Appendices

APPENDIX A. PROGRAM MANAGEMENT

Appendices

APPENDIX A. PROGRAM MANAGEMENT

A.1. Stormwater Coordinator Meetings

City of Bend

Solid Waste Handling Facilities (Trash Dumpsters) -- Improving Designs for Our Multitude of Needs

July 15, 2020 10:30AM – 12 Noon

Invited: Clint Burleigh; Dustin Elmore; Brad Mandal; Jerry Waugh; Carolyn Eagan; Larry Medina; Christina Davenport; David Buchanan; Ben Hemson; Joseph McClay; Wendy Edde

Proposed Agenda

I. Welcome and Introductions/Meeting Purposes (5 minutes)

Objective: Introductions and understand reason and objectives of meeting

II. Trash Dumpster Goals and Concerns (20 minutes)

Objective: Ensure we have captured the goals and concerns in trash dumpster/solid waste facility design from multiple perspectives

III. Ideas for Improvements (30 minutes)

Objective: Brainstorm ideas for improvements to meet the various goals and objectives

IV. Selecting Improvements and Discussion Next Steps (30 minutes)

Objective: Work towards selecting areas to improve and confirm next steps to move forward.

V. Dumpsters in Alleys (5-10 minutes)

Objective: Bringing light to a customer complaint.

Trash Dumpster/ Solid Waste Enclosures -- Pre-Work Summary

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
Stormwater	Source Control: • Do not allow water (Precipitation) to come into contact with trash/waste in a way that pollutants negatively impact water quality. "Only rain in the storm drain." • Provides secondary containment for leaks/spills • Reduces blowing trash	• Many products contain chemicals or other wastes that can negatively impact water quality. Not just "urban drool." • Need to consider dumpster area cleaning/ wash water	Bend Code Title16 -COSM See Attachment #1.	See Attachment #2 Draft Detail
Community Development --Planning	Public Health (Keep wastes in their place); Aesthetics (Don't lose business) If Structure (has roof over it)—Know early on pre-application	Costs --Developer to coordinate with disposal company as well to ensure it works with them	You can order whatever dumpster you want. --Planners try to capture it at land use process on site plan --Site utility plan is sometimes not included on a SIMP (if structure do not want it over utility line)	Provide clarity early to avoid surprises --Utility stuff more building --Planning needs to know early

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
	meetings; want designs coordinated with the aesthetic look of rest of building		Fences can be located in a setback so long as not a clear vision issues.	
Fire Department	Prevent fires; Prevent spread of fires to main building	Fires and access to water for fire suppression Alleys downtown – used smaller containers so could be close to building They actually catch on fire often so isolate with distances and fire prevention so just burns in the container Smaller containers plastic; larger are metal	• They (container) must be Type I (fire resistive) or IIA (non-combustible) construction • 5 foot separation from other buildings • Must be used exclusively for dumpster or container storage • Covered trash enclosures do not require sprinklers if 10 feet from other buildings/structures • Smaller containers are allowed to be closer • Could have cedar, etc. enclosure – it depends how much and what • More restrictive distances is 5 feet • If locked, they can force it so not a	In Portland, dumpsters are stored inside with a sprinkler (new is easier to do than a retrofit situation) (Zydeco designed their building to store trash enclosures inside)

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
			big concern— force a hose in.	
Police Department	Public safety Access Things are only good as the enclosures.	Illicit Activity increases if interior area is not visible. Homeless used covered areas for respite rather than public shelters/ can lead to human waste/human health issues; potential safety issues --People need a way to secure. See drug use. If covered, provides shelter. Not having issues Mirror Pond. --Roof without sides provide		Mirror Pond south

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
		welcoming area for sleeping; illicit activities. --High Desert Insurance – people does not have top (not day to day) --not sure about roof not walls		
Garbage	Be able to successfully and easily pick up the trash in a way that minimizes liability and cost for company	Time is money – if difficulty accessing --Must roll out containers to empty "Unable to manually move dumpster bigger than 3 cubic yards."	Information to find out: When would you require trash containers > 3 cubic yards?	
Economic Development / Business		Safety Cost		
Industrial Pretreatment Program (Sewer Source Control)	Compliance with Sewer Use Ordinance	Do not want stormwater. "Other concerns with a sanitary connection	"In regards to a dumpster connection to the sanitary sewer, some Cities have allowed discharge through an interceptor, specifically at restaurants	Sewer use ordinance is currently under review

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
		include: the difficulties in connection and associated costs (interceptor alone @$4000+), potential for illegal dumping of wastes harmful to collections system and/or WRF, maintenance of an interceptor, wastewater billing, etc. --Cost if goes to sewer – cover, lock, sign, monitor, track --If cannot land apply biosolids then would have to dispose of them, expensive	and auto shops. Specs include covering and appropriate signage about illegal dumping. Currently this practice would be in violation of our Sewer Use Ordinance without appropriate covering, as rainwater is listed as a "specific prohibition". But ultimately we will do what is necessary if it is decided by consensus that connection to SS is the best option. --Federal and State Regulations We create biosolids so we want to make sure nothing passes through treatment plant to biosolids. --oils, etc., local limits to meet biosolids and water quality standards. Any additional discharge that cannot track is really challenging and DEQ looks unfavorably.	-- Researched across county, not many cities go to sewer; if so, cover, locked, oil-water separator. If install grease trap, pump, then need to be maintained; requires maintenance tracking.
Building	Building cannot require it; it needs to be in standards and specs or Code; needs to be written in the structure.		Anything that is not life, safety, building attached is outside Building purview of authority. They cannot enforce Titl3 16. State plumbing code does not address.	Need education because folks early on think its not a big deal.

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
	Would need more than Title 16.		If they put these in there, where do they take them. Issue: which division is reviewing Title 16 compliance. Suppose to be PDE. Perhaps look at trash enclosures in Grading and Drainage.	Grading and Drainage – planning would require site plan and land use application routed to PDE for comments – PDE could include that in the comments; and have it shown with the Grading and Drainage plan. Great example: Over by Chipotle and Chick fil lay, is well done (IPP agrees) gated, locked, lighted, interceptor to sewer; don't want traps to get dry or freeze; Jerry has line to prevent sewer gases to get out, did exception for outdoors.

Perspective	Goals of Trash Dumpster Enclosures	Concerns With Trash Dumpsters Enclosures *	Existing Related Regulations	Ideas for Improvement
				Interceptor is traffic rated. Another one Colbright engineering, near ice rink
Community Development -Engineering		--Would like to look at when best to use waivers --Covers complicates projects --Public safety, maintenance		

* Concerns with current trash dumpster/solid waste designs (for example, specifics to walls, covers, safety, fire risk, direction of drainage, lighting, locks, costs, locations etc.)

