



City Of Raleigh

NORTH CAROLINA

MEMORANDUM

DATE: May 4, 2016
TO: City Council
FROM: Rich Kelly, PE, Interim Public Works Director
SUBJECT: Staff Report on Status of Implementing Work Plan for Advancing GI/LID in Raleigh

1. PURPOSE AND SCOPE

This memorandum summarizes the status of the City of Raleigh's initiative for advancing use of green infrastructure and low impact development (GI/LID) to help reduce negative effects of land development on water quality and the health of Raleigh's streams and lakes. The City's recent GI/LID efforts have been pursuant to a work plan endorsed by City Council in March 2015 (Work Plan for Advancing GL/LID in Raleigh, February 2015). The GI/LID Work Plan was developed from late 2013 through 2014 through a collaborative process involving City staff from many areas, stakeholders from Council-appointed citizen boards and commissions, development organizations, environmental and conservation organizations, and citizen advocacy organizations, and facilitator Tetra Tech, Inc.

From the outset, the following principles have guided the City's initiative for incorporating GI/LID into new development, redevelopment, and existing development, collectively conveying the message that "Raleigh welcomes GI/LID":

- Demonstrate the City's leadership and set an example
- Accommodate essential City operations
- Ensure scalability and affordability
- Consider long-term cost-effectiveness and sustainability
- Consider strategic timing/phasing of actions
- Add amenities
- Balance multiple City objectives
- Help educate City staff and provide clear vision
- Make sense to citizens and City staff responsible for implementation
- Consider the social component/complexity of Raleigh (i.e., makes sense for Raleigh)

This memorandum presents City staff's recommendations to Council and summarizes the efforts, outputs, and recommendations of two work groups – the Code Review Work Group and the Implementation Work Group – composed of citizen stakeholders and City staff. These work groups completed their work in March 2016, and their efforts, outputs, and recommendations are documented in detailed reports attached to this memorandum. Staff's recommendations are informed by the output of these work groups.

2. STATUS OF THE CITY'S GI/LID INITIATIVE

Raleigh City Council has voiced strong commitment to improving the health of local streams and lakes and the Neuse River by promoting use of GI/LID, which address the main source of pollutants and damaging flows that degrade Raleigh's streams – stormwater runoff from developed land. Council adopted a number of GI/LID policies as part of the City's 2030 Comprehensive Plan and the Raleigh Strategic Plan. However, some of these policies are not yet reflected in the City code or in staff-level policies and practices.

At various times since the early 2000s, City staff, the Stormwater Management Advisory Commission (SMAC), the Environmental Advisory Board (EAB), the Planning Commission, and Council have discussed whether and how to advance the use of GI/LID on City projects and on private land development projects. In February 2013, SMAC presented recommendations to Council for advancing GI/LID with an overall theme of communicating the message that “*Raleigh welcomes LID*”. In response, Council directed City staff to evaluate SMAC's recommendations and report to Council about actions needed to implement them. On staff's recommendation, the City retained the services of Tetra Tech, Inc. to provide technical expertise and experience with implementing GI/LID on a municipal scale and to facilitate a process for the City to advance use of GI/LID.



NCSU Central Campus, before and after installation of GI/LID, shows how this approach can enhance aesthetics.

Three phases of work were identified to support broadly advancing GI/LID into the routine practices of the City, land developers and designers, and maintainers of our urban infrastructure (i.e., GI/LID becomes “business as usual”):

- 1) *Scoping* for evaluating barriers, needs, and opportunities for advancing GI/LID and for developing a strategic work plan for immediate next steps,
- 2) *Building Capacity* within the City for long-term administration and implementation of GI/LID, and
- 3) *Implementing* new policies, procedures, and tools needed to advance GI/LID.

The *Scoping* phase was completed from late 2013 through 2014. The GI/LID Work Plan was prepared through a collaborative effort involving City staff from various work areas and stakeholders from citizen boards and commissions, development organizations, environmental and conservation organizations, and citizens' advocacy organizations. It presented seven work items for advancing use of GI/LID in Raleigh, listed in Table 1.

