URBAN NONPOINT SOURCE STORM WATER QUALITY FUNDING AND BMPs

Nonpoint Source Pollution Program
Water Quality Planning Division
Texas Commission on Environmental Quality

Nonpoint Source Funding Criteria in MS4s

- Must not fund a requirement of storm water or wastewater permit
- “Over and above” standard practices, e.g. retrofits, advanced practices
- Cutting edge but proven: specific designs
- Credible basis for water quality results
- Projects embraced by local stakeholders

Reduce and Re-direct Runoff

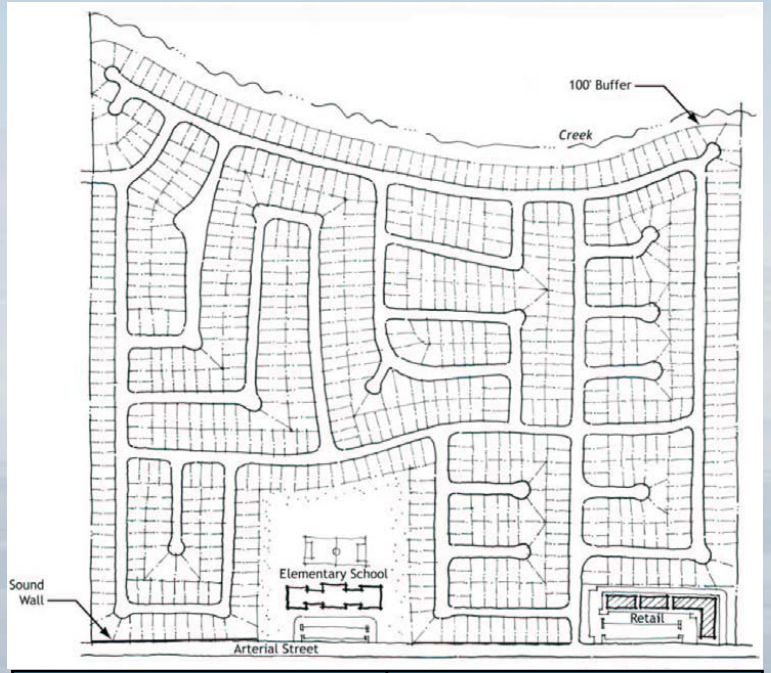
- LID site design objectives are to preserve site hydrology, to reduce runoff volumes and rates, and to reduce pollutant loads.
- LID practices can involve retention of storm water for irrigation or other uses, or infiltration

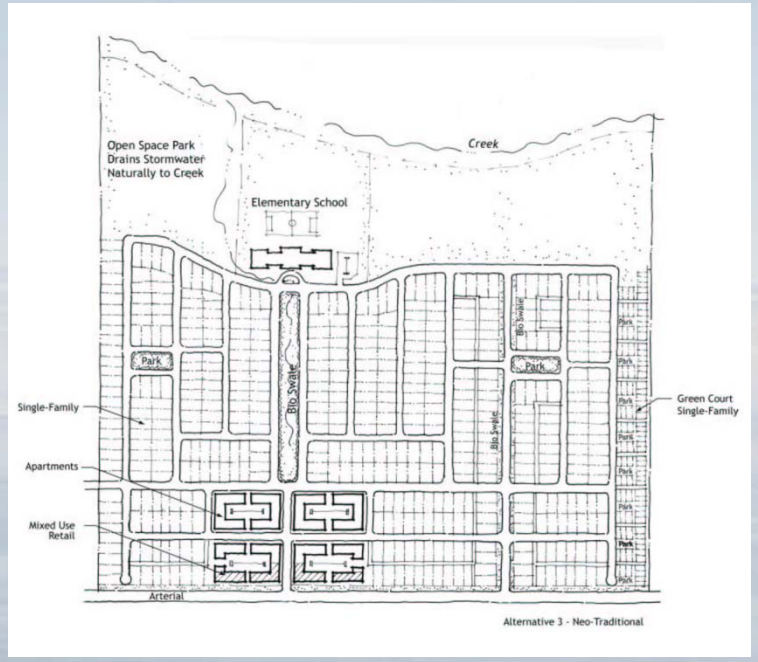
Reduce and Re-direct Runoff
Low Impact Development (LID)

Conventional Drainage Plan

LID Drainage Plan

Reduce and Re-direct Runoff – Site Planning & Design





	Conventional Design
Site (Ac)	220
Housing Units (#)	660
Park/Open Space (Ac)	0
Creek Setback (ft)	0
Impervious Cover (Ac)	28
Piping (ft)	15,000
Swale (ft)	0

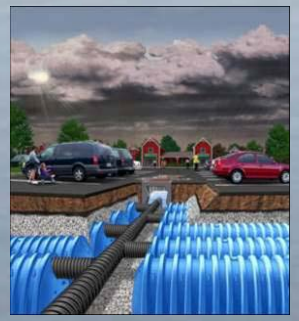
	Mixed Use Design
Site (Ac)	220
Housing Units (#)	660
Park/Open Space (Ac)	52
Creek Setback (ft)	500
Impervious Cover (Ac)	15
Piping (ft)	10,000
Swale (ft)	4,700

Reduce Runoff – BMPs Retention and Irrigation

- Storm water runoff is captured and retained for irrigation of landscapes and other purposes.
- High storm water constituent removal efficiencies.
- Applicable in areas with low permeability soils.

