AGENDA
LACEY PLANNING COMMISSION MEETING
Tuesday, July 5, 2016 – 7:00 p.m.
Lacey City Hall Council Chambers, 420 College Street SE

Call to Order: 7:00 p.m.

A. Roll Call
B. Approval of Agenda & Consent Agenda Items*
Approval of the June 21, 2016, Planning Commission Meeting Minutes

*Items listed under the consent agenda are considered to be routine and will be enacted by one motion and one vote. There will be no separate discussion of these items. If discussion is desired, that item will be removed from the Consent Agenda and will be considered separately.

Public Comments: 7:01 p.m.

Commission Members Reports: 7:03 p.m.

Director's Report: 7:05 p.m.

Old Business: 7:10 p.m.

Low Impact Development Code Amendments: Samra Seymour, Associate Planner; Doug Christenson, Stormwater Engineer. The Planning Commission will review the proposed revisions to the Woodland District Form-Based Code and Development Guidelines and Public Works Standards associated with the NPDES Phase 2 permit mandate for LID integration. No action is requested as this is the second in the series of review sessions associated with the LID update project.

Communications and Announcements: 8:55 p.m.

Next Meeting: July 19, 2016.

Adjournment: 9:00 p.m.

CITY OF LACEY PLANNING COMMISSION
WORK SCHEDULE

Planning Commission Meeting **July 5, 2016** **Packets due: June 30th**	1. **Worksession:** LID Code Update Work Session #2 (Doug Christenson & Samra Seymour)
Planning Commission Meeting **July 19, 2016** **Packets due: July 14th**	1. **Worksession:** Stormwater Design Manual Update Work Session #1 (Doug Christenson & Samra Seymour) 2. **Worksession:** 2016/17 Work Program Discussion
Planning Commission Meeting **August 2, 2016** **Packets due: July 28th**	1. **Worksession:** Stormwater Design Manual Update Work Session #2 (Doug Christenson & Samra Seymour)
City Council/Planning Commission Bus Tour **August 4, 2016 Time TBD**	1. **Bus Tour**

Pending items:
LID Hearing, August 16
LID Hearing Follow-up Work Session, September 6

MINUTES
Lacey Planning Commission Meeting
Tuesday, June 21, 2016 – 7:00 p.m.
Lacey City Hall Council Chambers, 420 College Street SE

Meeting was called to order at 7:00 p.m. by Mike Beehler.

Planning Commission members present: Mike Beehler, Carolyn Cox, Paul Enns, Carolyn St. Claire, Cathy Murcia, Sharon Kophs, and Mark Morgan. Staff present: Rick Walk, Ryan Andrews, Christy Osborn, George Smith, Samra Seymour, Sarah Schelling, Doug Christenson, and Leah Bender.

Mike Beehler noted a quorum present.

Sharon Kophs made a motion, to approve the agenda for tonight's meeting. All were in favor, the motion carried. Carolyn Cox made a motion, seconded by Sharon Kophs, to approve the May 17 meeting minutes. All were in favor, the motion carried.

1. **Public Comments:** None.

2. **Commission Member's Report:**
   - Carolyn St. Claire reported on her attendance at the stormwater task force meeting.

3. **Director's Report:**
   - Rick Walk announced that the Woodland District Form-Based Code received the Driehaus Award.
   - Rick informed Planning Commission that the Hearings Examiner denied the appeal of the Reserve at Lacey senior housing development. The Hearings Examiner decision was not appealed and therefore the project can move forward.
   - Rick introduced Brent Butler, the new Director of Thurston County Resource Stewardship.

4. **Public Hearing:**
   2016 Comprehensive Plan Update:
   - Ryan Andrews explained that the GMA requires the City to update the Comp Plan by June 30, 2016.
   - Ryan gave a brief overview of the elements that have been updated: Land Use Element, Environmental Element, Economic Development Element, Housing Element, and Utilities Element.
   - Ryan went over some of the different Envision Lacey public outreach events where the Comp Plan was presented.
   - Christy Osborn gave an overview of the eight Planning Areas.
   - George Smith discussed the Economic Development Element.
   - Ryan briefly discussed the CR2 Plan, and proposed priority development code amendments, including amended residential building height restrictions and density, and the incorporation of the Business Park and Office Commercial zones to create Community Office Zone.
   - Ryan went over the Econet rezone application request to change the zoning of two parcels from Business Park to Hawks Prairie Business District-Business Commercial.
   - Ryan shared two public comment letters he received in support of amending Business Park and Office Commercial zones to create the proposed Community Office Zone.
   - Ryan thanked City staff and Planning Commissioners for their help with updating the Comp Plan.
   - Mike Beehler asked for public comments on the hearing.
   - Lacey UGA resident Lynn Larsen, 2610 Carpenter Road NE, addressed the Planning Commission and asked for clarification about the location of the Econet zoning change. Mr. Larsen also asked for clarification on the proposed Greg Cuoio Park. Rick Walk explained that there are challenges with the park as a portion of it is located within the UGA and a portion is located outside the UGA within rural Thurston County. Rick confirmed that the park is not open to the public at this time and that any future park master planning will be addressed as part of the Parks Plan Update.
   - Planning Commissioners commended staff on all the work that has been put into the Comp Plan.

- **Carolyn St. Claire made a motion, seconded by Mark Morgan, to recommend the Comp Plan updates, including staffs' findings of fact and conclusions of law, to Council for adoption. All were in favor, the motion carried.**
- **Carolyn Cox made a motion, seconded by Paul Enns, to recommend the Development Code Updates to Council for adoption. All were in favor, the motion carried.**
- **Mark Morgan made a motion, seconded by Cathy Murcia, to recommend the Econet rezone request to Council for approval. All were in favor, the motion carried.**

5. **New Business:**
   Low Impact Development Code Amendments:
   - Samra Seymour gave some background information and explained that the main emphasis of the LID update is to remove barriers to LID implementation.
   - Samra discussed LMC Title 12 and noted that the main change is added language regarding restoration of damage and maintenance requirements.
   - Samra went over Title 14 which adds definitions; addresses parking lot standards; amends design review standards such as allowing vegetated LID facilities to be used as open space, screening, and as a means to meet irrigation requirements.
   - Samra reviewed Title 15 language changes regarding design standards for subdivisions, short subdivisions, and binding site plans.
   - Samra went over Title 16 which includes added definitions, changes to driveway dimension requirements, some housekeeping measures for consistency, added language to improve soil quality, added landscaping section, allowing vegetated LIDs to be used in traffic calming facilities, and changes to parking standards.
   - Samra noted that the LID Code Update will be discussed further at the next Planning Commission.

6. **Communications and Announcements:** None.

7. **Next meeting:** July 5, 2016.

8. **Adjournment:** 9:04 p.m.

PLANNING COMMISSION STAFF REPORT
July 5, 2016

SUBJECT: **Low Impact Development (LID) Code Updates**

RECOMMENDATION: No action is needed. This is the second work session to review and discuss the proposed regulatory changes to City codes and standards to allow for the use of LID strategies. This work session will focus on the proposed changes to the LMC 16.24 Woodland District Form-Based Code (FBC) and the Development Guidelines and Public Works Standards (DG&PWS).

TO: Lacey Planning Commission

STAFF CONTACTS: Rick Walk, Director of Community Development
Ryan Andrews, Planning Manager RA
Samra Seymour, Associate Planner SLS
Doug Christenson, Stormwater Engineer DC

ATTACHMENT(S):
1. Discussion form LMC 16.24 Woodland District FBC
2. Discussion form 2014 DG&PWS

PRIOR COUNCIL/ COMMISSION/ COMMITTEE REVIEW: The Planning Commission has been briefed several times in the past year with the most recent being the June 21, 2016 Planning Commission meeting. The City Council Utilities and Land Use Committees have also been briefed.

BACKGROUND:

The NPDES Phase 2 Municipal Stormwater Permit requires the City of Lacey to make revisions to our local development-related codes, rules and standards to incorporate and require LID. City staff conducted an interdepartmental project to review all of the pertinent City regulations and documents in order to address these requirements. The project combines two efforts that are interrelated and have an implementation deadline of December 31, 2016. The LID/SDM project involves extensive revisions and updates to local regulations related to land development and stormwater management, including the Lacey Municipal Code, the 2014 Development Guidelines & Public Works Standards, and the 2010 Stormwater Design Manual. At project completion, the revised codes, rules and standards will work together

without gaps or conflicts, and will be applied to nearly all development projects with the intent of making LID the "preferred and commonly-used approach to site development."

KEY ISSUES:

Woodland District FBC

During the development of the FBC staff was aware of the upcoming changes to stormwater regulations; therefore, many LID principles were incorporated into the design standards that were ultimately adopted. Because of this foresight, many of the proposed changes to LMC 16.24 are for the purpose of updating and correcting terminology to be consistent with Ecology and other City regulations. A number of the proposed changes provide additional context for specific types of LID BMPs and when their use would be appropriate in the more urban environment being created by implementation of the FBC.

DG&PWS

While the DG&PWS are considered City regulatory code and do play a role in how development within Lacey looks, many of the standards contained in this document are focused on how improvements to public infrastructure are designed and constructed. As such, the bulk of the proposed changes address technical requirements of construction and design practices used by engineering/design professionals. These changes are necessary in order to ensure that the City's construction standards allow for the types of LID improvements identified in the LMC and required by the Stormwater Design Manual.

As discussed during the previous briefing, the use of permeable paving surfaces will be one of the more observable changes to development as a result of LID requirements. In terms of public infrastructure, permeable surfaces will be allowed in the following areas: minor local residential streets, private roads, alleys, sidewalks and certain bike paths and on-street parking lanes. Other LID BMPs proposed for the right-of-way are the use of vegetated LID facilities in traffic calming devices, such as bulb-outs.

RECOMMENDATION:

The Planning Commission will review the draft changes to LMC 16.24 and the DG&PWS that incorporate LID strategies into City development codes and provide input and feedback.