Following Council's endorsement of the GI/LID Work Plan in March 2015, City staff and Tetra Tech set up a structure for *Building Capacity* by forming two work groups: the Code Review Work Group and the Implementation Work Group. Both work groups were composed of City staff and external community stakeholders, including many who had been part of the GI/LID Task Force. Each work group was assigned three GI/LID Work Plan work items, as shown in Table 1. The work groups completed their work in March 2016, and each group's efforts, outputs, and recommendations are documented in a detailed report attached to this memorandum. GI/LID Work Plan work item 6, for identifying GI/LID retrofit opportunities, is being implemented by City staff as part of the Stormwater Management Division's ongoing Capital Improvements Program.



The work groups held a combined 10 meetings over seven months.

The *Implementing* phase will consist of putting in place the recommended new policies, procedures, and tools needed to advance GI/LID and making them part of routine operations of the City, developers, designers, and maintenance service providers.

Table 1. Summary and status of GI/LID Work Plan items

Work Plan Item → Lead Entity	Purposes, Key Outputs, and Benefits	Status
1. Review Ordinances and Policies as They Pertain to Using GI/LID → Code Review Work Group	<ul style="list-style-type: none"> • Memo that identifies and evaluates barriers, differentiating between residential development and commercial/institutional development • Memo that describes potential code revisions • Fewer barriers to using GI/LID • Clear expectations for developers and designers wanting to use GI/LID • Get cross-department input and buy in 	<ul style="list-style-type: none"> • <u>Completed</u>: Reviewed code, manual, and policies for explicit or implied barriers to GI/LID; proposed text changes • <u>Next steps</u>: Pursue text changes through the City's public process • See recommendations in Section 3.1
2. Develop GI/LID Templates for Streets → Code Review Work Group	<ul style="list-style-type: none"> • Street typology templates that include GI/LID practices and that address staff concerns about GI/LID's effects on municipal operations • Clear GI/LID options for streets for use by developers and designers • Fewer barriers to developers' use of LID with streets 	<ul style="list-style-type: none"> • <u>Completed</u>: Developed a schematic drawing that shows various options and details for siting bioretention devices in the ROW • <u>Next steps</u>: Pursue adding GI/LID design details to the Street Design Manual through the City's public process • See recommendations in Section 3.2
3. Develop a Tool for Evaluating GI/LID's Cost and Benefits → Implementation Work Group	<ul style="list-style-type: none"> • Raise awareness among staff, developers, and designers about costs of using GI/LID • Build capacity among same for evaluating GI/LID for specific projects • Memo that compares and evaluates available cost-benefit tools and recommends tool selection • White paper on triple bottom line benefits of GI/LID 	<ul style="list-style-type: none"> • <u>Completed</u>: Prepared white paper on triple bottom line benefits of GI/LID; evaluated cost-benefit tools and recommended basis for developing a tool for Raleigh • <u>Next steps</u>: Develop and launch a Raleigh GI/LID cost-benefit tool • See recommendations in Section 3.3
4. Prepare Fact Sheets and Construction Checklists for GI/LID Practices → Implementation Work Group	<ul style="list-style-type: none"> • Communicate that Raleigh welcomes GI/LID • Raise staff awareness of benefits and limitations of GI/LID and advance staff's buy-in • Promote staff inter-department coordination and consistent policies and practices about GI/LID • Promote early communication among staff, developers, and designers about GI/LID • Fact sheets and construction checklists for GI/LID practices • Get cross-department and development community input and buy in 	<ul style="list-style-type: none"> • <u>Completed</u>: Graphic, descriptive fact sheets for five types of site development (e.g., residential, commercial) • <u>Next steps</u>: Produce the fact sheets and publicize them with the development community • Staff removed construction checklists from this work item due to a change in the strategy for content of the fact sheets • See recommendations in Section 3.4
5. Prepare a Guidance Framework for Maintaining GI/LID Devices → Implementation Work Group	<ul style="list-style-type: none"> • Systems for tracking inspection and maintenance of dispersed GI/LID devices and for producing management, compliance, and cost reports • Feedback about maintenance and costs for City use in rate setting and code evaluation and for developers'/designers' decision making 	<ul style="list-style-type: none"> • <u>Completed</u>: Developed a framework for administering maintenance of SCMs on City properties • <u>Next steps</u>: Develop a central administrative and fiscal function for maintaining City-owned SCMs • See recommendations in Section 3.5
6. Identify Opportunities for GI/LID Retrofits on Developed Properties → City Staff	<ul style="list-style-type: none"> • Accelerate and improve the City stormwater retrofit program • Locate retrofit practices in street ROWs • Design practices to reduce stormwater volume as well as rate and pollutants • Include GI/LID practices in designs for new City facilities and modifications to existing facilities • Get cross-department input and buy in 	<ul style="list-style-type: none"> • <u>Ongoing</u>: Staff continues to investigate, plan, fund, and execute retrofits on City-owned and private properties utilizing recurring funding appropriated annually by City Council. • See Section 3.6 for additional information
7. Evaluate Using Incentives to Encourage GI/LID → Code Review Work Group	<ul style="list-style-type: none"> • Establish GI/LID as "business as usual" • Reduce developers' actual or perceived risk of using innovative approaches such as GI/LID • Establish new development and redevelopment as prime opportunities for using GI/LID • Get development community input and buy in 	<ul style="list-style-type: none"> • <u>Completed</u>: Developed Green Raleigh Review expedited process for review and permitting of development plans • <u>Next steps</u>: Program, implement, and publicize Green Raleigh Review • See recommendations in Section 3.7