2.1 INTRODUCTION

This chapter introduces the eight Basic Requirements for stormwater management required for new development and redevelopment projects in Central Oregon jurisdictions that have adopted this manual or portions of it. The applicability of each requirement depends upon the type, size, and location of the project. The detailed design guidelines associated with each of the basic requirements are included in the remaining chapters of this manual.

The overview in this chapter is intended to assist project proponents in determining the scope of the stormwater management facilities that will be required for a particular site. It is the responsibility of the project proponent to become familiar with the Basic Requirements in order to determine when they are applicable. Flow charts are included in Appendix 2A to assist project proponents in determining which of the following basic requirements apply to a particular project:

- Basic Requirement #1 – Drainage Submittal;
- Basic Requirement #2 – Geotechnical Site Characterization;
- Basic Requirement #3 – Water Quality Treatment;
- Basic Requirement #4 – Flow Control;
- Basic Requirement #5 – Natural and Constructed Conveyance Systems;
- Basic Requirement #6 – Erosion and Sediment Control;
- Basic Requirement #7 – Source Control; and,
- Basic Requirement #8 – Operation and Maintenance

Appendix 2B also includes some general guidance tables to assist project proponents in selecting appropriate BMPs for sites with challenging physical constraints.

Project proponents are encouraged to reference the Site Design and Low Impact Development techniques in Chapter 11 early in the process when planning for new development and redevelopment projects. Effectively utilizing the site design principles and implementing LID stormwater management features can reduce the size and cost of the required stormwater mitigation facilities.

2.1.1 NEW DEVELOPMENT

New development is the conversion of previously undeveloped or permeable surfaces to impervious surfaces and managed landscape areas. New development occurs on vacant land or through expansion of partially developed sites. The new development thresholds apply to the total amount of impervious surfaces added

at full build-out when all project phases are complete. The following basic requirements apply:

- All new development projects shall comply with Basic Requirement #5.

Project proponents are encouraged to reference the Site Design and Low Impact Development techniques in Chapter 11 early in the process when planning for new development and redevelopment projects. Effectively utilizing the site design principles and implementing LID stormwater management features can reduce the size and cost of the required stormwater mitigation facilities.

- All new development projects that *add 5,000 square feet or more of impervious surfaces or disturb one acre or more,* shall comply with Basic Requirements #1 and #4 through #8. Review Section 2.2.2 and 2.2.3 to determine if Basic Requirements #2 and #3 are applicable.
- All new development projects of any size that *propose a UIC facility* requiring DEQ registration, shall comply with Basic Requirements #1 through #8.

2.2.7 BASIC REQUIREMENT #7 – SOURCE CONTROL

Objective

The intent of Source Control BMPs is to prevent pollutants from coming into contact with stormwater. Source control BMPs are a cost-effective means of reducing pollutant loading and concentrations in stormwater and should be a first consideration in all projects.

Applicability

All projects that *add 5,000 square feet or more of impervious surfaces or disturb one acre or more* shall comply with this Basic Requirement, and therefore, are required to implement applicable source controls. The source control measures applicable to various site uses are outlined in Chapter 10. Following construction, projects shall apply all known, available and reasonable source control BMPs.

Considering opportunities for structural separation of surfaces exposed to pollutants and other source control alternatives during the project design stage may result in eliminating or reducing the size of facilities required under Basic Requirement #3 – Water Quality Treatment.

- ## 10.1.1. GOALS AND OBJECTIVES OF SOURCE CONTROL

The goal of source control is to prevent pollutants from entering stormwater in the first place. This goal is met when the following objectives are accomplished:

- Prevent stormwater pollution by eliminating pathways that may introduce pollutants into stormwater;
- Protect soil, groundwater, and surface water by capturing acute releases and reducing chronic contamination of the environment;
- Direct contaminated non-stormwater discharges (such as flows from vehicle washing facilities) to an approved sanitary system or authorized pre-treatment system;
- Safely contain spills onsite, avoiding preventable discharges to groundwater or surface water bodies; and
- Emphasize structural controls over operational procedures. Structural controls are considered to provide more permanent and reliable source control because they are not operator dependant. Any proposals for operation-based source controls need to describe and assure the long-term viability of the maintenance program.

- ***SITE USES THAT REQUIRE SOURCE CONTROL***

  All new developments, redevelopments, or tenant improvements, proposing the following site uses and characteristics are subject to source control and must implement the BMPs outlined in Section 10.3:

  - Fuel dispensing facilities;
  - Above ground storage of liquid materials;
  - Soils waste storage areas, containers, and trash compactors;
  - Exterior storage of bulk materials;
  - Material transfer areas/loading docks;
  - Equipment and/or vehicle washing facilities;
  - Covered vehicle parking areas;
  - Vehicle and equipment maintenance areas;
  - Landscaped areas with pools, spas, or fountain discharges; and
  - Food service equipment cleaning areas.

  Only those areas of a structure or project site that are being modified or disturbed with the proposed construction are required to make the structural changes identified in this manual. Detailed descriptions of these site uses and characteristics can be found in each applicable section below. This chapter also includes a brief discussion of the added guidelines for development on land with suspected or known contamination.

10.3 STRUCTURAL BMPS FOR COMMON SITE USES

The following sections outline the structural BMPs for seven common site uses. Applicants are required to address all of the site characteristics and uses on their site. For example, if a development includes both a fuel dispensing area and a vehicle washing facility, the source controls in Sections 10.3.2 and 10.3.7 will apply.

2.1.2 BASIC REQUIREMENTS

The following basic requirements apply to all site uses covered in this section.

Spill Response Supplies

Spill response supplies such as absorbent material and protective clothing must be available at all potential spill areas. Spill response supplies must be clearly marked and located near the activity areas. Supplies must be readily accessible to employees, but safe from vandalism. More than one spill response kit may be necessary to accommodate larger activity areas. Employees should be familiar with the site's operations and maintenance plan and/or proper spill cleanup procedures.

Signage

Informational signage is required for some site uses and activities that have the potential to contaminate stormwater. Signage requirements for specific activities are

noted in Sections 10.3.2 through 10.3.8. Signage addresses good housekeeping rules and provides emergency response measures in case of an accidental spill.

When signage is required, it shall conform to the following guidelines:

- Signs shall be plainly visible from all activity areas. More than one sign may be needed to accommodate larger activity areas;
- Signs shall be water resistant;
- Signs shall include the following information:
  - Safety precautions,
  - Spill response procedures (i.e. "Turn the valve located at…"), and
  - Emergency contact telephone numbers
- Signs may need to be in more than one language to effectively communicate with employees and delivery personnel; and
- All onsite storm drain inlets shall be clearly marked, "No Dumping, Drains to [Groundwater/River/Stream]" or equivalent using marking methods approved by the local jurisdiction.

