DRAFT - Low Impact Development (LID) Impediments Working Group

The working group was charged with the job of identifying impediments to the use of LID practices for both new development and to retrofit existing development. It identified numerous impediments, and made recommendations for overcoming these obstacles to LID.

Lack of Awareness About Stormwater Pollution

Common Impediments –

- Too few coastal residents and visitors are aware that polluted stormwater runoff is the primary cause of water quality degradation in N.C.
- Most people including policymakers don't understand that reducing the volume of runoff so that it does not transport pollutants to surface waters is required to protect and restore coastal water quality.

Strategy –

- Basic education is essential to help everyone understand why stormwater runoff is a serious water quality issue, and why there is a need to reduce the volume of runoff that transports pollutants to surface waters.
- Local governments need to use their websites to help provide education on stormwater runoff.
- Developers, homebuilders, realtors, lenders, engineers, surveyors, landscape architects, regulators, legislators, state and local agencies, homeowner associations, and homeowners all need to work together to provide formal and informal opportunities for outreach and education about stormwater runoff prevention and retrofit needs.

Lack of Education About LID

Common Impediments –

- Developers, homebuilders, realtors, lenders, engineers, surveyors, landscape architects, regulators, legislators, state and local agencies, homeowner associations, and homeowners are still mostly unaware of what LID is, and its benefits in protecting and restoring water quality.
- Consumers do not demand LID.
- Many development professionals do not understand LID and normally rely on conventional development methods when they design, permit and construct their projects.

Strategy –

- Incorporate LID into existing educational opportunities such as presentations at planning board meetings, workshops held by Cooperative Extension Service, home and garden shows, professional trainings and continuing education certifications.

- Promote LID on local government websites and provides links to LID resource materials.
- Promote LID in feature articles in Homes magazines, local newspapers, as well as newsletters or mailing from homeowner associations.
- Develop watershed restoration plans that estimate how much volume of surface runoff needs to be reduced to restore degraded water quality.
- Solicit grants to promote the installation of LID retrofits in the county.
- Market and promote LID development projects.
- Work with realtors association to promote LID with clients.
- Give special awards for LID in Parade of Homes annual celebrations and other types of award ceremonies.

Local Government Regulatory Constraints

Common Impediments –

- Many local governments have: (1) development ordinances, (2) flood control requirements, and (3) project review and permitting processes that are not designed to promote the use of LID.
- Leadership of emergency service and waste management operations has in past decades pushed for road and cul-de-sac widths that are larger than really needed by their equipment.
- LID is not considered when requirements for local parking ratios, curbs and gutters, street widths and lengths, cul-de-sacs, sidewalks, driveways, setback and frontage are adopted.
- LID is typically not considered when homeowner association covenants and restrictions are developed.
- There are no LID county design standards for privately owned subdivision roads.

Strategy –

- Local governments should periodically evaluate and update their development ordinances to ensure they are designed to promote the use of LID.
- The N.C. Division of Water Quality should develop and promote the use of model LID local government ordinances, design standards, as well as homeowner association covenants and deed restrictions that facilitate the installation and maintenance of LID measures, and promote compliance with state and federal stormwater rules.
- Local governments should incorporate cul-de-sac design standards in their development ordinances that most accurately reflect the latest N.C. Department of Transportation "Subdivision Roads Minimum Construction Standards" (adopted in 2010). This would in turn limit the amount of necessary impervious surfaces while still meeting the design intent for oversize vehicles operated by schools, emergency services, and waste management.
- Flood control requirements need to consider the location of land uses within a watershed and the potential for those uses to cause downstream flooding based upon the size of receiving surface waters. In addition, the capacity of LID volume control

measures installed within a project that will reduce the amount of water that flows downstream to cause flooding need to be considered when sizing locally mandated flood control measures. Use LID-EZ so that LID measures are given credit for downstream flood control requirements.

- Local governments should explore opportunities to develop and/or adapt, and then adopt, a set of LID design standards and a BMP toolbox for privately owned subdivision roads.
- Local governments should evaluate existing requirements for local parking ratios, codes, curb and gutter, street width, length, right-of-way, sidewalks, driveways, setback and frontage standards to determine new ways to promote the use of LID design alternatives.

State Government Policy Constraints

Common Impediments **–**

- There is no statewide legislative or administrative policy framework that has been adopted to promote the use of LID to satisfy state stormwater requirements.
- The State of N.C. has not adopted policies that promote the use of LID in state funded construction projects when practical and economical.
- Design standards for subdivision roads adopted by the N.C. Department of Transportation do not promote the use of LID.
- Design standards for highways owned and operated by the N.C. Department of Transportation do not always result in the use LID when practicable and economical.
- The N.C. Division of Water Quality does not allow the N.C. Department of Transportation to offset its stormwater discharge impacts by installing stormwater volume reduction measures outside of the highway right-of-way, or elsewhere in the right-of-way.
- N.C. Division of Water Quality does not have an adequate description of LID tools in its BMP stormwater toolbox.

Strategy –

- Fully implement N.C. Division of Water Quality's recent commitment to LID by providing the necessary policies and tools to promote the use of LID to meet state stormwater standards whenever practical and economical.
- State government should promote the use of LID practices in state construction projects when economically and technically practicable so that these projects serve a role model in the proper use of LID practices.
- Local governments should consider developing resolutions that call for greater legislative support to evaluate ways to promote the use of LID where practical in state funded construction projects including in the linear transportation environment.
- Successful LID experimental retrofits should be included in the N.C. Department of Transportation BMP toolbox as soon as possible.
- The N.C. Division of Water Quality and the N.C. Department of Transportation should evaluate if stormwater "offsets" to mitigate the impact of direct discharges of

stormwater from the highway drainage systems are a feasible way to protect and restore water quality. Offsets should result in a reduction in the volume of stormwater discharged into surface waters within the immediate watershed where a highway is located. Such options, as fees-in-lieu of required installation of stormwater discharge controls, should also be investigated. The goal is to provide significantly expanded water quality benefits at an equal or less cost to taxpayers.

State Regulatory Constraints

Common Impediments **–**

- State agencies lack a clear definition of LID.
- Many permit applicants believe it is difficult to get a state stormwater permit for projects that use LID practices.
- Permit applicants generally believe that LID projects will cost more to design and build.
- Regulatory agencies are uncertain about how best to ensure adequate maintenance of LID permitted projects.
- Local and state stormwater rules may be inconsistent and sometimes work at cross-purposes.

Strategy –

- Revise state BMP manual to define LID.
- Revise permit application tool (LID-EZ) to provide a consistent data-driven regulatory definition of LID.
- Fully implement N.C. Division of Water Quality's recently adopted commitment to LID by working with partners to identify and overcome to maximum extent technically feasible, policies, procedures, programs, technical guidance, ordinances, and rules that affect and/or impede LID.
- Include expanded set of LID designed standards in N.C. Division of Water Quality BMP manual.
- Evaluate and update technical design standards for LID practices and designs to ensure that they are appropriate for small scale, infiltration devices.
- Promote the statewide use of LID-EZ to apply for stormwater permits.
- Document project costs to provide demonstrations of cost-effectiveness of LID measures.
- Promote the use of redundant as well as low maintenance passively designed LID measures wherever feasible to minimize maintenance requirements.