City of Bend Utilities
Public Advisory Group

CITY OF BEND

Location: **Zoom Meeting Link**

Date: Wednesday, April 5, 2023

Time: 11am-12:30pm

Speakers: Lori Faha, City of Bend Environmental Resources Manager
Elisabeth O'Keefe, City of Bend Stormwater Program Manager
Dan Denning, City of Bend Water Conservation Program Manager
Aubrie Koenig, Consor Strategic Planning & Communications Facilitator

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Meeting Agenda

Purpose: Collect input on opportunities to resolve potential conflicts between denser development and stormwater management.

1. **Welcome and Introduction** – *5 mins*
2. **Water Conservation Recap** – *7 mins*
3. **Stormwater Program Update** – *60 mins*
    a. Stormwater background
        i. Discussion:
            1. Are you aware of challenges or barriers in implementing LID or Green Infrastructure in development?
    b. Stormwater requirements in development (current requirements, future considerations)
    c. New drainage and density needs (what's needed, potential opportunities/challenges)
        i. Discussion:
            1. Under what scenarios should offsite drainage be an option for development projects?
    d. Stormwater maintenance responsibilities (current approach, future options)
        i. Discussion:
            1. What factors should be considered when determining ongoing maintenance responsibility for structural stormwater facilities (private, commercial, & comingled)?
            2. What areas of training are lacking for permitting, design and/or maintenance of stormwater measures?
4. **Discussion and Feedback** – *10 mins*
5. **Summary and Closing** – *3 mins*

Draft Meeting Roadmap

CITY OF BEND

Updated February 23, 2023

Wednesday, May 10, 2023 ***new date*** 11am-12:30pm Zoom Meeting	**MAY 2023 UPAG MEETING: Water Conservation** • Water conservation codes and standards – outdoor focus on private property irrigation ***Outcome:*** *Advice on applying codes and standards to outdoor private property.*
Wednesday, June 7, 2023 TBD/In-person	**JUNE 2023 UPAG MEETING: In-Person Tour** • Details coming soon!
July-Aug 2023	***SUMMER BREAK***
Wednesday, Sept. 6, 2023 11am-12:30pm Zoom Meeting	**SEPT 2023 UPAG MEETING: Stormwater Management** • Introduction to Stormwater Master Plan update project – milestones and input topics • Review draft updated regulatory Stormwater Management Program (SWMP) (due to DEQ by Nov. 1, 2023)
Wednesday, Oct. 4, 2023 11am-12:30pm Zoom Meeting	**OCT 2023 UPAG MEETING: Water Conservation** • Water conservation codes follow up
Wednesday, Nov. 1, 2023 11am-12:30pm Zoom Meeting	**NOV 2023 UPAG MEETING: Stormwater Management** • Stormwater master planning effort
Wednesday, Dec. 6, 2023 11am-12:30pm Zoom Meeting	**DEC 2023 UPAG MEETING: Annual Review** • Water conservation and stormwater education program highlights • How UPAG advice is being implemented • New members and future topics

Accessible Meeting Information

This meeting/event location is accessible. Sign language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, or any other accommodations are available upon advance request. Please contact Lori Faha at lfaha@bendoregon.gov or (541) 317-3025; Relay Users Dial 7-1-1. Providing, at least, 3 days' notice prior to the event will help ensure availability.

City of Bend Utility Public Advisory Group – Background Information for April 5, 2023 Meeting

Below is a brief summary of past work on stormwater program issues, especially the "drainage and density" topic. Also included are some definitions and photos to provide background for our next UPAG meeting.

Previous Stormwater PAG Discussions on Stormwater Drainage & Density

In 2017 the City of Bend Stormwater Public Advisory Group began to focus discussion on stormwater and Bend's increase in size and density. The Stormwater PAG input was designed to inform direction and development of updates to the Stormwater Master Plan and development standards/codes. Between 2017 and 2018 the Stormwater PAG helped develop the following:

- Strengths-Weaknesses-Opportunities-Threats/Constraints (SWOT) analysis and comparison table for on-lot, neighborhood/streetside, & regional scale stormwater management scenarios
- Identification of study needs and recommendations on specific topics

2018-2022 Drainage and Density Progress

- A few developments were approved with mixed stormwater drainage (private drainage conveyed through ROW to regional facilities)
- 2020 Infiltration Study to inform appropriate facilities and the Stormwater Master Plan
- LID Site Planning Preparation- initial reviews of other jurisdictions' design manuals
- Pervious Pavement- initial research and review of design guidelines
- Gap analysis- compared new DEQ permit requirements for development vs. existing City requirements

Current Regulatory Definitions

Green Infrastructure (GI): is a specific type of stormwater control using vegetation, soils, and natural processes to manage stormwater. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems designed to mimic nature by reducing and/or storing stormwater through infiltration, evaporation, and transpiration. At the site level, such measures may include the use of plant or soil systems, permeable pavement or other pervious surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspirate stormwater and reduce flows to sewer systems or to surface waters. At the scale of city or county, green infrastructure refers to the patchwork of natural areas that provides flood protection and natural processes that remove pollutants from stormwater.