Cover

Some site uses require that the area be covered with a permanent canopy, roof, or awning, so precipitation cannot come in contact with the activity area. This creates a hydraulic isolation of the activity area. Cover requirements for specific activities are noted in Sections 10.3.2 through 10.3.8. When cover is required, it shall meet the following requirements:

- Rainfall shall be directed from the cover to an appropriate stormwater disposal point, avoiding contact with the activity area, wherever possible.
- Covers 10 feet high or less shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

- Covers higher than 10 feet shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Building Plumbing

Proper drainage of water used within or as part of a building is important for preventing pollutants from contaminating stormwater. The following drainage areas may not discharge to the storm drain system:

- Interior floor drains;
- Fire sprinkler test water;
- Boiler drain lines; and
- Air compressor or air conditioner condensate drain lines.

The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.

Stormwater and Wastewater Discharge Permits

Some facilities may be required to obtain a State of Oregon NPDES industrial stormwater permit before discharging to a storm sewer system or to waters of the state. Applicants may also be required to obtain an industrial wastewater permit or other approval before being allowed to discharge to the sanitary sewer system. Facilities subject to these requirements are generally commercial or industrial. Typical discharges include process wastewater, cooling water, or other discharges generated by some of the sources in this chapter that drain to a sewer system (storm, sanitary, or combined). For more information, contact the sanitary sewer authority and reference the industrial pretreatment program.

If a permit is required, the industrial permit application process will be independent of the building permit application or development review process. While industrial permitting may not be applicable at the time of building permit submittal, changes in regulations could trigger industrial permitting requirements in the future.

Oregon DEQ Underground Injection Control (UIC) Regulations

The Oregon DEQ identifies drywells, drill holes, sumps, and infiltration trenches as "Class V Injection Wells" under the federal UIC Program. Because the UIC Program states that these types of wells may have a direct impact on groundwater, registration and rule-authorization or permitting with DEQ is required. Site uses that are classified as high risk under this chapter are generally not allowed to use UICs for stormwater disposal. Consult DEQ guidelines (https://www.deq.state.or.us) for additional information.

Other Local, State and Federal Regulations

The requirements presented in this chapter do not exclude or replace the requirements of other applicable codes or regulations, such as the hazardous substances storage requirements of articles 79 and 80 of the Oregon State Fire Code; the spill prevention control and containment (SPCC) regulations of 40 CFR 112 (EPA); the Resource

Conservation and Recovery Act (RCRA); or any other applicable local, state, or federal regulations or permit requirements.

10.3.4 SOLID WASTE STORAGE AREAS, CONTAINERS, AND TRASH COMPACTORS

The requirements in this section apply to all commercial and industrial development with facilities that store solid wastes (both food and non-food wastes). This section also applies to multifamily residential sites of three or more units if a shared trash collection area is proposed. Solid waste containers include but are not limited to compactors, dumpsters, and garbage cans. Requirements of this section also apply to activity areas used to collect and store refuse or recyclable materials, such as can or bottle return stations and debris collection areas.

The requirements of this section do not apply to single-family homes or debris collection areas used for the temporary storage of wood pallets or cardboard.

Cover

A permanent canopy, roof, or awning shall be provided to cover the solid waste storage activity area meeting the requirements of Section 10.3.1. Cover measures are not required for compactor areas if they are part of a closed-loop system approved by the local jurisdiction.

The local jurisdiction may waive this cover requirement if the proposed storage area has a low potential to pollute stormwater and will be covered by an alternate method, such as a sealing lid.

Pavement

A paved waste storage area is required when a structural cover or trash compactor is used. The area shall be paved with asphalt, concrete, or equivalent smooth impervious surface and meet all applicable building code requirements. Sizing of the paved area shall adequately cover the activity area intended for refuse storage, or the trash compactor(s) and associated equipment.

Isolation

Hydraulic isolation shall be provided for the solid waste storage activity area to prevent uncontaminated stormwater runoff from entering the area and carrying pollutants away. Isolation can be achieved by reverse grading at the perimeter of an activity area, perimeter curbing or berming, or the use of area drains to collect and divert runoff. Runoff occurring outside the hydraulically isolated area shall be directed to a stormwater disposal point that meets all applicable code requirements.

Solid waste storage areas shall be located away from occupied buildings to discourage pests from entering the buildings. This helps eliminate the need and use of pesticides.

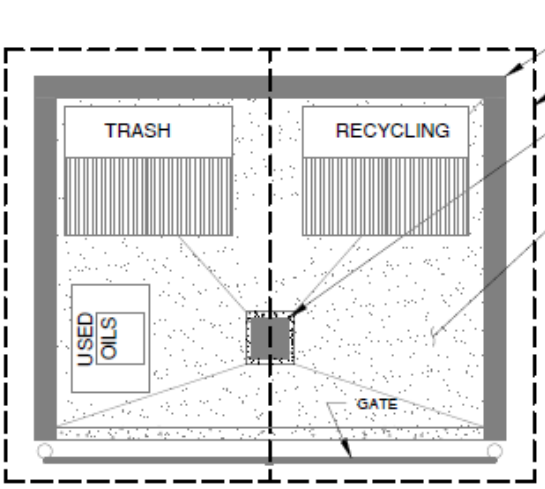
Drainage

Drainage shall be provided for the hydraulically isolated solid waste storage area and directed to an approved sanitary sewer, authorized pretreatment facility, or a dead-end vault. A dead-end vault is required for those areas that may be subject to refuse or suspected pollutants that pose a public risk if the structural integrity of the trash receptacle is damaged or if its contents are exposed to rainfall.

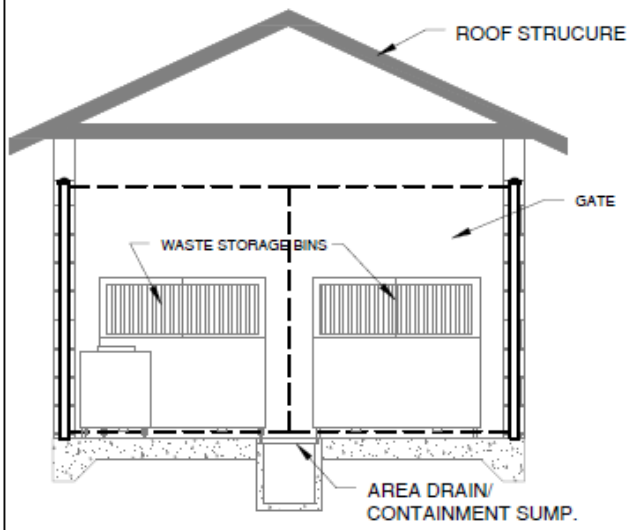
Additional Requirements

Multifamily developments with shared trash areas may be allowed to drain to the site's privately owned and operated water quality treatment facility if gravity service to the sanitary sewer system is not approved.

