

PERVIOUS CONCRETE

A Stormwater Treatment Option

www.ConcreteParkingLots.com

FL. CONCRETE & PRODUCTS ASSOCIATION



Portland Cement Pervious Concrete

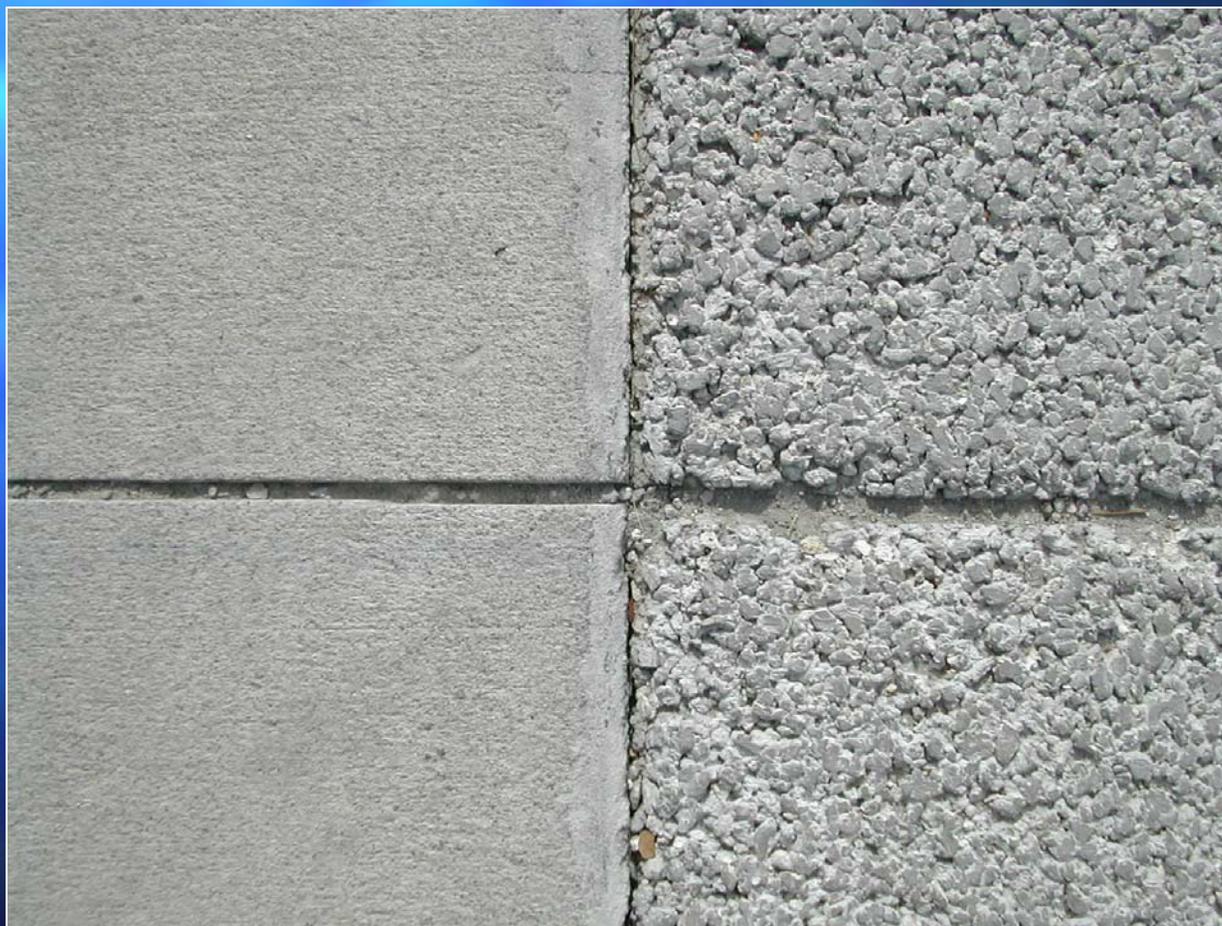
- Why is it pervious?
- What is the current regulatory environment?
- What are its uses?
- How is it designed and maintained?



