KIAMA MUNICIPAL COUNCIL
your council, your community

TECHNICAL SPECIFICATIONS FOR

RAINWATER TANKS ON RESIDENTIAL PROPERTIES

&

ASSOCIATED PLUMBING CONFIGURATIONS

ELAMBRA ESTATE
Coastal Lifestyle Rural Living

SHEET 1 - TYPICAL RAINWATER TANK DETAILS (ELAMBRA ESTATE)
SHEET 2 - PLANNING & INSTALLATION NOTES
SHEET 3 - COMMISSIONING & MAINTENANCE NOTES & PRESSURISED ROOF DRAINAGE SYSTEM DETAIL
SHEET 4 - SCHEMATIC PLAN FOR PROPERTY OWNERS
SHEET 5 - PLUMBER'S CERTIFICATION CHECKLIST

THESE SPECIFICATIONS WERE PREPARED IN CONJUNCTION WITH:

STORM CONSULTING PTY LTD
SUITE 3, 6 WEST STREET PYMBLE
PH: 02 9499 4333
FX: 02 9499 4311
www. stormconsulting.com.au

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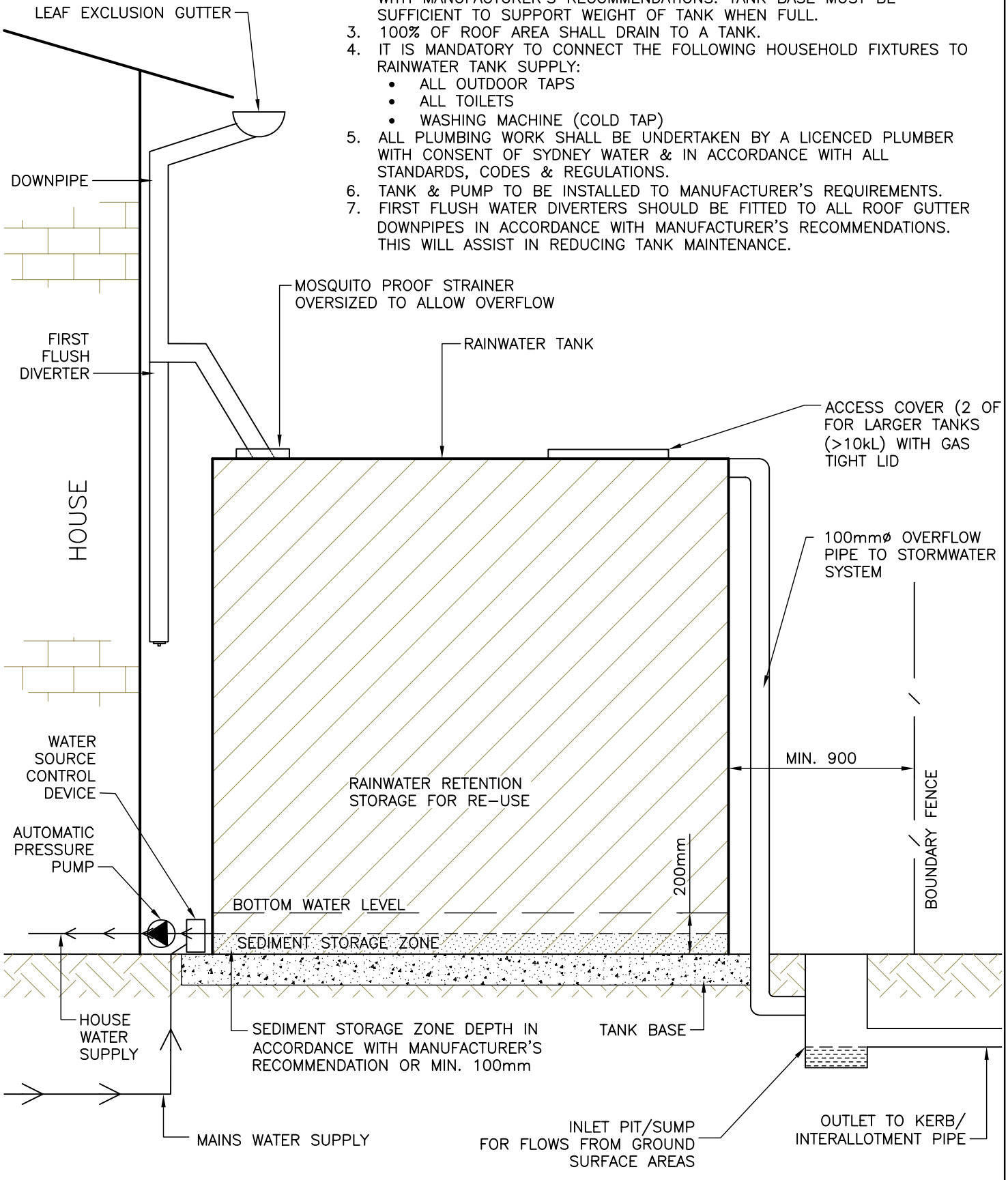
NOTES:

1. TANKS SIZE : 10,000 LITRES FOR SINGLE DWELLING, 3000 LITRES FOR EACH MULTI–DWELLING
2. TANK BASE TO BE A FIRM, FLAT & STABLE PLATFORM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TANK BASE MUST BE SUFFICIENT TO SUPPORT WEIGHT OF TANK WHEN FULL.
3. 100% OF ROOF AREA SHALL DRAIN TO A TANK.
4. IT IS MANDATORY TO CONNECT THE FOLLOWING HOUSEHOLD FIXTURES TO RAINWATER TANK SUPPLY:
   - ALL OUTDOOR TAPS
   - ALL TOILETS
   - WASHING MACHINE (COLD TAP)
5. ALL PLUMBING WORK SHALL BE UNDERTAKEN BY A LICENCED PLUMBER WITH CONSENT OF SYDNEY WATER & IN ACCORDANCE WITH ALL STANDARDS, CODES & REGULATIONS.
6. TANK & PUMP TO BE INSTALLED TO MANUFACTURER'S REQUIREMENTS.
7. FIRST FLUSH WATER DIVERTERS SHOULD BE FITTED TO ALL ROOF GUTTER DOWNPIPES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THIS WILL ASSIST IN REDUCING TANK MAINTENANCE.



SCALES PLAN NOT TO SCALE SECTIONS NOT TO SCALE DESIGNED DB DRAWN DB DATE MAR–2008 CHECKED BW	KIAMA MUNICIPAL COUNCIL ELAMBRA ESTATE, GERRINGONG TYPICAL RAINWATER TANK DETAIL	PLAN NUMBER 2170 SHEET 1 OF 5 FILE H:\ENGINEERS\CAD

PLANNING CONTROLS

1. THE RAINWATER TANK SHALL BE LOCATED WHOLLY BEHIND THE BUILDING LINE AND PREFERABLY BEHIND THE DWELLING, WITH THE EXCEPTION OF UNDERGROUND TANKS
.
2. THE RAINWATER TANK AND ASSOCIATED PLUMBING SHOULD BE THE SAME COLOUR AS THE DWELLING OR A COLOUR THAT COMPLIMENTS THE DWELLING OR BE SUITABLY SCREENED FROM NEIGHBOURING PROPERTIES.
3. THE TOP OF THE TANK SHALL NOT EXCEED 2.4m ABOVE THE GROUND FLOOR LEVEL ADJACENT TO THE TANK.
4. THE RAINWATER TANK SHOULD BE LOCATED AT LEAST 900mm FROM ANY PROPERTY BOUNDARY AND SHOULD NOT IMPACT ON DRAINAGE EASEMENTS OR SEWER MAINS.
5. THE RAINWATER TANK SHALL BE POSITIONED TO COLLECT ALL RAINWATER WHICH FALLS ON THE ROOF OF THE DWELLING ONLY.
6. TANK INSTALLATION MUST BE IN ACCORDANCE WITH THE CURRENT 'NSW CODE OF PRACTICE: PLUMBING AND DRAINAGE' AND ALL PIPEWORK MUST BE INSTALLED BY A LICENSED PLUMBER.
7. THE PUMP ASSOCIATED WITH THE RAINWATER TANK IS TO BE NO LOUDER THAN 5dBA ABOVE BACKGROUND NOISE LEVELS.
8. DESIGN DRAWINGS AND NOTES ARE TO BE READ IN CONJUNCTION WITH RELEVANT COUNCIL D.C.P DOCUMENTS.

