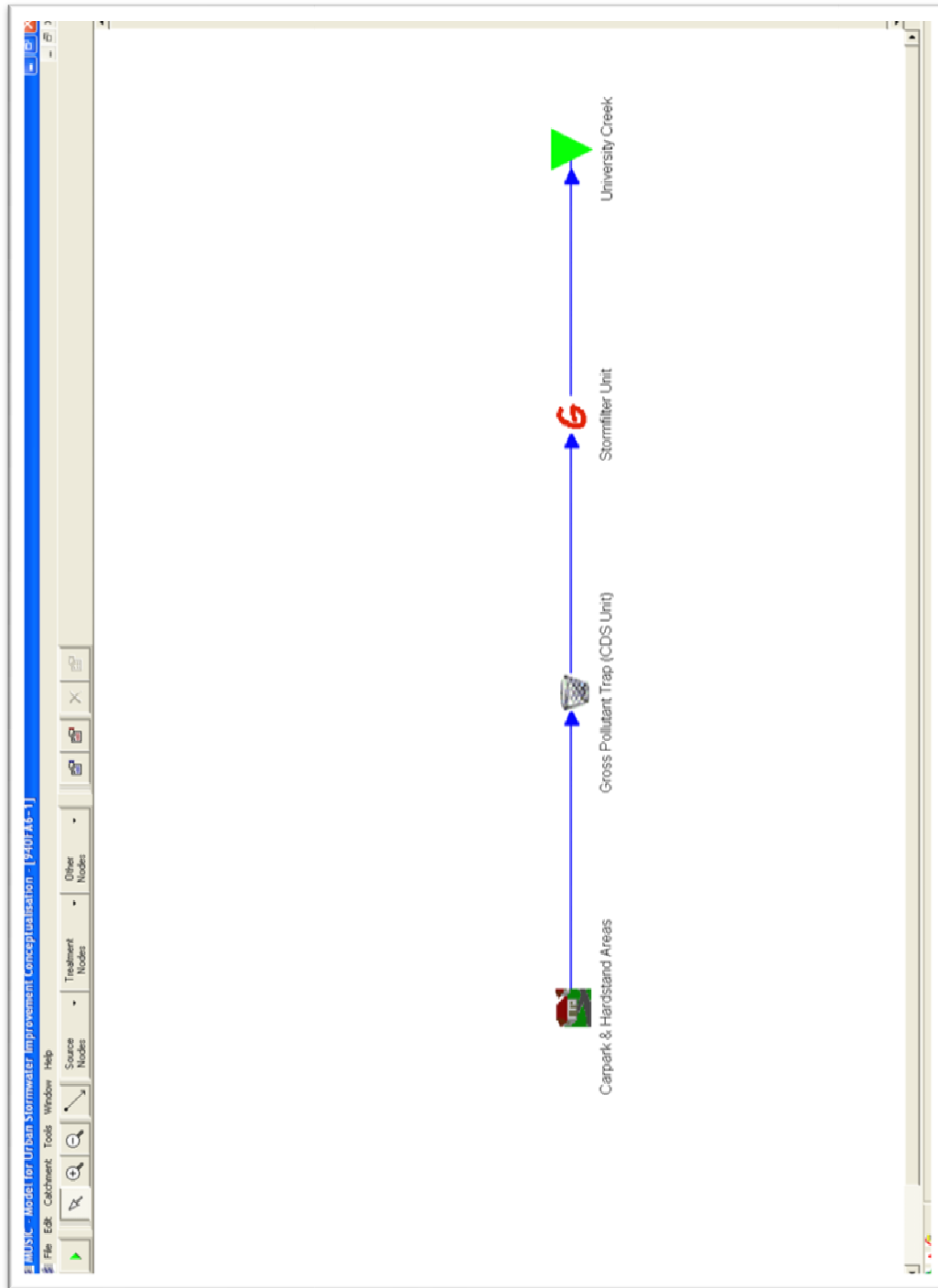


Appendix F



Appendix G

CDS Pollutant Removal Performance Summary

Pollutant	Removal	Independent Reference Source
Suspended Solids (TSS)	70%	(>75mg/L) (CRCCH Report 99/2 Feb 1999)
Total Phosphorous (TP)	30%	(CRCCH Report 99/2 Feb 1999)
Total Phosphorous (TP)	48.8%	Louisiana State University 2004
Total Nitrogen (TN)	13 %	The most comprehensive measurement of CDS nutrient capture in Australia was reported in Walker et. al. 1991, a document referenced in Appendix C3 of the MUSIC development team, CRC for Catchment Hydrology (revised February 2005 for MUSIC v2.1). This documents quotes “approximately 30%” TP removal and also found that although TN removal was erratic during storm events, there was “consistent removal of approximately 13% of TN during dry weather flow conditions”.
Gross Pollutants (>5mm)	98%	(CRCCH Report 98/3 Apr 1998)
Sediments>0.215mm	95%	(Portland State University, Oregon Oct 2002)
Fine sediment> 75 microns	90%	Louisiana State University 2004
Suspended and Settleable Solid 0-75 micron	56%	Louisiana State University 2004
Heavy Metals	80%	Louisiana State University 2004
Oils and Grease	82-94%	UCLA Report 1998

Source: CDS Technologies Pty Ltd. (+61) 2 8724 2855

Appendix H

StormFilter Node (Zeolite/Perlite).

Sizing.

Each StormFilter cartridge has a treatable flow rate of 0.95 l/sec. When sizing a StormFilter in MUSIC set the high flow by-pass at the number of Cartridges x 0.95 l/sec.

Suspended Solids

The transfer function for suspended solids for the StormFilter node has been imputed from the results of the “The Portland Submittal”. This paper details the results from 5 separate StormFilters. Figure 1 shows the influent / effluent relationship developed in the paper. Also attached as supporting information is the paper; “Total Suspended Solids (TSS) Removal Using Different Particle Size Distributions with the Stormwater Management StormFilter”. The particle size distribution in Stormwater is highly variable and greatly affects the performance of the treatment device. This paper details Laboratory testing of the StormFilter with different particle size distributions of synthetic sediment.

Total Phosphorous

The transfer function for total phosphorus has been developed from sampling 9 different StormFilters over 55 storms. The results are detailed and discussed in the paper “The Stormwater Management StormFilter Performance for Removal of Total Phosphorus”.

The Influent / Effluent relationship was developed through liner regression of the 55 storms as shown in figure 2 below.