City of Lacey – Proposed Revisions

Name of Document/Code/Policy Reviewed: Chapter 16.24- Woodland District FBC

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
16.24.040- General Standards Required for all Development	E. Environmental Performance 3. All stormwater runoff shall be retained and disposed of on site or disposed of in a system designed for such runoff and which does not flood or damage adjacent properties. Systems designed for runoff retention and control shall comply with specifications provided by the city and shall be subject to its review and approval, and shall, moreover, comply with Chapter 15.22 LMC pertaining to community facilities.	3. ~~All stormwater runoff shall be retained and disposed of on site or disposed of in a system designed for such runoff and which does not flood or damage adjacent properties. Systems designed for runoff retention and control.~~ Stormwater management is required and shall comply with the current City of Lacey Stormwater Design Manual ~~specifications provided by the city~~ and shall be subject to ~~it's~~ the City's review and approval, and shall, moreover, comply with Chapter 15.22 LMC pertaining to community facilities.	☒ Amend existing language ☐ Develop new language ☐ No change Adds a reference to the SDM
Table 16.24.040-3- District Wide Development Standards	All projects shall meet the amended 2010 City of Lacey Stormwater Design Manual as hereafter amended, which has square footage thresholds for new development and redevelopment (2,000 square feet and 5,000 square feet of new or redeveloped impervious surfaces). No requirements for areas under 2,000 square feet, between 2,000 square feet and 5,000 square feet the stormwater must be retained onsite; and over 5,000 square feet full treatment and infiltration is required.	All projects shall meet the ~~amended 2010~~ current City of Lacey Stormwater Design Manual ~~as hereafter amended~~, which has square footage thresholds for new development and redevelopment (2,000 square feet and 5,000 square feet of new or replaced hard ~~redeveloped impervious~~ surfaces). In general, construction stormwater pollution prevention may apply to ~~No requirements for~~ areas under 2,000 square feet, between 2,000 square feet and 5,000 square feet the stormwater must be retained onsite; and treatment applies when over 5,000 square feet is considered to be a pollution generating hard surface ~~full treatment and infiltration is required~~.	☒ Amend existing language ☐ Develop new language ☐ No change Updates SDM reference and thresholds

<table>
<tr><th>Section/Page Reference</th><th>Existing Text</th><th>Proposed Revisions to Existing Text</th><th>Preferred Approach</th></tr>
<tr>
<td>TABLE 16.24.080-1, Low Impact Development Approaches</td>
<td>
Urban Mixed Use
Low-impact Development Approaches (LIDA) should reflect the character of place; in the most urban setting for the Woodland District the function of rainwater detention and stormwater re-infiltration should be intense and structured. LIDA techniques consistent with this context include green roofs, rainwater harvesting, infiltration planters, permeable paving, and detention vaults.
<table>
<tr><th>Urban Mixed-Use LID Approach</th><th>Where Permitted</th></tr>
<tr><td>Urban Mixed Use Type A
For urban sidewalks where there is on-street parking and street furniture. Designed to accommodate frequent pedestrian traffic between parked cars and retail or service commercial. Planted area is confined to a portion of the furnishings zone of the sidewalk, and is limited in length.</td><td>6th Avenue
Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Urban Mixed Use Type B
For urban sidewalks which include curb extensions, such as at corner curb ramps.</td><td>Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Urban Mixed Use Type C
For mixed use and residential courtyards and forecourts.</td><td>Infill Block site area</td></tr>
</table>
</td>
<td>
Urban Mixed-use
Low-impact Development Approaches (LIDA) should reflect the character of place; in the most urban setting for the Woodland District the function of stormwater management ~~rainwater detention and stormwater re-infiltration~~ should be intense and structured. LIDA techniques consistent with this context include ~~green~~ vegetated roofs, rainwater harvesting, native and drought tolerant landscaping, bioretention ~~infiltration planters~~, rain gardens, and permeable paving~~, and detention vaults~~.
<table>
<tr><th>Urban Mixed-Use LID Approach</th><th>Where Permitted</th></tr>
<tr><td>Urban Mixed Use Type A (Street Furnishing Zone and Sidewalk)
Site Applicability: For urban sidewalks where there is on-street parking and street furniture.
Applicable LID Facilities: Bioretention with raised edge treatments with native and drought tolerant vegetation and street trees are preferred. Permeable paving is the preferred surfacing for sidewalks where feasible.
Design Considerations: Designed to accommodate frequent pedestrian traffic between parked cars and retail or service commercial. ~~Planted~~ Vegetated LID facilities ~~area is~~ are confined to a portion of the furnishings zone of the sidewalk, and are~~is~~ limited in length.</td><td>6th Avenue
Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Urban Mixed Use Type B (Curb Extensions /Bulb Outs and Sidewalk)
Site Applicability: For urban sidewalks which include curb extensions, such as at corner curb ramps.
Applicable LID Facilities: Bioretention with raised edge treatments with native and drought tolerant vegetation are preferred. Permeable paving is the preferred surfacing for sidewalks where feasible.
Design Considerations: Designed to accommodate vehicular sightlines.</td><td>Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Urban Mixed Use Type C (Courtyards and Forecourts)
Site Applicability: For mixed use and residential courtyards and forecourts.
Applicable LID Facilities: Bioretention in planters with native and drought tolerant vegetation are preferred. Permeable paving is the preferred surfacing for sidewalks where feasible. Rainwater harvesting to manage roof runoff is encouraged. Vegetated roofs are encouraged for roofs that serve as a gathering space.
Design Considerations: Designed to provide pedestrian amenities such as aesthetics, seating, and mobility.</td><td>Infill Block site area</td></tr>
</table>
</td>
<td>
☒ Amend existing language
☐ Develop new language
☐ No change
Updates terminology.

Removes detention vaults from the list of LIDA approaches since these are considered to be conventional flow control facilities.

Clarifies intent of each type and applicable LID facilities.
</td>
</tr>
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<tr>
<td>TABLE 16.24.080-1, Low Impact Development Approaches</td>
<td>
Urban Residential
In the more residential settings of the Woodland District the function of rainwater detention and stormwater re-infiltration may include LIDA techniques such green roofs, rainwater harvesting, infiltration planters, flow-through planters, rainwater gardens, and permeable paving.
<table>
<tr><th>Urban Residential LID Approach</th><th>Where Permitted</th></tr>
<tr><td>Urban Residential Type A
Informal rainwater gardens and planted area suitable for courtyard or forecourt edges or Porch-Stoop-Terrace Frontages. May also be used within the horizontal separation zone required for ground floor residential.</td><td>Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Urban Residential Type B
For urban sidewalks in residential areas where there is on-street parking and street furniture. Designed to accommodate pedestrian traffic between parked cars and residential entries. Planted area may be used in conjunction with required street trees and informally planted with native plants.</td><td>6th Avenue
Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
</table>
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<td>
Urban Residential
In the more residential settings of the Woodland District the function of ~~rainwater~~ stormwater detention and ~~stormwater re~~infiltration may include LIDA techniques such ~~green~~ vegetated roofs, rainwater harvesting, native and drought tolerant landscaping, bioretention, rain gardens, ~~infiltration planters, flow-through planters, rainwater gardens~~, and permeable paving.
<table>
<tr><th>Urban Residential LID Approach</th><th>Where Permitted</th></tr>
<tr><td>Urban Residential Type A (Front Setbacks)
~~Informal rainwater gardens~~ Bioretention or rain gardens ~~and planted area~~ with native plants suitable for courtyard or forecourt edges or Porch-Stoop-Terrace Frontages. May also be used within the horizontal separation zone required for ground floor residential. Permeable paving is the preferred surfacing for forecourt or Porch-Stoop-Terrace Frontages where feasible.</td><td>Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Urban Residential Type B (Street Furnishing Zone)
For urban sidewalks in residential areas where there is on-street parking and street furniture. Designed to accommodate pedestrian traffic between parked cars and residential entries. Planted area may be used in conjunction with required street trees and informally planted with native and drought tolerant plants. Permeable paving is the preferred surfacing for sidewalks where feasible.</td><td>6th Avenue
Golf Club Road
Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
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<td>
☒ Amend existing language
☐ Develop new language
☐ No change
Updates terminology.

Clarifies intent of each type and applicable LID facilities.
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<td>TABLE 16.24.080-1, Low Impact Development Approaches</td>
<td>
Through Connections and Parking Lots
Parking lots, private streets, and multi-use paths should be designed to detain and redirect stormwater runoff. LIDA design includes bioretention in vegetated swales, flow-though planters, and rainwater gardens. Pervious pavement is an effective alternative to conventional curbs, catch basins, sewer pipes, and treatment facilities.
<table>
<tr><th>Parking Lot LID Approach</th><th>Where Permitted</th></tr>
<tr><td>Parking Lot LID Approach A
Contained swale or rainwater garden suitable for internal parking lot landscaping, and to fulfill parking lot perimeter landscaping requirement wherever a parking lot abuts a street or Through Connection.</td><td>Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Parking Lot LID Approach B
Suitable for internal parking lot landscaping. May be used in conjunction with required parking lot tree planting.</td><td>Infill Block site area</td></tr>
<tr><td>Parking Lot LID Approach C
Swale with native plants including small trees and shrubs with vertical habit. Suitable for internal parking lot landscaping, and to fulfill parking lot perimeter landscaping requirement wherever a parking lot abuts a street or Through Connection.</td><td>Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
</table>
</td>
<td>
Through Connections and Parking Lots
Parking lots, private streets, and multi-use paths should be designed to detain and redirect stormwater runoff. LIDA design includes bioretention ~~in vegetated swales, flow-though planters,~~ native and drought tolerant landscaping, ~~and~~ rain~~water~~ gardens, and permeable paving. ~~Pervious pavement is an effective alternative to conventional curbs, catch basins, sewer pipes, and treatment facilities.~~
<table>
<tr><th>Parking Lot LID Approach</th><th>Where Permitted</th></tr>
<tr><td>Parking Lot LID Approach A (Perimeter Landscaping)
~~Contained swale~~ Bioretention swales, bioretention planters or rain~~water~~ gardens with native plants ~~suitable for internal parking lot landscaping, and to fulfill parking lot perimeter landscaping requirement~~ wherever a parking lot abuts a street or Through Connection. Permeable paving is the preferred surfacing for parking lots where feasible.</td><td>Pacific Avenue
Other Streets
Through Connections
Infill Block site area</td></tr>
<tr><td>Parking Lot LID Approach B (Internal Landscaping)
Bioretention swales with native plants ~~Suitable for internal parking lot landscaping~~. May be used in conjunction with required parking lot tree planting. Permeable paving is the preferred surfacing for parking lots where feasible.</td><td>Infill Block site area</td></tr>
<tr><td>~~Parking Lot LID Approach C
Swale with native plants including small trees and shrubs with vertical habit. Suitable for internal parking lot landscaping, and to fulfill parking lot perimeter landscaping requirement wherever a parking lot abuts a street or Through Connection.~~</td><td>~~Pacific Avenue
Other Streets
Through Connections
Infill Block site area~~</td></tr>
</table>
</td>
<td>
☒ Amend existing language
☐ Develop new language
☐ No change
Updates terminology.

Clarifies intent of each type and applicable LID facilities.

Combines Approach A and C [Note to City: move Approach C example photo to Approach A for a total of two example photos under Approach A]
</td>
</tr>
<tr>
<td>16.24.050-2. Streets and Through Connection Types
Page 17 of 54 (in PDF)</td>
<td>
Parking lane width:

8 feet: Golf Club
8.5 feet: 6th Ave
8-30 feet (optional; head-in, diagonal, parallel, or combination permitted): through block connection
NA: Pacific, College, Sleater Kinney, all other streets

</td>
<td>
Parking lane width:

8 feet: Golf Club
~~8.5~~ 8 feet: 6th Ave
8-30 feet (optional; head-in, diagonal, parallel, or combination permitted): through block connection
NA: Pacific, College, Sleater Kinney, all other streets

</td>
<td>
☒ Amend existing language
☐ Develop new language
☐ No change
Reduces parking lane width on 6th Ave to 8 feet (the minimum width developed through the FBC revisions).
</td>
</tr>
</table>

