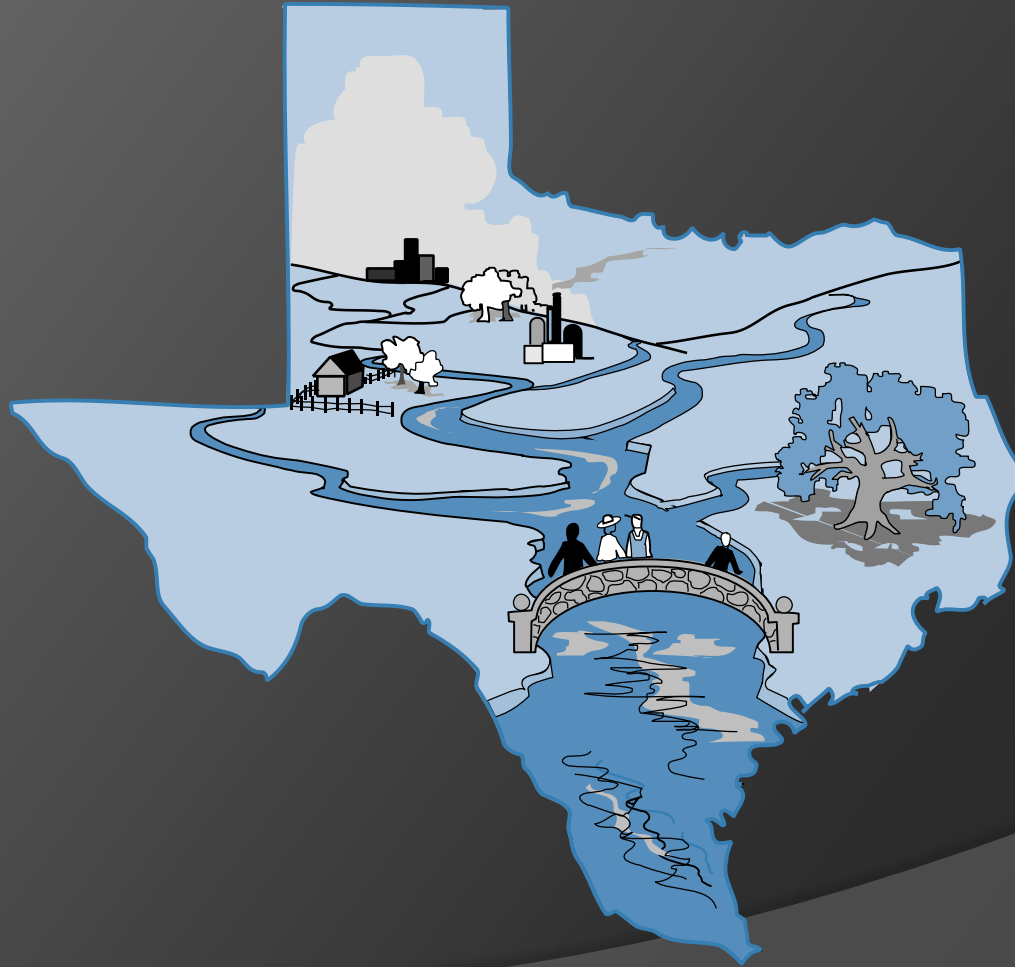


# THE NONPOINT SOURCE POLLUTION PROGRAM



# Types of Projects

---

- ◎ **Monitoring & Assessment**
  - Determine pollutant loads
  - Identify sources and causes
  - Verify effectiveness
- ◎ **Planning**
  - Watershed Protection Plans
  - Total Maximum Daily Loads (TMDLs)
  - TMDL Implementation Plan
- ◎ **Implementation**
  - Best Management Practices (BMPs)
    - Improve water quality
    - Show load reductions
  - Education and Outreach



