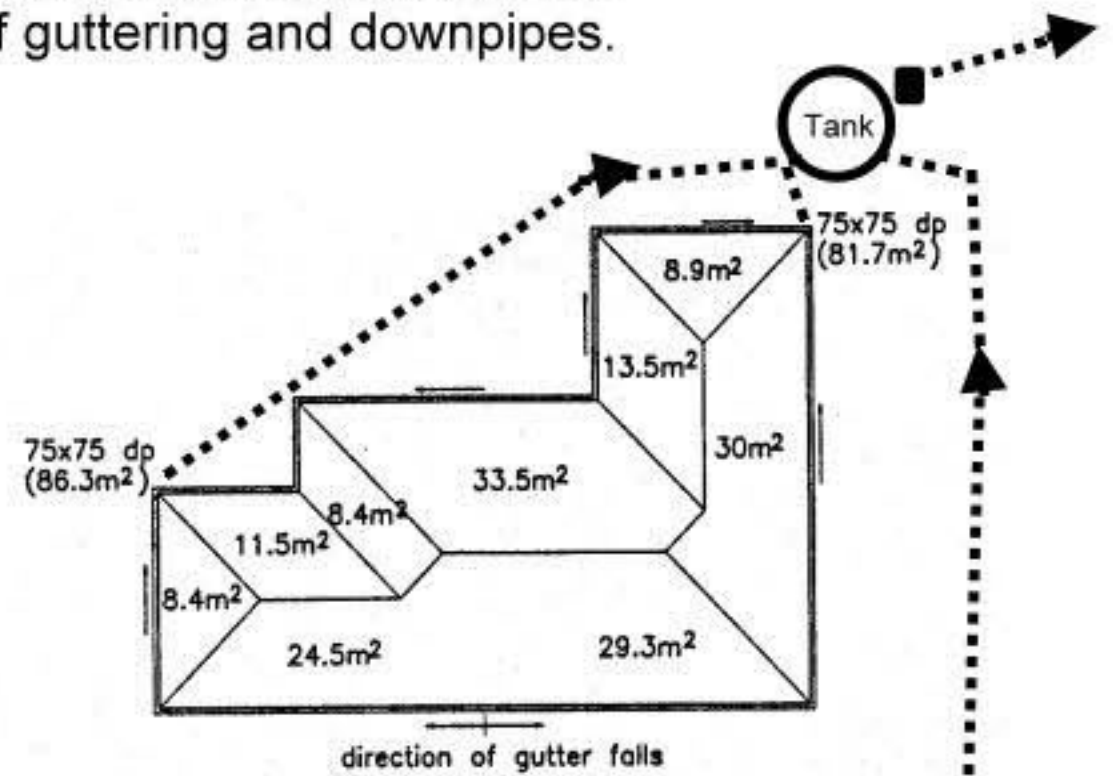


# Christchurch City Council Stormwater Tank Installation Guidelines

for roof, driveway & hardstanding stormwater peak flow reduction.  
(Sheet 1 of 2)

**Step 1:**  
Arrange, tank position, down pipes and guttering to best suit site. Check size of guttering and downpipes.

To CCC stormwater system.  
Pipe designed for normal 10% AEP storm.