<table>
<tr><th>Section/Page Reference</th><th>Existing Text</th><th>Proposed Revisions to Existing Text</th><th>Preferred Approach</th></tr>
<tr><td>Table 16.24.080-2. Street and Through Connection Crossing Approaches</td><td>Urban Plaza Intersection: [Page 21]
Use textured paving and/ or contrasting colors to promote a distinctive sense of place. Install unit pavers, textured paving, or other distinctive materials or contrasting colors to the flat surface of the intersection plaza.
…
Urban Mid-Block Crossing: [Page 24]
Install unit pavers or other distinctive materials to the flat surface to further define the speed table.</td><td>Urban Plaza Intersection: [Page 21]
Use textured paving and/ or contrasting colors to promote a distinctive sense of place. Install permeable paving, unit pavers, textured paving, or other distinctive materials or contrasting colors to the flat surface of the intersection plaza.
…
Urban Mid-Block Crossing: [Page 24]
Install permeable paving, unit pavers or other distinctive materials to the flat surface to further define the speed table.</td><td>☒ Amend existing language
☐ Develop new language
☐ No change
Allows permeable paving as an option for urban plazas and mid-block crossings</td></tr>
<tr><td>Table 16.24.080-3. Traffic Calming Approaches</td><td><table><tr><th>Traffic Calming Description</th><th>Where Permitted</th></tr><tr><td>Urban Woonerf</td><td></td></tr><tr><td>Curbed Street – Bulb-outs</td><td></td></tr><tr><td>Queuing Street (Yield Street)</td><td></td></tr><tr><td>Chicane Street</td><td></td></tr><tr><td>Woonerf – Residential</td><td></td></tr></table></td><td><table><tr><th>Traffic Calming Description</th><th>Where Permitted</th></tr><tr><td>General
Traffic calming techniques shall incorporate vegetated LID facilities where feasible.</td><td>All Streets</td></tr><tr><td>Urban Woonerf</td><td></td></tr><tr><td>Curbed Street – Bulb-outs</td><td></td></tr><tr><td>Queuing Street (Yield Street)</td><td></td></tr><tr><td>Chicane Street</td><td></td></tr><tr><td>Woonerf – Residential</td><td></td></tr></table></td><td>☐ Amend existing language
☒ Develop new language
☐ No change
Promotes incorporation of vegetated LID facilities into traffic calming techniques</td></tr>
<tr><td>16.24.070 Building and Landscape Frontage
Page 33 of 54 (in PDF)</td><td>General Building and Landscape Frontage Standards
…
Build-To Line
…
Frontage
…
Frontage Requirements
…
Ground Floor Measurement</td><td>General Building and Landscape Frontage Standards
…
Soil Amendment
All disturbed areas shall be replanted with native and drought tolerant vegetation and shall meet soil amendment requirements in the current City of Lacey Stormwater Design Manual.
…
Build-To Line
…
Frontage
…
Frontage Requirements
…
Ground Floor Measurement</td><td>☐ Amend existing language
☒ Develop new language
☐ No change
Promotes soil amendments and adds a reference to the SDM.</td></tr>
<tr><td>16.24.070. Building and Landscape Frontage
Page 33 of 54 (in PDF)</td><td>Frontage Requirements
Minimum Building Frontage along Street-Facing Build-To Line: All private and public street or path-facing Build-To Lines not occupied by buildings or driveways are required to provide Building or Landscape Frontage between the sidewalk and the remainder of the site.</td><td>Frontage Requirements
Minimum Building Frontage along Street-Facing Build-To Line: All private and public street or path-facing Build-To Lines not occupied by buildings or driveways are required to provide ~~Building or Landscape Frontage~~ Building and Landscaping Frontage Type 4 –Landscape Building or Building and Landscaping Frontage Type 7 – Landscape Setback between the sidewalk and the remainder of the site.</td><td>☒ Amend existing language
☐ Develop new language
☐ No change
Revises to require only landscape or lawn between the sidewalk and the remainder of the site.</td></tr>
</table>

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
16.24.070-1. Building Frontage Type 1- Linear. Page 39 of 54 (in PDF)	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Ground Floor Height: … Ground Floor Construction: … Ground Floor Depth: … Separation of Ground Floor Residential Uses: …	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Ground Floor Height: … Ground Floor Construction: … Ground Floor Depth: … Separation of Ground Floor Residential Uses: … Vegetated Roofs: Vegetated roofs with public access can be counted towards open space and utility screening requirements.	☐ Amend existing language ☒ Develop new language ☐ No change
16.24.070-3. Building Frontage Type 2 – Forecourt Page 38 of 54 (in pdf)	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Ground Floor Height: … Ground Floor Construction: … Ground Floor Depth: … Separation of Ground Floor Residential Uses: …	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Ground Floor Height: … Ground Floor Construction: … Ground Floor Depth: … Separation of Ground Floor Residential Uses: … Vegetated Roofs: Vegetated roofs with public access can be counted towards open space and utility screening requirements. Ground Cover and Planting: Native and drought tolerant ground cover plants must fully cover the remainder of the landscaped area between the building and the sidewalk.	☐ Amend existing language ☒ Develop new language ☐ No change

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
16.24.070-3. Building Frontage Type 3 – Porch – Stoop – Terrace Page 42 of 54 (in pdf)	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Ground Floor Height: … Ground Floor Construction: … Ground Floor Depth: … Separation of Ground Floor Residential Uses: …	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Ground Floor Height: … Ground Floor Construction: … Ground Floor Depth: … Separation of Ground Floor Residential Uses: … Vegetated Roofs: Vegetated roofs with public access can be counted towards open space and utility screening requirements. Ground Cover and Planting: Native and drought tolerant ground cover plants must fully cover the remainder of the landscaped area between the building and the sidewalk.	☐ Amend existing language ☒ Develop new language ☐ No change
16.24.070-4. Building Frontage Type 4 – Landscape Building Page 44 of 54 (in PDF)	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Minimum Building Depth: … Weather Protection: … Windows: … Service and Utility Equipment: …	**Development Standard** / **[Streets]** Minimum Building or Podium Height: … Maximum Podium Height: … Podium Setback from Build To Line: … Tower Step Back at Top of Podium: … Tower Height: … Minimum Building Depth: … Weather Protection: … Windows: … Service and Utility Equipment: … Vegetated Roofs: Vegetated roofs with public access can be counted towards open space and utility screening requirements. Landscaped Area: Native and drought tolerant ground cover plants must fully cover the remainder of the landscaped area between the building and the sidewalk. Vegetated LID BMPs are allowed in the landscaped area.	☐ Amend existing language ☒ Develop new language ☐ No change

Section/Page Reference	*Existing Text*		*Proposed Revisions to Existing Text*		*Preferred Approach*
16.24.070-5. Building Frontage Type 5 – Low Wall and Trellis Page 46 of 54 (in PDF)	**Development Standard**	**[Streets]**	**Development Standard**	**[Streets]**	☒ Amend existing language ☐ Develop new language ☐ No change Incorporates vegetated walls, permeable pavers, and native and drought tolerant vegetation. Allows vegetated LID facilities in the landscaped area.
	Frontage	…[surface parking areas]…	Frontage	…[surface parking areas]…	
	Setback from Build To Line	…	Setback from Build To Line	…	
	Trellis	…	Trellis	…	
	Low wall	The Low Wall portion of a Low Wall and Trellis shall be a minimum of 1.5 feet and a maximum of 3 feet and have a minimum depth of 1.5 feet. The Low Wall shall be wood, masonry, and/or concrete.	Low wall	The Low Wall portion of a Low Wall and Trellis shall be a minimum of 1.5 feet and a maximum of 3 feet and have a minimum depth of 1.5 feet. The Low Wall shall be vegetated wall, wood, masonry, and/or concrete.	
	Wall or Fence Openings	…	Wall or Fence Openings	…	
	Surface Parking Setback	Surface Parking shall be set back a minimum of 3 feet from the Low Wall and Trellis.	Surface Parking Setback	Surface Parking shall be set back a minimum of 3 feet from the Low Wall and Trellis.	
	Ground Cover and Planting	Any setback area between the sidewalk and the wall shall be planted or paved with stamped concrete or masonry pavers. The setback between the Low Wall and surface parking shall be planted with low shrubs, groundcover, and climbing plants.	Ground Cover and Planting	Any setback area between the sidewalk and the wall shall be planted or paved with stamped concrete, permeable pavers, or masonry pavers. The setback between the Low Wall and surface parking shall be planted with native and drought tolerant low shrubs, groundcover, and climbing plants. Vegetated LID facilities are allowed in the ground cover and planting area.	

Section/Page Reference	*Existing Text*		*Proposed Revisions to Existing Text*		*Preferred Approach*
16.24.070-6. Building Frontage Type 6 – Urban Fence or Wall Page 48 of 54 (in PDF)	**Development Standard**	**[Streets]**	**Development Standard**	**[Streets]**	☒ Amend existing language ☐ Develop new language ☐ No change Incorporates vegetated walls, permeable pavers, and native and drought tolerant vegetation. Specifies that shrub height is above the grade of the sidewalk to allow for taller shrubs installed below grade in LID facilities. Allows vegetated LID facilities in the landscaped area.
	Frontage	…[surface parking areas]…	Frontage	…[surface parking areas]…	
	Setback from Build To Line	…	Setback from Build To Line	…	
	Wall or Fence	Walls shall be wood masonry, and/or concrete; fences shall be made of wrought iron, steel, or a similar material (but not chain-link) and must be dark in color. The fence shall be at least 2 feet high and no more than 3 feet high. Fences may be no more than 50% sight obscuring. The wall shall be at least 2 feet high and no more than 3 feet high. In addition to the required fence or wall, trees and shrubs shall be provided. One large tree is required every 30 linear feet minimum along all public or private Street-facing frontages, except where it is necessary to ensure adequate traffic visibility. The shrubs shall be at least as high as the wall or fence, and shall be no more than 6 feet high.	Wall or Fence	Walls shall be vegetated wall, wood masonry, and/or concrete; fences shall be made of wrought iron, steel, or a similar material (but not chain-link) and must be dark in color. The fence shall be at least 2 feet high and no more than 3 feet high. Fences may be no more than 50% sight obscuring. The wall shall be at least 2 feet high and no more than 3 feet high. In addition to the required fence or wall, trees and shrubs shall be provided. One large tree is required every 30 linear feet minimum along all public or private Street-facing frontages, except where it is necessary to ensure adequate traffic visibility. The shrubs shall be at least as high as the wall or fence, and shall be no more than 6 feet high above the grade of the sidewalk.	
	Wall or Fence Openings	…	Wall or Fence Openings	…	
	Surface Parking Setback	The surface parking area shall be set back, at a minimum, an additional 5 feet to provide room for required landscaping and stormwater infiltration and/or retention.	Surface Parking Setback	The surface parking area shall be set back, at a minimum, an additional 5 feet to provide room for required for vegetated LID facilities and/or native and drought tolerant landscaping ~~landscaping and stormwater infiltration and/or retention~~.	
	Ground Cover and Planting	Ground cover plants must fully cover any remaining landscaped area between the parking area and the Urban Fence or Wall.	Ground Cover and Planting	Native and drought tolerant g~~G~~round cover plants must fully cover any remaining landscaped area between the parking area and the Urban Fence or Wall. Vegetated LID facilities are allowed in the ground cover and planting area.	

