



**DATE:** July 14, 2016  
**TO:** Chair Zahn and Members of the Transportation Commission  
**FROM:** Catherine A. Drews, Assistant City Attorney (Project Manager)  
*Development Services Department*

Paul A. Bucich, P.E., Assistant Director of Engineering  
*Utilities Department*

**SUBJECT: Public Hearing on Project Proposals to Integrate Low Impact Development (LID) Principles into Transportation Codes and Standards**

**DIRECTION REQUESTED**

- Action
- Discussion
- Information

The LID Principles Project was introduced to the Transportation Commission on September 10, 2015. Staff reviewed proposals to integrate Low Impact Development Principles with the Commission on June 9, 2016. The Commission agreed that the June 9 proposals would be the basis for the July 14, 2016 public hearing (see Attachment A).

On July 14, the Transportation Commission will host a public hearing to receive public comments on and consider the LID Principle project proposed amendments. At the conclusion of the public hearing, staff will request the Transportation Commission recommend the City Council adopt proposed amendments to the Transportation Code. Amendments to the Design Standards will be presented to the Transportation Director for administrative approval consistent with BCC 14.60.021.B.4. The Council is scheduled to take action on all the proposals related to the LID Principles project in late November, 2016, in order to meet the December 31, 2016 project deadline.

**BACKGROUND**

The 2013-2018 NPDES Western Washington Phase II Municipal Stormwater Permit ("NPDES Permit") *requires the City to review and revise its development-related codes and standards to*

*incorporate and require low impact development (“LID”) principles.* LID principles are “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 intent for the revisions is to make LID the preferred and commonly-used approach to site development.

With respect to the specific proposed Transportation Development Code and design standard proposals, the project team met with and received input from Molly Jonson, Development Review Manager; Hillary Stibbard, Principal Office Engineer; and Kevin McDonald, Senior Transportation Planner. Transportation staff concurs with the proposed amendments as presented.

## **DISCUSSION/ANALYSIS**

Based on feedback from the public, city staff, and local boards and commissions, AHBL has developed proposed amendments to the Transportation Code and related development standards. The proposed amendments are intended to meet the project principles and implement the LID principles of minimizing impervious surfaces, native vegetation loss, and stormwater runoff.

### **Proposed Transportation Code Amendments:**

#### **Chapter 14.60 BCC – Transportation Development Code**

1. Storm drainage including bioretention swales and other vegetation-based LID BMPs as potential frontage improvements that may be required.
2. Requiring native plant species to be planted where retention of existing vegetation is not feasible.
3. Calling out the use of bioretention swales within the landscaped island of a cul-de-sac as allowed.

#### **Transportation Design Standards Transportation Design Manual**

1. Planter strips should be a minimum of four feet in width.
2. Permeable pavement may be utilized where feasible in pedestrian paths and bicycle lanes.

#### **Transportation Design Standards Development Review Drawings**

1. Bioretention and vegetation-based stormwater management facilities may be utilized within landscaped islands and planter strips.
2. Landscaping should utilize native species to the maximum extent possible.

#### **Transportation Design Standards Appendix B Bel-Red Area Standards**

1. Native plant species are preferred.
2. Vegetation-based stormwater management facilities are permitted within landscape strips.
3. Where bioretention facilities are proposed in conjunction with trees, tree grates shall be removable.

### **REQUESTED ACTION**

Staff request approval of a formal motion recommending that the City Council adopt the proposed amendments to the Transportation Development Code. Amendments to the Design Standards will be presented to the Transportation Director for approval consistent with BCC 14.60.021.B.4.

### **NEXT STEPS**

Staff will prepare a transmittal memorandum for the Commission's review and consideration. The Chair typically does not attend Council to present the recommendation for this type of proposal. The timeline for meeting the December 31 deadline includes the following tentatively scheduled meetings:

1. Council action on the proposal (November, 2016)
2. East Bellevue Community Council public hearing and final action (December, 2016)

### **ATTACHMENTS**

#### **A. Transportation LID Principle Proposals:**

- **Chapter 14.60 BCC – Transportation Development Code**
- **Transportation Design Standards Transportation Design Manual**
- **Transportation Design Standards Development Review Drawings**
- **Transportation Design Standards Appendix B Bel-Red Area Standards**

# Low Impact Development Principles Project



## Chapter 14.60 Transportation Development Code

[...]