**ROOF PLAN**

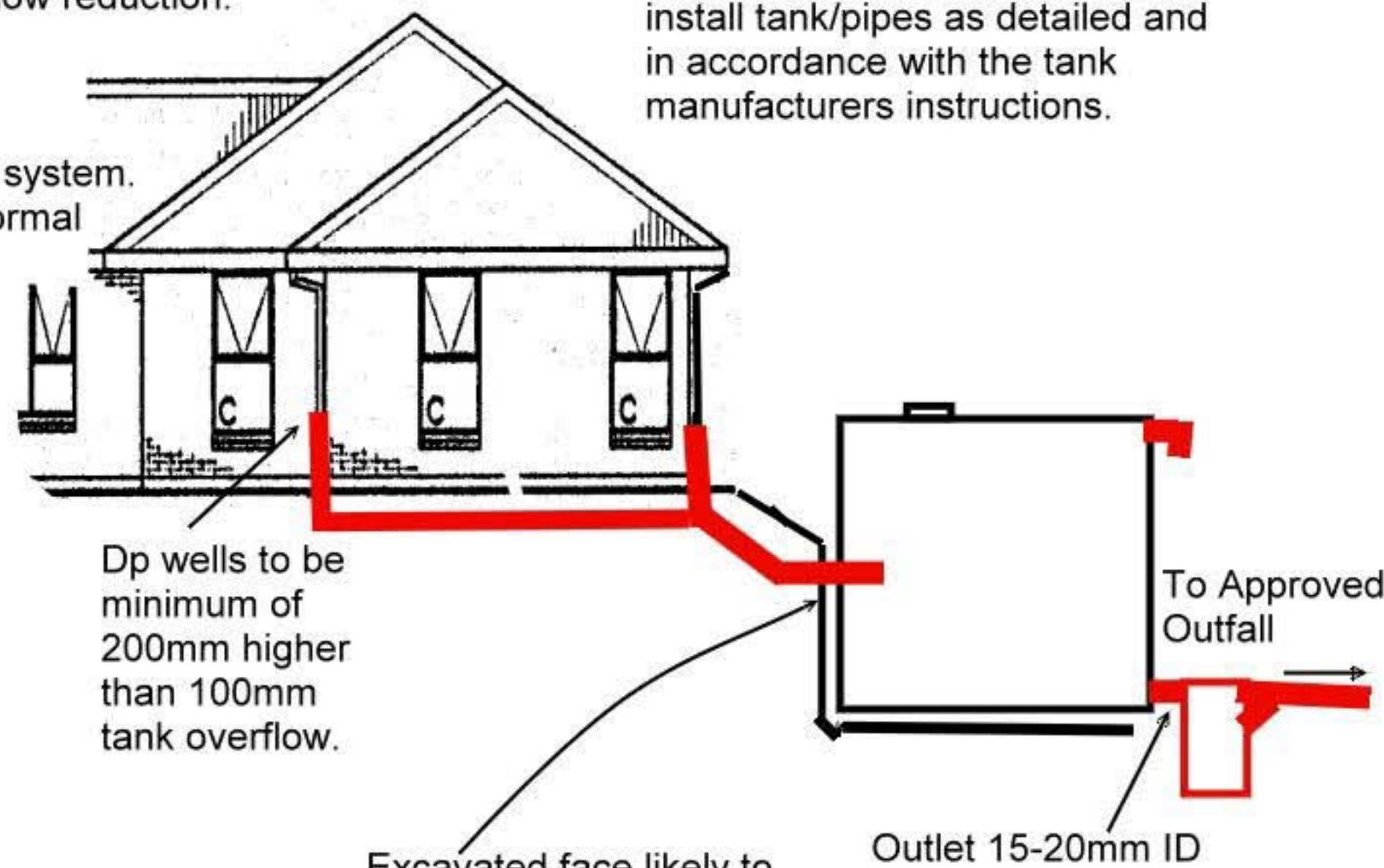
**Example  
GUTTER & DOWNPIPE CALCULATIONS**

Roof plan area = 168m<sup>2</sup>,  
From the Building Code Hand Book section E1/AS1 table 5, 75x75 rectangular dp serves an area of 90m<sup>2</sup> max (roof pitch 25°-35°)  
2/75x75 rectangular dps = 180m<sup>2</sup> max (168m<sup>2</sup> required)

Max roof area discharging into gutter:  
30m<sup>2</sup> x 29.3m<sup>2</sup> = 59.3m<sup>2</sup>,  
From the Building Code Hand Book section E1/AS1 fig15, 60m<sup>2</sup> requires a gutter with a cross sectional area of 7500mm<sup>2</sup>.  
Cross sectional area of gutter selected 125x75=9375mm<sup>2</sup> (within requirements)  
Check dp size has leaf filters available for toilet flushing option (see sheet 2)

Surface water Sumps to connect to tank.  
All Site Sumps to comply with E1/AS1.

**Step 2:**  
Registered plumber/drainlayer to install tank/pipes as detailed and in accordance with the tank manufacturers instructions.



Dp wells to be minimum of 200mm higher than 100mm tank overflow.

Excavated face likely to need to be retained.  
Concrete interceptor channel to drain to sump.