3. SUMMARY OF RECOMMENDED COUNCIL ACTIONS

The recommendations presented herein for advancing GI/LID in Raleigh are the result of research, collaboration, and deliberation by the Code Review Work Group and the Implementation Work Group, whose numerous meetings were facilitated by the City's contract consultant, Tetra Tech, Inc. The work of these groups is documented in separate reports attached to this memorandum.

Sections 3.1 through 3.7 that follow summarize the recommendations of the work group to which the corresponding item was assigned. Following each summary are three consistent items of note. The first, "Staff actions moving forward", states the actions that staff will take to implement the presented recommendation(s). The second, "Staff-recommended Council action", provides the recommended Council action, where appropriate, to allow for full implementation of the recommendations. The third, "Intended outcomes", summarizes the envisioned result of these staff and Council actions.

These recommendations are organized as follows, consistent with their listing in the GI/LID Work Plan and in Table 1:

- 3.1 Reducing barriers to GI/LID in City code and policies
- 3.2 Templates for using GI/LID in street rights-of-way
- 3.3 Cost estimating tool for evaluating use of GI/LID on development sites
- 3.4 Fact sheets for encouraging use of GI/LID on development sites
- 3.5 Framework for administering maintenance of GI/LID devices on City properties
- 3.6 Siting GI/LID retrofits on developed properties
- 3.7 Using incentives to encourage use of GI/LID on development sites

3.1 Reducing barriers to GI/LID in City code and policies

Ordinances that bear on potential use of GI/LID typically are woven through the body of code, and barriers to using GI/LID often are embedded in those ordinances, sometimes in subtle ways. As part of conveying the message that Raleigh welcomes GI/LID as part of new development and redevelopment, the Code Review Work Group reviewed the City code and identified approximately 25 gaps and barriers that, if remedied, could better promote the use of GI/LID. The Work Group recommends changes to City code and practices intended to remove or reduce these barriers. The following are the most noteworthy recommendations:

- Multi-use landscaping. Allow and encourage both GI/LID practices and required landscape areas in the same space as part of site design, rather than totally separate areas dedicated to either stormwater management or landscaping. A multi-functional approach decreases overall landscaping and stormwater management costs and does not require stormwater management to "compete" for available, valuable land area on the site.
- Street rights-of-way. Allow developers to install GI/LID in street rights-of-way (ROWs) to treat and manage street stormwater runoff and receive stormwater credit for such



practices. This approach can create more developable land area on the development site (where a stormwater pond otherwise would treat street runoff), can reduce infrastructure costs, and can provide more site design flexibility.