Low Impact Development (LID): is a stormwater management approach that seeks to mitigate the impacts of increased runoff and stormwater pollution using a set of planning, design and construction approaches and stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater, and can occur at a wide range of landscape scales (i.e., regional, community and site). Low impact development is a comprehensive land planning and engineering design approach to stormwater management with a goal of mimicking the pre-development hydrologic regime of urban and developing watersheds.

Impervious Surface: is any surface resulting from development activities that prevents the infiltration of water. Common impervious surfaces include: building roofs; traditional concrete or asphalt paving on walkways, driveways, parking lots, gravel lots and roads; and heavily-compacted earthen materials.

Have you run in to any challenges or barriers in implementing LID or Green Infrastructure in development?

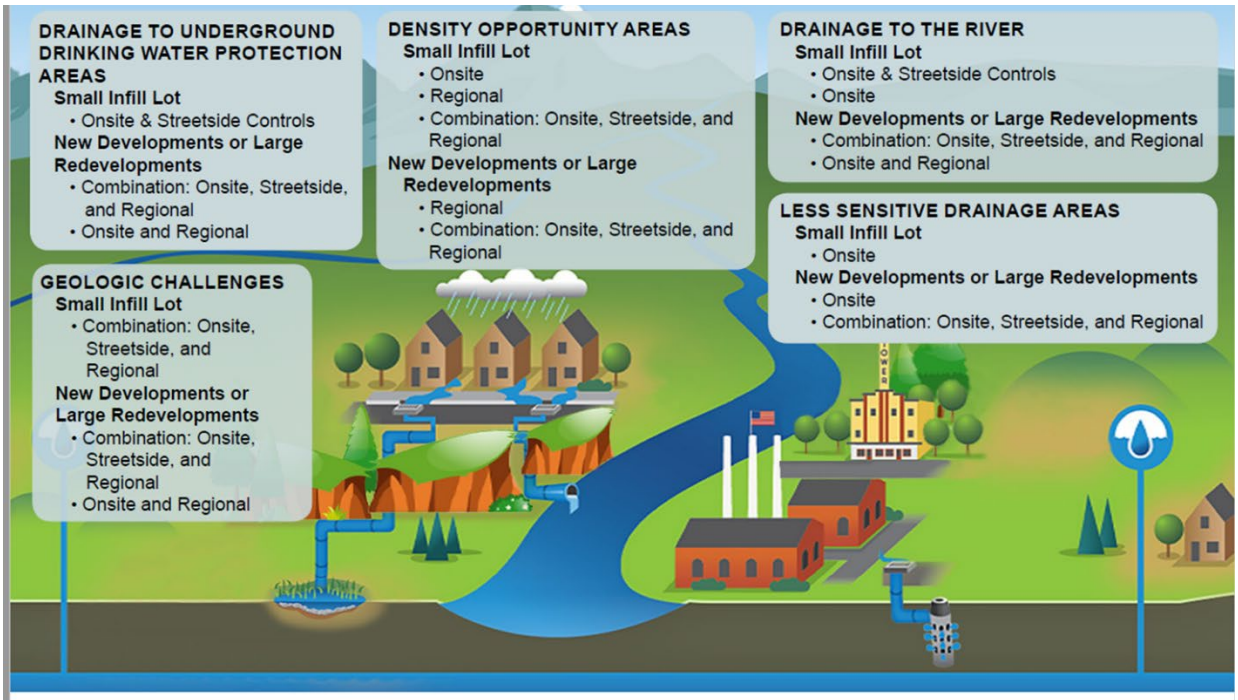
Townhomes on Reed Market Rd, Bend

Townhomes on Empire Blvd, Bend

12th Ave green street- Portland

Walkway swale along riverside homes, Bend

Bend Park and Recreation District green roof, Bend

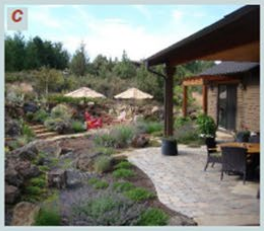


Stormwater Public Advisory Group Recommendations - Fall 2018

The City of Bend Stormwater Public Advisory Group has been focused over the last 18 months on how best to handle stormwater with increasing density as needed to meet State land use goals related to UGB expansion, and as the City becomes more urbanized. The following represent the results of prioritization exercises in a perfect world without additional complications, regulatory requirements, competing needs, etc. To that end, the PAG recognizes the need for and highly prioritizes flexibility especially for last lot small infill projects.

Glossary of Terms -

ONSITE CONTROLS seek to increase permeability, reduce impervious surface area and directly connected impervious areas to increase retention and detention through such practices as (a) reduced building and (b) parking footprints, (c) rain gardens, (d) disconnected downspouts, (e) permeable pavement or decks/benches, (f) green roofs, (g) cisterns, (h) underground injection controls.



NEIGHBORHOOD STREETSIDE CONTROLS are controls in the public right of way or private streetside designed either to retain or detain stormwater to reduce the amount or rate of runoff. These may include (a) green streets bioinfiltration, planter boxes, (b) filter strips, or underground injection controls.

REGIONAL (SUBDIVISION) CONTROLS are designed to take, detain/retain the stormwater from multiple lots through a retention or detention basin or swale.

Accommodation Information for People with Disabilities
To obtain this information in an alternate format such as Braille, large print, electronic formats, etc. please contact Utility Department at: (541) 317-3000 ext. 2, utilities@bendoregon.gov, Relay Users Dial 7-1-1.