Attachment #2. Draft Detail



SOLID WASTE STORAGE AREA
(PLAN VIEW)



SOLID WASTE STORAGE AREA
(FRONT VIEW)

GENERAL NOTES:

- A permanent canopy, roof, or awning shall be provided to cover the solid waste storage activity area.
- A paved waste storage area is required when a structural cover or trash compactor is used. The area shall be paved with asphalt, concrete, or equivalent smooth impervious surface and meet all applicable building code requirements. Sizing of the paved area shall adequately cover the activity area intended for refuse storage, or the trash compactor(s) and associated equipment.
- Hydraulic isolation shall be provided for the solid waste storage activity area to prevent uncontaminated stormwater runoff from entering the area and carrying pollutants away. Isolation can be achieved by reverse grading at the perimeter of an activity area, perimeter curbing or berming, or the use of area drains to collect and divert runoff. Runoff occurring outside the hydraulically isolated area shall be directed to a stormwater disposal point that meets all applicable code requirements. Solid waste storage areas shall be located away from occupied buildings to discourage pests from entering the buildings. This helps eliminate the need and use of pesticides.
- Drainage shall be provided for the hydraulically isolated solid waste storage area and directed to an approved sump.
- Meet all applicable fire codes, to limit the spread of possible fires from these areas to other structures or properties.

DRAWN DB DIV STORM REV DATE		CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS DATE 7/30/2019 APPR	
		DRAFT - SOLID WASTE STORAGE AREA DETAIL	STD DWG STRM-15	

Trash Enclosure/Dumpster Handling Acceptability of Variables (Y/N/MC) (MC=Mitigatable concerns)

Variable	Stormwater	Police	Fire	CDD: P, B, E	IPP	Garbage	Business/Econ Deve	Other
Covered Enclosure			MC	Y, Y, MC	Y			
Chain Link Fence Wall			Y	MC (screening), Y, Y	Y			
Rod Iron Fence			Y	Y, Y, Y	Y			
Concrete Block Walls			Y	Y, Y, Y	Y			
Steel/Metal Walls			Y	Y, Y, Y	Y			
Wood frame Walls			Y	Y, Y, Y	Y			
Container Type: Trash Compactor			Y	Y, Y, Y	Y			
Container type: Small dumpster on wheels			Y	Y, Y, Y	Y			
Container type: Large dumpster			Y	Y, Y, Y	Y			

Variable	Stormwater	Police	Fire	CDD: P, B, E	IPP	Garbage	Business/Econ Deve	Other
without wheels								
Rolling drop boxes			Y	Y, Y, Y	Y			
Other: _____								
Drainage Location: Sewer			Y	Y, Y, Y (covered)	MC—walls, locks, oil water separator or grease trap required or grease interceptor; ongoing monitoring by IPP			
Drainage Location: Dead End Sump			Y	Y, Y, Y	Y			
Drainage Location: Landscape Swale			Y	Y, Y, Y	Y (no rainwater to sewer)			

City of Bend

Cross Department Input on Solid Waste Dumpster Enclosures and Covers Design Considerations

July 15, 2020

Attending: Brad Mandal, Joe McClay, Jerry Waugh (Building); Amy Barry (Planning); Dustin Elmore (Asst. City Engineer, PDE); Larry Medina (Fire); Clint Burleigh (Police); Christina Davenport (IPP); David Buchanan, Wendy Edde (Stormwater); James Goff (Code Enforcement)

This meeting was held in response to an inquiry received by CDD in late May, 2020 from Patrice Anderson with Tekneek Architecture requesting clarification as to whether trash enclosures are required within the City of Bend. Previous discussions in 2019 on the topic have not included all interested parties together. The purpose of this meeting was to better understand the preferences and concerns of each interested party with relation to trash enclosures in order to develop a well considered understanding of the various concerns and needs, to work towards any necessary improvements and coming to a consensus on a consistent City's policy with regards to trash dumpsters.

Key Topics Discussed

- How garbage dumpsters are currently handled. Some developments have trash dumpsters within the buildings; some are in covered and walled areas where they are wheeled out by the garbage truck.
- Concerns related to trash dumpster areas:

  Utilities: Blowing trash, toxic chemicals from everyday items or other leaking out to storm drain or to sewer affecting water quality. Open swales could be fouled easily negatively affecting aesthetic, odor and public health concerns if restaurant grease bins or other waste are allowed to drain (e.g. Worthy brewery). Several pollutants are soluble in water and travel with it, so allowing precipitation to come in contact is a concern for quality, and source controls are used to prevent contact (e.g., https://www.atsdr.cdc.gov/pfas/health-effects/index.html) Open top would require ongoing O&M verification and related costs.

  . From fire, trash dumpsters catch fire frequently (fire fighting foam also can contain pfsas/pfoa or similar, very toxic and soluble in water) so siting needs to be 10 feet from buildings, but sprinklers are not needed if so.

  Police has concerns with public safety if access is open and it is covered or walled as it becomes a haven for illicit activities (sleeping, drug deals, etc.).

  General Aesthetic/Public Health: Another concern is overflowing

dumpsters (when not enough dumpsters for the amount of living units; or grease bins/used oil bins not large enough to prevent overflow).

Access – some say Bend Garbage is unable to manually move a dumpster bigger than 3 cubic yards. Staff have witnessed the ability of garbage companies in town to do so.

- Regulations regarding: Cannot go to sanitary sewer unless it is covered to keep stormwater out and goes through oil-water separator. Central Oregon Stormwater Manual includes section (provided with meeting materials) regarding source control requirements.
- Lessons from Other Areas. Amy indicated in Pleasant Hill, CA, they have required covered dumpsters for a long time – you can order whatever dumpster you want; the garbage company needs to pull it out. OSU drains to a grease interceptor.
- Areas for Improvement: At land use process, planners can try to catch it at the site plan review to help site properly (distance from building, cover, etc.) and prevent surprise.
- DEQ regulates stormwater injection and drainage to surface waterbodies. The City can be more protective than DEQ, say to protect drinking water quality aquifers, etc.

Action Items

- Christina to review sewer use ordinance.
- Wendy to prepare meeting summary.
- Attendees will review Pleasant Hill's approach: https://www.ci.pleasant-hill.ca.us/DocumentCenter/View/17038/Trash-Enclosure-Handout?bidId=
- Once preferred design agreed to, planners to work towards catching trash enclosure needs at site plan review to help with early planning (benefit: reduce time and costs by catching it early).
- Wendy will coordinate a follow-up meeting to select any necessary improvements.

