACTOR TO KEEP COPY OF UNDERGROUND SERVICES SEARCH ON SITE AT ALL TIMES. ANY DAMAGES TO SERVICES OR SER VICES ADJUSTMENTS SHALL BE CARRIED OUT BY THE CONTRACTOR OR RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE.
- G18 VISIT THE SITE BEFORE SUBMITTING THE FINAL TENDER PRICE TO ASSESS "ON SITE' CONDITIONS. FAILURE TO DO SO WILL FORFEIT ANY CLAIM FOR NOT BEING AWARE OF CONDITIONS AFFECTING THE TENDER.
- G19 THE CONTRACTOR SHALL PREPARE ACCURATE WORK-AS-EXECUTEO DRAWINGS FOLLOWING THE COMPLETION OF ALL WORKS.
- G20 IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE IN PLACE & MAINTAIN TRAFFIC FACILITIES AT ALL TIMES DURING CONSTRUCTION
- G21 GEOTEXTILE FABRIC MATERIAL TO BE BIDIM A14 OR APPROVED EQUIVALENT AND SHALL COMPLY WITH AS3TOS-1011"GEOTEXTILES -IDENTIFICATION, MARKING AND GENERAL DATA'.

RESTORATION

- RI RESTORE ALL TRAFFIC AREAS TO PRE-EXISTING CONDITIONS.
- R2 FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITIONS AND COMPACT AS SPECIFIED

APPROVALS

- API THE AS-BUILT WORKS SHALL BE INSPECTED BY THE ENGINEER. MINIMUM 48 HOURS NOTICE SHALL APPLY TO ALL INSPECTIONS.
- AP2 THE DESIGN PLANS HEREIN ARE SUBJECT TO LOCAL COUNCIL APPROVAL PRIOR TO CONSTRUCTION. OBTAIN EXPRESS IN WRITING ADVICE TO PROCEED FROM PROJECT SUPERINTENDENT PRIOR TO COMMENCEMENT.
- AP3 SUBMIT WORK-AS-EXECUTED DRAWINGS IN DWG FORMAT AND HARD COPY FORMAT UNDERTAKEN BY A REGISTERED SURVEYOR. VERIFY ALL CONSTRUCTION WORKS SHOWN HEREON.
- AP4 CERTIFY THAT THE AS-BUILT SYSTEM HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS ISSUED FOR CONSTRUCTION. AP5 ALLOW FOR SUB GRADE AND PAVEMENT THICKNESS TO BE VERIFIED
- BY THE GEOTECHNICAL ENGINEER AFTER INSPECTION OF PRELIMINARY BOXING.
- AP6 ALLOW FOR ANY SUBGRADE REPLACEMENT WORK TO BE DETERMINED AS REQUIRED BY GEOTECHNICAL ENGINEER AT THE TIME OF PAVEMENT CONSTRUCTION.

KERB AND GUTTER

- KGI ALL KERB AND GUTTER SHALL COMPLY WITH AS2876-2000, CONCRETE KERBS AND CHANNELS-MANUALLY OR MACHINE PLACED".
- KG2 CONCRETE CHARACTERISTICS SHALL BE IN ACCORDANCE WITH THE CONCRETE NOTES.
- KG3 CONTROL JOINTS SHALL BE FORMED AT A MAXIMUM SPACING OF 3m.
- KG4 THE CONTRACTOR SHALL LIAISE WITH RELEVANT AUTHORITIES TO DETERMINE THEIR REQUIREMENTS FOR THE KERBS AND GUTTERS.
- KG5 ALL KERB & GUTTER IS TO BE MACHINE LAID UNLESS OTHER WISE APPROVED BY THE SUPERINTENDENT

KERB INLET PITS

- KI COMPRESSIVE STRENGTH (F"c) FOR CAST IN SITU CONCRETE SHALL BE A MINIMUM 15MPa AT 18 DAYS.
- K2 100 DIA SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK SHALL BE PROVIDED ON THE UPSTREAM SIDE OF PIT, ADJACENT TO INLET PIPES.
- K3 ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP. K4 PIT GRATE SHALL BE "WELDLOCK" GULLY GRATE GGTB-SS OR EQUAL
- (APPROVED BY COUNCIL) WITH SKIRT FOR INDUSTRIAL ROADS. WITH 41xS EDGE BARS. GRATE TO BE CAST IRON HEAVY DUTY. THEFT RESISTANT SWING AND BICYCLE SAFE
- K5 DURING INSTALLATION OF GRATE & FRAME. CONTRACTOR SHALL ENSURE CLEARANCE BETWEEN LINTEL & OPENED GRATE

OR SIMILAR

70%.

TRENCH FILL,-

THAN 95%

MADE FITTINGS.

DIAMETER (U.N.0.).

SUPPORT. AUTHORITY APPROVAL

300mm ELSEWHERE U.N.O.

REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL.

CHAMFERED 20mm X 20mm

AS3996.

S35 ALL GRATES SHALL BE PROVIDED WITH A LOCKING CLIP.