# NPS Resource Funding/Planning

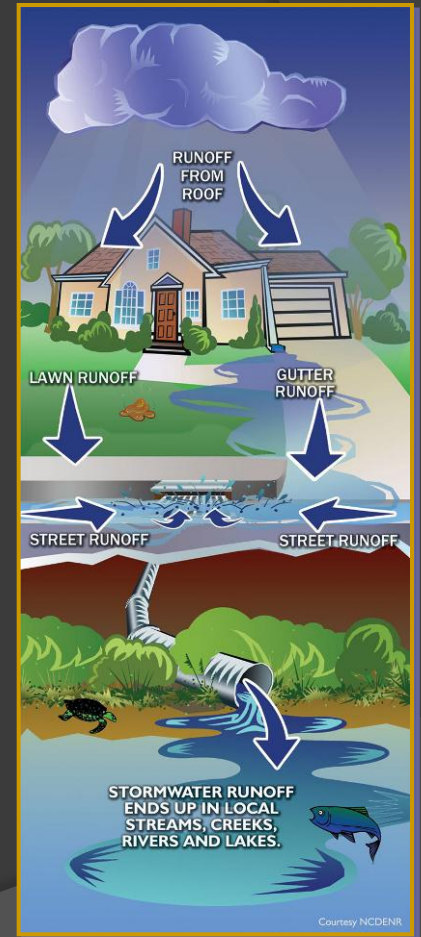
---

- Projects should be planned/developed by stakeholders during the development phase of watershed based plans (TMDL I-Plans/WPPs)
- Proposed projects seeking 319 funding assistance should:
  - Implement NPS BMPs
  - Further Identify NPS Sources
  - Monitor/Quantify BMP effectiveness
  - Provide NPS education/social marketing
- Set a buffet for NPS 319(h) grant fundable projects



# NPS Program Success

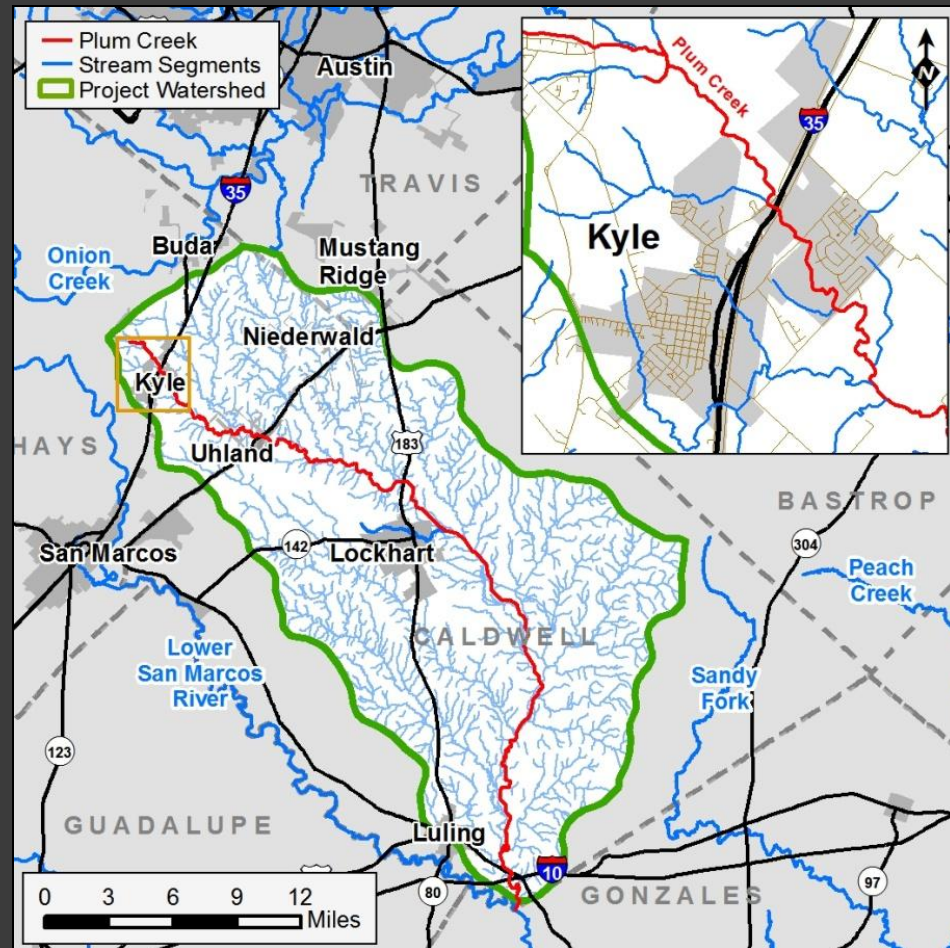
- Success is measured through:
  - Water quality improvements from NPS controls
  - NPS pollutant load reductions
  - Implementation of NPS controls
  - Public education, awareness, and action
  - Delistings and Success Stories
- Example of Success
  - City of Austin Grow Green Project
    - Public Service Announcements