See also, additional meeting materials.

Post meeting proposed concept: Of the concepts discussed, the covered, walled, restricted entry structure appears to best address the most underlying concerns (a) Police concerns with unauthorized entry and related safety; (b) fire concerns if structure is 10 feet from building; (c) IPP concerns for WRF source protection; (d) stormwater and utility concerns for public health and water quality protection.

Remaining concerns: initial development cost, access inconvenience, any others concerns/approaches that best meet underlying needs?

City of Bend
Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda
Monday July 20, 2020 10:00 AM to 11:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes), All
Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. Updates (3-5 minutes), All
Objective: Receive update since last meeting. Rate Study, GSI Infiltration Work, Solid Waste Work group, Other Progress

III. Rate Structure Study Scope of Work (20 minutes), All
Objective: Review together the rate structure study scope of work and discuss.

IV. Review Existing Code Language – Discuss Formal Agreements (20 minutes), All
Objective: Review existing code language allowing for formal agreements.

V. Review Maintenance Agreement Template, (5-10mi), All
Objective: Review maintenance agreement as potential tool for expansion to include formal agreements for alternative drainage responses and discuss.

VI. Roundtable Updates/Discussions (5-10 minutes)
Objective: Discuss updates and any new stormwater coordination needs related to Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

VII. Confirm Next Steps (5 minutes)
Objective: Confirm action items, upcoming training opportunities, next steps.

City of Bend Stormwater Coordinators

Development Focus Subgroup

Monday July 20, 2020 10:00 AM to 11:00 AM

Teams Meeting Summary

Purpose: Coordinate Stormwater Activities Among Affected Departments

Attending: Chris Henningsen, Aaron Henson, David Buchanan, Dustin Elmore, Pauline Hardie, Kyle Thomas, Wendy Edde

Key Items Discussed

- **Updates:** David provided an update that GSI is under contract preparing the soil infiltration report update that will improve geologic data knowledge for infiltration. They are conducting infiltration testing and the report will also be used for the next Stormwater Master Plan update. Pauline provided an overview of the development rule update related to increasing density – the current schedule includes the Planning Commission on August 10, a public hearing on August 24, and City Council consideration starting on September 16. Chris reported that standards and specifications update schedule is dependent on ability to set up community meetings around Covid hurdles, but anticipate moving forward in August/September.
- **Rate Structure Study Scope of Work:** Eric and Jon have directed Utility staff to move forward with the contract to ensure the stormwater service rate structure is properly set with the flexibility changes being incorporated to address density. Kyle brought up timing and synergy given SDC consideration in scope if it would be better to wait for the development fee process related to City View. Post-meeting discussion led to an understanding that this step would be just an analysis of incorporating the option of SDCs. If that were decided upon as viable, then the development of any SDCs could come as part of the latter project.
- **Review Existing Code Language – Discuss Formal Agreements:** Existing language in Bend Code Title 16 allows for formal agreements. Attendees discussed the best place to include a formal agreement that runs with the land – together with the maintenance agreement was discussed as only filing one would keep materials together and one filing charge. Post meeting – Ian in legal was supportive of that approach.
- **Review Maintenance Agreement Template:** Wendy shared the maintenance agreement on the stormwater website, but knows that some changes have been made on occasional special circumstances. Checking in to confirm all are using the same base document before proposing changes.
- **Roundtable Discussion.** Kyle discussed CityView status update briefly during the meeting.

Key Decisions Made/Key Actions

- Dustin asked for additional time to check in with Russ, others in CDD for any final comments on the draft FCS scope of work.
- Dustin and Chris will check latest Maintenance Agreement they use and send to Wendy before proposed modifications begin; Wendy will check in with legal too.

City of Bend Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda
Monday August 24, 2020 9:00 AM to 10:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes), All
Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. Updates (3-5 minutes), All
Objective: Receive update since last meeting. Rate Study, Maintenance Agreement/Formal Agreement, CityView, GSI Infiltration Work, Solid Waste (Trash Enclosure) Work group, Other Progress

III. Drill Holes on Private Developments (20 minutes), All
Objective: Review extent of use; discuss merits and drawbacks; potential water quality impacts/policy history; consider modifications for code updates.

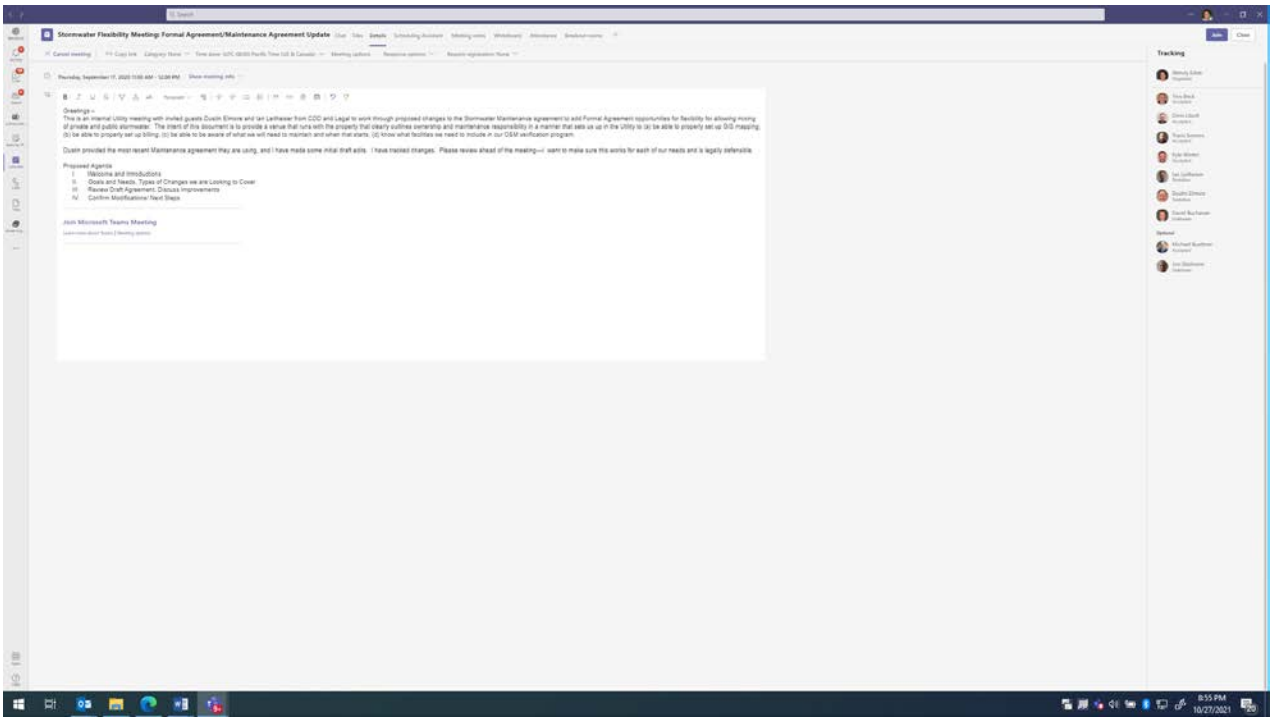
IV. 1200 C vs CN Permits (10-20 minutes), All
Objective: Discuss preferences.