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S12 BACKFILL PIPES WITH IMPORTED FILL. PROVIDE 200mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN. TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR THE FOOTWAY SHALL BE AS FOLLOW,-UNDER ROADWAY

TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OF EITHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RMS QA SPECIFICATION 3051 OTHER THAN ROADWAY

TRENCH MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 10% OF STONES OF SIZE BETWEEN 25mm AND 75mm AND NONE LARGER THAN 75mm. PRIOR TO USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE ENGINEER.

S13 COMPACT BEDDING. EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOW - EMBEDMENT: FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS e.g. COARSE AGGREGATE FILL, THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN

FOR GRANULAR MATERIAL (NON COHESIVE SOILS). THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%. FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS). THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS

SI4 EXISTING SERVICES UTILITY INFORMATION SHOWN ON THE PLANS IS NOT INTENDED TO DEPICT MORE THAN THE PRESENCE OF ANY SERVICES. ACTUAL LOCATIONS SHOULD BE VERIFIED BY HAND EXCAVATION PRIOR TO CONSTRUCTION.

SI5 THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS.

SI6 THE CONTRACTOR SHALL ENSURE THAT SER VICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED AT ALL TIMES.THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING WHERE REQUIRED. ONCE THE WORKS ARE COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL

REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD ALL

EXISTING PIPES WHICH FORM NO PART OF THE DRAINAGE SYSTEM SHALL BE REMOVED OR SEALED AS INDICATED ON THE PLANS. PIPES UP TO 300mm DIAMETER SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS (U.N.0.). ALL PIPE JUNCTIONS AND TAPERS SHALL BE VIA PURPOSE

SI8 WHERE DOWNPIPES PASS UNDER FLOOR SLABS, SEWER GRADE uPVC WITH RUBBER RING JOINTS ARE TO BE USED.

SI9 MINIMUM GRADE TO DRAINAGE PIPES TO BE 1% (U.N.O.), MIN. SIZE IOOmm

S20 PIPES LARGER THAN OR EQUAL TO 300mm DIAMETER TO BE REINFORCED CONCRETE RUBBER RING JOINTED TYPE (CLASS 2) MANUFACTURED TO AS4058 (U.N.O.).

S21 PIPE INSTALLATION UNDER TRAFFICABLE AREAS SHALL BE IN ACCORDANCE WITH CONCRETE PIPE ASSOCIATION OF AUSTRALIA PUBLICATION "CONCRETE PIPE SELECTION & INSTALLATION" TYPE HS3

S22 EQUIVALENT STRENGTH FRC PIPES MAY BE USED SUBJECT TO

S23 MINIMUM PIPE COVER TO BE 600mm UNDER TRAFFICABLE AREAS AND

S24 CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORKS

S25 STORMWATER DRAINAGE CONNECTIONS TO COUNCIL'S SYSTEM SHALL

S26 DRAINAGE PITS PITS DEEPER THAN 1200mm TO BE FITTED WITH STEP IRON AT 300 CENTRES TO AS1657-2013: 'FIXED PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS - DESIGN, CONSTRUCTION AND INSTILLATION'

S27 ALL EXPOSED EDGES TO BE ROUNDED WITH 20mm RADIUS, OR

S28 PIT REINFORCEMENT - MESH SL82 LAP TO BE 400mm MIN. CLEAR COVER 40 MIN. CAST AGAINST BLINDING OR FORMWORK.

S30 BENCHING TO BE HALF OUTGOING PIPE DEPTH. CONCRETE FOR BENCHING TO BE 20MPa MASS CONCRETE. S31 APPROVED PRECAST PITS MAY BE USED.

S32 100mm DIAMETER HOLE FOR SUBSOIL DRAINAGE OUTLET TO BE LOCATED 100mm ABOVE INVERT OF ALL INLET PIPES. SUBSOIL DRAINAGE TO EXTEND FOR A DISTANCE OF 3m UPSTREAM OF PIT (AT EACH INLET TRENCH) WITH THE UPSTREAM END SEALED.

S33 ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH

S34 PIT GRATE. FRAMES AND SOLID COVERS SHALL BE CLASS B IN NON TRAFFIC AREAS AND CLASS D IN TRAFFICABLE AREAS IN ACCORDANCE WITH S36 MAXIMUM FRONT ENTRY PIPE,-STRAIGHT ENTRY - 750 DIAMETER SKEW ENTRY 45 DEGREES ' - 525

DIAMETER

S37 PIT GRATING TO BE GALVANISED STEEL TYPE "WELDLOK" OR APPROVED EQUIVALENT.

S38 SUBSOIL DRAINAGE PIPES SHALL BE LAID AT A MIN GRADE OF 0.5% U.N.O.

S39 ADDITIONAL SUBSOIL DRAINAGE SHALL BE LAID TO SUIT SITE CONDITIONS AND GROUNDWATER PRESENCE AS DIRECTED.

S40 SUBSOIL PIPES SHALL BE LAID BEHIND KERBS IN CUT AREAS OF THE SITE. S41 SUBSOIL DRAINAGE SHALL CONSIST OF A SLOTTED IOOmm DIAMETER PLASTIC PIPE WRAPPED IN GEOTEXTILE AND PLACED A MINIMUM OF 650mm

BELOW THE FINISHED SURFACE LEVEL AND COVERED WITH 500mm OF 20mm GRAVEL. PROVIDE A MINIMUM OF I50mm GRAVEL AROUND SUBSOIL PIPE. TRENCH TO BE LINED WITH GEOTEXTILE FABRIC TYPE BIDIM A24

S42 GRATES TO PITS IN FOOTPATH AREAS SHALL BE HEEL SAFE COMPLYING WITH THE DISABLED ACCESS CODE

EROSION CONTROL

ECI BEFORE EARTHWORKS CAN COMMENCE THE EROSION & SEDIMENT CONTROL MEASURES MUST BE IN PLACE.