### 14.60.110 Street frontage improvements.

- A. The installation of street frontage improvements is required for all new development, subdivisions, and short subdivisions as a condition of development approval in order to incorporate transportation improvements that are reasonably necessary to mitigate the direct impacts of the development. Installation of street frontage improvement is also required when necessary for the mitigation of adverse environmental impacts identified pursuant to the State Environmental Policy Act. For additions and remodels to existing buildings see LUC 20.20.560 and 20.25D.060. This requirement shall not apply to single-family dwellings.
- B. Complete street frontage improvements shall be installed along the entire street frontage of the property at the sole cost of the developer as directed by the review engineer. Street frontage improvements may include curb, gutter, sidewalk, storm drainage, street lighting, traffic signal equipment, public utility relocation, franchise utility relocation, landscaping strip, street trees and landscaping, irrigation, street pavement widening, bicycle lanes, safety railings, street signs, pavement marking, and channelization. Storm drainage may include bioretention swales or other vegetation-based LID BMPs. For additional requirements regarding franchise utility relocations, see BCC 14.60.230. Beyond the property frontage, the developer shall provide ramps or other appropriate transition from the new sidewalk or walkway to the existing shoulder, and pavement and channelization tapering back to the existing pavement and channelization as needed for safety. The street frontage improvements shall be continued off-site if, and to the extent, deemed necessary by the review engineer in order to provide a safe condition.
- C. The installation of street frontage improvements is required prior to issuance of any certificate of occupancy (including temporary certificate of occupancy) for new construction other than single-family dwellings, or prior to final approval for subdivisions or short subdivisions. Exceptions to this requirement are allowed pursuant to BCC 14.60.260.
- D. When (due to site topography, city plans for improvement projects, or other similar reasons) the review engineer determines that street frontage improvements cannot or should not be constructed at the time of building, subdivision, or short subdivision construction, the developer shall, prior to issuance of the building permit or final approval for subdivisions and short subdivisions at the direction of the review engineer, and as authorized by and in a manner consistent with RCW 82.02.020:
  1. Pay to the city an amount equal to the developer's cost of installing the required improvements prior to issuance of a building permit, such construction value to be

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- based on reasonable estimates of costs, as approved by the director in consultation with the director of the utilities department; or
2. Record an agreement that provides for these improvements to be installed by the developer by a date acceptable to the city; or
  3. Record an agreement to not protest a local improvement district to improve the street frontage.
- E. If, at a time subsequent to the issuance of a building permit, a local improvement district is established that includes the property for which the building permit was issued, and if such condition or agreement as prescribed in this section has been performed by the developer, the condition or agreement may be considered in the compilation of the local improvement district assessment roll as a preexisting contract with the city, for which the developer may be credited against the assessment with the appropriate amount of costs of construction expended by the developer.
- F. The requirement for installation of frontage improvements may be waived or modified by the review engineer if:
1. Adjacent street frontage improvements are unlikely to be installed in the foreseeable future; or
  2. Installation of the required improvement would cause significant adverse environmental or safety impacts. (Ord. 6181 § 2, 2014.)

## **14.60.120 Landscaping in right-of-way, easements and access tracts.**

- A. Applicability. The requirements of this section apply when street frontage improvements are required as part of any development by BCC 14.60.110 or the Land Use Code, as may be hereinafter amended.
- B. Required Review. The city shall review proposed street frontage improvements for compliance with this section and other applicable city policies and codes.
- C. Preservation of Existing Street Trees and Landscaping.
1. Retention of existing vegetation may be required along city streets. When retention is not feasible, native plant species, or species with a proven ability to survive in an urban environment are preferred for landscaping.
  2. When permitted to remove or relocate plant materials from the right-of-way in connection with the widening of the street or highway, the paving of a sidewalk, or the installation of ingress or egress, the developer shall replant such trees or replace them according to city standards.
  3. Any landscaping in the right-of-way that is disturbed by construction activity on private property, including but not limited to damaged trees or trees that need to be removed, shall be replaced or restored to its original condition by the developer. If such replacement or restoration is not physically or practically possible, as determined by the

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review engineer, the developer may be required to instead reimburse the city for the value of the removed, damaged or destroyed landscaping. Such reimbursement value shall be determined under the methods described in the Guide for Establishing Value of Trees and Other Plants, published by the International Society of Arboriculture, now or as hereafter amended. The value of other landscape plants shall be determined by the city based upon reasonable estimates.