- Design flexibility. Provide more flexibility in development site design to accommodate GI/LID practices. For example, allowing reductions of required parking spaces to preserve significant trees, allowing street and yard setbacks to accommodate GI/LID SCMs, and allowing approved GI/LID devices within sanitary sewer easement areas.
- Update ordinances and policies. Replace dated ordinances and policies, such as those that encourage large “regional facilities” and that require traditional wet ponds as preferred methods for managing stormwater quality and quantity, with ordinances and policies that allow broader stormwater treatment options that encourage reduced stormwater runoff volume, velocity, and pollutant loading and that potentially lower infrastructure costs. Examples are the City’s Stormwater Management Design Manual and ordinances for managing stormwater on development sites in the water supply watersheds.

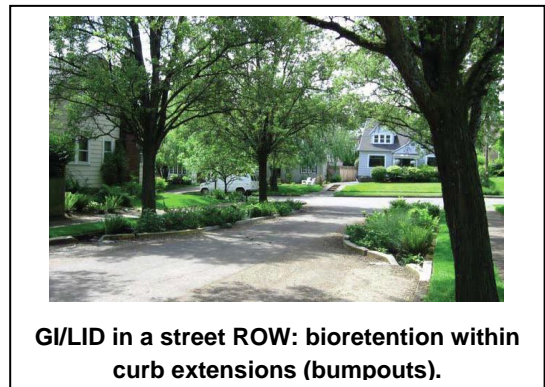
Staff actions moving forward: As authorized by Council, prepare proposed changes to City code text and related guidance documents for consideration by the Planning Commission and support the associated public process. As text changes receive Council approval, publish the changes, publicize them within the City and with the development community, and incorporate them into City policies, practices, and materials as appropriate. Proposed revisions to the City’s Comprehensive Plan resulting from this effort will be incorporated through the Comprehensive Plan update process currently under way.

Staff-recommended Council action: Authorize staff to move forward with recommended changes to City code and to the City Street and Sidewalk Ordinance, the City Street and Sidewalk Improvement Policy, and City manuals (including Street Design Manual, Public Utilities Manual, and Stormwater Management Design Manual). Refer to the Code Review Work Group Report for details of the recommended changes.

Intended outcomes: Increased likelihood and frequency of developers and designers choosing to incorporate GI/LID practices into development site designs. With improved definition of what practices are allowed under what circumstances, a more predictable process and timeline for completing development plan reviews and obtaining permits for projects that incorporate GI/LID practices.

3.2 Templates for using GI/LID in street rights-of-way

Streets are a significant source of stormwater runoff in Raleigh, and street rights-of-way (ROWs) are areas over which the City has substantial or total control and that can be used to help advance GI/LID. As the City implements street improvement projects, including new streets, “complete streets”, “green streets”, maintenance, widening, and installing traffic calming devices, there will be opportunities for integrating GI/LID to mitigate stormwater runoff impacts and improve the appearance of City ROW areas. If private-sector developers could install GI/LID in the ROW to manage and treat street runoff, more developable land area would be made available on the project site where a stormwater pond or other device otherwise would have treated street runoff. This can be especially important in infill and downtown areas with tight space constraints.



The Code Review Work Group identified street cross sections in the UDO that offer good opportunity for GI/LID adaptation, provide community benefits, and are likely to be used in Raleigh. These street types include: Mixed Use Streets (Avenue 3-Lane, Parallel Parking; Avenue 4-Lane, Parallel Parking; and Main Street, Parallel Parking), and Local Streets (all neighborhood street cross sections and the multi-family street cross section). The Work Group recommends that the City adopt new standard design details that show how GI/LID practices can be accommodated in the ROW for these types of streets while providing essential City functions such as stormwater drainage, solid waste collection, fire response, and utility placement.

Staff actions moving forward: As authorized by Council, integrate new standard design details that show how GI/LID practices can be accommodated in the ROW into the City’s Street Design Manual for consideration by the Planning Commission and support the associated public process. As changes to the Street Design Manual receive Council approval, publish the changes, publicize them within the City and with the development community, and incorporate them into City policies, practices, and materials as appropriate.

Staff-recommended Council action: Authorize staff to move forward with incorporating recommended new standard design details that provide options for integrating GI/LID techniques within the ROW into the City's Street Design Manual, as recommended in the Code Review Work Group Report.