No Slump, No Fines



Texture Comparison



Pervious Concrete Properties

- Drainage rate = 3-5 gal/min/ft²
- Equivalent of 275" to 450" of rain per hour!
 - More than half of all rainfall is provided in rain events that total one-half inch or less.
- 6" section with 20% voids holds 1 – 1 ¼" of rain water
- Higher infiltration rate than subgrade
- Recommend coarse aggregate reservoir base



Dry Detention Pond



Subgrade permeability should be at least 1.5 inches per hour

Pervious Concrete

- Rainwater flow through
- Replenish Aquifer
- Penetrates through quickly leaving dry and safe surface



Uses

- Low-Impact Development
- Tree Protection
- Cool Communities



Stormwater is Polluted

- Oils and Greases
- Metals
- Sediments
- Fertilizers

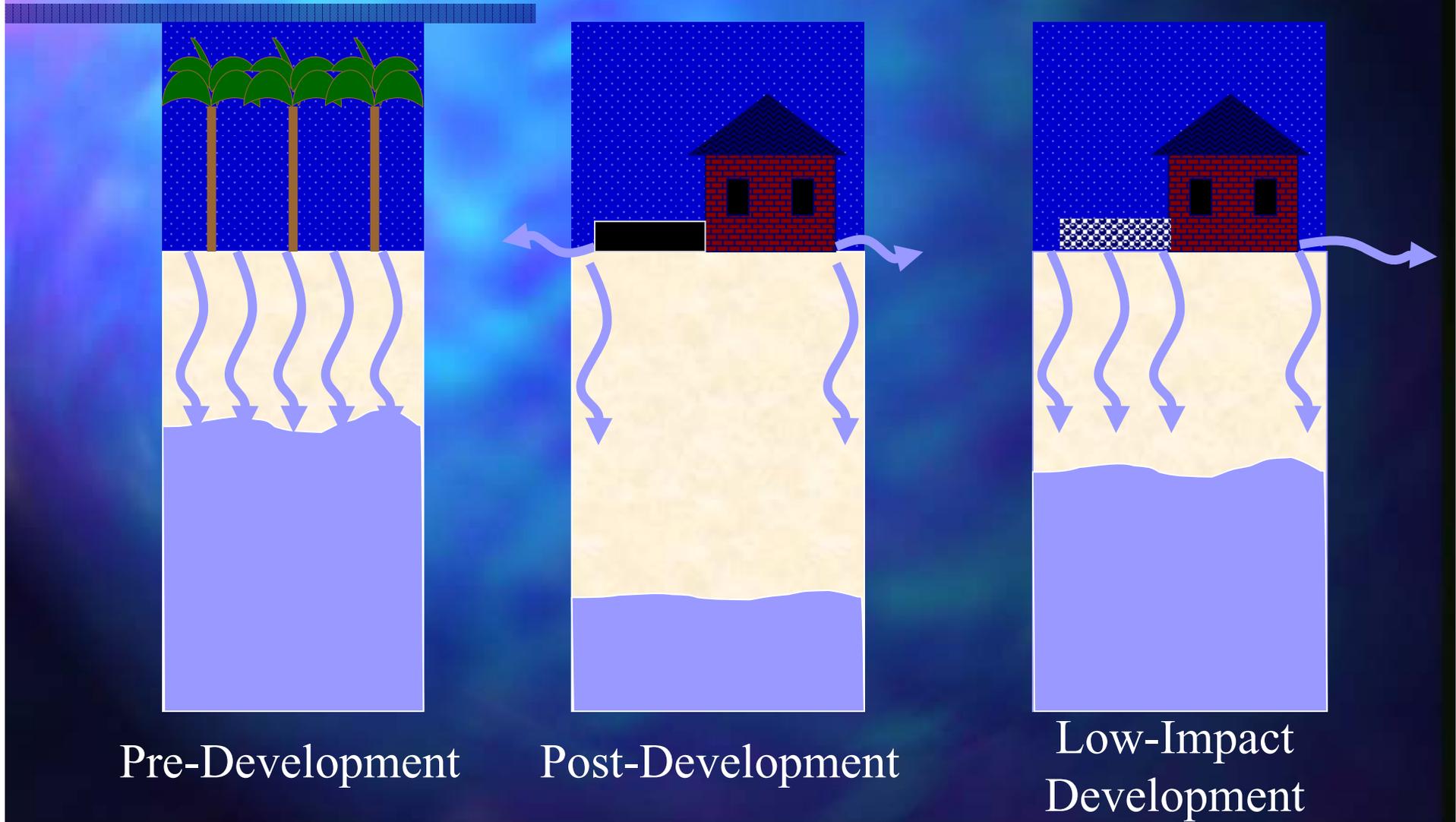


Stormwater Pollution

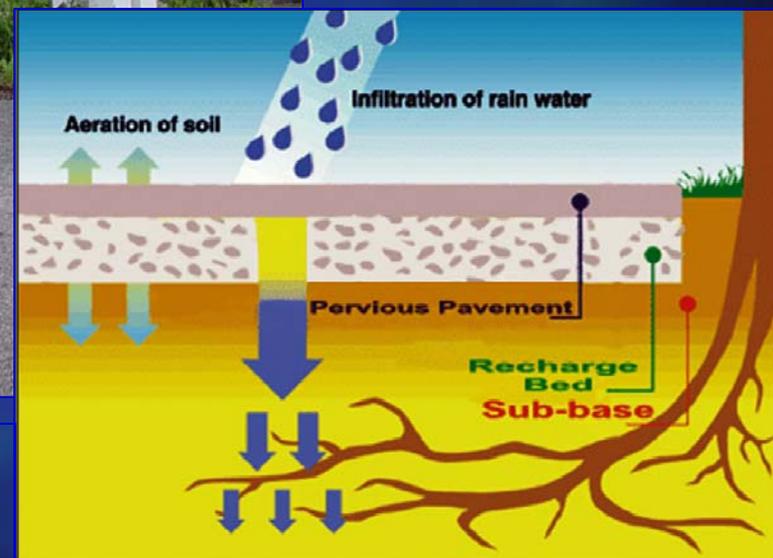


Stormwater carries
pollutants

Low Impact Development (Non-Structural BMP)

