Managing Stormwater using “Green Infrastructure”

Mason Conservation District
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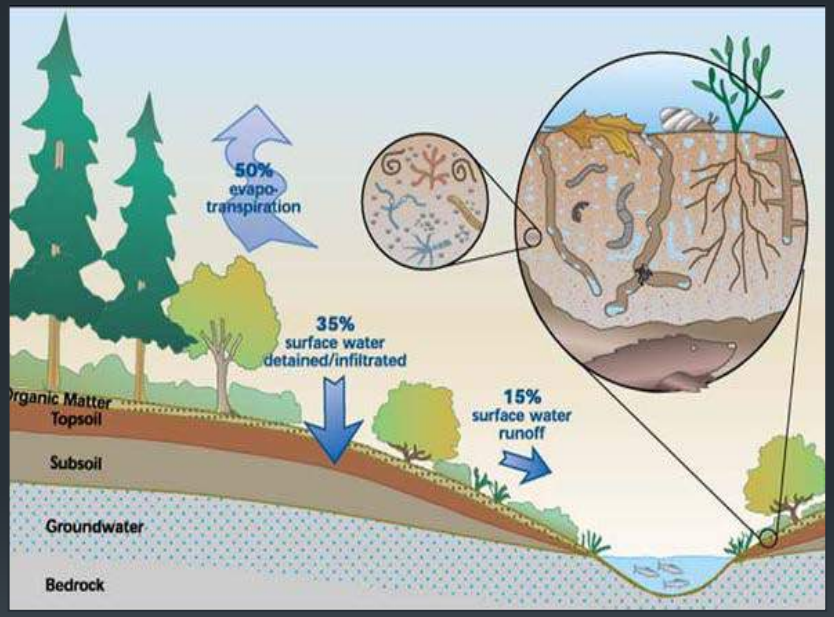
Agenda

I. Brief overview of how and why stormwater has become a problem
II. Old and new ways to manage stormwater
III. Rain gardens & bioretention swales:
    What are they? How do they work?
IV. Examples
V. Maintenance
VI. Next steps

Brief overview:
what's happening with stormwater?