INSTALLATION NOTES

1. ALL TANKS & PUMPS MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
2. PUMP SELECTION IS TO SUIT HOUSE REQUIRMENTS. THE MINIMUM PRESSURE AT FURTHERMOST OR MOST DISADVANTAGED FIXTURE OR OUTLET IN THE HOUSE IS TO BE NOT LESS THAN 50kPa (5m HEAD) AND NO MORE THAN 500kPa (50m HEAD).
3. ROOF DRAINAGE SYSTEM, INCLUDING DOWNPIPES, SHALL BE CONSTRUCTED IN ACCORDANCE WITH AS3500.3 (2003). ROOF GUTTER SYSTEM IS TO SLOPE TOWARDS RAINWATER TANK, PREFERABLY WITH DOWNPIPES INSTALLED NEAR TANK SO DIRECT CONNECTION TO RAINWATER TANK INLET CAN BE MADE. IF NOT POSSIBLE, INSTALL PRESSURISED ROOF DRAINAGE SYSTEM AS SHOWN.
4. THE ROOF WATER DRAINAGE SYSTEM SHALL BE A MINIMUM 100mm NB LEAD FREE uPVC POTABLE RAINWATER PIPE AND FITTINGS. UNDER GROUND PIPE SHALL COMPLY WITH AS1260 (SEWER PIPE), WITH SOLVENT WELDED JOINTS. ABOVE GROUND PIPE MAY COMPLY WITH AS1254 (STORMWATER PIPE). ALL ABOVE GROUND uPVC PIPE AND FITTINGS SHALL BE APPROPRIATELY PAINTED IN ORER TO PROVIDE ADEQUATE ULTRA-VIOLET PROTECTION.
5. RAINTANKS CAN BE MADE OF ANY OF THE FOLLOWING MATERIALS; POLYETHYLENE, CONCRETE AND CORRUGATED GALVANISED STEEL. APPROPRIATE INTERNAL LINING IS REQUIRED FOR CORROSION PROTECTION FOR METALLIC SURFACES IN ACCORDANCE WITH AS2070-PLASTIC MATERIALS FOR FOOD CONTACT. POLYETHYLENE TANKS ARE TO BE MANUFACTURED FROM UV STABILISED FOOD GRADE POLYETHYLENE. TANK MATERIAL SHALL BE SUITABLE FOR STORING POTABLE WATER AND COMPLY WITH AS3855 - SUITABILITY OF PLUMBING & WATER DISTRIBUTION SYSTEMS PRODUCTS FOR CONTACT WITH POTABLE WATER.
6. RAINTANK DETAILS SHOWN ARE FOR ABOVE GROUND INSTALLATION. TANKS CONSTRUCTED BELOW GROUND MUST BE IN ACCORDANCE WITH RELEVANT CODES AND INDUSTRY GUIDEILNES. ALL BELOW GROUND TANKS MUST BE 100% WATER TIGHT AND FULLY SEALED TO PREVENT ANY INGRESS OF GROUND WATER. DESIGN AND CONSTRUCTION OF TANK FOUNDATIONS MUST TAKE INTO ACCOUNT BOUYANCY FORCES. ALL TANK OPENINGS MUST BE LOCATED SO THAT DEBRIS AND GROUNDWATER DOES NOT ENTER THE TANK.
7. IN THE CASE OF STEEL TANKS. COPPER PIPE AND ITS ALLOYS MUST NOT BE CONNECTED DIRECTLY TO THE TANK. IF COPPER IS USED FOR WATER RETICULATION AT LEAST TWO METRES OF PLASTIC PIPE MUST BE INSTALLED BETWEEN THE COPPER PIPE AND TANK. THIS IS REQUIRED TO LIMIT THE OCCURRENCE OF "CUPROSOLVENCY" WHERE BY ACIDIC WATER IN NATURE COMES INTO CONTACT WITH COPPER METAL.
8. IN ACCORDANCE WITH THE NSW CODE OF PRACTICE - PLUMBING & DRAINAGE. (REFER TO C.U.P.D.R CIRCULAR No.18 SEPT 2003). THE RAINWATER SUPPLY IS TO BE IDENTIFIED AS RAINWATER & THERE MUST NOT BE ANY INTERCONNECTION BETWEEN POTABLE & RAINWATER SUPPLY WITHOUT THE APPROPRIATE LEVEL OF BACKFLOW PREVENTION. ALL RAINWATER TAPS SHALL BE LABELED AND CLEARLY MARKED WITH SAFTEY SIGNS IN ACCORDANCE WITH AS1319, STATING "RAINWATER".
9. THE USE OF RAINWATER TANKS IS CONSIDERED LOW HAZARD IN ACCORDANCE WITH AS3500.1.2. AS SUCH THE BACKFLOW PREVENTION DEVICE REQUIRED IS TO IN ACCORDANCE WITH SYDNEY WATER'S REQUIREMENTS.