**Notes:**

- 1) Recommended minimum tank size is 9 cubic metres:
- 2) For tank stability, the tank must be filled with a minimum of 1 cubic metre volume of stored water immediately upon installation

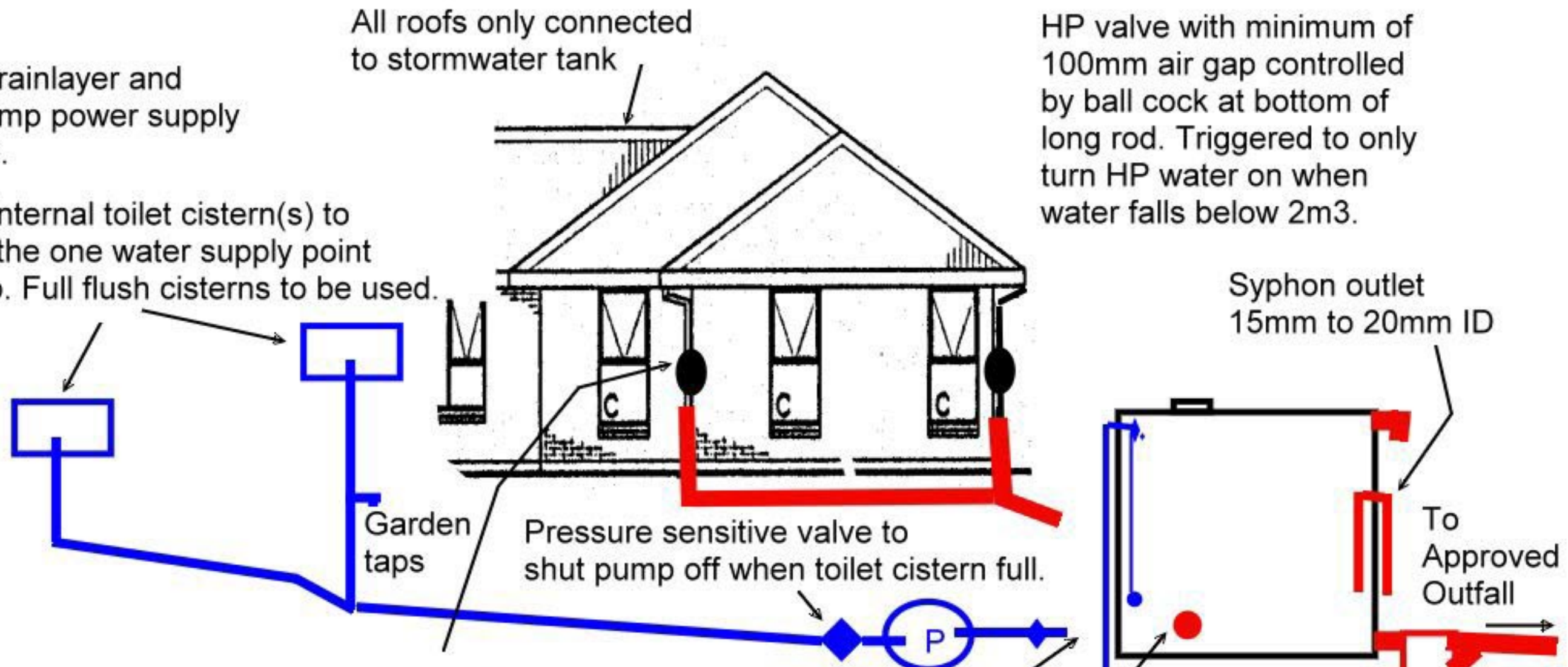


# Stormwater Tank Installation Guidelines for toilet flushing.

(Sheet 2 of 2)

Step 3:  
Registered Plumber/Drainlayer and electrician to install pump power supply and fittings as detailed.

Standard internal toilet cistern(s) to only have the one water supply point from pump. Full flush cisterns to be used.



All roofs only connected to stormwater tank

HP valve with minimum of 100mm air gap controlled by ball cock at bottom of long rod. Triggered to only turn HP water on when water falls below 2m<sup>3</sup>.

Syphon outlet 15mm to 20mm ID

Pressure sensitive valve to shut pump off when toilet cistern full.

To Approved Outfall

Pump; to pump water to toilet cistern.  
Draw off point at 1m<sup>3</sup> level

Optional 15mm garden water supply

Mains trickle top-up from CCC metered high pressure reticulated water supply to guarantee water supply for toilet. Keep high pressure branch line to tank as short as possible.

### Notes:

1. One third of our diminishing supply of pure domestic water supplied is used to flush the toilet in a typical household. (~50m<sup>3</sup> flushed down sewer pipes per household annually)

2. Using rainwater for toilet flushing also reduces by one third the volume of rainwater discharged down the public stormwater network. Reducing this volume and peak discharges will reduce erosion on sensitive hillside slopes.



All downpipes required to have leaf guard filters.