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
16.24.070-7. Building Frontage Type 7 – Landscape Setback Page 50 of 54 (in PDF)	**Development Standard** / **[Streets]** Frontage: …[surface parking areas]… Setback from Build To Line: … Landscape Area: In addition to the required shrubs, one large tree is required every 30 linear feet minimum along all public or private Street-facing frontages. The shrubs/hedge shall be interrupted with a gap of up to 2 feet wide in order to accommodate trees. The surface parking area shall be screened with a continuous row of hedges or shrubs immediately adjacent to the parking area, except where there is a driveway. The shrubs shall be a minimum of 3 feet high and must be mostly opaque year round. A 3 feet high masonry wall may be substituted for the shrubs but the trees and groundcover plants are still required. Walkways: … Ground Cover and Planting: Grass or ground cover plants must fully cover the remainder of the landscaped area between the parking area and the sidewalk.	**Development Standard** / **[Streets]** Frontage: …[surface parking areas]… Setback from Build To Line: … Landscape Area: In addition to the required shrubs, one large tree is required every 30 linear feet minimum along all public or private Street-facing frontages. The shrubs/hedge shall be interrupted with a gap of up to 2 to 3 feet wide in order to accommodate trees. The surface parking area shall be screened with a continuous row of hedges or shrubs immediately adjacent to the parking area, except where there is a driveway. The shrubs shall be a minimum of 3 feet high and must be mostly opaque year round. A 3 feet high masonry wall may be substituted for the shrubs but the trees and groundcover plants are still required. Walkways: … Ground Cover and Planting: ~~Grass or~~ Native and drought tolerant ground cover plants must fully cover the remainder of the landscaped area between the parking area and the sidewalk.	☒ Amend existing language ☐ Develop new language ☐ No change Allows for additional spacing to accommodate trees. Removes grass as an option for ground cover.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
16.24.100 Development Review. Landscaping Plan. Page 53 of 54 (in PDF)	3. Landscaping Plan. The landscaping plan shall contain the following information (1 inch equals 20' or larger): a. Survey of existing trees; trees to be retained; and trees to be removed; b. Existing plant material to be retained; c. Proposed plant material to be placed on site. The type, size, number and spacing on plantings must be illustrated (Refer to § 16.24.030 General Standards Required for All Development); d. Surface parking location and design (Refer to Chapter 16.72 LMC); e. Bicycle parking location and design (Refer to Chapter 16.72 LMC); f. Loading and Service Areas location and design (Refer to Chapter 16.80 LMC); g. Screening and Buffering: general; perimeter fencing and walls; parking structures; and surface parking lots. (Refer to Chapter 16.80 LMC);	3. Landscaping Plan. The landscaping plan shall contain the following information (1 inch equals 20' or larger): a. Survey of existing trees; trees to be retained; and trees to be removed; b. Existing plant material and soil to be retained; c. Proposed plant material to be placed on site. The type, size, number and spacing on plantings must be illustrated (Refer to § 16.24.030 General Standards Required for All Development); d. Surface parking location and design (Refer to Chapter 16.72 LMC); e. Bicycle parking location and design (Refer to Chapter 16.72 LMC); f. Loading and Service Areas location and design (Refer to Chapter 16.80 LMC); g. Screening and Buffering: general; perimeter fencing and walls; parking structures; and surface parking lots. (Refer to Chapter 16.80 LMC); h. All areas where soils are to be amended (Refer to the current City of Lacey Stormwater Design Manual); i. Locations where plant and soil materials will be stored during construction; j. Timeline for site preparation and installation of plant materials	☒ Amend existing language ☒ Develop new language ☐ No change Adds a requirement for documenting retained and amended soil locations in the landscaping plan. Added i & j based on input from Thurston County regarding additional items that the County requires for their landscaping plans.

Nomenclature Updates

General	City to update all permeable pavement references to "permeable paving"	"Permeable paving"	

City of Lacey Draft Revisions - Discussion Form

Name of Document/Code/Policy Reviewed: 2014 Development Guidelines and Public Works Standards

Purpose of Discussion Form: The purpose of this discussion form is to walk through the gaps identified during the preliminary code review process, categorize the gaps into three different types (required, preferred, and optional), discuss proposed revisions to existing text or development of new language, and determine the City's preferred approach to addressing each gap. If no change is selected as the preferred approach, a reason should be provided.

Topics:

- Construction
- Curb and Gutter
- Driveway
- ESC
- Facility design
- LID facilities
- Maintenance
- Native vegetation
- Open space
- Parking (- SD)
- Plans
- Permeable pavement (- SD)
- Utilities (- SD)
- ROW planting
- SDM
- SDM reference
- Sidewalk (- SD)
- Trees
- Topsoil

