

Appendix C

Public Involvement and Participation

Appendix C.1

***Public Advisory Group:
Meeting/ Agendas/ Summaries/ Sign-ins***

Appendix C.2

Storm Drain Marking Map



City of Bend
Stormwater Public Advisory Group (June 2020)

CITY OF BEND

	Last name	First Name	Organization	Representing
1	Wallace	Scott	Bend Chamber of Commerce	Business/Industry: Large
2	Salvesen	Aaron	Salvesen Homes	Business/Industry: Small
3	Rich	Barbara	Citizen, Richcraft Studios	Citizen At Large
4	Oberlender	Jim	Citizen, Retired	Citizen at Large or Neighborhood Association
5	Klein	Lawrence	Wylder Solutions, LLC	Consulting or Engineering
6	Headley	Tom	Century-West	Consulting or Engineering
7	Payne	Jeff	Panterra Homes & COBA	Developers--Excavation/Homebuilding
8	Hart-Henderson	Chris	Heart Spring Design	Developers--Landscape Architect or Design
9	Newbold	Moey	Central Oregon Land Watch	Environmental Group--Education/Density
10	Richter	Joanne	Upper Deschutes Watershed Council	Environmental Group--Watershed
11	Mastro	Bronwen	Bend Park and Recreation District	Intergovernmental Coordination
12	Cleveland	Todd	Environmental Health, Deschutes County	Intergovernmental Coordination
13	Moore	Fredrick	Oregon Department of Environmental Quality	Regulatory Liaison
14	Edde	Wendy	Stormwater Program Manager City of Bend	Stormwater Staff
15	Buchanan	David	Senior Analyst, City of Bend	Stormwater Staff
16	Forster	Eric	Asst. City Engineer, City of Bend	City Staff
	Interested Parties			
17				
18	Mandal	Brad	Building Official, CDD, City of Bend	City Staff
19	Hardie	Pauline	Senior Planner, CDD, City of Bend	City Staff
20	Platt	Allison	Senior Planner, CDD, City of Bend	City Staff
21	Oster	Ryan	Engineering and Infrastructure Planning Director, City of Bend	City Staff
22	Rheault	Paul	Utility Director, City of Bend	City Staff
23	Barnes	Drexell	Interim Water Quality Manager, City of Bend	City Staff



CITY OF BEND

Stormwater

Public Advisory Group Proposed Agenda

Wednesday, September 18, 2019

11:00 AM – 12:30 PM

City Hall—Board Room,

710 NW Wall Street **(Note different room location)**

- I. **Welcome and Introductions**, All, 11:00-11:05 AM
Objectives: Introductions. Review agenda, previous meeting summary.
- II. **Summer and Fall Activities and “Drainage and Density” Updates, Recommendations Status and Next Steps**, 11:05 – 11:15 PM, Wendy Edde, Ryan Oster, and Pauline Hardie
Objectives: Receive updates on Summer Activities (Deschutes River Cleanup; Welcoming Week; Teacher’s Night Out); upcoming Fall Activities: Oktoberfest, Fall Fest. Review drainage and density recommendations status list. Receive updates on Spring “Drainage and Density” Better Site Design Workshop Evaluation; Stormwater Facility Maintenance Guidance; Low Impact Development Cost Data; Code Updates (Pauline Hardie)
- III. **Clean Water Works BendFilm Kid’s Video Contest: Winners, and Upcoming Contest**, Wendy, All 11:15-11:20 AM
Objectives: Review 2020 program and contest themes. Provide ideas for contest themes for future years. Here is a link to the final psa for the 2019 grand prize winning entry on wipes: <https://vimeo.com/347173957> Password: water
- IV. **“Secure Your Loads” Flyer Review**, Wendy, All 11:20-11:30 AM
Objectives: Provide review comments on the “Secure Your Loads” draft outreach.
- V. **Annual Report Development Status and Review Schedule**, Wendy, 11:30-11:40 AM
Objectives: Receive update on status of FY2018-19 Annual Stormwater Report development, and communicate review schedules; discuss preference for offline review or an October meeting.
- VI. **Ambient Water Quality Monitoring – Formatting for Yearly Snapshots**, All, 11:40-11:50
Objectives: Staff are moving forward with yearly data compilation of ambient water quality data. A yearly snapshot formatting similar to [Lake Tahoe’s State of the Lake](#) report, within available budget, has been suggested. Review the State of the Lake report and provide input on what aspects you think would be useful and transferable here.
- VII. **Roundtable Discussion and Updates**, All, 11:50-12:00 PM
Objective: Open Discussion.

VIII. **CIP Project Overview: Newport Avenue Stormwater and Corridor Improvements**, Drew Wells, EIPD, All, 12:00 -12:10 PM

Objectives: Meet Project Manager Drew Wells (EIPD) and receive an update and overview of the Newport Corridor project, the main goals and objectives, a review of previous work done, and the quantity and quality upgrades for stormwater that are planned, together with an overview of the project schedule. Provide input.

IX. **CIP Brainstorm: Franklin Underpass**, Moey Newbold, Jim Lord, Allison Platt, All 12:10 PM – 12:25 PM

Objectives: Receive an overview on recent discussions among various planning groups about the Franklin Underpass area, receive an understanding of the stormwater and other issues needing to be solved there, discuss and provide input on ideas to meet multiple needs.