4. Landscaping and other improvements such as fencing and rockeries within the right-of-way are subject to removal by the city or at the request of the city.
- D. Street Tree and Landscaping Installation Requirement.
1. Street landscape installation or improvement is required when applicable projects are to be undertaken along any public street as identified in, and according to the guidelines of, city codes, standards, adopted street design plans, and adopted city plans including the capital investment plan, transportation facilities plan, pedestrian and bicycle transportation plan, and comprehensive plan.
  2. Where not in conflict with other applicable code provisions, ground cover shall be provided for street frontage of the site in order to control erosion.
- E. Species Selection. Refer to LUC 20.25A.060 and Chapter 20.25D LUC for selection of tree species. If not otherwise specified in code, tree species selection shall be listed in the City of Bellevue Environmental Best Management Practices and Design Standards, now or as hereafter amended.
- F. Maintenance of Plant Materials.
1. Landscaping in the right-of-way shall be maintained by the abutting property owner(s) unless maintenance has been accepted by the city.
  2. All landscape materials in the right-of-way shall be maintained to industry standards. Trees shall be pruned according to standards adopted by the International Society of Arboriculture.
  3. The property owner is responsible for ensuring that landscaping fronting his/her property does not impair driver or pedestrian sight distance as described in the transportation department design manual.
  4. Topping of street trees and other pruning that does not conform to industry standards is a civil violation under Chapter 1.18 BCC and subject to penalties set forth in BCC 1.18.045. (Ord. 6181 § 2, 2014.)

#### **14.60.130 Private roads.**

- A. Private roads shall be contained in an easement or tract and will be allowed when:
1. A covenant that provides for maintenance and repair of the private road by property owners has been approved by the city and recorded with King County; and

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2. The covenant includes a condition that the private road will remain open at all times for emergency and public service vehicles; and
  3. The private road would not hinder public street circulation; and
  4. At least one of the following conditions exists:
    - a. The road would ultimately serve no fewer than three lots and no more than nine lots; or
    - b. The road would ultimately serve more than nine lots, and the review engineer and the fire marshal determine that due to physical site constraints or preexisting development no other reasonable access is available. In addition, the proposed private road would be adequate for transportation and fire access needs, and the private road would be compatible with the surrounding neighborhood character; or
    - c. The private road would be part of a commercial or residential planned unit development; or
    - d. The private road would serve commercial or industrial facilities where no circulation continuity is necessary.
  5. Absent any of the above, public streets are required.
- B. The design and construction of private roads shall conform to the requirements of the transportation department design manual and the fire department development standards.
  - C. Private roads shall be designed such that vehicles attempting to enter the private road will not impede vehicles in the travel lane of the public street.
  - D. Combined vehicular access for adjoining properties is encouraged. Joint access shall be established in a tract or easement.
  - E. Access onto arterial streets from private roads may be denied at the discretion of the review engineer if alternate access is available.
  - F. The continued use of a preexisting private road is not guaranteed with the development of a site.
  - G. All abandoned private roads on the street frontage to be improved shall be removed and new curb, gutter and sidewalk shall be installed.
  - H. Private road grade and configuration shall accommodate future street widening as described in adopted city plans and codes to prevent the need for major private road reconstruction.
  - I. No private road shall be approved where undesirable impacts, such as vehicles backing onto the public sidewalk or street, will occur.
  - J. Left turns to and from a private road may be restricted either at the time of development or in the future if such maneuvers are found by the city to be hazardous.
  - K. The requirements of this section may be modified by the director if:
    1. The modification is reasonable and necessary for development of the property; and

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2. The modification will result in more efficient access to and circulation within the property; and
3. The modification will not create a hazardous condition for motorists or pedestrians. (Ord. 6181 § 2, 2014.)