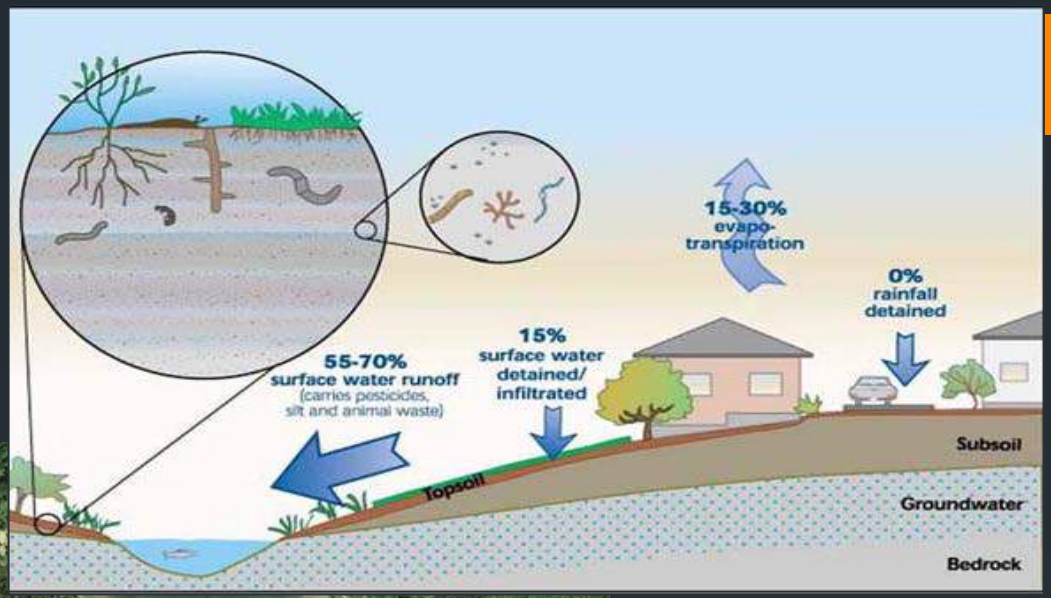


www.compostwashington.org

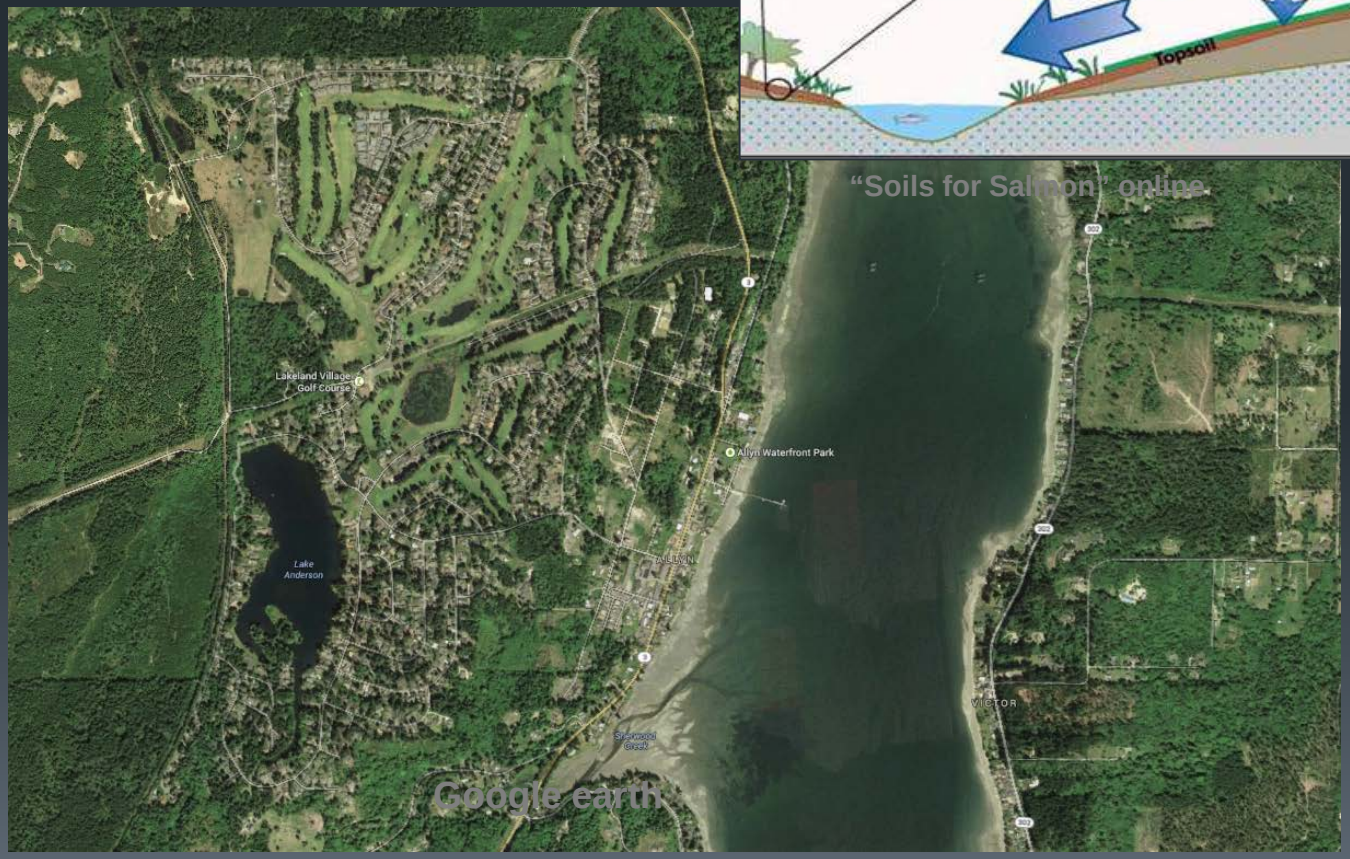
"Soils for Salmon"