X. **Meeting Summary and Effectiveness Check-ins**, All, 12:25-12:30 PM

Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.



CITY OF BEND

City of Bend
Stormwater Quality Public Advisory Group
Attendance Sheet
September 18, 2019

Name:

Organization:

- | | |
|-------------------------|--|
| 1. Todd Cleveland | Deschutes Co. CDD |
| 2. FREDRICK MOORE | OREGON DEQ |
| 3. Drexell Barnes | City of Bend |
| 4. RYAN OSTER | City of Bend |
| 5. Brad Mandal | City of Bend |
| 6. Pauline Hardy | Bend |
| 7. Chris Hart-Henderson | Heart Springs |
| 8. Tom HEADLEY | CENTURY WEST ENGINEERING |
| 9. Mary Newbold | Central OR LandWatch |
| 10. Scott Wallace | Bend Chamber of Commerce - Wallace Group |
| 11. Lawrence Klein | Wylder Solutions LLC |
| 12. Sarna Saha | BPRD |
| 13. MARK BLUNTON | BPRD |
| 14. [Signature] | CDD |
| 15. Robin Lewis | Transportation (note: added, did not sign) |
| 16. | |



CITY OF BEND

Stormwater Quality

Public Advisory Group Meeting Summary

Thursday, September 18, 2019

10:00 AM – 11:30 AM

Members and City Staff Attending

Todd Cleveland (Deschutes County Environmental Health); Fredrick Moore (DEQ); Chris Hart-Henderson (Heart Springs Design); Tom Headley (Century West Engineering); Moey Newbold (Central Oregon LandWatch); Lawrence Klein (Wylder Solutions, LLC); Scott Wallace (Wallace Group, Bend Chamber of Commerce, Large Business/Industry); Sasha Sulia, Mark Ellington (Bend Park and Recreation District); Ryan Oster, Brad Mandal, David Buchanan, Drexell Barnes, Pauline Hardie, and Robin Lewis (City of Bend)

Key Items Discussed

- **Drainage Density Update**

Ryan Oster provided an overview of the new 15th street development (Luderman subdivision) project. The developer gave up two lots for regional drainage facilities. This reduced the number of drywells by half, installing private collection system for roof runoff. City still has work to do before this becomes the new standard including working out the billing issues. The subdivision is designed to keep the 100-year storm event onsite.

- **Clean Water Works Video Contest**

David Buchanan showed the 2019 Clean Water Works Video contest winning film about wipes. He also passed around this year's contestant flyer. This year's topic is automobiles and what impact they can have on water quality.

- **Secure Your Loads Flyer**

The draft secure your loads flyer was distributed to PAG members. Tom Headley asked about how we plan to distribute the flyer. Chis Hart-Henderson thought maybe Deschutes County Landfill could help distribute it. COBA said they are willing to send it out when completed. David asked the group to send any comments to Wendy Edde.

- **Annual Report**

David reported that the annual report is getting reviewed internally, and Wendy will send out a draft for PAG review prior to submittal by the November 1 deadline.

- **Ambient Water Quality Report**

Drexell Barnes briefly discussed the ambient water quality data. The Lake Tahoe report was passed around for the group to look at as a possible model for future reporting efforts, tailored to Bend's size. Moey Newbold was interested in getting a hardcopy of the City's report. (An electronic version was sent with meeting materials electronically on September 18.)

- **Round Table**

- Chris noted a portable toilet issue in the county along a couple different waterbodies. Wendy had forwarded the report over to DEQ. Fredrick Moore from DEQ looked into the codes and found that the site met setback requirements. Todd brought up that the county permits septic haulers and tracks them closely. Normally the companies have a name and phone number that you can call for service. He thought most would clean it up but noted it could be a training issue with the employees.
- Scott Wallace noted some borderline fraudulent waterproofing companies have been giving some crazy expensive quotes for services that are not needed. The quotes included installing waterproofing barriers that are not necessary in this climate.
- Pauline Hardie provided an update on recent planning code changes for cottages, involving revising how the City calculates ADUs.

- **Franklin Underpass**

Moey wants to make sure the City is coordinating across departments. Robin Lewis from Transportation Department discussed some of the issues and possible impervious surface removal options, including removing a turn lane. Ryan discussed the City budget and plans for the Franklin underpass project described in the Stormwater Master Plan (2014).

- **Newport Project**

The meeting was running ahead of schedule, so instead of waiting around for 15 minutes for the formal presentation, Ryan and David provided a quick overview on the Newport line replacement project. The project is getting marketed to the public as a street improvement project since that is what most people will see but it's driven by the need to replace the Newport stormwater line and improve stormwater water quality. The proposed improvement area was shown on google maps, there was some specific questions on total project costs that required more detailed information than staff had informally on hand. It was recommend we reschedule this formal presentation for the next meeting.