SCALES PLAN NOT TO SCALE SECTIONS NOT TO SCALE	KIAMA MUNICIPAL COUNCIL	PLAN NUMBER 2170
DESIGNED DB DRAWN DB DATE MAR–2008 CHECKED BW	RAINWATER TANK PLANNING & INSTALLATION NOTES	SHEET 2 OF 5 FILE H:\ENGINEERS\CAD

COMMISSIONING & MAINTENANCE NOTES

THE FOLLOWING NOTES DETAIL THE NECESSARY STEPS REQUIRED TO COMMISSION THE RAINWATER TANK SYSTEM TO ENSURE A SAFE AND RELIABLE WATER SUPPLY. ALSO DETAILED ARE SOME SIMPLE MAINTENANCE OPERATIONS THAT SHOULD BE PERFORMED REGULARLY BY THE OWNER. THESE NOTES SHOULD BE CONSIDERED AS A MINIMUM REQUIREMENT IN ORDER TO ENSURE THE BEST POSSIBLE OUALITY RAINWATER. (*ref BEAUDESERT SHIRE COUNCIL, 2003*)

COMMISSIONING

1. FILL STORAGE TANK AND OBSERVE FOR ANY LEAKS, CONTINUE FILLING UNTIL LOW OVERFLOW OPERATES FOR A PERIOD OF ONE MINUTE.

2. CHECK INSTALLATION OF RAINTANK AND FIXTURES AND ENSURE THE FOLLOWING:
   - ALL OPENINGS ARE COVERED BY STRAINERS / MOSQUITO PROOF COVERS.
   - FLOAT VALVE OR SWITCH ASSEMBLY OPERATES CORRECTLY AT BOTTOM WATER LEVEL AS SPECIFIED
   - SOLENOID VALVE RESETS AFTER POWER SUPPLY IS INTERRUPTED
   - COMMISSION THE PUMP IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE

1) FIRST FLUSH WATER DIVERTERS ARE TO BE MAINTAINED REGULARLY BY REMOVING THE FILTER SCREEN IN THE BOTTOM OF THE DIVERTER AND CLEANING ANNUALLY. MONITOR THE DRIP OUTLET FOR THE FIRST 3 RAINFALL EVENTS AND ADJUST TO ENSURE THE DIVERTER IS COMPLETELY DRAINED OVER A 24HR PERIOD.

2) ANNUALLY CHECK PERFORMANCE OF THE FLOAT VALVE OR SWITCH ASSEMBLY TO ENSURE CORRECT OPERATION AT BOTTOM WATER LEVEL AS SPECIFIED.

3) CHECK THE TANK OVERFLOW OUTLET REGULARLY TO ENSURE THAT IT IS CLEAR OF WEEDS AND ACCUMULATION OF OTHER RUBBISH.

