



TECHNICAL COMMITTEE REPORT

To: Planning Commission

From: Technical Committee

Staff Contacts: Peter Holte, Division of Natural Resources, ext. 2822
Jeff Churchill, Long-Range Planning, ext. 2492
Jerallyn Roetemeyer, Division of Natural Resources, ext. 2824

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File Numbers: LAND-2016-00722; SEPA-2016-00723

Project Name: Redmond Zoning Code Amendments for Low Impact Development

Applicant: City of Redmond

**Recommendation
and Reasons:**

The Technical Committee recommends adoption of the proposed amendments to the Redmond Zoning Code (RZC) for the following reasons:

- These changes are necessary to comply with a state mandate within the Western Washington Phase II Municipal Stormwater Permit. This mandate requires the City to revise codes in order to remove barriers to the implementation of Low Impact Development (LID) stormwater management practices.
- The proposed changes support numerous policies within Redmond's Comprehensive Plan that call for and support the use of LID.
- The proposed changes will align the RZC with the requirements and guidance found within other development-related regulatory documents such as the Stormwater Technical Notebook.

I. APPLICANT PROPOSAL

The purpose of this proposal is to revise portions of the Redmond Zoning Code to address gaps and remove barriers that may inhibit the use of an approach to stormwater management commonly referred to as Low Impact Development (LID). Removing these barriers will ensure the City's compliance with state requirements associated with the federal Clean Water Act. The mandate requires compliance by December 31, 2016.

II. RECOMMENDATION

The Technical Committee recommends amending the Redmond Zoning Code to address the gaps and barriers identified by the staff interdepartmental review team. *Exhibit A* includes these proposed revisions. In summary, the Technical Committee recommends the adoption of a number of relatively minor revisions, consisting of:

- *Clarifications*—for example, clarifying language regarding roles and responsibilities associated with the maintenance of certain LID stormwater facilities.
- *Added definitions*—to ensure that necessary terms are defined in the RZC and that the definitions in the Zoning Code are identical to those found in other City documents.
- *Additional guidance*—for example, information added to a table in the RZC that provides details on how to incorporate rain gardens within parking lots.
- *Removal of a bonus density incentive*—for the use of certain LID-related methods which will soon be mandatory.

The Technical Committee also recommends the adoption of a new requirement for development projects to include a set aside of 5% of the *Net Buildable Area* to infiltrate stormwater generated by small storm events. These infiltration areas:

- May be co-located within other required set aside areas such as building setbacks, landscaping areas, and open spaces.
- May be located within structures that accommodate infiltration beneath impervious surfaces.
- Can be reduced in size if such a reduction is supported by stormwater modeling.
- Must infiltrate into the ground; underground structures that reduce the opportunity to infiltrate stormwater into the ground or prevent maintenance of infiltration facilities are prohibited within these areas.
- Must not be located within critical buffer areas such as stream or wetland buffers.

III. BACKGROUND, FACTORS CONSIDERED AND ALTERNATIVES

A. BACKGROUND AND REASON FOR THE PROPOSAL

In order to comply with the federal *Clean Water Act (CWA)*, the Washington State Department of Ecology issued the *2013 – 2018 Western Washington Phase II Municipal Stormwater Permit* to 87 county and city jurisdictions. These permits allow jurisdictions to discharge stormwater runoff into waters of the state (rivers, streams, lakes, etc.) in a manner that complies with the CWA so long as all of the permit requirements have been met. The permit is commonly referred to as the “NPDES Permit”—an acronym derived from the section of the CWA that authorizes it.

The current NPDES permit contains two provisions requiring jurisdictions to integrate a method of stormwater management referred to as, low impact development (LID). LID attempts to reduce the amount of stormwater flowing from developed sites through the use of: a) pre-construction site design and planning activities, b) preservation of native vegetation and soils, and c) construction of “green stormwater infrastructure facilities”—such as rain gardens, pervious pavement, and green roofs.