*__Note__: (- SD) refers to Standard Details

*Sorted by Topic, then Type, then Section

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Bioretention" means engineered facilities that store and treat stormwater by passing it through a specified soil profile, and either retain or detain the treated stormwater for flow attenuation. Refer to the current City of Lacey Stormwater Design Manual.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Best Management Practice" means any schedule of activities, prohibition of practices, maintenance procedure, or structural and/or managerial practice that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Flow Control BMP or Facility" means a drainage facility designed to mitigate the impacts of increased surface and stormwater runoff flow rates generated by development. Flow control facilities are designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration, and/or infiltration into the ground, or to hold runoff for a short period of time, releasing it to the conveyance system at a controlled rate.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Low Impact Development (LID)" means a stormwater and/or land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Low Impact Development (LID) facility" means distributed stormwater management practices, integrated into a project design that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration. LID facilities include, but are not limited to: bioretention, rain gardens, permeable pavement, roof downspout controls, dispersion, soil quality and depth, minimal excavation foundations, vegetated roofs, and water re-use.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Low Impact Development (LID) Principles" means 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.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Native vegetation" means vegetation including trees, comprised of plant species that are either indigenous or naturalized to the Puget Sound region. Native vegetation does not include noxious weeds.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition (Consistent with Title 16)
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Permeable pavement" means pervious concrete, porous asphalt, permeable pavers or other forms of pervious or porous paving material intended to allow passage of water through the pavement section. It often includes an aggregate base that provides structural support and acts as a stormwater reservoir.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Rain garden" means a non-engineered shallow, landscaped depression, with compost-amended native soils and adapted plants. The depression is designed to pond and temporarily store stormwater runoff from adjacent areas, and to allow stormwater to pass through the amended soil profile.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Stormwater Facility" means a constructed component of a stormwater drainage system, designed or constructed to perform a particular function, or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention ponds, retention ponds, constructed wetlands, infiltration devices, catch basins, oil/water separators, and biofiltration swales.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Treatment BMP or Facility" means a BMP that is intended to remove pollutants from stormwater. A few examples of treatment BMPs are Wetponds, oil/water separators, biofiltration swales, and constructed wetlands.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Vegetated LID BMP" means bioretention, rain gardens, dispersion, and vegetated roofs, where applicable.	☐ Amend existing language ☒ Develop new language ☐ No change Add new definition (Consistent with Title 16)
1.030 Definitions Page 3 of 25 in pdf	Not applicable	"Vegetated roofs" (also known as ecoroofs and green roofs) means are thin layers of engineered soil and vegetation constructed on top of conventional flat or sloped roofs.	☐ Amend existing language ☒ Develop new language ☐ No change Add SWMMWW definition
Chapter 2 – Excavation and Grading M. Cuts and Fills Page 13 of 22 in pdf	All fill shall be compacted to a minimum of 90 percent of maximum density.	All fill shall be compacted to a minimum of 90 percent of maximum density, unless an alternate density is recommended by a licensed professional engineer such as for planned bioretention facilities.	☒ Amend existing language ☐ Develop new language ☐ No change Allow flexibility in compaction requirements for LID facilities.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Text and multiple drawings. Chapter 5 – Storm Drainage Page 8, 23, 25 of 33 (in pdf) Chapter 6 – Water Page 72, 78 of 79 (in pdf) Chapter 7 – Sanitary Sewer Page 133 of 149 (in pdf) Chapter 8 – Reclaimed Water Page 31 of 43 (in pdf)	Fill/Material shall be compacted to 95 percent of the maximum density.	Fill/Material shall be compacted to 95 percent of the maximum density. Deviation from this standard may be approved by the Director, or designee, where recommended by the licensed professional engineer for planned or existing infiltration facilities. DC – 06/24/16 - Regarding compaction in the DG&PWS, I think some flexibility could be allowable for infiltration facilities, per the engineer's recommendation and with prior city approval. Also, during our task force subcommittee discussion, it was suggested to specify a range rather than a single compaction percentage (e.g. min 90%, max. 92%), or a target value "plus or minus" a specific percent (e.g. 88% +/- 2%), which is worth discussing and may play-in to the compaction flexibility.	☒ Amend existing language ☐ Develop new language ☐ No change Allow flexibility in compaction requirements for LID facilities.
Chapter 5 – Storm Drainage 5A.050 Staking Page 4 of 33 (in pdf)	Grade stake or slope stake (as appropriate) at intervals, sufficient to control location, size and depth of retention/ detention facilities.	Grade stake or slope stake (as appropriate) at intervals, sufficient to control location, size and depth of ~~retention/ detention~~ stormwater treatment and/or flow control BMPs/facilities.	☒ Amend existing language ☐ Develop new language ☐ No change Reword to apply to all "stormwater treatment and/or flow control BMPs/facilities".
Chapter 5 – Storm Drainage General Notes Page 7 of 33 (in pdf)	All storm mains and retention/detention areas shall be staked for grade and alignment by an engineering or survey firm licensed to perform such work.	All storm mains and ~~retention/detention areas~~ stormwater treatment and/or flow control BMPs/facilities shall be staked for grade and alignment by an engineering or survey firm licensed to perform such work.	☒ Amend existing language ☐ Develop new language ☐ No change Reword to apply to all "stormwater treatment and/or flow control BMPs/facilities".
Chapter 4 – Transportation 4C.040 – Curb and Gutter Page 54 of 174 (in pdf)	Commercial concrete curb and gutter per the detail at the end of this chapter shall be used for all street edges unless otherwise approved by the Director of Public Works.	Commercial concrete curb and gutter per the detail at the end of this chapter shall be used for all street edges, except at curb cuts to stormwater facilities, unless otherwise approved by the Director of Public Works.	☒ Amend existing language ☐ Develop new language ☐ No change Allow curb cuts for inlets to stormwater facilities.
Chapter 4 – Transportation 4B.145 – Access Management Page 45-48 of 174 (in pdf)	Not applicable	A. Residential Driveways 9. Two-track driveway design is allowed.	☐ Amend existing language ☒ Develop new language ☐ No change Explicitly allow two-track driveways. Note: This is already allowed in the zoning code, but should be reiterated here.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 4 – Transportation 4B.160 – Surfacing Requirements Page 48 of 174 (in pdf)	B. Driveway Surfacing: 6 inches Commercial Concrete Base: 1 inch Crushed Surfacing Top Course or well graded sand	B. Driveway Surfacing: 6 inches Commercial Concrete Base: 1 inch Crushed Surfacing Top Course or well graded sand Pervious concrete is allowed in the driveway apron when it is designed as a continuation of permeable concrete sidewalk that is separated from the curb-line by a planter strip. DC – 06/24/16 - Regarding whether permeable pavement should be allowed in driveway aprons, Roger and I discussed this yesterday, and he prefers not to allow PP at the actual apron but would allow permeable concrete in the driveway as continuation of permeable concrete sidewalk that is separated from the curbline by a planter strip.	☒ Amend existing language ☐ Develop new language ☐ No change Include permeable pavement allowances for driveway aprons.
Chapter 5 – Storm Drainage General Notes Page 6 of 33 (in pdf)	All disturbed areas shall be stabilized in accordance with the Core Requirement 2 of the City of Lacey 2010 Stormwater Design Manual.	All disturbed areas shall be stabilized in accordance with the Core Requirement 2 of the current City of Lacey ~~2010~~ Stormwater Design Manual.	☒ Amend existing language ☐ Develop new language ☐ No change Update to refer to the requirements of the most recent version of the SDM.
Chapter 2 – Excavation and Grading O. Drainage and Terracing Page 15 of 22 (in pdf)	Building pads shall have a drainage gradient of 2 percent toward approved drainage facilities (1 percent is allowed under special conditions).	Building pads shall have a minimum drainage gradient of 1 to 2 percent toward approved drainage facilities ~~(1 percent is allowed under special conditions)~~. City to provide language regarding sloping back up at property lines.	☒ Amend existing language ☐ Develop new language ☐ No change Allow grading flexibility to promote use of LID facilities.
Chapter 2 – Excavation and Grading O. Drainage and Terracing Page 15 of 22 (in pdf)	Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than 40 feet measured horizontally.	Paved interceptor drains or lined (non-infiltrating) bioretention shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than 40 feet measured horizontally. Interceptor drains shall be paved with a minimum of 3 inches of concrete or gunite and reinforced. Bioretention shall have a minimum 40 mil LLDPE or HDPE liner. They shall have a minimum depth of 12 inches. Interceptor drains shall have a minimum paved width of 30 inches measured horizontally across the drain and bioretention shall have a top width of 6 feet. The Building Official shall approve the slope of drain.	☒ Amend existing language ☐ Develop new language ☐ No change Allow LID facilities in lieu of paved interceptor drains.
Chapter 5 – Storm Drainage 5A.020 – Design Standards Page 2 of 33 (in pdf)	H. Stormwater facilities shall not have utilities located within them unless approved by the City during the civil plan review. Adequate separation (as determined by the City) between stormwater facilities and other utilities will also be required.	H. Stormwater facilities shall not have utilities located within them unless approved by the City during the civil plan review. Adequate separation (as determined by the City) between stormwater facilities and other utilities will also be required. Perpendicular utility crossings within vegetated LID facilities are allowed with the following conditions: Water service may be located within the facility footprint when necessary. City approval is required. Water meters shall be located outside of bioretention footprint. Fire Hydrants shall be located at least 5 feet outside of bioretention footprint. No plantings except groundcover and sods within 5 feet of hydrant. New side sewers and service drains may be located within facility footprints. Maintain clearances per Chapter 7. New infiltration facilities are allowed over existing PVC or ductile iron side sewer crossings. Franchise utilities (power, gas, communication) are allowed with approval from the Director of Public Works or designee and concurrence with the franchisee.	☐ Amend existing language ☒ Develop new language ☐ No change Define utility crossing requirements for vegetated LID facilities.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 5 – Storm Drainage 5A.020 – Design Standards Page 2 of 33 (in pdf)	Swales designed for transporting, storing and/or infiltrating stormwater shall not be located on a lot designated for single family occupancy. Easements proposed for such swales shall not be allowed.	~~Swales~~ Open conveyances, such as ditches, designed for transporting, storing and/or infiltrating stormwater shall not be located on a lot designated for single family occupancy. Easements proposed for such ~~swales~~ open conveyances shall not be allowed.	☒ Amend existing language ☐ Develop new language ☐ No change Clarify that swales refer to open conveyances, not onsite LID facilities.
Chapter 5 – Storm Drainage 5A.030 – Landscape Considerations Page 3 of 33 (in pdf)	Regional wet ponds located in commercial developments should be designed with consideration for pedestrian and passive recreation facilities. Amenities around regional wet ponds such as picnic tables, benches, gazebos, etc. are encouraged. Aeration and/or recirculation of the water, such as waterfalls, cascades and fountains, should be considered to reduce the potential for odors to develop during the warmer months, to add visual interest, and to mask unwanted traffic noise.	Regional stormwater treatment wetlands and wet ponds located in residential and commercial developments should be designed with consideration for pedestrian and passive recreation facilities. Amenities around regional stormwater treatment wetlands and wet ponds such as picnic tables, benches, gazebos, etc. are encouraged. Aeration and/or recirculation of the water, such as waterfalls, cascades and fountains, should be considered for wet ponds to reduce the potential for odors to develop during the warmer months, to add visual interest, and to mask unwanted traffic noise.	☒ Amend existing language ☐ Develop new language ☐ No change Include language for stormwater treatment wetlands.
Chapter 5 – Storm Drainage Page 31 of 33 (in pdf)	Drawing 5-10 Rain garden setback requirements, BSM composition, native plants tolerant of fluctuating water, and other design requirements.	Update general notes for consistency with updated SDM. Allow bioretention in planter strip (rain garden is shown as outside of ROW) and consider defining geometry. This is the only LID facility standard drawing. Consider adding LID facility standard drawings in these standards, the SDM, or referencing Ecology Manual.	☐ Amend existing language ☒ Develop new language ☐ No change Provide equivalency updates in accordance with the revised SDM.
Appendix Q – Instructions for maintenance agreement	This appendix includes information and checklists for maintenance agreements and maintenance programs	Update SWMMWW reference from 1992. Remove other references. Add LID facility checklists (currently just infiltration facilities) and update all checklists based on the current SDM (under revision).	☒ Amend existing language ☒ Develop new language ☐ No change Provide equivalency updates in accordance with the revised SDM.
Chapter 6 – Water Page 37 of 79 (in pdf) Chapter 8 – Reclaimed Water Page 13 of 43 (in pdf)	Installation and maintenance of irrigation systems in roadway planter strips shall be as shown in the table below.	Installation and maintenance of irrigation systems in roadway planter strips and vegetated LID facilities shall be as shown in the table below.	☒ Amend existing language ☐ Develop new language ☐ No change Specify this requirement applies to vegetated LID facilities as well (i.e., bioretention in ROW).
Chapter 5 – Storm Drainage Page 5 of 33 (in pdf)	The City shall maintain all stormwater system elements located within the public ROW. The developer, homeowner association, or other responsible entity shall be responsible for maintaining stormwater system elements located outside of the ROW.	The City shall maintain all stormwater system elements, including vegetated LID facilities, located within the public ROW. The developer, homeowner association, or other responsible entity shall be responsible for maintaining stormwater system elements located outside of the ROW. **City Policy Decision:** City will be responsible for maintenance of vegetated LID in ROW (alternative would have been to consider vegetated LID "landscaping" and require developer / HOW to maintain it).	☒ Amend existing language ☐ Develop new language ☐ No change *Optional because this revision provides clarification and doesn't change the code.* Clarify maintenance responsibilities.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 5 – Storm Drainage 5A.030 – Landscape Considerations Page 3 of 33 (in pdf)	Native plants that will tolerate flooding and wet conditions are preferred. To ensure survival of newly planted native vegetation, it is recommended that the plants be irrigated for the first season.	Native and drought-tolerant plants that will tolerate flooding and wet conditions, as well as drought, are preferred. To ensure survival of newly planted native vegetation, it is recommended that the plants be irrigated for the entire establishment period, which may be up to five years for some tree species ~~first season~~.	☒ Amend existing language ☐ Develop new language ☐ No change Promote healthy native and drought tolerant vegetation.
Chapter 5 – Storm Drainage 5A.020 – Design Standards Page 1 of 33 (in pdf)	No retention/detention facility shall be located in an area that is used to satisfy an open space requirement unless it is approved during SPR or by the City or satisfies the conditions of Chapter 5A.030.	No ~~retention/detention~~ stormwater treatment and/or flow control BMPs/ facilities~~y~~ shall be located in an area that is used to satisfy an open space requirement unless it is approved as part of a land use review process ~~during SPR~~ or by the City ~~or~~ and satisfies the conditions of Chapter 5A.030 and LMC 14.23.088.	☒ Amend existing language ☐ Develop new language ☐ No change Allowance of LID facilities to count towards open space will be covered in the Title 16 – Zoning Code revisions. Added reference to open space equivalency standards for LID facilities.
Chapter 4 – Transportation Drawing 4-5.71 (Parking Layout: one-way traffic) Page 110 of 174 (in pdf)	Standard Drawing 4-5.71 [Driving aisle width for one-way traffic = 12’ (parallel), 15’-22’ (compact), 15’-22’ (standard)]	[Remove parking requirements and delete this Standard Drawing from DG&PW Standards]	☐ Amend existing language ☐ Develop new language ☐ No change Address parking requirements in Title 16.
Chapter 4 – Transportation Drawing 4-5.72 (Parking Layout: two-way traffic) Page 112 of 174 (in pdf)	Standard Drawing 4-5.72 [Driving aisle width for two-way traffic = 24’ (parallel), 24’-26’ (compact), 24’-26’ (standard)]	[Remove parking requirements and delete this Standard Drawing from DG&PW Standards]	☐ Amend existing language ☐ Develop new language ☐ No change Address parking requirements in Title 16.
Chapter 4 – Transportation 4B.170 – Temporary Street Patching 4B.180 – Trench Backfill and Restoration Page 50-51 of 174 (in pdf)	4B.170 Temporary Street Patching All excavations of streets and driveways, or failure of the existing pavement which will be exposed to traffic shall be temporarily patched by the end of the working day, or as directed by the City. The patch shall be constructed of 2 inches of Hot Mix Asphalt or steel plates. Asphalt Treated Base (ATB) used for temporary restoration may be dumped directly into the trench, bladed and rolled. After rolling, the trench must be filled flush with asphalt concrete pavement to provide a smooth riding surface. The contractor shall maintain all temporary patches until such time as the permanent pavement is in place. If, after reasonable notification, the contractor is unable to maintain a patch for whatever reason, the City will patch it at the contractor’s expense, and charge a mobilization fee of $1000.00. The City reserves the right to perform emergency repairs as deemed necessary without contractor notification. In such cases, the contractor will still be liable for costs as noted above.	4B.170 Temporary Street Patching All excavations of streets and driveways, or failure of the existing pavement which will be exposed to traffic shall be temporarily patched by the end of the working day, or as directed by the City. The patch shall be constructed of 2 inches of Hot Mix Asphalt or steel plates. Existing permeable pavements must use steel plates for temporary patching. Asphalt Treated Base (ATB) used for temporary restoration may be dumped directly into the trench, bladed and rolled. After rolling, the trench must be filled flush with asphalt concrete pavement to provide a smooth riding surface. The contractor shall maintain all temporary patches until such time as the permanent pavement is in place. If, after reasonable notification, the contractor is unable to maintain a patch for whatever reason, the City will patch it at the contractor’s expense, and charge a mobilization fee of $1000.00. The City reserves the right to perform emergency repairs as deemed necessary without contractor notification. In such cases, the contractor will still be liable for costs as noted above.	☒Amend existing language ☐ Develop new language ☐ No change Provide trench patching requirements for permeable pavement.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 4 – Transportation 4B.170 – Temporary Street Patching 4B.180 – Trench Backfill and Restoration Page 50-51 of 174 (in pdf) ***(Continued from Above)***	4B.180 Trench Backfill and Restoration Trench restoration shall be by a patch or overlay as required by the City. A. All trench and pavement cuts shall be made by sawcuts. B. All trenching shall be backfilled as shown in the appropriate trench restoration detail at the end of this chapter. The trench shall be compacted to 95 percent minimum density, as described in Section 2-03 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. C. If, when trenching, cement concrete is encountered, cement concrete shall be used to restore the patch. When cement concrete is anticipated or encountered, a trench restoration detail shall be designed by a Geotechnical Engineer and submitted to the City for review and approval. The Geotechnical Engineer shall address existing and proposed joint location, load transfer, and joint pinning, if applicable. D. Asphalt concrete pavement shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. Surface smoothness shall be per Section 5-04.3(13) of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. The paving shall be corrected by removal and repaving of the trench. E. When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition. F. The final patch shall be completed as soon as possible and shall be completed within 5 days after first opening the trench. This time frame may be adjusted if delays are due to inclement paving weather, or other adverse conditions that may exist. See 4B.160 for inclement weather constraints. Delaying of final patch of overlay work is allowable only subject to the City Engineer's approval. The City Engineer may deem it necessary to complete the work within the 5 day time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the City Engineer.	4B.180 Trench Backfill and Restoration Trench restoration shall be by a patch or overlay as required by the City. A. All trench and pavement cuts shall be made by sawcuts. B. All trenching shall be backfilled as shown in the appropriate trench restoration detail at the end of this chapter. The trench shall be compacted to 95 percent minimum density, as described in Section 2-03 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. If the trench is cut through permeable pavement, deviation from these requirements are allowed. C. If, when trenching, cement concrete is encountered, cement concrete shall be used to restore the patch. When cement concrete is anticipated or encountered, a trench restoration detail shall be designed by a Geotechnical Engineer and submitted to the City for review and approval. The Geotechnical Engineer shall address existing and proposed joint location, load transfer, and joint pinning, if applicable. D. Asphalt concrete pavement shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. Surface smoothness shall be per Section 5-04.3(13) of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction. The paving shall be corrected by removal and repaving of the trench. E. Permeable materials shall be replaced in-kind where feasible. Patching porous asphalt with conventional asphalt is acceptable if it is less than 10 percent of the total facility area and does not impact the overall facility function. Take appropriate precautions during pavement repair and replacement efforts to prevent clogging of adjacent surfaces. Base aggregates shall be washed crushed aggregate. Permeable materials shall conform to the requirements: *[reference to permeable pavement specifications developed in other section]* F~~E~~. When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition. G~~F~~. The final patch shall be completed as soon as possible and shall be completed within 5 days after first opening the trench. This time frame may be adjusted if delays are due to inclement paving weather, or other adverse conditions that may exist. See 4B.160 for inclement weather constraints. Delaying of final patch of overlay work is allowable only subject to the City Engineer's approval. The City Engineer may deem it necessary to complete the work within the 5 day time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the City Engineer.	☒Amend existing language ☐ Develop new language ☐ No change Provide trench patching requirements for permeable pavement.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 4 – Transportation 4G.120 – Parking Lots Page 83 of 174 (in pdf)	Parking lot surfacing materials shall satisfy the requirement for a permanent all-weather surface. Asphalt concrete pavement and cement concrete pavement satisfy this requirement and are approved materials. Gravel surfaces are not acceptable or approved surface material types. Combination grass/paving systems are approved surface material types, however, their use requires submittal of an overall parking lot paving plan showing the limits of the grass/paving systems and a description of how the systems will be irrigated and maintained. If the City Engineer determines the grass/paving system is not appropriate for the specific application, alternate approved surfacing materials shall be utilized. (LMC 14.19.030)	Parking lot surfacing materials shall satisfy the requirement for a permanent all-weather surface. Permeable paving in accordance with the [*reference to permeable pavement specifications developed in other section]* , ~~A~~ asphalt concrete pavement and cement concrete pavement satisfy this requirement and are approved materials. Gravel surfaces are not acceptable or approved surface material types. Combination grass/paving systems are approved surface material types, however, their use requires submittal of an overall parking lot paving plan showing the limits of the grass/paving systems and a description of how the systems will be irrigated and maintained. If the City Engineer determines the grass/paving system is not appropriate for the specific application, alternate approved surfacing materials shall be utilized. (LMC 14.19.030) **City Policy Decision:** City will develop permeable pavement specifications to be included in Chapter 4 of the DG&PWS. WSDOT GSPs will be used as a resource when developing the specifications.	☒Amend existing language ☐ Develop new language ☐ No change Develop and reference permeable pavement specifications.
Chapter 5 – Storm Drainage 5A.020 Design Standards Page 2 of 33 (in pdf)	J. The use of commercial parking lots for detention of storm water may be accepted upon review. The detention area shall be situated away from areas of pedestrian movement and maximum depth of water in parking lot is 12 inches.	J.-The use of commercial parking lots for detention of storm water may be accepted upon review. The detention area shall be situated away from areas of pedestrian movement and maximum depth of water in parking lot is 12 inches. The use of LID facilities is encouraged in commercial parking lots, including the use of permeable pavement and bioretention designed in accordance with these standards and the current City of Lacey Stormwater Design Manual.	☒Amend existing language ☐ Develop new language ☐ No change Encourage use of LID facilities in parking lot design.