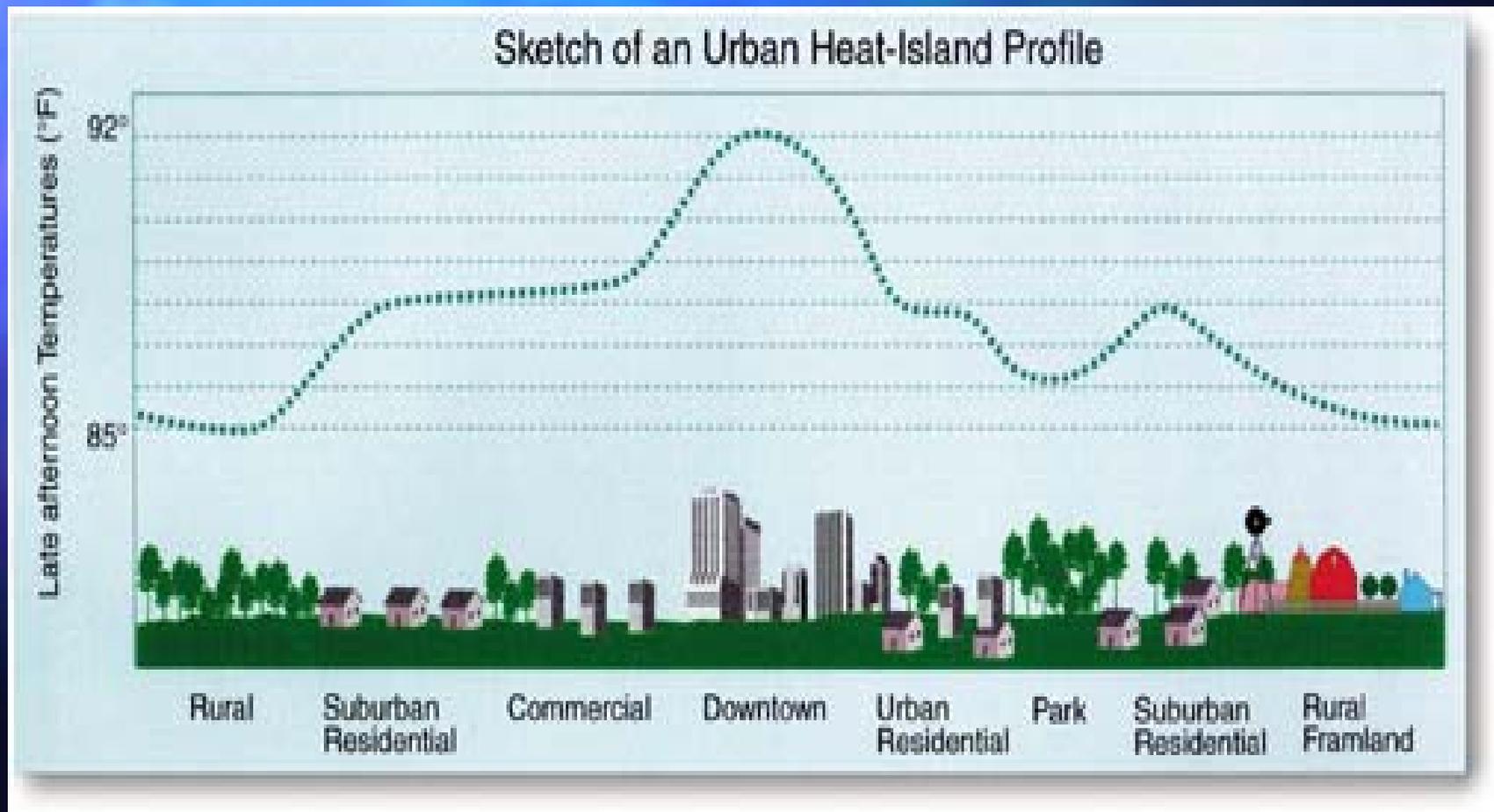


Tree Protection



- Pave within the drip line
- Water & Air filter to roots

Heat Island Effect and Reduced Air Quality



Applications for Pervious Concrete

YES

- Parking Lots
- Driveways
- Residential Streets
- Roadway Base

NO

- Airports
- Basketball Courts
- Truck Areas
- Industrial Facilities

Statewide Stormwater Rule

- Collaboration of FDEP and 5 Water Management Districts
- Anticipated Effective Date:
July 1, 2009/2010
- Emphasis on “treatment trains” to reduce nutrient loading and transport
- Acceptance of non structural BMPs (LID and pervious pavements specifically addressed)

Municipalities Addressing Pervious Pavements in LDC

- Atlantic Beach
- Belleair and Belleair Bluffs
- Brevard County
- Charlotte County
- Cocoa Beach
- Crystal River
- Green Cove Springs
- Green Cove Springs
- Hernando County
- Hialeah Gardens
- Lauderhill
- Pasco County
- Stuart
- Titusville
- Winter Park

Typical Code Citation

City of Stuart (Pervious Concrete Credit):

6.01.02.D. Alternative paving materials. If pervious concrete is proposed for a project, then **50 percent** of the area covered with pervious concrete shall be considered as a pervious surface provided it is installed and maintained in accordance with section 6.03.07 of this Code...