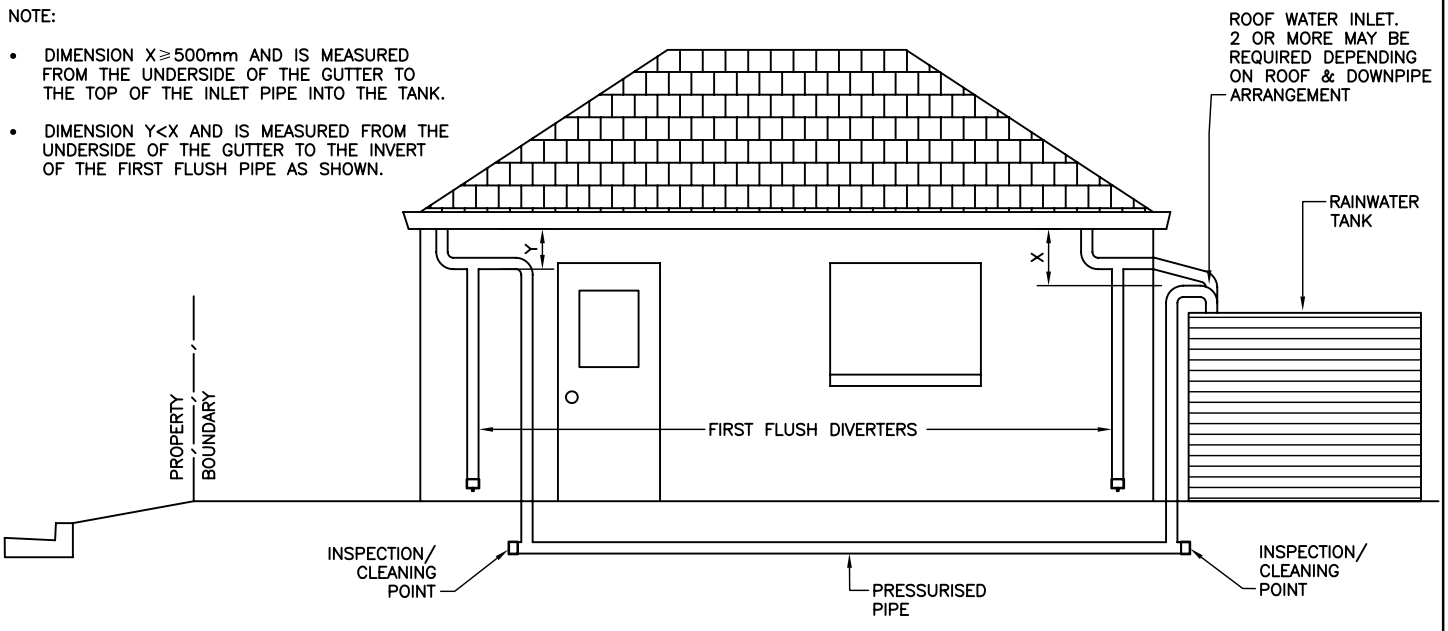
4) REGULARLY CLEAN ROOF GUTTERS TO REMOVE LEAVES, SEDIMENT AND OTHER DEBRIS.

5) THE ACCUMULATION OF SLUDGE AT THE BOTTOM OF THE RAINWATER TANK SHOULD BE CHECKED EVERY TWO YEARS. THE REMOVAL OF WHICH MAY BE REOUIRED ABOUT ONCE EVERY TEN YEARS DEPENDING ON THE AMOUNT OF SEDIMENT ENTERING THE TANK. THIS CAN BE UNDERTAKEN BY EITHER PUMPING OR SIPHONING THE SLUDGE OR THE TANK CAN BE DRAINED.

6) CLEANING OF THE INSIDE OF THE TANK SHOULD BE UNDERTAKEN BY PERSONNEL WITH APPROPRIATE TRAINING AND EOUIPMENT. THE REOUIRED FREQUENCY OF CLEANING WILL DEPEND UPON SEVERAL FACTORS SUCH AS LOCAL ENVIRONMENTAL CONDITIONS, THE CONDITION OF THE TANK INLET AND REGULAR PERFORMING OF OTHER MAINTENANCE DUTIES BY THE OWNER. IT IS RECOMMENDED THAT CLEANING BE UNDERTAKEN WHEN SLUDGE IS REMOVED OR WHEN THE TANK IS EMPTIED.

NOTE:

- DIMENSION X≥500mm AND IS MEASURED FROM THE UNDERSIDE OF THE GUTTER TO THE TOP OF THE INLET PIPE INTO THE TANK.
- DIMENSION Y<X AND IS MEASURED FROM THE UNDERSIDE OF THE GUTTER TO THE INVERT OF THE FIRST FLUSH PIPE AS SHOWN.



EXAMPLE OF PRESSURISED ROOF DRAINAGE SYSTEM

SCALES PLAN NOT TO SCALE SECTIONS NOT TO SCALE	KIAMA MUNICIPAL COUNCIL	PLAN NUMBER 2170
DESIGNED DB DRAWN DB DATE FEB–2008 CHECKED BW	RAINWATER TANK COMMISSIONING NOTES & PRESSURE SYSTEM	SHEET 3 OF 5 FILE H:\ENGINEERS\CAD

HOW DOES THE SYSTEM WORK ?

Q. WHEN DOES MY TANK SUPPLY RAINWATER ?

A. WHEN THE WATER LEVEL IN THE TANK IS ABOVE THE BOTTOM WATER LEVEL (AS SET BY THE FLOAT SWITCH / WATER SENSOR) RAINWATER WILL BE SUPPLIED TO THOSE FIXTURES CONNECTED TO THE TANK VIA A PRESSURE PUMP.

