

**Review of
Stormwater Management Analysis
for
21-27 Hancock Street
Newburyport MA**

**Drainage Calculations
Summary for Pond 2P Raingarden**

#2 Primary was specified as a Vertical Orifice/Grate.
It should be modeled as Horizontal Orifice

#3 Secondary 6.0' Long Sharp-Crested Rectangular weir should be shown in the design plans to ensure the construction will be reflective of the Stormwater modeling.

Summary for Pond 21P: Perf Pipe

In the writeup the stone infiltration area is specified as 2 ft x 2 ft. It is specified as 24"x24" gravel on the plans. It is listed as 3.00' by 2.00' in the calculations. The calculations should be corrected to reflect the plans.

#2 Primary is listed as a 12" Vertical Orifice Grate with an outflow of 0.23 cfs but there really isn't any outflow from the 12" perforated pipe because it merely acts to introduce water to the surrounding stone.

The model should reflect the following water flow
Stormwater enters the raingarden and infiltrates. When the inflow exceeds the infiltration rate of the rain garden water enters the 8" vertical pipe and flows to the stone infiltration area through the 12" perforated pipe. When the inflow exceeds the infiltration capacity of the Stone the excess flow discharges over the weir. There isn't any flow out of the 12" pipe.

The model needs to be redone