Intended outcomes: Increased likelihood and frequency that the City and developers will choose to incorporate GI/LID practices into designs for street improvement projects, particularly for new street, street widenings, and traffic calming. With increased treatment of stormwater runoff from streets, water quality and health of local streams will improve.

3.3 Cost estimating tool for evaluating use of GI/LID on development sites

The Implementation Work Group evaluated options for the City to develop an interactive tool for evaluating costs and benefits of using GI/LID on prospective development sites and how the tool might be used. The Work Group's evaluation focused on the following questions regarding use of the tool:

- How would developers benefit?
- How would City staff use it?
- How would the public benefit?
- What would it look like?
- What is needed for the tool to succeed?

The Work Group's priority was for the tool to be available for use, along with GI/LID fact sheets, to promote use of GI/LID in site designs, early in the site design process by developers and designers to help them evaluate function and costs of candidate GI/LID practices. City staff also would use the tool to demonstrate use of GI/LID on real or hypothetical private development sites and on sites proposed for the City's development, such as park facilities and fire stations. For developers promoting sustainability and green design, the tool also could report on co-benefits beyond stormwater management (e.g., habitat and air quality benefits). Beyond design for single development sites, the tool could be used for broader planning and for education about GI/LID. Benefits of GI/LID could be reported for a single lot, a multi-phase development, or a whole drainage area.

Staff actions moving forward: Proceed with developing and launching a GI/LID Cost-Benefit Tool, as recommended in the Implementation Work Group Report.

Staff-recommended Council action: None at this time.

Intended outcomes: For a given set of site conditions and a range of site-development parameters, developers, designers, and City staff will evaluate the effectiveness and installation cost of GI/LID practices, versus traditional stormwater management practices, quickly and collaboratively. City plan reviewers will encourage, and developers and designers will seek, use of this GI/LID Cost-Benefit Tool early in the development planning process, such as during due diligence meetings and pre-application meetings.

3.4 Fact sheets for encouraging use of GI/LID on development sites

The Implementation Work Group developed GI/LID fact sheets for helping raise awareness among developers and designers about GI/LID. The Work Group identified the types of development in Raleigh where GI/LID could be most feasible and effective: Commercial, Mixed-Use, and Low-Density, Medium-Density, and High-Density Residential. In graphical renderings of representative developments, these fact sheets show various GI/LID options and how they can be incorporated into development sites. The fact sheets also provide examples of cost savings realized on example development projects. The Work Group recommends using these factsheets early in the development review process (e.g. sketch plan meetings) to help raise awareness about GI/LID and potential cost savings. Below are sample graphics from fact sheets prepared for High-Density Residential and Commercial Developments.

Staff actions moving forward: Proceed with producing the recommended GI/LID fact sheets, as recommended in the Implementation Work Group Report. Train staff in technical/functional aspects of GI/LID in ROW and development settings, publish and publicize the roll-out of the fact sheets, and evaluate their effectiveness relative to intended outcomes.

Staff-recommended Council action: None at this time.

Intended outcomes: Increased awareness among developers, builders, planners, designers, and City staff about the range of possibilities for incorporating GI/LID practices into development site designs, for a range of development types, as early as possible in the development planning process. With increased awareness, increased likelihood and frequency of developers and designers choosing to incorporate GI/LID practices into development site designs.



Fact sheet for high-density residential development.
GI/LID options shown include green roofs, cisterns, permeable pavement, urban agriculture, and bioretention areas.

3.5 Framework for administering maintenance of GI/LID devices on City properties

GI/LID devices generally use vegetation, are relatively small and distributed, and use less hard structure than conventional stormwater management devices. As with all infrastructure, including conventional stormwater control measures (SCMs) such as wet ponds, GI/LID devices require routine maintenance to uphold the desired performance and aesthetic quality. As the City anticipates growth in the use of GI/LID in the future, it will need to address widespread and long-term maintenance needs of City-owned GI/LID devices and traditional SCMs.

The Implementation Work Group worked with City staff to assess the City's current practices for maintaining City-owned SCMs. The Work Group identified aspects of current practices that are uncertain or ambiguous and thereby hindering the City's ability to ensure long-term function of SCMs. These practices include on-the-ground maintenance, coordination and communication of responsibilities, and allocation of maintenance funds.