EC2 DURING THE CONSTRUCTION PERIOD, THESE CONTROL MEASURES WILL NEED TO BE INSPECTED & MAINTAINED REGULARLY. ESPECIALLY AFTER STORM EVENTS. BY THE CONTRACTOR.

EC3 ALL WORK IS TO BE CARRIED OUT TO PREVENT EROSION. CONTAMINATION & SEDIMENTATION OF THE STORAGE SITE, SURROUNDING AREAS & DRAINAGE SYSTEMS.

EC4 MINIMIZE DISTURBED AREA COVERED WITH NATURAL VEGETATION. ONLY THOSE AREAS DIRECTLY REQUIRED FOR CONSTRUCTION ARE TO BE DISTURBED

EC5 INSTALL EROSION/SEDIMENT CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION OR EXCAVA!ION OPERATIONS.

EC6 PROVIDE SILT FENCE/STRAW BAIL BARRIERS TO THE LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (EG. HUMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.

EC7 ISOLATE EXISTING STORMWATER PITS WITH STRAW BALES OR SILT TRAPS TO FILTER ALL INCOMING FLOWS.

EC8 DO NOT STOCKPILE EXCAVATED MATERIAL ON THE ROAD WAY. EC9 DIVERT CLEAN WATER FROM UNDISTURBED AREAS AROUND THE WORKING AREAS.

ECIO CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALL ENSURE ALL DROPPABLE SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING AND LEAVING THE SITE DO SO IN A FORWARD DIRECTION.

EC11 TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITTER IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POED 1997) AND SHALL BE APPROVED BY LOCAL COUNCIL

EC12 ADOPT TEMPORARY MEASURES AS MAY BE NECESSARY FOR EROSION AND SEDIMENT CONTROL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING;-- DRAINS: TEMPORARY DRAINS AND

- CATCH DRAINS SPREADER BANKS OR OTHER
- STRUCTURES: TO DISPERSE
- CONCENTRATED RUNOFF SILT TRAPS: CONSTRUCTION AND MAINTENANCE OF SILT TRAPS
- PREVENT DISCHARGE OF SCOURED MATERIAL TO DOWNSTREAM AREAS.

EC13 AFTER RAIN, INSPECT, CLEAN AND REPAIR IF REQUIRED TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

EC14 REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WHEN THEY ARE NO LONGER REQUIRED

EC15 COMPLY WITH THE REQUIREMENTS OF LANDCOM'S MANAGEMENT URBAN STORMWATER

- SOIL AND CONSTRUCTION ' THE BLUE BOOK' LATEST EDITION

EC16 THE EROSION AND SEDIMENT CONTROL PLAN PROVIDES IS ONLY INDICATIVE. THE CONTRACTOR SHOULD PREPARE A DETAILED ESCP SUITABLE FOR THE SPECIFIC SITE CONDITIONS

ABBREVIATIONS

LEVE	ELS
FFL	FINISH FLOOR LEVEL
FSL	FINISH SURFACE LEVE

FSL	FINISH SURFACE LEVEL
IL	INVERT LEVEL
RL	REDUCED LEVEL
H/L	HIGH LEVEL
L/L	LOW LEVEL
ΤK	TOP OF KERB

SYMBOLS

O C0	CLEAR OUT
с	DROPPER
\rightarrow	DIRECTION OF FLOW
\bigcirc	FLOOR WASTE/ RAINWAT
●VD	VERTICAL DROPPER
●VR	VERTICAL RISER
\square	SEALED JUNCTION PIT
	GRATED INLET PIT
	GRATED DRAIN

FL	.0	OF	२ '	W	'A	S1	Е	S	С

FW/RWO	SPS TRUFLO FLA
GTD1	STORMTECH LINEAR D
FW2	STORMTECH TILE INSE
BTFW	SPS 150MM ROUND BU
RWO1	SPS TRUFLO WITH GRA
PDO	SPS TRUFLO SIDE INLE

ENSURE PUDDLE FLANGE IS INSTALLED AT EVERY WET AREAS PENETRATION

DATE

DATE

DESIGNED

VERIFIED

DRAWN

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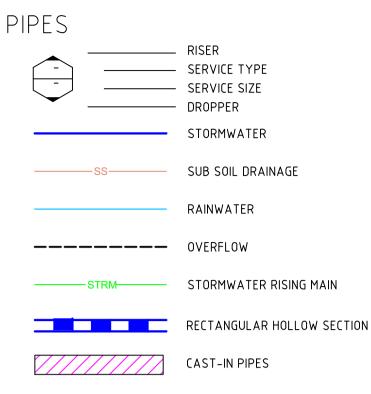
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STORMWATER SERVICES LEGEND