V. Roundtable Updates/Discussions (5-10 minutes)
Objective: Open roundtable discussion.

VI. Confirm Next Steps (5 minutes)
Objective: Confirm action items, upcoming training opportunities, next steps.

(Colors= Top rankings in importance or time; yellow highest; pink lowest)

2020 Stormwater Issues List—Development Related Items


Stormwater Flexibility Meeting: Formal Agreement/Maintenance Agreement Update
Join
Close
Tracking
Thursday, September 17, 2020 11:00 AM - 12:00 PM
Show meeting info
Greetings –
This is an internal Utility meeting with invited guests Dustin Elmore and Ian Lefheaver from CCO and Legal to work through proposed changes to the Stormwater Maintenance agreement to add Formal Agreement opportunities for flexibility for allowing mixing of private and public stormwater. The intent of this document is to provide a venue that runs with the property that clearly outlines ownership and maintenance responsibility in a manner that sets us up in the Utility to (a) be able to properly set up GIS mapping, (b) be able to properly set up billing, (c) be able to be aware of what we will need to maintain and when that starts, (d) know what facilities we need to include in our O&M verification program.
Dustin provided the most recent Maintenance agreement they are using, and I have made some initial draft edits. I have tracked changes. Please review ahead of the meeting—I want to make sure this works for each of our needs and is legally defensible.
Proposed Agenda
I. Welcome and Introductions
II. Goals and Needs, Types of Changes we are Looking to Cover
III. Review Draft Agreement, Discuss Improvements
IV. Confirm Modifications/ Next Steps
Join Microsoft Teams Meeting
8:55 PM
10/27/2021

City of Bend Stormwater Coordinators

Development Focus Subgroup

Proposed Agenda
Monday October 5, 2020 9:00 AM to 10:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (2-3 minutes), All
Objective: Welcoming remarks. Review and modify agenda as needed. Review and approve past meeting summaries.

II. Drainage and Density Flexibility Updates and Discussion (20 minutes), All

- Formal Agreement Language (see attached draft)
- FCS Rate Structure Contract
- Applicant Packet discussion

Objectives: Review maintenance agreement incorporating formal agreement approach and discuss additional needs. Receive update on stormwater utility rate structure contract. Determine what organization structure would work best for CDD given the needs and the amount of material being developed, and the information tracking needed)

III. Stormwater Annual Report – Data Needs and Review Schedule (5 minutes)

- Overview
- Data Needs: e.g. Known UIC (public) upcoming installations/ decommissionings (see example table)
- Effectiveness evaluation, continuous improvement

Objectives: Review reasoning for annual report, discuss any additional data needs, and share any ideas for continuous improvement.

Table 10.4 Anticipated Decommissioning in FY2020-21 and Beyond

UIC Number	Planned Activity	Project Timing	Project Name/ Comments

IV. Updates: Trash Enclosure Review; Geotechnical Infiltration Report, Drill Holes, Swales and Rocks; Standards and Specs (20 minutes), All
Objective: Receive and provide updates on these topics.

V. 1200 C Permit, and Map Availability (5 minutes), All
Objective: Discuss preferences.

VI. Roundtable Updates/Discussions (5-10 minutes)

Objective: Open roundtable discussion.

VII. Meeting Effectiveness / Confirm Next Steps (5 minutes)

Objective: Confirm action items, upcoming training opportunities, next steps.

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Proposed 1200-C Construction Stormwater Discharge General Permit Renewal - Public Comments Now Open

DEQ intends to renew the 1200-C Permit, and invites the public to provide oral and written comment on the conditions of the proposed 1200-C water quality permit, known officially as the National Pollutant Discharge Elimination System Stormwater General Discharge Permit.

DEQ is now accepting public comments on the proposed 1200-C draft permit. Also, the agency will hold a virtual public hearing to accept verbal comments on Oct. 28, 2020, at 1 p.m. Anyone can attend the hearing by webinar or phone.

The comment period closes on Oct. 30, 2020 at 5 p.m.

Visits DEQ's Construction Stormwater Permits web page for all the details, including hearing registration.
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City of Bend
Stormwater Coordinators

Stormwater Liaison Meeting

Proposed Agenda
Tuesday October 27, 2020 2:00 PM to 3:00 PM
Microsoft Teams

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (5 minutes)
Objective: Welcoming remarks. Review and modify agenda as needed. Introductions.

II. Annual Report Review and Approval (10-15 minutes)
Objective: Discuss comments received during the review period, and any additional comments. Approve to submit for Jon's signature and finalized version to DEQ.

III. Stormwater Flexibility/Comingling Updates and Input (10 minutes)
Objective: Discuss activities to date to address municipal constraints {code flexibility, technical guidance (incorporate both new permit requirement, LID Consideration worksheet, cost data, flexibility needs), permit implications, funding (rates & credits, SDCs)}. Discuss technical guidance for permeable pavements & infiltration study. Discuss updates for meeting 3000 residential units goals/master planned projects.

IV. Street Curbs and Stormwater (10 min)
Objective: Discuss curbs roles, ability to hold stormwater off, street overlays, retrofit and increasing density housing, and brainstorm steps to help.

V. Roundtable Updates/Discussions (20 minutes)
Objective: Discuss updates, related happenings, and coordination or budgeting needs related to stormwater and work in Streets, Building, Private Engineering, Planning, capital engineering, Utility O&M, and Communications.

