



Estimating State-wide Stormwater Capture Potential



Commission Meeting 03/06/2020

Cistern – Demonstration Project
City Hall, Hoboken, NJ



State Water Board Challenge

- ▶ Recycled Water Policy (Resolution 2013-003) asks SWRCB staff to quantify how much stormwater is being captured and/or could be captured for water supply
- ▶ Multiple state-wide initiatives require or promote stormwater capture and (re)use without coordinated accounting
- ▶ Exception(s): regional actions, e.g., Measure W



The Problem

1. Never before attempted
2. Regional/jurisdictional infrastructure variation
3. Consistency is key



SCCWRP's Approach

- Identify how stormwater physically is captured with 7 forms of existing infrastructure
- Outline technical calculations to measure or estimate capture potential
- Compare, contrast & discuss added value amongst methods



The 7 Methods for Estimating Capture Potential

Method

BMP Hydrologic (Flow) Monitoring

BMP Design Information from Plan Submittals

Watershed Models

Large-Scale Impoundments

Measured Changes in Groundwater Levels

Measured Changes in POTW Inflow

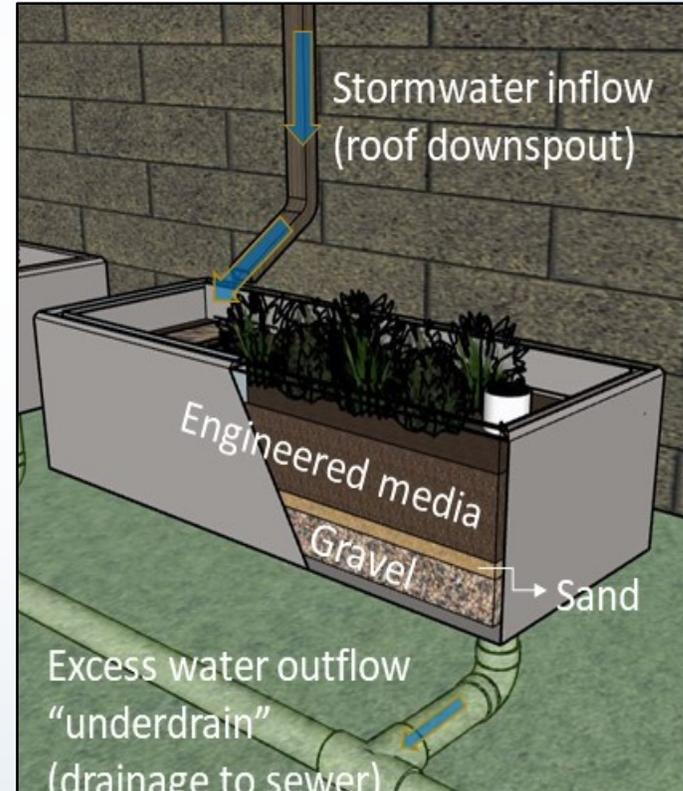
Diversions

Discussion Topics

- “Ease” of extrapolating to state-wide estimate (aka scale)
- Accuracy/uncertainty
- Data availability
- Potential for added value