Influent vs. Effluent Plot for the 5 Sites

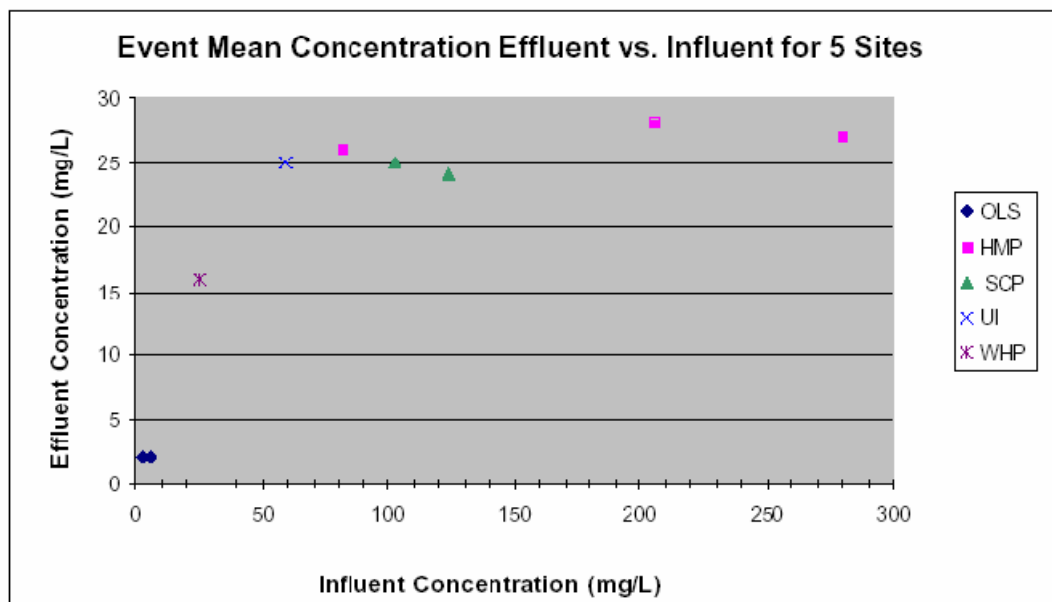


Figure 1: Portland Submittal Influent/Effluent Relationship

Source: City of Portland Submittal 2002

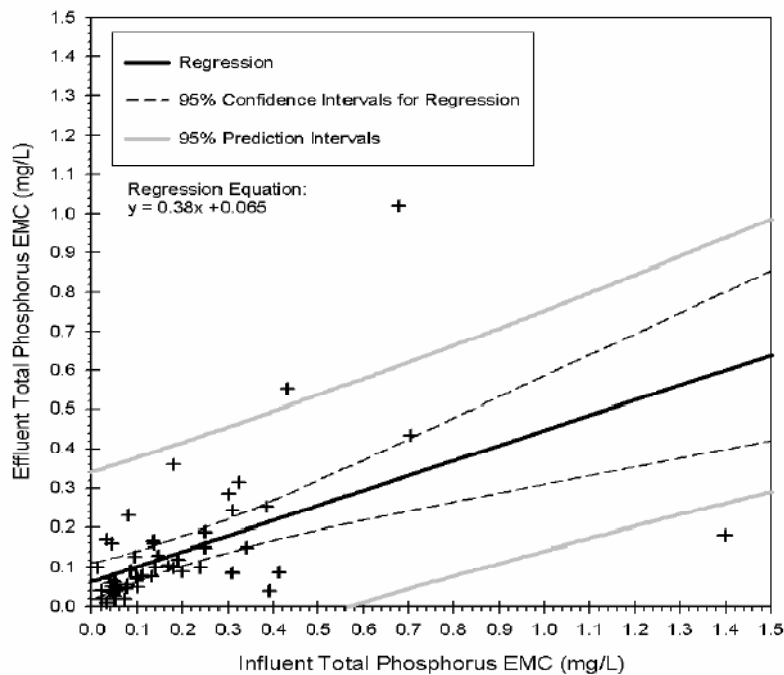


Figure 2: Influent TP vs. Effluent RP Linear Regression

Source: The Stormwater Management StormFilter Performance for Removal of Total Phosphorus

Total Nitrogen.

The paper "Evaluation of the Stormwater Management StormFilter system for the Removal of total nitrogen: Kearny Mesa Maintenance Station case study" details the performance of the StormFilter with a zeolite/perlite filter media mixture.

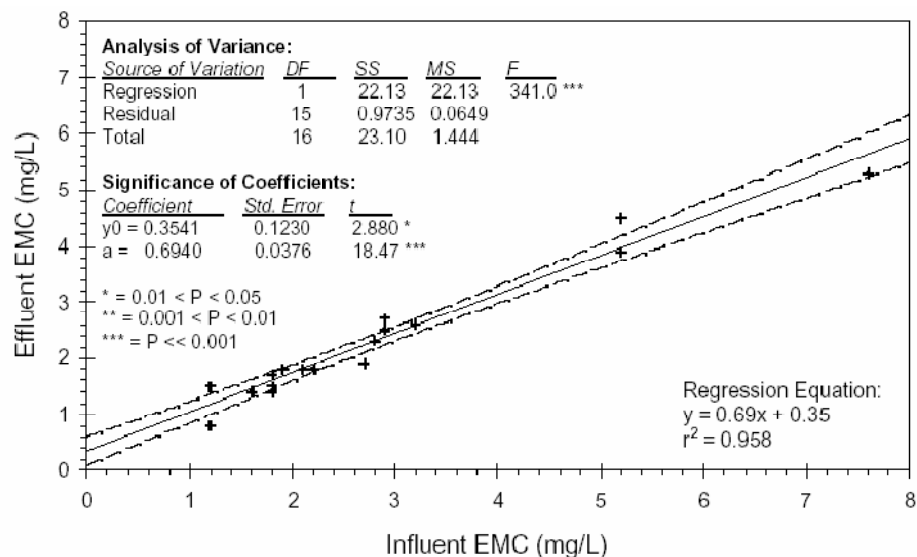


Figure 3: Influent Total nitrogen vs. Effluent Total Nitrogen

Source: Evaluation of the Stormwater Management StormFilter® system for the Removal of total nitrogen: Kearny Mesa Maintenance Station case study

Gross Pollutants

It is assumed that the StormFilter will capture all particles over 5mm in size unless in bypass.