<table>
<tr><th>Section/Page Reference</th><th>Existing Text</th><th>Proposed Revisions to Existing Text</th><th>Preferred Approach</th></tr>
<tr>
<td>Chapter 4 – Transportation
Standard Detail 4-6.1
Page 116 of 174 (in pdf)</td>
<td>Detail 4-6.1</td>
<td>
<table>
<tr><td></td><td>…</td><td>Minor Local Residential and Private</td><td>…</td><td>Alley</td></tr>
<tr><td>…</td><td>…</td><td>…</td><td>…</td><td>…</td></tr>
<tr><td>Permeable Pavement</td><td>…</td><td>Minor Local Residential - Porous Asphalt Required[2]
• [default structural section]
Private - Pervious Concrete Required[2, 3]
• [default structural section]</td><td>…</td><td>Pervious Concrete Required[2, 3]
• [default structural section]</td></tr>
<tr><td>HMA</td><td>…</td><td>4”</td><td>…</td><td>3”</td></tr>
</table>
[Add to general notes]
2. Permeable pavement is required, if feasible, in accordance with the current City of Lacey Stormwater Design Manual. Provide AASHTO design calculations. Pavement and subgrade shall be in conformance with [reference to permeable pavement specifications developed in other section].
3. Where pervious concrete is used for private streets and alleys, a road repair fund shall be set aside to address future maintenance and repair requirements. The amount shall be $[amount to be defined].
4. Layer thickness provided on this drawing are based on structural requirements for the given traffic loading and subgrade assumptions. Thicker layers may be required for stormwater management within permeable pavement.

City Policy Decisions:

Alley and Private - Pervious Concrete only (porous asphalt and pavers not allowed). Require road repair funding to be set aside. Maintenance covenant is required by the SDM.
Minor Local Residential - Porous asphalt okay. Pervious concrete is not allowed on minor local residential because of difficulty with utility repair.
Major Local Residential and larger streets - Exclude because the traffic volume is too high.
Permeable pavers are not allowed in the roadway.
Include default sections for permeable pavement in Detail 4-6.1.
City will develop permeable pavement specifications to be included in Chapter 4 of the DG&PWS. WSDOT GSPs will be used as a resource when developing the specifications.

</td>
<td>☒Amend existing language
☐ Develop new language
☐ No change
Require permeable pavement for low volume streets.</td>
</tr>
</table>