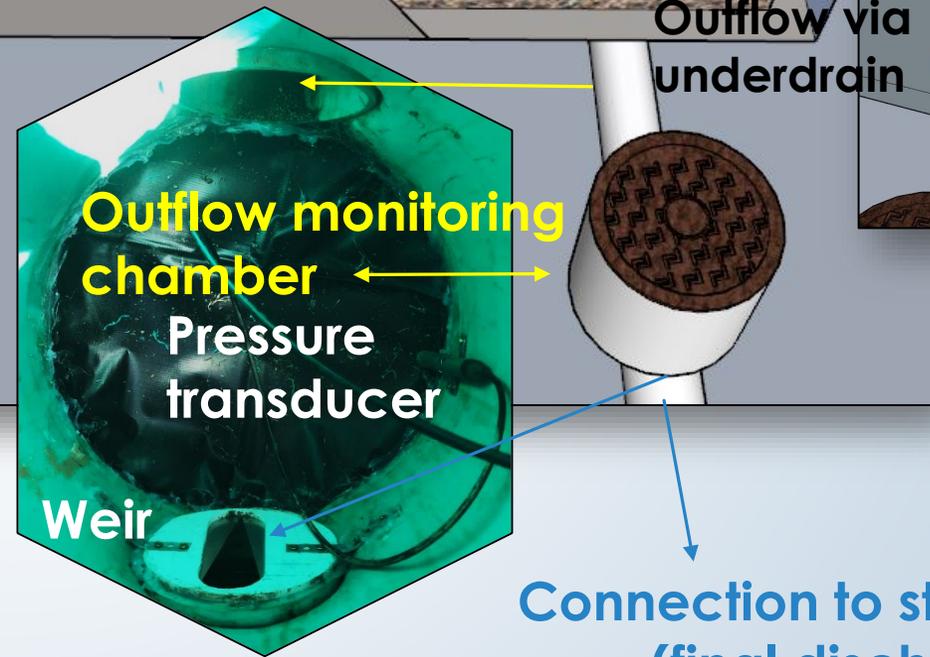
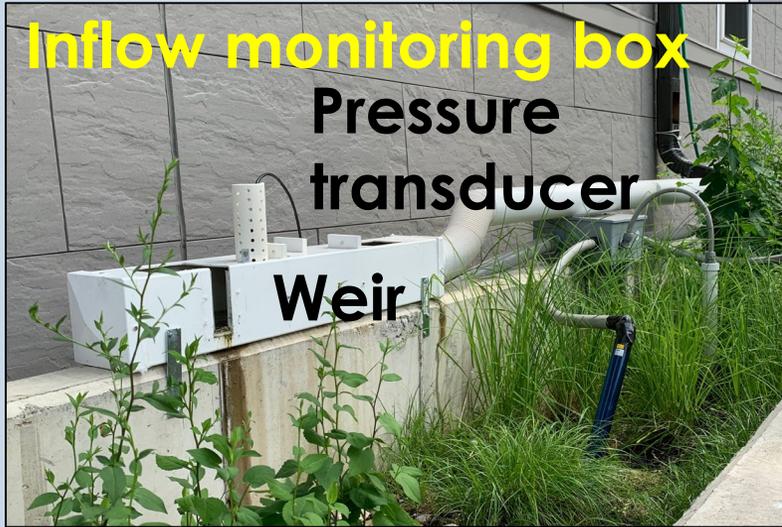
Example: Site-Scale Direct Measurement vs Indirect Estimate