City of Bend Stormwater Utility Coordination

Proposed Agenda
Monday May 17, 2021 10:00 AM to 11:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Within the Utility Department

I. Welcome and Introductions (2-3 minutes), All
Objective: Welcoming remarks. Review and modify agenda as needed.

II. Drainage and Density Updates
- **Master Plans**
- **Rate Study**
- **Technical Guidance**

III. Plan and Project Review Related Items
- **Presentation to EIPD Overview (Wendy)**
- **CIP Projects (Nick, Troy)**
- **Standards and Specs Update(s) (Nick, all)**
- **Private Deep UIC Project – old Rays Building**

IV. Regulatory Compliance
- **Permit Updates**
- **UIC Retrofits –Drill Holes (Troy, Orrin, Travis)**
- **Post construction controls O&M Verification Program (Wendy, Sam)**
- **Other fiscal year end Permit Compliance actions check in**
- **Trash Enclosures**

V. Streets Coordination – rubberized chip seal, sweeping, other (Wendy, David, all)

VI. Monitoring Update (David/Jeff, Wendy)

VII. Deschutes River Cleanup – July 31 Planning Update/Assistance Needs (Wendy, All)

VIII. Easement Update (Wendy)

IX. Education Needs (All)

X. Wipes Class Action Settlement Agreement (Wendy, Orrin)

XI. Roundtable Discussion

City of Bend Stormwater Utility Coordination

Meeting Summary
Monday May 17, 2021 10:00 AM to 11:00 AM
Teams Meeting

Purpose: Coordinate Stormwater Activities Within the Utility Department
Attending: Troy Beck (R&R), David Buchanan (SWQ), Jeff Buystedt (FS), Wendy Edde (SWQ), Orrin Libolt (Collections), Nick McAteer (Eng), Sam Rossi(SWQ) Invited: Travis Somers (SWOM)

I. Welcome and Introductions (2-3 minutes), All

Wendy walked through the agenda, added in the Hixon development deep UIC project to the agenda. Kudos given to all involved in getting the dry well retrofits project completed with the final installation occurring at the airport this year.

II. Drainage and Density Updates

- **Master Plans.** Confirmed utility does not review master plans. If subdivision master plans have changes in there that may be out of compliance with new permit requirements, training to CDD will be needed to catch those in their review.
- **Rate Study.** Dana and Gillian will be assisting with updating the rate study, likely to start in the fall 2021 with FCS contractor.
- **Technical Guidance.** Moving forward with scope of work to provide/refine technical guidance to improve flexibility options for new and redevelopment—just received copy for review/approval from consultant. Those interested in copy, contact Wendy.

III. Plan and Project Review Related Items

- **Presentation to EIPD Overview.** Wendy provided overview and shared slides; Nick indicated good feedback for increasing awareness of the water quality side operations. Project review and handoff processes are much improved Orrin reported.
- **CIP Projects.** Nick gave kudos to several included Troy and Orrin for funding synergy pieces of project in Mirror Pond drainage. DeeDee Fraley is helping manage the Tumalo project. The project is in an area that the geotech study found an impermeable lens, which complicates the dry well project, but overflows are included so benefits remain even if drainage is not stellar due to location. In Bend drainage capability vary dramatically within a 100 yards despite general trends experience shows. For the geotech update project, staff felt that boring near the river downtown was more apt to show a wet foot lens; the result was surprising but helpful.
- **Standards and Specs Update(s).** Nick reported that the two efforts are being consolidating into one effort under EIPD purview with DOWL engineering contracting. Nick will serve as point person for Utility input and will include all attendees in this meeting in correspondence. Requested updates made in the past should be resubmitted at the appropriate time. Troy has met with Dustin (EIPD) to discuss inspections. Troy will continue to work with PDED to get interim needs through, and offered to help with grate labeling. David will work with Troy and Wendy will include the topic on the next interdepartmental Stormwater Liaisons team meeting as well.
- **Private Deep UIC Project – old Rays Building.** Contractor completed addition of structural control and got permit coverage from DEQ. Wendy shared confirmation.

IV. Regulatory Compliance

- **Permit Updates.** Wendy is working with DEQ on the new permit negotiations for stormwater draining to the river. The 10 year permit for stormwater draining to UICs

is coming to an end in 2023, so work prepping for that next permit will be starting soon as well. The permits are set up for day to day stormwater discharges, not spills.

- **UIC Retrofits –Drill Holes.** Budget has been included in Troy and Orrin's budget to include drill hole retrofits for spill control water quality needs in addition for operational needs. Troy reports challenges procuring drillers, no bids. Two drill holes have been retrofitting this year, the first testing the new design. A couple of small edits were made to improve constructability without changing effectiveness. Deedee Fraley.
- **Post construction controls O&M Verification Program.** Sam will work with Orrin to share the format of data he collected in the fall during training and cross work with water conservation, to develop an efficient format for sharing future inspection data with operations and maintenance crews. If O&M crews notice problem areas with flooding that appear to be influenced by private development, attendees were encouraged to contact Sam who does private O&M verification inspection as well and could be of assistance on that front.
- **Other fiscal year end Permit Compliance actions check in.** Fiscal year ends June 30th. No new performance standards are anticipated this year, but a reminder to complete related tasks by the end of fiscal year.
- **Trash Enclosures.** Stormwater quality staff are working on a standard process for request for alternative compliance to standard source control measures.

V. **Streets Coordination – rubberized chip seal, sweeping, other.** David Abbas agreed to keep rubberized chip seal out of MS4 drainage areas until we can learn more about potential threats from 6PPD-Quinone, a tire oxidizer that greatly affects Coho, but also steelhead.

VI. **Monitoring Update.** Jeff reporting that crews got two full samples at each of six site this year, as well as have taken some illicit discharge samples, including of the RV fire on Hunnell road north of Lowes.

VII. **Deschutes River Cleanup – July 31 Planning Update/Assistance Needs.** Operations crews are onboard for offering continuing help. Mike wanted to expand to an all utility event. With Covid limiting numbers, that may be a challenge, but Wendy is working with Kolleen Yake at UDWC to check into the option of having utility crews plant willows for streamside fish refugia given the river is listed for temperature as a pollutant of concern.

VIII. **Easement Update.** Crews do not have plans to be in an affected easement area in the next couple months. Should more time or a different approach be needed, the topic will be brought back to the group at a separate future meeting.

IX. **Education Needs.** If any crews are noticing issues in the field needing attention, Wendy offered that stormwater quality staff can help provide education to the public.

X. **Wipes Class Action Settlement Agreement.** No action needed on NACWA announcement that Charleston SC class action lawsuit settlement with Kimberly-Clark unless the City planned to sue in the future for monetary damages. Given that is not the case, the announcement is an fyi to be celebrated to improve wipes and wipes labeling to prevent damage to sanitary sewer systems and stormwater systems as a result of blockage overflows..

XI. **Roundtable Discussion.** Attendees felt meeting was useful for information sharing; agreed restarting a standing monthly meeting would be useful. Wendy will schedule.