Image: Washington State Department of Ecology

PART of the story: development patterns create more “hard” surfaces



“Soils for Salmon” online



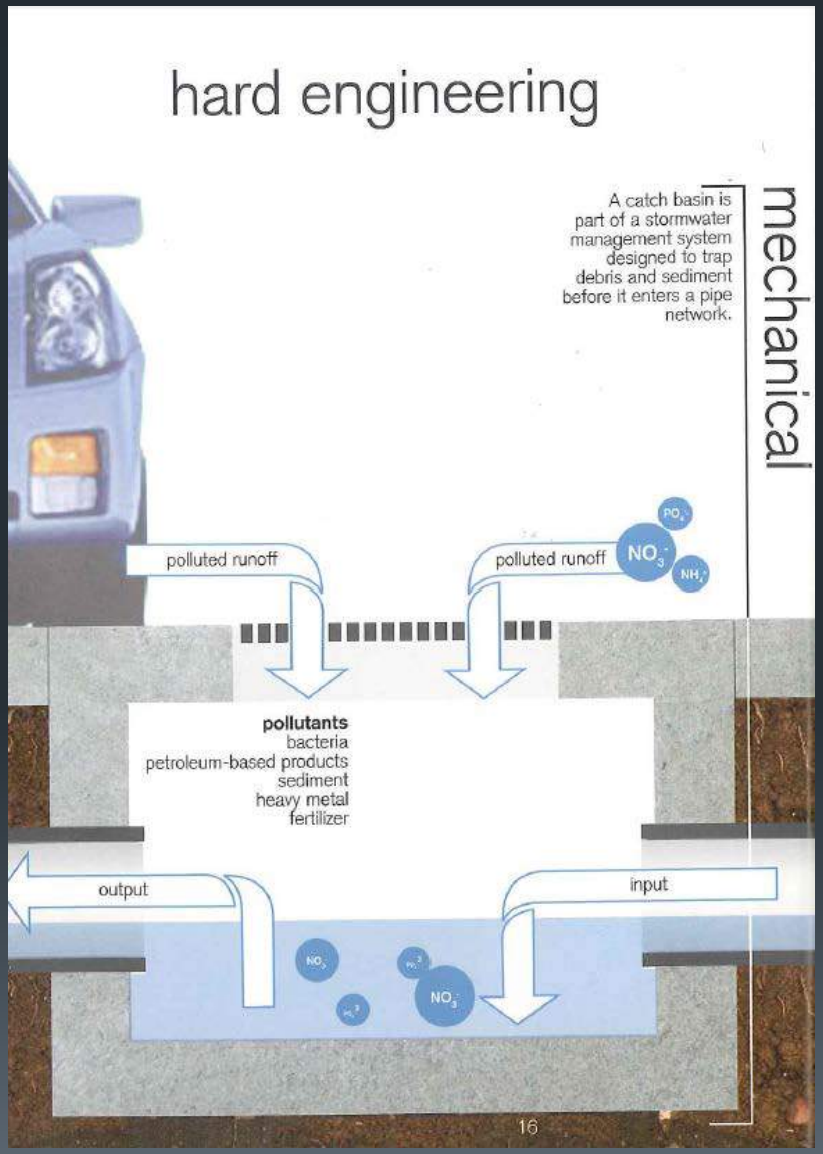
= more surface runoff

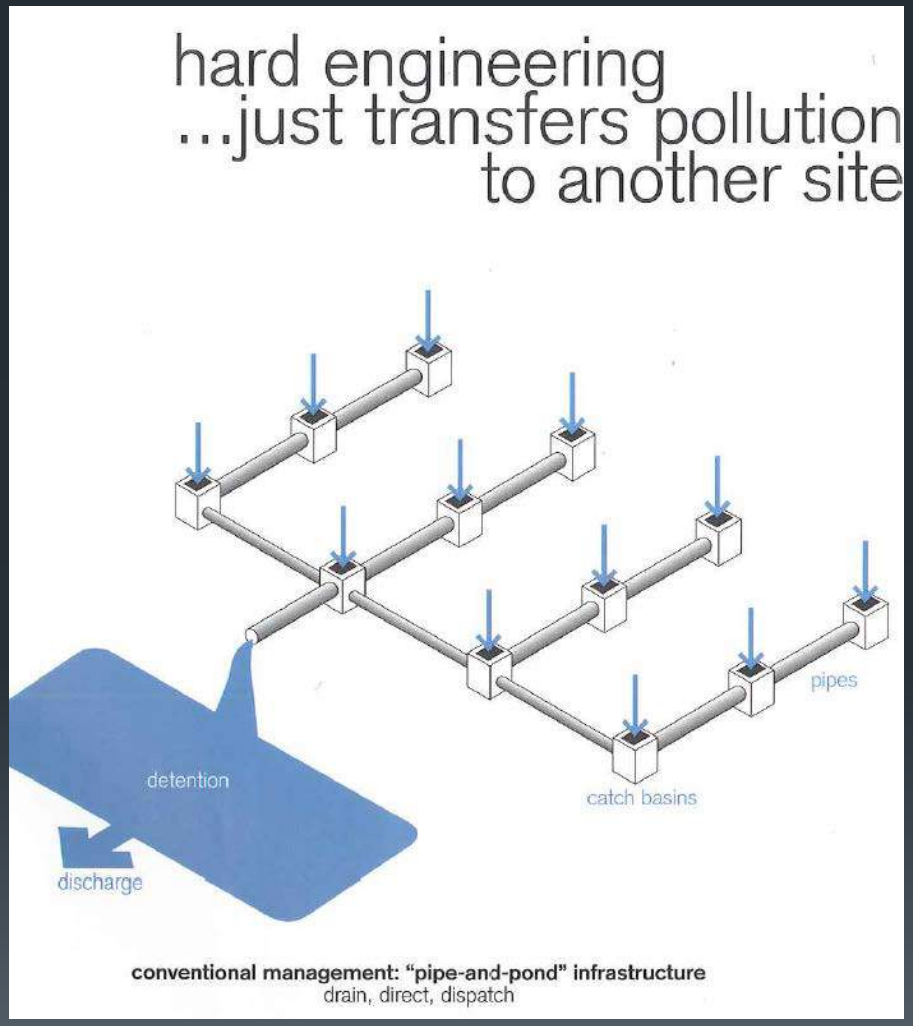
PART of the story: natural topographic and geologic conditions shape water drainage patterns, the presence of springs/seeps, and infiltration opportunities + challenges.

= more water

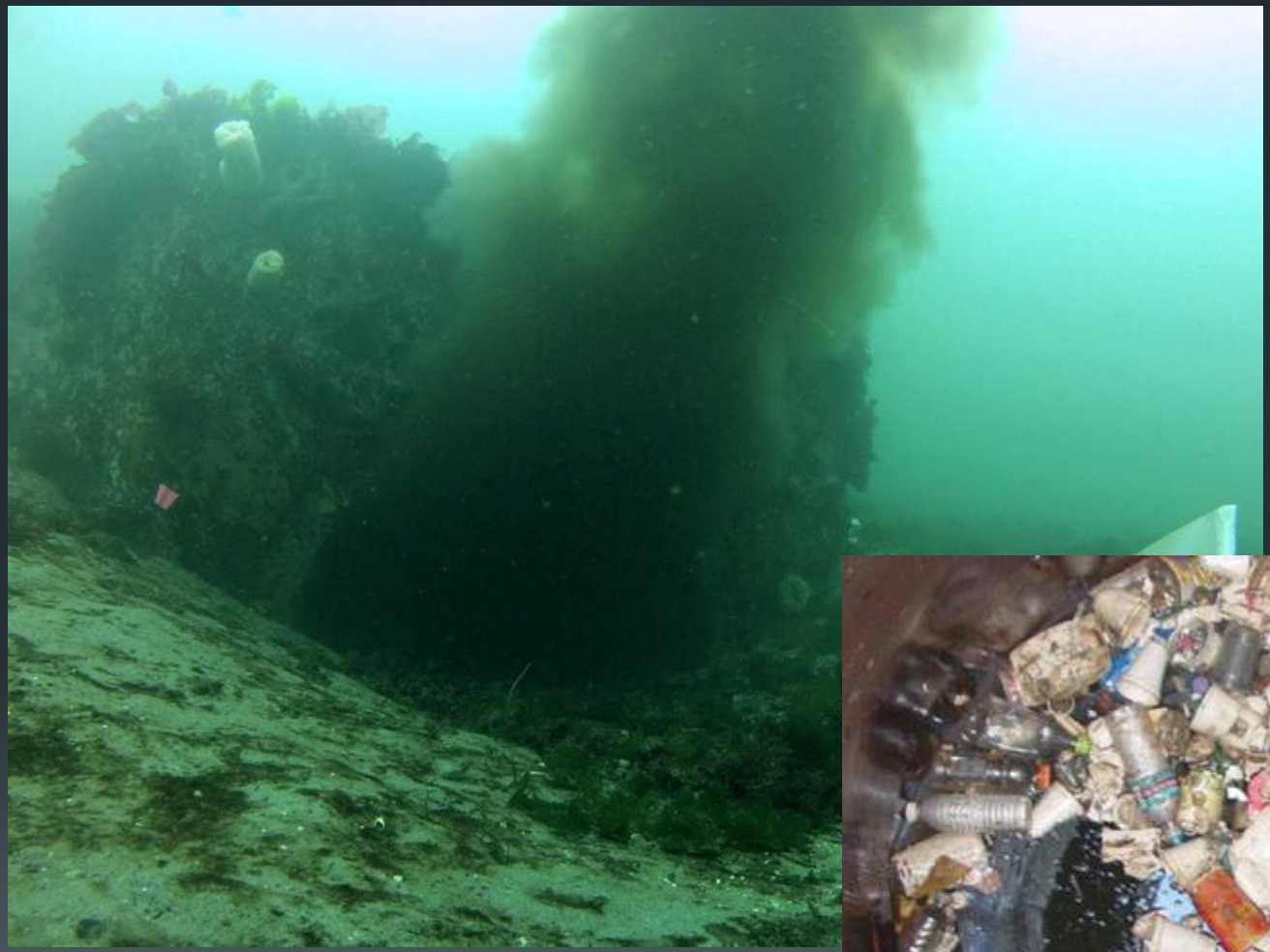
What do we do with all that stormwater runoff?