Key Decisions Made/Action Items

- The Public Advisory Group members will provide any additional comments on the draft "Secure Your Loads" flyer to Wendy or David.
- Any PAG members wanting more copies of the Kid's Video Contest flyer to help distribute to 5th – 12th graders should contact Wendy.
- Instead of a meeting in October, the Public Advisory Group will receive and independently review the draft Stormwater Annual Report and comment back to Wendy.
- City staff will finalize and submit the annual report by the November 1 deadline. Annual reports are posted on the City website at www.bendoregon.gov/stormannualreport.
- Staff will provide a hardcopy of the City of Bend Ambient Water Quality Report to Moey. PAG members with any additional input on the Lake Tahoe State of the Lake report format as a general model for future reporting efforts will provide comment to Wendy.
- City staff will reschedule the presentation on the Newport project to a future meeting.



CITY OF BEND

Stormwater

Public Advisory Group

Proposed Agenda

Thursday January 9, 2020

10:00 AM – 11:30 AM

Utility Annex, Eisenhower Conference Room

62975 Boyd Acres Road **(Note different room location than September)**

- I. **Welcome and Introductions, All, 10:00-10:10 AM**
Objectives: Introductions. Review agenda, previous meeting summary, staff updates.
- II. **Newport Avenue Stormwater and Corridor Improvements, Jessie Rykel-Wilson and Shawn Ellis (Parametrix), 10:10 -10:30 PM**
Objectives: Meet our consultants from Parametrix who will provide an overview of the Newport Corridor project, the main goals and objectives, the planned quantity and quality upgrades for stormwater, status update, and an overview of the project schedule and costs. Provide input.
- III. **Infiltration Study Update Project, 10:30 – 10:40 AM, David Buchanan**
Objectives: Receive a status update on the infiltration study project recommended by PAG.
- IV. **Permeable Pavement Discussion: What Has Been Your Experience So Far?, 10:40 – 10:55, Wendy Edde and David, All**
Objectives: Permeable pavement is a low impact development tool that can provide added flexibility for development projects. The City is starting to develop technical guidance for its use. Provide input on PAG member experiences, both positive and areas needing improvement or more information, to help refine the development of the guidance for best applicability in Bend.
- V. **Stormwater Service Charge Review Contract, 10:55– 11:05 AM, Wendy**
Objectives: In working to address municipal constraints related to the drainage and density discussion recommendations, the City is needed to update the fee structure.
- VI. **Stormwater Regulatory Updates, Wendy, David 11:05-11:15 AM**
Objectives: Receive update on the City's permit for stormwater drainage to the river, and annual report submittal, and projects.
- VII. **Roundtable Discussion and Updates, All, 11:15-11:25 AM**
Objective: Open Discussion.
- VIII. **Meeting Summary and Effectiveness Check-ins, All, 11:25-11:30 AM**
Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.



CITY OF BEND

Stormwater

Meeting Summary

Thursday January 9, 2020

10:00 AM – 11:30 AM

Utility Annex, Eisenhower Conference Room

Attending: Barbara Rich (Richcraft Studios); Todd Cleveland (Deschutes County CDD); Chris Hart-Henderson (Heart Springs Landscape design LLC); Lawrence Klein (Wylder Solutions); Scott Wallace (Wallace Group/Bend Chamber); Joanne Richter (Upper Deschutes Watershed Council); Bronwen Mastro (Bend Park & Recreation District); Tom Headley (Century West Engineering); Chris Henningsen (City of Bend Private Development Engineering Division); Brad Mandal (City of Bend Building); Drexell Barnes, David Buchanan, Wendy Edde (City of Bend Utilities); Jim Oberlander (phone); Jessie Rykels-Wilson (Parametrix)

Key Items Discussed

- **Newport Avenue Stormwater and Corridor Improvements.** Jessie Rykel-Wilson (Parametrix) gave an overview of the Newport Corridor improvement project. The project came about as the stormwater pipe under Newport is in need of replacement that outfalls into Mirror Pond near the footbridge by Harmon Park. She shared the main goals of the project: to improve the quality and reduce the quantity of the stormwater being discharged into the Deschutes River; and to limit impacts to existing discharge points at the Deschutes River. She provided an overview of the scope and approach, and shared that this is a synergy project designed to provide a cohesive design of new stormwater, sewer lines, water main, full depth pavement, accessible pedestrian facilities and coordinate upgrades/relocations of franchise utilities. To date, surveys and infiltration testing have been conducted. Jessie shared the schedule which included 30% designs are expected in February-March, final design by October 2020, and construction to begin in Spring 2021. Drew Wells is the City's project manager. The project is being paid in part by a loan from Oregon DEQ. A public open house is scheduled for March. Jessie fielded questions about cigarette butts as a pollutant (the project will include catch basins and sediment manholes), curb reveal issues, and right of way constraints. Scott Wallace asked for outfall volumes and peak discharges, and Jessie indicated she would look up the information and report back.
- **Infiltration Study Project Update.** David Buchanan will be the project manager for the geotechnical infiltration study project, to provide an update to the report last completed in 2006-2007. This project will be completed in to support the next

stormwater master plan update, provide information to provide technical support for making stormwater facility type decisions per the request of PAG as part of drainage and density discussions.