City View Process Clarification: Best Practices When Code Enforcement and CDD Modules Collide Teams Meeting

June 24, 2021

Invited **(Attending)**: **Dustin Elmore**; **Kyle Thomas**; James Goff; Brad Mandal; **David Buchanan**; **Sam Rossi**; **Rachel Ruppel; Kaitlin Ikenberry; Nick Skinner; Wendy Edde**

Key Issues Discussed:

- Various process clarification questions for multi-module possibilities involving erosion and sediment control, illicit discharge detection and elimination, and site plan variance enforcement related to City View options, as summarized in table.
- Goal is to complete a process clarification table to ensure approach works for all departments, for reporting, and for ensuring additional notification needs are met.

Key Decisions Made/Action Item Issues:

1) Wendy to set internal training with water conservation to find their work-arounds for adding in verbal educational inspections into the Code Enforcement module, and stormwater will put those into use for customer service educational compliance efforts.

2) Clarified that stormwater team will continue to work with educational compliance approach.

3) Invitees will review the revised table and provide any additional input.

4) Stormwater Division will implement process based on finalized table.

Stormwater City View Process –

Selecting Between CDD Permit and Code Enforcement Modules

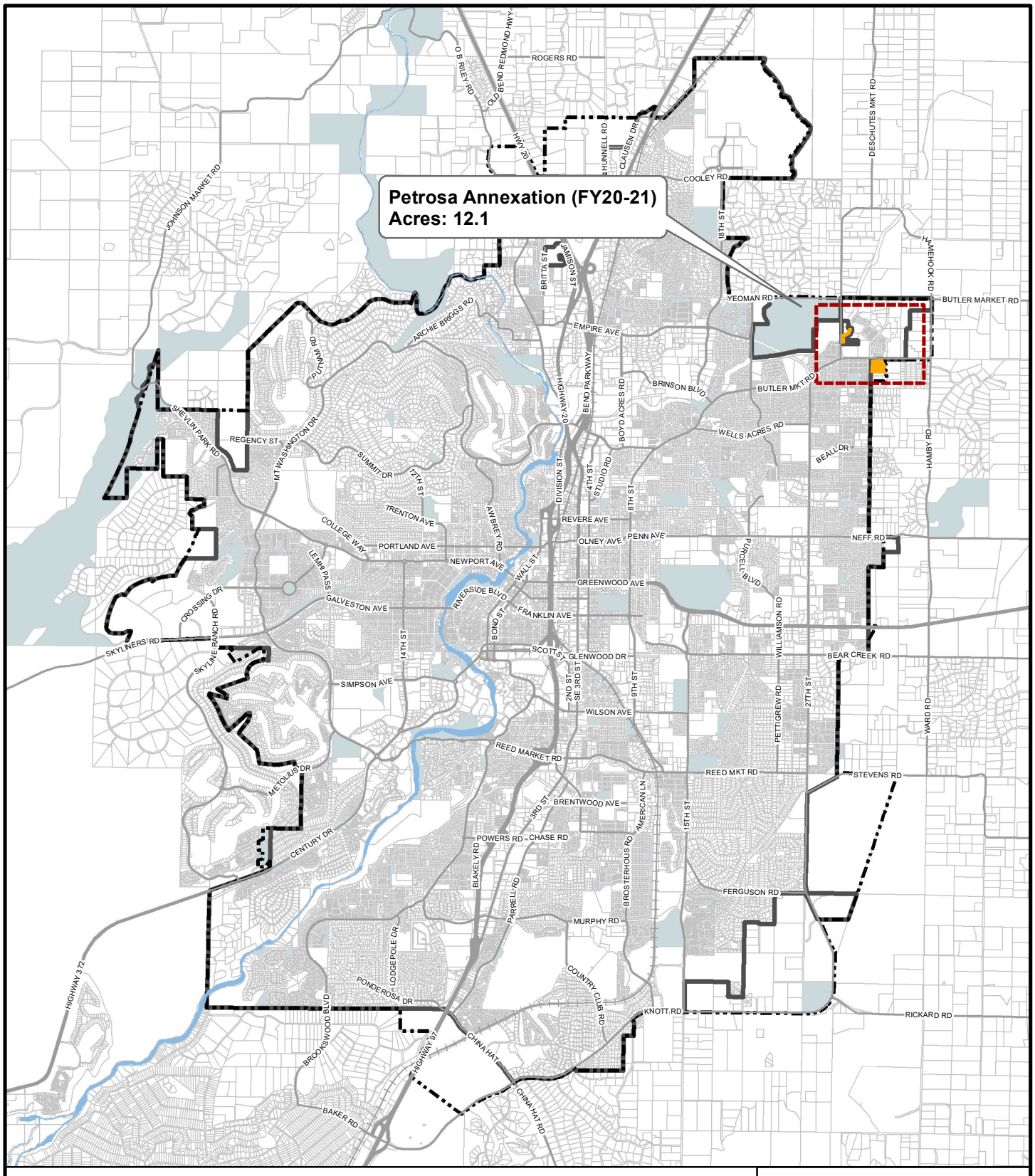
(Erosion and Sediment Control (ESC) and Illicit Discharge Detection and Elimination (IDDE) issues)

Timing of Violation	Erosion Sediment Control (ESC) -- Regulated Site	ESC – Non-permitted Small Site Discharging to the ROW	Site Plan Issue
Active Construction In Process	When noticed by staff, use CDD Permit module. When IDDE complaint submitted to Code Enforcement, include comment note that ESC issues are being addressed in CDD Permit module and close out the IDDE complaint with appropriate notification to the complainant; track and follow-up in Permit module. Communicate update of reroute and resolution steps to James Goff.	When noticed by staff or IDDE complaint from public, use Code Enforcement module. Notify PDED Kyle Thomas of NOV action.	When noticed by staff or when IDDE complaint submitted to Code Enforcement, address IDDE issue in Code enforcement module and James Goff know of site plan issues to follow up through Code Enforcement.
Post-Construction (after Certification of Occupancy)	Treat as an illicit discharge in Code Enforcement module, but check in James and Kyle in case of performance bond remaining for permanent vegetation establishment issues.	Treat as an illicit discharge in Code Enforcement module.	Treat as an illicit discharge in Code Enforcement module; refer site plan deviance notification to Code Enforcement.

Appendices

APPENDIX A. PROGRAM MANAGEMENT

A.2. FY2020-21 Annexation Map



CITY OF BEND

CITY ANNEXATIONS (FY20/21)

- City Limits
- Urban Growth Boundary
- Annexations
- Taxlots
- Parks
- River
- Major Roads
- Major Streets
- Railroad

N

0 0.25 0.5 1 Mi

Map prepared by , City of Bend
Print Date: Sep 28, 2021
Sources: City of Bend, Deschutes County

CITY OF BEND