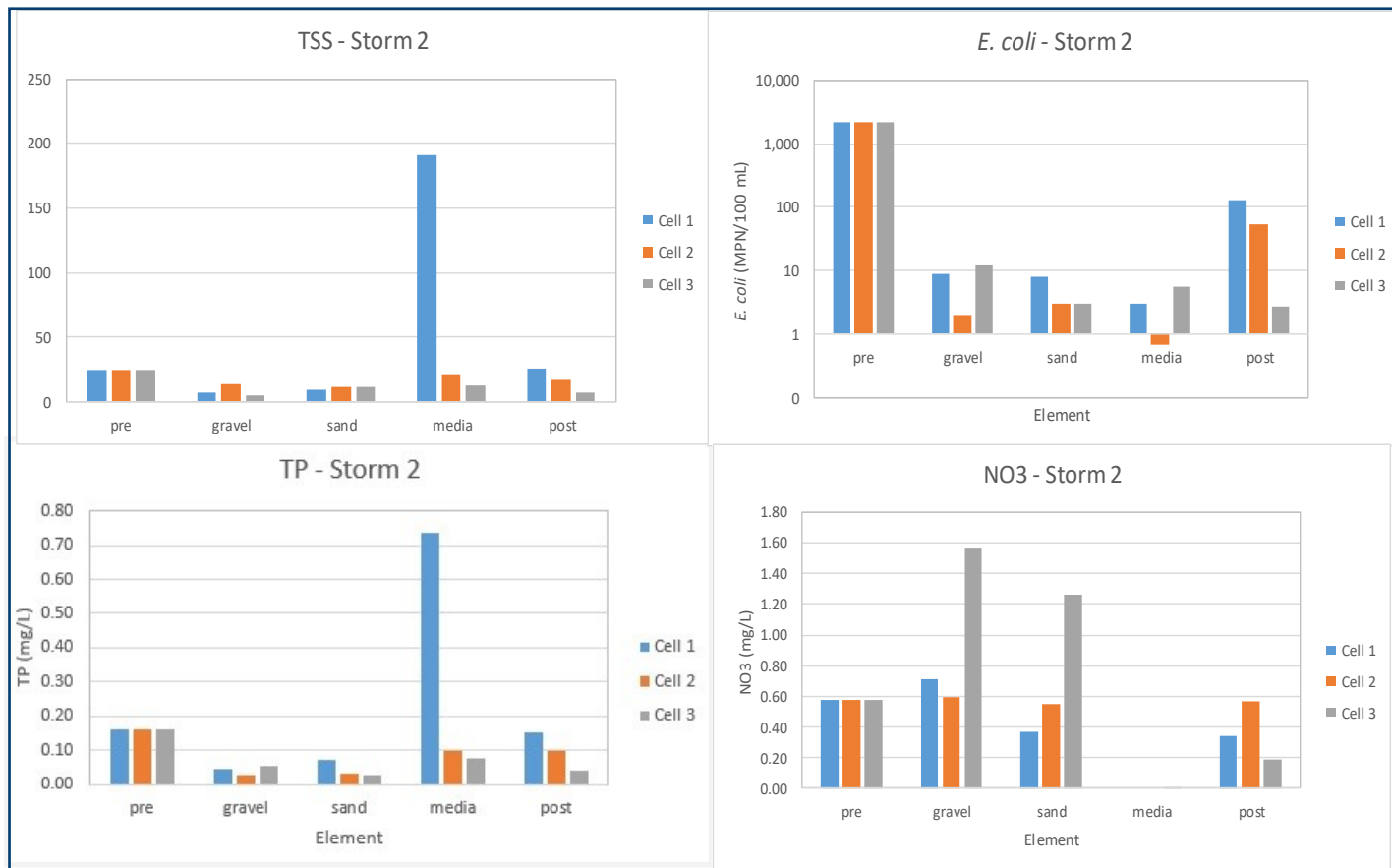




Whitaker Treatment Wetlands: Initial Findings

Segment of data drawn from storm two of three, 2018. Research study runs from 2017-2020.



TSS: Total Suspended Solids

TP: Total Phosphorus

NO₃: Nitrates

Data Summary:

E. coli reduction from pre to post was substantial, ranging from 94 to 100%. Reductions occurred in the gravel layer (bottom of the cell) and stayed low throughout the rest of the treatment train.

Nitrate was completely removed in the media layer, presumably by the vegetation root zone. For other pollutants, the effect of the media layer was not much different from that seen in sand and gravel.

Total Phosphorus and Soluble Reactive Phosphorus removal are in the 60 to 80% range.

Outliers and Surprises in the data: Post-treatment samples show increased concentrations as storm events occur, and there were several samples that had surprisingly high concentrations of a pollutant (e.g., concentration in gravel was greater than that in the raw stormwater). Initial theories for this could be that a biofilm is forming in the lines at the end of the cells, or phosphorus could be leaching from the soil in the media layer, contributing to higher concentrations at the end of the treatment train over time.

Contact the Vadnais Lake Area Water Management Organization (VLAWMO)
for questions or more info: (651) 204-6070

8/20/2019