

PROJECT MEMO



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FROM:	Wayne Carlson and Annalisa McDaniel AHBL Seattle – (206) 267-2425	PROJECT NO.:	2130786.30
		PROJECT NAME:	Bellevue LID Principles Project
SUBJECT:	Bellevue LID Principles Project – Areas of Focus		

Introduction

The City is required under the 2013-2018 NPDES¹ Western Washington Phase II Municipal Stormwater Permit (NPDES Permit), to review and revise its development codes and standards to incorporate low impact development principles with the intent of making low impact development (LID) the preferred and commonly-used approach to site development. The NPDES Permit defines LID principles as land use management strategies that emphasize conservation, use of on-site natural features, and site planning to minimize impervious surfaces, native vegetation loss, and stormwater runoff. The review and revision process the City is undertaking must be similar to that described in *Integrating LID into Local Codes: A Guidebook for Local Governments* (Puget Sound Partnership 2012). Under the terms of this permit, this project must be complete by December 2016. A report detailing the project is due to Ecology in March of 2017.

The first phase of this work, the opportunity analysis, is complete. This memorandum contains the results of the opportunity analysis of Bellevue's land use and development-related codes and standards for application of LID principles. Between November 2014 and April 2015, AHBL reviewed the City's codes and standards and met with City staff to address LID principles.

Based on our review of the City's codes and standards and discussions with City staff, we found that the City of Bellevue's land use and development-related codes and standards generally support the LID principles. There are opportunities to better align the City's codes and standards with the LID principles. This memorandum recommends six areas of focus in the codes and standards for further consideration and review.

Background

AHBL is assisting City of Bellevue staff in implementing the LID principles requirement of Special Condition S5.C.4.f of the NPDES Permit. The focus of this work is on the LID principles to minimize impervious surfaces, native vegetation loss and stormwater runoff in site development rather than on the LID Best Management Practices (BMPs).² Additionally the work analyzes how implementing these principles may affect the City's development codes, rules, and standards, some of which have not traditionally been considered part of the State's regulation of stormwater. Special Condition S5.C.4.f, as summarized below, states:

¹ NPDES means National Pollutant Discharge Elimination System. The NPDES Permit is a federal Clean Water Act permit intended to protect water quality and fishable, swimmable uses of the nation's surface water resources.

² The NPDES Permit requires municipalities to revise their stormwater development standards to require LID BMPs where feasible for new development and redevelopment. LID BMPs are stormwater management facilities such as rain gardens, bioretention facilities and permeable pavement. The City will address the LID BMP requirement in a separate project revising the City's stormwater engineering and clearing and grading codes and standards. The new LID BMPs condition is also required to be in place by December 31, 2016.

- f. *Low impact development code-related requirements.*
- i. *No later than December 31, 2016, Permittees shall review, revise and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs. [...] The intent of the revisions shall be to make LID the preferred and commonly-used approach to site development. The revisions shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations. Permittees shall conduct a similar review and revision process, and consider the range of issues, outlined in the following document: Integrating LID into Local Codes: A Guidebook for Local Governments (Puget Sound Partnership, 2012).*
 - ii. *[E]ach Permittee shall submit a summary of the results of the review and revision process in (i) above with the annual report due no later than March 31, 2017. ... The summary shall be organized as follows:*
 - a) *Measures to minimize impervious surfaces;*
 - b) *Measures to minimize loss of native vegetation; and*
 - c) *Other measures to minimize stormwater runoff.*

Between February and June 2014, AHBL reviewed the Bellevue Comprehensive Plan to identify opportunities to integrate LID principles into that policy document. We generally found that the City's Comprehensive Plan provided excellent policy support for the LID principles. There were, however, some opportunities to better align the City's policies with the LID principles. Our policy recommendations were presented to the Bellevue Planning Commission on September 24, 2014 as part of the City's broader eight-year, periodic update to its Comprehensive Plan. Amendments to the Comprehensive Plan, including LID policy recommendations, are scheduled to be considered and adopted by the Bellevue City Council in June of 2015.