PIPES VP VENT PIPE RELIEF VENT RV SW STORMWATER SRM SEWER RISING MAIN DTU DRAINAGE TURN UP RWO RAIN WATER OUTLET RWH RAIN WATER HEAD 0/F OVERFLOW BALCONY OUTLET BO PDO PLANTER DRAIN OUTLET

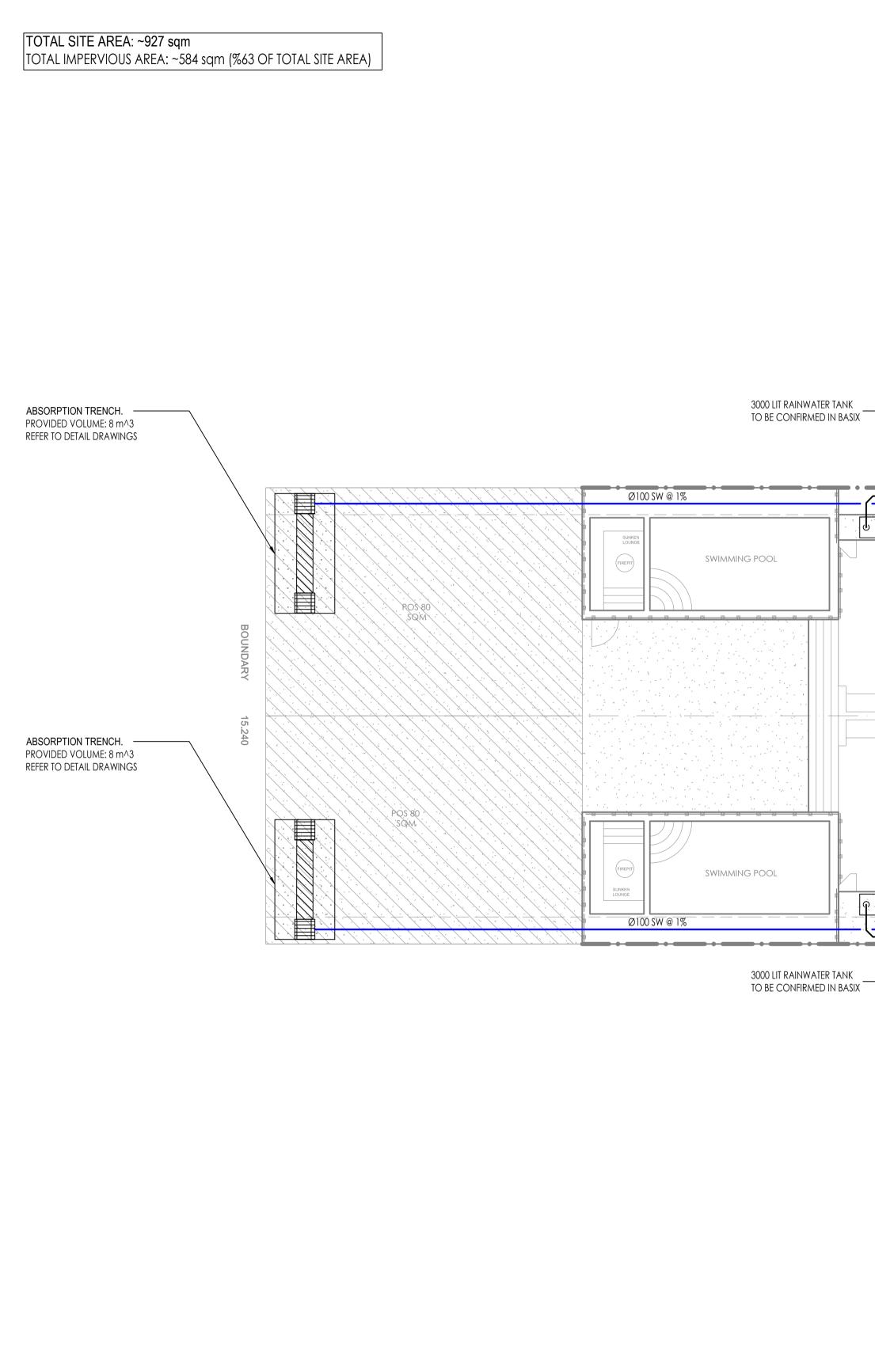


TER OUTLET

CHEDULE

T GRATE (TIA100F2 OR TIB100F2) DRAINAGE WITH TILE INSERT (100TII40MTL) ERT DRAIN (SQ100Ti) UCKET TRAP (R150SR-BT) AVEL GUARD (TIA80/90D2 OR TIB80/90D2) ET WITH RODDING POINT (TIA80/90PB)