The current NPDES LID-related requirement states that jurisdictions must:

1. Conduct a comprehensive, citywide process to “...review, revise and make effective their local development related codes, rules, standards, and other enforcement documents to incorporate and require LID principles and LID Best Management Practices (BMPs)...The intent of the revision shall be to make LID the preferred and commonly-used approach to site development. Revisions shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations.”
2. Require that new development projects that result in 2000 square feet or more of impervious area, and re-development construction projects that result in 7000 square feet or more of new plus replaced impervious area, incorporate certain LID stormwater infiltration facilities into their on-site stormwater management strategies.

The deadline for meeting both mandates is December 31, 2016. These mandates require Redmond to consider multiple aspects associated with the City’s development review process and stormwater operation and maintenance practices.

To comply with the first of these two requirements, an interdepartmental staff team reviewed and drafted proposed amendments to relevant enforceable documents, including the RZC. As noted, most of the proposed changes to the RZC are minor, designed to place the City in compliance with this NPDES permit mandate and assist the integration of LID into City operations.

The most substantial proposed amendment, the addition of the *Small Storm Infiltration Set Aside* requirement, intends to address a number of identified gaps and needs in order to more effectively incorporate LID into Redmond's development review process. The intent of the set aside requirement is to:

Address a gap in the Zoning Code. Current code accepts infiltration into soil above impervious underground structures—such as parking lots—as a LID response which is equal to that of infiltration into the ground. Infiltration into a layer of soil above an impervious barrier does not fully achieve the desired outcomes associated with infiltration. Once the soil above the underground structure becomes saturated, any additional rainfall onto this soil will flow off the developed site as stormwater runoff. The proposed code language closes this gap by requiring infiltration into the ground. Addressing this gap places the City in compliance with the requirement stipulation stating that code revisions must "...minimize stormwater runoff in all types of development situations."

Clarify how much land will be needed for on-site infiltration facilities. At a recent Redmond-sponsored workshop for members of the development community, a stakeholder noted that greater clarity was needed regarding the amount of land that will be needed for the placement of on-site LID facilities. The permit and other state documents do not provide guidance on this topic. In response, City staff conducted a stormwater modeling analysis to investigate this topic, and drafted the proposed code language in order to provide clarity and a greater degree of predictability.

Clarify where on-site infiltration facilities can be placed. This proposed amendment clarifies that developers can co-locate facilities within certain other required set aside areas. It also provides the flexibility to infiltrate stormwater below impervious surfaces and within building basements, so long as maintenance and operational needs have been addresses.

B. FACTORS CONSIDERED

During the review of the RZC, the interdepartmental team considered the following factors:

NPDES permit requirements and state guidance regarding these requirements. The permit references, *Integrating LID into Local Codes: A Guidebook for Local Governments* (Puget Sound Partnership, 2012), as the guidance document detailing the scale and scope at which the revision process must be conducted. The Washington State Department of Ecology has also provided training and other information detailing what topics should be considered and by whom. This additional guidance defines barriers to LID as either: a) an outright prohibition on the use of a specific LID methodology or b) a requirement specifying that special permission--beyond those normally associated with a development review process--is needed to implement a specific LID methodology.

Not meeting NPDES requirements would place the City at risk of penalties levied by the Washington State Department of Ecology. Not meeting the permit also would place Redmond at risk of third party lawsuits as allowed by the Clean Water Act.

Policy guidance. The *Redmond Comprehensive Plan* and other City documents contain numerous policies and guidance supporting environmental protection and the use of LID. Examples of such policies include:

- **NE-12**--Encourage environmentally friendly construction practices, such as Leadership in Energy and Environmental Design (LEED), King County Built Green, and low-impact development.
- **NE-13**--Encourage projects which utilize alternative technologies, engineering, and plans which emphasize low-impact development strategies through incentives and flexibility in meeting regulatory requirements.