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 4 – Transportation Standard Detail 4-6.2 (117 of 174 in pdf)	[Detail 4-6.2] Structural Coefficient: HMA A1=0.42 Asphalt Treated Base A2=0.34 CSTC or CSBC A3=0.14 Ballast A4=0.10	Structural Coefficient: HMA A1=0.42 Asphalt Treated Base A2=0.34 CSTC or CSBC A3=0.14 Ballast A4=0.10 Porous Asphalt A5=0.42 Asphalt Treated Permeable Base (ATPB) A6=0.35 Permeable Aggregate Base A7=0.14 DC – 06/24/16 - Regarding structural coefficients for permeable pavement design, Drawing No. 4-6.2 of the DG&PWS should be appended with the following: Porous Asphalt = 0.42, ATPB = 0.35, permeable aggregate base = 0.14. These are all at the upper end of the recommended ranges in the references you provided, due to the high quality of local materials. This information will also be included with Roger's comments on the first draft SDM.	☒Amend existing language ☐ Develop new language ☐ No change Develop permeable pavement structural coefficients.
Chapter 3 – General Public Works Considerations Chapter 4 – Transportation Chapter 7 – Sanitary Sewer Chapter 8 – Reclaimed Water	**Trench Pavement Restoration** ~~• Standard Detail 4-8.0 [PERPENDICULAR SHALLOW TRENCH RESTORATION ARTERIALS, BLVDS. & COLLECTORS], Page 119 of 174~~ ~~• Standard Detail 4-8.1 [PERPENDICULAR TRENCH RESTORATION], Page 120 of 174~~ • Standard Detail 4-8.2 [RESIDENTIAL TRENCH RESTORATION], Page 121 of 174 • Standard Detail 4-8.3 [PARALLEL TRENCH RESTORATION], Page 122 of 174 • Standard Detail 3-26 [PIPE ZONE BEDDING FOR ALL PRESSURE PIPES], Page 62 of 174 • Standard Detail 7-20.1 [PIPE ZONE BEDDING FOR SEWER PRESSURE MAINS & SERVICES], Page 133 of 174 • Standard Detail 8-26 [PIPE ZONE BEDDING FOR RECLAIMED WATER MAINS & SERVICES], Page 43 of 174 **Monuments Pavement Restoration** • Standard Detail 4-20 [CAST IN PLACE MONUMENT], Page 155 of 174 • Standard Detail 4-22 [PIPE MONUMENT & CASE INSTALLATION], Page 156 of 174	[Add the following note] Existing surfaces paved with permeable materials should be replaced in-kind where feasible in conformance with 4B.180 Trench Backfill and Restoration.	☒ Amend existing language ☐ Develop new language ☐ No change Add a note for permeable pavement restoration.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 3 – General Public Works Considerations Chapter 5 – Storm Drainage Chapter 6 – Water Chapter 7 – Sanitary Sewer Chapter 8 – Reclaimed Water	**Valve Box Pavement Restoration** • Standard Detail 3-12 [STANDARD VALVE BOX INSTALLATION], Page 53 of 62 • Standard Detail 6-12 [STANDARD VALVE BOX INSTALLATION], Page 70 of 79 • Standard Detail 7-9 [STANDARD VALVE BOX INSTALLATION], Page 97 of 149 • Standard Detail 8-12 [STANDARD VALVE BOX INSTALLATION], Page 38 of 43 **Cleanout Pavement Restoration** • Standard Detail 7-5 [CITY OF LACEY CLEANOUT], Page 92 of 149 • Standard Detail 7-5.1 [CLEANOUT TYPE II PRIVATE], Page 93 of 149 **Manhole Pavement Restoration** • Standard Detail 5-3 [STORM DRAIN MANHOLE LOGO COVER & FRAME INSTALLATION], Page 23 of 33 • Standard Detail 6-16 [WATER MANHOLE LOGO COVER & FRAME INSTALLATION], Page 72 of 79 • Standard Detail 7-3 [SEWER MANHOLE LOGO COVER & FRAME INSTALLATION], Page 88 of 149 • Standard Detail 8-6 [RECLAIMED WATER MANHOLE LOGO COVER & FRAME INSTALLATION], Page 31 of 33	[Add the following note] **Within paved area:** Existing surfaces paved with permeable materials should be replaced in-kind where feasible in conformance with 4B.180 Trench Backfill and Restoration.	☒ Amend existing language ☐ Develop new language ☐ No change Add a note for permeable pavement restoration.
Chapter 4 – Transportation 4B.160 Surfacing Requirements Page 48 of 174 (in pdf)	4B.160 Surfacing Requirements C. Class I Bikepath Surfacing: 4 inches Commercial Concrete Base: 1 inch Crushed Surfacing Top Course Alternate: Surfacing: 2-1/2 inches Hotmix Asphalt Pavement Base: 4 inches Ballast	4B.160 Surfacing Requirements C. Class I Bikepath Surfacing: Porous asphalt [*structural section to be developed; permeable pavement specifications to be provided elsewhere]* Alternate A ~~Surfacing~~: 4 inches Commercial Concrete; ~~Base:~~ 1 inch Crushed Surfacing Top Course Alternate B: Surfacing: 2-1/2 inches HMA Pavement Base: 4 inches Ballast **City Policy Decision:** Allow porous asphalt for bike paths. Provide default section for paths separate from the travel lane. Paths adjacent to the roadway will use the same material and cross section as the roadway.	☒ Amend existing language ☐ Develop new language ☐ No change Develop permeable pavement specifications for bike paths.
Chapter 4 – Transportation 4C.010 General Page 54 of 174 (in pdf)	1. Sidewalks shall be constructed of Commercial Concrete a minimum of 4 inches thick. When a portion of the sidewalk functions as a driveway, the sidewalk shall be a minimum 6 inches thick through the driveway section.	1. Sidewalks shall be constructed of Commercial Concrete a minimum of 4 inches thick. When a portion of the sidewalk functions as a driveway, the sidewalk shall be a minimum 6 inches thick through the driveway section. Permeable materials are an accepted alternative material to cement concrete. If permeable materials are used, sidewalk section shall be as follows: [structural section to be developed; permeable pavement specifications to be provided elsewhere] **City Policy Decision:** Allow pervious concrete for sidewalks. Provide default section. Porous asphalt and permeable pavers are not allowed.	☒ Amend existing language ☐ Develop new language ☐ No change Develop permeable pavement specifications for sidewalks.
Chapter 4 – Transportation Standard Detail 4-4.0 Page 97 of 174 (in pdf)	Standard Detail 4-4.0 CEMENT CONCRETE VALLEY GUTTER IS REQUIRED IF USED REVERSE SLOPE	[Add the following note on Standard Detail 4-4.0] 10. Permeable pavement is encouraged in the bulb out parking area.	☐ Amend existing language ☒ Develop new language ☐ No change Promote permeable pavement for bulb out parking.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 5 – Storm Drainage Drawing 5-11 – LID Curb Inlet Page 32 of 33 (in pdf)	Pervious paving may be used for inlet with approval.	~~Pervious~~ Permeable paving may be used for inlet with approval.	☒Amend existing language ☐ Develop new language ☐ No change Update terminology.
Chapter 3 – General Public Works Considerations Page 15 of 62 (in pdf)	PLAN PORTION STANDARD ITEMS (Labeled on All Sheets) ( ) Centerline and Stations ( ) Edge of Pavement labeled with Width Dimension provided ( ) Right-of-Way labeled with width Dimension provided ( ) Proposed Survey Monumentation Locations and Details ( ) Sidewalk labeled with width Dimension provided ( ) Planter Strip labeled with width Dimension provided ( ) Roadway Sections …	PLAN PORTION STANDARD ITEMS (Labeled on All Sheets) ( ) Centerline and Stations ( ) Edge of Pavement labeled with Width Dimension provided ( ) Right-of-Way labeled with width Dimension provided ( ) Proposed Survey Monumentation Locations and Details ( ) Sidewalk labeled with width Dimension provided ( ) Planter Strip labeled with width Dimension provided ( ) Stormwater treatment and/or flow control facilities labeled with width Dimension provided ( ) LID facilities labeled with width Dimension provided ( ) Roadway Sections	☒ Amend existing language ☐ Develop new language ☐ No change City will overhaul the stormwater related checklist from Chapter 3 for consistency with revised SDM.
Chapter 3 – General Public Works Considerations Page 21-25 of 62 (in pdf)	Storm checklist for drainage report, maintenance, and erosion control plans.	[Replace “Storm” section as part of SDM update process, or potentially reference checklist within the SDM. SDM Appendix 2B may not be included in the new manual.]	☒ Amend existing language ☐ Develop new language ☐ No change Update checklists for consistency with revised SDM.
Chapter 4 – Transportation 4B.025 – Access Management Page 9 of 174 (in pdf)	Raised or landscaped medians in the center of a road separate opposing lanes of traffic, and shall be used to restrict turning and crossing movements.	~~Raised or~~ Native and drought tolerant landscaped medians in the center of a road separate opposing lanes of traffic, and shall be used to restrict turning and crossing movements.	☒ Amend existing language ☐ Develop new language ☐ No change Promote native and drought tolerant vegetation in medians. Note: All medians are required to be landscaped. Inverted slopes are problematic in the median due to plugging/flooding, etc. A wide median is needed for maintenance access.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 4 – Transportation Standard Detail 4-4.6 Page 105 of 174 (in PDF)	Raised or landscaped medians in the center of a road separate opposing lanes of traffic, and shall be used to restrict turning and crossing movements.	~~Raised or~~ Native and drought tolerant landscaped medians in the center of a road separate opposing lanes of traffic, and shall be used to restrict turning and crossing movements.	☒ Amend existing language ☐ Develop new language ☐ No change Promote native and drought tolerant vegetation in medians. Note: All medians are required to be landscaped. Inverted slopes are problematic in the median due to plugging/flooding, etc. A wide median is needed for maintenance access.
Chapter 4 – Transportation 4B.030 – Functional Classification and Connectivity Page 11 of 174 (in pdf)	Traffic calming techniques shall be designed into all residential subdivisions.	Traffic calming techniques shall be designed into all residential subdivisions and incorporate vegetated LID facilities where feasible.	☒ Amend existing language ☐ Develop new language ☐ No change Encourage vegetated LID facilities in traffic calming devices.
Chapter 4 – Transportation 4B.035 – Traffic Impact Analysis Page 21 of 174 (in pdf)	Internal traffic calming shall be incorporated into all developments to control cut through traffic and reduce speed within the development.	Internal traffic calming shall be incorporated into all developments to control cut through traffic and reduce speed within the development and incorporate vegetated LID facilities where feasible.	☒ Amend existing language ☐ Develop new language ☐ No change Encourage vegetated LID facilities in traffic calming devices.
Appendix K – Plant Materials in Open Spaces Page 3-4 of 5 (in pdf)	[Appendix K provides a short list of suitable trees, suitable shrubs, suitable groundcovers, plants to avoid, and some common poisonous landscape plants.] Some common poisonous landscape plants: Black Locust (Robinia pseudoacacia) Horsechestnut (Aesculus spp.) Oak (Quercus spp.) Yew (Taxus spp.) Walnut (Juglans spp.) Boxwood (Buxus sempervirens) Big Leaf Hydrangea (Hydrangea macrophylla) Foxglove (Digitalis purpurea) Virginia Creeper (Parthenocissus quinquefolia)	Remove Appendix K and amend the following references to Appendix K: • Table of Contents (Page 10 of 11) - Delete (2) Appendix K references • Index (Page 11 of 19) – Delete (3) Appendix K references] Note: There are a few references to the Maintenance Agreement worksheet in Appendix K of the Drainage Design and Erosion Control Manual for Lacey which should be updated to Appendix Q of the Development Guidelines and Public Works Standards.	☒ Amend existing language ☐ Develop new language ☐ No change Appendix K will be removed. It does not belong in the DG&PWS.
Chapter 4 – Transportation 4G.110 – Planter Strip Landscaping Page 81-82 of 174 (in pdf)	Planter strip landscaping specifications and approved plant list.	[Insert before “Suitable Shrubs” section on page 82] Stormwater Facilities: Stormwater facilities shall meet the planting requirements of the current City of Lacey Stormwater Design Manual.	☐ Amend existing language ☒ Develop new language ☐ No change Reference SDM for stormwater facility planting requirements.

<table>
<tr><th>Section/Page Reference</th><th>Existing Text</th><th>Proposed Revisions to Existing Text</th><th>Preferred Approach</th></tr>
<tr><td>Chapter 5 – Storm Drainage
5A.030 – Landscape Considerations
Page 3 of 33 (in pdf)</td><td>All projects shall plant a combination of trees, shrubs and groundcovers to provide variety and interest. Plant at least three different species of trees and shrubs.</td><td>All projects shall plant a combination of trees, shrubs and groundcovers to provide variety and interest. Plant a mix of at least three different species of trees and/or shrubs.</td><td>☒ Amend existing language
☐ Develop new language
☐ No change
Clarify existing language to ensure plant diversity.</td></tr>
<tr><td>Chapter 4 – Transportation
4B.125 – Landscape/Planter Areas
Page 40-41 of 174 (in pdf)</td><td>Landscape and planter area widths shall be as shown on details at the end of this chapter. Landscaping methods shall be in compliance with section 8-02 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction.

Landscape and planter areas shall be prepared in the following order: scarify the native soil; install the root barriers; install the irrigation system; add the topsoil; install the landscaping; add a top-dressing if applicable. See Chapter 6.210 for irrigation system requirements.

Excavate the area to be landscaped to the depth below finished grade as shown in the table below. Scarify or aerate the subgrade by tilling, disking, harrowing, or other method as approved by the City. Fracture and incorporate glacial till or other hardpans within 4 feet of the top of the finished grade. Remove debris and stones from the surface that are larger than 1 inch in any dimension. Backfill the excavated area with topsoil to the depth shown in the table below. Remove all rocks, sticks, and other debris 1 inch and larger. The finished grade of topsoil at the curb shall be 1 inch below the top of curb.</td><td>Landscape and planter area widths shall be as shown on details at the end of this chapter. Landscaping methods shall be in compliance with section 8-02 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction.

Landscape and planter areas shall be prepared in the following order: scarify the native soil; install the root barriers; install the irrigation system; add the topsoil; install the landscaping; add a top-dressing if applicable. See Chapter 6.210 for irrigation system requirements.

For typical at-grade landscapes, e~~E~~xcavate the area to be landscaped to the depth below finished grade as shown in the table below. Scarify or aerate the subgrade by tilling, disking, harrowing, or other method as approved by the City. Fracture and incorporate glacial till or other hardpans within 4 feet of the top of the finished grade. Remove debris and stones from the surface that are larger than 1 inch in any dimension. Backfill the excavated area with topsoil to the depth shown in the table below. Remove all rocks, sticks, and other debris 1 inch and larger. The finished grade of topsoil at the curb shall be 2 to 3~~1~~ inches below the top of curb.

<table><tr><th></th><th>Initial Excavation Depth</th><th>Topsoil Depth</th></tr><tr><td>Medians and Islands</td><td>19 inch</td><td>18 inch</td></tr><tr><td>Perennial Planter Strip</td><td>13 inch</td><td>12 inch</td></tr><tr><td>Grass/ Lawn Planter Strip</td><td>~~7~~8 inch</td><td>~~6~~6.25 inch</td></tr></table>See Chapter 4G.100, Street Trees, for specific information on tree species, size, location, and spacing. Trees located in tree wells shall be installed per detail. See Chapter 4G.110, Planter Strip Landscaping, for specific information on planting theme, planting size, location, and maintenance.

DC – 06/24/16 - Soil Amendment depths in Landscape/Planter areas, DG&PWS 4B.125 – it appears the specified depths for medians/islands and planter strips exceeds DOE's Soil Quality and Depth requirements, so they can remain, but the grass/lawn planter strip depths are less so they should reference the DOE minimum per the SDM.</td><td>☒ Amend existing language
☐ Develop new language
☐ No change
Update reference to soil amendment requirements. Current text is not consistent with the Ecology manual requirements.

Clarify language to apply to vegetated LID facilities.