AHBL next reviewed the Bellevue City Code and development standards for opportunities to integrate the LID principles identified in Special Condition S5.C.4.f.ii. The following codes and standards were analyzed:

- Transportation Code (Title 14)
- Land Use Code (Title 20)
- Construction Codes (Title 23)
- Utilities Codes (Title 24)
- Clearing and Grading Code and Development Standards
- Critical Areas Handbook
- Design Guidelines Building/Sidewalk Relationships, Central Business District
- Environmental Best Management Practices & Design Standards
- Pedestrian Corridor and Major Public Open Space Design Guidelines
- Storm and Surface Water Engineering Standards
- Transportation Design Manual and Standards

The results of our opportunity analysis of the codes and standards were presented to the City's internal LID Principles Team for review and discussion. We met with Bellevue's LID Principles Team on six occasions between December 2014 and April 2015 to discuss the integration of LID principles into the City's codes and standards. The following generally describes the nature of each meeting:

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| December 8, 2014 | <ul style="list-style-type: none"> • Introduction by Bellevue's Project Manager about the permit requirements • Preliminary discussion of opportunities within the City's development codes and standards to minimize impervious surface cover and vegetation loss |
| January 6, 2015 | <ul style="list-style-type: none"> • Transportation opportunities to minimize impervious surface cover |
| January 20, 2015 | <ul style="list-style-type: none"> • Discussion of opportunities within the land use code to minimize impervious surface cover and native vegetation loss |

- Discussion of differences among various Bellevue neighborhoods and the implications for city-wide versus neighborhood-specific standards
- February 5, 2015
 - Discussion of strategies to encourage and/or require the preparation of site analyses at the initial phases of project conception
 - Discussion of opportunities for narrower streets including reduction of required street, bicycle lane, and sidewalk widths.
 - Discussion of vegetation retention strategies
- February 18
 - Detailed discussion of vegetation retention strategies
- April 28
 - Discussion of areas of focus

Our findings and recommendations are described below.

Findings and Recommendations

Like our findings for the Comprehensive Plan, we found that the City of Bellevue's existing land use and development-related codes and standards generally support the LID principles identified in the NPDES Permit. There are opportunities to better align the City's codes with the LID principles within the Permit. Based on our opportunity analysis and discussions with the LID team, we identified six areas of focus to elevate for further consideration for potential amendments to codes and standards.

The six areas of focus are:

1. Land Use Code
 - a. Evaluate use of LID principles (and BMPs) early in the site design process
 - b. Reduce impervious surface coverage
 - c. Preserve and enhance tree canopy
 - d. Improve options for clustering development
2. Transportation Code and Design Standards
 - a. Reduce impervious surfaces in road rights-of-way
 - b. Increase tree canopy in transportation facilities

1. Land Use Code

Four areas of focus in the Land Use Code (BCC Title 20) were identified through our code review and meetings with staff. Areas of focus include site analysis and design, reducing impervious surfaces coverage, tree canopy preservation and enhancement, and clustering development, specifically reducing obstacles to clustering. These areas are interconnected, and it may be helpful to consider new code language and amendments that address more than one of these areas at once.

a. Site Analysis / Site Design

The Phase II NPDES Permit requires that LID is the preferred and commonly used approach to site development. Currently there are no requirements in Bellevue City Code that state that LID principles must be considered at the beginning of the development or redevelopment process. Early analysis in the site design process is critical to identify suitable areas for LID infrastructure within the constraints of a project site.

Opportunity

- i. Evaluate use of LID principles (and BMPs) early in the site design process. At the outset of site development or redevelopment, evaluate LID principles and LID BMP

feasibility. Ensure that reviewers from all departments consider LID during development review.

Challenge

- i. Designing a project to factor in LID at the beginning of site development will require a paradigm shift for developers and reviewers.
- ii. Geotechnical, soil, and other analysis required before a property owner or developer can determine site feasibility may be costly.

b. Impervious Surface Coverage

Minimizing impervious surfaces is a low impact development principle. As a developed urban area, it is challenging for Bellevue to address this requirement. Opportunities to incorporate low impact development principles will largely be provided as properties redevelop.

Opportunities

- i. Reduce impervious surface lot coverage in the City by reducing maximum allowed impervious surface coverage proportional to the area of the lot.
- ii. Replace the term “Impervious Surface” with Ecology’s definition of “Hard Surface” in BCC 20.20.010 and BCC 20.20.460 to reduce impervious surface coverage. “Hard surface” includes permeable surfaces such as permeable driveways, patios, and sport courts.
- iii. Reduce vegetation loss by allowing site design flexibility similar to the flexibility provided in the Critical Areas Ordinance for setback and buffer requirements. Flexibility in site design will allow developers more options in site planning to meet LID goals.