Q. WHAT HAPPENS WHEN MY TANK IS BELOW THE BOTTOM WATER LEVEL ?

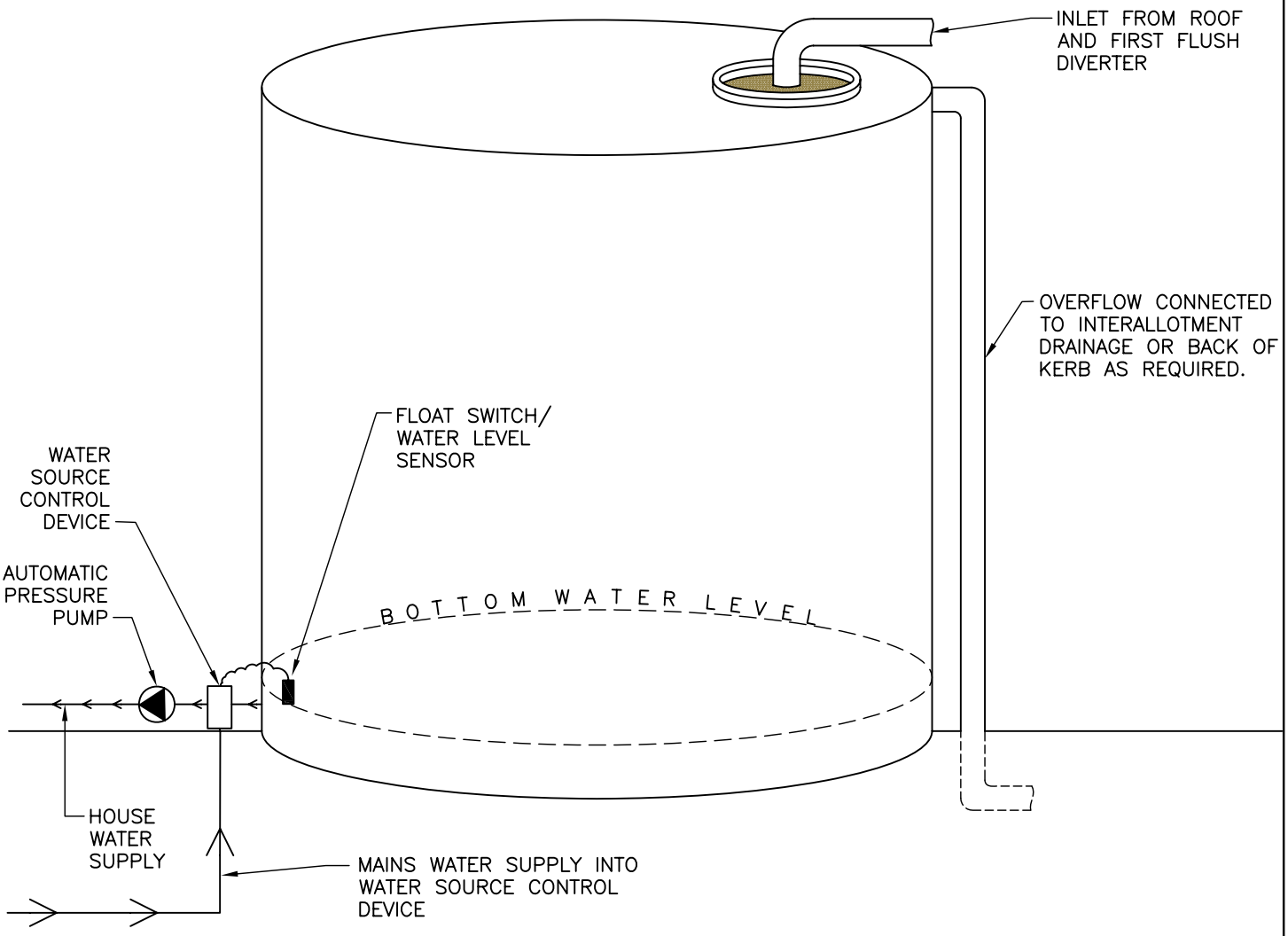
A. WHEN THE WATER LEVEL IN THE TANK REACHES THE BOTTOM WATER LEVEL, THE FLOAT SWITCH/ WATER SENSOR ACTIVATES A VALVE IN THE WATER SOURCE CONTROL DEVICE AND MAINS WATER WILL BE SUPPLIED TO THOSE FIXTURES CONNECTED TO THE TANK.