- **Permeable Pavement Discussion.** It was recognized that there is a need for technical guidance within Bend for permeable pavements design and installation to provide for added flexibility in stormwater facility techniques. Attendees took part in a discussion of their experience with various types of permeable pavement. Several notes were collected from the group discussion, which David will use in drafting technical guidance. Brad Mandal suggested incentives for Builders rather than landowners may be more effective or equally important given the added cost of installation. An ACWA workshop on permeable pavement is also expected this year. Turf Stone was mentioned as a local manufacturer of pavers for driveways and parking lots.
- **Stormwater Service Charge Review.** The City has received a draft proposal to help review the stormwater service charge structure to account for the flexibility recommended to allow combining of private and public stormwater within a subdivision or planned development to allow for streetside or regional controls. For decades, local regulations have required separation of private and public stormwater given our dispersed system. Originally our regulations required developers and property owners to keep all stormwater on site; in 2010 and 2012, we provided clarity by requiring the 25-year, 24-hour (2.5" storm depth) be kept on site with safe passage for the 100-year storm (3.1" storm depth). Recent code changes are allowing more lot coverage, and state plumbing rules allow only conveyance not infiltration within 10 feet of homes, making it increasingly difficult to maintain stormwater created within onsite swales in single-family residential areas. The City's current stormwater service charge rate structure is set up on a simplified manner; it needs to be updated to allow for the flexibility requested to combine stormwater or allow for regional controls. It makes sense to account for some of the other update needs as well, including to the credit program. The timing is fortunate as the City is updating its computer software, including for billing. The scope of work is undergoing review; funding has not been allocated within this biennial budget period and would need to be allocated to support this project. Public advisory group members recognized the importance of the work. Staff would like the PAG to serve as the public stakeholder input group for this process, and it is envisioned that it would take a number of meetings, likely held more often for a period to work through the issues. PAG members were amenable to this approach.
- **Stormwater Regulatory Updates.** The City applied for an individual permit for its NPDES MS4 Phase II stormwater permit for stormwater draining to the river through its municipal piped system by the December deadline. Given the size of Bend, as the largest Phase II community nearing 100,000 population, it makes sense for the City to obtain an individual permit. Larger Phase I communities are currently negotiating their individual permits.

- **Roundtable Discussion.** Attendees discussed citizen complaint phone numbers, private stormwater basins maintained by homeowners associations, and dumpster areas. Bronwen Mastro shared that Mark Ellington has retired from Bend Park and Recreation District. Sean Mulderig has amicably left the City as of January 3. The City is working to fill the vacancy.

Key Decisions Made/ Key Action Items

- Jessie or Drew Wells will report back on outfall volumes and peak discharges from the Newport project at a future meeting.
- David will release the request for proposals for the geotechnical infiltration study project in the month or so.
- David will use the permeable pavement discussion notes to develop technical guidance for permeable pavement use.
- City staff will continue to move the rate study scope through internal review and budget allocation.
- The PAG will be used as the public stakeholder group to review the stormwater rate structure when a contract is signed.
- Staff will work with DEQ to negotiate the individual permit.
- Wendy will work to obtain necessary approvals to have Bronwen take Mark's place on the Stormwater Public Advisory Group representing

Stormwater Public Advisory Group

Proposed Agenda

Monday June 8, 2020

2:00 PM – 3:00 PM

Remote Meeting (Click link below to join)



CITY OF BEND

[Join Microsoft Teams Meeting](#)

[Learn more about Teams](#) | [Meeting options](#)

- I. **Welcome and Introductions, All, 2:00-2:05 PM**
Objectives: Introductions. Review agenda, previous meeting summary, staff updates.
- II. **Newport Avenue Stormwater and Corridor Improvements Updates, Drew Wells, 2:05 -2:15 PM**
Objectives: Project manager Drew Wells joins us to provide updates since the January meeting, and the virtual online open house results PAG members were encouraged to participate in in lieu of our April meeting.
- III. **Infiltration Study Update Project, 2:15 – 2:25 PM, David Buchanan**
Objectives: Receive a status update on the infiltration study project recommended by PAG.
- IV. **Other Drainage and Density Updates, 2:20 PM – 2:25 PM**
Objectives: Discuss action item status, code and fee structure updates..
- V. **Source Control Discussion: Covered Dumpsters, 2:25 – 2:45 PM, All**
Objectives: The Central Oregon Stormwater Manual, the design manual for Bend, requires source controls in certain situations. Source controls are those facilities or controls designed to prevent stormwater from coming into contact with pollutants. Discuss barriers/concerns related to covered dumpsters, provide input on level of concerns, and brainstorm ideas for improvements.
- VI. **Public Education Improvements Discussion, 2:45– 2:50 PM, Wendy**
Objectives: Provide input on areas of public education needs, ideas for improvements for use in updating the strategic plan.
- VII. **Roundtable Discussion and Updates, All, 2:50-2:57 PM**
Objective: Circle around the meeting attendees for updates, open discussion.
- VIII. **Meeting Summary and Effectiveness Check-ins, All, 2:57-3:00 PM**
Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.