Traditional response:

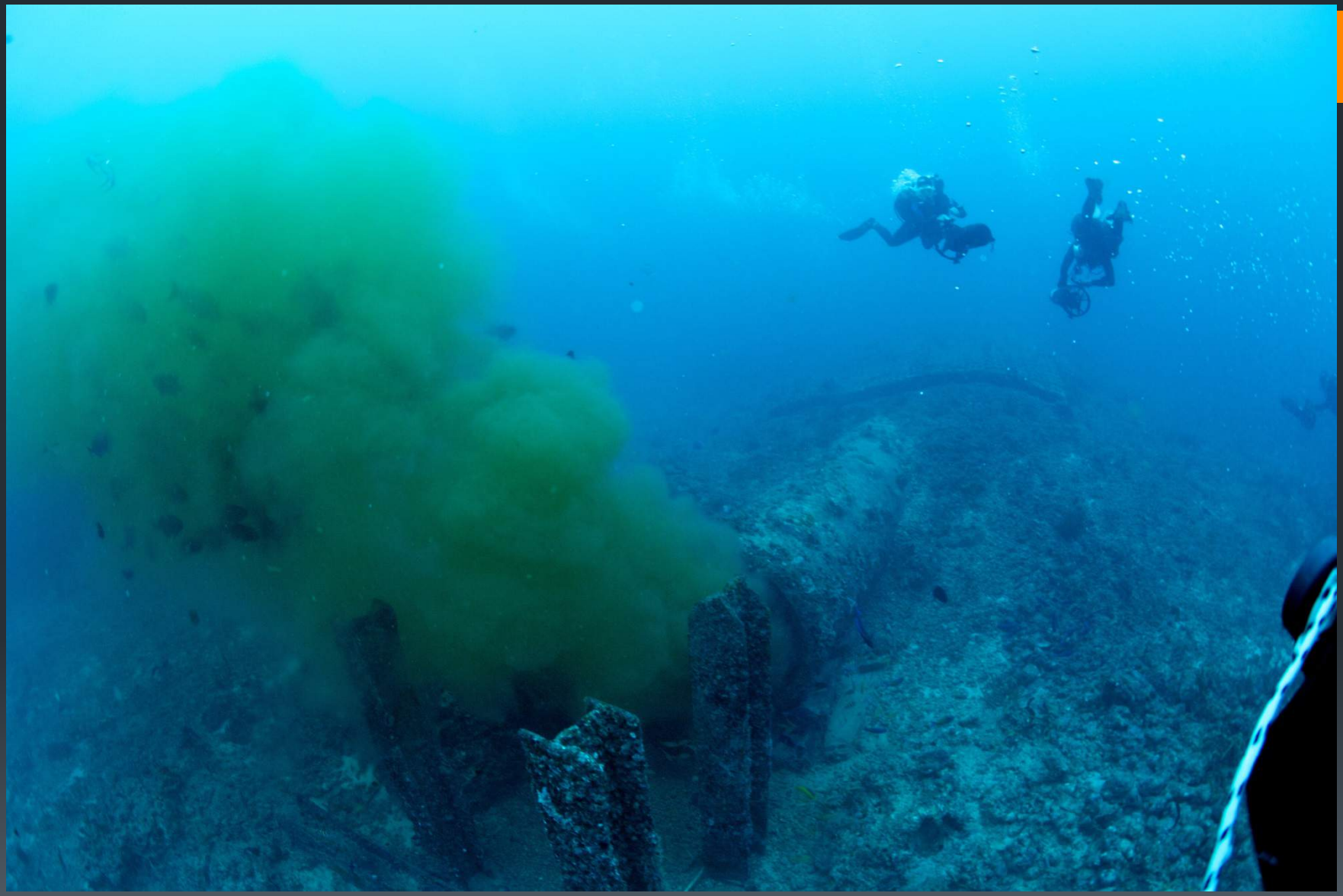




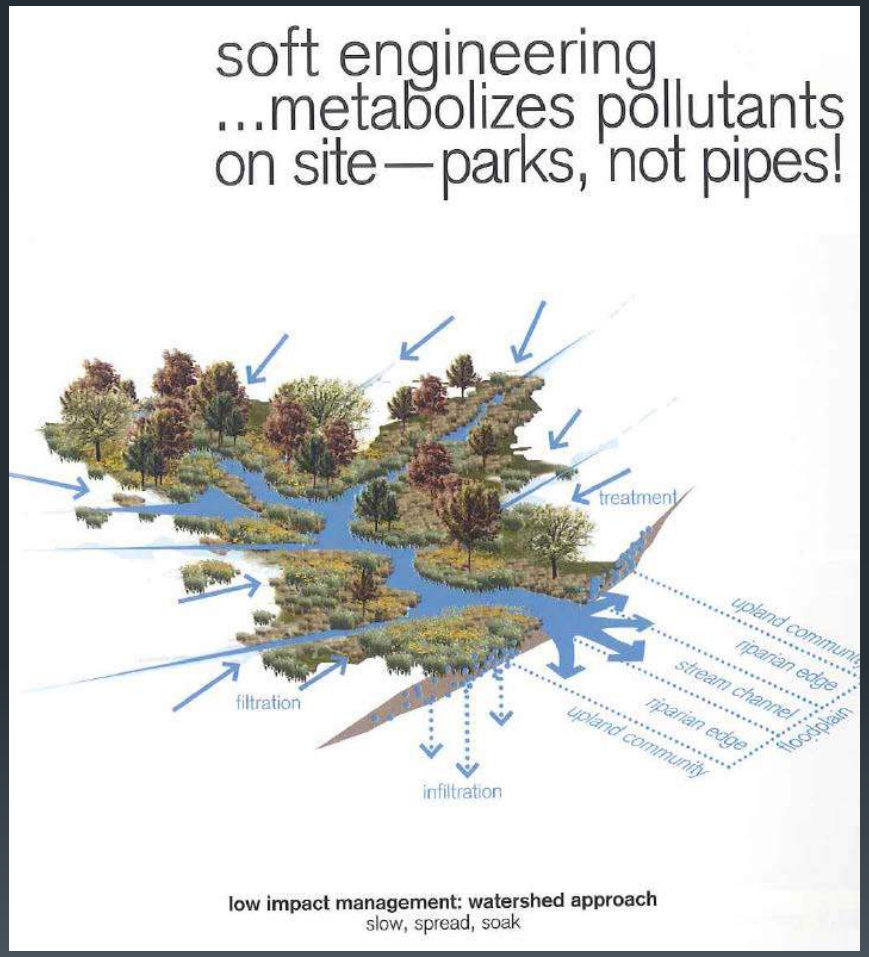
In this region, the final destination for stormwater runoff is often Puget Sound