DATE 07.01.25	ADDRESS	668 Henry Lawson	Drive, Ea	st Hills		
DATE 07.01.25	- SHEET TITLE	STORMWATE	R SER	VICES		
SCALE © A1 NTS		NOTES AND L	EGEN	DS		
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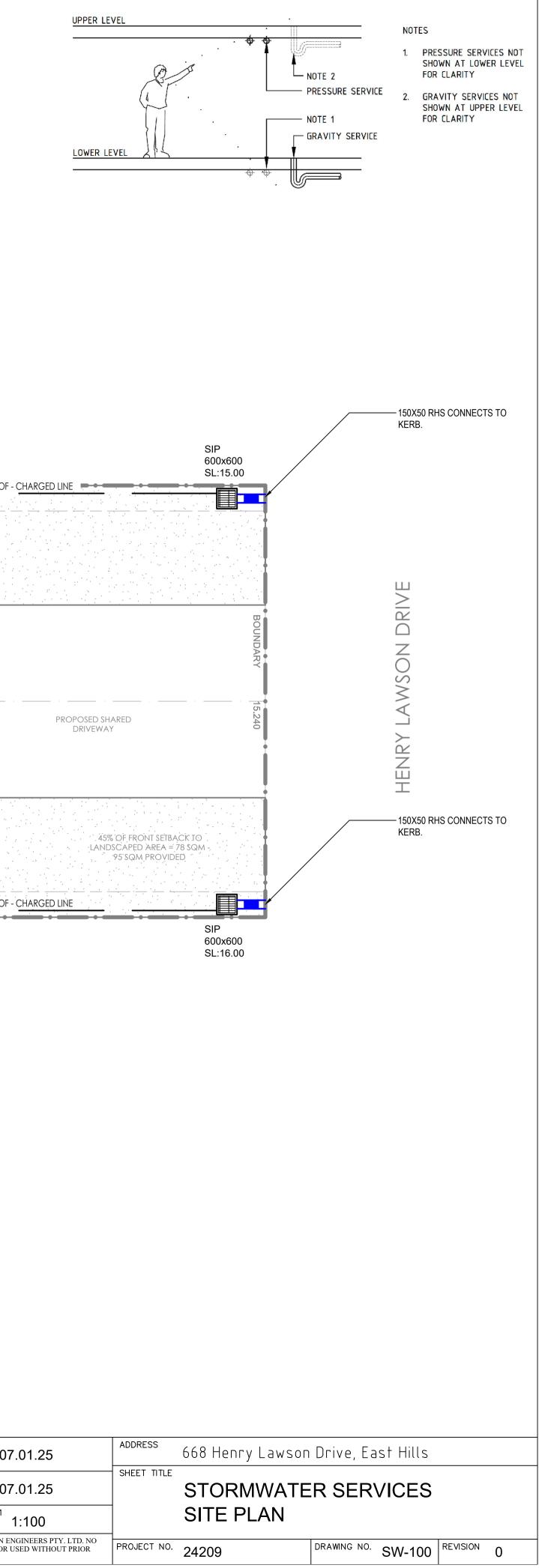
Ø100 RW/OF - CHARGED ------Ø100 SW @ 1% Ø100 RW @ 1% BOUNDARY 60.96 DP RWT . 88 COURTYARD DP • • LOT 1 GROUND FLOOR 122 SQM Alfresco GARAGE $\overline{}$ BBQ BBQ GARAGE _ __ _| |____ Alfresco _ __ __ |____ LOT 2 GROUND FLOOR 122 SQM DP COURTYARD DPOOD 88 , ÌRWÌT - Ì DPL CONCRETE FOOTPATH BOUNDARY 60.96 Ø100 RW @ 1% Ø100 SW @ 1% Ø100 RW/OF - CHARGED

Level 2, 96 Phillip Street, Parramatta NSW 2150 635 9890

HORJZON

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Location

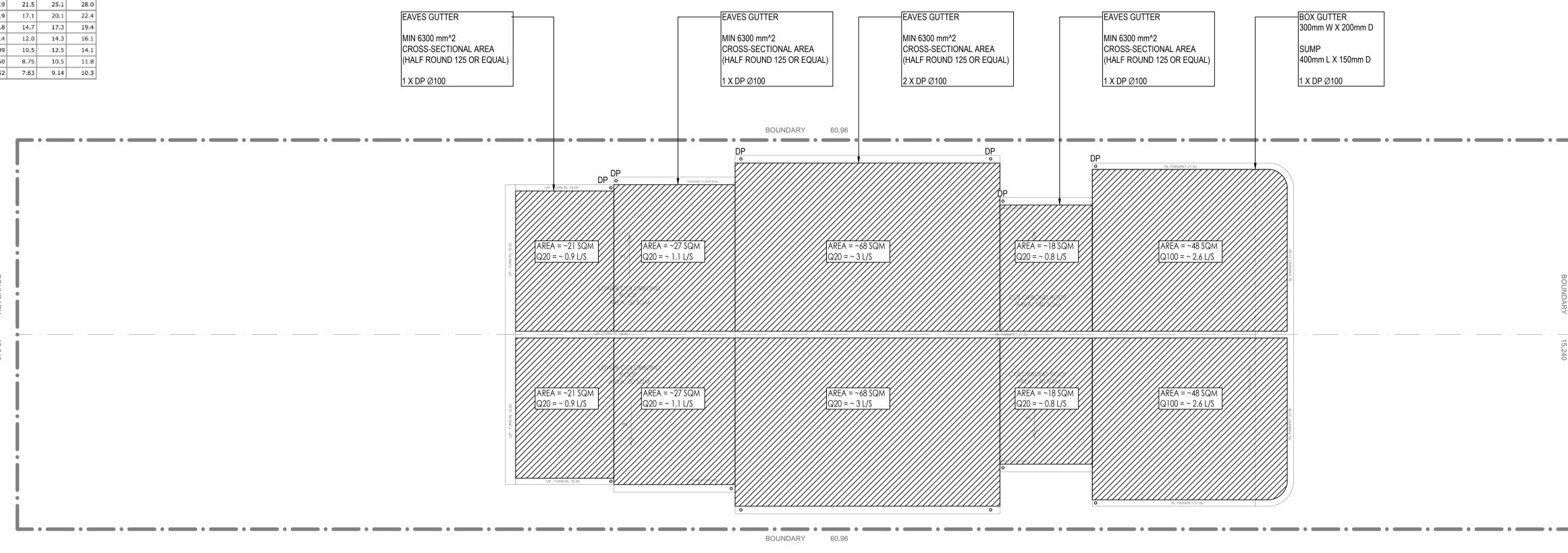
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Longitude:150.9913 [Nearest grid cell: 150.9875 (E)]