Stormwater Public Advisory Group

Drainage and Density Status of Action and Requested Items

<i>Requested Item</i>	<i>Status (as of 06/042020)</i>
<p>Additional Information and/or Study Needs Prior to or as part of Stormwater Management Plan Development</p> <ul style="list-style-type: none"> ◆ Recommend updated comparison cost data between the different facility types and scale, including construction and lifecycle costs 	<p>Low Impact Development cost comparison sheet developed for the Drainage and Density workshop (May 2019) (see also September 18, 2019 meeting packet).</p>
<ul style="list-style-type: none"> ◆ Recommend looking into stormwater reuse and cost analysis. 	
<ul style="list-style-type: none"> ◆ Research septic set back requirements from stormwater facilities. 	<p>OAR 340-71-2020 (3) covers septic tanks. No specified setbacks from stormwater facilities</p>
<ul style="list-style-type: none"> ◆ Incorporate lessons from Reno, NV's and other similar programs for example ideas (see more details below) 	<p>Shared and incorporating lessons from Gresham, OR into</p>
<ul style="list-style-type: none"> ◆ Explore impact of unpaved roads and alleys: Do they reduce peak flows? Would paving them result in increased runoff; what if paved with permeable? Reduced sediment loads? Do they have fewer utilities under them? Good candidates for permeable? 	<p>Streets is working with utilities to find best candidates for potential upgrades.</p>
<ul style="list-style-type: none"> ◆ Revisit with the next COSM update: how will Climate Change impact the design storm over time? 	<p>On hold due to Covid-related budget reductions and other project costs.</p>
<ul style="list-style-type: none"> ◆ Determining effective incentives for going beyond minimum requirements <ul style="list-style-type: none"> • Research storm types to provide a determination of how 	<p>Incentives may be considered as part of a credit program update; with the billing program update nearing completion the timing is improving to update the credit program.</p>

Requested Item	Status (as of 06/042020)
<p>long sport field/retention areas might be out of action or the need for backups in case of a scheduled event with economic impacts should be affected.</p>	<p>Timing of sport fields to be out of action if used as a detention facility combination would depend on the design of the facility, and could be adjusted.</p>
<ul style="list-style-type: none"> ◆ Additional Information Needs for Master Plan/Code/Specs Updates <ul style="list-style-type: none"> • SFR tracking • Permeable pavement check in • Cost Comparison • Demonstration Projects 	<p>--Permeable Pavement maintenance fact sheet created (June 2019); technical guidance under development --Permeable Pavement technical guidance under development. --Cost comparison work developed for May 2019 Drainage and Density workshop.</p>
<p>Recommendations for Improvements</p> <ul style="list-style-type: none"> • Provide another training(s) on stormwater management techniques and designs based on Bend’s soils for builders. Address common misperception that “It doesn’t rain here.” 	<p>--Held Drainage and Density Workshop in May 2019 that focused on low impact development techniques applicable to Central Oregon. --Updating Geotechnical Infiltration study (FY2020, FY2021) --Urban small scale BMPs Center for Watershed Protection webinar held May 2020.</p>
<ul style="list-style-type: none"> • Address how best to manage runoff on infill lots—the last-to-build builder should not be responsible for correcting previously approved problems; potential for long-term issues should be minimized. 	<p>--Working towards incorporating flexibility and overcoming municipal hurdles, starting with subdivisions. --Meeting biweekly this spring internally to understand breadth of needs and work on modifications needed.</p>
<ul style="list-style-type: none"> • Provide homeowners and business owners access to drainage plans and to notify new customers about the availability of drainage plans and responsibilities related to those. --And Related Item-- • Improve how drainage information is carried through to the subsequent property owners to ensure they have access to drainage plans. 	<p>--Meeting biweekly this spring internally to understand breadth of needs and work on modifications needed.</p>

Requested Item	Status (as of 06/042020)
<ul style="list-style-type: none"> • Commercial developments are required to have recorded stormwater maintenance agreements on the title. • Residential needs improvement. • City staff will look into available options given current and upcoming software. 	
<ul style="list-style-type: none"> • Research the City of Reno as one example, and other communities that have positively addressed concerns like these. For instance, Boise is drafting stormwater MOU's with private land owners. Incorporate Gresham's lessons learned into development rule updates: <ul style="list-style-type: none"> ○ Wood weirs are no longer allowed as check dams because water flows around them. Gresham has switched to concrete weirs to help prevent erosion. ○ Curb cut design is important, making sure you have a 2-inch drop at the inlet to prevent bypass of stormwater flows past the facility. ○ Infiltration rate is improving over time due to plant root growth. ○ Average ponding depth was a key factor for reducing runoff volumes. Deeper yet less steep facilities hold more rainfall/higher peak flows. ○ Longer facilities can intercept more rainfall if they have multiple inlets. Gresham now requires inlets at least every 25 feet. 	<p>Gresham's lessons learned were shared with engineering staff updating the standards and specifications (2019).</p>

Requested Item	Status (as of 06/042020)
<ul style="list-style-type: none"> On steep slopes, terrace with check dams in such a way that soil is flat within the facility rather than sloped with the hill. 	
<ul style="list-style-type: none"> Explore the possibility further of locating parks at the low spot of a subdivision to provide a neighborhood recreational experience that doubles for stormwater management during the few wet periods received in Bend. 	<p>Draft policy, code and ordinance review conducted in spring 2019. Locating parks at the low spot of a subdivision is allowed.</p>
<ul style="list-style-type: none"> Research the ability of regional controls to provide supplemental sports fields in addition to the minimum number needed for economic gains due to tournaments, etc. Can sports fields be used as a stormwater retention pond? Yes, but it was noted that sports fields have a lot of pressures to be usable during all weather conditions. Central Oregon hosts many tournaments. Could also be an option for non-supplemental opportunities with additional research providing a determination of how long they might be out of action or need for backups in case of a scheduled event should be affected, given that storms can come through in cells and affect one area of town and not another. 	<p>May be able to incorporate as a supplemental question in the infiltration study update (see next item).</p>
<ul style="list-style-type: none"> Provide an improved City map showing the overlays where infiltration is better if possible with additional data since the original Stormwater Master Plan, which includes some basic infiltration zones and identifies several areas of perched groundwater. This 	<p>Project budgeted for FY19-20. David Buchanan is project manager. Contracting underway.</p>