The Work Group recommends the City adopt a maintenance model whereby the Stormwater Management Division would take on responsibility for maintaining all City-owned SCMs, both conventional and GI/LID devices and both regulated and non-regulated devices, drawing on support from City transportation and parks operations and from private contractors as needed. Staff training will be needed for the inspection and maintenance of GI/LID devices.



Staff actions moving forward: Through FY17, develop processes for implementing a centrally administered program and funding mechanism for maintaining SCMs on City properties, based in the Stormwater Management Division. Any necessary adjustments to operating budgets or cash allocations will be reflected in FY18 proposed budgets, with supporting descriptions of proposed changes in responsibilities and functions.

Staff-recommended Council action: None at this time.

Intended outcomes: The City will maintain a complete and current inventory of City-owned SCMs with appropriate procedures and schedules for maintaining each SCM; SCM maintenance procedures and costs will be consistent across all City departments, and maintenance records will be kept by a single operation and manager responsible for maintenance of all City-owned SCMs. With improved SCM maintenance and cost tracking, SCM performance and compliance will improve, with resultant improvement of water quality and stream health.

3.6 Siting GI/LID retrofits on developed properties

This Work Plan item was not assigned to either of the formal work groups, as it is an ongoing effort by staff required by the City's Stormwater NPDES Permit with the State and by the State's Neuse River Nutrient Sensitive Waters Strategy. The City has constructed a number of LID retrofits, including the constructed wetland at Fred Fletcher Park, a bioretention cell at Marsh Creek Park, and a bioretention cell in a bumpout in the ROW of Pullen Road. The Stormwater Management Program is actively planning or designing several additional retrofit projects in collaboration with other City departments or divisions. Examples include integrating GI/LID into the Oxford Road sidewalk project, incorporating a constructed wetland into the Wooten Meadow Park master plan, and utilizing an innovative technique to restore a degraded stream in Millbrook Exchange Park.

Annually, Council appropriates between \$200,000 and \$400,000 for water quality retrofit projects and stream stabilization. In addition, the Stormwater Quality Cost Share Program is funded at \$250,000 per year and provides significant financial assistance to private property owners who wish to implement GI/LID practices on their properties. Between these three funding sources, the City has invested more than \$1 million in retrofitting sites using GI/LID techniques for improving water quality and plans to invest approximately \$5 million more over the next five years.

Staff actions moving forward: Continue work to implement water quality retrofits through direct project management and coordination with other City departments and divisions.

Staff-recommended Council action: None at this time

Intended outcomes: Improvement of water quality throughout the City, increase in public awareness of water quality and the mitigating effect that the use of GI/LID techniques can have on increased density and/or imperviousness, reduction in the environmental impact of City transportation and facility projects, increase in use of GI/LID techniques in private development and redevelopment as a result of City's leadership in this area.

3.7 Using incentives to encourage use of GI/LID on development sites

Based on research of processes being used by other communities, expedited review may be the most effective incentive for advancing GI/LID and green design. Although the City has an Express Review option for development plans review and permitting, it does not currently have an expedited review option for GI/LID or for green building. The Code Review Work Group recommends that the City establish a green expedited review process (Green Raleigh Review) to encourage developers to incorporate GI/LID practices and other green practices into site development designs.

The Code Review Work Group recommends that the Green Raleigh Review expedited process provide two tiers:

- **Tier 1 site plan review.** Tier 1 would apply to the development's site plan and would require "matching" of predevelopment and post-development stormwater runoff volumes (the NC Department of Environmental Quality's functional definition of LID).
- **Tier 2 building plan review.** Tier 2 would apply to the development's building plan and would require use of energy-efficient building practices. (Tier 1 is a prerequisite for Tier 2. That is, to be eligible for Tier 2, the development's site plan must first be approved under Tier 1).



Use of GI/LID practices in development site designs can be encouraged through expedited site plan reviews.