General LDC Language

1. Direct ratio substitution of pervious for impervious (ranges from 50% to 100%)
2. Acceptable practice in lieu of structural BMP
3. Mandated constituent of parking areas
4. Acceptable encroachment unto tree protection buffers

Application Uses



Access Roads

Application Uses



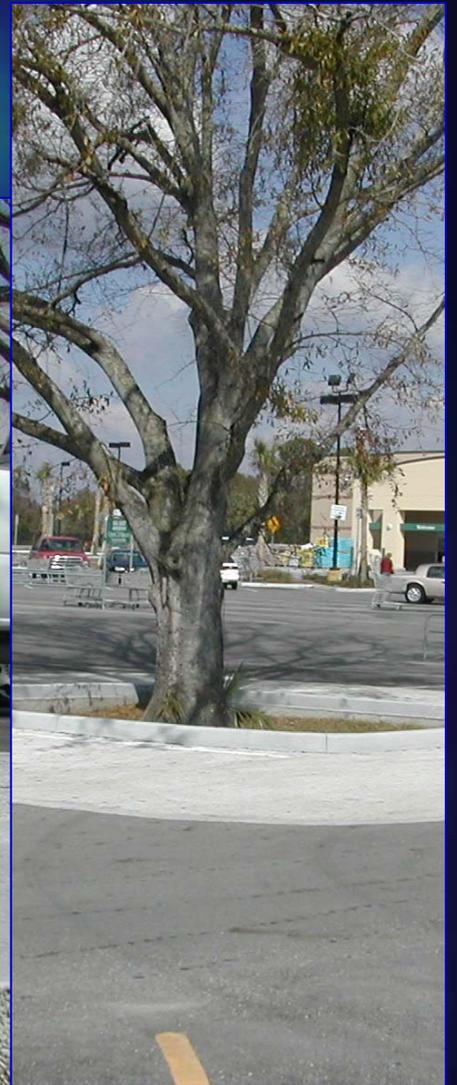
Driveways

Application Uses



Streets and Sidewalks

Curb Details



Header Curb



Proper Curb



Grade Pavement High



Grade Landscaping Low



No Drainage off Landscaping



Striping



Colored Concrete



VA Hospital



The Roller



- 10" Diameter Steel Pipe
- 40 lb/ft
- 10' Long
- = 400 lbs

Jointing Tool



Fillet or Radius

Other Pointers

No Construction Runoff
No Construction Traffic



Prevent Runoff



Forklift Damage



Skid-Steer Damage



Pave Pervious Concrete Last



No Material Storage



Keep Other Trades Off



Pervious Work Comes Last



Curing



Do Not Use Fine Materials as Hold Down!



Reduction of Runoff



QUESTIONS?

FLORIDA CONCRETE & PRODUCTS ASSOCIATION

CONCRETE PARKING LOTS

800.342.0080

407.895.9333

www.concretoparkinglots.com - www.fcpa.org