Challenges

- i. Reducing allowed impervious surface coverage might be perceived as the City taking away development rights of private property owners.
- ii. It will need to be shown how a reduction in impervious surface coverage can both benefit the City and allow property owners to develop or redevelop their lots.

c. Tree Preservation and Canopy Enhancement

Tree canopy preservation and enhancement is a low impact development principle. Tree canopy in Bellevue decreased 20 percent between 1986 and 2006³. Preserving and increasing tree canopy is a priority of the City of Bellevue Environmental Stewardship Initiative.

³ City of Bellevue Environmental Stewardship Initiative Strategic Plan, 2013-2018.

Opportunities

- iii. Numerous opportunities were identified by staff. These opportunities likely need to be further refined and prioritized. The opportunities include:
 - a) Amend the definition of significant tree;
 - b) Enhance fencing and other requirements to reduce vegetation loss caused by construction staging;
 - c) Establish a fee in lieu program to replace trees removed on private property with trees planted at publicly owned priority sites; and
 - d) Establish innovative programs and/or incentives to preserve trees.

Challenges

- i. There is an apparent cultural shift occurring in the City, moving away from tree preservation and toward view protection and tree removal.
- ii. Land Use Code lacks the flexibility to accommodate development and vegetation preservation on R5 and higher intensity zoned lots.
- iii. There is a limited number of staff available for enforcement.

d. Clustering Development

As noted above, opportunities to incorporate low impact development principles will largely be provided as properties redevelop. To increase the likelihood of clustered residential development and redevelopment, add tools to the Land Use Code to improve opportunities for clustering and allow for zero lot line development.

Opportunities

- i. Amend Land Use Code criteria to improve clustering provisions and provide for zero-lot line development. This is possible through permitting short plats for clustered development that would not meet current lot size, setback, and access standards.
- ii. Clustering and zero-lot line development may lead to less vegetation loss, more affordable housing options, and denser development compared to traditional single family development.

Challenges

- i. The success of clustered development is dependent on market demand.
- ii. There are currently no provisions for zero lot line development in the Bellevue City Code.
- iii. Clustering and native vegetation preservation may be difficult to achieve without flexibility in setback and buffer requirements.

2. Transportation

a. Impervious Surface (Road Rights-of-Way)

Minimizing impervious surfaces is a low impact development principle. As a developed urban area, it is challenging for Bellevue to address this requirement. There are opportunities to explore variants to the City's existing street standards that serve to reduce impervious surface coverage. This may result in designs that may differ amongst the City's neighborhoods.

Opportunities

- i. Minimize impervious surfaces by:
 - a) Reducing the overall impervious nature of improved Rights-of-Way by potentially reducing or eliminating lanes and/or widths and associated pedestrian and bicycle facilities.

Challenges

- i. Loss of parking.
- ii. Providing adequate fire access (IFC 503).
- iii. Bicycle and pedestrian groups may object to changes within the City's street standards.
- iv. The City wants to design complete streets for all users, but complete streets require a substantial amount of impervious surface coverage.
- v. Reduction of impervious surface coverage may penalize non-polluting modes of transportation.

b. Tree Canopy within Transportation Facilities

Achieving City-wide tree canopy coverage of 40 percent is a central element within the Bellevue Environmental Stewardship Initiative Strategic Plan (ESI). The tree canopy enhancement goals of the Environmental Stewardship Initiative can be furthered by leveraging opportunities to integrate tree canopy within transportation facilities. Enhancing the tree canopy will serve two goals: integrating LID principles and increasing the tree canopy, which is a goal of the ESI.

Opportunities

- i. Enhance City-wide tree canopy by increasing landscaping areas and/or integrating additional tree canopy into new and retrofit transportation designs.
- ii. Specify coniferous species, where appropriate, to facilitate stormwater interception during the rainy winter months when deciduous species may not be fully leafed.

Challenges

- i. A limited number of conifer species are suitable for use in street rights-of-ways.

WEC/AM/am