

LOW IMPACT DEVELOPMENT (LID) IN THE LONGVIEW-KELSO AREA

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S9.E.4 Introduction

The purpose of this document is to assess how Low Impact Development (LID) might be implemented in the Longview-Kelso Urbanized area, in order to comply with condition S9.E.4 of the Western Washington Phase II Municipal Stormwater Permit (Permit). The Permit defines LID as a stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic pre-development hydrologic functions.

The Cities of Longview and Kelso (adjacent sister cities) have similar documents for stormwater related issues and some of these documents were required to be drafted by the Permit. The cities share the Longview-Kelso Standard Plans & Specifications document. The cities worked collaboratively to draft and adopt stormwater management and illicit discharge ordinances as well as stormwater manuals and all have similar or identical language. Longview has the Longview Stormwater Manual and Kelso has the Kelso Engineering Design Manual (KEDM) that includes a chapter on storm drainage (see Appendix). As the cities are similar geographically, culturally and politically, issues regarding LID apply to both cities and they plan to address LID similarly. This document applies to both cities.

S9.E.4.a Barriers to LID and Measures to Address Them

A. Regulatory

While some improvements have been made to the Longview-Kelso Standard Plans and Specifications, both municipal codes, and the newly revised Longview

Comprehensive Plan, enough barriers remain so that several LID approaches must be addressed on a case-by-case basis.

1. *Action.* After receipt of the 2012 Phase II Municipal Stormwater NPDES Permit, hire a consultant to propose all specific and reasonably achievable changes to the Longview-Kelso Standard Plans and Specifications, the municipal codes, and the comprehensive plans that are necessary to allow (if not promote) LID and comply with the Permit.

Note: This section and others below suggest hiring of consultants, city staff and others for LID actions. City funds are not budgeted in 2012 and are not foreseen in the near future to implement these actions. In the past, the cities have relied heavily on state grants to help develop and implement the Permit requirements and the cities will continue to rely on state grants to implement future Permit requirements such as LID. Lack of funding creates a barrier to LID implementation.

B. Municipal Operations and Maintenance

The transition to widespread use of LID will require an increase in staff resources to inspect and attain compliance with maintenance standards; because the cities lack the expertise needed to inspect and maintain LID facilities and these facilities are typically more numerous, more dispersed, and less conspicuous than old fashioned swales and ponds.

1. *Action.* Hire a stormwater technician that is knowledgeable with installation and maintenance of LID techniques to cover both the construction and annual inspections, while cross training with current inspectors to improve the level of knowledge and awareness of all staff.
2. *Action.* Establish a maintenance plan and system, with accompanying training and possible funding, to support the division(s) tasked with this responsibility.

C. Local Capacity to Accommodate LID in the Development Process

Community Development and Public Works employees work on a myriad of tasks. It is critical for the area's economic growth that the development review process be clear, consistent, and streamlined. Currently, LID is handled on a case-by-case basis. Even with the regulatory mechanisms drafted to accommodate LID, the local jurisdictions do not yet have the systems necessary address LID in the already complex and contentious development review process. More importantly, the development community has scant experience with LID, which greatly complicates estimating, bidding, sub-contracting, project design and management. No one wants projects to die because of uncertainty or fear. Also, current work load and cost constraints inhibit ability to expand such capacity in the private and public sectors.

1. *Action.* Hire a stormwater technician to help staff review plans and provide assistance to developers, engineers, and contractors.
2. *Action.* Seek updated and guidance documents and training opportunities that provide clear instruction for planning and review staff so that all consultant plans are properly assessed to address potential installation failures.

3. *Action.* Continue to make LID selection and design in the Longview Stormwater Manual and the KEDM as simple as possible, customizing Ecology-approved solutions for each type of local geography.

D. Community Acceptance and Understanding

Most in the development community are hesitant to adopt LID due to fear of the unknown and/or lack of confidence in the effectiveness of these techniques. Some engineers are not convinced that LID is an acceptable alternative to conventional means. They are skeptical that these methods will provide an adequate solution without compounding current stormwater issues. Additionally, improper or incomplete assessment of site conditions could lead to missed or inappropriate use of LID, and therefore compliance issues. Improper design and installation of LID facilities could lead to failures, and therefore ugly liability issues. Finally, the local development community is generally opposed to government mandates – *especially* if they seem complicated or more costly.

1. *Action.* This barrier should be solved through continued outreach by the permittees, and of course, implementation over time [barring any high profile errors/failures].
2. *Action.* Create innovative ways to incentivize LID techniques, as opposed to requiring them.

E. Environmental

The Longview-Kelso area is located at the confluence of three rivers and is surrounded by steep slopes. Most areas are diked, characterized by soils unsuitable for infiltration and/or subject to extremely high groundwater (basements are rare, and many areas contend with water in their crawl spaces in the winter). The hills are notoriously unstable – Kelso having the largest landslide damage to residences in US History.

1. *Action-* Hire a geo-engineering firm to determine the degree of suitability of all sub-basins and terrain types in the Longview-Kelso area.