Benefits to the site development applicant would include the following:

- Assigned contacts. Each eligible project would have an assigned point of contact/project coordinator from project intake through final site plan approval, and another assigned point of contact/field coordinator through building plan approval, to advocate for these projects and facilitate the review and approval process.
- Access to the Green Team. Eligible applicants could meet face-to-face with a new Green Team during a weekly Green Raleigh Review meeting. Within time now allotted for weekly Express Review, two time slots would be made available: one for a Tier 1 site plan review, and one for a Tier 2 building plan review. Each review would be completed in meetings of two to three hours. Reviews during this time would not necessarily be exclusive to Green Raleigh Review; other project reviews would continue, as a matter of routine. However, two Express Review slots would be opened for Green Raleigh Review projects, as needed.
- Certain turnaround timing for plans review and approval. Site plans and building plans reviewed through Green Raleigh Review each would be processed per the following timeline:
 - Review period by the Green Team of 10 business days following e-submittal of plans
 - Face-to-face meeting with the Green Team
 - Approval of plans within five business days of meeting with the Green TeamThe benefit will be a reduced and definite total time for obtaining approvals. With conventional review and approval, both the length of a review cycle and the number of required review cycles vary, making the timeline for obtaining approval an important unknown for time-sensitive development applicants.
- Fee waiver. Review fees would be waived.

Staff actions moving forward: Implement the Green Raleigh Review process, training staff in technical/functional aspects of GI/LID and the workings of this new process, publish and publicize the roll-out of the process, and evaluate its effectiveness relative to intended outcomes. Refer to the Code Review Work Group Report for details about the recommended process.

Staff-recommended Council action: None at this time. If, once Green Raleigh Review is functioning, the level of applicant participation in this new expedited process exceeds staff's capacity to consistently meet performance objectives for reviews and issuance of permits, staff will scale back this program and revisit its effectiveness and utilization with Council, including the possible need for additional staffing resources.

Intended outcomes: Increased likelihood and frequency of developers and designers choosing to incorporate GI/LID practices into development site designs. With assigned review contacts, face-to-face review opportunities with the Green Team, shortened review times, and waived review fees, a preferred and predictable process and timeline for completing development plan reviews and obtaining permits for projects that incorporate GI/LID practices.

4. VISION FOR A PATH FORWARD

City staff will carry forward recommendations for code revisions, operating policies, and tools as described in Section 3 and the attached GI/LID work group reports and as authorized or directed by Council. Additionally, the City will need to continue to build capacity for supporting implementation of the new procedures and tools in the areas described below.

4.1 Develop/update City operating procedures and agreements

There are two elements where interdepartmental collaboration will be critical and will benefit from written standard operating procedures: joint review of development plans and maintenance of SCMs, including GI/LID devices:

- Joint review of site development plans. For *City-owned development projects*, this includes ensuring early consideration of GI/LID opportunities in site designs. Examples are street projects, parks, and building sites. For *private development projects*, this includes standard procedures for Green Raleigh Review, roles for departments, and use of templates, fact sheets, and the cost-effectiveness tool, once available.
- Maintenance of SCMs. The City will need to develop internal agreements between the Stormwater Management Division, as the responsible management entity, and key City departments for supporting and funding maintenance of City-owned SCMs.

4.2 Continue building capacity for advancing GI/LID

There are several key areas where the City needs to continue building capacity as it advances GI/LID:

- *Cost-benefit tool development.* To move forward in developing a cost-benefit tool, the Implementation Work Group recommended a number of steps, including forming a technical committee to review and test the tool design, train City staff on the tool's use, and regularly update and maintain the tool.
- *Training.* Internal training of City staff will be needed regarding new policies (changes in ordinances, integrated approach to GI implementation); new procedures (e.g., joint plan review, maintenance); and new tools (templates, factsheets, and the cost-effectiveness tool, once available).
- *Outreach.* The City will need to develop an outreach strategy to advertise the package of GI/LID changes, and develop outreach tools to effectively communicate these changes (e.g., City website links, video, brochures, presentations for civic groups, etc.).

Attached documents:

- Code Review Work Group Report, Advancing Green Infrastructure and Low Impact Development in Raleigh, May 3, 2016
- Implementation Work Group Report, Advancing Green Infrastructure and Low Impact Development in Raleigh, May 3, 2016