[...]

#### 14.60.170 Street ends.

- A. All dead-end public streets and private roads greater than 150 feet in length shall be constructed with a turnaround facility per the Transportation Department Design Manual Standard 7 – Street End Designs, as currently adopted or hereafter amended. The street or road may extend up to 150 feet beyond the approved turnaround facility.
- B. Streets that temporarily dead-end and will be extended in the future need not have a turnaround facility unless determined necessary by the review engineer and the fire marshal. When no turnaround facility is provided, street-end barricading shall be installed and must conform to the most recent edition of the Manual on Uniform Traffic Control Devices.
- C. Where the turnaround facility is a circular turnaround, a landscaped island delineated by curbing shall be provided in the circular turnaround by the developer. Bioretention swales or other vegetation-based LID BMPs may be located in the landscaped island. The landscaping shall be maintained by the homeowners' association or adjacent property owners. The developer shall record an agreement to ensure maintenance of the landscaping, either with the recording of the final plat or as a separate document if the development is occurring outside a plat. (Ord. 6181 § 2, 2014.)

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## Transportation Design Standards - Transportation Design Manual

### 2. Public Streets External to Subdivisions

B. Provision of a minimum four-foot planter strip with landscaping or drainage swale between the curb and the sidewalk is preferred. Where site conditions preclude provision of a full four-foot planter strip, a narrower planter strip is preferable to none at all. The requirement to provide a planter strip and landscaping between the curb and the sidewalk (outside Downtown) will be determined by the review engineer, based upon site conditions. Landscaping design must conform to Water Utility Code (BCC 24.02) requirements for water conservation. Landscaping requirements for Downtown are specified by Land Use Code 20.25A.060.

### 3. Public Streets Internal to Subdivisions

D. Provision of a minimum four-foot planter strip with landscaping or drainage swale between the curb and the sidewalk is preferred. Where site conditions preclude provision of a full four-foot planter strip, a narrower planter strip is preferable to none at all.

### 14. Sidewalks and Nonmotorized Facilities

#### B. Pedestrian Facility Construction

##### (3) Paved path construction:

- a. Acceptable surface materials are asphalt and concrete.
- b. Permeable pavement may be used where feasible and effective.

##### (4) Concrete sidewalk construction:

- a. All sidewalks shall be constructed with five-inch-thick Class 3000 concrete with a non-slip broom finish, except Downtown. For Downtown sidewalk construction standards, see also Land Use Code 20.25A.060. Downtown projects are also subject to special requirements through the design review process.
- b. At driveways, the concrete shall be Class 4000 per City of Bellevue Transportation Standard drawings.
- c. Specialty finishes may be allowed with the approval of the review engineer when the proposed material will provide a non-slip surface when wet and the adjacent property owner agrees to maintain, repair, and replace the specialty material at her/his own expense, even when the maintenance is made necessary because of City work.
- d. Permeable pavement may be used where feasible and effective.

#### C. Bicycle Facility Construction

(1) Separated bicycle path – See requirements for paved path construction. Acceptable surface materials are asphalt and concrete.

##### (2) Bicycle lane

- a. Acceptable surface materials are asphalt and concrete.
- b. Permeable pavement may be used where feasible and effective.
- c. A bicycle lane on a public roadway shall be a minimum of five feet wide when curb and

**Commented [H1]:** Driveway concrete shall be Class 4000 as per COB standard drawings

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gutter is in place. The distance shall be measured from the face of curb to the center of the bicycle lane marking that designates the bicycle lane. A cement concrete traffic curb and gutter is required. See Design Manual Drawing TE- 10.

d. A bicycle lane on a public roadway shall be a minimum of four feet wide when no curb and gutter is in place. The width shall be measured from the edge of pavement to the center of the bicycle lane marking. A minimum two-foot wide graded shoulder is required adjacent to the paved surface.