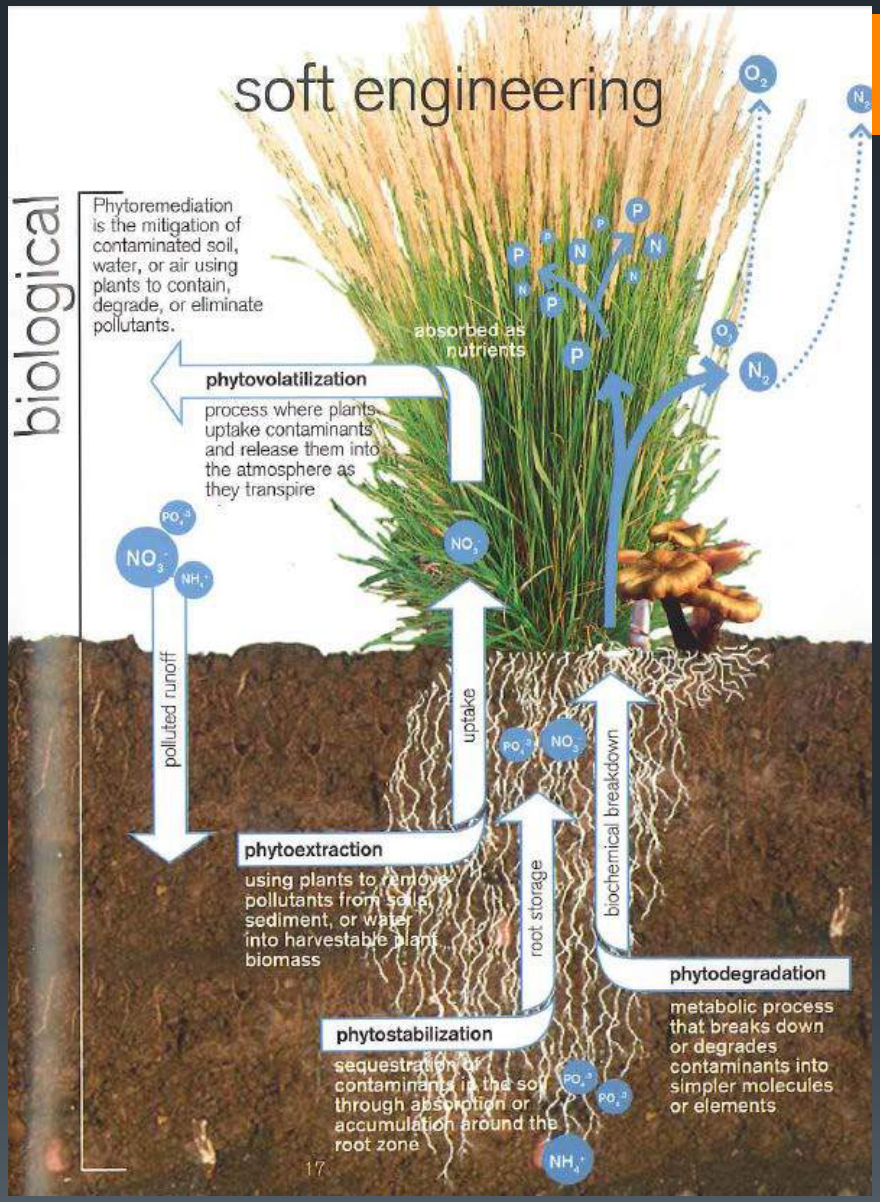


Images: (left) www.conteches.com/portals/0/Images/applications/inlet-protection-cds.jpg / (right) www.contech.com