Q. WHAT HAPPENS WHEN THE POWER IS OUT AND MY PUMP DOES NOT WORK ?

A. DURING AN INTERRUPTION TO POWER SUPPLY THE VALVE IN THE WATER SOURCE CONTROL DEVICE IS ACTIVATED AND MAINS WATER IS SUPPLIED TO THOSE FIXTURES CONNECTED TO THE TANK. WHEN THE POWER SUPPLY RESUMES, RAINWATER (IF AVAILABLE) IS AGAIN SUPPLIED TO THE HOUSE.

Q. HOW WILL I KNOW WHEN RAINWATER OR MAINS WATER IS BEING USED ?

A. SOME SYSTEMS MAY BE FITTED WITH A WATER SOURCE INDICATOR THAT WILL INDICATE WHERE YOUR WATER IS CURRENTLY BEING SOURCED FROM. CHECK YOUR SYSTEM'S DOCUMENTATION FOR DETAILS.



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DESIGNED DB DRAWN DB DATE MAR–2008 CHECKED BW	RAINWATER TANK SCHEMATIC FOR PROPERTY OWNERS	SHEET 4 OF 5 FILE H:\ENGINEERS\CAD

PLUMBER'S CERTIFICATION CHECKLIST

OVERVIEW

THIS COMPLIANCE CHECKLIST HAS BEEN DEVELOPED TO AID PLUMBERS WITH RAINWATER TANK INSTALLATIONS. THE CHECKLIST IS REQUIRED BY THE PRINICPAL CERTIFYING AUTHORITY (PCA) IN ADDITION TO THE PLUMBER'S CERTIFICATION AS REQUIRED BY SYDNEY WATER. THE COMPLIANCE CHECKLIST SHOULD BE COMPLETED BY THE PLUMBER RESPONSIBLE FOR THE INSTALLATION AND SUBMITTED TO THE PCA WITH THE APPLICATION FOR OCCUPATION CERTIFICATE.

COMPLIANCE ✓ OR ✗

RAINWATER TANK INSTALLATION AND LOCATION

1) THE TANK HAS BEEN INSTALLED ON A FIRM, FLAT AND STABLE PLATFORM IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ☐

2) THE TANK IS LOCATED BEHIND THE FRONT BUILDING ALIGNMENT (ABOVE GROUND TANKS ONLY) AND IS NO CLOSER THAN 900mm FROM ANY PROPERTY BOUNDARY. ☐

3) THE TANK LOCATION DOES NOT IMPACT ON ANY DRAINAGE EASEMENTS OR SEWER MAINS. ☐

4) THE ENTIRE ROOF AREA FOR THE DWELLING IS DRAINING TO THE TANK. ☐

PLUMBING

5) THE TANK SUPPLY HAS BEEN CONNECTED TO ALL OUTDOOR TAPS, TOILETS AND WASHING MACHINE COLD TAP FIXTURES. ☐

6) ALL FIXTURES SUPPLYING RAINWATER HAVE BEEN SUITABLY LABELLED IN ACCORDANCE WITH THE NSW CODE OF PRACTICE - PLUMBING AND DRAINAGE. ☐

7) THE FLOAT SWITCH / WATER LEVEL SENSOR ASSEMBLY HAS BEEN SET AT A MINIMUM OF 200mm ABOVE THE TANK BASE BASE. ☐

8) ALL BACKFLOW PREVENTION DEVICES HAVE BEEN INSTALLED IN ACCORDANCE WITH SYDNEY WATER'S REQUIREMENTS. ☐

COMMISSIONING

9) ALL OPENINGS ARE COVERED BY STRAINERS OR MOSQUITO PROOF COVERS ☐

10) THE FLOAT SWITCH ASSEMBLY IS OPERATING CORRECTLY AT THE BOTTOM WATER LEVEL. ☐

11) THE SOLENOID VALVE IN THE FLOW SOURCE CONTROL DEVICE IS OPERATING CORRECTLY AND RESETS AFTER POWER SUPPLY IS INTERRUPTED. ☐

PLUMBERS CERTIFICATION

PLUMBER'S FULL NAME: .....

PLUMBER'S SIGNATURE: .....

PLUMBER'S COMPANY NAME & ADDRESS: .....

PLUMBER'S LICENCE NUMBER: .....

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DESIGNED DB DRAWN DB DATE MAR–2008 CHECKED BW	RAINWATER TANK PLUMBER'S COMPLIANCE CHECKLIST	SHEET 5 OF 5 FILE H:\ENGINEERS\CAD