STORMWATER TREATMENT – PERSPECTIVE OF (ONE EMPLOYEE OF) ONE MUNICIPALITY

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2013 Stormwater Treatment Engineering Workshop
April 5, 2013
STORMWATER TREATMENT CHALLENGES

- Ultra urban means limited space for treatment
- All built out and very low redevelopment rate (>1% year) means limited treatment opportunities
- GSI is rarely feasible in Seattle (tight soils, limited space)
- BMPs conflict with existing utilities
- Meeting existing hydraulic grade line is difficult
- Maintenance may be costlier than expected
- 200+ outfalls
- What are we treating for?
THE MUNICIPAL POLLUTANT/PERMIT PROBLEM

- Very little control over sources
- Wide range of pollutants
- What does AKART to the MEP mean??
As Regs become Stringent, Will BMPs keep up?

Recent past-
- For lakes and streams – phosphorus, dissolved copper BMPs needed
- Bacteria BMP removal efficiencies not sufficient to meet WQ standards (based on limited data)
- For Duwamish basin – PCBs, phthalates, dissolved metals BMPs needed

Near future-
- Tribal consumption rates will drive WQ/sediment standards well below what even advanced BMPs can remove today
TAPE Is Great!, But…

What TAPE can not answer:

- The “fit” issue
- O&M and lifecycle costs
- Product longevity
- Citizen complaints, complaints, complaints…
SEATTLE’S TREATMENT TOOLBOX

- All of the above needed: media filters for roadways, GSI for flow control, retrofit projects, etc., etc.

But we were still falling short...

- Street sweeping appears to be most cost effective for meeting our treatment performance measure
POLLUTANT PATHWAY AND RELATIVE COST OF MITIGATION

Product stewardship

Street Sweep

Roadway Treatment

O&M: System cleaning

Storm drain and/or combined sewer

End of Pipe Treatment

Env. Cleanup

$ Cost to mitigate $$$$$