South Carolina Training – Strategies and Tools to Protect and Restore Coastal Water Quality

December 8, 2016

Notes from breakout sessions

Group 1

Strategies

Most effective:

- Beaufort flow reduction
- Other people's money
- Account for "millennial" events
- Volume controls
- Improves pollutants and conveyance
- LID to meet volume control
- Rain gardens easy
- Visible BMPS – politically effective

Least Effective:

- Beaufort New River bacteria – down stream effects
- On paper engineering vs real world
- Open water ponds that attract water fowl (bacteria)
- Tidally influenced LID – septic tanks & king tides

Most feasible

Least Feasible:

- Each individual home LID (maintenance, inspection, lack of enforcement strategies)
- Maintenance agreements with developers
- Funding to retrofit

Implementation

Obstacles

- Jurisdictional conflicts
- Not sure BMPs are working the way we think they are (bioretention cell and emergency overflow)
- Lack of Maintenance (Port Royal wetland system)
- Rising water tables intercept the BMP w pollutants

Solutions

- Funding for watershed plans EPA WIFIA
- More coordination between jurisdictions
- Trees. Evapotranspiration wick water from ground sequester pollutants
- Managing trees on a “community” basis
- Maintained constructed wetlands
- Ponds = outreach to HOA
- W Q Monitoring to evaluate BMPs
- Regs can push reluctant politicals

Benefits

- Shellfish beds open
- Clean water
- Open beaches
- Less flooding
- Quality of life (Health)
- Less mosquitos
- Density upgrades incentives for developers
- Use model community to peer educate
- Build awareness of Maintenance for bmp methods

Next Steps

- Educate people to tolerate standing H2O (rain gardens, swales)
- Outreach to developers and Eng on Benefits
- Redesign BMP manuals to capture more current info
- Partner w/universities and other research groups
- data on how BMPs work
- more cost effective methods
- Reduce uncertainty risks of BMPs to tract homebuilder
- Public perception of “Beautiful homes”

Group 2

Strategies

High Effectiveness

- High standards-but appropriate
- Context matters, site specific

Low Effectiveness

- Poorly maintained BMPs
- Bad selection for target pollutant
- Example: do We really reuse all water in irrigation from ponds

Feasibility –High

- Disconnection-small scale
- Size one big VS. many small
- New construction-but must get in early Who makes decisions $$
- Cluster development, but need to guarantee open space protection

Low feasibility

- High groundwater & infiltration practices
- Retrofits

Implementation

Obstacles

- Ordinances-internal ex. Landscaper VS. Zoning VS. stormwater
- Local collective will-buy in, demand

Solutions

- Comp Plans ID areas Rural/ urban set growth boundaries to avoid sprawl
- Awareness
- Form based codes

Benefits

- In built out areas redevelopment of old areas
- Upfront costs Us. Maintenance cost
- Aesthetically better amenities
- Added value Economic savings

Next Steps

- What a neighborhood should look like
- Conceptual design meeting With all department all at once –Joint Review Panel

Group 3

Strategies

Most Effective:

- Volume control (using various LID strategies to meet)
- Public placement of BMPs for high visibility in an effort to educate the public and dispel negative perceptions of LID practices
- BMPs required by regulation or strongly encouraged by local government staff

Least Effective:

- Wrong strategy for targeted pollutant
- Lack of or poorly maintained practices
- Wildlife concentrations lead to increased bacteria

Most Feasible:

- Small scale (e.g., rain gardens, rain barrels, bioretention swales, pervious parking/driveways)
- Conservation or cluster-type subdivision ordinance requiring certain percentage of permanently protected open space (e.g., City of Charleston and Berkeley County)
- Planned Development Districts (or PUDs)

Least Feasible:

- Attempting to use a one-size fits all approach to BMP implementation; appropriate practice determined on a site-by-site basis; hard to broadly apply
- Some LID techniques do not work well with high water table

Implementation

Obstacles:

- Limited desirable development sites available (e.g., soils don't support development); we build in the wrong places
- Limited capability for redevelopment standards (often no regulation in place in communities for redevelopment)
- Cost challenges
    - Thresholds for requiring retrofits
    - Upfront costs of LID often more expensive than conventional, which discourages developers from taking this route
- Enforcement of regulations (even if have development standards/regulations that allow for LID/non-conventional practices the inspection and compliance aspects become problematic(responsibility increases)

Solutions:

- Provide incentives
- Public awareness campaign
- Workshops/educational opportunities for Elected/Appointed officials and community staff, as well as the development community

Benefits:

- Improved water quality for environment (estuaries, tidal creek, improved conditions for fish/shellfish etc.) and human health (reduction in water-borne illness)
- Potential for alleviating chronic flooding issues
- Long-term costs associated with LID is lower than conventional

Next Steps:

- Incentives for LID Implementation
    - Stormwater Utility Credit
    - Density Bonuses for LID practices included in development plans
    - Modifying parking requirements (allowing for flexibility) to reduce impervious cover
- Public Education
- Explore adaptation strategies to improve community resilience
    - Weather events/changing climate trends and sea level rise strategies (e.g., retreat policies)
    - Strategies to improve CRS (community rating systems)
    - Repetitive loss strategies (e.g., buy-out programs)