# Urban Storm Water - City of Kyle

- Total project cost
  - Federal - \$310,229 (60%)
  - Local Match - \$206,820 (40%)
  - Total - \$517,049



# Urban Storm Water - City of Kyle

- Storm water system map
  - Purchased GIS software and GPS equipment
  - Hired GIS Technician
  - Mapped features
    - Inlets/Outlets
    - Underground storm sewer
    - Open ditches
    - Detention facilities
- Management plan
  - Improves decision making ability



# Urban Storm Water - City of Kyle

## Storm water education program

- City of Kyle website
- City of Kyle newsletter
- Area homeowner associations
- Pre and post surveys

## Storm drain marking program

- Advisory Tiles



Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

### Lawn care



Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- ◆ Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- ◆ Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- ◆ Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- ◆ Cover piles of dirt or mulch being used in landscaping projects.

### Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.



- ◆ Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- ◆ Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

### Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.



- ◆ When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.





# Urban Storm Water - City of Kyle

## ◉ Dog waste management and education

- Education program
  - Signage
  - Mailers
  - Water bill inserts
  - Home owner association presentations
- Installed dog waste stations
  - City parks
- Two clean up events
  - Flagged dog droppings
    - 550 (2009)
    - 128 (2010)
    - 75% reduction
  - Load reductions



# Urban Storm Water - City of Kyle

## City housekeeping activities

- Regularly scheduled street cleaning and sweeping
  - Debris removal
  - Automobile deposit removal
  - Regular itemized schedule
- Semi-annual clean up event
- Change city ordinance
  - Require mulch tubing



# On-Site Sewage Facility (OSSF)

---

- Location – Dickinson Bayou Watershed
- Contractor – Texas AgriLife
- Proposed work - OSSF optimization model
  - Goal to identify areas where:
    - OSSFs most likely to fail
    - OSSF upgrades best option
    - WWTP connection best option
  - Gather/Collect GIS data
    - Soil characteristics, hydrography, topography, wetlands
    - WWTPs
    - OSSF locations
  - Factors
    - Age of OSSFs
    - Location in relation to the drainage networks
    - Underlying soil type
    - OSSF density
    - Cost of upgrades vs WWTP connection

# On-Site Sewage Facility (OSSF)

---

- Project – Coastal Zone Reauthorization Amendments (CZARA) OSSF Reconnaissance, Training, and Replacement
- Location – Galveston County and other coastal counties
- Contractor – Texas AgriLife
- Costs
  - Federal - \$559,554 (60%)
  - Match - \$373,036 (40%)
  - Total - \$932,590
- Project goals
  - Identify areas of chronic OSSF failure
  - Train Designated Representatives (DR) in coastal counties
  - Conduct public outreach to notify homeowners of assistance for failing septic systems
  - Conduct visual OSSF inspections of anaerobic OSSFs
  - Replace failing OSSFs (if needed)