In addition, the *Redmond Comprehensive Plan* policies related to the wellhead protection and aquifer management also came into consideration. This is necessary because so many LID techniques infiltrate stormwater. Examples of policies considered in relation to this topic include:

- **NE-37**--Protect the quality of groundwater used for public water supplies to ensure adequate sources of potable water for Redmond and the region. Ensure that the level of protection provided corresponds with the potential for contaminating the municipal water supply aquifer.
- **NE-38**--Periodically review and update land use policies, regulations, or development or operating standards that ensure appropriate levels of groundwater recharge and apply to uses involving hazardous materials located in Wellhead Protection Zones 1 and 2. Ensure that any revisions to code or policy to address wellhead protection are balanced with the desire for infiltration and recharge.

Aligning multiple stormwater requirements. The technical and policy considerations associated with the required placement of LID infiltration facilities needed to be considered in conjunction with the RZC code review, in order to ensure actions taken to meet both requirements complement one another. In addition, Redmond has created other binding agreements with the Washington State Department of Ecology, and these agreements also require consideration. Further, not all NPDES requirements apply equally to all locations within the City. These considerations influenced the language within the proposed *Small Storm Infiltration Set Aside* requirement.

Some areas within the City are allowed to discharge runoff directly to large waterbodies without providing stormwater detention—much of Downtown Redmond is one such area. These “flow control exempt” areas are not subject to the NPDES requirement that new and redeveloped construction sites incorporate on-site LID infiltration facilities. Nonetheless,

the City must allow LID in Downtown Redmond to meet the NPDES LID-code review requirement, and must require LID to meet stipulations associated with a separate agreement with the Department of Ecology. As a result, the City must require LID in Downtown in order to meet applicable state-mandated requirements. However, the application of LID in this area will be different from other areas in the City—consisting mainly of infiltration of clean roof water runoff.

During code review, staff considered these factors to ensure different locations in the City receive the appropriate level of regulatory oversight. The language within the proposed *Small Stormwater Infiltration Set Aside* requirement addresses these considerations by allowing developers to co-locate infiltration facilities with other required set aside areas (e.g. building setbacks) and by offering developers the flexibility to adapt LID-infiltration techniques to match various site specific circumstances (e.g. allowing infiltration facilities beneath impervious areas).

Economic Considerations. Staff considered economic impacts for property owners and developers. With regard to the proposed *Small Storm Infiltration Set Aside* requirement, the proposed language intends to provide flexibility and the correct level of regulatory oversight—in part to remove unnecessary economic burdens for developers. To this end, the set aside requirement includes a provision allowing developers to reduce the size of the set aside if such a reduction is supported by a stormwater modeling analysis.

Redmond's Regulation Framework. Multiple development-related enforcement documents create the City's regulatory framework for stormwater management. During this policy and code review, staff considered the role of each document within this framework in order to ensure: a) that the right information was placed within the appropriate document, and b) that City documents align and complement one another.

Customer service. Staff strove to provide clear, concise, and predictable code.

C. ALTERNATIVES

The NPDES permit language and subsequent guidance from the Washington State Department of Ecology define the boundaries within which the City must consider the amendments to the RZC. Within these boundaries the City has a limited degree of discretion. The factors summarized in the previous section applied within these boundaries.

The permit allows municipalities to limit the use of specific LID techniques in order to: a) protect public health and safety, or b) if changing the code to allow or require specific techniques will create conflicts with federal law. The City used this discretion in two instances:

- The City is using the City's *Wellhead Protection Ordinance* (RMC 13.07) and the federal *Safe Drinking Water Act*, to justify the need to maintain a prohibition on the infiltration of stormwater from pollution-generating surfaces in areas of the City where the depth-to-groundwater is not great enough to provide ample treatment

prior to the water entering the aquifer. Maintaining this prohibition is a barrier to the use of LID, but necessary to protect Redmond's drinking water resources. Guidance in the Washington State Department of Ecology's *Stormwater Management Manual for Western Washington* allows this justification.

- After consultation with the Fire Department, no recommended changes have been proposed for street widths in order to maintain space for emergency response vehicles to pass one another.