IFD Design Rainfall Intensity (mm/h) Rainfall intensity for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP). FAQ for New ARR probability terminology

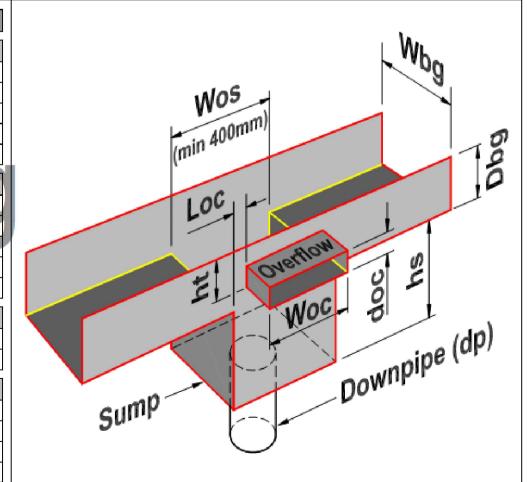
Issued: 08 January 2025

		Annual Exceedance Probability (AEP)					
Duration	63.2%	50%#	20%*	10%	5%	2%	1%
1 <u>min</u>	121	135	176	203	230	265	291
2 <u>min</u>	98.3	107	137	158	178	205	225
3 <u>min</u>	91.4	100	129	148	167	193	212
4 <u>min</u>	86.5	95.2	123	142	160	184	203
5 <u>min</u>	82.2	90.8	118	136	154	177	195
10 <u>min</u>	65.5	72.9	95,5	111	125	144	158
15 <u>min</u>	54.5	60.6	79.6	92.2	104	120	132
20 <u>min</u>	46.8	52.0	68.2	79.0	89.4	103	113
25 <u>min</u>	41.2	45.7	59.8	69.2	78.3	90.2	99.1
30 <u>min</u>	36.9	40.9	53.4	61.8	69.9	80.5	88.5
45 <u>min</u>	28.5	31.5	40.9	47.3	53.5	61.7	67.9
1 hour	23.5	26.0	33.6	38.8	44.0	50.8	56.0
1.5 hour	18.0	19.7	25.5	29.5	33.4	38.7	42.8
2 hour	14.8	16.3	21.0	24.4	27.7	32.2	35.7
3 hour	11.4	12.6	16.3	18.9	21.5	25.1	28.0
4.5 hour	8.90	9.81	12.8	14.9	17.1	20.1	22.4
6 hour	7.50	8.30	10.9	12.8	14.7	17.3	19.4
9 hour	5.93	6.62	8.84	10.4	12.0	14.3	16.1
12 hour	5.04	5.66	7.66	9.09	10.5	12.5	14.1
18 hour	4.00	4.54	6.27	7.50	8.75	10.5	11.8
24 hour	3.39	3.87	5.42	6.52	7.63	9.14	10.3



DUAL SUMP/SIDE OVERFLOW (END)

Description	Code	Sizes
CATCHMENT / ARI / DOWNPIPE		
Roof Catchment Area (m2)	A	72
ARI Rainfall Intensity (mm/hr) [100 Yr, 5 min]	Y	195.0
Design Flow (I/s)	Q	3.90
Downpipe (mm)	dp	100
[ha factor]	ha	94
BOX GUTTER		
Sump located at end of Box Gutter	- (
Design Flow [Q] (I/s) for Box Gutter to End Sump	-	3.90
Box Gutter Grade	-	1:20
Box Gutter Width (mm)	Wbg	300
Box Gutter Depth (mm)	Dbg	200
SUMP		
Sump Depth (mm)	hs	150
Sump Length (mm)	Wos	400
OVERFLOW		
Overflow Channel Width	Voc	120
Overflow Channel Depth (mm)	doc	100
Overflow Channel Depth below BG (mm)	ht	150
Overflow side clearance (mm)	loc	140



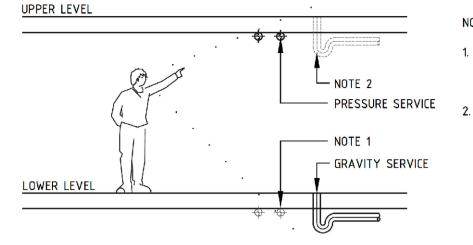
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						WEBSITE: ww
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REV.	DES.	DATE	VER.	DATE	DESCRIPTION	