Bioretention planters at Stevens Institute of Technology, Hoboken, NJ

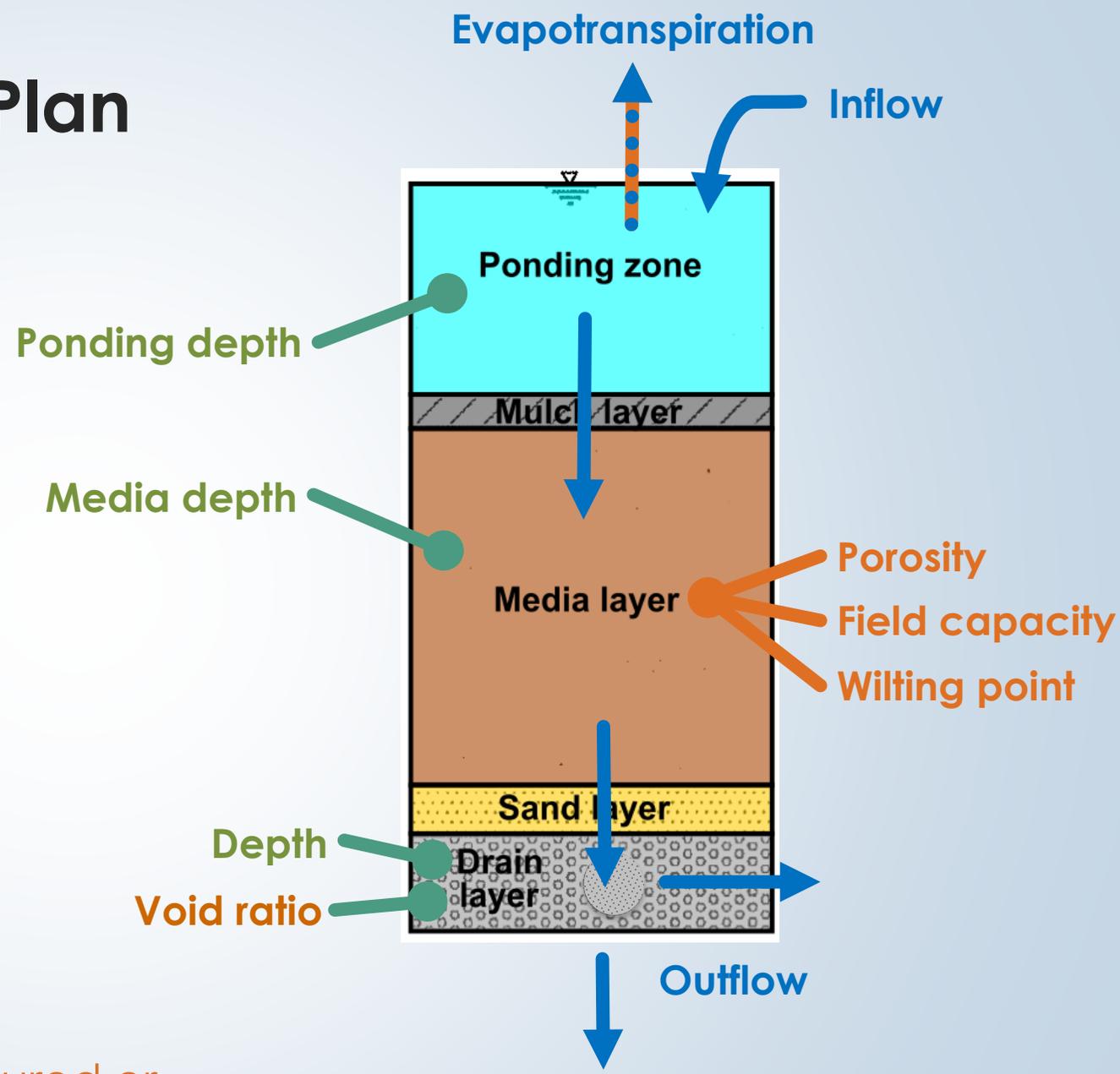
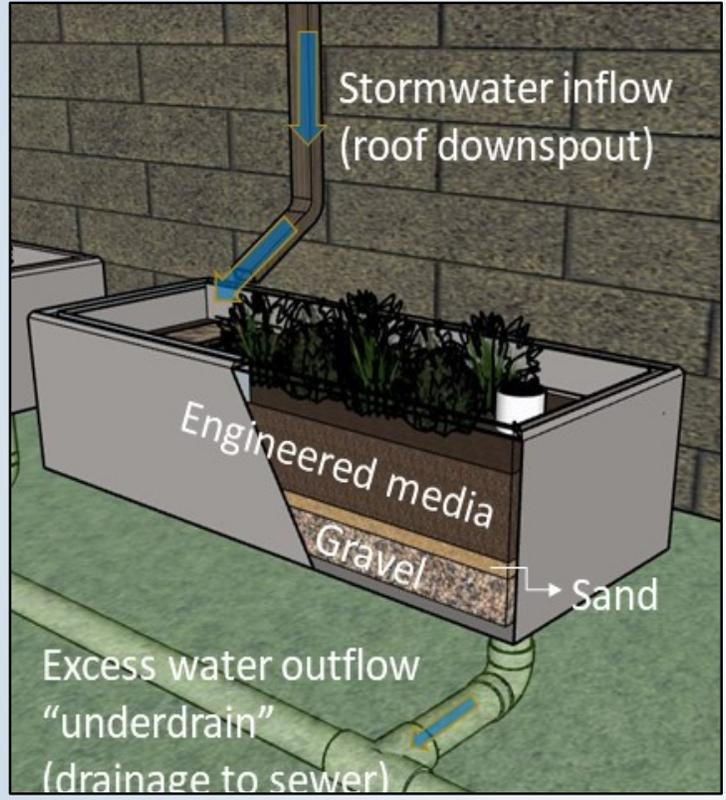