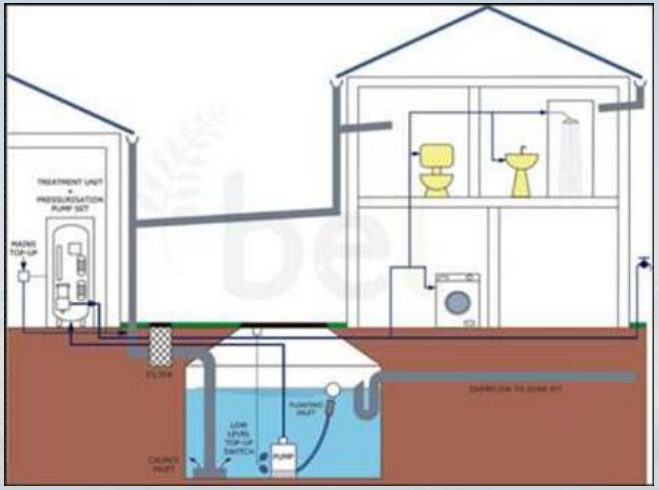
Surface storage

Subsurface storage



Reduce Runoff – BMPs
Rain Water Harvesting

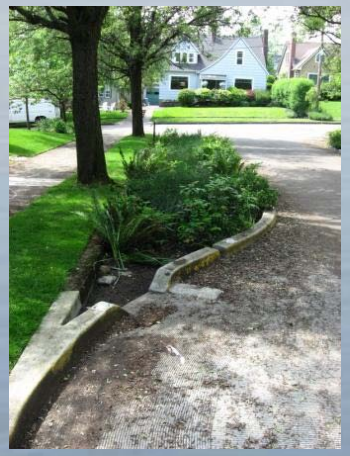
Household Uses

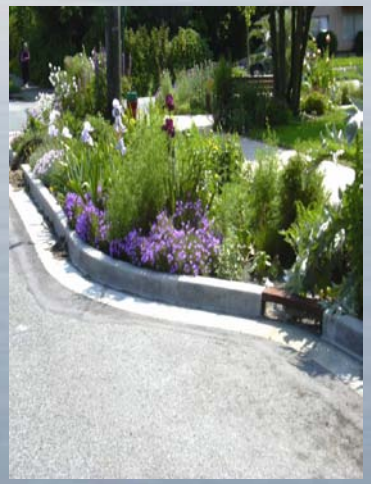


Commercial Scale

Reduce Runoff – BMPs
Bio-retention

Bio-retention Along City Streets





Reduce Runoff – BMPs Bio-swales

- Bioswales are vegetated open channels with a deep porous base to facilitate slowing and infiltration of runoff drainage.

Some Infiltration BMPs Need Injection Well Authorization

- Rule of Thumb: It usually needs an authorization if it is deeper than its inlet is wide, and/or if it has a “subsurface fluid distribution system”
- Most typical LID BMPs are exempt: bioretention, bioswales, permeable pavement, rain gardens, and more

City of Austin Credits for Innovative Practices

- Retention/Irrigation Systems
- Vegetated Filter Strips
- Biofiltration
- Rainwater Harvesting
- Porous Pavement for Pedestrian Use
- Vegetated Filter Strip with Disconnection of Impervious Cover
- Non-Required Vegetation
- Rain Garden

We Would Have Loved to Fund…

- Houston LID Competition

- Austin Dog Park Project

More Resources for Nonpoint Source and Storm Water BMPs

- National Menu of Stormwater BMPs (organized into the 6 MCM categories)
- http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm
- NPDES Training Courses and Workshops http://cfpub2.epa.gov/npdes/outreach.cfm?program_id=0&otype=1
- Nonpoint Source Outreach Toolkit http://www.epa.gov/owowwtr1/NPS/eduinfo.html

Don’t Forget!

- EPA might have paid for 60% of that!

URBAN NONPOINT SOURCE STORM WATER QUALITY FUNDING AND BMPs

- **Website**: http://www.tceq.texas.gov/waterquality/nonpoint-source/mgmt-plan/index.html

- **Email**:
- nps@tceq.texas.gov