(3) Shared roadway

a. Acceptable surface materials are asphalt and concrete. b. The curb lane of a shared roadway shall be a minimum of 14 feet wide for flat or downhill sections and 15 feet wide for uphill sections. The distance shall be measured from the face of curb to the center of the lane marking.

**Commented [H2]:** Will be updated name.

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## Transportation Design Standards-Development Review Drawings

### DEV-1 Turnaround Facilities

Notes: 1. Landscaped island with vertical curb at center of circular turnaround is required. Bioretention and stormwater management facilities may be utilized in landscaped islands. Plantings within landscaped islands should utilize native species to the maximum extent feasible.

**Commented [JMA1]:** "maximum extent feasible" is the commonly used term

### DEV-10 Commercial Project Site-Street Frontage Improvements

Notes:

5. Landscaped planter strip requirements (width, landscape type, maintenance, etc.) will be specified by the engineer. Bioretention and vegetation-based stormwater management practices may be utilized within the planter strip. The plantings should incorporate native species to the maximum extent feasible. See Std. Dwg. ROW-9 for asphalt detail adjacent to planter strip.

**Commented [H2]:** Name will be changed.

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## Transportation Design Standards: Appendix B BelRed Area Standards

### 3. Conceptual Plans and development standards

120th Avenue NE - Stage 2 (CIP No. PW-R-164). Continue street tree theme established in the 120th Avenue NE Stage 1 project. Provide a transition in shrub/groundcover treatments to distinguish Stages 2, 3 and 4 from Stage 1. Native plant species are preferred for shrub/groundcover treatments. Vegetation-based stormwater management facilities such as bioretention may be utilized within the landscape strip.

120<sup>th</sup> Avenue NE-Stage 3 (CIP No. PW-R-168). Continue street tree theme established in the 120th Avenue NE Stage 1 project. Provide a transition in shrub/groundcover treatments to distinguish Stages 2, 3 and 4 from Stage 1. Native plant species are preferred for shrub/groundcover treatments. Vegetation-based stormwater management facilities such as bioretention may be utilized within the landscape strip.

NE 6<sup>th</sup> Street Extension (CIP NO. XXX). Locate planting strips between sidewalks and vehicular/bicycle lanes rather than at back-of-sidewalk. Planting strips may incorporate vegetation-based stormwater management practices such as bioretention swales. Continue street tree theme established in the 120<sup>th</sup> Avenue NE Stage 1 Project. Provide distinctive shrub/groundcover treatments to distinguish Stages 3 and 4 from Stage 1. Native plant species are preferred for shrub/groundcover treatments.

124th Avenue NE (CIP No. PR-R-169)

Provide distinctive built or vegetative gateways into the riparian corridor east of 124th Avenue NE. Vegetation-based stormwater management facilities such as bioretention swales may be utilized in a vegetative gateway. Establish and maintain a consistent street tree theme along the length of 124th Avenue NE. Provide transition in the shrub and groundcover plantings south of BelRed Road. The use of native plant species is preferred for all plantings.

Spring Boulevard Recommendations 116<sup>th</sup> Ave NE - NE 20th Street

Multi-Purpose Pathway

Planting strip (with stormwater management practices and native plant species)

3 Conceptual Plans and Development Standards-3.4 Local Streets

**Commented [H1]:** Does this phrase apply to this project? Or is it left over from another project?

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Figure 3.4.9

### Landscape & Furnishings

Trees spaced at 30' on-center in planting strip, native plant species are preferred.  
4'0" planting strip.

Vegetation-based stormwater management facilities (where feasible and effective)

### 3 Conceptual Plans and Development Standards-3.4 Retail Streets

Because the street trees on Retail Streets will be in tree grates instead of located in large open planters, provisions will need to be made for adequate root and soil volume. A root space protection zone is proposed from the face of adjacent development to the edge of the vehicular travel lane, in which a structural matrix such as Silva Cell will be used to support pavement over a high-quality growing medium. Where bioretention facilities are proposed in conjunction with trees, tree grates shall be removable.

Figure 3.5.10

### Landscape & Furnishings

Trees spaced at 30' on center in planting strip. Native plant species are preferred.  
5'x10' planters with rain gardens or, if infeasible, tree grates.