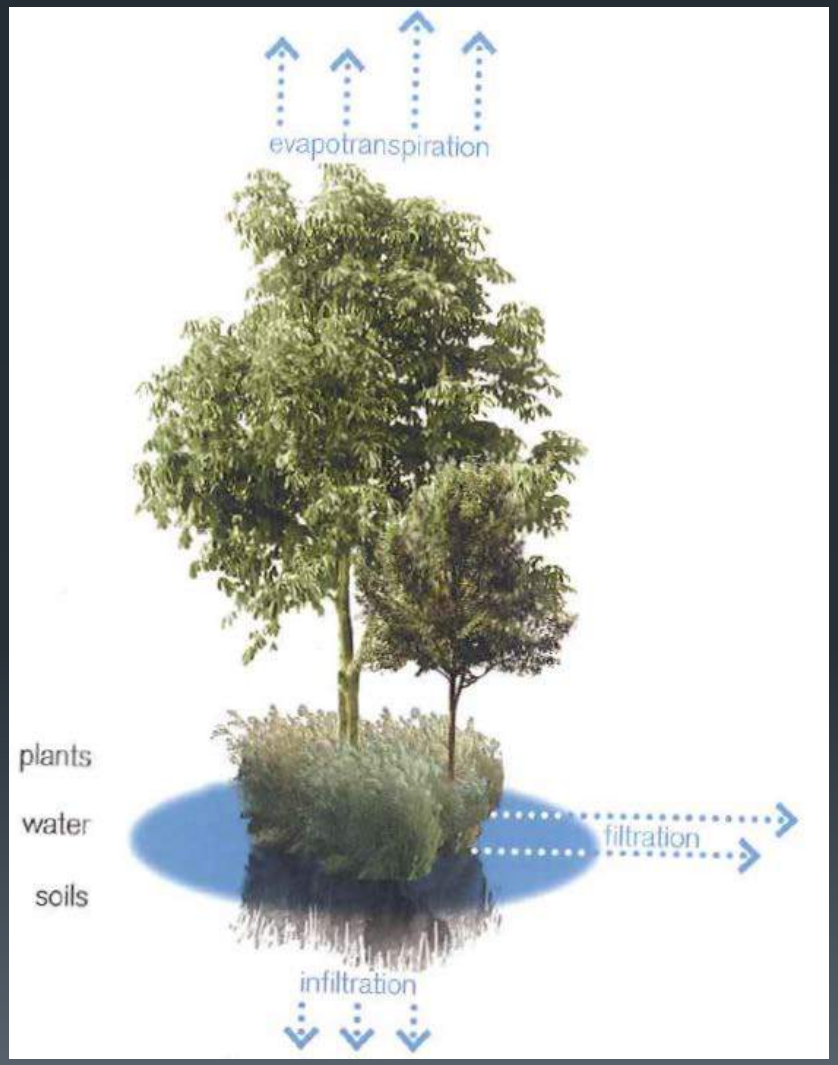


Alternatives?
“Green Infrastructure”



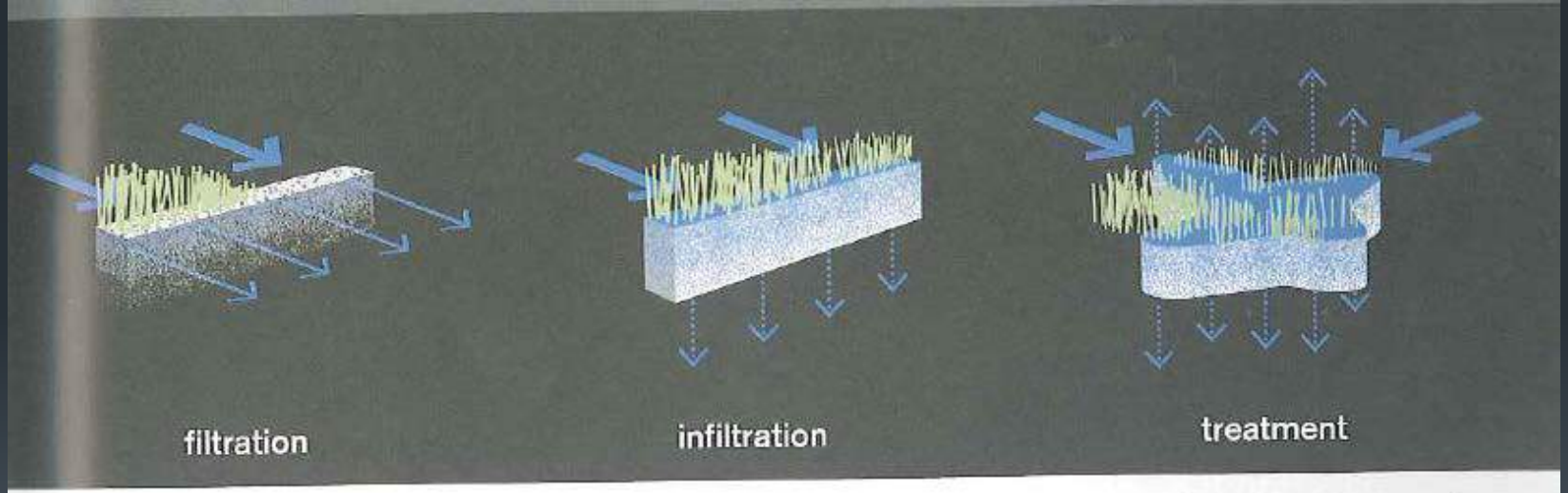


“Green Stormwater Infrastructure”



- Soft engineering
- “LID” Low Impact Development
- Open space: forests, parks, wetlands
- Working lands: timber, agriculture