Requested Item	Status (as of 06/042020)
<p>recommendation recognizes that there is a lot of variability in Bend when it comes to infiltration rates, even on a single taxlot. One size doesn't fit all, but this can help with the need to plan for each geographic area in the revised Master Plan. Coordinate to include data required since last Master Plan for inclusion in compilation.</p>	
<ul style="list-style-type: none"> • Sediment is a pollutant of concern in the river, can carry other pollutants adsorbed to sediment particles, and can lead to clogging of facilities and related public safety issues. Specific planning strategies to reduce sediment loads coming off of sloped areas and from winter road care (while recognizing their benefits compared to soluble and other chemical approaches) especially should be a focus of the master plan update. 	<p>Updated Street Sweeping plan for stormwater quality to include focus on increasing street sweeping efficiency in the MS4 area.</p> <ul style="list-style-type: none"> --Tracking implementation --Investigating use of Water Sense as a notification tool for sweeping times.
<ul style="list-style-type: none"> ◆ City utility staff will work on a new customer booklet/brochure that would be sent out to all new customers that might prove to be a vehicle for this. 	<p>City staff created the One Water brochure – a very high level brochure that provides basic information about each of the utilities. Informs people that they may have swales onsite and what underground injection controls are.</p>



CITY OF BEND

Stormwater

Meeting Summary

Thursday January 9, 2020

10:00 AM – 11:30 AM

Utility Annex, Eisenhower Conference Room

Attending: Barbara Rich (Richcraft Studios); Todd Cleveland (Deschutes County CDD); Chris Hart-Henderson (Heart Springs Landscape design LLC); Lawrence Klein (Wylder Solutions); Scott Wallace (Wallace Group/Bend Chamber); Joanne Richter (Upper Deschutes Watershed Council); Bronwen Mastro (Bend Park & Recreation District); Tom Headley (Century West Engineering); Chris Henningsen (City of Bend Private Development Engineering Division); Brad Mandal (City of Bend Building); Drexell Barnes, David Buchanan, Wendy Edde (City of Bend Utilities); Jim Oberlander (phone); Jessie Rykels-Wilson (Parametrix)

Key Items Discussed

- **Newport Avenue Stormwater and Corridor Improvements.** Jessie Rykel-Wilson (Parametrix) gave an overview of the Newport Corridor improvement project. The project came about as the stormwater pipe under Newport is in need of replacement that outfalls into Mirror Pond near the footbridge by Harmon Park. She shared the main goals of the project: to improve the quality and reduce the quantity of the stormwater being discharged into the Deschutes River; and to limit impacts to existing discharge points at the Deschutes River. She provided an overview of the scope and approach, and shared that this is a synergy project designed to provide a cohesive design of new stormwater, sewer lines, water main, full depth pavement, accessible pedestrian facilities and coordinate upgrades/relocations of franchise utilities. To date, surveys and infiltration testing have been conducted. Jessie shared the schedule which included 30% designs are expected in February-March, final design by October 2020, and construction to begin in Spring 2021. Drew Wells is the City's project manager. The project is being paid in part by a loan from Oregon DEQ. A public open house is scheduled for March. Jessie fielded questions about cigarette butts as a pollutant (the project will include catch basins and sediment manholes), curb reveal issues, and right of way constraints. Scott Wallace asked for outfall volumes and peak discharges, and Jessie indicated she would look up the information and report back.
- **Infiltration Study Project Update.** David Buchanan will be the project manager for the geotechnical infiltration study project, to provide an update to the report last completed in 2006-2007. This project will be completed in to support the next

stormwater master plan update, provide information to provide technical support for making stormwater facility type decisions per the request of PAG as part of drainage and density discussions.