# Low-Impact Development (LID)

---

- 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

# Low-Impact Development (LID)

---

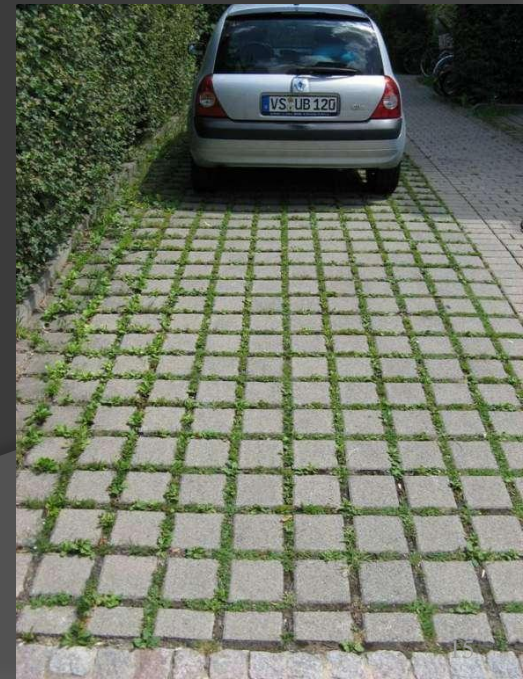
- Project – Lower Rio Grande Valley LID Development, Implementation and Education
- Contractors – TAMU Kingsville and area cities
- Costs
  - Federal - \$130,164 (60%)
  - Match - \$86,777 (40%)
  - Total - \$216,941
- Project goals
  - LID demonstration projects
  - LID outreach and education
  - Institutionalize LID practices in the area
- City of Pharr Public Works Facility Center
  - Pervious parking lot construction
  - Rainwater harvesting system
    - Two 5,000 gallon cisterns
    - Works in conjunction with the parking lot

# Low-Impact Development (LID)



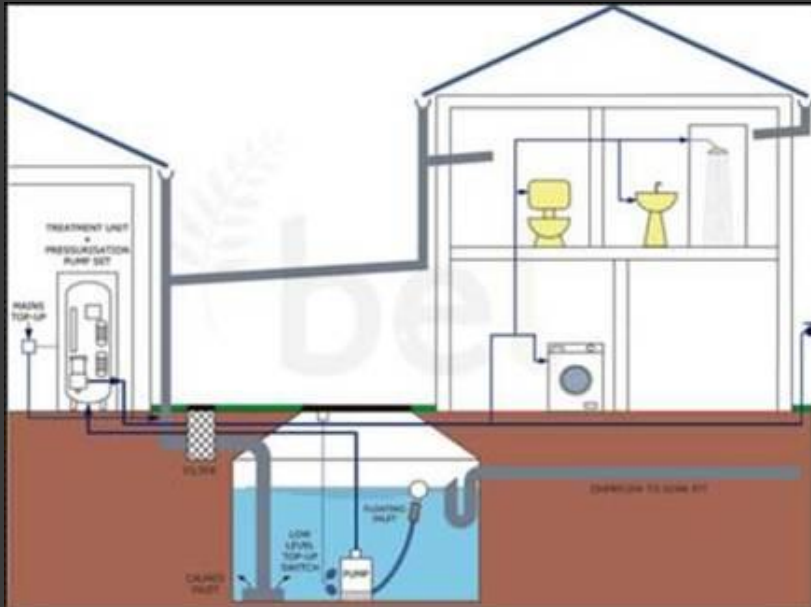
Source: National Ready Mixed Concrete Association

- Porous pavement
- Two types of porous pavements:
  - Permeable concrete and asphalt
  - Pavers installed with gaps



# Low-Impact Development (LID)

- Rain Water Harvesting





# Low-Impact Development (LID)

---

## ☉ Infiltration

- Bioretention cells
- Bioswales



# QUESTIONS/INFORMATION

**Website:**

<http://www.tceq.texas.gov/nav/eq/nonpointsrcpgm.html>

**Email:**

[nps@tceq.texas.gov](mailto:nps@tceq.texas.gov)