Level 2, 96 Phillip Street, Parramatta NSW 2150 635 9890

www.horizonengineers.com.au nfo@horizonengineers.com.au

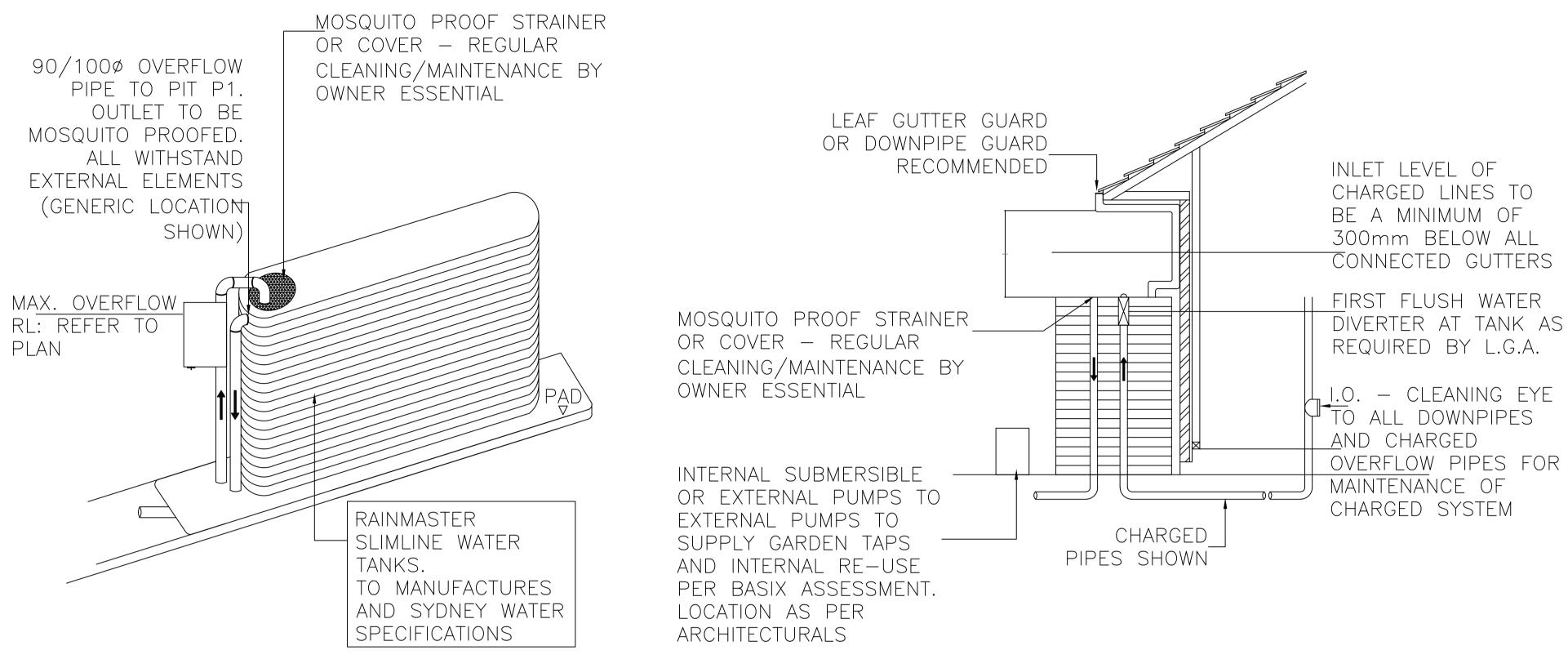


DESIGNED	A.S.	DATE 07.01.25	ADDRESS	668 Henry Lawsor	n Drive, Ea	st Hills		
VERIFIED	H. N.	DATE 07.01.25	SHEET TITLE	STORMWATER SERVICES				
DRAWN	A.S.	SCALE @ A1 1:100		ROOF PLAN				
PART OF THI		GHT OF HORIZON ENGINEERS PTY. LTD. NO E REPRODUCED OR USED WITHOUT PRIOR RS PTY. LTD.	PROJECT NO.	24209	DRAWING NO.	SW-202	REVISION	0





- 1. PRESSURE SERVICES NOT SHOWN AT LOWER LEVEL FOR CLARITY
- 2. GRAVITY SERVICES NOT SHOWN AT UPPER LEVEL FOR CLARITY



_	RAINWATER RECYCLI
	- TANK SHADE AND DEVICES
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M DOWNPIPES FROM ROOF AREAS ONLY TO RAINWATER TANKS AS1546.1, AND INSTALLED IN ACCORDANCE WITH MANUFACTURES INSTALLATION /erter to comply with sydney water & council dcp's. An approved switch ANK' TO BE USED VIA MAINS. PUMPS TO MANUFACTURES SPECIFICATIONS ANT WELDED TO BE PAINTED TO WITHSTAND EXTERNAL ELEMENTS • CLIENT TO BE RESPONSIBLE FOR MAINTENANCE SYSTEM OF CHARGED PIPELINES • STRUCTURAL DETAILS FOR TANKS BASE BY QUALIFIED STRUCTURAL ENGINEER, AS REQUIRED BY

MANUFACTURER

						ADDRESS: Le
						PHONE: 9635
						WEBSITE: www
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RAINWATER TANK - TYPICAL INSTALLATION N.T.S