- **Permeable Pavement Discussion.** It was recognized that there is a need for technical guidance within Bend for permeable pavements design and installation to provide for added flexibility in stormwater facility techniques. Attendees took part in a discussion of their experience with various types of permeable pavement. Several notes were collected from the group discussion, which David will use in drafting technical guidance. Brad Mandal suggested incentives for Builders rather than landowners may be more effective or equally important given the added cost of installation. An ACWA workshop on permeable pavement is also expected this year. Turf Stone was mentioned as a local manufacturer of pavers for driveways and parking lots.
- **Stormwater Service Charge Review.** The City has received a draft proposal to help review the stormwater service charge structure to account for the flexibility recommended to allow combining of private and public stormwater within a subdivision or planned development to allow for streetside or regional controls. For decades, local regulations have required separation of private and public stormwater given our dispersed system. Originally our regulations required developers and property owners to keep all stormwater on site; in 2010 and 2012, we provided clarity by requiring the 25-year, 24-hour (2.5" storm depth) be kept on site with safe passage for the 100-year storm (3.1" storm depth). Recent code changes are allowing more lot coverage, and state plumbing rules allow only conveyance not infiltration within 10 feet of homes, making it increasingly difficult to maintain stormwater created within onsite swales in single-family residential areas. The City's current stormwater service charge rate structure is set up on a simplified manner; it needs to be updated to allow for the flexibility requested to combine stormwater or allow for regional controls. It makes sense to account for some of the other update needs as well, including to the credit program. The timing is fortunate as the City is updating its computer software, including for billing. The scope of work is undergoing review; funding has not been allocated within this biennial budget period and would need to be allocated to support this project. Public advisory group members recognized the importance of the work. Staff would like the PAG to serve as the public stakeholder input group for this process, and it is envisioned that it would take a number of meetings, likely held more often for a period to work through the issues. PAG members were amenable to this approach.
- **Stormwater Regulatory Updates.** The City applied for an individual permit for its NPDES MS4 Phase II stormwater permit for stormwater draining to the river through its municipal piped system by the December deadline. Given the size of Bend, as the largest Phase II community nearing 100,000 population, it makes sense for the City to obtain an individual permit. Larger Phase I communities are currently negotiating their individual permits.

- **Roundtable Discussion.** Attendees discussed citizen complaint phone numbers, private stormwater basins maintained by homeowners associations, and dumpster areas. Bronwen Mastro shared that Mark Ellington has retired from Bend Park and Recreation District. Sean Mulderig has amicably left the City as of January 3. The City is working to fill the vacancy.

Key Decisions Made/ Key Action Items

- Jessie or Drew Wells will report back on outfall volumes and peak discharges from the Newport project at a future meeting.
- David will release the request for proposals for the geotechnical infiltration study project in the month or so.
- David will use the permeable pavement discussion notes to develop technical guidance for permeable pavement use.
- City staff will continue to move the rate study scope through internal review and budget allocation.
- The PAG will be used as the public stakeholder group to review the stormwater rate structure when a contract is signed.
- Staff will work with DEQ to negotiate the individual permit.
- Wendy will work to obtain necessary approvals to have Bronwen take Mark's place on the Stormwater Public Advisory Group representing

NEWPORT CORRIDOR IMPROVEMENTS — *Our Open House Has Moved Online!*

A Project in Your Neighborhood

Newport Corridor Improvements will replace the aging and failing stormwater drainage system along Newport Avenue from College Way to 9th Street, and down Nashville Avenue to the Deschutes River.

The project will also provide drainage improvements in the South Awbrey Butte area to reduce flows into the Newport Avenue system to help prevent flooding and improve water quality discharged to the Deschutes River.



The Newport Corridor project will also result in a new roadway for people who drive, ride bikes and walk.

Virtual Open House — *Join Us Online!*

Project neighbors are invited to attend an upcoming public open house online:

When: Wednesday, April 1 through Friday, April 17

How: Go to www.online-voice.net/bendnewportcorridor/

What: *See the design concept*

Get answers to your questions

Offer comments on the design

Working Above and Below Ground

In addition to the drainage system improvements, Newport Corridor upgrades will also:

- ✓ Reconstruct the roadway from College Way to 9th Street.
- ✓ Replace the existing sewer trunk line.
- ✓ Replace water distribution pipes in the rebuilt roadway.
- ✓ Install new sidewalks, curb ramps, lighting, landscape irrigation, and signage.

NEWPORT CORRIDOR IMPROVEMENTS

Learn More

For a project map and more details visit the project website at

bendoregon.gov/newportimprovements

24-Hour Hotline:
541-200-6972



710 NW Wall St.
Bend, OR 97703



Community Relations Manager Makayla Oliver, City of Bend **AGENCY**



ONLINE OPEN HOUSE: Newport Corridor Improvements

The City of Bend will be hosting an online open house for upcoming Newport Corridor Improvements. Project neighbors interested in seeing the design concept, having questions answered, or hoping to submit comment are invited to visit www.online-voice.net/bendnewportcorridor/ anytime between April 1 and April 17.

Newport Corridor Improvements will replace the aging and failing stormwater drainage system along Newport Avenue from College Way to 9th Street, and down Nashville Avenue to the Deschutes River. This project will also provide drainage improvements in the south Awbrey Butte area to reduce flows into the Newport Avenue system to help prevent flooding and improve water quality discharged into the Deschutes River, and will result in a new roadway for people who drive, ride bikes and walk.





River West
Neighborhood Association

NEWPORT CORRIDOR IMPROVEMENTS - ONLINE OPEN HOUSE

April 1st to April 17th

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Newport Corridor Improvements Project Timeline

2017 – Drainage Study in Newport corridor and South Awbrey Butte area

Spring 2019 – DEQ Loan funds replacement of the Newport Ave stormwater system

Fall 2019 – Design Begins

Winter 2019-20 – Survey and Geotechnical Drilling

Spring 2020 – Potholing Activity on Newport Ave & Nashville Ave

Spring 2021 – Construction Begins

Fall 2022 – Construction Complete



City of Bend, Oregon Government ✓

May 27 at 11:56 PM · 🌐

LAST CALL FOR VIDEO ENTRIES!

The Clean Water Works Kid's Contest closes June 1 for entries! You have one more weekend to get those cameras out and director hats on. We work with partners like [BendFilm Festival](#) and [Central Oregon Daily News/Zolo Media](#) to make this happen.


