Replacing Incised Headwater Channels and Failing Stormwater Infrastructure with Regenerative Stormwater Conveyance

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Water “working” on the landscape
Increased stormwater volumes and velocities have eroded channels and transported sediments downstream ...
Where it chokes our waterways...
so we “fix” the system
An Innovative Solution for Stormwater Treatment and Conveyance
Regenerating System
Living Systems
Understanding
Whole System

Regenerative
Humans (Hominids)
PARTICIPATING AS nature –
Co-evolution of the Whole System

Restorative
Humans DOING THINGS
TO nature – assisting the
evolution of Sub-Systems

Sustainable
Neutral –
“100% less bad” (McDonough)

Green
Relative Improvement
(LEED, GB Tool, Green Globe, etc.)

Conventional Practice
“One step better than
breaking the law” (Croxton)

Trajectory of Environmentally Responsible Design
Integrative Design Collaborative and Regenesis 2006 - Bill Reed, reed@integrativedesign.net
Regenerative Stormwater Conveyance Approach
Basic Building Blocks
Regenerative stormwater conveyance
Riffle Pool Profile Section
Pre-existing erosion damage
Sand seepage bed
Dynamic, not static
Silica cobble
Sandstone boulders

Riffle weir grade control structure
Dissipate Erosive Energy of Stormwater
Less Intrusive/More Environmentally Sensitive
Cost competitive and easier to permit
Convert Stormwater to Groundwater
Community stewardship
Treatment of ‘First Flush’ and Safe Conveyance of 100-Year Storm
Questions?