biological



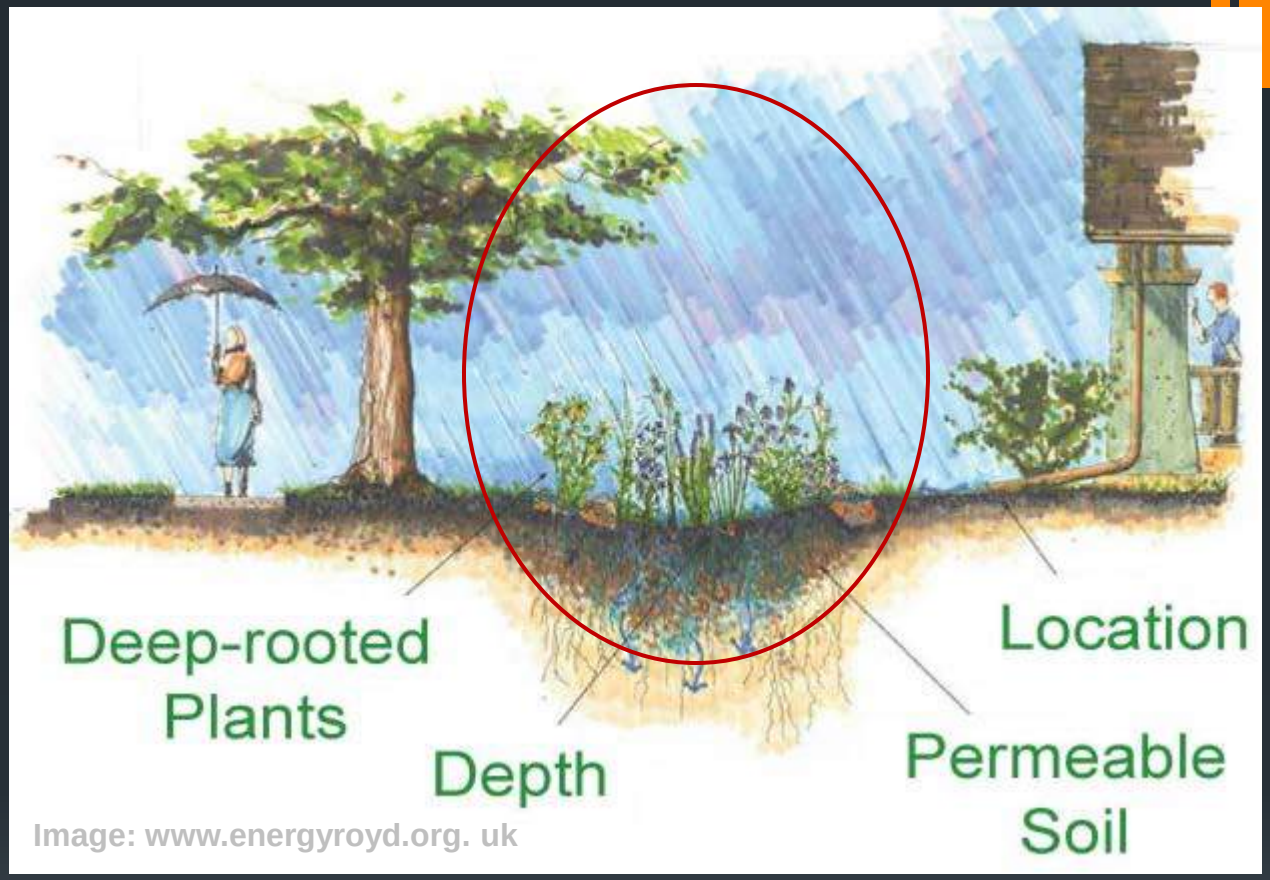
→ soak

filtration: The sequestration of sediment from stormwater runoff through a porous media such as sand, a fibrous root system, or a man-made filter.

infiltration: The vertical movement of stormwater runoff through soil, recharging groundwater.

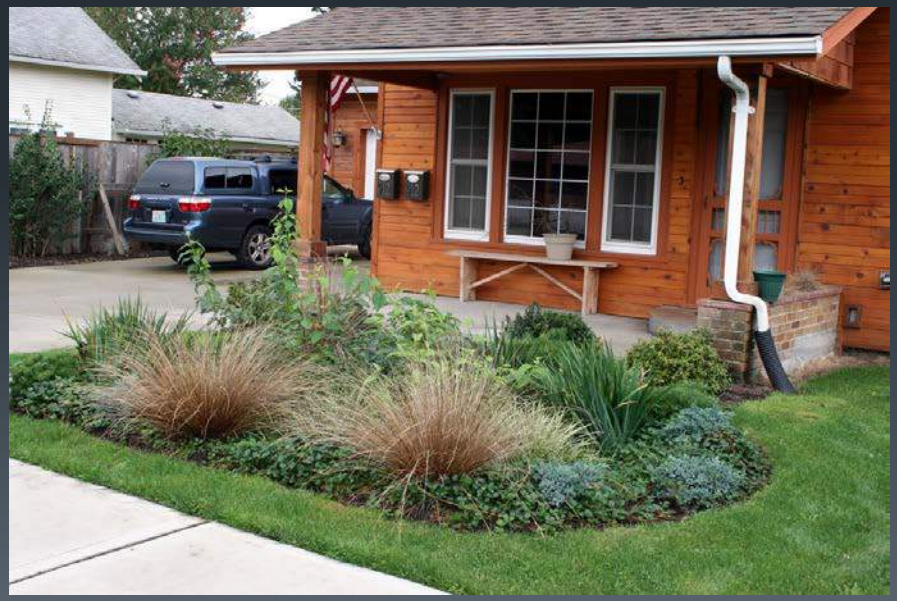
treatment: Processes that utilize phytoremediation or bacterial colonies to metabolize contaminants in stormwater runoff.

