Catch Basin Effectiveness Study

Jenée Colton, King County
Stormwater Work Group meeting
November 14, 2018
How can we use WW catch basin I&M records to inform inspection frequency needs?
Steps

Compile Info  Analysis  ID Drivers  Recommendations
127 Surveys
48 Answered
31 Supplied Data
8 Loaded in Database
Survey Highlights
Catch Basin Definitions

- >12-IN min sump depth: 44%
- >6-IN min sump depth: 22%
- >18-IN min sump depth: 17%
- Sump: 4%
- Unknown: 2%
- Other: 11%
Data Analysis
• Sump dimensions
  • Contributing areas
    • GIS delineation
    • Land acreage
Data Quality Issues
Things that make you go hmmm.....
Each color is different CB
Confidence Tiers
Low – less confidence
High – more confidence
Percent of CBs Failing Within 2 Years: Low Confidence Tier Data

- **Everett**: 5%
- **Kent**: 7.5%
- **King County**: 18%
- **SPU MS4**: 14%
- **SPU CSO**: 4%
- **Tacoma**: 34%
- **WSDOT**: 22%

High Confidence Tier Data

- **Tacoma**: 51%
- **King County**: 9.2%
- **Everett**: 9.7%
Clarifications on Alternative Schedules
Definition of a Circuit

100% Cleaning

Less Frequent and Circuit Approach

CB X  CB Y  CB Z

CB W  CB X

CB Y  CB Z
Less Frequent

- No Ecology approval necessary
- Documentation of proposed schedule based on 2 x # years
- Circuits based on land use, traffic density, etc...similar maintenance needs
Recommendations to Permittees

• Implement/tighten data quality control (QC) protocols
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• Migrate data collection and management to integrated digital system.
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- Implement/tighten data quality control (QC) protocols
- Migrate data collection and management to integrated digital system.
- Consider less frequent inspection schedule with inspection data.
- Revisit the definitions of a circuit.
Recommendations to Ecology and SWG

• Standardize the definition of a catch basin to improve use of inspection data.
Recommendations to Ecology and SWG

- Standardize the definition of a catch basin to improve use of inspection data.

- Conduct field study of CB dynamics to allow for long-term, science-based prediction of CB sediment accumulation.
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