IV. COMPLIANCE WITH CRITERIA FOR COMPREHENSIVE PLAN AND ZONING CODE AMENDMENTS

Redmond Comprehensive Plan Policy PI-16 direct the City to take several considerations, as applicable, into account as part of decisions on proposed amendments to the Comprehensive Plan. Items 1 through 6 apply to all proposed amendments. The following is an analysis of how this proposal complies with the requirements for amendments.

1. Consistency with Growth Management Act (GMA), State of Washington Department of Commerce Procedural Criteria, VISION 2040 or its successor, and the King County Countywide Planning Policies.

The proposed amendments are consistent with the Growth Management Act, including the goal to protect the environment and quality of life, including air and water quality and the availability of water. The amendments are also consistent with the King County Countywide Planning Policies which encourage use of low impact development approaches and VISION 2040, which calls for maintaining natural hydrological functions within the region's ecosystems.

2. Consistency with the Redmond Comprehensive Plan.

References supporting the use of LID are included throughout the Comprehensive Plan. An electronic search for the term "low impact development," found this term on at least 17 different pages within the document—either within a policy statement or at part of discussion of policy statements. The following Comprehensive Plan Policies make specific references supporting the use of LID, and LID methodologies:

- **NE-12**—Encourage environmentally friendly construction practices, such as Leadership in Energy and Environmental Design (LEED), King County Built Green, and low-impact development.
- **NE-13**—Encourage projects which utilize alternative technologies, engineering, and plans which emphasize low-impact development strategies through incentives and flexibility in meeting regulatory requirements.

- **UT-41**—Encourage incorporation of natural systems into building designs to minimize runoff. Examples of such designs are sod roofs or rainwater capture to provide on-site landscape watering.
- **UT-42**—Pursue the development of street standards that incorporate natural systems into the design of the streets. Examples of this are swales planted with native vegetation, such as the Street Edge Alternative (SEA) project, a natural drainage roadway in Seattle’s Broadview neighborhood.
- **N-EH-42**—Use a variety of methods to encourage development practices and infrastructure maintenance practices that promote sustainability, such as Street Edge Alternative (SEA) streets, green streets, and low-impact development and associated technologies.
- **N-ID-4**—Encourage greater reductions in impervious surfaces by offering guidelines and allowing use of innovative stormwater infrastructure techniques where feasible in the Idylwood Neighborhood. Use methods, such as the low-impact development techniques found in Redmond’s Stormwater Technical Notebook. Seek opportunities as part of new development, redevelopment, and for existing land uses throughout the neighborhood.
- **N-ID-8**—Consider bioretention within the right-of-way in appropriate locations throughout the Idylwood Neighborhood. Promote 180th Avenue NE for demonstration of this stormwater management technique and other low-impact development techniques, such as permeable sidewalks and site-appropriate, native vegetation. Consider designs similar to Seattle’s SEA-Street.

3. Potential general impacts to the natural environment, such as impacts to critical areas and other natural resources, including whether development will be directed away from environmentally critical areas and other natural resources.

A large canon of scientific literature supports the use of LID as a means of protecting local streams from potential impacts associated with stormwater runoff. Relative to traditional stormwater management methods, LID reduces the amount of stormwater discharged from developed sites, and also provides greater treatment before runoff is discharged. As a result, LID reduces the erosion of stream banks that can occur when large amounts of runoff enter a stream in a short period of time. LID also reduces the amount of pollutants entering the stream, and thus improves water quality.

4. Potential general impacts to the capacity of public facilities and services. For land use related amendments, whether public facilities and services can be provided cost-effectively and adequately at the proposed density/intensity.

The proposed changes are not expected to negatively impact the capacity of public facilities. In parts of the City serviced by larger regional facilities, on-site stormwater

management facilities are needed to accommodate smaller storms in order to maintain capacity in the larger regional facilities.