For the 2020 focus, we're looking to show how automobile wheel wear (from tires, balance weights, brake pads) can harm our waters and steps we all can take to help prevent pollution from automobile wheels. Contest Title: Tired of Pollution – Wheel Steps to Protect Our River. Here's Mackenzie Hice's final product after getting to produce a commercial with Zolo Media after she won the Grand Prize in 2015/2016!

CONTEST DETAILS: <https://bit.ly/2Xy2rOg>



6

7 Shares

 Share



City of Bend, Oregon Government ✓

September 30 at 12:04 AM · 🌐

Meet our new Police Chief, Mike Krantz

Meet our new Police Chief, Mike Krantz:

Hear how Mike Krantz plans to work to make sure the [City of Bend Police Department](#) provides the service today's community wants.

BEND UTILITY

Newsletter

News for City of Bend Utility Professionals

JULY/AUGUST 2019



NEW CIP'S IMPROVE ROW LANDSCAPES

By Dan Denning, Utility Program Compliance Specialist

The WaterWise team has recently gained a presence in the plan review process for future City of Bend landscape projects. This evolution was driven by the focus of improving our own utility landscapes to be examples of well managed irrigation systems. We recognize we have a moving ship with a dynamic set of challenges, but our priority is to improve things going forward. With capital improvement projects happening around the City, it is an ideal opportunity to execute some new ideas about what a right of way landscape should entail.

14th STREET

The improvements to 14th St. were recently completed

showing an example of a thoughtful transition to a WaterWise streetscape.

A low water use plant palate is combined with efficient irrigation, including inline drip in the planters and MP rotators on any areas with turf. The irrigation system is controlled by a Weathermatic Smart Central Control system, which utilizes local weather data to make adjustments to runtimes as needed.

EMPIRE CORRIDOR

Improvements to Empire Blvd. east of 18th St. began last year and saw the completion of the first phase in 2019. Phase Two is underway and expected to be complete in 2020.

Inline drip irrigation was installed to eliminate overspray from planter areas. Overhead irrigation should be avoided in these areas as it leads to wasted water and transportation of organic material and excess nutrients into storm drains and water bodies.

The drip system was installed complete with air relief valves and auto end flushes and is controlled by a Weathermatic Smart timer. Low water use native plant material was used to reduce the amount of water required to maintain a healthy landscape in Central Oregon.

Rock mulch was used as a durable alternative to plant based mulch and was installed with the proper

Happy summer everyone!

Let me offer a big "THANK YOU" to all of the staff that are in the field navigating our busy streets and balancing schedules to keep our systems running smoothly. Driving around Bend during the busy tourist season can take a bit longer when our local populations swells to over 100,000 on any given day. Drive defensively and please be safe out there.

While you're out and about you may notice a few new ROW landscapes along city streets as Dan explains below. It's great to see multiple teams collaborating to make these facilities work for everyone involved. And thank you to those who participated in the annual Deschutes River Cleanup event. It is a great way to give back to the river and community!

Mike Buettner
Utility Business Manager



grade to prevent rock from being kicked out into the roadway.

MURPHY CORRIDOR

The Murphy Corridor is currently in the planning phase and will also incorporate improvements with WaterWise landscape and irrigation themes.

2019 PUBLIC WORKS DAY - GRILL & CHILL



Safety Award
Sam Borgognoni

Innovation Award
Ty Richardson & Warren Packebush

Customer Service Award
Matt Zeibol

MVP Award
Arthur Judd

P.R.I.D.E. Award
Justin Young

Chili Cook-off Winner
Jimmy Hall - 3 years in a row

Corn Hole Champions
John Casarez & Andrew Johnson

Tape Toss Winner
Matt Hanseon - 15 ft

Equipment Rodeo Winner
Scott Winter

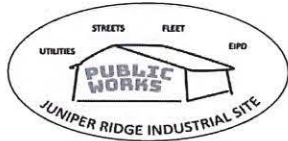
WHAT'S THE LATEST?



Our payroll application, Kronos Timekeeper software has an upgrade coming in August. Watch for 'sneak peek' invitations soon!



Our employee intranet (your internal website for City staff) is migrating to Modern Sharepoint. Look forward to a cleaner look with better functionality and speed. The Utility Department migration is scheduled for December.



Plans are in still the works for Utilities, Streets, Fleet and EIPD to move to a new Public Works facility in the Juniper Ridge industrial area in 2027.

CHECK BEFORE BACKING



BEFORE BACKING, BE SURE TO CHECK BEHIND YOUR VEHICLE.

ANNUAL DESCHUTES RIVER CLEANUP EVENT



Watershed stewards of all ages joined together for another successful year at the 23rd annual Deschutes River Cleanup event on Saturday, July 27, 2019. River clean-up activities were in the Deschutes River and along its riparian areas

between Meadow Camp and Drake Park. Volunteers brought their paddleboards, kayaks, and canoes to help Central Oregon Diving divers pull garbage out of the river, and helped pull invasive weeds and remove litter from the stream banks.

Our Stormwater Program is a regular sponsor and other Utility staff also volunteer at this fantastic annual event. Love your river and put this event on your bucket list for next summer!