Adjust finished grade language to allow room for mulch and freeboard to keep mulch in place.</td></tr>
<tr><td>Chapter 4 – Transportation
4B.060 – Right-of-Way
Page 31 of 174 (in pdf)</td><td>Right-of-way requirements may be increased if intersection treatments, transit lanes, bus loading zones, bike lanes, meandering sidewalks, tree retention, utilities, etc.</td><td>Right-of-way requirements may be increased if intersection treatments, transit lanes, bus loading zones, bike lanes, meandering sidewalks, tree retention, LID facilities, utilities, etc.</td><td>☒ Amend existing language
☐ Develop new language
☐ No change
Add LID facilities to list of allowed ROW deviations.</td></tr>
<tr><td>Chapter 2 – Excavation and Grading
Grading Plan Checklist
Page 20 of 22 (in pdf)</td><td>Erosion Control Plan per Chapter 5. See Chapter 3.040 for the Public Work's Plan Checklist containing the Erosion Control Plan checklist components.</td><td>Erosion Control Plan or SWPPP per Core Requirement 2 of the current City of Lacey Stormwater Design Manual ~~Chapter 5. See Chapter 3.040 for the Public Work's Plan Checklist containing the Erosion Control Plan checklist components~~.</td><td>☒ Amend existing language
☐ Develop new language
☐ No change
Reference SDM for SWPPP and TESC requirements.</td></tr>
</table>

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 5 – Storm Drainage 5A.020 – Design Standards Page 2 of 33 (in pdf)	The maximum depth of a retention or detention pond shall be 4.5 feet from the pond bottom to the top of the pond slope.	~~The maximum depth of a retention or detention pond shall be 4.5 feet from the pond bottom to the top of the pond slope.~~ Detention ponds, wetponds, and stormwater treatment wetlands shall be designed in accordance with the current City of Lacey Stormwater Design Manual, respectively.	☒ Amend existing language ☐ Develop new language ☐ No change Reference SDM for stormwater facility design requirements.
Chapter 5 – Storm Drainage General Notes (Storm Drain Construction) Page 8 of 33 (in pdf)	All building downspouts on commercial sites shall be connected to the storm drainage system, unless otherwise approved by the jurisdiction.	The measures outlined for Roof Downspout Controls in the current City of Lacey Stormwater Design Manual shall be implemented for managing runoff from building downspouts on commercial sites where feasible. If these controls are infeasible, then the building downspout shall be connected to ~~All building downspouts on commercial sites shall be connected to~~ the storm drainage system~~, unless otherwise approved by the jurisdiction~~.	☒ Amend existing language ☐ Develop new language ☐ No change Reference SDM for roof downspout control requirements.
Chapter 2 – Excavation and Grading P. Erosion Control Page 15 of 22 (in pdf)	The faces of cut and fill slopes shall be prepared and maintained to control against erosion. All erosion control shall comply with the City of Lacey Erosion Control Manual.	[Address Element 13 with reference to erosion control standards] The faces of cut and fill slopes shall be prepared and maintained to control against erosion. All erosion control shall comply with the current City of Lacey Stormwater Design Manual ~~Erosion Control Manual~~. All projects must consider all of the 13 Elements of Construction Stormwater Pollution Prevention and develop controls for all elements that pertain to the project site.	☒ Amend existing language ☐ Develop new language ☐ No change Require all projects to consider the 13 Elements of MR#2.
Chapter 5 – Storm Drainage Page 5 of 33 (in pdf)	The maintenance requirements in the City of Lacey 2010 Stormwater Design Manual supersede Chapter 3 requirements.	The maintenance requirements in the current City of Lacey ~~2010~~ Stormwater Design Manual supersede Chapter 3 requirements.	☒ Amend existing language ☐ Develop new language ☐ No change Update to refer to the requirements of the most recent version of the SDM.
Chapter 3 – General Public Works Considerations - General Construction Notes Page 33 of 62 (in pdf) Chapter 6 – Water General Notes Page 38 of 79 (in pdf) Chapter 7 – Sanitary Sewer General Notes Page 62 of 149 (in pdf)	Erosion control/water pollution measures shall be required in accordance with Section 1-07.15 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction and the City of Lacey 2010 Stormwater Design Manual. (Chapter 7 does not include reference)	Erosion control/water pollution measures shall be required in accordance with Section 1-07.15 of the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction and the current City of Lacey ~~2010~~ Stormwater Design Manual.	☒ Amend existing language ☐ Develop new language ☐ No change Update to refer to the requirements of the most recent version of the SDM.
Chapter 5 – Storm Drainage General Notes Page 8 of 33 (in pdf)	All disturbed areas shall be seeded and mulched or similarly stabilized to the satisfaction of the jurisdiction.	All ~~disturbed~~ areas subject to clearing and grading that have not been covered by impervious surface, incorporated into a drainage facility or engineered as structural fill or slope shall be amended in accordance with the current City of Lacey Stormwater Design Manual and then seeded, planted, and mulched or similarly stabilized after construction to the satisfaction of the jurisdiction.	☒ Amend existing language ☐ Develop new language ☐ No change Reference SDM for soil amendment requirements.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Chapter 4 – Transportation 4G.100 – Street Trees Page 75-80 of 174 (in pdf)	Provides approved list of trees.	[Replace with newly updated tree list from the City Forester.]	☒ Amend existing language ☐ Develop new language ☐ No change Update tree list.
Chapter 4 – Transportation Page 169-171 of 174 (in pdf)	Tree planting details Standard Details 4-29, 4-29.1, 4-3	[Add the following note to Standard Details 4-29, 4-29.1, 4-30] Note: Ensure roots are covered with soil.	☒ Amend existing language ☐ Develop new language ☐ No change Add note to protect trees.
Chapter 4 – Transportation 4B.125 – Landscape/Planter Areas Page 41 of 174 (in pdf)	Planter strip landscaping: The property owner, lessee, homeowner's or lot owner's association will be responsible for mowing, weeding, watering, tree replacement and tree maintenance.	Planter strip landscaping: The property owner, lessee, homeowner's or lot owner's association will be responsible for mowing, weeding, watering, tree replacement and tree maintenance. The property owner shall contact the City before removing or replacing trees in accordance with LMC 12.20. If the planter strip contains a LID facility, the City will be responsible for maintaining the LID facility.	☒ Amend existing language ☐ Develop new language ☐ No change Add requirement to protect trees.
Chapter 4 – Transportation 4G.100 – Street Trees Page 74-75 of 174 (in pdf)	B. Planting size: Trees, 2 to 3 inch caliper, measured 6 inches above the base. C. Location: Trees shall be as shown on the applicable roadway details. Trees shall be spaced 35 to 50 feet on center (as directed by the City of Lacey) starting 10 to 15 feet from the property line. Also, trees shall not be planted within 50 feet of the intersection measured from the curb radius. Exceptions may be made when there are existing sidewalks. Street trees may then be planted 3 to 5 feet behind the sidewalk. Tree spacing may be adjusted slightly to allow a minimum 10 foot spacing on either side of a driveway. E. Exceptions to the planting theme may be made by the Director of Public Works. Exceptions include but are not limited to; screening industrial areas; planting around historical sites; incorporation of drought resistant techniques, maintaining natural vegetation that better serves as street landscaping or beautification.	B. Planting size: Trees, 2 to 3 inch caliper, measured 6 inches above the base. C. Location: Trees shall be as shown on the applicable roadway details. Trees shall be spaced 35 to 50 feet on center (as directed by the City of Lacey) starting 10 to 15 feet from the property line. Also, trees shall not be planted within 50 feet of the intersection measured from the curb radius. Exceptions may be made when there are existing sidewalks. Street trees may then be planted 3 to 5 feet behind the sidewalk. Tree spacing may be adjusted slightly to allow a minimum 10 foot spacing on either side of a driveway. Tree spacing may be adjusted for trees located in vegetated LID facilities with approval from the City. E. Exceptions to the planting theme may be made by the Director of Public Works. Exceptions include but are not limited to; screening industrial areas; planting around historical sites; vegetated LID facilities; incorporation of drought resistant techniques, maintaining natural vegetation that better serves as street landscaping or beautification.	☒ Amend existing language ☐ Develop new language ☐ No change Revise language to allow flexibility in tree spacing and planting theme for vegetated LID facilities.
Chapter 6 – Water Page 65 of 79 (in pdf) Chapter 8 – Reclaimed Water Page 33 of 43 (in pdf)	A min of 5' radius of unobstructed working area around all fire hydrants. This includes trees, shrubs, and plants.	A min of 5' radius of unobstructed working area around all fire hydrants. This includes trees~~,~~ and shrubs~~, and plants~~.	☒ Amend existing language ☐ Develop new language ☐ No change Allow non-obstructive native plants/ grasses.
Chapter 7 – Sanitary Sewer 7E.015 S.T.E.P.; ARV std dwg Page 69, 112 of 149 (in pdf)	A min of 3' radius of unobstructed working area around all lids. This includes trees, shrubs, and plants.	A min of 3' radius of unobstructed working area around all lids. This includes trees~~,~~ and shrubs~~, and plants~~.	☒ Amend existing language ☐ Develop new language ☐ No change Allow non-obstructive native plants/ grasses.
Chapter 7 – Sanitary Sewer Standard Detail 7-42 Page 145 of 149 (in pdf)	5. Wheeled vehicles shall be restricted for all drainfield areas. No deep rooted vegetation is allowed in a drain field.	5. Wheeled vehicles shall be restricted for all drainfield areas. No deep rooted vegetation is allowed in a drain field. Septic tanks or drainfields should be set back from stormwater infiltration facilities in accordance with the current City of Lacey Stormwater Design Manual.	☒ Amend existing language ☐ Develop new language ☐ No change Include a reference to the SDM for infiltration BMP setbacks to drain fields.

Section/Page Reference	*Existing Text*	*Proposed Revisions to Existing Text*	*Preferred Approach*
Appendix Q	Not applicable	[Move Appendix Q to the SDM and remove from this document.] DC – 06/24/16 - Appendix Q – The maintenance covenant and Agreements to Maintain Facilities forms will be moved to the SDM, or perhaps we will do a fillable form like Pierce County has. If the agreement forms need to have dozens of pages of attached maintenance checklists, then the online version would be the way to go. I would like to discuss this with you further.	☒ Amend existing language ☐ Develop new language ☐ No change Move Appendix Q to the SDM to avoid redundancy.

Nomenclature Updates

Chapter 5 – Storm Drainage 5A.020 – Design Standards Page 1 & 2 of 33 (in pdf)	"Green belt"	"Green ~~belt~~way"
Chapter 5 – Storm Drainage Page 1, 4, 7 of 33 (in pdf)	"Retention/detention"	"~~Retention/ detention~~ Stormwater treatment and/or flow control BMPs/facilities"

Issues Identified Outside the Scope of LID Integration

Chapter 3 – General Public Works Considerations Page 22 of 62 (in pdf)	On-Site Stormwater Management Checklist (see Chapter 5 - Storm, for list)	Delete reference to checklist and checklist in Chapter 3. **Review with SDM**
Chapter 5 – Storm Drainage Page 11-16 of 33 (in pdf)	Inspection and Maintenance Requirements;	Ensure maintenance/inspection requirements are consistent with the NPDES municipal permit.
SDM references in docs not reviewed by Herrera.	Many City documents may reference the 2010 SDM that Herrera has not reviewed.	Herrera has only reviewed a subset of documents **Review with SDM**

Area that Require Further Technical Discussion

- City specifications for permeable pavement materials – consider WSDOT GSPs.
- Define default permeable pavement cross sections for locations where permeable pavement is allowed.
- Landscape / Planter Area soils specifications and consistency with SDM soil amendment requirements.
- Are LID facility standard details needed / desired?