RAIN GARDENS

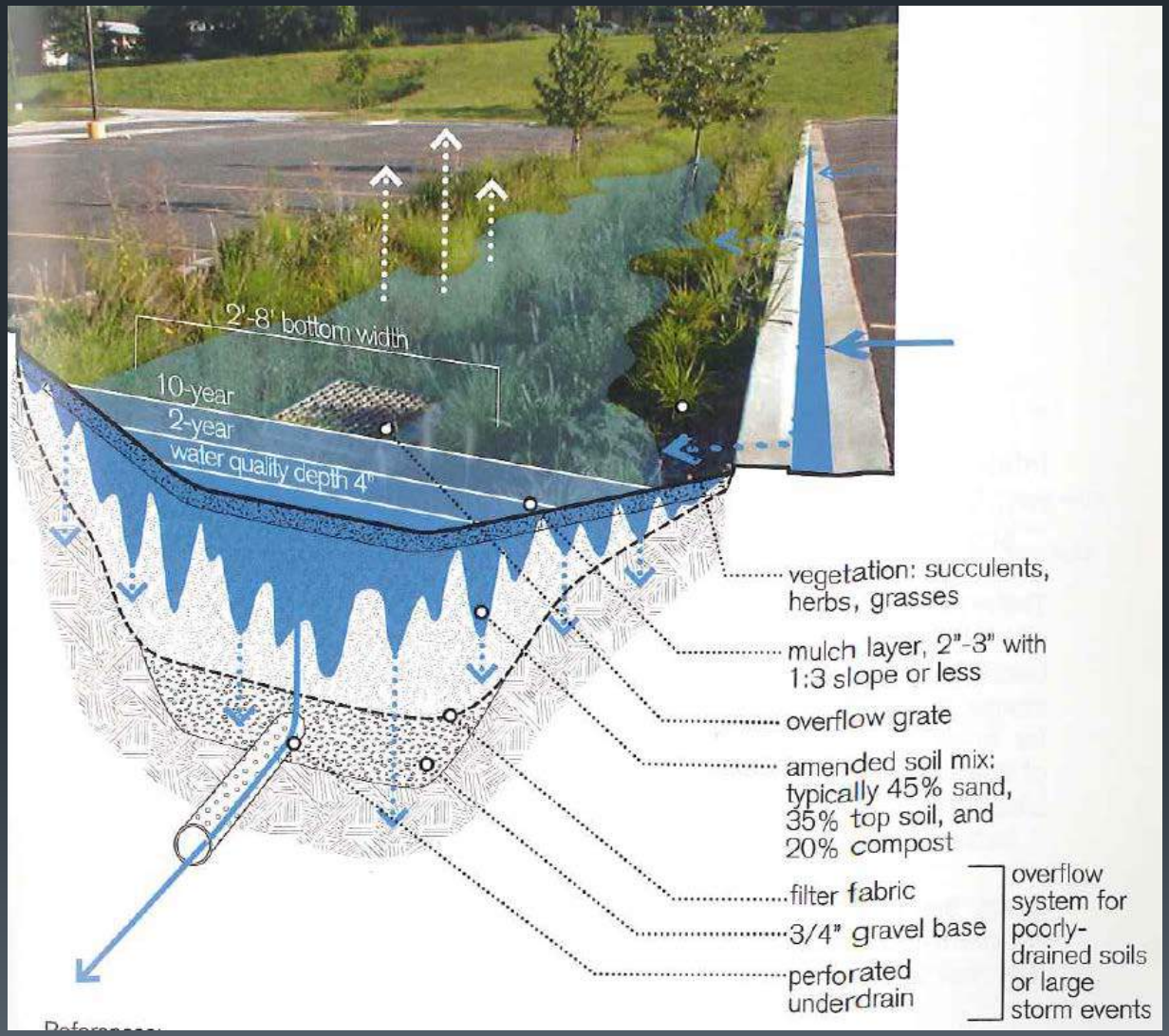


- Test soil infiltration (> ½” / hour is ideal, >1/4” is ok).
- Always have an overflow path.

Rain Garden Examples



BIORETENTION SWALES

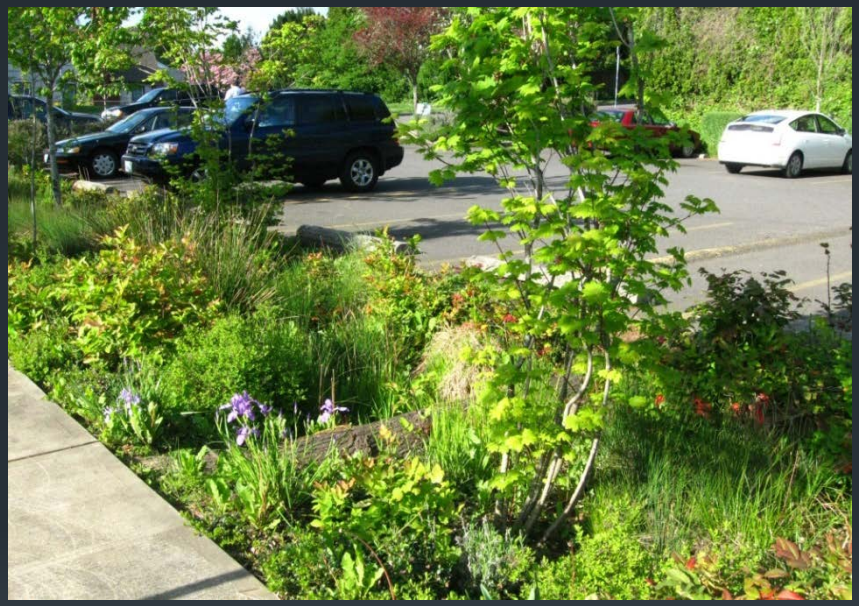


Bioretention Swale Examples

Maintenance: What to expect

- Summer water first few years (drip system)

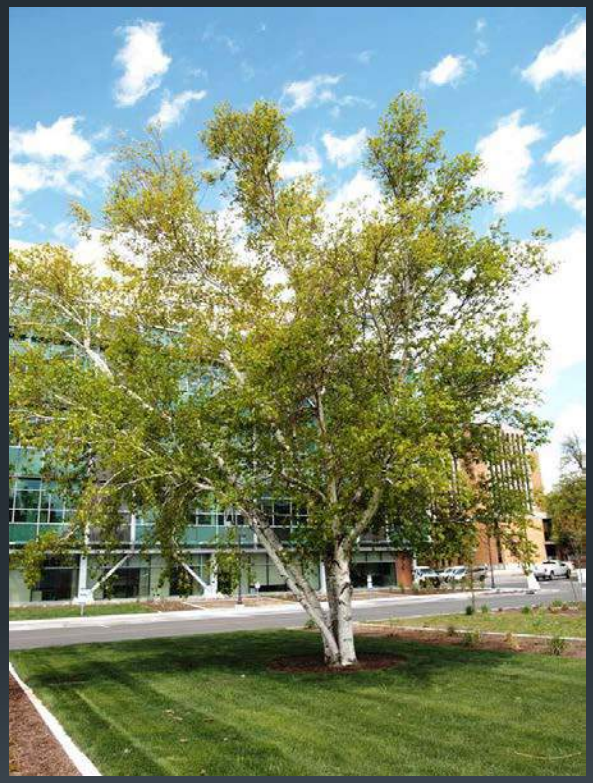
- Monitor performance
- Weeding
- Replacing plants
- Replacing mulch



Enhance the experience of arrival?

Paper birch





Columnar Beech / Hornbeam

Western Red Cedar

True Cedars (Cedrus sp.)

Next Steps?

- Decisions to make:
  - Develop a plan for swale?
  - Develop a plan for overall entry experience?

- Involvement
  - Final plant selection
  - Building & Planting the swale
  - Fundraising
    - Grants
    - Sponsor trees – church members?
  - Long term care of trees and swale

- Other ideas? Suggestions?
- Timeline: Meet again in January

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