5. Potential general economic impacts, such as impacts for business, residents, property owners, or City Government.

Comparing the cost of LID to traditional stormwater management techniques is difficult. Pacific Northwest cost analyses are not plentiful. Additionally, the calculations would require analysis of numerous, site specific variables. Still, some generalizations can be made regarding the anticipated economic impacts of the proposal:

- Upfront cost of site analysis and planning will increase.
- At sites where soils readily soak-up stormwater, the added expense of pre-construction analysis and placement of LID infiltration facilities may be offset by a reduction in the size of detention facilities—i.e., smaller stormwater pond or vaults.
- At sites where soils infiltrate poorly, the placement of LID infiltration facilities may not be enough to reduce the size of detention facilities, and the cost of stormwater management may be greater.

The state provides an “infeasibility criteria” for green stormwater infrastructure. If stormwater does not soak into the ground at a specified rate, the site is exempt from the NPDES on-site LID infiltration requirement.

6. For issues that have been considered within the last four annual updates, whether there has been a change in circumstances that makes the proposed amendment appropriate or whether the amendment is needed to remedy a mistake.

This amendment has not been considered within the last four annual updates.

V. AUTHORITY AND ENVIRONMENTAL, PUBLIC AND AGENCY REVIEW

A. Amendment Process

Redmond Zoning Code (RZC) 21.76.070.AE and 21.76.050.K require that amendments to the Comprehensive Plan and Zoning Code be reviewed under the Type VI process. Under this process, the Planning Commission conducts a study session(s), an open record hearing(s) on the proposed amendment, and makes a recommendation to the City Council. The City Council is the decision-making body for this process.

B. Subject Matter Jurisdiction

The Redmond Planning Commission and the Redmond City Council have subject matter jurisdiction to hear and decide whether to adopt the proposed amendment.

C. Washington State Environmental Policy Act (SEPA)

A SEPA checklist was prepared and a Determination of Non-Significance was issued for this non-project action on April 27, 2016 (please see Exhibit C).

D. 60-Day State Agency Review

State agencies will be sent a 60-day notice of this proposed amendment no later than May 13, 2016.

E. Public Involvement

The public has opportunities to comment on the proposed amendment through the Planning Commission review process and public hearing to be held on June 8, 2016. Public notice of the hearing was published in the *Seattle Times* on May 18, 2016 (see Exhibit B). Notice of the Planning Commission hearing was posted in City Hall and the Redmond Library. Notice of the hearing was provided on the Planning Commission agendas and extended agendas.

The City also held a webinar on April 25, 2016 for members of the construction and development community. During this webinar, Redmond staff summarized the draft proposed amendments to the RZC, provided information on how comments can be made, and took comments and responded to questions. Also on April 25, 2016, Redmond staff attended a *Sustainable Redmond* event and offered members of this non-profit environmental organization with the same information. Stakeholders from both groups were provided details and invited to attend the June 8, 2016 Planning Commission Public Hearing. (To review stakeholder comments and the City responses please refer to *Exhibit D*.)

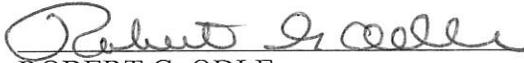
F. Appeals

RZC 21.76 identifies Comprehensive Plan and Zoning Code amendments as a Type VI permit. Final action is by the City Council. The action of the City Council on a Type VI proposal may be appealed by filing a petition with the Growth Management Hearing Board pursuant to the requirements of the Board.

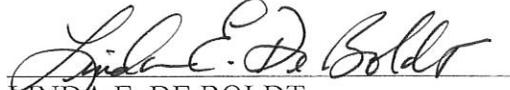
G. LIST OF EXHIBITS

Exhibit A: Recommended Amendments to the Redmond Zoning Code
Exhibit B: Public Hearing Notice
Exhibit C: SEPA Threshold Determination
Exhibit D: Public Outreach Summary

Conclusion in Support of Recommendation: The Technical Committee has found the proposal to be in compliance with the Redmond Zoning Code, Redmond Comprehensive Plan, Redmond Municipal Code, and State Environmental Policy Act (SEPA).



ROBERT G. ODLE,
Director of Planning and
Community Development



LINDA E. DE BOLDT,
Director of Public Works