BMP Hydrologic Monitoring





Design Information & Plan Submittals

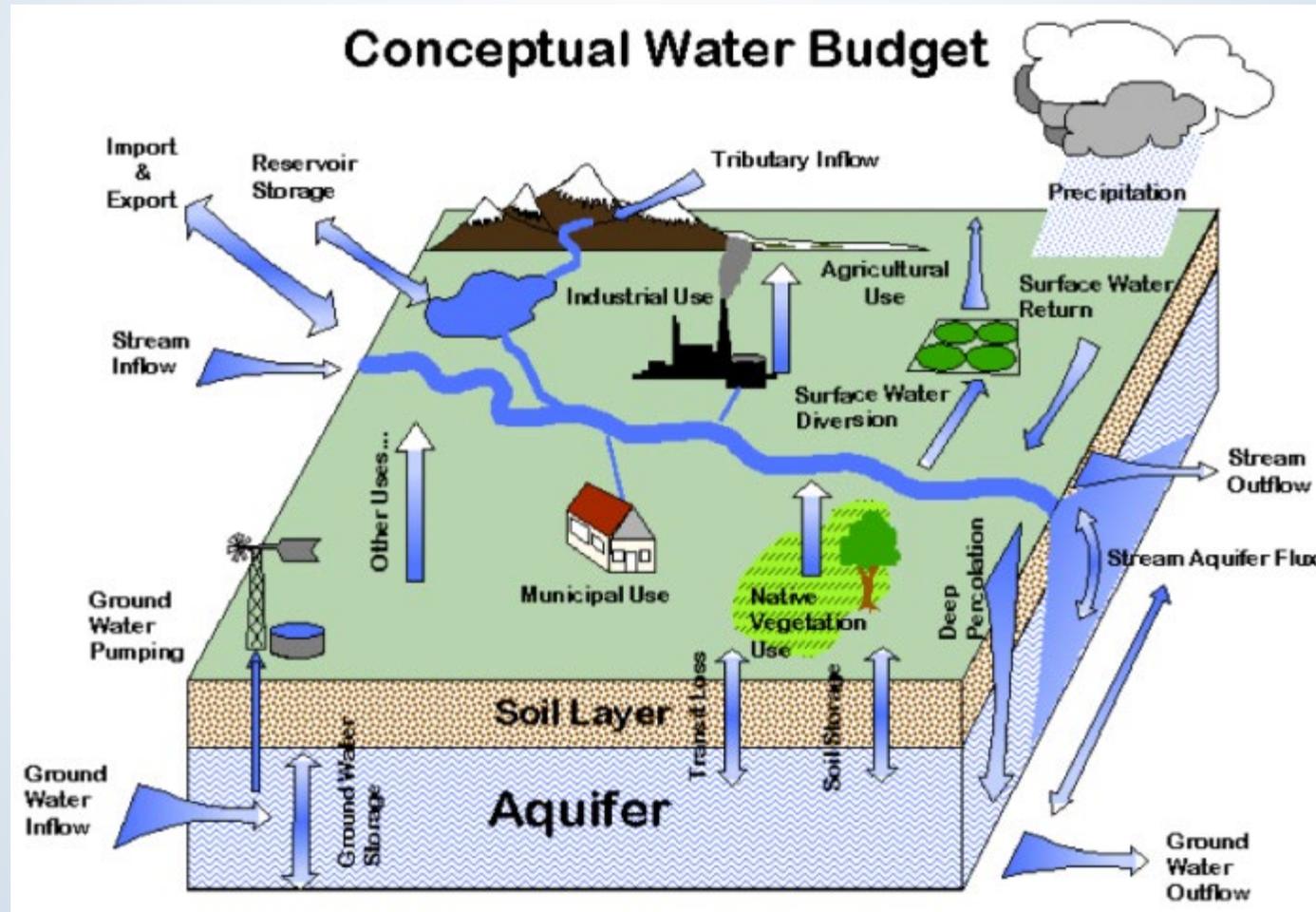


Green = design data (engineer's drawings)

Gold = water-storage parameters (lab-measured or estimated from literature)



Example: Site-Scale Measurement/Estimate vs Watershed Modeling

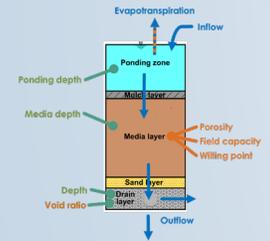




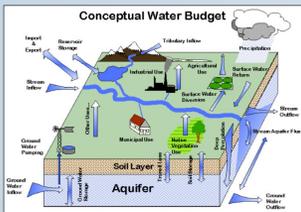
Challenges of generating a state-wide estimate of stormwater capture potential



BMP hydrologic monitoring



BMP information from plan submittals



Watershed modeling

Rank	"Easiest" to get to State-wide estimate	Relative Accuracy	Data Availability	Added Value
Best				
Better				
Good				



Next steps

- ▶ Pilot project?
- ▶ Water Board Staff required to report back this year on progress for the Recycled Water Policy
- ▶ Implementation is a priority project for STORMS 2020-2024