ING TANKS

ARE DIGRAMATIC ONLY NK VOLUME, INLET, OUTLET, OR OTHER DETAILS MUST BE APPROVED BY

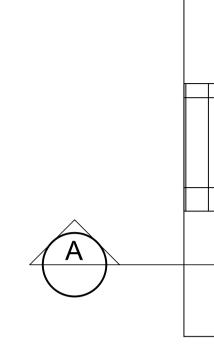
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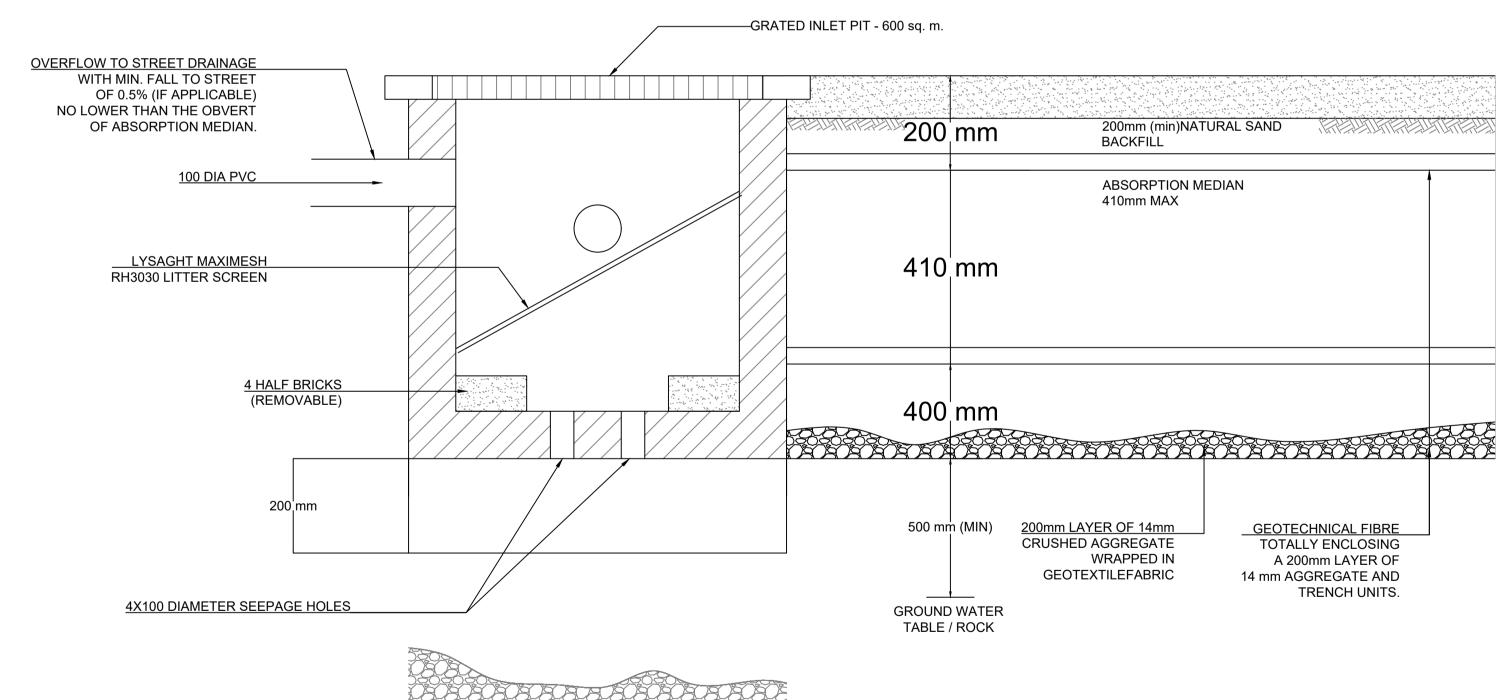
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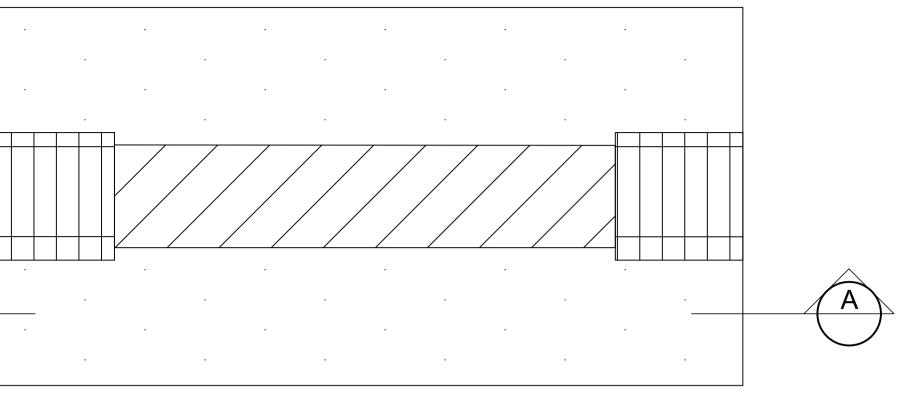
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INFILTRATION TRENCH - PLAN VIEW N.T.S.

INFILTRATION TRENCH - SECTION VIEW N.T.S.

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