S9.E.4.b.i Accomplishments and Current LID Practices

The cities' ordinances and stormwater manuals were updated in 2009 and 2010 to allow and promote LID. LID has been allowed and encouraged through credits and simplified (and/or referenced) stormwater facility design criteria. For detailed descriptions of the accomplishments and current LID practices, see the KEDM and Longview Stormwater Manuals and each city's Stormwater Management Program (SWMP) on their websites at <http://stormwater.kelso.gov> and <http://www.cleanstormwater.org>.

Amenity

The cities' stormwater manuals require certain projects to retain existing resources and mimic natural processes. Designs must either use LID or enhance property value by creating an aesthetic experience focusing on stormwater and communicating the presence, function and impact of the site's runoff. This "amenity criteria" completes a

more holistic, long-term approach to stormwater site management called the Urban Drainage Triangle that is comprised of stormwater quantity, stormwater quality and aesthetics. (see Chapter 4 of the KEDM or Section 2.2.6 of the Longview Stormwater Manual on their respective city websites.)

LID Credits and Criteria

The cities' stormwater manuals promote LID by providing easy-to-use credits and simplified design criteria for LID best management practices (BMPs) to be used in lieu of, or to reduce, the local development and redevelopment requirements. LID BMPs include dispersion, infiltration, innovative LID designs, pervious pavements, rain gardens and planters, quality soils, and new and existing trees.

LID Education and Assistance

The cities have cooperated to provide several workshops on LID BMPs and credits usage. Prospective projects are informed about LID options prior to and after plans submission. In Longview, proponents can receive limited hands-on assistance with design and installation. LID is also promoted in more traditional venues such as in local publications, the Home and Garden Show, and Earthday. The cities are working with local soils and amendment suppliers to help local contractors meet soils BMP T5.13.

Other LID Accomplishments

Longview and Kelso have been awarded and are honored to receive a stormwater retrofit competitive grant to allow and place pervious concrete and also to develop the capacity for the (Longview) Streets Division to install it. In 2009, Longview received second place in the Washington Aggregates and Concrete Association's Excellence in Concrete Award for the Northwest's first privately built pervious concrete public street.

S9.E.4.b.ii Potential LID Practices

As described above, the cities have already allowed for and promoted many LID practices. The cities will wait until the next (2012) Permit is issued before deviating from these recent LID accomplishments and practices. Ecology was mandated by the Pollution Control Hearings Board to change LID requirements for Phase II permittees. Ecology and stakeholders invested considerable resources to develop new LID requirements with outreach activities, including through the LID Technical Advisory and the LID Implementation Committees. Their recommendations will help guide Ecology in new LID requirements. However, the path forward for smaller cities remains unclear until the (2012) Permit promulgates the new LID requirements.

It is hoped the cities will be able to revise their manuals and codes to remove most barriers, streamline the application process, and, where applicable, provide incentives for developers to adopt LID techniques whenever possible on site.

S9.E.4.b.iii Goals and Metrics to Facilitate and Track LID Use

Goal 1 – To train city staff in proper construction installation and maintenance inspection techniques for LID.

- Task 4a- find appropriate training certification courses to provide inspectors with sufficient knowledge of LID construction installation techniques and LID maintenance inspection procedures.
- Task 4b- ensure that all inspectors are adequately trained in LID construction .installation techniques and LID maintenance inspection procedures.
- Task 4c- create or obtain a brief training document to use for instruction of staff and intern positions.

Measurement of success: Training of city inspectors and support staff

Goal 2 – To obtain funding for and hire a stormwater technician in order to provide assistance to contractors and/or staff for selection, design, review, construction, and maintenance of LID facilities.

- Task 2a – somehow find, get, or raise the funds to support an additional employee during this economic downturn.
- Task 2b – create and fill the position.

Measurement of success: Filling a stormwater technician’s position.

Goal 3 – To remove barriers to LID in the ordinances, codes, and requirements of Longview and Kelso and to include more elements of LID.

- Task 3a- Hire a consultant to identify and provide an accurate assessment of barriers and LID elements to include.
- Task 3b – Share with the public, management, and councils to get direction about what to changes to attempt.
- Task 3c – Provide feedback/outreach to the public and make the recommended changes to local requirements, code, and ordinances concerning barriers and further elements of LID.
- Task 3d – Enact said improvements.

Measurement of success: Removal of LID barriers and addition of more LID elements in our City code

S9.E.4.b.iv Potential Timeline to Require LID



July 2012	February 2015	July 2016
<ul style="list-style-type: none"> • Clarity and impetus needed prior to further commitment of resources 	<ul style="list-style-type: none"> • Geo-engineer determines feasibility of LID options for each sub-basin and/or soil type. • Consultant reviews codes, comprehensive plans, standard plans and specifications. • LID technician hired. 	<ul style="list-style-type: none"> • Recommendations incorporated into development review process, stormwater manuals, codes, and comprehensive plans.

Conclusion

Despite local environmental barriers to LID effectiveness, the cities of Longview and Kelso desire and will benefit from LID. To this end, significant efforts have already been taken to study and promote it. The political climate and resource constraints demand that LID reforms be predicated with two themes: local flexibility and incentives. With proper funding, state requirements, and local commitment, these goals can be completed within the specified amount of time.